

# **Monaco Products Catalog**



**Monaco Enterprises, Inc.**





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### **Identification**

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### **Content**

This index is not intended to cover all details or variations in equipment and is not meant to provide a guide for configuration, design, or implementation of the devices described. The information in this catalog can often change without notice. If you require additional information or if your index is more than three months old, contact Monaco Enterprises to answer your questions or to request an updated index.





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## A Message from Monaco Enterprises

Monaco Enterprises, Inc. has been providing quality alarm system products since 1971. We specialize in developing technologically advanced, reliable fire, security, and mass notification systems.

Monaco's goal is to provide unsurpassed customer support. We serve our customers by helping them identify their needs and by providing the products that best meet their unique applications.

This catalog represents a sample of our products. Contact us so we can assist you in selecting the products that best meet your base's particular needs for various applications—fire detection, fire management, mass notification, reporting and receiving, force protection, security, and more.

Contact our Customer Service Department at (509) 926-6277 to receive a current price list or for information about quantity pricing, delivery, local representation, and training programs.

## How to Use this Catalog

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- If you know the name or product type, go to the [Table of Contents - Index by Product Name](#) section, locate the product name of interest, then click on the product name to advance to product's cut sheet.
- If you want to search by product number, go to the [Index by Product Part Number](#) section, locate the product number of interest, and click on one of the cut sheets described in the sub-list below the product number of interest. This will advance you to the part number of interest on the cut sheet described in the sub-list.
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Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II . . . . .	580-074-01
Outdoor Speaker Strobe, 180cd, Wall-mount, White, Type II . . . . .	580-075-00
Indoor Speaker Strobe, White, Ceiling-mount, Type II . . . . .	580-077-00
Outdoor Speaker Strobe, 180cd, Wall-mount, White, Type II . . . . .	580-078-00
Indoor Speaker Strobe, Self-Amp, Ceiling-mount, Type II . . . . .	580-079-00
Indoor Speaker Strobe, Ceiling-mount, White, Type II . . . . .	580-080-00
Indoor Speaker Strobe, Wall-mount, White, Type II, . . . . .	580-081-00
Outdoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-087-00
Outdoor Speaker Strobe, Red, Wall-mount, Type I . . . . .	580-088-00
Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II . . . . .	580-099-00
Outdoor Speaker Strobe, White, Ceiling-mount, Type I . . . . .	580-104-00
Outdoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-105-00
Outdoor Speaker Strobe, White, Ceiling-mount, Type I . . . . .	580-106-00
Indoor Speaker Strobe, Red, Wall-mount, Type I . . . . .	580-107-00
Indoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-108-00
Indoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-110-00
Indoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-111-00
Indoor Speaker Strobe, White, Ceiling-mount, Type I . . . . .	580-112-00
Indoor Speaker Strobe, White, Ceiling-mount, Type I . . . . .	580-113-00
Indoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-114-00
Indoor Speaker Strobe, Red, Wall-mount, Type I . . . . .	580-115-00
Speaker Strobe for Hazardous Locations . . . . .	580-117-00
Speaker Strobe LED for Hazardous Locations . . . . .	580-117-01, 580-117-02

## Bells

Motorized Vibrating Alarm Bell . . . . .	581-422-00, 581-473-00
Vibrating Alarm Bell, Explosion-proof . . . . .	581-423-00, 581-451-00

## Chimes

Indoor Chime, Red, Wall-mount, Type I . . . . .	587-009-00
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## **Chime Strobes**

Indoor Chime Strobe, Red, Wall-mount, Type I .....587-008-00

## **MNS Wide Area**

**MNS Driver Amplifier with Speaker Arrays - Reserved**

## **Bases – Reserved**

## **Accessories**

Sync Module, Type II .....367-036-00  
Sync Module, Type I .....367-047-00  
Indoor Strobe Plate, Wall-mount, Red, Type II.....367-049-00  
Indoor Strobe Plate, Wall-mount, White, Type II .....367-049-01, 367-049-02  
Universal Expander Plate, Indoor, White, Wall-mount, Type I .....369-036-00  
Universal Expander Plate, Indoor, White, Wall-mount, Type I .....369-037-00  
Universal Expander Plate Back Box Skirt.....588-101-00

## **Section 12. Security Devices**

**Motion Detectors – Reserved**

**Door Mags – Reserved**

**Accessories – Reserved**

## **Section 13. Generic Accessories**

**Wire Mold – Reserved**

**Off-the-Shelf Generic Electrical Boxes – Reserved**

## **Section 14. Supplemental Equipment**

Cabinet, Fire Alarm Terminal, 32 point. ....081-243-00  
Cabinet Assembly, Record Document Storage .....081-261-01  
Current In-rush Limiter .....176-257-00  
Contact Mapping Data Transmitter/Receiver Pair.....196-400-00, 197-700-00  
Ethernet Firewall, 8-Port, 10/100 VPN .....200-442-11  
Ethernet Switch, Managed 10-Port, L2 .....200-459-01  
KVM Assembly .....200-464-03, 200-470-04  
KVMA Single and Dual-Monitor Extender Kit.....200-476-01, 200-476-02  
Key Switch, FACP Suspend on Test .....510-319-10  
USB Serial Adaptor, High Speed.....649-118-00  
HVAC Shutdown Kit.....708-032-01  
Emergency Message Display.....710-057-00  
Annunciator, Red LED, Remote .....729-091-00

## **Battery Enclosures**

Enclosures with Batteries.....081-155-00, 081-156-0x, 081-172-00,  
081-177-00, 081-182-00  
Batteries .....400-70x-00, 400-71x-00, 400-720-00



## Auxiliary Power Supplies

UPS Kit, 1200W, 120V .....	404-064-01
NAC Distributed Power Supply .....	404-073-00
UPS 120 VAC, 60 Hz, 800 W .....	404-111-10, 404-111-11
UPS 120 VAC, 60 HZ, 400W.....	404-114-01

## Power Supply/Battery Chargers

Power Supply/Battery Charger, 24 VDC, 3 Amp, 115 VAC .....	404-095-00
Power Supply/Battery Charger 24 VDC, 10/8 Amp, 115 VAC .....	404-098-00
Power Supply/Battery Charger 24 VDC, 8/10 Amp, 230 VAC .....	404-098-10
Power Supply/Battery Charger, 12/24 VDC, 6A, 115/230 VAC .....	404-150-00

## NAC Boosters

NAC Distributed Power Extender .....	404-126-00, 404-126-01
NAC Distributed Power Extender .....	404-164-00

## Relays

Relay, SPDT, 120-277 VAC, 10A .....	451-700-00, 451-700-01
Relay, SPDT, 24 VDC, 7A .....	453-100-00
Relay, SPDT, 24 VDC, 7A .....	453-102-00, 453-103-00
Relay, DPDT, 24 VDC, 7A .....	453-104-00, 453-105-00
Relay, SPDT, 24 VDC/VAC, 10A .....	453-106-00, 453-106-01
Relay, SPDT, 24 VDC/VAC, 10A .....	453-107-00, 453-107-01
Relay, DPDT, 24 VDC/VAC, 10A .....	453-110-00, 453-110-01
Relay, SPDT, 10–30 VDC, 10A Input .....	453-111-00, 453-111-01
Relay, SPDT, 24 VDC/VAC, 7A and 10A .....	453-114-00
Relay, Time Delay, SPDT, 10A .....	453-117-00

## AC and DC Surge Protection

Surge Protector, Transient, 2-Outlet Direct Plug In .....	210-505-00
Surge Protector, Signal Line .....	210-508-00, 210-511-00, 210-512-00
Surge Protector Kit, 120 VAC, Transient .....	210-509-00, 210-510-00
Surge Protector, Initiating/Indicating Circuit, 24 VDC .....	210-514-00
Surge Protectors, 120 VAC, 240 VAC, and 120/240 VAC .....	210-524-00, 210-555-00, 210-556-00
Surge Protector, 4-Wire Leased Line, 5V, SPD .....	210-526-00
Surge Suppressor, RJ-45 Ethernet .....	210-540-00
Surge Protector Module and Base .....	210-549-xx, 210-550-xx, 210-551-xx

## Enclosure Heater

Silicone Rubber Enclosure Heater .....	532-001-00, 532-002-00
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# Section 15. Test Equipment

## Test Equipment

Programmable Scanner .....	196-100-00
Signal Direction Finder (SDF) .....	225-791-00
Signal Receiving Device (SRD) .....	225-793-xx
Wattmeter Kit, 25–1,000 MHz, 5 to 500 Watt, Fixed Element RF .....	290-050-01
Analog/Digital Multimeter .....	290-701-01
RF Communications Service Monitor Kit .....	297-002-00
Dynamic Battery Analyzer .....	297-300-00
Dual Mode Battery Analyzer .....	297-301-00



## **Monaco FACP, BT-X, Repeater Planner Programmer Suite**

Monaco Planner Suite/Programmer . . . . .	225-163-00
BT-XM In-Building MNS Communicator Tester . . . . .	227-451-xx

## **Section 16. Cables**

### **Fire – Reserved**

### **MNS – Reserved**

### **Signaling Line Circuit (SLC)**

Cable, Fire Alarm. . . . .	621-02x-00, 621-040-00, 621-06x-00, 621-07x-00
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### **Communication**

Cable, Audio, Control, Communications, Instrumentation . . . . .	621-026-00
Cable, RS-485, Plenum and Non-Plenum . . . . .	621-083-00, 621-084-00

### **CAT5**

Cable, CAT5E Network. . . . .	624-026-00
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### **CAT6**

Cable, CAT6 Plenum and Non-Plenum. . . . .	624-03x-00, 624-04x-00
Cable, CAT6A OSP Broadband. . . . .	624-050-00

## **Section 17. Antenna Systems**

### **VHF Antennas**

VHF Antenna, Omnidirectional. . . . .	190-211-0x, 190-212-00, 190-400-00, 190-418-xx
VHF Antenna, Yagi Directional . . . . .	190-401-xx

### **UHF Antennas**

UHF Antenna, Omnidirectional. . . . .	190-216-xx, 190-249-00, 190-403-xx, 190-409-xx, 190-417-xx
UHF Antenna, Yagi Directional . . . . .	190-410-xx

### **Antenna Mounting Hardware**

Antenna Mounting Hardware. . . . .	199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01
Antenna Mount Clamp Set. . . . .	199-056-00

### **Coaxial Cables**

Coaxial Cable, 50 ohm, Mini RG-8X . . . . .	620-023-00, 625-100-0x, 626-000-0x
Coaxial Cable, 50 ohm, Low-Loss. . . . .	620-026-00
Coaxial Cable, 50 ohm, 1/4 in. Helix, Superflex . . . . .	620-029-00
Coaxial Cable, 50 ohm, 1/2 in. Helix, Superflex . . . . .	620-030-00
Coaxial Cable, 50 ohm, 1/2 in. Helix, LDF . . . . .	620-031-00
Coaxial Cable, 50 ohm, 5/8 in. Helix, LDF . . . . .	620-032-00
Coaxial Cable, 50 ohm, 7/8 in. Helix, Foam . . . . .	620-033-00





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## Coaxial Connectors, Adaptors

Ground Rod and Clamp, Copper, for Lightning . . . . . 661-000-00, 661-001-00  
Air Terminal Hardware, Copper, for Lightning . . . . . 661-002-00, 661-004-00

## Crimp Kit

Coaxial Cable Tool Kit . . . . . 303-000-00

## Lightning Arrestors

Lightning Arrestors and Kits . . . . . 198-021-xx, 198-022-xx

# Central Receiving Systems

## Central Receiving Systems Catalog Section

01

### Section 1. Central Receiving Systems

Monitor, 23.5 in., IPS. . . . .	192-048-01
Monitor, 55 in. LED. . . . .	192-055-10
KVM Rack-mount Extender Tray . . . . .	200-477-00
General Purpose Input/Output (GPIO) for D-21 . . . . .	227-045-01, 227-056-00
D-21 View Generator. . . . .	227-062-30
Remote Display Controller (for use with View Generator). . . . .	227-063-01
D-21 Solid-State Weather Station Kit . . . . .	299-016-01
D-21 Station Alerting System Tri-Color Annunciator. . . . .	710-073-00, 710-073-01, 369-035-00
D-21 System VoIP Link Assembly with Desktop Microphone. . . . .	122-008-10
D-21 System VoIP Link Assembly with Desktop Microphone. . . . .	122-017-10
D-21 System UPS Network Monitoring For Workstation Desks . . . . .	404-167-00
Color Laserjet Printer with Ethernet Adaptor . . . . .	205-064-01
D-21 System Point Reporting Upgrade Kit . . . . .	207-946-00
Live Voice Input Radio Switch . . . . .	194-541-01

#### **D-21 Emergency Management**

D-21 Incident and Emergency Management Systems . . . . .	227-010-xx, 227-011-xx, 227-012-xx, 227-020-10, 227-020-13
Repair by Replacement/Technology Upgrade . . . . .	227-020-xx
D-21® EM Mobile Client Laptop . . . . .	227-098-30
D-21® EM Mobile Client Tablet. . . . .	227-099-30

#### **D-21 Fire – Reserved**

#### **D-21 MNS – Reserved**

#### **D-21 Security – Reserved**

#### **D-21 Tone Alerting Panel**

D-21 Tone Alerting Panel . . . . .	227-095-00
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#### **Rack-mount Cabinets**

Rack Cabinets . . . . .	104-011-00, 104-012-00
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#### **Rack-mount Shelves**

Rack Shelf . . . . .	081-214-02
Rack Shelf . . . . .	081-215-01

#### **Rack Blank Panels**

Rack Blank Panel. . . . .	085-214-0x
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## Network Switching

Switch, Industrial, 5 Port Ethernet . . . . .	200-438-00
Fiber Module, Optical Transceiver Hot Plug, SFP . . . . .	200-444-01
Fiber Module, Transceiver Hot Plug for DODIN Switch . . . . .	200-444-02
Fiber Module, Optical Transceiver Hot Plug, SFP . . . . .	200-457-00
KVM Switch . . . . .	200-461-00
Ethernet Switch Assembly with 24-Port SFP, Managed Layer 3 . . . . .	200-471-11
Switch Assembly, 24 Port, 4SFP, Managed, Layer 2, 1U, DODIN . . . . .	200-480-01
Switch Assembly, 24 Port, 4SFP, Managed, Layer 2, POE, 1U . . . . .	200-481-01
Switch Assembly, 48 Port, 2 SFP+, Managed, Layer 2, 1U . . . . .	200-482-01
Switch Assembly, 48 Port, 2 SFP, Managed, Layer 2, 1U, PoE . . . . .	200-483-01
Switch Assembly, 12 Port, SFP, Managed, Layer 3, 1U, DODIN . . . . .	200-484-01
Switch Assembly, 12 Port, SFP, Managed, Layer 3, 1U . . . . .	200-485-01
Switch Assembly, 24 Port, 8SFP+, Managed, Layer 2/3, DoDIN . . . . .	200-491-01

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# Central Receiving Systems

## Monitor, 23.5 in., IPS 192-048-01

### Description

This widescreen monitor features IPS panel technology for crisp type and colorful images, even at off-angles.



### Features

- Flicker-free technology
- Less than 0.3 watts Off Mode power consumption
- 30% recycled materials
- VESA compatible
- Ergonomic, height adjustable stand (HAS)
- Thin, black bezel

### Specifications

<i>AC Input Power</i>	100 to 240 VAC
<i>Power Consumption</i>	25 watts (maximum)
<i>Screen Size</i>	23.5 in. (596.9 mm)
<i>Screen Type</i>	Flat Screen Video Monitor
<i>Display Resolution</i>	1920 x 1080
<i>Active Display Area</i>	18.77 in. x 10.56 in. (476.64 mm x 268.11 mm)
<i>Aspect Ratio</i>	16:9
<i>Color Support</i>	16.7M
<i>Brightness</i>	250 nits
<i>Response Time</i>	4 ms
<i>Contrast Ratio (Static)</i>	1000:1 (typical); 700:1 (minimum)
<i>Dynamic Contrast Ratio</i>	Mega
<i>Viewing Angle</i>	178 degrees horizontal and vertical
<i>Input Signal</i>	Analog: VGA Digital: DVI
<i>Dimensions with HAS</i>	14.8 in. H x 21.6 in. W x 8.8 in. D (375.92 mm x 548.64 mm x 223.52 mm)
<i>Dimensions without HAS</i>	12.6 in. H x 21.6 in. W x 1.6 in. D (320.04 mm x 548.64 mm x 40.64 mm)
<i>Wall-mount</i>	100 mm x 100 mm
<i>Weight with HAS</i>	8.8 lb (4 kg)
<i>Weight without HAS</i>	5.5 lb (2.5 kg)
<i>Temperature</i>	50°F to 104°F (10°C to 40°C)
<i>Humidity</i>	10% to 80% non-condensing

### Ordering Information

Part Number	Description
192-048-01	Monitor, 23.5 in. IPS, flat screen, black, VGA/DVI, 100 to 240 VAC



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# Central Receiving Systems

## Monitor, 55 in. LED

192-055-10

### Description

This display offers a high image resolution in a lightweight, space-saving design.



### Features

- Quad Core Processor
- RJ45, RS-232, SD and HDMI connections
- LED backlight
- Embedded Wi-Fi
- Kit includes: display monitor, wall-mount and uninterruptible power supply (UPS)

### Specifications

<i>AC Power</i>	100 to 240 VAC, 50/60 Hz
<i>Power Consumption</i>	60 watts/hour (typical)
<i>Display</i>	55 in. LED Monitor
	Resolution: 1920 x 1080 (FHD)
	Active Display Area:
	47.6 in. horizontal x 26.7 in. vertical (121 cm horizontal x 68 cm vertical)
	Aspect Ratio: 16:9
	Color Support: 16.7 M
	Brightness: 350nit (typical)
	Response Time: 6 ms
	Contrast Ratio: 5000:1
	Dynamic Contrast Ratio: 50:000:1

*Viewing Angle* 178 degrees horizontal / 178 degrees vertical

*Sound* Built-in Speaker (10 W + 10 W)

*Uninterruptible Power Supply (UPS)* 750 VA, 120 VAC

*Dimensions* 27.8 in. H x 48.4 in. W x 1.9 in. D  
(706.9 mm x 1230.6 mm x 49.9 mm)

*VESA Mount* 400 mm x 400 mm

*Weight* 33.9 lb (15.4 kg)

*Temperature* 32°F to 104°F (0°C to 40°C)

*Humidity* 10% to 80% non-condensing

*Standards Compliance:*

*UL* UL60590-1

*FCC* Part 15 subpart B class A

*Energy Star* 6.0

### Ordering Information

#### Remote Display Kit

Part Number	Description
192-055-10	Monitor, 55 in., LED, black, wall-mount, includes 110 VAC, 50/60 Hz UPS

#### Associated Parts

Part Number	Description
192-854-02	Tilt wall-mount for 37-63 in. displays
404-127-01	Uninterruptible Power Supply (UPS), 120 VAC, wall-mount

**NOTE:** P/N 192-854-02 and P/N 404-127-01 are included in the Remote Display Kit (P/N 192-055-10). This information is for reorder only.



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# Central Receiving Systems

## KVM Rack-mount Extender Tray

200-477-00



FRONT VIEW



REAR VIEW

### Features

- No power KVM extender tray
- 2U rack space
- Holds up to 16 local or remote extenders
- Mounts to standard 19 in. rack or cabinet
- Includes brackets and mounting screws

### Ordering Information

#### Power Supply

Part Number	Description
200-477-00	Rack-mount Extender Tray, 2U, no power, 16 extender capacity

### Associated Parts

Part Number	Description
085-214-02	Rack Blank Panel, 19 in., 2U, 3.50 in. H



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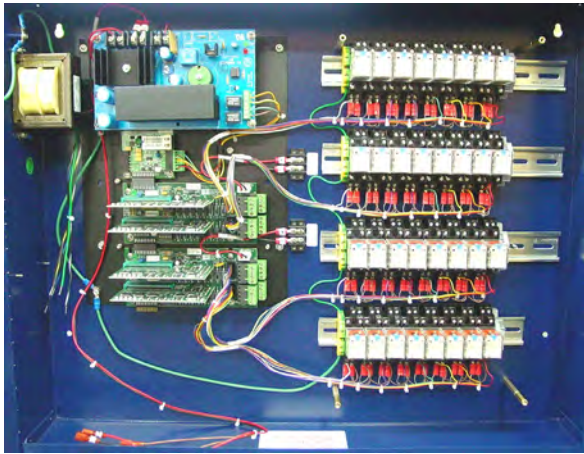
## Central Receiving Systems

### General Purpose Input/Output (GPIO) for D-21

227-045-01, 227-056-00

#### Description

The General Purpose Input/Output (GPIO) 32 panel provides 16 NFPA Class B fire zone inputs or 32 single-ended monitoring zone inputs to gather information from the field.



The GPIO 32 can control various devices such as bay doors, lights, and gates, using 32 DPDT 10A relays, which can be configured for momentary or maintained operation in the D-21 Admin Client.

The GPIO connects to the D-21 through an Ethernet network connection. When an incident occurs, the D-21 dispatcher can activate or deactivate devices through GPIO relays to help manage the response.

#### Features

- 16 Class B zone inputs or 32 single-ended zone inputs
- 32 DPDT 10A relay outputs
- Controlled through the D-21 network
- Operates using 120/240 VAC, 50/60 Hz power
- 24V internal operation
- Two 12V/12 Ah batteries are included and provide a minimum of 4-hour battery backup
- Includes an integrated battery charger

- Power is supervised, and AC fail/low battery conditions are reported to the D-21
- LED shows status when relay is energized
- The test switch allows each relay to be test-operated manually

#### Specifications

*Power Output* 120/240 VAC, 50/60 Hz

*Enclosure Color* Blue

*Enclosure Size* 20 in. H x 25 in. W x 4 in. D  
(50.8 cm x 63.5 cm x 10.16 cm)

*Batteries (included)* Two 12V/12 Ah rechargeable batteries

*Battery Backup* 4 hours

#### Ordering Information

Part Number	Description
227-045-01	GPIO, 32 DPDT, 10A outputs, 120/240 VAC, 50/60 Hz, 24V control voltage
227-056-00	GPIO, 16 input, 16 relay output, 120 VAC <b>NOTE</b> P/N 227-056-00 is not pictured. Please contact Monaco for more information regarding this item.

#### Associated Parts

Part Number	Description
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb
513-411-00	M-2 Tamper Switch Kit



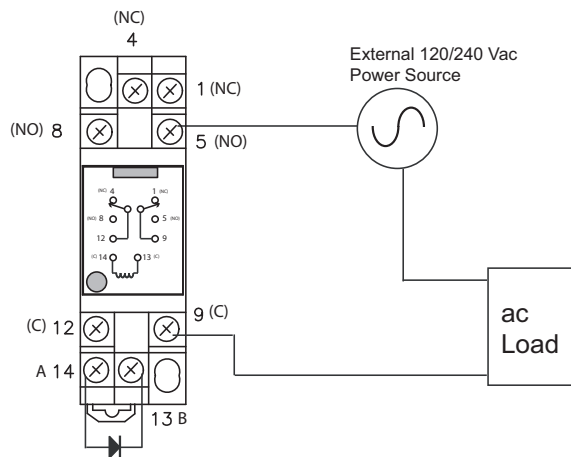
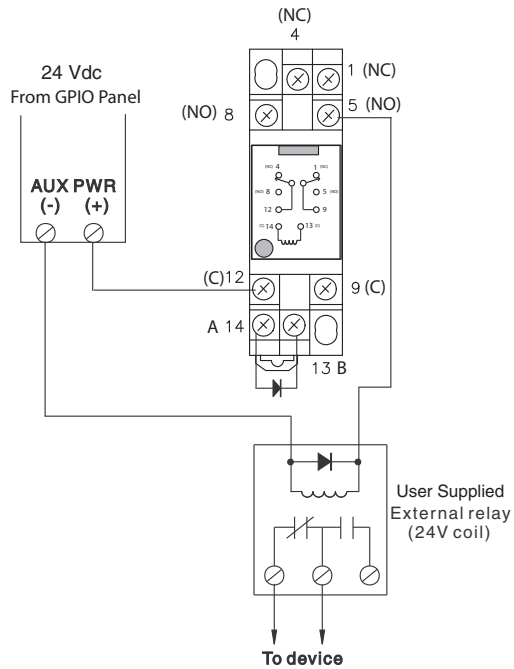
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# Central Receiving Systems

## Typical Output Wiring Diagrams



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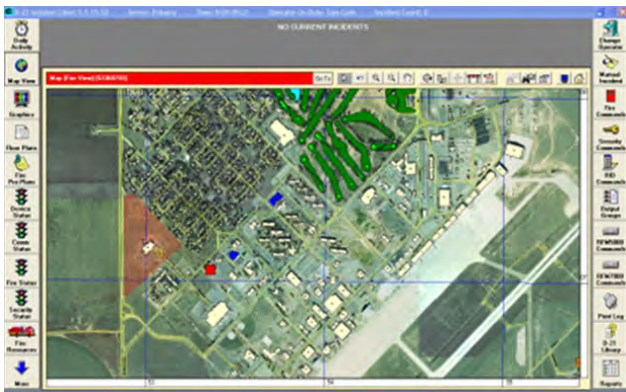


# Central Receiving Systems

## D-21 View Generator 227-062-30

### Description

The D-21 View Generator allows remote locations to receive information about an incident that is displayed on a large screen LCD monitor.



All monitors are attached to the D-21 network through a secure, unattended connection at the remote station.

### Features

- Secure, unattended connection to the D-21 network
- Real-time incident updates
- Map view
- Fire roster, notes of the day
- Graphics based on the incident

### Ordering Information

Part Number	Description
227-062-30	D-21 View Generator, WIN 10

### Associated Parts

Part Number	Description
192-055-10	Monitor, 55 in. LED, black, wall-mount. Includes 110VAC 50/60 Hz UPS
209-057-00	Rack side rail mounting kit, 26 in. slide rail with brackets (used to mount D-21 View Generator in rack)



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# Central Receiving Systems

## Remote Display Controller (for use with View Generator)

227-063-01

### Description

The Remote Display Controller is a computer connected to the D-21 network. It relays images and real-time messages from the D-21 View Generator across the D-21 network to remote locations.



The compact design makes this controller ideal for space-critical applications.

### Features

- Onboard Intel Atom® processor E3826 dual core, 1.46 GHz
- Aluminum and metal chassis with fanless construction
- Supports:
  - two RS232
  - two RS232/422/485
  - two Intel I210IT GbE LAN Ports
  - three USB ports
  - Dual Independent display - HDMI and DVI-D, or HDMI and VGA (with converter)
- Shock and vibration protection
- Status LEDs

### Specifications

**Power Input** 2-pin DC input 9 VDC to 30 VDC (nominal DC input: 24V)

**Dimensions** 2.13 in. H x 7.29 in. W x 5.18 in. D (54 mm x 185 mm x 131 mm)

**Operating Temperature** Ambient with airflow  
–4°F to 158°F (–20°C to 70°C)

**Relative Humidity** 10% to 93% non-condensing

### Ordering Information

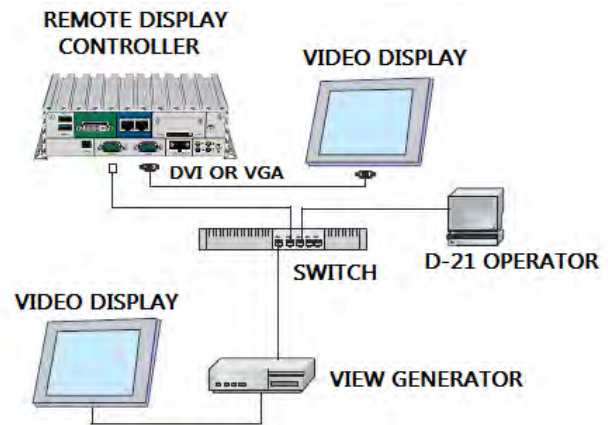
#### Remote Display Controller

Part Number	Description
227-063-01	D-21 Remote Display Controller System (for use with D-21 View Generator P/N 227-062-30)

#### Associated Parts

Part Number	Description
227-062-30	D-21 View Generator
192-055-10	Monitor, 55 in., LED, black, wall-mount, includes 110 VAC, 50/60 Hz UPS

### Product Overview Diagram



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# Central Receiving Systems

## D-21 Solid-State Weather Station Kit

299-016-01

### Description

The D-21 Solid-State Weather System is a fixed network weather station suited for emergency management applications.

The Weather Station automatically measures wind speed, wind direction and temperature every second; it then computes a 5-minute running average of the accumulated data and transmits the information to the D-21.

Integrated temperature/humidity sensors, built-in GPS and electronic compass are sealed inside an aluminum housing that provides protection against the weather and corrosion.

With no moving parts, the wind sensor is extremely accurate, even at very low wind speeds and needs no periodic calibration.

### Features

- White, solid-state weather station, constructed of Marine grade aluminum
- Top mounted Wind Sensor is an ultrasonic style anemometer
- Electronics hermetically sealed and grounded at a single point
- Power over Ethernet (PoE)
  - one cable to provide power to the system and retrieve data
- GPS and electronic compass automatically align to True North
- Can be used with D-21 plume modeling software
- Designed to meet MIL-STD-461E (EMI) and MIL-STD-810F (extreme environments)
- Easy to install and operate
- Accurate and reliable

### Specifications

**Power** 100 to 240 VAC 50/60 Hz

**Converter** PoE Injector

**Communications** Ethernet

**Data Logger** CPU: 32 bit with hardware FPU, running at 100 MHz  
Internal memory: 128 MB flash and 4 MB battery backed SRAM

**Temperature Sensor** Sealed inside Weather Station  
Probe Output Voltage: 0 to 1 VDC  
Radiation Shield protection

**Wind Sensor** Four equally spaced transducers measure horizontal wind speed and direction

**Wind Speed** 0 to 6 m/s (117 kts, 135 mph)  
360 degree Direction  
±2% Accuracy

**Compass** 1° RMS

**GPS** Accuracy: < 5 m 90% (autonomous),  
< 4 m 90% (SBAS)  
PPS: < ±25 ns 50%

**Material** 6061-T6 aluminum, non-corrosive and non-sparking alloy

**Mounting Options** Building, Utility Pole, or other permanent structure

**Operating Temperature** –31°F to 158°F (–35°C to 70°C)

**Relative Humidity** 0% to 100%

**Weight** 9.5 lb (4.31 kg) base unit without wind monitor



### Ordering Information

Part Number	Description
299-016-01	D-21 Weather Station Kit



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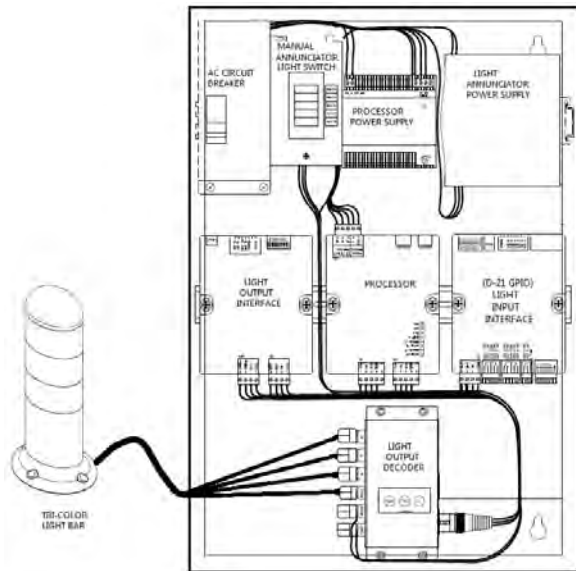
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## Central Receiving Systems

### D-21 Station Alerting System Tri-Color Annunciator

710-073-00, 710-073-01, 369-035-00



The D-21 Station Alerting System Tri-Color Annunciator visually improves alarm response time and alerts responders to specific emergency situations. The system uses low impact light alerting technology.

#### Features

- Visible Alarm LEDs indicate relevant incident response needs
- Lighting ramp up time minimizes stress levels
- Improves response time
- First indicator of upcoming emergency situation
- Tri-Color lighting for three different needs
- Each Tri-Color Light Bar supports 3 LED lights

#### Tri-Color Annunciator

##### Manual Annunciator Light Switches

This control keypad allows manual control of LED lights at the control panel with easy to use, large rounded button keys. Five buttons control Annunciator lighting: Red, White, Blue, All On, and All Off.

#### Processor Power Supply

The 2.5A Power Supply converts power to the Processor and other compatible accessories and devices added to the system.

#### Light Annunciator Power Supply

Provides 24 VDC, 10A input and output power to the Light Output Decoder.

#### (D-21 GPIO) Light Input Interface

Can be independently programmed or programmed through the D-21 with the GPIO. Provides 32 inputs and 32 dry contact closure outputs. Has both normally open and normally closed contacts.

#### Processor

Information is sent from the (D-21 GPIO) Light Input Interface through the Processor to the Light Output Interface which is relayed to the Light Output Decoder.

#### Light Output Interface

Receives instructions from the Processor and relays data to the Light Output Decoder.

#### Light Output Decoder

The 15A, 3-channel Light Output Decoder receives information from the Light Output Interface and decodes the data to operate Tri-Color Light Bar(s).

There are three Address code buttons on the Decoder that allow the Interface to run under digital control signals. The Address is Factory set to 001 and is displayed on the side of the Decoder.

#### Tri-Color Light Bar

Tri-Color Light Bar(s) receives instructions from the Light Output Decoder at the D-21 Station Alerting System Tri-Color Annunciator.



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# Central Receiving Systems

Each Light Bar has a solid end cap, red, white and blue LED lights that mount to a wiring module, and a flat base. LED's slowly ramp up to full LED lighting over a three second interval.

Tri-Color Light Bars, 90 maximum, can be easily daisy chained together to provide required lighting as needed.

## Specifications

### Tri-Color Annunciator Controller

<i>Annunciators</i>	120 VAC Model (P/N 710-073-01) 240 VAC Model (P/N 710-073-00)
<i>Light Annunciator Power Supply</i>	24V 10A Standards Compliance: UL 508, CE
<i>Processor Power Supply</i>	24 VDC 2.5A, 50/60 Hz output Standards Compliance: cUL, UL, CE
<i>Manual Annunciator Light Switches</i>	5 button keypad Standards Compliance: cUL, UL
<i>(D-21 GPIO) Light Input Interface</i>	100 VDC 100 mA 32 inputs and 32 dry contact closure Contacts both NO and NC Standards Compliance: cUL, UL, CE
<i>Light Output Interface</i>	24-36 VDC 65 mA Standards Compliance: cUL, UL, CE
<i>Processor</i>	24 VDC 250 mA 24 VDC Links L1/L2 2A per link Standards Compliance: cUL, UL, CE
<i>Light Output Decoder</i>	15A, 3 channel
<i>Operating Temperature</i>	32°F to 104°F (0°C to 40°C)
<i>Operating Humidity</i>	0-90%, non-condensing
<i>Annunciator Enclosure</i>	Black, 21 in. H x 14.375 in. W x 4 in. D (533 mm x 365 mm x 104 mm)

### Tri-Color Light Bar

<i>Light Bar</i>	Kit (P/N 369-035-00)
<i>Operating Current</i>	24 VDC 35 mA maximum
<i>Light Colors</i>	Red, White, Blue
<i>Light Source</i>	LED
<i>Lens Type</i>	Fresnel, steady light module
<i>Lamp Life</i>	50,000 Hours
<i>Operating Temperature</i>	-22°F to 122°F (-30°C to 50°C)

*Light Bar Enclosure* Grey, 4X, IP65 when installed with both gaskets included on each module

#### *Light Bar Base Dimensions and Weight:*

*Dimensions* 1.2 in. H x 3.15 in. W x 3.94 in. L  
(31 mm x 80 mm x 100 mm)

*Weight* Weight: 1.76 oz (0.5 kg)

#### *Light Bar End Cap, Module, and LED Lighting Dimensions, Weight and Standards Compliance:*

*End Cap* 1.2 in. H x 1.97 in. W x 2.75 in. L  
(31 mm x 50 mm x 70 mm)

*End Cap with Wiring Module* 3.07 in. H x 1.97 in. W x 2.75 in. L  
(78 mm x 50 mm x 70 mm)

*Net Weight:* 5.64 oz (0.16 kg)

*LED Light (Each)* 1.69 in. H x 1.97 in. W x 2.75 in. L  
(43 mm x 50 mm x 70 mm)

*Weight:* 1.41 oz (0.04 kg)

*Standards Compliance:* UL, cUL, CE, ROHS

## Ordering Information

Part Number	Description
<b>710-073-00</b>	Tri-Color Annunciator Controller, 240 VAC
<b>710-073-01</b>	Tri-Color Annunciator Controller, 120 VAC
<b>369-035-00</b>	Tri-Color Light Bar, Steady LED Notification, Red, White, Blue, 24 VDC, 4X, IP65 enclosure, grey wiring module, end cap, flat base, indoor/outdoor

## Associated Parts

Part Number	Description
<b>207-973-20</b>	D-21 Support Kit, D-21 EM Notification Communicator
<b>207-973-25</b>	D-21 Support Kit, D-21 EM Unified Notification Sequence Activation Screen
<b>227-045-01</b>	GPIO, 32 DPDT, 10A outputs, 120/240 VAC, 50/60 Hz, 24V control voltage
<b>621-085-00</b>	Wire, plenum, unshielded, 1,000 ft.
<b>404-173-01</b>	Uninterruptible Power Supply Kit: enclosure with UPS 120 VAC, 60 hz, 700 VA, 400 W <b>NOTE</b> UPS Required for momentary transfer to backup generator during ACF.

## Wiring Diagram



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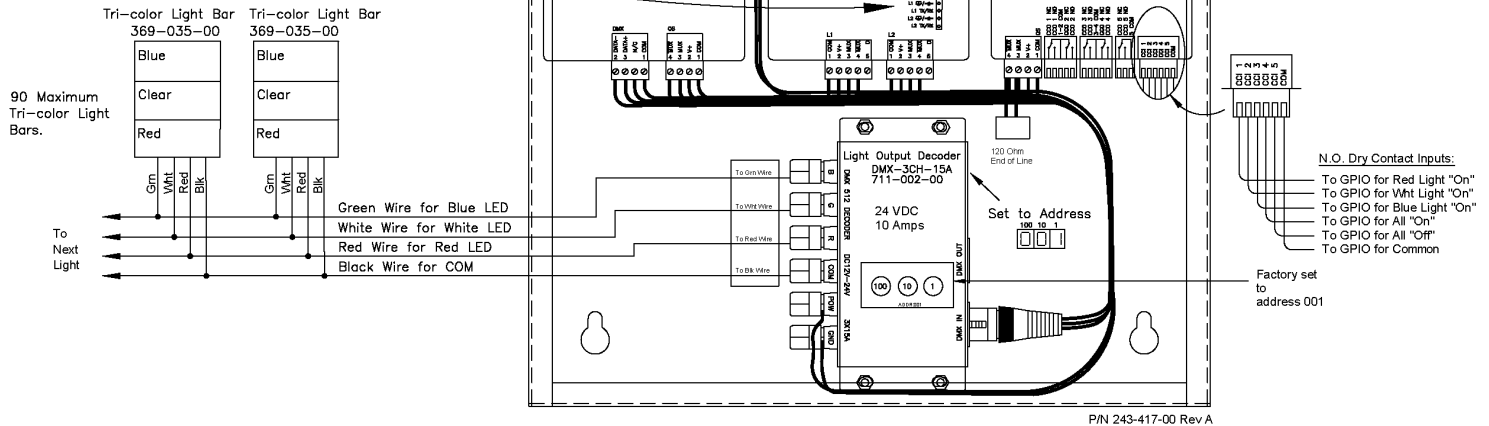


# Central Receiving Systems

## Tri-Color Annunciator Data

QS Processor LED Information chart:

PWR	Power Indicator - turns solid green when power is applied
ERR	Error Indicator - turns RED for 3 seconds each time an error is detected in the system. LED is off when system is working normally.
P	Process Heartbeat - Flashes green during normal operation (will flash 1 to 5 times per second)
P	Database Activity Indicator - Flashes RED when internal database memory is being written. LED does not normally flash, unless database transfer or OS upgrade is occurring.
L1	Link 1 Heartbeat/Status Indicator - Flashes GREEN when Link 1 is operational (flashes once per second)
L1 TX/RX	Link 1 Receive/Transmit Indicator - Lights ORANGE when a message is received or sent to Link 1 (turns on for 1/4 second)
L2	Link 2 Heartbeat/Status Indicator - Flashes GREEN when Link 2 is operational (flashes once per second)
L2 TX/RX	Link 2 Receive/Transmit Indicator - Lights ORANGE when a message is received or sent to Link 2 (turns on for 1/4 second)



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# Central Receiving Systems

## D-21 System VoIP Link Assembly with Desktop Microphone 122-008-10

### Description

The Voice over IP (VoIP) component is part of Monaco's D-21 Mass Notification communication system. VoIP communication is controlled by the D-21, but implemented through ACU-1000 voice switches and Network Expansion Units (NXU-2B). VoIP communication is used for communication across the D-21 network for applications such as live voice mass notification through a Push-to-Talk (PTT) microphone.

**NOTE** This kit is used for expanding or replacing a desktop microphone configuration including radio switch P/N 194-512-00.

### Features

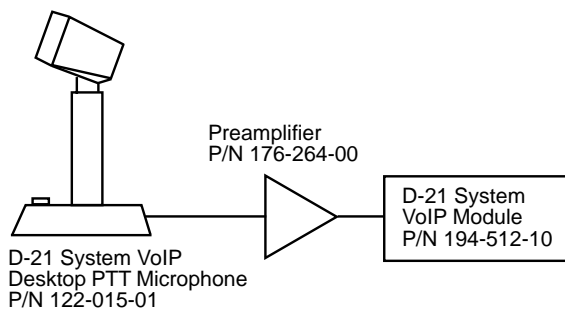
- Push-to-Talk (PTT) Microphone
- Provides VoIP live voice, MNS source for Monaco's D-21 site-wide MNS system option

### Ordering Information

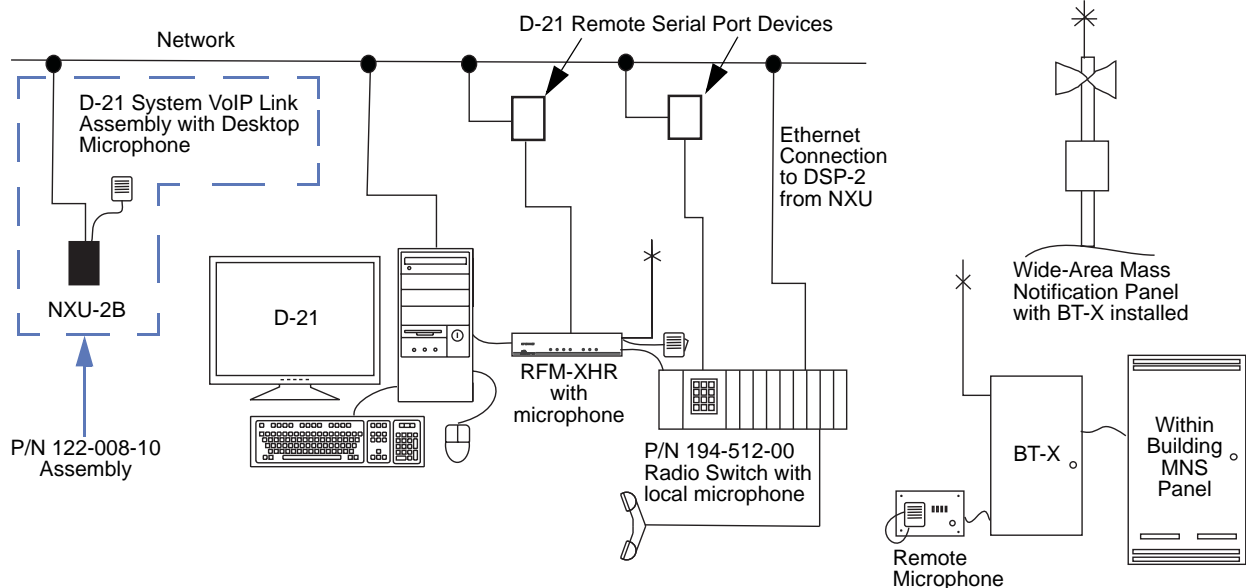
Part Number	Description
122-008-10	D-21 System VoIP Desktop Microphone Link Assembly, kit includes desktop microphone, microphone preamplifier, network expansion unit, and the DSP-2 card for the radio switch <b>NOTE</b> For use with radio switch P/N 194-512-00.

### Associated Parts

Part Number	Description
122-015-01	Replacement PTT Microphone
194-512-10	VoIP Module Assembly



### System Drawing



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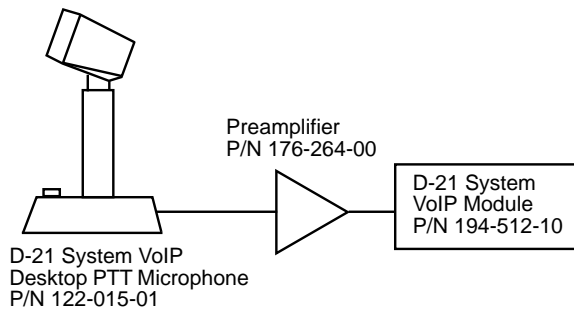
# Central Receiving Systems

## D-21 System VoIP Link Assembly with Desktop Microphone 122-017-10

### Description

The Voice over Internet Protocol (VoIP) component is part of Monaco's D-21 Mass Notification Communication System. VoIP communication is controlled by the D-21, but implemented through a Live Voice Input Radio Switch and Network Expansion Units (NXU-2B). VoIP communication is used for communication across the D-21 network for applications such as live voice mass notification through a Push-to-Talk (PTT) microphone.

**NOTE** This kit is for use with a configuration including radio switch P/N 194-541-01.



### Features

- Push-to-Talk (PTT) Microphone
- Provides VoIP live voice, MNS source for Monaco's D-21 site-wide MNS system option

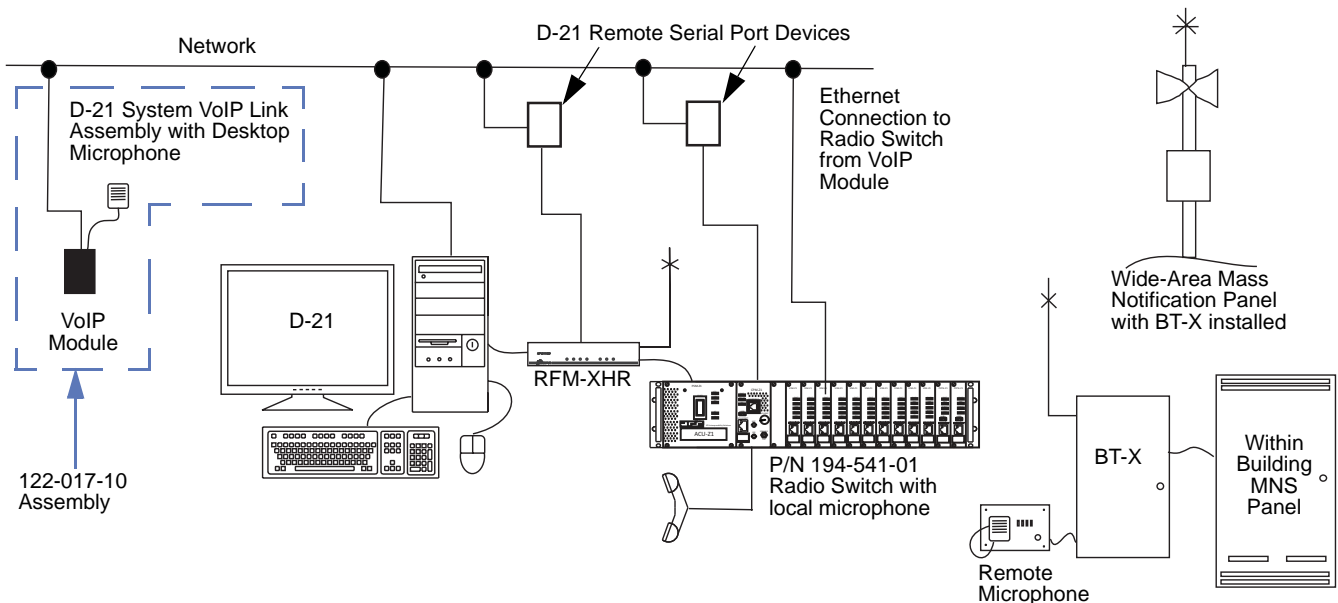
### Ordering Information

Part Number	Description
122-017-10	D-21 System VoIP Desktop Microphone Link Assembly, kit includes desktop microphone, microphone preamplifier, and network expansion unit <b>NOTE</b> For use with radio switch P/N 194-541-01.

### Associated Parts

Part Number	Description
122-015-01	Replacement PTT Microphone
194-512-10	D-21 System VoIP Desktop Module Assembly

### System Drawing



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## Central Receiving Systems

# D-21 System UPS Network Monitoring For Workstation Desks 404-167-00

### Description

The Device Server encapsulates serial data into packets and transports them over the Ethernet allowing the D-21 UPS Monitoring RIB (Remote Interface Driver) to connect to and monitor the status of a UPS (Uninterruptible Power Supply) located at any desk location.



*Operating Humidity* 10% to 90% non-condensing

*Enclosure* Metal with integrated wall mounts

*IP Rating* 30

*Dimensions* 0.9 in. H x 2.8 in. W x 3.7 in. D  
(23 mm x 72 mm x 95 mm)

*Weight* 0.09 lb (0.04 kg)

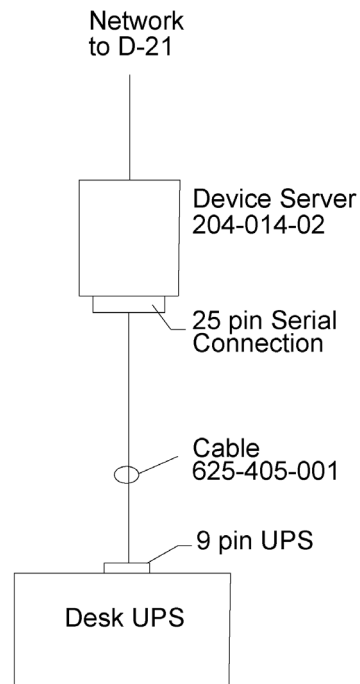
*Standards Compliance:*

UL Listed 864  
E128144, S24286

### Ordering Information

Part Number	Description
404-167-00	D-21 System UPS Network Monitoring for D-21 workstation Desks

### Drawings



### Features

- Connect remote Monaco Devices
- Compact size
- Supports RS-232, RS-422, RS-485 serial connections
- LED Status indicators
- Power Supply included

### Specifications

*Network Interface* RJ-45 10BASE-T/100BASE-TX Ethernet Port

*Input Power* 9 to 30 VDC

*Serial Interface* DM25F DCE Serial Port

*Power Consumption* 1.8 watts maximum

*Baud Rate* 300 bps to 230 Kbps

*Memory* 256 KB SRAM, 2 MB Flash

*Operating Temperature* 32°F to 140°F (0°C to 60°C)



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# Central Receiving Systems

## Color Laserjet Printer with Ethernet Adaptor

205-064-01

### Description

Easily create high-impact color documents in your office with the color laserjet. It is designed to quickly produce consistent color documents and boosts productivity through fast print speeds. The printer can print up to 28 pages per minute, supports duplex printing to help save paper, and saves energy with an ENERGY STAR® qualified design.



### Features

- Built-in Ethernet adaptor
- Fast printing (28 ppm Letter size)
- Duplex printing
- ENERGY STAR® qualified

### Ordering Information

Part Number	Description
205-064-01	Color Laserjet with Ethernet Adaptor

### Specifications

#### Printing Specifications

<i>Print Speed, Letter, Black or Color (A4)</i>	Up to 28 ppm (Up to 27 ppm)
<i>First Page Out, Black</i>	As fast as 9.3 seconds
<i>Print Resolution, Black</i>	Up to 600 x 600 dpi
<i>First Page Out, Color</i>	As fast as 11.1 seconds
<i>Print Resolution, Color</i>	Up to 600 x 600 dpi
<i>Print Technology</i>	Laser
<i>Monthly Duty Cycle</i>	Up to 50,000 pages
<i>Recommended Monthly Print Volume</i>	750 to 4,000 pages
<i>Memory, Standard</i>	256 MB NAND Flash, 512 MB DRAM
<i>Memory, Maximum</i>	256 MB NAND Flash, 512 MB DRAM
<i>Processor Speed</i>	1,200 MHz
<i>Print Languages, Standard</i>	HP PCL 6, HP PCL 5c, HP postscript level 3 emulation, PDF, URF, PWG Raster

#### Paper Handling

<i>Paper Tray(s), Standard</i>	2
<i>Paper Tray(s), Maximum</i>	3
<i>Input, Standard</i>	50-sheet multipurpose tray, 250-sheet input tray
<i>Input, Optional</i>	Optional third 550-sheet input tray
<i>Output, Standard</i>	150-sheet output bin
<i>Output, Optional</i>	None
<i>Duplex Printing (printing on both sides of paper)</i>	Automatic (standard)
<i>Media Sizes, Standard</i>	Tray 1, Tray 2: Letter, legal, executive, Oficio (8.5 x 13 in.), 4 x 6 in., 5 x 8 in., envelopes (No 10, Monarch); Optional Tray 3: Letter, legal, executive, Oficio (8.5 x 13 in.), 4 x 6 in., 5 x 8 in.; Automatic Duplexer: Legal, letter, executive, Oficio (8.5 x 13 in.)
<i>Media Sizes, Custom</i>	Tray 1: 3 x 5 to 8.5 x 14 in.; Tray 2, Optional Tray 3: 3.94 x 5.83 to 8.5 x 14 in.



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# Central Receiving Systems

**Media Types** Paper (bond, brochure, colored, glossy, letterhead, photo, plain, preprinted, prepunched, recycled, rough), postcards, labels, envelopes

**Media Weight** Tray 1: 16 to 47 lb (up to 52 lb with HP laser glossy photo papers);  
Tray 2: 16 to 43 lb (up to 47 lb with postcards, up to 52 lb with HP laser glossy photo papers);  
Optional Tray 3: 16 to 43 lb (Up to 47 lb with postcards, up to 40 lb with HP laser glossy photo papers);  
Automatic Duplexer: 16 to 43 lb

**Document Finishing** Sheetfed

## Connectivity

**Connectivity, Standard** 1 Hi-Speed USB 2.0; 1 host USB at rear side; built-in Gigabit 10/100/1000Base-TX network; 802.3a2 (EEE)

## Dimensions and Weight

**Dimensions** 16.2 in W x 18.5 in. D x 11.6 in. H  
(41.1 cm x 47 cm x 29.5 cm)

**Dimensions, maximum** 16.2 in W x 25.6 in. D x 11.6 in. H  
(41.1 cm x 65 cm x 29.5 cm)

**Weight** 41.7 lb (18.9 kg)

## Power and Operating Requirements

**Minimum System Requirements** PC: 2 GB available hard disk space, Internet connection, USB port, Internet browser. For additional OS hardware requirements see microsoft.com;  
Mac: 2 GB available hard drive space, Internet connection or USB port, OS hardware requirements see apple.com

**Compatible Operating Systems** Windows Client OS (32/64 bit), Win10, Win8.1, Win 8 Basic, Win8 Pro, Win8 Enterprise, Win8 Enterprise N, Win7 Starter Edition SP1, UPD Win7 Ultimate, Mobile OS, iOS, Android, Mac, Apple® macOS Sierra v10.12, Apple® macOS High Sierra v10.13, Apple® macOS Mojave v10.14, Discrete PCL6 Printer Driver, For more information on the supported operating systems go to <http://support.hp.com>, Enter your product name and search, Click on User Guides and enter your product name and search for User Guide, Search for your (Product Name) User Guide, Search for the Supported Operating Systems section, UPD PCL6 / PS Printer Drivers, Supported Operating systems, For more information on the supported operating systems see <http://www.hp.com/go/upd>

**Macintosh Compatible** Yes

**Power Supply Required** 110 to 127 VAC (±10%), 60 Hz (± 3 Hz);  
220 to 240 VAC (±10%), 50/60Hz (± 3 Hz)

**Power Consumption** 550 watts (printing); 17 watts (ready);  
0.9 watts (sleep); 0.9 watts (auto-off/auto-on); 0.07 wattts (auto-off/manual-on); 0.07 watts (off)

**Power Consumption (Active)** 550 watts

**Power Consumption (Standby)** 17 watts

**Power Consumption (Off)** 0.07 to 0.9 watts (see above)

**ENERGY STAR® Qualified** Yes

## Operating Environment

**Temperature Range** Operating:  
59°F to 86°F (15°C to 30°C)  
Recommended:  
59°F to 80.6°F (15°C to 27°C)  
Storage:  
-4°F to 104°F (-20°C to 40°C)

**Relative Humidity** Operating:  
10% to 80% non-condensing  
Recommended:  
20% to 70% non-condensing



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# Central Receiving Systems

## D-21 System Point Reporting Upgrade Kit

207-946-00

### Description

The D-21 Point Reporting feature provides specific information about the exact location of an alarm received. Alarms received are displayed on the relevant floor plan showing dispatchers exactly where the alarm was initiated. This allows better location tracking of an incident as additional alarms are received. For example, as a fire spreads across a floor, the floor plan map will show the location and time of the alarms received, giving responders information on the exact location and direction of the fire's movement through the building. When every second counts, knowing the exact location of triggered alarms saves valuable time for responders in determining the emergency's location.

In addition, having facility information available gives responders valuable insight into the situation. For instance, if a building contains any hazardous materials, knowing where the materials are stored and if a fire is encroaching on the stored materials can help responders better prepare for what they will be encountering.

The D-21 Point Reporting feature also provides valuable maintenance insight into building systems. Point Reporting individually reports every addressable sensor or addressable monitor module to the D-21 system providing real-time status information which can be displayed graphically for users. Troubles and faults are quickly and easily identified for maintenance.



### Features

- Visually share information on the map with all D-21 users
- Icons on floor plans will identify the exact location of an initiated alarm
- Additional alarms received will allow tracking of the incident
- Troubles and faults are quickly identified for maintenance of building systems
- Requires RFM-X firmware Revision G.02 or higher
- This kit provides the items necessary to allow a MAAP(+) or MAAP-X system to be configured for the Point Reporting Option

**NOTE** This kit requires a visit from a Monaco Technician to install and set-up the Point Reporting option. It also assumes an appropriate RFM-X is already on-site or will be purchased. Please speak to Monaco Customer Service for a quote.

### Specifications

RFM-X Firmware Rev G.02 or higher

### Ordering Information

Part Number	Description
207-946-00	D-21 System Point Reporting Upgrade Kit; includes the D-21 Software Licensing Upgrade Key, up to four RFM firmware chips and the MAAP(+) Planner Kit <b>NOTE</b> Requires on-site visit from a Monaco technician, quoted separately.



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# Central Receiving Systems

## Live Voice Input Radio Switch

194-541-01

### Description

The Live Voice Radio Switch is a part of the Monaco Mass Notification System (MNS) that provides the ability to send and receive live voice input for mass notification from a variety of sources.

The Live Voice Radio Switch also contains a handset for locally broadcasting live voice from the radio switch. The unit can remotely support input from a radio (e.g., a roving guard), telephone (e.g., an alternate command center), or a computer network (e.g., system operator).



### Features

- Provides the ability to receive live voice input for mass notification from a variety of sources, such as radio, telephone, or a computer network
- Requires less rack space for ventilation
- Supports up to 12 local sources for live voice input
- Supports up to 24 remote virtual channels for live voice input
- Each live voice source communicates on its own channel
- Each live voice source requires an interface module
- Includes local handset for broadcasting live voice from the radio switch
- After initial setup, the unit is operated from the D-21
- Communicates with the D-21 through direct connection to an RFM-X modem or through a VoIP Module

### Specifications

**RS-232 Serial Port** DP-9 female DCE connector, baud rates 300, 1200, 2400, 4800, 9600, 19200, 38400, 56700, and 115200

**NOTE** D-21 network requires 9600 baud setting.

**PSM-Z1 Front Panel** Power On/Off, LEDs for AC, DC, +12VDC, -12VDC, and +5VDC

**CPM-Z1 Front Panel** Speaker, volume control, 1/8 in. handset jack, 1/8 in. speaker jack, speaker switch, LEDs for Fault, Master, and EXP, Ethernet port, and USB port

**VIM-Z1 Front Panel** RJ-45 Ethernet port, LEDs for Fault, Link, COR, Signal, and PPT

**PSTN-Z1 Front Panel** RJ-45 Ethernet port, USB connector, LEDs for Fault, Ring, Connect, and VOX

**Rear Panel** DC fuse holder, DC input terminal strip, DB-15 connectors to 12 interface modules, DB-9 serial remote connector, RCA audio out connector, ground connector, HDMI connector, and four RJ-11 connectors

**AC Input Power** 115 or 230 VAC  $\pm 15\%$  at 47 Hz to 63 Hz, 60 VA typical, 90 VA maximum

**DC Input Power** 11 to 15 VDC at 4A nominal, 7A maximum

**Dimensions** 3.5 in. H x 19 in. W x 10 in. D (8.89 cm x 48.26 cm x 25.4 cm)

**Operating Temperature** -4°F to 140°F (-20°C to 60°C)

**Storage Temperature** -40°F to 185°F (-40°C to 85°C)

### Ordering Information

Part Number	Description
194-541-01	Live Voice Input Radio Switch for MNS, includes two VIM-Z1 Modules (P/N 194-539-00)
194-539-00	VIM-Z1 Module PCB Assembly
194-540-00	PTSN Telephone Interface Module
194-512-10	D-21 System VoIP Desktop Module Assembly
122-017-10	D-21 System VoIP Desktop Microphone Link Assembly, kit includes desktop microphone, microphone preamplifier and network expansion unit <b>NOTE</b> For use with radio switch P/N 194-541-01.



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# Central Receiving Systems

## Associated Parts

### RFM-X

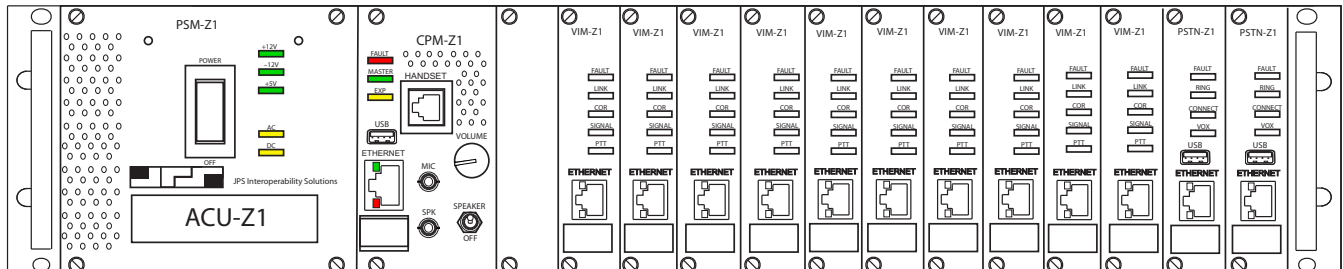
Part Number	Description
<b>625-178-00</b>	Live Voice Radio Switch to VoIP Module Audio Input Cable
<b>194-523-01</b>	VoIP Module, Audio Signal
<b>625-179-00</b>	VoIP Module Audio to RFM-X Modem J2 Audio Converter Cable

### Broadcast MNS

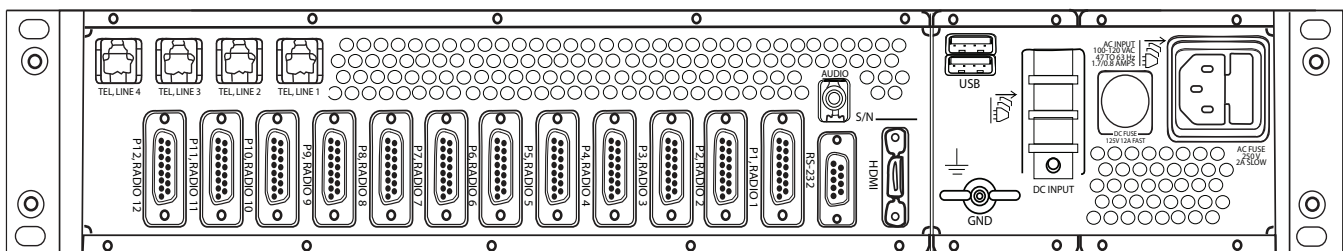
Part Number	Description
<b>625-179-01</b>	VoIP Module Audio to Radio Switch (VIM-Z1) Audio Converter Cable
<b>625-178-01</b>	VoIP Module to Sound Card Cable
<b>203-055-01</b>	D-21 MNS Message Broadcast System
<b>626-277-00</b>	USB Cable Sound Card to USB Hub
<b>200-467-00</b>	USB Hub for Server

## Drawings

### Front Panel



### Rear Panel



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# D-21 Emergency Management

## Central Receiving Systems Catalog Section

01

### D-21 Emergency Management

D-21 Incident and Emergency Management Systems . . . . .	227-010-xx, 227-011-xx, 227-012-xx, 227-020-10, 227-020-13
Repair by Replacement/Technology Upgrade . . . . .	227-020-xx
D-21® EM Mobile Client Laptop . . . . .	227-098-30
D-21® EM Mobile Client Tablet . . . . .	227-099-30

*[Click to go back to "Table of Contents - Index by Product Name"](#)*



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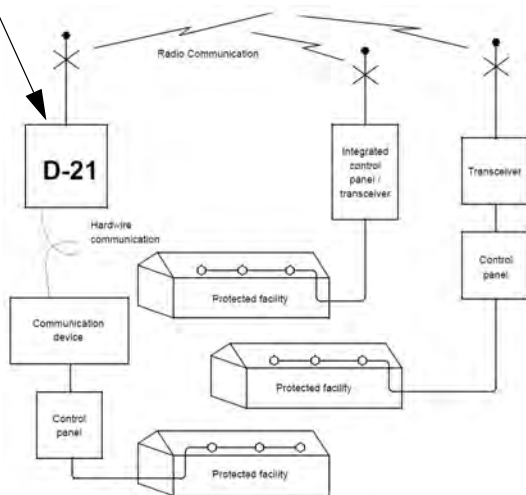
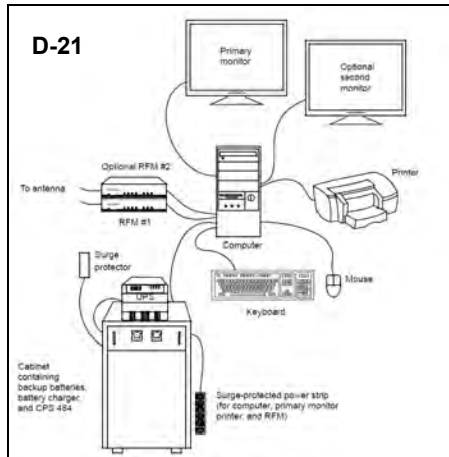
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# Central Receiving Systems

## D-21 Incident and Emergency Management Systems

227-010-xx, 227-011-xx, 227-012-xx, 227-020-10, 227-020-13



### Description

#### D-21 Systems

The D-21 is a Windows® 10 based central receiving system consisting of a primary central receiving station and client workstations, and is available in two types: the **D-21 Incident Management System** and the **D-21 Emergency Management System**.

#### D-21 Incident Management System

The D-21 Incident Management System consists primarily of a receiving station interfacing with multiple remote units such as building transceivers (BT) and fire alarm control panels (FACP), using a narrowband radio frequency modem (RFM) or hardwire communication, allowing it to monitor those systems for any alarm, trouble or alert conditions. Client workstations communicate with the primary station over a LAN or WAN Ethernet network. The D-21 Incident Management System is flexible, due to its modular design. Options can be added to extend and enhance its capabilities, which allow it to interface with and manage incidents from fire protection, security, mass notification and other systems.

When an event (alarm, trouble, alert, etc.) occurs, the D-21 Incident Management System creates an incident which is sent to the client workstation(s). Each workstation is manned by an operator who manages the incoming incidents and the response to each incident. Client workstation operators use the D-21 to gather and record information and coordinate the response to the incident by dispatching and managing incident responders. The D-21 records and logs the incident response. Advanced configurations of the D-21 integrate floor plans and maps to create a visual context for the D-21 Operator to manage an incident.

#### D-21 Emergency Management System

The D-21 Emergency Management suite of applications extends the functionality of a standard D-21 network. These programs communicate over the same computer network that connects multiple D-21 standard workstations, sharing incident data and common information about the installation site with the standard D-21 applications. However, they utilize an enterprise-class database server providing improved processing power, data storage and management, and system reliability and extensibility. The D-21 Emergency Management server connects to the standard D-21 primary server and performs the



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# Central Receiving Systems

communication and data transfer functions necessary to create a seamless D-21 network consisting of emergency management workstations.

## D-21 System Options

Both D-21 system options offer the flexibility to integrate all the incident management tools necessary for the preservation of life and the protection of property. Each system is available in three configurations: Basic, Graphics, and Map.

- Basic D-21 central receiving system
- **D-21G:** Basic D-21 plus graphics. Graphics entered into the database are displayed upon receipt of an alarm or trouble condition. Dispatch personnel can identify the exact position of an emergency situation via on-site drawings, view digital photographs or scanned images of rooms and buildings. AutoCAD® Lt is included.
- **D-21M:** Basic D-21 plus maps. Geographical Information System ESRI maps, and the types of graphics and images listed previously are displayed, automatically highlighting the alarm location on the ESRI map display. The operator has immediate access to cross streets, hydrant locations, and other information associated with the alarmed facility.

## D-21 Client Workstations

D-21 clients are used by an operator to acknowledge alerts, process incidents, dispatch resources, and notify personnel. More than one client can run on the D-21 at once due to its modular design. The system can also be integrated with external systems such as mass notification, E-911, automatic vehicle locating (AVL), voice recording and fire station alerting systems. Each of the D-21 Systems works exclusively with specific client workstations, but they are both capable of utilizing the Fire Management client.

**D-21 Fire Management** offers the flexibility to integrate all the fire management tools necessary for the preservation of life and property protection. The system is available in three configurations: Basic, Graphics, and Map. Each of the configurations can be integrated with other life safety and property

protection products such as mass notification, security, network video monitoring and readiness assurance. The system can also be integrated with computer aided dispatch, E-911, paging and automatic vehicle locating (AVL) functionality.

- Relational database allows custom report generation and database queries
- Multi-user capable; unique access rights by user
- Redundant server option
- Event-based system activity
- Fire incident processing
- First Responders HazMat database

**NOTE** While most client workstations are designed to work specifically with one of the D-21 systems, the data generated by the systems during incident or emergency situations can be made available to all client workstations.

## D-21 Incident Management System Client Workstations

The following client workstations are for use with the D-21 Incident Management System

**D-21 Incident Client** Used to monitor remote security and fire protection hardware, create and manage incidents, track resource dispatching, and communicate with E-911 and other supplementary systems.

**D-21 Security Management** offers a reliable, maximum uptime intrusion reporting system that assures the integrity of all protected sites. By using redundant modes of communication over dual, separate pathways the system assures area intrusion detection and logging, alarm reporting and display, remote alarm assessment, and the generation of alerts to security personnel.

- Constantly senses the resistance of circuits connected to its security inputs, and reports alarm or secure conditions for the following inputs:
  - Central Initiate - The access/secure condition of an area is determined by the system operator
  - Two Man Access/Secure - The access/secure condition of an area is determined by field personnel, and the system operator is aware of the area's condition



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# Central Receiving Systems

- Entry/Exit Delay - A delay allowing personnel a certain amount of time to enter/leave an area without causing an alarm
  - Constant Secure - An area that cannot be placed in an access condition
  - Automatic - Changes to an access or secure condition are determined by the input's Master Control Zone
  - Capable of transmitting over dedicated radio, fiber, or copper
  - Integrates with other D-21 clients (e.g. Fire, MNS, etc.)
  - Features a display of alarms on a geographic map indicating security arrangements and their proximity to roads, perimeters, facilities and other locations
  - The database can also include response plans, floor plans, and building or facility photographs
  - "Listen-in" capability is available for selected locations with capable devices
  - Communication status is displayed on the D-21
  - Real-time alerting from a variety of sources, including:
    - E-911 call systems
    - Fire and security alarm systems
    - Remote sensors and Building Transceiver (BT) units
  - Flexible integration and interfacing with many different response systems, including:
    - Tone alerting systems
    - D-21 Remote Station Alerting System
    - D-21 Mobile Clients and Mobile Data Displays
    - D-21 Mobile Patrol and Mobile Patrol Command
    - D-21 Incident Alerting System
    - Mass notification systems
    - Voice and video systems
  - Access to response plans, contact lists, floor plans, graphics, and additional pertinent response data
  - Emergency response databases
  - Aircraft, including emergency shut-down and evacuation procedures for more than 300 models
  - Hazardous materials, with evacuation, first aid, and protective action guidelines for more than 3000 substances
  - Access to law enforcement databases, including prior history for persons, locations, vehicles, and weapons
  - Site map displaying buildings, streets, and hydrants, automatically updated to show incident locations
- D-21 Mass Notification** is designed to communicate announcements to personnel in specific locations. The MNS delivers wide area and in-building pre-recorded and live voice messages, and is integrated to the Monaco D-21 utilizing all the features of the system. The D-21 MNS utilizes existing D-21 Fire or Force Protection systems by encompassing the D-21 central equipment, building transceivers, and communication methods.
- Identified by the U.S. Army Corps of Engineers as "fully compliant with UFC 4-021-01 for individual mass notification" per Engineering and Construction Bulletin, No. 2003-22
  - Messages can be initiated from both primary and multiple secondary locations
  - Pre-recorded messages can be set up to play automatically or they can be operator initiated
  - Live voice messages can originate via microphone, telephone, or from the radio of authorized emergency response personnel
  - Messages can be directed to selected facilities or wide-area towers. The locations can be selected individually, or grouped together.
  - Once activated the selected messages will play until they are stopped by an operator or until they time out
  - Local live voice and pre-recorded messages can be initiated within a specific building



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# Central Receiving Systems

- Areas to be notified are selected from a list for the D-21 and D-21G, and from the D-21M's ESRI map
- Provides scheduler with daily log, notes, reminders, and an activity roster
- Report generator for custom reporting; system activity report indicates status, history, and extended poll information

**D-21 View Generator/Tone Alerting** An unattended workstation with tone out capabilities displaying the site map and basic incident data on a large-screen display installed in the home location of incident responders.

## D-21 Central Point Reporting

- **MAAP(+) Point Reporting Addressable Fire Alarm Control Panel:** The MAAP(+) Panel provides detailed, real-time information to aid dispatchers, first responders, and incident commanders allowing them to make informed decisions quickly and accurately thereby reducing incident response time and protecting lives and assets. Pairing the MAAP(+) Panel with a D-21 Central System, with the D-21 Mobile Client installed, will provide on-site incident commanders with up-to-date information on the location(s) of alarm activity inside the facility.

**D-21 Network Video Monitoring** Incorporates a network attached video server and remote networked cameras into the D-21 network, allowing personnel the ability to monitor multiple locations at a single time using cutting edge video surveillance. Contact Monaco's Customer Service Department for more information on this client.

## D-21 Emergency Management System Client Workstations

The following client workstations are for use with the D-21 Incident Management System.

**D-21 Incident Alerting System (IAS)** Provides a large-screen system for monitoring incident response activity in an emergency oversight center.

**D-21 Mobile Fire** Provides a special version of the D-21 Fire Management Client that can be run on a laptop installed in a response vehicle to support the activities of responders in the field.

**D-21 Mobile Patrol (MP)** Provides a version of the D-21 Law Enforcement client that can be run on a laptop installed in a patrol vehicle, with additional features to support the activities of law enforcement resources in the field.

**D-21 MEI Chat** An instant messaging application providing a secure private channel for communication between mobile and non-mobile workstations.

**D-21 Historical Recall** Provides incident playback functionality for training, review, and performance assessment purposes.

## Features

- Fire Alarm and Reporting Dispatch System
- Radio and/or hardwire reporting capability
- Factory Mutual approved
- Event-based system activity
- System activity reports: status, history, and extended poll
- Complete incident history
  - Logs and time stamps all incidents and events
- Relational database allows custom report generation and database queries
- Multi-user capable; unique access rights by user
- Incident management and processing
- High-Definition LCD monitors
  - Dual Monitor option available
- Microsoft Windows® operating system
- Radio Frequency Modem
- Uninterruptable Power Supply
- Color Laserjet® Printer
- First Responders HazMat database
- Remote access for troubleshooting
- Tower and Rack-mount configurations available
- Redundant server options
- Primary and D-21 Clients can be added for additional dispatch workstations



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# Central Receiving Systems

## Ordering Information

### D-21 Central Receiving Station Tower

Part Number	Description
<b>227-010-10</b>	D-21 Central Receiving Station Communicator, WIN 10, Tower
<b>227-011-10</b>	D-21G (Graphics) Central Receiving Station Communicator, WIN 10, Tower
<b>227-012-10</b>	D-21M (Maps) Central Receiving Station Communicator, WIN 10, Tower

### D-21 Central Receiving Station Rack-mount

Part Number	Description
<b>227-010-12</b>	D-21 Central Receiving Station Communicator, WIN 10, Rack-mount (4U)
<b>227-010-13</b>	D-21 Central Receiving Station Communicator, WIN 10, Rack-mount (2U) Portable
<b>227-011-12</b>	D-21G (Graphics) Central Receiving Station Communicator, WIN 10, Rack-mount (4U)
<b>227-011-13</b>	D-21G (Graphics) Central Receiving Station Communicator, WIN 10, Rack-mount (2U) Portable
<b>227-012-12</b>	D-21M (Maps) Central Receiving Station Communicator, WIN 10, Rack-mount (4U)
<b>227-012-13</b>	D-21M (Maps) Central Receiving Station Communicator, WIN 10, Rack-mount (2U) Portable
<b>227-010-14</b>	D-21 Central Receiving Station Communicator, WIN 10, Rack (14U), Server, F Client, LCD/KVM, 20 min UPS, 120V/1500VA

### D-21 Client Workstations

Part Number	Description
<b>227-020-10</b>	D-21 Client Alarm and Dispatch Station Communicator, WIN10, Tower
<b>227-020-13</b>	D-21 Client Alarm and Dispatch Station Communicator, WIN 10, Rack-mount (4U)

## Associated Parts

### D-21 License Options

Part Number	Description
<b>207-843-00</b>	D-21 Mass Notification System License
<b>207-849-00</b>	D-21 MNS Mass Notification System (Maps) License
<b>207-860-01</b>	D-21 Automatic Vehicle Locating License
<b>207-882-00</b>	D-21 E911 Interface Communicator
<b>207-830-00</b>	D-21 Fire Client
<b>207-833-00</b>	D-21 Fire Client with Maps
<b>207-832-00</b>	D-21 Fire and Security Client
<b>207-835-00</b>	D-21 Fire and Security Client with Maps
<b>207-831-00</b>	D-21 Security Client
<b>207-834-00</b>	D-21 Security Management Client with Maps
<b>207-842-00</b>	D-21 Mass Notification Client
<b>207-880-00</b>	D-21 Mobile Data Display
<b>207-862-00</b>	D-21 Mobile Client
<b>207-878-00</b>	D-21 Shortest Route Server. Route calculates and displays the shortest route between two points on the D-21 map; requires option key
<b>207-878-01</b>	D-21 Shortest Route Client Option Key
<b>207-940-00</b>	D-21 Command Decision Display Tools, allows users in the field and at a dispatch or command center to visually share information about measures taken to control traffic or evacuate facilities at an incident
<b>207-940-01</b>	D-21 EM Interactive Map Tools

### D-21 Mobile Laptop

\*To add D-21 Mobile laptop to your existing system, contact your Customer Service Representative to have your D-21 system configuration evaluated so a site specific engineered solution can be provided including any additional hardware and software necessary.



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# Central Receiving Systems

## Upgrade Options

Part Number	Description
<b>207-863-00</b>	D-21 Fire Client Upgrade from Graphics to Maps
<b>207-864-00</b>	D-21 Security Client Upgrade from Graphics to Maps

## RFM-X Modem

Part Number	Description
<b>227-323-00</b>	RFM-XH Hardwire Modem, black
<b>227-317-xx</b>	RFM-XHR Radio Frequency Modem with hard-wire option, black enclosure Specify frequency (-xx) when ordering.

## Optional Monitors

Part Number	Description
<b>192-048-01</b>	Monitor, 21.5 in., LED flat screen, black, VGA/DVI, 100V to 240V 50/60 Hz
<b>192-060-10</b>	Monitor, 49 in., LED flat screen, black, HDMI, VGA/DVI, 110 VAC

## D-21 Weather Station

Part Number	Description
<b>299-016-01</b>	D-21 Weather Station Kit
<b>624-015-00</b>	Cable for Weather Station with mil-spec connector, five Pair, PVC, UV Resistant, 300 ft. max., priced per foot (required with P/N 299-016-01)



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# Central Receiving Systems

## Repair by Replacement/Technology Upgrade

227-020-xx

### Description

In order to ensure minimal downtime and avoid failures caused by aging equipment, Monaco recommends that important system components be regularly updated through a technology upgrade for existing D-21 computer equipment.

This upgrade offers the latest FM Approved technology and software updates to ensure the D-21 system runs at optimal performance levels and allow dispatchers to take full advantage of the system's feature set.

The current industry standard life for a desktop computer is four to five years, while that of a laptop computer is two to three years. The expectancy of a computer is based on the Mean Time Between Failures (MTBF) stated in hours and is based on the average use of a computer, i.e., eight hours a day, Monday through Friday for 40 hours per week, or just over 2,000 hours per year.

#### Typical MTBF

Equipment	Hours per year*
Personal Computer	1,000 - 5,000
Hard Disk	10,000 - 20,000
Work Station	2,000 - 5,000
*Statistics by System Reliability Center	

### Specifications

#### Repair by Replacement/Technology Upgrade

The following systems have FM Approved printed circuit boards that are specific to the Monaco D-21 equipment listed.

#### Standard D-21 Systems

##### Monaco Part Number: Product:

227-020-81	Server/Client Rack-mount
227-020-82	Client Rack-mount
227-020-83	Server Rack-mount
227-020-84	Client Tower
227-020-85	Server Tower
227-020-86	Server/Client Tower
227-020-94	View Generator

#### Emergency Management Systems

##### Monaco Part Number: Product:

227-020-89	MMS Client Rack-mount
227-020-88	MMS Client Tower
227-020-62	MMS Server Rack-mount
227-020-63	MMS NAS Drive Rack-mount
227-020-97	Mobile Fire - Laptop
227-020-98	Mobile Cops - Laptop
227-020-99	Mobile Fire - Tablet
227-020-71	EM View Generator



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# Central Receiving Systems

## Ordering Information

### Standard D-21 Systems

Part Number	Description
<b>227-020-81</b>	Kit, D-21, Repair by Replace, WIN10, Server/Client, Rack-mount
<b>227-020-82</b>	Kit, D-21, Repair by Replace, WIN10, Client, Rack-mount
<b>227-020-83</b>	Kit, D-21, Repair by Replace, WIN10, Server, Rack-mount
<b>227-020-84</b>	Kit, D-21, Repair by Replace, WIN10, Client, Tower
<b>227-020-85</b>	Kit, D-21, Repair by Replace, WIN10, Server, Tower
<b>227-020-86</b>	Kit, D-21, Repair by Replace, WIN10, Server/Client Tower
<b>227-020-94</b>	Kit, D-21 CPU, Repair by Replace, View Generator, WIN10

### Emergency Management Systems

Part Number	Description
<b>227-020-89</b>	Kit, MMS Class CPU, Repair by Replace, WIN10, Client, 2U Rack-mount
<b>227-020-88</b>	Kit, MMS Class CPU, Repair by Replace, WIN10, Client, Tower
<b>227-020-62</b>	Kit, EM CPU, Repair by Replace, Server, Rack-mount
<b>227-020-63</b>	Kit, D-21, Repair by Replace, NAS Drive, Rack-mount
<b>227-020-97</b>	Kit, D-21 EM, Repair by Replace, Mobile Fire, WIN10, Laptop
<b>227-020-98</b>	Kit, D-21 EM, Repair by Replace, Mobile Cops, WIN10, Laptop
<b>227-020-99</b>	Kit, D-21 EM, Repair by Replace, Mobile Fire, WIN10, Tablet
<b>227-020-71</b>	D-21 EM, Repair by Replace, View Generator, WIN10



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# Central Receiving Systems

## D-21® EM Mobile Client Laptop

227-098-30

### Description

Incident commanders must quickly assess information and establish situational awareness concerning all aspects of an incident. The D-21® EM Mobile Fire client accomplishes this goal with the availability of essential real-time and pre-planned data.



The D-21 EM Mobile Fire provides a live, real-time wireless connection to the D-21 EM database giving responders a common operating picture. Utilizing a rugged laptop mounted in the responding vehicle, the D-21 EM Mobile Fire client provides responders with access to the D-21 EM features such as the ability to view actions being taken or update information such as perimeters, roadblocks or control points. Responders can add information, like special markers or annotations, directly on the map view which will instantly be shared with all D-21 EM users.

In addition, access to features from the EM Fire Management component is available to users in the field allowing data entry to forms, checklists and logs which is immediately updated to all networked D-21 EM computers. The D-21 EM Mobile Fire workspace is customizable by the user to enhance their operation of the system. Other D-21 EM features are also available such as the chat functionality allowing responders to send and receive messages relevant to the specific incident at hand.

When equipped with options such as Automatic Vehicle Locating (AVL), dispatchers and other networked D-21 EM users can see AVL vehicles on the map and status updates are made automatically such as en-route, on-scene, etc. The Hazmat Plume option provides a “footprint” on the map display of the estimated projection path of a cloud caused by a chemical fire or hazardous material spill. When used with Shortest Route, the map will calculate the shortest distance between the two locations and will automatically route around warning areas such as perimeters, hazmat plumes, etc.

### Features

- Utilizes the modern SQL database structure of the D-21 EM providing faster system operation
- Data Communication between the dispatcher and the response vehicle over a secure, private radio network or an encrypted cellular radio network
  - The D-21 EM Mobile Fire Map is synchronized with the dispatch center and provides features such as: Ability to add perimeters, roadblocks, traffic control information, control points, annotations, and special markers
  - Ability to view hydrant information close to the incident or in a specific area
- Access to emergency response databases, relevant graphics and media, including floor plans and response plans
- Data entry in the field is immediately available to all networked D-21 computers
- Access to D-21 EM features such as chat and customizable workspaces

### Options

- Automatic Vehicle Locating (AVL) via GPS
- Hazmat Plume
- Shortest Route



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# Central Receiving Systems

## Laptop Features

- Rugged Laptop, Dockable
- 13.1 in. XGA touch display
- Windows 10 Pro
- Intel Core i7-5600U 2.6 GHz, vPro Processor
- 16GB RAM
- Anti-shock hard drive, anti-vibration, shock-resistant, drop-resistant, dust-resistant, explosion proof, weather proof

## Laptop Specifications

*Software* Windows® 10 Pro

*CPU* Intel® Core™ i7-5600U

*Memory* 16GB RAM

*Display* 13.1 XGA 1024 x 768  
LED backlight, touchscreen, anti-glare,  
anti-reflective, sunlight readable

*Input type* Keyboard, touchpad, stylus  
Emissive backlight

*Material* Magnesium alloy

*AC Adaptor* Input AC 120/230V (50/60Hz)

*Dimensions* 11.5 in.H x 2.9 in. D x 11.9 in. W

*Weight* 8.2 lb

*Audio* High Definition Speaker

*Interfaces* HDMI

USB 3.0

3x USB 2.0

Serial, Dock, Headphone Output,  
Microphone Input, VGA, LAN

*Communication* Bluetooth

Intel Dual Band Wireless - AC 7265

*Battery* Lithium ion:

Capacity: 8550 mAH

Operation: 18 hours est.

*Security Features* Kensington security slot

Theft/Intrusion Security lock slot

Trusted Platform Module (TPM 2.0)  
security chip

*Standards Compliant* ISO 9001, ISO 14001, IEC 60529 IP65, AES,  
RoHS, MIL-STD-810G, section 508,  
MIL-STD-461F

Display: EnergyStar Certified

Networking: IEEE 802.1X

## Ordering Information

Part Number	Description
<b>227-098-30*</b>	D-21 EM Mobile Client, WIN 10, rugged laptop computer, WIFI, Bluetooth, Memory Card Reader
<b>207-981-10</b>	EM Fire Software kit. 1 kit required per P/N 227-098-30 and P/N 227-099-30
*To add D-21 Mobile laptop to your existing system, contact your Customer Service Representative to have your D-21 system configuration evaluated so a site specific engineered solution can be provided including any additional hardware and software necessary.	



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# Central Receiving Systems

## D-21® EM Mobile Client Tablet

227-099-30

### Description

Incident commanders must quickly assess information and establish situational awareness concerning all aspects of an incident. The D-21® EM Mobile Fire or Law Enforcement client accomplishes this goal with the availability of essential real-time data.



The D-21 EM Mobile provides a live, real-time wireless connection to the D-21 EM database giving responders a common operating picture. Utilizing a rugged tablet mounted in the responding vehicle, the D-21 EM Mobile client provides responders with access to the D-21 EM features such as the ability to view actions being taken or update information such as perimeters, roadblocks or control points. Responders can add information, like special markers or annotations, directly on the map view which will be shared with all D-21 EM users.

In addition, access to features from the EM component is available to users in the field allowing data entry to forms, checklists and logs which is updated to all networked D-21 EM computers. The D-21 EM Mobile workspace is customizable by the user to enhance their operation of the system. Other D-21 EM features are also available such as the chat functionality allowing responders to send and receive messages relevant to the specific incident at hand.

When equipped with options such as Automatic Vehicle Locating (AVL), dispatchers and other networked D-21 EM users can see AVL vehicles on the map and status updates are made automatically such as en-route, on-scene, etc. The Hazmat Plume option provides a “footprint” on the map display of the estimated projection path of a cloud caused by a chemical fire or hazardous material spill. When used with Shortest Route, the map will calculate the shortest distance between the two locations and will automatically route around warning areas such as perimeters, hazmat plumes, etc.

### Features

- Utilizes the modern SQL database structure of the D-21 EM providing faster system operation
- Data Communication between the dispatcher and the response vehicle over a secure, private radio network or an encrypted cellular radio network
- The D-21 EM Mobile Map is synchronized with the dispatch center and provides features such as:
  - Ability to add perimeters, roadblocks, traffic control information, control points, annotations, and special markers
  - Ability to view hydrant information close to the incident or in a specific area
- Access to emergency response databases, relevant graphics and media, including floor plans and response plans
- Data entry in the field is immediately available to all networked D-21 computers
- Access to D-21 EM features such as chat and customizable workspaces

### Options

- Automatic Vehicle Locating (AVL) via GPS
- Hazmat Plume
- Shortest Route
- Mobile



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# Central Receiving Systems

## Tablet Features

- Rugged Tablet, Dockable
- 10.1 inch WUXGA touchscreen
- Windows 10 Pro 64-bit
- Intel Core i5-6300U 2.4 GHz, vPro Processor
- 8GB RAM
- 10 point touch screen supports glove mode
- Anti-vibration, shock-resistant, drop-resistant, dust-resistant, explosion proof, weather proof

## Tablet Specifications

**Software** Windows® 10 Pro 64 bit Edition

**CPU** Intel® Core™ i5-6300U

**Memory** 8GB RAM

**Display** 10.1 WUXGA 1920 x 1200  
10-point multi-touch, LED backlight,  
anti-glare, auto-rotation, direct bonding,  
glove touch mode, sunlight readable

**Material** Magnesium alloy

**Dimensions** 7.4 in.H x 0.8 in. D x 10.6 in. W

**Weight** 2.4 lb

**Audio** Microphone - High Definition Speaker

**Cameras** Autofocus LED flash  
720p front  
8MP rear

**Interface** 1 HDMI Port  
1 USB 3.0 Port  
Dock, Headphone Out, LAN

**Communication** Sierra Wireless EM7355  
LTE, 4G

**Battery** Lithium ion:  
Capacity: 4800mAH  
Operation: 14 hours est.

**Security Features** Kensington security slot  
Theft/Intrusion Security lock slot  
Trusted Platform Module (TPM 2.0)  
security chip

**Standards Compliant** AES, IP65, MIL-STD-810G standard  
Display: EnergyStar Certified  
Networking: IEEE 802.1X

## Ordering Information

Part Number	Description
227-099-30	D-21 EM Mobile Client, WIN 10, rugged tablet computer, WIFI, Bluetooth, Smartcard reader, handstrap
207-913-00	Mobile Law Enforcement Client Kit
207-981-10	EM Fire Software kit. 1 kit required per P/N 227-098-30 and P/N 227-099-30.
*To add D-21 Mobile tablets to your existing system, contact your Customer Service Representative to have your D-21 system configuration evaluated so a site specific engineered solution can be provided including any additional hardware and software necessary.	



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**D-21 Fire – Reserved**

## **Central Receiving Systems Catalog Section**

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**D-21 Fire – Reserved**

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**D-21 MNS – Reserved**

## **Central Receiving Systems Catalog Section**

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**D-21 MNS – Reserved**

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**D-21 Security – Reserved**

## **Central Receiving Systems Catalog Section**

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## D-21 Tone Alerting Panel

### Central Receiving Systems Catalog Section

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#### D-21 Tone Alerting Panel

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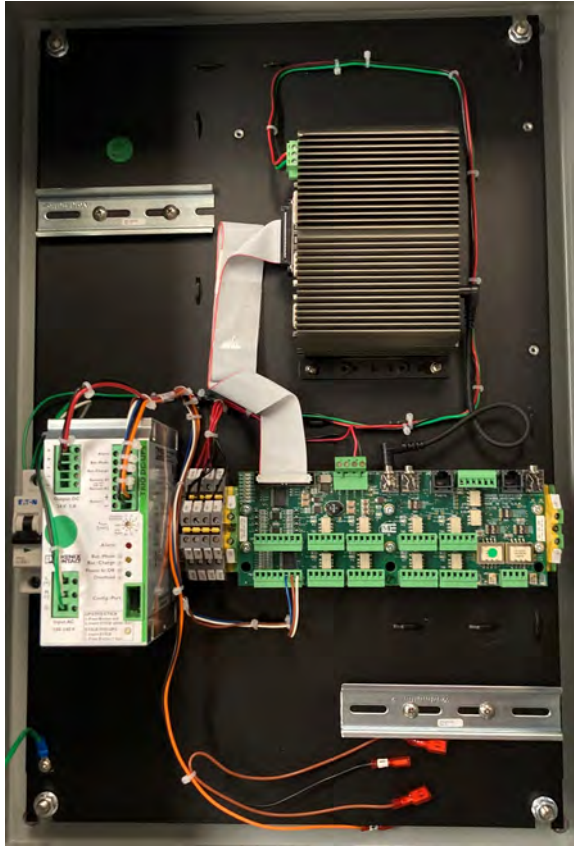
# Central Receiving Systems

## D-21 Tone Alerting Panel

227-095-00

### Description

The D-21 Tone Alerting Panel provides building-wide transmission of prerecorded messages and/or unique tones for different emergencies.



Specific messages and tones are used to alert emergency crews. The panel also allows the connection of external strobes to be used in tandem with the tone and prerecorded messages.

The D-21 Tone Alerting Panel paging interface allows integration with an existing paging system to give the D-21 Tone Alerting Panel priority to send out a tone or prerecorded messages over the paging system speaker network. For additional information contact Monaco Enterprises.

Prerecorded voice messages can be stored and played by the D-21 Tone Alerting Panel. Messages are downloaded and are resident in the panel. The D-21 Tone Alerting Panel also provides the option to generate synthesized text-to-speech output from text information sent to it from the D-21 Central.

The D-21 Tone Alerting Panel has automatic failover to battery backup power and has an integrated battery charger to ensure the batteries are ready to operate when needed. The power supply supervises the power system by detecting and reporting battery faults, AC failures, and low battery conditions.

A Redundant D-21 Tone Alerting Panel can be added to a system to provide real-time automatic failover in case of Primary Tone Panel failure. If the Primary D-21 Tone Alerting Panel fails to respond to a tone command, the command will be sent to the Redundant Tone Panel automatically. For additional information contact Monaco Enterprises.

### Features

- Flexible deployment of tone and prerecorded voice messages activated by the D-21 Central
- Text-to-speech from D-21 dispatch preplans
- Line-level audio output with ramped audio option for connection to building intercom systems
- Eight Double Pole Double Throw (DPDT) relays for activation of a public address amplifier, external strobe or other device
- Eight trigger inputs allow the D-21 Tone Alerting Panel to monitor a power supply, batteries or other devices

### Specifications

*Enclosure* Surface-mount, Grey, NEMA 4

*Dimensions* 24 in. H x 16 in. W x 8 in. D

*Input Power* 115 to 230 VAC at 50/60 Hz



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# Central Receiving Systems

## Ordering Information

Part Number	Description
<b>227-095-00</b>	D-21 Tone Alerting Panel, includes text-to-speech license for a single building and two 12 VDC/8 Ah batteries <b>NOTE</b> Requires: <ul style="list-style-type: none"> <li>D-21 Tone Alerting Panel requires a Tone Alert Panel Remote Interface Driver (RID) License P/N 207-886-00</li> <li>Use of text-to-speech requires a D-21 Server Text-to-Speech Support Kit, P/N 207-905-00</li> </ul>

## Associated Parts

Part Number	Description
<b>227-095-10</b>	D-21 Tone Alert Panel Upgrade; complete upgrade for previously installed D-21 Tone Alert Panel; upgrade is installed into the existing tone alert panel enclosure; requires two 12 VDC/8 Ah batteries, P/N 400-704-00 (purchased separately)
<b>207-886-00</b>	Tone Alert Panel Remote Interface Driver (RID) License; enables the Tone Alert Panel RID on the D-21 (one required per D-21 server) <b>NOTE</b> Requires: <ul style="list-style-type: none"> <li>D-21 Tone Alert Panel, P/N 227-095-00</li> </ul>

Part Number	Description
<b>207-905-00*</b>	D-21 Server Text-to-Speech Support Kit; enables text-to-speech on the D-21 server; required for text-to-speech (one required per D-21 server) <b>NOTE</b> Requires: <ul style="list-style-type: none"> <li>D-21 Tone Alert Panel, P/N 227-095-00</li> <li>Tone Alert Panel RID License, P/N 207-886-00</li> </ul>
<b>207-546-25*</b>	Text-to-Speech Broadcast Site License; required if the D-21 Tone Alert Panel is to be connected to additional buildings or connected to a radio network (one required per site) <b>NOTE</b> Requires: <ul style="list-style-type: none"> <li>D-21 Tone Alert Panel, P/N 227-095-00</li> <li>Tone Alert Panel RID License, P/N 207-886-00</li> <li>D-21 Server Text-to-Speech Support Kit P/N 207-905-00</li> </ul>
<b>400-704-00</b>	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95 in. L x 2.56 in. W x 3.90 in. H, 3.50 lb
<b>*NOTE</b> The D-21 Server Text-to-Speech Support Kit (P/N 207-905-00) is for use within a single building; however, the D-21 Tone Alert Panel can be connected to additional buildings or radio networks when a Text-to-Speech Broadcast Site License (P/N 207-546-25) has also been purchased	



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## Rack-mount Cabinets

# Central Receiving Systems Catalog Section

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### Rack-mount Cabinets

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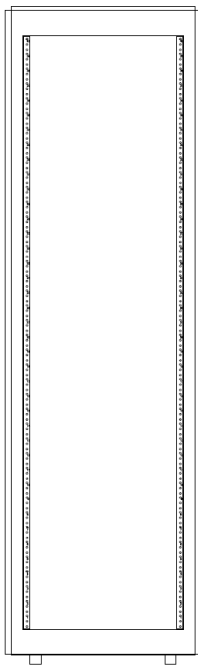
# Central Receiving Systems

## Rack Cabinets

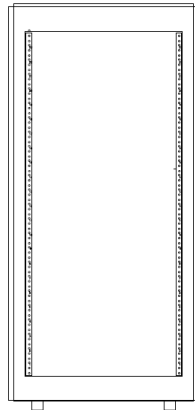
104-011-00, 104-012-00

### Description

24U and 40U 19 in. Rack Cabinets are available in different heights and depths for use with Monaco's Central Receiving System. Cabinets include power strips and adaptor patch panel.



Front View  
P/N 104-011-00



Front View  
P/N 104-012-00

The CAT 5e Patch Panel mounts on a 19 in. equipment rack. Connector modules are in groups of six and include rear cable-management bars. Cabinets are durable 16-gauge steel with internal braces, a black-textured powder-coat finish and top ventilation with removable side panels. PCB and plastic components are rated UL94V-0.

### Specifications

<i>40U Cabinet Dimensions</i>	22 in. W x 76.125 in. H x 31.4 in. D
<i>24U Cabinet Dimensions</i>	22 in. W x 48.125 in. H x 31.4 in. D
<i>Weight Capacity</i>	10,000 lb
<i>6-Outlet Power Strip</i>	120 VAC, 60 Hz, 15A Horizontal, Rack-mount
<i>8-Outlet Power Strip</i>	120 VAC, 60 Hz, 15A Includes surge, spike protection and EMI filtering Horizontal Rack-mount
<i>10-Outlet Power Strip</i>	120 VAC, 60 Hz, 15A Low Profile Power, Vertical Rack-mount
<i>Structural Elements</i>	Top and bottom rails: 14 gauge steel Horizontal braces: 16 gauge steel Removable side panels Locking latch, rear door Top vented
<i>Finish</i>	Black, powder coat
<i>Patch Panel</i>	Cat 5e Universal Patch panel, 24-port, 1RU

### Ordering Information

#### Rack Cabinet

Part Number	Description
104-011-00	Rack Cabinet, 40 U, 22 in. W x 76.125 in. H x 31.4 in. D, Black, 6-outlet power strip, 10-outlet power strip low profile
104-012-00	Rack Cabinet, 24 U, 22 in. W x 48.125 in. H x 31.4 in. D, Black, 6 outlet power strip, 8-outlet power strip with surge protection



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# Rack-mount Shelves

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### Rack-mount Shelves

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# Central Receiving Systems

## Rack Shelf

081-214-02

### Description

19 in. black equipment shelf for use on the Monaco Central Receiving Rack-mounted System.



### Specifications

*Materials* 16-gauge steel

*Dimensions* Useable shelf area 17.44 in. W x 14.50 in. D  
Racking height 3.5 in.  
Rack width 19 in.

*Weight Capacity* Up to 50 lb

### Ordering Information

Part Number	Description
081-214-02	Rack shelf, black, 2U

### Features

- Durable black powder-coat finish
- Solid one-piece construction



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# Central Receiving Systems

## Rack Shelf

081-215-01

### Description

19 in. black equipment shelf for use on the Monaco Central Receiving Rack-mounted System.



### Specifications

*Dimensions* Useable depth range: 27 in. to 44 in.  
Racking height: 1.5 in.  
Rack width: 19 in.

### Ordering Information

Part Number	Description
081-215-01	Rack shelf, black, 19 in., 1U

### Features

- 19 in. black, heavy duty, 1U, rack shelf, adjustable depth of 27 in. to 44 in.
- Fully vented shelf allowing for airflow beneath the equipment
- Four-point mounting system with a weight capacity of 500 lb



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## Rack Blank Panels

# Central Receiving Systems Catalog Section

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### Rack Blank Panels

Rack Blank Panel.....085-214-0x

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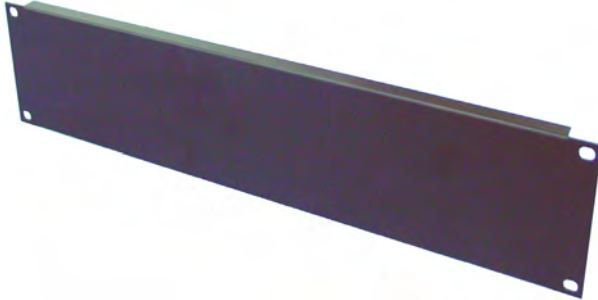
# Central Receiving Systems

## Rack Blank Panel

085-214-0x

### Description

19 in. black blank panel for use on the Monaco Central Receiving Rack-mounted Systems.



### Features

- Available in six space sizes
- Durable black powder-coat finish

### Specifications

*Materials* 14-gauge or 16-gauge steel

*Dimensions* All units are 19 in. W; height based on order number (see "Ordering Information")

### Ordering Information

Part Number	Description
085-214-01	Rack blank panel, black, 19 in., 1U 1.75 in. H
085-214-02	Rack blank panel, black, 19 in., 2U 3.5 in. H
085-214-03	Rack blank panel, black, 19 in., 3U 5.25 in. H
085-214-04	Rack blank panel, black, 19 in., 4U 7 in. H
085-214-05	Rack blank panel, black, 19 in., 5U 8.25 in. H
085-214-06	Rack blank panel, black, 19 in., 6U 10.5 in. H
P/Ns ending in -01, -02, -03, -04 are made with 14-gauge steel. P/Ns ending in -05 and -06 are made with 16-gauge steel.	



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# Network Switching

## Central Receiving Systems Catalog Section

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### Network Switching

Switch, Industrial, 5 Port Ethernet . . . . .	200-438-00
Fiber Module, Optical Transceiver Hot Plug, SFP . . . . .	200-444-01
Fiber Module, Transceiver Hot Plug for DODIN Switch . . . . .	200-444-02
Fiber Module, Optical Transceiver Hot Plug, SFP . . . . .	200-457-00
KVM Switch . . . . .	200-461-00
Ethernet Switch Assembly with 24-Port SFP, Managed Layer 3 . . . . .	200-471-11
Switch Assembly, 24 Port, 4SFP, Managed, Layer 2, 1U, DODIN . . . . .	200-480-01
Switch Assembly, 24 Port, 4SFP, Managed, Layer 2, POE, 1U . . . . .	200-481-01
Switch Assembly, 48 Port, 2 SFP+, Managed, Layer 2, 1U . . . . .	200-482-01
Switch Assembly, 48 Port, 2 SFP, Managed, Layer 2, 1U, PoE . . . . .	200-483-01
Switch Assembly, 12 Port, SFP, Managed, Layer 3, 1U, DODIN . . . . .	200-484-01
Switch Assembly, 12 Port, SFP, Managed, Layer 3, 1U . . . . .	200-485-01
Switch Assembly, 24 Port, 8SFP+, Managed, Layer 2/3, DoDIN . . . . .	200-491-01

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# Central Receiving Systems

## Switch, Industrial, 5 Port Ethernet 200-438-00



### Specifications

*Supply Voltage* 24 VDC

*Supply Voltage* 12 to 48 VDC

*Current Consumption* 185 mA (typical)

*Transmission* Ethernet in RJ45 Twisted Pair  
Speed: 10/100 Mbps  
Length: 100 m (per segment)

*Signal LEDs* Data Receive  
Link Status

*Functions* Auto Negotiation  
Unmanaged Switch

*Mounting* DIN Rail

*Material* Aluminum

*Dimensions* 4.3 in. H x 1.1 in. W x 2.7 in. D  
(110 mm x 28 mm x 70 mm)

*Weight* 0.6 lb (263.4 g)

*Temperature* Operating: 14°F to 140°F (–10°C to 60°)  
Storage: –4°F to 185°F (–20°C to 85°C)

*Humidity* 5% to 95% non-condensing

#### *Standards Compliance:*

*IEEE* 802.3, store and forward switch mode

*EMC* Directive 2004/108/EC

*UL* Class I, Div. 2, Groups A, B, C, D

### Features

- Industrial Ethernet Switch
- 5 RJ-45 Ports
- Automatic Detection of Data Transmission Speed of 10 or 100 Mbps
- Autocrossing Function
- EMC Class A Product

### Ordering Information

Part Number	Description
200-438-00	Switch, Industrial, 5 Port Ethernet, 10/100 Mbps, 10–48 VDC



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# Central Receiving Systems

## Fiber Module, Optical Transceiver Hot Plug, SFP

200-444-01

### Description

The Fiber Module, Optical Transceiver Hot Plug is a Small Form-Factor Pluggable (SFP) Gigabit fully compatible interface that links switches and routers to the network through an SFP port.



<i>Switch Type</i>	Small Form Factor-Pluggable (SFP)
<i>Connectors</i>	Dual LC
<i>Interface Type</i>	ZX
<i>Transmit Wavelength</i>	1550nm
<i>Distance</i>	80 km
<i>Transmit Supply Current</i>	90 to 130 mA
<i>Receive Supply Current</i>	80 to 110 mA
<i>Transmit Output Power</i>	+2 to 5 dBm
<i>Receive Input Power</i>	-3 dBm
<i>Transmit Data Rate</i>	1250 mb/s
<i>Operating Temperature</i>	Recommended: 122°F (50°C) Range: 32°F to 158°F (0°C to 70°C)
<i>Storage Temperature</i>	Range: -40°F to 185°F (-40°C to 85°C)
<i>Standards Compliance:</i>	
<i>IEC</i>	60825-1 Laser Class 1
<i>IEEE</i>	802.3Z Output Optical Eye
<i>RoHS</i>	Compliant

### Features

- SFP 1000Base ZX Interface
- Up to 1.25Gb/s data links
- 100% Multi-Source Agreement (MSA) Compliant
- Eye Safety Designed

### Specifications

<i>Power Supply</i>	3.3V
<i>Port Connection</i>	Gigabit Ethernet: 1000BASE SFP Optical Transceiver
<i>Fiber Type</i>	Single Mode Fiber (SMF)

### Ordering Information

Part Number	Description
200-444-01	Fiber Module, Optical Transceiver Hot Plug, SFP Single Mode, 1550 nm, Dual LC, 1 GB, 80 km distance, plugs into an SFP Port



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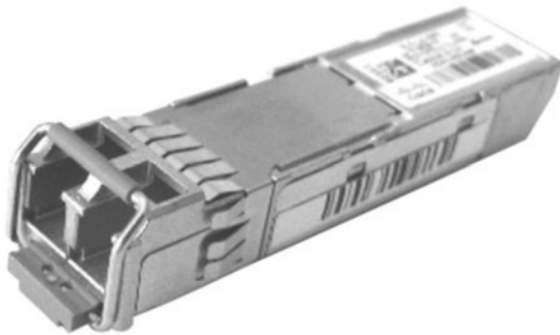
## Central Receiving Systems

# Fiber Module, Transceiver Hot Plug for DODIN Switch

200-444-02

### Description

The Fiber Module Transceiver Hot Plug for DODIN Switch is a Small Form-Factor Pluggable (SFP) Gigabit Ethernet interface converter that links switches and routers to the network.



### Features

- Hot swappable input/output that plugs into Gigabit SFP Ethernet port
- Connections for 1000BASE LX/LH networks
- Supports Digital Optical Monitoring (DOM)
- Robust design for enhanced reliability

### Specifications

<i>Fiber Type</i>	Single Mode Fiber (SMF)
<i>Switch Type</i>	Small Form-Factor Pluggable
<i>Port Connection</i>	Gigabit Ethernet: 100BASE LX/LH Long-Wavelength with DOM
<i>Connectors</i>	Dual LC/PC
<i>Power Consumption</i>	1 watt per port
<i>Wavelength</i>	1310 nm

#### SFP Port Cabling:

<i>Core size (<math>\mu</math>)</i>	ITU-T G.652 $\mu$ SMF (as specified by IEEE 802.3z standard)
<i>Minimum Cable Distance</i>	6.5 ft. (2 m)
<i>Operating Distance</i>	32,821 ft. (10,000 m) single-mode

#### Optical:

<i>Transmit Power Range</i>	-3 to -9.5 (dBm)
<i>Receive Power Range</i>	-3 to -20 (dBm)
<i>Maximum Channel Insertion Loss*</i>	6 (G.652 SMF) in dB
<i>Transmit and Receive Wavelength Range</i>	1270 to 1355 nm

\*Maximum channel insertion loss is defined for maximum distance; when links are deployed over shorter distances, additional channel insertion loss may be allowed.

#### Other:

<i>Dimensions</i>	0.33 in. H x 0.53 in. W x 2.22 in. L (8.5 mm x 13.4 mm x 56.5 mm)
<i>Weight</i>	0.16 lb (75 g) (typical)
<i>Operating Temperature</i>	23°F to 185°F (-5°C to 85°C)
<i>Storage Temperature</i>	-40°F to 185°F (-40°C to 85°C)

#### Standards Compliance:

<i>Laser Class I</i>	21CFR1040 LN#50 7/2001
<i>Laser Class I</i>	IEC 60825-1
	IEEE 802.3Ah, 802.3z
<i>GR-3276-CORE</i>	Generic Requirements for Single-Mode Optical Connectors and Jumper Assemblies
<i>Trade Agreements Act</i>	TAA compliant

### Ordering Information

Part Number	Description
200-444-02	Fiber Module, Transceiver Hot Plug for DODIN Switch - SFP Single Mode, 1310 nm, 1000BASE LX/LH Longwave with DOM



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# Central Receiving Systems

## Fiber Module, Optical Transceiver Hot Plug, SFP

200-457-00

### Description

This Fiber Module is a high performance solution for serial optical data communication applications and offers low jitter performance for extended optical links support without performance degradation.



### Features

- Optical Transceiver Hot Plug
- LC Duplex connectors
  - provide up to 100 Mbps (in half duplex mode) or 200 Mbps (in full duplex mode)
- Allows 100BASE-FX SFP fiber optic connectivity on select Gigabit combo SFP ports
- Multi-Source Agreement (MSA) Compliant
- FDA, CDRH, TUV Laser Eye Safety Certified

### Specifications

<i>Power</i>	3.3V
<i>Port Connection</i>	100BASE-FX
<i>Switch Type</i>	Small Form-Factor Pluggable (SFP)
<i>Fiber Type</i>	50/125μm Multi Mode (MM) 62.5/125μm Multi Mode (MM)
<i>Wavelength</i>	1310nm
<i>Cable Distance</i>	2km (max.)
<i>Optical Power</i>	-19 dBm min. output -14 dBm max. output
<i>Power Budget</i>	13 dB
<i>Dimensions</i>	0.3 in. H x 2.28 in. W x 0.5 in. L (7.6 mm x 57.9 mm x 12.7 mm)
<i>Weight</i>	0.03 lb (0.014 kg)
<i>Temperature</i>	Operating: 32°F to 158°F (0°C to 70°C) Storage: -40°F to 185°F (-40°C to 85°C)
<i>Relative Humidity</i>	Operating: 0% to 90% non-condensing Storage: 5% to 90% non-condensing
<i>Standards Compliance:</i>	
	IEEE 802.3u 100BASE-FX
	RoHS Compliant

### Ordering Information

Part Number	Description
200-457-00	Fiber Transceiver Module, 1310nm, Multi Mode, SFP, LC, 10/100, 2 km distance, hot plug



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# Central Receiving Systems

## KVM Switch

200-461-00

### Description

The KVM Switch is designed to allow a user to control multiple USB-enabled computers with one USB keyboard, USB mouse, and monitor.



### Specifications

*Dimensions* 13.3 in. W x 5.9 in. D x 1.75 in. H

*AC Power* 110/220 VAC, 50/60 Hz via IEC connector

*Operating Temperature* 32°F to 100° F (0°C to 38°C)

*Relative Humidity* 17% to 90% non-condensing

### Ordering Information

Part Number	Description
200-461-00	KVM Switch, USB, 8-port, multi-monitor, desktop

### Features

- Fully compliant with USB standards (1.0, 1.1)
- Compatible with USB-enabled PC, SUN, and MAC computers with VGA video
- Supports international keyboard layouts in auto-detection mode



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## Central Receiving Systems

# Ethernet Switch Assembly with 24-Port SFP, Managed Layer 3

## 200-471-11

### Description

The Ethernet switch is an intelligent, high-performance device that provides network flexibility and robust security features. The switch has robust security features using Access Control Lists (ACL) and Safeguard Engine™ functions, and features such as BPDU and DOS attack prevention, duplicate address detection, L3 control packet filtering, and traffic segmentation.



The switch supports 20 SFP ports with 4 combination 10/100/1000BASE-T ports. It has two smart fans that reduce heat and noise.

### Features

- Ports that have no link are automatically powered down
- 20 SFP Ports
- Four Combo 10/100/1000BASE-T/SFP ports
- Four 10-Gigabit SFP+ uplink ports
- 4k VLAN
- Jumbo frame supports up to 12 KBytes
- 6 kV surge protection on RJ45 access ports
- Redundant Power Supply (RPS) support
- IEEE 802.1D/802.1w/802.1s Spanning Tree
- Loopback detection (LBD)
- IP-MAC-port binding
- SSH/SSL
- Microsoft® NAP (supports IPv4/v6)
- Supports long-distance stacking over fiber
- Easy-to-use web based GUI

- Industry standard CLI
- Green technology which includes a power-saving mode, smart fan feature, reduced heat dissipation, and cable length detection

### Specifications

<i>Interfaces</i>	20 10/100/1000BASE-T Ports, with four Combo Ports (10/10/1000BASE-T or SFP) plus four 10 Gigabit SFP+ Ports
<i>Ports</i>	Console Port: RJ45 and Mini USB Management Port: 10/100/1000BASE-T RJ45 Ethernet Alarm Port: RJ45 USB Port: USB 2.0 Type A
<i>Optional Redundant Power Supply</i>	DPS-500A
<i>Physical Stacking</i>	Up to 80G stacking bandwidth Up to nine switches in a stack Ring/chain topology support
<i>Switch Capacity</i>	128 Gbps
<i>Packet Forwarding Rate</i>	95.24 Mpps
<i>Mac Address Table</i>	up to 68K entries
<i>Jumbo Frame</i>	12 KBytes
<i>In and Out of Band</i>	Telnet, CLI, SNMP v1/v2c/v3, SSH, SSL, Radius and TACACS+ Authentication
<i>Power Input</i>	100 to 240 VAC, 50/60 Hz
<i>Power Consumption (Max.)</i>	42.4 watts
<i>Standby Power Consumption</i>	28.1 watts
<i>Dimensions</i>	17.4 in. L x 10.2 in. W x 1.73 in. H (441 mm x 260 mm x 44 mm)
<i>Weight</i>	8.25 lb (3.74 kg)
<i>Ventilation</i>	Two Smart Fans
<i>Operating Temperature</i>	23°F to 122°F (−5°C to 50°C)
<i>Relative Humidity</i>	10% to 95%



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# Central Receiving Systems

## Ordering Information

Part Number	Description
<b>200-471-11</b>	Assembly for Ethernet Switch, 24-port (10/100/1000BASE-T ports + four 10 GB SFP+ ports), Managed layer 3, 1U, rack-mount, 100 to 240 VAC, 50/60 Hz, comes with enhanced software (EI) license

## Associated Parts

Part Number	Description
<b>200-444-00</b>	Fiber Transceiver Module, 1310 nm, Multi/Single Mode, SFP, LC, 1 GB, 10 KM distance, hot plug, plugs into SFP+ port
<b>200-444-01</b>	Fiber Transceiver Module, 1550 nm, Single Mode, SFP, LC, 1 GB, 80 KM distance, hot plug, plugs into SFP+ port



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# Central Receiving Systems

## Switch Assembly, 24 Port, 4SFP, Managed, Layer 2, 1U, DODIN 200-480-01

### Description

This is a fixed configuration, stackable, one rackmount Switch Assembly with 24 Port Gigabit Ethernet switches and four fixed Small Form-Factor Pluggable (SFP) uplinks. The Switch Assembly is fully managed and operates on LAN Base, Layer 2 IOS software that supports simple device management as well as network management.



### Features

- Access Switch Assembly
- 10/100/1000 Ethernet Interfaces
- FlexStack-Plus with up to 80 GB of stack bandwidth and up to 8 members in a stack
- Switch Hibernation Mode
- On-Device Management features include Web UI, Bluetooth, Network Management, and Stacking
- Application Visibility and Control (AVC) with Domain Name System as an Authoritative Source (DNS-AS) controls identification and classification of trusted network traffic
- Security features to limit access to the network and mitigate threats

### Specifications

<i>Internal Power Supply</i>	Fixed (auto ranging unit)
<i>Voltage</i>	100 to 240 VAC
<i>Current</i>	1A to 0.5A current, 50/60Hz
<i>Switch Power Rating</i>	0.039 kVA, 12V: 4A, 53V: N/A (maximum consumption values)
<i>CPU</i>	600 MHz dual core
<i>Memory</i>	Flash: 128 MB, DRAM: 512 MB
<i>Console Ports</i>	USB (Type B), Ethernet (RJ-45)
<i>Storage Interface</i>	USB (Type A) for external flash

#### Ethernet Interfaces:

<i>10BASE-T</i>	RJ-45, 2 pair CAT3, 4, or 5 UTP cabling
<i>100BASE-TX</i>	RJ-45, 2 pair CAT5 UTP cabling
<i>1000BASE-T</i>	RJ-45, 4 pair CAT5 UTP cabling
<i>1000BASE-T SFP based</i>	RJ-45, 4 pair CAT5 UTP cabling

#### Network Management

<i>Interface</i>	10/100 Mbps Ethernet (RJ-45)
<i>Bandwidth Forwarding</i>	108 Gbps
<i>Bandwidth Switching</i>	216 Gbps full duplex capacity

<i>Dimensions</i>	1.75 in. H x 17.5 in. W x 11 in. D (4.5 cm x 44.5 cm x 27.9 cm)
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<i>Weight</i>	8.9 lb (4.0 kg)
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<i>Operating Temperature</i>	Up to 5,000 ft. (1,500 m): 23°F to 113°F (–5°C to 45°C) Up to 10,000 ft. (3,000 m): 23°F to 104°F (–5°C to 40°C)
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<i>Storage Temperature</i>	Up to 15,000 ft. (4,573 m) –13°F to 158°F (–25°C to 70°C)
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<i>Relative Humidity</i>	10% to 95% non-condensing
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#### Standards Compliance:

<i>UL Listed</i>	60950-1 Second Edition
<i>IEEE Standards</i>	802.1D, 802.1p, 802.1Q, 802.1s, 802.1w, 802.1X, 802.1ax, 802.1ab (LLDP), 802.3ad, 802.3af and 802.3at, 802.3az, 802.3x full duplex on (10BASE-T, 100BASE-TX, 1000BASE-T)

*DODIN* Approved

*TAA and RoHS* Compliant

### Ordering Information

Part Number	Description
<b>200-480-01</b>	Ethernet Switch Assembly, 24-port 10/100/1000 Gigabit Ethernet, 4 fixed 1-Gigabit Interface Converter (GBIC) Small Form Factor Pluggable (SFP) uplinks, Managed, 1U, LAN Base, Layer 2, DODIN Apl, TAA, RoHS

### Associated Parts

Part Number	Description
<b>200-444-02</b>	Fiber Module, Transceiver Hot Plug for DODIN Switch - SFP Single Mode, 1310 nm, 1000BASE LX/LH Longwave with DOM



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# Central Receiving Systems

## Switch Assembly, 24 Port, 4SFP, Managed, Layer 2, POE, 1U 200-481-01

### Description

This Switch Assembly is a fixed configuration, stackable, one rackmount black unit with 24 Port Gigabit Ethernet ports and four fixed Small Form-Factor Pluggable (SFP) uplinks. The fully managed Switch Assembly operates on LAN Base, Layer 2 IOS software and supports simple device management as well as network management.



### Features

- Access Switch Assembly
- 10/100/1000Base Ethernet Ports
- Power over Ethernet (POE)
- Switch Hibernation Mode
- On-Device Management features include Web UI, Bluetooth, Network Management, and Stacking
- Application Visibility and Control (AVC) with Domain Name System as an Authoritative Source (DNS-AS) controls identification and classification of trusted network traffic
- Security features to limit access to the network and mitigate threats

### Specifications

**Internal Power Supply** Fixed (auto ranging unit)  
**Voltage** 100 to 240 VAC  
**Current** 2A to 5A current, 50/60Hz

**Switch Power Rating** 0.05 kVA, 12V: 3A, 53V: 8A  
(maximum consumption values)

**CPU** 600 MHz dual core

**Memory** Flash: 128 MB  
DRAM: 512 MB

**Available PoE Power** 370 W (single PS source)  
**Max. number PoE+ ports** 12 ports up to 30 W  
**Max. number PoE ports** 24 ports up to 15.4 W

**Console Ports** USB (Type B), Ethernet (RJ-45)

**Storage Interface** USB (Type A) for external flash

#### Ethernet Interfaces:

**10BASE-T** RJ-45, 2 pair CAT3, 4, or 5 UTP cabling  
**100BASE-TX** RJ-45, 2 pair CAT5 UTP cabling  
**1000BASE-T** RJ-45, 4 pair CAT5 UTP cabling  
**1000BASE-T SFP based** RJ-45, 4 pair CAT5 UTP cabling

#### Network Management

**Interface** 10/100 Mbps Ethernet (RJ-45)

**Bandwidth Forwarding** 108 Gbps

**Bandwidth Switching** 216 Gbps full duplex capacity

**Bandwidth Stacking** FlexStack-Plus: 80 Gbps  
FlexStack-Extended: 40 Gbps

**Stack Members** 8

**Dimensions** 1.75 in. H x 17.5 in. W x 14.5 in. D  
(4.5 cm x 44.5 cm x 36.8 cm)

**Weight** 12.8 lb (5.8 kg)

**Operating Temperature** Up to 5,000 ft. (1,500 m):  
23°F to 113°F (–5°C to 45°C)  
Up to 10,000 ft. (3,000 m):  
23°F to 104°F (–5°C to 40°C)

**Storage Temperature** Up to 15,000 ft. (4,573 m):  
–13°F to 158°F (–25°C to 70°C)

**Relative Humidity** 10% to 95% non-condensing

#### Standards Compliance:

**UL Listed** 60950-1 Second Edition

**IEEE Standards** 802.1D, 802.1p, 802.1Q, 802.1s,  
802.1w, 802.1X, 802.1ax, 802.1ab  
(LLDP), 802.3ad, 802.3af and 802.3at,  
802.3az, 802.3x full duplex on  
(10BASE-T, 100BASE-TX, and  
1000BASE-T ports)

**DODIN** Approved

**TAA and RoHS** Compliant

### Ordering Information

Part Number	Description
200-481-01	Ethernet Switch Assembly, 24-port 10/100/1000 Gigabit Ethernet, 4 fixed 1-Gigabit Interface Converter (GBIC) Small Form Factor Pluggable (SFP) uplinks, Managed, 1U, LAN Base, Layer 2, POE, DODIN APL, TAA, RoHS



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# Central Receiving Systems

## Switch Assembly, 48 Port, 2 SFP+, Managed, Layer 2, 1U

200-482-01

### Description

The Switch Assembly is a fixed configuration, stackable, one rackmount unit designed for operational simplicity to lower total cost of ownership. Switches deliver enhanced application visibility, network reliability, and network resiliency.



### Features

- Access Switch Assembly
- 48 port - 10/100/1000 Ethernet Interfaces
- Two Fixed 10-Gigabit Ethernet SFP+ uplinks
- LAN Base, Layer 2 IOS Software
- On-Device Management features include Web UI, Bluetooth, Network Management, and Stacking
- Security features to limit access to the network and mitigate threats

### Specifications

<b>Internal Power Supply</b>	Fixed (auto ranging unit)
<b>Voltage</b>	100 to 240 VAC
<b>Current</b>	1A to 0.5A current, 50/60Hz
<b>Switch Power Rating</b>	0.049 kVA, 12V: 4A, 53V: N/A (maximum consumption values)
<b>CPU</b>	600 MHz dual core
<b>Memory</b>	Flash: 128 MB DRAM: 512 MB
<b>Console Ports</b>	USB (Type B), Ethernet (RJ-45)
<b>Storage Interface</b>	USB (Type A) for external flash
<b>Ethernet Interfaces:</b>	
10BASE-T	RJ-45, 2 pair CAT3, 4, or 5 UTP cabling
100BASE-TX	RJ-45, 2 pair CAT5 UTP cabling
1000BASE-T	RJ-45, 4 pair CAT5 UTP cabling
1000BASE-T SFP based	RJ-45, 4 pair CAT5 UTP cabling

<b>Network Management Interface</b>	10/100 Mbps Ethernet (RJ-45)
<b>Bandwidth Forwarding</b>	108 Gbps
<b>Bandwidth Switching</b>	216 Gbps full duplex capacity
<b>Bandwidth Stacking</b>	FlexStack-Plus: 80 Gbps
<b>Stack Members</b>	8
<b>Dimensions</b>	1.75 in. H x 17.5 in. W x 11 in. D (4.5 cm x 44.5 cm x 27.9 cm)
<b>Weight</b>	9.6 lb (4.3 kg)
<b>Operating Temperature</b>	Up to 5,000 ft. (1,500 m): 23°F to 113°F (-5°C to 45°C) Up to 10,000 ft. (3,000 m): 23°F to 104°F (-5°C to 40°C)
<b>Storage Temperature</b>	Up to 15,000 ft. (4,573 m): -13°F to 158°F (-25°C to 70°C)
<b>Relative Humidity</b>	10% to 95% non-condensing
<b>Standards Compliance:</b>	
<b>UL Listed</b>	60950-1 Second Edition
<b>IEEE Standards</b>	802.1D, 802.1p, 802.1Q, 802.1s, 802.1w, 802.1X, 802.1ax, 802.1ab (LLDP), 802.3ad, 802.3af and 802.3at, 802.3az, 802.3x full duplex on (10BASE-T, 100BASE-TX, and 1000BASE-T ports), 802.3ae
<b>DODIN</b>	Approved
<b>TAA and RoHS</b>	Compliant

### Ordering Information

Part Number	Description
200-482-01	Ethernet Switch Assembly, 48-port 10/100/1000 Gigabit Ethernet, 2 fixed 10-Gigabit Ethernet Small Form-Factor Pluggable Plus (SFP+) uplinks, Managed, 1U, LAN Base, Layer 2, DoDIN APL, TAA, RoHS



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# Central Receiving Systems

## Switch Assembly, 48 Port, 2 SFP, Managed, Layer 2, 1U, PoE 200-483-01

### Description

The Switch Assembly is a fixed configuration, stackable, one rackmount unit designed for operational simplicity to lower total cost of ownership. Switch delivers enhanced application visibility, network reliability and network resiliency.



### Features

- Access Switch Assembly
- 48 - 10/100/1000 Ethernet Ports
- Power over Ethernet (PoE)
- Two Fixed 10-Gigabit Ethernet 2 SFP+ uplinks
- LAN Base, Layer 2 IOS Software
- On-Device Management features include Web UI, Bluetooth, Network Management, and Stacking
- Security features to limit access to the network and mitigate threats

### Specifications

<i>Internal Power Supply</i>	Fixed (auto ranging unit)
<i>Voltage</i>	100 to 240 VAC
<i>Current</i>	2A to 5A current, 50/60Hz
<i>Switch Power Rating</i>	0.048 kVA, 12V: 4A, 53V: 8A (maximum consumption values)
<i>CPU</i>	600 MHz dual core
<i>Memory</i>	Flash: 128 MB DRAM: 512 MB
<i>Available PoE Power</i>	370 W (single PS source)
<i>Max. number PoE Ports</i>	24 ports up to 15.4 W
<i>Max. number PoE+ Ports</i>	12 ports up to 30 W
<i>Console Ports</i>	USB (Type B) Ethernet (RJ-45)
<i>Storage Interface</i>	USB (Type A) for external flash

#### Ethernet Interfaces:

<i>10BASE-T</i>	RJ-45, 2 pair CAT3, 4, or 5 UTP cabling
<i>100BASE-TX</i>	RJ-45, 2 pair CAT5 UTP cabling
<i>1000BASE-T</i>	RJ-45, 4 pair CAT5 UTP cabling
<i>1000BASE-T SFP Based</i>	RJ-45, 4 pair CAT5 UTP cabling

#### Network Management

<i>Interface</i>	10/100 Mbps Ethernet (RJ-45)
<i>Bandwidth Forwarding</i>	108 Gbps
<i>Bandwidth Switching</i>	216 Gbps full duplex capacity
<i>Bandwidth Stacking</i>	FlexStack-Plus: 80 Gbps FlexStack-Extended: 40 Gbps

#### Stack Members

<i>Dimensions</i>	1.75 in. H x 17.5 in. W x 14.5 in. D (4.5 cm x 44.5 cm x 36.8 cm)
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<i>Weight</i>	12.9 lb (5.8 kg)
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<i>Operating Temperature</i>	Up to 5,000 ft. (1,500 m): 23°F to 113°F (−5°C to 45°C) Up to 10,000 ft. (3,000 m): 23°F to 104°F (−5°C to 40°C)
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<i>Storage Temperature</i>	Up to 15,000 ft. (4,573 m): −13°F to 158°F (−25°C to 70°C)
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<i>Relative Humidity</i>	10% to 95% non-condensing
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#### Standards Compliance:

<i>UL Listed</i>	60950-1 Second Edition
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<i>IEEE Standards</i>	802.1D, 802.1p, 802.1Q, 802.1s, 802.1w, 802.1X, 802.1ax, 802.1ab (LLDP), 802.3ad, 802.3af, 802.3at, 802.3az, 802.3x full duplex on (10BASE-T, 100BASE-TX, and 1000BASE-T ports), 802.3ae
-----------------------	---

<i>DoDIN</i>	Approved
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<i>TAA and RoHS</i>	Compliant
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### Ordering Information

Part Number	Description
<b>200-483-01</b>	Ethernet Switch Assembly, 48-port 10/100/1000 Gigabit Ethernet, PoE, 2 fixed 10-Gigabit Ethernet Small Form-Factor Pluggable Plus (SFP+) uplinks, Managed, 1U, LAN Base, Layer 2, DoDIN APL, TAA, RoHS



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# Central Receiving System

## Switch Assembly, 12 Port, SFP, Managed, Layer 3, 1U, DODIN 200-484-01

### Description

This 12 Port 1-Gigabit Ethernet SFP Switch Assembly is a Managed, Layer 3, 1 Rackmount Unit that provides capabilities ideally suited to support wired and wireless access and enables uniform wired-wireless policy enforcement, application visibility, flexibility, and application optimization.



### Features

- Access Switch Assembly
- Advanced security features enable protection against attackers, user authentication, and device access to include Secure Shell (SSH) protocol, Kerberos, and Simple Network Management Protocol Version 3 (SNMPv3)
- Supports optional network module for 4 x Gigabit Ethernet with SFP receptacle uplink ports

### Specifications

**Internal Power Supply** Auto ranging unit  
350W

**Input Voltage** 100 to 240 VAC

**Input Current** 2A to 4A, 50/60 Hz

**Total Output BTU** 1207 BTU/hr (1000 BTU/hr = 293W)

**Power Supply Input** IEC 320-C16 (IEC 60320-C16)

**Platform** Cisco IOS XE software

**Connectors and Cabling** Ethernet: RJ-45 connectors, 4 pair  
Cat-5 UTP cabling  
Management console port:  
RJ-45-to-DB9 cable for PC connections

#### Ethernet Interfaces:

**1000BASE-T** RJ-45, 4 pair CAT5 UTP cabling  
**1000BASE-T SFP based** RJ-45, 4 pair CAT5 UTP cabling

#### Network

**Management Interface** 10/100 Mbps Ethernet (RJ-45)

**Switching** Layer 3

**Switching Capacity** 68 Gbps

**Stacking Bandwidth** 480 Gbps

**Stacking Capacity** 4 switches (max.)

**Stacking Ports** Copper based

**MAC Addresses** 32,000 (total number)

**IPv4 Routes (ARP plus  
learned routes)** 24,000 (total number)

**Flash** 2 GB

**DRAM** 4 GB

**Wireless Access Points** 100 (per switch)

**Wireless Clients** 2000 (per switch)

**Forwarding Rate** 50.5 Mpps

**Dimensions** 1.75 in. H x 17.5 in. W x 17.7 in. D  
(4.45 cm x 44.5 cm x 45.0 cm)

**Weight** 15.48 lb (7.02 kg)

**Normal Operating  
Temperature** Up to 5,000 ft. (1,500 m):  
23°F to 113°F (–5°C to 45°C)  
Up to 10,000 ft. (3,000 m):  
23°F to 104°F (–5°C to 40°C)

**Storage Temperature** Up to 15,000 ft. (4,572 m):  
–40°F to 158°F (–40°C to 70°C)

**Relative Humidity** 10% to 95% non-condensing

#### Standards Compliance:

**UL Listed** 60950-1 Second Edition

**IEEE Standards** 802.1as, 802.1s, 802.1w, 802.11,  
802.1x, 802.3ad, 802.3af, 802.1D,  
802.1p, 802.1Q, 802.3, 802.3u,  
802.3ab, 802.3z

**DODIN** Approved

**RoHS** Compliant

### Ordering Information

Part Number	Description
200-484-01	Ethernet Switch Assembly, 12-port 1-Gigabit Ethernet SFP, Managed, 1U, Layer 3, DODIN APL, RoHS



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# Central Receiving Systems

## Switch Assembly, 12 Port, SFP, Managed, Layer 3, 1U

200-485-01

### Description

This Switch Assembly is a compact managed option for consistency across a LAN switching network and provides advanced networking features for flexibility, security and scale. Its compact size and fanless operation is ideal for placement where multiple cable runs would be difficult. The assembly can be mounted on a wall, under a desk, rack or DIN rail and can be located where equipment noise cannot be tolerated.



### Features

- Gigabit Ethernet ports with line rate forwarding performance
- Advanced Layer 3 (IP Base) support
- Cisco VLAN Trunking Protocol (VTP)
- Secure Shell (SSH) that encrypts administrator traffic
- Managed for consistency across a LAN switching network
- Hibernate Mode
- Energy-Efficient Ethernet

### Specifications

<i>AC/DC Input</i>	IP Voltage: 100–240 VAC IP Current: 0.5–0.2A
<i>Power Rating</i>	30 watts, 0.05 KVA, 170.6 BTU
<i>Switch throughput</i>	100%: 20.8 watts
<i>Power Consumption</i>	10%: 20.6 watts 0% (with EEE): 15.6 watts
<i>Ethernet Ports</i>	12 10/100/1000 Gigabit Ethernet

*Uplinks* Two 1 Gigabit Copper  
Two 1 Gigabit SFP

*Console Port* RJ45 and Mini Type B USB

*Alarm Port* Alarm Port: RJ45

*USB Port* USB Port: USB 2.0 Type A

#### Connectors

*10BASE-T* RJ-45, 2 pair CAT3,4, or 5 UTP cabling

*100BASE-TX* RJ-45, 2 pair CAT5 UTP cabling

*1000BASE-T* RJ-45, 4 pair CAT5 UTP cabling

*1000BASE-T SFP based* RJ-45, 4 pair CAT5 UTP cabling

*Memory* Flash 128 MB, DRAM 512 MB

*VLAN* Maximum 1023, IDs 4000

#### Maximum Transmission

*Unit (MTU)* Up to 9000 bytes

*Jumbo Frames* 9198 bytes

*Forwarding Rate 64 Byte* 23.8 mpps

*MTFB* 755,270

#### Indicators

*Per Port Status* Link integrity, Disabled, Activity, Speed, Full-Duplex

*System Status* System, Link Status, Link Duplex, Link Speed

*Dimensions* 1.75 in. H x 10.6 in. W x 8.4 in. D  
(44.4 mm x 269 mm x 213 mm)

*Weight* 3.9 lb (1.77 kg)

#### Temperature

*Operating* 23°F to 113°F (–5°C to 45°C)

*Storage* –13°F to 158°F (–25°C to 70°C)

*Relative Humidity* 5% to 95% non-condensing

#### Standards Compliance

*UL* 60950-1, CAN/CSA 22.2 No. 60950-1

*GB* 4943

*IEC* 60825

*IEEE* 802.1D, 802.1p, 802.1Q, 802.1s,  
802.1w, 802.1x, 802.1AB, 802.3ad,  
802.3af, 802.3ah, 802.3x, 802.3,  
802.3u, 802.3ab, 802.3z

*DODIN APL* Approved



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# Central Receiving Systems

## Ordering Information

Part Number	Description
<b>200-485-01</b>	Compact Ethernet Switch Assembly, 12-port 10/100/1000 Gigabit Ethernet, two 1G SPF and two 1G copper uplinks, IP Base, Managed, Layer 3, 1U, DODIN APL

## Associated Parts

Part Number	Description
<b>200-444-02</b>	Fiber Module, Transceiver Hot Plug for DODIN Switch - SFP Single Mode, 1310 nm, 1000BASE LX/LH Longwave with DOM



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## Central Receiving Systems

# Switch Assembly, 24 Port, 8SFP+, Managed, Layer 2/3, DoDIN 200-491-01

### Description

This is a fixed configuration, stackable, one rackmount Switch Assembly with 24 Port Gigabit Ethernet switches and eight fixed Small Form-Factor Pluggable (SFP+) uplinks. The Switch Assembly is fully managed and operates on LAN Base, Layer 2/3 IOS software that supports simple device and network management.



### Features

- Access Switch Assembly
- 10/100/1000 Ethernet Interfaces
- FlexStack-Plus with up to 80 GB of stack bandwidth and up to 12 members in a stack
- Switch Hibernation Mode
- On-Device Management features include Web UI, Network Management, and Stacking
- Application Visibility and Control (AVC) with Domain Name System as an Authoritative Source (DNS-AS) controls identification and classification of trusted network traffic
- Security features to limit access to the network and mitigate threats

### Specifications

**Internal Power Supply** Fixed (auto ranging unit)  
**Voltage** 100 to 240 VAC  
**Current** 1.69A current, 50/60Hz

**Switch Power Rating** PS Max Rating 135 W  
0% Traffic 42.6 W  
10% Traffic 51.6 W  
100% Traffic 57.6 W

**Console Ports** USB (Type B), Ethernet (RJ-45)  
**Storage Interface** USB (Type A) for external flash

**Network Management Interface** 10/100/1000 Mbps Ethernet (RJ-45)

**Bandwidth Forwarding** 154 Mbps  
**Bandwidth Switching** 208 Gbps full duplex capacity

#### Ethernet Interfaces:

**10BASE-T** RJ-45, 2 pair CAT3, 4, or 5 UTP cabling  
**100BASE-TX** RJ-45, 2 pair CAT5 UTP cabling  
**1000BASE-T** RJ-45, 4 pair CAT5 UTP cabling  
**1000BASE-T SFP+ based** RJ-45, 4 pair CAT5 UTP cabling

**Dimensions** 1.72 in. H x 17.32 in. W x 11 in. D  
(4.37 cm x 44 cm x 28 cm)

**Weight** 8.2 lb (3.76 kg)

**Temperature** Operating: 23°F to 122°F (–5°C to 50°C)  
Storage: –13°F to 158°F (–25°C to 70°C)

**Relative Humidity (non-condensing)** Operating: 5% to 95% at 122°F (50°C)  
Storage: 0% to 95% at 158°F (70°C)

**Altitude** Operating: 0 to 10,000 ft. (3,000 m)  
Storage: 0 to 39,000 ft. (12,000 m)

#### Standards Compliance:

**UL Listed** 60950-1 Second Edition

**IEEE Standards** 802.1AB (LLDP/LLDP-MED), 802.1D, 802.1p, 802.1Q, 802.1s, 802.1w, 802.1X, 802.3ad, 802.3ae, 802.3af, 802.3at, 802.3az, 802.3x, 802.3 MAU MIB (RFC 2239), 1000BASE-SX/LX, full duplex on 10BASE-T, 100BASE-TX, 1000BASE-T

**DoDIN** Approved

**TAA and RoHS** Compliant

### Ordering Information

Part Number	Description
200-491-01	Ethernet Switch Assembly, 24-port 10/100/1000 Gigabit Ethernet, 8 fixed 1-Gigabit Interface Converter (GBIC) Small Form Factor Pluggable (SFP+) uplinks, Managed, 1U, LAN Base, Layer 2/3, on the DoDIN APL, TAA, RoHS

### Associated Parts

Part Number	Description
200-444-06	Fiber Module, Transceiver Hot Plug for DoDIN approved Switch - SFP Single Mode, LC connector, 1310 nm, 1000BASE LX/LH Longwave with DOM. On the DoDIN APL, TAA, RoHS



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## Central Receiving Supplemental Equipment

### Central Receiving Supplemental Equipment Catalog Section 02

#### Section 2. Central Receiving Supplemental Equipment

Indoor/Outdoor PA Speaker, White, Curved Design. . . . .	124-077-00
Outdoor PA Speaker Horn, Surface-mount, Bidirectional Bells . . . . .	124-087-01
Indoor PA Speaker, 2 ft. Square, White, Ceiling Tile . . . . .	124-089-00
Network Time Protocol (NTP) Time Server . . . . .	194-518-01, 194-518-11
Indoor PA Speaker, 8 in. Round, White, Ceiling-mount . . . . .	124-090-00
Ethernet Firewall, 8-Port, 10/100/1000, VPN . . . . .	200-442-21
UPS External Battery Pack . . . . .	403-020-00
UPS, Network Devices, 2000VA, 120V, 2U . . . . .	404-099-10
UPS, 1500VA, 120V, Rack Tower, LCD . . . . .	404-105-00
UPS Battery Backup, 1500VA, 230V . . . . .	404-112-01

#### **Live Voice Radio Switch – Reserved**

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## Central Receiving Supplemental Equipment

### Indoor/Outdoor PA Speaker, White, Curved Design

124-077-00

Front



Back



Back, Top



#### Features

- Outdoor rated to IP-34 (per IEC 529)
- Built-in 70V/100V multi-tap transformer for distributed loudspeaker lines, plus 4 ohm direct capability
- Curved design with versatile mounting configurations
  - Including wall-mounted aimed straight out from the wall, angled down at a 45 degree aiming axis, mounted spanning the junction of a wall and ceiling, or spanning the junction of a wall and another wall
  - Curved shape couples with both boundary surfaces forming a dual ground plane configuration

- Using the optional PMB pole-mount bracket, four speakers can be joined together and suspended by a ceiling fan pole to form a cluster module with 360 degree horizontal coverage

- Superb sound quality
- Professional-quality input terminals
- Dual 100 mm (4 in.) woofers and 19 mm (0.75 in.) titanium-laminate tweeter
- Transformer input for non-supervised PA systems

**NOTE** For use on PA systems that do not require speaker supervision (transformer coupled speakers); not compatible with MNS panels which require speaker supervision (capacitively coupled speakers)

#### Specifications

<i>Nominal Voltage</i>	70V/100V
<i>Nominal Sensitivity</i>	89dB
<i>Maximum SPL @ 1 m</i>	108dB continuous average long-term (peaks of 114dB)
<i>Frequency Range</i>	80 Hz to 20 kHz (half-space, on-wall) (-10dB) 60 Hz to 20 kHz (quarter space, at two-wall junction)
<i>Mounting</i>	Multiple Mounting Options; Includes Corner/Wall-mount bracket with cap, screws and trim covers
<i>Nominal Coverage Angle</i>	105 degree horizontal x 80 degree vertical (2 kHz to 16 kHz, speaker in vertical orientation)
<i>Input Wiring</i>	Transformer Coupled, 3.5 in., Color-coded, Pre-tinned Leads
<i>Minimum Impedance</i>	4 ohms at 320 Hz
<i>Nominal Impedance</i>	4 ohms
<i>Transformer Taps</i>	30 W, 15 W, 7.5 W at both 70V and 100V (plus 3.8 W at 70V only), Thru position is 4 ohms
<i>Dimensions</i>	See Dimension Drawings
<i>Weight</i>	7 lb (3.2 kg)
<i>Grille</i>	Zinc-plated Steel
<i>Standards Compliance:</i>	IP-34 per IEC 529, RoHS Compliant
<i>UL Listed</i>	UL 1876



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# Central Receiving Supplemental Equipment

## Compliance Cont.:

*MilSpec 810* Exceeds for humidity, salt spray, temperature and UV

*Mil-Std-202F* Passes for salt spray

## Dimensions

## Power Handling

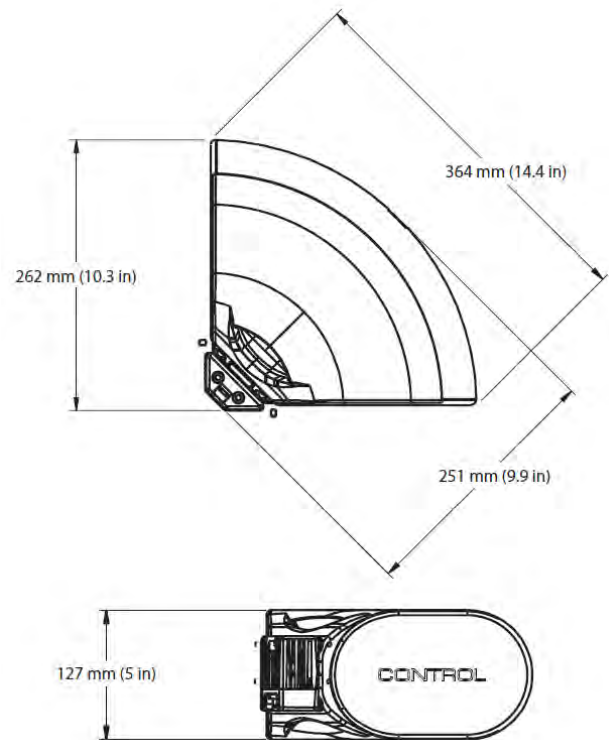
75W	Continuous Pink Noise, 2 hours
60W	Continuous Pink Noise, 100 hours
150W	Continuous Program Power
300W	Continuous Peak Power

## Ordering Information

Part Number	Description
<b>124-077-00</b>	D-21 Alerting Station Outdoor PA Speaker, Transformer Coupled, Non-Supervised, white, multi-surface-mount, RoHS Compliant; includes Corner/Wall-mount bracket with cap, screws and trim covers

## Associated Parts

Part Number	Description
<b>086-244-00</b>	Optional Pole-mount Bracket (white) for 4-speaker 360 degree hanging pendant cluster



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## Central Receiving Supplemental Equipment

# Outdoor PA Speaker Horn, Surface-mount, Bidirectional Bells

124-087-01



### Features

- Twin Reflex Projectors provide high efficiency bidirectional sound dispersion
- Includes 30 W single compression, high efficiency driver
- Element Resistant Construction for Indoor or Outdoor environments
- Built-in 25V, 70.7V, or 100V Transformer with seven-position, impedance switch for versatile applications
- Transformer input for non-supervised PA systems
- Seven-position watts/impedance switch (screwdriver adjustable) with a 45 ohm tap
- Paging, Talkback, security and tone signals
- 100 degree Sound Dispersion in each direction
- Omni-purpose mounting bracket for vertical or horizontal planes; also includes provisions for strap-mounting to I-beams or pillars

**NOTE** For use on PA systems that do not require speaker supervision (transformer coupled speakers); not compatible with MNS panels which require speaker supervision (capacitively coupled speakers).

### Driver Protection

The horn speaker should not be operated at frequencies outside the horn cut-off. It is suggested that any program material be high-passed at 300 Hz with a 6dB per octave filter. This can be done with a low level filter at the amplifier input or by a series capacitor at each speaker. Electrolytic capacitors can be used but they must be non-polarized (See "Typical Capacitor Values Chart").

### Specifications

<i>Nominal Voltage</i>	25V, 70.7V, 100V
<i>Full Range Power Rating</i>	30 W
<i>Average Sensitivity</i>	101dB, 1W/1M
<i>Frequency Range</i>	450 Hz to 12.5 kHz ( $\pm 5$ dB)
<i>Mounting</i>	24 in. wide suspended ceiling tile grid, mounted parallel to floor plane
<i>Dispersion Angle</i>	175 degrees ( $-6$ dB, 2,000 Hz octave band)
<i>Input Wiring</i>	Transformer Coupled, 3.5 in., Color-coded, Pre-tinned Leads
<i>Dimensions</i>	16.5 in. L (419 mm) between bells 9.75 in. Bell OD (248 mm Bell OD) See "Dimensions"
<i>Weight</i>	9 lb (4.1 kg)
<i>Finish</i>	Grey baked epoxy

### Power Taps

<b>25V</b>	0.9, 1.8, 3.7, 7.5, 15
<b>70.7V</b>	2.0, 3.8, 7.5, 15, 30
<b>100V</b>	4, 7.7, 15, 30

### Typical Capacitor Values Chart

8 ohm Driver	25V Line	70V Line	100V Line
70 mfd	30 mfd	4 mfd	2 mfd



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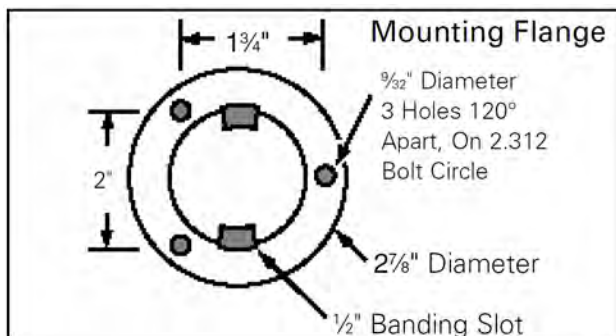
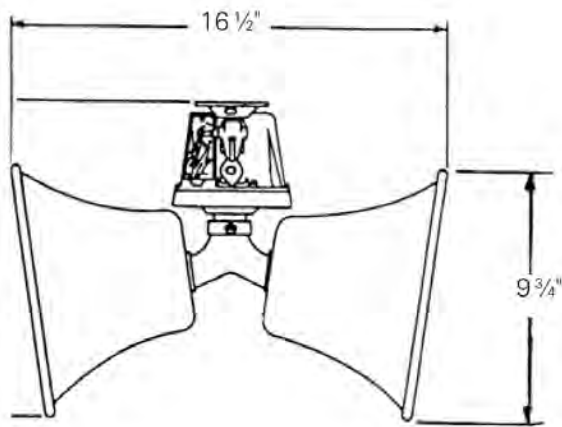
# Central Receiving Supplemental Equipment

## Ordering Information

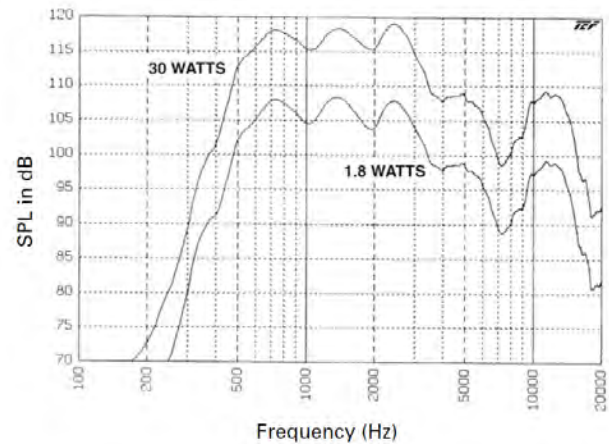
Part Number	Description
124-087-01	D-21 Alerting Station Outdoor PA Speaker Horn, Bidirectional Bells, Transformer Coupled, Non-Supervised, multi-surface-mount, grey epoxy, Mounting Bracket (conduit cable adaptor) included

## Drawings

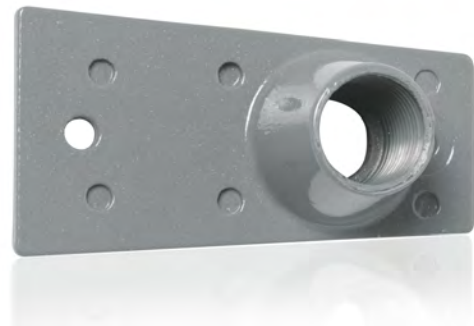
### Dimensions



## Frequency Response



**Conduit Cable Adaptor (Mounting-Bracket),  
1/2 in. pipe thread, cast aluminum**



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# Central Receiving Supplemental Equipment

## Indoor PA Speaker, 2 ft. Square, White, Ceiling Tile

124-089-00



### Features

- Shallow depth, lightweight 2 ft. by 2 ft. ceiling tile speaker
- Indoor environment
- 8 in. OD dual cone loudspeaker with a 5 oz. magnet
- 5 W, 25/70V transformer with five taps (0.13 W, 0.63 W, 1.25 W, 2.5 W, 5 W)
  - Transformer input for non-supervised PA systems
- 1,283 CID molded fiber integral enclosure
- Conveys signal tones, voice and music
- Standard perforated steel grille with four seismic tie-off points

**NOTE** For use on PA systems that do not require speaker supervision (transformer coupled speakers); not compatible with MNS panels which require speaker supervision (capacitively coupled speakers).

### Specifications

<i>Nominal Voltage</i>	25/70V
<i>Average Sensitivity</i>	92dB SPL, 1 W/1 m
<i>Calculated Output</i>	99dB SPL, 5 W/1 m
<i>Frequency Range</i>	65 Hz to 17 kHz, EIA 426A Standard
<i>Loudspeaker Power</i>	12W RMS, EIA 426A Standard
<i>Mounting</i>	24 in. wide suspended ceiling tile grid, mounted parallel to floor plane
<i>Nominal Coverage Angle</i>	100 Degree Included Angle, -6dB/2 kHz, Half Space
<i>Input Wiring</i>	Transformer Coupled, 3.5 in., Color-coded, Pre-tinned Leads
<i>Dimensions incl. Back Box</i>	3.5 in. H x 23.813 in. W x 23.813 in. D (89 mm x 605 mm x 605 mm)
<i>Weight</i>	6.15 lb (2.79 kg)
<i>Finish</i>	White powder coat finish
<i>Standards Compliance:</i>	
<i>TAA and RoHS</i>	Compliant
<i>UL Listed</i>	UL 1480 and UL 2043

### Ordering Information

Part Number	Description
124-089-00	D-21 Alerting Station Indoor PA Speaker, 2 ft. x 2 ft. Square, Transformer Coupled, Non-Supervised, Ceiling Tile replacement, white, no lettering, powder coated steel baffle with standard perforation, cable clamp included, TAA and RoHS compliant



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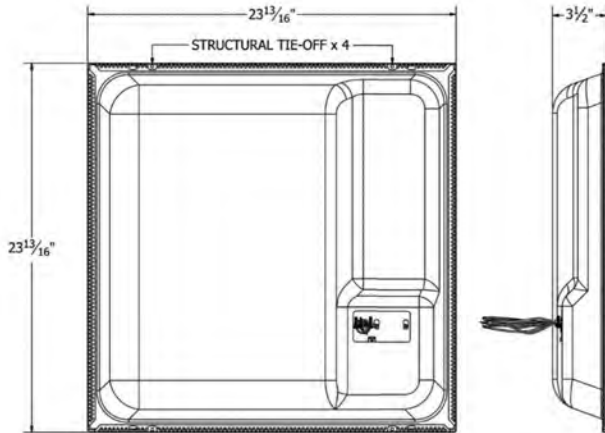
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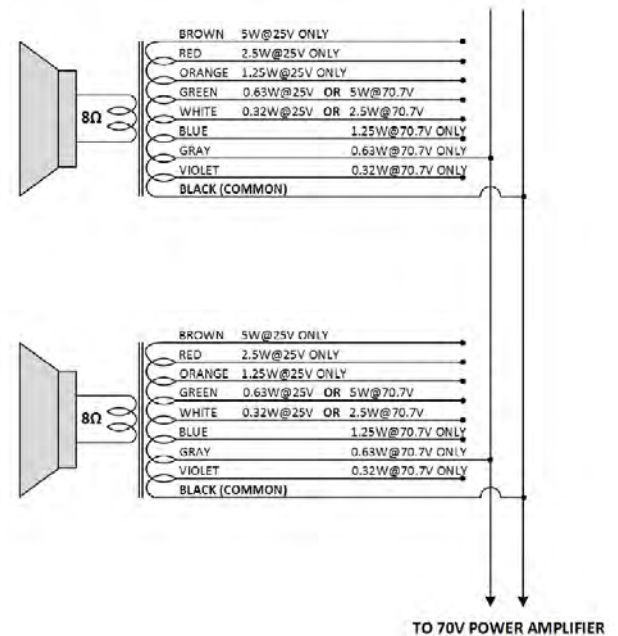
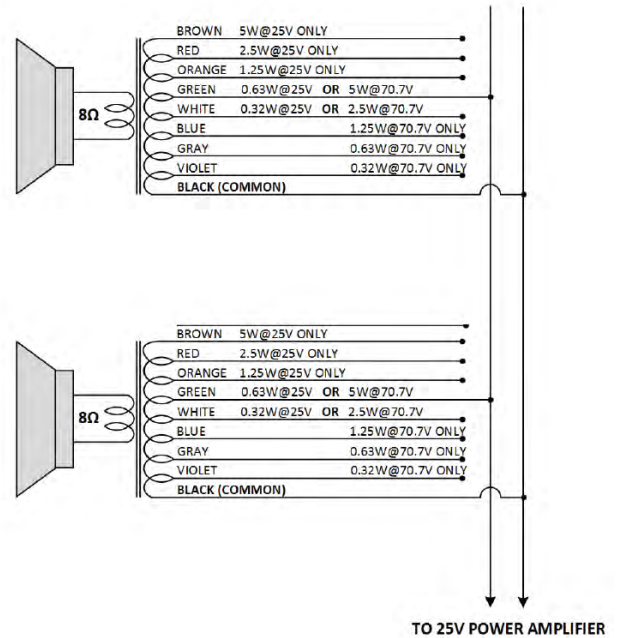
# Central Receiving Supplemental Equipment

## Drawings

### Dimensions



## Wiring Diagram



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# Central Receiving Supplemental Equipment

## Network Time Protocol (NTP) Time Server

194-518-01, 194-518-11

### Description

The NTP Time Server provides a simple method of providing accurate and synchronized time throughout a network (LAN, WAN, etc.). The unit is connected to the network and configured allowing any client to request "highly accurate" time.

The NTP Time Server uses an internal global positioning system (GPS) receiver as its time reference, which provides a source of Universal Coordinated Time (UTC) from an NTP Primary (Stratum 1) Time Server.

The NTP Time Server outputs a time code signal via the 10/100BaseT network connection (RJ-45).



### Features

- Create NTP from most any "Non-NTP" master clock
- NTP Primary Server
- 10/100BaseT-NTP data port
- Rugged enclosure
- Platform independent operation
- Time code output
- Rack-mountable option

### Specifications

#### General

<i>I/O Connection</i>	Network: 10/100BaseT Ethernet, RJ-45
<i>Outputs</i>	ESE Time-Code™ TC89 or TC90, Drives 100 slaves @ 4,000 ft., BNC
<i>GPS Receiver</i>	Internal 12-channel
<i>Antenna</i>	Indoor/outdoor with 16 ft cable (extendable)
<i>Antenna Input</i>	L1, 1.57542 GHz, TNC
<i>Drift</i>	33ms/Day (if no GPS signal)
<i>Configuration</i>	HTTP or Telnet

#### Physical and Environmental

<i>Enclosure</i>	Desktop, black anodized aluminum
<i>Dimensions</i>	1.6 in. H x 7 in. W x 5 in. D
<i>Electrical</i>	117 VAC, 50/60 Hz
<i>Power</i>	5 W maximum

### Ordering Information

Part Number	Description
194-518-01	Network Time Protocol (NTP) Stratum 1 Time Server, desktop, with antenna
194-518-11	Network Time Protocol (NTP) Stratum 1 Time Server, rack-mount 1U, with antenna



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## Central Receiving Supplemental Equipment

### Indoor PA Speaker, 8 in. Round, White, Ceiling-mount

124-090-00



#### Features

- Complete, recess-mounted loudspeaker for hard ceiling applications
- Indoor environment
- 8 in. OD dual cone loudspeaker with a 10 oz. magnet and a 5 W, 25/70V transformer
  - Transformer input for non-supervised PA systems
- 275 CID, round, steel back box
- Hard ceiling, recessed mount
- Conveys signal tones, voice and music
- Round metal 12.875 in. grille

**NOTE** For use on PA systems that do not require speaker supervision (transformer coupled speakers); not compatible with MNS panels which require speaker supervision (capacitively coupled speakers)

#### Specifications

<i>Nominal Voltage</i>	25/70V
<i>Average Sensitivity</i>	95dB SPL, 1 W/1 m
<i>Calculated Output</i>	102dB SPL, 5 W/1 m
<i>Frequency Range</i>	80 Hz to 8 kHz, EIA 426A Standard
<i>Loudspeaker Power</i>	20W RMS, EIA 426A Standard
<i>Mounting</i>	Hard ceiling, recessed mount
<i>Nominal Coverage Angle</i>	100 degree included angle, -6dB/2 kHz, half space
<i>Input Wiring</i>	Transformer coupled, 7 in., color-coded, Pre-tinned Leads
<i>Dimensions</i>	See Dimension Drawings
<i>Weight</i>	7 lb (3.18 kg)
<i>Finish</i>	White powder coat finish on baffle and back box
<i>Standards Compliance</i>	TAA and RoHS Compliant

#### Ordering Information

Part Number	Description
124-090-00	D-21 Alerting Station Indoor PA Speaker, 8 in. Round, Transformer Coupled, Non-Supervised, white, recessed, Ceiling-mount, no lettering, TAA and RoHS compliant



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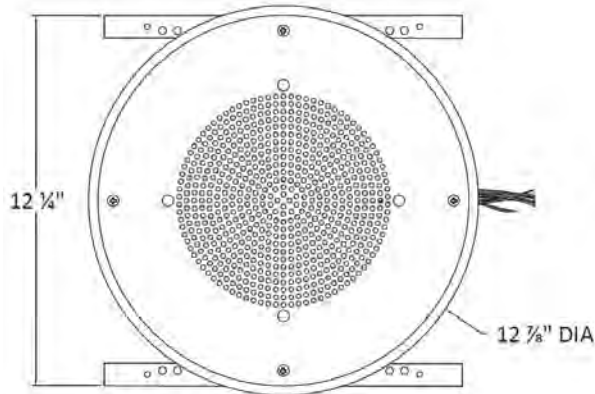




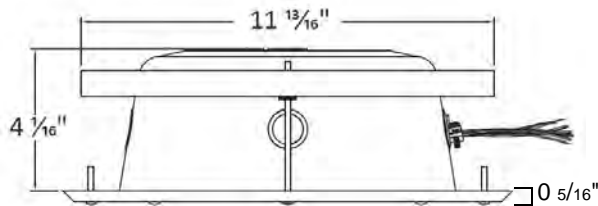
# Central Receiving Supplemental Equipment

## Drawings

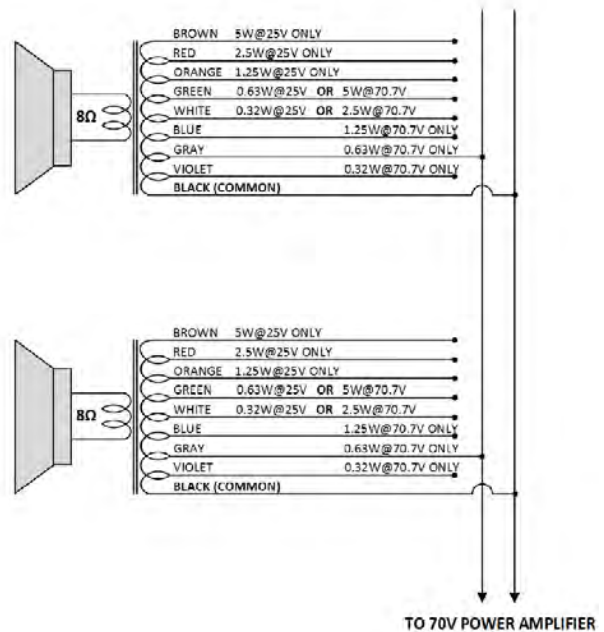
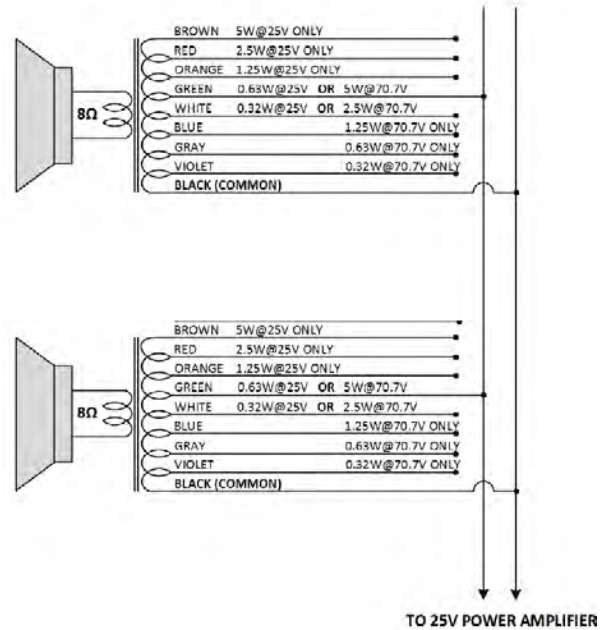
### Dimensions



### Back Box



## Wiring Diagrams



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# Central Receiving Supplemental Equipment

## Ethernet Firewall, 8-Port, 10/100/1000, VPN 200-442-21

### Description

This Ethernet Firewall unit is a next-generation, threat focused, firewall security platform that provides comprehensive protection from known and advanced threats, including protection against targeted and persistent malware attacks.



### Features

- 10/100/1000BASE-T VPN Ethernet Firewall
- Multibus architecture
- Granular Application Visibility and Control (AVC) supports 4,000 plus controls that can launch Intrusion Prevention System (IPS) threat detection
- Application-layer and Risked-based Controls
- Provides Cisco AnyConnect Plus/Apex VPN for up to 300 simultaneous connections
- Triple Data Encryption Standard and Advanced Encryption Standard (3DES/AES) VPN
- ASDM V7.3x On-Device Management

### Specifications

<i>Power Input</i>	92 to 240 VAC, 50/60 Hz
<i>Power Output</i>	Steady state: 12V at 3A Max. peak: 12V at 5A
<i>Form Factor</i>	1 Rack Unit, 19 in. rack-mount
<i>Integrated I/O</i>	8 x 1 Gigabit Ethernet
<i>USB 2.0 Ports</i>	Port Type A, High Speed 2.0
<i>Serial Ports</i>	1 RJ-45 and Mini-USB Console
<i>Memory</i>	8 GB
<i>System Flash</i>	8 GB
<i>Solid State Drive</i>	100 GB mSATA (usable space dependent on system software)

<i>Application Control (AVC) Throughput</i>	850 Mbps
<i>Application Control (AVC and IPS) Throughput</i>	450 Mbps
<i>Concurrent Sessions</i>	250,000 (maximum)
<i>New Connections</i>	20,000 (per second maximum)
<i>3DES/AES VPN Throughput</i>	Up to 250 Mbps
<i>IPsec Site-to-Site VPN Peers</i>	300
<i>Virtual Interfaces (VLANs)</i>	100
<i>High Availability</i>	Active/Active and Active/Standby
<i>Acoustic Noise</i>	41.6 dBA type 67.2 dBA maximum
<i>Temperature</i>	Operating: 32°F to 104°F (0°C to 40°C) Storage: -13°F to 158°F (-25°C to 70°C)
<i>Relative Humidity</i>	10% to 90% non-condensing
<i>Altitude</i>	Operating: 0 ft. to 10,000 ft. (3,048 m) Storage: 0 ft. to 15,000 ft. (4,572 m)
<i>Dimensions</i>	1.72 in. H x 17.20 in. W x 11.29 in. D (4.37 cm x 43.69 cm x 28.67 cm)
<i>Weight</i>	8 lb (3.62 kg) includes AC Power Supply
<i>Standards Compliance:</i>	
<i>Safety</i>	UL 60950-1
<i>CE Marking</i>	per directives 2004/108/EC and 2006/108/EC

### Ordering Information

Part Number	Description
<b>200-442-21</b>	Ethernet Firewall, 8-port, 10/100/1000, VPN, 2/250 AnyConnect, 3DES/AES

### Associated Parts

Part Number	Description
<b>207-572-00</b>	D-21 50 user AnyConnect SSL Licenses for CISCO ASA 5500 Series, W/(SWSS)



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# Central Receiving Supplemental Equipment

## UPS External Battery Pack

403-020-00

### Description

This Uninterruptible Power Supply (UPS) External Battery Pack is a standalone battery stack that supplies additional battery power to dramatically extend the runtime for the UPS Battery Backup (P/N 404-112-00).



### Specifications

**Battery** Type: 9 Ah SLA, maintenance free, leak-proof  
Input/Output voltage: 12 VDC  
Life expectancy: 4–6 years  
Volt-Amp-Hour capacity: 372  
Recharge time: 24 hours (typical)

**Color** Black

**Housing** Vented, high strength, flame retardant

**Dimensions** 12 in. H x 4.4 in. W x 15 in. D  
(30 cm x 11 cm x 38 cm)

**Weight** 29.5 lb (13.4 kg)

**Operating Temperature** 32°F to 104°F (0°C to 40°C)

**Storage Temperature** 23°F to 113°F (–5°C to 45°C)

**Relative Humidity** 0% to 95% non-condensing

**Standards Compliance:**

**RoHS** Compliant

### Ordering Information

Part Number	Description
403-020-00	UPS External Battery Pack, for use with P/N 404-112-01

### Features

- UPS External Battery Pack
- Vertical or horizontal orientation
- Status continually monitored through UPS Battery Backup
- Automatic recharge through UPS Battery Backup



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# Central Receiving Supplemental Equipment

## UPS, Network Devices, 2000VA, 120V, 2U

404-099-10

### Description

This Uninterruptible Power Supply (UPS) is a rack-mountable tower that is noise filtering with automatic voltage regulation and surge protection. It is ideal for servers, point-of-sale, routers, switches, hubs, and other network devices.



**Output Connections** 3 NEMA 5-15R (Battery Backup)  
1 NEMA L5-20R (Battery Backup)  
3 NEMA 5-20R (Battery Backup)

**Input Connection** NEMA 5-20P

**Transfer Time** 2 to 4 ms

**Battery** Type: maintenance free SLA with suspended electrolyte, leak-proof  
Life expectancy: 3 to 5 years  
Volt-Amp-Hour capacity: 690  
Recharge time: 3 hours (typical)

**Surge Energy Rating** 540 Joules

**Color** Black

**Rack Height** 2U

**Dimensions** 3.36 in. H x 17.0 in. W x 26.26 in. D  
(8.5 cm x 43.2 cm x 66.7 cm)

**Weight** 84.6 lb (38.45 kg)

**Operating Temperature** 32°F to 104°F (0°C to 40°C)

**Relative Humidity** 0% to 95%

**Standards Compliance**

UL YEDU.E95463  
Investigated to ANSI/UL1778 5th Ed.

RoHS Compliant

### Features

- UPS for network devices
- Serial, USB, and accessory card communication ports
- Alphanumeric LCD status display with LED icons
- Audible alarms
- External battery connector
- Automatic shutdown software
- Emergency Power Off (EPO)

### Specifications

**Power Capacity** 2000 VA / 1800 watt

**Voltage** 120V (nominal)

**Frequency** 50/60 Hz

### Ordering Information

Part Number	Description
404-099-10	UPS for network devices, 2000 VA, 1800 watts, 120V, 50/60 Hz, tower, rack-mount

### Associated Parts

Part Number	Description
403-018-10	UPS External Battery Pack, 1200 VA; for use with P/N 404-099-10
403-099-20	Cartridge Replacement Battery, SLA; for use with P/N 404-099-10



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# Central Receiving Supplemental Equipment

## UPS, 1500VA, 120V, Rack Tower, LCD 404-105-00

### Description

This Uninterruptible Power Supply (UPS) Rack Tower provides battery power to monitor and safeguard your equipment from harmful power conditions, spikes, and surges, and keeps your electronic equipment protected in the event of a power outage.



### Features

- UPS Rack Tower
- Converts between tower and rack-mount for convenient installation
- Automatic voltage regulation
- Three switchable outlet groups
- Multi-function LCD status and control console
- Audible alarms for battery conditions
- Emergency Power-off
- Safe system shutdown software
- Compatible with external battery pack

### Specifications

<i>Output Power</i>	1200 W, 1440 VA
<i>Voltage</i>	120V (nominal)
<i>Frequency</i>	50/60 Hz
<i>Output Connections</i>	8 NEMA 5-15R (Battery Backup)
<i>Input Connections</i>	NEMA 5-15P
<i>Waveform Type</i>	Sine wave
<i>Battery Type</i>	SLA with suspended electrolyte, leak-proof
<i>Battery Recharge Time</i>	3 hours (typical)
<i>Surge Energy Rating</i>	645 Joules
<i>Interface Ports</i>	SmartSlot, USB
<i>Color</i>	Black
<i>Rack Height</i>	2 U
<i>Dimensions</i>	3.5 in. H x 17.0 in. W x 19.3 in. D (89 mm x 432 mm x 490 mm)
<i>Weight</i>	55 lb (24.82 kg)
<i>Operating Temperature</i>	32°F to 104°F (0°C to 40°C)
<i>Relative Humidity</i>	0% to 95%
<i>Standards Compliance:</i>	
	UL E95463 Investigated to ANSI/UL 1778 5th Ed.
	RoHS Compliant

### Ordering Information

Part Number	Description
404-105-00	UPS 1500 VA 120VAC 50/60Hz Rack Tower, 2U, LCD

### Associated Parts

Part Number	Description
403-022-00	External Battery Pack, 48V. For use with P/N 404-105-00



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# Central Receiving Supplemental Equipment

## UPS Battery Backup, 1500VA, 230V

404-112-01

### Description

This Uninterruptible Power Supply (UPS) Battery Backup Tower provides premium battery backup with surge protection for electronics and computers safeguarding your equipment against damaging surges and spikes that travel along utility and data lines.



### Features

- UPS Battery Backup
- High efficiency charging system
- Automatic voltage regulation
- Visual and audible alarms for utility and battery conditions
- Power saving outlets automatically turn off idle peripherals
- Automatic shutdown software
- Automatic diagnostic testing
- Push button circuit breaker
- Compatible with external battery pack

### Specifications

<i>Output Power</i>	1500 VA / 865 watts
<i>Voltage</i>	230V (nominal), 50/60 Hz
<i>Output Transfer Time</i>	10 ms (typical): 12 ms (maximum)
<i>Output Connections</i>	5 IEC 320 C13 (Battery Backup) 2 IEC Jumpers (Battery Backup) 5 IEC 320 C13 (selector_surgetitle)
<i>Input Connections</i>	IEC-320 C14
<i>Battery</i>	Type: maintenance free SLA with suspended electrolyte, leak-proof Life expectancy: 3–5 years Volt-Amp-Hour capacity: 187 Recharge time: 8 hours (typical)
<i>Surge Energy Rating</i>	441 Joules
<i>Data Line Protection</i>	Analog phone line for phone/ fax/ modem/DSL (RJ-11 connector); Network to 10/100/1000BASE-T Ethernet (RJ-45 connector)
<i>Color</i>	Black
<i>Dimensions</i>	11.9 in. H x 4.4 in. W x 15 in. D (30.2 x 11.2 x 38.1 cm)
<i>Unit Weight</i>	29.5 lb (13.4 kg)
<i>Operating Temperature</i>	32°F to 104°F (0°C to 40°C)
<i>Relative Humidity</i>	0% to 95%
<i>Standards Compliance:</i>	
	RoHS Compliant

### Ordering Information

Part Number	Description
404-112-01	UPS Battery Backup Kit with power cords, 1500 VA, 230 VAC, 865 watt

### Associated Parts

Part Number	Description
403-020-00	UPS External Battery Pack. For use with P/N 404-112-00



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## Live Voice Radio Switch – Reserved

# Central Receiving Supplemental Equipment Catalog Section 02

## Live Voice Radio Switch – Reserved

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# Building Transceivers

## Building Transceivers Catalog Section

03

### Section 3. Building Transceivers

BT2-3 to BT-X Conversion Kit, Large or Small Enclosure .....227-646-xx

BT2 to BT-X Conversion Kit, Standard Enclosure .....227-647-xx

#### **BT-XF (Fire Only)**

BT-XF, BT-XFH, BT-XFH EN.....227-600-xx, 227-601-xx, 227-603-xx,  
227-605-xx, 227-606-xx, 227-607-00

BT-XF Outdoor Pull Station, AC Powered .....227-665-xx

BT-XF Outdoor Pull Station; Solar Power .....227-668-xx

#### **BT-X MNS (In-Building Mass Notification)**

BT-XF to BT-XM Upgrade Kit .....227-422-99

BT-XM In-Building Mass Notification Communicator .....227-621-xx, 227-622-xx, 227-623-xx

#### **BT-XM2 (In-Building Mass Notification with Monaco FACP Interface)**

BT-XM2 Interface Conversion Kits .....227-371-02, 227-372-0x, 227-623-MN,  
227-811-MN

#### **BT-X Access Control**

BT-XS Security Communicator.....227-61x-xx, 227-630-xx, 227-648-xx,  
227-649-xx

#### **BT-X Intrusion Detection – Reserved**

#### **BT-X Wide Area Controller (WAC) (Outdoor Giant Voice Mass Notification)**

Wide Area Mass Notification Speaker Station, 1600 W .....227-671-xx, 227-634-xx, 227-634-CE,  
227-661-xx, 124-080-00

#### **BT-8 (Fire Only)**

BT2-8 Building Transceivers.....227-245-xx, 227-246-xx, 227-247-xx,  
227-271-xx

#### **BT-X Accessories**

BT-X Planner.....207-607-00

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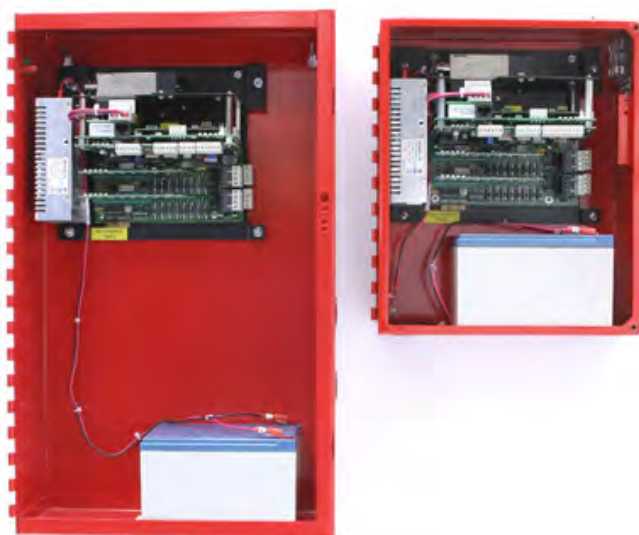
## Building Transceivers

### BT2-3 to BT-X Conversion Kit, Large or Small Enclosure

227-646-xx

#### Description

The BT2-3 to BT-X Conversion Kit is designed to upgrade a large NEMA 1 or a small NEMA 12 BT2-3 enclosure with a BT-X electronics package while still utilizing the existing BT2-3 enclosure.



The conversion kit allows a smooth migration from wideband Dual Tone Multi Frequency (DTMF) radio technology to Narrowband FSK. The BT-X electronics package is mounted on a removable panel and provides four fire zones standard. Space is provided for either an Expansion Backplane or Relay Board. Available space dictates only one of these options can be chosen. With one expansion backplane (P/N 176-212-00), the BT-X is expandable for up to eight more zones using fire zone cards (P/N 176-206-00) or security zone cards (P/N 176-206-01). Alternately, an audio board (P/N 176-208-00) and relay board (P/N 176-214-00) can be added to the unit to interface with Mass Notification System (MNS) panels. Please note, regardless of the expansion option chosen above (relay board or expansion backplane), an audio board can be installed.

**NOTE** If changing transceiver radio frequencies, the antenna whip may have to be changed to match the new frequency. If going up in frequency, the antenna

whip can be cut to the appropriate length to match the frequency. However, if going down in frequency a new antenna whip will be required.

#### Features

- Allows use of existing Monaco enclosures
- Reduces upgrade installation time
- Compatible with existing wiring circuits
- Allows conversion from wideband DTMF to narrowband FSK
- Four fire zones are standard, expandable to 12 zones
- 72 hour standby with 12V/12 Ah battery (provided)
- 115/230 VAC 50/60 Hz operation

#### Ordering Information

Part Number	Description
227-646-xx	BT2-3 to BT-X Conversion Kit, large or small enclosure <b>NOTE</b> Specify frequency (-xx) when ordering.

#### Associated Parts

Part Number	Description
176-212-00	BT-X Zone Expansion Backplane, supports two zone cards (fire or security)
176-206-00	BT-XF Fire Zone Card, provides four zone inputs and eight relay driver outputs
176-206-01	BT-XS Security Zone Card, provides four zone inputs and eight relay driver outputs
176-214-00	BT-X Relay Board with eight on-board Form C relays
176-208-00	BT-X Audio Board
190-400-00	BSA-1 VHF antenna, omnidirectional, 3 dBd gain, 136–174 MHz, PL-259 female, mounting hardware, ground clamp, coaxial cable seal <b>NOTE</b> Must be cut to frequency. Optional Monaco trimming service available, P/N 199-910-00.
199-001-00	Spare 54 in. Antenna Whip for P/N 190-400-00; customer must cut antenna whip to frequency



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## Building Transceivers

Part Number	Description
176-422-99	BT-XM Factory MNS Upgrade for P/N 227-646-00 and P/N 227-647-00
207-607-00	BT-X Planner Support Kit, contains BT-X planner software and programming cable
225-163-00	Planner Suite/ Programmer with interface cables for use with: Monaco FACP/MNS (M-2, MAAP-2, MAAP(+), MAAP-X) BT-X building transceiver, and D-21 compatible repeaters
227-625-00	BT-X Low-loss Cable Kit, Type N female



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# Building Transceivers

## BT2 to BT-X Conversion Kit, Standard Enclosure

227-647-xx

### Description

The BT2 to BT-X Conversion Kit is designed to upgrade a BT2-4,7,8, and 8S to a BT-X electronics package while still utilizing the existing standard NEMA 1 enclosure.



The conversion kit allows a smooth migration from wideband Dual Tone Multi Frequency (DTMF) and early Frequency Shift Key (FSK) radio technologies to Narrowband FSK. The BT-X electronics package is mounted on a removable panel and provides four fire zones standard. Two expansion spaces are available for an Expansion Backplane and a Relay Board, or two Expansion Backplanes.

When configured with two Expansion Backplanes (P/N 176-212-00) the BT-X can be expanded to 20 zones using Fire zone cards (P/N 176-206-00) or Security zone cards (P/N 176-206-01).

Alternately, when configured with an Audio Board (P/N 176-208-00), a Relay Board (P/N 176-214-00), and one Expansion Backplane the BT-X may be interfaced with a Mass Notification System (MNS) panel with four monitoring zones and still have up to eight more zones. Please note, regardless of the expansion options chosen above, an audio board can be installed.

**NOTE** If changing transceiver radio frequencies, the antenna whip may have to be changed to match the new frequency. If going up in frequency, the antenna whip can be cut to the appropriate length to match the frequency. However, if going down in frequency a new antenna whip will be required.

### Features

- Allows use of existing Monaco enclosures
- Reduces upgrade installation time
- Compatible with existing wiring circuits
- Allows conversion from wideband DTMF to narrowband FSK
- Four fire zones are standard, expandable to 20 zones
- 72 hour standby with 12V/12 Ah battery (provided)
- 115/230 VAC 50/60 Hz operation

### Ordering Information

Part Number	Description
227-647-xx	BT-X Conversion Kit for standard sized enclosures <b>NOTE</b> Specify frequency (-xx) when ordering.

### Associated Parts

Part Number	Description
176-212-00	BT-X Zone Expansion Backplane, supports two zone cards (fire or security)
176-206-00	BT-XF Fire Zone Card, provides four zone inputs and eight relay driver outputs
176-206-01	BT-XS Security Zone Card, provides four zone inputs and eight relay driver outputs
176-214-00	BT-X Relay Board with eight on-board Form C relays
176-208-00	BT-X Audio Board
190-400-00	BSA-1 VHF antenna, omnidirectional, 3 dBd gain, 136–174 MHz, PL-259 female, mounting hardware, ground clamp, coaxial cable seal <b>NOTE</b> Must be cut to frequency. Optional Monaco trimming service available, P/N 199-910-00.



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## Building Transceivers

Part Number	Description
199-001-00	Spare 54 in. Antenna Whip for P/N 190-400-00; customer must cut to frequency
176-422-99	BT-XM Factory MNS Upgrade for P/N 227-646-00 and 227-647-00
207-607-00	BT-X Planner Support Kit, contains BT-X planner software and programming cable
225-163-00	Planner Suite/ Programmer with interface cables for use with: Monaco FACP/MNS (M-2, MAAP-2, MAAP(+), MAAP-X) BT-X building transceiver, and D-21 compatible repeaters
227-625-00	BT-X Low-loss Cable Kit, Type N female
086-210-01	Adaptor Plate for double-wide enclosure
626-266-00	BT-X 24 in. Cable for double-wide enclosure



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**BT-XF (Fire Only)**

**Building Transceivers Catalog Section**

**03**

**BT-XF (Fire Only)**

BT-XF, BT-XFH, BT-XFH EN.....	227-600-xx, 227-601-xx, 227-603-xx, 227-605-xx, 227-606-xx, 227-607-00
BT-XF Outdoor Pull Station, AC Powered .....	227-665-xx
BT-XF Outdoor Pull Station; Solar Power .....	227-668-xx

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# Building Transceivers

## BT-XF, BT-XFH, BT-XFH EN

227-600-xx, 227-601-xx, 227-603-xx, 227-605-xx, 227-606-xx, 227-607-00

### Description

Monaco's BT-XF is a fire management transmitter that links a fire alarm control panel (FACP) to the D-21 Central Receiving System (Central) through integrated transceiver or hard-wire communication. The BT-XF receives commands from Central and reports its own status and the status of its zone inputs by unit address.



### Basic Features

- Field Assembly:
  - Master processor
  - RS-422/485, RS-232, and radio ports
  - Switches for Battery Start, Acknowledge, Test, and Master Reset
  - Four Class B zone inputs
  - Eight relay outputs
  - LEDs for power, BT-X status, zone status, and heartbeat
- Narrowband Radio: For units communicating with the D-21 by radio
  - FCC certified for narrowband operation
  - Complies with the National Telecommunications and Information Administration (NTIA) Manual of Regulations and Procedures

- Power Supply: Converts AC input to DC
- One 12V/12 Ah battery
- Audio Board: Addition to the field assembly for BT-XF units that use hard-wire communication
- Two Fire Zone Cards per expansion backplane: each card provides four Class B zone inputs
- Relay Board: Optional driver for the eight Form C relay outputs
- Local audible alert
- Real-time clock and calendar
- 0.5 Mb of program memory
- 0.5 Mb of nonvolatile data storage

### D-21 Interface

D-21 Central is used to supervise and monitor the BT-XF, which reports alarm and trouble conditions on its zones to the D-21. The BT-XF zone inputs can be connected to FACP's (or supervisory devices with isolated dry contacts that provide either a short for an alarm condition or an open for a trouble condition).

The BT-X communicates with the D-21 via:

- Narrowband FSK radio
- FSK hard-wire
- Digital RS-422 multidrop
- Digital RS-485 multidrop
- Digital RS-422 point-to-point
- Digital RS-232 point-to-point

All hard-wire communication requires the audio board.

### Fire Inputs

The BT-XF provides four supervised Class B zone inputs that can be connected to an FACP. The zone inputs are supervised for open, short, and ground fault conditions. Each zone expansion backplane can support two fire zone cards; each fire zone card provides four additional Class B zone inputs.

**Note** A single-wide BT-XF supports up to three zone expansion backplanes, and a double-wide model supports up to seven. Additional backplanes and zone cards must be ordered separately.



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# Building Transceivers

## Fire Outputs

The BT-XF includes eight relay driver outputs that are controlled by the D-21 operator. Relay driver outputs can be connected to an optional BT-X relay board, which allows the BT-X to activate remote device controls such as:

- Opening or closing gates
- Turning lights on or off
- Starting or stopping motors and pumps
- Activating remote annunciator LEDs

The relay board can connect to the main panel or expansion backplanes.

## Power Operation

The BT-XF power supply accepts 115 to 230V 50/60 Hz AC power. Backup power is provided by one or two 12V/12 Ah SLA batteries.

If AC power fails, the BT-XF automatically switches to battery power; after 60 seconds of AC power loss, an AC Fail message transmits to Central. When AC power is restored, the battery will automatically reconnect and begin charging. The 12V/12 Ah battery will typically provide 72 standby hours.

**NOTE** Battery specification is based on a BT-XF base unit only. If additional cards or devices are added, battery calculations will be necessary to determine accurate battery requirements.

The BT-XF monitors and supervises its battery and charger. The BT-XF transmits a battery fault message when the battery voltage falls below 85% of the rated capacity. Battery disconnection and battery charger failure will also cause a battery fault message transmission to Central.

## Configuration Programming

The user connects a laptop computer to the BT-XF RS-232 port and runs a Windows terminal emulation program or the BT-X Planner software. The user transfers the completed configuration to the BT-XF.

## BT-XFH EN: Hardwired with Ethernet

The BT-XFH EN combines an Ethernet Reporting Module and a Monaco BT-X in one modular, compact unit. One or two 12V backup batteries can be installed in each panel, depending on the power requirements of the BT-XFH EN configuration.

The BT-XFH EN reports the status of its zones through the RFM-XH and to D-21 Central using hard-wired Ethernet connections (e.g., CAT5).

The BT-XFH EN panels also have an add-on option to convert the CAT5 Ethernet cable to fiber-optic connections. An Ethernet-to-fiber-optic media converter installs inside the BT-XFH EN enclosure and is powered by the BT-XFH EN.

At full capacity, the single-wide BT-XH EN (P/N 227-605-EN) can support 28 zones; the double-wide model (P/N 227-606-EN) can support up to 60 zones. The BTX-XFH EN onboard zone inputs can be connected to local control panels (or supervisory devices that have isolated dry contacts and provide either a short for an alarm condition or an open for a trouble condition).

Although BT-XFH EN panels do not support live voice MNS, they do support the same zone and relay expansion hardware as the standard BT-XF.

## Specifications

<i>Power Input</i>	115/230 VAC, 50/60 Hz
<i>Internal Outputs</i>	Power Supply: 16 VDC, non-adjustable Battery: 13.8 VDC float; 14.5 VDC boost
<i>Nominal Current</i>	125 mA; 1.5A transmit (six zone cards)
<i>Battery</i>	<ul style="list-style-type: none"><li>• Rating: 12V/12 Ah</li><li>• Low Battery Signal: 11.5 VDC</li><li>• Low Battery Disconnect: 9.75 VDC</li></ul>
<i>Radio Type</i>	Synthesized, narrowband, FM
<i>Radio Duty Cycle</i>	50%, 30 second maximum transmit
<i>RF Impedance</i>	50 ohms nominal (input/output)
<i>Radio Modulation</i>	Frequency Shift Keying (FSK)
<i>Antennas and Coaxial Cables</i>	Varies by site and system configuration; contact Monaco for assistance
<i>Operating Temperature</i>	-22°F to 140°F (-30°C to 60°C)
<i>Relative Humidity</i>	0% to 90%, non-condensing



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# Building Transceivers

## Standards Compliance:

FM Approved P7825a

IEEE Standards C62.41

- CENELEC Standards
- EN 55011:2007+A2:2007
  - EN 61000-3-2:2006; EN 61000-3-3:1995
  - EN 50130-4:1995 +A1:1998 +A2:2003

## Ordering Information

### Radio Communication

Part Number	Description
<b>227-600-xx*</b>	BT-XF, 4–28 zones, narrowband radio, single-wide, 20 in. H x 12 in. W x 4 in. D, red, one 12V/12 Ah battery
<b>227-601-xx*</b>	BT-XF, 4–28 zones, narrowband radio, single-wide, 20 in. H x 16 in. W x 6 in. D, red, NEMA 3R, one 12V/12 Ah battery
<b>227-603-xx*</b>	BT-XF, 4–60 zones, narrowband radio, double-wide, 20 in. H x 25 in. W x 4 in. D, red, two 12V/12 Ah batteries
*Specify frequency (-xx) when ordering.	

### Hard-wire Communication

Part Number	Description
<b>227-605-00</b>	BT-XFH, 4–28 zones, no radio, single-wide, 20 in. H x 12 in. W x 4 in. D, red, audio board for hard-wire communication, one 12V/12 Ah battery
<b>227-606-00</b>	BT-XFH, 4–60 zones, no radio, double-wide, 20 in. H x 25 in. W x 4 in. D, red, audio board for hard-wire communication, two 12V/12 Ah batteries
<b>227-607-00</b>	BT-XFH, 4–28 zones, no radio, single-wide, 20 in. H x 16 in. W x 6 in. D, red, NEMA 3R, audio board for hard-wire communication, one 12V/12 Ah battery

## Ethernet Communication

Part Number	Description
<b>227-605-EN</b>	BT-XFH EN, 4–28 zones, no radio, single-wide, 20 in. H x 12 in. W x 4 in. D, red, audio board for Ethernet communication, one 12V/12 Ah battery
<b>227-606-EN</b>	BT-XFH EN, 4–60 zones, no radio, double-wide, 20 in. H x 25 in. W x 4 in. D, red, audio board for Ethernet communication, one 12V/12 Ah battery

## Associated Parts

Part Number	Description
<b>227-630-xx*</b>	BT-X Electronics Package (no audio board)
<b>176-208-00</b>	BT-X Audio Board
<b>176-206-00</b>	BT-XF Fire Zone Card, provides four zone inputs and eight relay driver outputs
<b>176-212-00</b>	BT-X Zone Expansion Backplane, supports two zone cards (fire or security)
<b>176-214-00</b>	BT-X Relay Board with eight onboard Form C relays
<b>194-527-08</b>	BT-XFH EN Fiber-Optic-to-Ethernet Converter Kit, single mode 1 Gb with mounting hardware (one required per Ethernet BT-XFH EN to convert it to Fiber Optic)
<b>194-527-01</b>	Fiber-Optic-to-Ethernet Converter, single mode 1 Gb (Spare part for P/N 194-527-08)
<b>207-607-00</b>	BT-X Planner Support Kit, contains BT-X planner software and programming cable
<b>225-163-00</b>	Planner Suite/Programmer with interface cables for use with Monaco FACP/MNS, BT-X building transceiver, and D-21 compatible repeaters
<b>227-574-00</b>	MAAP Serial Interface Kit, includes programming cable and adaptor
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb
<b>404-090-00</b>	Power Supply for BT-X, 15 VDC, 2.8A
<b>513-412-00</b>	BT-X Enclosure Tamper Switch Kit
*Specify frequency (-xx) when ordering	



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## Building Transceivers

### BT-XF Outdoor Pull Station, AC Powered

227-665-xx

#### Description

This BT-XF enclosure provides a stand-alone, publicly accessible outdoor pull station (pole- or wall-mounted) that transmits the alert and lights an LED upon acknowledgment from Central.



- Pull station activator reset requires key, preventing unauthorized personnel from silencing an alarm
- RS-232 port for connection to laptop computer for programming BT-XF functions
- Backup battery
- Locator light option pinpoints the BT-XF pull station location at night

#### Specifications

**AC Power** Input: 120/240 VAC, 50/60 Hz  
Current: 0.4A, 120 VAC; 0.2A, 240 VAC  
Power: 45 W  
Circuit Breaker: 2-pole

**DC Power** 16 VDC nominals

**Enclosure Dimensions** 20 in. H x 16 in. W x 9.4 in. D

#### Ordering Information

##### BT-X with Pull Station

Part Number	Description
227-665-xx*	Outdoor AC Power BT-XF Pull Station with Central acknowledgment LED indicator. <ul style="list-style-type: none"><li>• BT-XF mounted in a NEMA 4X Gray Composite enclosure with key lock, tamper switch, tilt switch and one 12V/12 Ah battery</li><li>• Single action Pull station mounted in a NEMA 4X red Composite enclosure with window and Thumb latch attached to the front of the BT-XF enclosure.</li></ul> *Specify frequency when ordering.

The system is a suitable solution for remote locations such as campgrounds, docks, or piers that need a stand-alone fire alarm system that is easy to access and use.

Narrowband radio is FCC certified for narrowband operation and meets the requirements of the NTIA (National Telecommunications and Information Administration) Manual of Regulations and Procedures for Federal Frequency Management.

#### Features

- Rugged composite (fiberglass) enclosure is NEMA 4X rated
- Integrated, narrowband radio (VHF or UHF)
- Tilt and tamper-alarm switches

#### Associated Parts

Part Number	Description
089-010-00	Pole-mount Kit
199-061-00	Antenna Kit, 10 ft. pipe-mount
709-047-00	Locator Light Kit
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in.L x 3.86 in.W x 3.86 in.H, 7.92 lb



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# Building Transceivers

## BT-XF Outdoor Pull Station; Solar Power

227-668-xx

### Description

Monaco's Solar Powered BT-XF Pull Station provides a stand-alone, publicly accessible, outdoor pull station compatible with the D-21 Central Receiving System (Central). Upon activation of the pull station, the BT-XF transmits the alarm to the central. Upon receipt of the alarm at the central, an alarm receipt verification LED lights next to the pull station providing visual feedback to the user.

The BT-XF is mounted in a NEMA 4X composite enclosure that can be pole or wall-mounted. Mounted to the front of the BT-XF enclosure is a pull station enclosure marked Fire Alarm with directions on how to activate the pull station which is visible through a clear window. The single action pull station enclosure door is secured with a snap latch for easy accessibility. The BT-XF NEMA 4X enclosure is secured with a key lock.

**NOTE** Solar power source must be ordered separately.



The basic panel includes:

- Field assembly (the core electronics package)
- FM narrowband radio (for radio-communication units)
- One 12V/12 Ah battery
- One RS-422/485 port for communication with peripheral equipment (optional audio board adds another RS-422/485)
- One full-duplex RS-232 port used to program the BT-XF via connection to a laptop computer

Other features:

- Self test, stuck transmitter disconnect, reset, acknowledge, and battery reconnect switches
- Local audible alert
- Real-time clock and calendar

### D-21 Interface

The D-21 Central Receiving System is used to supervise and monitor the BT-XF.

The BT-XF reports alarm and trouble conditions on its zones to the D-21. Supervisory devices that have isolated dry contacts and provide a short for an alarm condition or an open for a trouble condition can be connected to the BT-XF zone inputs.

Primary communication is by narrowband radio or hard-wire:

- FSK radio
- FSK hard-wire
- Digital RS-422 or RS-485 multidrop
- Digital RS-422 point-to-point

Hard-wire communication, whether primary or fallback to secondary, requires the audio board.

### Power Operation

The BT-XF battery provides sufficient power to operate a base unit in normal standby status, polling, and transmitting alarm and status changes for up to 72 hours.

**NOTE** Battery specification is based on a BT-XF base unit only. If additional cards or devices are added, the battery calculations must be done to determine the correct battery size.

BT-XF monitors and supervises its own battery and charger. BT-XF transmits a battery fault message when the battery voltage falls below 85% of the rated capacity.



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# Building Transceivers

## Configuration Programming

The user connects a laptop computer to the BT-XF RS-232 port and runs a Windows terminal emulation program or the BT-X Planner software. The user transfers the completed configuration to the BT-XF.

## Hardware

- Field Assembly electronics package, including:
  - Master processor, ports, switches
  - Four Class B zone inputs
- Audio Board—Addition to the field assembly for BT-XF units that use hard-wire communication (must be purchased separately)
- Narrowband Radio for units communicating with the D-21 by radio
- Status LEDs
  - General alarm, general trouble, system fault
  - In-communication
  - Carrier detect
  - Transmit
  - Primary power
  - Battery boost and float charge
- Zone LEDs
  - Trouble, alarm, normal
- Tamper Switch

## Specifications

- Power**
- DC Power input: 16 to 30 VDC
  - Battery charger output: 13.8 VDC float; 14.5 VDC boost
  - BT-XF nominal current 125 mA 1.5A transmit (no expansion cards or BT-X audio board)
- Battery**
- 12V/12 Ah
  - Low battery signal: 11.5 VDC
  - Low battery disconnect: 9.75 VDC
- Radio** For units using radio communication:
- FM narrowband
  - FSK modulation
  - Duty cycle 50%, 30 sec. max. transmit
  - Output impedance: 50 ohms

**Antennas and Coaxial Cables** Varies by site and system configuration. Contact Monaco for assistance.

**Operating Temperature** –22°F to 140°F (–30°C to 60°C)

**Relative Humidity** 0% to 90%, non-condensing

**Compliance** In a standard configuration, BT-XF complies with emissions standards:

- EN 55011:2007+A2:2007
- EN 61000-3-2:2006
- EN 61000-3-3:1995
- Product Family Immunity Standard EN 50130-4:1995 +A1:1998 +A2:2003

## Enclosure Specifications

- BT-X**
- NEMA 4X composite
  - Grey
  - 20 in. H x 16 in. W x 9 in. D
  - Key lock

- Pull Station**
- NEMA 4X composite
  - Red
  - 7.5 in. H x 6 in. W x 5 in. D
  - Window enclosure door with snap latch

## Ordering Information

Part Number	Description
227-668-xx*	Outdoor Solar Power BT-XF Pull Station with Central acknowledgment LED indicator <ul style="list-style-type: none"><li>• BT-XF mounted in a NEMA 4X grey composite enclosure with key lock, tamper switch, tilt switch and one 12V/12 Ah battery</li><li>• Single action pull station mounted in a NEMA 4X red composite enclosure with window and snap latch attached to the front of the BT-XF enclosure</li></ul> <b>NOTE</b> Solar power source must be ordered separately. *Specify frequency (-xx) when ordering

## Associated Parts

Part Number	Description
176-208-00	BT-X Audio Board



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# BT-X MNS (In-Building Mass Notification)

## Building Transceivers Catalog Section 03

### BT-X MNS (In-Building Mass Notification)

BT-XF to BT-XM Upgrade Kit . . . . .	227-422-99
BT-XM In-Building Mass Notification Communicator . . . . .	227-621-xx, 227-622-xx, 227-623-xx

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# Building Transceivers

## BT-XF to BT-XM Upgrade Kit

227-422-99

### Description

Monaco's BT-XF to BT-XM Upgrade Kit transforms a BT-XF transceiver into a BT-XM mass notification transceiver by adding audio board, relay board, and current BT-XM firmware to perform secure live voice messages and trigger prerecorded messages or tones resident on a connected mass notification panel.



BT-XM

Radio is FCC certified for narrowband operation and meets the requirements of the NTIA (National Telecommunications and Information Administration) Manual of regulations and Procedures for Federal Frequency Management

The BT-XF (building transceiver "-XF" for fire management) is a fire management transmitter that links a Fire Alarm Control Panel (FACP) to the D-21 Central Receiving System (Central). The BT-XF receives commands from Central and reports status from its zone inputs and its self using unit addresses.

The BT-XM ("-XM" for mass notification) is a mass notification transmitter than links a FACP and Mass Notification System (MNS) panel to D-21 Central. The BT-XM transmits live voice received from a radio,

telephone, or microphone and prerecorded messages from the D-21 MNS to within-building mass notification panels or PA speaker systems.

The BT-XM communicates with a D-21 MNS via narrowband radio with fallback to hard-wire connection, if so wired. The connection between the BT-XM and the multi-circuit mass notification panel is supervised.

The BT-XM provides four supervised Class B zone inputs and eight relay driver outputs. The four fire inputs can be used for standard fire zone monitoring or to monitor auxiliary zones, such as trouble contacts on the mass notification panel.

When using the BT-X Relay Board for prerecorded messages, the BT-XM can be expanded to monitor 20 fire zones or 16 security zones in a single-wide enclosure, and 52 fire zones and 48 security zones in a double-wide enclosure. Relay driver outputs are controlled via command from D-21 Central.

The BT-XM continuously monitors its operation through self diagnostics and reports off-normal conditions to D-21 Central. If a BT-XM does not receive a signal for 200 seconds, it transmits unacknowledged alarms at programmed intervals without waiting for a Central command.

The BT-XF to BT-XM upgrade kit's primary source of power is 115 or 230 VAC (50/60) Hz. Its secondary power is one or two 12V/12 Ah SLA batteries. If a primary AC power loss occurs, the unit automatically switches to battery power. Loss of AC power exceeding 60 seconds causes the transmission of an AC Fail message to D-21 Central. Transfer back to normal AC power is automatic and activates the internal battery charger.

The battery provides sufficient power to operate a base unit with an audio board and a relay board in normal standby status, polling, and transmitting alarm and status changes for up to 72-hours.



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# Building Transceivers

**NOTE** Battery specification is based on a BT-XM with an audio board and relay board only. If additional cards or devices are added, the battery calculations must be done to determine the correct battery size.

## Features

- Upgrades BT-XF to BT-XM by adding audio board, relay board, and current BT-XM firmware
- Transmits live voice and prerecorded messages from the D-21 MNS to within-building mass notification panels
- Receives and transmits live voice from the D-21 through radio, telephone, or microphone input
- Prerecorded messages can be triggered via relay contact closure
- Includes four onboard fire zone inputs that can also be used to report mass notification panel status
- Supports fire intrusion detection and access control applications with the addition of optional equipment
- Status LEDs reflect the status of the BT-XM: general trouble, system fault, in communication, carrier detect, transmit, primary power, battery boost charge, and battery float charge

## Specifications

**AC Input** 115/230 VAC, 50/60 Hz

**DC Output** Power supply output: 16 VDC non-adjustable  
Battery charger output: 13.8 VDC float: 14.5 VDC boost  
Nominal Current, BT-X with audio board: 220 mA, 1.5A transmit

**Battery** Two 12V/12 Ah  
Low battery signal: 11.5 VDC  
Low battery disconnect: 9.75 VDC

**Radio** For units using radio communication:  
- FSK narrowband  
- FSK modulation  
- Duty cycle 50%, 30-second max. transmit  
- RF Antenna output impedance: 50 ohm

**Operating Temperature** -22°F to 140°F (-30°C to 60°C)

**Relative Humidity** 0% to 90% non-condensing

**Compliance** In a standard configuration: BT-XM  
- EN 55011:2007+A2:2007  
- EN 61000-3-2:2006  
- EN 61000-3-3:1995  
Product Family Immunity Standard  
EN 50130-4:1995 +A1:1998 +A2:2003

The BT-XM power supply contains surge protection meeting the requirements of IEEE C62.41

## Ordering Information

Part Number	Description
227-422-99	BT-XF to BT-XM Upgrade Kit, contains one audio board, one relay board, one BT-XM firmware IC, two ea 12V/12 Ah SLA battery, dual battery cable

## Associated Parts

Part Number	Description
207-607-00	BT-X Planner Support Kit, contains BT-X planner software and programming cable <b>NOTE</b> An antenna is required for radio communication.



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## Building Transceivers

### BT-XM In-Building Mass Notification Communicator

227-621-xx, 227-622-xx, 227-623-xx

#### Description

Monaco's BT-XM (building transceiver "XM" for mass notification) is a mass notification transmitter that links a Fire Alarm Control Panel (FACP) and Mass Notification System (MNS) panel to the D-21 Central Receiving System (Central).



Radio is FCC certified for narrowband operation and meets the requirements of the NTIA (National Telecommunications and Information Administration) Manual of Regulations and Procedures for Federal Frequency Management

The BT-XM can transmit live voice received from a radio, telephone, or microphone to within-building mass notification panels.

The BT-XM also triggers prerecorded messages or tones resident on a connected mass notification panel.

The basic panel includes:

- Field assembly (the core electronics package)
- Audio Board for live voice MNS

- FM narrowband radio for units communicating with the D-21 by radio
- Power supply unit
- Two 12V/12 Ah batteries
- One RS-422/RS-485 port for communication with peripheral equipment.
- One full-duplex RS-232 port used to program the BT-XM via connection to a laptop computer.

Other features:

- Self test, stuck transmitter disconnect, reset, acknowledge, and battery reconnect switches
- Local audible alert
- Real-time clock and calendar
- 1/2 Mb of program memory
- 1/2 Mb of nonvolatile data storage
- Security features prevent unauthorized take-over of live voice transmissions
- Status and communication LEDs

#### D-21 Interface

The D-21 MNS is used to select the notification messages and direct the message to be broadcast to in-building mass notification panels or PA speaker systems.

The BT-XM is in communication with the D-21, responding to commands and sending status changes. BT-XM continuously monitors its operation through self-diagnostics and reports off-normal conditions to the D-21.

If a BT-XM does not receive a signal for 200 seconds it transmits unacknowledged alarms at programmed intervals without waiting for a Central command.

The BT-XM communicates within a D-21 MNS via narrowband radio capable of fallback to hard-wire communication. (The user must wire for fallback.) The connection between the BT-XM and the mass notification panel is supervised.



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# Building Transceivers

Primary communication by narrowband radio or hard-wire:

- FSK radio
- FSK hard-wire
- Digital RS-422 multidrop
- Digital RS-485 multidrop
- Digital RS-422 point-to-point

Communication LEDs indicate the type of communication: radio or hard-wire, and whether or not a live voice MNS message is being sent. Status LEDs reflect the status of the BT-XM: general trouble, system fault, in-communication, carrier detect, transmit, primary power, battery boost charge, and battery float charge.

## Fire Inputs

Each BT-XM provides four supervised Class B zone inputs that can also be used to report mass notification panel status. The zone inputs are supervised for open, short, and ground fault conditions.

When using the BT-X Relay Board for pre-recorded messages, the BT-XM can be expanded to monitor 20 fire zones or 16 security zones in a single-wide enclosure, and 52 fire zones and 48 security zones in a double-wide enclosure.

**NOTE** A single-wide BT-XM has space for up to 3 zone expansion backplanes. A double-wide enclosure has space for up to 7. These maximum capacities leave no room for a relay board option. Additional back planes, zone cards, and relay board must be ordered separately.

## MNS

The BT-XM with MNS panel activates:

- Secure live voice messages from the D-21
- Prerecorded messages or tones activated from the D-21

BT-XM provides eight relay driver outputs. The onboard relay drivers can be connected to the optional BT-X Relay Board to trigger prerecorded messages on a connected MNS panel. Relay driver outputs are controlled via command from the D-21.

**NOTE** Relay Boards must be purchased separately; see P/N 176-214-00 in "Associated Parts".

## Power Operation

The BT-XM's primary source of power is 115 or 230 VAC (50/60 Hz). Its secondary power is one or two 12 VDC/12 Ah gel-type batteries. If a primary AC power loss occurs, the BT-XM automatically switches to battery power. Loss of AC power exceeding 60 seconds causes the transmission of an AC Fail message to the D-21. Transfer back to normal AC power is automatic and activates the internal battery charger.

The BT-XM battery provides sufficient power to operate a base unit with an audio board and a Relay Board in normal standby status, polling, and transmitting alarm and status changes for up to 72-hours.

**NOTE** Battery specification is based on a BT-XM with an audio board and relay board only. If additional cards or devices are added, the battery calculations must be done to determine the correct battery size.

The BT-XM constantly monitors and supervises its own battery and charger. BT-XM transmits a battery fault message when the battery voltage falls below 85% of the rated capacity. Other battery fault messages transmitted to the D-21 include battery disconnect and battery charger failure.

## Configuration Programming

The user connects a laptop computer to the BT-XM RS-232 port and run a Windows terminal emulation program or the BT-X Planner Software. The user transfers the completed configuration to the BT-XM.



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# Building Transceivers

## Hardware

- **Field Assembly**—The electronics package includes:
  - Master processor
  - Ports
  - Switches
  - Four Class B zone inputs
  - Eight relay driver outputs
- **Audio Board**—Addition to the field assembly for MNS and hard-wire communication
- **Power Supply**—Converts AC input to DC
- **FM Narrowband Radio** for units communicating with the D-21 by radio
- **Expansion Backplane Option**
  - Single-wide enclosure supports up to three
  - Double-wide enclosure supports up to seven
- **Fire Zone Cards**—Two per expansion backplane, each card provides four Class B zone inputs
- **Relay Board**—Eight Form C relay outputs for MNS
- **Status LEDs**
  - General alarm
  - General trouble
  - System fault
  - In-communication
  - Carrier detect
  - Transmit
  - Primary power
  - Battery boost charge
  - Battery float charge
- **Communication LEDs** to indicate the method of communication used: radio or hard-wire and whether a live voice message is being sent
- **Zone LEDs**
  - Trouble
  - Alarm
  - Normal
  - Power supplied to fire zone cards
- **Optional Tamper Switch Kit P/N 513-412-00**  
(Purchase separately; see “Associated Parts”)

## Specifications

<i>AC Input</i>	115/230 VAC, 50/60 Hz
<i>DC Output</i>	<ul style="list-style-type: none"><li>• Power supply output: 16 VDC, nonadjustable</li><li>• Battery charger output: 13.8 VDC float; 14.5 VDC boost</li><li>• Nominal Current, BT-X with audio board: 220 mA, 1.5A transmit</li></ul>
<i>Battery</i>	<ul style="list-style-type: none"><li>• Two 12V/12 Ah</li><li>• Low battery signal: 11.5 VDC</li><li>• Low battery disconnect: 9.75 VDC</li></ul>
<i>Radio</i>	For units using radio communication: <ul style="list-style-type: none"><li>• FM narrowband</li><li>• FSK modulation</li><li>• Duty cycle 50%, 30-second max. transmit</li><li>• RF Antenna output impedance: 50 ohm</li></ul>
<i>Antennas and Coaxial Cables</i>	Varies by site and system configuration; Contact Monaco for assistance
<i>Operating Temperature</i>	–22°F to 140°F (–30°C to 60°C)
<i>Relative Humidity</i>	0% to 90% non-condensing
<i>Compliance</i>	In a standard configuration, BT-XM complies with emissions standards: <ul style="list-style-type: none"><li>• EN 55011:2007+A2:2007</li><li>• EN 61000-3-2:2006</li><li>• EN 61000-3-3:1995</li><li>• Product Family Immunity Standard EN 50130-4:1995 +A1:1998 +A2:2003.</li></ul> The BT-XM power supply contains surge protection meeting the requirements of IEEE C62.41.



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# Building Transceivers

## Ordering Information

### BT-XM

Part Number	Description
<b>227-621-xx*</b>	BT-XM Mass Notification Communicator, narrowband radio, capability for fallback to hard-wire communication, 20 in. x 25 in. x 4 in. double-wide NEMA 1, audio board, two 12V/12 Ah batteries, relay board ordered separately
<b>227-622-xx*</b>	BT-XM Mass Notification Communicator, narrowband radio, capability for fallback to hard-wire communication, 20 in. x 16 in. x 6 in. NEMA 3R, audio board, two 12V/12 Ah batteries, relay board ordered separately
<b>227-623-xx*</b>	BT-XM Mass Notification Communicator, narrowband radio, capability for fallback to hard-wire communication, 20 in. x 12 in. x 4 in. single-wide NEMA 1, audio board, two 12V/12 Ah batteries, relay board ordered separately
*Specify frequency (-xx) when ordering.	

## Associated Parts

Part Number	Description
<b>227-630-xx</b>	BT-X Electronics Package (no audio board)
<b>176-206-00</b>	BT-X Fire Zone Card, provides four zone inputs and eight relay driver outputs
<b>176-208-00</b>	BT-X Audio Board
<b>176-212-00</b>	BT-X zone Expansion Backplane, supports two zone cards (fire or security)
<b>176-214-00</b>	BT-X Relay Board with eight on-board Form C relays
<b>207-607-00</b>	BT-X Planner Support Kit, contains BT-X planner software and programming cable
<b>225-163-00</b>	Planner Suite/Programmer with interface cables for use with: Monaco FACP/MNS (M-2, MAAP-2, MAAP(+), MAAP-X) BT-X building transceiver, and D-21 compatible repeaters
<b>513-412-00</b>	BT-X Enclosure Tamper Switch Kit
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. x 3.86 in. x 3.86 in., 7.92 lb
<b>649-118-00</b>	USB to Serial Port Adaptor (needed for laptops with USB only in order to program the panel)



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# BT-XM2 (In-Building Mass Notification with Monaco FACP Interface)

## Building Transceivers Catalog Section

03

### BT-XM2 (In-Building Mass Notification with Monaco FACP Interface)

BT-XM2 Interface Conversion Kits .....227-371-02, 227-372-0x, 227-623-MN,  
227-811-MN

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# Building Transceivers

## BT-XM2 Interface Conversion Kits

227-371-02, 227-372-0x, 227-623-MN, 227-811-MN

### Description

The BT-XM2 can be connected to up to two M-Type (conventional or addressable) fire alarm control panels (FACPs) and two mass notification system panels (MNS panels) using a single antenna for radio communication with a D-21 Central. Once converted, the BT-XM2 controls the in-building MNS system and reports the status of any connected M-Type FACP and MNS panel to central.

The connected M-Panels must be converted for MNS operation by installation of an MNS conversion kit. Converting an M-2 conventional requires changing the configuration (transceiver address needs to be modified)—all field wiring can remain as is. However, an audio board and programming work are required for upgrading to a new MAAP(+) addressable for MNS or from DTMF (M-1) to MNS operation (M-2).

The system created by the interconnected panels allows audible fire alarms on the M-Panels to be automatically silenced when the connected MNS panels are being used to alert personnel of an emergency situation, as required per UFC 4-021-01. Onboard zones of the BT-XM2 allow connection of two override switches (one for each M-Panel) that reverse the silencing of the M-Panels if needed, thus allowing both the MNS panel messages and the audible alarms on the M-Panels to sound at the same time.

The BT-XM2 provides four onboard zones and eight relay driver outputs that are connected to the installed BT-X Relay Board, which is used to trigger up to eight prerecorded MNS messages. Expansion zones are not needed.

**NOTE** The BT-XM2 **cannot** be configured via the BT-X Planner software; the BT-XM2 **must** be configured via a terminal emulation program (e.g., HyperTerminal or ProComm).

### Features

#### BT-XM2 (227-623-MN)

- Supervised connection to M-Panels and MNS panels
- Fallback communication to hard-wire connection
- Transmits live voice and activates prerecorded messages from the D-21 MNS to in-building MNS panels
- Receives and transmits live voice through radio from MNS sources such as telephone and microphone
- Prerecorded messages can be triggered via relay contact closure
- Security features prevent unauthorized take over of live voice transmissions
- BT-XM2 status LEDs for general trouble, system fault, in-communication, carrier detect, transmit, primary power, battery boost charge, and battery float charge
- Communication LEDs indicate when a live voice message is being sent and whether radio or hard-wire communication is being used
- Full-duplex RS-232 port used for programming the BT-XM2 via laptop computer
- 115 or 230 VAC power is monitored with automatic switchover to backup battery power
- Self-test, stuck transmitter disconnect, reset, acknowledge, and battery reconnect switches
- Local audible alert
- Real-time clock and calendar
- 1/2 Mb of program memory
- 1/2 Mb of nonvolatile data storage
- RS-422 port connects to M-2s
- Narrowband radio communication with the D-21 is FCC certified for narrowband operation and meets the requirements of the National Telecommunications and Information Administration (NTIA) Manual of Regulations and Procedures for Federal Frequency Management



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# Building Transceivers

## M-Panel (227-371-02, 227-372-0x, 227-811-MN)

- Reports both fire and MNS status to the D-21 through the BT-XM2 and controls the in-building MNS system
- Allows the audible notification appliances (bells) connected to the M-Panels to be silenced while the MNS panels are in use
- Allows reversal of bell silencing on M-Panels via an override switch for each M-Panel
- Converted M-2 configuration is retained
- Allows M-Panel and MNS panel visual notification appliances (strobes) to operate independently from each other

## Ordering Information

Part Number	Description
227-623-MN	BT-XM to BT-XM2 Conversion Kit: consists of a programming chip to convert BT-XM to BT-XM2 and operating manuals ( <b>the BT-XM being converted must have an audio board attached to function correctly</b> )
Order one of the following conversion kits based on the type of M-series FACP being converted to interface with the BT-XM2.	
227-371-02	M-2 to M-2 Conventional FACP Conversion Kit for MNS Operation, includes RFM-XM2, interconnection cable, and EPROM
227-372-02	MAAP-2 to MAAP-2 FACP Conversion Kit for MNS Operation, includes RFM-XM2, interconnection cable, and EPROM
227-372-03	MAAP(+) Conversion Kit for MNS Operation, includes RFM-XM2, interconnection cable, and flash program chip
227-811-MN	MAAP(+) electronics package, MNS upgrade for existing MAAP-1, MAAP-2 (legacy addressable), and M-2 conventional panels (except 19 in.), replaces M CPU, power supply, AAC, ADC, and display (existing ADCs may still be used with the upgrade); includes BT-XM2 MNS interface <b>NOTE 1</b> Specify frequency (-MN) when ordering. <b>NOTE 2</b> Required Ah capacity depends on system; other battery options available. Contact Monaco for help in determining battery requirements. <b>NOTE 3</b> Antenna system required for radio versions; contact Monaco.

## Associated Parts

Part Number	Description
176-208-00	BT-X Audio Board
176-214-00	BT-X Relay Board with eight on-board Form C relays
227-574-00	MAAP Serial Interface Kit, includes programming cable and adaptor



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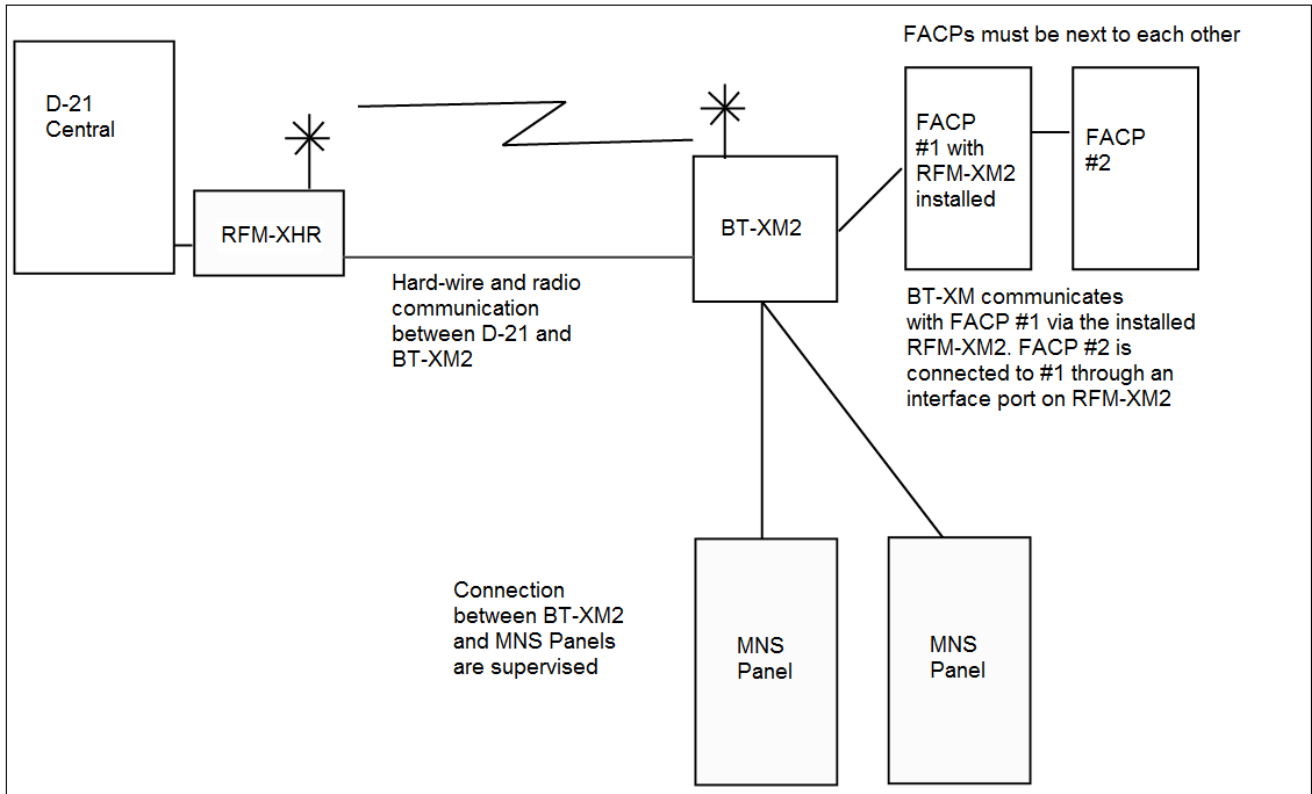
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# Building Transceivers

## Diagrams

### System Diagram



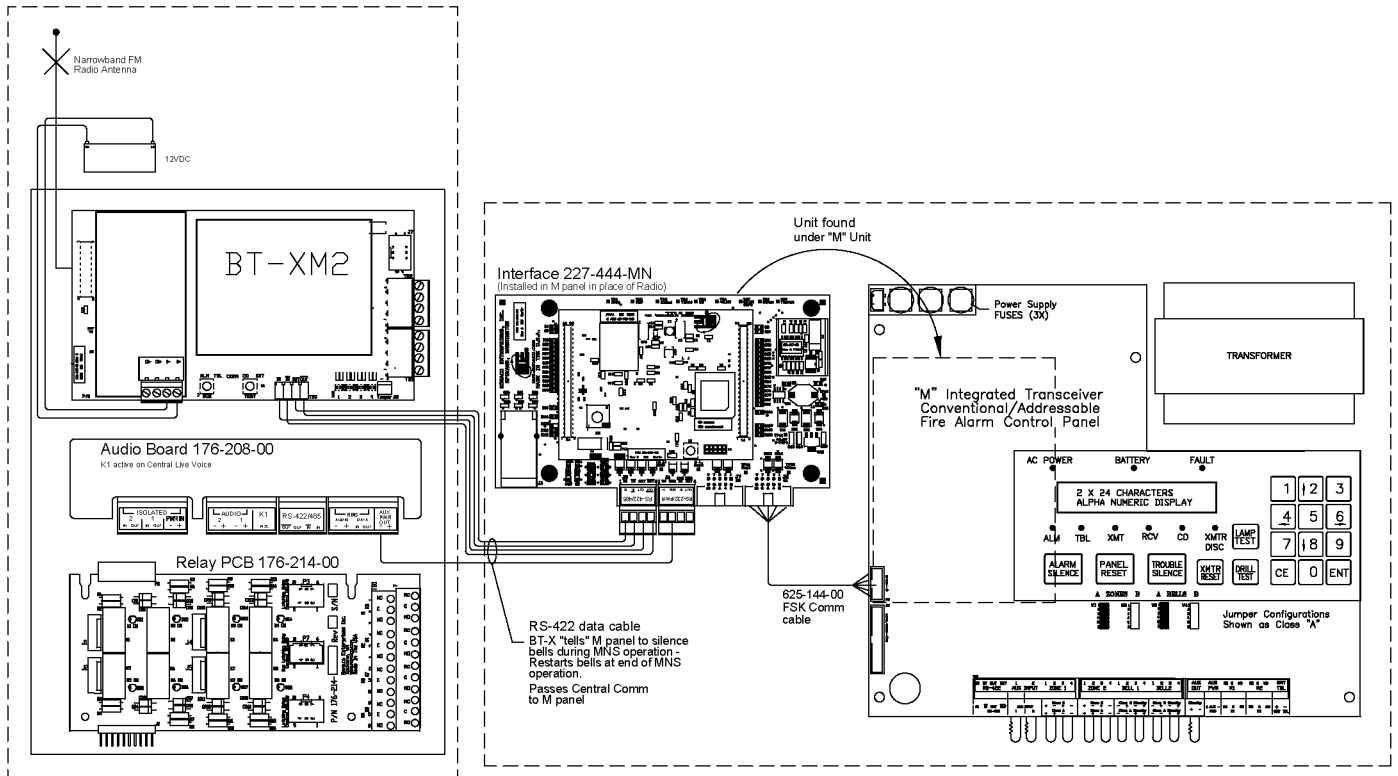
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## BT-X Access Control

### Building Transceivers Catalog Section

03

#### BT-X Access Control

BT-XS Security Communicator . . . . . 227-61x-xx, 227-630-xx, 227-648-xx,  
227-649-xx

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# Building Transceivers

## BT-XS Security Communicator

227-61x-xx, 227-630-xx, 227-648-xx, 227-649-xx

### Description

BT-XS Multi-Application Security Transceivers have four onboard Fire Only zone inputs and eight relay driver outputs as well as the capability to support zone inputs added through expansion backplanes and zone cards. The BT-XS is available in enclosures that support up to 24 zones in a single-wide enclosure and up to 56 zones in a double-wide enclosure.

The BT-XS communicates with a D-21 via radio and the BT-XHS communicates with a D-21 via hardwire connection to respond to commands and to keep Central up-to-date on the operational status of the BT-XS. A versatile product, the BT-XS can be programmed for intrusion detection, access control, mass notification, and fire management. For intrusion detection applications, the use of a BT-X iButton keypad, BT-X keypad, or key-switch provide a method of arming and disarming areas. Security zones are programmed with a zone type at Central; these zone types are downloaded to the BT-XS. Special zone behavior can be defined while programming the BT-XS.



Radio is FCC certified for narrowband operation and meets the requirements of the NTIA (National Telecommunications and Information Administration) Manual of Regulations and Procedures for Federal Frequency Management.

The BT-XS continuously monitors its zone inputs for alarm, trouble, status change, and ground-fault conditions. When an alarm or trouble occurs, the BT-XS encodes a message indicating the zone input condition, which zone input was activated, and sends the message to the Central. When a zone input is restored to normal condition, the BT-XS transmits a message indicating the restoration. All transmissions are repeated by the BT-XS until acknowledged by Central. In addition, the BT-XS acknowledges all Central initiated commands.

Each BT-XS provides unit status LEDs and zone LEDs. The BT-XS status LEDs indicate the BT-XS state. LEDs on each security card indicate power is being supplied to the cards, and can indicate the physical condition of the zones and/or the logical condition of the zones.

The onboard audible alert provides auditory notification when any of the zone inputs are in an alarm or trouble condition. The audible alert sounds on and off in a beeping fashion for alarms; it sounds continuous for a trouble condition.

### Central D-21

The D-21 logs access-and-secure operations performed by authorized users via connected keypad(s), iButton(s), or key switch(es).

BT-XS reports alarm and trouble conditions on its zones to the D-21.

Primary communication can be by narrowband radio or hard-wire:

- FSK radio
- FSK hard-wire
- Digital RS-422 multidrop
- Digital RS-485 multidrop
- Digital RS-422 point-to-point

Hard-wire communication, whether primary or fallback to secondary, requires an audio board.

One RS-232 and one RS-422/485 port are included in the BT-XS (optional audio board adds another RS-422/485). The RS-232 port connects to a laptop computer for BT-XS programming. The included RS-422/485 port is used for communication with peripheral equipment such as keypads.

Either manually or automatically, the D-21 controls BT-XS relay outputs (though some outputs can be programmed to initiate from the BT-XS).



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# Building Transceivers

## Inputs and Outputs

Each BT-XS provides four on-board supervised Class B Fire Only zone inputs (automatic zones) that can be connected to an FACP. The zone inputs are supervised for:

- Open
- Short
- Single and double ground faults

A single-wide BT-XS has space for up to three zone expansion backplanes; the double-wide has space for up to seven. Two security zone cards can be plugged into each zone expansion backplane. Each zone card provides an additional four Class B zone inputs. The EOLs for expansion backplanes are:

- Access resistance (10k EOL)
- Secure resistance (22k EOL)

BT-XS has eight relay outputs for remote control of security equipment initiated from timed/programmed events, FACP alarm signals, or manually by the D-21 operator.

Wiring the outputs can come directly from the main electronics package ("field assembly") or through optional relay boards and expansion backplanes/security zone cards.

## Zone Types

A master zone is one of 12 that comprise the IDS master unit. Zone types—applicable to master and automatic zones—are configured at Central and downloaded to the BT-XS:

- Two-man access/secure
- Constant secure
- Central initiate
- Preauthorized
- Entry/exit delay
- Automatic
- Key switch

## Notification Types

- General alarm
- General trouble
- Enclosure tamper
- AC fail
- Battery fault; low battery
- Duress or diddle

## Power Operation

Primary power is 115 or 230 VAC; secondary power is one or two 12V/12 Ah batteries. If primary AC power fails, the BT-XS automatically switches to battery operation. Loss of AC power exceeding 60 seconds causes the transmission of an AC Fail message to the D-21. Transfer to normal AC power is automatic and activates the internal battery charger.

The BT-XS battery supply provides sufficient power to operate a base unit (four zones) in normal standby status, polling, and transmitting alarm and status changes for up to 72 hours.

**NOTE** Battery specification is based on a BT-XS with no additional current draw. If devices will draw current, battery calculations must determine the correct battery size.

BT-XS monitors and supervises its own battery and charger. BT-XS transmits a battery fault message when the battery voltage falls below 85% of the rated capacity. Other battery fault messages transmitted to the D-21 include battery disconnect and battery charger failure.

Auxiliary power output is provided for sensors.

## Configuration Programming

The user connects a laptop computer to the BT-XS RS-232 port and runs a Windows® terminal emulation program and the BT-X Planner software. Assigning security cards in the planner results in the creation of the IDS master unit, the next sequential address after the BT-XS.

The user transfers the completed configuration to the BT-XS.

## Hardware

- Field Assembly—The electronics package that includes master processor, ports, switches, four Class B Fire Only zone inputs, and eight relay outputs
- FM Narrowband Radio—For units communicating to the D-21 by radio; tuned at the factory to the site specific frequency
- Audio Board—Addition to the field assembly for BT-XS units that use a hard-wire fallback for secondary communication
- Power Supply—Converts AC input to DC
- Expansion Backplane Option—Single-wide enclosure supports up to three; double-wide enclosure supports up to seven
- Security Zone Cards—Two per expansion backplane, each card provides four Class B zone inputs
- Relay Board—Optional driver for the eight Form C relay outputs



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# Building Transceivers

- Status LEDs—General alarm, general trouble, system fault, in-communication, carrier detect, transmit, primary power, battery boost charge, and battery float charge
- Zone LEDs—Trouble, alarm, normal, power supplied to security zone cards
- Optional Tamper Switch Kit (separate purchase)

## Features

- Supports Intrusion Detection, Access Control, Mass Notification, and Fire applications
- Hardwire or narrowband radio communication with the D-21 systems
  - Radio is FCC certified for narrowband operation and meets the requirements of the NTIA (National Telecommunications and Information Administration) Manual of Regulations and Procedures for Federal Frequency Management
- Connects to up to 8 remote BT-X iButton keypads or BT-X keypads for arming and disarming areas to a single BT-X
- Areas can be disarmed and armed by key switches, BT-X keypads, BT-X iButton keypads, or by scheduled time/day
- D-21 logs access/secure operations performed by authorized users via the connected BT-X iButton Keypads, BT-X keypads, or keyswitches
- Duress and diddled capability at keypads
- Connects to a wide variety of devices including motion detectors, magnetic door contacts, duress switches, vault/safe sensors, CCTV cameras
- Electronic zone masking
- Communication and line security comply with DCID 1/21 Annex B (Class II) and UL1076 Class AA
- BT-X status LEDs and zone status LEDs
- Zone types are set up at Central and downloaded to the BT-X. Zone types define the specific way the zone is to operate:
  - Two-Man Access/Secure
  - Constant Secure
  - Central Initiate
  - Pre-Authorized
  - Entry/Exit Delay
  - Automatic
  - Keyswitch
- Local programming and central programming
- Master zones can be associated with automatic zones so the automatic zones follow the operation of the master zone. Master zones are assigned a zone type
- Alarm types include: general alarm, general trouble, enclosure tamper, battery fault, AC failure, low battery, duress, diddled
- Auxiliary power output for operating sensors
- Self test, stuck transmitter disconnect, reset, acknowledge, and battery reconnect switches
- Local audible alert
- Enclosure tamper switch
- Real-time clock and calendar
- One selectable RS-422/RS-485 port for communication with peripheral equipment, LCD keypad, or hardwire connection to the D-21
- Expansion zones supervised for open, short, single ground fault, double ground fault, access resistance (10k EOL), and secure resistance (22k EOL)

## Specifications

*AC Input* 115/230 VAC, 50/60 Hz

*DC Output*

- From power supply: 16 VDC, nonadjustable
- From battery charger: 13.8 VDC float; 14.5 VDC boost
- Nominal amps, 6 zone cards: 175 mA, 1.5A transmit

*Radio* For units using radio communication:

- FM narrowband
- FSK modulation
- Duty cycle 50%, 30-second max. transmit
- Output impedance: 50 ohm

*End of Line (EOL) Resistor, Expansion Backplane*

- Access resistance (10k)
- Secure resistance (22k)

*Battery*

- 12V/12 Ah
- Low battery signal: 11.5 VDC
- Low battery disconnect: 9.75 VDC

*Antennas and Coaxial Cables* Varies by site and system configuration, contact Monaco for assistance

*Operating Temperature* –22°F to 140°F (–30°C to 60°C)

*Relative Humidity* 0% to 90% non-condensing

*Compliance* Communication and line security comply with DCID 1/21 Annex B (Class II) and UL1076 Class AA



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# Building Transceivers

## Ordering Information

### BT-XS

Part Number	Description
<b>227-610-xx*</b>	BT-XS, 0–24 zones, radio, 20 in. × 12 in. × 4 in., blue single-wide, one 12V/12 Ah battery, audio and relay board options ordered separately
<b>227-611-xx*</b>	BT-XS, 0–24 zones, radio, 20 in. × 16 in. × 6 in., blue NEMA 3R, one 12V/12 Ah battery, audio and relay board options ordered separately
<b>227-613-xx*</b>	BT-XS, 0–56 zones, radio, 20 in. × 25 in. × 4 in., blue double-wide, two 12V/12 Ah batteries, audio and relay board options ordered separately
<b>227-615-00</b>	BT-XHS, 0–24 zones, hard-wire, 20 in. × 12 in. × 4 in., blue single-wide, one 12V/12 Ah battery, audio board, relay board option ordered separately
<b>227-616-00</b>	BT-XHS, 0–56 zones, hard-wire, 20 in. × 25 in. × 4 in., blue double-wide, two 12V/12 Ah batteries, audio board, relay board option ordered separately
<b>227-617-00</b>	BT-XS I button (IB) keypad option assembly for use with BT-XS electronics package 227-630-xx
<b>227-617-01</b>	BT-XS Remote I button (IB) remote keypad with relay control option assembly, for use with BT-XS electronics package 227-630-xx
<b>227-630-xx*</b>	BT-X electronics package (no audio board), must order audio board separately for hard wire <b>NOTE</b> If BT-X unit has a keypad, must also order 227-617-00 or 227-617-01 with the BT-X unit.
<b>227-648-xx*</b>	BT-XHS, 0–24 zones, radio/hard-wire dual comm, 20 in. × 12 in. × 4 in., blue, single-wide, one 12V/12 Ah battery, audio board, relay board option ordered separately
<b>227-649-xx*</b>	BT-XHS, 0–56 zones, radio/hard-wire dual comm, 20 in. × 25 in. × 4 in., blue double-wide, two 12V/12 Ah batteries, audio board, relay board option ordered separately
*Specify frequency (-xx) when ordering.	

## Associated Parts

Part Number	Description
<b>176-212-00</b>	BT-X Zone Expansion Backplane, supports two security zone cards (fire or security)
<b>176-206-01</b>	BT-XS Security Zone Card, provides four zone inputs and eight relay driver output
<b>176-208-00</b>	BT-X Audio Board
<b>176-214-00</b>	BT-X Relay Board with eight on-board Form C relays
<b>227-627-01</b>	BT-X Keypad with 2 x 24 character LCD, PIN entry; requires BT-X keypad harness P/N 630-011-00
<b>630-011-00</b>	BT-XS Keypad Interface Harness
<b>227-574-00</b>	MAAP Serial Interface Kit, includes programming cable and adaptor
<b>207-607-00</b>	BT-X Planner Support Kit, contains BT-X Planner software and programming cable
<b>225-163-00</b>	Planner Suite/Programmer with interface cables for use with: Monaco FACP/MNS (M-2, MAAP(+), MAAP-X) BT-X building transceiver, and D-21 compatible repeaters
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. x 3.86 in. x 3.86 in., 7.92 lb



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**BT-X Intrusion Detection – Reserved**

## **Building Transceivers Catalog Section**

**03**

**BT-X Intrusion Detection – Reserved**

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## BT-X Wide Area Controller (WAC) (Outdoor Giant Voice Mass Notification)

### Building Transceivers Catalog Section

03

#### BT-X Wide Area Controller (WAC) (Outdoor Giant Voice Mass Notification)

Wide Area Mass Notification Speaker Station, 1600 W . . . . .227-671-xx, 227-634-xx, 227-634-CE,  
227-661-xx, 124-080-00

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## Building Transceivers

### Wide Area Mass Notification Speaker Station, 1600 W

227-671-xx, 227-634-xx, 227-634-CE, 227-661-xx, 124-080-00

#### Description

The Wide Area Mass Notification Speaker Station provides 1,600 W of speaker power to a speaker array for prerecorded or live voice messages that can be locally and remotely activated from the D-21 MNS.

The Wide Area Mass Notification Speaker Station is contained in two NEMA 4X steel enclosures with an intrusion tamper switch. It consists of:

- A BT-X WAC (P/N 227-634-xx) with a UHF/ VHF radio tuned to the system frequency and an antenna
- A speaker control station (P/N 124-080-00 with tone generator, automatic gain control for prerecorded and live voice public announcements, and a speaker array

The speaker array includes four speakers with mounting bracket, 50 ft. of cables, and a pole-mounting kit. The customer must provide a pole to mount the Wide Area Mass Notification Speaker Station, antenna and speaker array.

Optionally, the system can be set up to operate with a solar panel. Solar panel and charger must be ordered separately.

#### Power System

The Wide Area Mass Notification Speaker Station requires primary power of 120 AC, 10A dedicated power. The speaker control station has 24 VDC secondary power battery backup (two 12 VDC/100 Ah batteries).

The BT-X WAC unit primary power is 24 VDC power from the speaker control station with 12 VDC secondary power battery backup (one 12 VDC/12 Ah battery).



E-Class 1,600 Watt Control System



#### Features

- For use with the Monaco BT-X WAC Communicator and D-21 Central Receiving System with MNS
- Local diagnostics
- Easy access cabinet layout
- Automatic status reporting
- Communication with D-21 via radio through the BT-X WAC
- Enclosure intrusion tamper switch
- Amplifier and speaker supervision



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# Building Transceivers

- Fiberglass antenna and antenna support bracket options
- Antenna surge suppression
- Local and remote MNS activations
- Prerecorded message activation from D-21 MNS
- Live voice messaging from D-21 MNS
- 24 VDC and 12 VDC battery chargers
- Internal fault protection
- Short-circuit protection
- Solar panel option

## Specifications

### Speaker Control Station

<i>AC Input (Primary Power)</i>	120 VAC, 10A
<i>DC Output (Secondary Power)</i>	24 VDC
<i>Battery Backup Power</i>	Two 12 VDC/100 Ah batteries
<i>Battery Backup During AC Fail</i>	Syst. Oper. Voltage: 24 VDC Standby (3 minute full signal reserve): 14 days minimum
<i>Audio Output Power</i>	1,600 W
<i>Speaker Sound Pressure at 100 ft.</i>	121 dB (360 degrees)
<i>Wind Resistance</i>	140 mph (225.3 km/h)
<i>Operating Temperature</i>	−40°F to 140°F (−40°C to 60°C)
<i>Relative Humidity</i>	0% to 100%, non-condensing
<i>Speaker Array Weight</i>	225 lb (all four speakers)
<i>Enclosure Dimensions (Speaker Control Station and Battery)</i>	48 in. H x 24 in. W x 8 in. D

### BT-X WAC Unit

<i>DC Input (Primary Power)</i>	24 VDC from speaker control station
<i>Battery Backup (Secondary Power)</i>	One 12 VDC/12 Ah batteries
<i>Battery Backup During AC Fail</i>	Standby: 55 hours
<i>Operating Temperature</i>	−22°F to 140°F (−30°C to 60°C)
<i>Relative Humidity</i>	0% to 90%, non-condensing

**NOTE** Design your system for environments that meet the less rigorous BT-X WAC temperature and humidity specifications.

## Ordering Information

### Speaker Station

Part Number	Description
<b>227-671-xx*</b>	BT-X WAC/ASC Mass Notification Speaker Station with integral BT-X Wide Area Controller; 1,600 W, omnidirectional; double NEMA 4X SS enclosure; Amplifier with tone generator and AGC for prerecorded and Live Voice announcements; four speaker array with bracket, 50 ft. speaker cable, and pole mounting kit (pole not included); two 12v/100 Ah batteries for amplifier, one 12v/12 Ah battery included for BT-X WAC. Prerecorded Message Card (P/N 055-SXX-01) sold separately.
<b>227-634-xx*</b>	BT-X WAC/ASC; Wide Area Controller for American Signal Mass Notification Speaker Station; includes mounting bracket, lightning arrestor, and all interconnection wiring harnesses; 12v/12 Ah battery.
<b>227-634-CE*</b>	BT-X WAC/ASC CE; Wide Area Controller for American Signal Mass Notification Speaker Station; includes mounting bracket, lightning arrestor, and all interconnection wiring harnesses; 12v/12 Ah battery. Europe.
<b>227-661-xx*</b>	Replacement BT-X WAC/ASC electronic package with RF Module and Audio Board for 227-634-xx.
<b>124-080-00</b>	ASC Mass Notification Speaker Station, 1,600 W; double NEMA 4X SS enclosure; Amplifier with tone generator and AGC for prerecorded and Live Voice announcements; four speaker array with bracket, 50 ft. speaker cable, and pole mounting kit (pole not included).
*Specify frequency when ordering. <b>NOTE</b> Antenna must be purchased separately. Contact Monaco for ordering information.	

### Associated Parts

Part Number	Description
<b>207-610-00</b>	BT-X/WAC Planner Support Kit
<b>400-718-00</b>	Battery, deep cycle, rechargeable, 12V/100 Ah, universal terminal, 65.34 lb, 12.01 in. L x 6.61 in. W x 9.06 in. H (spare) <b>NOTE</b> Original purchase comes with voucher for two batteries of this specification.
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb (spare)
<b>198-016-00</b>	Lightning Arrestor
<b>085-153-00</b>	Speaker Bird Screen, one per speaker, four per array



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## BT-8 (Fire Only)

# Building Transceivers Catalog Section

03

### BT-8 (Fire Only)

BT2-8 Building Transceivers. ....227-245-xx, 227-246-xx, 227-247-xx,  
227-271-xx

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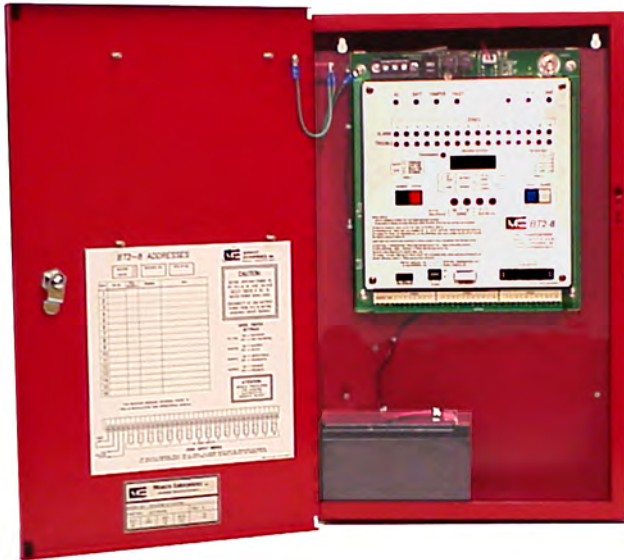
# Building Transceivers

## BT2-8 Building Transceivers

227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx

### Description

BT2-8 Building Transceivers provide radio signaling of alarm and trouble conditions from local fire alarm systems to Monaco's D-21 Radio Alarm Central Receiving System.



Local control panels or supervisory devices that have isolated dry contacts that provide a short for an alarm condition and an open for a trouble condition may be connected directly to the BT2 zone inputs. Interfacing relays shall be used to connect other types of outputs.

Each BT2-8 can monitor up to 16 zones; a slave module can be connected to a master BT2-8 to report 32 zones using one antenna system. The master and slave are each assigned a BT2 number for communication with the D-21. The master receives and passes on polls and commands to the slave and reports status changes for the slave.

The BT2-8 reports alarms, troubles, and restorations on command from the D-21. Sophisticated software control ensures that alarms have priority processing. Messages are repeated at programmed intervals until the D-21 acknowledges receipt. If the BT2 does not receive a signal from the D-21 for 30 seconds, it will

send any alarms that occur without waiting for a D-21 command. If the BT2 does not reply to a D-21 poll or command, a trouble is indicated at the D-21.

### Features

- FSK-encoded radio transmission of alarms, troubles, and restorations for 16 or 32 zones
- Communication with the D-21 Central Receiving System is supervised and status changes are reported by automatic and manual poll/reply/acknowledge routines
- The BT2 address is entered by the user on rotary switches; zone identification numbers only need to be entered at the D-21
- Battery Fault (low or disconnected battery or abnormal charger output), AC Fail, and Enclosure Tamper (optional) conditions and restorations are reported with the BT2 number; AC Fail reporting may be inhibited
- An input delay of 1 to 15 seconds may be programmed for each zone to prevent transmission of intermittent conditions
- Automatic transmitter disconnect for "stuck" transmitter
- Zone inputs may be disabled at the D-21
- Selectable 115 or 230 VAC input
- Terminal blocks can be easily removed with the wiring intact when performing maintenance and troubleshooting procedures
- The BT2 address, zone programming, and current status are stored in a nonvolatile, transferable Data Module
- LEDs identify BT2 and zone status; audible alert sounds for alarms and troubles (may be disabled)
- LED digital display shows programming input, stored data, and code for radio transmissions
- Provides a remote test or auxiliary Form "A" relay
- Programmed diagnostic tests
- Microprocessor controlled
- 4 W RF output power (selected frequencies available with 2 W RF output power)



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# Building Transceivers

- All RF signals on the system frequency are detected and indicated with an LED
- Integral battery backup and charging circuitry for 72 hours continuous operation
- Integral battery disconnect circuitry prevents battery damage due to prolonged discharge
- Enclosure lock and key
- Narrowband radio, which is FCC certified for narrowband operation and meets the requirements of the NTIA (National Telecommunications and Information Administration) Manual of Regulations and Procedures for Federal Frequency Management

Part Number	Description
<b>227-255-xx</b>	BT2-8 Building Transceiver electronics package, narrowband radio, 16 zones; specify frequency (-xx) when ordering
<b>400-713-00</b>	Battery, SLA, rechargeable 12v/12 Ah quick connect, 5.94 in. x 3.86 in. x 5.86 in., 7.92 lb
<b>513-410-00</b>	Tamper Switch Kit for use on any BT2-8 Building Transceiver for improved security
<b>517-016-00</b>	Tilt Switch

## Ordering Information

### Building Transceivers

Part Number	Description
<b>227-245-xx*</b>	BT2-8 Building Transceiver, narrowband radio, 16 zones, 20 in. x 12 in. x 4 in. red NEMA 1 enclosure
<b>227-246-xx*</b>	BT2-8 Building Transceiver, narrowband radio, 16 zones, 20 in. x 16 in. x 6 in. red NEMA 3R enclosure
<b>227-247-xx*</b>	BT2-8 Building Transceiver, narrowband radio, 32 zones, 20 in. x 25 in. x 4 in. red NEMA 1 enclosure
<b>227-271-xx*</b>	BT2-8 Building Transceiver, narrowband radio, 16 zones, 20 in. x 12 in. x 4 in. red NEMA 1 flush-mount enclosure
<b>*Specify frequency when ordering</b>	

### Associated Parts

Part Number	Description
<b>227-259-00</b>	BT2-8 16 zone Expander Assembly, no radio, 20 in. x 12 in. x 4 in. red NEMA 1 enclosure for use with P/N 227-245-xx BT2-8 Building Transceiver



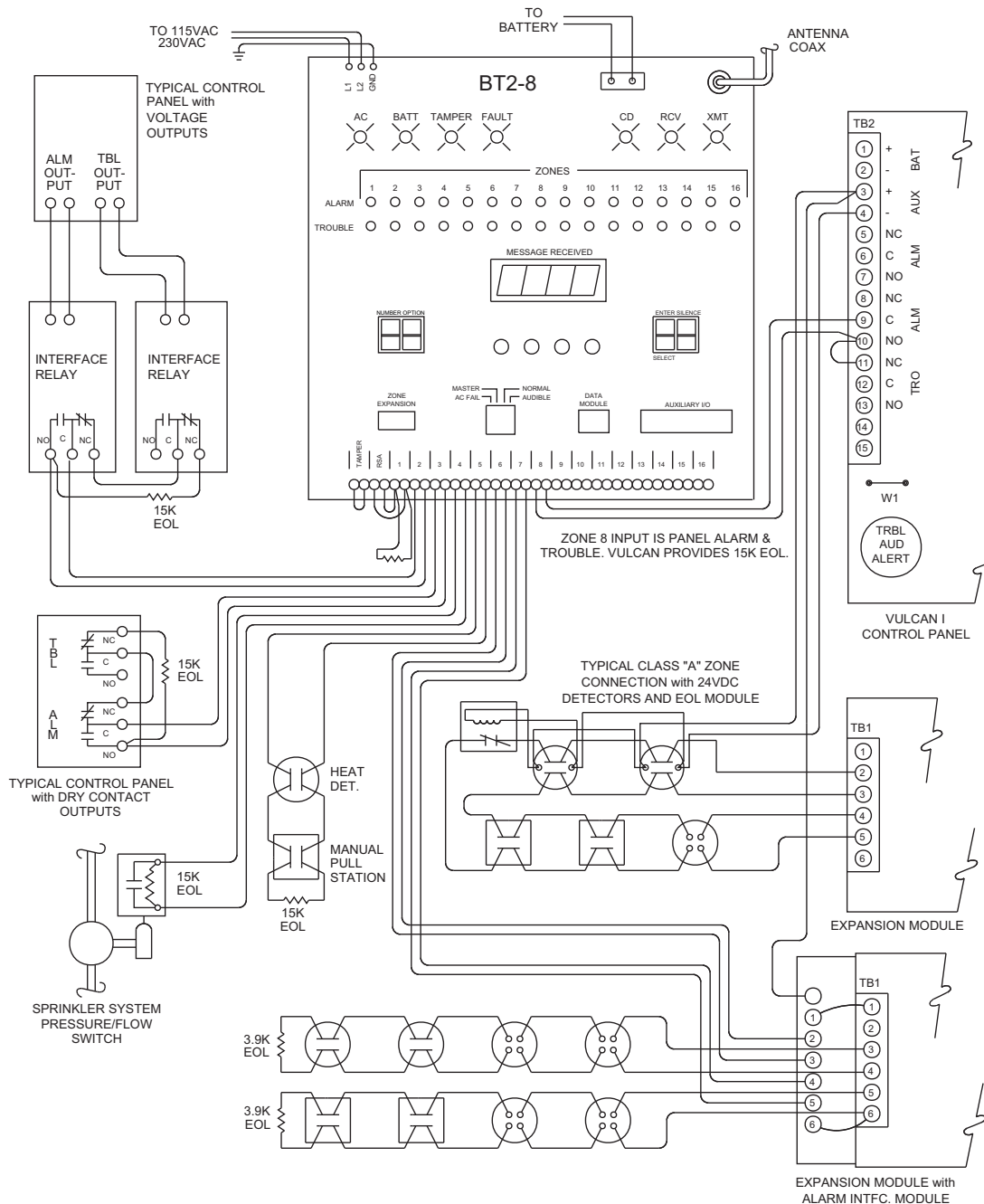
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# Building Transceivers

## BT2-8 Interconnection Diagram



The NEMA 1 enclosure provides two knockouts on each side. For complete installation information, refer to the I-O-M Manual (P/N 001-203-00) and applicable codes and standards.



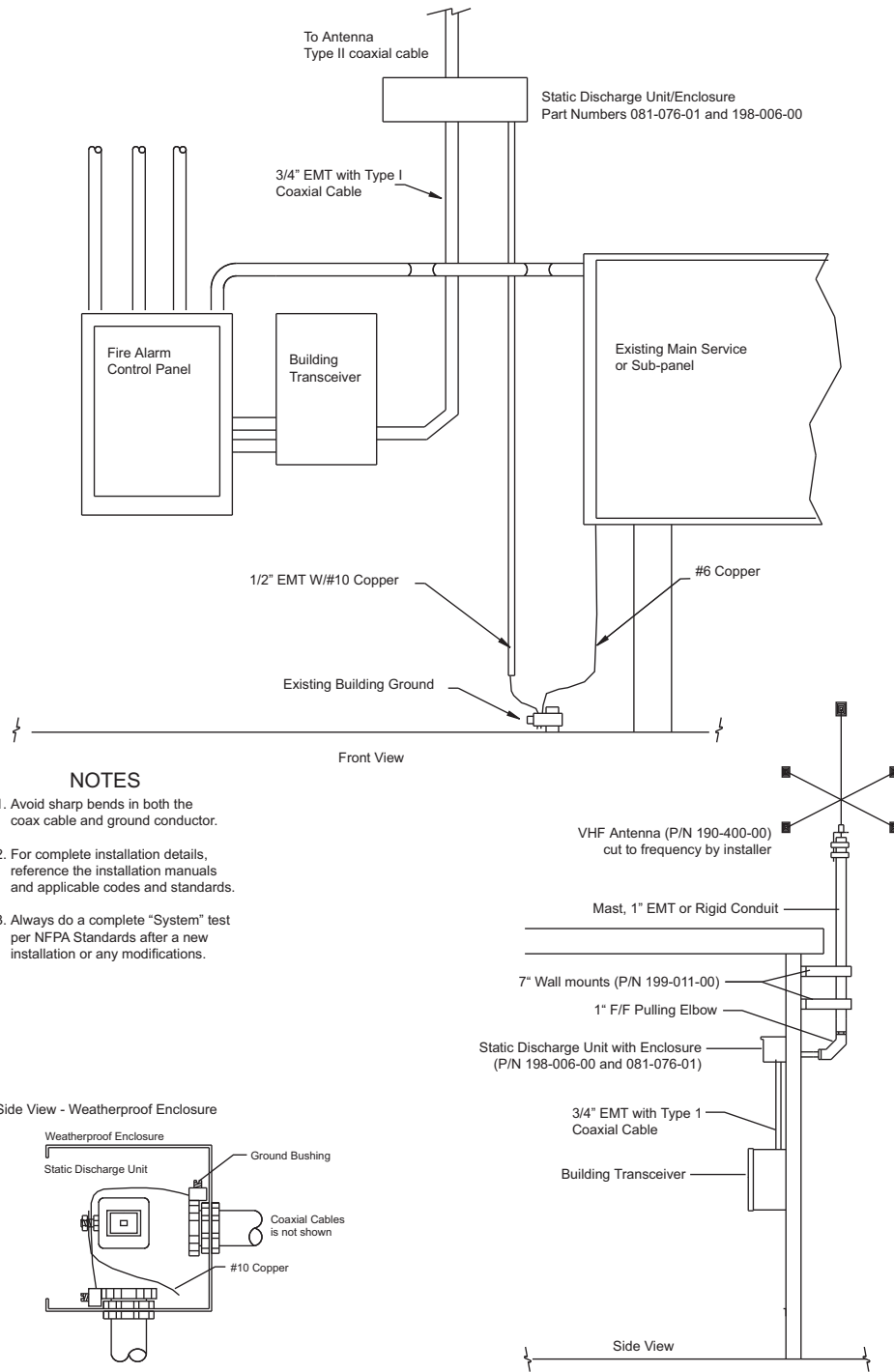
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# Building Transceivers

## BT2-8 Typical Installation Drawings



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**BT-X Accessories**

**Building Transceivers Catalog Section  
03**

**BT-X Accessories**

BT-X Planner . . . . .207-607-00

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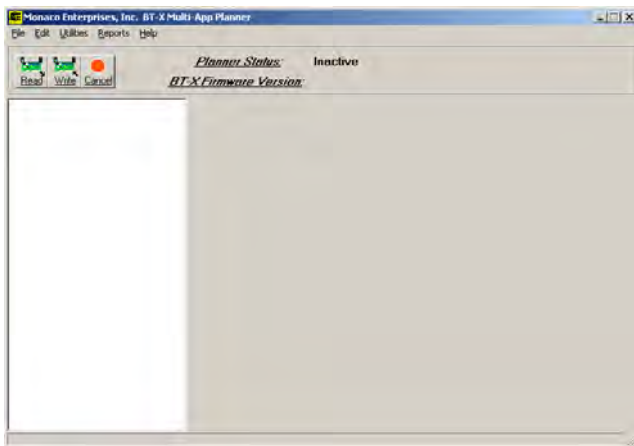
# Building Transceivers

## BT-X Planner

207-607-00

### Description

The Monaco BT-X Multi Application Planner is a Windows® based program that allows a Monaco BT-X Transceiver, with revision B.90 firmware (P/N 326-034-00) or higher, to be programmed using a compatible laptop or PC. The BT-X Application Planner is used to transfer programmed information into the BT-X Transceiver. The Planner also allows the existing configuration in the BT-X to be downloaded to a computer or laptop for modification, printout, or storage.



The BT-X Multi-Application Planner Kit (P/N 207-607-00) consists of a CD-ROM containing the BT-X Planner program and a programming cable assembly used to connect a BT-X Transceiver to the serial port of the computer running the BT-X Mutli-Application Planner.

### Features

- Ease of programming BT-X
- Intuitive Graphical User Interface (GUI)
- Fast and consistent programming of large numbers of BT-X units
- Backup of BT-X configuration databases
- Allows easy testing of new configurations with quick fall back to last good configuration

**NOTE** Newer laptops typically do not have a serial port, so a USB to serial adaptor must be used to program the Monaco panels. Monaco USB to serial adaptor (P/N 649-118-00) has provided the most reliable communication between various laptops and Monaco panels. Other USB to serial adaptors may not produce a satisfactory customer experience.

### Ordering Information

Part Number	Description
207-607-00	BT-X Planner Support Kit, contains BT-X Planner software and programming cable

### Associated Parts

Part Number	Description
649-118-00	USB to 9-pin Serial Adaptor
227-574-00	MAAP Serial Interface Kit, includes programming cable and adaptor



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# RFMs and Repeaters

## RFMs and Repeaters Catalog Section

04

### Section 4. RFMs and Repeaters

#### **RFMs (Radio Frequency Modem)**

RFM-X Radio Frequency Modem (RFM-X), NEMA 4X Enclosure . . . . .	227-325-xx
RFM-X Ethernet Network Assembly, 4X . . . . .	227-325-N1
RFM-XHR Radio Frequency Modem . . . . .	227-317-xx
RFM-X Ethernet Network Assembly, Rack-mount. . . . .	227-317-N1
RFM-XH Hardwire Modem. . . . .	227-323-00
D-21 RFM King-Fisher Interface . . . . .	227-333-NR
RFM-XHR-HP High Power Radio Frequency Modem. . . . .	227-334-xx
RFM 7000H Harlow Modem. . . . .	227-312-00

#### **Repeaters**

RFM-XR Repeaters . . . . .	227-329-xx, 227-358-xx, 227-359-xx
----------------------------	------------------------------------

#### **RFM Accessories**

RFM Rack-mount Kits. . . . .	085-800-01, 085-800-02, 085-800-03, 085-800-04, 227-327-00
Device Server. . . . .	204-004-00

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# RFMs (Radio Frequency Modem)

## RFMs and Repeaters

04

### RFMs (Radio Frequency Modem)

RFM-X Radio Frequency Modem (RFM-X), NEMA 4X Enclosure . . . . .	227-325-xx
RFM-X Ethernet Network Assembly, 4X . . . . .	227-325-N1
RFM-XHR Radio Frequency Modem . . . . .	227-317-xx
RFM-X Ethernet Network Assembly, Rack-mount. . . . .	227-317-N1
RFM-XH Hardwire Modem. . . . .	227-323-00
D-21 RFM King-Fisher Interface . . . . .	227-333-NR
RFM-XHR-HP High Power Radio Frequency Modem. . . . .	227-334-xx
RFM 7000H Harlow Modem. . . . .	227-312-00

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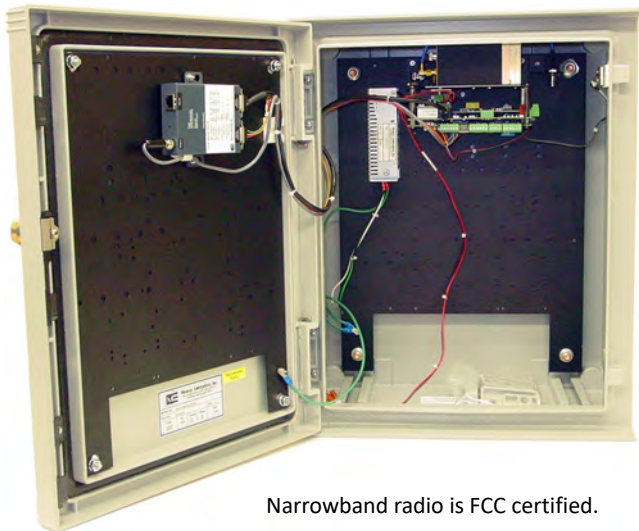


## RFMs and Repeaters

# RFM-X Radio Frequency Modem (RFM-X), NEMA 4X Enclosure 227-325-xx

### Description

The RFM-X is a microprocessor-controlled radio frequency modem used to transmit messages between a D-21 and building transceiver (BT) units using FSK- encoded radio frequency (RF) signals. The RFM-XHR receives and decodes radio messages from building transceivers and passes the communication through an Ethernet connection to the D-21.



Narrowband radio is FCC certified.

The RFM-X is mounted in a NEMA 4X enclosure, and is installed with an audio board that supports hard-wired communication and mass notification applications. When used together, the RFM-X and the D-21 Mass Notification Client provide configuration, activation, and deactivation of prerecorded and live voice messages as well as real-time message status through in-building MNS panels or through wide-area speaker stations. The D-21 allows for multiple simultaneous message activations and multiple live voice input sources.

### Features

- Supports point reporting Monaco Analog Addressable Plus (MAAP(+)) addressable fire alarm control panel.

- Provides 48 hours of battery backup; monitors battery; recharges battery in 24 hours
- Reports AC power failure, battery fault, or enclosure tamper with the RFM number
- LEDs indicate power status, active/standby mode, microprocessor fault, carrier detection, transmit, and receive
- Provides 4 watts nominal RF output
- Radio frequency modem that supports radio and hard-wire communication with remote units
- Automatic hourly self-testing of the radio, modulator, and demodulator
- Door key common to BT2/RFM-XR/RFM-XR2

### Specifications

#### Power Supply

*Input* 100 to 240 VAC, 50/60 Hz, 1.75A, 40 W (per RFM-X)

*Outputs* 13.8 VDC, factory set (further reduced to 5 VDC by the electronic assembly)

*Battery Backup* 12V/18 Ah (48-hour nominal backup capacity)

*Standby Current* 330 mA normal, 1.5A transmit (per RFM-X)

*Fuses* 6.3A, 250V Type T fuse (per RFM-X)

#### Environmental

*Temperature* -22°F to 140°F (-30°C to 60°C)

*Relative Humidity* 0% to 90% non-condensing

#### Enclosure

*Type* Wall-mount

*Material* Fiberglass

*Color* Grey

*Dimensions* 20.2 in. H x 16.26 in. W x 9 in. D

### Ordering Information

Part Number	Description
227-325-xx*	RFM-X in NEMA 4X enclosure *Specify frequency when ordering



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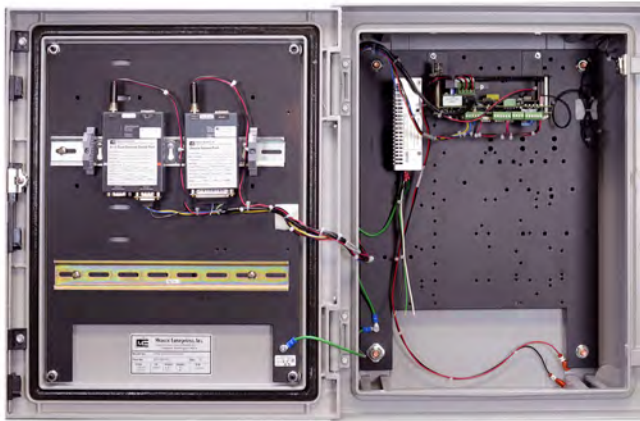


# RFMs and Repeaters

## RFM-X Ethernet Network Assembly, 4X 227-325-N1

### Description

The RFM-X Ethernet modem is a microprocessor controlled modem used to transmit messages between a D-21 and remote building transceiver (BT) units and M Panels using Proprietary FSK Encoded Protocol over an Ethernet port via a virtually private network (VPN). The RFM-X receives and decodes messages from the BTs and M Panels and passes the communication on to the D-21 via a second Ethernet port to the D-21 VPN.



The RFM-X Ethernet modem is mounted in a NEMA 4X enclosure with battery backup and two Ethernet ports to support Ethernet communication to remote units and the D-21. The RFM-X Ethernet modem supports zone and point fire reporting and prerecorded in-building MNS to the MAAP-X, BT-X MNS and BT-X WAC wide-area speaker stations but does not support live voice MNS at this time. The D-21 requires the Mass Notification Client option to support activation and deactivation of prerecorded messages.

A D-21 system can support a single RFM-X Ethernet Modem for Primary communication only or two RFM-X Ethernet Modems for Primary and Secondary communication for communication to remote units (redundant mode operation). Single mode fiber maximum distance is 10 km. Network switches are required for communication to more than one remote unit.

### Features

- Supports point reporting Monaco Analog Addressable Plus (MAAP(+)) addressable fire alarm control panel
- Supports point reporting and prerecorded MNS for the MAAP-X Monaco Addressable MNS Panel
- Provides 48 hours of battery backup; monitors battery; recharges battery in 24 hours. Reports AC power failure, battery fault, or enclosure tamper with the RFM number
- LEDs indicate power status, active/standby mode and heartbeat/microprocessor fault
- Automatic hourly self-testing
- Ethernet single mode fiber maximum distance 10 km (customer provided)
- Door key common to BT2/M panels/RFM-XR/RFM-XR2

### Specifications

#### Power Supply

*Input* 100 to 240 VAC, 50/60 Hz, 1.75A, 40 W (per RFM-X)

*Outputs* 13.8 VDC, factory set (further reduced to 5 VDC by the electronic assembly)

*Battery Backup* 12V/18 Ah (48-hour nominal backup capacity)

*Standby Current* 330 mA normal, 1.5A transmit (per RFM-X)

*Fuses* 6.3A, 250V Type T fuse (per RFM-X)

#### Ethernet

*Fiber Run* single mode fiber (customer provided), maximum fiber distance 10 km

#### Environmental

*Temperature* -22°F to 140°F (-30°F to 60°C)

*Relative Humidity* 0% to 90% non-condensing

#### Enclosure

*Type* Wall-mount

*Material* Fiberglass

*Color* Grey

*Dimensions* 20.2 in. H x 16.26 in. W x 9 in. D



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# RFMs and Repeaters

## Ordering Information

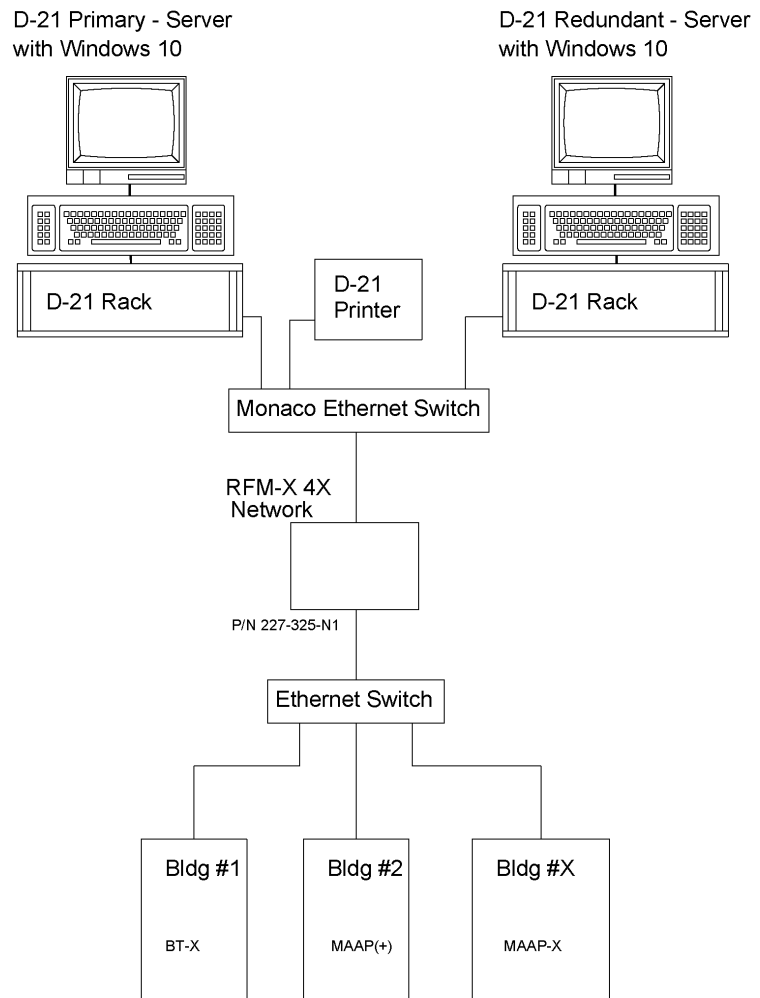
Part Number	Description
<b>227-325-N1</b>	RFM-X Ethernet Network Modem in a Grey NEMA 4X Enclosure with one 12 VDC 18 Ah battery

## Associated Parts

Part Number	Description
<b>200-471-11</b>	Assembly for Ethernet Switch, 24-port (10/100/1000BASE-T ports + 4 10 GB SFP+ ports), Managed layer 3, 1U, Rack-mount, 100–240 VAC, 50/60 Hz. Comes with enhanced software (EI) license
<b>200-444-00</b>	Fiber Transceiver Module, 1310 nm, Multi/Single Mode, SFP, LC, 1 GB, 10 KM distance, hot plug, plugs into SFP+ port
<b>200-444-01</b>	Fiber Transceiver Module, 1550 nm, Single Mode, SFP, LC, 1 GB, 80 KM distance, hot plug, plugs into SFP+ port

## Diagram

### RFM-X Ethernet Network Assembly - 4X



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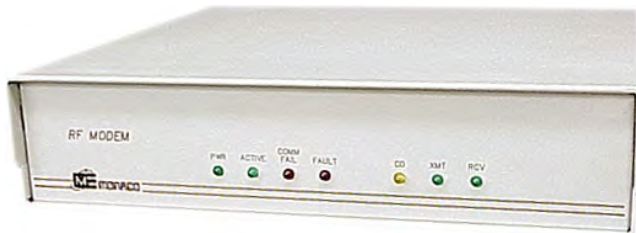
# RFMs and Repeaters

## RFM-XHR Radio Frequency Modem

227-317-xx

### Description

The RFM-XHR is a microprocessor-controlled radio-frequency modem that transmits messages between a D-21 Central Receiving System and building transceivers (BTs) using FSK-encoded signals.



The RFM-XHR receives and decodes radio messages from BTs and passes the communication over a cable to the D-21. Optionally, if the RFM-XHR is better placed in a remote location, a serial network device server can be used to allow communication between the D-21 and the RFM-XHR over a standard Ethernet computer network.

The RFM-XHR is installed with an audio board that supports radio hard-wired communication with mass notification. When used together, the RFM-XHR and the D-21 Mass Notification Client provide configuration, activation, and deactivation of prerecorded and live voice messages as well as real-time message status through in-building MNS panels or through wide-area speaker stations. The D-21 allows for multiple simultaneous message activations and multiple live voice input sources.

### Features

- Radio frequency modem that supports radio and hard-wire communication with remote units
- Automatic hourly self-testing of the radio, modulator, and demodulator
- Automatic self-testing of the CPU, RAM, and LEDs on power-up and every hour thereafter
- FCC certified radio transceiver
- Supports point reporting from the Monaco Analog Addressable Plus (MAAP(+)) addressable fire alarm control panel.

### Specifications

*Input* 120 VAC, 50/60 Hz, 1.75A, 40 W (per RFM-XHR)

*Outputs* 13.8 VDC, factory set (further reduced to 5 VDC by the electronic assembly)

*Fuses* 6.3A, 250V Type T fuse (per RFM-XHR)

*Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 90%, non-condensing

*Dimensions* 3 in. H x 12 in. W x 11 in. D

### Ordering Information

#### RFM-XHR

Part Number	Description
227-317-xx*	<ul style="list-style-type: none"><li>• RFM-XHR Radio Frequency Modem with hard-wire option</li><li>• Black enclosure</li></ul>
227-317-CE*	<ul style="list-style-type: none"><li>• RFM-XHR Radio Frequency Modem with hard-wire option</li><li>• Black enclosure</li><li>• Customer option for Europe</li></ul>
*NOTE Specify frequency (-xx) when ordering.	



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# RFMs and Repeaters

## Associated Parts

Part Number	Description
<b>085-800-01</b>	Single 2U, RFM rack-mount for 19 in. rack-mount cabinet, black face
<b>085-800-04</b>	Single RFM rack-mount for 19 in. rack-mount cabinet with adjustable rails (22–28 in. extension) shelf, black face
<b>204-004-00</b>	RS-232 to 100BASE-T single port network device server
<b>227-327-00</b>	Single 2U, RFM rack-mount for 19 in. rack-mount cabinet with on/off switch for push-to-talk MNS MIC with holder, provides mounting space for serial to network device server
<b>625-123-01</b>	RFM-X RS-232/power 100BASE-T single port network device server cable with one DB9 pin male, one DB9 pin female, and one DB25 pin connector



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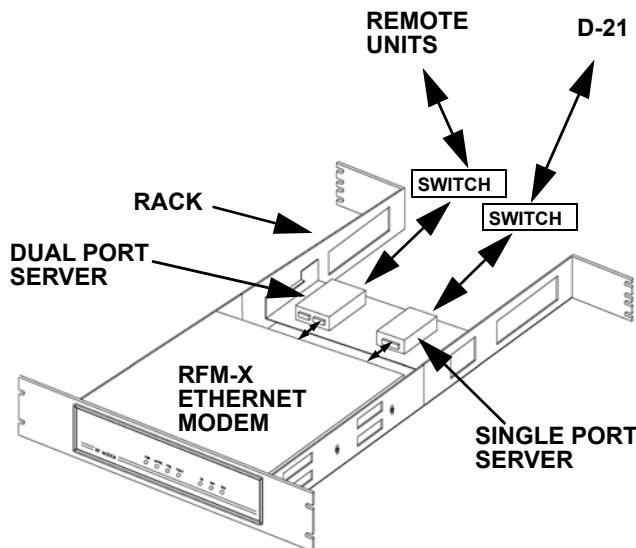
## RFMs and Repeaters

### RFM-X Ethernet Network Assembly, Rack-mount

227-317-N1

#### Description

The RFM-X Ethernet Network Assembly, Rack-mount is comprised of a microprocessor controlled RFM-X Ethernet modem and Ethernet/Fiber servers and switches. The RFM-X modem uses proprietary FSK Encoded Protocol over an Ethernet port through a virtually private network (VPN). The modem receives and decodes messages as they are transmitted through the servers and switches to and from the D-21 and remote building transceiver (BT) units and M-Series Fire Alarm Control Panels (FACPs).



The RFM-X Ethernet Network Assembly mounts on a 2U rack with Ethernet and Fiber transmissions via modem, dual encrypted device server, and single port device server for communication between the remote units and the D-21. The RFM-X Ethernet modem supports Zone and Point Fire Reporting and prerecorded in-building MNS to the MAAP-X, BT-X MNS, and BT-X WAC wide-area speaker stations. (**NOTE** Does not support live voice MNS at this time.) The D-21 requires the Mass Notification Client option to support activation and deactivation of prerecorded messages.

A D-21 system can support a single RFM-X Ethernet Modem for primary communication only or two RFM-X Ethernet Modems for primary and secondary communication to remote units (redundant mode operation). Network switches are required for communication to more than one remote unit.

#### Features

- Supports point reporting MAAP(+) addressable FACP
- Supports point reporting and prerecorded MNS for the MAAP-X Addressable MNS Panel
- RFM-X Ethernet modem LEDs indicate power status, active/standby mode and microprocessor fault
- Automatic hourly self-testing

#### Specifications

##### Power Supply

*AC Power* 100 to 240 VAC, 50/60 Hz, 1.75A, 40 W (per RFM-X)

*Power Supply* 13.8 VDC, factory set (further reduced to 5 VDC by the electronic assembly)

*Standby Current* 330 mA normal, 1.5A transmit (per RFM-X)

*Fuses* Slow blow, 1A/250V  
Slow blow, 2A/250V

*Temperature* -22°F to 140°F (-30°F to 60°C)

*Relative Humidity* 0% to 90% non-condensing

*Type* Rack-mount, adjustable

*Material* Fiberglass

*Color* Grey

*Dimensions* 3.5 in. H x 19 in. W x 22 to 28 in. D  
(7.62 cm x 48.26 cm x 55.88 to 71.12 cm)



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# RFMs and Repeaters

## Ordering Information

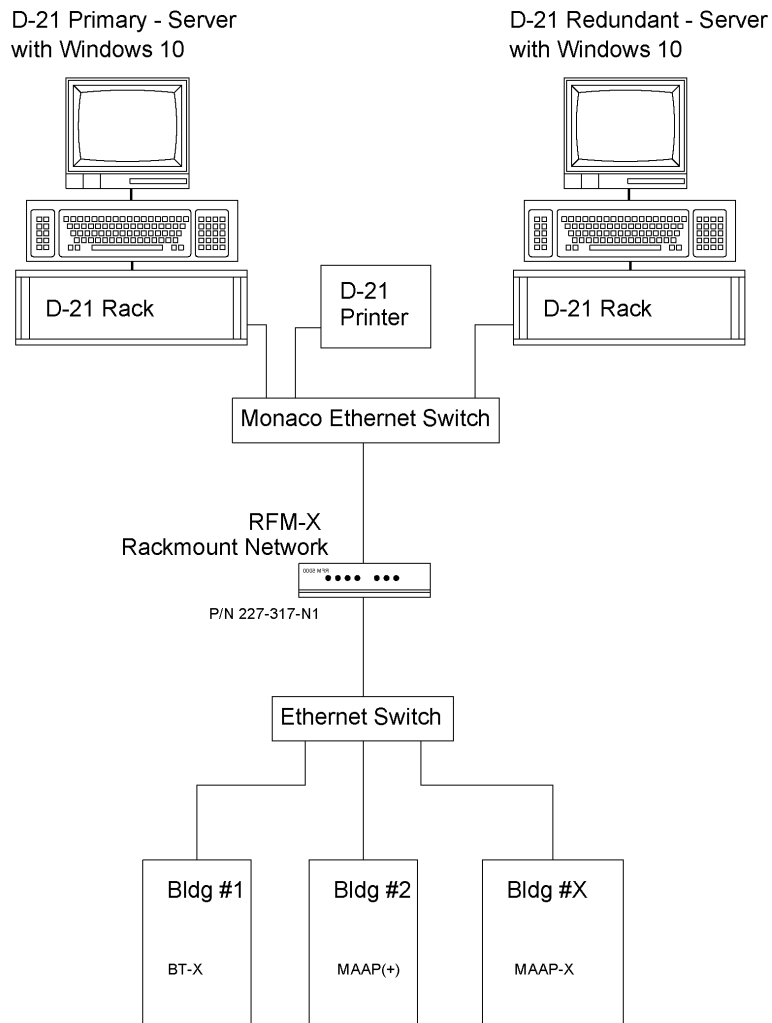
Part Number	Description
<b>227-317-N1</b>	RFM-X Ethernet Network Assembly, 2U Rack-mount, RFM-X Ethernet Modem, 100BASE-T single port device server, dual port encrypted device server

## Associated Parts

Part Number	Description
<b>200-491-01</b>	Assembly for Ethernet Switch, 24 RJ-45 PoE+ ports at 10/100/1000 Mbps; 8 SFP+ Ports at 1/10 GbE. Managed Layer 2. Console management: Mini-USB serial port (Mini-B plug). File transfer: USB port (Standard-A plug). Rack-mount, 100 to 240 VAC @ 50 to 60Hz
<b>200-444-06</b>	Fiber Transceiver Module, 1310 nm, Single Mode, SFP, LC, 1 GB, 10 km distance, hot plug, plugs into SFP+ port
<b>200-444-07</b>	Fiber Transceiver Module, 1490 nm, Single Mode, SFP, LC, 1 GB, 80 km distance, hot plug, plugs into SFP+ port

## Diagram

### RFM-X Ethernet Network Assembly, Rack-mount



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# RFMs and Repeaters

## RFM-XH Hardwire Modem

227-323-00

### Description

The RFM-XH is a microprocessor-controlled modem that transmits messages over a hardwire connection between a D-21 Central Receiving System and remote units. The modem uses FSK-encoded signals.



The RFM-XH receives and decodes status messages from remote units and passes the communication over a cable to the D-21. A serial network device server is used to allow communication between the D-21 and the RFM-XH over a standard Ethernet computer network.

The RFM-XH supports hardwire communication with capable unit transceivers. When used together over network IP, the RFM-XH and the D-21 Mass Notification Client provide configuration, activation, deactivation of prerecorded messages, and fire reporting.

Full MNS live voice capability requires additional dedicated hardwire copper wire setup.

### Features

- Modem that supports hardwire communication with remote units
- Self-testing of the CPU, RAM, and LEDs on power-up and every hour after
- Supports point-reporting from the MAAP(+) Addressable Fire Alarm Control Panel, and MAAP-X

### Specifications

*Input* 120 VAC, 50/60 Hz, 1.75A, 40W

*Outputs* 13.8 VDC, factory set (further reduced to 5 VDC by the electronic assembly)

*Fuses* 6.3A, 250V Type T fuse

*Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 90% non-condensing

*Dimensions* 3 in. H x 12 in. W x 11 in. D

### Ordering Information

#### RFM-XH Hardwire Modem

Part Number	Description
227-323-00	RFM-XH Hardwire Modem, black

### Associated Parts

Part Number	Description
085-800-01	Single 2U, RFM rack-mount for 19 in. rack-mount cabinet, black finish
085-800-04	Single RFM rack-mount for 19 in. cabinet with adjustable rails (22 in. to 28 in. extension) shelf, black finish
625-123-01	RFM-X RS-232/power 100BASE-T single port network device server cable with one DB9 pin male, one DB9 pin female, and one DB25 pin connector

**NOTE** Additional cables or modules may be required, depending on the desired communication setup and function. Contact Monaco for details.



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# RFMs and Repeaters

## D-21 RFM King-Fisher Interface 227-333-NR

### Description

The Monaco King-Fisher Monitoring RFM is designed to monitor and decode the recovered audio from one or two operating King-Fisher Receiving Consoles for redundant operation. This allows an existing King-Fisher system to operate independently, side-by-side, with a Monaco D-21.



The Monaco King-Fisher Monitoring RFM decodes King-Fisher transmitter messages and provides the messages to the Monaco D-21 for display and historical recording. The RFM processes signals from the following King-Fisher transmitters: KF-1, KF-2, KF-3, KF-4, and the KF 20/52.

The D-21 database maintains its own listing of King-Fisher transmitters and their reporting zones. This descriptive information must be entered into the D-21 and verified to match the codes received by the operating King-Fisher consoles.

The King-Fisher Monitoring RFM requires a functional King-Fisher console to operate correctly since it has no radio receiver of its own. Up to two King-Fisher consoles may be alternately monitored by selecting the active console using a toggle switch on the front of the unit. The wiring to the King-Fisher consoles is supervised continuously for connection by the King-Fisher Monitoring RFM.

### Features

- Connects the D-21 to an existing King-Fisher radio network
- Receives and processes King-Fisher Consoles
- Processes signals from KF-1, KF-2, KF-3, KF-4 and the KF 20/52
- Built-in self test

### Ordering Information

Part Number	Description
227-333-NR	RFM King-Fisher Assembly, no radio, for dual KF consoles, with device server, D-21 Only

### Associated Parts

Part Number	Description
625-214-00	King-Fisher Interface 22 AWG Stranded Cable and Bracket, for use with P/N 227-333-NR; one required for each KF Console
129-057-01	Audio Isolator Transformer Module, for use with P/N 227-333-NR; one required for each KF Console



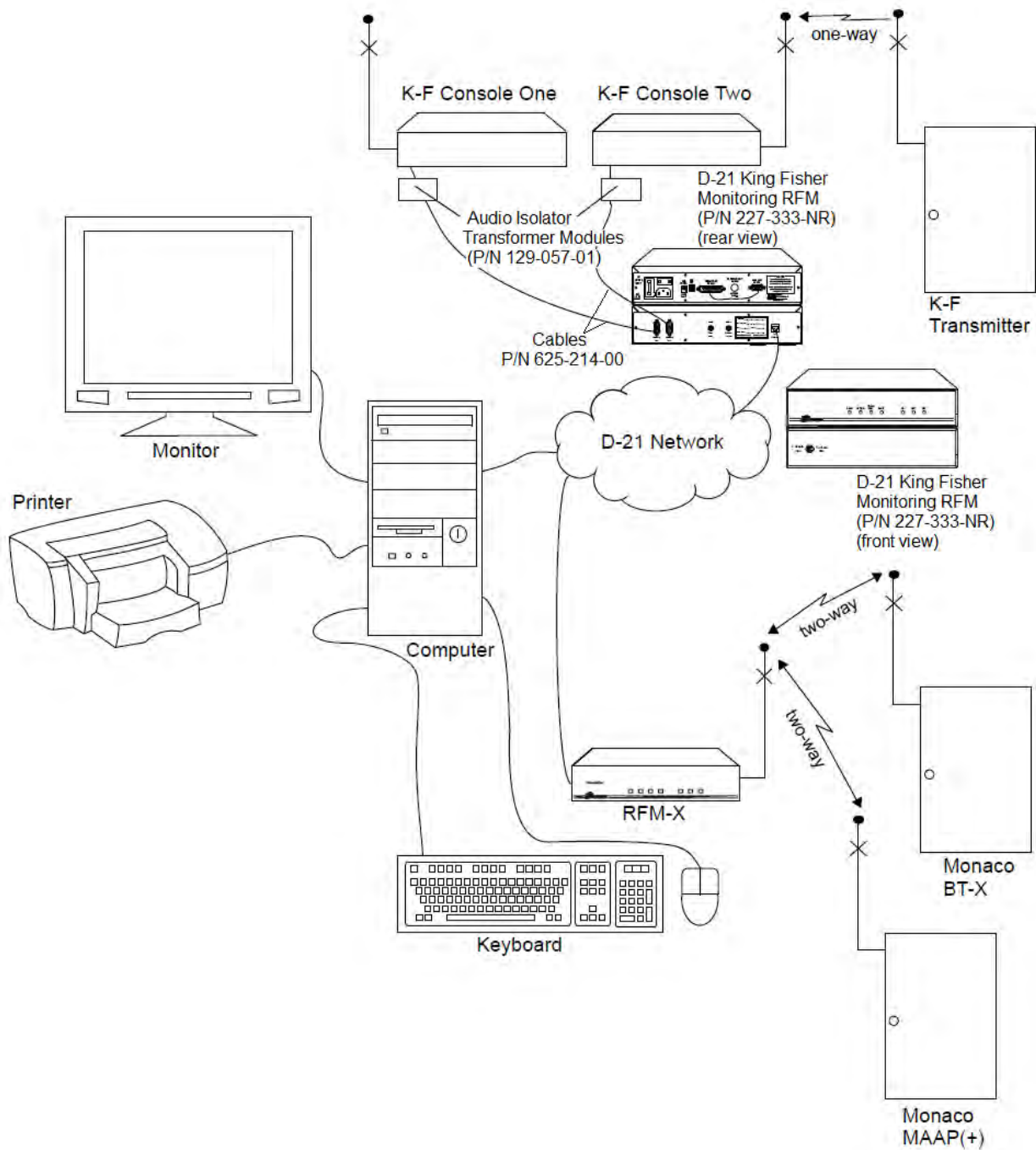
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# RFMs and Repeaters

**Drawing: Typical D-21 System with a D-21 King-Fisher Monitoring RFM**



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## RFMs and Repeaters

# RFM-XHR-HP High Power Radio Frequency Modem

227-334-xx

### Description

The RFM-XHR-HP is a microprocessor-controlled radio-frequency modem that transmits messages between a D-21 Central Receiving System, building transceivers (BTs), and MAAP Fire and MNS Panels using FSK-encoded signals.



The RFM-XHR-HP receives and decodes radio messages from BTs and MAAP Fire and MNS Panels and passes the communication over Ethernet to the D-21. Optionally, the RFM-XHR-HP can be placed in a remote location to allow better communication between the D-21 and the RFM-XHR-HP over a standard Ethernet computer network.

The RFM-XHR-HP is installed with an audio board that supports radio hard-wired communication with mass notification. When used together, the RFM-XHR-HP and the D-21 Mass Notification Client provide configuration, activation, and deactivation of prerecorded and live voice messages as well as real-time message status through in-building MNS panels or through wide-area speaker stations. The D-21 allows for multiple simultaneous message activations and multiple live voice input sources.

### Features

- Radio frequency modem that supports radio and hard-wire communication with remote units
- Automatic hourly self-testing of the radio, modulator, and demodulator
- Automatic self-testing of the CPU, RAM, and LEDs on power-up and every hour thereafter
- FCC certified radio transceiver

- Supports point reporting from the Monaco Analog Addressable Plus (MAAP(+)) or MAAP-X addressable fire alarm control panels
- FIPS-140-2 compliant encryption (AES-256)
- Eight single channel zone inputs, 22 kohm EOL resistor

### Specifications

<i>Input</i>	100/120/240 VAC, 50/60 Hz (per RFM-XHR-HP)
<i>Power Supply AC Input</i>	80 to 264 VAC at 50/60 Hz 2.3A at 100 VAC 2A at 115 VAC 1A at 240 VAC
<i>Nominal RF Output</i>	10 W
<i>Ethernet Interface</i>	10/100 Mbps
<i>Network Connection</i>	RJ-45 port
<i>Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 90%, non-condensing
<i>Type</i>	Rack-mount, 2U
<i>Enclosure Dimensions</i>	3.5 in. H x 19 in. W x 10 in. D (8.9 cm x 48.3 cm x 25.4 cm)

### Ordering Information

#### RFM-XHR-HP

Part Number	Description
227-317-xx*	<ul style="list-style-type: none"><li>• RFM-XHR-HP Radio Frequency Modem with hard-wire option, high power</li><li>• 10W encrypted radio</li><li>• RJ-45 Ethernet port at 10/100 Mbps for comm to D-21</li><li>• Enclosure: Rack-mount, 2U, Black</li></ul> *Specify frequency when ordering.



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# RFMs and Repeaters

## RFM 7000H Harlow Modem

227-312-00

### Description

The Harlow RFM 7000H is a radio frequency modem (RFM) that receives transmissions from Harlow (GH) fire alarm transmitters via an existing Harlow radio receiver. Communication with the D-21 Central Receiving System requires the Harlow (GH) remote interface driver (RID), and an RFM 7000H modem that receives communication from fire alarm transmitters.



The RFM 7000H receives signals from the fire alarm transmitters that send a test message to the D-21 once every 24 hours.

D-21 pop-up alert windows display alarms and troubles from GH fire alarm transmitters. The alerts describe the nature and location of the condition based on the information in the D-21 database.

### Messages

The D-21 displays one alarm alert, which remains displayed, until acknowledged by an operator who is logged into the D-21 Incident Client.

The D-21 will display a number in parentheses that indicates the number of troubles since the last daily check-in received by the D-21. This number is reset every 24 hours at the unit's check-in time.

Battery faults are sent only when the fire alarm transmitter is sending another message (alarm, trouble, or daily check-in); the fault message is appended to the primary message.

### Ports

- **COMM PORT** A 25-pin RS-232C port that connects to the D-21 computer with the computer-to-RFM cable. A device server can also be used to convert the RS-232C port to an IP address.
- **Audio In** Connects to the existing Harlow radio receiver recovered audio output.
- **Head Phones** A plug-in jack for listening to Harlow transmissions.
- **AUX POWER** and **AUX OUT** are not used.

### LED Indicators

CD	XMT	ACTIVE	FAULT
RCV	PWR	COMM FAIL	

### Specifications

*Power* 98 to 120 VAC, 50/60 Hz, ≈100 W

*Fuses* SB 1A/250V

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* Maximum: 90% at 100°F (38°C)

### Ordering Information

Part Number	Description
227-312-00	7000H RFM Kit, includes Central System programming kit, backup disk kit, and computer-to-RFM cable (P/N 625-391-00)



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# Repeaters

## RFMs and Repeaters

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### Repeaters

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# RFMs and Repeaters

## RFM-XR Repeaters

227-329-xx, 227-358-xx, 227-359-xx

### Description

The RFM-XR and RFM-XR2 (referred to collectively as repeaters) are microprocessor-controlled radio-frequency repeaters used to relay messages to and from D-21 and D-700 Central Receiving Systems.



RFM-XR2 Shown

Narrowband radio is FCC certified.

Repeaters communicate with D-21 and D-700 central systems using FSK-encoded RF signals. The RFM-XR2 is a repeater programmed in a master and slave configuration; the slave takes over if the master fails. Each RFM-XR requires a single antenna. An RFM-XR2 pair requires two antennas, one for each unit.

Repeaters provide a link between a primary D-21 and D-700 Central Receiving Systems and secondary D-700 centrals, distant BT2 or BT-X fire transceivers, MAAP-2 addressable, MAAP(+) non-point reporting, and conventional M-2 Fire Alarm Control Panels.

### Features

- Continuously monitors and relays D-21 and D-700 system messages, using a time-sharing protocol to determine transmission periods
- Reports AC power failure, battery fault, or enclosure tamper with the RFM number

- Relays messages to and from D-21 and D-700 Central Receiving Systems, other RFM-XR repeaters, and transceivers, at programmed intervals until they are acknowledged
- Configurable via an external computer (not provided) running the RFM-XR Planner software (provided with each RFM-XR)
- Stores the RFM number and current system setup in nonvolatile RAM (NOVRAM)
- Provides 48 hours of battery backup; monitors battery; recharges battery in 24 hours
- LEDs indicate power status, active/standby mode, microprocessor fault, carrier detection, transmit, and receive
- Provides 4 watts nominal RF output
- Operates on 115 VAC input or 230 VAC 50/60 Hz
- Includes built-in diagnostic capabilities
- Door key common to BT2/RFM-XR/RFM-XR2

### Specifications

#### Power Supply

*Input* 100 to 240 VAC, 50/60 Hz, 1.75A, 40 W (per RFM-XR)

*Outputs* +13.8 VDC, factory set (further reduced to 5 VDC by the electronic assembly)

*Battery Backup* 12V/18 Ah (48-hour nominal backup capacity)

*Standby Current* 330 mA normal, 1.5A transmit (per RFM-XR)

*Fuses* 6.3A, 250V Type T fuse (per RFM-XR)

#### Environmental

*Temperature* -22°F to 140°F (-30°C to 60°C)

*Relative Humidity* 0% to 90% non-condensing



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# RFMs and Repeaters

## Ordering Information

Part Number	Description
<b>227-329-xx*</b>	<ul style="list-style-type: none"> <li>RFM-XR single repeater</li> <li>NEMA 4X enclosure, 20 in. H x 16 in. W x 9 in. D</li> <li>One 12V/18Ah backup battery included</li> </ul> <p>*Specify frequency when ordering.</p>
<b>227-329-CE*</b>	<ul style="list-style-type: none"> <li>RFM-XR single repeater</li> <li>NEMA 4X enclosure, 20 in. H x 16 in. W x 9 in. D</li> <li>One 12V/18Ah backup battery included</li> <li>Customer option for Europe</li> </ul> <p>*Specify frequency when ordering.</p>
<b>227-358-xx*</b>	<ul style="list-style-type: none"> <li>RFM-XR<sup>2</sup> redundant repeater (master/slave)</li> <li>NEMA 4X enclosure, 20 in. H x 16 in. W x 9 in. D</li> <li>One 12V/18 Ah backup battery</li> </ul> <p>*Specify frequency when ordering</p> <p><b>NOTE</b> The RFM-XR<sup>2</sup> requires separate independent antenna networks, one for each repeater.</p>
<b>227-358-CE*</b>	<ul style="list-style-type: none"> <li>RFM-XR<sup>2</sup> redundant repeater (master/slave)</li> <li>NEMA 4X enclosure, 20 in. H x 16 in. W x 9 in. D</li> <li>One 12V/18 Ah backup battery</li> <li>Customer option for Europe</li> </ul> <p>*Specify frequency when ordering</p> <p><b>NOTE</b> The RFM-XR<sup>2</sup> requires separate independent antenna networks, one for each repeater.</p>
<b>227-359-xx*</b>	<ul style="list-style-type: none"> <li>RFM-XR electronics package</li> <li>Field replacement assembly for 227-329-xx OR 227-358-xx</li> <li>Does not include a power supply or cables</li> </ul> <p>*Specify frequency when ordering</p> <p><b>NOTE</b> Specify function (single, master, slave) when ordering.</p> <p><b>NOTE</b> Electronics package must be factory configured.</p>
<b>227-359-CE*</b>	<ul style="list-style-type: none"> <li>RFM-XR electronics package</li> <li>Field replacement assembly for 227-329-xx OR 227-358-xx</li> <li>Does not include a power supply or cables</li> <li>Customer option for Europe</li> </ul> <p>*Specify frequency when ordering</p> <p><b>NOTE</b> Specify function (single, master, slave) when ordering.</p> <p><b>NOTE</b> Electronics package must be factory configured.</p>

## Associated Parts

Part Number	Description
<b>204-016-01</b>	Dual-port RFM-XR repeater device server, 100BASE-T, 256 AES encryption
<b>207-045-00</b>	RFM-XR Program Planner Kit, comes with RFM-XR, RFM-XR <sup>2</sup> Repeater <b>NOTE</b> Purchase this kit as a spare or is additional programming kit for RFM-XR, RFM-XR <sup>2</sup> Repeaters.
<b>400-712-00</b>	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13 in. L x 3.03 in. W x 6.59 in. H, 12.60 lb
<b>404-090-00</b>	Power Supply for BT-X, 15 VDC, 2.8 A



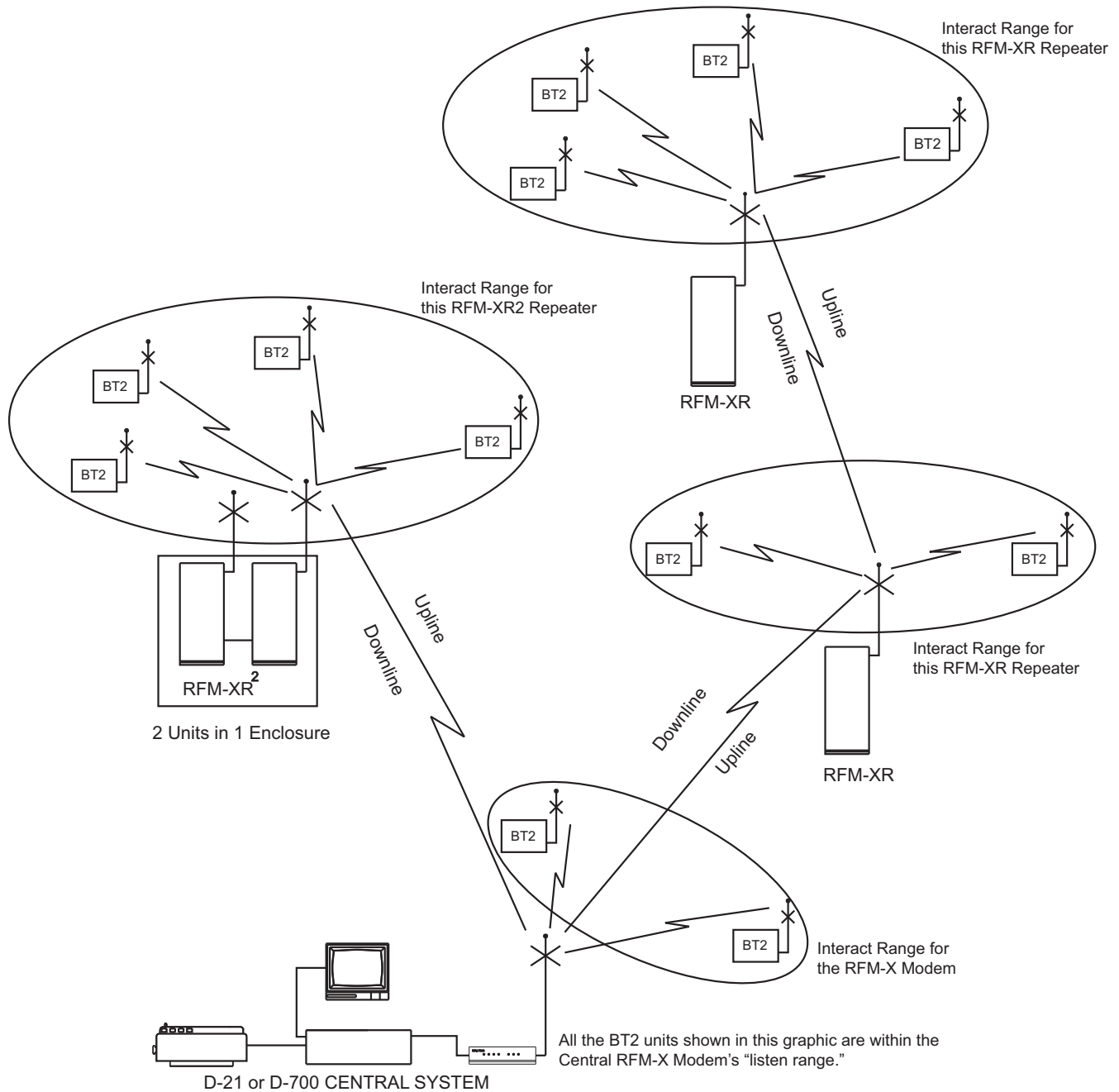
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# RFMs and Repeaters

## RFM-XR and RFM-XR<sup>2</sup> Application



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## RFM Accessories

### RFMs and Repeaters

04

#### RFM Accessories

RFM Rack-mount Kits. ....	085-800-01, 085-800-02, 085-800-03, 085-800-04, 227-327-00
Device Server. ....	204-004-00

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# RFMs and Repeaters

## RFM Rack-mount Kits

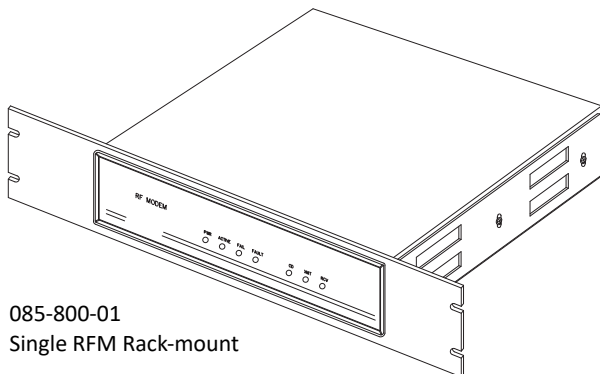
085-800-01, 085-800-02, 085-800-03, 085-800-04, 227-327-00

### Description

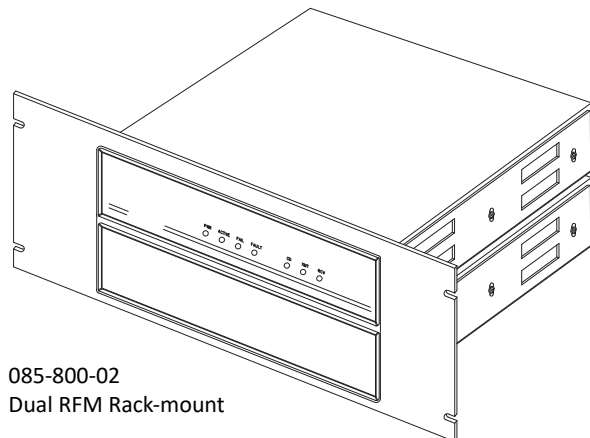
Rack-mounts come in five configurations:

- **Single:** 3.5 in. H x 19 in. W x 11 in. D (7.62 cm H x 48.26 cm W x 27.94 cm D)
- **Double:** 6.97 in. H x 19 in. W x 11 in. D (17.7 cm H x 48.26 cm W x 27.94 cm D)
- **Triple:** 10.47 in. H x 19 in. W x 11 in. D (26.6 cm H x 48.26 cm W x 27.94 cm D)
- **Single:** 3.5 in. H x 19 in. W x 11 in. D (7.62 cm H x 48.26 cm W x 27.94 cm D) with shelf 12 in. W x 5.5 in. D that sits on rails which extend 22 to 28 in.
- **Single:** 3.46 in. H x 19 in. W x 20 in. D (8.79 cm H x 48.26 cm W x 50.8 cm D)

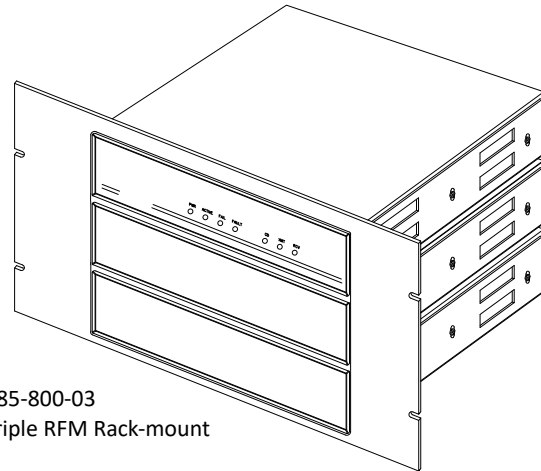
**Note** RFMs are pictured in mounts for clarity only. Rack-mount kits do not come with RFMs.



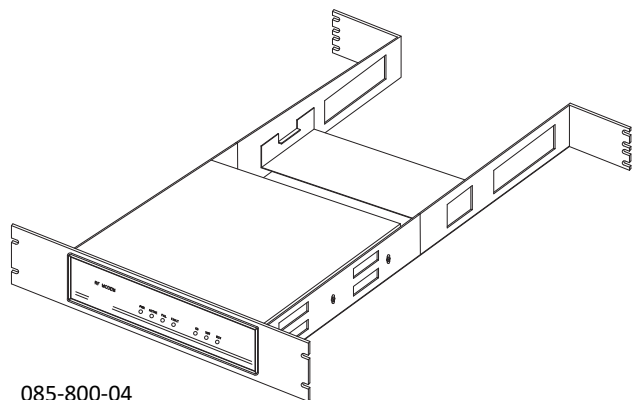
085-800-01  
Single RFM Rack-mount



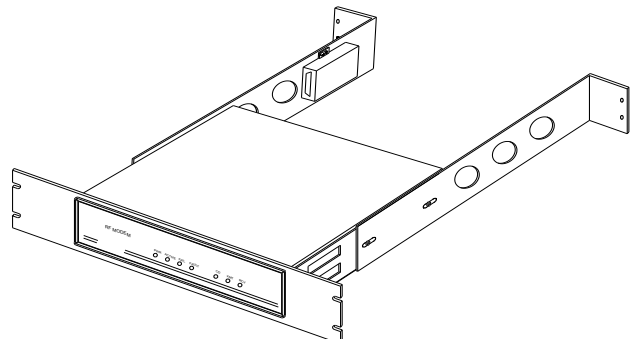
085-800-02  
Dual RFM Rack-mount



085-800-03  
Triple RFM Rack-mount



085-800-04  
Single RFM Rack-mount with Adjustable Rails and Added Shelf



227-327-00  
Single RFM-X Rack-mount for Mounting in Portable Command Center



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# RFMs and Repeaters

## Ordering Information

Part Number	Description
<b>085-800-01</b>	Single 2U, RFM Rack-mount for 19 in. Rack-mount Cabinet, black face
<b>085-800-02</b>	Dual 4U, RFM Rack-mount for 19 in. Rack-mount Cabinet, black face
<b>085-800-03</b>	Triple 6U, RFM Rack-mount for 19 in. Rack-mount Cabinet, black face
<b>085-800-04</b>	Single RFM Rack-mount for 19 in. Rack-mount Cabinet with adjustable rails (22–28 in. extension) shelf, black face
<b>227-327-00</b>	Single 2U, RFM rack-mount for 19 in. rack-mount cabinet with on/off switch for push-to-talk MNS MIC with holder, provides mounting space for serial to network device server



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# RFMs and Repeaters

## Device Server 204-004-00

### Description

The Device Server encapsulates serial data into packets and transports them over the Ethernet allowing D-21 Remote Interface Drivers (RIDs) to connect directly to an IP Address. Using two device servers, it is possible to create a virtual serial connection across an Ethernet network.



### Features

- Connect remote Monaco Devices
- Compact size
- Supports RS-232, RS-422, RS-485 serial connections
- LED status indicators
- Power Supply included

### Specifications

<i>Network Interface</i>	RJ-45 10BASE-T/100BASE-TX Ethernet Port
<i>Input Power</i>	9 to 30 VDC (center +) or 9 to 24 VAC (1.5 watts max. power required)
<i>Serial Interface</i>	DB25F DCE Serial Port
<i>Power Consumption</i>	1.8 watts maximum
<i>Baud Rate</i>	300 bps to 230 Kbps
<i>Memory</i>	256 KB SRAM, 2 MB Flash
<i>Operating Temperature</i>	-40°F to 158°F (-40°C to 70°C)
<i>Operating Humidity</i>	10% to 90% non-condensing 40% to 60% recommended
<i>Enclosure</i>	Metal with integrated wall mounts
<i>IP Rating</i>	30
<i>Dimensions</i>	0.9 in. H x 2.5 in. W x 3.5 in. D (2.3 cm x 6.4 cm x 9.0 cm)
<i>Weight</i>	0.45 lb (0.2 kg)
<i>Standards Compliance</i>	UL Listed 864 UL E128144, S24286

### Ordering Information

Part Number	Description
<b>204-004-00</b>	RS-232 to 100BASE-T Single port network device server

### Associated Parts

Part Number	Description
<b>625-123-01</b>	RFM-X RS-232/power 100BASE-T single port network device server cable with one DB9 pin male, one DB9 pin female, and one DB25 pin connector <b>NOTE</b> Additional cables or modules may be required, depending on the desired communication setup and function; contact Monaco for details.
<b>625-111-00</b>	Cable Assembly, RFM to Device Server Serial Cable; use with RFM-7000



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## Addressable Fire Alarm Control Panels

# Addressable Fire Alarm Control Panels Catalog Section 05

### Section 5. Addressable Fire Alarm Control Panels

MAAP(+) Point Reporting Addressable FACP .....	227-85x-xx, 227-86x-xx, 227-85x-EN, 227-86x-EN
Remote Display Unit for MAAP(+) and MAAP-2 .....	710-070-01, 710-070-02
Monaco Addressable+ Planner .....	207-617-00

#### **Addressable Accessories**

Annunciator, Text .....	710-054-01
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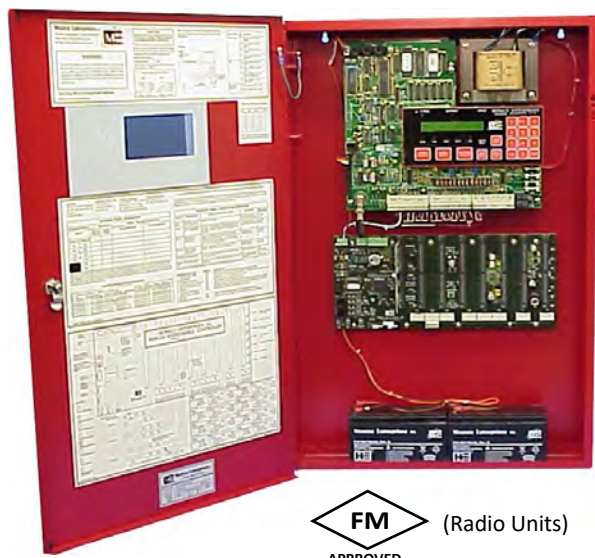
# Addressable Fire Alarm Control Panels

## MAAP(+) Point Reporting Addressable FACP

227-85x-xx, 227-86x-xx, 227-85x-EN, 227-86x-EN

### Description

Monaco's MAAP(+) Point Reporting Addressable Fire Alarm Control Panel (FACP) is a low-voltage, programmable addressable FACP that incorporates Monaco's latest point-reporting addressable technology for real-time device-level status at Monaco's D-21 Central Receiving System through integrated transceiver or hard-wire communication. This enables dispatchers to monitor the fire-spread while notifying first responders, keeping them out of harm's way.



Narrowband radio meets requirements of NTIA (National Telecommunications and Information Administration) Manual of Regulations and Procedures for Federal Frequency Management.

Panel monitoring, supervision, signaling, and reporting functions are incorporated into one unit capable of transmitting up to 64 zones in legacy non-point-reporting mode or all-points-real-time status for the panel and its addressable sensors and modules in point-reporting mode to the D-21.

The panel is also available with a mass notification system (MNS) option that allows it to work with the Monaco BT-XM2 for prerecorded and live voice MNS capabilities from the D-21 through a single antenna system.

### Basic Panel Components

- Control unit with local LCD/keypad
- Analog Addressable Controller (AAC) backplane
- One Addressable Driver Card (ADC) that supports a maximum of 198 addressable devices on one Class A or two Class B Signaling Line Circuits (SLC)
- 12V/18 Ah backup batteries

**NOTE** MAAP(+) units that support D-21 MNS use a RFM-XM2 interface and a BT-XM2 to communicate to the D-21. See "Ordering Information" on page 3 or contact Monaco for assistance.

### User Interface

The MAAP(+) indicates abnormal conditions with audible alerts, LEDs, and LCD messages identifying the fault, zone input, or specific addressable device with a user-definable description. All status changes can be transmitted to the D-21 through the integrated transceiver. A list of the last 500 alarms and troubles are maintained in panel history, which can be output to an LCD, printer, or laptop.

The keypad has buttons to activate or deactivate alarm silence, trouble silence, panel reset, drill test, and lamp test functions. User menus allow access to panel functions like walktest, radio key-up test, and transmitter disable for all or individual zones and devices. RS-232 interfaces are available for programming the panel through a Windows® based planner software suite and for connection to a local printer for hard copy, event-status logging.

### LCD/Keypad

- Plain English, 48-character LCD display
- Panel status LEDs
- Clearly labeled, easy to use buttons
- Access to user menus through the numeric keypad:
  - Enabling and disabling of devices or zones for maintenance, password-protected
  - Diagnostics
  - History



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# Addressable Fire Alarm Control Panels

## D-21 Communication

MAAP(+) supports both radio (site-specific frequency) and hard-wire communication to Central. Hard-wire options include copper pair, Ethernet, and fiber optic.

## Fire Inputs and Outputs

### Addressable

One ADC supports one Class A/Class X or two Class B SLCs. With the full addition of seven more ADCs (eight ADCs total), the SLC capacity is eight Class A/Class X or 16 Class B.

An ADC supports 99 addressable smoke or heat sensors and 99 addressable monitor or control modules. With seven additional ADCs, the system can support 792 addressable smoke or heat sensors and 792 addressable monitor or control modules.

**NOTE** Options such as sounder bases and fault indicators reduce the number of addressable devices each ADC can support.

**SLC wiring shall be unshielded twisted pair (UTP).**

Addressable devices can be arranged in 64 zones (non-point reporting) or 48 zones (point reporting), with transmission of individual device states to D-21.

### Sensor Grouping

- Requires point reporting enabled
- Smoke detectors assigned to groups to work together
- First detector in alarm sounds its local base, second detector in alarm causes all notification devices in common areas to signal general evacuation
- For dormitory applications to reduce unnecessary response runs

**NOTE** Nuisance alarms are also reduced by alarm verification, auto drift compensation, or pre-alarm levels.

### Conventional

- Two Class A or four Class B Initiating Device Circuits (IDCs)
- Two Class A or four Class B Notification Appliance Circuits (NACs)
- One auxiliary output Class B NAC
- Non-supervised auxiliary power

- Auxiliary inputs: two Class B non-loop-powered IDCs for standard, supervisory, waterflow, positive alarm sequence, master box operation, or tamper operation circuits
- One non-supervised remote trouble output
- Two programmable Form C relays, which can be assigned to common alarms or troubles or can be assigned to specific zones, a group of zones, or specific addressable devices

### NACs

- Configurable as silenceable or non-silenceable
- Can be assigned to specific zones, group of zones, or specific addressable devices
- Supervised auxiliary output can be:
  - Assigned to activate for waterflow alarm, positive alarm sequence, or publicly accessible manual pull station alarms
  - Used as another bell circuit and assigned to specific devices or groups of devices

## Configuration Programming

The user programs the panel with MAAP(+) Planner software (P/N 207-617-00). The D-21 Central System Admin Client imports the master configuration file for point reporting, eliminating the need to manually enter panel configuration, zone, and point information. Panel and Central configurations are compared to ensure changes to the configuration are verified.

D-21 stores a copy of the master configuration file so that the master file cannot be lost or misplaced. D-21 synchronizes MAAP-X clock and calendar with Central.

## Hardware

Besides the basic panel components listed on page 1, the MAAP(+) can also include the following:

- Expansion backplane (quantity depends on enclosure size)
- Zone Expansion Cards (ZECs)
- Auxiliary Output Cards (AOCs)
- Universal Input Cards (UICs) respond to voltage reversal or circuits where presence or absence of voltage indicates alarm, trouble, or normal condition



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# Addressable Fire Alarm Control Panels

## Specifications

**AC Input** 120 or 240 VAC (85% to 110%) selected by primary winding pigtail, 48 to 62 Hz

- DC Power**
- Main Supply: 28 VDC, filtered
  - AUX PWR: 24 VDC (2A), filtered, 1A max. for AAC
  - If AUX Power used for External Devices, must be externally fused through an in-line 1A fuse

**Battery Backup** Two rechargeable 12V/18 Ah standard Integrated Charger: 4A; meets NFPA 72 and UL 864 requirements

- Low Battery Trip: 23 VDC
- Low Battery Disconnect: 19 VDC

**Signaling Line Circuits** 24 VDC, 0.12A per ADC, eight ADCs max., LED illumination, 20 devices max.  
Per ADC:

- Two Class B or one Class A/X SLC input(s)
- 99 smoke or heat sensors
- 99 monitor or control modules

Wiring: Unshielded twisted pair  
Loop Resistance: 40 ohm

**Conventional Circuits IDCs (Zones):**

- Two Class A or four Class B
- 24 VDC
- 3.9 kohm EOL resistor (Class B)
- Class A ZECs need 3.9 kohm at terminals
- 35 ohm resistance per circuit

### NACs (Bells):

- Two Class A or four Class B
- Polarity reversing
- 24 VDC, 1.5A per NAC
- 3.5A max., all NACs; per Class B  $\leq 2A$
- 4.7 kohm EOL resistor (Class B)
- 3 ohm resistance per leg

### Auxiliary Input:

- Two Class B
- Non-loop powered
- 4.7 kohm EOL resistor
- 35 ohm resistance per circuit

### Auxiliary Output:

- One Class B
- Polarity reversing
- 24 VDC, filtered, 1.5A
- 4.7 kohm EOL resistor
- 3 ohm resistance per leg

### Remote Trouble:

- 24 VDC, filtered, 150 mA limited
- Unsupervised

**Relays** Two Form C, rated at 24 VDC, 1.25A max.

**Radio Output Power** 4 W minimum (2 W, some frequencies)

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 0% to 90% non-condensing

## Ordering Information

### Integrated Radio Units, FM Approved

Part Number	Description
227-855-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: <ul style="list-style-type: none"> <li>• One AAC backplane for up to eight ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 surface-mount red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
227-856-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: <ul style="list-style-type: none"> <li>• One AAC backplane for up to eight ADCs</li> <li>• Space for one optional expansion backplane</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 surface-mount red enclosure 43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>
227-857-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: <ul style="list-style-type: none"> <li>• One AAC backplane for up to eight ADCs</li> <li>• Space for three optional expansion backplanes</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 surface-mount red enclosure 60 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>
227-865-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: <ul style="list-style-type: none"> <li>• One AAC backplane for up to eight ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 flush-mount red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
227-866-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: <ul style="list-style-type: none"> <li>• One AAC backplane for up to eight ADCs</li> <li>• Space for one optional expansion backplane</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 flush-mount red enclosure 43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>



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# Addressable Fire Alarm Control Panels

Part Number	Description
<b>227-868-xx*</b>	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: <ul style="list-style-type: none"> <li>• One AAC backplane for up to eight ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 4X stainless steel enclosure 24 in. H x 24 in. W x 8 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-869-xx*</b>	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: <ul style="list-style-type: none"> <li>• One AAC backplane for up to eight ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 3R red enclosure 24 in. H x 24 in. W x 8 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
*Specify frequency (-xx) when ordering.	

## Panels

### Non-radio Units Supporting D-21 MNS Function

These units have an integrated RFM-XM2 interface module for D-21 MNS control through a BT-XM2

Part Number	Description
<b>227-855-MN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated RFM-XM2 interface module: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 surface-mount red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-856-MN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated RFM-XM2 interface module: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 surface-mount red enclosure 43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>
<b>227-857-MN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated RFM-XM2 interface module: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 surface-mount red enclosure 60 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>

Part Number	Description
<b>227-865-MN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated RFM-XM2 interface module: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 flush-mount red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-866-MN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated RFM-XM2 interface module: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 flush-mount red enclosure 43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>
*Specify frequency (-MN) when ordering.	

## Panels

### Hard-wire Only (Ethernet) Units

Part Number	Description
<b>227-855-EN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated Ethernet interface: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 surface-mount red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-856-EN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated Ethernet interface: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 surface-mount red enclosure 43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>
<b>227-865-EN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated Ethernet interface: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 flush-mount red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-866-EN*</b>	MAAP(+) Point Reporting Addressable FACP with an integrated Ethernet interface: <ul style="list-style-type: none"> <li>• One AAC backplane for up to 8 ADCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• NEMA 1 flush-mount red enclosure 43 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>



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# Addressable Fire Alarm Control Panels

## Associated Parts

Part Number	Description
<b>227-811-xx*</b>	MAAP(+) Electronics Package Upgrade for existing MAAP-1, MAAP-2 (legacy addressable), and M-2 conventional panels (except 19 in. high); replaces M CPU, power supply, AAC, ADC, display, and radio (existing ADCs may still be used with the upgrade) See <b>NOTE 1</b> and <b>NOTE 2</b> .
<b>227-811-MN*</b>	MAAP(+) electronics package, MNS upgrade for existing MAAP-1, MAAP-2 (legacy addressable) and M-2 conventional panels (except 19" high). Replaces M CPU, power supply, AAC, ADC, and display (existing ADCs may still be used with the upgrade). Includes BT-XM2 MNS interface See <b>NOTE 1</b> and <b>NOTE 2</b> .
<b>176-185-00</b>	M Conventional FACP Expansion Backplane, capacity for up to seven expansion cards: ZEC, AOC, or UIC
<b>176-186-00</b>	Zone Expansion Card (ZEC), two Class A or four Class B zones
<b>176-187-00</b>	Auxiliary Output Card (AOC), drives eight LEDs per card; expansion backplane required for M FACP
<b>176-193-01</b>	Analog Addressable Controller (AAC), supports up to eight ADCs
<b>176-194-00</b>	Addressable Driver Card (ADC), supports up to 198 addressable devices on a Signaling Line Circuit
<b>176-197-00</b>	Universal Input Card (UIC), four pairs of input terminals connecting up to four 2-wire input zones

Part Number	Description
<b>513-411-00</b>	M Tamper Switch Kit
<b>081-156-00</b>	Batteries with enclosure: <ul style="list-style-type: none"> <li>NEMA 1 Red surface-mount enclosure, 18 in. H x 12 in. W x 6 in. D, with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACP</li> <li>Two 12V/26 Ah batteries</li> </ul>
<b>207-617-00</b>	MAAP(+) Planner Support Kit: Planner CD, programming cable with adaptor (required)
<b>225-163-00</b>	Planner Suite/ Programmer with interface cables for use with: Monaco FACP or MNS (M-2, MAAP-2, MAAP(+), MAAP-X), BT-X building transceiver, and D-21 compatible repeaters
<b>400-701-00</b>	Battery, SLA, rechargeable, 12V/26 Ah, quick connect, 6.56 in. L x 6.97 in. W x 4.92 in. H, 17 lb
<b>400-712-00</b>	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13 in. L x 3.03 in. W x 6.59 in. H, 12.6 lb
<b>649-118-00</b>	USB to Serial Port Adaptor (needed for laptops with USB only in order to program the panel)
*Specify frequency ("-xx") ("-MN") when ordering.	
<b>NOTE 1</b> Ah capacity required depends on system; other battery options available. Contact Monaco for help determining battery requirements.	
<b>NOTE 2</b> Antenna system required for radio versions; contact Monaco.	



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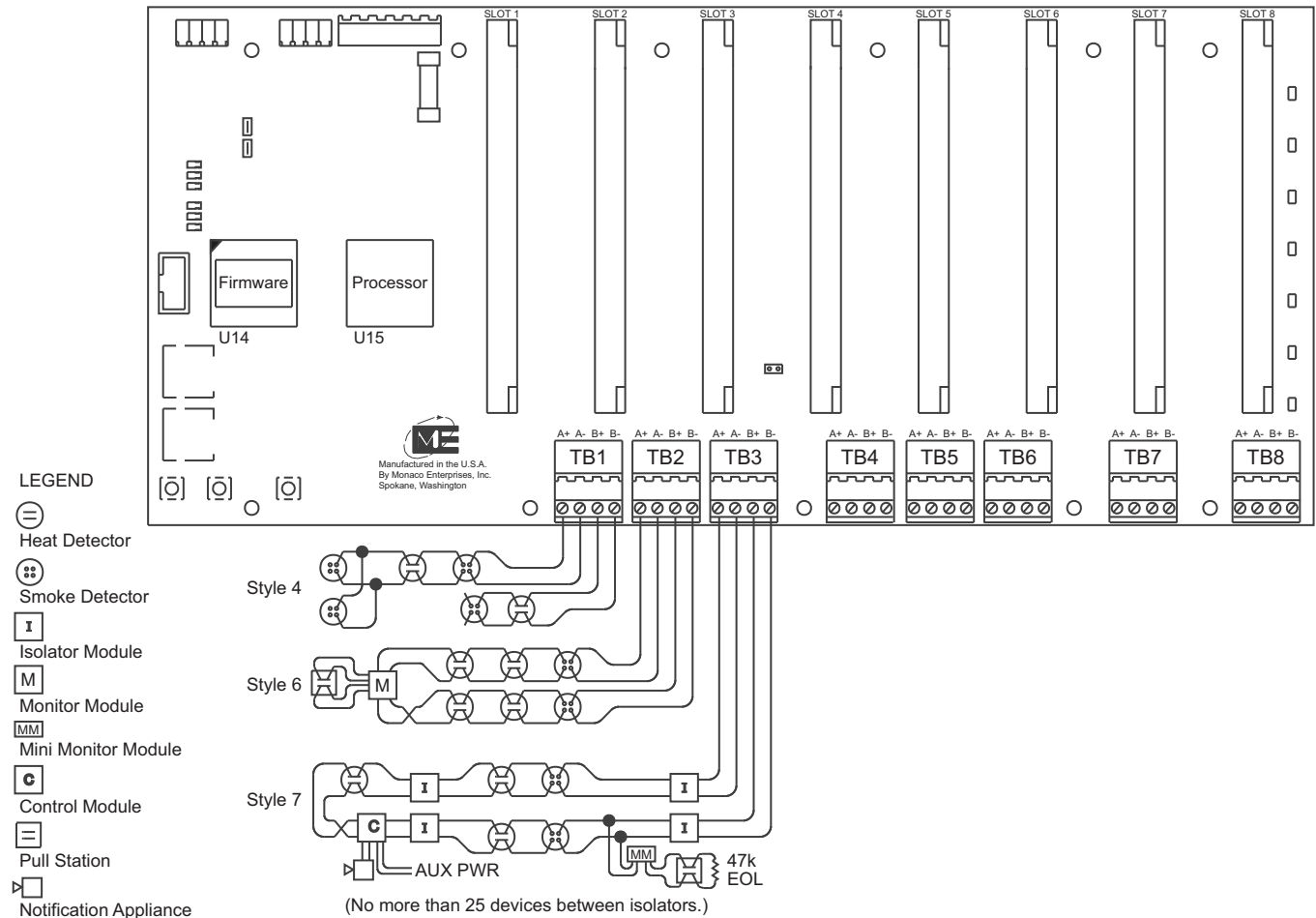
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# Addressable Fire Alarm Control Panels

## Analog Addressable Controller



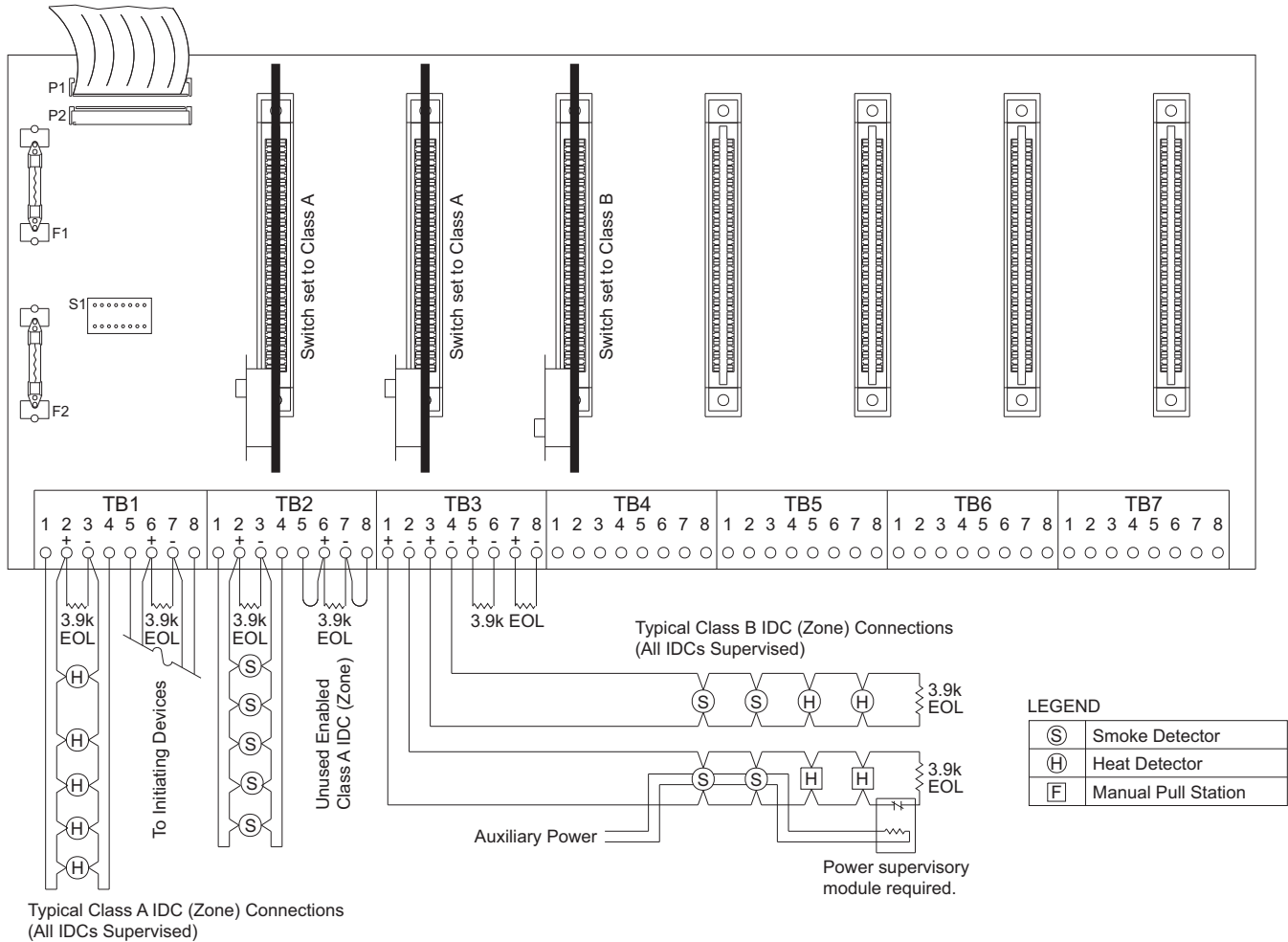
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# Addressable Fire Alarm Control Panels

## Conventional Expansion Backplane



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# Addressable Fire Alarm Control Panels

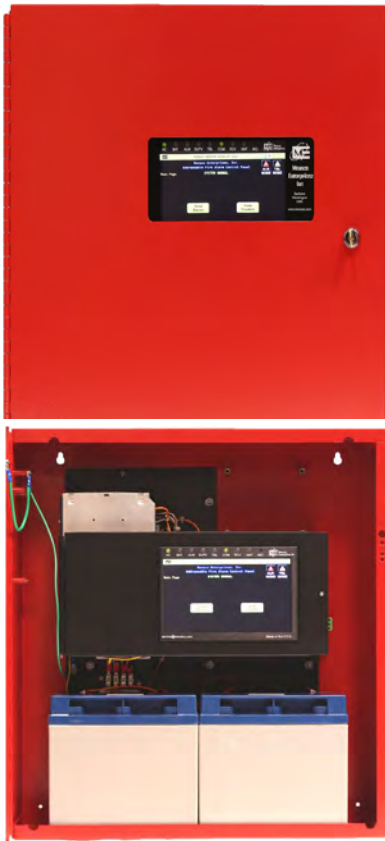
## Remote Display Unit for MAAP(+) and MAAP-2

710-070-01, 710-070-02

### Description

For use on MAAP(+) and MAAP-2 panels.

The Monaco Remote Display Unit (RDU) is an intelligent touch screen housed inside its own keyed enclosure. It is designed to annunciate and silence alarms and troubles, and to reset the panel in order to clear alarms.



The RDU connects to addressable MAAP(+) panels using a multiplexer with up to 2,000 ft. of 22 AWG 4-conductor wire with drain. A multiplexer is required even if the panel only has a single RDU. (The multiplexer maintains electrical grounding requirements between units.) Each multiplexer can handle up to four RDUs, and each panel can connect to a total of 15 RDUs in a star configuration.

When an alarm or trouble occurs, the RDU can automatically display the alarm or trouble list. Also, it can indicate the arrival of an alarm or trouble, requiring the operator to press a touch key to display the alarm or trouble list.

### Features

- Brilliant-color touch-panel LCD—6 in. wide by 3.5 in. high—in NEMA 1 keyed enclosure
- Power—AC, battery, charger—supervised with on-board mini-monitor module using SLC loop (Power supervision requires an SLC loop)
- Pop-up directory-style list of troubles and alarms, with scroll capability and user-enabled touch keys:
- Trouble Silence
- Panel Reset
- Alarm Silence
- Annunciates and silences alarms and troubles
- Local audible (with configurable local silence)
- Can be located up to 2,000 ft. from the panel
- Can remotely reset the MAAP(+) panel
- Up to 15 remote displays can connect to a MAAP(+) panel through multiplexers
- 60-hour backup with two 12V/18 Ah batteries
- 115/230 VAC, 50/60 Hz operation

### Specifications

*Enclosure* 19 in. H x 18 in. W x 3.6 in. D, NEMA 1

*AC Power* 115/230 VAC; 50/60 Hz

*DC Power* 24 VDC 265 mA

*Battery Backup* Two, 12V/18 Ah, 60 hours.

### Battery Calculations for 72-Hour Backup

72-hour backup battery operation requires a separate enclosure with 12 VDC/26 Ah batteries (P/N 081-156-00). Follow the steps to determine enclosure P/N and battery size:



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# Addressable Fire Alarm Control Panels

- Determine your battery backup needs
- Calculate battery size
- Equation: Hours x 265mA x 1.2 = Ah Battery Size
- 72-hour calculation:  
72 hours x 265mA x 1.2 = 22.9 Ah battery
- Anything larger than two 12V/18 Ah batteries requires a separate enclosure

## Ordering Information

### RDU

Part Number	Description
<b>710-070-01</b>	Remote display unit, red, 19 in. x 18 in. x 3.6 in., NEMA 1 enclosure, surface mount, two 12V/18 Ah backup batteries; requires multiplexer P/N 176-268-00
<b>710-070-02</b>	Remote display unit, red, 19 in. x 18 in. x 3.6 in., NEMA 1 enclosure, flush-mount, two 12V/18 Ah backup batteries; requires multiplexer P/N 176-268-00

### Associated Parts

Part Number	Description
<b>081-156-00</b>	Batteries with enclosure: <ul style="list-style-type: none"><li>• NEMA 1 Red surface-mount enclosure, 18 in. x 12 in. x 6 in., with wire harness for use with M-2 conventional, MAAP+, MAAP-X and Vulcan 1 FACPs</li><li>• Two 12 VDC/26 Ah batteries</li></ul>
<b>176-268-00</b>	Isolated Multiplexer assembly: <ul style="list-style-type: none"><li>• 422/485 master port</li><li>• Four 422 or eight 485 slave ports</li><li>• Mounts in any MAAP enclosure (19 in., 28 in., 43 in., or 60 in.)</li><li>• One multiplexer <b>required</b> for one to four RDUs</li><li>• More than four RDUs require additional multiplexers in a star configuration*</li><li>• Includes multiplexer to addressable panel cable harness, P/N 630-025-00</li></ul>
<b>621-025-00</b>	22 AWG 4-wire cable with drain, RDU to multiplexer; specify length needed
<b>* For installations requiring more than four RDU's connected to a single MAAP(+), contact Monaco Customer Service.</b>	



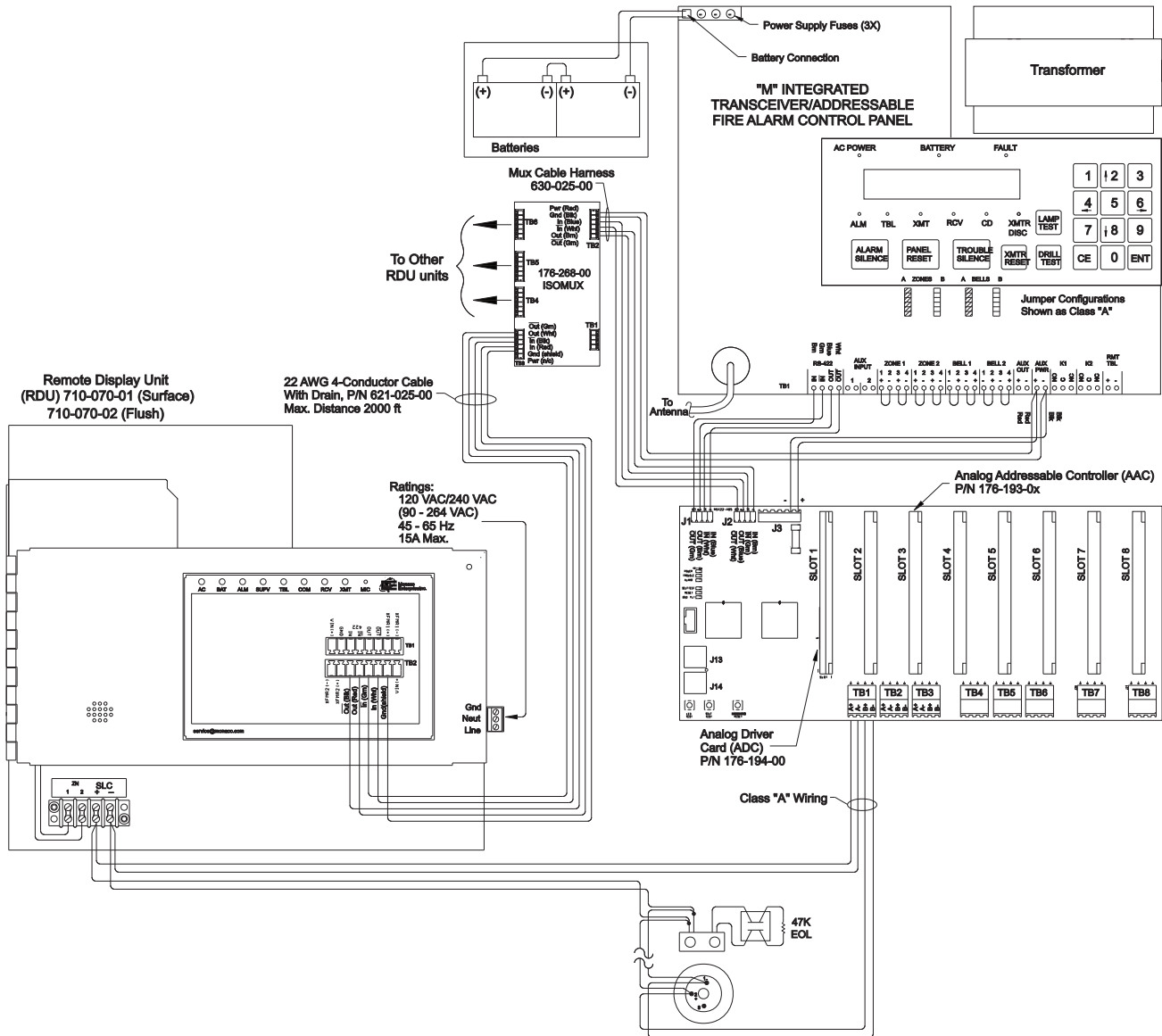
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# Addressable Fire Alarm Control Panels

## Wiring Diagram



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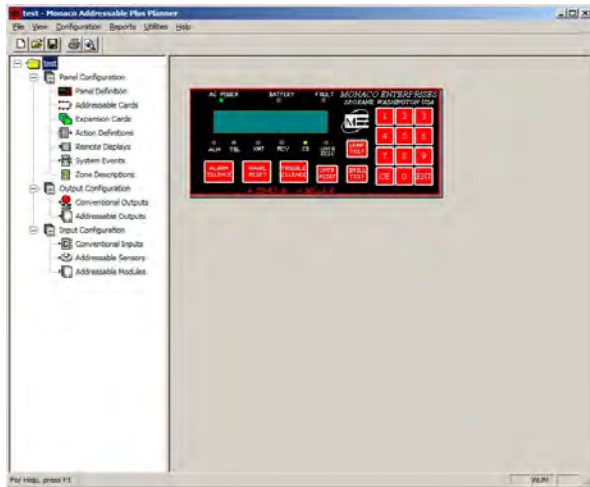
# Addressable Fire Alarm Control Panels

## Monaco Addressable+ Planner

207-617-00

### Description

The MAP(+) Planner is a Microsoft® Windows® -based program that creates a configuration file for use by the Monaco Analog Addressable Panel (MAAP(+)) Plus.



The MAP(+) discusses the process of defining all of the inputs and outputs connected to the panel and how they and the panel are to operate during alarm and trouble conditions.

Reports allow viewing or printing a snapshot of the configuration file and how to identify any problems in the configuration information so they can be corrected before programming the MAAP(+).

When the configuration file is complete, the MAP(+) Planner allows the file to be saved to disk for future use, and allows transfer of the file to the MAAP(+) through the provided communication cable.

If devices ever need to be added or removed, or the panel operation needs to be changed, the saved configuration file can be modified.

### Features

- Allows quick and easy definition of the panel operation, all inputs and outputs connected to the MAAP(+), and how the inputs and outputs are to operate during alarm and trouble conditions
- Reports provide a summary of the configuration information and identification of any discrepancies

- Quick set up of Initiating Device Circuits, Notification Appliance Circuits, and Signaling Line Circuits
- Programs the MAAP(+) with the configuration file
- Transfers an MAAP(+) configuration file to the MAP(+) Planner for modification or storage
- Easy to use Windows®-based program
- Extensive field-level and task-related online help
- Runs on pentium-based PC with 32 MB RAM and Windows® XP, Vista, or 7
- Communication cable provided

**NOTE** Newer laptops typically do not have a serial port so a USB to serial adaptor must be used to program the Monaco panels. Monaco USB to serial adaptor (P/N 649-118-00) has provided the most reliable communication between various laptops and Monaco panels. Other USB to serial adaptors may not produce a satisfactory customer experience.

### System Requirements

*Operating System* Microsoft Windows XP, Vista or 7

*PC* Pentium

*RAM* 16 MB minimum; 32 MB recommended

*Drives* CD ROM

*Communication Port* RS-232

*Monitor* 256 color

### Ordering Information

Part Number	Description
207-617-00	Monaco addressable+ planner kit (MAP(+)): Addressable+ planner CD, programming cable with adaptor

### Associated Parts

Part Number	Description
649-118-00	USB to 9 pin serial adaptor
227-574-00	MAAP serial interface kit, includes programming cable and adaptor



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## Addressable Accessories

# Addressable Fire Alarm Control Panels Catalog Section 05

### Addressable Accessories

Annunciator, Text .....710-054-01

*[Click to go back to "Table of Contents - Index by Product Name"](#)*



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# Addressable Fire Alarm Control Panels

## Annunciator, Text

710-054-01

### Description

The Remote Text Annunciator is a backlit liquid crystal display (LCD) designed to display text messages sent from a communications port on an Addressable Fire Alarm Control Panel (FACP) or MAAP-X Addressable Fire MNS panel.



It is configured to display two lines of forty characters of text ( $2 \times 40$ ) at a time and has two buttons to allow a user to scroll through the last six messages. The annunciator communicates with a Monaco Addressable FACP or the MAAP-X using RS-232 communication protocol. Communication is one-way, which means the user can only view the text messages and cannot respond to them using the annunciator.

The Remote Text Annunciator is typically mounted near an addressable panel in a 4-gang electrical box and is powered using the panel's AUX Power port. A multiplexer kit (P/N 194-810-24) is required when the annunciator is more than 50 feet from the FACP or when more than one annunciator is to be connected. Up to four annunciators can be connected to a panel through the use of a single multiplexer. If additional remote text annunciators are needed, connect only three annunciators to the multiplexer and use the fourth RS-485 port to connect an additional multiplexer (instead of an annunciator). Multiplexer kits can be daisy-chained in this manner so that all required annunciators can be connected. The last multiplexer in the line can be used to connect up to four annunciators.

Each multiplexer kit includes a mounting plate to mount inside a 43 in. or 60 in. addressable FACP or MAAP-X panel with an empty expansion bay. If a multiplexer is needed, but there is no room in the addressable FACP or MAAP-X enclosure, use the 4-port multiplexer kit in a single-wide enclosure (P/N 194-810-01).

For a single Remote Text Annunciator less than 50 ft. from the panel, no multiplexer kit is required; it can be connected directly to the panel's RS-232 port.

For more than one Remote Text Annunciator or for distances greater than 50 ft., the multiplexer kit (P/N 198-810-24) is required. It is recommended that annunciators not be over 2,000 ft. from the multiplexer, 4,000 ft. absolute maximum.

For Remote Text Annunciators located long distances from the panel, additional standalone power can be used to power them.

### Features

- Sonalert option on incoming messages
- Scroll buttons to look at previous messages
- Holds up to six messages
- RS-232 communication protocol, 50 ft. maximum distance from panel (multiplexer required for distances over 50 ft. from the panel or if more than one Remote Text Annunciator is connected)
- Multiplexer RS-485 communication to Remote Text Annunciator, 2,000 ft. typical, 4,000 ft. absolute maximum, up to four Remote Text Annunciators can be connected to the multiplexer

### Specifications

*Standby Voltage* 12 to 24 VDC

*Current* Annunciator: 125 mA  
Multiplexer: 65mA

*Operating Temperature* 32°F to 100°F

*Humidity* Non-condensing

*Baud Rate* 9600



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# Addressable Fire Alarm Control Panels

## Ordering Information

### Remote Text Annunciator

Part Number	Description
710-054-01	Remote Text Annunciator, two lines, 40 characters

### Associated Parts

Part Number	Description
194-810-24	Multiplexer Kit, single RS-232/RS-485 input port to four RS-485 output ports with surge suppression, 24 VDC, mounting accessories included to install in an available bay of a 43 in. or 60 in. addressable panel enclosure; for use with P/N 710-054-01; see <b>Note 1</b>

Part Number	Description
194-810-01	Multiplexer, single RS-232/RS-485 input port to four RS-485 output ports with surge suppression, 24 VDC, single-wide red enclosure, for use with P/N 710-054-01; see <b>Note 1</b>
404-093-00	NAC Power Extender, 24 VDC, 6.5A maximum four Class B or two Class A NACs (2.5A each), 1A AUX power; see <b>Note 2</b>
404-094-00	Power Supply/Charger, red enclosure, 115 VAC 60 Hz, 12 VDC 2.5A, 24 VDC 2.5A; see <b>Note 2</b>

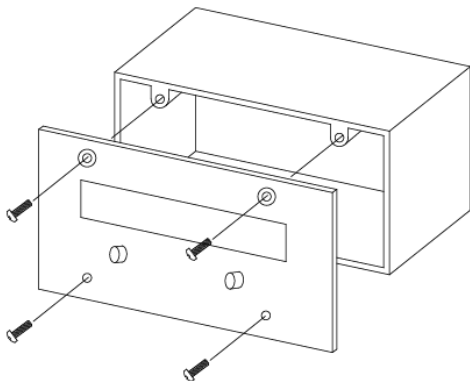
**NOTE 1** A multiplexer is required when the Remote Text Annunciator is more than 50 ft. from the FACP or when more than one annunciator is required. One multiplexer will support up to four annunciators or three annunciators and an additional multiplexer.

**NOTE 2** Order batteries separately.

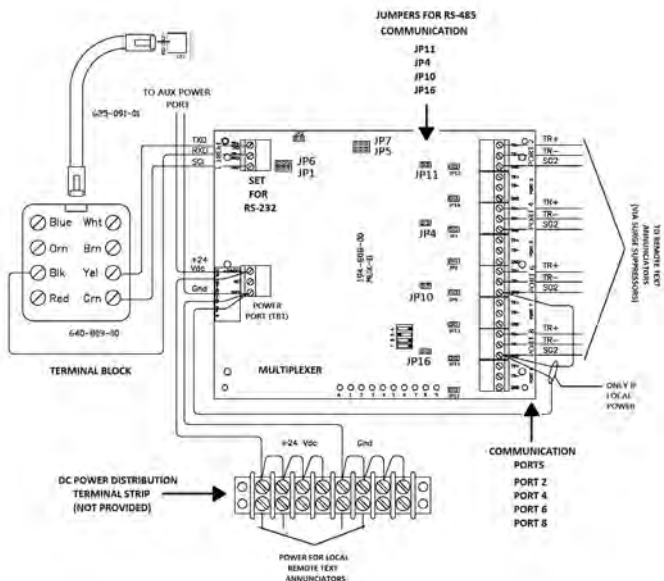
## Diagrams

### Mounting

#### Remote Text Annunciator



#### Multiplexer



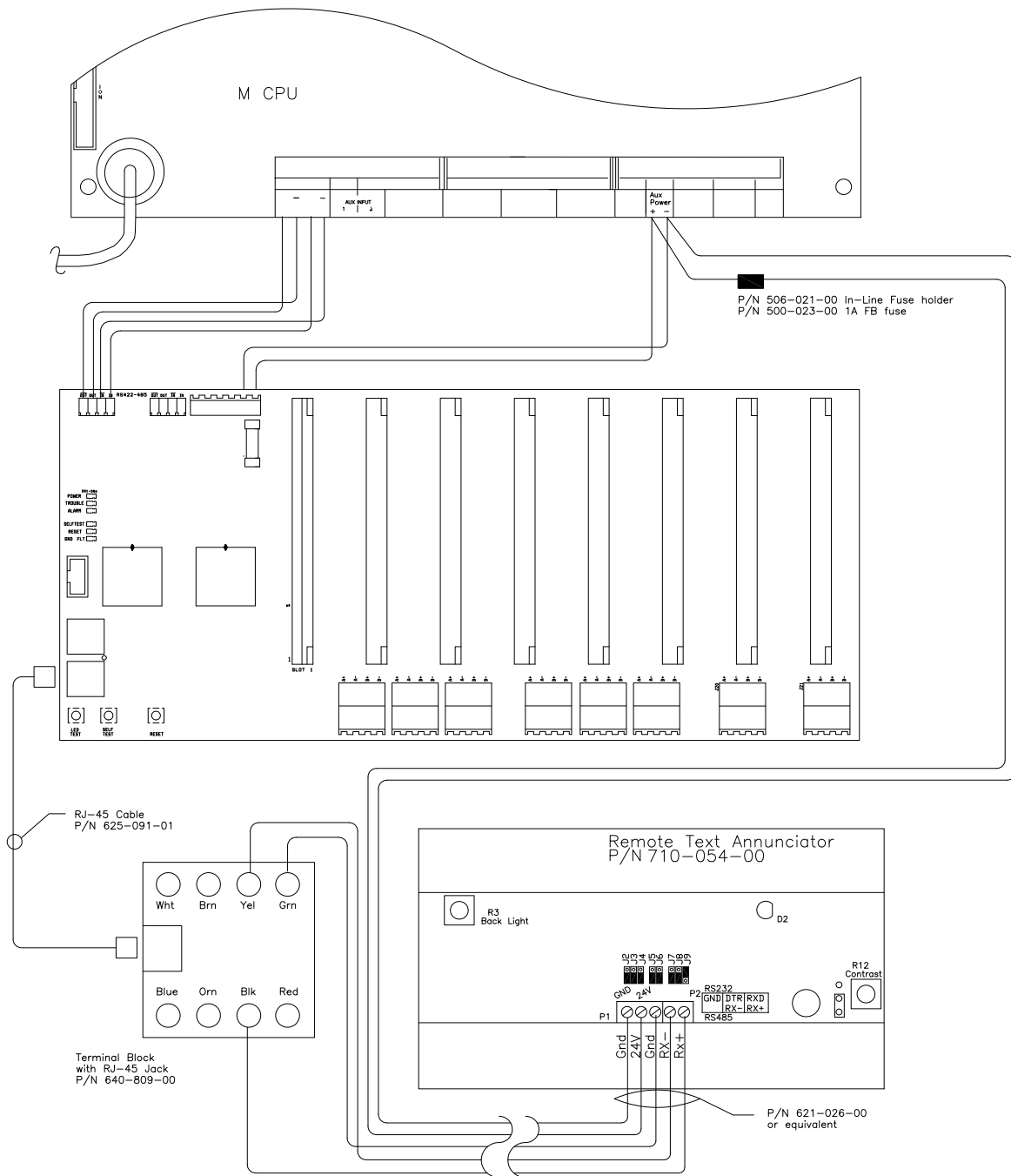
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# Addressable Fire Alarm Control Panels

## Wiring Diagrams



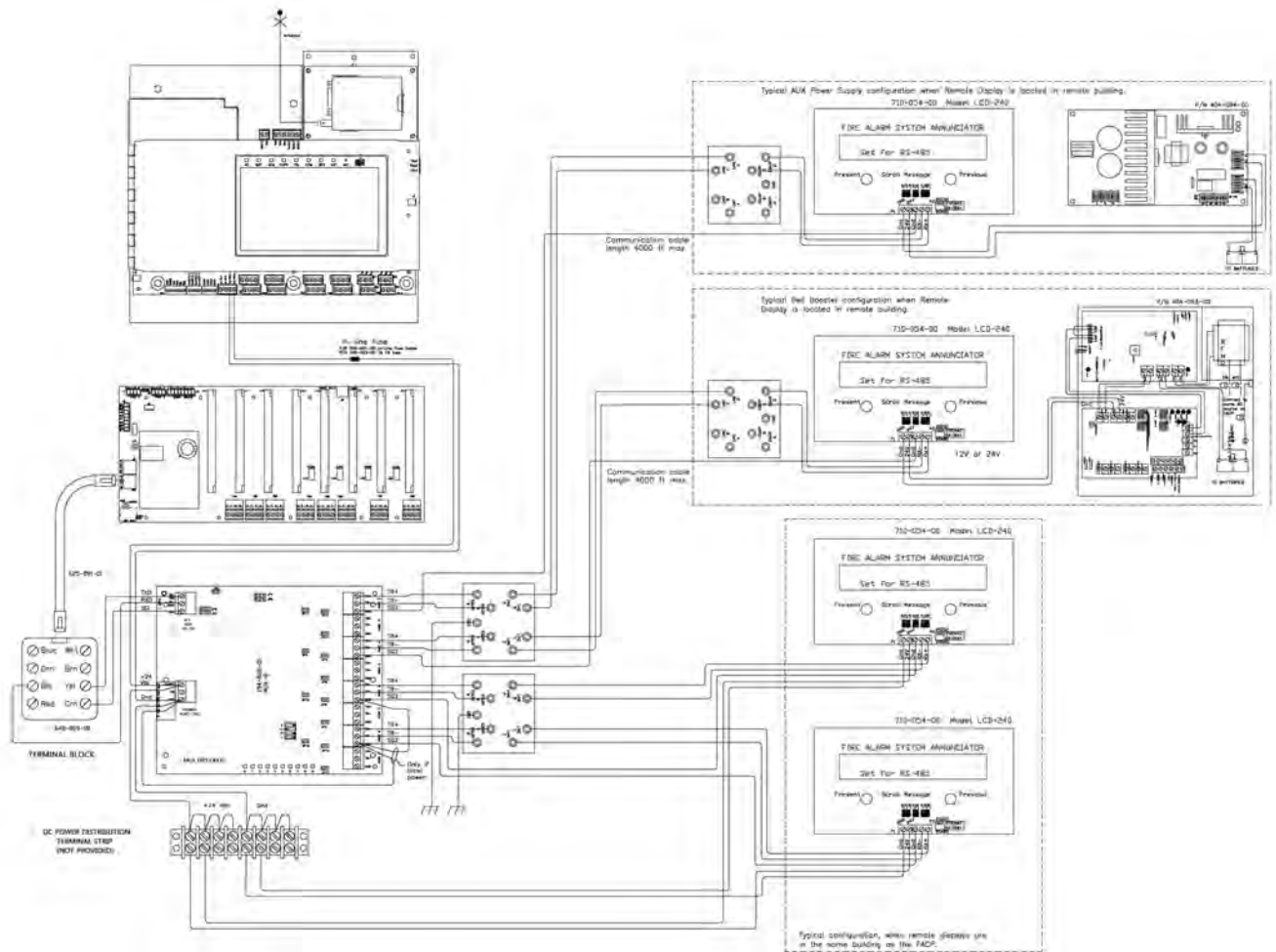
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# Addressable Fire Alarm Control Panels

## With Multiplexer



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## With Multiple Multiplexers



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```

graph TD
    Detect --> Manage
    Manage --> Record
    Record --> Detect
  
```

## Addressable Fire Alarm Control Panels with MNS

# Addressable Fire Alarm Control Panels w/MNS Catalog Section 06

### Section 6. Addressable Fire Alarm Control Panels with MNS

MAAP-X Addressable Fire Alarm MNS Voice Evacuation Panel . . . . .	227-95x-xx, 227-96x-xx, 227-95x-EN, 227-96x-EN, 227-912-xx
MAAP-X Addressable FACP MNS Voice Evac Panel Upgrade Kit . . . . .	227-912-xx
MAAP-X Addressable Fire Alarm Expansion Backplane. . . . .	176-273-99
MAAP-X Addressable Fire Alarm Sub-Panel . . . . .	700-101-00
Local Operating Console/Remote Display Unit . . . . .	710-072-01, 710-072-02
Local Operating Console Keypad . . . . .	710-072-51, 710-072-52
MAAP-X Planner Kit. . . . .	207-625-00
MAAP-X Push-to-Talk MNS Microphone . . . . .	122-012-00, 122-012-05
MAAP-X Push-to-Talk Paging Microphone . . . . .	122-012-06
MAAP-X Text Display, 24 VDC, Two Line, Multicolor . . . . .	710-075-01

#### **MNS Accessories**

Audio Booster Panels. . . . .	703-16x-00, 703-20x-00
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## Addressable Fire Alarm Control Panels with MNS

### MAAP-X Addressable Fire Alarm MNS Voice Evacuation Panel 227-95x-xx, 227-96x-xx, 227-95x-EN, 227-96x-EN, 227-912-xx

#### Description

MAAP-X is the premier addressable integrated fire and mass notification system (MNS) control panel from Monaco Enterprises, Inc. The MAAP-X comprises a single touch screen enclosure incorporating fire monitoring, addressable point reporting, live voice, and prerecorded MNS functions that are compatible with the D-21 system.

The latest Monaco MAAP-X FACP with the new CORE III processor has the ability to communicate with up to five MAAP-X Sub-Panels, each communicating back to the MAAP-X FACP over fiber. The MAAP-X and every MAAP-X Sub-Panel contains an intelligent AAC II backplane (Analog Addressable Controller II) with eight card slots: all eight card slots support ADCs for addressable devices, but only the last four card slots support SOC's for speaker devices. Each ADC can support 99 addressable detectors and 99 addressable modules. Each SOC can support 32 W of speaker power, with the combined total of the four SOC cards limited to 100 W.



Notification Appliance Circuits (NAC) Strobe Devices are supported and activated by an Addressable NAC module, which is connected to a NAC Booster panel. Text Displays, LOC Keypads for MNS, or LOC Touch Screens for Fire Annunciation/control and MNS can be added to MAAP-X Sub-Panels. If auxiliary power is needed at a MAAP-X Sub-Panel location, an Auxiliary Power Supply will need to be added.

A fully expanded MAAP-X System supports up to six intelligent AAC II backplanes, including the main backplane that will always be in the MAAP-X enclosure. The MAAP-X enclosure can accommodate a maximum of three backplanes: the main backplane and two additional AAC II backplanes. When the two additional AAC II backplanes are installed in the MAAP-X enclosure, they are called **MAAP-X Expansion Backplanes**. AAC II backplanes that are not mounted in the MAAP-X enclosure must be mounted in MAAP-X Sub-Panels.

For additional information regarding the MAAP-X Sub-Panel, refer to cutsheet 700-101-00.

For additional information regarding the MAAP-X Expansion Backplane, refer to cutsheet 176-273-00.

#### Key Features

- Fully integrated panel combines transceiver, addressable fire panel, and mass notification
- Addressable point reporting
- Touch-screen graphical interface with capability to extend to local operating console/remote display units (LOC/RDU)
- Live and prerecorded MNS functions and fire voice evacuation
- Built in MNS microphone
  - Optional handheld live voice push-to-talk MNS microphone in separate enclosure
  - Optional handheld live voice push-to-talk Paging microphone in separate enclosure
- Up to 100 W of audio amplification without booster circuits
- Built-in synchronized NAC, up to eight Class B or four Class A
- Compatible with the D-21 Central Receiving System
- Single, seamless upgrade from previous M-series Monaco panels



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# Addressable Fire Alarm Control Panels with MNS

- A fully expanded MAAP-X System supports a maximum of:
  - 6 AAC II Backplanes
  - 28 Addressable Driver Cards (ADCs)
  - 24 Speaker Output Cards (SOCs)
  - 30 Local Operating Consoles (LOCs)
  - 64 Text Displays

**NOTE** Depending on the MAAP-X System configuration, the number of supported ADCs and SOCs may be less.

**NOTE** Battery backup may be required for expanded MAAP-X Systems; depending on MAAP-X System configuration and MAAP-X enclosure size, battery backup may require a separate enclosure. Battery backup and battery enclosure must be ordered separately.

- Flexible configuration achieved with addition of speaker amplifier and addressable cards
- Built in STIPA tone for audio intelligibility testing

Upgrading existing Monaco 28 in. or larger M-series fire only panels to MAAP-X fire and MNS panels is easy using the MAAP-X upgrade kit. The kit provides a cost-effective method to meet current building fire MNS requirements while reusing the existing enclosure, conduits, wiring, and addressable devices.

## MAAP-X Base Panel

The base MAAP-X includes:

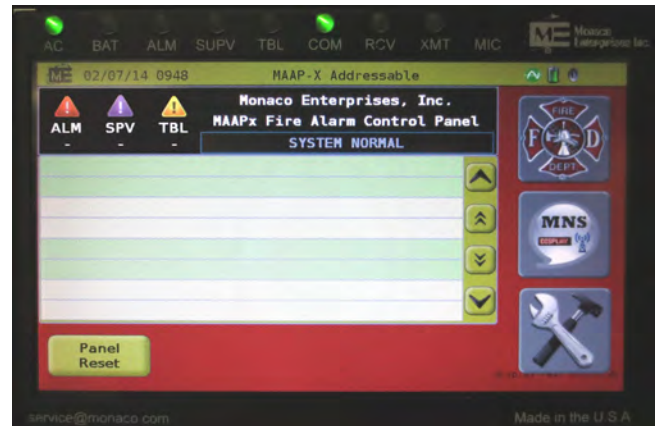
- A master control unit (MCU) with a color touch screen for fire and MNS operation
- An MNS message card with nine standard prerecorded messages (eight dedicated MNS, one dedicated fire)
- An Analog Addressable Controller II (AAC II) backplane
- One ADC
- One SOC

On-board circuits:

- Eight Class B or four Class A non-loop-powered Initiating Device Circuits (IDCs)
- Eight Class B or four Class A regulated or synchronized programmable NACs
- Four Form C programmable relays
- Autosensing power supply, 120/240 VAC 50/60 Hz

- Dual-rate 4A 24 VDC battery charger that meets the requirements of NFPA 72 and UL 864
- 24 VDC auxiliary power
- FSK interface for communication to D-21 through the standard integrated transceiver, or optional network or fiber module

## Main Panel and LOC/RDU Touch-Screen Features



- Fire and MNS operation for first responders
- Simple English messages identify alarm, trouble, and supervisory conditions
- User-defined device and zone descriptions
- Panel reset, alarm/trouble silence
- Displays zone input or addressable device programmable descriptions
- LED status indicators for primary/secondary power, radio communication, general alarm, and trouble
- Panel maintenance functions, such as:
  - Zone and sensor device enable/disable
  - Walktest
  - Radio key-up test
  - Enhanced diagnostic information—identifying panel troubles and loop faults
- Panel history

## Message Card

- Standard card has eight default prerecorded MNS messages and one fire evacuation message for a total of nine prerecorded messages
- User-defined messages available with a customer-option message card with eight user-defined prerecorded MNS messages and one user-defined prerecorded fire evacuation message



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# Addressable Fire Alarm Control Panels with MNS

## AAC II Backplane

The AAC II supports a combination of up to eight cards. The cards can be either ADCs (up to seven, one included) or SOC's (up to four, one included).

### ADC (for addressable devices)

Each ADC supports one Class A/X or two Class B Signaling Line Circuits (SLCs) for addressable device pathways. Each card supports 99 smoke or heat detectors and 99 monitor or control modules.

Options such as sounder or relay bases and fault isolator modules reduce the number of addressable devices (198 device equivalents maximum).

### SOC (for speakers)

Each SOC supports one Class A or two Class B speaker circuits for speaker audio pathways. Each card provides 25 Vrms, 32 W of speaker audio power.

## LOC/RDU Touch Screen

LOC/RDUs are a critical part of every installation, placed at strategic locations throughout the building. With an advanced approach to technology, Monaco's LOC/RDU touch screen combines the prerecorded and live voice message functions of an MNS LOC with the functions of a typically separate Fire Alarm Panel Remote Control Annunciator into one combination LOC/RDU.

## Features

- LOC/RDU provides the same functions as the main panel, at key locations within the protected building
- Built in MNS microphone
  - Optional handheld live voice push-to-talk MNS microphone in separate enclosure
  - Optional handheld live voice push-to-talk paging microphone in separate enclosure
- Three user programmable modes of operation based on LOC/RDU location needs—fire and MNS, fire only, and MNS only
- Each LOC/RDU touch screen provides a visual indication for active prerecorded or live voice MNS; Touch screen displays an explanation message if a lower priority MNS request is denied

## Additional MAAP-X Features

- Legacy zone-only fire reporting, or point reporting for each addressable device
- Pre-tone and post-tone options for MNS messages
- Messages settable for time-outs of 1 to 60 minutes
- MNS display screen can be customized by user
- MNS prioritized by LOC/RDU locations and message numbers, with live voice override
- Auxiliary Audio Input: Transformer coupled 600 ohm audio input allows user to select any one of five different audio input levels from .30 to .775v RMS (0dBu) for third party audio to be played through the MAAP-X speakers; requires a closed contact trigger to enable Aux Audio Input
- Text display notification using 2010 NFPA 72 compliant textual visual boards for emergency notification programmed to match MAAP-X MNS prerecorded messages
- Local speaker for MNS messages and audible alert for alarm, trouble, and supervisory notification
- Additional battery backup expansion options available for increased operation times during AC power failures
- Transfer between AC primary power and battery secondary power is automatic



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# Addressable Fire Alarm Control Panels with MNS

## Sensor Grouping

With point reporting enabled, MAAP-X supports the Monaco sensor-group feature:

- Smoke detectors function together to control local sounder bases and reduce nuisance alarms
- Beneficial in dormitory environments, reducing costly response runs and building evacuations for isolated incidents

## MNS and Paging Push to Talk Microphones

- Handheld push-to-talk MNS microphone for use inside LOC/RDU enclosures, 2 ft. cable included
- Handheld push-to-talk MNS microphone in red 8 in. H x 6 in. W x 3 in. D enclosure, 15 ft. cable for connection to MAAP-X included
- Handheld push-to-talk Paging microphone in red 8 in. H x 6 in. W x 3 in. D enclosure, 15 ft. single cable for connection to MAAP-X and LOC included; dual cable also included if connecting MNS and paging microphone to the MAAP-X

## MAAP-X Configuration Programming Software

MAAP-X Planner Kit allows the user to program the panel. Planner functions include:

- Uploading/downloading the MAAP-X program file to/from the panel
- Creates a MAAP-X configuration file that can be imported into the D-21 Central; manual information entry to D-21 not needed
- Central reporting modes:
  - Point reporting (addressable device addresses with zone reporting to D-21 and MNS operation)
  - Legacy (zone reporting to D-21 and MNS operation)
  - Stand-alone (in-building fire and MNS operation only)
- Setting D-21 Central communication modes—radio or hard-wire (Ethernet, fiber), single comm or dual comm

- Configuring fire and MNS device circuits
- Configuring MAAP-X and LOC/RDUs for fire and MNS operation
- Provides the ability to keep panel configuration files for backup
- Windows® (XP, 7.0, 8.0, 10) compatible Monaco MAAP-X Planner software
- Define zone and device descriptions

## MAAP-X D-21 Configuration Options

### Panel Configuration

A configuration-file copy is stored at the D-21 that can be used as a backup.

### Mass Notification

- In-building, prerecorded, and live voice MNS from the main panel, LOC/RDUs, and from D-21 Central systems configured for base-wide MNS
- Preconfigured MNS message files streamed from D-21 Central systems configured for broadcast MNS

### Fire Zone Reporting

- MAAP-X can be configured for legacy fire non-point-reporting, compatible with D-21 Central systems configured with an FSK interface
- MAAP-X displays the address of the individual device in alarm on its touch screen and reports up to 64 fire zones to the D-21

### Fire Point Reporting

- MAAP-X supports Monaco's advanced fire point reporting and is compatible with D-21 Central systems configured for point reporting
- MAAP-X individually reports alarm and trouble status of addressable sensors and monitor modules in real-time to the D-21 Central

### D-21 Connectivity

- MAAP-X supports radio (site-specific narrowband frequency) and hard-wire communication
- User selects central communication mode—primary only or primary with fallback to secondary
- Only one antenna system needed for radio communication; hard-wire options include Ethernet and fiber-optic



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# Addressable Fire Alarm Control Panels with MNS

## Panel Clock Synchronization

- D-21 can be configured to synchronize the MAAP-X internal clock and calendar
- Synchronizing eliminates the need to adjust each panel for daylight-saving time

## Software Version

MAAP-X requires D-21 software with MAAP-X support. An RFM-X is required for point reporting and MNS.

## Hardware Specifications

### Electrical

**IDC (Zone Inputs)** Capacity: 4 Class A or 8 Class B  
Non-loop-power: 4 VDC with EOL,  
12 VDC at 25 mA max.  
EOL: 3.9 kohms 1/4 W, Class B only  
Max. loop resistance: 50 ohms per leg  
Wiring: Standard fire-alarm-rated cable

**NAC (Notification Appliance Circuit Outputs)** Capacity: 4 Class A or 8 Class B, polarity reversing  
EOL: 3.9 kohms 1/4 W, Class B only  
**NACs programmed as "regulated":**  
Power: 24 VDC 1A  
Max. loop resistance: 1.5 ohms per leg  
**NACs programmed as "special application" (synchronized strobes):**  
Power: 24 VDC 2A  
Max. loop resistance: 1.5 ohms per leg  
Wiring: Standard fire-alarm-rated cable, fire-alarm-rated cable

- The total combined current for NAC outputs 1-1, 1-2, 2-1, 2-2 cannot exceed 1A for regulated or 2A for special application
- The total combined current for NAC outputs 3-1, 3-2, 4-1, 4-2 cannot exceed 1A for regulated or 2A for special application

**SLC (Addressable)** Per ADC:

- 2 Class B or 1 Class A/X SLC input(s)
- 99 smoke or heat sensors
- 99 monitor or control modules

Power: 0 to 29 VDC polling protocol  
Supervision: open, short, ground fault  
Max. loop resistance: 40 ohms per leg  
Wiring: Unshielded twisted pair

**Line-Level Audio Circuits (LOC to Panel)** Minimum 22 AWG twisted pair with drain and shield  
Recommended max. length: 2,000 ft.  
Absolute max. length: 4,000 ft.

**RS-485 Communication Circuits (LOC to Panel)** Minimum 24 AWG twisted pair with drain and shield  
Recommended max length: 2,000 ft.  
Absolute max length: 4,000 ft.  
Recommended impedance: 120 ohms

**Speaker Circuits** Per SOC: 2 Class B or 1 Class A output(s)  
Power: 25 VAC RMS (70.7V P-P), 32 W max. each, 100 W max. per MAAP-X panel (4 SOC's max.)  
Frequency Response Range: 100 Hz to 10,000 Hz  
Supervision: open, short, ground fault  
EOL: 3.9 kohms 1/4 W, Class B only  
Max. loop resistance: 1.5 ohms per leg  
Min. load impedance rating: 25 ohms  
Wiring: Standard fire-alarm-rated cable

**AUX PWR** Power: 24 VDC 2A  
Supervision: none  
Max. loop resistance: 1 ohm per leg  
Wiring: Standard fire-alarm-rated cable

**AUX Audio Input** Transformer coupled 600 ohm audio input  
Custom Settings:  
0.3000VRMS = 0.85V P-P = 10.46 dBV  
0.3535V RMS = 1.00V P-P = -9.03 dBV  
0.7071V RMS = 2.00V P-P = -3.01 dBV  
0.7750V RMS = 2.19V P-P = -2.21 dBV  
Requires closed contact trigger  
Contact Monaco for Assistance

**Relays, K1-K4** Contact rating: 30 VDC at 2A max.  
Supervision: none

**Radio Output Power** 4 W minimum (2 W, some frequencies)

**Battery Backup** Standard: 2 rechargeable 12V/18 Ah  
Integrated charger: supervised dual-rate, meets NFPA 72 and UL 864 requirements, 27.6 VDC 4A  
Low battery alert: 23 VDC  
Panel low voltage: 21.5 VDC  
Low battery disconnect: 18.5 VDC

**AC Power** 3-wire autosensing, 120/240 VAC  
100 VAC 2.8A (85 to 110 VAC)  
120 VAC 2.4A (102 to 132 VAC)  
240 VAC 1.0A (204 to 264 VAC)  
50/60 Hz



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# Addressable Fire Alarm Control Panels with MNS

**Radio** Narrowband radio meets requirements of the National Telecommunications and Information Administration Manual of Regulations and Procedures for Federal Frequency Management. FCC certified.

## Environmental

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 0% to 90%, non-condensing

## Standards Compliance

**FM Approved** Class 3010, Approval 3051356

## Ordering Information

### Panels

#### Integrated Radio, Surface- and Flush-mount

Part Number	Description
<b>227-955-xx*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: <ul style="list-style-type: none"> <li>One AAC II backplane for ADCs/SOCs</li> <li>One ADC supporting 198 addressable devices</li> <li>One SOC, 25 VAC RMS, 32 W audio output</li> <li>NEMA 1 <b>surface-mount</b> red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>Two 12V/18 Ah batteries</li> </ul>
<b>227-956-xx*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: <ul style="list-style-type: none"> <li>One AAC II backplane for ADCs/SOCs</li> <li>One ADC supporting 198 addressable devices</li> <li>One SOC, 25 VAC RMS, 32 W audio output</li> <li>NEMA 1 <b>surface-mount</b> red enclosure 43 in. H x 18 in. W x 3.6 in. D</li> <li>Four 12V/18 Ah batteries</li> </ul>
<b>227-957-xx*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: <ul style="list-style-type: none"> <li>One AAC II backplane for ADCs/SOCs</li> <li>One ADC supporting 198 addressable devices</li> <li>One SOC, 25 VAC RMS, 32 W audio output</li> <li>NEMA 1 <b>surface-mount</b> red enclosure 60 in. H x 18 in. W x 3.6 in. D</li> <li>Four 12V/18 Ah batteries</li> </ul>

Part Number	Description
<b>227-965-xx*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: <ul style="list-style-type: none"> <li>One AAC II backplane for ADCs/SOCs</li> <li>One ADC supporting 198 addressable devices</li> <li>One SOC, 25 VAC RMS, 32 W audio output</li> <li>NEMA 1 <b>flush-mount</b> red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>Two 12V/18 Ah batteries</li> </ul>
<b>227-966-xx*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: <ul style="list-style-type: none"> <li>One AAC II backplane for ADCs/SOCs</li> <li>One ADC supporting 198 addressable devices</li> <li>One SOC, 25 VAC RMS, 32 W audio output</li> <li>NEMA 1 <b>flush-mount</b> red enclosure 43 in. H x 18 in. W x 3.6 in. D</li> <li>Four 12V/18 Ah batteries</li> </ul>
<b>227-968-xx*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: <ul style="list-style-type: none"> <li>One AAC II backplane for ADCs/SOCs</li> <li>One ADC supporting 198 addressable devices</li> <li>One SOC, 25 VAC RMS, 32 W audio output</li> <li>NEMA 4X <b>surface-mount</b> stainless steel enclosure 24 in. H x 24 in. W x 8 in. D</li> <li>Two 12V/18 Ah batteries</li> </ul>
<b>227-969-xx*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: <ul style="list-style-type: none"> <li>One AAC II backplane for ADCs/SOCs</li> <li>One ADC supporting 198 addressable devices</li> <li>One SOC, 25 VAC RMS, 32 W audio output</li> <li>NEMA 3R <b>surface-mount</b> red enclosure 24 in. H x 24 in. W x 8 in. D</li> <li>Two 12V/18 Ah batteries</li> </ul>
*Specify frequency (-xx) when ordering.	



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## Hard-wire Only (Ethernet), Surface- and Flush-mount

Part Number	Description
<b>227-955-EN*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, hard-wire—single comm: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>surface-mount</b> red enclosure</li> <li>28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-956-EN*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, hard-wire—single comm: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>surface-mount</b> red enclosure</li> <li>43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>
<b>227-965-EN*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, hard-wire—single comm: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>flush-mount</b> red enclosure</li> <li>28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-966-EN*</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, hard-wire—single comm: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>flush-mount</b> red enclosure</li> <li>43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>
*Does not support D-21 Central live voice; for options contact Monaco.	

## Standalone - No Radio, Surface- and Flush-mount

Part Number	Description
<b>227-955-NR</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, Standalone - No Radio: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>surface mount</b> red enclosure</li> <li>28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-956-NR</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, Standalone - No Radio: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>surface mount</b> red enclosure</li> <li>43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>
<b>227-965-NR</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, Standalone - No Radio: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>flush mount</b> red enclosure</li> <li>28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-966-NR</b>	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, Standalone - No Radio: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>flush-mount</b> red enclosure</li> <li>43 in. H x 18 in. W x 3.6 in. D</li> <li>• Four 12V/18 Ah batteries</li> </ul>



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# Addressable Fire Alarm Control Panels with MNS

## Associated Parts

Part Number	Description
<b>081-156-00</b>	Batteries with Enclosure: <ul style="list-style-type: none"> <li>NEMA 1 Red <b>surface mount</b> enclosure, 18 in. H x 12 in. W x 6 in. D, with wire harness for use with M-2 conventional, MAAP+, MAAP-X and Vulcan 1 FACPs</li> <li>Two 12 VDC/26 Ah batteries</li> </ul>
<b>122-012-00</b>	Handheld Push-to-Talk Microphone and holder for use on LOC/ RDU Touch Screen. Includes 2 ft. cable for connection to LOC/RDU Touch Screen.
<b>122-012-05</b>	Handheld Push-to-Talk MNS Microphone in red enclosure, 8 in. H x 6 in. W x 3 in. D with window, includes 15 ft. cable for connecting to MAAP-X or LOC/RDU Touch Screen
<b>122-012-06</b>	Handheld Non-Emergency Push-to-Talk Paging Microphone in red enclosure, 8 in. H x 6 in. W x 3 in. D, includes 15 ft. single cable for connecting to MAAP-X, LOC/RDU Touch Screen, or LOC Keypad; dual cable also included if connecting MNS and Paging microphone to the MAAP-X or LOC/RDU Touch Screen
<b>708-032-01</b>	HVAC Shutdown Kit, includes shutdown button and cover (Mini Monitor Module P/N 729-218-00 not included)
<b>176-194-00</b>	Addressable Driver Card (ADC), supports up to 198 addressable devices on a Signaling Line Circuit
<b>176-286-02</b>	MAAP-X LOC Multiplexer Kit; RS-422 to eight RS-485 ports and eight live voice audio ports with surge suppression, to support MAAP-X LOC/RDU Touch Screens and LOC Keypads per output <b>See NOTE 1</b>
<b>176-272-00</b>	Speaker Output Card (SOC), 32 Watt Audio Amplifier Card, 1 Class A or 2 Class B Supervised Audio outputs for the MAAP-X
<b>194-527-07</b>	MAAP-X EN Fiber Optic to Ethernet Converter, single mode 1 Gb kit with mounting hardware (one required per Ethernet MAAP-X EN to convert it to Fiber Optic)
<b>194-527-01</b>	Fiber Optic to Ethernet Converter, single mode, 1 Gb (Spare part for 194-527-07)
<b>205-032-00</b>	MAAP Printer Kit, includes optoisolator with power adaptor, RJ-45 DTE to DB-25 male DCE adaptor, RJ-45 cable, DB-25 extension cable
<b>207-625-00</b>	MAAP-X Addressable Planner Kit, CD, CAT6 programming cable, 45 DTE-9F DCE adaptor

Part Number	Description
<b>227-912-xx</b>	MAAP-X Upgrade for M-1, M-2, MAAP(+) Fire only Panels with 28 in. high or larger enclosures; Specify frequency (-xx) when ordering <b>NOTE</b> Can also use as a spare MAAP-X electronic package
<b>227-912-NR</b>	MAAP-X Upgrade for M-1, M-2, MAAP(+) Fire only Panels with 28 in. high or larger enclosures, Standalone - No Radio: <ul style="list-style-type: none"> <li>One AAC II backplane for ADCs/SOCs</li> <li>One ADC supporting 198 addressable devices</li> <li>One SOC, 25 VAC RMS, 32W audio output</li> </ul> <b>NOTE</b> Can also use as a spare MAAP-X electronic package (no radio)
<b>400-712-00</b>	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13 in. L x 3.03 in. W x 6.59 in. H, 12.60 lb
<b>513-411-01</b>	MAAP-X Tamper Switch Kit
<b>710-054-01</b>	Remote Text Annunciator, two-line, 40 characters each
<b>710-075-01</b>	MAAP-X Text Display, 24 VDC, two line, multi-color, default text display <b>Requires MAAP-X Panel firmware version A.5.1 or higher</b> <b>See NOTE 2 and NOTE 3</b>
<b>710-072-01</b>	LOC/RDU with Touch Screen, fire/MNS, 19 in. H, surface-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup <b>See NOTE 1</b>
<b>710-072-02</b>	LOC/RDU with Touch Screen, fire/MNS, 19 in. H, flush-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup <b>See NOTE 1</b>
<b>NOTE 1</b> The MAAP-X panel can support up to 30 LOCs. Of the 30 LOCs, a maximum of ten can be RDU/LOC Touchscreens, the rest need to be LOC Keypads. All 30 can be LOC Keypads. Each MAAP-X enclosure can support one LOC MUX (P/N 176-286-02) that can support a total of 30 LOCs. Each LOC MUX has eight RS-485 outputs that LOCs can be connected to. Each RS-485 output can support 30 LOC Keypads maximum or eight LOC/RDU Touchscreens maximum. Contact Monaco if your system requires more LOCs.	
<b>NOTE 2</b> Requires Text Display Interface, Program Utility, and DC Power Supply, see Cutsheet 710-075-01 for more information.	
<b>NOTE 3</b> According to NFPA 72, 2010 24.4.2.21 when the two line, multi-color, text display is mounted more than ten ft. above the floor with a viewing distance of more than 21 ft., the display is required to be configured with only a single line of text so the font is large enough to view properly.	



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# Addressable Fire Alarm Control Panels with MNS

## MNS Message Card Kit

Part Number	Description
<b>326-M00-01</b>	<p>MAAP-X Standard Message Card—eight MNS, one Carbon Monoxide (CO), one Medical Emergency, one fire, for 11 total pre-recorded messages</p> <p>These are summaries, not the full-message text:</p> <p>Message 1 Emergency, evacuate to designated area</p> <p>Message 2 Bomb threat, evacuate at nearest exit</p> <p>Message 3 Severe weather warning</p> <p>Message 4 Intruder, follow designated pre-plan</p> <p>Message 5 Shelter in-place</p> <p>Message 6 Emergency, use alternate exit</p> <p>Message 7 Emergency has ended</p> <p>Message 8 Test of Monaco Mass Notification System</p> <p>Message 9 CO Detected</p> <p>Message 10 Medical Emergency (EMS) Dedicated Fire Message</p>
<b>326-M01-01</b>	<p>MAAP-X Customer Option Message Card—eight MNS, one fire, for nine total pre-recorded messages:</p> <p><b>Message set information must be provided at time of ordering. Contact Monaco for the forms (P/N 001-583-02 for new message sets or P/N 001-583-01 for existing site established message sets). The form is needed to have the message set installed on the card before the MAAP-X panel ships.</b></p>
<b>326-M10-01</b>	<p>MAAP-X Customer Option Message Card Field Upgrade Kit—eight MNS, one fire, for nine total pre-recorded messages:</p> <p><b>Message set information must be provided at time of ordering. Contact Monaco for the forms (P/N 001-583-02 for new message sets or P/N 001-583-01 for existing site established message sets). The form is needed to order this upgrade to replace existing messages at your site.</b></p>



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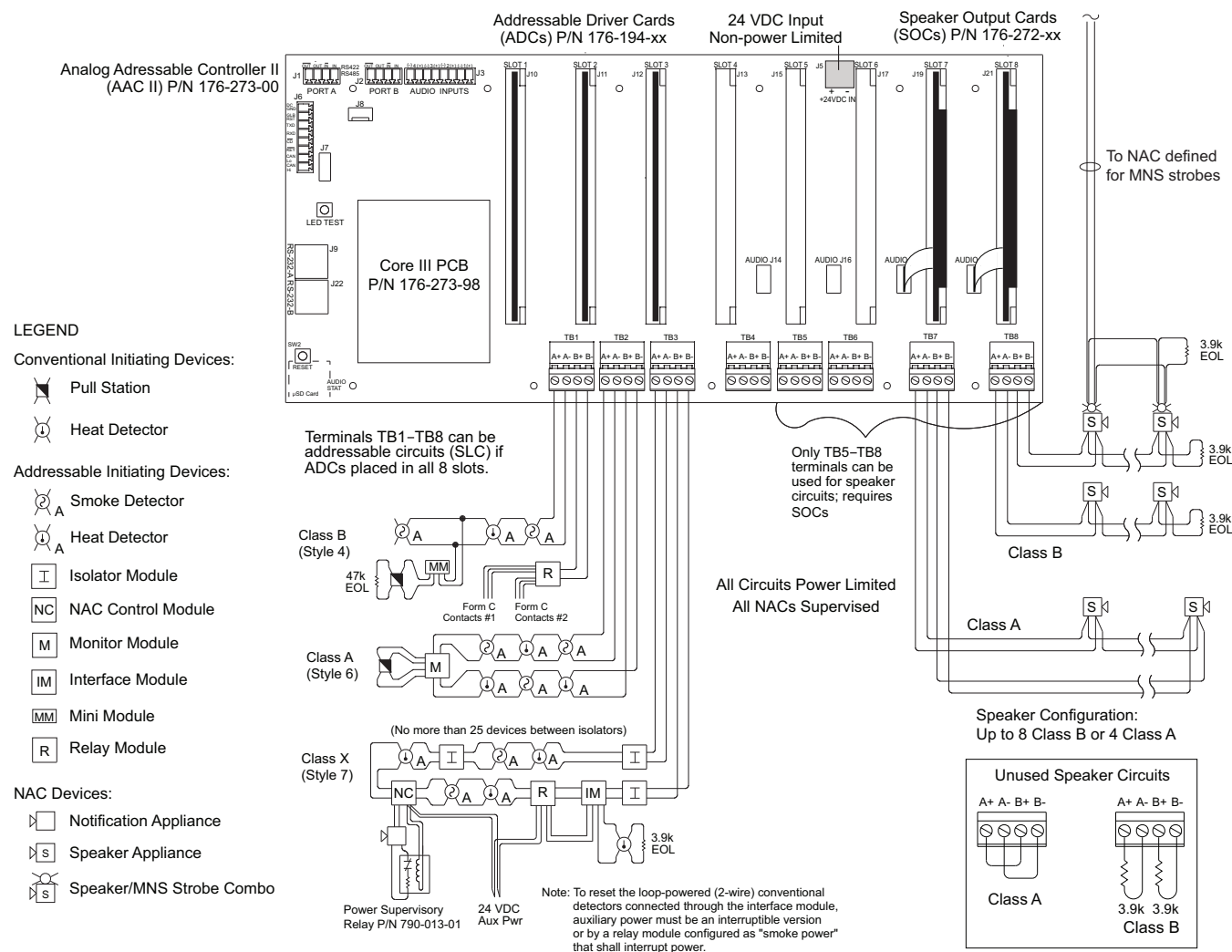
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# Addressable Fire Alarm Control Panels with MNS

## Wiring Diagram

### Addressable Circuits



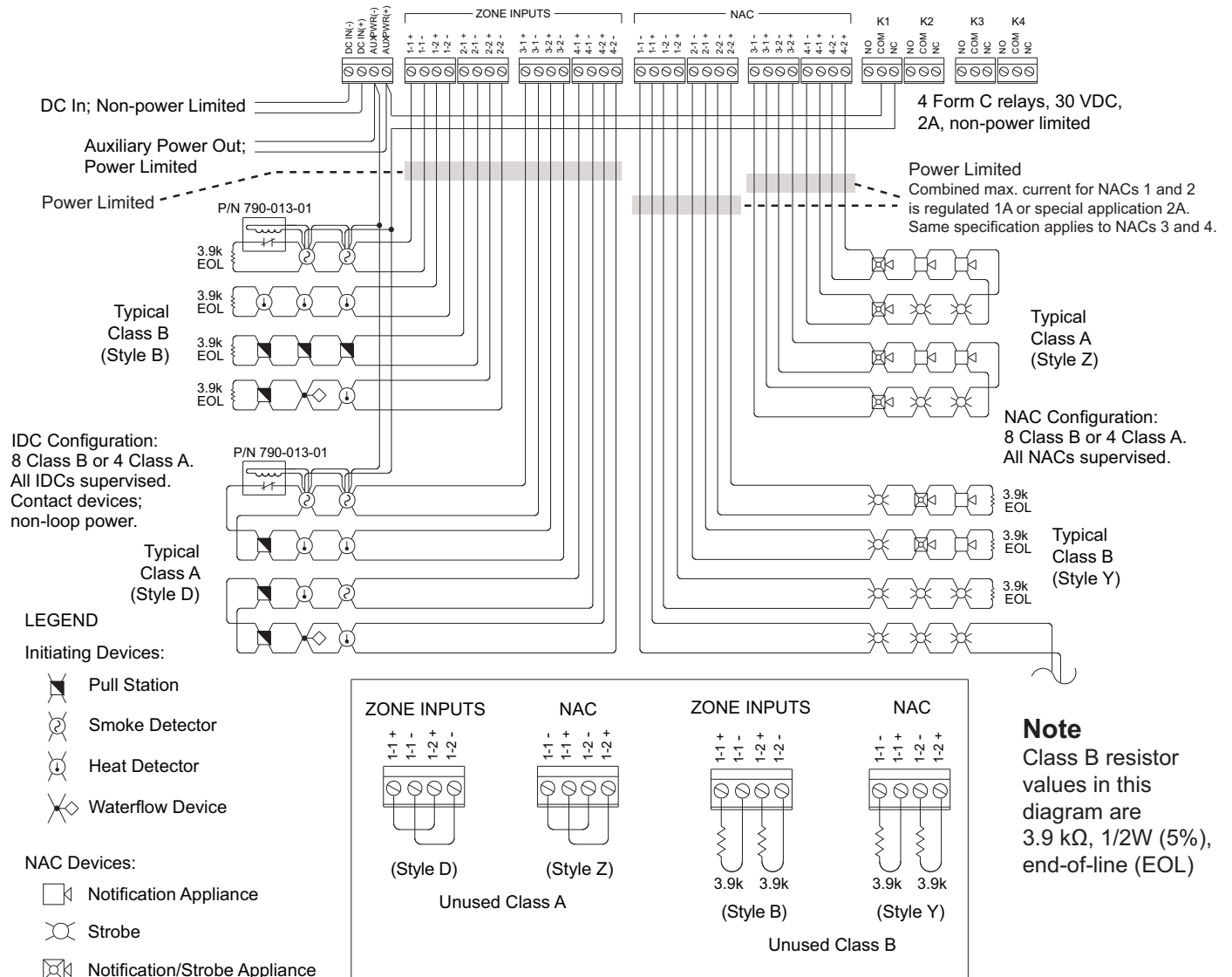
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# Addressable Fire Alarm Control Panels with MNS

## Conventional Circuits



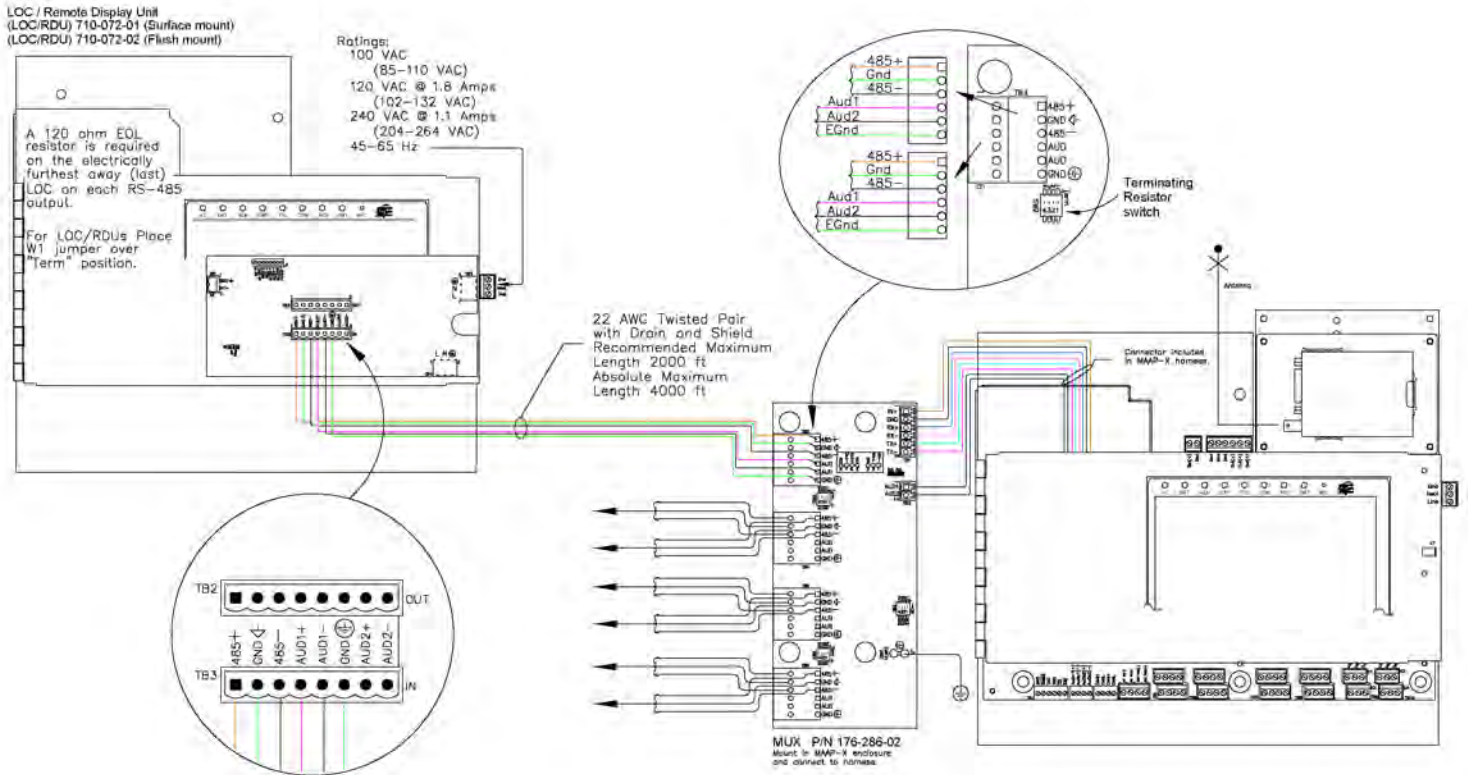
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X to LOC/RDU Wiring



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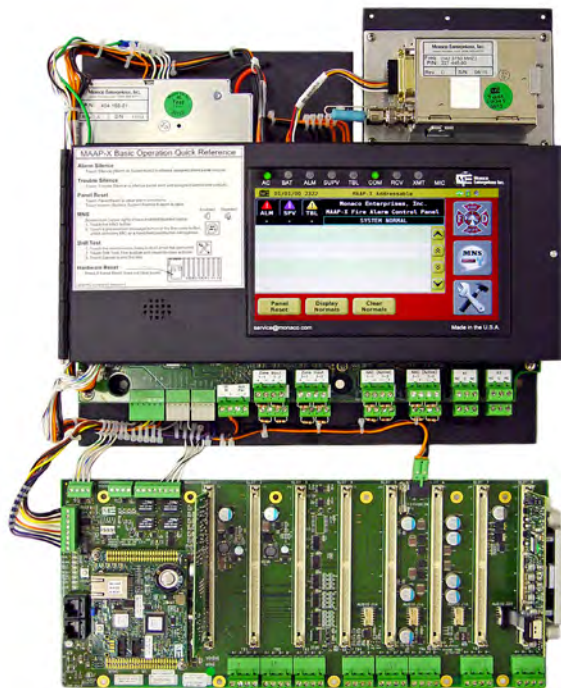
# Addressable Fire Alarm Control Panels with MNS

## MAAP-X Addressable FACP MNS Voice Evac Panel Upgrade Kit 227-912-xx

### Description

MAAP-X is the premier addressable integrated fire and mass notification system (MNS) control panel from Monaco Enterprises, Inc. The MAAP-X comprises a single touch screen enclosure incorporating fire monitoring, addressable point reporting, live voice, and prerecorded MNS functions which are compatible with the D-21 system.

Upgrading existing Monaco 28 in. or larger M-series fire-only panels to MAAP-X fire-and-MNS panels is easy using the MAAP-X upgrade kit. The kit provides a cost-effective method to meet current building fire MNS requirements while reusing the existing enclosure, conduits, wiring, addressable devices, and adding new MNS devices.



### Key Features

- Fully integrated panel combines transceiver, addressable fire panel and mass notification
- Addressable point reporting
- Touch-screen graphical interface with capability to extend to local operating console/remote display units (LOC/RDU)
- Live and prerecorded MNS functions and fire voice evacuation
- Up to 100 W of audio amplification without booster circuits
- Built-in synchronized NAC, up to eight Class B or four Class A
- Compatible with the D-21 Central Receiving System
- Single, seamless upgrade from previous M-series Monaco panels
- Flexible configuration achieved with addition of speaker amplifier and addressable cards
- Built-in STIPA tone for audio intelligibility testing

### MAAP-X Upgrade Kit

The base MAAP-X upgrade kit includes:

- A master control unit (MCU) with a color touch screen for fire and MNS operation
- An MNS message card with nine standard prerecorded messages (eight dedicated MNS, one dedicated fire)
- An Analog Addressable Controller II (AAC II) backplane
- One Addressable Driver Card (ADC)
- One Speaker Output Card (SOC)

On-board circuits:

- Eight Class B or four Class A non-loop-powered Initiating Device Circuits (IDCs)
- Eight Class B or four Class A regulated or synchronized programmable Notification Appliance Circuits (NACs)
- Four Form C programmable relays
- Autosensing power supply, 120/240 VAC 50/60 Hz
- Dual-rate 4A 24 VDC battery charger that meets the requirements of NFPA 72 and UL 864
- 24 VDC auxiliary power
- FSK interface for communication to D-21 through the standard integrated transceiver, or optional network or fiber module



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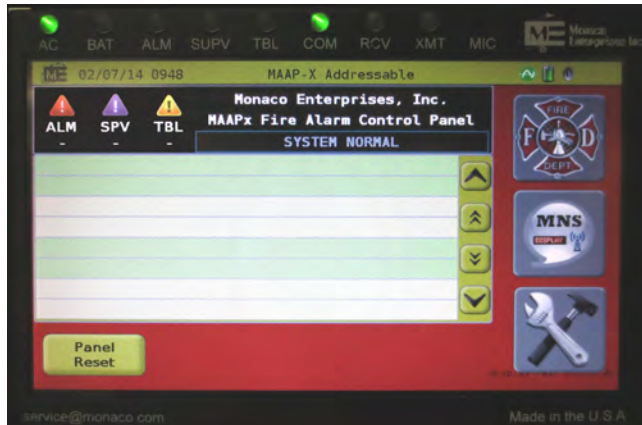
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# Addressable Fire Alarm Control Panels with MNS

## Main Panel and LOC/RDU Touch-Screen Features



- Fire and MNS operation for first responders
- Simple English messages identify alarm, trouble, and supervisory conditions
- Displays zone input or addressable device programmable descriptions
- User-defined device and zone descriptions
- Panel reset, alarm/trouble silence
- LED status indicators for primary/secondary power, radio communication, general alarm, and trouble
- Panel maintenance functions, such as:
  - Zone and sensor device enable/disable
  - Walktest
  - Radio key-up test
  - Enhanced diagnostic information—identifying panel troubles and loop faults
- Panel history
- Built-in microphone or optional push-to-talk microphone for live voice

## Message Card

- Standard card has eight default prerecorded MNS messages and one fire evacuation message for a total of nine prerecorded messages
- User-defined messages available with a customer-option message card with eight user-defined prerecorded MNS messages and one user-defined prerecorded fire evacuation message

## AAC II Backplane

The AAC II supports a combination of up to eight cards. The cards can be either ADCs (up to seven, one included) or SOC (up to four, one included).

### ADC (for addressable devices)

Each ADC supports one Class A/X or two Class B Signaling Line Circuits (SLCs) for addressable device pathways. Each card supports 99 smoke or heat detectors and 99 monitor or control modules.

Options such as sounder or relay bases and fault isolator modules reduce the number of addressable devices (198 device equivalents maximum).

### SOC (for speakers)

Each SOC supports one Class A or two Class B speaker circuits for speaker audio pathways. Each card provides 25 Vrms, 32 W of speaker audio power.

## Additional MAAP-X Features

- Legacy zone-only fire reporting, or point reporting for each addressable device
- Pre-tone and post-tone options for MNS messages
- Messages settable for time-outs of 1 to 60 minutes
- MNS display screen can be customized by user
- MNS prioritized by LOC/RDU locations and message numbers, with live voice override
- Text display notification using 2010 NFPA 72 compliant textual visual boards for emergency notification programmed to match MAAP-X MNS prerecorded messages
- Local speaker for MNS messages and audible alert for alarm, trouble, and supervisory notification
- Additional battery backup expansion options available for increased operation times during AC power failures
- Transfer between AC primary power and battery secondary power is automatic



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# Addressable Fire Alarm Control Panels with MNS

## Sensor Grouping

With point reporting enabled, MAAP-X supports the Monaco sensor-group feature:

- Smoke detectors function together to control local sounder bases and reduce nuisance alarms
- Beneficial in dormitory environments, reducing costly response runs and building evacuations for isolated incidents

## MNS and Paging Push to Talk Microphones

- Handheld push to talk MNS microphone for use inside LOC/RDU enclosures. 2 ft. cable included.
- Handheld push to talk MNS microphone in red 8 in. H x 6 in. W x 3 in. D enclosure. 15 ft. cable for connection to MAAP-X included.
- Handheld push to talk paging microphone in red 8 in. H x 6 in. W x 3 in. enclosure. 15 ft. single cable for connection to MAAP-X and LOC included. Dual cable also included if connecting MNS and paging microphone to the MAAP-X.

## MAAP-X Configuration Programming Software

MAAP-X Planner Kit allows the user to program the panel. Planner functions include:

- Uploading/downloading the MAAP-X program file to/from the panel
- Creates a MAAP-X configuration file that can be imported into the D-21 Central; manual information entry to D-21 not needed
- Central reporting modes:
  - Point reporting (addressable device addresses with zone reporting to D-21 and MNS operation)
  - Legacy (zone reporting to D-21 and MNS operation)
  - Stand-alone (in-building fire and MNS operation only)
- Setting D-21 Central communication modes—radio or hard-wire (Ethernet, fiber), single comm or dual comm
- Configuring fire and MNS device circuits
- Configuring MAAP-X and LOC/RDUs for fire and MNS operation

- Provides the ability to keep panel configuration files for backup
- Windows® (XP, 7.0, 8.0, 10) compatible Monaco MAAP-X Planner software
- Define zone and device descriptions

## MAAP-X D-21 Configuration Options

### Panel Configuration

A configuration-file copy is stored at the D-21 that can be used as a backup.

### Mass Notification

- In-building, prerecorded, and live voice MNS from the main panel, LOC/RDUs, and from D-21 Central systems configured for base-wide MNS
- Preconfigured MNS message files streamed from D-21 Central systems configured for broadcast MNS

### Fire Zone Reporting

- MAAP-X can be configured for legacy fire non-point-reporting, compatible with D-21 Central systems configured with an FSK interface
- MAAP-X displays the address of the individual device in alarm on its touch screen and reports up to 64 fire zones to the D-21

### Fire Point Reporting

MAAP-X:

- Supports Monaco's advanced fire point reporting and is compatible with D-21 Central systems configured for point reporting
- Individually reports alarm and trouble status of addressable sensors and monitor modules in real-time to the D-21 Central

### D-21 Connectivity

- MAAP-X supports radio (site-specific narrowband frequency) and hard-wire communication
- User selects central communication mode—primary only or primary with fallback to secondary
- Only one antenna system needed for radio communication; hard-wire options include Ethernet and fiber-optic



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# Addressable Fire Alarm Control Panels with MNS

## Panel Clock Synchronization

- D-21 can be configured to synchronize the MAAP-X internal clock and calendar
- Synchronizing eliminates the need to adjust each panel for daylight-savings time

## Software Version

MAAP-X requires D-21 software with MAAP-X support. An RFM-X is required for point reporting and MNS.

## Hardware Specifications

### Electrical

<i>IDC (Zone Inputs)</i>	Capacity: 4 Class A or 8 Class B Non-loop-power: 4 VDC with EOL, 12 VDC at 25 mA max. EOL: 3.9 kohm 1/4 W, Class B only Max. loop resistance: 50 ohms per leg
<i>NAC (Notification Appliance Circuit Outputs)</i>	Capacity: 4 Class A or 8 Class B, polarity reversing EOL: 3.9 kohm 1/4 W, Class B only <b>NACs programmed as "regulated":</b> Power: 24 VDC 1A Max. loop resistance: 1.5 ohms per leg <b>NACs programmed as "special application" (synchronized strobes):</b> Power: 24 VDC 2A Max. loop resistance: 0.75 ohm per leg Wiring: Standard fire-alarm-rated cable
<i>SLC (Addressable)</i>	Per ADC: <ul style="list-style-type: none"><li>• 2 Class B or 1 Class A/X SLC input(s)</li><li>• 99 smoke or heat sensors</li><li>• 99 monitor or control modules</li></ul> Power: 0–29 VDC polling protocol Supervision: open, short, ground fault Max. loop resistance: 40 ohms per leg Wiring: Unshielded twisted pair
<i>Speaker Circuits</i>	Per SOC: 2 Class B or 1 Class A output(s) Power: 25 VAC RMS, 32 W max. each, 100 W total Supervision: open, short, ground fault EOL: 3.9 kohm 1/4 W, Class B only Max. loop resistance: 1.5 ohms per leg Wiring: Standard fire-alarm-rated cable

*AUX PWR* Power: 24 VDC 2A  
Supervision: none  
Max. loop resistance: 1 ohm per leg  
Wiring: Standard fire-alarm-rated cable

*AUX Audio Input* Transformer coupled 600 ohm audio input.  
0.3000V RMS = 0.85V P-P = 10.46 dBV  
0.3535V RMS = 1.00V P-P = 9.03 dBV  
0.7071V RMS = 2.00V P-P = 3.01 dBV  
0.7750V RMS = 2.19V P-P = 2.21 dBV  
Requires a closed contact trigger.

*Relays, K1–K4* Contact rating: 30 VDC at 2A max.  
Supervision: none

*Radio Output Power* 4 W minimum (2 W, some frequencies)

*Battery Backup* Standard: two rechargeable 12V/18 Ah  
Integrated charger: supervised dual-rate, meets NFPA 72 and UL 864 requirements, 27.6 VDC 4A  
Low battery alert: 20.4 VDC  
Low battery disconnect: 18.5 VDC

*AC Power* 3-wire autosensing, 120/240 VAC  
50/60 Hz 2.2/1.2A

*Radio* Narrowband radio meets requirements of the National Telecommunications and Information Administration Manual of Regulations and Procedures for Federal Frequency Management. FCC certified.

### Environmental

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 0% to 90% non-condensing

## Ordering Information

### Panels

#### *Integrated Radio, Surface- and Flush-mount*

Part Number	Description
<b>227-912-xx</b>	MAAP-X upgrade for M-1, M-2, MAAP(+) Fire only Panels with 28 in. high or larger enclosures; specify frequency (-xx) when ordering <b>NOTE</b> Can also use as a spare MAAP-X electronic package.



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# Addressable Fire Alarm Control Panels with MNS

## Associated Parts

Part Number	Description
<b>081-156-00</b>	Batteries with enclosure: <ul style="list-style-type: none"> <li>NEMA 1 Red surface-mount enclosure, 18 in. x 12 in. x 6 in., with wire harness for use with M-2 conventional, MAAP+, MAAP-X and Vulcan 1 FACPs</li> <li>Two 12 VDC/26 Ah batteries</li> </ul>
<b>122-012-00</b>	Handheld Push-to-Talk Microphone and holder for use on LOC/ RDU Touch Screen; includes 2 ft. cable for connection to LOC/RDU Touch Screen
<b>122-012-05</b>	Handheld Push-to-Talk MNS Microphone in red enclosure, 8 in. x 6 in. x 3 in. with window; includes 15 ft. cable for connecting to MAAP-X or LOC/RDU Touch Screen
<b>122-012-06</b>	Handheld Non-Emergency Push-to-Talk Paging Microphone in red Enclosure, 8 in. x 6 in. x 3 in., includes 15 ft. single cable for connecting to MAAP-X, LOC/RDU Touch Screen or LOC Keypad; dual cable also included if connecting MNS and Paging microphone to the MAAP-X or LOC/RDU Touch Screen
<b>176-194-00</b>	Addressable driver card (ADC), supports up to 198 addressable devices on a Signaling Line Circuit
<b>176-268-02</b>	Multiplexer, RS-422 to 8 RS-485 ports with surge suppression, 24 VDC, to support MAAP-X LOC/RDU Touch Screens and LOC Keypads per output; see <b>NOTE 1</b>
<b>176-272-00</b>	Speaker Output Card (SOC)
<b>205-032-00</b>	MAAP Printer Kit, includes optoisolator with power adaptor, RJ-45 DTE to DB-25 male DCE adaptor, RJ-45 cable, DB-25 extension cable
<b>207-625-00</b>	MAAP-X Addressable Planner kit, CD, CAT6 programming cable, 45 DTE-9F DCE adaptor
<b>400-712-00</b>	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13 in. x 3.03 in. x 6.59 in., 12.60 lb
<b>513-411-01</b>	MAAP-X Tamper Switch Kit
<b>710-054-01</b>	Remote text annunciator, two-line, 40 characters ea.

Part Number	Description
<b>710-075-01</b>	MAAP-X Text Display, 24 VDC, two line, multi-color, default text display; <b>requires MAAP-X Panel firmware version A.4.6 or higher</b> <b>NOTE</b> Requires Text Display Interface, Program Utility and DC Power Supply, see Cutsheet 710-075-01 for more information. <b>NOTE</b> According to NFPA 72, 2010 24.4.2.21 when the two line, multi-color, text display is mounted more than ten feet above the floor with a viewing distance of more than 21 ft., the display is required to be configured with only a single line of text so the font is large enough to view properly.
<b>710-072-01</b>	MAAP-X LOC/RDU touch screen, fire/MNS 19 in. H, surface-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup; see <b>NOTE 1</b>
<b>710-072-02</b>	MAAP-X LOC/RDU touch screen, fire/MNS, 19 in. H, flush-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup; see <b>NOTE 1</b>
<b>NOTE 1</b> The MAAP-X Panel can support up to 30 LOCs. Of the 30 LOCs a maximum of 10 can be LOC/RDU Touch Screens, the rest need to be LOC Keypads. All 30 can be LOC Keypads. Each MAAP-X enclosure can support one LOC MUX (P/N 176-268-02) that can support a total of 30 LOCs. Each LOC MUX has eight RS-485 outputs that LOCs can be connected to. Each RS-485 output can support 30 LOC Keypads maximum or eight LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.	

## MNS Message Card Kit

Part Number	Description
<b>326-M00-01</b>	MAAP-X standard message card—eight MNS, one Carbon Monoxide (CO), one Medical Emergency, one Fire, for 11 total prerecorded messages. These are summaries, not the full-message text: <p>Message 1 Emergency, evacuate to designated area</p> <p>Message 2 Bomb threat, evacuate at nearest exit</p> <p>Message 3 Severe weather warning</p> <p>Message 4 Intruder, follow designated pre-plan</p> <p>Message 5 Shelter in-place</p> <p>Message 6 Emergency, use alternate exit</p> <p>Message 7 Emergency has ended</p> <p>Message 8 Test of Monaco Mass Notification System</p> <p>Message 9 CO Detected</p> <p>Message 10 Medical Emergency (EMS)</p> <p>Dedicated Fire Message</p>



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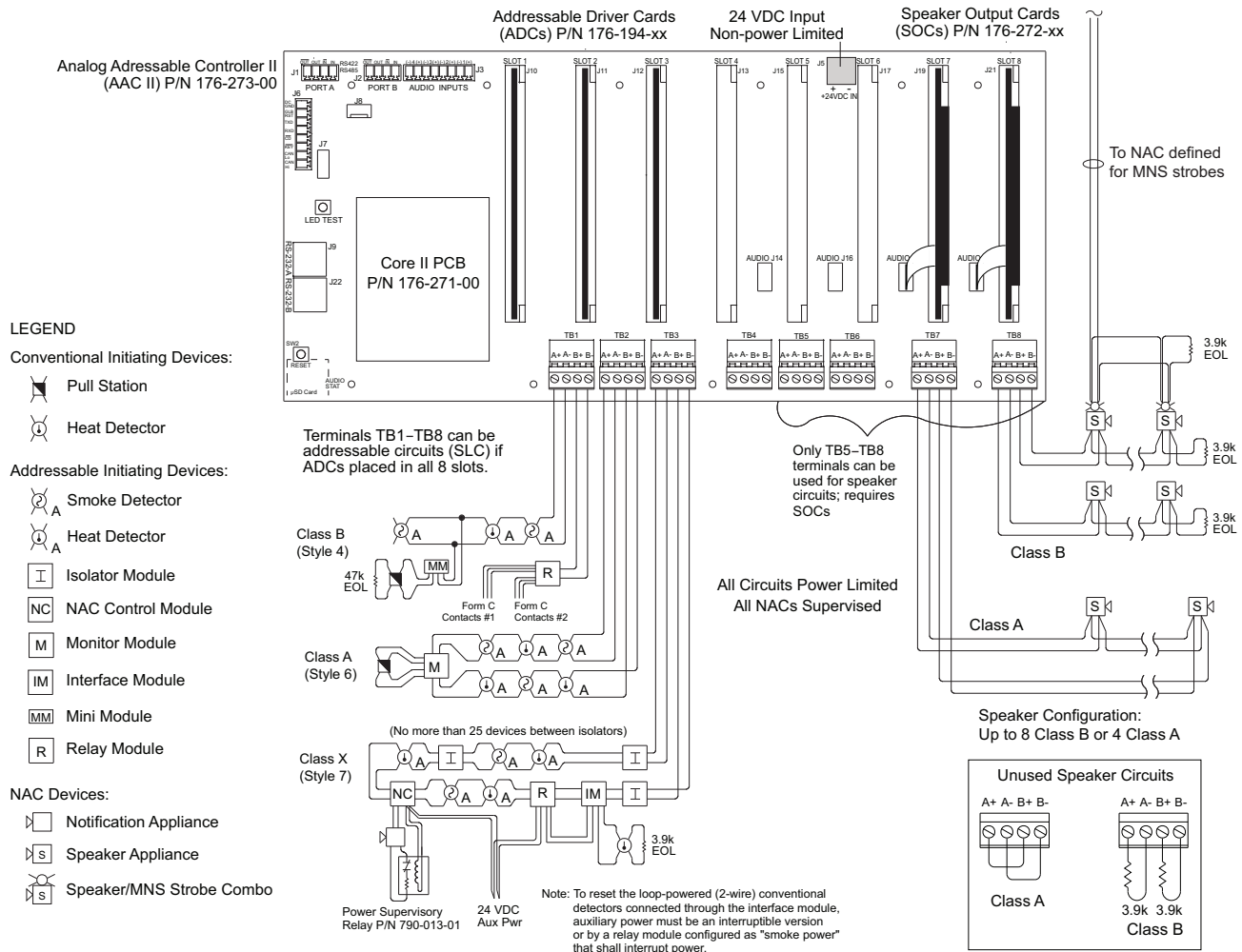
# Addressable Fire Alarm Control Panels with MNS

Part Number	Description
<b>326-M01-01</b>	MAAP-X customer option message card—eight MNS, one fire, for nine total prerecorded messages:  <b>Message set information must be provided at time of ordering. Contact Monaco for the forms (P/N 001-583-02 for new message sets or P/N 001-583-01 for existing site established message sets). The form is needed to have the message set installed on the card before the MAAP-X panel ships.</b>

Part Number	Description
<b>326-M10-01</b>	MAAP-X customer option message card field upgrade kit—eight MNS, one fire, for nine total prerecorded messages:  <b>Message set information must be provided at time of ordering. Contact Monaco for the forms (P/N 001-583-02 for new message sets or P/N 001-583-01 for existing site established message sets). The form is needed to order this upgrade to replace existing messages at your site.</b>

## Wiring Diagrams

### Addressable Circuits



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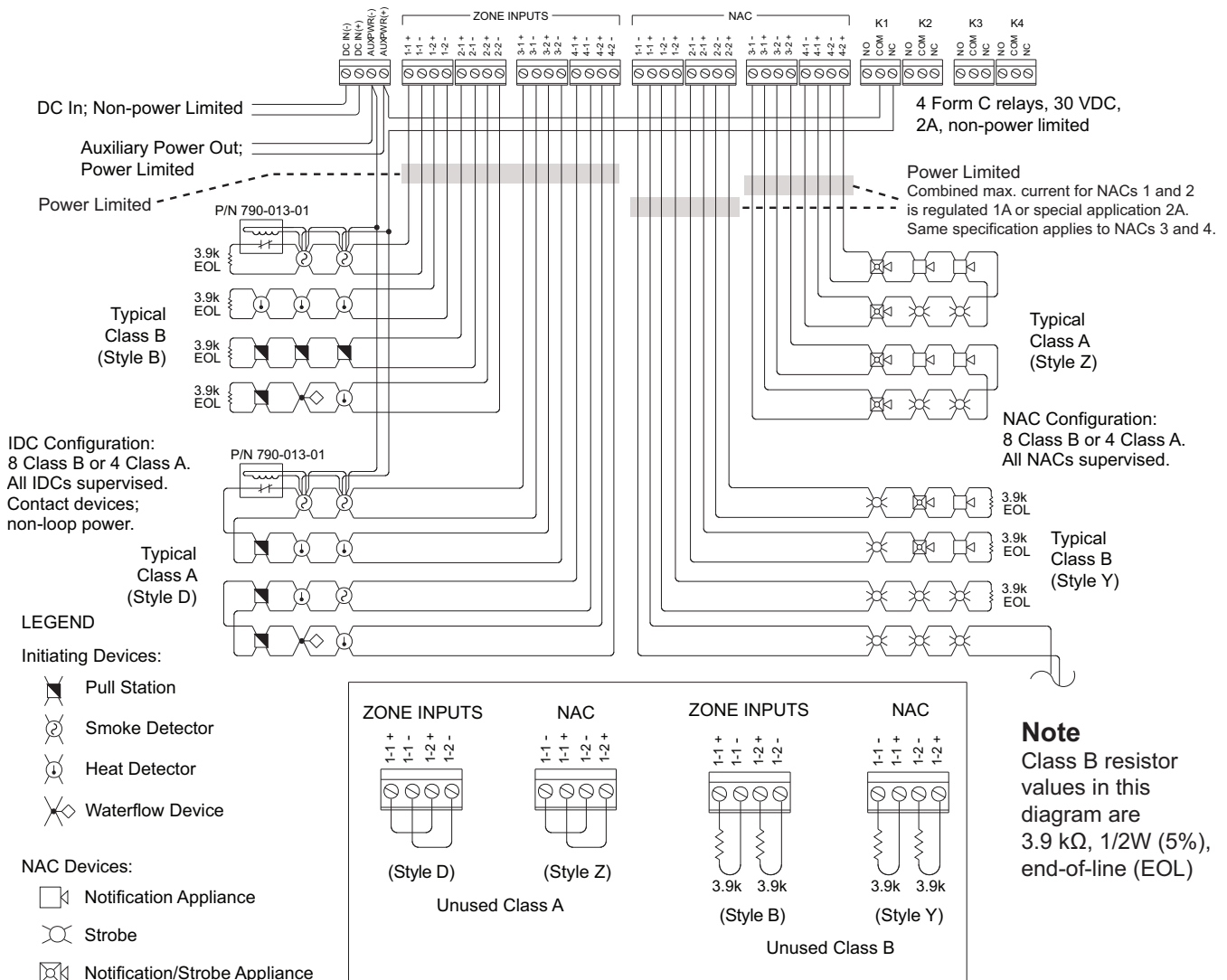
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# Addressable Fire Alarm Control Panels with MNS

## Conventional Circuits



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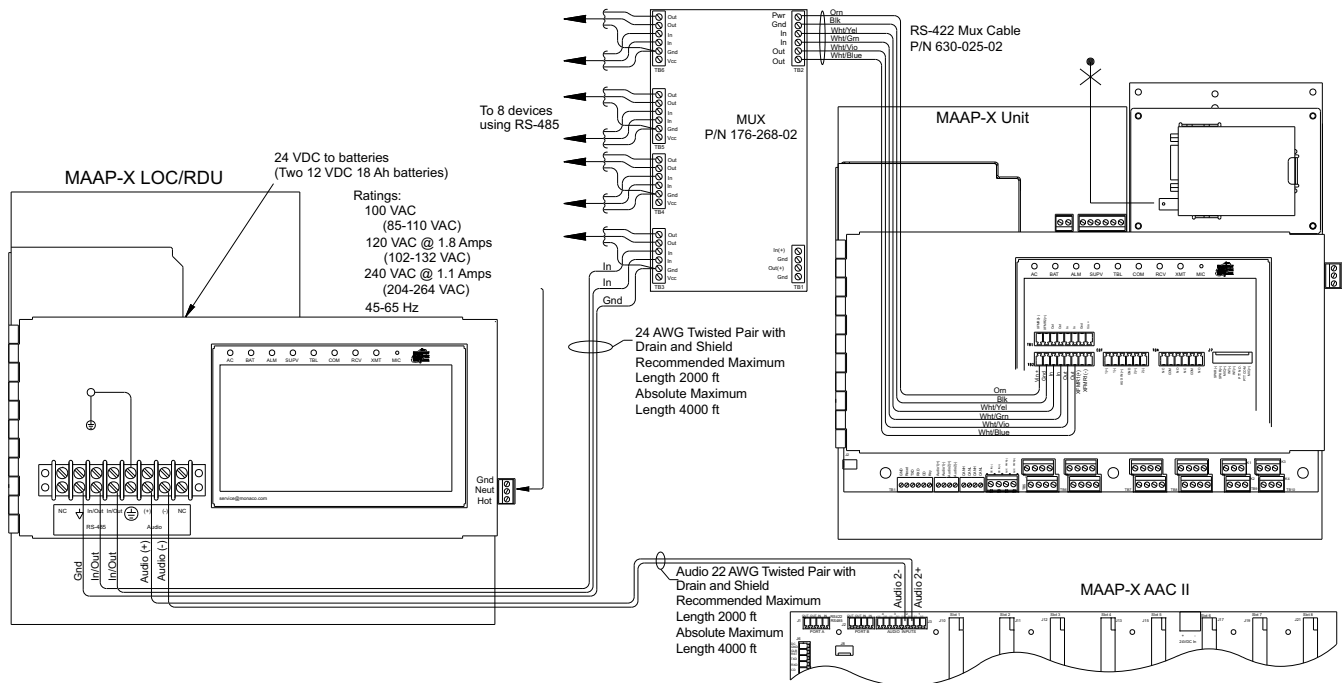
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X to LOC/RDU Wiring



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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X Addressable Fire Alarm Expansion Backplane

176-273-99

### Description

The latest Monaco MAAP-X FACP with the new CORE III processor has the ability to communicate with up to two MAAP-X Expansion Backplanes within the same enclosure. The MAAP-X Expansion Backplanes are intelligent AAC II (Analog Addressable Controllers II) that support ADCs for addressable devices and SOC's for speaker devices. The AAC II backplane has eight card slots. All eight card slots support ADCs, but only the last four card slots can support SOC's. Each ADC can support 99 addressable detectors and 99 addressable modules. Each SOC can support 32 watts of speaker power, with the combined total of the four SOC cards limited to 100 W. NAC Strobe Devices are supported and activated by an Addressable NAC module connected to a NAC Booster panel. Text Displays, LOC Keypads for MNS or LOC Touch Screens for Fire Annunciation/control and MNS can be added to MAAP-X Sub-Panels. If auxiliary power is needed at a MAAP-X Sub-Panel location, an Auxiliary Power Supply will need to be added.



A fully expanded MAAP-X System supports up to six intelligent AAC II backplanes. There is always one in the MAAP-X enclosure. The remaining five AAC II backplanes can all be in MAAP-X Sub-Panels; or two of the five AAC II backplanes can also be located in the MAAP-X enclosure for a maximum total of three AAC II backplanes in the MAAP-X enclosure with the remaining three AAC II backplanes in MAAP-X Sub-Panels. When the AAC II backplanes are installed in the MAAP-X enclosure they are called **MAAP-X Expansion Backplanes**.

### Features

- MAAP-X Systems provide Addressable Fire Detection, prerecorded and live voice MNS compatible with the Monaco D-21 System.
- A MAAP-X panel with the CORE III processor can have up to two MAAP-X Expansion Backplanes. If the MAAP-X system also has more than three MAAP-X Sub-Panels (five maximum), it reduces the number of MAAP-X Expansion Backplanes, one to one.
- Each MAAP-X Expansion Backplane contains an AAC II backplane that supports ADCs for addressable devices and SOC's for speaker devices. There are eight card slots available. All eight slots support ADCs, but only the last four slots can support SOC's.
- MAAP-X Expansion Backplanes can also support LOCs and Text Displays.
  - Additional kits are added to MAAP-X System to support connected Text Displays and LOCs.
- A fully expanded MAAP-X System supports a maximum of:
  - 6 AAC II Backplanes
  - 28 Addressable Driver Cards (ADCs)
  - 24 Speaker Output Cards (SOCs)
  - 30 Local Operating Consoles (LOCs)
  - 64 Text Displays

**NOTE** The number of ADCs and SOC's may be less based on the MAAP-X System configuration.
- MAAP-X Systems provide options for both prerecorded and live voice MNS.
- Battery backup must be ordered separately and requires a separate enclosure.
- Contact your Monaco Customer Service Representative for available MAAP-X System configurations to meet your requirements.



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# Addressable Fire Alarm Control Panels with MNS

## Specifications

### Electrical

#### SLC (Addressable) Per ADC:

- 2 Class B or 1 Class A/X SLC input(s)
- 99 smoke or heat sensors
- 99 monitor or control modules

Power: 0 to 29 VDC polling protocol  
Supervision: open, short, ground fault  
Max. loop resistance: 40 ohms per leg  
Wiring: unshielded twisted pair

#### IDC (Zone Inputs)

Requires addressable modules on Signaling Line Circuits, such as:  
Monitor Module, P/N 729-142-00  
10 Input Monitor Mod, P/N 729-162-00  
Mini Monitor Module, P/N 729-143-00  
2-Wire Interface Mod, P/N 729-144-00

#### NAC (Notification Appliance Circuit Outputs)

Requires addressable modules on Signaling Line Circuits, such as:  
Supervised Module, P/N 729-158-00

#### NAC Power Boosters:

Extender 120V 8A, P/N 404-126-00  
Extender 220V 8A, P/N 404-126-01  
Extender 120V 10A, P/N 404-106-00

#### Relays, Addressable Only

Requires addressable modules on Signaling Line Circuits, such as:  
Relay Module, P/N 729-159-00  
6 Output Relay Mod, P/N 729-165-00

#### Line-Level Audio Circuits (LOC to MAAP-X Sub-Panel)

Minimum 22 AWG twisted pair with drain and shield  
Recommended max. length 2,000 ft.  
Absolute max. length 4,000 ft.

#### RS-485 Communication Circuits (LOC to MAAP-X Sub-Panel)

Minimum 24 AWG twisted pair with drain and shield  
Recommended max. length 2,000 ft.  
Absolute max. length 4,000 ft.  
Recommended wire impedance 120 ohms

#### Speaker Circuits

Per SOC: 2 Class B or 1 Class A output(s)  
Power: 25 VAC RMS (70.7V P-P), 32 W max. each, 100 W max. per MAAP-X AAC II Backplane (four SOC's max.)  
Frequency Response Range: 100 Hz to 10,000 Hz  
Supervision: open, short, ground fault  
EOL: 3.9 kohm 1/4 W, Class B only  
Max. loop resistance: 1.5 ohms per leg  
Min. load impedance rating: 25 ohms  
Wiring: Standard fire-alarm-rated cable

**AUX PWR** Requires 24 VDC Auxiliary Power Supply  
8A power supply 110V, P/N 404-098-00  
8A power supply 230V, P/N 404-098-10  
6A power supply 110/230V, P/N 404-150-00

#### Battery Backup

Separate battery enclosure; batteries and enclosure sold separately

Low battery trouble: 21.5 VDC  
Low battery disconnect: 19.8 VDC  
Battery Float Charge: 27.6 VDC, 3A max.  
Battery Boost Charge: 28.8 VDC, 3A max.

#### AC Input

3-wire autosensing, 100/120/240 VAC, 50/60 Hz, 4.5A to 2A  
100 VAC @ 4.5A, (85 to 110 VAC)  
120 VAC @ 4.5A, (102 to 132 VAC)  
240 VAC @ 2A, (204 to 264 VAC)

#### AC Fail

100 VAC, below 70 VAC  
120 VAC, below 70 VAC  
240 VAC, below 70 VAC  
< 70 VAC, AC Fail annunciated  
< 40 VAC, switches to secondary battery power only  
> 60 VAC, switches back to primary AC power

#### DC Power

24 VDC (nominal)  
Factory-adjusted to 28.5 VDC  
3A maximum battery charge current  
0.320A typical in Standby current  
10A max. total for power supply output

### Environmental

**Operating Temperature** 32°F to 120°F (0°C to 40°C)

**Relative Humidity** 0% to 90% non-condensing

### Electrical Specifications: Sub-Panel and Fiber Kits

Part Number	DC Input	DC Current
176-286-02	24 VDC (nominal), 18.5 VDC to 30 VDC	0.035A typical, 0.195A maximum
200-495-02	24 VDC (nominal), 12 VDC to 48 VDC	0.263A maximum
200-490-02	24 VDC (nominal), 12 VDC to 48 VDC	0.233A maximum
194-535-03	24 VDC (nominal), 9 VDC to 36 VDC	0.250A maximum
194-535-02	24 VDC (nominal), 9 VDC to 36 VDC	0.125A maximum
194-538-02	24 VDC (nominal), 10 VDC to 48 VDC	0.108A maximum



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# Addressable Fire Alarm Control Panels with MNS

## Ordering Information

### MAAP-X Sub-Panel

Part Number	Description
<b>176-273-99</b>	MAAP-X Expansion Backplane Assembly, point reporting, addressable, fire alarm control, mass notification, voice evacuation panel. Must be installed in the main MAAP-X Panel enclosure. <ul style="list-style-type: none"> <li>• NEMA 1, red enclosure, Surface-mount or flush-mount, 28 in., 43 in. or 60 in. options</li> <li>• 100–240 VAC, 50/60 Hz</li> <li>• ADCs and SOC's sold separately</li> <li>• Batteries and enclosure sold separately</li> </ul>

### Associated Parts

Part Number	Description
<b>176-286-03</b>	MAAP-X Sub-Panel Text Display Multiplexer (MUX) Kit
<b>176-286-02</b>	MAAP-X Sub-Panel LOC Multiplexer Kit (required for more than 10 LOCs); RS-422 to eight RS-485 ports with surge suppression, 24 VDC, to support MAAP-X LOC/RDU Touch Screens and LOC Keypads per output See <b>NOTE 1</b> .
<b>176-297-01</b>	MAAP-X Sub-Panel LOC surge protector PCB kit for connecting up to 10 LOCs
<b>200-495-02</b>	MAAP-X Panel Ethernet Kit 4FO/4CO
<b>200-490-02</b>	MAAP-X Panel Ethernet Kit 2FO/3CO
<b>710-075-01</b>	MAAP-X Text Display, 24 VDC, two line, multicolor, default text display; requires MAAP-X Panel firmware version A.4.6 or higher See <b>NOTE 2</b> and <b>NOTE 3</b> .
<b>710-072-01</b>	MAAP-X LOC/RDU Touch Screen, fire/MNS, 19 in. H, surface-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup See <b>NOTE 1</b> .
<b>710-072-02</b>	MAAP-X LOC/RDU Touch Screen, fire/MNS, 19 in. H, flush-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup See <b>NOTE 1</b> .
<b>207-625-00</b>	MAAP-X Addressable Planner kit, CD, CAT6 programming cable, 45 DTE-9F DCE adaptor

Part Number	Description
<b>176-194-00</b>	Addressable Driver Card (ADC I), supports up to 198 addressable devices on a Signaling Line Circuit <b>NOTE</b> Supports CLIP addressable devices only.
<b>176-279-00</b>	Addressable Driver Card (ADC II), supports up to 198 addressable devices on a Signaling Line Circuit, RoHS compliant <b>NOTE</b> Supports CLIP and AP addressable devices.
<b>176-272-00</b>	Speaker Output Card (SOC), 32 W AUDIO AMPLIFIER CARD, one Class A or two Class B SUPERVISED Audio outputs for the MAAP-X
<b>NOTE 1</b> The MAAP-X Panel can support up to 30 LOCs. Of the 30 LOCs a maximum of 10 can be LOC/RDU Touch Screens, the rest need to be LOC Keypads. All 30 can be LOC Keypads. Each MAAP-X enclosure can support one LOC MUX (P/N 176-286-02) that can support a total of 30 LOCs. Each LOC MUX has eight RS-485 outputs that LOCs can be connected to. Each RS-485 output can support 30 LOC Keypads maximum or eight LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.	
<b>NOTE 2</b> Requires Text Display Interface, Program Utility and DC Power Supply, see Cut Sheet 710-075-01 for more information.	
<b>NOTE 3</b> According to NFPA 72, 2010 24.4.2.21 when the two line, multicolor, text display is mounted more than 10 ft. above the floor with a viewing distance of more than 21 ft., the display is required to be configured with only a single line of text so the font is large enough to view properly.	



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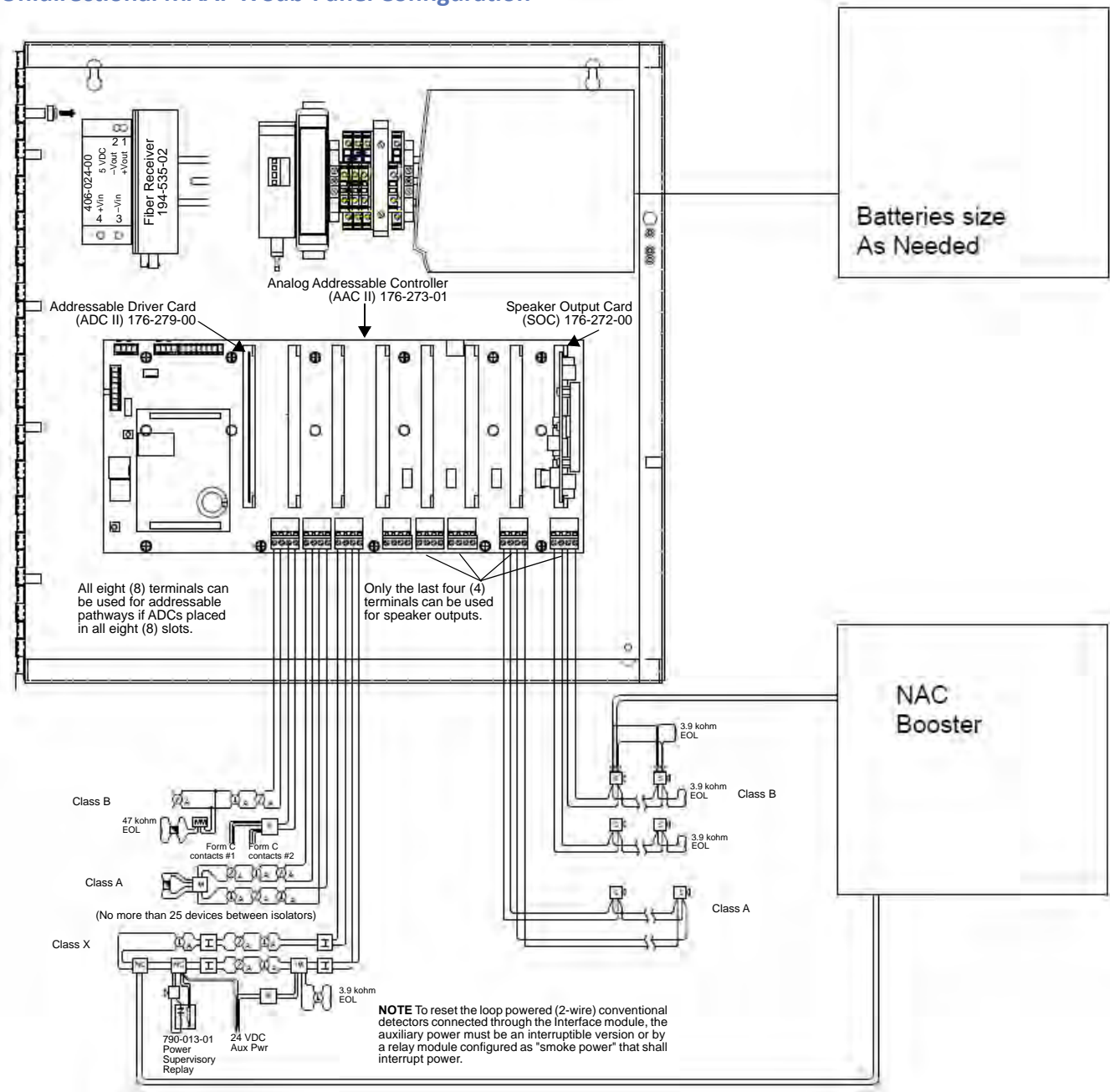
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# Addressable Fire Alarm Control Panels with MNS

## Drawings (PLACEHOLDERS)

### Unidirectional MAAP-X Sub-Panel Configuration



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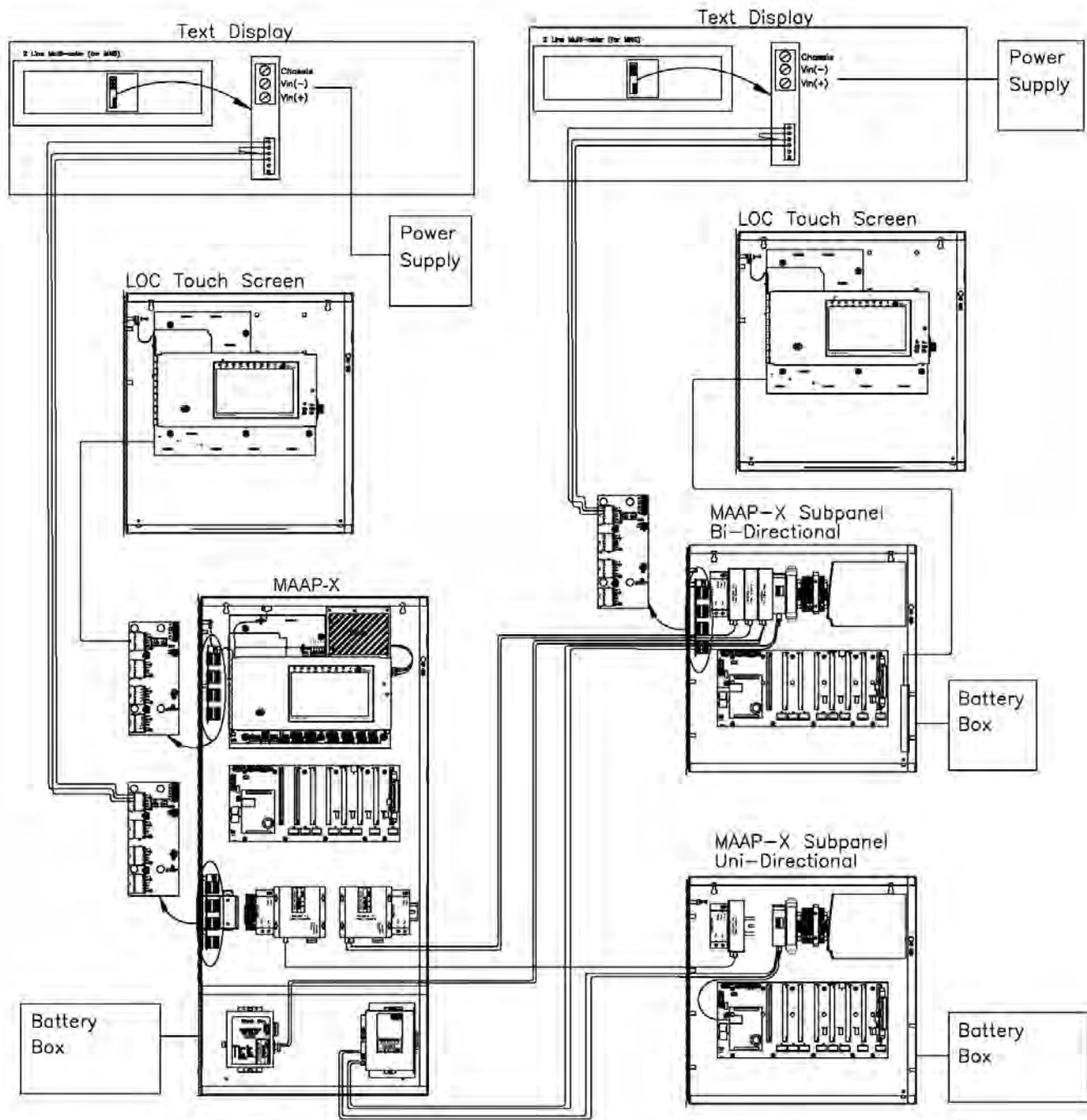
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X System Configuration Option: Includes two Sub-Panels, two LOCs, and two Text Displays



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# Addressable Fire Alarm Control Panels with MNS

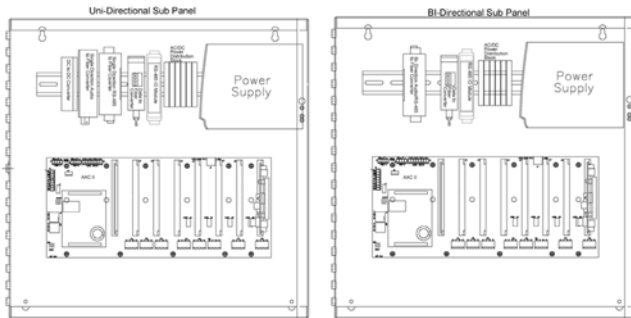
## MAAP-X Addressable Fire Alarm Sub-Panel

700-101-00

### Description

The latest Monaco MAAP-X FACP with the new CORE III processor has the ability to communicate with up to two MAAP-X Expansion Backplanes within the same enclosure. The MAAP-X and every MAAP-X Sub-Panel contains an intelligent AAC II backplane (Analog Addressable Controller II) with eight card slots: all eight card slots support ADCs for addressable devices, but only the last four card slots can support SOC for speaker devices. Each ADC can support 99 addressable detectors and 99 addressable modules. Each SOC can support 32 W of speaker power, with the combined total of the four SOC cards limited to 100 W.

NAC Strobe Devices are supported and activated by an Addressable NAC module, which is connected to an NAC Booster panel. Text Displays, LOC Keypads for MNS, or LOC Touch Screens for Fire Annunciation/control and MNS can be added to MAAP-X Sub-Panels. If auxiliary power is needed at a MAAP-X Sub-Panel location, an Auxiliary Power Supply will need to be added.



A fully expanded MAAP-X System supports up to six intelligent AAC II backplanes, including the main backplane that will always be in the MAAP-X enclosure. The MAAP-X enclosure can accommodate a maximum of three backplanes: the main backplane and two additional AAC II backplanes. When the two additional AAC II backplanes are installed in the MAAP-X enclosure, they are called **MAAP-X Expansion Backplanes**. AAC II backplanes that are not mounted in the MAAP-X enclosure must be mounted in MAAP-X Sub-Panels.

The MAAP-X Sub-Panel offers two communication options that must be determined before ordering:

**MAAP-X Unidirectional Sub-Panels** can only receive audio sent from the MAAP-X panel; they cannot send audio to the MAAP-X panel. Unidirectional Sub-Panels are typically installed in SCIF areas where audio can only pass into the SCIF area but not out.

**MAAP-X Bidirectional Sub-Panels** can receive audio from the MAAP-X panel and can also send audio to the MAAP-X panel from LOCs for broadcast to all speaker devices on the MAAP-X System. Bidirectional Sub-Panels are not typically used in SCIF areas but are used in larger systems that have LOCs colocated with the MAAP-X Sub-Panels.

### Features

- MAAP-X Systems provide Addressable Fire Detection, prerecorded and live voice MNS compatible with the Monaco D-21 System.
- MAAP-X Sub-Panels communicate to the main MAAP-X over fiber connections. The cables are single mode fiber with SC and ST connectors and cover distances up to 15 km.
- A MAAP-X panel with the CORE III processor can have up to five MAAP-X Sub-Panels connected to it. If the MAAP-X panel has MAAP-X Expansion Backplanes (two maximum) installed in the MAAP-X enclosure, it reduces the number of MAAP-X Sub-Panels, one to one.
- Each MAAP-X Sub-Panel contains an AAC II backplane that supports ADCs for addressable devices and SOC for speaker devices. There are eight card slots available. All eight slots support ADCs, but only the last four slots can support SOC.
- MAAP-X Sub-Panels are either Unidirectional for SCIF areas with no LOCs; or Bidirectional when LOCs are colocated with them.
  - Additional kits are added to the MAAP-X Sub-Panels to make them unidirectional or bidirectional.
  - Additional kits are added to MAAP-X Sub-Panels to support connected Text Displays and LOCs.



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# Addressable Fire Alarm Control Panels with MNS

- A fully expanded MAAP-X System supports a maximum of:
  - 6 AAC II Backplanes
  - 28 Addressable Driver Cards (ADCs)
  - 24 Speaker Output Cards (SOCs)
  - 30 Local Operating Consoles (LOCs)
  - 64 Text Displays

**NOTE** The number of ADCs and SOCs may be less based on the MAAP-X System configuration.
- MAAP-X Systems provide options for both prerecorded and live voice MNS.
- Battery backup must be ordered separately and requires a separate enclosure.
- Contact your Monaco Customer Service Representative for available MAAP-X System configurations to meet your requirements.

## Specifications

### Electrical

<i>SLC (Addressable)</i>	Per ADC: <ul style="list-style-type: none"> <li>• 2 Class B or 1 Class A/X SLC input(s)</li> <li>• 99 smoke or heat sensors</li> <li>• 99 monitor or control modules</li> </ul> Power: 0–29 VDC polling protocol Supervision: open, short, ground fault Max. loop resistance: 40 ohms per leg Wiring: unshielded twisted pair	<i>Line-Level Audio Circuits (LOC to MAAP-X Sub-Panel)</i>	Minimum 22 AWG twisted pair with drain and shield Recommended max. length 2,000 ft. Absolute max. length 4,000 ft.
<i>IDC (Zone Inputs)</i>	Requires addressable modules on Signaling Line Circuits, such as: Monitor Module, P/N 729-142-00 10 Input Monitor Mod, P/N 729-162-00 Mini Monitor Module, P/N 729-143-00 2-Wire Interface Mod, P/N 729-144-00	<i>RS-485 Communication Circuits (LOC to MAAP-X Sub-Panel)</i>	Minimum 24 AWG twisted pair with drain and shield Recommended max. length 2,000 ft. Absolute max. length 4,000 ft. Recommended wire impedance 120 ohms
<i>NAC (Notification Appliance Circuit Outputs)</i>	Requires addressable modules on Signaling Line Circuits, such as: Supervised Module, P/N 729-158-00 <b>NAC Power Boosters:</b> Extender 120V 8A, P/N 404-126-00 Extender 220V 8A, P/N 404-126-01 Extender 120V 10A, P/N 404-106-00	<i>Speaker Circuits</i>	Per SOC: 2 Class B or 1 Class A output(s) Power: 25 VAC RMS (70.7V P-P), 32 W max. each, 100 W max. per MAAP-X AAC II Backplane (four SOCs max.) Frequency Response Range: 100 Hz to 10,000 Hz Supervision: open, short, ground fault EOL: 3.9 kohm 1/4 W, Class B only Max. loop resistance: 1.5 ohms per leg Min. load impedance rating: 25 ohms Wiring: Standard fire-alarm-rated cable
<i>Relays, Addressable Only</i>	Requires addressable modules on Signaling Line Circuits, such as: Relay Module, P/N 729-159-00 6 Output Relay Mod, P/N 729-165-00	<i>AUX PWR</i>	Requires 24 VDC Auxiliary Power Supply 8A power supply 110V, P/N 404-098-00 8A power supply 230V, P/N 404-098-10 6A pwr sup 110/230V, P/N 404-150-00
		<i>Battery Backup</i>	Separate battery enclosure; batteries and enclosure sold separately Low battery trouble: 21.5 VDC Low battery disconnect: 19.8 VDC Battery Float Charge: 27.6 VDC, 3A max. Battery Boost Charge: 28.8 VDC, 3A max.
		<i>AC Input</i>	3-wire autosensing, 100/120/240 VAC, 50/60 Hz, 4.5A to 2A 100 VAC @ 4.5A, (85–110 VAC) 120 VAC @ 4.5A, (102–132 VAC) 240 VAC @ 2A, (204–264 VAC)
		<i>AC Fail</i>	100 VAC, below 70 VAC 120 VAC, below 70 VAC 240 VAC, below 70 VAC < 70 VAC, AC Fail annunciated < 40 VAC, switches to secondary battery power only > 60 VAC, switches back to primary AC power
		<i>DC Power</i>	24 VDC (nominal) Factory-adjusted to 28.5 VDC 3A maximum battery charge current 0.320A typical in Standby current 10A max. total for power supply output

### Environmental

*Operating Temperature* 32°F to 120°F (0°C to 40°C)

*Relative Humidity* 0% to 90% non-condensing



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# Addressable Fire Alarm Control Panels with MNS

## Electrical Specifications: Sub-Panel and Fiber Kits

Part Number	DC Input	DC Current
<b>176-286-02</b>	24 VDC (nominal), 18.5 VDC to 30 VDC	0.035A typical, 0.195A maximum
<b>200-495-02</b>	24 VDC (nominal), 12 VDC to 48 VDC	0.263A maximum
<b>200-490-02</b>	24 VDC (nominal), 12 VDC to 48 VDC	0.233A maximum
<b>194-535-03</b>	24 VDC (nominal), 9 VDC to 36 VDC	0.250A maximum
<b>194-535-02</b>	24 VDC (nominal), 9 VDC to 36 VDC	0.125A maximum
<b>194-538-02</b>	24 VDC (nominal), 10 VDC to 48 VDC	0.108A maximum

## Ordering Information

### MAAP-X Sub-Panel

Part Number	Description
<b>700-101-00</b>	MAAP-X Sub-Panel Assembly, point reporting, addressable, fire alarm control, mass notification, voice evacuation panel; requires MAAP-X Panel. <ul style="list-style-type: none"> <li>• NEMA 1 surface-mount red enclosure 18 in. x 18 in. x 7 in.</li> <li>• 100–240 VAC, 50/60 Hz</li> <li>• ADCs and SOCs sold separately</li> <li>• Batteries and enclosure sold separately</li> </ul>

### Associated Parts

Part Number	Description
<b>176-286-03</b>	MAAP-X Sub-Panel Text Display Multiplexer (MUX) Kit
<b>176-286-02</b>	MAAP-X Sub-Panel LOC Multiplexer Kit (required for more than 10 LOCs); RS-422 to eight RS-485 ports with surge suppression, 24 VDC, to support MAAP-X LOC/RDU Touch Screens and LOC Keypads per output See <b>NOTE 1</b> .
<b>176-297-01</b>	MAAP-X Sub-Panel LOC Surge Protector PCB Kit for connecting up to 10 LOCs
<b>200-495-02</b>	MAAP-X Panel Ethernet Kit 4FO/4CO

Part Number	Description
<b>200-490-02</b>	MAAP-X Panel Ethernet Kit 2FO/3CO
<b>194-535-03</b>	MAAP-X Sub-Panel Audio Bidirectional Kit
<b>194-535-02</b>	MAAP-X Sub-Panel Audio Unidirectional Kit
<b>194-538-02</b>	MAAP-X Sub-Panel LOC RS-485 Communication Kit
<b>710-075-01</b>	MAAP-X Text Display, 24 VDC, two line, multicolor, default text display; requires MAAP-X Panel firmware version A.4.6 or higher See <b>NOTE 2</b> and <b>NOTE 3</b> .
<b>710-072-01</b>	MAAP-X LOC/RDU Touch Screen, fire/MNS, 19 in. H, surface-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup See <b>NOTE 1</b> .
<b>710-072-02</b>	MAAP-X LOC/RDU Touch Screen, fire/MNS, 19 in. H, flush-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup See <b>NOTE 1</b> .
<b>207-625-00</b>	MAAP-X Addressable Planner kit, CD, CAT6 programming cable, 45 DTE-9F DCE adaptor
<b>176-194-00</b>	Addressable Driver Card (ADC I), supports up to 198 addressable devices on a Signaling Line Circuit <b>NOTE</b> Supports CLIP addressable devices only.
<b>176-279-00</b>	Addressable Driver Card (ADC II), supports up to 198 addressable devices on a Signaling Line Circuit, RoHS compliant <b>NOTE</b> Supports CLIP and AP addressable devices.
<b>176-272-00</b>	Speaker Output Card (SOC), 32 W AUDIO AMPLIFIER CARD, one Class A or two Class B SUPERVISED Audio outputs for the MAAP-X

**NOTE 1** The MAAP-X Panel can support up to 30 LOCs. Of the 30 LOCs a maximum of 10 can be LOC/RDU Touch Screens, the rest need to be LOC Keypads. All 30 can be LOC Keypads. Each MAAP-X enclosure can support one LOC MUX (P/N 176-286-02) that can support a total of 30 LOCs. Each LOC MUX has eight RS-485 outputs that LOCs can be connected to. Each RS-485 output can support 30 LOC Keypads maximum or eight LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.

**NOTE 2** Requires Text Display Interface, Program Utility and DC Power Supply, see cut sheet 710-075-01 for more information.

**NOTE 3** According to NFPA 72, 2010 24.4.2.21 when the two line, multicolor, text display is mounted more than 10 ft. above the floor with a viewing distance of more than 21 feet, the display is required to be configured with only a single line of text so the font is large enough to view properly.



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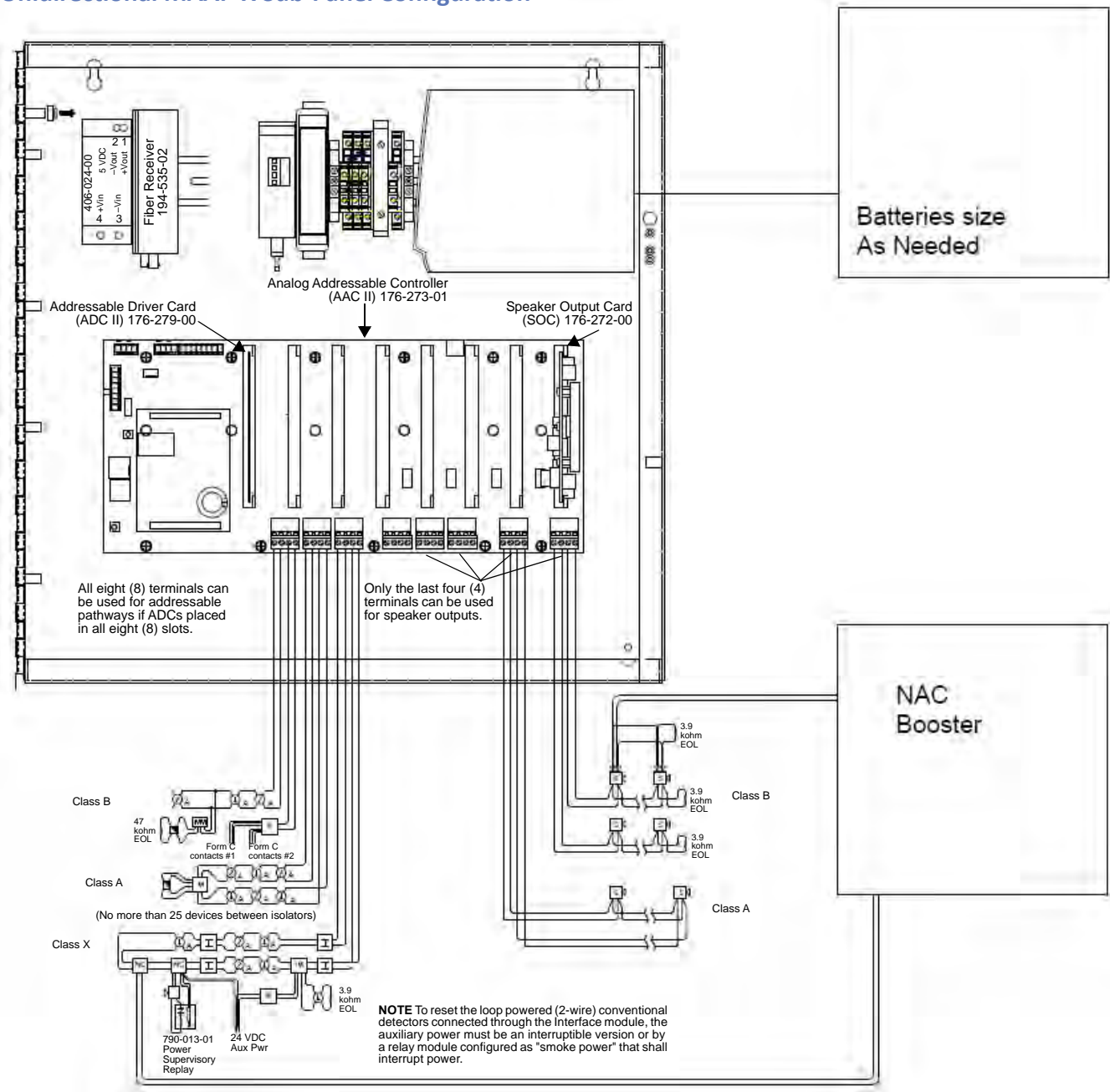
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# Addressable Fire Alarm Control Panels with MNS

## Drawings

### Unidirectional MAAP-X Sub-Panel Configuration



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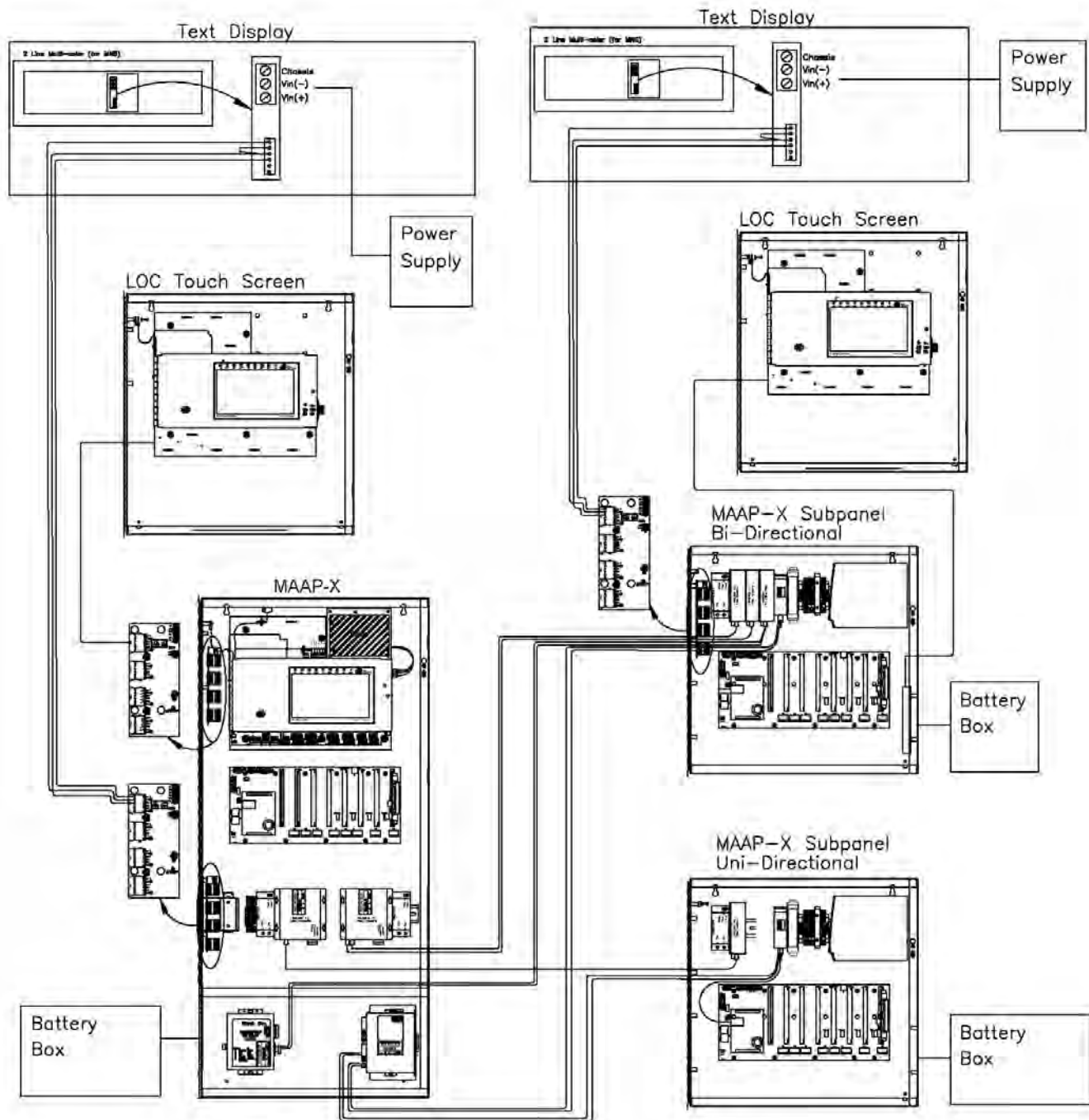
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X System Configuration Option: Includes two Sub-Panels, two LOCs, and two Text Displays



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# Addressable Fire Alarm Control Panels with MNS

## Local Operating Console/Remote Display Unit

710-072-01, 710-072-02

### Description

A Local Operating Console/Remote Display Unit (LOC/RDU) is a critical part of every installation, placed at strategic locations throughout the building. With an advanced approach to technology, Monaco's Touch Screen LOC/RDU combines the prerecorded and live voice message functions of an MNS LOC with the functions of a typically separate Fire Alarm Panel Remote Control Annunciator into one combination LOC.



Time is precious in an emergency; seconds matter. The combination LOC/RDU allows the operator to react to incident changes based on the real-time fire and MNS information displayed on the LOC/RDU.

The increased efficiency of combining fire and MNS functions into one LOC/RDU can lead to improved life-saving response times. This design also achieves a reduction in system costs by eliminating the requirement of purchasing two separate panels.

In addition to the standard features of an MNS LOC and Fire Alarm Panel Remote Control Annunciator, the Touch Screen LOC/RDU provides advanced features that only an integrated design can offer.

### Features

- Clear situation-awareness at all LOC/RDUs
- At key locations within the protected building, LOC/RDU functions are the same as the main panel:
  - Overriding a fire alarm for live voice or prerecorded announcements
  - Prioritized MNS operation by message, live voice, and LOC/RDU locations
- Built in MNS microphone
  - Optional handheld live voice push-to-talk (PTT) MNS microphone in separate enclosure
  - Optional handheld live voice push-to-talk (PTT) paging microphone in separate enclosure
- Alarm/trouble silence
- Panel reset
- Drill test
- Walktest
- STIPA message for testing voice intelligibility of speakers
- Device enable/disable
- Panel history
- Setting the panel date and time
- Enclosure comes with standard key C415A lock
- Three user-programmable modes of operation based on LOC/RDU location needs—fire and MNS, fire only, and MNS only
- Each touch screen provides a visual indication for active prerecorded or live voice MNS; touch screen displays an explanation message if a lower priority MNS request is denied
- Each LOC/RDU can be independently configured to play the prerecorded message or live voice audio
- HVAC Emergency shutoff switch in enclosure

MAAP-X Touch Screen LOCs are fully supervised and only require one twisted pair with drain and shield serial communication cable and one twisted pair with drain and shield audio cable for live voice, making them easy to install.



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# Addressable Fire Alarm Control Panels with MNS

## Specifications

**AC Input** Three selectable VAC ranges:

- 100 VAC (85 to 110)
  - 1.8A, 120 VAC (102 to 132 VAC)
  - 1.1A, 240 VAC (204 to 264 VAC)
- 45 to 65 Hz

**DC Output** 24 VDC nominal, factory adjusted to 27.6V

**Current Draw** 235 mA

**Battery Backup** Two 12V/18 Ah, Sealed Lead Acid

**Data Line** RS-485, 24 AWG twisted pair with drain and shield (plenum and non-plenum)  
Recommended maximum length: 2,000 ft.  
Absolute maximum length: 4,000 ft.  
RS-485 Recommend 120 ohm impedance

**Audio Line** 22 AWG twisted pair with drain and shield  
Recommended maximum length: 2,000 ft.  
Absolute maximum length: 4,000 ft.

**Trouble Sounder** 2 kHz tone, 60 dBA at 5 ft.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 0% to 90%, non-condensing

**Dimensions** 19 in. H x 18 in. W x 3.5 in. D  
(48.3 cm x 45.7 cm x 8.9 cm)

## Ordering Information

Part Number	Description
<b>710-072-01</b>	MAAP-X LOC/RDU Touch Screen, fire/MNS, 19 in. H, surface-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup See <b>NOTE 1</b>
<b>710-072-02</b>	MAAP-X LOC/RDU Touch Screen, fire/MNS, 19 in. H, flush-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup See <b>NOTE 1</b>
<b>NOTE 1</b> The MAAP-X Panel can support up to 30 LOCs. Of the 30 LOCs, a maximum of 10 can be LOC/RDU Touch Screens, the rest need to be LOC Keypads. All 30 can be LOC Keypads. Each MAAP-X enclosure can support one LOC MUX (P/N 176-286-02) that can support a total of 30 LOCs. Each LOC MUX has eight RS-485 outputs that LOCs can be connected to. Each RS-485 output can support 30 LOC Keypads maximum or eight LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.	

## Associated Parts

Part Number	Description
<b>227-955-xx*</b>	MAAP-X point-reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver - single comm: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>surface-mount</b>, red enclosure, 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-965-xx*</b>	MAAP-X point-reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver - single comm: <ul style="list-style-type: none"> <li>• One AAC II backplane for ADCs/SOCs</li> <li>• One ADC supporting 198 addressable devices</li> <li>• One SOC, 25 VAC RMS, 32 W audio output</li> <li>• NEMA 1 <b>flush-mount</b>, red enclosure, 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>*Specify frequency (-xx) when ordering.</b>	
<b>176-286-02</b>	MAAP-X LOC Multiplexer Kit, RS-422 to eight RS-485 ports and eight live voice audio ports with surge suppression, to support MAAP-X LOC/RDU Touch Screens and LOC Keypads per output; <ul style="list-style-type: none"> <li>• Required for connecting more than 10 LOCs to Sub-Panels</li> <li>• Always required for connecting LOCs to MAAP-X Panels</li> </ul> See <b>NOTE 1</b>
<b>176-297-01</b>	MAAP-X Sub-Panel LOC Surge Protector PCB Kit; <ul style="list-style-type: none"> <li>• Required for connecting 10 or fewer LOCs to a Unidirectional Sub-Panel</li> <li>• Always required for connecting LOCs to a Bidirectional Sub-Panel</li> </ul>
<b>122-012-00</b>	Handheld PTT Microphone and holder for use on LOC/RDU Touch Screen, includes 2 ft. cable for connection to LOC/RDU Touch Screen
<b>122-012-05</b>	Handheld PTT MNS Microphone in red enclosure, 8 in. H x 6 in. W x 3 in. D with window, includes 15 ft. cable for connecting to MAAP-X or LOC/RDU Touch Screen
<b>122-012-06</b>	Handheld Non-Emergency PTT Paging Microphone in red enclosure, 8 in. H x 6 in. W x 3 in. D with window, includes 15 ft. single cable for connecting to MAAP-X, LOC/RDU Touch Screen or LOC Keypad; dual cable also included if connecting MNS and Paging Microphone to the MAAP-X or LOC/RDU Touch Screen



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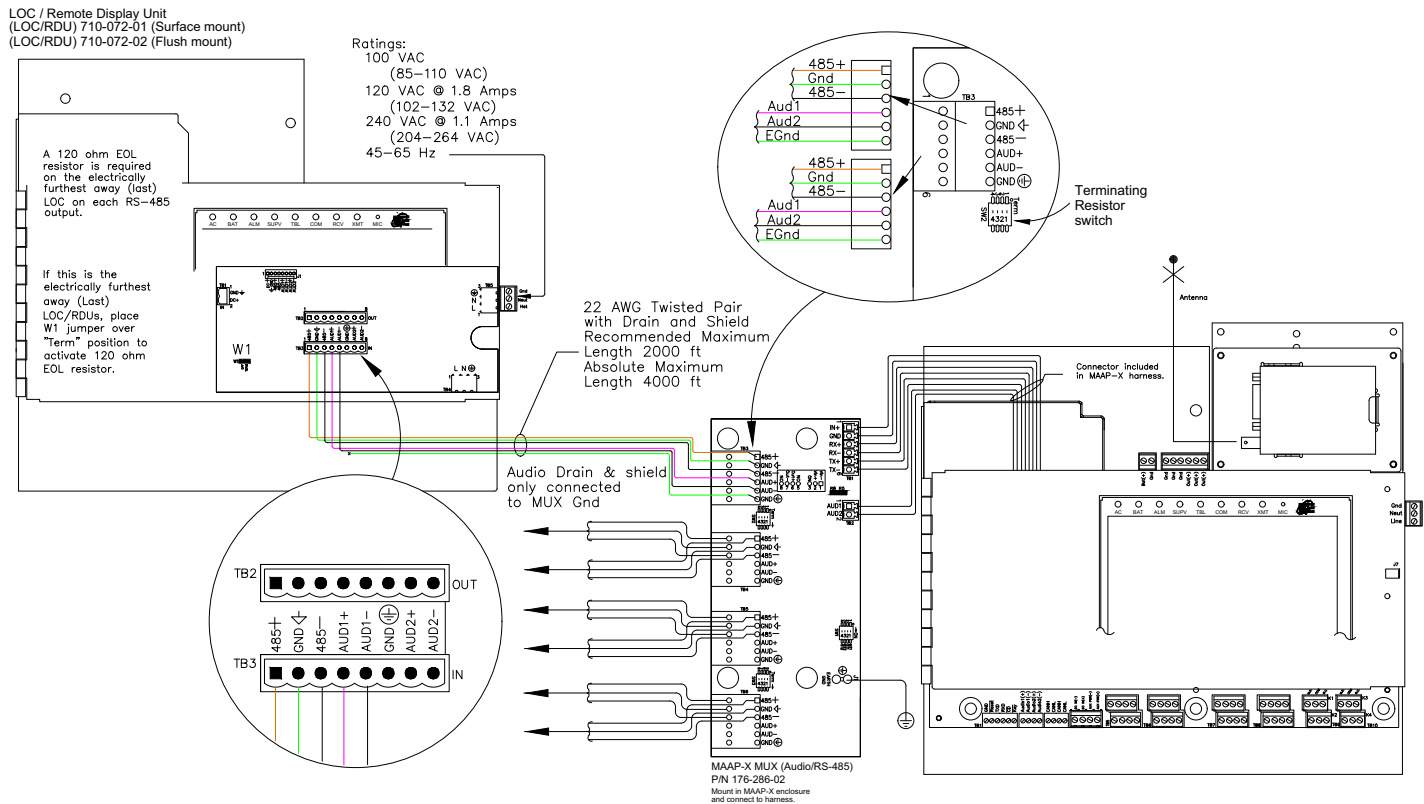


# Addressable Fire Alarm Control Panels with MNS

Part Number	Description
<b>708-032-01</b>	HVAC Shutdown Kit, includes shutdown button and cover (Mini-monitor Module P/N 729-218-00 not included)
<b>097-523-00</b>	Turn Latch Lock Kit, 5/8 in. cylinder, tumble-turn lock; replacement for standard MAAP-X LOC/RDU Touch Screen panel lock
<b>621-025-00</b>	22 AWG Twisted Pair with drain and shield, RDU to multiplexer, specify length needed
<b>621-083-00</b>	RS-485 Cable — Plenum Rated <ul style="list-style-type: none"> <li>• 2 conductors</li> <li>• 24 AWG twisted pair with drain and shield</li> <li>• FFEP insulation</li> <li>• Low Smoke PVC outer jacket</li> <li>• Cable Diameter: 0.204 in.</li> <li>• Temperature range: 32°F to 167°F (0°C to 75°C)</li> <li>• Impedance: 120 ohms</li> </ul>

<b>621-084-00</b>	RS-485 Cable — Non-plenum Rated <ul style="list-style-type: none"> <li>• 2 conductors</li> <li>• 24 AWG twisted pair with drain and shield</li> <li>• PE insulation</li> <li>• PVC outer jacket</li> <li>• Cable diameter: 0.232 in.</li> <li>• Temperature range: -22°F to 176°F (-30°C to 80°C)</li> <li>• Impedance: 120 ohms</li> </ul>
<b>NOTE 1</b> The MAAP-X Panel can support up to 30 LOCs. Of the 30 LOCs, a maximum of 10 can be LOC/RDU Touch Screens, the rest need to be LOC Keypads. All 30 can be LOC Keypads. Each MAAP-X enclosure can support one LOC MUX (P/N 176-286-02) that can support a total of 30 LOCs. Each LOC MUX has eight RS-485 outputs that LOCs can be connected to. Each RS-485 output can support 30 LOC Keypads maximum or eight LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.	

## Wiring Diagram



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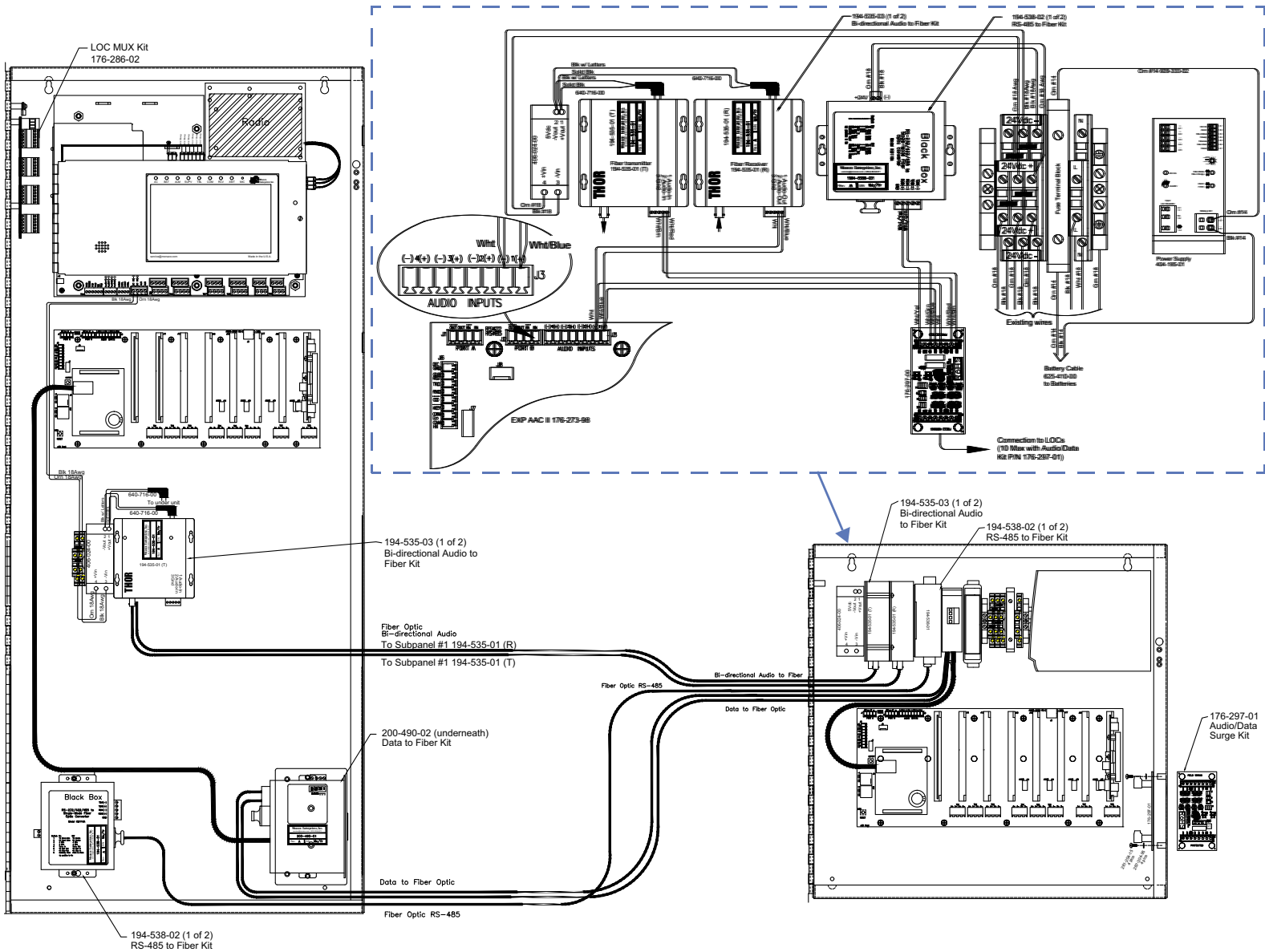


### MAAP-X to Unidirectional Sub-Panel with 10 or fewer LOCs



# Addressable Fire Alarm Control Panels with MNS

## MAAP-X to Bidirectional Sub-Panel with 10 or fewer LOCs

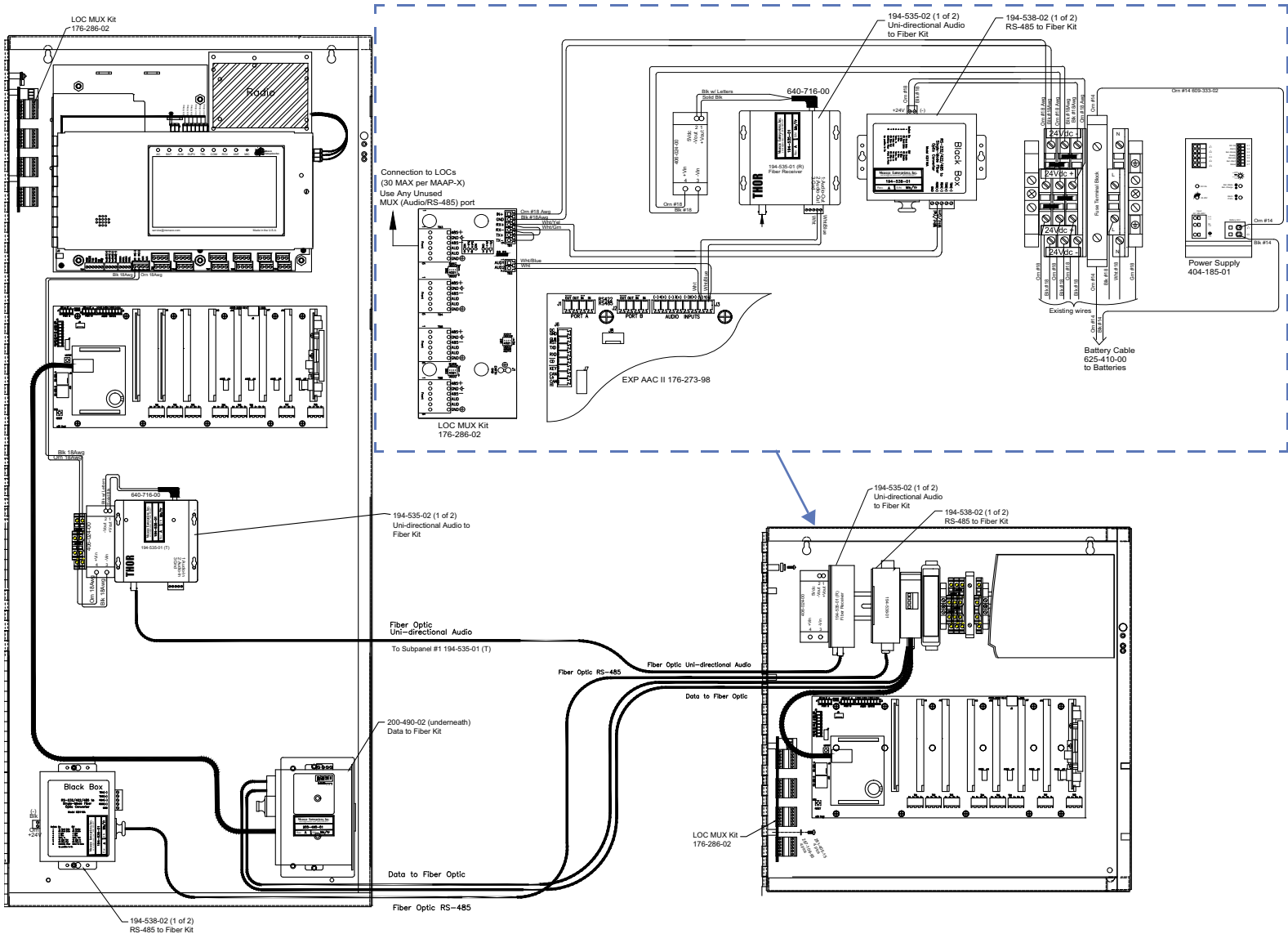


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Detect  
Manage  
Record

# Addressable Fire Alarm Control Panels with MNS

## MAAP-X to Unidirectional Sub-Panel with 11 or more LOCs



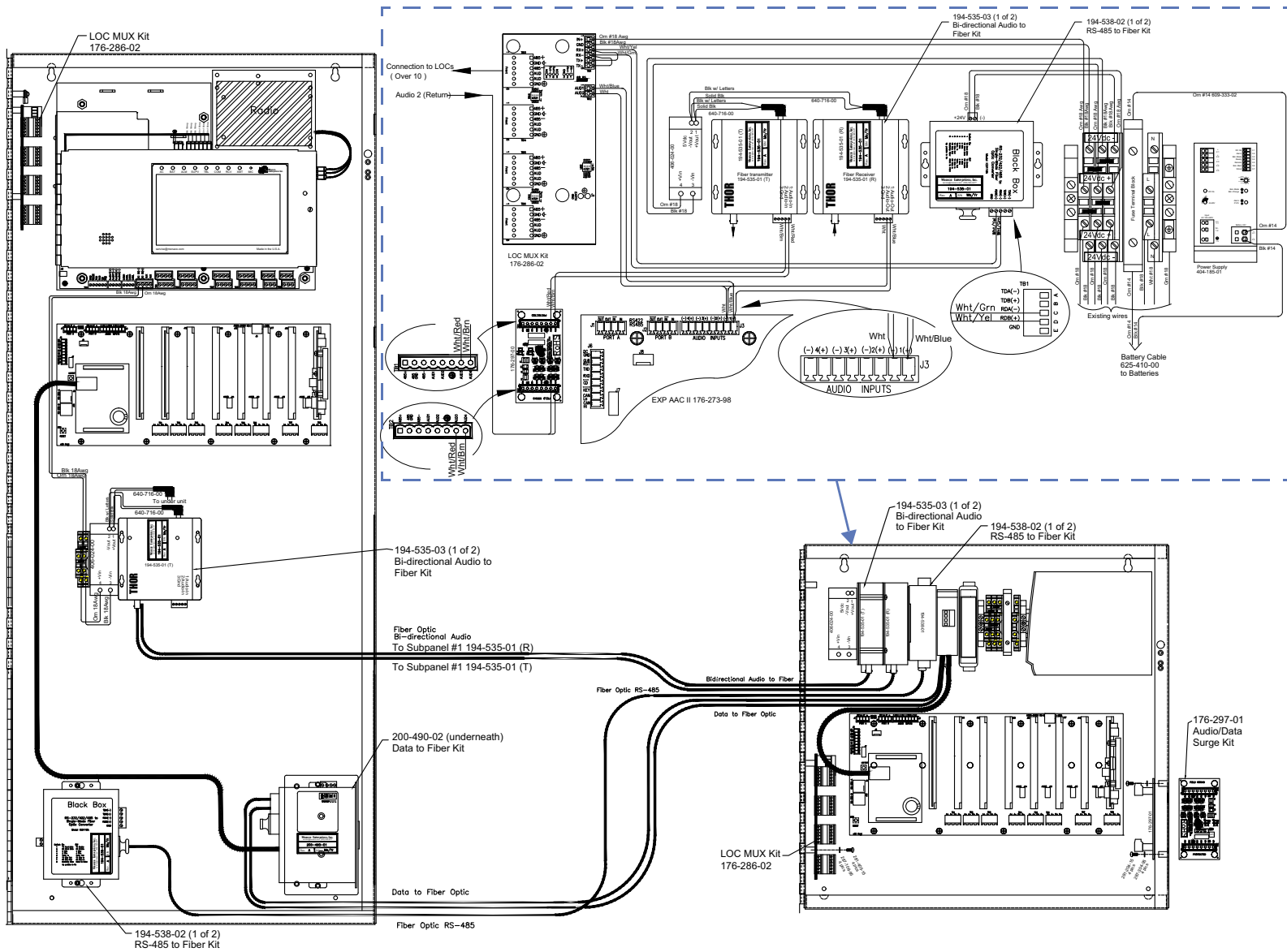
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X to Bidirectional Sub-Panel with 11 or more LOCs



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# Addressable Fire Alarm Control Panels with MNS

## Local Operating Console Keypad

710-072-51, 710-072-52

### Description

The Local Operating Console (LOC) Keypad is designed to provide remote activation of live voice and prerecorded announcements of critical emergency conditions within a building when used with Monaco's MAAP-X Addressable MNS Panel.



The LOC Keypad provides user-programmable prioritized MNS for live voice and prerecorded messages. An optional paging microphone is available for non-emergency use. The LOC Keypad is available in a surface- or flush-mount enclosure with a non-locking turn button latch (optional lock kit available). It has 12 tactile push buttons for prerecorded MNS, a push-to-talk (PTT) microphone for live voice MNS, LED status indicators, and a built in AC power supply/battery charger with battery backup.

LEDs on the LOC Keypad clearly indicate the status of the LOC Keypad and communication between the unit and the MAAP-X Panel. LED indicators above each Message Button indicate MNS activity. Printed decals of the most common prerecorded messages, in addition to blank decals for user-definable labels, are provided for Message Button labeling. The console can be located a recommended maximum distance of 2,000 ft. from the MAAP-X Panel; no more than the absolute maximum distance of 4,000 ft.

### Features

- Designed for use with MAAP-X Addressable MNS Fire Alarm Control Panel (P/N 227-95x-xx and P/N 227-96x-xx)
- Surface- or flush-mount enclosure
- 12 tactile push buttons to activate digital prerecorded messages at MAAP-X Panel
- User-selectable message name decals
- Console cable to MAAP-X Panel:
  - Recommended maximum length 2,000 ft.
  - Absolute maximum length 4,000 ft.
- Prioritized fire and MNS operation with MAAP-X
  - Programmable prioritized fire and MNS operation by Message, Live Voice, and LOC locations
  - By default, live voice is the highest priority followed by prerecorded, followed by fire
  - LOC locations are also prioritized in the event of two simultaneous requests from different LOCs
  - Prioritization can be changed to meet the emergency response plan
- Built-in PTT live voice MNS microphone
  - Optional handheld live voice PTT paging microphone in separate enclosure
- Fully supervised by MAAP-X Panel
- Built-in speaker programmable to play MNS audio
- Status LEDs for AC, Battery, Trouble, Live Voice, Active MNS, Communication, Receive, and Transmit, in addition to the 12 MNS buttons
- HVAC emergency shutoff switch in enclosure



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# Addressable Fire Alarm Control Panels with MNS

## Specifications

### Power Supply

*AC Input* 90 to 240 VAC 50/60 Hz

*DC Output* 24 VDC nominal, factory adjusted to 27.6V

### LOC Keypad Assembly

*Current Draw* 30 mA @ 29.4 VDC (in Standby)  
61 mA @ 29.4 VDC (with on-board speaker playing MNS message)

*Battery Backup* Two, Sealed Lead Acid 12V/8 Ah

*Data Line* RS-485, 24 AWG, twisted pair with drain and shield (plenum and non-plenum)  
Recommended maximum length: 2,000 ft.  
Absolute maximum length: 4,000 ft.  
RS-485 Recommend 120 ohm impedance

*Audio Line* 22 AWG, twisted pair with drain and shield  
Recommended maximum length: 2,000 ft.  
Absolute maximum length: 4,000 ft.

*Operating Temperature* 32°F to 120°F (0°C to 50°C)

*Relative Humidity* 0% to 90%, non-condensing

*Enclosure Dimensions* 20 in. H x 12 in. W x 4 in. D  
(50.8 cm x 30.5 cm x 10.2 cm)

## Ordering Information

### LOC Keypad

Part Number	Description
<b>710-072-51*</b>	MAAP-X LOC Keypad, 12 tactile push buttons for prerecorded MNS messages, PTT microphone for live voice, red NEMA 1 <b>surface-mount</b> enclosure 20 in. H x 12 in. W x 4 in. D, 115/230 VAC, 50/60 Hz, two 12V/8 Ah batteries for 72-hour battery backup See <b>NOTE 1</b>

Part Number	Description
<b>710-072-52*</b>	MAAP-X LOC Keypad, 12 tactile push buttons for prerecorded MNS messages, PTT microphone for live voice, red NEMA 1 <b>flush-mount</b> enclosure 20 in. H x 12 in. W x 4 in. D, 115/230 VAC, 50/60 Hz, two 12V/8 Ah batteries for 72-hour battery backup See <b>NOTE 1</b>

**\*Specify frequency (-xx) when ordering.**

**NOTE 1** The MAAP-X Panel can support up to 30 LOCs. Of the 30 LOCs, a maximum of 10 can be LOC/RDU Touch Screens, the rest need to be LOC Keypads. All 30 can be LOC Keypads. Each MAAP-X enclosure can support one LOC MUX (P/N 176-286-02) that can support a total of 30 LOCs. Each LOC MUX has eight RS-485 outputs that LOCs can be connected to. Each RS-485 output can support 30 LOC Keypads maximum or eight LOC/RDU Touch Screens maximum.  
Contact Monaco if your system requires more LOCs.

### Associated Parts

Part Number	Description
<b>227-955-xx*</b>	MAAP-X point-reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver - single comm: <ul style="list-style-type: none"><li>• One AAC II backplane for ADCs/SOCs</li><li>• One ADC supporting 198 addressable devices</li><li>• One SOC, 25 VAC RMS, 32 W audio output</li><li>• NEMA 1 <b>surface-mount</b>, red enclosure 28 in. H x 18 in. W x 3.6 in. D</li><li>• Two 12V/18 Ah batteries</li></ul>
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**\*Specify frequency (-xx) when ordering.**



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## Addressable Fire Alarm Control Panels with MNS

Part Number	Description
<b>176-286-02</b>	MAAP-X LOC Multiplexer Kit, RS-422 to eight RS-485 ports and eight live voice audio ports with surge suppression, to support MAAP-X LOC/RDU Touch Screens and LOC Keypads per output; <ul style="list-style-type: none"> <li>• Required for connecting more than 10 LOCs to Sub-Panels</li> <li>• Always required for connecting LOCs to MAAP-X Panels</li> </ul> See <b>NOTE 1</b>
<b>176-297-01</b>	MAAP-X Sub-Panel LOC Surge Protector PCB Kit; <ul style="list-style-type: none"> <li>• Required for connecting 10 or fewer LOCs to a Unidirectional Sub-Panel</li> <li>• Always required for connecting LOCs to a Bidirectional Sub-Panel</li> </ul>
<b>122-012-06</b>	Handheld Non-Emergency PTT Paging Microphone in red enclosure with window, 8 in. H x 6 in. W x 3 in. D, includes 15 ft. single cable for connecting to MAAP-X, LOC/RDU Touch Screen or LOC Keypad; dual cable also included if connecting MNS and Paging Microphone to the MAAP-X or LOC/RDU Touch Screen
<b>708-032-01</b>	HVAC Shutdown Kit, includes shutdown button and cover (Mini-monitor Module P/N 729-218-00 not included)
<b>729-218-00</b>	Intelligent Mini-monitor Module, AP/CLIP, white, Type II
<b>621-025-00</b>	22 AWG Twisted Pair with drain and shield, RDU to multiplexer, specify length needed

Part Number	Description
<b>621-083-00</b>	RS-485 Cable — Plenum Rated <ul style="list-style-type: none"> <li>• 2 conductors</li> <li>• 24 AWG twisted pair with drain and shield</li> <li>• FFEP insulation</li> <li>• Low Smoke PVC outer jacket</li> <li>• Cable diameter: 0.204 in.</li> <li>• Temperature range: 32°F to 167°F (0°C to 75°C)</li> <li>• Impedance: 120 ohms</li> </ul>
<b>621-084-00</b>	RS-485 Cable — Non-plenum Rated <ul style="list-style-type: none"> <li>• 2 conductors</li> <li>• 24 AWG twisted pair with drain and shield</li> <li>• PE insulation</li> <li>• PVC outer jacket</li> <li>• Cable diameter: 0.232 in.</li> <li>• Temperature range: -22°F to 176°F (-30°C to 80°C)</li> <li>• Impedance: 120 ohms</li> </ul>
<b>NOTE 1</b> The MAAP-X Panel can support up to 30 LOCs. Of the 30 LOCs, a maximum of 10 can be LOC/RDU Touch Screens, the rest need to be LOC Keypads. All 30 can be LOC Keypads. Each MAAP-X enclosure can support one LOC MUX (P/N 176-286-02) that can support a total of 30 LOCs. Each LOC MUX has eight RS-485 outputs that LOCs can be connected to. Each RS-485 output can support 30 LOC Keypads maximum or eight LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.	



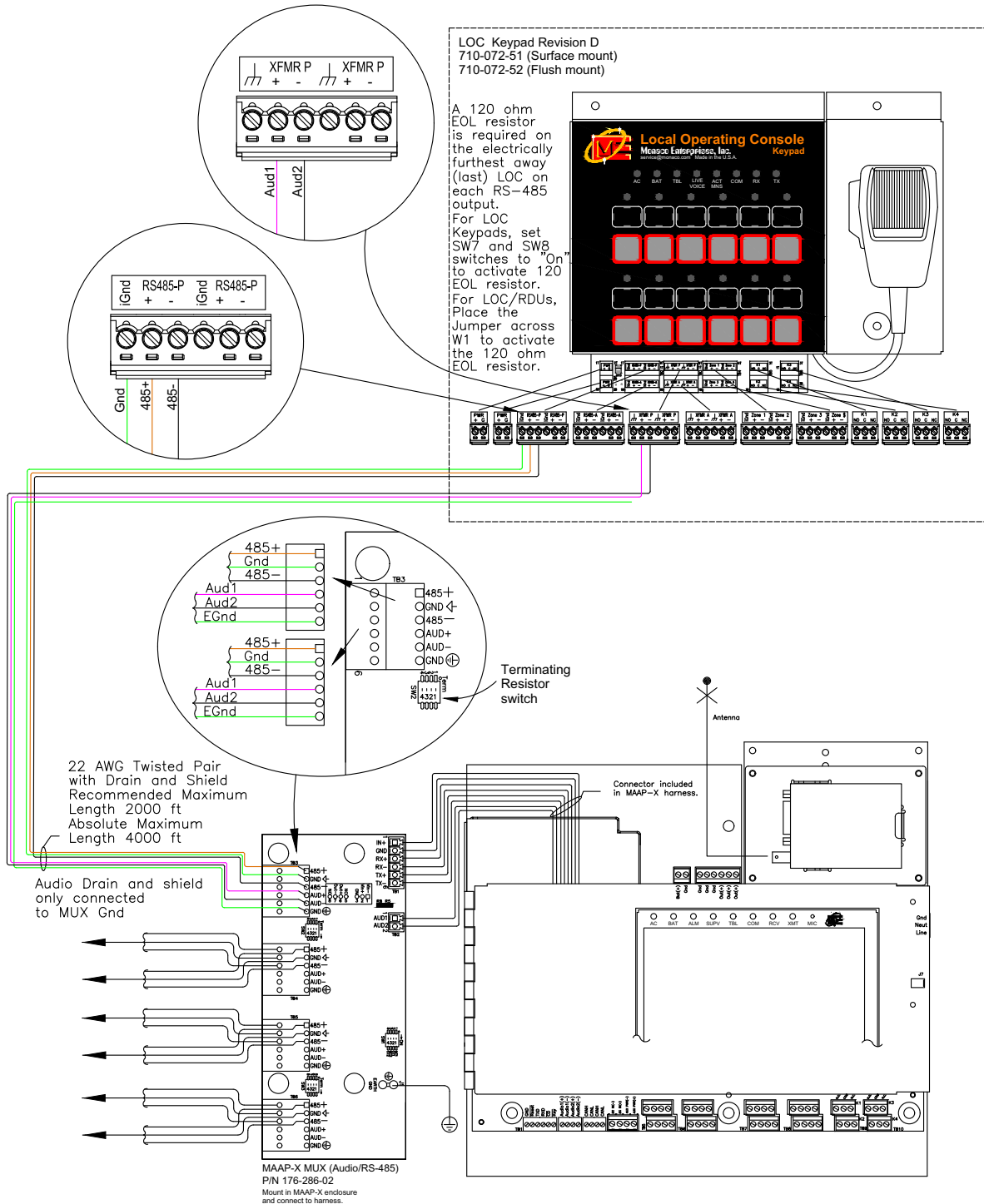
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# Addressable Fire Alarm Control Panels with MNS

## Wiring Diagram



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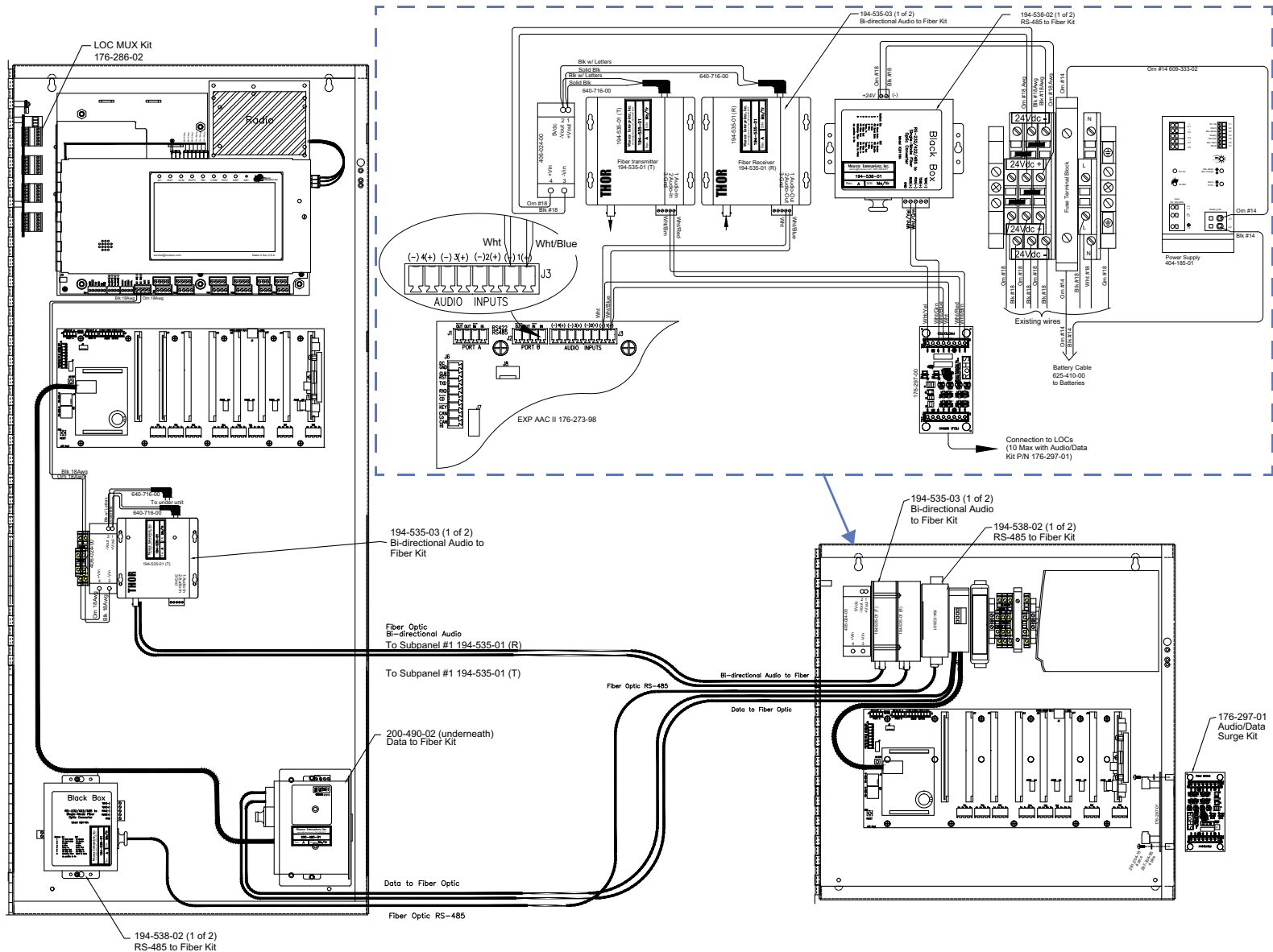
### MAAP-X to Unidirectional Sub-Panel with 10 or fewer LOCs





# Addressable Fire Alarm Control Panels with MNS

## MAAP-X to Bidirectional Sub-Panel with 10 or fewer LOCs



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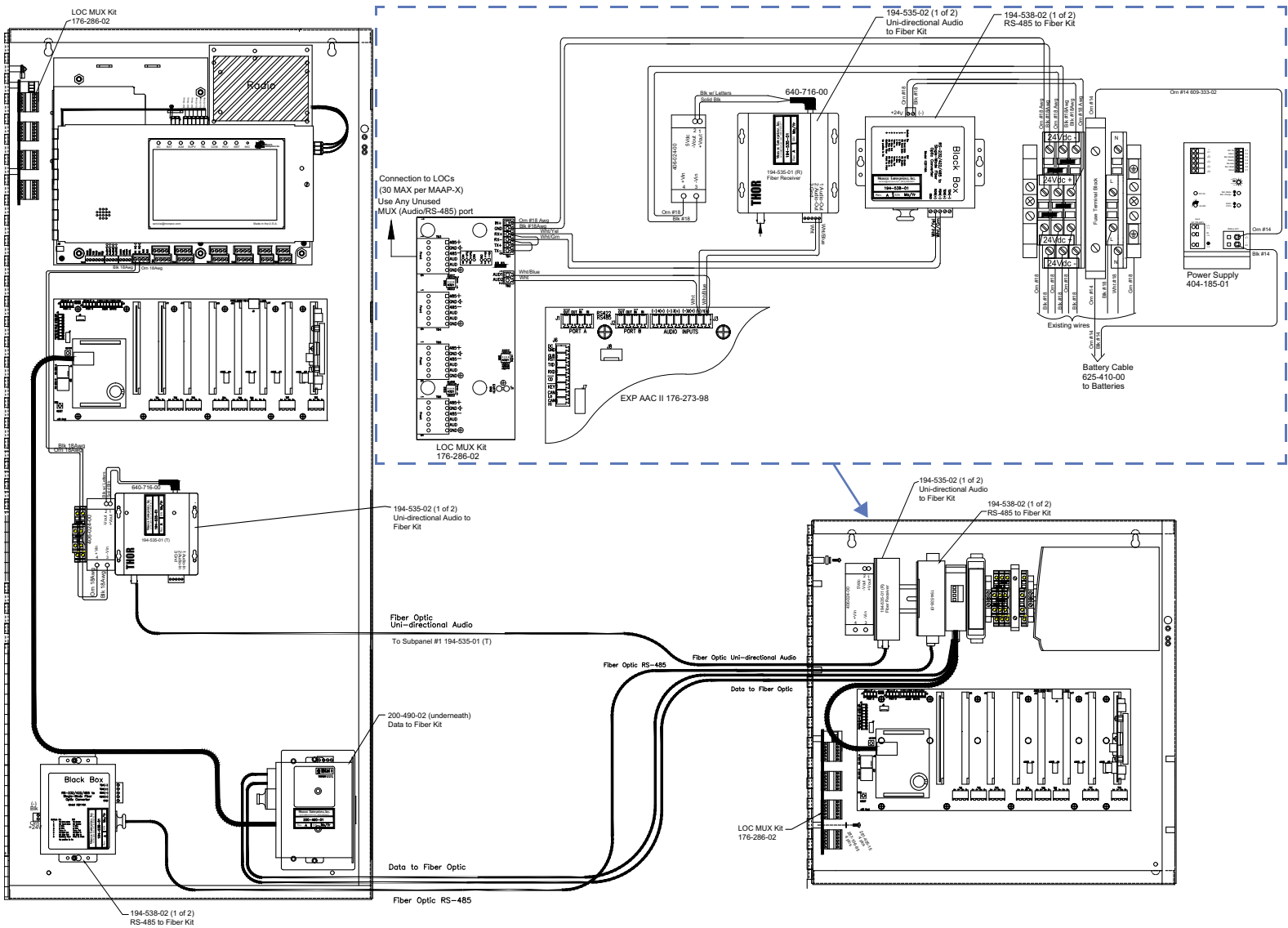
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X to Unidirectional Sub-Panel with 11 or more LOCs

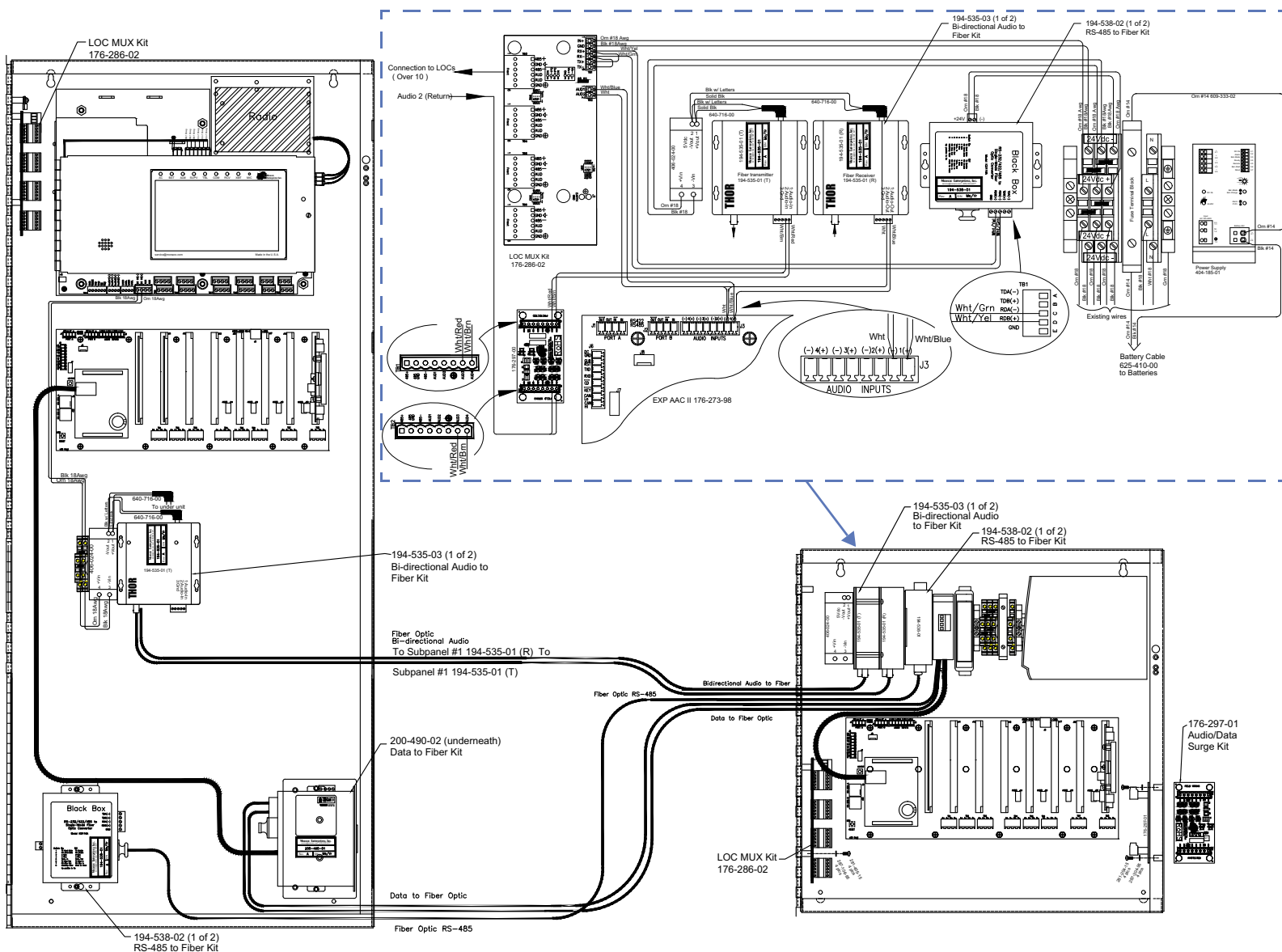


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## MAAP-X to Bidirectional Sub-Panel with 11 or more LOCs

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```

graph TD
    Detect --> Manage
    Manage --> Record
    Record --> Detect
  
```

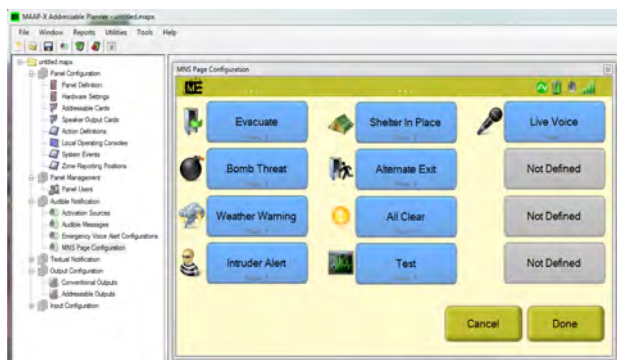
# Addressable Fire Alarm Control Panels with MNS

## MAAP-X Planner Kit

207-625-00

### Description

The MAAP-X Planner is a Microsoft® Windows®-based program that creates a configuration file for use by the Monaco Addressable Fire Alarm MNS Voice Evacuation Panel (MAAP-X).



### Features

MAAP-X Planner Kit allows the user to program the panel. Planner functions include:

- Uploading/downloading the MAAP-X program file to/from the panel
- Creating a MAAP-X configuration file that is imported into the D-21 Central; manual entry of information to the D-21 is not required
- Central reporting modes:
  - Point reporting (addressable device addresses with zone reporting to D-21 and MNS operation)
  - Legacy (zone reporting to D-21 and MNS operation)
  - Stand-alone (in-building fire and MNS operation only)
- Setting D-21 Central communication modes—radio or hard-wire (Ethernet, fiber), single comm or dual comm
- Configuring fire and MNS devices and circuits
- Configuring MAAP-X and LOC/RDUs for fire and MNS operation

- Provides the ability to keep panel configuration files for backup
- Windows® compatible (XP Professional, Vista, 7, 8, and 10)
- Define zone and device descriptions

### Specifications

**Operating Systems** Microsoft Windows XP Professional (32-bit), Windows Vista (32-bit and 64-bit), Windows 7 or 8 (32-bit and 64-bit), and Windows 10

**Processor** Pentium

**RAM** 16 MB minimum; 32 MB recommended

**Drives** CD ROM

**Communication Port** RS-232

**Monitor Display** 256 color

**NOTE** Newer laptops typically do not have a serial port, so a USB to serial adaptor must be used to program the Monaco panels. The Monaco USB to serial adaptor (P/N 649-118-00) has provided the most reliable communication between various laptops and Monaco panels. Other USB to serial adaptors may not produce a satisfactory customer experience.

### Ordering Information

Part Number	Description
207-625-00	MAAP-X Addressable Planner Kit, CD, CAT6 programming cable, 45 DTE-9F DCE adaptor

### Associated Parts

649-118-00	USB to 9-pin Serial Adaptor
227-574-00	MAAP Serial Interface Kit, includes programming cable and adaptor



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# Addressable Fire Alarm Control Panels with MNS

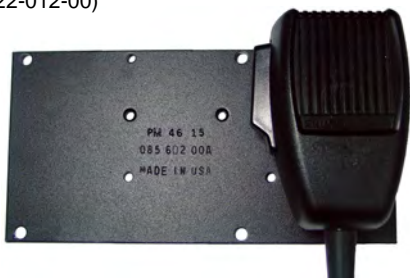
## MAAP-X Push-to-Talk MNS Microphone

122-012-00, 122-012-05

### Description

This Push-to-Talk (PTT) MNS Microphone is ideal for the MAAP-X Addressable Fire Alarm Control Panel (FACP) with Mass Notification System (MNS).

LOC Handheld Push-to-Talk MNS Microphone and Holder (P/N 122-012-00)



MAAP-X or LOC/RDU Touch Screen with Handheld Push-to-Talk MNS Microphone in Enclosure (P/N 122-012-05)



The LOC Handheld PTT MNS Microphone and Holder (P/N 122-012-00) comes ready to install in a LOC/RDU.

The MAAP-X or LOC Touch Screen with Handheld PTT MNS Microphone in Enclosure (P/N 122-012-05) comes in a separate red enclosure to connect to the MAAP-X or LOC/RDU Touch Screen.

### Features

- Wiring harness to connect directly back to the MAAP-X
- Easy-to-use, PTT dynamic handheld microphone
- 5 ft. extended length microphone cord
- P/N 122-012-05 includes a red enclosure with an easy access turn latch

### Specifications

#### P/N 122-012-00

*For use With* LOC/RDU

*Holder Dimensions* 6.6 in. W x 3.3 in. H  
(16.77 cm x 8.4 cm)

*Connector Cable Length* 2 ft. (0.6 m)

#### P/N 122-012-05

*For use With* MAAP-X Addressable FACP with MNS or LOC/RDU

*Enclosure Color* Red

*Enclosure Dimensions* 8 in. H x 6 in. W x 3 in. D  
(20.32 cm x 15.24 x 7.62 cm)

*Connector Cable Length* 15 ft. (4.572 m)

#### Microphone (for P/N 122-012-00 and 122-012-05)

*Impedance* 400 ohms at 1,000 Hz

*Frequency Response* 200 to 5,000 Hz

*Type* Dynamic

*Polar Pattern* Omnidirectional

*Output Level* -33 dB  $\pm$  3 dB

*Relative Humidity* 0% to 95%, non-condensing

*Operating Temperature* -40°F to 165°F (-40°C to 74°C)

*Cable Length* 5 ft. (1.5 m) extended length

*Cable Material* 4-conductor (2 shielded) vinyl-jacketed coil cable

*Cable Color* Black



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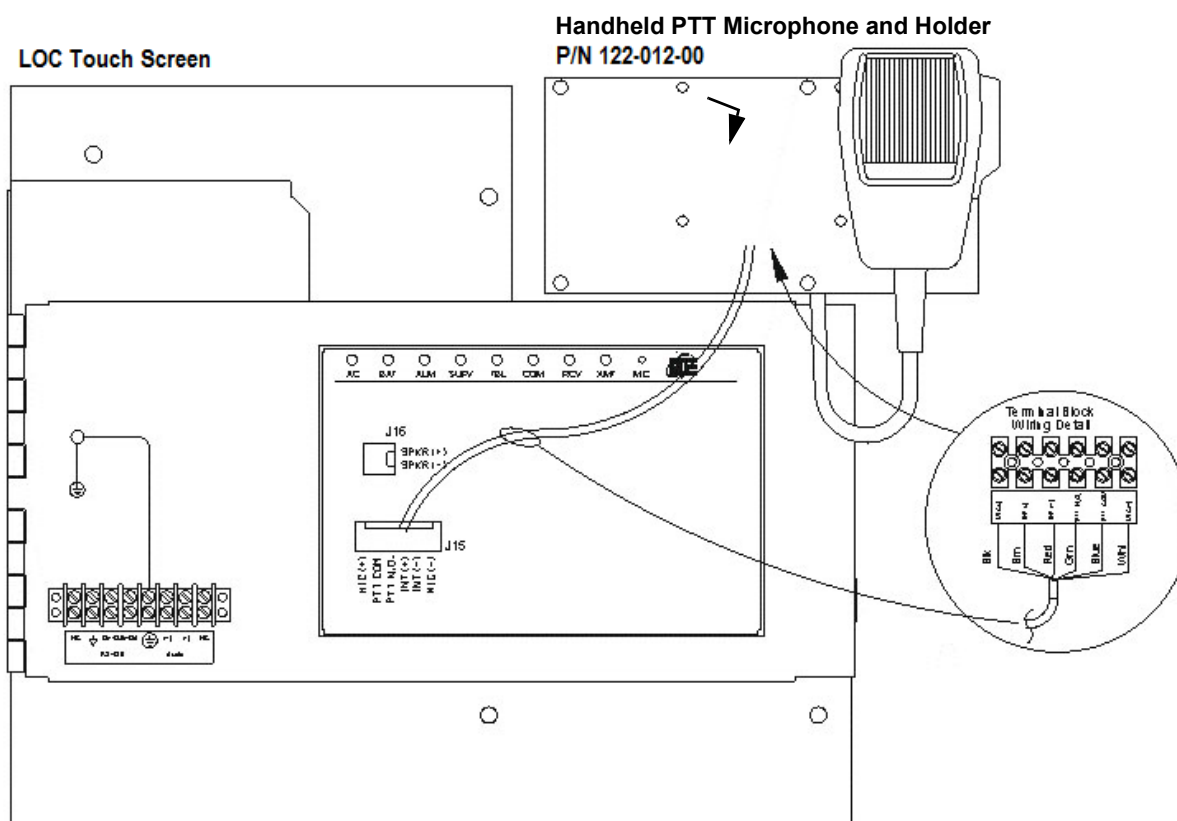
# Addressable Fire Alarm Control Panels with MNS

## Ordering Information

Part Number	Description
<b>122-012-00</b>	Handheld PTT Microphone and Holder for use on LOC/RDU Touch Screen, includes 2 ft. cable for connection to LOC/RDU Touch Screen
<b>122-012-05</b>	Handheld PTT MNS Microphone in red enclosure, 8 in. H x 6 in. W x 3 in. D with window, includes 15 ft. cable for connecting to MAAP-X or LOC/RDU Touch Screen

## Assembly Drawings

### LOC Touch Screen with Handheld PTT Microphone and Holder (P/N 122-012-00)



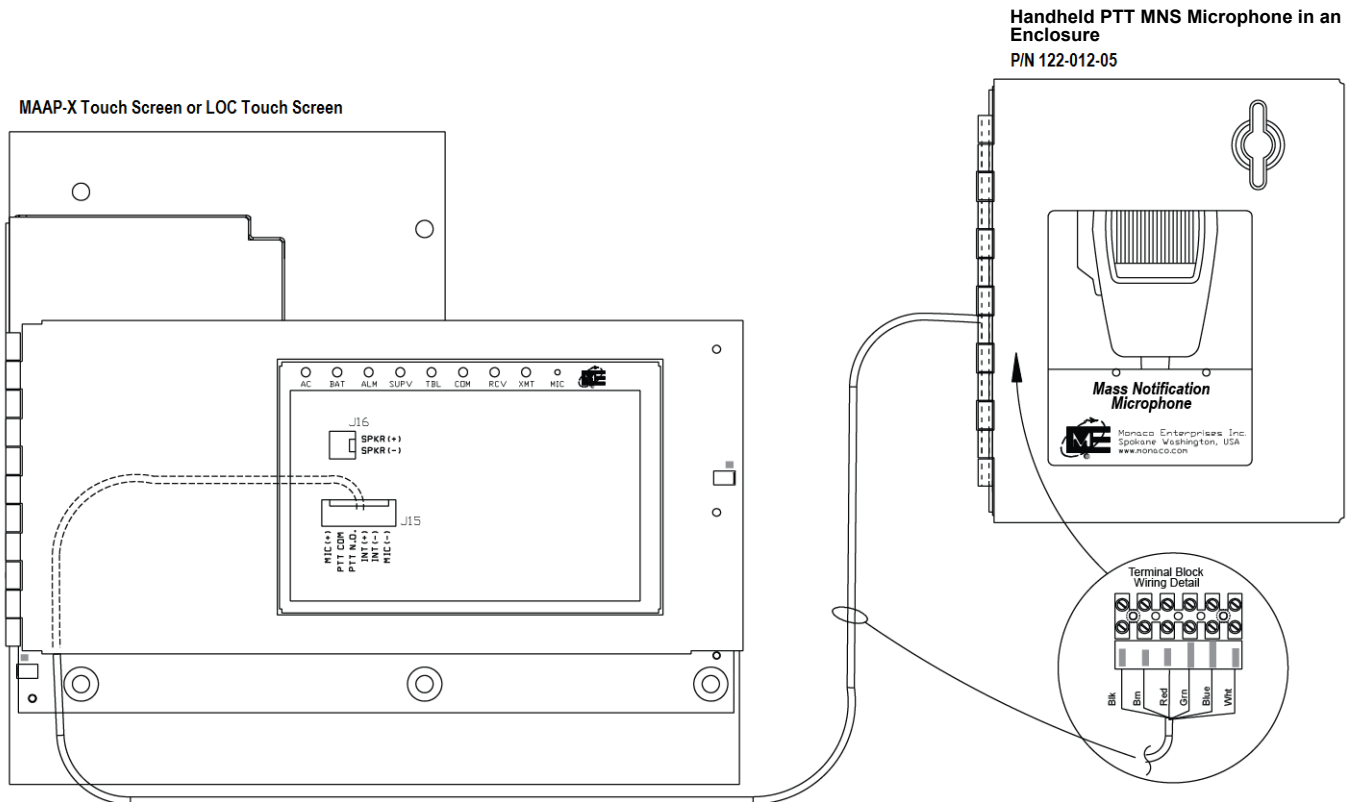
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X or LOC Touch Screen with Handheld PTT Microphone in Enclosure (P/N 122-012-05)



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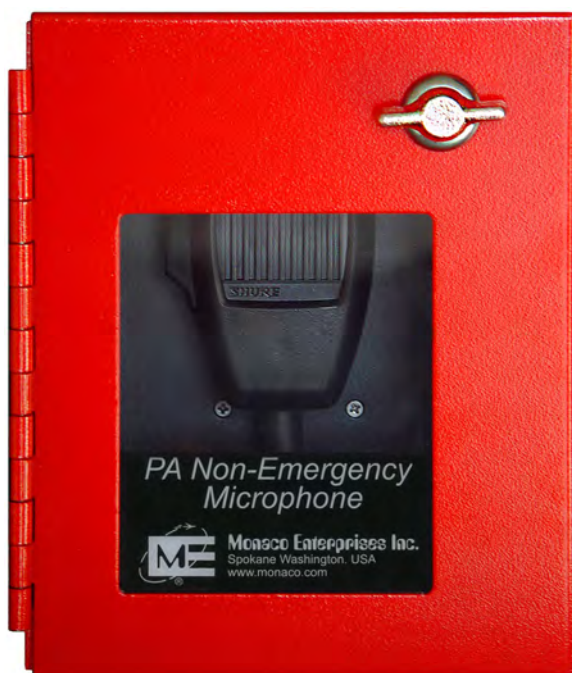
# Addressable Fire Alarm Control Panels with MNS

## MAAP-X Push-to-Talk Paging Microphone

122-012-06

### Description

This Push-to-Talk (PTT) Paging Microphone is ideal for the MAAP-X Addressable Fire Alarm Control Panel (FACP) with Mass Notification System (MNS). This Paging Microphone activates audio output only (not strobes).



The Handheld PTT Paging Microphone comes in a separate red enclosure to connect to the MAAP-X. The microphone is disabled during AC fail per UFC.

### Features

- Wiring harness to connect directly back to the MAAP-X
- Easy-to-use, PTT, dynamic handheld microphone
- 5 ft. extended length microphone cord
- Includes a red enclosure with an easy access turn latch

### Specifications

*For use With* MAAP-X Addressable FACP with MNS, LOC/RDU Touch Screen, or LOC Keypad

*Enclosure Color* Red

*Enclosure Dimensions* 8 in. H x 6 in. W x 3 in. D  
(20.32 cm x 15.24 cm x 7.62 cm)

*Connector Cable Length* 15 ft. (4.6 m)

#### **Microphone:**

*Impedance* 400 ohm at 1,000 Hz

*Frequency Response* 200 to 5,000 Hz

*Type* Dynamic

*Polar Pattern* Omnidirectional

*Output Level* -33 dB  $\pm$  3 dB

*Relative Humidity* 0% to 95%, non-condensing

*Operating Temperature* -40°F to 165°F (-40°C to 74°C)

*Cable Length* 5 ft. (1.5 m) extended length

*Cable Material* 4-conductor (2 shielded) vinyl-jacketed coil cable

*Cable Color* Black

### Ordering Information

Part Number	Description
122-012-06	Handheld Non-Emergency PTT Paging Microphone in red Enclosure, 8 in. H x 6 in. W x 3 in. D with window, includes 15 ft. single cable for connecting to MAAP-X, LOC/RDU Touch Screen, or LOC Keypad; dual cable also included if connecting MNS and paging microphone to the MAAP-X or LOC/RDU Touch Screen



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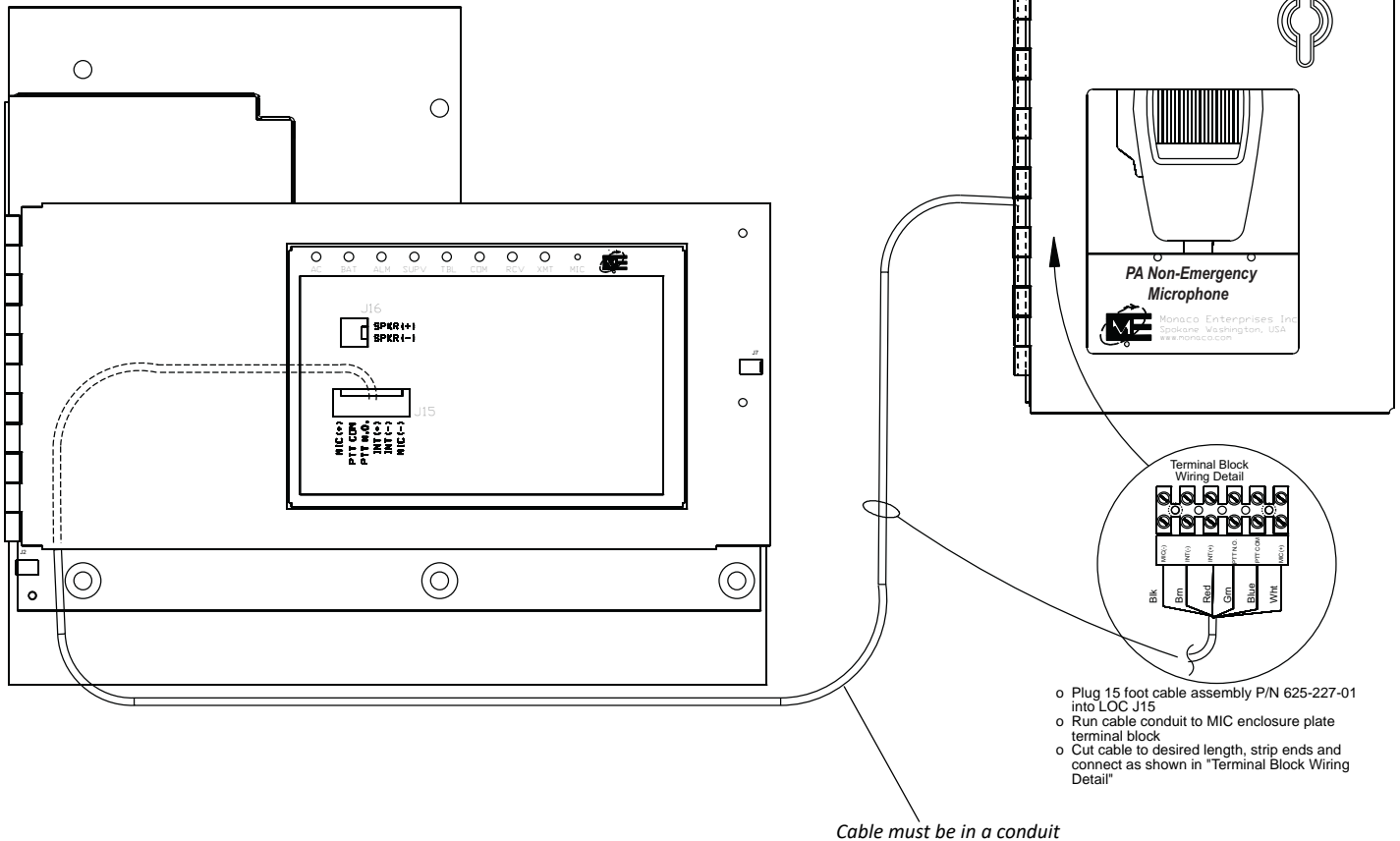
# Addressable Fire Alarm Control Panels with MNS

## Assembly Drawings

### Handheld PTT Paging Microphone (P/N 122-012-06) to LOC Touch Screen or MAAP-X Touch Screen

#### Paging Microphone with Enclosure Kit P/N 122-012-06

#### MAAP-X Touch Screen / LOC Touch Screen



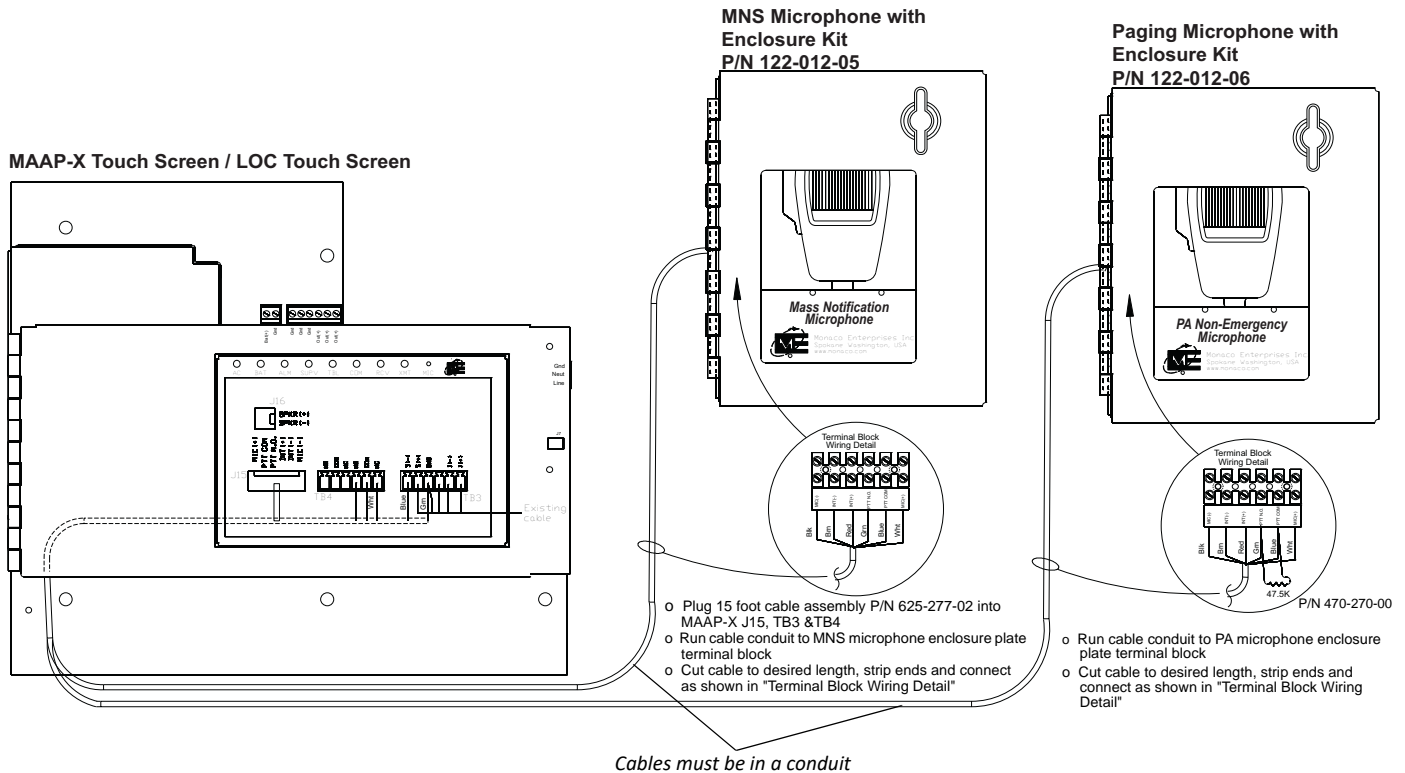
#### Monaco Enterprises, Inc.

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# Addressable Fire Alarm Control Panels with MNS

Handheld Push-to-Talk MNS (P/N 122-012-05) and Paging Microphone (P/N 122-012-06)  
to LOC Touch Screen or MAAP-X Touch Screen



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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X Text Display, 24 VDC, Two Line, Multicolor 710-075-01

### Description

The MAAP-X Text Display (P/N 710-075-01) is a 24 VDC, two line, multicolor text display that provides one or two line text messages that correspond to mass notification message events, which are triggered by the Monaco Enterprises MAAP-X Panel (with CORE III processor) or D-21 Mass Notification System (MNS). Up to 64 text displays can be connected to a single MAAP-X System.



The MAAP-X Text Display is highly visible and can display one or two lines of text in three colors: red, green, and amber. The MAAP-X communicates through a network port to a MAAP-X Text Display Interface. Text displays can be placed up to 4,000 ft. away from the MAAP-X Text Display Interface output.

The MAAP-X Text Display operation is supervised. An alert will notify the MAAP-X if any text display goes offline. During idle periods, each text display can show a user-generated message, such as the building name or date and time.

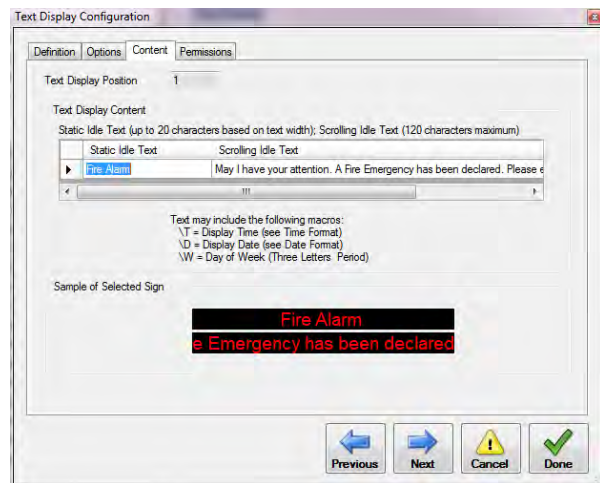
Text display addresses are programmed into each text display using the MAAP-X Text Display Address Programming Utility Planner Kit. The Planner is currently limited to 64 text displays.

### Features

- Integrates with Monaco Enterprises' MAAP-X MNS
- A single MAAP-X System can control up to 64 text displays at once
- Idle text goes blank during AC failure
- Three text color options: red, green, and amber
- Ceiling- or wall-mount options
- Flashing text capability (firmware A.5.1 or higher)
- Display operation is supervised
- Indoor installation
- Operates using 24 VDC
- Complies with NFPA® 72, 2019: Section 18.9.4.7

### MAAP-X Operation

#### MAAP-X Planner Text Display programming screen



The MAAP-X Planner software allows text messages and prerecorded messages to be matched so that when MNS activation occurs, the MAAP-X plays an audio message while simultaneously activating a matching message on MAAP-X Text Display(s). During a live voice operation (either through D-21 Central or local MNS activation), the text display(s) may indicate that a live voice announcement is in progress.

The text display messages can be programmed with static (non-scrolling), scrolling idle, or scrolling MNS characters.

- Static: up to 20 characters per line
- Scrolling Idle: up to 120 characters per line
- Scrolling MNS: up to 171 characters per line (typical)

**NOTE** Depending on the message character set, the maximum character limit for scrolling MNS text may vary between 150 and 171.

Whenever the MAAP-X panel detects an AC Fail condition, the text display turns off the idle text and reverts to a blank screen to reduce the text display battery backup power requirement. During an emergency, the text display will display the appropriate MNS message text until the notification has ended.



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# Addressable Fire Alarm Control Panels with MNS

The date and time displayed by the text display is controlled by the MAAP-X. When configured for time synchronization with the D-21, the MAAP-X will update the displayed date and time automatically for Daylight Saving time, etc.

**NOTE** Requires MAAP-X Panel firmware version A.5.1 or higher.

## Specifications

### MAAP-X Text Display

<b>Power</b>	16 to 33 VDC (30 W maximum) 1.3A max. (use for battery calculations); 800 mA nominal; 220 mA when blank
<b>Networking Options</b>	RS-485 (up to 64 text displays) Maximum Distance: 4,000 ft.
<b>Pixel Size (Diameter)</b>	0.2 in. (0.5 cm)
<b>Pixel Spacing (Pitch)</b>	0.3 in. (0.762 cm) center-to-center
<b>Pixel (LED) Color</b>	Red, Green, and Amber
<b>Resolution</b>	120 Columns x 16 Rows
<b>Display Array</b>	120 x 16 Pixels
<b>Character Size</b>	One line format: 4.8 in. (12.2 cm) Two line format: 2.1 in. (5.3 cm)
<b>Characters per Line</b>	<ul style="list-style-type: none"><li>• Static: Up to 20 upper/lower case</li><li>• Scrolling Idle: 120 maximum</li><li>• Scrolling MNS: 150 to 171 maximum (171 typical, depends on character set)</li></ul>
<b>Character Set</b>	Block (sans serif), decorative (serif), upper/lower case, slim, wide, double-wide
<b>Real-Time Clock</b>	Date and time; 12 or 24 hour format; Without power, accurate time maintained for up to 30 days (typical)
<b>Operating Temperature</b>	–22°F to 122°F (–30°C to 50°C)
<b>Humidity Range</b>	5% to 95%, non-condensing
<b>Mounting</b>	Indoor wall-mount (hardware included)
<b>Physical Dimensions</b>	7.4 in. H x 37.2 in. L x 3.2 in. D (18.8 cm x 94.5 cm x 8.13 cm)
<b>Approximate Weight</b>	11 lb (5 kg)
<b>Standards Compliance:</b>	
<b>UL Listed</b>	UL 1638
<b>NFPA</b>	NFPA 72, Section 18.9.4.7
<b>FCC</b>	FCC Class A

### Power Supply and Battery Charger

<b>Input Voltage</b>	P/N 404-190-00: 115 VAC, 60 Hz, 4.2A (Maximum) P/N 404-194-00: 220 VAC, 50/60 Hz, 2.5A
<b>Output Voltage</b>	24 VDC maximum
<b>Output Current</b>	10A at 24 VDC continuous maximum; four 2.5A PTC outputs
<b>Battery Charge Current</b>	3.6A maximum
<b>Supervision</b>	Battery and AC Failure; Form C Contacts
<b>Battery Status Indicator</b>	Discharged or Not Connected
<b>Operating Temperature</b>	32°F to 120°F (0°C to 49°C)
<b>Relative Humidity</b>	85% ±5%
<b>Standards Compliance:</b>	
<b>UL Listed</b>	P/N 404-190-00: UL1481 and UL294
<b>CE Listed</b>	P/N 404-194-00: Approved

## Ordering Information

### Text Display

Part Number	Description
<b>710-075-01</b>	MAAP-X Text Display, 24 VDC, two line, multicolor, default text display, <b>requires MAAP-X Panel firmware version A.5.1 or higher</b> <b>NOTE</b> Must order appropriate text display interfaces based on the number of text displays connected to the MAAP-X, 64 maximum. <b>NOTE</b> The MAAP-X Planner Kit (P/N 207-627-00) is required to program addresses into text displays. <b>NOTE</b> According to 2019 NFPA 72, character and symbol height for appliances other than desktop monitors or displays shall meet all of the following criteria: <ul style="list-style-type: none"><li>• Minimum character height shall comply with Table 18.9.4.7</li><li>• Viewing distance shall be measured as the horizontal distance between the character and an obstruction preventing further approach towards the appliance</li><li>• Character height shall be based on the uppercase letter “i”</li></ul>

### MAAP-X Text Display Programming

Part Number	Description
<b>207-627-00</b>	MAAP-X Text Display Address Programming Utility Planner Kit, required to program addresses into text displays



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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X Text Display Interface

Part Number	Description
176-286-03	MAAP-X Text Display Multiplexer (MUX) Kit, for the MAAP-X with CORE III processor, RS-422 to eight RS-485 ports and eight live voice audio ports with surge suppression, each RS-485 port can support up to 10 text displays maximum per output, din-rail- mounted, includes mounting hardware <b>NOTE</b> 64 text displays maximum per MAAP-X with CORE III processor; text display MUX is powered from the MAAP-X 24 VDC Aux Power.

## Associated Parts

### Ceiling-mount Hardware

Part Number	Description
086-265-00	Ceiling Mounting Bracket for MAAP-X Text Display, includes two brackets and four 6-32 screws

### Power Supply and Battery Charger

Part Number	Description
404-190-00	Power Supply/Battery Charger, 10/8A, 115 VAC, 60 Hz, with four 2.5A Class 2 power limited outputs
404-194-00	Power Supply/Battery Charger, 10/8A, 220 VAC, 50/60 Hz, with four 2.5A Class 2 power limited outputs

### Batteries

Part Number	Description
400-704-00	Battery, SLA, rechargeable, 12V/8Ah, quick connect, 5.95 in. L x 2.56 in. W x 3.90 in. H, 3.50 lb
400-713-00	Battery, SLA, rechargeable, 12V/12Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb

### NEMA 4X Enclosure

Part Number	Description
081-264-00	NEMA 4X Text Display Enclosure, stainless steel with a clear display window in the front, enclosure dimensions 12 in. H x 12 in. D x 48 in. L

## Assembly Information

### Application Note

Up to 31 text displays can be connected to a MAAP-X with a CORE II processor.

Up to 64 text displays can be connected to a MAAP-X with a CORE III processor; this is the CORE III solution.

The CORE II solution is available, but requires different part numbers. Contact customer service for assistance.

### Requirement Note

Each MAAP-X with a CORE III can support one Text Display MUX (P/N 176-286-03), which has eight ports. Each port can have 10 text displays daisy chained.

Each MAAP-X (CORE II) with Firmware A.4.7 can have up to 16 text displays (P/N 710-075-01) maximum.

Each MAAP-X (CORE II) with Firmware A.4.8 can have up to 32 text displays (P/N 710-075-01) maximum.

The MAPP-X Text Display Address Programming Utility Planner (P/N 207-627-00) is required to program addresses into text displays.



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# Addressable Fire Alarm Control Panels with MNS

## Power Supply Application

P/N 404-190-00

Power Supply/Battery Charger, 10/8A,  
115 VAC, with four 2.5A Class 2 power limited outputs

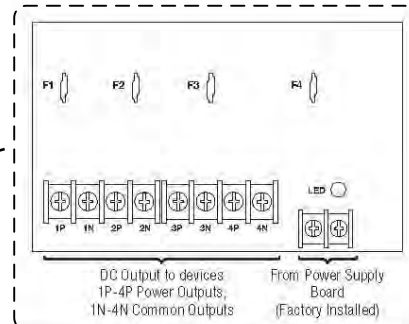
P/N 404-194-00

220 VAC 50/60 Hz 10/8A,  
with four 2.5A Class 2 power limited outputs



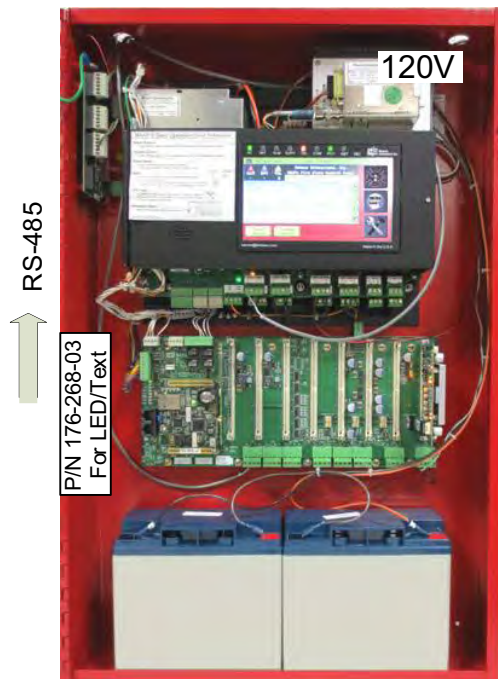
Addressable Monitor  
(Input Module)

2.5A 24VDC Circuits: Qty=4



Individual Text Displays to have  
a dedicated 2.5A -24VDC circuit

Class 2 – Power Limited  
**Up to four Text Displays per  
Power Supply**



MAAP-X  
Enclosure  
size based on  
application



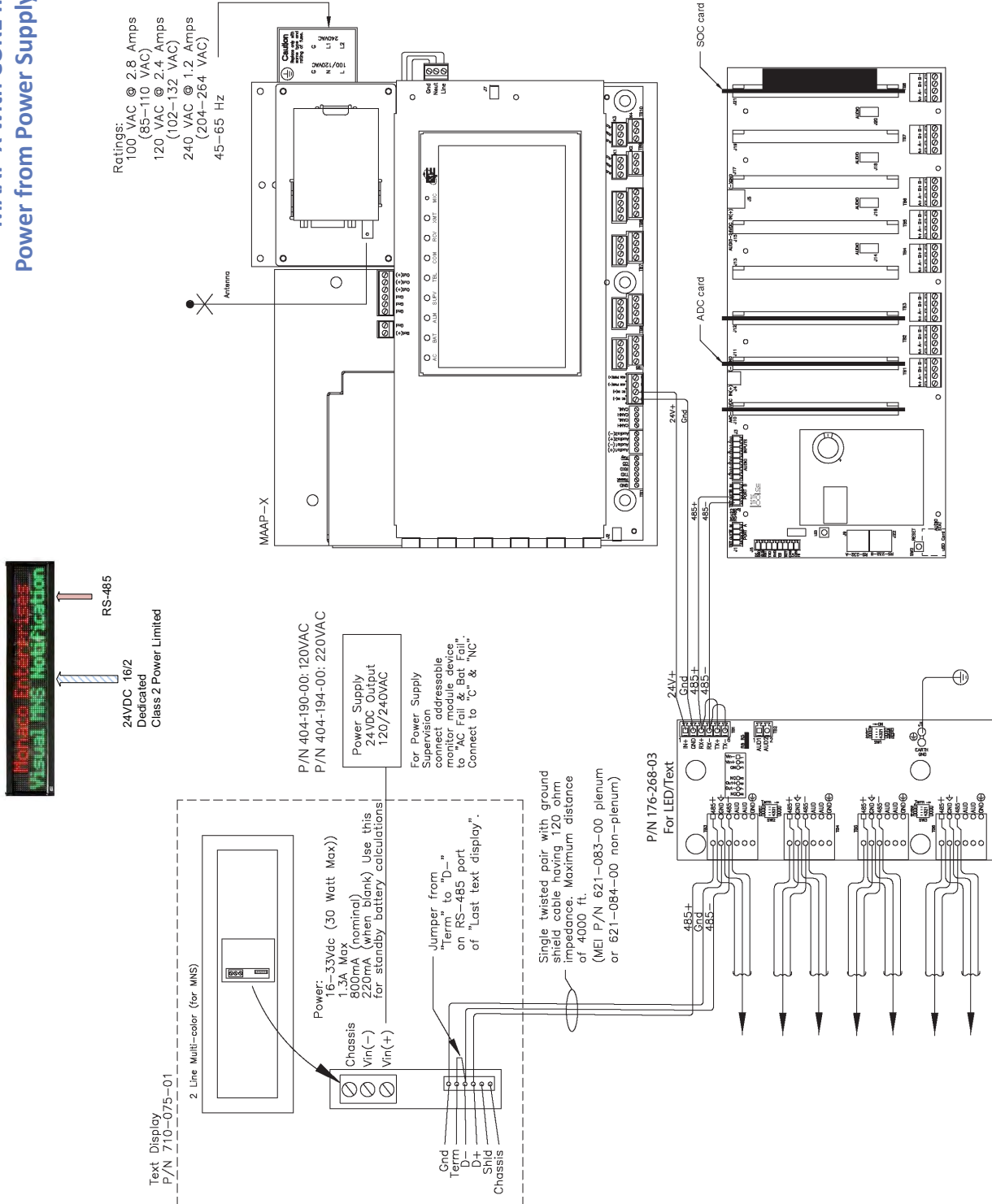
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X with CORE III Power from Power Supply



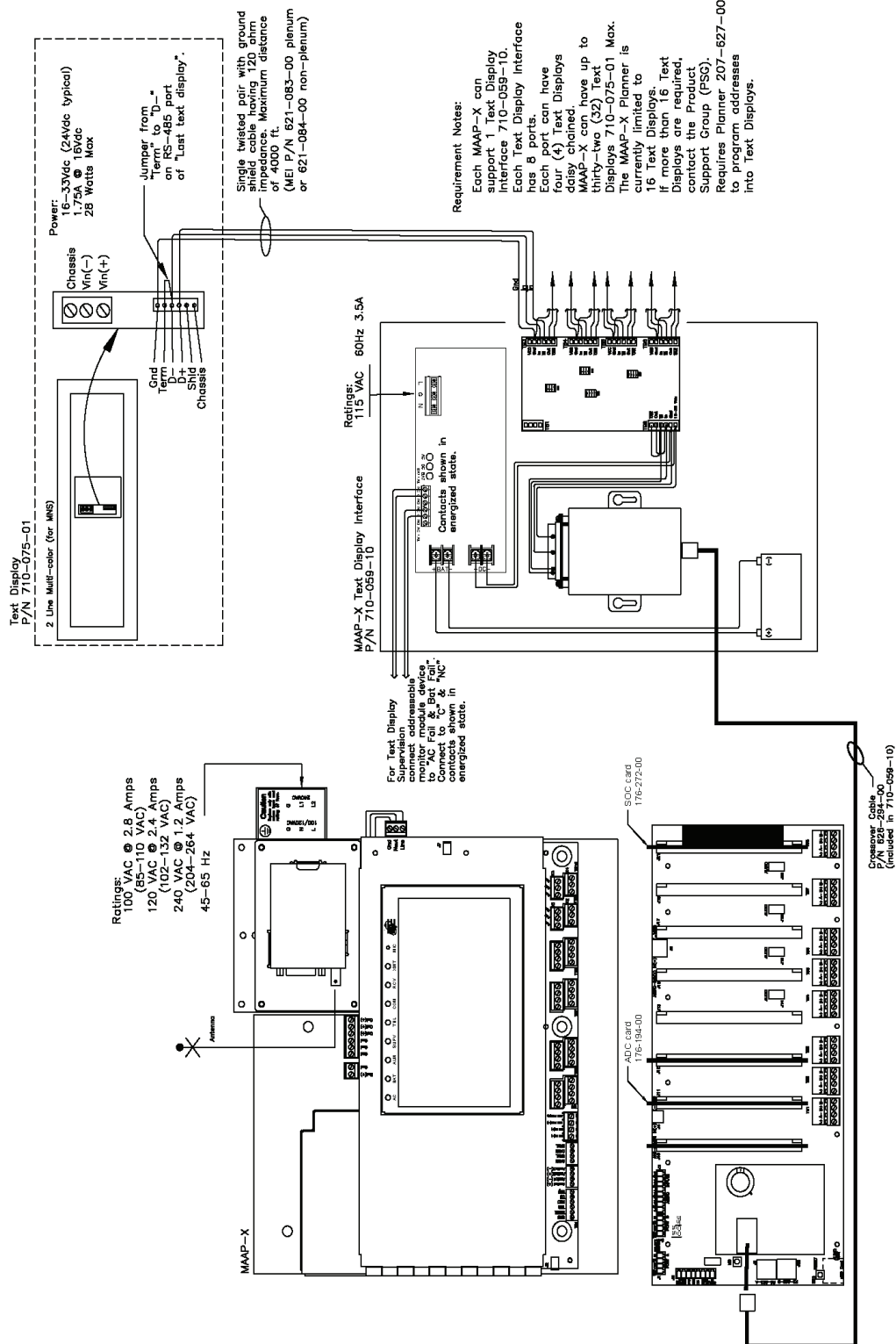
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# Addressable Fire Alarm Control Panels with MNS

## MAAP-X with a CORE II Power from Power Supply



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## MNS Accessories

# Addressable Fire Alarm Control Panels w/MNS Catalog Section 06

### MNS Accessories

Audio Booster Panels. ....703-16x-00, 703-20x-00

*[Click to go back to "Table of Contents - Index by Product Name"](#)*



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# Addressable Fire Alarm Control Panels with MNS

## Audio Booster Panels

703-16x-00, 703-20x-00

### Description

The Audio Boosters provide additional supervised audio power for live voice and prerecorded messages with 24 VDC battery backup capabilities.



Boosters can be interconnected to accommodate large installations (maximum of 5,280 W supervised audio power) with supervised audio power as well as supervised and synchronized strobe power. Each Audio Booster connected to a MAAP-X SOC requires one Audio Output Limiter.

The 320 W audio booster draws 2.4 W of audio input power to properly operate and provide additional supervised audio output power. The 160 W and 80 W boosters each draw 1.2 W of audio power to properly operate and provides additional supervised audio output power. Additional strobe power is available using Audio Booster P/N 703-167-00 or P/N 703-207-00.

When used with the MAAP-X FACP/MNS, it is required that the following items be included:

- Audio Output 60V P-P Limiter (P/N 176-296-01); one per Audio Booster panel
- Mini-monitor Module (P/N 729-143-00 or P/N 729-218-00); one per Audio Booster panel
- Supervised Volume Control (P/N 703-166-00); one per SOC on the Audio Booster panel

### Features

- OSHA 1910.165 and ADA compliant
- Fully supervised power supply and batteries
- Class D amplifiers
- Power limited circuitry
- Internal battery charger and power supply
- Expansion output used for connecting multiple boosters (Supervised, 0.5A @24 VDC in alarm condition)
- Keyed alike
- Removable quick connect/disconnect terminals (12–22 AWG)

### Specifications

#### 703-164-00, 703-167-00, 703-206-00, 703-207-00

<i>Operating Voltage</i>	703-164-00: 120 VAC, 3.8A, 60 Hz 703-167-00: 120 VAC, 3.8A, 60 Hz 703-206-00: 240 VAC, 2.5A, 50/60 Hz 703-207-00: 240 VAC, 2.5A, 50/60 Hz
<i>Standby Current</i>	120 mA per amplifier board
<i>Audio Alarm Current</i>	9A per amplifier board
<i>Audio Booster Power</i>	703-164-00: 160 W 703-167-00: 80 W 703-206-00: 160 W 703-207-00: 80 W
<i>Output Voltage</i>	25 or 70 volts (selectable)
<i>Signal Frequency Response</i>	Voice: 400 Hz to 6.5 kHz BGM: 275 Hz to 15 kHz
<i>Signal to Noise Ratio</i>	>70 dB
<i>Dynamic Range</i>	>65 dB
<i>Total Harmonic Distortion</i>	2%
<i>Dimensions</i>	21 in. H x 16 in. W x 6 in. D (53.34 cm x 40.64 cm x 15.24 cm)
<i>Weight</i>	36 lb (16.3 kg) without batteries
<i>Finish</i>	Red
<i>Standards Compliance:</i>	
<i>UL Listed</i>	UL864, File S5361
<i>FM Approval</i>	Approved
<i>MEA Approved</i>	151-92-E
<i>State of California</i>	6911-0785:157



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# Addressable Fire Alarm Control Panels with MNS

## 703-165-00, 703-208-00

<b>Power Input</b>	703-165-00: 120 VAC, 3.8A, 60 Hz 703-208-00: 240 VAC, 2.5A, 50/60 Hz
<b>Standby Current</b>	120 mA per amplifier board
<b>Alarm Current</b>	18A per amplifier board
<b>Audio Booster Power</b>	320 W
<b>Output Voltage</b>	25 or 70 volts (selectable)
<b>Signal Frequency Response</b>	Voice: 400 Hz to 6.5 kHz BGM: 275 Hz to 15 kHz
<b>Signal to Noise Ratio</b>	>70 dB
<b>Dynamic Range</b>	>65 dB
<b>Total Harmonic Distortion</b>	2%
<b>Dimensions</b>	36 in. H x 24 in. W x 6 in. D (91.4 cm x 60.96 cm x 15.24 cm)
<b>Weight</b>	80 lb (36.3 kg) without batteries
<b>Finish</b>	Red
<b>Standards Compliance:</b>	
<b>UL Listed</b>	UL864, File S5361
<b>FM Approval</b>	Approved
<b>MEA Approved</b>	151-92-E
<b>State of California</b>	6911-0785:157

## Associated Parts

Part Number	Description
<b>176-296-01</b>	MAAP-X SOC (Speaker Output Card) Audio Output 60V P-P Limiter for Audio Booster panels; one required for each Audio Booster connected to a MAAP-X SOC
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb
<b>703-163-00</b>	Audio Splitter (4 Class B or 2 Class A), audio splitter bracket required
<b>703-192-00</b>	Speaker Splitter Mounting Bracket, required when audio splitter P/N 703-163-00 is used <b>NOTE</b> Bracket supports two audio splitters (P/N 703-163-00)
<b>703-166-00</b>	Supervised Volume Control (only one per audio circuit)
<b>729-143-00</b>	Intelligent Mini-monitor Module, CLIP, Type I
<b>729-218-00</b>	Intelligent Mini-monitor Module, AP/CLIP, white, Type II

## Ordering Information

### Audio Boosters

Part Number	Description
<b>703-164-00</b>	Audio Booster 160 W, 120 VAC, 60 Hz, no power for strobe circuits
<b>703-165-00</b>	Audio Booster 320 W, 120 VAC, 60 Hz, no power for strobe circuits
<b>703-167-00</b>	Audio Booster 80 W, 120 VAC, 60 Hz, two 2A strobe circuits
<b>703-206-00</b>	Audio Booster 160 W, 240 VAC, 50/60 Hz, no power for strobe circuits
<b>703-207-00</b>	Audio Booster 80 W, 240 VAC, 50/60 Hz, with two 2A strobe power circuits
<b>703-208-00</b>	Audio Booster 320 W, 240 VAC, 50/60 Hz, no power for strobe circuits



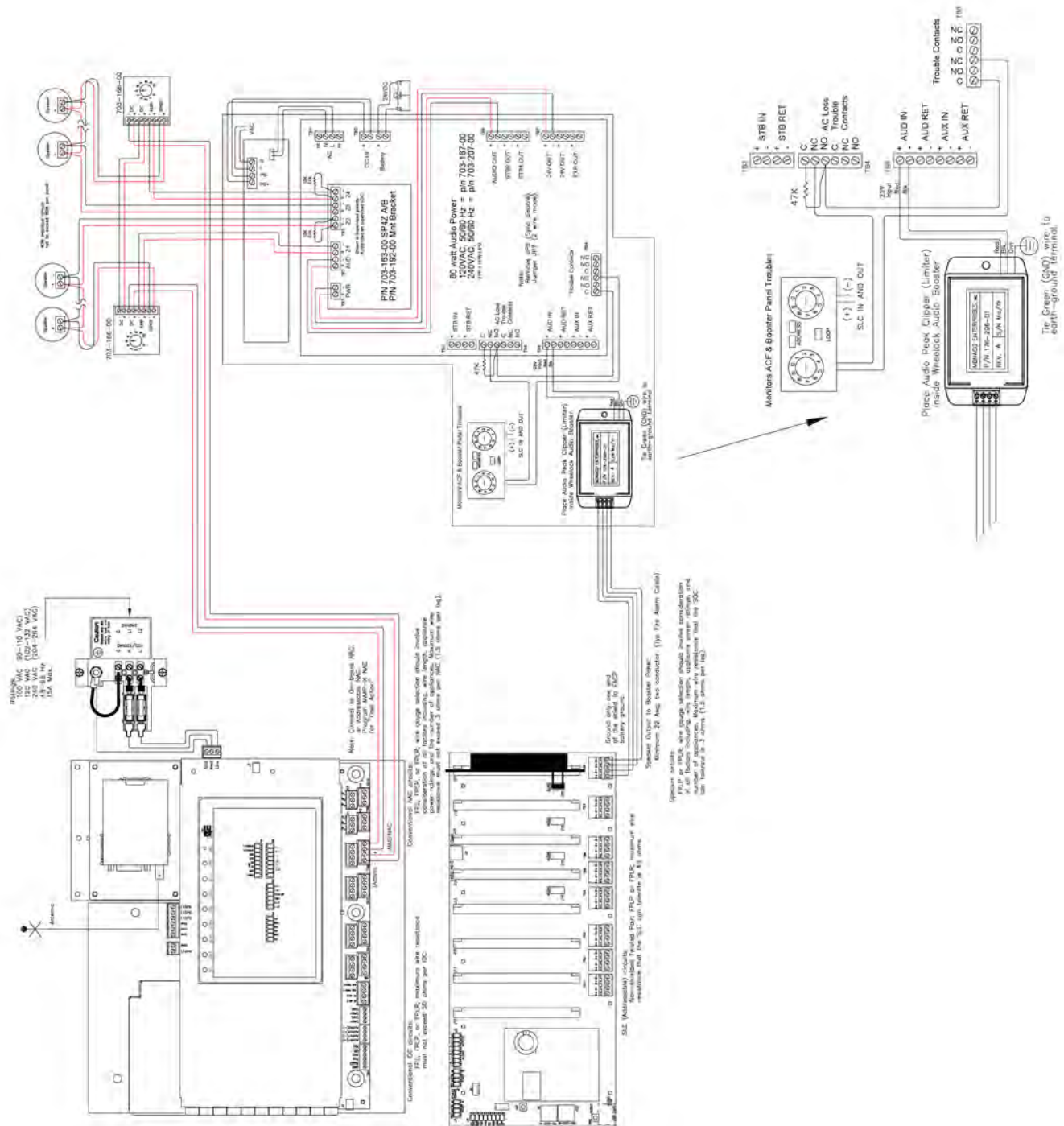
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## Wiring Diagrams

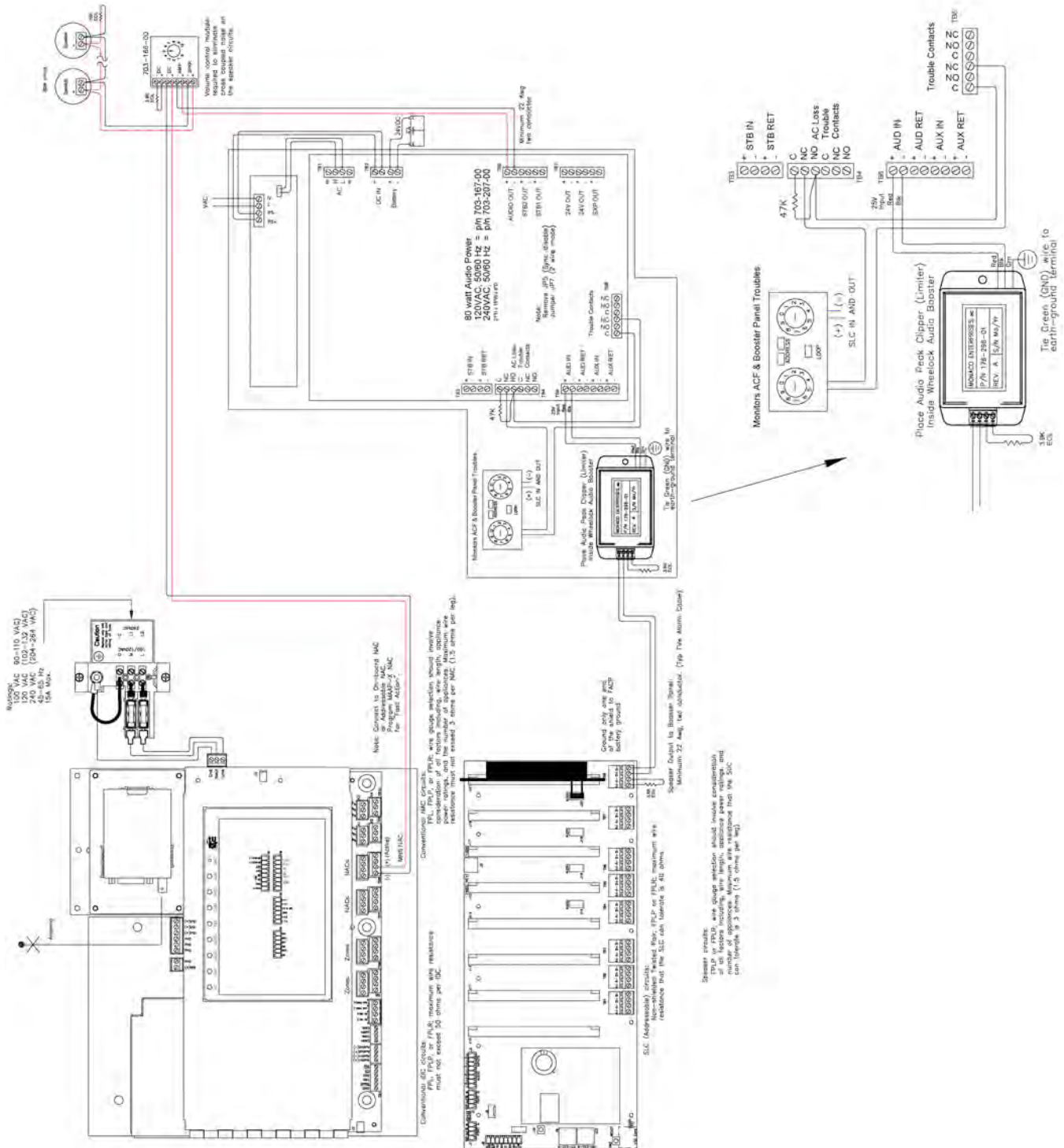


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## Addressable Fire Alarm Control Panels with MNS



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```

graph TD
    Detect --> Manage
    Manage --> Record
    Record --> Detect
  
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## Conventional Fire Alarm Control Panels

# Conventional Fire Alarm Control Panels Catalog Section 07

### Section 7. Conventional Fire Alarm Control Panels

M-2 Conventional FACP with Integrated Radio Transceiver . . . . .	227-55x-xx, 227-56x-xx, 227-570-xx, 227-587-xx, 227-5xx-EN
M-2 Conventional FACP, Mass Notification . . . . .	227-55x-MN, 227-56x-MN, 227-570-MN
M Conventional Planner . . . . .	207-813-00
Vulcan I Fire Alarm Control Panel . . . . .	700-026-00, 700-027-00, 700-027-01, 700-028-00, 700-028-01
Interface PCB, 4-Zone Alarm, 4-Zone Alarm/Trouble . . . . .	175-047-00, 176-133-00, 176-177-00, 790-026-00

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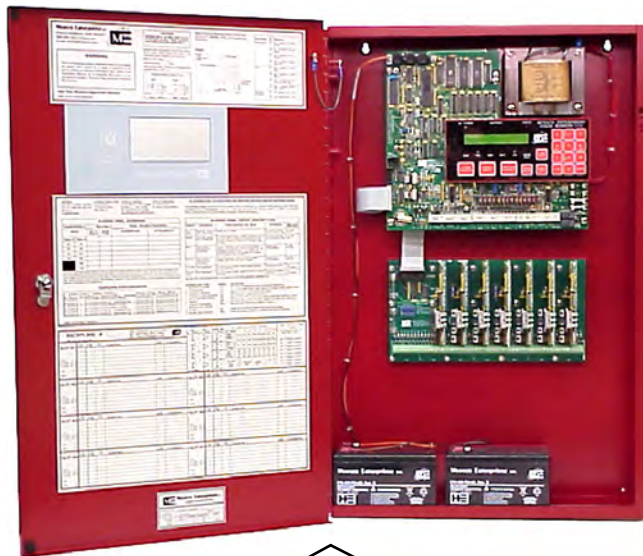
## Conventional Fire Alarm Control Panels

### M-2 Conventional FACP with Integrated Radio Transceiver

227-55x-xx, 227-56x-xx, 227-570-xx, 227-587-xx, 227-5xx-EN

#### Description

The M-2 is a low-voltage, programmable, fire alarm control panel with integrated FSK radio transceiver. All monitoring, supervision, signaling, and reporting functions are incorporated into this unit for real-time device-level status at Monaco's D-21 Central Receiving System (D-21) through integrated transceiver or hard-wire communication. The integrated transceiver needs no external wiring or interfacing relays.



Radio is FCC certified for narrowband operation and meets the requirements of the NTIA (National Telecommunications and Information Administration) Manual of Regulations and Procedures for Federal Frequency Management.

The basic M-2 provides two Class A or four Class B (jumper selectable) and two auxiliary zones. Zones can be added in increments of two Class A or four Class B with Zone Expansion Cards (ZECs)—Class set by switch. These cards plug into an expansion backplane.

Auxiliary Output Cards (AOCs)—eight programmable outputs—and Universal Input Cards (UICs) can also plug into the expansion backplane. Outputs drive annunciator LEDs, relays, or other devices.

An M-2 in the 60 in. enclosure can monitor up to 58 Class A or 60 Class B zones.

#### User Interface

- Integrates with Monaco D-21 Radio Alarm Central Receiving System (Central) and any of the D-21 fire management systems
- Monitors zones and transmits alarms (fire and supervisory), troubles and restorations, and control panel status
- Status changes are reported to D-21 by automatic, manual, and on-command poll/reply/acknowledge routines
- Built-in diagnostic tests
- LEDs indicate transceiver, control panel, and zone status; an LCD identifies the specific condition in plain English
- Includes lamp test, drill test, walktest, and transmitter disable for all or individual zones
- Individual zones and the transceiver can be disabled at the M-2
- "Stuck" transmitter disconnects automatically
- RF signal components on the assigned frequency are indicated by LEDs
- Types of signaling—radio frequency and non-coded

Messages repeat at programmed intervals until Central acknowledges receipt. If the M-2 does not receive a signal from Central for 30 seconds, it sends any alarm messages without waiting for a command. If the M-2 does not reply to a poll or command, a trouble is indicated at Central.



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# Conventional Fire Alarm Control Panels

## Fire Inputs and Outputs

- Types of service:
  - Automatic fire alarm
  - Manual fire alarm
  - Waterflow alarm
  - Sprinkler supervision
- IDC zone types:
  - Standard
  - Supervisory
  - Waterflow alarm
  - Detector verification
  - Master box
  - Positive alarm sequence
  - Tamper
- NACs: Four Class B, two Class A
- The Form C relays can be wired for normally open (NO) or normally closed (NC)  
**CAUTION!** *Do not run 120 VAC for auxiliary devices in the panel enclosure.*
- Auxiliary inputs are two Class B non-powered IDCs
- Auxiliary output is a Class B polarity-reversal circuit
- Auxiliary power supports auxiliary powered detectors or devices
- Remote trouble circuit powers remote bells, horns, etc. and is non-supervised, non-polarity reversing, and self-current-limiting

## Configuration Programming

- The onboard LCD and keypad are used to remotely program the M-2, including transceiver address and zone reporting position numbers
- Software gives alarms priority processing
- All programming and current status are stored in transferable, nonvolatile memory at the D-21

## Hardware

- NEMA 1 enclosures are 18 in. wide x 3.6 in. deep; height determines the number of possible expansion backplanes
- All enclosures have two conduit knockouts on top; the 19 in. enclosure has two on each side, and longer enclosures have additional side knockouts

- Expansion backplanes/cards increase zone capacity
- Terminal blocks can be easily removed with the wiring intact when performing maintenance and troubleshooting procedures

## Specifications

**AC Input** Selectable 115 or 230 VAC, 50/60 Hz  
(Range: 85% to 110% of input, 48–62 Hz)

**DC Power** 28 VDC, 5A main supply

**Auxiliary Power Circuit** 24 VDC filtered, 2A

**Relays** Form C, 1.25A/24 VDC resistive

**Integral Battery Backup**

- Charging Circuit rated up to 80 Ah
- Dual-rate Charge: 27.8 VDC, 4A limit
- Charger Fully Supervised
- Low Battery: 23 VDC
- Battery Disconnect: 19 VDC

**Fire Inputs and Outputs IDCs (Zones):**

- Supply 24 VDC filtered power for loop-powered devices
- Current: 3 mA standby, 50 mA shorted
- Loop Resistance:  $\leq 35$  ohm
- 3.9 kohm EOL resistor

**NACs:**

- Polarity Reversing
- 24 VDC filtered, 1.5A
- Total Bell 1 (B1 and B2) or Bell 2 (B3 and B4)
  - Current:  $\leq 2$ A
  - Total Current, All NACs:  $\leq 3.5$ A
- Loop Resistance:  $\leq 3$  ohm per circuit
- 4.7 kohm EOL resistor, in parallel, Class B

### Auxiliary Input:

- Loop Resistance:  $\leq 35$  ohm per circuit
- 4.7 kohm EOL resistor, in parallel

### Auxiliary Output:

- Polarity Reversing
- 24 VDC filtered, 1.5A
- Loop Resistance:  $\leq 3$  ohm total circuit
- 4.7 kohm EOL resistor, in parallel

**Remote Trouble:** 150 mA of 24 VDC filtered power

**Radio Output Power** 4 watts

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 0% to 90% non-condensing

**IMPORTANT!** *Combined current of IDCs, NACs, auxiliary circuits, and remote trouble circuit cannot exceed 4A.*



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# Conventional Fire Alarm Control Panels

## Ordering Information

Part Number	Description
<b>227-550-xx*</b>	M-2 Conventional surface-mount FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 19 in. H × 18 in. W × 3.6 in. D, NEMA 1</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-551-xx*</b>	M-2 Conventional surface-mount FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 28 in. H × 18 in. W × 3.6 in. D, NEMA 1</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Two 12V/18 Ah batteries</li> <li>• Space for one expansion backplane—up to seven ZECs, AOCs, UICs</li> </ul>
<b>227-552-xx*</b>	M-2 Conventional surface-mount FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 43 in. H × 18 in. W × 3.6 in. D, NEMA 1</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Four 12V/18 Ah batteries</li> <li>• Space for two expansion backplanes—up to 14 ZECs, AOCs, UICs</li> </ul>
<b>227-554-xx*</b>	M-2 Conventional surface-mount FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 60 in. H × 18 in. W × 3.6 in. D, NEMA 1</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Four 12V/18 Ah batteries</li> <li>• Space for four expansion backplanes—up to 28 ZECs, AOCs, UICs</li> </ul>
<b>227-560-xx*</b>	M-2 Conventional flush-mount FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 19 in. H × 18 in. W × 3.6 in. D, NEMA 1</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-561-xx*</b>	M-2 Conventional flush-mount FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 28 in. H × 18 in. W × 3.6 in. D, NEMA 1</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Two 12V/18 Ah batteries</li> <li>• Space for one expansion backplane—up to seven ZECs, AOCs, UICs</li> </ul>

Part Number	Description
<b>227-562-xx*</b>	M-2 Conventional flush-mount FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 43 in. H × 18 in. W × 3.6 in. D, NEMA 1</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Four 12V/18 Ah batteries</li> <li>• Space for two expansion backplanes—up to 14 ZECs, AOCs, UICs</li> </ul>
<b>227-563-xx*</b>	M-2 Conventional FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 24 in. H × 24 in. W × 8 in. D, NEMA 3R</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Two 12V/18 Ah batteries</li> </ul> <b>NOTE</b> Security version configured differently; contact Monaco for details.
<b>227-564-xx*</b>	M-2 Conventional flush-mount FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 60 in. H × 18 in. W × 3.6 in. D, NEMA 1</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Four 12V/18 Ah batteries</li> <li>• Space for four expansion backplanes—up to 28 ZECs, AOCs, UICs</li> </ul>
<b>227-570-xx*</b>	M-2 Conventional FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 20 in. H × 16 in. W × 6 in. D, NEMA 3R</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-587-xx*</b>	M-2 Conventional FACP with Integrated Radio Transceiver: <ul style="list-style-type: none"> <li>• 24 in. H × 24 in. W × 8 in. D, NEMA 4X</li> <li>• Narrowband</li> <li>• Two Class A or four Class B zones</li> <li>• Two 12V/18 Ah batteries</li> </ul>
*Specify frequency (-xx) when ordering.	
<b>NOTE 1</b> Antenna system required for Integrated Radio Units; contact Monaco.	
<b>NOTE 2</b> Battery options available. Ah capacity depends on system configuration; contact Monaco for help determining battery requirements.	



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# Conventional Fire Alarm Control Panels

## Hard-wire Only (Ethernet) Units

Part Number	Description
<b>227-551-EN</b>	M-2 Fire Alarm Control Panel with an integrated Ethernet interface: <ul style="list-style-type: none"> <li>• Two Class A or four Class B zones</li> <li>• Capacity for one expansion backplane for up to seven cards max. in any combination of zone expansion, auxiliary output, or universal input</li> <li>• NEMA 1 surface-mount red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-561-EN</b>	M-2 Fire Alarm Control Panel with an integrated Ethernet interface: <ul style="list-style-type: none"> <li>• Two Class A or four Class B zones</li> <li>• Capacity for one expansion backplane for up to seven cards max. in any combination of zone expansion, auxiliary output, or universal input</li> <li>• NEMA 1 flush-mount red enclosure 28 in. H x 18 in. W x 3.6 in. D</li> <li>• Two 12V/18 Ah batteries</li> </ul>

## Associated Parts

Part Number	Description
<b>227-558-xx*</b>	Narrowband Electronics Package, conventional M-2
<b>227-571-xx*</b>	M-2 Narrowband Upgrade Kit, Type 1: CPU and flash memory chips, transceiver, power supply PCB, and cables
<b>176-184-01</b>	M-2 CPU Replacement Kit
<b>176-184-03</b>	M-2 CPU and FSK Replacement Kit
<b>176-185-00</b>	M Conventional FACP Expansion Backplane; capacity for up to seven expansion cards: ZEC, AOC, or UIC
<b>176-186-00</b>	Zone Expansion Card (ZEC), two Class A or four Class B zones
<b>176-187-00</b>	Auxiliary Output Card (AOC), drives eight LEDs per card; expansion backplane required for M FACP
<b>176-197-00</b>	Universal Input Card (UIC), four pairs of input terminals connecting up to four 2-wire input zones
<b>194-527-09</b>	M-2 Conventional EN Fiber Optic to Ethernet Converter, single mode 1 Gb kit with mounting hardware; one required per Ethernet M-2 Conventional EN to convert it to Fiber Optic
<b>194-527-01</b>	Fiber Optic to Ethernet Converter, single mode, 1 Gb; spare part for P/N 194-527-09
<b>513-411-00</b>	M-2 Tamper Switch Kit
<b>517-016-00</b>	Tilt Switch
<b>790-031-00</b>	HVAC Disconnect Switch, permits panel testing without deactivating HVAC fans
<b>207-813-00</b>	M Conventional Planner Kit Assembly; CD, programming cable and adaptor, IOM manual; requires 9-pin serial port on laptop or USB to serial adaptor
<b>225-163-00</b>	Planner Suite/ Programmer with interface cables for use with: Monaco FACP/MNS (M-2, MAAP-2, MAAP(+), MAAP-X) BT-X building transceiver, and D-21 compatible repeaters
<b>400-712-00</b>	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13 in. L x 3.03 in. W x 6.59 in. H, 12.6 lb
*Specify frequency (-xx) when ordering.	



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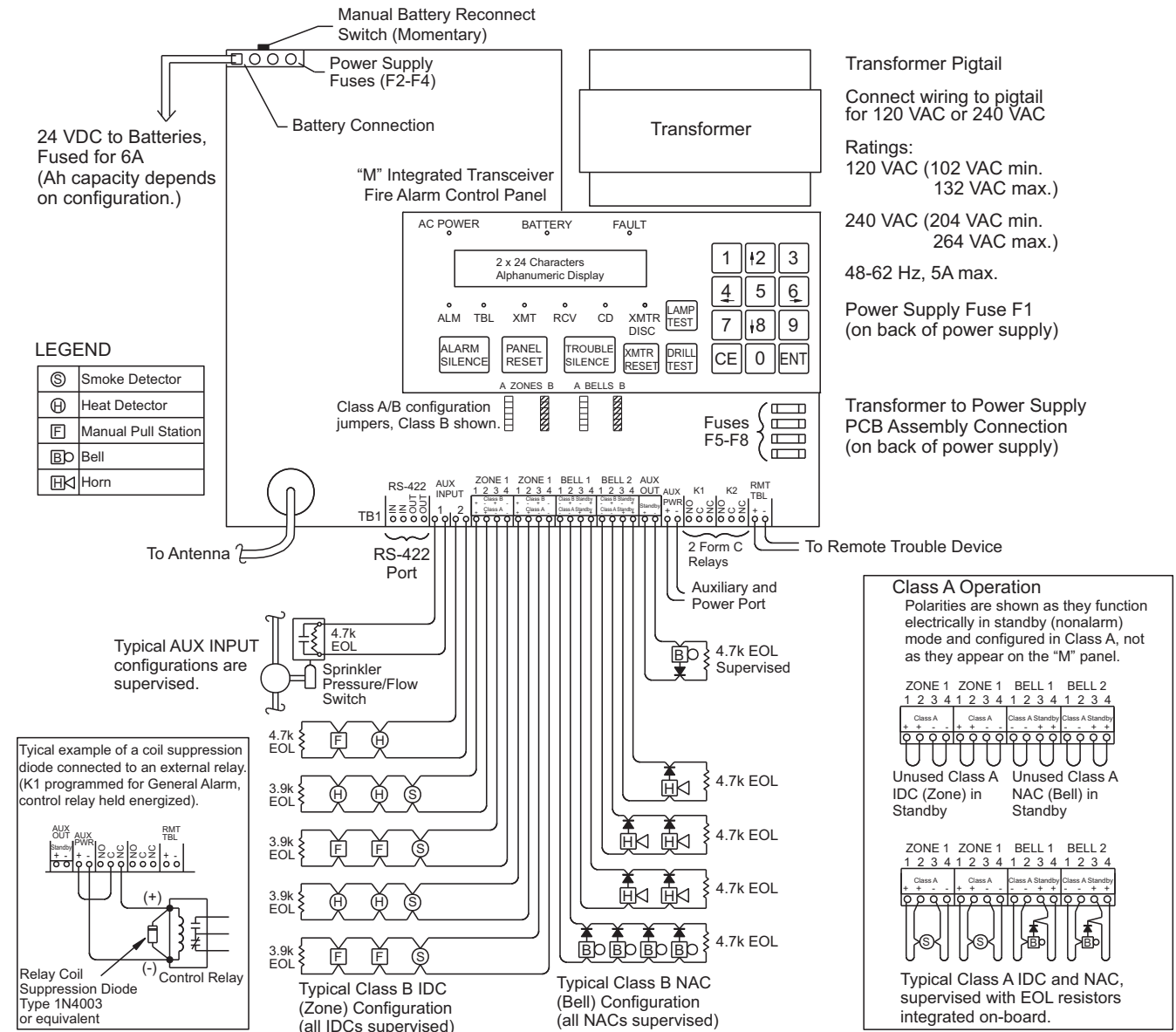


# Conventional Fire Alarm Control Panels

## Wiring Diagrams

The following drawings represent typical applications—not all possible options.

### Conventional Wiring, No Expansion Backplane



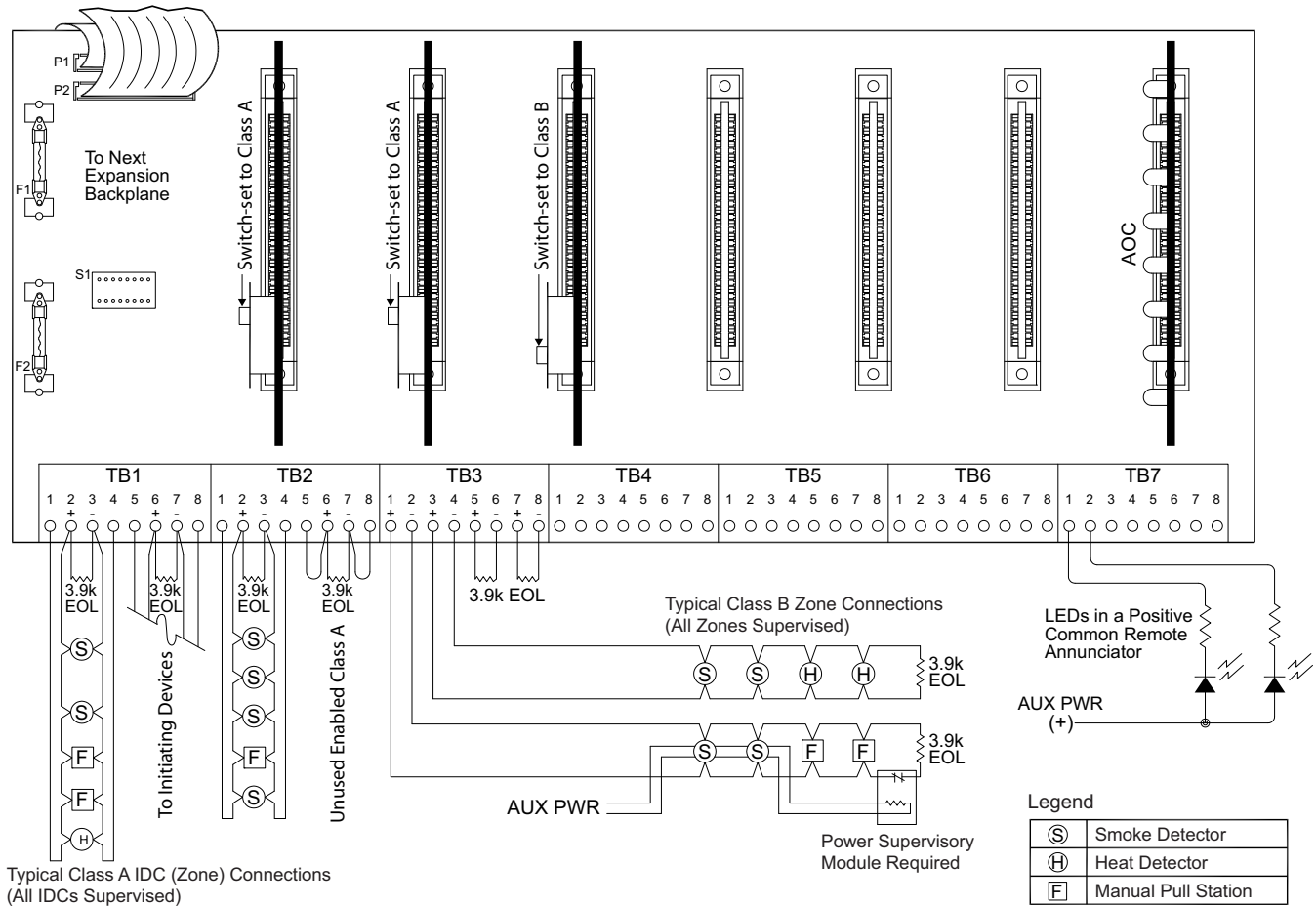
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# Conventional Fire Alarm Control Panels

## Expansion Backplane Wiring



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# Conventional Fire Alarm Control Panels

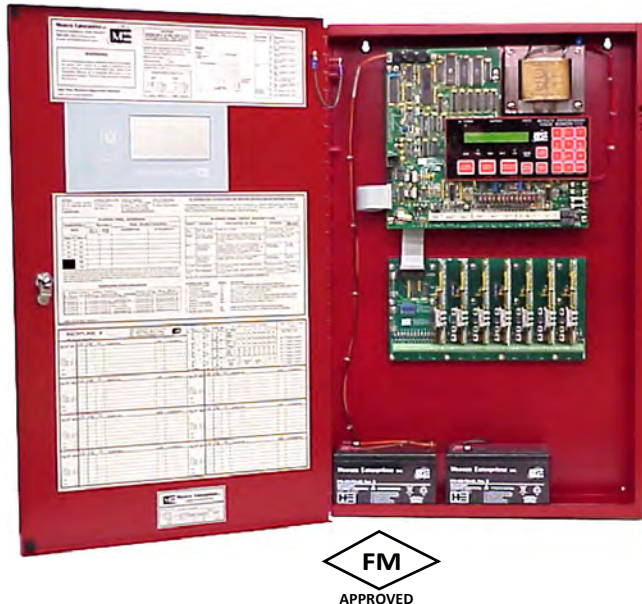
## M-2 Conventional FACP, Mass Notification

227-55x-MN, 227-56x-MN, 227-570-MN

### Description

This M-2 panel with MNS support replaces the standard radio transceiver (typically on the panel) with an RFM-XM2 interface, which allows the panel to communicate with a BT-XM2 and support a D-21 Mass Notification System (MNS) function that the BT-XM2 activates at an MNS panel.

The M-2 is a low-voltage, programmable, fire alarm control panel. All monitoring, supervision, and reporting functions are incorporated into this unit.



The basic M-2 provides two Class A or four Class B (jumper selectable) and two auxiliary zones. Zones can be added in increments of two Class A or four Class B with Zone Expansion Cards (ZECs)—Class set by switch. These cards plug into an expansion backplane. Auxiliary Output Cards (AOCs)—eight programmable outputs—and Universal Input Cards (UICs) can also plug into the expansion backplane. Outputs drive annunciator LEDs, relays, or other devices.

M-2 can monitor up to 58 Class A or 60 Class B zones if the enclosure is the 60 in. version. If a second M-2 is needed for additional zones, it connects to the first M-2 through the spare port on the RFM-XM2.

### User Interface

- Integrates with Monaco D-21 Radio Alarm Central Receiving System (Central) and any of the D-21 fire management systems
- Monitors zones and transmits alarms (fire and supervisory), troubles and restorations, and control panel status
- Status changes are reported to D-21 by automatic, manual, and on-command poll/reply/acknowledge routines
- Built-in diagnostic tests
- LEDs indicate control panel and zone status; an LCD identifies the specific condition in plain English
- Includes lamp test, drill test, and walk test for all or individual zones
- Individual zones can be disabled at the M-2

When an alarm is received at the M-2, and an MNS panel connected to the BT-XM2 has been activated, the BT-XM2 determines (by programming) whether the M-2 audible Notification Appliance Circuits (NACs) silence or sound during the MNS activity.

The M-2 reports status changes to Central through the BT-XM2 radio link. Status messages repeat at programmed intervals until Central acknowledges receipt. If the M-2 does not receive a signal from Central for 30 seconds, it sends any alarm messages without waiting for a command. If the M-2 does not reply to a poll or command, a trouble is indicated at Central.

### Fire Inputs and Outputs

- Types of service:
  - Automatic fire alarm
  - Manual fire alarm
  - Waterflow alarm
  - Sprinkler supervision



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# Conventional Fire Alarm Control Panels

- IDC zone types:
  - Standard
  - Supervisory
  - Waterflow alarm
  - Detector verification
  - Master box
  - Positive alarm sequence
  - Tamper
- NACs: Four Class B, two Class A
- Two programmable Form C relays can be wired for normally open (NO) or normally closed (NC)  
**Caution!** Do not run 120 VAC for auxiliary devices in the panel enclosure
- Auxiliary inputs are two Class B non-powered IDCs.
- Auxiliary output is a Class B polarity-reversal circuit.
- Auxiliary power supports auxiliary powered detectors or devices
- Remote trouble circuit is nonsupervised, non-polarity reversing, and self current-limiting; it powers remote bells, horns, etc.

## Configuration Programming

- M-2 is completely field programmable, including zone reporting position numbers, using the on-board LCD and keypad
- Software gives alarms priority processing
- All programming and current status are stored in transferable, nonvolatile memory at the D-21

## Hardware

- NEMA 1 enclosures are 18 in. W x 3.6 in. D; height determines the number of possible expansion backplanes
- All enclosures have two conduit knockouts on top. The 19 in. H enclosure has two on each side; longer enclosures have additional side knockouts
- Expansion backplanes/cards increase zone capacity
- M-2 panel terminal blocks can be easily removed with the wiring intact when performing maintenance and troubleshooting procedures

## Specifications

<i>AC Input</i>	Selectable 115 or 230 VAC, 50/60 Hz (range = 85% to 110% of input, 48–62 Hz)
<i>DC Power</i>	28 VDC, 5A main supply
<i>Auxiliary Power Circuit</i>	24 VDC filtered, 2A
<i>Relays</i>	Form C, 1.25A/24 VDC resistive
<i>Integral Battery Backup</i>	<ul style="list-style-type: none"><li>• Charging circuit rated up to 80 Ah</li><li>• Dual-rate charge, 27.8 VDC, 4A limit</li><li>• Charger fully supervised</li><li>• Low battery: 23 VDC</li><li>• Battery disconnect: 19 VDC</li></ul>
<i>IDCs</i>	<ul style="list-style-type: none"><li>• Supply 24 VDC filtered power for loop-powered devices</li><li>• Current 3 mA standby, 50 mA shorted</li><li>• 3.9 kohm EOL resistor</li><li>• Loop resistance <math>\leq 35</math> ohm</li></ul>
<i>NACs</i>	<ul style="list-style-type: none"><li>• Polarity reversing</li><li>• 24 VDC filtered, 1.5A</li><li>• Total Bell 1 (B1 and B2) or Bell 2 (B3 and B4) current <math>\leq 2</math>A; total current all NACs <math>\leq 3.5</math>A</li><li>• Loop resistance <math>\leq 3</math> ohm per circuit</li><li>• 4.7 kohm EOL resistor, in parallel, Class B</li></ul>
<i>Auxiliary Input Circuits</i>	<ul style="list-style-type: none"><li>• Total loop resistance <math>\leq 35</math> ohm per circuit</li><li>• 4.7 kohm EOL resistor, in parallel</li></ul>
<i>Auxiliary Output Circuit</i>	<ul style="list-style-type: none"><li>• Polarity reversing</li><li>• 24 VDC filtered, 1.5A</li><li>• Loop resistance <math>\leq 3</math> ohm total circuit</li><li>• 4.7 kohm EOL resistor, in parallel</li></ul>
<i>Auxiliary Power Circuit</i>	24 VDC filtered, 2A
<i>Remote Trouble Circuit</i>	24 VDC filtered, 150 mA
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	0% to 90% non-condensing

**IMPORTANT!** Combined current of IDCs, NACs, auxiliary circuits, and remote trouble circuit cannot exceed 4A.



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# Conventional Fire Alarm Control Panels

## Ordering Information

### Panels

Part Number	Description
<b>227-550-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 19 in. × 18 in. × 3.6 in. NEMA 1, surface-mount</li> <li>• Two Class A or four Class B</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-551-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 28 in. × 18 in. × 3.6 in. NEMA 1, surface-mount</li> <li>• Two Class A or four Class B</li> <li>• Two 12V/18 Ah batteries</li> <li>• Space for one expansion backplane—up to seven ZECs, AOCs, or UICs</li> </ul>
<b>227-552-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 43 in. × 18 in. × 3.6 in. NEMA 1, surface-mount</li> <li>• Two Class A or four Class B</li> <li>• Four 12V/18 Ah batteries</li> <li>• Space for two expansion backplanes—up to 14 ZECs, AOCs, or UICs</li> </ul>
<b>227-554-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 60 in. × 18 in. × 3.6 in. NEMA 1, surface-mount</li> <li>• Two Class A or four Class B</li> <li>• Four 12V/18 Ah batteries</li> <li>• Space for four expansion backplanes—up to 28 ZECs, AOCs, or UICs</li> </ul>
<b>227-560-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 19 in. × 18 in. × 3.6 in. NEMA 1, flush-mount</li> <li>• Two Class A or four Class B</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>227-561-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 28 in. × 18 in. × 3.6 in. NEMA 1, flush-mount</li> <li>• Two Class A or four Class B</li> <li>• Two 12V/18 Ah batteries</li> <li>• Space for one expansion backplane—up to seven ZECs, AOCs, or UICs</li> </ul>
<b>227-562-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 43 in. × 18 in. × 3.6 in. NEMA 1, flush-mount</li> <li>• Two Class A or four Class B</li> <li>• Four 12V/18 Ah batteries</li> <li>• Space for two expansion backplanes—up to 14 ZECs, AOCs, or UICs</li> </ul>
<b>227-563-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 24 in. × 24 in. × 8 in. NEMA 3R</li> <li>• Two Class A or four Class B</li> <li>• Two 12V/18 Ah batteries</li> </ul>

Part Number	Description
<b>227-564-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 60 in. × 18 in. × 3.6 in. NEMA 1, flush-mount</li> <li>• Two Class A or four Class B</li> <li>• Four 12V/18 Ah batteries</li> <li>• Space for four expansion backplanes—up to 28 ZECs, AOCs, or UICs</li> </ul>
<b>227-570-MN</b>	M-2 Fire Alarm Control Panel, MNS: <ul style="list-style-type: none"> <li>• 20 in. × 16 in. × 6 in. NEMA 3R</li> <li>• Two Class A or four Class B</li> <li>• Two 12V/18 Ah batteries</li> </ul>
<b>Notes</b> <ol style="list-style-type: none"> <li>1. A BT-XM2 consists of: a BT-XM (P/N 227-623-XX) with a relay board (P/N 176-214-00), M-2 MNS (-MN) and a BT-XM to BT-XM2 conversion kit (P/N 227-623-MN).</li> <li>2. MNS panel required. If no existing panel, order from Monaco.</li> <li>3. Battery options available. Ah capacity depends on system. Contact Monaco for help in determining battery requirements.</li> </ol>	

### Associated Parts

Part Number	Description
<b>227-623-xx*</b>	BT-XM Mass Notification Communicator, narrowband radio, capability for fallback to hard-wire communication, 20 in. × 12 in. × 4 in. single-wide NEMA 1, audio board, two 12V/12 Ah batteries, relay board ordered separately
*Specify frequency (-xx) when ordering. Antenna system for BT-XM2 required. Contact Monaco.	
<b>176-214-00</b>	BT-X Relay Board with eight on-board Form C relays
<b>227-623-MN</b>	BT-XM to BT-XM2 Conversion Kit: consists of a programming chip to convert BT-XM to BT-XM2 and operating manuals ( <b>the BT-XM being converted must have an audio board attached to function correctly</b> )
<b>227-371-02</b>	M-2 to M-2 Conventional FACP Conversion Kit for MNS operation. Includes RFM-XM2, interconnection cable, and EPROM
<b>176-185-00</b>	M Conventional FACP Expansion Backplane. Capacity for up to 7 expansion cards: ZEC, AOC, or UIC
<b>176-186-00</b>	Zone Expansion Card (ZEC), two Class A or four Class B zones
<b>176-187-00</b>	Auxiliary Output Card (AOC), drives eight LEDs per card; expansion backplane required for M FACP
<b>176-197-00</b>	Universal Input Card (UIC), four pairs of input terminals connecting up to four, 2-wire input zones



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## Conventional Fire Alarm Control Panels

Part Number	Description
513-411-00	M-2 Tamper Switch Kit
517-016-00	Tilt Switch
790-031-00	HVAC Disconnect Switch, permits panel testing without deactivating HVAC fans
207-813-00	M Conventional Planner Kit Assembly. CD, programming cable and adaptor, IOM manual, requires 9-pin serial port on laptop or USB to serial adaptor
225-163-00	Planner Suite/ Programmer with interface cables for use with: Monaco FACP/MNS (M-2, MAAP-2, MAAP(+), MAAP-X) BT-X building transceiver, and D-21 compatible repeaters
400-712-00	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13 in. x 3.03 in. x 6.59 in., 12.6 lb



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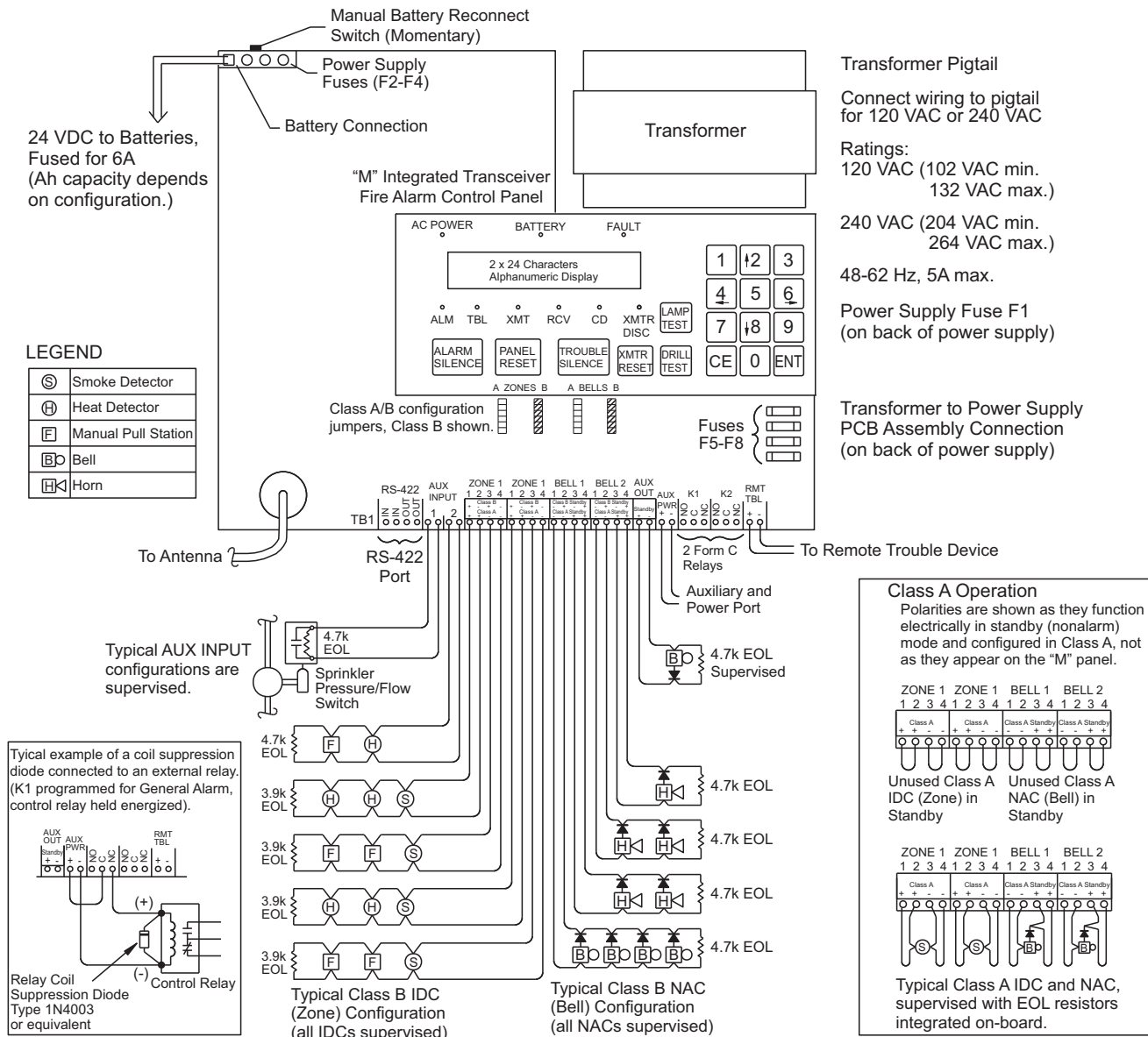


# Conventional Fire Alarm Control Panels

## Wiring Diagrams

The following diagrams represent typical applications, not all possible options.

### Conventional Wiring, No Expansion Backplane



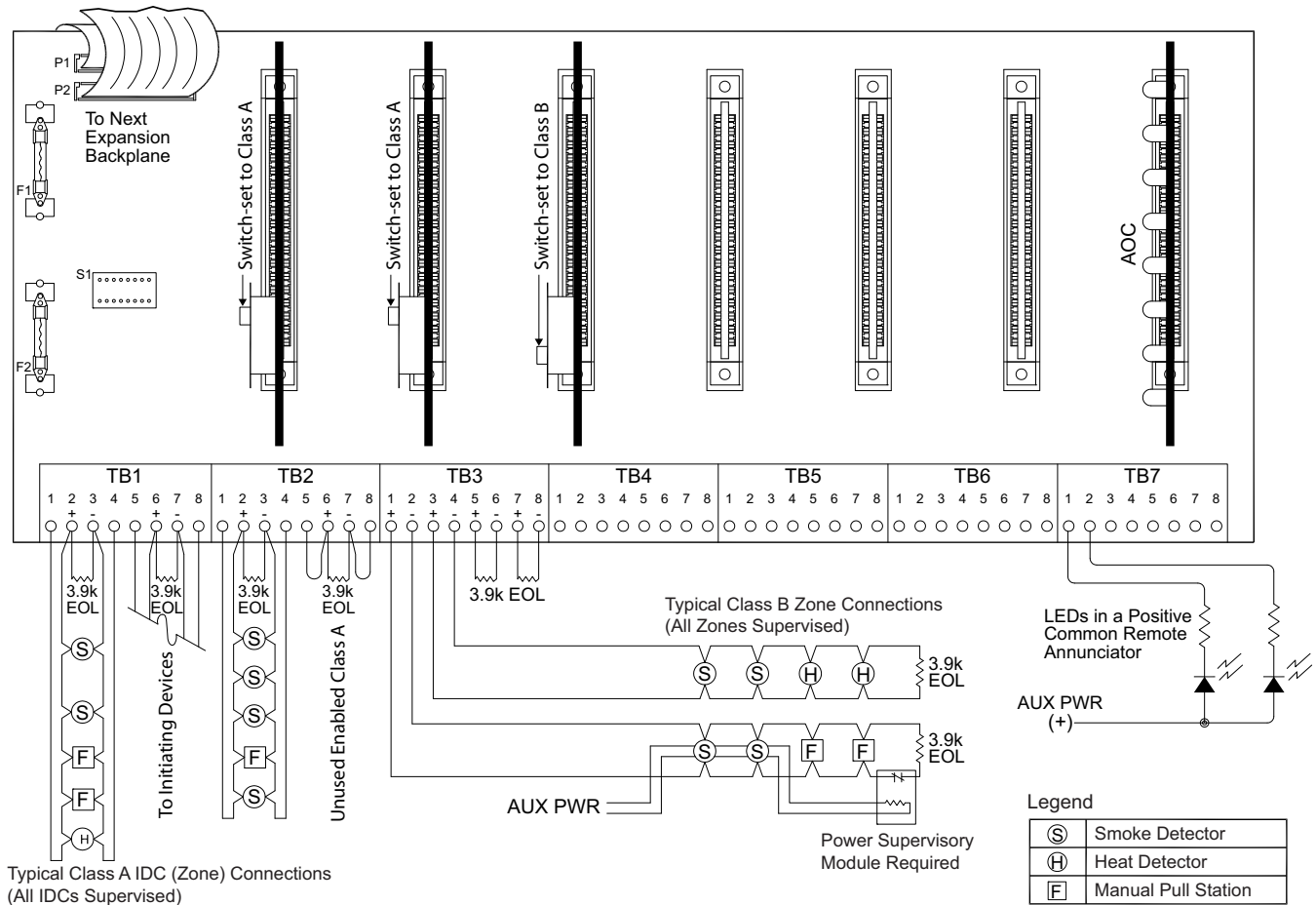
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# Conventional Fire Alarm Control Panels

## Expansion Backplane Wiring



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# Conventional Fire Alarm Control Panels

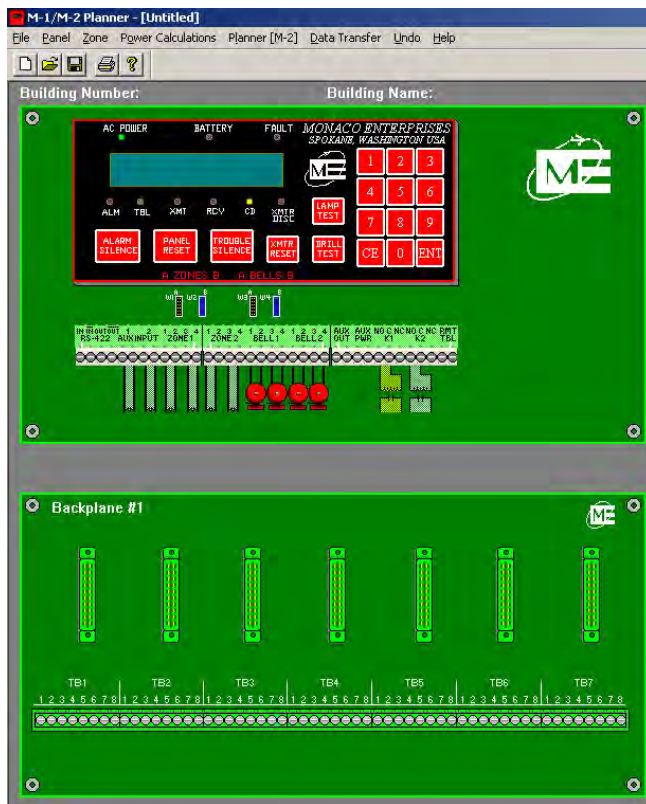
## M Conventional Planner

207-813-00

### Description

The Monaco M Conventional Planner is a Windows-based program that allows a Monaco M-Series Conventional Fire Alarm Control Panel to be programmed using a compatible laptop or PC. The Planner also allows the existing Configuration in the M Conventional Fire Alarm Control Panel to be downloaded to a computer or laptop for modification, printout, or storage.

The M Conventional Planner Kit (P/N 207-813-00) consists of a CD-ROM containing the M Conventional Planner program and a programming cable assembly used to connect a M Conventional Fire Alarm Control Panel to the serial port of the Computer running the M Conventional Planner.



### Features

- Ease of programming M-Series Fire Alarm Control Panels
- Fast and consistent programming of large numbers of M-Series FACP units
- Backup of M-Series FACP configuration databases
- Allows easy testing of new configurations with quick fall back to last good configuration
- Battery calculator
- Print configuration reports
- Windows® XP, Vista, 7.0, 8.0, 10 compatible

**NOTE** Newer laptops typically do not have a serial port so a USB to serial adaptor must be used to program the Monaco panels. Monaco USB to serial adaptor (P/N 649-118-00) has provided the most reliable communication between various laptops and Monaco panels. Other USB to serial adaptors may not produce a satisfactory customer experience.

### Ordering Information

Part Number	Description
207-813-00	M Conventional Planner Kit Assembly; CD, programming cable and adaptor, IOM manual, requires 9-pin serial port on laptop or USB to serial adaptor

### Associated Parts

Part Number	Description
207-813-01	M Conventional Planner Upgrade Kit - CD Only
226-529-00	Kit, M Serial Data, 9-pin RS232 adaptor and programming cable
649-118-00	USB to 9-pin Serial Adaptor



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## Conventional Fire Alarm Control Panels

### Vulcan I Fire Alarm Control Panel

700-026-00, 700-027-00, 700-027-01, 700-028-00, 700-028-01

#### Description

Monaco's Vulcan I is a low voltage Fire Alarm Control Panel designed for use in local, auxiliary, remote station, or proprietary signaling systems. Using solid state technology, the Vulcan I provides all supervision, monitoring and signaling functions with one printed circuit board assembly.



Alarm or Alarm/Trouble Interface modules may be used with Zone Expansion modules to connect each zone to Monaco's Radio Alarm System BT-2 Transceivers. A Verification Module may be connected between the Vulcan I PCB Assembly and Zone Expansion Module(s) to verify any alarms occurring on the expansion zones.

The main Vulcan I panel includes two Class B Notification Appliance Circuits (NACs), one trouble, and two alarm Form C Relays for connection to transmitters, a municipal box/water flow alarm circuit, control switches, and panel status LEDs. It also has one Class A or two Class B Initiating Device (zone) Circuits (IDC), each with their own auxiliary output, alarm and trouble LEDs, and test switches. Zone expansion modules may be added for more zones.

#### Features

- Two Class B or one Class A IDC
- Zone Expansion Modules may be used to provide up to 24 Class B or 12 Class A additional zones
- Verification modules verify the occurrence of an alarm on expansion zones
- One auxiliary output per zone, turns on in an alarm condition (active low)
- Two Class B NACs, separately fused; each may be converted to Class A via an optional module
- Subsequent alarm feature provides bell circuit resound
- Filtered power for 2- and 4-wire detectors and bell circuits
- Municipal box or water flow alarm circuit
- Form C auxiliary alarm and trouble contacts for connection to Monaco's radio BT2 Transceivers or hard-wire transmitters
- Optional modules provide individual zone alarm or alarm/trouble reporting to BT2s
- Battery charger; battery connection and AC to battery transfer relay supervised
- Built-in transient protection
- All fuses supervised
- Lamp test, alarm test, trouble silence, alarm silence, and reset switches
- Optional transmitter disconnect, HVAC disconnect, and drill switches available
- Power, panel trouble, ground fault LEDs, and alarm and trouble LEDs for each zone



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# Conventional Fire Alarm Control Panels

## Ordering Information

### Vulcan I Fire Alarm Control Panels

Part Number	Description
<b>700-026-00*</b>	Vulcan I Fire Alarm Control Panel, 24 VDC, one Class A or two Class B Zones, or two Class B NACs, two 12V/8 Ah batteries in a 15 in. x 18 in. x 3 in. surface-mount red NEMA 1 enclosure.
<b>700-027-00*</b>	Vulcan I Fire Alarm Control Panel, 24 VDC, one Class A or two Class B Zones, or two Class B NACs, two 12V/18Ah batteries in a 28 in. X 18 in. x 3.6 in. surface-mount red NEMA 1 enclosure (provides space for three Zone Expansion Modules/4-Zone Alarm or 4-Zone Alarm/Trouble Interface modules or accessories)
<b>700-027-01*</b>	Vulcan I Fire Alarm Control Panel, 24 VDC, one Class A or two Class B Zones, or two Class B NACs, two 12V/18Ah batteries in a 28 in. X 18 in. x 3.6 in. flush-mount red NEMA 1 enclosure (provides space for three Zone Expansion Modules/4-Zone Alarm or 4-Zone Alarm/Trouble Interface modules or accessories)
<b>700-028-00*</b>	Vulcan I Fire Alarm Control Panel, 24 VDC, one Class A or two Class B Zones, or two Class B NACs, two 12V/18Ah batteries in a 40 in. X 18 in. x 3.6 in. surface-mount red NEMA 1 enclosure (provides space for six Zone Expansion Modules/4-Zone Alarm or 4-Zone Alarm/Trouble Interface modules or accessories)
<b>700-028-01*</b>	Vulcan I Fire Alarm Control Panel, 24 VDC, one Class A or two Class B Zones, two Class B NACs, two 12V/18Ah batteries in a 40 in. X 18 in. x 3.6 in. flush-mount red NEMA 1 enclosure (provides space for six Zone Expansion Modules/4-Zone Alarm or 4-Zone Alarm/Trouble Interface modules or accessories)
<b>* NOTE</b> Other battery options available depending on total Ah requirement. Ah capacity depends on system configuration. Contact Monaco for assistance in determining battery requirements.	

## Associated Parts

Part Number	Description
<b>Zone Options</b>	
<b>176-133-00</b>	Four-Zone Expansion Module, 24 VDC, two Class A or four Class B Zones or one Class A or two Class B Zones
<b>175-047-00</b>	4-Zone Alarm Interface Module
<b>790-026-00</b>	Zone Expansion module with 4-Zone Alarm/Trouble Interface Module (P/N 176-177-00)
<b>176-181-01</b>	Vulcan I Alarm Verification Module for Zone Expansion Modules
<b>Remote Annunciators</b>	
<b>729-105-01</b>	Alarm only directory annunciator with positive common - may be used with Monaco's Vulcan and M-Series Control Panels: 5 Zone, 24 VDC, requires 1-gang box
<b>729-106-01</b>	Alarm only directory annunciator with positive common - Also used with Monaco's Vulcan and M-Series Control Panels: 10 Zone, 24 VDC, requires 2-gang box
<b>729-107-01</b>	Alarm only directory annunciator with positive common - may be used with Monaco's Vulcan and M-Series Control Panels: 15 Zone, 24 VDC, requires 3-gang box
<b>729-204-01</b>	Alarm and trouble indicator directory annunciator with positive common and reset switch - may be used with Monaco's Vulcan and M-Series Control Panels: 20 Zone, 24 VDC, requires 5-gang box
<b>Auxiliary Switch Options</b>	
<b>790-022-00</b>	Drill Switch
<b>790-023-00</b>	Vulcan I HVAC Disconnect Switch
<b>790-024-00</b>	BT2 Transmitter Disconnect Switch
<b>790-027-00</b>	Vulcan I Class A Audible Circuit Module
<b>790-031-00</b>	HVAC disconnect switch, permits panel testing without deactivating HVAC fans



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## Conventional Fire Alarm Control Panels

### Interface PCB, 4-Zone Alarm, 4-Zone Alarm/Trouble

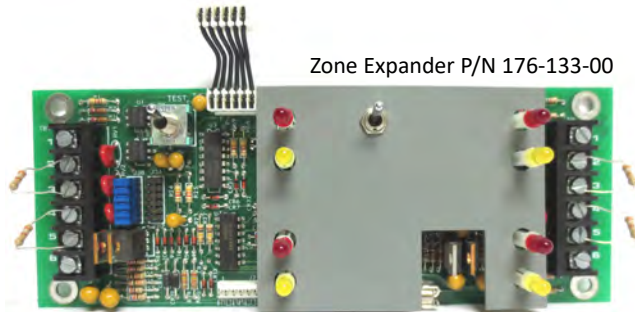
175-047-00, 176-133-00, 176-177-00, 790-026-00

#### Description

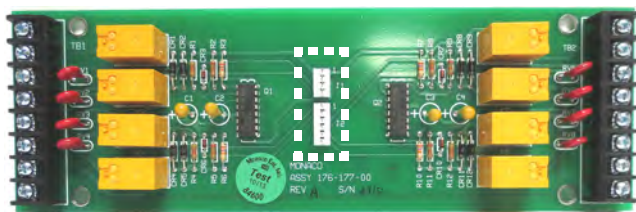
The 4-zone alarm only and 4-zone alarm/trouble interface PCBs, mounted in a Vulcan I enclosure, provide individual detection-loop alarm only and alarm/trouble signaling to a Monaco building transceiver (BT). These features are an enhancement to normal Vulcan I general alarm and general trouble operation.



4-Zone Alarm Interface P/N 175-047-00



Zone Expander P/N 176-133-00



4-Zone Alarm/Trouble Interface P/N 176-177-00

The 4-Zone Alarm Interface Module (P/N 175-047-00) provides individual detection-loop alarm signaling to Monaco BTs. It mounts behind and receives signals from a Zone Expander PCB (P/N 176-133-00). The Vulcan I common auxiliary alarm contact is not used. The auxiliary trouble contact may still be used to signal zone and control panel troubles to a BT zone input.

A 4-Zone Alarm Interface may be field installed behind any Zone Expander PCB in a Vulcan I enclosure; the mounting hardware is provided with the interface PCB.

The Four-Zone Alarm/Trouble Interface PCB (P/N 176-177-00, in kit P/N 790-026-00) provides individual detection-loop alarm and trouble signaling to Monaco BTs. It mounts behind and receives signals from a Zone Expander PCB via a cable assembly soldered to the circuitry of the expander PCB and connected to the front of the interface PCB (see outline highlight in the photo). The interface PCB includes an auxiliary trouble output for each zone to match the alarm device output provided on the Zone Expander PCB.

The expander PCB and interface PCB must be installed as a set. They may be used to add zones to an existing Vulcan I, provided there is room in the enclosure, or to replace a Zone Expander PCB. The Vulcan I enclosure must be large enough to accommodate the number of interface/expander PCBs intended for the site.

#### Ordering Information

Part Number	Description
175-047-00	4-Zone Alarm Interface PCB, 24 VDC, two Class A or four Class B zone alarm outputs to BT
176-133-00	4-Zone Expander PCB
790-026-00	4-Zone Expander Alarm/Trouble Interface Kit, 24 VDC, two Class A or four Class B zones <ul style="list-style-type: none"><li>One Zone Expander PCB (P/N 176-133-00) modified with cabling harness</li><li>One 4-Zone Alarm/Trouble Interface PCB (P/N 176-177-00)</li></ul>

**Note** Because the alarm/trouble interface PCB requires a zone expander PCB modified with the cabling harness, you must order kit P/N 790-026-00 to get it.



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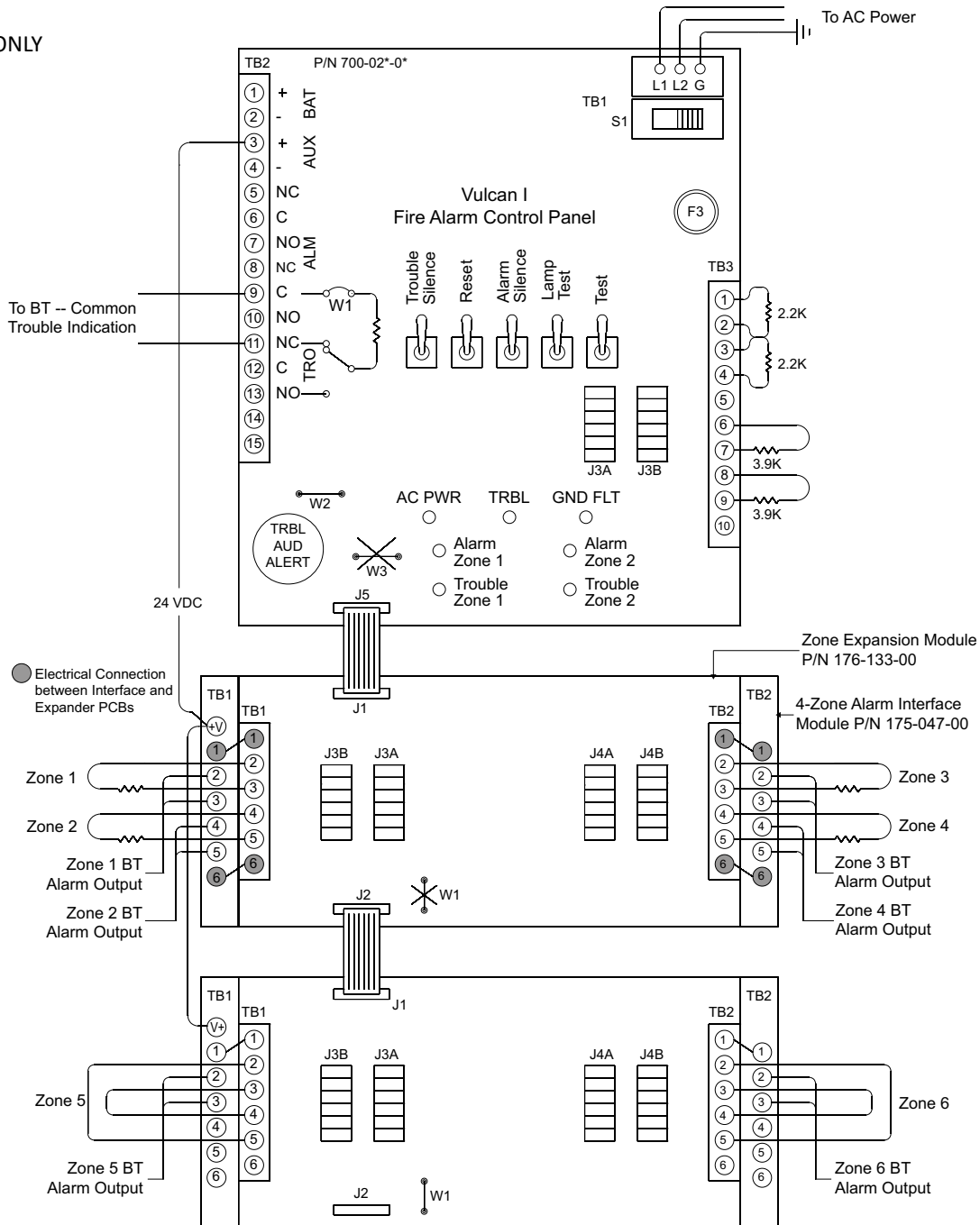


# Conventional Fire Alarm Control Panels

## Wiring Diagrams

### 4-Zone Alarm Interconnection

EXAMPLE ONLY



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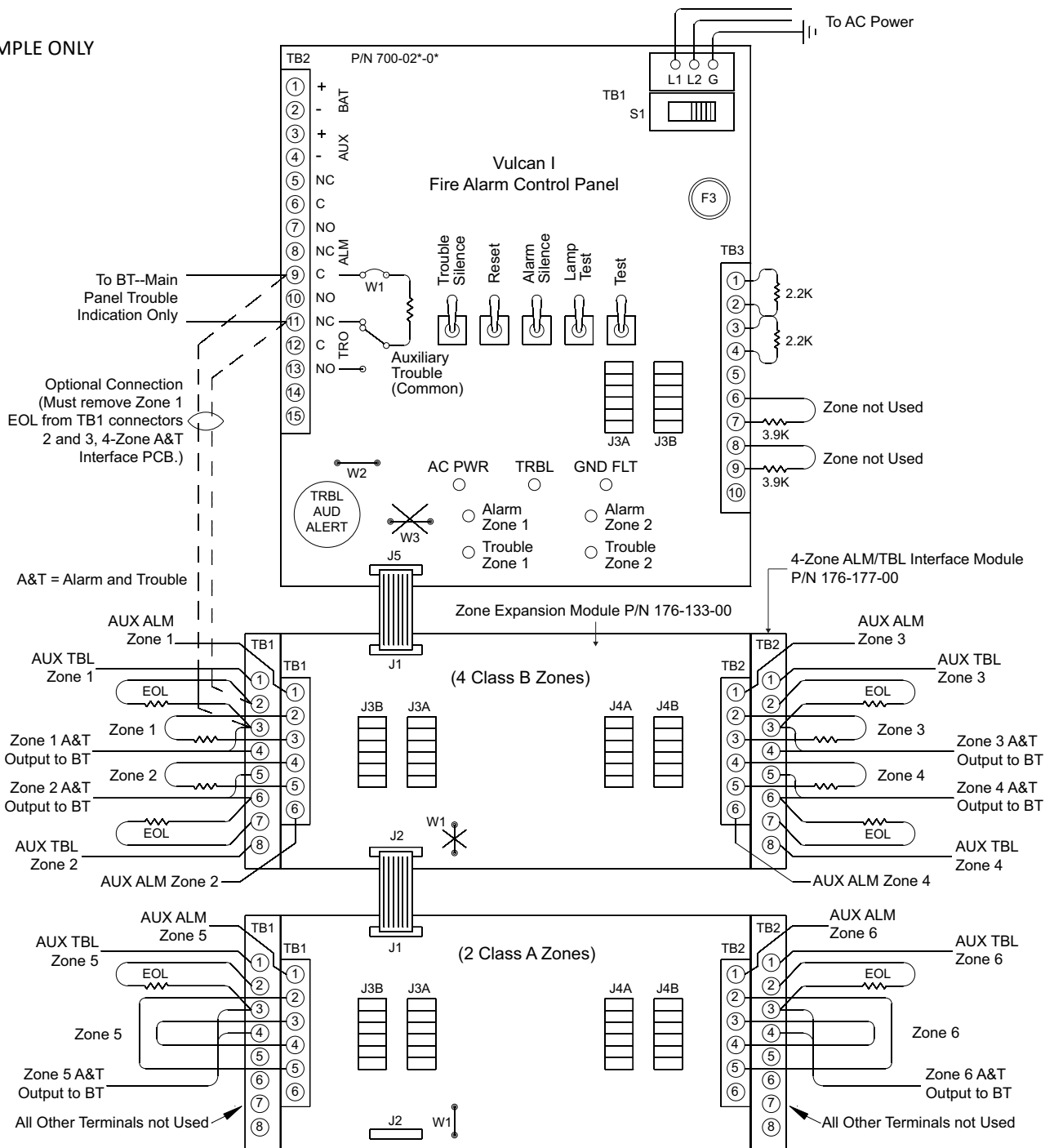
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# Conventional Fire Alarm Control Panels

## 4-Zone Alarm/Trouble Interconnection

EXAMPLE ONLY



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# Mass Notification (MNS)

## Mass Notification (MNS) Catalog Section 08

### Section 8. Mass Notification (MNS)

#### Non-Monaco Mass Notification Panels – Reserved

#### MNS Accessories

In-Building, 40 Watt, Mass Notification Panel . . . . .703-228-00, 703-228-01

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## Non-Monaco Mass Notification Panels – Reserved

# Mass Notification (MNS) Catalog Section 08

## Non-Monaco Mass Notification Panels – Reserved

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## MNS Accessories

# Mass Notification (MNS) Catalog Section 08

### MNS Accessories

In-Building, 40 Watt, Mass Notification Panel . . . . .703-228-00, 703-228-01

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# Mass Notification (MNS)

## In-Building, 40 Watt, Mass Notification Panel

703-228-00, 703-228-01

### Description

The basic 40 W Mass Notification Panel with background music and general paging provides multiple functions with full supervision and 24 VDC battery backup.



To meet the Unified Facilities Criteria (UFC) requirements, the panel's time-out feature causes emergency digital voice message inputs 1 through 6 to shutoff after 10 minutes; alarm digital voice inputs 7 and 8 do not automatically time-out, making them ideal for alarm messages such as fire.

A message can activate from either a closed contact within the system or from the push button at the panel. Digital voice messages 1 through 6 time-out after 10 minutes; if two of these messages are activated during the same period, their individual play times could overlap for a total period longer than 10 minutes.

If a lower priority message is activated while a higher priority message is already in progress, the lower priority message will not play until the higher priority input times out. The lower priority message will play for less than 10 minutes or perhaps not at all.

The single channel system provides 40 W of supervised high fidelity audio power and 2A of supervised 24 VDC synchronized strobe power. The audio circuit is expandable from one Class B to two Class A circuits or to four Class B with an audio splitter (P/N 703-163-00).

The system is expandable to 5,280 W using any of the following supervised audio power boosters:

- 80 W Boosters: P/N 703-167-00, P/N 703-207-00;
- 160 W Boosters: P/N 703-164-00, P/N 703-206-00;
- 320 W Boosters: P/N 703-165-00, P/N 703-208-00;

**NOTE** Using the same voltage 40 W MNS panel and power booster type is not required. For example, a 120 VAC MNS panel can interface with a 240 VAC power booster.

### Features

- Complies to NFPA 72, Sect. 6.8.4, OSHA 1910.165, and Americans with Disabilities Act (ADA) requirements
- Eight digitally prerecorded voice messages (≈30 seconds)
- Two selectable tones: Code 3 Tone or Slow Whoop
- On board push-to-talk microphone with live override capability
- Power supply/battery charger included
- Trouble LED indicators for quick system diagnostics
- Designed for Department of Defense (DOD) facilities
- Meets UFC requirement for automatic audible alarm shutoff after 10 minutes
- Background music; telephone pager interface
- System supervision
- Power-limited circuitry with Class B or Class A wiring (Class A only with use of audio splitter)
- Supervised NAC speaker and strobe circuits
- Field-programmable messaging capability
- Security alerting and night ringer capabilities
- Form C contacts for system alarm and trouble conditions
- Auxiliary input for remote microphone connection
- 120 VAC (60 Hz) or 240 VAC (50/60 Hz) models available



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# Mass Notification (MNS)

## Specifications

<i>Operating Voltage</i>	P/N 703-228-00: 120 VAC P/N 703-228-01: 240 VAC
<i>Standby Current</i>	130 mA
<i>Alarm Current</i>	4.7A
<i>Audio Power</i>	40 W
<i>Strobe Power</i>	2A
<i>Speaker Output Voltage</i>	25 or 70.7V (selectable)
<i>Frequency Response</i>	Voice: 275 Hz–6.5 kHz Background Music: 100 Hz–15 kHz Meets UL Voice Evacuation Requirements of 800–2,800 Hz
<i>Signal to Noise Ratio</i>	>65 dB
<i>Dynamic Range</i>	>65 dB
<i>Total Harmonic Distortion</i>	<2%
<i>Dimensions</i>	21 in. H x 16 in. W x 6 in. D (53.34 cm x 40.64 cm x 15.24 cm)
<i>Weight</i>	36 lb (16.3 kg) without batteries
<i>Finish</i>	Red
<i>Standards Compliance:</i>	
<i>UL Listed</i>	UL862 and UL1711, File S5361
<i>FM Approved</i>	Approved
<i>MEA Approved</i>	Approved
<i>State of California</i>	6911-0785:0157

## Ordering Information

Part Number	Description
<b>703-228-00</b>	Single Channel 40 W MNS Panel 21 in. x 16 in. x 6 in., 120 VAC (60 Hz), 10 minute time-out feature, red enclosure, two batteries required (not included)
<b>703-228-01</b>	Single Channel 40 W MNS Panel 21 in. x 16 in. x 6 in., 240 VAC (50/60 Hz), 10 minute time-out feature, red enclosure, two batteries required (not included)

## Associated Parts

Part Number	Description
<b>703-181-00</b>	Message Kit, eight programmed messages
<b>703-163-00</b>	Audio Splitter (four Class B or two Class A), audio splitter bracket required
<b>703-192-00</b>	Audio Splitter Mounting Bracket, required when audio splitter P/N 703-163-00 is used
<b>703-171-00</b>	Addressable Splitter (four Class B or two Class A)
<b>703-172-00</b>	Telephone Controller (13 in. x 7.6 in. x 2.15 in.)
<b>703-166-00</b>	Supervised Volume Control (only one per audio circuit)
<b>703-169-00</b>	Remote Microphone
<b>703-168-00</b>	Remote Microphone Expander
<b>703-167-00</b>	Audio Booster 80 W, 120 VAC, 60 Hz, two 2A strobe circuits
<b>703-207-00</b>	Audio Booster 80 W, 240 VAC, 50/60 Hz, two 2A strobe power circuits
<b>703-164-00</b>	Audio Booster 160 W, 120 VAC, 60 Hz, no power for strobe circuits
<b>703-206-00</b>	Audio Booster 160 W, 240 VAC, 50/60 Hz, no power for strobe circuits
<b>703-165-00</b>	Audio Booster 320 W, 120 VAC, 60 Hz, no power for strobe circuits
<b>703-208-00</b>	Audio Booster 320 W, 240 VAC, 50/60 Hz, no power for strobe circuits
<b>400-704-00</b>	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95 in. x 2.56 in. x 3.90 in., 3.50 lb
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. x 3.86 in. x 3.86 in., 7.92 lb
<b>703-188-00</b>	Remote Microphone and Local Operator Console, surface-mount (14.5 in. x 15.5 in. x 4 in.)
<b>703-193-00</b>	Remote Microphone and Local Operator Console, flush-mount (15.5 in. x 16.25 in. x 4 in.)
<b>703-194-00</b>	HVAC Emergency Shutoff Switch Option for P/N 703-188-00 or P/N 703-193-00
<b>097-500-00</b>	Keylock Assembly to key multiple panels with same key set as Monaco equipment
<b>703-161-00</b>	MNS Push Button
<b>210-510-00</b>	Surge Protector Kit, Transient, 120 VAC 60 Hz single phase, 15A fused, pigtail, 2.2 in. x 2.2 in. x 0.88 in.



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## Addressable Intelligent Devices and Modules

# Addressable Intelligent Devices and Modules Catalog Section 09

## Section 9. Addressable Intelligent Devices and Modules

### Detectors

Heat Detector, 135°F Fixed/Rate-of-Rise, AP/CLIP, Type II . . . . .	721-134-00
Heat Detector, 135°F Fixed Temperature, AP/CLIP, Type II . . . . .	722-129-00
Heat Detector, 190°F Fixed High Temperature, AP/CLIP, Type II . . . . .	722-413-00
Smoke Detector, AP/CLIP, Type II . . . . .	723-601-00
Smoke Detector, Remote Test Capable in Duct, AP/CLIP, Type II . . . . .	723-602-00
Smoke Detector, 135°F Fixed Temperature, AP/CLIP, Type II . . . . .	723-603-00
Smoke Detector, Heat, Infrared, AP Only, Type II . . . . .	723-606-00
Smoke Detector, High Sensitivity, AP Only, Type II . . . . .	723-607-00
CO Detector, AP Only, Type II . . . . .	725-603-00
Fire and CO Detector, AP Only, Type II . . . . .	725-604-00
Smoke and CO Detector, AP Only, Type II . . . . .	725-605-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-124-00
Heat Detector, Intelligent, 135°F Fixed Temperature . . . . .	722-121-00
Heat Detector, Intelligent, 190°F Fixed High Temperature. . . . .	722-406-00
Smoke Detectors . . . . .	723-353-00, 723-361-00, 723-600-00
Duct Smoke Detector . . . . .	723-370-00, 723-371-00
Reflected Beam Smoke Detector . . . . .	725-002-00

### Bases

Detector Base, Sounder, Plug-in, 6.875 in., AP Only, Type II . . . . .	729-209-00, 729-212-00
Detector Base, Sounder, Plug-in, 6.875 in., AP/CLIP, Type II . . . . .	729-210-00, 729-211-00
Detector Base, Isolator, Plug-in, 6.85 in., AP/CLIP, Type II . . . . .	729-213-00
Detector Base, Relay, Plug-in, 6.85 in., AP/CLIP, Type II . . . . .	729-214-00
Detector Base, Standard, Plug-in, 4 in., AP/CLIP, Type II . . . . .	729-215-00
Detector Base, Standard, Plug-in, 6 in., AP/CLIP, Type II . . . . .	729-228-00
Detector Base, Standard, Plug-in, 4.1 in. . . . .	729-127-00
Detector Base, Sounder, Plug-in, 6.875 in., CLIP, Type I . . . . .	729-129-00, 729-129-01
Detector Base, Standard, Plug-in, 6.1 in. . . . .	729-132-00
Detector Base, Isolator, Plug-in 6.875 in. . . . .	729-133-00
Detector Base, Relay, Plug-in, 6.875 in. . . . .	729-134-00



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## Modules

Module, Monitor, AP/CLIP, Type II . . . . .	729-217-00
Module, Mini-Monitor, AP/CLIP, Type II . . . . .	729-218-00
Module, Zone Interface, AP/CLIP, Type II . . . . .	729-219-00
Module, Supervised NAC Control, AP/CLIP, Type II . . . . .	729-225-00
Module, Relay Control, AP/CLIP, Type II . . . . .	729-221-00
Module, Ten Input Monitor, AP/CLIP, Type II . . . . .	729-223-00
Module, Six Relay Control, AP/CLIP, Type II . . . . .	729-224-00
Module, Dual Input Monitor, AP/CLIP, Type II . . . . .	729-220-00
Module, Fault Isolator . . . . .	729-140-00
Module, Monitor . . . . .	729-142-00
Module, Mini-Monitor . . . . .	729-143-00
Module, Zone Interface . . . . .	729-144-00
Module, Supervised NAC Control. . . . .	729-158-00
Module, Relay Control. . . . .	729-159-00
Module, Ten-input Monitor . . . . .	729-162-00
Module, Six-zone Interface . . . . .	729-164-00
Module, Six-Relay Control . . . . .	729-165-00
Module, Dual-Input Monitor . . . . .	729-182-00
Module, Six Fault Isolator . . . . .	729-208-00

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## Detectors

# Addressable Intelligent Devices and Modules Catalog Section 09

### Detectors

Heat Detector, 135°F Fixed/Rate-of-Rise, AP/CLIP, Type II . . . . .	721-134-00
Heat Detector, 135°F Fixed Temperature, AP/CLIP, Type II . . . . .	722-129-00
Heat Detector, 190°F Fixed High Temperature, AP/CLIP, Type II . . . . .	722-413-00
Smoke Detector, AP/CLIP, Type II . . . . .	723-601-00
Smoke Detector, Remote Test Capable in Duct, AP/CLIP, Type II . . . . .	723-602-00
Smoke Detector, 135°F Fixed Temperature, AP/CLIP, Type II . . . . .	723-603-00
Smoke Detector, Heat, Infrared, AP Only, Type II . . . . .	723-606-00
Smoke Detector, High Sensitivity, AP Only, Type II . . . . .	723-607-00
CO Detector, AP Only, Type II . . . . .	725-603-00
Fire and CO Detector, AP Only, Type II . . . . .	725-604-00
Smoke and CO Detector, AP Only, Type II . . . . .	725-605-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-124-00
Heat Detector, Intelligent, 135°F Fixed Temperature . . . . .	722-121-00
Heat Detector, Intelligent, 190°F Fixed High Temperature . . . . .	722-406-00
Smoke Detectors . . . . .	723-353-00, 723-361-00, 723-600-00
Duct Smoke Detector . . . . .	723-370-00, 723-371-00
Reflected Beam Smoke Detector . . . . .	725-002-00

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## Addressable Intelligent Devices and Modules

# Heat Detector, 135°F Fixed/Rate-of-Rise, AP/CLIP, Type II 721-134-00

### Panel Application

This AP/CLIP single element detector is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

These addressable electronic heat detectors use an advanced electronic thermistor sensing circuit for fast response. Detectors are latched ON by the addressable control panel, indicating an alarm. A remote LED annunciator is an option.

### Features

- White Type II 135°F fixed temperature and rate-of-rise heat detector  
**NOTE** Previous Type I devices are ivory
- Low profile, plug-in
- Low standby current
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Dual LEDs give 360 degree visibility of alarm
- Open-area protection with 50 ft. spacing
- Tamper resistant
- Sensitivity tested at the device and from the addressable control panel

### Specifications

Protocol Capability	AP/CLIP
Operating Voltage	15 to 32 VDC, peak
Standby Current	200 µA at 24 VDC, one communication every five seconds with green LED blink
Alarm Current	2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on
Rate of Rise/135°F Fixed RTI	V2-Fast
Fixed Temperature Rating	135°F (57°C)
Rate-of-Rise Detection	Greater than 15°F/minute (Greater than 8.3°C/minute)
Operating Temperature	–4°F to 100°F (–20°C to 38°C)
Relative Humidity	10% to 93%, non-condensing
Diameter	4.1 in. (104 mm) in P/N 729-215-00
Height	2 in. (51 mm)
Weight	3.4 oz. (95 g)
Standards Compliance:	
UL Listed	UL268, File S2101
FM Approved	3062622
State of California	7270-1653:0509

### Ordering Information

Part Number	Description
721-134-00	Intelligent Electronic Heat Detector, Fixed Temperature 135°F, Rate-of-Rise, plug-in, AP/CLIP, white, Type II

### Associated Parts

Part Number	Description
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
729-209-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., AP Only, white, Type II
729-210-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., AP/CLIP, white, Type II



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# Addressable Intelligent Devices and Modules

Part Number	Description
729-211-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., low frequency, 520 Hz, AP/CLIP, white, Type II
729-212-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., low frequency, 520 Hz, AP Only, white, Type II
729-213-00	Intelligent Detector Isolator Base, plug-in, 6.85 in., AP/CLIP, white, Type II
729-214-00	Intelligent Detector Relay Base, plug-in, 6.85 in., AP/CLIP, white, Type II
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
729-156-00	Test Magnet with 32 in. telescoping handle

## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

Type I Classic Loop Interface Protocol (CLIP) devices and Type II Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

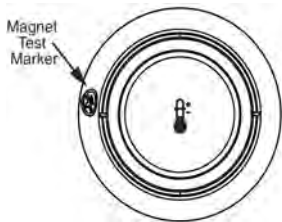
Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.

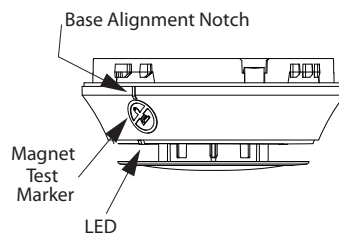
## Diagrams

### Test Magnet Diagram

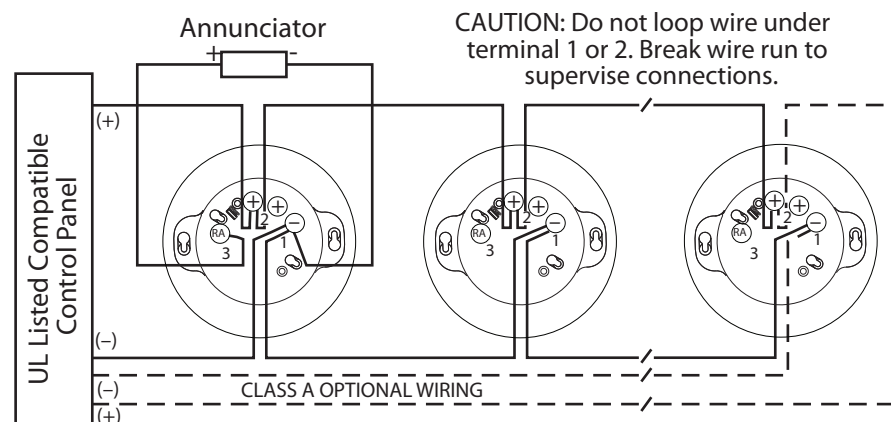
Front View



Side View



### Wiring Diagram



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 721-134-00 is an **AP/CLIP Single Element Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	<b>AP/CLIP Single Element Detectors</b>	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP single element detectors**, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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## Addressable Intelligent Devices and Modules

# Heat Detector, 135°F Fixed Temperature, AP/CLIP, Type II 722-129-00

### Panel Application

This AP/CLIP single element detector is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

These addressable electronic heat detectors use an advanced electronic thermistor sensing circuit for fast response. Detectors are latched ON by the addressable control panel, indicating an alarm. A remote LED annunciator is an option.

### Features

- White Type II 135°F fixed temperature heat detector  
**NOTE** Previous Type I devices are ivory
- Low profile, plug-in
- Low standby current
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Dual LEDs give 360 degree visibility of alarm
- Open-area protection with 50 ft. spacing
- Tamper resistant
- Sensitivity tested at the device and from the addressable control panel

### Specifications

**Protocol Capability** AP/CLIP  
**Operating Voltage** 15 to 32 VDC, peak  
**Standby Current** 200 µA at 24 VDC, one communication every 5 seconds with green LED blink  
**Alarm Current** 2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on

**135°F Fixed RTI** Fast  
**Fixed Temperature Rating** 135°F (57°C)  
**Operating Temperature** –4°F to 100°F (–20°C to 38°C)  
**Relative Humidity** 10% to 93%, non-condensing  
**Diameter** 4.1 in. (104 mm) in P/N 729-215-00  
**Height** 2 in. (51 mm)  
**Weight** 3.4 oz. (95 g)

#### Standards Compliance:

**UL Listed** UL268, File S2101  
**FM Approved** 3062622  
**State of California** 7270-1653:0509

### Ordering Information

Part Number	Description
722-129-00	Intelligent Electronic Heat Detector, Fixed-Temperature 135°F, plug-in, AP/CLIP, white, Type II

### Associated Parts

Part Number	Description
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
729-209-00	Intelligent Detector Sounder Base, plug-in, AP Only, white, Type II
729-210-00	Intelligent Detector Sounder Base, plug-in, AP/CLIP, white, Type II
729-211-00	Intelligent Detector Sounder Base, plug-in, low frequency, AP/CLIP, white, Type II



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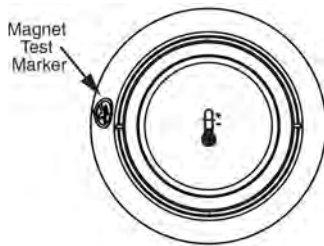
# Addressable Intelligent Devices and Modules

Part Number	Description
729-212-00	Intelligent Detector Sounder Base, plug-in, low frequency, AP Only, white, Type II
729-213-00	Intelligent Detector Isolator Base, plug-in, 6.85 in., AP/CLIP, white, Type II
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
729-156-00	Test Magnet with 32 in. telescoping handle

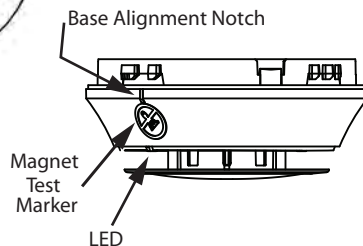
## Diagrams

### Test Magnet Diagram

#### Front View



#### Side View



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

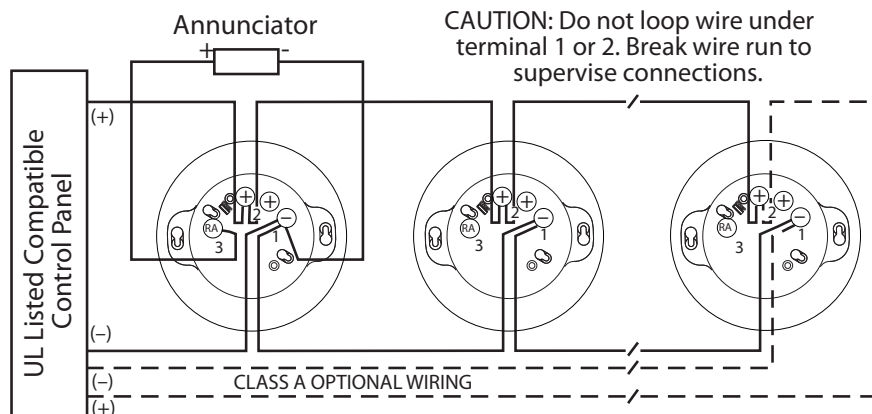
#### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.

## Wiring Diagram



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 722-129-00 is an **AP/CLIP Single Element Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	<b>AP/CLIP Single Element Detectors</b>	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP single element detectors**, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X. Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III. All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
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### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Heat Detector, 190°F Fixed High Temperature, AP/CLIP, Type II 722-413-00

### Panel Application

This AP/CLIP single element detector is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

These addressable electronic heat detectors use an advanced electronic thermistor sensing circuit for fast response. Detectors are latched ON by the addressable control panel, indicating an alarm. A remote LED annunciator is an option.

### Features

- White Type II fixed high temperature heat detector  
**NOTE** Previous Type I devices are ivory
- Low profile, plug-in
- Low standby current
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Dual LEDs give 360 degree visibility of alarm
- Open area protection with 50 ft. spacing
- Tamper resistant
- Sensitivity tested at the device and from the addressable control panel

### Specifications

Protocol Capability	AP/CLIP
Operating Voltage	15 to 32 VDC, peak
Standby Current	200 µA at 24 VDC, one communication every 5 seconds with green LED blink
Alarm Current	2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on
190°F Fixed RTI	Quick
High Heat Rating	190°F (88°C)
Operating Temperature	–4°F to 150°F (–20°C to 66°C)
Relative Humidity	10% to 93%, non-condensing
Diameter	4.1 in. (104 mm) in P/N 729-215-00
Height	2 in. (51 mm)
Weight	3.4 oz. (95 g)
Standards Compliance:	
UL Listed	UL268, File S2101
FM Approved	3062622
State of California	7270-1653:0509

### Ordering Information

Part Number	Description
722-413-00	Intelligent Electronic Heat Detector, Fixed High Temperature 190°F, plug-in, AP/CLIP, white, Type II

### Associated Parts

Part Number	Description
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
729-209-00	Intelligent Detector Sounder Base, plug-in, AP Only, white, Type II
729-210-00	Intelligent Detector Sounder Base, plug-in, AP/CLIP, white, Type II
729-211-00	Intelligent Detector Sounder Base, plug-in, low frequency, AP/CLIP, white, Type II
729-212-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., low frequency, 520 Hz, AP Only, white, Type II



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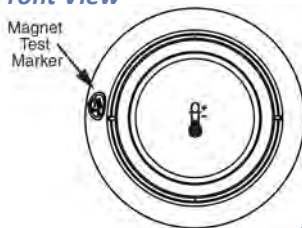
# Addressable Intelligent Devices and Modules

Part Number	Description
729-213-00	Intelligent Detector Isolator Base, plug-in, 6.85 in., AP/CLIP, white, Type II
729-214-00	Intelligent Detector Relay Base, plug-in, AP/CLIP, white, Type II
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
729-156-00	Test Magnet with 32 in. telescoping handle

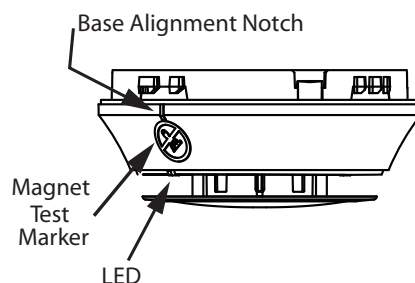
## Diagrams

### Test Magnet Diagram

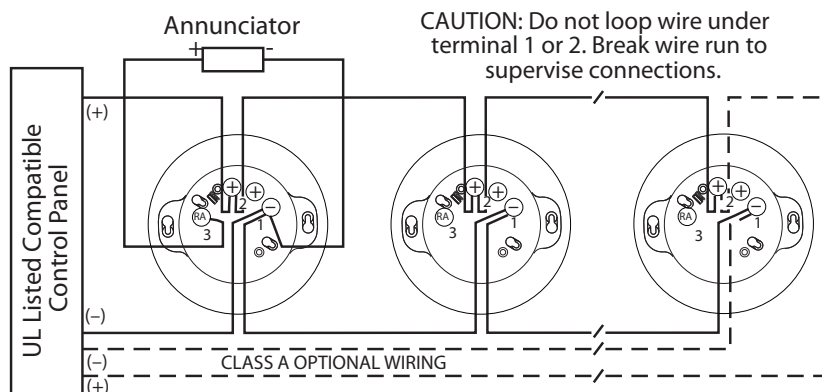
#### Front View



#### Side View



### Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

#### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 722-413-00 is an **AP/CLIP Single Element Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	<b>AP/CLIP Single Element Detectors</b>	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP single element detectors**, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X. Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III. All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Smoke Detector, AP/CLIP, Type II

723-601-00

### Panel Application

This AP/CLIP single element detector is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

Monaco addressable low profile plug-in smoke detectors provide features that surpass conventional detectors. Detector sensitivity can be programmed at the addressable control panel; sensitivity is continuously monitored and reported to the addressable control panel. Each detector's address can be easily set with rotary decade dials. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

### Features

- White Type II smoke detector  
**NOTE** Previous Type I devices are ivory
- Sleek, low profile design
- Addressable-analog communications
- Communicates individual identity, sensitivity, and status to Monaco addressable control panels
- Low standby current
- Remote sensitivity adjustment
- Versatile plug-in design

- Dual LEDs for 360 degree visibility
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Removable cover and insect screen for easy cleaning
- Reed switch for local magnet test
- Output to optional remote LED accessory
- Eight detector base options for maximum flexibility

### Specifications

Protocol Capability AP/CLIP

Operating Voltage 15 to 32 VDC

Standby Current 200  $\mu$ A maximum at 24 VDC, one communication every five seconds with green LED blink

Alarm Current 2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on

Air Velocity 0 to 4,000 ft./minute (0 to 1,219.2 m/minute)

Operating Temperature 32°F to 122°F (0°C to 50°C)

Relative Humidity 10% to 93%, non-condensing

Diameter 4.1 in. (104 mm) in P/N 729-215-00

Height 2 in. (51 mm)

Weight 3.4 oz. (95 g)

Standards Compliance:

UL Listed UL268, File S911

FM Approved 3062622

State of California 7270-1653:0508

### Ordering Information

Part Number	Description
723-601-00	Intelligent Photoelectric Smoke Detector, plug-in, low profile, AP/CLIP, white, Type II



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# Addressable Intelligent Devices and Modules

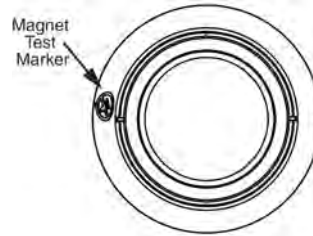
## Associated Parts

Part Number	Description
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
729-209-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., AP Only, white, Type II
729-210-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., AP/CLIP, white, Type II
729-211-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, 6.875 in., AP/CLIP, white, Type II
729-212-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, 6.875 in., AP Only, white, Type II
729-213-00	Intelligent Detector Sounder Base, plug-in, 6.85 in., AP/CLIP, white, Type II
729-214-00	Intelligent Detector Relay Base, plug-in, 6.85 in., AP/CLIP, white, Type II
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
729-156-00	Test Magnet with 32 in. telescoping handle
729-226-00	Cover/Trim Ring, ivory, for AP/CLIP smoke detectors

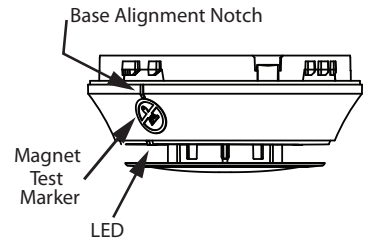
## Diagrams

### Test Magnet Diagram

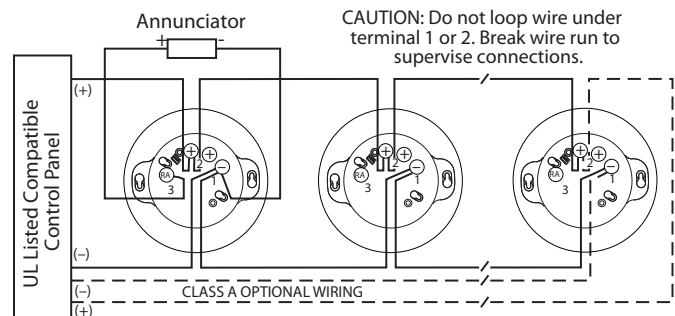
#### Front View



#### Side View



### Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 723-601-00 is an **AP/CLIP Single Element Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	<b>AP/CLIP Single Element Detectors</b>	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP single element detectors**, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X. Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III. All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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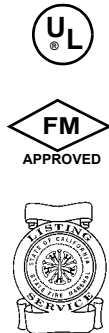


## Addressable Intelligent Devices and Modules

# Smoke Detector, Remote Test Capable in Duct, AP/CLIP, Type II 723-602-00

### Panel Application

This AP/CLIP single element detector is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

Monaco addressable low profile plug-in smoke detectors provide features that surpass conventional detectors. Detector sensitivity can be programmed at the addressable control panel; sensitivity is continuously monitored and reported to the addressable control panel. Each detector's address can be easily set with the rotary decade dials. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

This device is remote-test capable when used with duct detector housing P/N 723-370-00 or P/N 723-371-00.

### Features

- White Type II smoke detector  
**NOTE** Previous Type I devices are ivory
- Sleek, low profile design
- Addressable-analog communications
- Communicates individual identity, sensitivity, and status to Monaco addressable control panels
- Low standby current
- Remote sensitivity adjustment

- Versatile plug-in design
- Dual LEDs for 360 degree visibility
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Removable cover and insect screen for easy cleaning
- Reed switch for local magnet test
- Optional remote LED accessory
- Recommended for use with duct detector housing P/N 723-370-00 or P/N 723-371-00
  - AP/CLIP or AP Only bases are compatible for use in non-duct applications where remote testing is not required

### Specifications

Protocol Capability	AP/CLIP
Operating Voltage	15 to 32 VDC, peak
Standby Current	200 $\mu$ A maximum at 24 VDC, one communication every five seconds with green LED blink
Alarm Current	2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on
Air Velocity	0 to 4,000 ft./minute (0 to 1,219.2 m/minute)
Operating Temperature	32°F to 122°F (0°C to 50°C), In Duct: -4°F to 158°F (-20°C to 70°C)
Relative Humidity	10% to 93%, non-condensing
Diameter	4.1 in. (104 mm) installed in P/N 729-215-00
Height	2 in. (51 mm)
Weight	5.2 oz. (147 g)
Standards Compliance:	
UL Listed	UL268, File S911
FM Approved	3062622
State of California	7270-1653:0508



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# Addressable Intelligent Devices and Modules

## Ordering Information

Part Number	Description
723-602-00	Intelligent Photoelectric Smoke Detector, Remote Test in Duct, plug-in, low profile, AP/CLIP, white, Type II

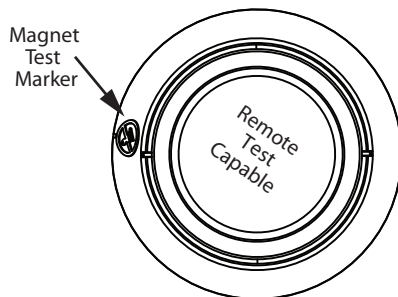
## Associated Parts

Part Number	Description
723-370-00	Duct Detector Housing
723-371-00	Duct Detector Housing, watertight, NEMA 5
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
729-156-00	Test Magnet with 32 in. telescoping handle

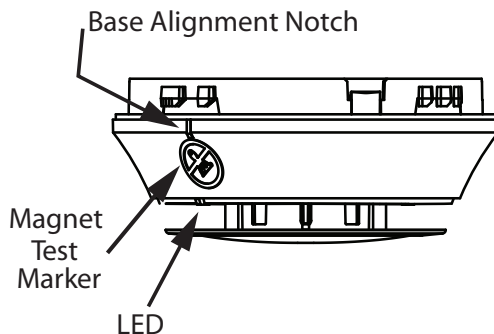
## Diagrams

### Test Magnet Diagram

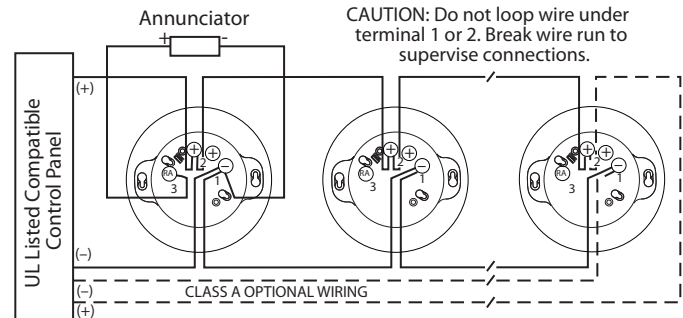
#### Front View



#### Side View



## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

#### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 723-602-00 is an **AP/CLIP Single Element Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	<b>AP/CLIP Single Element Detectors</b>	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP single element detectors**, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X. Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III. All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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## Addressable Intelligent Devices and Modules

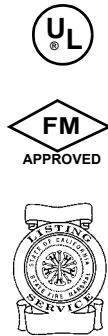
### Smoke Detector, 135°F Fixed Temperature, AP/CLIP, Type II

723-603-00

#### Panel Application

This AP/CLIP multielement detector is compatible with the following Monaco FACP SLCs: MAAP-X with a CORE II processor and MAAP-X with a CORE III processor.

The detector elements will emit a single combined alarm output unless installed on a MAAP-X with a CORE III processor and an ADC II.



#### Description

Monaco addressable low profile plug-in smoke detectors provide features that surpass conventional detectors. Detector sensitivity can be programmed at the addressable control panel; sensitivity is continuously monitored and reported to the addressable control panel. Each detector's address can be easily set with the rotary decade dials. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

This multi-element detector contains both a photoelectric sensing chamber and a 135°F (57.2°C) fixed temperature thermal sensor, enabling the device to provide smoke and heat detection.

#### Features

- White Type II smoke and 135°F fixed heat detector  
**NOTE** Previous Type I devices are ivory
- Sleek, low profile design
- Addressable-analog communications
- Communicates individual identity, sensitivity, and status to Monaco addressable control panels

- Low standby current
- Remote sensitivity adjustment
- Versatile plug-in design
- Dual LEDs for 360 degree visibility
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Removable cover and insect screen for easy cleaning
- Reed switch for local magnet test
- Optional remote LED accessory
- Seven detector base options for maximum flexibility

#### Specifications

Protocol Capability	AP/CLIP
Operating Voltage	15 to 32 VDC
Standby Current	200 µA maximum at 24 VDC, one communication every five seconds with green LED blink
Alarm Current	2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on
Air Velocity	0 to 4,000 ft./minute (0 to 1,219.2 m/minute)
Operating Temperature	32°F to 100°F (0°C to 38°C)
Relative Humidity	10% to 93% non-condensing
Diameter	4.1 in. (104 mm) installed in P/N 729-215-00
Height	2 in. (51 mm)
Weight	3.4 oz. (95 g)
Standards Compliance:	
UL Listed	UL 521 & UL268, File S911
FM Approved	3062622
State of California	7270-1653:0508

#### Ordering Information

Part Number	Description
723-603-00	Intelligent Photoelectric Smoke Detector, plug-in, low profile, fixed temperature 135°F, AP/CLIP, white, Type II



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# Addressable Intelligent Devices and Modules

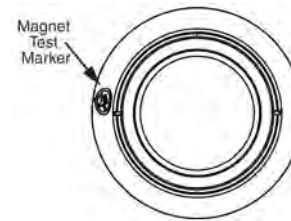
## Associated Parts

Part Number	Description
<b>729-215-00</b>	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
<b>729-209-00</b>	Intelligent Detector Sounder Base, plug-in, AP Only, white, Type II
<b>729-210-00</b>	Intelligent Detector Sounder Base, plug-in, AP/CLIP, white, Type II
<b>729-211-00</b>	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP/CLIP, white, Type II
<b>729-212-00</b>	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP Only, white, Type II
<b>729-213-00</b>	Intelligent Detector Isolator Base, plug-in, 6.85 in., AP/CLIP, white, Type II
<b>729-214-00</b>	Intelligent Detector Relay Base, plug-in, 6.85 in., AP/CLIP, white, Type II
<b>729-228-00</b>	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
<b>729-091-00</b>	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
<b>729-156-00</b>	Test Magnet with 32 in. telescoping handle
<b>729-226-00</b>	Cover/Trim Ring, ivory, for AP/CLIP smoke detectors

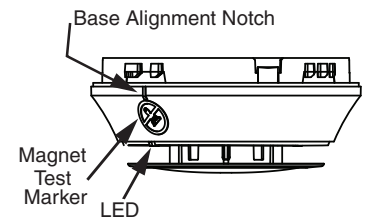
## Diagrams

### Test Magnet Diagram

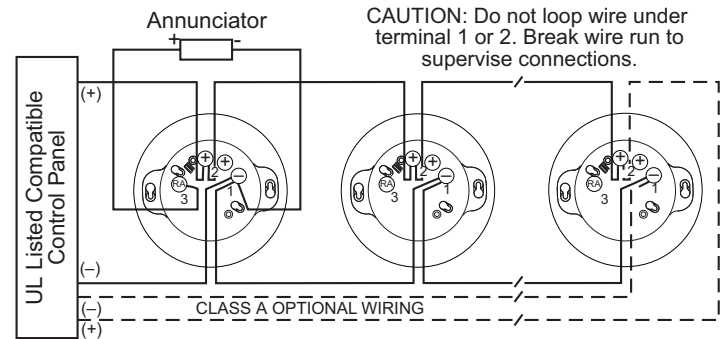
*Front View*



*Side View*



### Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 723-603-00 is an **AP/CLIP Multielement Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	<b>AP/CLIP Multielement Detectors:</b> Discipline Mode A* See "Alarm Output" below		●	●	●
	<b>AP/CLIP Multielement Detectors:</b> Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and AP/CLIP single element detectors, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

**AP/CLIP  
multielement detectors** are compatible with the MAAP-X. Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III. All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Smoke Detector, Heat, Infrared, AP Only, Type II

723-606-00

### Panel Application

This AP Only multielement detector is compatible with the following Monaco FACP SLCs: MAAP-X with a CORE III processor.



### Description

These detectors incorporate photoelectric sensors, 135°F (57°C) fixed temperature thermal sensors, and infrared sensors. Advanced algorithms maximize the advantages of each sensor, allowing the detector to reject nuisance sources but still responding quickly to real fires, making these detectors ideal for applications where moderate nuisance conditions exist.

Detector sensitivity can be programmed at the addressable control panel; sensitivity is continuously monitored and reported to the addressable control panel. Each detector's address can be easily set with rotary decade dials. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

### Features

- White Type II photoelectric, thermal, and infrared smoke detector

**NOTE** Previous Type I devices are ivory

- Sleek, low profile design
- Addressable analog communications
- Communicates individual identity, sensitivity, and status to Monaco addressable control panels
- Low standby current
- Remote sensitivity adjustment

- Versatile plug-in design
  - Dual LEDs for 360 degree visibility
  - Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum
- NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Removable cover and insect screen for easy cleaning
  - Reed switch for local magnet test
  - Output to optional remote LED accessory

### Specifications

Protocol Capability AP Only

Operating Voltage 15 to 32 VDC

Standby Current 200  $\mu$ A maximum at 24 VDC, one communication every five seconds with green LED blink

Alarm Current 2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on

Air Velocity 0 to 300 ft./minute (0 to 1,219.2 m/minute)

Operating Temperature 32°F to 115°F (0°C to 47°C)

Relative Humidity 10% to 93% non-condensing

Diameter 4.1 in. (10.4 cm) in P/N 729-215-00

Height 2 in. (5.1 cm)

Weight 3.4 oz. (0.095 kg)

Standards Compliance:

UL Listed UL268, File S911

FM Approved 3062622

State of California 7272-1653:0515

### Ordering Information

Part Number	Description
723-606-00	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, plug-in, low profile, AP Only, white, Type II



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# Addressable Intelligent Devices and Modules

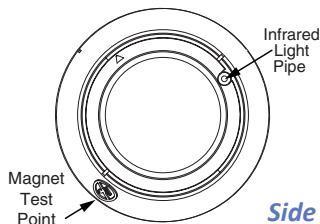
## Associated Parts

Part Number	Description
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
729-209-00	Intelligent Detector Sounder Base, plug-in, AP Only, white, Type II
729-210-00	Intelligent Detector Sounder Base, plug-in, AP/CLIP, white, Type II
729-211-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP/CLIP, white, Type II
729-212-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP Only, white, Type II
729-213-00	Intelligent Detector Isolator Base, plug-in, AP/CLIP, white, Type II
729-214-00	Intelligent Detector Relay Base, plug-in, AP/CLIP, white, Type II
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
729-156-00	Test Magnet with 32 in. telescoping handle
729-227-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors with infrared

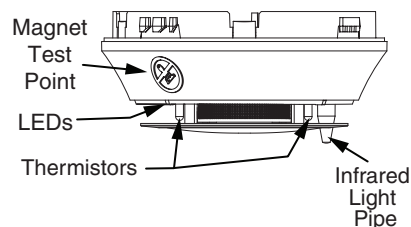
## Diagrams

### Test Magnet Diagram

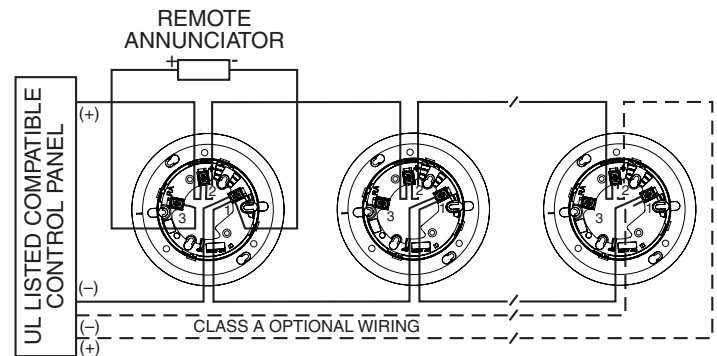
#### Front View



#### Side View



## Wiring Diagram



**CAUTION:** Do not loop wire under terminal 1 or 2. Break wire run to provide supervision of connections.

## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

#### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 723-606-00 is an **AP Only Multielement Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	<b>AP Only Multielement Detectors:</b> Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and AP/CLIP single element detectors, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

**AP Only devices** are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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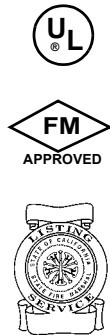
# Addressable Intelligent Devices and Modules

## Smoke Detector, High Sensitivity, AP Only, Type II

723-607-00

### Panel Application

This AP Only single element detector is compatible with the following Monaco FACP SLCs: MAAP-X with a CORE III processor.



### Description

Monaco's addressable high sensitivity smoke detector features a photoelectronic sensing chamber with LED technology that allows for sensitivity levels from 0.02 to 2%/ft. obscuration for Early Warning Fire Detection (EWFD) or Very Early Warning Fire Detection (VEWFD). Monaco's high sensitivity smoke detectors also include multi-alert drift compensation, internal self-diagnostics, and superior transient signal rejection algorithms to produce unprecedented stability at ultra-high sensitivities across the full temperature range. This device is ideal for use in sensitive environments like computer rooms and data centers.

Detector sensitivity can be programmed at the addressable control panel; sensitivity is continuously monitored and reported to the addressable control panel. Each detector's address can be easily set with rotary decade dials. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

### Features

- White Type II high sensitivity smoke detector  
**NOTE** Previous Type I devices are ivory
- Up to 25x more sensitive than standard smoke detectors
- UL listed for Open Air Protection, Special Application, and Duct Applications
- Sleek, low profile design
- Addressable-analog communications
- Communicates individual identity, sensitivity, and status to Monaco addressable control panels
- Low standby current
- Remote sensitivity adjustment
- Versatile plug-in design
- Dual LEDs for 360 degree visibility
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Removable cover and insect screen for easy cleaning
- Reed switch for local magnet test
- Output to optional remote LED accessory

### Specifications

Protocol Capability	AP Only
Operating Voltage	15 to 32 VDC
Standby Current	300 $\mu$ A maximum at 24 VDC, one communication every five seconds with green LED blink
Alarm Current	2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on
Air Velocity	0 to 4,000 ft./minute (0 to 1,219.2 m/minute)
Operating Temperature	14°F to 140°F (–10°C to 60°C)
Relative Humidity	10% to 93% non-condensing
Diameter	4.1 in. (104 mm) in P/N 729-215-00
Height	2 in. (51 mm)
Weight	3.4 oz. (95 g)



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# Addressable Intelligent Devices and Modules

## Standards Compliance:

UL Listed UL268, File S911

FM Approved 3062622

State of California 7272-1653:0512

## Ordering Information

Part Number	Description
723-607-00	Intelligent High Sensitivity Smoke Detector, plug-in, low profile, AP Only, white, Type II

## Associated Parts

Part Number	Description
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
729-209-00	Intelligent Detector Sounder Base, plug-in, AP Only, white, Type II
729-210-00	Intelligent Detector Sounder Base, plug-in, AP/CLIP, white, Type II
729-211-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP/CLIP, white, Type II
729-212-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP Only, white, Type II
729-213-00	Intelligent Detector Isolator Base, plug-in, AP/CLIP, white, Type II
729-214-00	Intelligent Detector Relay Base, plug-in, AP/CLIP, white, Type II
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
729-156-00	Test Magnet with 32 in. telescoping handle
729-226-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors

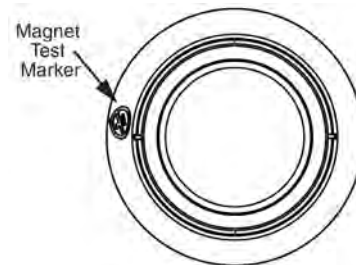
## Smoke Sensitivity Levels

Level	%/ft. obscuration	%/m obscuration
1	0.02	0.06
2	0.03	0.10
3	0.05	0.16
4	0.10	0.33
5	0.20	0.66
6	0.50	1.65
7	1.00	3.24
8	1.50	4.85
9	2.00	6.41

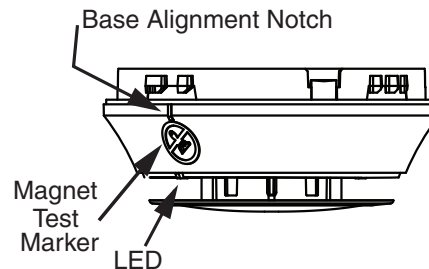
## Diagrams

### Test Magnet Diagram

#### Front View



#### Side View



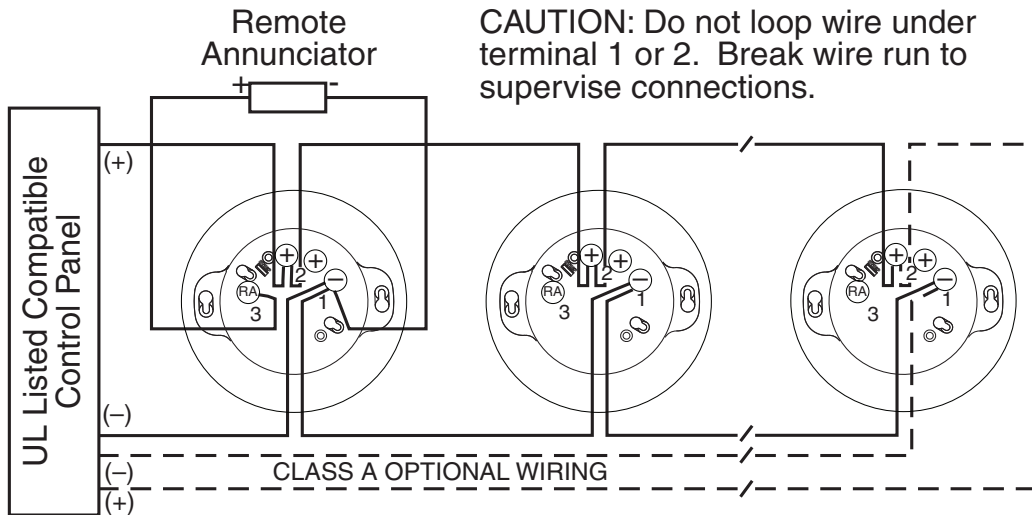
### Monaco Enterprises, Inc.

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# Addressable Intelligent Devices and Modules

## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 723-607-00 is an **AP Only Single Element Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	<b>AP Only Single Element Detectors</b>				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and AP/CLIP single element detectors, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

**AP Only devices** are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## CO Detector, AP Only, Type II

725-603-00

### Panel Application

This AP Only single element detector is compatible with the following Monaco FACP SLCs: MAAP-X with a CORE III processor.



- Remote sensitivity adjustment
- Versatile plug-in design
- Dual LEDs for 360 degree visibility
- Decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Removable cover and insect screen for easy cleaning
- Reed switch for local magnet test
- Output to optional remote LED accessory

### Specifications

**Protocol Capability** AP Only

**Operating Voltage** 15 to 32 VDC

**Standby Current** 200  $\mu$ A maximum at 24 VDC, one communication every five seconds with green LED blink

**Alarm Current** 2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on

**Air Velocity** 0 to 4,000 ft./minute (0 to 1,219.2 m/minute)

**Maximum Detection Range** 350 to 750 ppm

**Operating Temperature** 32°F to 122°F (0°C to 50°C)

**Relative Humidity** 15% to 90%, non-condensing

**Diameter** 6.875 in. (17.5 cm) in P/N 729-209-00

**Height** 2.7 in. (6.9 cm) in P/N 729-209-00

**Weight** 3.4 oz. (0.095 kg)

**Standards Compliance:**

**UL Listed** S911

**State of California** 5278-1653:0523

### Description

Monaco addressable carbon monoxide (CO) detectors use electrochemical technology to sense CO in its area. CO density is then communicated to the FACP.

Detector sensitivity is continuously monitored and reported to the addressable control panel. Each detector's address can be easily set with decade dials. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

### Features

- White Type II CO detector  
**NOTE** Previous Type I devices are ivory
- 10 year CO cell with end-of-life warning and fault
- Audible Temporal 4 signal for CO alarm when used with AP Only sounder bases
- Addressable-analog communications
- Communicates individual identity, sensitivity, and status to Monaco addressable control panels
- Low standby current



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# Addressable Intelligent Devices and Modules

## Ordering Information

Part Number	Description
725-603-00	Intelligent CO Detector, plug-in, low profile, AP Only, white, Type II

## Associated Parts

Part Number	Description
729-209-00	Intelligent Detector Sounder Base, plug-in, AP Only, white, Type II
729-212-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP Only, white, Type II
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
729-210-00	Intelligent Detector Sounder Base, plug-in, AP/CLIP, white, Type II
729-211-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP/CLIP, white, Type II
729-213-00	Intelligent Detector Isolator Base, plug-in, AP/CLIP, white, Type II
729-214-00	Intelligent Detector Relay Base, plug-in, AP/CLIP, white, Type II
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
729-156-00	Test Magnet with 32 in. telescoping handle

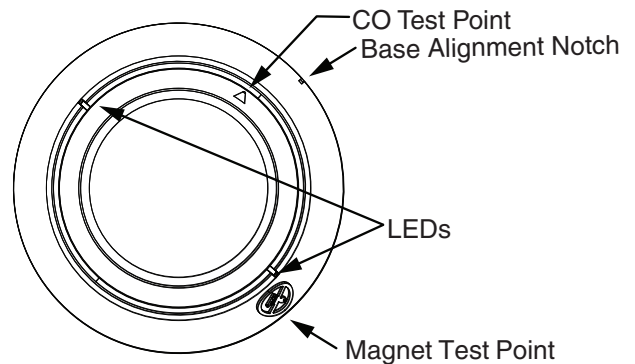
## CO Sensitivity

Alarm Thresholds	
Parts per Million (ppm)	Response Time
70 ± 5ppm	60 to 240 minutes
150 ± 5ppm	10 to 50 minutes
400 ± 10ppm	4 to 15 minutes

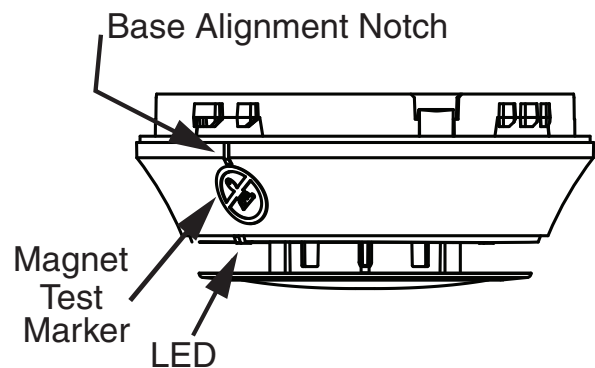
## Diagrams

### Test Magnet Diagram

#### Front View



#### Side View



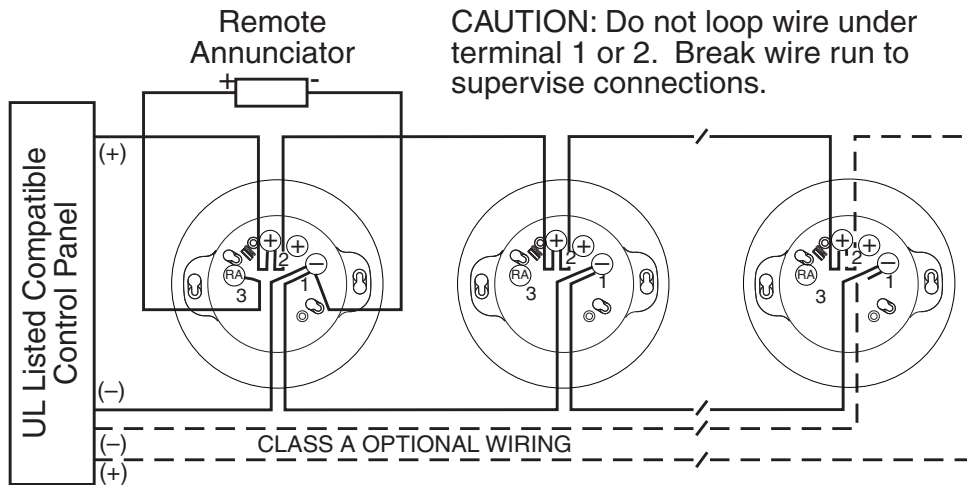
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



**CAUTION:** Do not loop wire under terminal 1 or 2. Break wire run to provide supervision of connections.

## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 725-603-00 is an **AP Only Single Element Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	<b>AP Only Single Element Detectors</b>				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and AP/CLIP single element detectors, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

**AP Only devices** are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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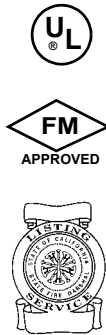
# Addressable Intelligent Devices and Modules

## Fire and CO Detector, AP Only, Type II

725-604-00

### Panel Application

This AP Only multielement detector is compatible with the following Monaco FACP SLCs: MAAP-X with a CORE III processor.



### Description

These detectors use photoelectric, thermal, infrared, and carbon monoxide (CO) components that provide both fire and CO detection. If paired with AP Only bases P/N 729-209-00 or P/N 729-212-00, the detectors are able to be used as components of the general evacuation signal, along with other horns, horn strobes, and chimes when connected to a power supply or FACP.

Detector sensitivity can be programmed at the addressable control panel; sensitivity is continuously monitored and reported to the addressable control panel. Smoke and/or carbon monoxide density is also communicated to the FACP. Each detector's address can be easily set with rotary decade dials. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

### Features

- White Type II fire and CO detector  
**NOTE** Previous Type I devices are ivory
- Detects all four major elements of a fire
- 135°F (57°C) fixed temperature threshold
- 10 year CO cell with end-of-life warning and fault
- Low standby current
- Addressable-analog communications
- Communicates individual identity, sensitivity, and status to Monaco addressable control panels
- Remote sensitivity adjustment
- Versatile plug-in design
- Dual LEDs for 360 degree visibility
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Removable cover and insect screen for easy cleaning
- Reed switch for local magnet test
- Output to optional remote LED accessory

### Specifications

Protocol Capability	AP Only
Operating Voltage	15 to 32 VDC
Standby Current	200 $\mu$ A maximum at 24 VDC, one communication every five seconds with green LED blink
Alarm Current	2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on
Air Velocity	0 to 4,000 ft./minute (0 to 1,219.2 m/minute)
Operating Temperature	32°F to 115°F (0°C to 47°C)
Relative Humidity	15% to 90%, non-condensing
Diameter	6.875 in. (175 mm) in P/N 729-215-00



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# Addressable Intelligent Devices and Modules

*Height* 2.7 in. (69 mm) in P/N 729-209-00

*Weight* 3.4 oz. (95 g)

## Standards Compliance:

*UL Listed* File S911

*FM Approved* 3062622

*State of California* 7275-1653:0524

## Ordering Information

Part Number	Description
725-604-00	Intelligent Fire/CO Detector, plug-in, low profile, AP Only, white, Type II

## Associated Parts

Part Number	Description
729-209-00	Intelligent Detector Sounder Base, plug-in, AP Only, white, Type II
729-212-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP Only, white, Type II
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
729-210-00	Intelligent Detector Sounder Base, plug-in, AP/CLIP, white, Type II
729-211-00	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP/CLIP, white, Type II
729-213-00	Intelligent Detector Isolator Base, plug-in, AP/CLIP, white, Type II
729-214-00	Intelligent Detector Relay Base, plug-in, AP/CLIP, white, Type II
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included).
729-156-00	Test Magnet with 32 in. telescoping handle
729-227-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors with infrared

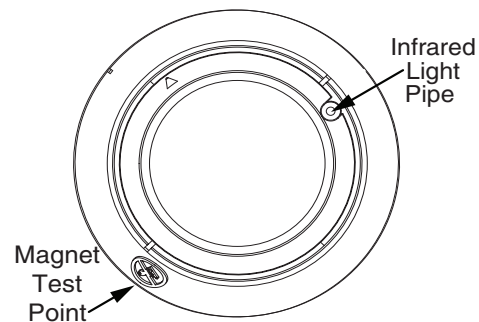
## CO Sensitivity

Alarm Thresholds	
Parts per Million (ppm)	Response Time
70 ± 5ppm	60 to 240 minutes
150 ± 5ppm	10 to 50 minutes
400 ± 10ppm	4 to 15 minutes

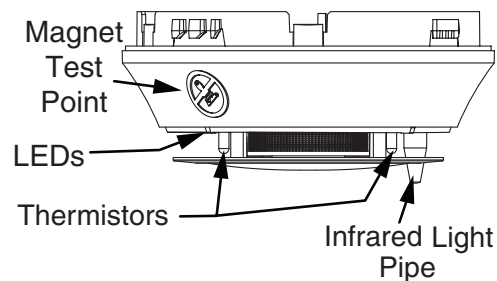
## Diagrams

### Test Magnet Diagram

#### Front View



#### Side View



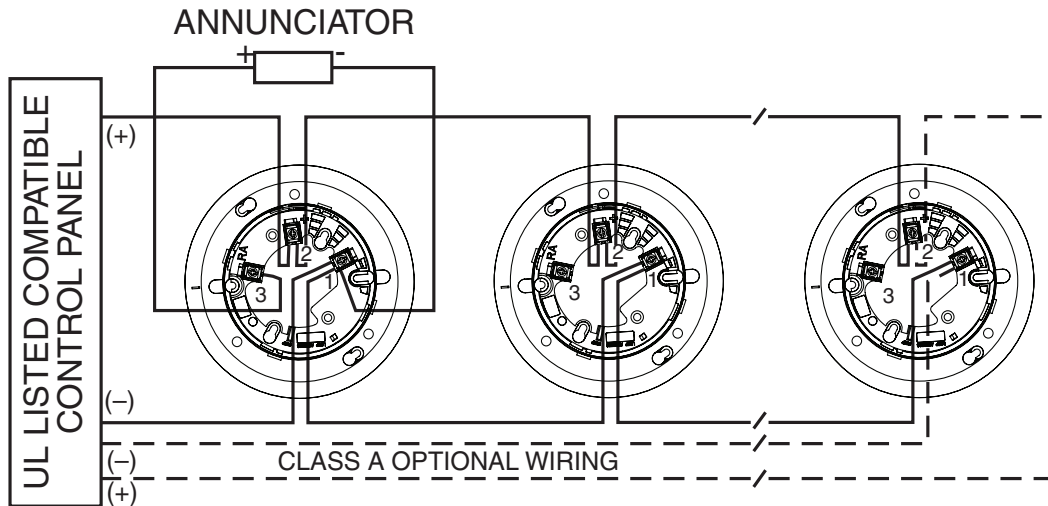
## Monaco Enterprises, Inc.

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# Addressable Intelligent Devices and Modules

## Wiring Diagram



**CAUTION:** Do not loop wire under terminal 1 or 2. Break wire run to provide supervision of connections.

## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 725-604-00 is an **AP Only Multielement Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	<b>AP Only Multielement Detectors:</b> Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●
					●

CLIP and AP/CLIP single element detectors, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

**AP Only devices** are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Smoke and CO Detector, AP Only, Type II

725-605-00

### Panel Application

This AP Only multielement detector is compatible with the following Monaco FACP SLCs: MAAP-X with a CORE III processor.



### Description

Monaco addressable carbon monoxide (CO) and smoke detectors provide features that make them ideal for hotels, schools, high-rise residential applications, and other locations that require both smoke and CO detection. If paired with AP Only bases P/N 729-209-00 or P/N 729-212-00, the detectors are able to be used as components of the general evacuation signal, along with other horns, horn strobes, and chimes when connected to a power supply or FACP.

Detector smoke sensitivity can be programmed at the addressable control panel; smoke sensitivity and carbon monoxide density are continuously monitored and reported to the addressable control panel. Each detector's address can be easily set with rotary decade dials. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

### Features

- White Type II smoke and CO detector  
**NOTE** *Previous Type I devices are ivory*
- 10 year CO cell with end-of-life warning and fault
- Addressable-analog communications
- Communicates individual identity, sensitivity, and status to Monaco addressable control panels
- Low standby current
- Remote sensitivity adjustment
- Versatile plug-in design
- Dual LEDs for 360 degree visibility
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** *Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)*
- Removable cover and insect screen for easy cleaning
- Reed switch for local magnet test
- Output to optional remote LED accessory

### Specifications

<i>Protocol Capability</i>	AP Only
<i>Operating Voltage</i>	15 to 32 VDC
<i>Standby Current</i>	200 $\mu$ A maximum at 24 VDC, one communication every five seconds with green LED blink
<i>Alarm Current</i>	2 mA maximum at 24 VDC, one communication every five seconds with red LED solid on
<i>Air Velocity</i>	0 to 4,000 ft./minute (0 to 1,219.2 m/minute)
<i>Operating Temperature</i>	32°F to 122°F (0°C to 50°C)
<i>Relative Humidity</i>	15% to 90%, non-condensing
<i>Diameter</i>	6.875 in. (175 mm) in P/N 729-215-00
<i>Height</i>	2.7 in. (69 mm) in P/N 729-215-00
<i>Weight</i>	3.4 oz. (95 g)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	File S911
<i>State of California</i>	7275-1653:0524



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# Addressable Intelligent Devices and Modules

## Ordering Information

Part Number	Description
<b>725-605-00</b>	Intelligent Smoke/CO Detector, plug-in, low profile, AP Only, white, Type II

## Associated Parts

Part Number	Description
<b>729-209-00</b>	Intelligent Detector Sounder Base, plug-in, AP Only, white, Type II
<b>729-212-00</b>	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP Only, white, Type II
<b>729-215-00</b>	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II
<b>729-210-00</b>	Intelligent Detector Sounder Base, plug-in, AP/CLIP, white, Type II
<b>729-211-00</b>	Intelligent Detector Sounder Base, plug-in, low frequency, 520 Hz, AP/CLIP, white, Type II
<b>729-213-00</b>	Intelligent Detector Isolator Base, plug-in, AP/CLIP, white, Type II
<b>729-214-00</b>	Intelligent Detector Relay Base, plug-in, AP/CLIP, white, Type II
<b>729-228-00</b>	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II
<b>729-091-00</b>	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)
<b>729-226-00</b>	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors

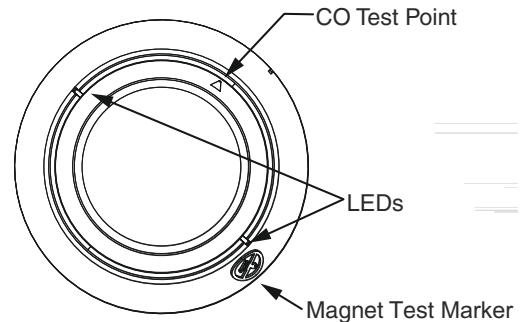
## CO Sensitivity

Alarm Thresholds	
Parts per Million (ppm)	Response Time
<b>70 ± 5ppm</b>	60 to 240 minutes
<b>150 ± 5ppm</b>	10 to 50 minutes
<b>400 ± 10ppm</b>	4 to 15 minutes

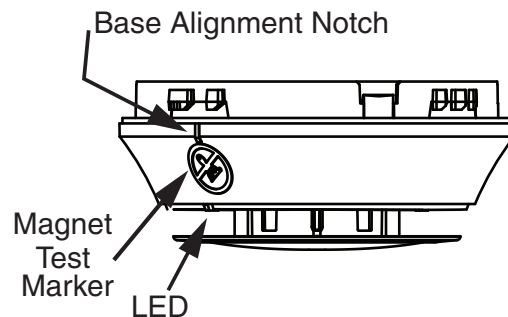
## Diagrams

### Test Magnet Diagram

#### Front View



#### Side View



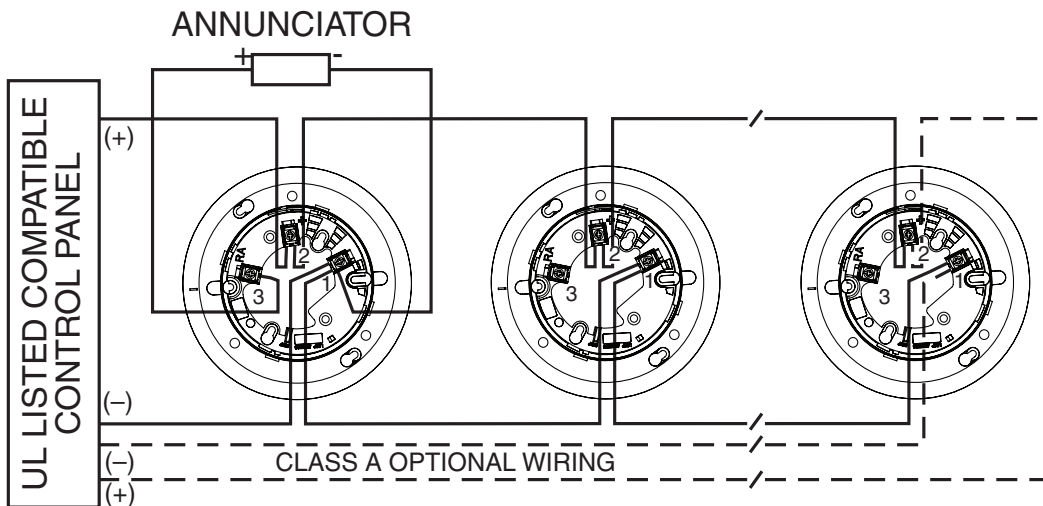
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



**CAUTION:** Do not loop wire under terminal 1 or 2. Break wire run to provide supervision of connections.

## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

**For example:**

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See “Addressable Device Compatibility Requirements” to determine your compatibility.

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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 725-605-00 is an **AP Only Multielement Detector**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	<b>AP Only Multielement Detectors:</b> Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and AP/CLIP single element detectors, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

**AP Only devices** are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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## Addressable Intelligent Devices and Modules

### Heat Detector, 135°F Fixed Temperature/Rate-of-Rise

721-124-00



**MSFM**  
approved

#### Features

- White housing Addressable Intelligent detector
- Low profile plug-in design
- Tamper resistant sensor base capability
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 135°F fixed temperature (restorable)
  - Rate-of-Rise element rated at 15°F (-9.4°C) per minute (restorable)
  - Normally Open (NO) contacts
  - Detector reset at control panel
- Dual red LEDs for 360-degree visibility of alarm
- Two testing options
  - Cover magnet test causes LEDs to latch ON within 10 seconds, or
  - Controlled heat source test at device sensor will light LEDs when alarm setpoint is reached
- Rotary address switches set exact detector location
  - Low standby current

- EMI protection
- Detector has RTI rating for installation of V2-FAST
- Open-area protection
- Optional remote LED annunciator capability

#### Specifications

<i>Voltage Range</i>	15–32 VDC peak
<i>Standby Current (max. avg.)</i>	300 µA @ 24 VDC (one communication every 5 seconds, LED blink enabled)
<i>LED Current (max.)</i>	6.5 mA @ 24 VDC
<i>Detector Type</i>	Single Circuit
<i>Contacts</i>	Normally Open (NO)
<i>Operating Temperature Range:</i>	
<i>Thermal Range</i>	–4°F to 100°F (–20°C to 38°C)
<i>High Temperature</i>	–4°F to 150°F (–20°C to 66°C)
<i>Release Temperature Ratings:</i>	
<i>Fixed Temperature</i>	135°F (57°C)
<i>Rate-of-Rise</i>	15°F/min. (–9.4°C/min.)
<i>Operating Humidity</i>	10% to 93% non-condensing
<i>Open Area Protection</i>	50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)
<i>Mounting Junction Box</i>	Single gang, or 4 in. square (with/without ring), or 3.5 in. octagonal, or 4.0 in. octagonal, or 50mm, 60mm, 70mm, or 75mm
<i>Dimensions installed in base (depending on base selected)</i>	2.0 in. H x 4.1 in. OD (53 mm) x (104 mm), or 2.0 in. H x 6.1 in. OD (53 mm) x (155 mm)
<i>Weight</i>	4.8 oz (136 g)
<i>Standards Compliance</i>	meets: ANSI/UL 521 & FM 3210
<i>UL Listed</i>	S911
<i>FM</i>	Approved
<i>State of California</i>	7270-1653:0137



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# Addressable Intelligent Devices and Modules

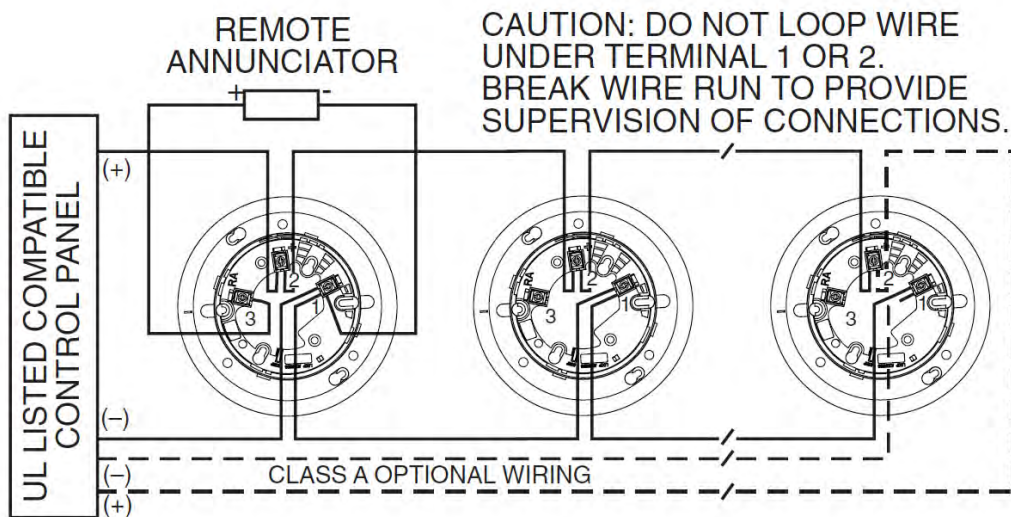
## Ordering Information

Part Number	Description
<b>721-124-00</b>	Heat Detector, combination 135°F Fixed Temperature (restorable) and 15°F/min. Rate-of-Rise (restorable), white, intelligent addressable, single circuit, normally open contacts

## Associated Parts

Part Number	Description
<b>729-127-00</b>	Intelligent detector standard mounting base, plug-in, 4.1 in., flangeless
<b>729-132-00</b>	Intelligent detector mounting base, plug-in, 6.1 in. flanged
<b>729-129-00</b>	Intelligent detector sounder mounting base, plug-in, 6.875 in., standard frequency
<b>729-133-00</b>	Intelligent detector isolator mounting base, plug-in, 6.875 in.
<b>729-134-00</b>	Intelligent detector relay mounting base, plug-in, 6.875 in.
<b>729-091-00</b>	Remote LED annunciator
<b>729-156-00</b>	Test magnet with 32-in. telescoping handle

## Wiring Diagram



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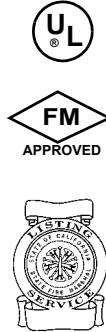
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## Addressable Intelligent Devices and Modules

### Heat Detector, Intelligent, 135°F Fixed Temperature

722-121-00



These addressable electronic heat detectors use dual electronic thermistor sensing circuits for fast response. Detectors are latched ON by the addressable control panel, indicating an alarm. A remote LED annunciator is an option.

#### Features

- 135°F Fixed Temperature Intelligent electronic heat detector
- Low profile, plug-in
- Detector is restorable
- Low standby current
- Rotary address switches
- Two red LEDs give 360-degree visibility of alarm
- Open-area protection with 50 ft. spacing
- Tamper resistant
- Sensitivity tested at the device and from the addressable control panel

#### Specifications

*Operating Voltage* 15–32 VDC peak

*Standby Current* 300  $\mu$ A @ 24 VDC (one communication every 5 seconds, LED blink enabled)

*Alarm Current* 6.5 mA @ 24 VDC (LED on)

*Sensitivity* 135°F (57°C) fixed temperature

*Installation & Operating Temperature Range* –4°F to 100°F  
(–20°C to 38°C)

*RTI Rating* Fast

*Relative Humidity* 10% to 93% non-condensing

*Diameter* 4.1 in. (10.4 cm) in a 4.1 in. flangless base  
(Depending on Base) 6.1 in. (15.5 cm) in a 6.1 in. base

*Height* 2 in. (51 mm)

*Weight* 4.8 oz.

*J Box Mounting Options* 4 in. square (with or without plaster ring),  
3.5 in. or 4 in. octagonal, single gang

*Standards Compliance*

UL S911

FM Approved

CSFM 7270-1653:0137

### Ordering Information

#### Heat Detector

Part Number	Description
722-121-00	Intelligent electronic heat detector, plug-in, fixed-temperature 135°F, restorable

#### Associated Parts

Part Number	Description
729-127-00	Intelligent detector standard mounting base, plug-in, 4.1 in. flangeless
729-132-00	Intelligent detector mounting base, plug-in, 6.1 in. flanged
729-129-00	Intelligent detector sounder mounting base, plug-in, 6.875 in.
729-133-00	Intelligent detector isolator mounting base, plug-in, 6.875 in.
729-091-00	Remote LED annunciator; fits standard single-gang electrical box (not included)
729-156-00	Test magnet with 32 in. telescoping handle



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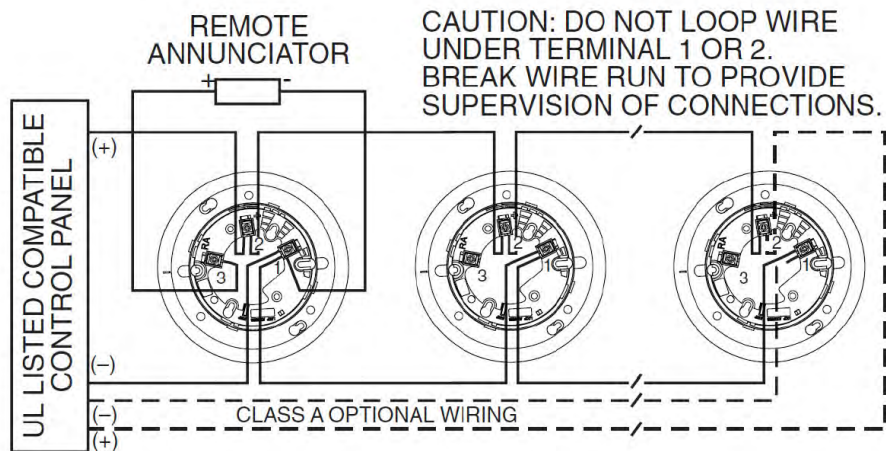
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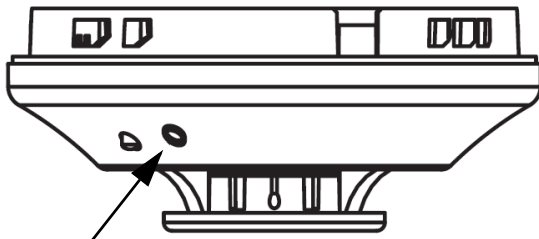
# Addressable Intelligent Devices and Modules

## Diagrams

### Wiring Diagram



### Test Magnet Diagram



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## Addressable Intelligent Devices and Modules

### Heat Detector, Intelligent, 190°F Fixed High Temperature

722-406-00



<i>Sensitivity</i>	190°F (88°C) Fixed High Temperature
<i>Installation &amp; Operating Temperature Range</i>	-4 to 150°F (-20°C to 66°C)
<i>RTI Rating</i>	Quick
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Diameter</i> <i>(Depending on Base)</i>	4.1 in. (10.4 cm) in 4.1 in. flangeless base 6.1 in. (15.5 cm) in 6.1 in. base
<i>Height</i>	2 in. (51 mm)
<i>Weight</i>	4.8 oz
<i>J Box Mounting Options</i>	4 in. square (with or without plaster ring), 3.5 in. or 4 in. octagonal, single gang
<i>Standards Compliance</i>	
	UL 521
	FM 3210

These addressable electronic heat detectors use dual electronic thermistor sensing circuits for fast response. Detectors are latched ON by the addressable control panel, indicating an alarm. A remote LED annunciator is an option.

#### Features

- 190°F Fixed High Temperature Intelligent electronic heat detector
- Low profile, plug-in
- Low standby current
- Rotary address switches
- Two red LEDs give 360 degree visibility of alarm
- Open-area protection with 50 ft. spacing
- Tamper resistant
- Sensitivity tested at the device and from the addressable control panel

#### Specifications

*Operating Voltage* 15–32 VDC peak

*Standby Current* 300 µA @ 24 VDC (one communication every 5 seconds, LED blink enabled)

*Alarm Current* 6.5 mA @ 24 VDC (LED on)

#### Ordering Information

##### Heat Detector

Part Number	Description
722-406-00	Intelligent electronic heat detector, plug-in, fixed high-temperature 190°F

##### Associated Parts

Part Number	Description
729-127-00	Intelligent detector standard mounting base, plug-in, 4.1 in. flangeless
729-132-00	Intelligent detector mounting base, plug-in, 6.1 in. flanged
729-129-00	Intelligent detector sounder mounting base, plug-in, 6.875 in.
729-133-00	Intelligent detector isolator mounting base, plug-in, 6.875 in.
729-091-00	Remote LED annunciator; fits standard single-gang electrical box (not included)
729-156-00	Test magnet with 32 in. telescoping handle



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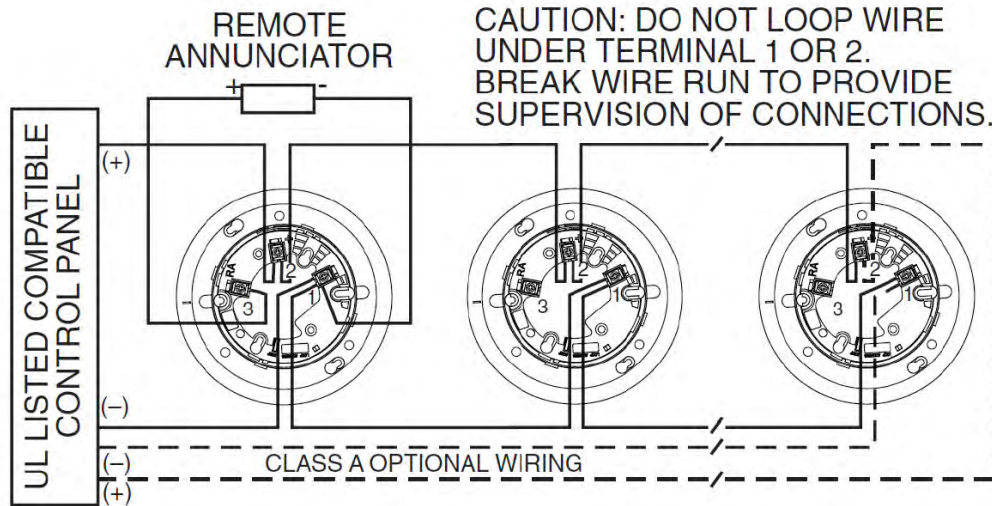
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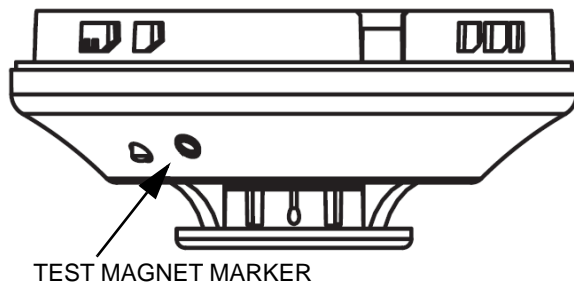
# Addressable Intelligent Devices and Modules

## Wiring Diagram

### Diagrams



### Test Magnetic Diagram



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# Addressable Intelligent Devices and Modules

## Smoke Detectors

723-353-00, 723-361-00, 723-600-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



Monaco addressable low profile plug-in smoke detectors provide features that surpass conventional detectors. Detector sensitivity can be programmed at the addressable control panel; sensitivity is continuously monitored and reported to the addressable control panel. Each detector's address can be easily set with decade address switches. Knowing the exact location of each detector can facilitate swift response to a specific fire situation or allow for selective maintenance when required.

P/N 723-361-00 adds a thermal sensor that will alarm at a fixed temperature of 135°F.

P/N 723-600-00 is remote-test capable; it can be used only with duct detector housing P/N 723-370-00 and P/N 723-371-00

### Features

- Sleek, low profile design
- Addressable-analog communications
- Stable communication with noise immunity

- Communicates individual identity, sensitivity, and status to Monaco addressable control panels
- Low standby current
- Remote sensitivity adjustment
- Versatile plug-in design
- Dual LEDs for 360-degree visibility
- Rotary decade address switches
- Removable cover and insect screen for easy cleaning
- Reed switch for local magnet test
- Field sensitivity metering to meet NFPA 72 requirements
- Optional remote LED accessory
- Five detector base options for maximum flexibility

### Specifications

<i>UL Listed Velocity Range</i>	<b>Photoelectric/Photoelectric with Thermal:</b> 0 to 4000 fpm (0 to 20 m/sec) (suitable for installation in ducts)
<i>Voltage Range</i>	15 to 32 VDC, peak
<i>Maximum Average Standby Current</i>	<b>Photoelectric:</b> 300 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled)
<i>LED Current (maximum)</i>	6.5 mA @ 24 VDC (LED on)
<i>Operating Temperature</i>	<b>Photoelectric:</b> 32°F to 120°F (0°C to 49°C) <b>Photoelectric with Thermal:</b> 32°F to 100°F (0°C to 38°C) <b>Thermal:</b> -4°F to 100°F (-20°C to 38°C) <b>High Temperature:</b> -4°F to 150°F (-20°C to 66°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Diameter</i>	6.1 in. (155 mm) installed on P/N 729-132-00 base 4.1 in. (104 mm) installed on P/N 729-127-00 base
<i>Height</i>	2.0 in. (51 mm) installed in P/N 729-132-00



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# Addressable Intelligent Devices and Modules

## Ordering Information

### Smoke Detectors

Part Number	Description
<b>723-353-00</b>	Intelligent photoelectric smoke detector, plug-in, low profile
<b>723-361-00</b>	Intelligent photoelectric smoke detector, plug-in, low profile, fixed-temperature, 135°F
<b>723-600-00</b>	Intelligent photoelectric smoke detector, plug-in, low profile, remote test, for use in duct detector P/N 723-370-00 and 723-371-00 only

### Associated Parts

Part Number	Description
<b>729-091-00</b>	Remote LED Annunciator. Fits standard single-gang electrical box (not included)
<b>729-127-00</b>	Intelligent detector standard mounting base, plug-in, 4.1 in., flangeless
<b>729-129-00</b>	Intelligent detector sounder mounting base, plug-in, 6.875 in.
<b>729-129-01</b>	Intelligent detector sounder mounting base, plug-in, 6.875 in., low frequency, 520 Hz
<b>729-132-00</b>	Intelligent detector mounting base, plug-in, 6.1 in., flanged
<b>729-133-00</b>	Intelligent detector isolator mounting base, plug-in, 6.875 in.
<b>729-134-00</b>	Intelligent detector relay mounting base, plug-in, 6.875 in.
<b>729-156-00</b>	Test magnet with 32 in. telescoping handle



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# Addressable Intelligent Devices and Modules

## Duct Smoke Detector

723-370-00, 723-371-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel (FACP) signaling line circuit (SLC).



Monaco's Addressable Duct Detector Housings are easy to install and maintain. The detector housing mounts to both round and rectangular ducts, and fits both square and rectangular footprints. The housing is available in either standard or NEMA 4 watertight versions.

Duct detector housing kit contains:

- Three #10 sheet metal screws for mounting
- Drilling template
- One sampling tube end cap
- One plastic exhaust tube

**NOTE** Duct detector sampling tube must be ordered separately to complete the installation. It must be the correct length for the width of the duct where it will be installed. Duct widths from 1 to 12 ft. can be accommodated. Be sure to check engineering specifications to ensure that the air velocity in the duct is between 100 and 4,000 ft/minute.

The detector housing is installed with an addressable photoelectric sensor head (P/N 723-600-00 or P/N 723-602-00), which must be ordered separately.

The detector samples air currents passing through a duct and gives dependable performance for shutdown of fans, blowers, and air conditioning systems, preventing the spread of toxic smoke and fire gases through the protected area.

Additional DC power is *not* required. Detector is powered from SLC and can power a remote LED annunciator or interface with remote test stations with LED annunciator (key and no-key models). External addressable relay required for HVAC shutdown. Optional interface relay may be required for some HVAC interfaces.

The detector communicates with a Monaco addressable FACP via an SLC. Detected changes caused by dirt, temperature, or humidity are reported to the panel to enable compensation algorithms that maintain the detector's set sensitivity. An advance maintenance alert indication at the panel specifies the detector address so that maintenance can be performed as needed.

**NOTE** Duct smoke detectors have limitations. They are not substitutes for open-area smoke detectors or early warning systems, nor can they replace a building's regular fire detection system. Duct smoke detectors function only when air handlers are turned on.

### Features

- Continuous sensitivity monitoring from Monaco Addressable FACP's with integrated radio transceiver
- Rated for air velocities from 100 to 4,000 ft/minute
- Sampling tube installs to the front or the back of the detector with no tools required
- Square or rectangular mounting options
- Remote testing capability
- Clear cover simplifies visual inspection
- NEMA 4, watertight detector housing available

### Specifications

*Air Velocity* 100 to 4,000 ft/minute  
(0.5 to 20.32 m/second)

*Operating Temperature* -4°F to 158°F (-20°C to 70°C)

*Relative Humidity* 0% to 95% non-condensing

*Dimensions* Rectangular: 14.38 in. L x 5 in. W x 2.5 in. D  
(36.5 cm x 12.7 cm x 6.35 cm)  
Square: 7.75 in. L x 9 in. W x 2.5 in. D  
(19.7 cm x 22.9 cm x 6.35 cm)

*Weight* 1.6 lb (0.73 kg)



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# Addressable Intelligent Devices and Modules

## Standards Compliance:

UL Listed 2911

FM Approved 3029700

State of California 3240-1653:0209

MSFM Approved 2125

## Ordering Information

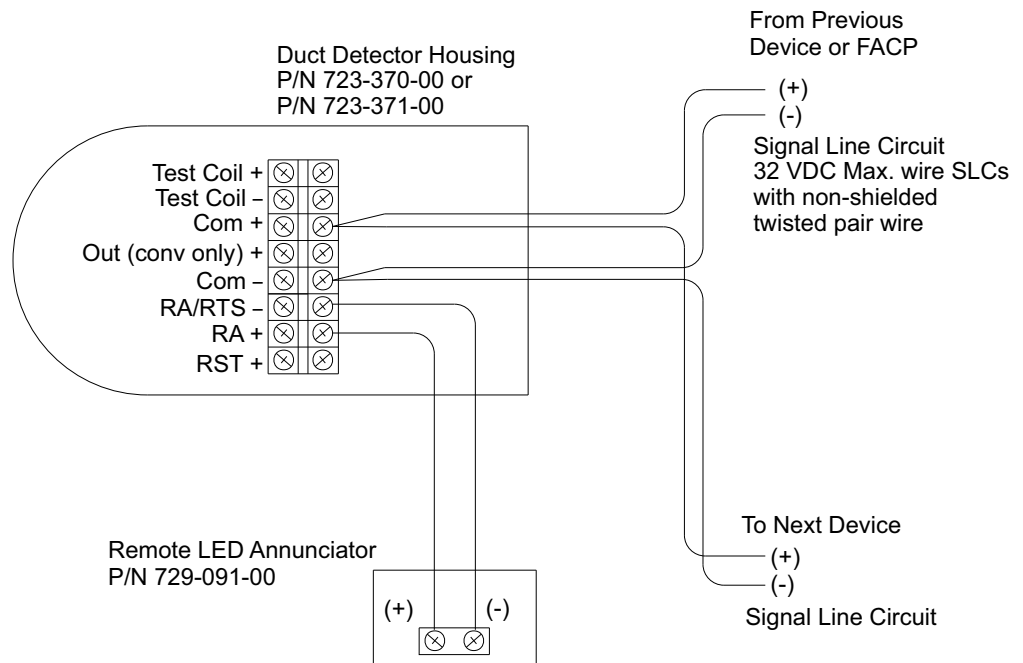
Part Number	Description
<b>723-370-00</b>	Duct Detector Housing
<b>723-371-00</b>	Duct Detector Housing, Watertight, NEMA 4

## Associated Parts

Part Number	Description
<b>723-602-00</b>	Intelligent Photoelectric Smoke Detector, Remote Test in Duct, plug-in, low profile, AP/CLIP, white, Type II <b>NOTE</b> For use in duct detector P/Ns 723-370-00 and 723-371-00 only
<b>723-600-00</b>	Intelligent Photoelectric Smoke Detector, Remote Test in Duct, plug-in, low profile, CLIP, ivory, Type I <b>NOTE</b> For use in duct detector P/Ns 723-370-00 and 723-371-00 only

Part Number	Description
<b>729-205-00</b>	Duct Smoke Detector, Sampling Tube, 1 to 2 ft.
<b>729-205-01</b>	Duct Smoke Detector, Sampling Tube, 2 to 4 ft.
<b>729-205-02</b>	Duct Smoke Detector, Sampling Tube, 4 to 8 ft.
<b>729-205-03</b>	Duct Smoke Detector, Sampling Tube, 8 to 12 ft.
<b>729-159-00</b>	Intelligent Relay Control Module, two Form C contacts, CLIP, ivory, Type I
<b>729-221-00</b>	Intelligent Relay Control Module, two Form C contacts, AP/CLIP, white, Type II
<b>729-108-00</b>	Remote Test Station with LED for duct or beam smoke detector; requires test coil P/N 729-206-00
<b>729-138-00</b>	Remote Test Station with LED and Key for duct or beam smoke detectors; requires test coil P/N 729-206-00
<b>729-091-00</b>	Remote, Red LED Annunciator, fits standard single-gang electrical box
<b>729-156-00</b>	Test Magnet with 32 in. telescoping handle
<b>451-700-01</b>	SPDT Relay, 120 to 277 VAC, 10A contacts, LED, red enclosure

## Wiring Diagrams

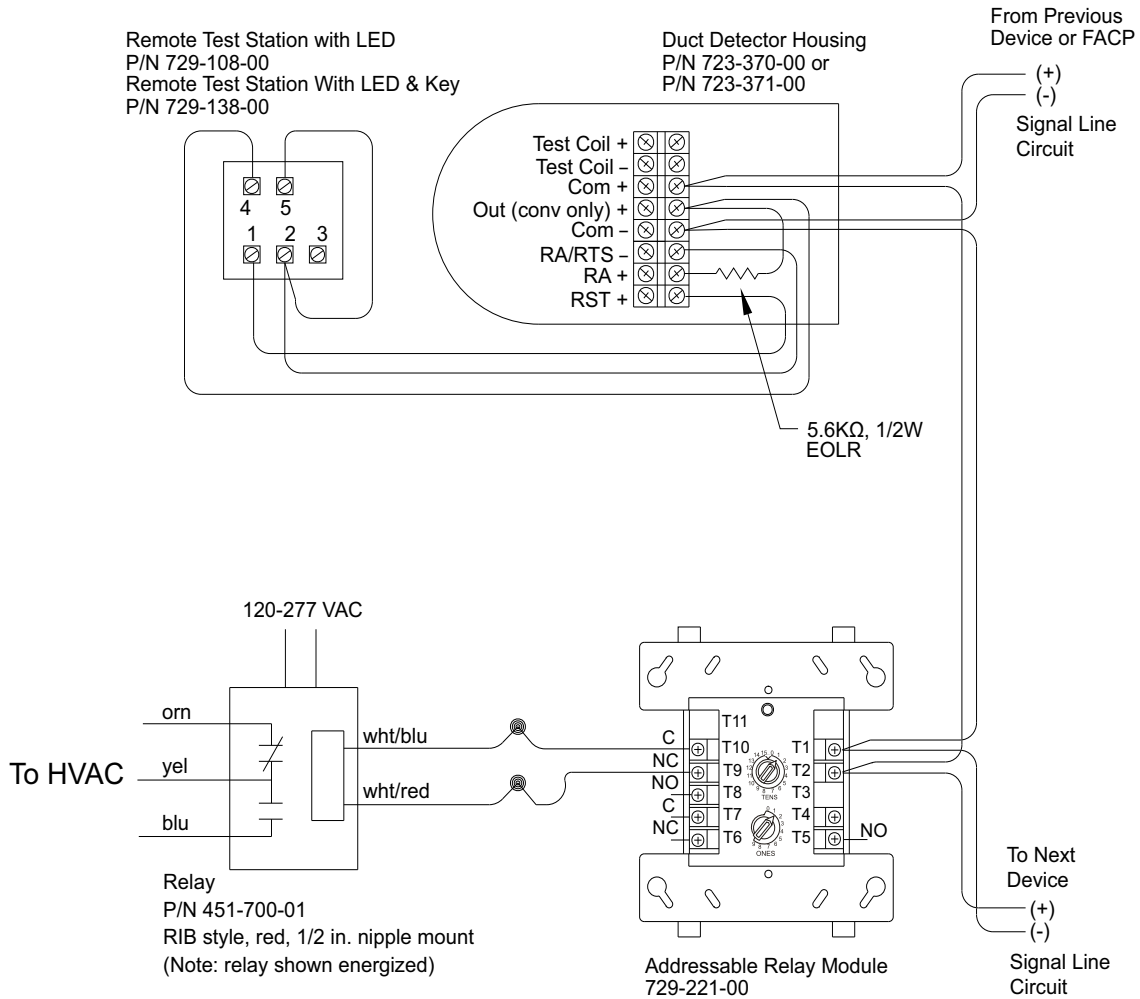


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# Addressable Intelligent Devices and Modules



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# Addressable Intelligent Devices and Modules

## Reflected Beam Smoke Detector

725-002-00

### Description

This is a single-ended reflected-type, long range, projected beam smoke detector. It is intended for open-area protection in locations where spot-type detection is impractical. Such environments can include freezers, warehouses, factories, parking facilities, arenas, concert halls, and barns.

Environments unsuitable for the detector include high humidity, rapidly changing temperatures, outdoors, locations where direct sunlight will strike the detector, or locations where glass panes or other objects will be in the path of the optical beam between the detector and the reflector.



**MEA**  
approved

The detector consists of a transmitter/receiver unit (shown above) and a reflector.

### Indicators

- **Green LED** Flashing pattern indicates standby
- **Red LED** Illuminated solid indicates alarm
- **Yellow LED** Flashing pattern indicates trouble diagnostics
- **Dual Digital Display** 0 to 99, indicates beam signal strength and sensitivity in percent obscuration

### Testing

Integral sensitivity (obscuration) test, local test switch, or test commands from either the panel or the optional remote test station.

### Features

- Rotary switch addressing
- Two-wire Signaling Line Circuit (SLC) communication to the control panel
- Internal identifying code for control panel use
- Sensitivity setting and testing
- Dual digital display
- Circuit isolation (Style 7) option by jumper setting

### Specifications

<i>Operating Voltage</i>	24 VDC nominal (15 to 32V): <ul style="list-style-type: none"><li>• SLC loop</li><li>• External (aux. power required)</li><li>• Remote output</li></ul>
<i>Standby Current</i>	Standby 2 mA maximum, one communication every 5 seconds (LED flashing)
<i>Alarm Current</i>	8.5 mA maximum (LED on)
<i>Remote Output</i>	15 mA maximum, 6 mA minimum, limited by 2.2 kohm resistor
<i>Trouble Current</i>	4.5 mA maximum (LED on)
<i>Alignment Current</i>	20 mA maximum
<i>External Supply</i>	Voltage: 15 to 32 VDC Current: 0.5A maximum
<i>Range</i>	16 ft. to 230 ft. (5 m to 70 m); With Associated Part P/N 729-188-00: 230 ft. to 328 ft. (70 m to 100 m)
<i>Spacing</i>	30 ft. to 60 ft. (9.1 m to 18.3 m)
<i>Adjustment Angle</i>	±10 degrees horizontal and vertical
<i>Typical Response Time</i>	Alarm: 20 seconds Trouble: 30 seconds
<i>Wiring</i>	12 to 22 AWG, unshielded, twisted pair removable terminal block
<i>Operating Temperature</i>	-22°F to 131°F (-30°C to 55°C)



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# Addressable Intelligent Devices and Modules

**Relative Humidity** 10% to 93%, non-condensing (essential)

**Detector Dimensions** 10 in. H x 7.5 in. W x 3.3 in. D  
(254 mm x 191 mm x 84 mm)

**Reflector Dimensions** 7.9 in. H x 9.1 in. W (200 mm x 230 mm)

**Weight (Shipping)** 3.9 lb (1.77 kg)

**Standards Compliance:**

**UL Listed** File S911

**FM Approved** 3017888

**MEA Approved** 53-04-E

**State of California** 7260-1653:0169

## Sensitivity

Sensitivity Setting	Obscuration	Display Reading	Acceptable Distance Between Detector and Reflector	
			Feet	Meters
<b>Level 1</b>	25%	25	16.4 to 120	5 to 36.6
<b>Level 2</b>	30%	30	25 to 150	7.6 to 45.7
<b>Level 3</b>	40%	40	60 to 220	18.3 to 67
<b>Level 4*</b>	50%	50	80 to 328	24.4 to 100
<b>Acclimate Level 1</b>	30% to 50%	A1	80 to 150	24.4 to 45.7
<b>Acclimate Level 2</b>	40% to 50%	A2	80 to 220	24.4 to 67
*Factory default				

## Ordering Information

Part Number	Description
<b>725-002-00</b>	Intelligent Reflected Beam Smoke Detector, loop powered, 32V maximum, integral sensitivity test capability (separately powered)

## Associated Parts

Part Number	Description
<b>729-108-00</b>	Duct Smoke Detector, remote test station with LED; requires test coil P/N 729-206-00 See <b>NOTE</b>
<b>729-138-00</b>	Duct Smoke Detector, remote test station with LED and key; requires test coil P/N 729-206-00 See <b>NOTE</b>
<b>729-187-00</b>	Mounting Kit for Smoke Detector P/N 725-002-00, if needed to achieve $\pm 10$ degree alignment angle with either transmitter/receiver unit or reflector; not compatible with P/N 729-188-00
<b>729-188-00</b>	Kit of Three Additional Reflectors to extend range of smoke detector P/N 725-002-00 from 230 to 328 ft.; not compatible with P/N 729-187-00
<b>729-189-00</b>	Kit Required for Smoke Detector P/N 725-002-00 when mounting the transmitter/receiver unit: <ul style="list-style-type: none"> <li>Over a recessed J box</li> <li>With multi-mount kit P/N 729-187-00</li> </ul>
<b>NOTE</b> Test station can be used for smoke detector applications other than duct.	



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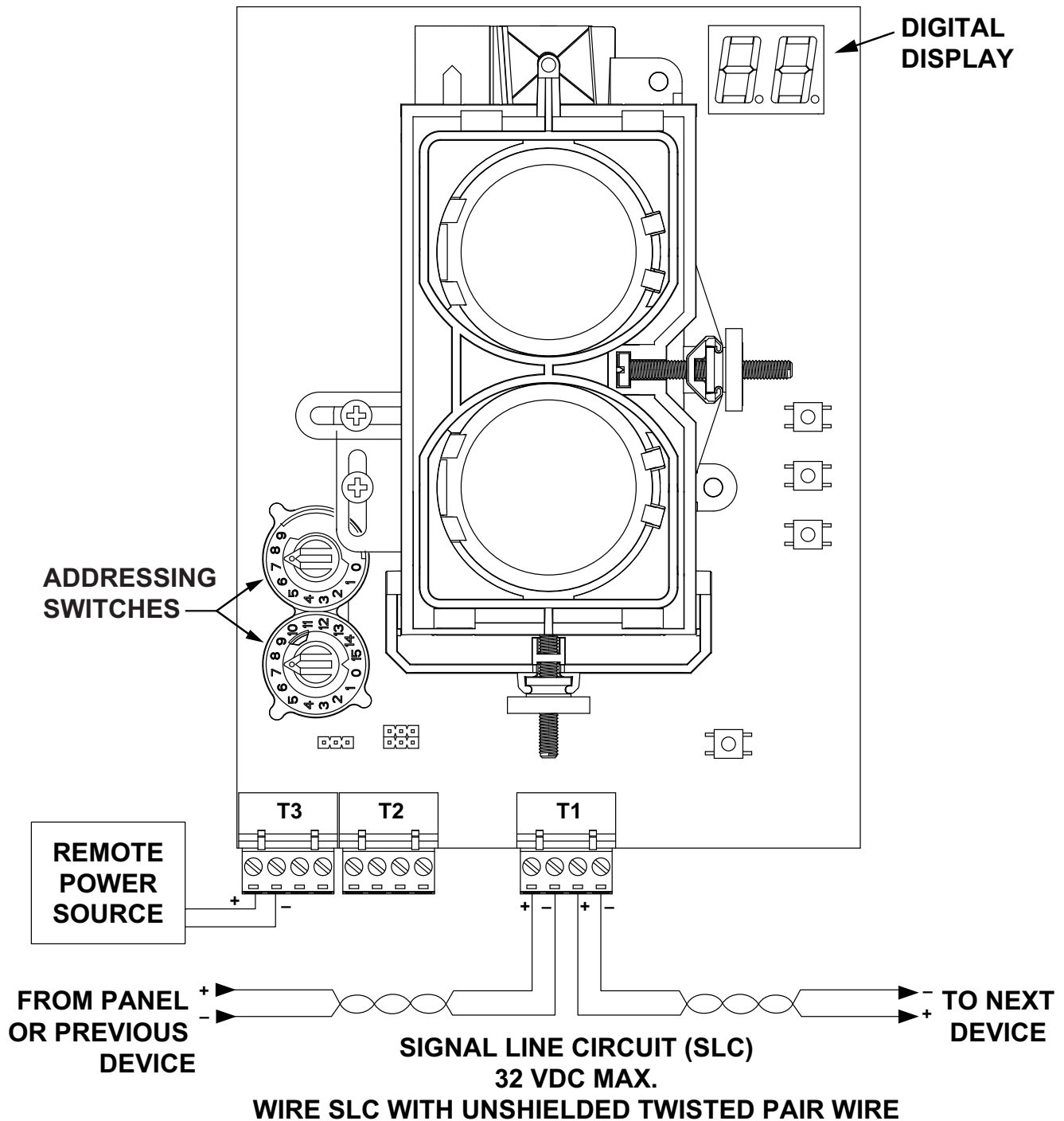
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



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## Bases

# Addressable Intelligent Devices and Modules Catalog Section 09

### Bases

Detector Base, Sounder, Plug-in, 6.875 in., AP Only, Type II . . . . .	729-209-00, 729-212-00
Detector Base, Sounder, Plug-in, 6.875 in., AP/CLIP, Type II . . . . .	729-210-00, 729-211-00
Detector Base, Isolator, Plug-in, 6.85 in., AP/CLIP, Type II . . . . .	729-213-00
Detector Base, Relay, Plug-in, 6.85 in., AP/CLIP, Type II . . . . .	729-214-00
Detector Base, Standard, Plug-in, 4 in., AP/CLIP, Type II . . . . .	729-215-00
Detector Base, Standard, Plug-in, 6 in., AP/CLIP, Type II . . . . .	729-228-00
Detector Base, Standard, Plug-in, 4.1 in. . . . .	729-127-00
Detector Base, Sounder, Plug-in, 6.875 in., CLIP, Type I . . . . .	729-129-00, 729-129-01
Detector Base, Standard, Plug-in, 6.1 in. . . . .	729-132-00
Detector Base, Isolator, Plug-in 6.875 in. . . . .	729-133-00
Detector Base, Relay, Plug-in, 6.875 in. . . . .	729-134-00

[\*Click to go back to "Table of Contents - Index by Product Name"\*](#)



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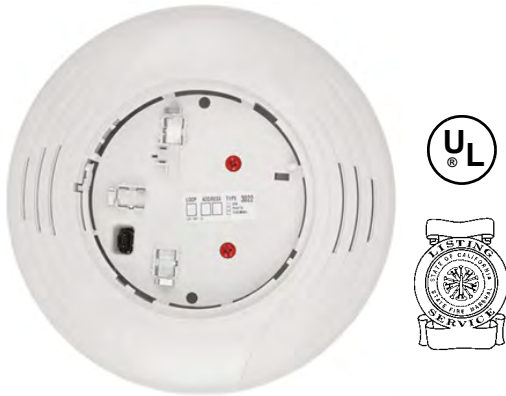


## Addressable Intelligent Devices and Modules

### Detector Base, Sounder, Plug-in, 6.875 in., AP Only, Type II 729-209-00, 729-212-00

#### Panel Application

These AP Only sounder bases are compatible with the following Monaco FACP SLCs: MAAP-X with a CORE III processor and an ADC II.



#### Description

These bases, intended for use in intelligent systems, are designed for new or existing dwelling units. Their flexibility in configuration, installation, and operation meet or exceed UL268 and UL464. P/N 729-212-00 meets the NFPA 72 sleeping space requirement to produce a low frequency tone of 520 Hz  $\pm$  10% with a square wave or its equivalent.

The bases produce a variety of tones, including Continuous, ANSI Temporal 3, ANSI Temporal 4, and March Time. Tone volume can be set at 75 dBa or 85 dBa.

Through the FACP, the bases can adopt the address of the attached sensor with a unique sub-address on the loop. This allows the panel to activate an individual sounder or a group of sounders. The command set from the panel can be customized to the specific event, allowing selection of volume, tone, and group. The connections for 24V constant/NAC power and the communication loop are isolated to prevent electrical interaction between them.

**NOTE** Type II detector bases are white; previous Type I detector bases are ivory.

#### Specifications

##### 729-209-00

<i>Protocol Capability</i>	AP Only
<i>External Supply Voltage</i>	16 to 33 VDC (VFWR)
<i>Standby Current</i>	500 $\mu$ A maximum
<i>High Volume Alarm Current</i>	35 mA maximum
<i>Low Volume Alarm Current</i>	15 mA maximum
<i>SLC Operating Voltage</i>	15 to 32 VDC
<i>SLC Standby Current</i>	300 $\mu$ A maximum
<i>Sound Output</i>	High Volume: >85 dBA minimum Low Volume: >75 dBA minimum, Measured in a UL reverberant room at 10 ft., 24V (continuous tone)
<i>Input Wiring</i>	12 to 14 AWG
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Diameter</i>	6.875 in. (17.46 cm)
<i>Height (Without Sensor)</i>	2 in. (5.08 cm)
<i>Weight</i>	0.5 lb (227 g)
<i>Mounting</i>	4 in. square (with or without ring), 4 in. octagonal, 3.5 in. octagonal, single gang, and double gang junction boxes.
<i>Color</i>	White
<i>Standards Compliance:</i>	
<i>UL Listed</i>	UL268 & UL464, File S911
<i>State of California</i>	7300-1653:0232

##### 729-212-00

<i>Protocol Capability</i>	AP Only
<i>External Supply Voltage</i>	16 to 33 VDC (VFWR)
<i>Standby Current</i>	550 $\mu$ A maximum
<i>High Volume Alarm Current</i>	70 mA maximum at 33 VDC, 90 mA maximum at 24 VDC
<i>Low Volume Alarm Current</i>	15 mA maximum at 33 VDC, 20 mA maximum at 24 VDC
<i>SLC Operating Voltage</i>	15 to 32 VDC
<i>SLC Standby Current</i>	300 $\mu$ A maximum
<i>Sound Output</i>	High Volume: >85 dBA minimum Low Volume: >75 dBA minimum, Measured in a UL reverberant room at 10 ft., 24V (continuous tone)
<i>Input Wiring</i>	12 to 14 AWG



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# Addressable Intelligent Devices and Modules

**Relative Humidity** 10% to 93% non-condensing

**Diameter** 6.875 in. (17.46 cm)

**Height (Without Sensor)** 2 in. (5.08 cm)

**Weight** 0.6 lb (272 g)

**Mounting** 4 in. square (with or without ring),  
4 in. octagonal, 3.5 in. octagonal, single  
or double gang junction boxes.

**Color** White

**Standards Compliance:**

**UL Listed** UL268 & UL464, File S911

**State of California** 7300-1653:0240

## Ordering Information

Part Number	Description
729-209-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., AP Only, white, Type II
729-212-00	Intelligent Detector Sounder Base, plug-in, 6.875 in., low frequency, 520 Hz, AP Only, white, Type II

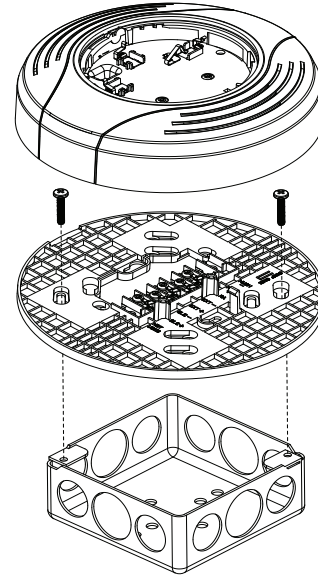
## Associated Parts

Part Number	Description
729-218-00	Intelligent Mini-Monitor Module, AP/CLIP, white, Type II
790-013-01	End-of-line Power Supervision Relay Module, non-polarized, 9–40 VDC, with built-in 47k EOL resistor or a set of N.C. dry contacts

## Diagrams

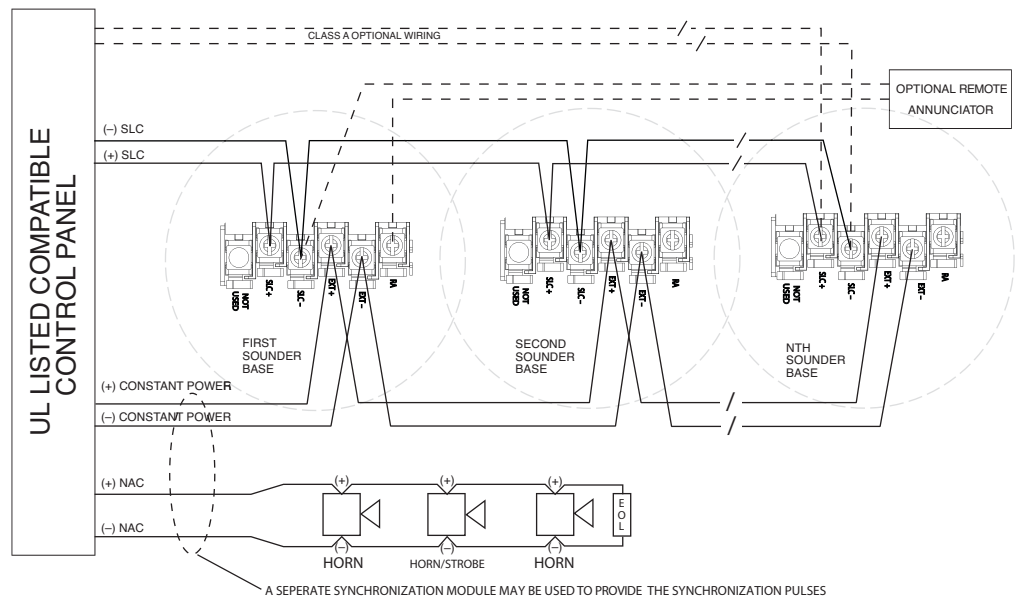
### Mounting

The mounting plate allows connection pre-wiring. The housing locks with the plate using two retaining screws for added tamper resistance.



### Wiring Diagrams

#### FACP Supplying Constant 24V Power



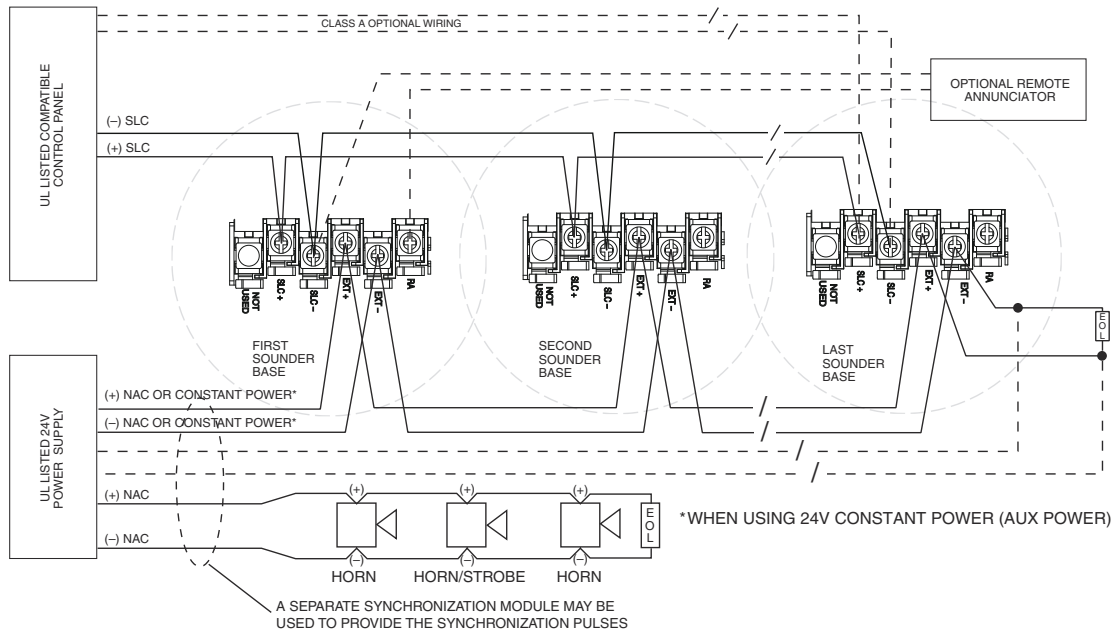
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# Addressable Intelligent Devices and Modules

## Connected to 24V Power



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-209-00 and P/N 729-212-00 are **AP Only Sounder Bases** for use with detectors utilizing AP protocol; devices utilizing AP protocol are only compatible with the **ADC II on a MAAP-X with a CORE III processor**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
<b>Type I Addressable Devices</b>	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
<b>Type II Addressable Devices</b>	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and AP/CLIP single element detectors, bases, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

**Devices utilizing AP protocol** are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Detector Base, Sounder, Plug-in, 6.875 in., AP/CLIP, Type II 729-210-00, 729-211-00

### Panel Application

These AP/CLIP sounder bases are compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

These bases, intended for use in intelligent systems, are designed for new or existing dwelling units. Their flexibility in configuration, installation, and operation meet or exceed UL268 and UL464. P/N 729-211-00 meets the NFPA 72 sleeping space requirement to produce a low frequency tone of 520 Hz  $\pm$  10% with a square wave or its equivalent.

One of the two supported tones, ANSI Temporal 3 or Continuous, can be selected using the included jumper.

UL has approved grouping for up to six sounder bases maximum. When one in a group sounds, the rest sound also. Grouping horns through the sounder base interconnect is not supervised and must be used only as a supplementary evacuation system. Bases grouped by software are not so limited and may be part of primary alarm signaling. The connections for 24V constant/NAC power and the communication loop are isolated to prevent electrical interaction between them.

**NOTE** Type II detector bases are white; previous Type I detector bases are ivory.

### Specifications

#### 729-210-00

<i>Protocol Capability</i>	AP/CLIP
<i>External Supply Voltage</i>	16 to 33 VDC (VFWR)
<i>Standby Current</i>	500 mA maximum
<i>Alarm Current</i>	35 mA maximum
<i>SLC Operating Voltage</i>	15 to 32 VDC
<i>SLC Standby Current</i>	300 $\mu$ A maximum
<i>Sound Output</i>	>85 dBA minimum, Measured in a UL reverberant room at 10 ft., 24V (continuous tone)
<i>Input Wiring</i>	12 to 14 AWG
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Diameter</i>	6.875 in. (17.46 cm)
<i>Base Height (Without Sensor)</i>	2 in. (5.08 cm)
<i>Weight</i>	0.5 lb (227 g)
<i>Mounting</i>	4 in. square (with or without ring), 4 in. octagonal, 3.5 in. octagonal, single gang, and double gang junction boxes
<i>Color</i>	White
<i>Standards Compliance:</i>	
<i>UL Listed</i>	UL268 & UL464, File S911
<i>FM Approved</i>	3062622
<i>State of California</i>	7135-1653:0213

#### 729-211-00

<i>Protocol Capability</i>	AP/CLIP
<i>External Supply Voltage</i>	16 to 33 VDC (VFWR)
<i>Standby Current</i>	1 mA maximum VDC
<i>Alarm Current</i>	65 mA maximum at 33 VDC 90 mA maximum at 24 VDC
<i>SLC Operating Voltage</i>	15 to 32 VDC
<i>SLC Standby Current</i>	Refer to applicable sensor specification
<i>Sound Output</i>	>85 dBA minimum, Measured in a UL reverberant room at 10 ft., 24V (continuous tone)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Input Wiring</i>	12 to 14 AWG
<i>Diameter</i>	6.875 in. (17.46 cm)



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# Addressable Intelligent Devices and Modules

**Base Height (Without Sensor)** 2 in. (5.08 cm)

**Weight** 0.6 lb (272 g)

**Mounting** 4 in. square (with or without ring),  
4 in. octagonal, 3.5 in. octagonal, single  
gang, and double gang junction boxes

**Color** White

**Standards Compliance:**

**UL Listed** UL268 & UL464, File S911

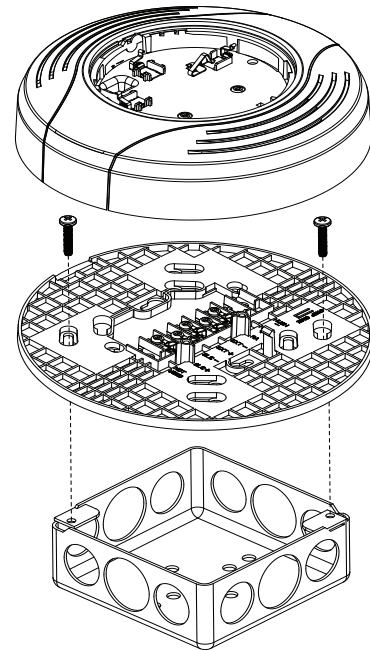
**FM Approved** 3062622

**State of California** 7300-1653:0238

## Diagrams

### Mounting

The mounting plate allows connection pre-wiring.  
The housing locks with the plate using two retaining  
screws for added tamper resistance.



## Ordering Information

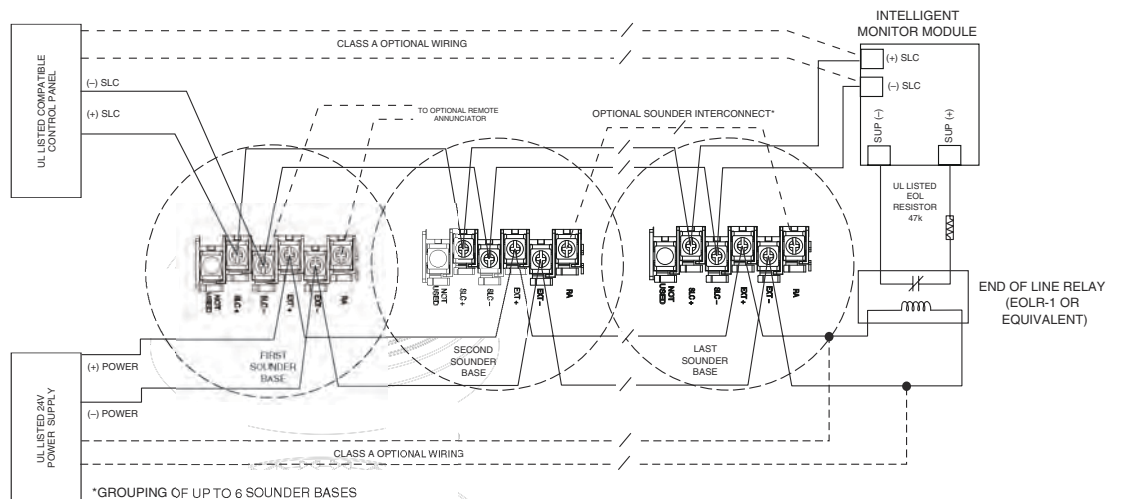
Part Number	Description
<b>729-210-00</b>	Intelligent Detector Sounder Base, plug-in, 6.875 in., AP/CLIP, white, Type II
<b>729-211-00</b>	Intelligent Detector Sounder Base, plug-in, 6.875 in., low frequency, 520 Hz, AP/CLIP, white, Type II

## Associated Parts

Part Number	Description
<b>729-218-00</b>	Intelligent Mini-Monitor Module, AP/CLIP, white, Type II
<b>790-013-01</b>	End-of-line Power Supervision Relay Module, non-polarized, 90–40 VDC, with built-in 47k EOL resistor or a set of N.C. dry contacts
<b>729-226-00</b>	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors
<b>729-227-00</b>	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors with infrared

## Wiring Diagrams

### Detector Activates Sounder Base(s)



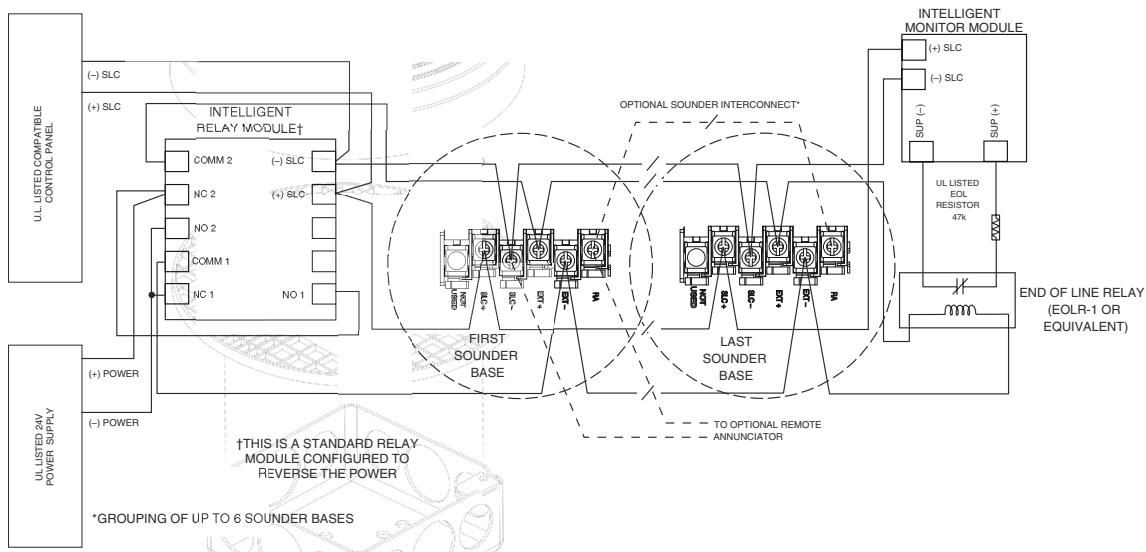
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# Addressable Intelligent Devices and Modules

*Detector Activates Sounder Base(s);  
Intelligent Relay Module Activates All Sounder Bases*



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-210-00 and P/N 729-211-00 are **AP/CLIP Sounder Bases** that are compatible with Type I and Type II detectors. Also note that AP/CLIP Detector Bases are white and will not match the color of Type I detectors, which are ivory.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	<b>AP/CLIP Detector Bases</b> Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP** single element detectors, **bases**, and single/multi-input/output modules are compatible with any panel.  
  
 The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X. Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.  
  
 All CO and CO combination detectors are AP Only devices.

Legend	
● = Compatible	■ = Incompatible

Alarm Output	
Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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## Addressable Intelligent Devices and Modules

# Detector Base, Isolator, Plug-in, 6.85 in., AP/CLIP, Type II 729-213-00

### Panel Application

This AP/CLIP isolator base is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



**Mounting** 4 in. square (with or without ring),  
4 in. octagonal, 3.5 in. octagonal,  
single gang, and double gang  
junction boxes.

**Color** White

**Standards Compliance:**

**UL Listing** File S911

**FM Approval** 3062622

**State of California** 7300-1653:0126

### Ordering Information

Part Number	Description
729-213-00	Intelligent Detector Isolator Base, plug-in, 6.85 in., AP/CLIP, white, Type II

### Associated Parts

Part Number	Description
729-226-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors
729-227-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors with infrared

### Description

Isolator bases prevent an entire Signaling Line Circuit (SLC) from being disabled when a short circuit occurs. They do this by isolating the shorted portion of the SLC from the remainder of the SLC. These bases automatically restore the entire SLC when the short is corrected. Up to 25 addressable detectors may be installed between isolator bases. Tamper-resist feature included.

**NOTE** Type II detector bases are white; previous Type I detector bases are ivory.

### Specifications

**Protocol Capability** AP/CLIP

**Operating Voltage** 15 to 32 VDC

**Standby Current** 450  $\mu$ A maximum

**Isolation Current** 15 mA maximum

**Input Wiring** 12 to 18 AWG

**Relative Humidity** 10% to 93% non-condensing

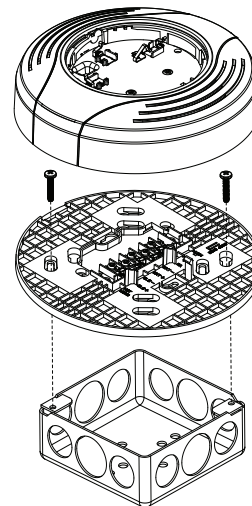
**Diameter** 6.85 in. (17.4 cm)

**Height (Without Sensor)** 1.61 in. (4.1 cm)

**Weight** 0.5 lb (227 g)

### Diagrams

#### Mounting



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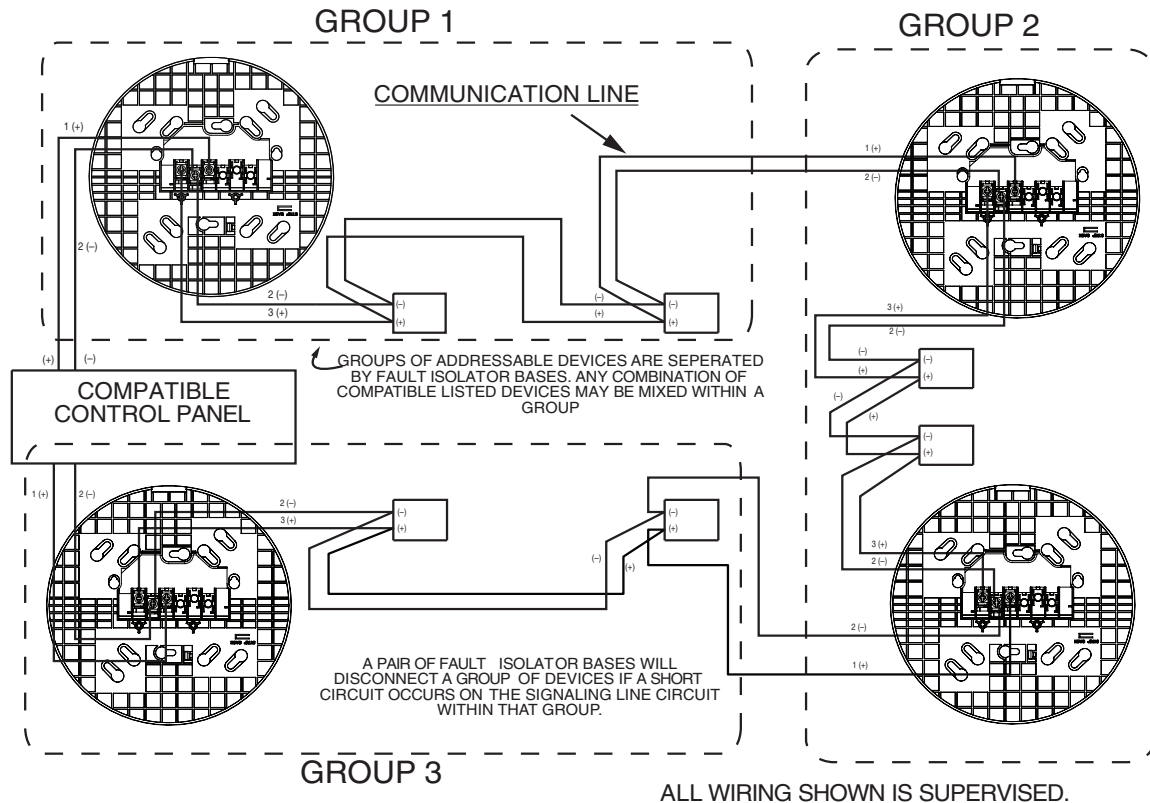
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-213-00 is an **AP/CLIP Isolator Base** that is compatible with Type I and Type II detectors.

Also note that AP/CLIP Detector Bases are white and will not match the color of Type I detectors, which are ivory.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP <u>Single Element Detectors</u>	●	●	●	●
	AP/CLIP <u>Single Element Detectors</u>	●	●	●	●
Type II Addressable Devices	<b>AP/CLIP Detector Bases</b> Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only <u>Single Element Detectors</u>				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP**  
single element detectors, **bases**,  
and single/multi-input/output  
modules are compatible with  
any panel.  
  
 The MAAP(+) is only compatible  
with single element and single  
input/output CLIP and  
AP/CLIP devices.

AP/CLIP  
multielement detectors are  
compatible with the MAAP-X.  
Multielement detectors will emit  
a single combined alarm output  
unless installed on a MAAP-X  
with a CORE III and an ADC II.

AP Only devices  
are only compatible with the  
ADC II on a MAAP-X  
with a CORE III.  
  
 All CO and CO combination  
detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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## Addressable Intelligent Devices and Modules

# Detector Base, Relay, Plug-in, 6.85 in., AP/CLIP, Type II 729-214-00

### Panel Application

This AP/CLIP relay base is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



*Operating Temperature* 32°F to 120°F (0°C to 49°C)  
*Relative Humidity* 10% to 93% non-condensing  
*Diameter* 6.85 in. (17.46 cm)  
*Height (Without Sensor)* 1.61 in. (4.1 cm)  
*Weight* 0.5 lb (227 g)  
*Mounting* 4 in. square (with or without ring),  
4 in. octagonal, 3.5 in. octagonal,  
single gang, and double gang  
junction boxes  
*Color* White  
*Standards Compliance:*  
*UL Listed* File S911  
*FM Approved* 3062622  
*State of California* 7300-1653:0126

### Description

This relay provides one form C contact relay that can be used to control an auxiliary function, such as a fire-door release or elevator recall. Short or long delay activation modes are available and are determined by shunt position.

**NOTE** Type II detector bases are white; previous Type I detector bases are ivory.

### Specifications

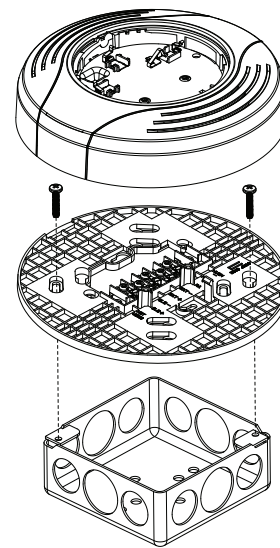
*Protocol Capability* AP/CLIP  
*Operating Voltage* 15 to 32 VDC  
*Standby Current* 170  $\mu$ A maximum  
*Latching Relay* 2 Coil  
*Contact Type* 1 Form C Contact  
*Contact Relay Ratings* 0.5A: 125 VAC maximum;  
0.9A: 125 VDC maximum;  
3A: 30 VDC maximum  
*Set Time* Short Delay: 60 to 100 milliseconds  
Long Delay: 6 to 10 seconds  
*Reset Time* 20 milliseconds maximum  
*Input Wiring* 12 to 18 AWG

### Ordering Information

Part Number	Description
729-214-00	Intelligent Detector Relay Base, plug-in, 6.85 in., AP/CLIP, white, Type II

### Diagrams

#### Mounting

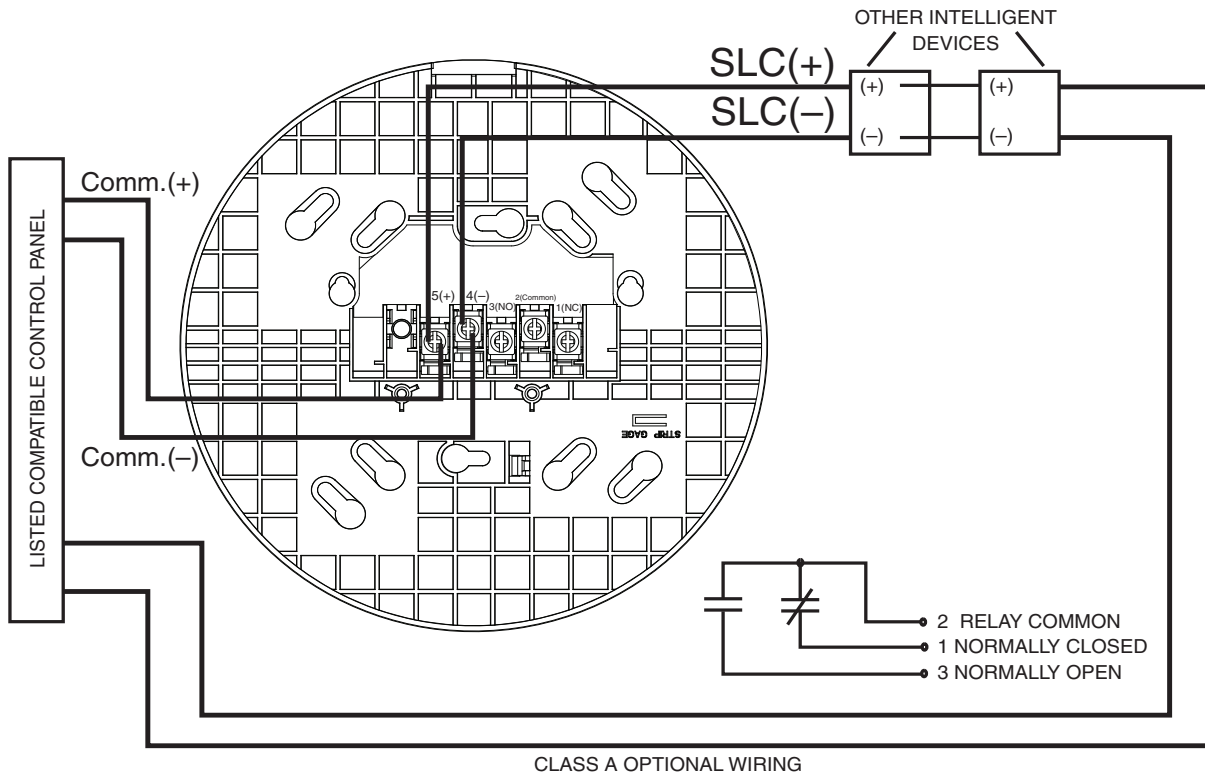


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# Addressable Intelligent Devices and Modules

## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-214-00 is an **AP/CLIP Relay Base** that is compatible with Type I and Type II detectors.

Also note that AP/CLIP Detector Bases are white and will not match the color of Type I detectors, which are ivory.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	<u>CLIP</u> Single Element Detectors	●	●	●	●
	<u>AP/CLIP</u> Single Element Detectors	●	●	●	●
Type II Addressable Devices	<b>AP/CLIP Detector Bases</b> Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	<u>AP/CLIP</u> Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	<u>AP/CLIP</u> Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	<u>AP Only</u> Single Element Detectors				●
	<u>AP Only</u> Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP** single element detectors, **bases**, and single/multi-input/output modules are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Detector Base, Standard, Plug-in, 4 in., AP/CLIP, Type II 729-215-00

### Panel Application

This AP/CLIP standard base is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



**Mounting** 4 in. square junction box with 3 in. ring,  
3.5 in. octagonal junction box,  
50 mm, 60 mm, and 70 mm centers

**Color** White

**Standards Compliance:**

**UL Listed** UL268 File S911

**FM Approved** 3062622

**State of California** 7300-1653:0109

### Ordering Information

Part Number	Description
729-215-00	Intelligent Detector Standard Base, plug-in, 4 in. flangeless, AP/CLIP, white, Type II

### Associated Parts

Part Number	Description
729-226-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors
729-227-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors with infrared

### Description

This plug-in detector base is for use with intelligent systems. Screw terminals are provided for power (+) and (-), and for remote annunciator connections. Communication takes place over the SLC. Mechanical locking feature restricts removal of attached sensor head.

**NOTE** Type II detector bases are white; previous Type I detector bases are ivory.

### Specifications

**Protocol Capability** AP/CLIP

**Operating Voltage** 15 to 32 VDC (base and detector)

**Standby Current** 150  $\mu$ A maximum (base and detector)

**Input Wiring** 12 to 18 AWG

**Relative Humidity** 10% to 93% non-condensing

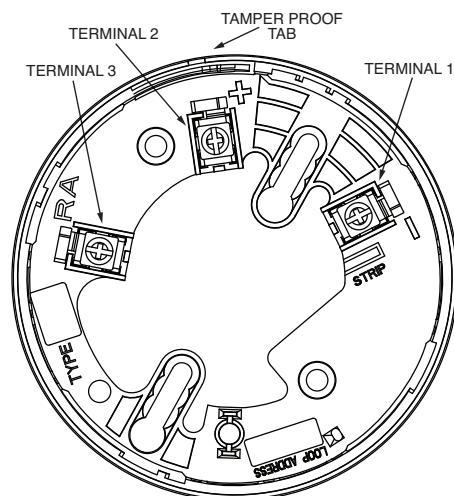
**Diameter** 4 in. (10.2 cm)

**Height (Without Sensor)** 0.74 in. (18.8 mm)

**Weight** 0.32 lb (145g)

### Diagrams

#### Terminal Layout



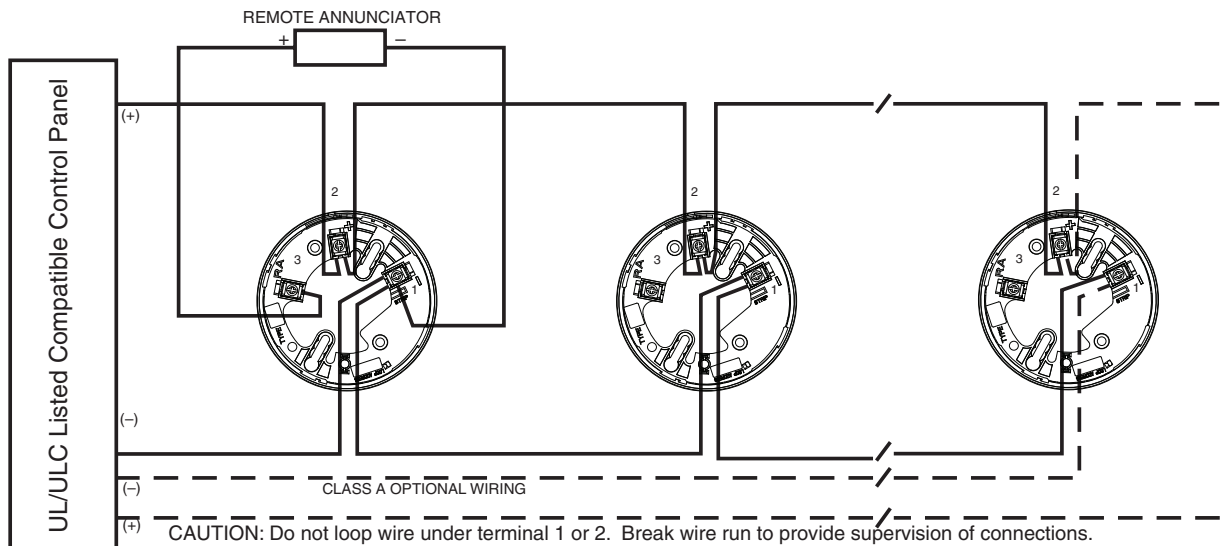
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-215-00 is a **Standard AP/CLIP Detector Base** that is compatible with Type I and Type II detectors. Also note that AP/CLIP Detector Bases are white and will not match the color of Type I detectors, which are ivory.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP**  
single element detectors, **bases**,  
and single/multi-input/output  
modules are compatible with  
any panel.  
  
The MAAP(+) is only compatible  
with single element and single  
input/output CLIP and  
AP/CLIP devices.

AP/CLIP  
multielement detectors are  
compatible with the MAAP-X.  
  
Multielement detectors will emit  
a single combined alarm output  
unless installed on a MAAP-X  
with a CORE III and an ADC II.

AP Only devices  
are only compatible with the  
ADC II on a MAAP-X  
with a CORE III.  
  
All CO and CO combination  
detectors are AP Only devices.

Legend	
● = Compatible	■ = Incompatible

Alarm Output	
Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Detector Base, Standard, Plug-in, 6 in., AP/CLIP, Type II

729-228-00

### Panel Application

This AP/CLIP sounder base is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



**Mounting** 4 in. square (with or without ring),  
3.5 in. or 4 in. octagonal, and single gang  
junction boxes

**Color** White

**Standards Compliance:**

**UL Listed** UL268 File S911

**FM Approved** 3062622

**State of California** 7300-1653:0109

### Ordering Information

Part Number	Description
729-228-00	Intelligent Detector Standard Base, plug-in, 6 in. flanged, AP/CLIP, white, Type II

### Associated Parts

Part Number	Description
729-226-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors
729-227-00	Cover/Trim Ring, ivory, for AP/CLIP white smoke detectors with infrared

### Description

This plug-in detector base is for use with intelligent systems. Screw terminals are provided for power (+) and (-) and for remote annunciator connections. Communication takes place over the SLC. Mechanical locking feature restricts removal of attached sensor head.

**NOTE** Type II detector bases are white; previous Type I detector bases are ivory.

### Specifications

**Protocol Capability** AP/CLIP

**Operating Voltage** 15 to 32 VDC (base and detector)

**Standby Current** 170  $\mu$ A maximum (base and detector)

**Input Wiring** 12 to 18 AWG

**Relative Humidity** 10% to 93% non-condensing

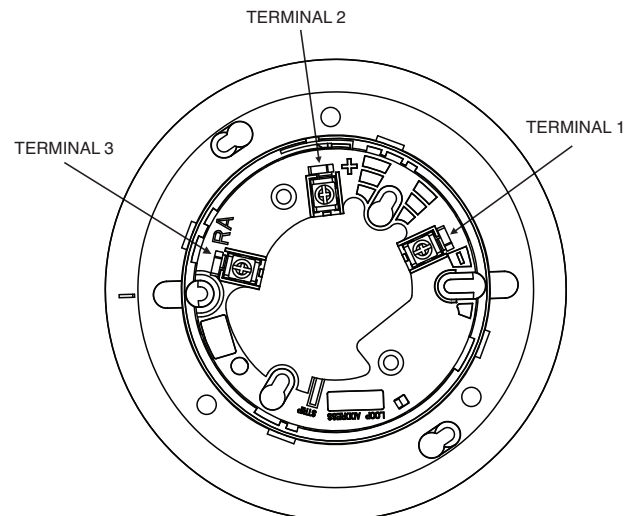
**Diameter** 6.1 in. (15.5 cm)

**Height (Without Sensor)** 0.76 in. (1.9 cm)

**Weight** 0.32 lb (0.145 kg)

### Diagrams

#### Terminal Layout



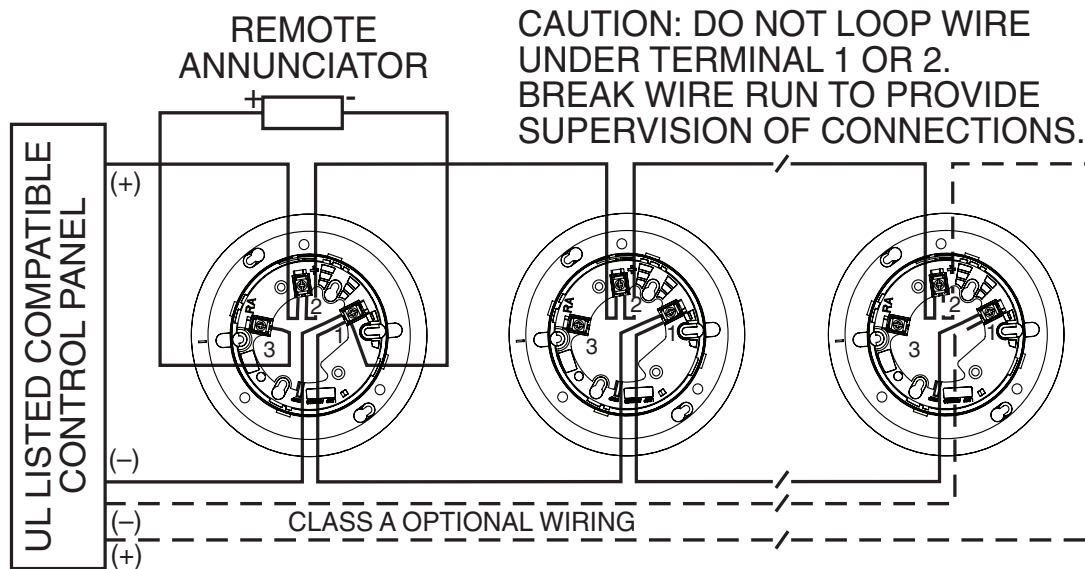
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-228-00 is a **Standard AP/CLIP Detector Base** that is compatible with Type I and Type II detectors.

Also note that AP/CLIP Detector Bases are white and will not match the color of Type I detectors, which are ivory.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	AP/CLIP Single/Multi-Input/Output Modules (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and **AP/CLIP**  
single element detectors, **bases**,  
and single/multi-input/output  
modules are compatible with  
any panel.  
  
 The MAAP(+) is only compatible  
with single element and single  
input/output CLIP and  
AP/CLIP devices.

AP/CLIP  
multielement detectors are  
compatible with the MAAP-X.  
  
 Multielement detectors will emit  
a single combined alarm output  
unless installed on a MAAP-X  
with a CORE III and an ADC II.

AP Only devices  
are only compatible with the  
ADC II on a MAAP-X  
with a CORE III.  
  
 All CO and CO combination  
detectors are AP Only devices.

Legend	
● = Compatible	■ = Incompatible

Alarm Output	
Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Detector Base, Standard, Plug-in, 4.1 in.

729-127-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



This plug-in detector base is for use with intelligent systems. Screw terminals are provided for power (+) and (-), and for remote annunciator connections. Communication takes place over the SLC. The base has a tamper-proof tab.

### Specifications

*Operating Voltage* 15 to 32 VDC

*Standby Current* 150  $\mu$ A

*Dimensions* Base Diameter: 4.1 in. (104.14 mm)  
Base Height: 0.74 in. (18.8 mm)

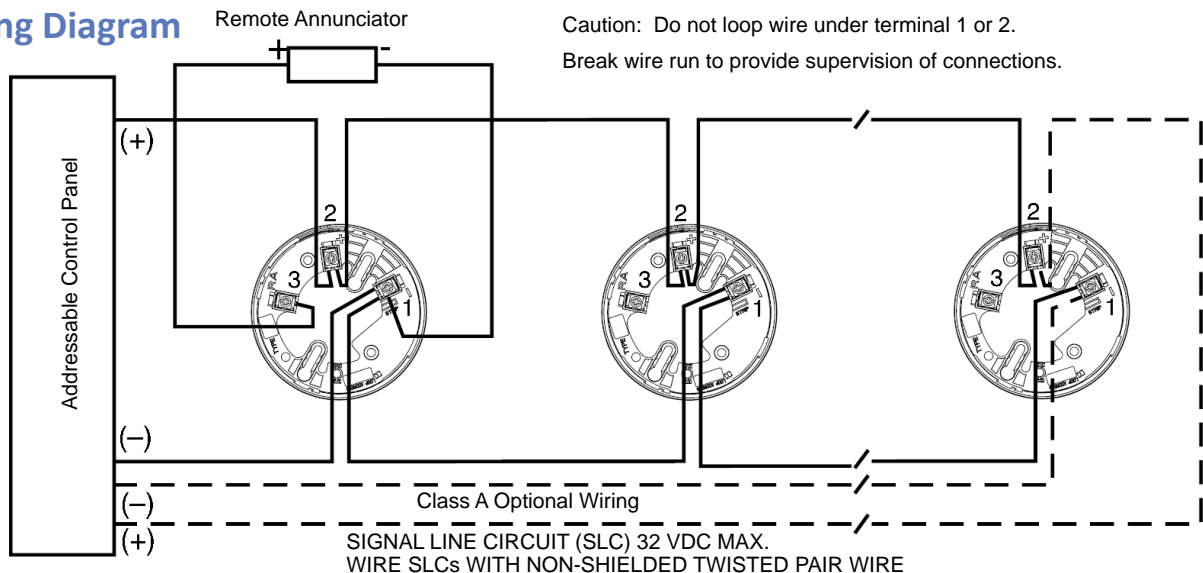
### Mounting

- 4 in. square with 3 in. plaster/mud ring
- 3.5 in. octagon
- 50, 60, or 70 mm

### Ordering Information

Part Number	Description
729-127-00	Intelligent detector standard mounting base, plug-in, 4.1 in. flangeless

### Wiring Diagram



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# Addressable Intelligent Devices and Modules

## Detector Base, Sounder, Plug-in, 6.875 in., CLIP, Type I 729-129-00, 729-129-01

### Panel Application

These CLIP sounder bases are compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

This base, intended for use in intelligent systems, is designed for new or existing dwelling units. Through flexibility in configuration and operation, it meets or exceeds UL268 and UL464.

UL has approved grouping for up to six 729-129-00/729-129-01 sounder bases maximum. When one in a group sounds, the rest sound also. Groups can be wired, but such a configuration is not supervised and must be used only as a supplementary evacuation system. Bases grouped by software are not so limited and may be part of primary alarm signaling.

The base can produce either the distinctive three-pulse temporal pattern (ANSI Temporal 3) fire alarm signal required by NFPA 72 for commercial and residential applications, or it can produce a continuous tone by removing the included jumper. The base requires an external 24 VDC power supply. The connections for the power supply and the communication loop are isolated to prevent electrical interaction between them.

**NOTE** Type I detector bases are ivory; replacement Type II detector bases are white.

### Specifications

#### 729-129-00

<i>Protocol Capability</i>	CLIP
<i>External Supply Voltage</i>	16 to 33 VDC (FWR)
<i>Standby Current</i>	1 mA maximum
<i>Alarm Current</i>	35 mA maximum
<i>SLC Operating Voltage</i>	15 to 32 VDC
<i>SLC Standby Current</i>	300 µA maximum
<i>Sound Output</i>	> 85 dBA minimum, Measured in a UL reverberant room at 10 ft., 24 VDC (continuous tone)
<i>Relative Humidity</i>	10% to 93%, non-condensing
<i>Base Diameter</i>	6.875 in. (17.46 cm)
<i>Base Height (Without Sensor)</i>	2.0 in. (5.08 cm)
<i>Weight</i>	0.5 lb (0.227 kg)
<i>Mounting</i>	4 in. square (with or without ring), 4 in. octagonal, 3.5 in. octagonal, single gang, and double gang junction boxes
<i>Color</i>	Ivory
<i>Standards Compliance:</i>	
<i>UL Listed</i>	UL268 and UL464, File S911
<i>FM Approval</i>	3035027
<i>State of California</i>	7135-1653:0213

#### 729-129-01

<i>Protocol Capability</i>	CLIP
<i>External Supply Voltage</i>	16 to 33 VDC (FWR)
<i>Standby Current</i>	1 mA maximum
<i>Alarm Current</i>	65 mA maximum at 33 VDC 90 mA maximum at 24 VDC
<i>SLC Operating Voltage</i>	15 to 32 VDC
<i>SLC Standby Current</i>	300 µA maximum
<i>Sound Output</i>	> 85 dBA minimum, Measured in a UL reverberant room at 10 ft., 24 VDC (continuous tone)
<i>Relative Humidity</i>	10% to 93%, non-condensing
<i>Base Diameter</i>	6.875 in. (17.46 cm)
<i>Base Height (Without Sensor)</i>	2.0 in. (5.08 cm)



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# Addressable Intelligent Devices and Modules

**Weight** 0.6 lb (0.272 kg)

**Mounting** 4 in. square (with or without ring),  
4 in. octagonal, 3.5 in. octagonal,  
single gang, and double gang  
junction boxes

**Color** Ivory

**Standards Compliance:**

**UL Listed** UL268 and UL464, File S911

**FM Approved** 3035027

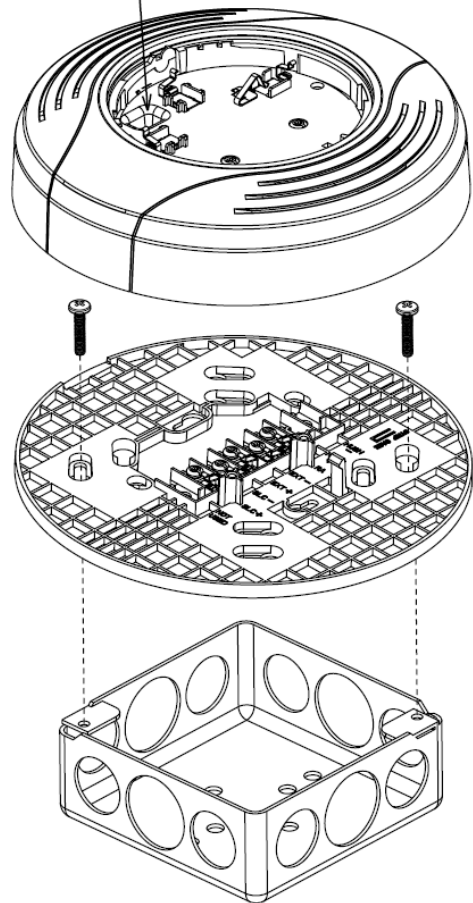
**State of California** 7300-1653:0238

## Diagrams

### Mounting

The mounting plate allows connection pre-wiring.  
The housing locks with the plate using two retaining  
screws for added tamper resistance.

Jumper for  
Continuous  
Tone



## Ordering Information

Part Number	Description
<b>729-129-00</b>	Intelligent Detector Sounder Mounting Base, plug-in, 6.875 in., CLIP, ivory, Type I
<b>729-129-01</b>	Intelligent Detector Sounder Mounting Base, plug-in, 6.875 in., low frequency, 520 Hz, CLIP, ivory, Type I

## Associated Parts

Part Number	Description
<b>729-218-00</b>	Intelligent Mini-Monitor Module, AP/CLIP, white, Type II
<b>790-013-01</b>	End-of-line Power Supervision Relay Module, non-polarized, 9–40 VDC, with built-in 47 kilohm EOL resistor or a set of N.C. dry contacts



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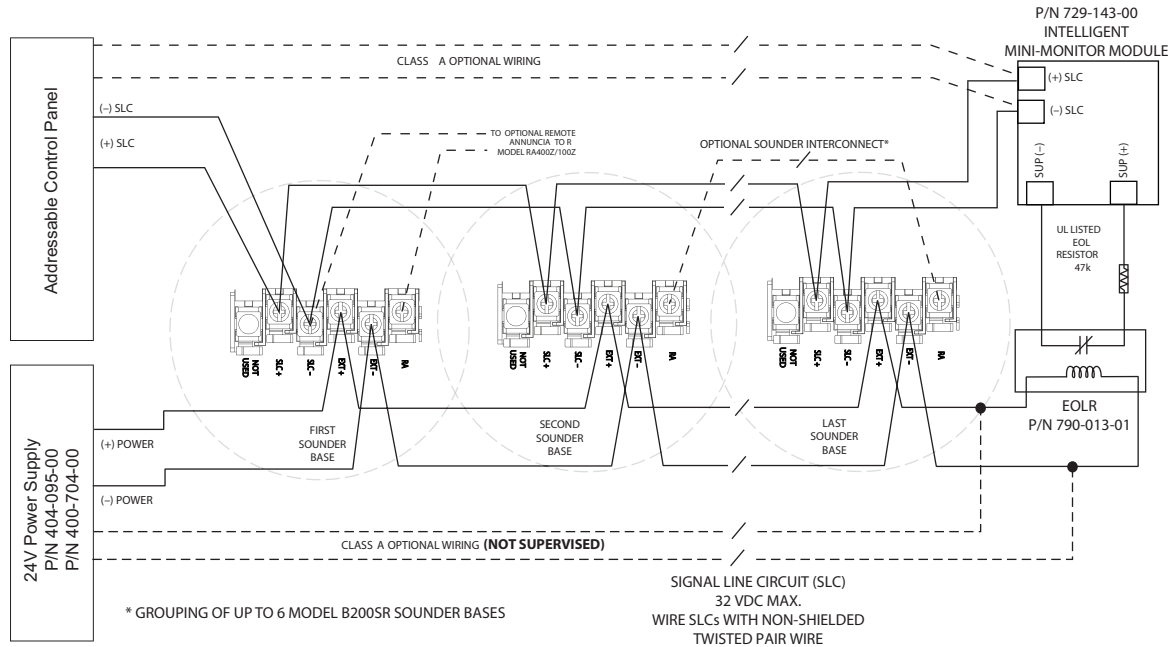
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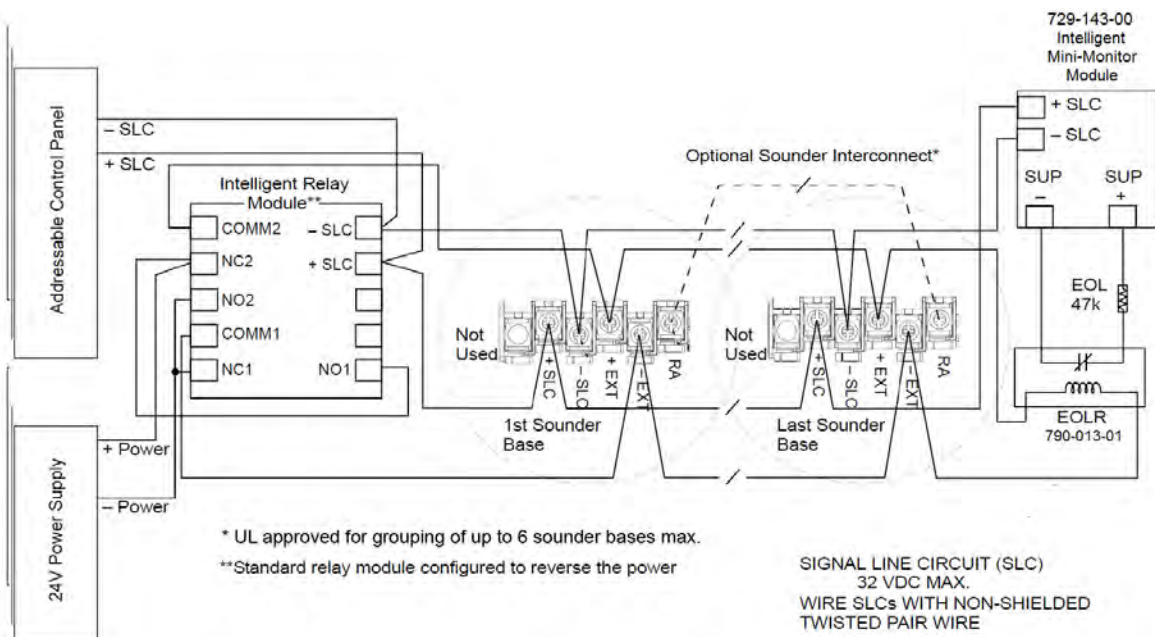
# Addressable Intelligent Devices and Modules

## Wiring Diagrams

### Detector Activates Sounder Base(s)

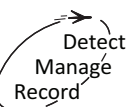


### Detector Activates Sounder Base(s); Intelligent Relay Module Activates All Sounder Bases



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# Addressable Intelligent Devices and Modules

## Detector Base, Standard, Plug-in, 6.1 in.

729-132-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



This plug-in detector base is intended for intelligent systems. Screw terminals connect power (+ and -) and optional remote annunciation. Communication takes place over the power lines. User can activate a tamper-resist feature.

### Specifications

*Operating Voltage* 15 to 32 VDC

*Standby Current* 170  $\mu$ A

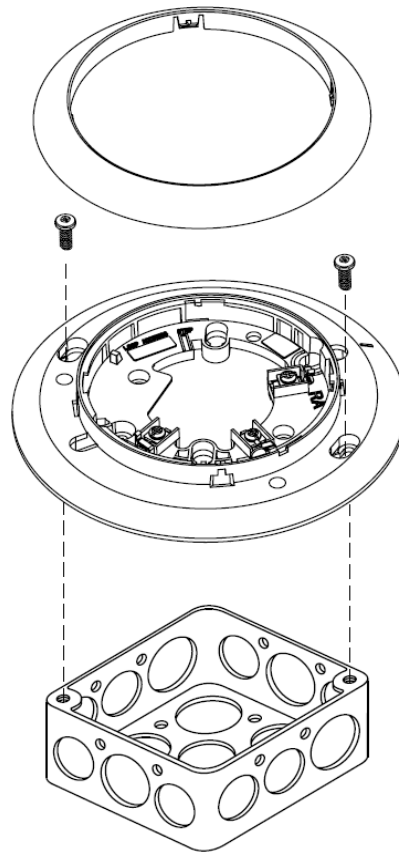
*Wire Gauge* Detector: 18 AWG min. recommended  
Base: 12 AWG max.

*Base Diameter* 6.1 in. (154.94 mm)

*Base Height* 0.76 in. (19 mm)

### Mounting

This detector base mounts directly to 4 in. square (with or without plaster rings), 4 in. octagon, 3.5 in. octagon, 70 mm, and single gang junction boxes.



### Ordering Information

Part Number	Description
729-132-00	Intelligent detector mounting base, plug-in, 6.1 in. flanged



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# Addressable Intelligent Devices and Modules

## Detector Base, Isolator, Plug-in 6.875 in.

729-133-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



Isolator bases prevent an entire Signaling Line Circuit (SLC) from being disabled when a short circuit occurs. They do this by isolating the shorted portion of the SLC from the remainder of the SLC. These bases automatically restore the entire SLC when the short is corrected. Up to 25 addressable detectors may be installed between isolator bases. The user can activate a tamper-resist feature.

### Specifications

*Voltage Range (SLC)* 15 to 32 VDC

*Standby Current* 170/450  $\mu$ A max.

*Isolation Current* 15 mA max.

*Wire Gauge* SLC: 18 AWG min. (recommended)  
Base: 12 AWG max.

*Temperature Range* 32 to 151°F (0 to 66°C)

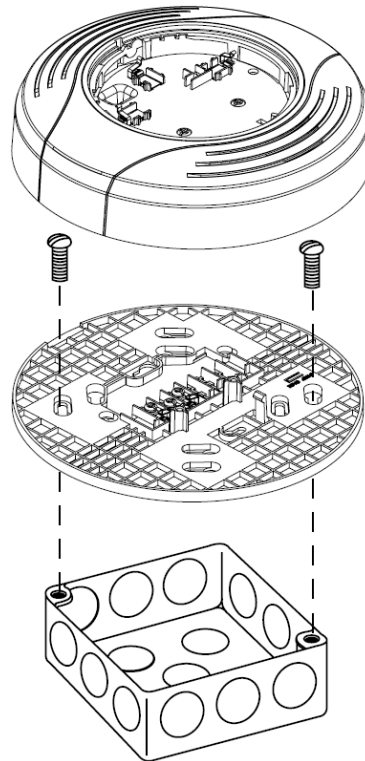
*Relative Humidity* 10% 93% non-condensing

*Base Diameter* 6.875 in. (17.462 cm)

*Base Height* 1.61 in. (4.1 cm)

### Mounting

The mounting plate mounts directly to 4 in. square (with or without plaster ring), 4 in. octagon, 3.5 in. octagon, single gang, and double gang junction boxes.



### Ordering Information

Part Number	Description
729-133-00	Intelligent detector isolator mounting base, plug-in, 6.875 in.



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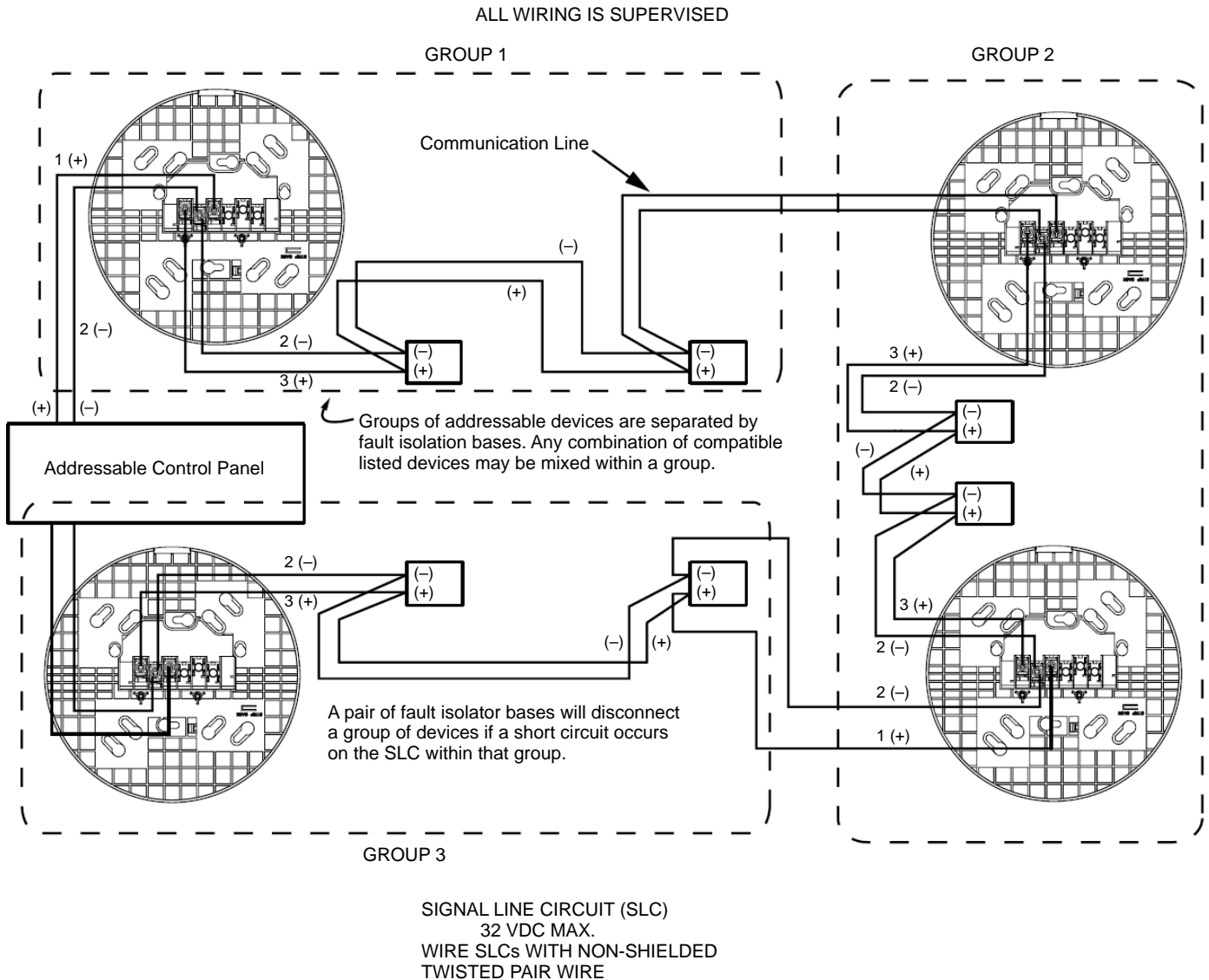
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



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# Addressable Intelligent Devices and Modules

## Detector Base, Relay, Plug-in, 6.875 in.

729-134-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



Addressable detectors are installed on detector relay bases that are activated by the detector's LED. When the LED has been on for the settable time, the relay activates. This relay can be used to control a variety of devices, such as a fire-door release or elevator recall. Short- or long-delay activation modes are available, determined by shunt position.

### Specifications

**Operating Voltage** 15 to 32 VDC

**Standby Current** 170/450  $\mu$ A max.

**Relay Characteristics** Coil: 2-coil latching  
Contact Type: 1 Form C contact relay  
Resistive: 2A, 30 VDC  
UL/ULC Rating:  
0.5A, 125 VAC  
0.9A, 125 VDC (0.35 pF or greater)  
3A, 30 VDC  
Set Time:  
• Position 1: 60 ms minimum, 100 ms maximum  
• Position 2: 6 seconds minimum, 10 seconds maximum  
• Reset Time: 20 ms

**Wire Gauge** 12 to 24 AWG (18 recommended)

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

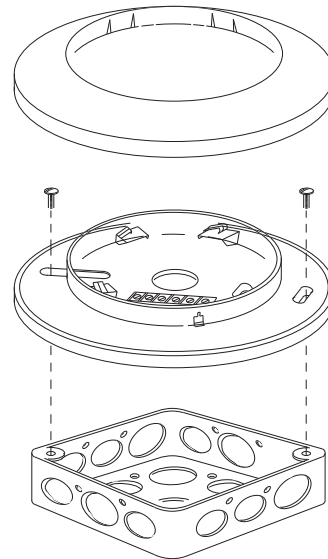
**Mounting** Minimum depth of 1.5 in. (38 mm) for these mountings:

- 4 in. sq. box with/without plaster ring
- 4 in. octagon box
- 3.5 in. octagon box

**Diameter** 6.875 in. (17.462 cm)

**Height** 1.61 in. (4.1 cm)

### Mounting



### Ordering Information

Part Number	Description
729-134-00	Intelligent detector relay mounting base, plug-in, 6.875 in.



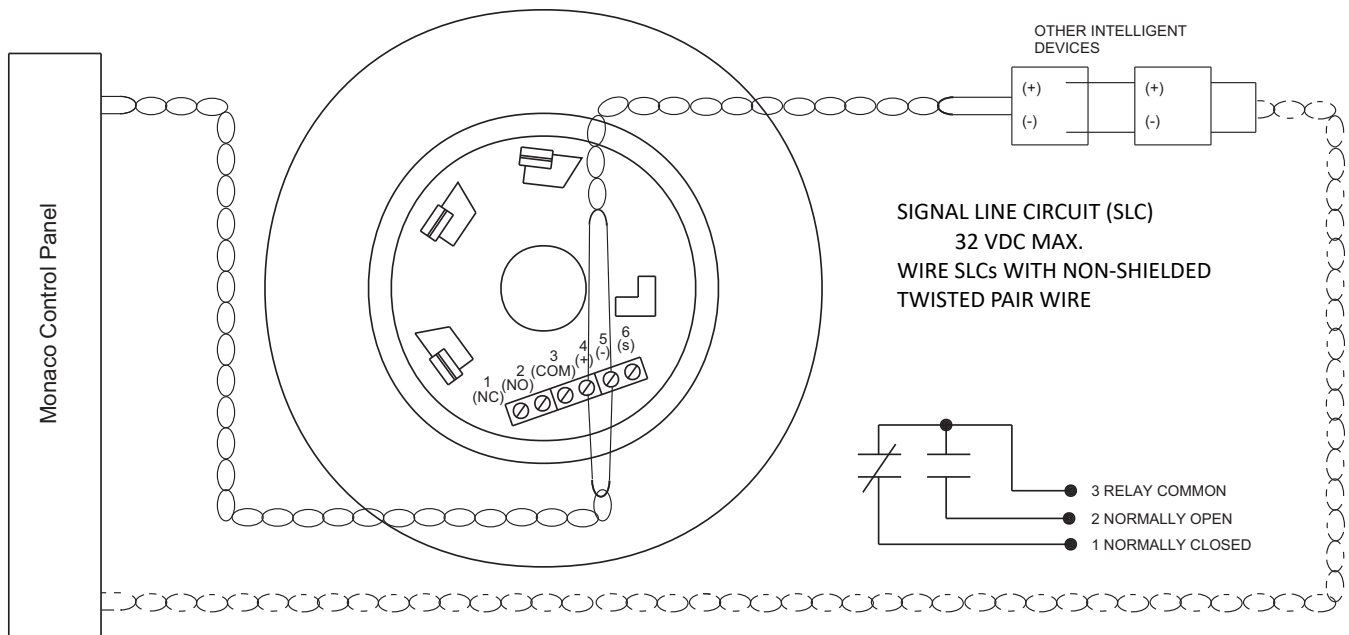
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



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## Modules

# Addressable Intelligent Devices and Modules Catalog Section 09

### Modules

Module, Monitor, AP/CLIP, Type II . . . . .	729-217-00
Module, Mini-Monitor, AP/CLIP, Type II . . . . .	729-218-00
Module, Zone Interface, AP/CLIP, Type II . . . . .	729-219-00
Module, Supervised NAC Control, AP/CLIP, Type II . . . . .	729-225-00
Module, Relay Control, AP/CLIP, Type II . . . . .	729-221-00
Module, Ten Input Monitor, AP/CLIP, Type II . . . . .	729-223-00
Module, Six Relay Control, AP/CLIP, Type II . . . . .	729-224-00
Module, Dual Input Monitor, AP/CLIP, Type II . . . . .	729-220-00
Module, Fault Isolator . . . . .	729-140-00
Module, Monitor . . . . .	729-142-00
Module, Mini-Monitor . . . . .	729-143-00
Module, Zone Interface . . . . .	729-144-00
Module, Supervised NAC Control . . . . .	729-158-00
Module, Relay Control . . . . .	729-159-00
Module, Ten-input Monitor . . . . .	729-162-00
Module, Six-zone Interface . . . . .	729-164-00
Module, Six-Relay Control . . . . .	729-165-00
Module, Dual-Input Monitor . . . . .	729-182-00
Module, Six Fault Isolator . . . . .	729-208-00

[Click to go back to "Table of Contents - Index by Product Name"](#)



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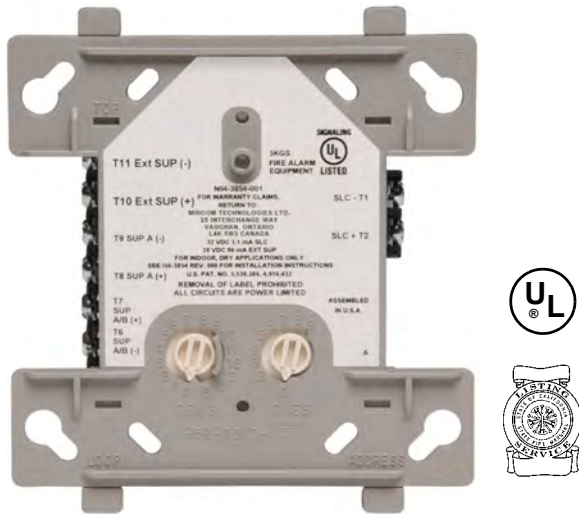
# Addressable Intelligent Devices and Modules

## Module, Monitor, AP/CLIP, Type II

729-217-00

### Panel Application

This AP/CLIP single input module is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

The Monaco Monitor Module is an interface to non-loop-powered contact devices such as waterflow switches, pull stations, and valve tampers. It is capable of Class A and B supervised wiring to the load device. Conventional 4-wire (auxiliary power source) smoke detectors can be monitored through their alarm and trouble contacts, wired as an IDC to the module.

The supervised state of the monitored device (normal, short, or open) is transmitted back to the addressable control panel along with the full analog supervision measurement. This allows detection of impedance changes in the supervised loop. All status changes are annunciated at the addressable control panel.

### Features

- Full supervision of a connected initiating device circuit (IDC); 4-wire is fault tolerant
- LED controlled by the addressable control panel
- Low standby current
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum

**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)

- Stable communications with noise immunity

### Specifications

Protocol Capability AP/CLIP

Operating Voltage 15 to 32 VDC

Standby Current 400  $\mu$ A, one communication every five seconds (47k EOL)

Alarm Current 5 mA maximum (LED on)

EOL Resistance 47 kohms

IDC Resistance 40 ohms maximum

Operating Temperature 32°F to 120°F (0°C to 49°C)

Relative Humidity 10% to 93% non-condensing

Dimensions 4.5 in. W  $\times$  4.0 in. H  $\times$  1.25 in. D  
(11.43 cm  $\times$  10.16 cm  $\times$  3.175 cm)

Mounting 4 in. square  $\times$  2.125 in. deep junction box

Color White

Standards Compliance:

UL Listed File S3705

State of California 7300-1653:0520

### Ordering Information

Part Number	Description
729-217-00	Intelligent Monitor Module, AP/CLIP, white, Type II



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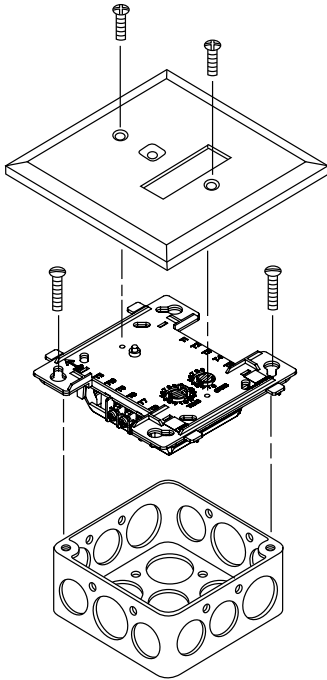
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# Addressable Intelligent Devices and Modules

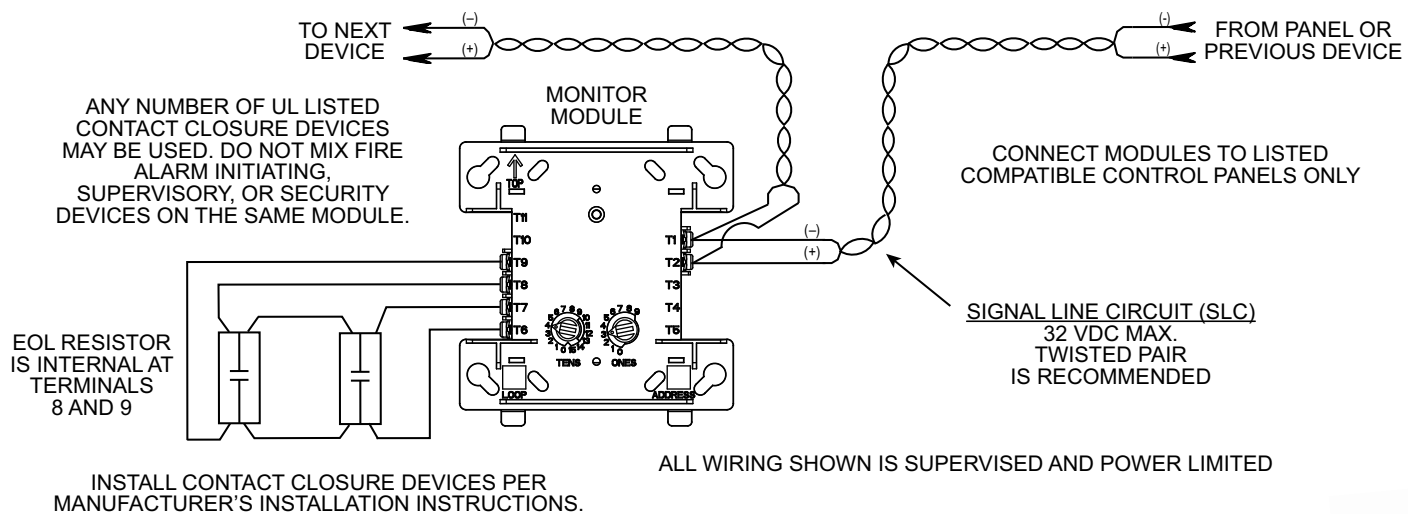
## Diagrams

### Mounting



## Wiring Diagrams

### Typical Class A 4-Wire Fault Tolerant IDC



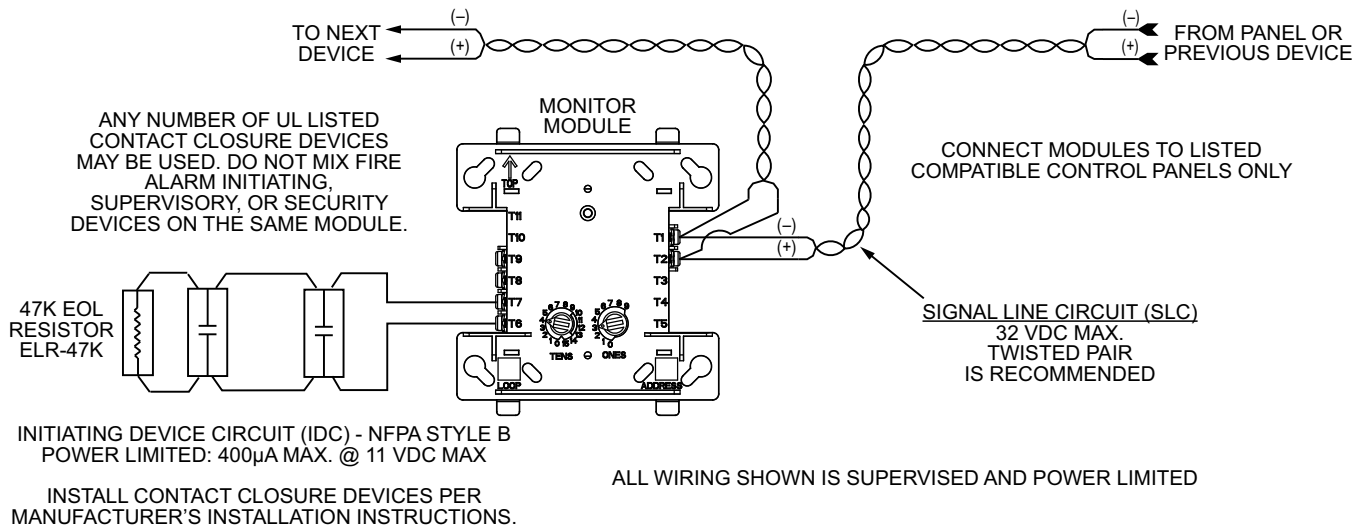
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# Addressable Intelligent Devices and Modules

## Typical Class B 2-Wire IDC



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-217-00 is an *AP/CLIP Single Input Module*.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	<b>AP/CLIP Single/Multi-Input/Output Modules</b> (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

→

CLIP and AP/CLIP single element detectors, bases, and **single/multi-input/output modules** are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X. Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

Legend	
● = Compatible	■ = Incompatible

Alarm Output	
Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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# Addressable Intelligent Devices and Modules

## Module, Mini-Monitor, AP/CLIP, Type II

729-218-00

### Panel Application

This AP/CLIP single input module is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

The Monaco Mini-Monitor Module interfaces to conventional non-loop-powered devices, such as waterflow switches, pull stations, and valve tamper switches. It is capable of Class B supervised wiring to the load device.

The device provides a two wire initiating circuit for normally open contact fire alarm and security devices

### Features

- Full supervision of input circuit
- Monitors dry-contact closure for a single device
- Low standby current
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (*valid programming addresses 1–99*)
- Stable communications with noise immunity

### Specifications

<i>Protocol Capability</i>	AP/CLIP
<i>Operating Voltage</i>	15 to 32 VDC
<i>Standby Current</i>	400 $\mu$ A maximum at 24 VDC, one communication every five seconds (47k EOL)
<i>EOL Resistance</i>	47 kohms
<i>IDC Resistance</i>	40 ohms maximum
<i>IDC Voltage</i>	11 volts maximum
<i>IDC Current</i>	400 $\mu$ A maximum
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions</i>	1.3 in. H x 2.75 in. W x 0.65 in. D (3.3 cm x 6.985 cm x 1.651 cm)
<i>Mounting</i>	4 in. square junction box
<i>Color</i>	White
<i>Standards Compliance:</i>	
<i>UL Listed</i>	File S3705
<i>State of California</i>	7300-1653:0520

### Ordering Information

Part Number	Description
729-218-00	Intelligent Mini-Monitor Module, AP/CLIP, white, Type II



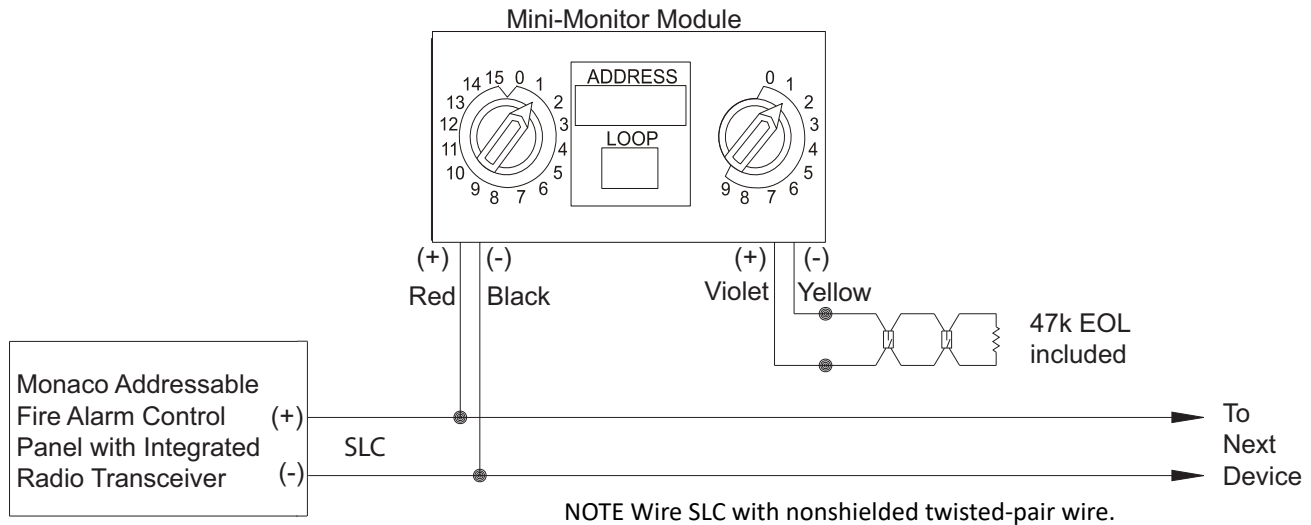
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-218-00 is an **AP/CLIP Single Input Module**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	<b>AP/CLIP Single/Multi-Input/Output Modules</b> (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and AP/CLIP single element detectors, bases, and **single/multi-input/output modules** are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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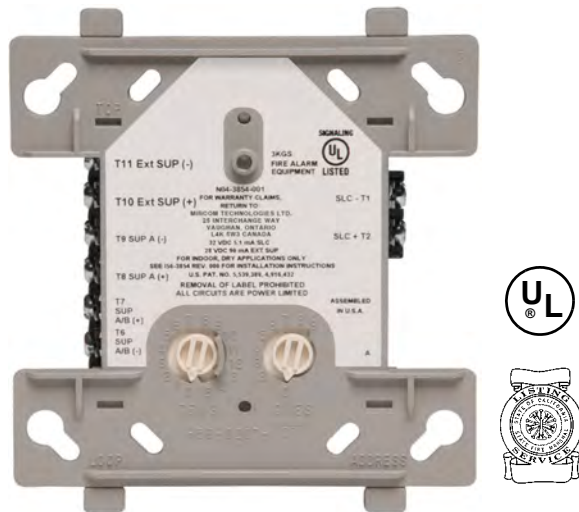
# Addressable Intelligent Devices and Modules

## Module, Zone Interface, AP/CLIP, Type II

729-219-00

### Panel Application

This AP/CLIP single input module is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

The Monaco Interface Module allows the addressable control panel to interface and monitor compatible two-wire, 24V smoke detectors. Power to the interface module must be externally switched to reset loop-powered detectors on a panel reset. An addressable relay module with an action assignment of smoke power can be used to switch power from an auxiliary power supply to the interface module.

Rotary decade dials set the address at each module. When the module is interrogated, it transmits the status of one zone of two-wire detectors to the addressable control panel. Status conditions are reported as normal, open, or alarm. The interface module supervises the zone of detectors and the connection of the required external power supply. A status LED is provided and is controlled by the addressable control panel.

### Features

- Full supervision of the Initiating Device Circuit (IDC)
- Interface with 2-wire (loop-powered) conventional smoke detectors
- Visible LED controlled by the addressable control panel to be off, blinking, or latched ("solid") on
- Low standby current
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum

**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)

- Stable communications with noise immunity

### Specifications

**Protocol Capability** AP/CLIP

**Operating Voltage** 15 to 32 VDC

**Standby Current** 400  $\mu$ A, one communication and one LED flash every five seconds (3.9k EOL)

**Alarm Current** 5.1 mA maximum (LED on)

**EOL Resistance** 3.9 kohms

**IDC Resistance** 25 ohms maximum

**IDC Supply Voltage** Regulated VDC: 24 VDC  
(Between Terminals T3 & T4) Ripple Voltage: 0.1 Vrms maximum

**Current** 90 mA per module

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Dimensions** 4.5 in. H x 4.0 in. W x 1.25 in. D  
(11.43 cm x 10.16 cm x 3.175 cm)

**Mounting** 4 in. square x 2.125 in. deep junction box

**Color** White

**Standards Compliance:**

**UL Listed** File S3705

**State of California** 7300-1477:0167



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# Addressable Intelligent Devices and Modules

## Ordering Information

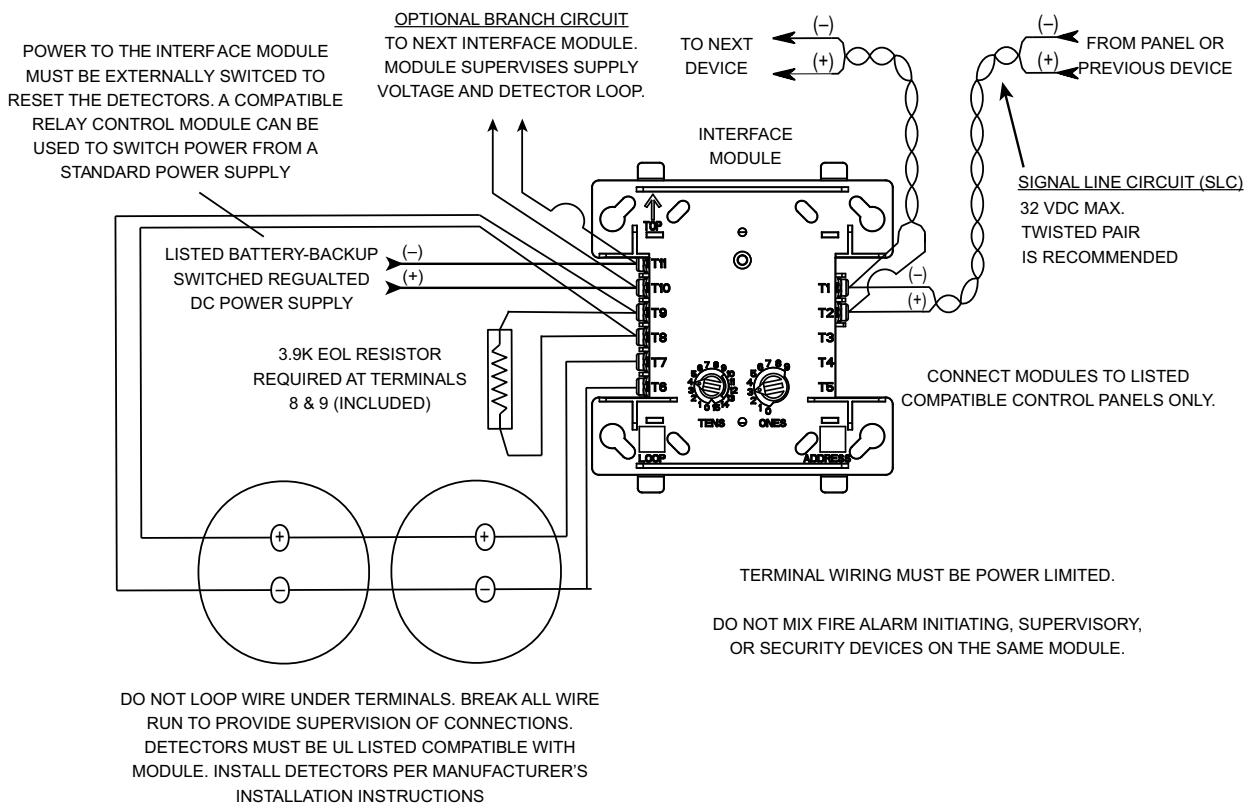
Part Number	Description
729-219-00	Intelligent Zone Interface Module, AP/CLIP, white, Type II

## Associated Parts

Part Number	Description
729-221-00	Intelligent Relay Control Module, 2 Form C contacts, AP/CLIP, white, Type II

## Wiring Diagrams

### Typical Class A IDC



**NOTE: ANY FAULT IN THE POWER SUPPLY IS LIMITED TO THAT ZONE AND DOES NOT RESULT IN A FAULT IN A SEPARATE ZONE.**



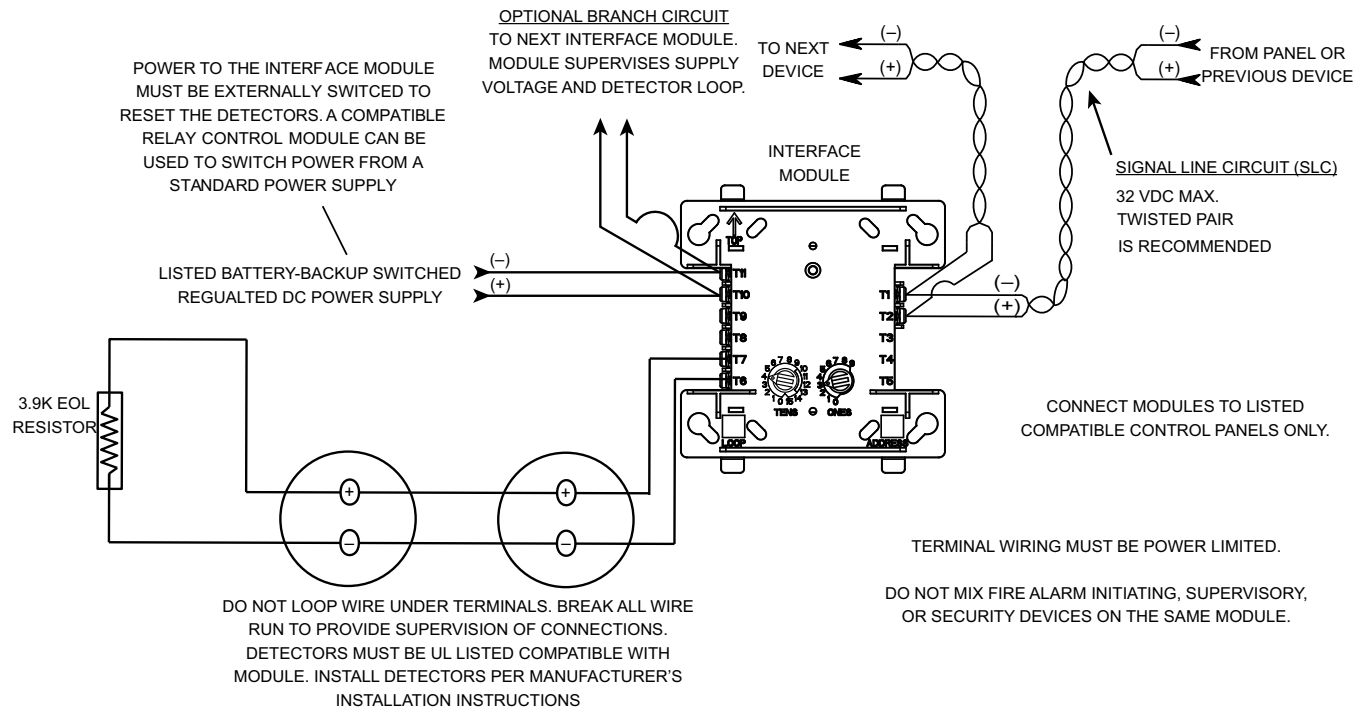
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# Addressable Intelligent Devices and Modules

## Typical Class B IDC



**NOTE: ANY FAULT IN THE POWER SUPPLY IS LIMITED TO THAT ZONE AND DOES NOT RESULT IN A FAULT IN A SEPARATE ZONE.**

## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-219-00 is an **AP/CLIP Single Input Module**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	<b>AP/CLIP Single/Multi-Input/Output Modules</b> (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

CLIP and AP/CLIP single element detectors, bases, and **single/multi-input/output modules** are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X. Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III. All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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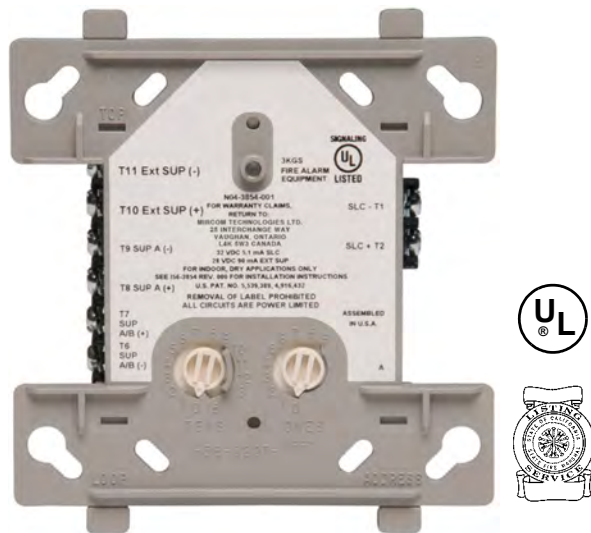
# Addressable Intelligent Devices and Modules

## Module, Supervised NAC Control, AP/CLIP, Type II

729-225-00

### Panel Application

This AP/CLIP single output module is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

The Monaco supervised Notification Appliance Circuit (NAC) control module is used to switch an external power supply, which can be a DC power supply or an audio amplifier (up to 80 Vrms) to notification appliances. It also supervises the wiring to the connected loads and reports their status to the panel as NORMAL, OPEN, or SHORT CIRCUIT. The control module has two pairs of output termination points available for fault-tolerance wiring and an LED indicator that is controlled at the panel.

**NOTE** The module requires an auxiliary power source and an end-of-line power supervisory relay module per 24 VDC branch. The power source should be an isolated, regulated, 24 VDC power supply, which is listed for fire protection with battery backup and is power limited per NFPA 70.

### Features

- Capable of Class A and Class B supervision of Notification Appliance Circuits (NACs)—horns, bells, strobes, and other notification appliances
- Low standby current
- Visible LED controlled by addressable control panel to be off, blinking, or latched ("solid") on
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum

**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)

- Stable communications technique with noise immunity

### Specifications

Protocol Capability	AP/CLIP
Operating Voltage	15 to 32 VDC
Standby Current	400 $\mu$ A maximum, one communication every five seconds (47k EOL resistor, 485 $\mu$ A maximum)
Alarm Current	6.5 mA maximum (LED on)
NAC Line Loss	4 VDC maximum
External Supply Voltage (Between Terminals T3 & T4)	NAC: Regulated 24 VDC maximum Speakers: 70.07 Vrms, 50 W maximum
Maximum NAC Current Rating	Class A: 2A Class B: 3A
Operating Temperature	32°F to 120°F (0°C to 49°C)
Relative Humidity	10% to 93% non-condensing
Dimensions	4.5 in. H x 4.0 in. W x 1.25 in. D (11.43 cm x 10.16 cm x 3.175 cm)
Mounting	4 in. square x 2.125 in. deep junction box
Color	White
Standards Compliance:	
UL Listed	UL864, File S3705
State of California	7300-1653:0520



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# Addressable Intelligent Devices and Modules

## Ordering Information

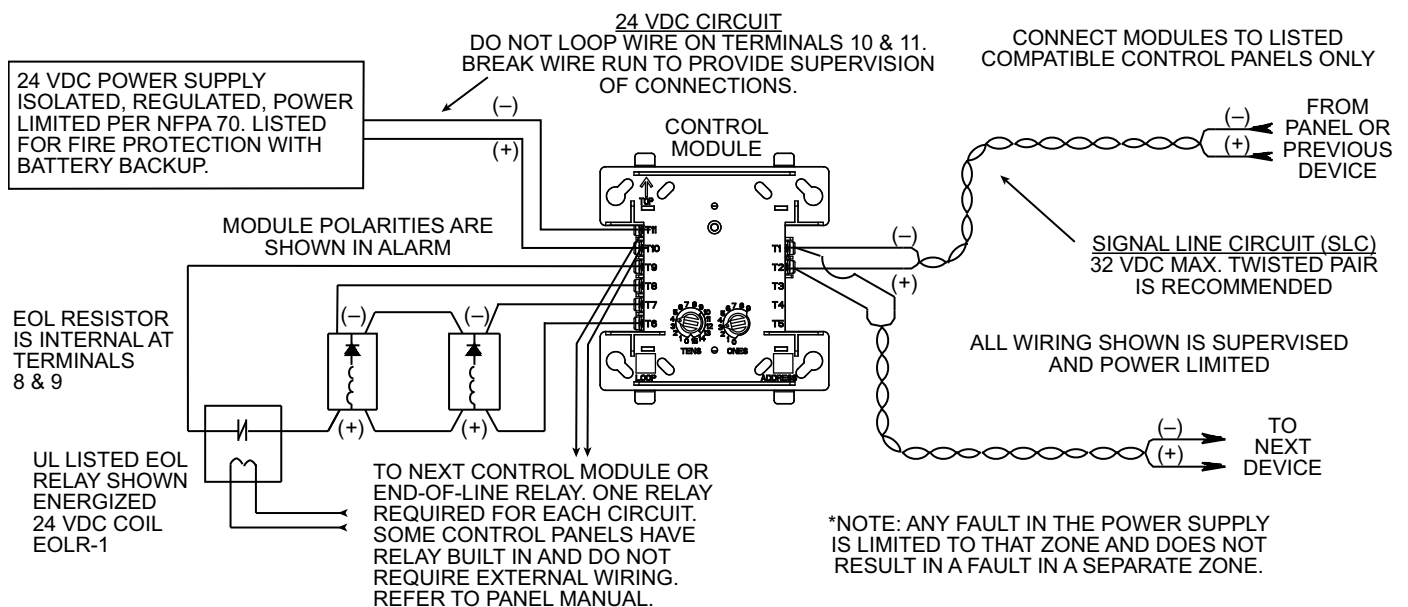
Part Number	Description
729-225-00	Intelligent Supervised NAC Control Module, AP/CLIP, white, Type II

## Associated Parts

Part Number	Description
790-012-00	End-of-line Power Supervision Relay Module, 9–40 VDC

## Wiring Diagrams

### Typical Class A NAC Configuration



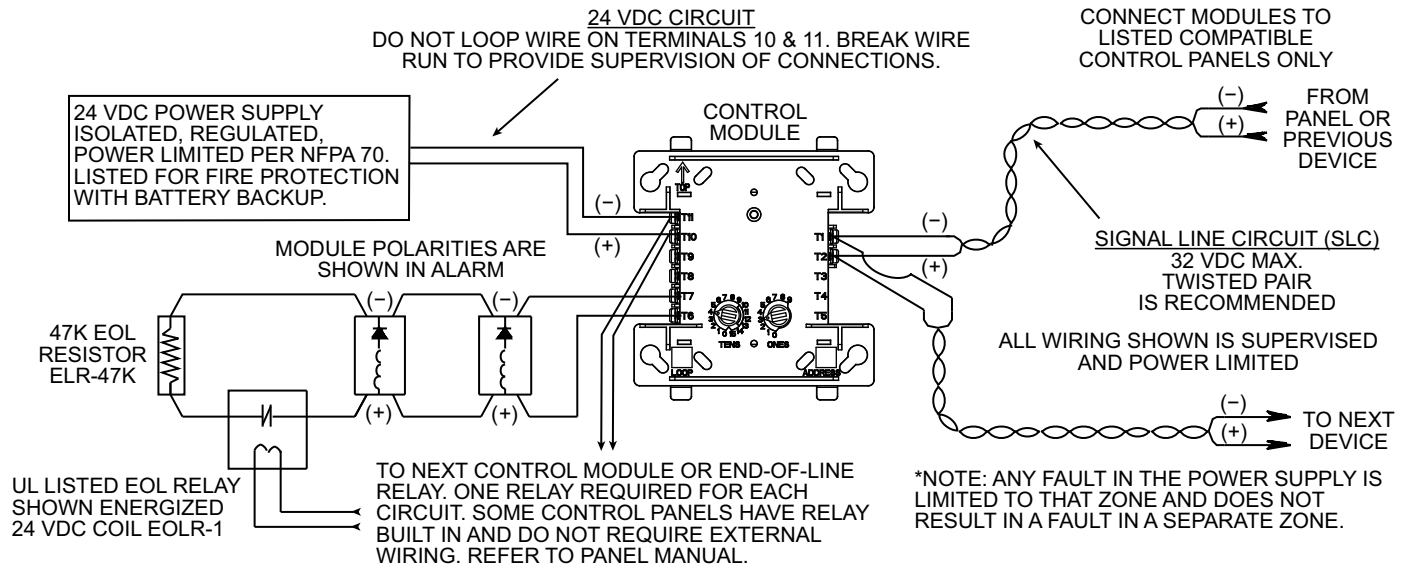
**Monaco Enterprises, Inc.**

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# Addressable Intelligent Devices and Modules

## Typical Class B Fault Tolerant NAC



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-225-00 is an **AP/CLIP Single Output Module**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	<b>AP/CLIP Single/Multi-Input/Output Modules</b> (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

→

CLIP and AP/CLIP single element detectors, bases, and **single/multi-input/output modules** are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

Legend	
● = Compatible	■ = Incompatible

Alarm Output	
Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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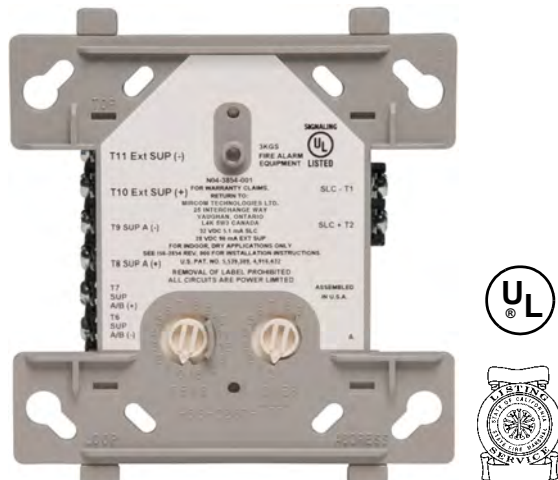
# Addressable Intelligent Devices and Modules

## Module, Relay Control, AP/CLIP, Type II

729-221-00

### Panel Application

This AP/CLIP single output module is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

This relay control module has two isolated sets of Form C contacts, which operate as a DPDT switch. The module allows the control panel to switch contacts on command. The module does not supervise the circuit connections to the relay contacts.

Relay P/N 451-700-01 is a dry contact input style relay used to interface the relay control module with systems that are beyond the voltage or current rating of the relay control module. The dry contact relay derives its power from the device it is controlling. The control input is a dry contact, and the wiring is Class II power limited.

### Features

- Two isolated sets of Form C contacts
- Latching output drive circuit controlled by the addressable control panel
- Visible LED controlled by addressable control panel to be off, blinking, or latched ("solid") on
- Low standby current

- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum  
**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)
- Stable communications technique with noise immunity

### Specifications

Protocol Capability AP/CLIP

Operating Voltage 15 to 32 VDC

Standby Current 300  $\mu$ A, one communication every 5 seconds

Alarm Current 6.5 mA maximum (LED on)

Relay Contact Ratings 0.5A: 125 VAC maximum;  
0.9A: 125 VAC maximum;  
3.0A: 30 VDC maximum

Temperature Range 32°F to 120°F (0°C to 49°C)

Relative Humidity 10% to 93% non-condensing

Dimensions 4.5 in. H x 4 in. W x 1.25 in. D  
(11.43 cm x 10.16 cm x 3.175 cm)

Mounting 4 in. square x 2.125 in. deep junction box

Color White

Standards Compliance:

UL Listed UL864, File S3705

State of California 7300-1653:0520

### Ordering Information

Part Number	Description
729-221-00	Intelligent Relay Control Module, two Form C contacts, AP/CLIP, white, Type II

### Associated Parts

Part Number	Description
451-700-01	SPDT Relay, 120–277 VAC, 10A contacts, LED, red enclosure

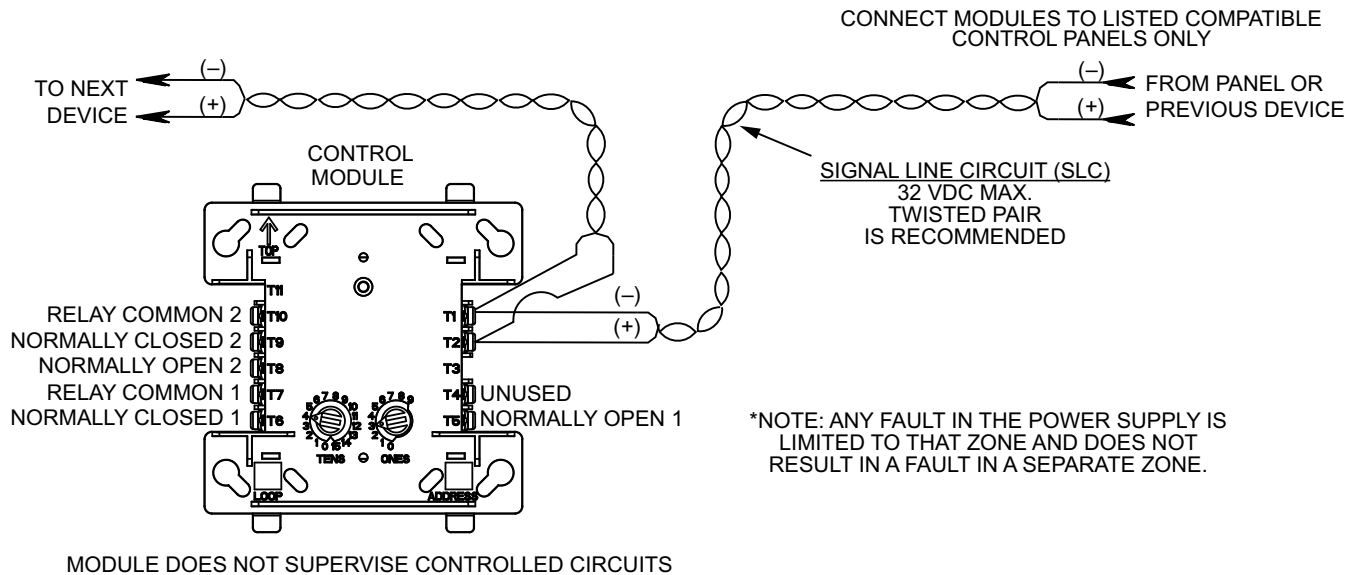


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# Addressable Intelligent Devices and Modules

## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-221-00 is an **AP/CLIP Single Output Module**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	<b>AP/CLIP Single/Multi-Input/Output Modules</b> (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

→

CLIP and AP/CLIP single element detectors, bases, and **single/multi-input/output modules** are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

Legend	
● = Compatible	■ = Incompatible

Alarm Output	
Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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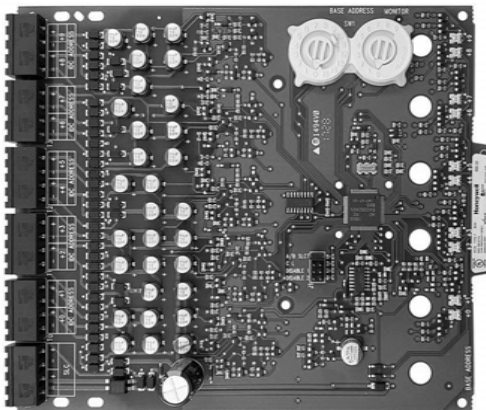
# Addressable Intelligent Devices and Modules

## Module, Ten Input Monitor, AP/CLIP, Type II

729-223-00

### Panel Application

This AP/CLIP multi-input module is compatible with the following Monaco FACP SLCs: MAAP-X with a CORE II processor and MAAP-X with a CORE III processor.



Addressable  
Ten Input  
Monitor  
Module



### Description

This monitor module interfaces to non-loop-powered contact devices such as water-flow switches, pull stations, and valve tampers. It is capable of Class A and Class B supervised wiring to the load device. Conventional 4-wire (auxiliary power source) smoke detectors can be monitored through their alarm contacts, wired as an IDC to the module.

The supervised state of the monitored device (Normal, Short, or Open) is transmitted back to the panel along with the full analog supervision measurement. This allows detection of impedance changes in the supervised loop.

A shunt sets operation class—installed for Class B, removed for Class A. In Class B operation, setting one address causes the module to automatically assign the next sequential nine. However, in Class A, terminals are paired. Addresses go to the pair, with every other address automatically assigned—if the first address set on the rotary switch is 28, the next automatic address is 30 and then 32, 34, and 36. Addresses 29, 31, 33, 35, and 37 can be set on another module PCB or on addressable devices on the SLC. A maximum of one Class A or two Class B inputs can be disabled.

### Features

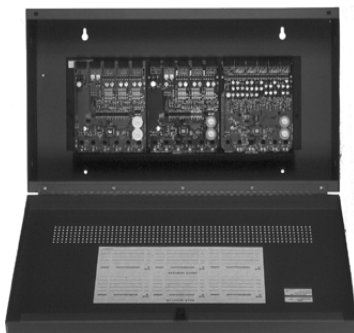
- Replaces ten Class B/five Class A monitor modules
- Class A or B determined by supplied shunt
- A pair of rotary dials set the address of the first input; the remaining nine inputs set automatically to the next nine higher addresses (see "Description" for more information)
- Each input LED is controlled by the addressable control panel as off, blinking, or latched ("solid") on
- Each Initiating Device Circuit (IDC) input is fully supervised
- Rotary dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum

**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)

Two Module Cabinet



Six Module Cabinet



**Monaco Enterprises, Inc.**

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# Addressable Intelligent Devices and Modules

## Specifications

<i>Protocol</i>	AP/CLIP
<i>Operating Voltage</i>	15 to 32 VDC
<i>Standby Current</i>	3.5 mA
<i>Alarm Current</i>	55 mA (with all 10 LEDs "solid" on)
<i>IDC Resistance</i>	1,500 ohms maximum
<i>IDC Voltage</i>	10.2 VDC maximum
<i>IDC Current</i>	240 $\mu$ A maximum
<i>Input Wiring</i>	12 to 18 AWG
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions</i>	6.8 in. H $\times$ 5.8 in. W $\times$ 1.25 in. D (17.27 cm $\times$ 14.73 cm $\times$ 3.175 cm)
<i>Mounting</i>	Up to two modules in P/N 729-160-00, Up to six modules in P/N 729-161-00

### Standards Compliance:

*UL Listed* S3705

*State of California* 7300-1477:0166

## Ordering Information

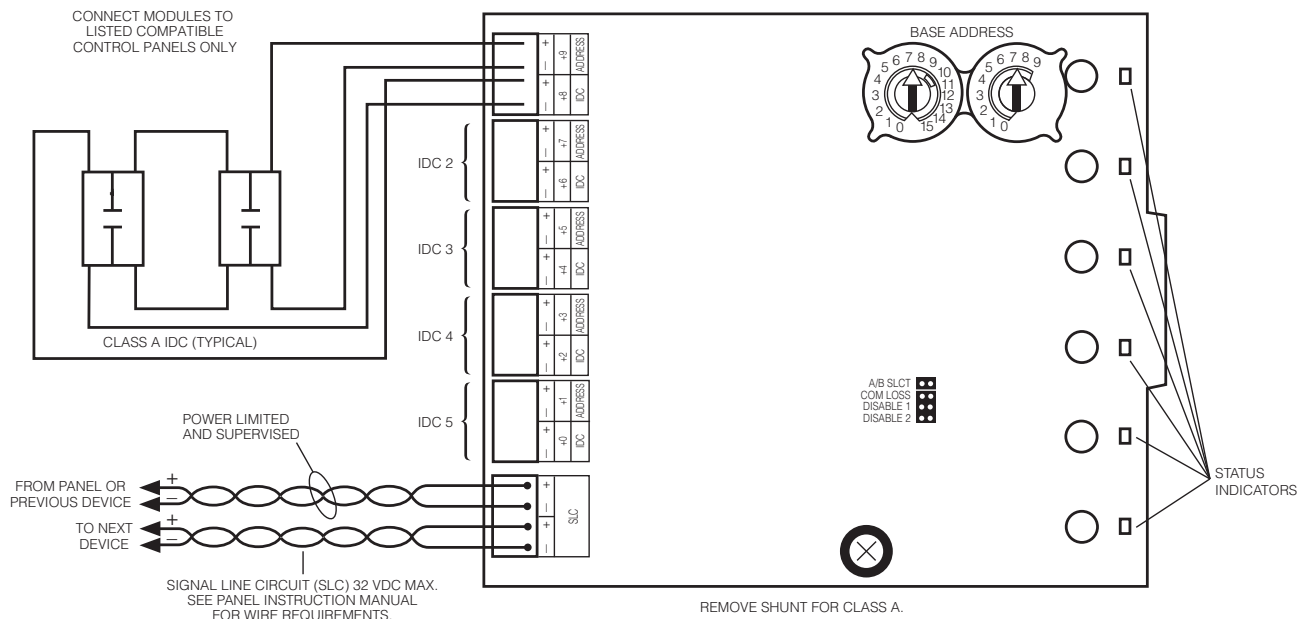
Part Number	Description
<b>729-223-00</b>	Intelligent Ten Input Monitor Module, AP/CLIP, Type II

## Associated Parts

Part Number	Description
<b>729-160-00</b>	Red Two Module Cabinet, 12 in. $\times$ 9 in. $\times$ 3.67 in.
<b>729-161-00</b>	Red Six Module Cabinet, 24 in. $\times$ 12.55 in. $\times$ 6.5 in.
<b>729-166-00</b>	Mounting Bracket for six module cabinet

## Wiring Diagrams

### Typical Class A IDC



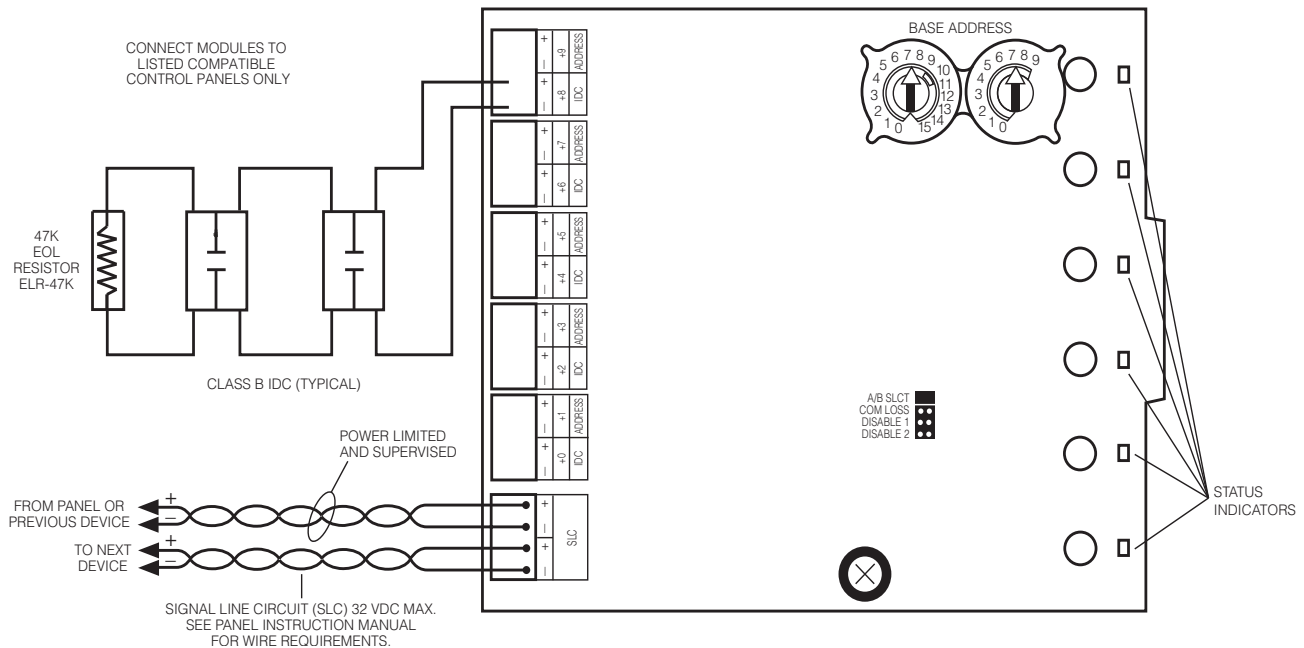
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# Addressable Intelligent Devices and Modules

## Typical Class B IDC



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-223-00 is an **AP/CLIP Multi-Input Module**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	<b>AP/CLIP Single/Multi-Input/Output Modules</b> (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●
					●

CLIP and AP/CLIP single element detectors, bases, and **single/multi-input/output modules** are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

Legend	
● = Compatible	■ = Incompatible

Alarm Output	
Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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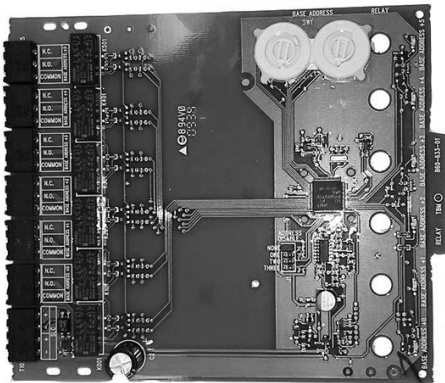
# Addressable Intelligent Devices and Modules

## Module, Six Relay Control, AP/CLIP, Type II

729-224-00

### Panel Application

This AP/CLIP multi-output module is compatible with the following Monaco FACP SLCs: MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



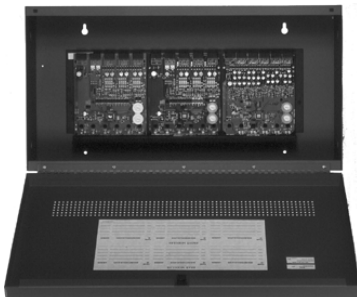
Six Relay Control Addressable Module



Two Module Cabinet



Six Module Cabinet



### Description

The Monaco six relay control addressable module is used for Form C switching applications that do not require wiring supervision for the controlled circuit. Each set of dry relay contacts can be wired for normally open or normally closed. The addressable control panel can switch contacts on command. A single Signaling Line Circuit (SLC) is used for all relays on the module. Through use of a single shunt, a maximum of three addresses can be disabled (see wiring diagram, next page).

### Features

- Six Form C relays
- A pair of rotary switches set the address of the first relay; addresses for the remaining relays are automatically set to the next five higher addresses
- Each input has an LED controlled by the addressable control panel to be off, blinking, or latched ("solid") on
- Rotary dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum

**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)

### Specifications

Protocol Capability AP/CLIP

Operating Voltage 15 to 32 VDC

Standby Current 1.45 mA maximum

Alarm Current 32 mA (assumes all six relays have been switched once and all six LEDs are "solid" on)

Relay Current 30 mA relay pulse with 15.6 ms pulse duration (FACP controls pulse)

Contact Relay Ratings 0.5A at 30 VDC;  
0.9A at 110 VDC;  
3A at 30 VDC

SLC Loop Resistance 40 ohms maximum

Input Wiring 12 to 18 AWG



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# Addressable Intelligent Devices and Modules

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Dimensions** 6.8 in. H x 5.8 in. W x 1.0 in. D  
(17.27 cm x 14.73 x 2.54 cm)

**Mounting** Up to two modules in P/N 729-160-00,  
Up to six modules in P/N 729-161-00

**Standards Compliance:**

**UL Listed** S3705

**CSFM** 7300-1477:0166

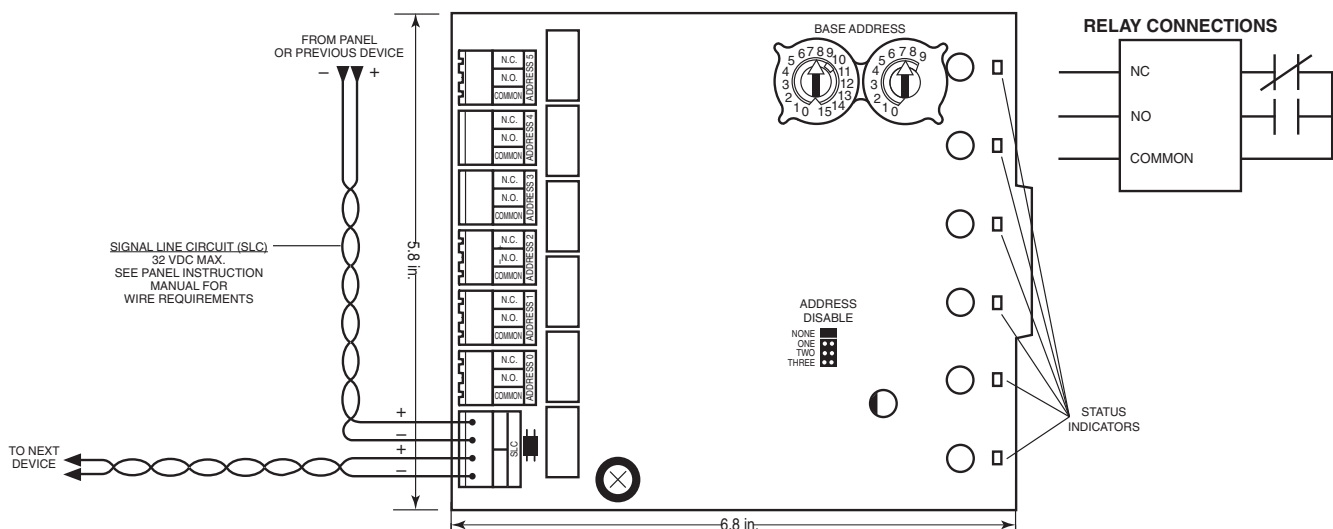
## Ordering Information

Part Number	Description
729-224-00	Intelligent Six Relay Control Module, form C contacts, AP/CLIP, Type II

## Associated Parts

Part Number	Description
729-160-00	Red Two Module Cabinet, 12 in. H x 9 in. W x 3.67 in. D
729-161-00	Red Six Module Cabinet, 24 in. H x 12.55 in. W x 6.5 in. D
729-166-00	Mounting Bracket for six module cabinet

## Wiring Diagram



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices. Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

**For example:**

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-224-00 is an **AP/CLIP Multi-Output Module**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	<b>AP/CLIP Single/Multi-Input/Output Modules</b> (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

→

CLIP and AP/CLIP single element detectors, bases, and **single/multi-input/output modules** are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

Legend	
● = Compatible	■ = Incompatible

Alarm Output	
Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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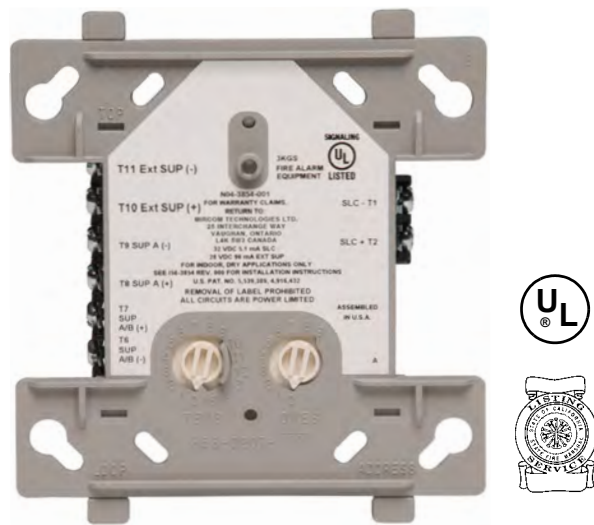
# Addressable Intelligent Devices and Modules

## Module, Dual Input Monitor, AP/CLIP, Type II

729-220-00

### Panel Application

This AP/CLIP dual input module is compatible with the following Monaco FACP SLCs: MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.



### Description

The Monaco Interface Module allows the addressable control panel to monitor two Class B IDCs for non-loop-powered devices. Conventional 4-wire (auxiliary power source) smoke detectors can be monitored through their alarm contacts, wired as an IDC to the module.

When the module is interrogated by the addressable control panel, it transmits the status of the two IDCs back to the panel. Each zone has a separate address and monitors normally open contact fire alarm and supervisory devices, or either normally open or normally closed security devices. Rotary decade switches set the address for module A; module B automatically uses the next higher address. See the wiring diagram on the next page. Status conditions are reported as normal, open, or alarm. A status LED indicator is provided and controlled by the addressable control panel.

### Features

- Full supervision of two Class B initiating device circuits (IDCs)
- Visible LED controlled by the addressable control panel to be off, blinking, or latched ("solid") on
- Rotary decade dials allow up to 159 addresses; however, Monaco panels only allow addresses up to 99 maximum

**NOTE** Monaco Programming only allows up to 99 addresses (valid programming addresses 1–99)

- Stable communications technique with noise immunity

### Specifications

Protocol Capability AP/CLIP

Operating Voltage 15 to 32 VDC

Standby Current 750  $\mu$ A, one communication every 5 seconds (47k EOL)

Alarm Current 6.4 mA maximum (LED on)

SLC Resistance 40 ohms maximum

EOL Resistance 47 kohms

IDC Resistance 1,500 ohms maximum

IDC Voltage 11V maximum

IDC Current 240  $\mu$ A maximum

Temperature Range 32°F to 120°F (0°C to 49°C)

Relative Humidity 10% to 93% non-condensing

Module Dimensions 4.5 in. H x 4.0 in. W x 1.25 in. D  
(11.43 cm x 10.16 cm x 3.175 cm)

Junction Box Dimensions 4 in. square x 2.125 in. deep  
(10.16 cm x 10.16 cm x 5.498 cm)

Color White

Standards Compliance:

UL Listed S3705

State of California 7300-1653:0237



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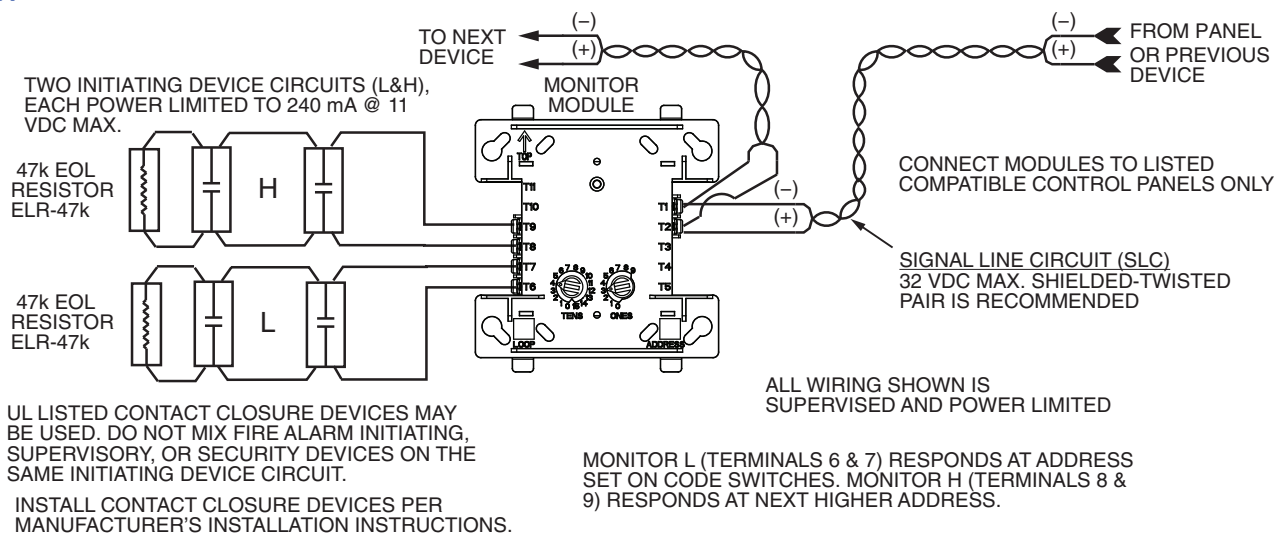
# Addressable Intelligent Devices and Modules

## Ordering Information

Part Number	Description
729-220-00	Intelligent Dual Input Monitor Module, AP/CLIP, white, Type II

## Wiring Diagram

### Typical 2-Wire Class B IDC



## Monaco Type I and Type II Addressable Devices

Monaco addressable devices have been categorized into two types:

**Type I** Classic Loop Interface Protocol (CLIP) devices and **Type II** Advanced Protocol (AP) devices.

Type II devices can utilize either AP Only or AP/CLIP protocols.

Monaco Enterprises also has a new Addressable Driver Card (ADC II) that utilizes the same protocol as the new Type II devices (P/N 176-279-00).

Type I devices are compatible with both the ADC I (P/N 176-194-00) and the ADC II (P/N 176-279-00).

Type II devices are compatible with both the ADC I and the ADC II depending on what protocol they utilize and which panel they are attached to.

### For example:

Type II AP/CLIP single element devices are compatible with both the ADC I and the ADC II on the MAAP(+), MAAP-X with a CORE II processor, and MAAP-X with a CORE III processor.

Type II AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III processor.

See "Addressable Device Compatibility Requirements" to determine your compatibility.



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# Addressable Intelligent Devices and Modules

## Addressable Device Compatibility Requirements

For more information about Monaco Addressable Device Compatibility, see 001-605-00.

**NOTE** P/N 729-220-00 is an **AP/CLIP Multi-Input Module**.

		MAAP(+)	MAAP-X CORE II	MAAP-X CORE III	
		ADC I & II	ADC I & II	ADC I	ADC II
Type I Addressable Devices	CLIP Single Element Detectors	●	●	●	●
	AP/CLIP Single Element Detectors	●	●	●	●
Type II Addressable Devices	AP/CLIP Detector Bases Standard, Sounder, Isolator, & Relay bases available	●	●	●	●
	<b>AP/CLIP Single/Multi-Input/Output Modules</b> (Multi-Output Module: Relay Only)	●	●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode A* See "Alarm Output" below		●	●	●
	AP/CLIP Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Single Element Detectors				●
	AP Only Multielement Detectors: Discipline Mode B** See "Alarm Output" below				●
	AP Only Sounder Bases				●

→

CLIP and AP/CLIP single element detectors, bases, and **single/multi-input/output modules** are compatible with any panel.

The MAAP(+) is only compatible with single element and single input/output CLIP and AP/CLIP devices.

AP/CLIP multielement detectors are compatible with the MAAP-X.

Multielement detectors will emit a single combined alarm output unless installed on a MAAP-X with a CORE III and an ADC II.

AP Only devices are only compatible with the ADC II on a MAAP-X with a CORE III.

All CO and CO combination detectors are AP Only devices.

### Legend

● = Compatible	■ = Incompatible
----------------	------------------

### Alarm Output

Discipline Mode A*	Single Combined Alarm Output
Discipline Mode B**	Alarm Output For Each Element



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# Addressable Intelligent Devices and Modules

## Type II Replacements for Type I Devices

**NOTE** Type I devices are ivory; Type II devices are white.

Type I Device	Recommended Type II Device			
Part Number	Part Number	Protocol	Category	Description
721-124-00	721-134-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Rate-of-Rise, Plug-in, AP/CLIP, White, Type II
722-121-00	722-129-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 135°F Fixed Temperature, Plug-in, AP/CLIP, White, Type II
722-406-00	722-413-00	AP/CLIP	Detector	Intelligent Electronic Heat Detector, 190°F Fixed High Temperature, Plug-in, AP/CLIP, White, Type II
723-353-00	723-601-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, AP/CLIP, White, Type II
723-361-00	723-603-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, Plug-in, Low Profile, AP/CLIP, White, Type II
723-600-00	723-602-00	AP/CLIP	Detector	Intelligent Photoelectric Smoke Detector, Plug-in, Low Profile, Remote Test in Duct, AP/CLIP, White, Type II
N/A	723-606-00	AP Only	Detector	Intelligent Photoelectric, 135°F Fixed Temperature, and Infrared Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	723-607-00	AP Only	Detector	High Sensitivity Smoke Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-603-00	AP Only	Detector	Intelligent CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-604-00	AP Only	Detector	Intelligent Fire/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
N/A	725-605-00	AP Only	Detector	Intelligent Smoke/CO Detector, Plug-in, Low Profile, AP Only, White, Type II
729-127-00	729-215-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 4 in. Flangeless, AP/CLIP, White, Type II
N/A	729-209-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP Only, White, Type II
729-129-00	729-210-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., AP/CLIP, White, Type II
729-129-01	729-211-00	AP/CLIP	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP/CLIP, White, Type II
N/A	729-212-00	AP Only	Base	Intelligent Detector Sounder Base, Plug-in, 6.875 in., Low Frequency, 520 Hz, AP Only, White, Type II
729-132-00	729-228-00	AP/CLIP	Base	Intelligent Detector Standard Base, Plug-in, 6 in. Flanged, AP/CLIP, White, Type II
729-133-00	729-213-00	AP/CLIP	Base	Intelligent Detector Isolator Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-134-00	729-214-00	AP/CLIP	Base	Intelligent Detector Relay Base, Plug-in, 6.85 in. AP/CLIP, White, Type II
729-142-00	729-217-00	AP/CLIP	Module	Intelligent Monitor Module, AP/CLIP, White, Type II
729-143-00	729-218-00	AP/CLIP	Module	Intelligent Mini-Monitor Module, AP/CLIP, White, Type II
729-144-00	729-219-00	AP/CLIP	Module	Intelligent Zone Interface Module, AP/CLIP, White, Type II
729-158-00	729-225-00	AP/CLIP	Module	Intelligent Supervised NAC Control Module, AP/CLIP, White, Type II
729-159-00	729-221-00	AP/CLIP	Module	Intelligent Relay Control Module, 2 Form C Contacts, AP/CLIP, White, Type II
729-162-00	729-223-00	AP/CLIP	Module	Intelligent Ten Input Monitor Module, AP/CLIP, Type II
729-165-00	729-224-00	AP/CLIP	Module	Intelligent Six Relay Control Module, Form C Contacts, AP/CLIP, Type II
729-182-00	729-220-00	AP/CLIP	Module	Intelligent Dual Input Monitor Module, AP/CLIP, White, Type II



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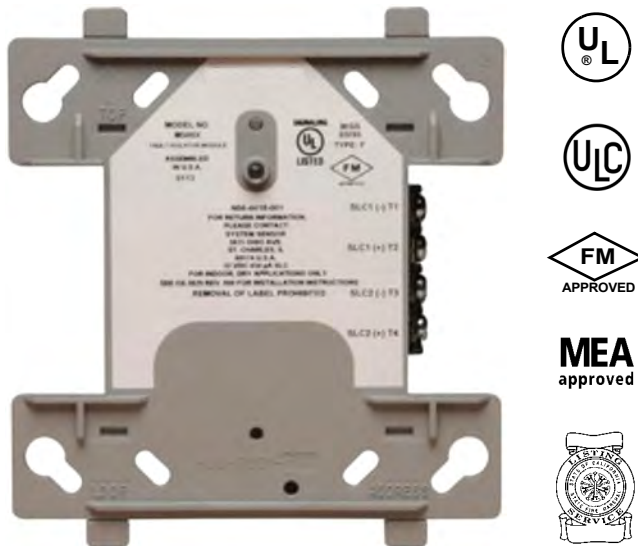
# Addressable Intelligent Devices and Modules

## Module, Fault Isolator

729-140-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



The Monaco fault isolator module enables part of the Signaling Line Circuit (SLC) to continue operating when a short circuit occurs. An LED indicator blinks in the normal condition and turns on during a short-circuit condition. The module will restore after the Addressable Driver Card (ADC) is reset.

This module is an automatic switch that opens when the line voltage drops below 4V. Fault isolator modules should be spaced between groups of detectors in an SLC to protect the rest of the circuit. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the detectors between them. The remaining detectors on the SLC continue to operate. No more than 25 devices are recommended for each group.

### Features

- Low standby current
- Visible LED indicates module status
- Rugged industrial construction

### Specifications

*Operating Voltage* 15 to 32 VDC

*Fault Detection Threshold* 4V

*Line Restoration Threshold* 7V

*Standby Current* 450  $\mu$ A max. (not isolating)

*Isolation Current* 17 mA

*Fault Detection Delay* 250 ms min.

*SLC Impedance* 40 $\Omega$

*Isolation Impedance* 2.25 to 2.9 kohms

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 93% non-condensing

*Mounting* Directly to 4 in. square  $\times$  2 1/8 in. deep junction box

*Dimensions* 4.5 in. H  $\times$  4 in. W  $\times$  0.25 in. D

### Ordering Information

Part Number	Description
729-140-00	Intelligent Fault Isolator Module



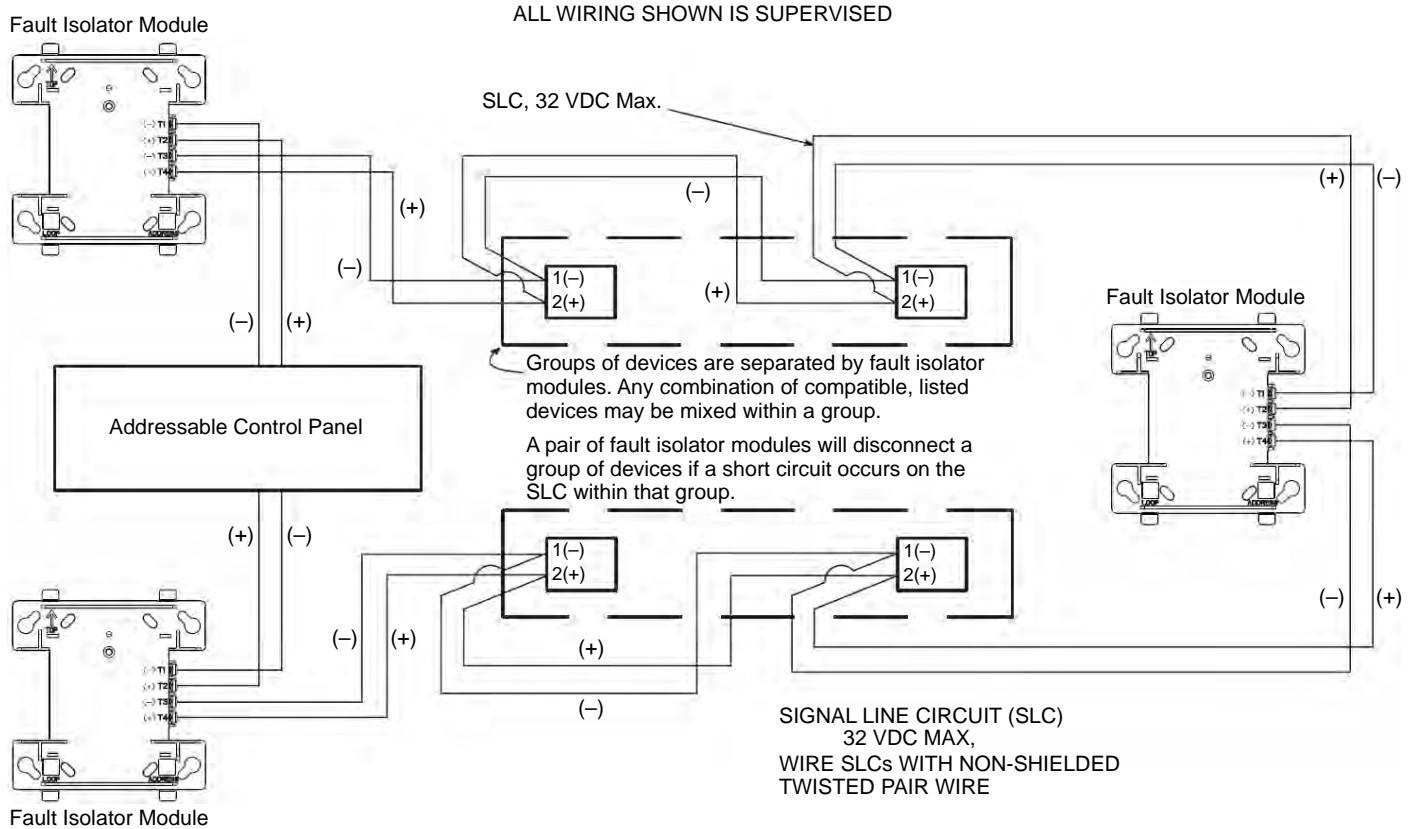
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



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# Addressable Intelligent Devices and Modules

## Module, Monitor 729-142-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



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The Monaco monitor module is an interface to non-loop-powered contact devices such as waterflow switches, pull stations, and valve tampers. It is capable of Class A and B supervised wiring to the load device. Conventional 4-wire (auxiliary power source) smoke detectors can be monitored through their alarm and trouble contacts, wired as an IDC to the module.

The supervised state of the monitored device (normal, short, or open) is transmitted back to the addressable control panel along with the full analog supervision measurement. This allows detection of impedance changes in the supervised loop. All status changes are annunciated at the addressable control panel.

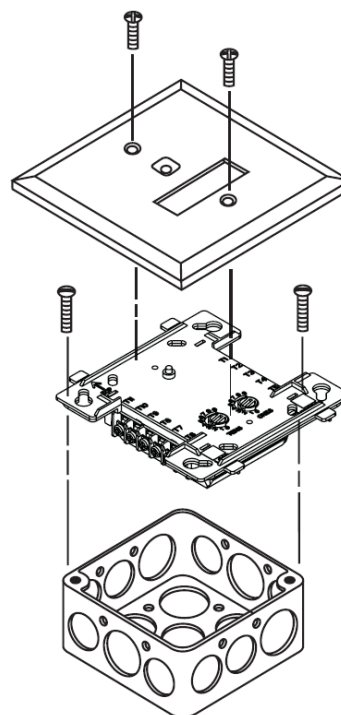
### Features

- Full supervision of a connected initiating device circuit (IDC); 4-wire is fault tolerant
- 1 Class A or 1 Class B zone
- Visible LED controlled by the addressable control panel to be off, blinking, or latched ("solid") on

- Low standby current
- Direct-dial decade address entry
- Stable communications with noise immunity
- Rugged industrial construction

### Mounting

Directly in 4 in. square  $\times$  2 1/8 in. deep junction box.



### Specifications

**Operating Voltage** 15–32 VDC

**Standby Current** 400  $\mu$ A maximum @ 24 VDC (one communication every 5 seconds with 47k EOL)  
600  $\mu$ A maximum @ 24 VDC (one communication every 5 seconds with EOL > 1k)  
5.0 mA (with LED latched on)

**EOL Resistor** 47 k $\Omega$

**Communication Line Loop Impedance** 40 $\Omega$  maximum



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# Addressable Intelligent Devices and Modules

Operating Temperature 32–120°F (0–49°C)

Relative Humidity 10–93% noncondensing

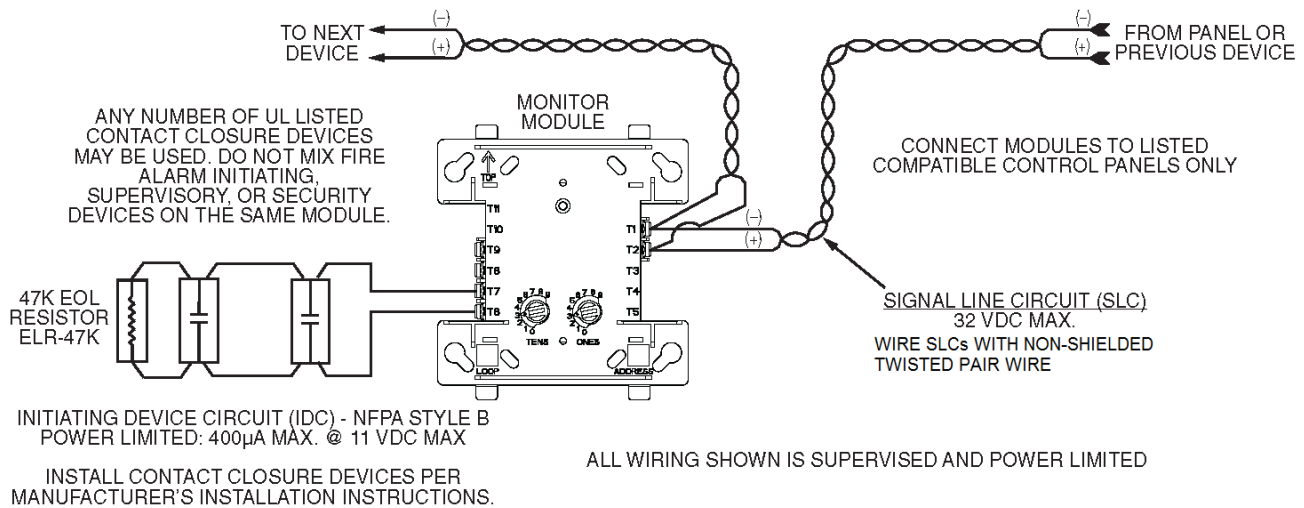
Dimensions 4.5" W × 4.0" H × 1.25" D

## Ordering Information

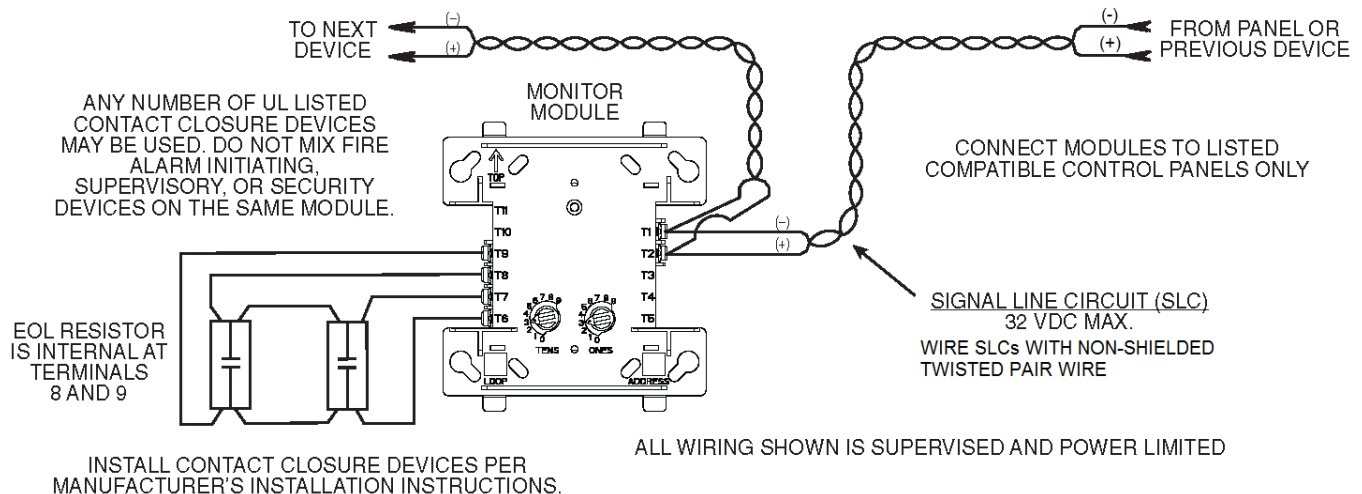
Part Number	Description
729-142-00	Intelligent monitor module

## Wiring Diagrams

### Typical Class B IDC



### Typical Class A Fault Tolerant IDC



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# Addressable Intelligent Devices and Modules

## Module, Mini-Monitor

729-143-00

### Description

**NOTE** For use with all Monaco Addressable Fire Alarm Control Panel with Integrated Radio Transceiver SLCs.



The Monaco Mini-Monitor Module interfaces to conventional non-loop-powered devices, such as waterflow switches, pull stations, valve tamper switches, etc. It is capable of Class B supervised wiring to the load device.

The supervised state of the monitored device (normal, short, or open) is transmitted back to the addressable control panel where status changes are annunciated.

### Features

- Full supervision of input circuit
- Monitors dry contact closure for a single device
- Ideal for pull stations
- Low standby current
- Rotary switches set 1 of 99 possible addresses
- Stable communications technique with noise immunity
- Rugged industrial construction

### Mounting

The module mounts, without rigid connections, inside a single gang junction box, which then mounts behind or in the same enclosure as the monitored unit.

### Specifications

*Operating Voltage* 15 to 32 VDC

*Current* 400  $\mu$ A maximum at 24 VDC  
(one communication every 5 seconds with 47k EOL)  
600  $\mu$ A maximum at 24 VDC  
(one communication every 5 seconds with IDC shorted)

*Wire Length* 6 in. minimum

*Communication Line Impedance* 40 ohms maximum

*Maximum IDC Wiring Resistance* 40 ohms

*Maximum IDC Voltage* 11 volts

*Maximum IDC Current* 400  $\mu$ A

*EOL Resistance* 47 kohms (included)

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 93% non-condensing

*Dimensions* 1.25 in. H x 2.7 in. W x 0.5 in. D\*  
\*Basic casing only; 0.72 in. with cable entry ports  
Minimum back box depth of 0.90 in. recommended for wire bend radius.

### Ordering Information

Part Number	Description
729-143-00	Intelligent Mini-monitor Module



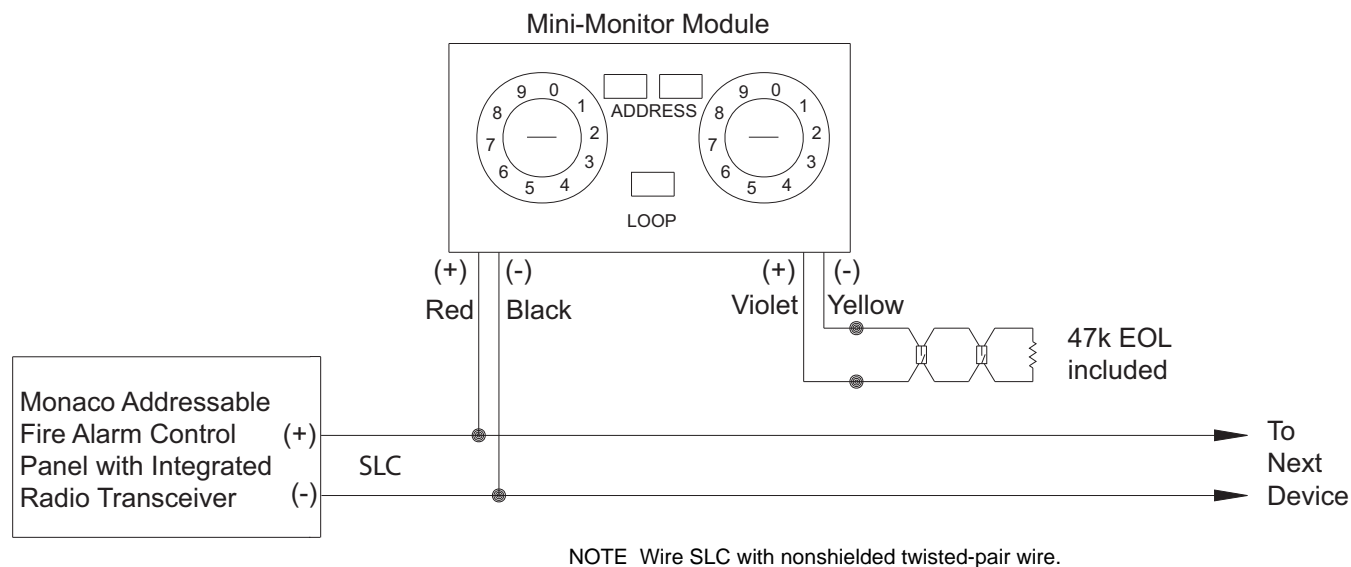
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



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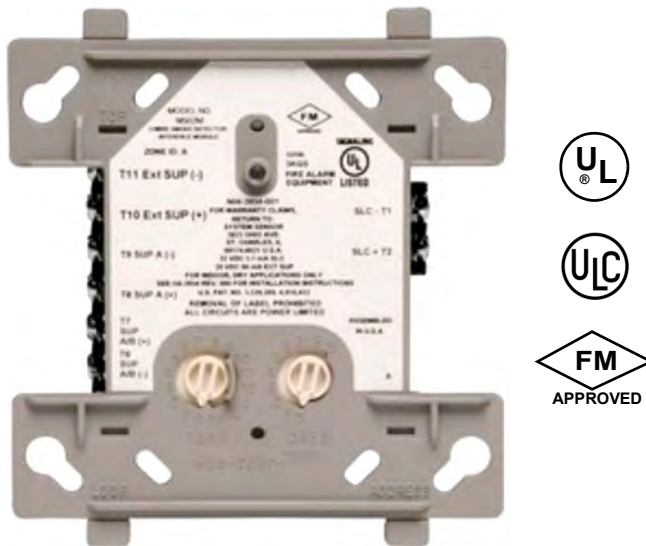
# Addressable Intelligent Devices and Modules

## Module, Zone Interface

729-144-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



The Monaco Interface Module allows the addressable control panel to interface and monitor conventional two-wire smoke detectors. Power to the interface module must be externally switched to reset loop-powered detectors on a panel reset. An addressable relay module (P/N 729-159-00) with an action assignment of smoke power can be used to switch power to the interface module from an auxiliary power supply.

Rotary decade switches set the address at each module. When the module is interrogated, it transmits the status of one zone of two-wire detectors to the addressable control panel. Status conditions are reported as normal, open, or alarm. The interface module supervises the zone of detectors and the connection of the required external power supply. A status LED is provided and is controlled by the addressable control panel.

### Features

- Full supervision of the Initiating Device Circuit (IDC)
- Interface with 2-wire (loop-powered) conventional smoke detectors
- Visible LED controlled by the addressable control panel to be off, blinking, or latched ("solid") on
- Low standby current
- Direct dial decade address entry
- Stable communications technique with noise immunity
- Rugged industrial construction
- Mounts in 4 in. square x 2 1/8 in. deep junction box

### Specifications

*Operating Voltage* 15 to 32 VDC

*Max. Current* 5.1 mA (LED on)

*Average Operating Current* 300  $\mu$ A, one communication and one LED flash every 5 seconds (3.9k EOL)

*EOL Resistance* 3.9 kohm

*Max. IDC Resistance* 25 ohms

*IDC Supply Voltage* Regulated DC: 24V

*(Between T10, T11)* Ripple Voltage: 0.1 Vrms maximum  
Current: 90 mA

*Temperature Range* 32°F to 120°F (0°F to 49°C)

*Relative Humidity* 10% to 93%

*Dimensions* 4.5 in. H x 4 in. W x 1.25 in. D

### Ordering Information

Part Number	Description
729-144-00	Intelligent Interface Module

### Associated Parts

Part Number	Description
729-159-00	Intelligent Relay Control Module, 2 Form C contacts

### Wiring Diagrams



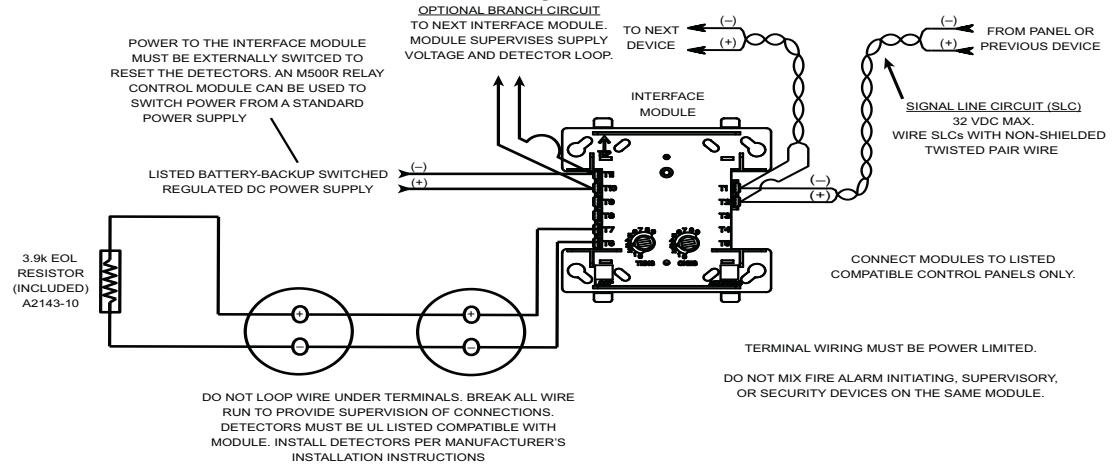
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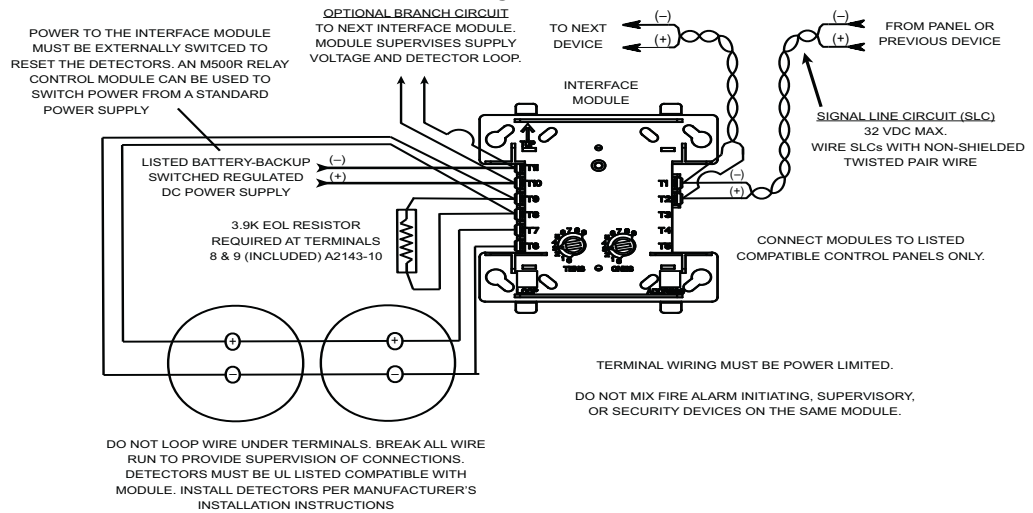
# Addressable Intelligent Devices and Modules

## Interface two-wire conventional detectors, NFPA Style B:



\*NOTE: ANY FAULT IN THE POWER SUPPLY IS LIMITED TO THAT ZONE AND DOES NOT RESULT IN A FAULT IN A SEPARATE ZONE.

## Interface two-wire conventional detectors, NFPA Style D:



\*NOTE: ANY FAULT IN THE POWER SUPPLY IS LIMITED TO THAT ZONE AND DOES NOT RESULT IN A FAULT IN A SEPARATE ZONE.



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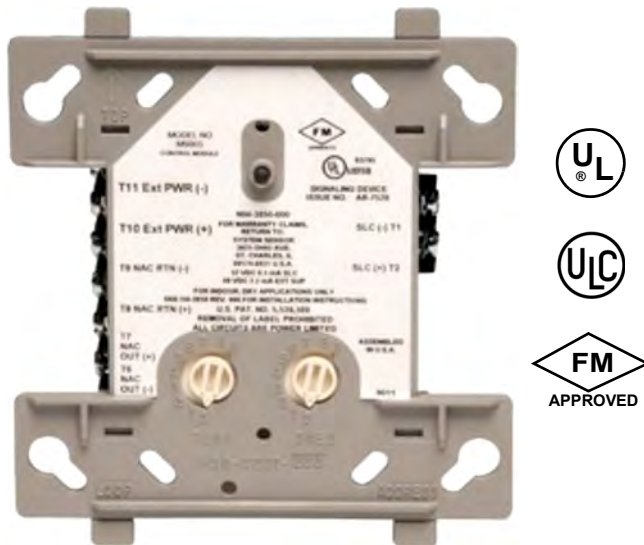
# Addressable Intelligent Devices and Modules

## Module, Supervised NAC Control

729-158-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



The Monaco supervised Notification Appliance Circuit (NAC) control module is used to switch an external power supply (DC power supply or an audio amplifier up to 80 Vrms) to notification appliances. It also supervises the wiring to the connected loads and reports their status to the panel as normal, open, or short circuit. The control module has two pairs of output termination points available for fault-tolerance wiring and a panel-controlled LED indicator.

**NOTE** The module requires an auxiliary power source and an end-of-line power supervisory relay module per 24 VDC branch. The power source should be an isolated, regulated, 24 VDC power supply, which is listed for fire protection with battery backup and is power limited per NFPA 70.

### Features

- Capable of Class A and Class B supervision of Notification Appliance Circuits (NACs)—horns, bells, strobes, and other notification appliances

- Low standby current
- Visible LED controlled by addressable control panel to be off, blinking, or latched (“solid”) on
- Direct dial decade address entry
- Stable communications technique with noise immunity
- Rugged industrial construction
- Mounts in 4 in. square, 2 1/8 in. deep junction box

### Specifications

**Operating Voltage** 15 to 32 VDC

**Max. Current** 6.5 mA (LED on)

**Operating Current** 350  $\mu$ A Max.: One communication every 5 seconds, 47k EOL  
485  $\mu$ A Max.: Communicating, NAC shorted

**Max. NAC Line Loss** 4 VDC

**External Supply Voltage (T1, T10)** NAC Max.: Regulated 24 VDC  
Speakers Max.: 70.07 Vrms, 50W

**Max. NAC Current** Class A: 2A  
Class B: 3A

**Temperature Range** 32 to 120°F (0 to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Dimensions** 4.675 in. H x 4.275 in. W x 1.4 in. D

### Ordering Information

#### Module

Part Number	Description
729-158-00	Intelligent Supervised NAC Control Module

#### Associated Parts

Part Number	Description
790-012-00	End Of Line Power Supervision Relay Module, 9–40 VDC



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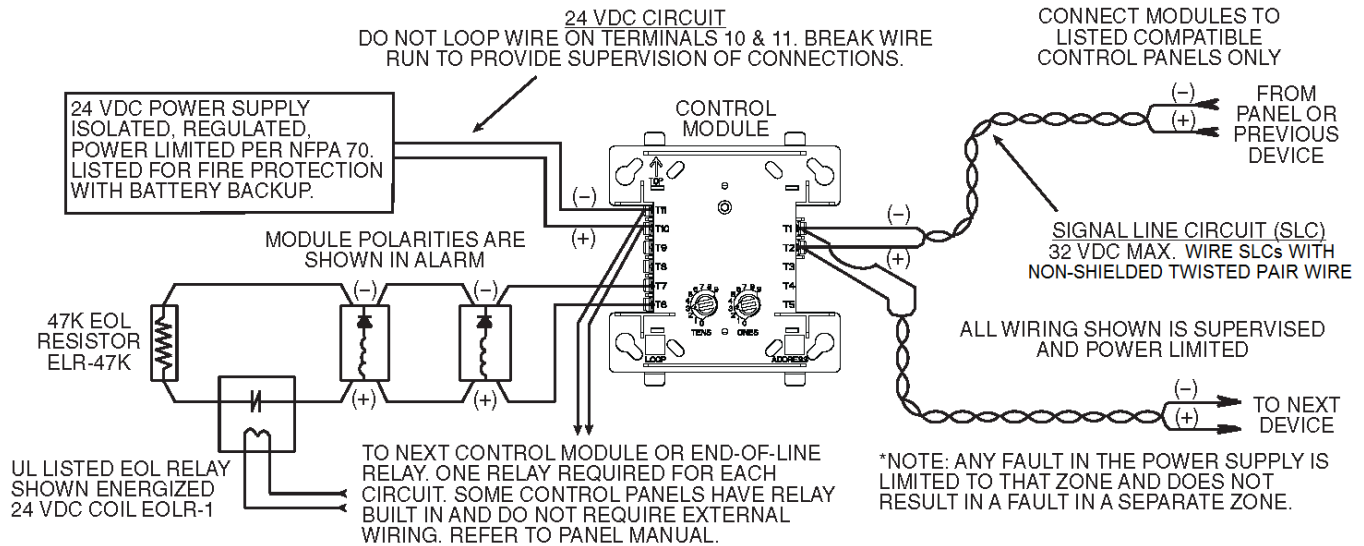




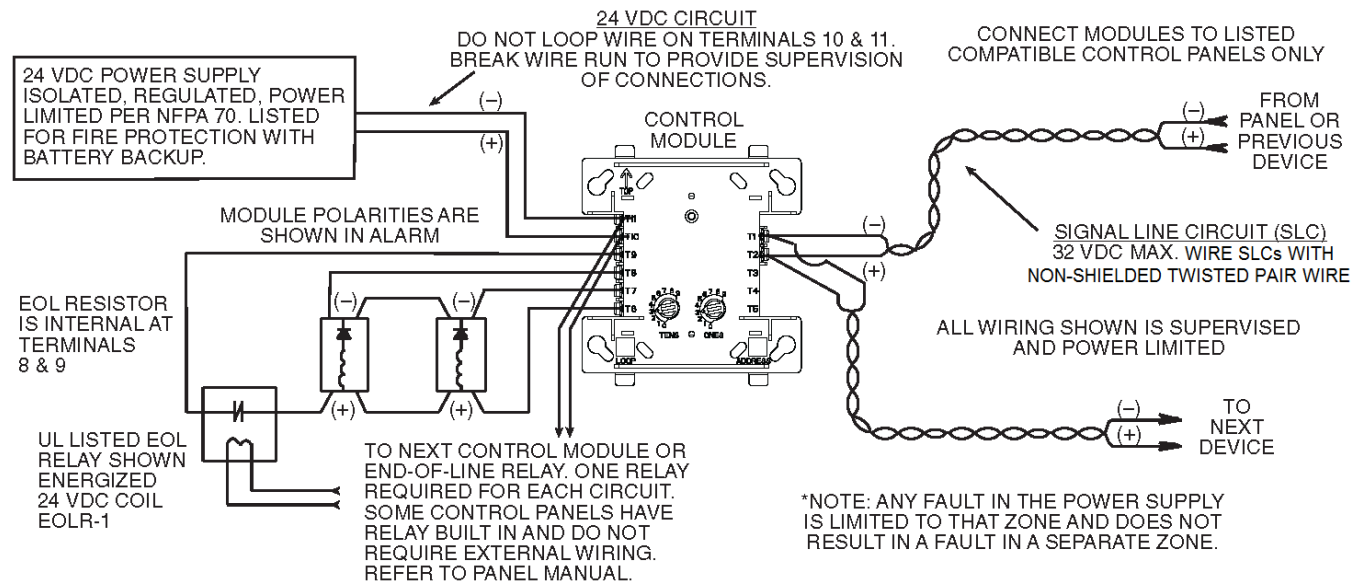
# Addressable Intelligent Devices and Modules

## Wiring Diagrams

### NAC—NFPA Class B



### NAC—NFPA Class A



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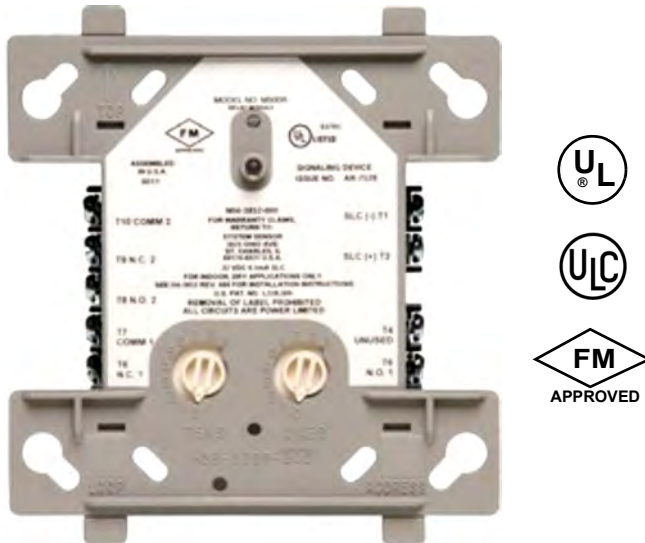
# Addressable Intelligent Devices and Modules

## Module, Relay Control

729-159-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



This relay control module has two isolated sets of Form C contacts, which operate as a DPDT switch. The module allows the control panel to switch these contacts on command. The module does not supervise the circuit connections to the relay contacts.

Relay P/N 451-700-01 is a dry contact input style relay used to interface the relay control module with systems that are beyond the voltage or current rating of the relay control module. The dry contact relay derives its power from the device it is controlling. The control input is a dry contact, and the wiring is Class II power limited.

### Features

- Two isolated sets of Form C contacts
- Latching output drive circuit controlled by the addressable control panel
- Visible LED controlled by addressable control panel to be off, blinking, or latched (“solid”) on
- Low standby current

- Direct-dial decade address entry
- Stable communications technique with noise immunity
- Rugged industrial construction
- Mounts in 4 in. square, 2 1/8 in. deep junction box

### Specifications

**Operating Voltage** 15 to 32 VDC

**Maximum Current** 6.5 mA (LED on)

**Average Operating Current** 300  $\mu$ A, one communication LED every 5 seconds

**Relay Contact Ratings**

- 3A, 30 VDC resistive
- 0.9A, 110 VDC resistive
- 0.9A, 125 VAC resistive
- 0.5A, 125 VAC inductive (PF = 0.35)
- 0.7A, 75 VAC inductive (PF = 0.35)

**Temperature Range** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Dimensions** 4.675 in. H x 4.275 in. W x 1.4 in. D

### Ordering Information

#### Module

Part Number	Description
729-159-00	Intelligent Relay Control Module, 2 Form C contacts

#### Associated Parts

Part Number	Description
451-700-01	SPDT Relay, 120–277 VAC, 10A contacts, LED, red enclosure



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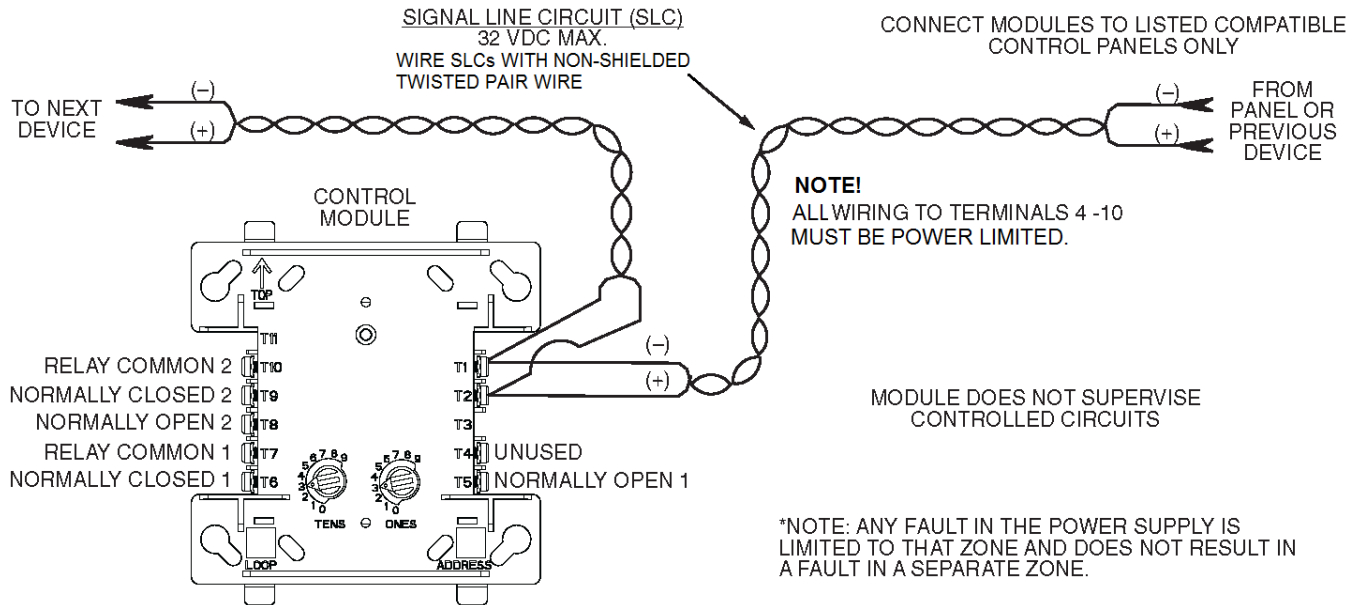
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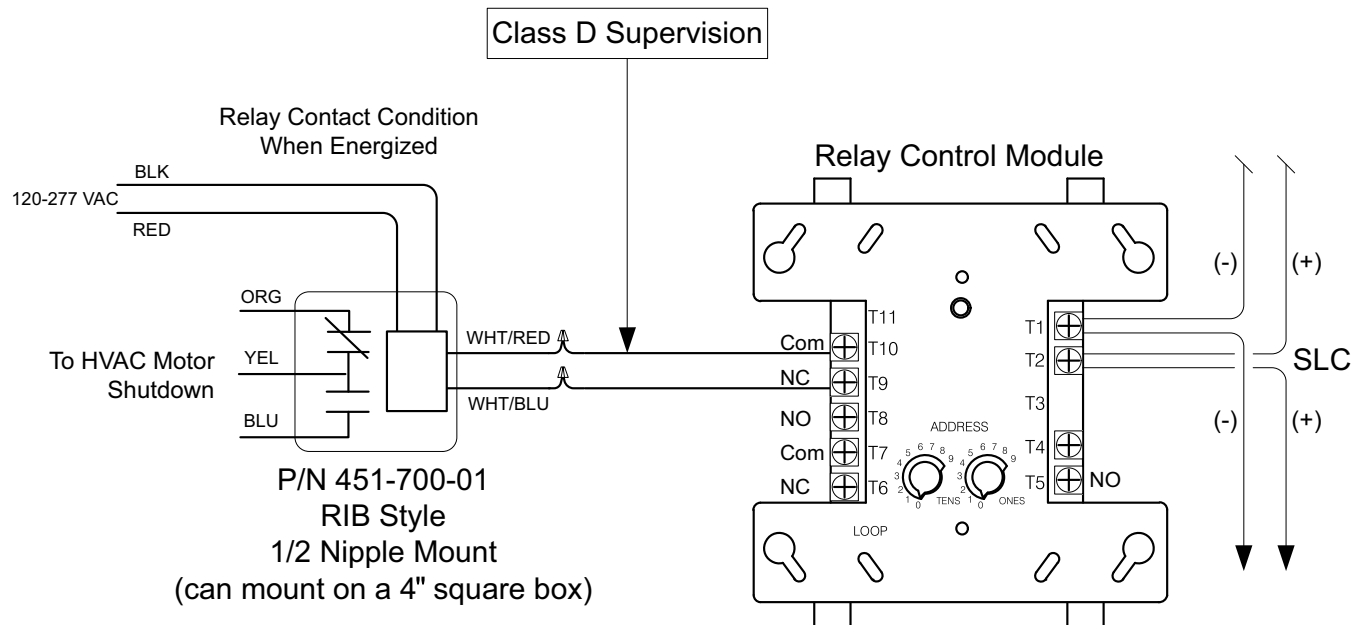
# Addressable Intelligent Devices and Modules

## Wiring Diagrams

### Relay Control Module



### Dry Contact Relay



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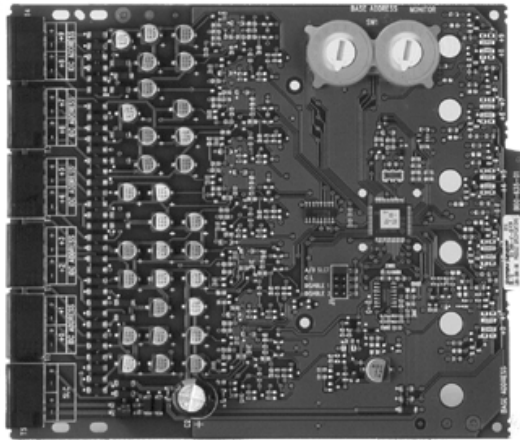
# Addressable Intelligent Devices and Modules

## Module, Ten-input Monitor

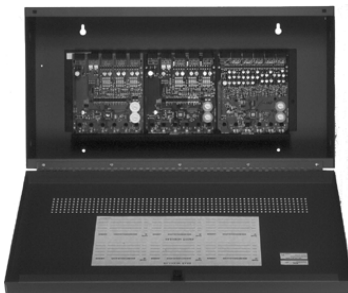
729-162-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



two module cabinet



six module cabinet

This monitor module interfaces to non-loop-powered contact devices such as water-flow switches, pull stations, and valve tampers. It is capable of Class A and Class B supervised wiring to the load device. Conventional 4-wire (auxiliary power source) smoke detectors can be monitored through their alarm contacts, wired as an IDC to the module.

The supervised state of the monitored device (Normal, Short, or Open) is transmitted back to the panel along with the full analog supervision measurement. This allows detection of impedance changes in the supervised loop.

A shunt sets operation class—installed for Class B, removed for Class A. In Class B operation, setting one address causes the module to automatically assign the next sequential nine. However, in Class A, terminals are paired. Addresses go to the pair, with every other address automatically assigned—if the first address set on the rotary switch is 28, the next automatic address is 30 and then 32, 34, and 36. Addresses 29, 31, 33, 35, and 37 can be set on another module PCB or on addressable devices on the SLC. A maximum of one Class A or two Class B inputs can be disabled.

### Features

- Replaces ten Class B/five Class A monitor modules.
- Class A or B determined by supplied shunt
- A pair of rotary switches sets the address of the first input; the remaining nine inputs set automatically to the next nine higher addresses (see “Description” for more information).
- Each input LED is controlled by the addressable control panel as off, blinking, or latched (“solid”) on.
- Each Initiating Device Circuit (IDC) input is fully supervised.



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# Addressable Intelligent Devices and Modules

## Specifications

*Operating Voltage* 15–32 VDC

*Max. IDC Voltage* 12 VDC

*Standby Current* 3.5 mA

*Max. IDC Current* 1 mA

*Alarm Current* 60 mA (assumes all LEDs are “solid” on)

*Wire Gauge, Removable Terminal Block* 12 to 18 AWG

*Max. SLC Resistance* 40 ohms

*Max. IDC Resistance* 40 ohms

*Operating Temp.* 32°F to 120°F (0°C to 49°C)

*Humidity* 10% to 85% non-condensing

*Module Dimensions* 6.8 in. H × 5.8 in. W × 1.25 in. D  
(17.27 cm H × 14.73 cm W × 3.175 cm D)

## Ordering Information

### Module

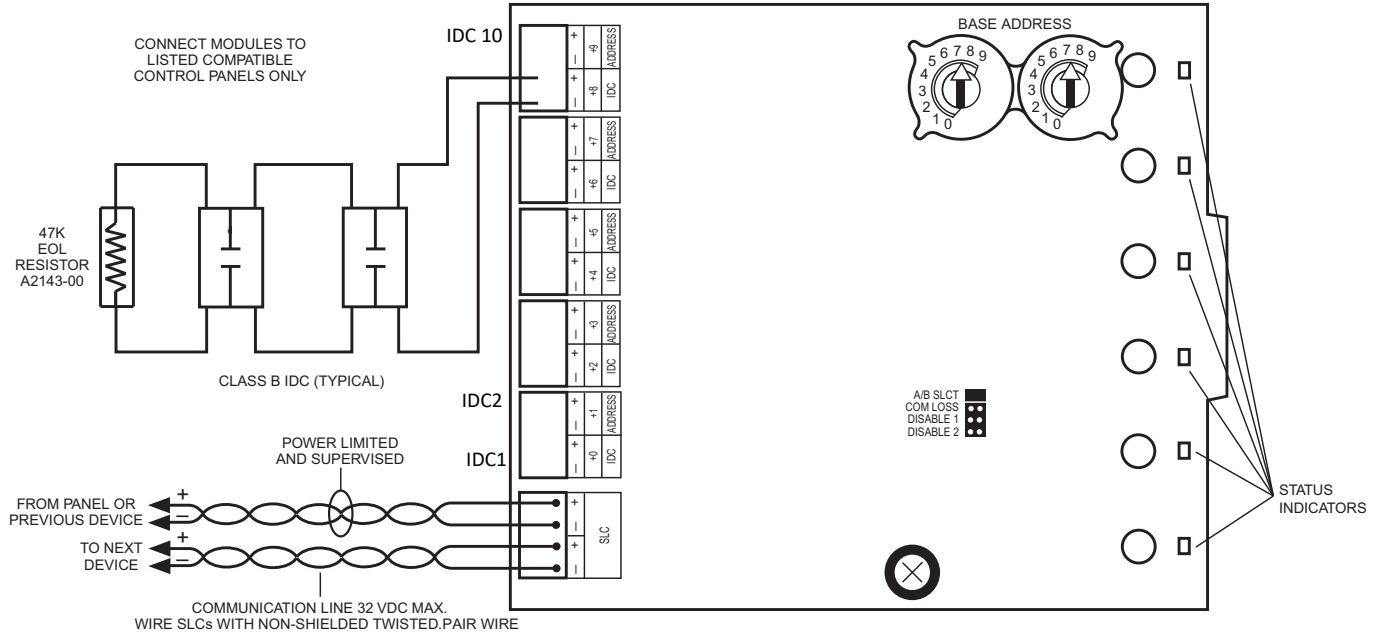
Part Number	Description
<b>729-162-00</b>	Intelligent Ten-input Monitor Module

### Associated Parts

Part Number	Description
<b>729-160-00</b>	Two-module cabinet, red, 12 in. × 9 in. × 3.67 in. (30.48 cm × 22.86 cm × 9.32 cm)
<b>729-161-00</b>	Six-module cabinet, red, 24 in. × 12.55 in. × 6.5 in. (61.0 cm × 31.88 cm × 16.43 cm)
<b>729-166-00</b>	Mounting Bracket for six-module cabinet

## Wiring Diagrams

### Typical IDC Configuration—Class B



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## Typical Fault Tolerant IDC Configuration—Class A



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graph TD
    Detect --> Manage
    Manage --> Record
    Record --> Detect
  
```



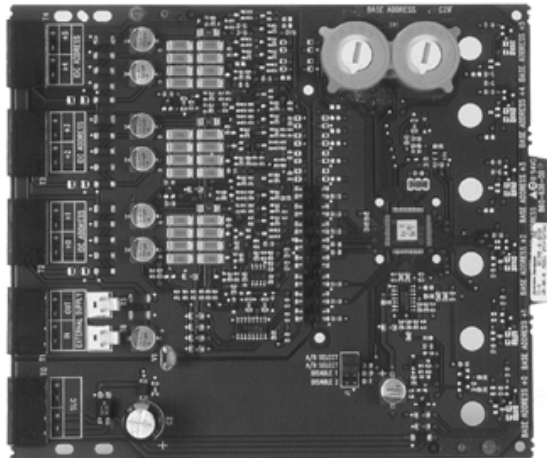
# Addressable Intelligent Devices and Modules

## Module, Six-zone Interface

729-164-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



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The Monaco Six Zone Interface Module allows the addressable control panel to interface with and monitor conventional two-wire (loop powered) smoke detectors.

Shunts set operation class—installed for Class B, removed for Class A. In Class B operation, setting one address causes the module to automatically assign the next sequential five. However, in Class A, terminals are paired. Addresses go to the pair, with every other address automatically assigned—if the first address set on the rotary switch is 28, the next automatic address is 30 and then 32. Addresses 29, 31, and 33 can be set on another module PCB or on addressable devices on the SLC.

Power to the interface module must be externally switched to reset loop-powered detectors on a panel reset. Relay module P/N 729-158-00, with an action assignment of smoke power, can be used to switch power to the interface module from an auxiliary power supply.

When an input on the module is interrogated, it transmits the status of one zone of two-wire detectors to the addressable control panel. Status conditions are reported as normal, open, or alarm. Each input supervises the zone of detectors and the connection of the required external power supply. Each input includes a status LED indicator controlled by the addressable control panel.

A maximum of two Class A or Class B IDCs can be disabled to allow the addresses to be used elsewhere. Disabling defaults to highest addresses.

### Features

- Interface with two-wire (loop powered) conventional smoke detectors
- Replaces six Class B or three Class A supervised interface modules
- A pair of rotary switches sets the address of the first input; addresses for the remaining inputs are automatically set to the next five higher addresses (see “Description” for more information)
- Each Initiating Device Circuit (IDC) input is fully supervised.
- Each input has an LED controlled by the addressable control panel to be off, blinking, or latched (“solid”) on
- Mount one or two modules in cabinet P/N 729-160-00; up to six modules in cabinet P/N 729-161-00

### Specifications

*Normal Operating Voltage* 15–32 VDC

*Standby Current* 2 mA maximum

*External Supply Voltage* DC Voltage: 18V to 28V power limited  
Ripple Voltage: 0.1 Vrms maximum  
Current: 90 mA per circuit

*Alarm Current* 40 mA (assumes all six LEDs “solid” on)

*Max. SLC Resistance* 40 ohms

*Max. IDC Resistance* 25 ohms



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# Addressable Intelligent Devices and Modules

Wire Gauge, Removable Terminal Block 12 to 18 AWG

Operating Temperature 32°F to 120°F (0°C to 49°C)

Humidity 10% to 85% non-condensing

Dimensions 6.8 in. H × 5.8 in. W × 1.25 in. D  
(17.27 cm × 14.73 cm × 3.18 cm)

## Ordering Information

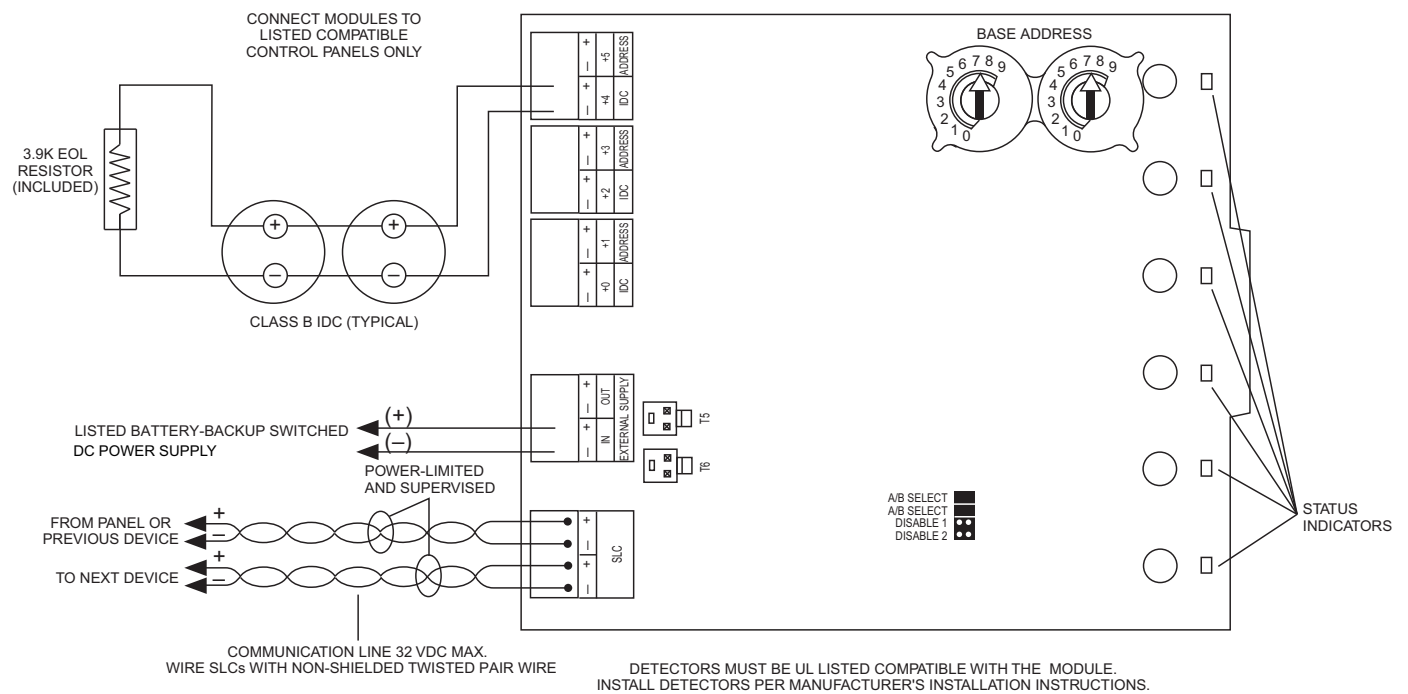
Part Number	Description
729-164-00	Intelligent Six Zone Interface Module

## Associated Parts

Part Number	Description
729-160-00	Two-module Cabinet, red, 12 in. × 9 in. × 3.67 in. (30.48 cm × 22.86 cm × 9.32 cm)
729-161-00	Six-module Cabinet, red, 24 in. × 12.55 in. × 6.5 in. (61 cm × 31.88 cm × 16.43 cm)
729-166-00	Mounting Bracket For 6-module Cabinet
729-159-00	Intelligent Relay Control Module, two Form C contact

## Wiring Diagrams

### Interface 2-Wire Conventional Detectors—Class B



POWER TO THE INTERFACE MODULE MUST BE EXTERNALLY SWITCHED TO RESET LOOP POWERED DETECTORS ON A PANEL RESET. A RELAY MODULE (P/N 729-158-00) WITH AN ACTION ASSIGNMENT OF SMOKE POWER CAN BE USED TO SWITCH POWER TO THE INTERFACE MODULE FROM AN AUXILIARY POWER SUPPLY.



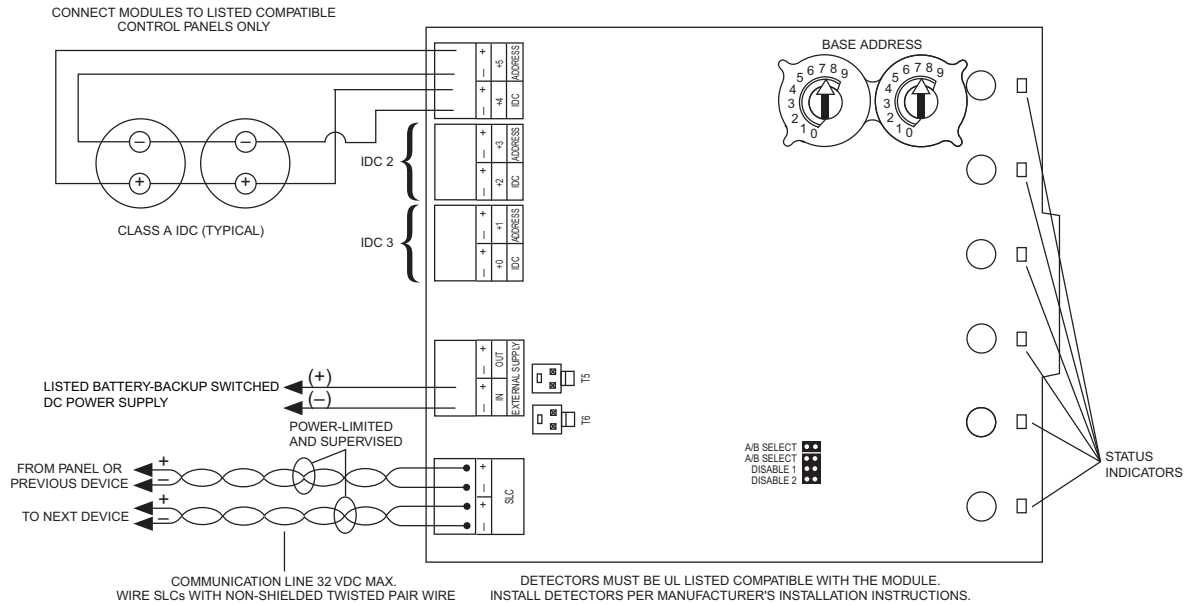
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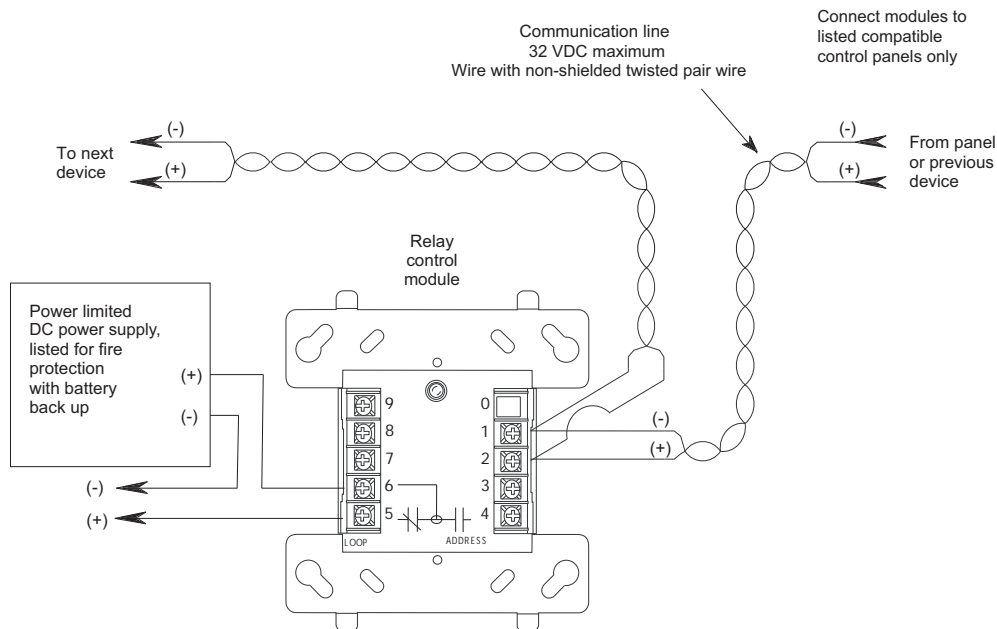
# Addressable Intelligent Devices and Modules

## Interface 2-Wire Conventional Detectors—Class A



POWER TO THE INTERFACE MODULE MUST BE EXTERNALLY SWITCHED TO RESET LOOP POWERED DETECTORS ON A PANEL RESET. A RELAY MODULE (P/N 729-158-00) WITH AN ACTION ASSIGNMENT OF SMOKE POWER CAN BE USED TO SWITCH POWER TO THE INTERFACE MODULE FROM AN AUXILIARY POWER SUPPLY.

## Relay Control Module Used to Disconnect a Power Supply (Typically Smoke Power Reset)



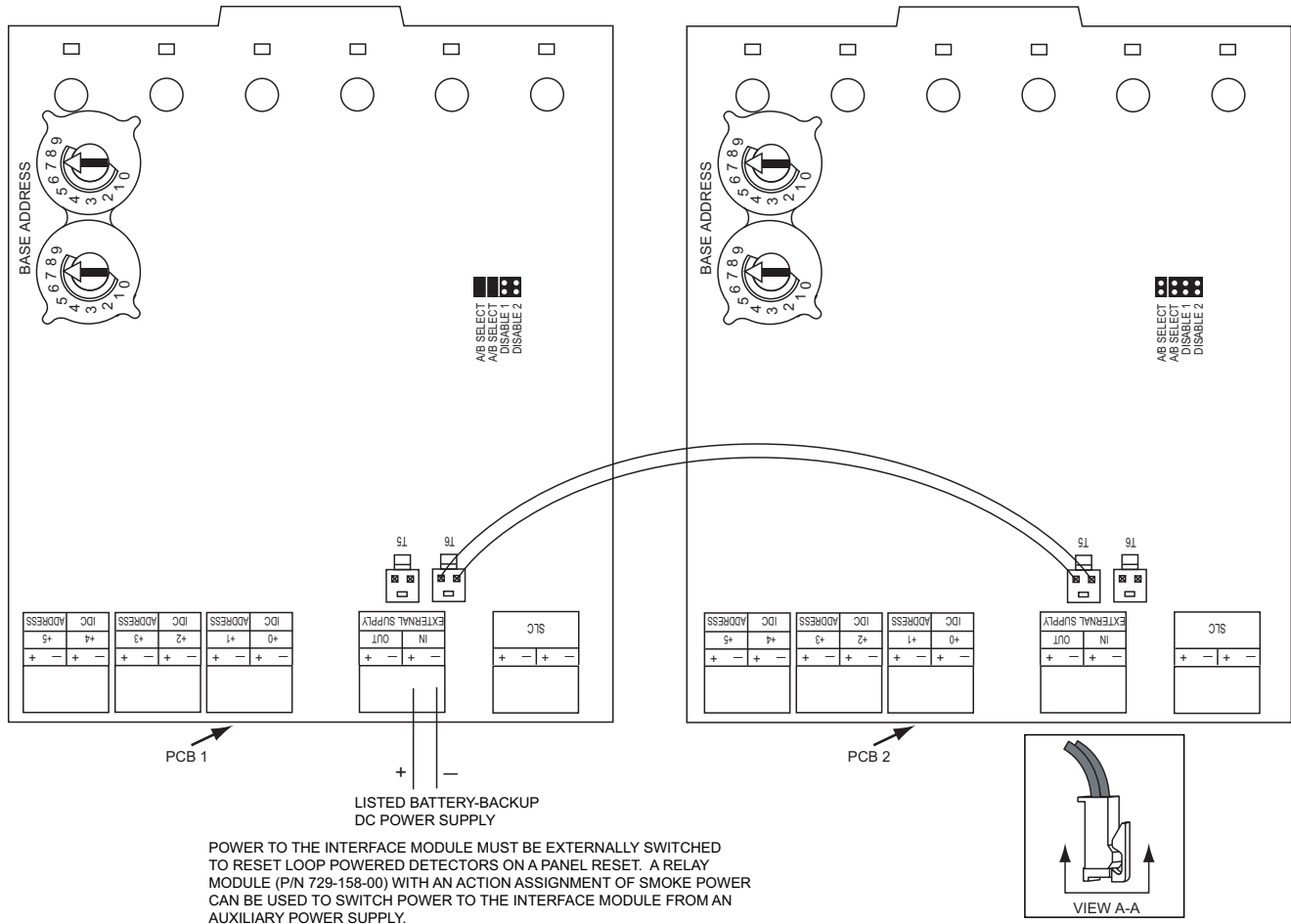
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# Addressable Intelligent Devices and Modules

## Example of Multiple Boards Sharing the Same External Supply



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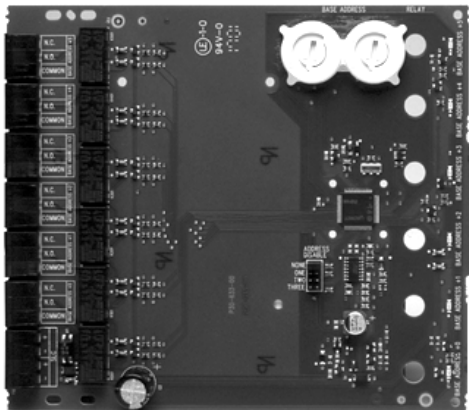
# Addressable Intelligent Devices and Modules

## Module, Six-Relay Control

729-165-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



Six Relay  
Addressable  
Control  
Module

The Monaco six-relay addressable relay control module is used for Form C switching applications that do not require wiring supervision for the controlled circuit. Each set of dry relay contacts can be wired for normally open or normally closed. The addressable control panel can switch contacts on command. A single Signaling Line Circuit (SLC) is used for all relays on the module. Through use of a single shunt, a maximum of three addresses can be disabled (see wiring diagram, next page).

### Features

- Six Form C relays
- A pair of rotary switches sets the address of the first relay; addresses for the remaining relays are automatically set to the next five higher addresses
- Each input has an LED controlled by the addressable control panel to be off, blinking, or latched ("solid") on

### Specifications

*Normal Voltage* 15–32 VDC

*Standby Current* 1.45 mA maximum

*Alarm Current* 32 mA (assumes all six relays have been switched once and all six LEDs are "solid" on)

*Relay Current* 30 mA/relay pulse (15.6 ms pulse duration) pulse under panel control

*Max. SLC Resistance* 40 ohms

*Wire Gauge, Removable Terminal Block* 12 to 18 AWG

*Operating Temp.* 32°F to 120°F (0°C to 49°C)

*Humidity* 10% to 85% non-condensing

*Dimensions* 6.8 in. H × 5.8 in. W × 1.25 in. D

Two Module Cabinet



Six Module Cabinet



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# Addressable Intelligent Devices and Modules

## Ordering Information

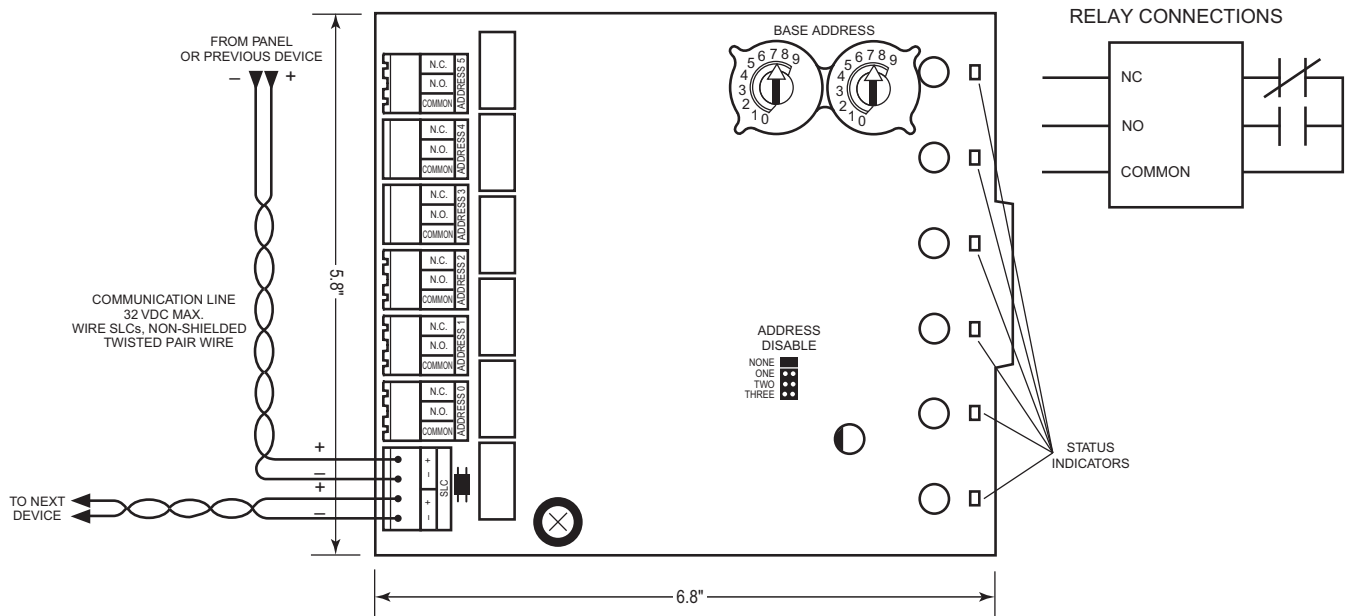
### Module

Part Number	Description
<b>729-165-00</b>	Intelligent Six Relay Control Module, Form C contacts

### Associated Parts

Part Number	Description
<b>729-160-00</b>	Red 2-module cabinet, 12 in. × 9 in. × 3.67 in. (30.48 cm × 22.86 cm × 9.32 cm)
<b>729-161-00</b>	Red 6-module cabinet, 24 in. × 12.55 in. × 6.5 in. (61 cm × 31.88 cm × 16.43 cm)
<b>729-166-00</b>	Mounting Bracket for 6-module cabinet

## Wiring and Programming the Module



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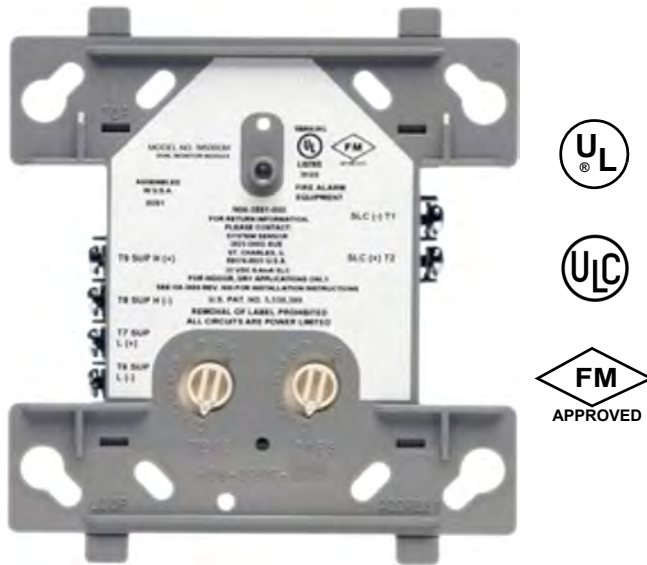
# Addressable Intelligent Devices and Modules

## Module, Dual-Input Monitor

729-182-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



This monitor module allows the addressable control panel to monitor two Class B IDCs for non-loop-powered devices. Conventional 4-wire (auxiliary power source) smoke detectors can be monitored through their alarm contacts, wired as an IDC to the module.

When the module is interrogated by the addressable control panel, it transmits the status of the two IDCs back to the panel. Each zone has a separate address and monitors normally open contact fire alarm and supervisory devices, or either normally open or normally closed security devices. Rotary decade switches set the address for module A; module B automatically uses the next higher address. See the wiring diagram on the next page. Status conditions are reported as normal, open, or alarm. A status LED indicator is provided and controlled by the addressable control panel.

### Features

- Full supervision of two Class B initiating device circuits (IDCs)
- Visible LED controlled by the addressable control panel to be off, blinking, or latched (“solid”) on
- Stable communications technique with noise immunity
- Direct dial decade address entry
- Rugged industrial construction
- Mounts in 4 in. square x 2 1/8 in. deep junction box

### Specifications

<i>Operating Voltage</i>	15 to 32 VDC
<i>Max. Current</i>	6.4 mA (LED on)
<i>Average Operating Current</i>	750 $\mu$ A (LED flashing)
<i>EOL Resistance</i>	47 kohms
<i>Max. SLC Resistance</i>	40 ohms
<i>Max. IDC Resistance</i>	1500 ohms
<i>Max. IDC Voltage</i>	11V
<i>Max. IDC Current</i>	240 $\mu$ A
<i>Temperature Range</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions</i>	4.5 in. H x 4.275 in. W x 1.4 in. D

### Ordering Information

Part Number	Description
729-182-00	Intelligent Dual-input Monitor Module



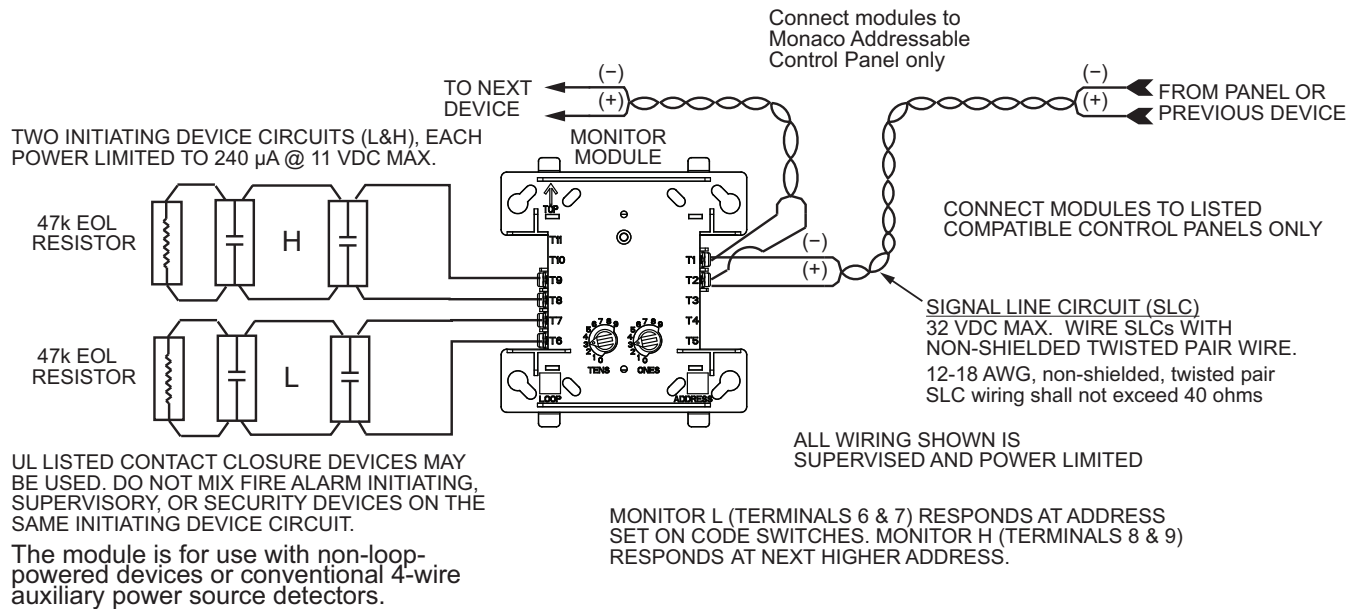
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



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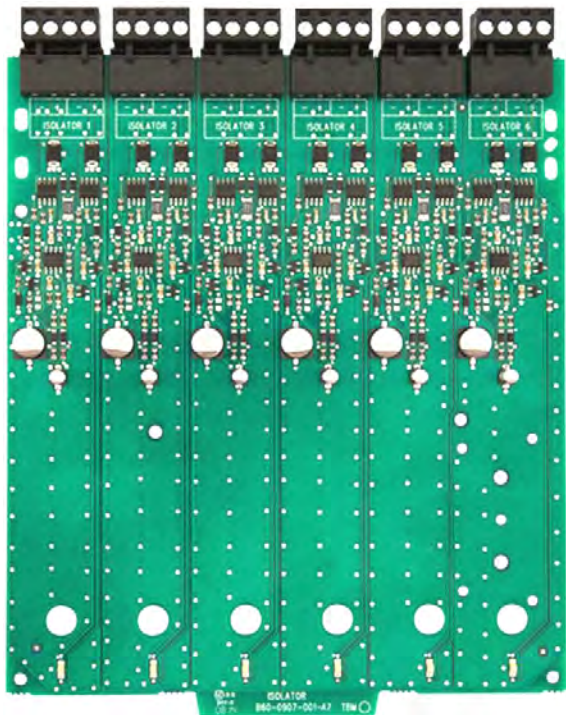
# Addressable Intelligent Devices and Modules

## Module, Six Fault Isolator

729-208-00

### Description

**NOTE** For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



**MSFM**  
approved



The Monaco six fault isolator module enables part of the Signaling Line Circuit (SLC) to continue operating when a short circuit occurs. An LED indicator blinks in the normal condition and turns on during a short-circuit condition. The module restores automatically when the short circuit is remedied.

This module is an automatic switch that opens when the line voltage drops below 4V. Fault isolator modules should be spaced between groups of detectors in an SLC to protect the rest of the circuit. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the detectors between them. The remaining detectors on the SLC continue to operate. No more than 25 devices are recommended for each group.

### Features

- Low standby current
- Visible LED indicates module status
- Rugged industrial construction

### Specifications

*Operating Voltage* 15 to 32 VDC

*Standby Current* 450  $\mu$ A max. (per circuit)  
2.7 mA all circuits

*Isolation Current* 17 mA in isolation  
102 mA all circuits in isolation

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 93% non-condensing

*Wire Gauge* 12 to 18 AWG

*Dimensions* 6.8 in. H x 5.8 in. W x 1 in. D

### Ordering Information

Part Number	Description
729-208-00	Intelligent Six Fault Isolator Module



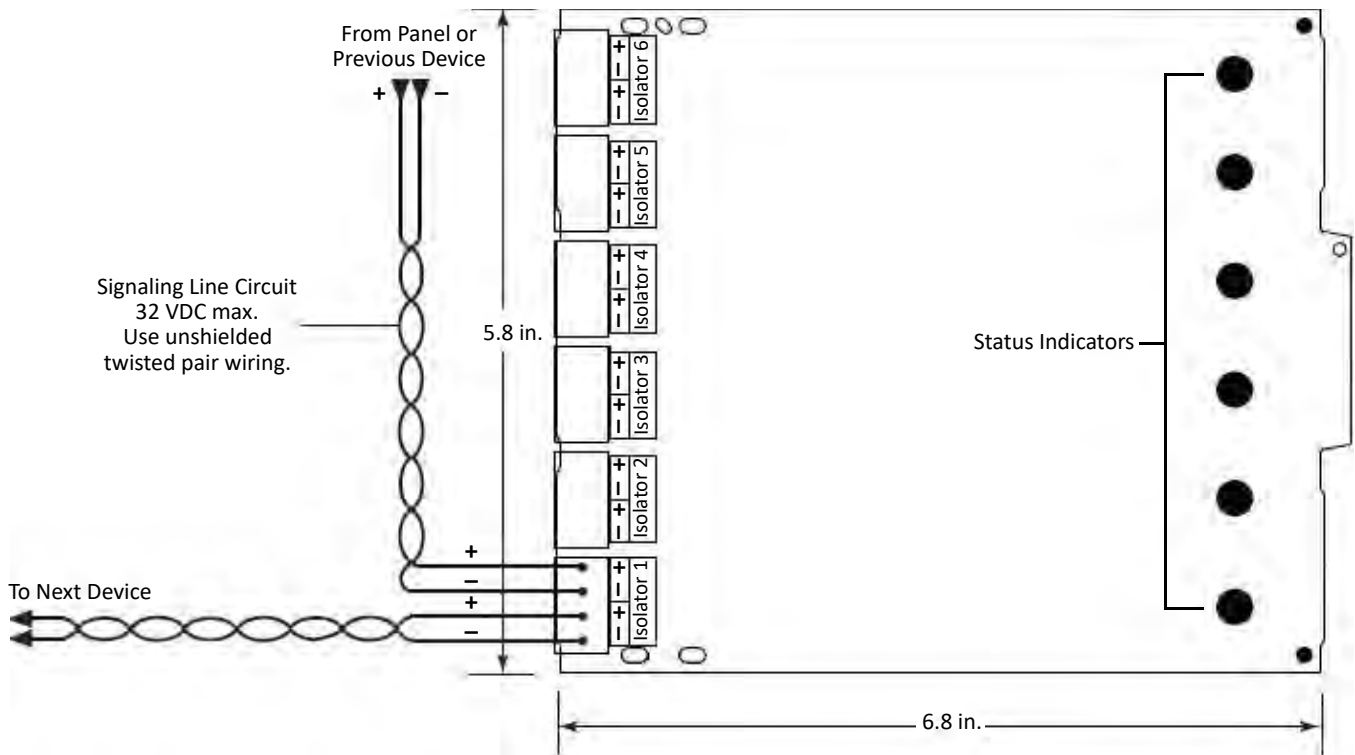
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# Addressable Intelligent Devices and Modules

## Wiring Diagram



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## Conventional Detection Devices

# Conventional Detection Devices Catalog Section

10

## Section 10. Conventional Detection Devices

### Smoke Detectors

Smoke Detector, 2- or 4-Wire, Photoelectric . . . . .	723-002-00
Smoke Detector, 2- or 4-Wire, Photoelectric, 135°F Fixed . . . . .	723-003-00
Smoke Detector . . . . .	723-340-00, 723-340-01, 723-508-00, 723-508-01
Smoke Detector . . . . .	723-372-00
Reflected Beam Smoke Detector . . . . .	725-313-00

### Heat Detectors

Heat Detector, 194° Fixed Temperature Rate Compensation . . . . .	721-107-00
Heat Detector, 194° Fixed Temperature Rate Compensation . . . . .	721-108-00
Heat Detector, 135° Fixed Temp/Rate Comp, Explosion-Proof . . . . .	721-109-00
Heat Detector, 194°F Fixed Temp/Rate Comp, Explosion-Proof . . . . .	721-110-00
Heat Detector, 135° Fixed Temperature Rate Compensation . . . . .	721-117-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-122-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-123-00
Heat Detector, 135°F Fixed Temperature/Rate Compensation . . . . .	721-125-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-127-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-128-00
Heat Detector, 194° Fixed Temperature Rate Compensation . . . . .	721-132-00
Heat Detector, 135° Fixed Temperature Rate Compensation . . . . .	721-133-00
Heat Detector, 190°F Fixed Temperature/Rate-of-Rise . . . . .	721-404-00
Heat Detector, 200°F Fixed Temperature/Rate Compensation . . . . .	721-405-00
Heat Detector, 194°F Fixed Temperature/Rate-of-Rise . . . . .	721-407-00
Heat Detector, 194°F Fixed Temperature/Rate-of-Rise . . . . .	721-408-00
Heat Detector, 135°F Fixed Temperature . . . . .	722-123-00
Heat Detector . . . . .	722-125-00, 722-409-00
Heat Detector 135°F Fixed Temperature . . . . .	722-127-00
Heat Detector, 194°F Fixed Temperature . . . . .	722-408-00

### Duct Detectors

Duct Smoke Detector, Photoelectric . . . . .	723-367-00
Duct Smoke Detector . . . . .	723-368-00
Duct Smoke Detector, Photoelectric . . . . .	723-369-00

### Flame Detectors – Reserved



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## Pull Stations

Pull Station, Dual Action/Single Action Fire Alarm, NEMA 4X . . . . .	708-015-01, 708-015-03
Pull Station, Single Action. . . . .	708-022-00
Pull Station, Single Action. . . . .	708-025-01
Pull Station, Single Action. . . . .	708-025-03
Pull Station, Dual Action . . . . .	708-026-01
Pull Station, Dual/Single Action . . . . .	708-031-00

## Flow Switches

Pressure-Type Waterflow Switch . . . . .	514-001-00
Pressure-Type Supervisory Switch . . . . .	514-003-00

## Tamper Switches

Outside Screw & Yoke Valve Supervisory/Tamper Switch . . . . .	514-000-00, 514-000-01
--	------------------------

## Carbon Monoxide Detectors

Carbon Monoxide Detector . . . . .	725-602-00, 725-602-01
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## Bases

Detector Base, Plug-in, 2-Wire . . . . .	729-097-00
Detector Base, Plug-in, 2-Wire . . . . .	729-150-00
Detector Base, Plug-in, 4-Wire . . . . .	729-151-00

## Accessories

Remote Test Station . . . . .	729-108-00
Remote Test Station with Key . . . . .	729-138-00

## End-of-Line Supervision Relays

End-of-Line Power Supervision Relay Module . . . . .	790-012-00
End-of-line Power Supervision Relay Module . . . . .	790-013-01

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## Smoke Detectors

### Conventional Detection Devices Catalog Section

10

#### Smoke Detectors

Smoke Detector, 2- or 4-Wire, Photoelectric. ....	723-002-00
Smoke Detector, 2- or 4-Wire, Photoelectric, 135°F Fixed. ....	723-003-00
Smoke Detector . . . . .	723-340-00, 723-340-01, 723-508-00, 723-508-01
Smoke Detector . . . . .	723-372-00
Reflected Beam Smoke Detector . . . . .	725-313-00

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## Conventional Detection Devices

### Smoke Detector, 2- or 4-Wire, Photoelectric 723-002-00



**Relative Humidity** 10% to 93%, non-condensing

**Dimensions** In base P/N 729-125-00:  
2 in. H x 4.1 in. OD (5.08 cm x 10.4 cm)  
In other associated bases:  
2 in. H x 6.2 in. OD (5.08 cm x 15.75 cm)

**Weight** 0.194 lb (0.088 kg)

**Mounting** Installs to single-gang, 3.5 in. octagon,  
4 in. octagon, or 4 in. square junction box

#### Standards Compliance:

**UL Listed** UL268A, File S911

**FM Approved** 3025009

**State of California** 7272-1653:0122

### Features

- White, photoelectric, conventional smoke detector  
**NOTE** Can be used as a pendant-mount duct detector in no flow/low flow (0 to 3,000 fpm) air handling systems
- Low profile, flame retardant thermoplastic exterior
- Compatible with 2-wire or 4-wire bases
- Optical sensing chamber
- Dual LEDs for 360 degree alarm visibility
  - LEDs latch on during alarm, flash during standby, and are off during trouble conditions
- Remote LED annunciator capable
- Internal magnet test reed switch
- Removable cover and screen
- Four plug-in detector base options with screw terminals for power, ground, remote annunciator, and relay contact connections as needed

### Specifications

**Operating Voltage** 8.5 to 35 VDC  
P/Ns 729-097-00, 729-151-00: 24 VDC;  
P/Ns 729-125-00, 729-150-00: 12/24 VDC

**Standby Current** 120  $\mu$ A maximum

**Velocity Range** 0 to 3,000 ft/minute (0 to 15.2 m/second)

**Latching Alarm** Momentary power interruption reset

**Open Area Protection** 30 ft. spacing (smooth ceiling)

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

### Ordering Information

Part Number	Description
723-002-00	Conventional Smoke Detector, Photoelectric, low profile, 2-wire or 4-wire (replacement spare part)

### Associated Parts

Part Number	Description
729-097-00	Conventional Detector Base, plug-in, low profile, 24 VDC, 2-wire, current-limiting resistor, 6.2 in. OD
729-125-00	Conventional Detector Base, plug-in, 12/24 VDC, 2-wire, 4 in. OD
729-150-00	Conventional Detector Base, plug-in, low profile, 12/24 VDC, 2-wire, 6.2 in. OD
729-151-00	Conventional Detector Base, plug-in, low profile, 24 VDC, 4-wire, Form A and C relay contacts, 6.2 in. OD
729-091-00	Remote LED Annunciator, fits standard single-gang electrical box (not included)
790-012-00	End-of-Line Power Supervision Relay Module, polarized, 9 to 40 VDC
790-013-01	End-of-Line Power Supervision Relay Module, non-polarized, 9 to 40 VDC, with built-in 47 kohm EOL resistor and a set of NC dry contacts



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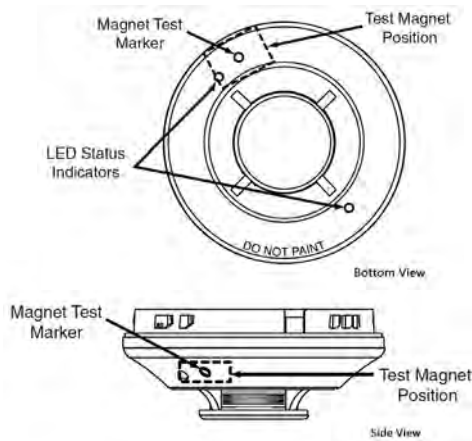
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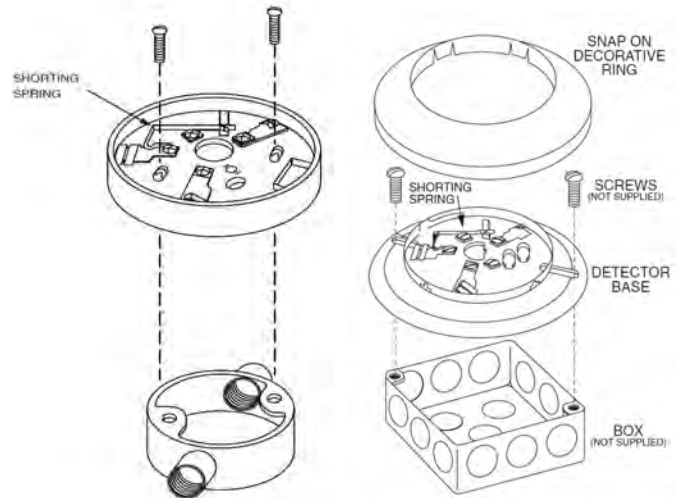
# Conventional Detection Devices

## Drawings

### Test Magnet

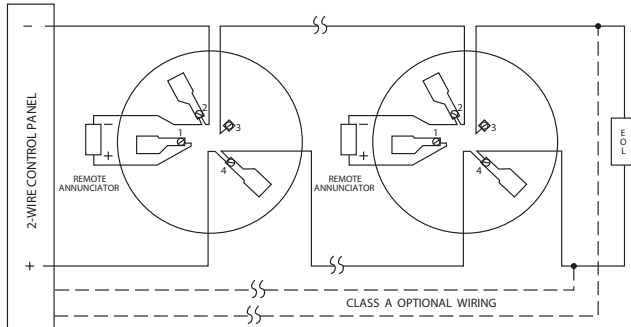


### Mounting



## Typical Detector Base Wiring Diagrams

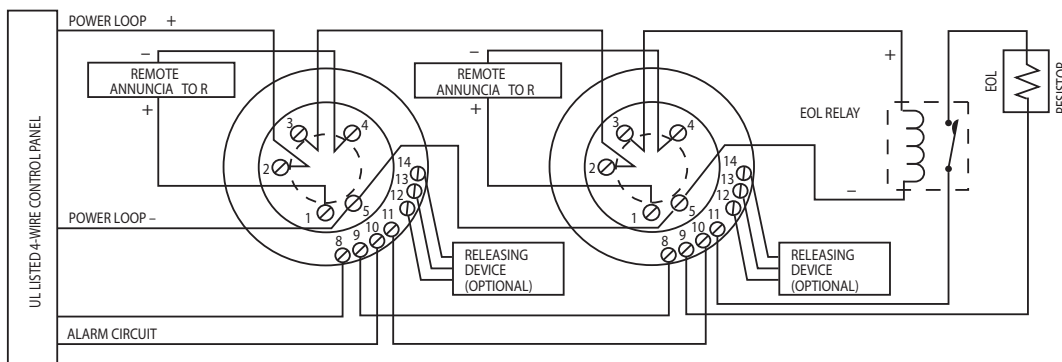
### 2-Wire



Detector Bases P/Ns  
729-097-00,  
729-125-00,  
729-150-00,  
or 729-151-00

Detector Bases P/Ns  
729-097-00,  
729-150-00,  
or 729-151-00

### 4-Wire



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## Conventional Detection Devices

### Smoke Detector, 2- or 4-Wire, Photoelectric, 135°F Fixed 723-003-00



**Velocity Range** 0 to 3,000 ft/minute (0 to 15.2 m/second)

**Latching Alarm** Momentary power interruption reset

**Open Area Protection** 30 ft. spacing (smooth ceiling)

**Operating Temperature** 32°F to 100°F (0°C to 38°C)

**Relative Humidity** 10% to 93%, non-condensing

**Dimensions** In base P/N 729-125-00:  
2 in. H x 4.1 in. D (5.08 cm x 10.4 cm)  
In other associated bases:  
2 in. H x 6.2 in. D (5.08 cm x 15.75 cm)

**Weight** 0.194 lb (0.088 kg)

**Mounting** Base P/N 729-097-00, P/N 729-150-00, or  
P/N 729-151-00 can be installed in a  
single-gang, 3.5 in. octagon, 4 in. octagon,  
or 4 in. square junction box

### Features

- White, photoelectric, 135°F fixed temperature, restorable, conventional smoke detector
- Low profile, flame retardant thermoplastic exterior
- Compatible with 2-wire or 4-wire bases
- Optical sensing chamber
- Dual LEDs for 360 degree alarm visibility
  - LEDs latch on during alarm, flash during standby, and are off during trouble conditions
- Output to optional remote LED annunciator
- Internal magnet test reed switch and direct heat thermal testing
- Detachable cover and screen
- Four plug-in detector base options with screw terminals for power, ground, remote annunciator, and relay contact connections as needed

### Specifications

**Relay Contact Ratings** Resistive or inductive  
(60% power factor load)  
Form A: 2A at 30 VAC/VDC  
Form C: 0.6A at 110 VDC, 2A at 30 VDC;  
1A at 125 VAC, 2A at 30 VAC

**Operating Voltage** 8.5 to 35 VDC  
P/Ns 729-151-00, 729-097-00: 24 VDC;  
P/Ns 729-125-00, 729-150-00: 12/24 VDC

**Standby Current** 120 µA maximum

### Standards Compliance:

**UL Listed** UL268A, File S911

**FM Approved** 3025009

**State of California** 7272-1653:0122

**MEA Approved** 205-94-E Vol. 8

### Ordering Information

Part Number	Description
723-003-00	Conventional Photoelectric Smoke Detector, 2-wire or 4-wire, 135°F fixed temperature, restorable, plug-in, low profile,

### Associated Parts

Part Number	Description
729-097-00	Conventional Detector Base, plug-in, low profile, 24 VDC, 2-wire, current-limiting resistor, 6.2 in. OD
729-125-00	Conventional Detector Base, plug-in, 12/24 VDC, 2-wire, 4 in. OD
729-150-00	Conventional Detector Base, plug-in, low profile, 12/24 VDC, 2-wire, 6.2 in. OD
729-151-00	Conventional Detector Base, plug-in, low profile, 24 VDC, 4-wire, Form A and C relay contacts, 6.2 in. OD
729-091-00	Remote Red LED Annunciator, fits standard single-gang electrical box (not included)



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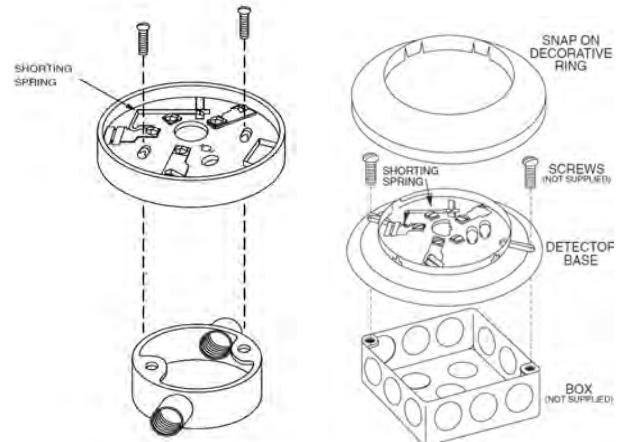
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Phone (509) 926-6277 Fax (509) 924-4980 E-mail [service@monaco-inc.com](mailto:service@monaco-inc.com) Web [www.monaco-inc.com](http://www.monaco-inc.com)



# Conventional Detection Devices

Part Number	Description
790-012-00	End-of-Line Power Supervision Relay Module, polarized, 9 to 40 VDC
790-013-01	End-of-Line Power Supervision Relay Module, non-polarized, 9 to 40 VDC, with built-in 47 kohm EOL resistor and a set of NC dry contacts

## Mounting

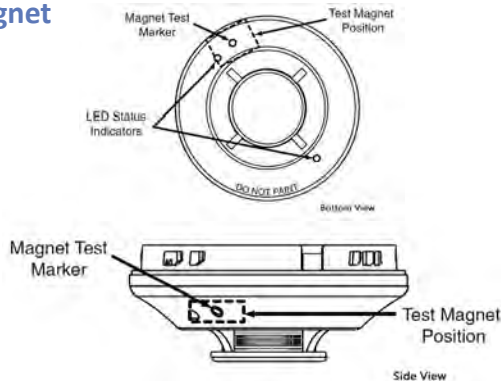


Detector Bases P/Ns  
729-097-00,  
729-125-00,  
729-150-00,  
or 729-151-00

Detector Bases P/Ns  
729-097-00,  
729-150-00,  
or 729-151-00

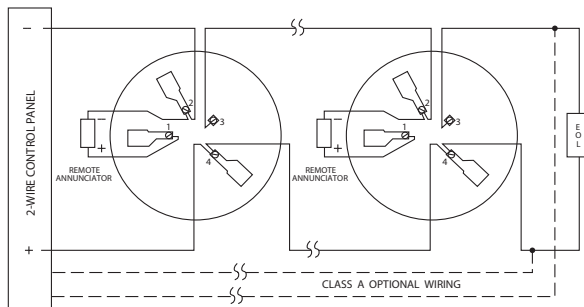
## Drawings

### Test Magnet

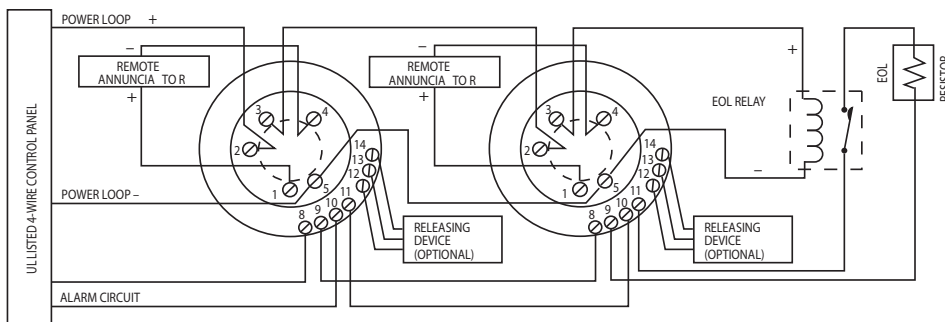


## Typical Detector Base Wiring Diagrams

### 2-Wire



### 4-Wire



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# Conventional Detection Devices

## Smoke Detector

723-340-00, 723-340-01, 723-508-00, 723-508-01

### Description

These are 2-wire and 4-wire detectors, some with a fixed-temperature heat sensor for open area protection. The base is included.



All models incorporate a state-of-the-art optical sensing chamber and an advanced microprocessor. The microprocessor allows the detector to adjust its sensitivity due to contaminants settling in its chamber.

### Features

- Plug-in design
- P/Ns 723-340-01 and 723-508-01 have a built-in restorable heat sensor that can also detect a freeze condition
- Red LED and green LED indicators
- Sensing chamber is screened
- Built-in test switch
- Tamper resistant

### Specifications

**Operating Voltage** Nominal: 12/24 VDC (non-polarized)  
Range: 8.5 to 35 VDC  
Max. Ripple: 30% P-P applied voltage

**Standby Current** 50  $\mu$ A maximum average

**Max. Alarm Current** 2-Wire: 130 mA, limited by panel  
4-Wire: 20 mA 12 VDC, 23 mA 24 VDC

**Alarm Reset Time** 0.3 seconds

**Sensitivity** 2.5% per foot, nominal

**Heat Sensor** Heat: 135°F fixed (57.2°C)  
(Applicable Units) Freeze Trouble: <41°F (4°C)

**Input Wiring** 14 to 22 AWG (twisted pair acceptable)

**Operating Temperature** Smoke Detectors without Heat Sensor:  
32°F to 120°F (4°C to 49°C)  
Smoke Detectors with Heat Sensor:  
32°F to 100°F (4°C to 37.8°C)

**Relative Humidity** 0% to 95%, non-condensing

**Dimensions (with Base)** 2 in. H x 5.3 in. OD (5.08 cm x 13.5 cm)

**Weight** 6.3 oz (0.18 kg)

**Mounting** Installs to single-gang back box,  
3.5 in. octagonal back box, 4 in. square  
back box, or mount to ceiling

**Standards Compliance:**

**UL Listed** S911

**FM Approved** 3011446

**MEA Approved** 290-01-E

**State of California** 7272-1653:0152

**Intertek Listed** 3180932

### LED Modes

Mode	Green LED	Red LED
Power-up	Blink every 10 seconds	Blink every 10 seconds
Normal	Blink every 5 seconds	Off
Out of Sensitivity	Off	Blink every 5 seconds
Freeze Trouble	Off	Blink every 10 seconds
Alarm	Off	On solid

### Ordering Information

Part Number	Description
723-340-00	Conventional Photoelectric Smoke Detector, 2-wire, plug-in
723-340-01	Conventional Photoelectric Smoke Detector, 2-wire, restorable, 135°F fixed-temperature, freeze detection, plug-in
723-508-00	Conventional Photoelectric Smoke Detector, 4-wire, plug-in
723-508-01	Conventional Photoelectric Smoke Detector, 4-wire, restorable 135°F fixed-temperature, freeze detection, plug-in



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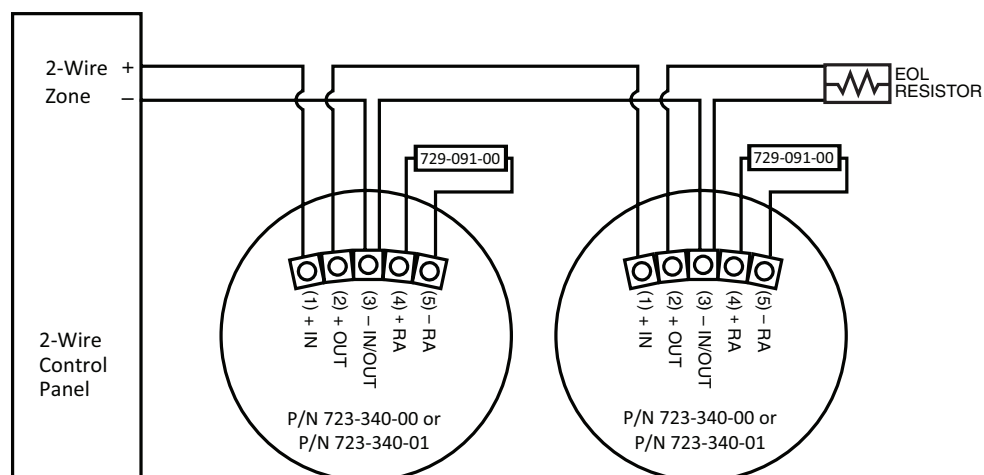
# Conventional Detection Devices

## Associated Parts

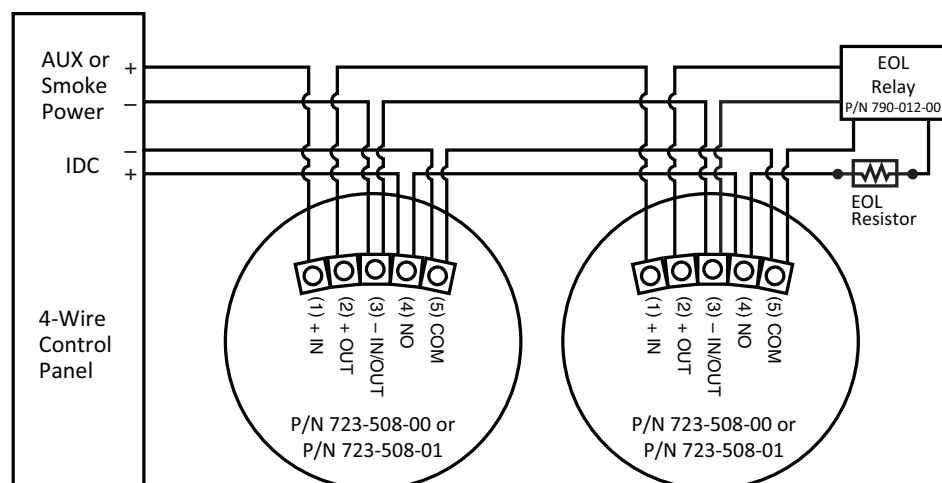
Part Number	Description
<b>729-091-00</b>	Remote Red LED Annunciator, fits standard single-gang electrical box (not included)
<b>790-012-00</b>	End-of-Line Power Supervision Relay Module, polarized, 9 to 40 VDC

## Wiring Diagrams

### 2-Wire Detectors P/N 723-340-00 and P/N 723-340-01



### 4-Wire Detectors P/N 723-508-00 and P/N 723-508-01



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# Conventional Detection Devices

## Smoke Detector

723-372-00

### Description

This conventional four-wire low profile photoelectric smoke detector uses a state-of-the-art optical sensing chamber. This detector is for duct smoke detector assemblies and requires *intelligent* base P/N 729-132-00 or 729-127-00 only.



Two LEDs:

- Local 360-degree visible alarm indication
- Flash every five seconds for normal operation
- Latch on during an alarm, off for a trouble

Alarm reset options:

- Momentary power interruption from control panel
- Test/reset button on duct assembly power board
- Remote test accessory with reset function

Testing options:

- Magnet on detector's "magnet test" location
- Test/reset button on duct assembly power board
- Remote test accessory

### Features

- Low profile, plug-in
- Sensitivity can be checked to meet NFPA 72
- Four-wire base compatibility
- Low standby current
- Signal processing reduces false alarms
- Built-in test switch

### Specifications

*Operating Voltage* 15 to 32 VDC

*Standby Current* 150  $\mu$ A or 170  $\mu$ A, max., depending on base

*Operating Temperature* -4°F to 158°F (-20°C to 70°C)

*Relative Humidity* 10% to 95% non-condensing

*Dimensions* Diameter: depends on base  
Height: 2 in.

*Weight* 3.1 oz

### Ordering Information

#### Smoke Detector

Part Number	Description
723-372-00	Conventional Duct Smoke Detector, photoelectric, plug-in, 24 VDC/VAC



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# Conventional Detection Devices

## Base

One of these is required.

Part Number	Description
<b>729-132-00</b>	Intelligent Detector Mounting Base, plug-in, flanged: <ul style="list-style-type: none"><li>• Standby current: 170 <math>\mu</math>A</li><li>• Wiring: 12–18 AWG</li><li>• Mounting:<ul style="list-style-type: none"><li>Single gang</li><li>4 in. square (plaster ring optional)</li><li>3.5 in., 4 in. octagonal</li><li>70 mm</li></ul></li><li>• Diameter: 6.1 in.</li><li>• Height: 0.76 in.</li><li>• Operating temperature: –4 to 158°F (–20 to 70°C)</li><li>• Relative humidity: 10–93%, noncondensing</li></ul>
<b>729-127-00</b>	Intelligent Detector Mounting Base, plug-in, flangeless: <ul style="list-style-type: none"><li>• Standby current: 150 <math>\mu</math>A</li><li>• Wiring: 12–18 AWG</li><li>• Mounting:<ul style="list-style-type: none"><li>4 in. square (plaster ring required)</li><li>3.5 in. octagonal</li><li>50 mm, 60 mm, 70 mm</li></ul></li><li>• Diameter: 4.1 in.</li><li>• Height: 0.74 in.</li><li>• Operating temperature: –4 to 158°F (–20 to 70°C)</li><li>• Relative humidity: 10–93%, noncondensing</li></ul>

## Associated Parts

Part Number	Description
<b>729-091-00</b>	Remote LED Annunciator
<b>790-012-00</b>	End-of-line Power Supervision Relay Module, 9–40 VDC
<b>729-108-00</b>	Duct Smoke or Beam Detector, remote test station with LED
<b>729-138-00</b>	Duct Smoke or Beam Detector, remote test station with LED and key



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# Conventional Detection Devices

## Reflected Beam Smoke Detector

725-313-00



### Description

This is a conventional, single-ended reflected type, long-range projected beam, smoke detector. It is intended for open-area protection in locations where spot-type detection is impractical. Such environments can include freezers, warehouses, factories, parking facilities, arenas, concert halls, and barns.

Environments unsuitable for the detector include high humidity and/or rapidly changing temperatures, outdoors, locations where direct sunlight will strike the detector, or locations where glass panes or other objects will be in the path of the optical beam between the detector and the reflector.

The detector consists of a transmitter/receiver unit and a separate reflector. It is a four-wire system connected to a compatible control panel for communication and DC power.

### Indicators

- **Green LED** Blinks indicate standby
- **Red LED** On indicates alarm
- **Yellow LED** Blink pattern indicates trouble diagnostics

### Testing

Integral sensitivity (obscuration) test, local test switch, or test commands from the panel or optional remote test station.

### Features

- Combined transmitter/receiver unit
- Wide 12 degree field of view
- Fast, easy, and intuitive beam alignment
- Resistant to solid object intrusion
- Automatic sensitivity threshold level setting
- Highly resistant to building movement; tolerates  $\pm 1$  degree of movement
- Removable plug-in terminal blocks
- Resistant to strong light sources; does not alarm when saturated by sunlight
- Built-in imager heater
- Remote test station capable for electronic simulated smoke test from ground level
- Signal-strength monitoring for updating alarm and trouble thresholds
- Paintable housing/cover
- Automatic drift compensation

### Specifications

<i>Operating Voltage</i>	10.2 to 32 VDC, 12/24 VDC nominal
<i>Standby Current</i>	11 mA maximum at 24 VDC
<i>Alarm Current</i>	15 mA maximum at 24 VDC (LED on)
<i>Range</i>	16.4 to 328 ft. (5 to 100 m)
<i>Spacing</i>	30 to 60 ft. (9.1 to 18.3 m)
<i>Adjustment Angle</i>	Detector: 50 degrees horizontal, 20 degrees vertical beam alignment Reflector: $\pm 10$ degrees horizontal and vertical
<i>Typical Response Time</i>	Alarm: 20 seconds Trouble: 30 seconds



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# Conventional Detection Devices

**Sensitivity Levels** Level 1: 25% obscuration,  
Level 2: 30% obscuration,  
Level 3: 40% obscuration,  
Level 4: 50% obscuration (factory default)

**Input Wiring** 14 AWG

**Operating Temperature** UL Listed Range:  
32°F to 100°F (0°C to 37.8°C)  
Application Range:  
-4°F to 131°F (-20°C to 55°C)

**Relative Humidity** 0% to 95% non-condensing

**Detector Dimensions** 6 in. H x 10 in. W x 4.5 in. D  
(15.24 cm x 25.4 cm x 11.43 cm)

**Reflector Dimensions** 9.06 in. H x 7.87 in. W (23 cm x 20 cm)

**Weight** Shipping: 3.91 lb (1.77 kg)  
Installed: 2.48 lb (1.12 kg)

**Standards Compliance:**

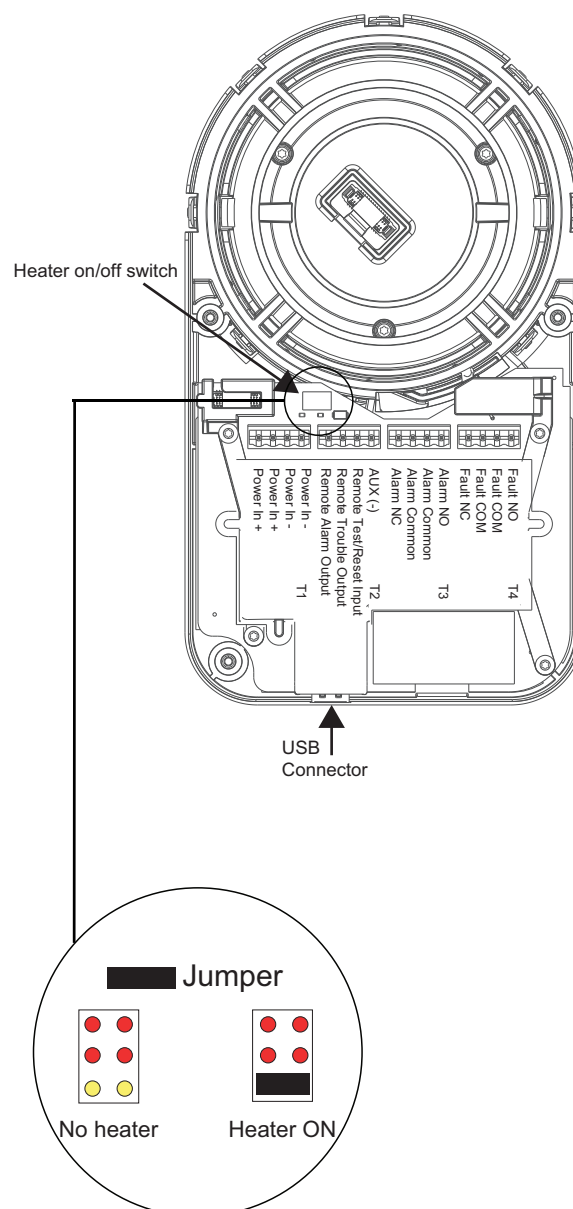
UL Listed S911

FM Approved PR449231

State of California 7260-1653:0514

## Diagrams

### Wiring Connections



## Ordering Information

Part Number	Description
725-313-00	Conventional Reflected Beam Smoke Detector, 32V max., 4-wire, integral sensitivity test capability

## Associated Parts

Part Number	Description
729-108-00	Duct Smoke Detector, remote test station with LED See NOTE.
729-138-00	Duct Smoke Detector, remote test station with LED and key. See NOTE.
729-188-00	Kit of three additional reflectors to extend range of smoke detector P/N 725-313-00 from 230 to 328 feet; not compatible with P/N 729-187-00
729-189-00	Kit required for smoke detector P/N 725-313-00 when mounting the transmitter/receiver unit: <ul style="list-style-type: none"><li>• Over a recessed J box</li><li>• With multi-mount kit P/N 729-187-00</li></ul>

**NOTE** Test station can be used for smoke detector applications other than duct.



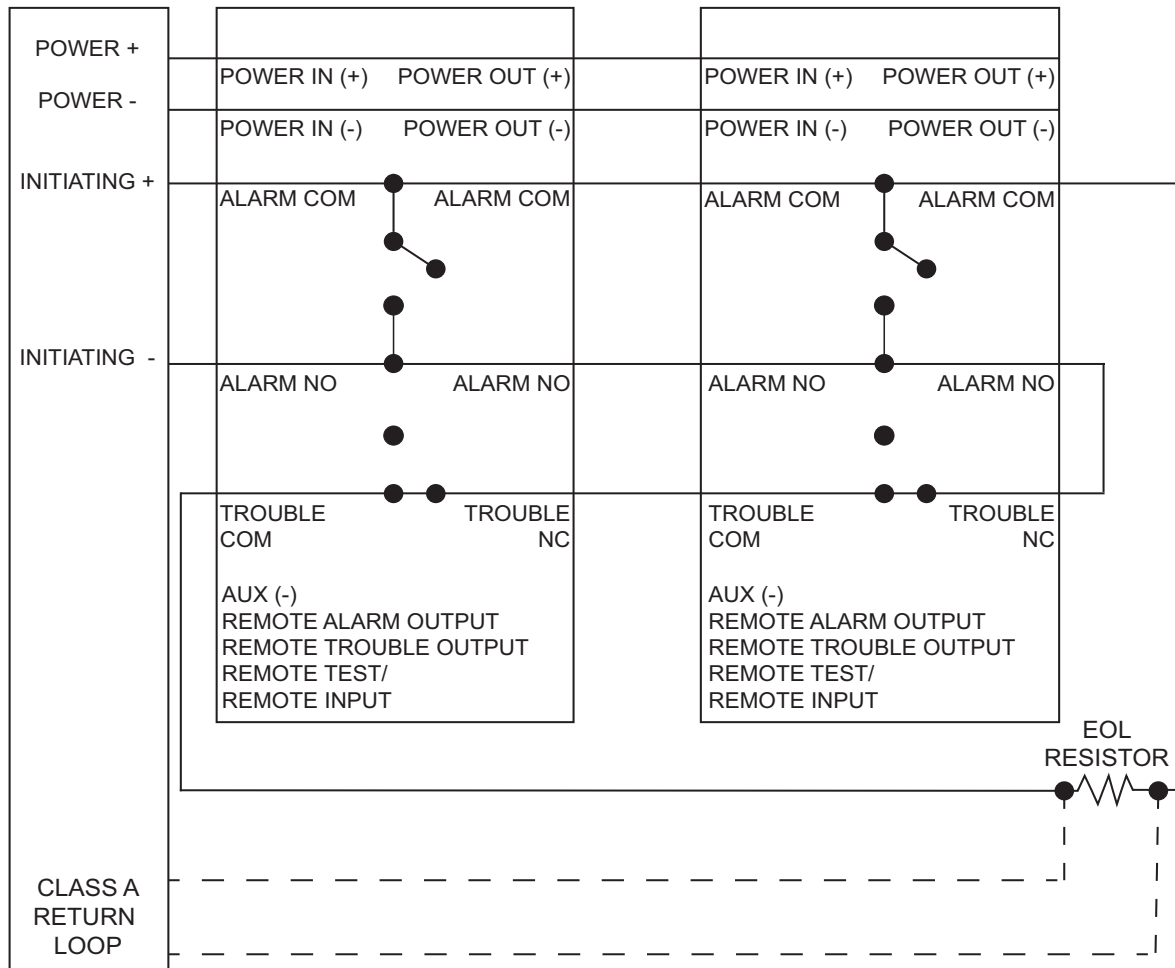
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# Conventional Detection Devices

## Wiring Diagram



NOTE: If other sensors are installed on the same loop, a listed end of line power supervision module is required.



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## Heat Detectors

### Conventional Detection Devices Catalog Section

10

#### Heat Detectors

Heat Detector, 194° Fixed Temperature Rate Compensation . . . . .	721-107-00
Heat Detector, 194° Fixed Temperature Rate Compensation . . . . .	721-108-00
Heat Detector, 135° Fixed Temp/Rate Comp, Explosion-Proof . . . . .	721-109-00
Heat Detector, 194°F Fixed Temp/Rate Comp, Explosion-Proof . . . . .	721-110-00
Heat Detector, 135° Fixed Temperature Rate Compensation . . . . .	721-117-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-122-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-123-00
Heat Detector, 135°F Fixed Temperature/Rate Compensation . . . . .	721-125-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-127-00
Heat Detector, 135°F Fixed Temperature/Rate-of-Rise . . . . .	721-128-00
Heat Detector, 194° Fixed Temperature Rate Compensation . . . . .	721-132-00
Heat Detector, 135° Fixed Temperature Rate Compensation . . . . .	721-133-00
Heat Detector, 190°F Fixed Temperature/Rate-of-Rise . . . . .	721-404-00
Heat Detector, 200°F Fixed Temperature/Rate Compensation . . . . .	721-405-00
Heat Detector, 194°F Fixed Temperature/Rate-of-Rise . . . . .	721-407-00
Heat Detector, 194°F Fixed Temperature/Rate-of-Rise . . . . .	721-408-00
Heat Detector, 135°F Fixed Temperature . . . . .	722-123-00
Heat Detector . . . . .	722-125-00, 722-409-00
Heat Detector 135°F Fixed Temperature . . . . .	722-127-00
Heat Detector, 194°F Fixed Temperature . . . . .	722-408-00

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## Conventional Detection Devices

# Heat Detector, 194° Fixed Temperature Rate Compensation 721-107-00



**MEA**  
approved

- Detector should not respond to momentary temperature fluctuation of less than 50°F (10°C) per minute between 60°F (15.6°C) and 150°F (66°C)
- Two testing options
  - Controlled heat source test at the device, or
  - Sensitivity calibration test performed in a lab
- Detector has RTI rating for installation of V-FAST
- Interior vertical mounting

### Specifications

*Operating Voltage/Current* 6 to 125 VAC / 5A  
6 to 25 VDC / 1A  
125 VDC / 0.5A

*Detector Type* Fixed Temperature  
Rate Compensation

*Contacts* Normally Open (NO)

*Detector Rated Temperature* 194°F (90°C)

*Min. Ambient Air Temperature* -40°F (-40°C)

*Max. Ceiling Temperature* 150°F to 155°F (66°C to 68°C)

*Open Area Protection* 50 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)

*Vertical Mounting* 3 in. or 4 in. octagon junction box

*Dimensions with Mounting Bracket* 4.125 in. L x 2 in. OD  
(105 mm x 51 mm)

*Standards Compliance:* NFPA Standard 72

*UL Listed* S539

*FM* Approved

*State of California* 7270-0021:0001

*MEA Acceptance* 193-03-E

### Features

- Aluminum housing Conventional heat detector
  - Shock and corrosion resistant
  - Tamper resistant
  - Hermetically sealed
  - Nonferrous
  - 194°F Fixed Temperature Rate Compensation
    - Slow rate of temperature rise
    - Rapid rate of temperature rise
    - Normally Open (NO) contacts
    - Restorable
- Detector automatically resets when ambient temperature drops below rated temperature



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# Conventional Detection Devices

## Ordering Information

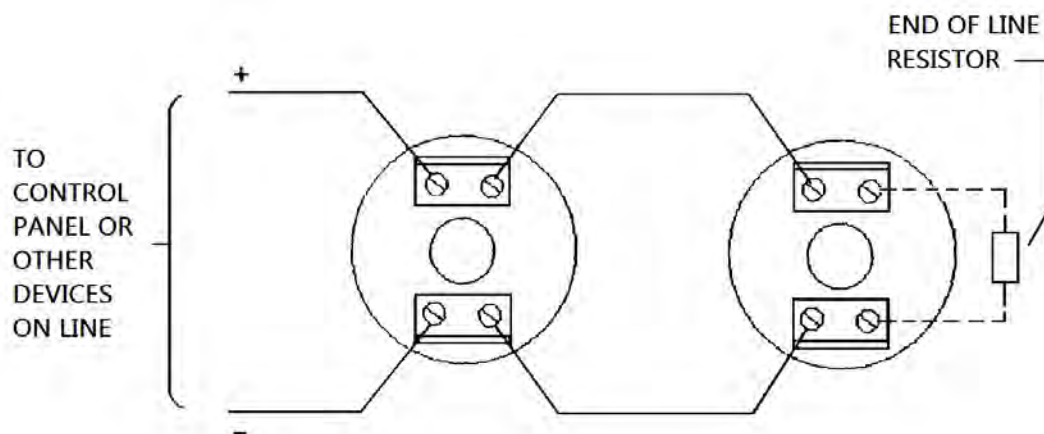
Part Number	Description
<b>721-107-00</b>	Heat Detector, rate compensation 194°F Fixed Temperature (restorable), aluminum, contacts normally open

## Associated Parts

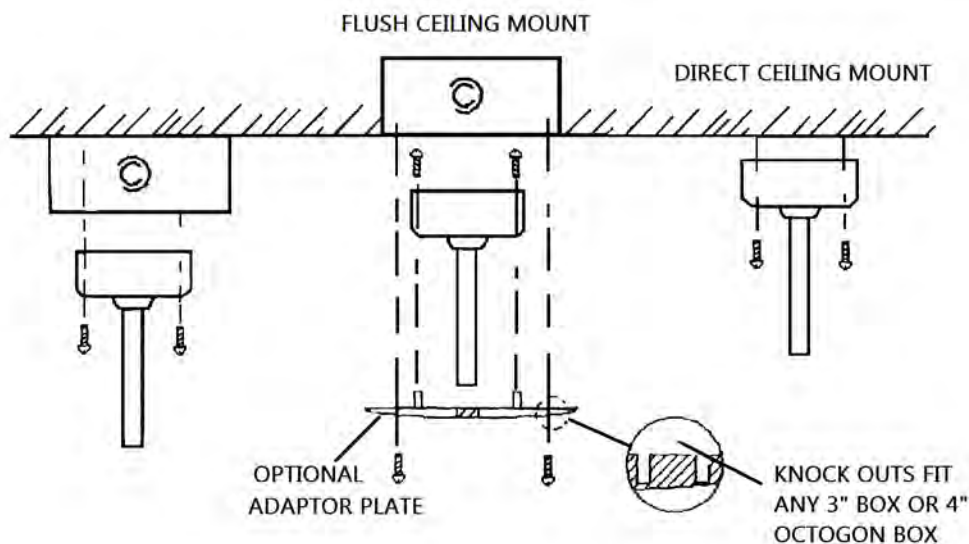
Part Number	Description
<b>729-020-00</b>	Adaptor Plate, white, 4 in. plastic box

## Drawings

### Wiring Diagram



### Junction Box Mounting



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## Conventional Detection Devices

### Heat Detector, 194° Fixed Temperature Rate Compensation 721-108-00



**MEA**  
approved

#### Features

- Aluminum housing Conventional heat detector
- Shock and corrosion resistant
- Tamper resistant
- Hermetically sealed
- Nonferrous
- 194°F Fixed Temperature Rate Compensation
  - Slow rate of temperature rise
  - Rapid rate of temperature rise
  - Normally Open (NO) contacts
  - RestorableDetector automatically resets when ambient temperature drops below rated temperature

- Detector should not respond to momentary temperature fluctuation of less than 50°F (10°C) per minute between 60°F (15.6°C) and 150°F (66°C)
- Two testing options
  - Controlled heat source test at the device, or
  - Sensitivity calibration test performed in a lab
- Detector has RTI rating for installation of V-FAST
- Open-area protection
- Weatherproof

#### Specifications

*Operating Voltage/Current* 6 to 125 VAC / 5A  
6 to 25 VDC / 1A  
125 VDC / 0.5A

*Detector Type* Rate Compensation  
4-Wire Leads, Weatherproof

*Contacts* Normally Open (NO)

*Detector Rated Temperature* 194°F (90°C)

*Min. Ambient Air Temperature* -40°F (-40°C)

*Max. Ceiling Temperature* 150°F to 155°F (66°C to 68°C)

*Open Area Protection* Vertical Mount: 50 ft. spacing  
(assumes a flat, uninterrupted ceiling  
at a height not exceeding 10 ft./3m)

*Vertical Mounting* 3 in. or 4 in. octagon junction box

*Dimensions with  
Mounting Bracket* 4.125 in. L x 2 in. OD  
(105 mm x 51 mm)

*Standards Compliance:* NFPA Standard 72

*UL Listed* S539

*FM* Approved

*State of California* 7270-0021:0001

*MEA Acceptance* 193-03-E



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# Conventional Detection Devices

## Ordering Information

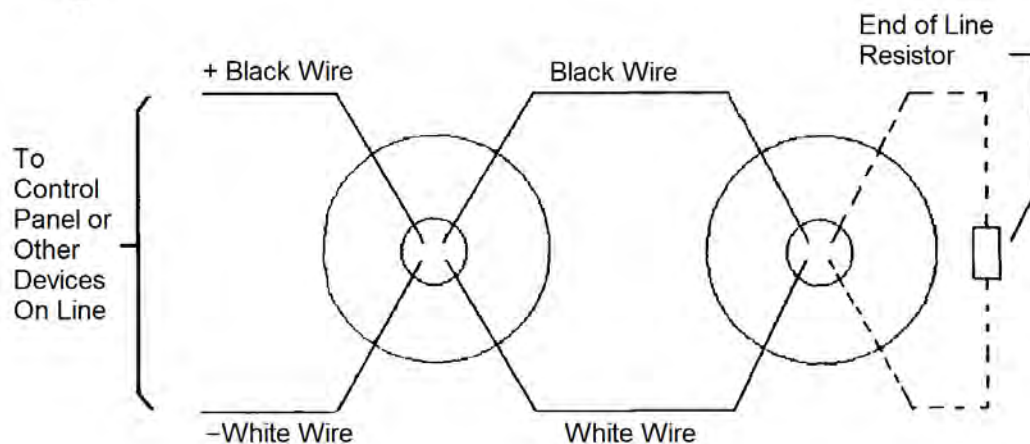
Part Number	Description
<b>721-108-00</b>	Heat Detector, rate compensation 194°F Fixed Temperature (restorable), aluminum with 4-wire leads, contacts normally open, weatherproof

## Associated Parts

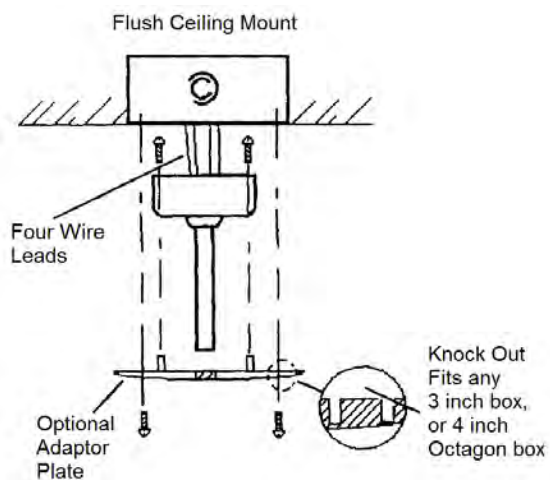
Part Number	Description
<b>729-020-00</b>	Adaptor Plate, white, 4 in. plastic box

## Drawings

### Wiring Diagram



### Junction Box Mounting



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## Conventional Detection Devices

### Heat Detector, 135° Fixed Temp/Rate Comp, Explosion-Proof 721-109-00



- Detector should not respond to momentary temperature fluctuation of less than 30°F (1.1°C) per minute between 60°F (15.6°C) and 100°F (38°C)
- Two testing options
  - Controlled heat source test at the device, or
  - Sensitivity calibration test performed in a lab
- Detector has RTI rating for installation of V-FAST
- Vertical or Horizontal Interior Mounting
- Explosion-Proof

#### Specifications

*Operating Voltage/Current* 6–125 VAC / 5A  
6–25 VDC / 1A  
125 VDC / 0.5A

*Detector Type* Rate Compensation

*Contacts* Normally Open (NO)

*Detector Rated Temperature* 135°F (57°C)

*Min. Ambient Air Temperature* –40°F (–40°C)

*Max. Ceiling Temperature* 100°F to 115°F (38°C to 46°C)

*Open Area Protection* Vertical Mount: 40 ft. spacing  
(assumes a flat, uninterrupted ceiling  
at a height less than 10 ft./3m)  
Horizontal Mount: 30 ft. spacing

*Mounting* Hexagonal grip bushing with 0.5 in.  
conduit threads for attaching to  
threaded hub cover of JL fixture  
fitting (manufacturer Killark Electric  
or equal) Must be hand tightened  
only

*Dimensions* 3 in. L x 1.25 in. OD  
(76.2 mm x 31.75 mm)

*Standards Compliance* NFPA Standard 72

*UL Listed* E35018

*State of California* 7270-0021:0001

*MEA Acceptance* 193-03-E

*Conduit Outlet Boxes* UL E10514 (P/Ns 729-193-00,  
588-103-00)

*UL Listed for Hazardous Locations* Class I, Div. 1 & 2, Groups C, D  
Class II, Div. 1 & 2, Groups E, F, G  
Class III

#### Features

- Aluminum housing Conventional heat detector
  - Shock and corrosion resistant
  - Tamper resistant
  - Hermetically sealed
  - Nonferrous
  - 135°F Fixed Temperature Rate Compensation
    - Slow rate of temperature rise
    - Rapid rate of temperature rise
    - Normally Open (NO) contacts
    - Restorable
- Detector automatically resets when ambient temperature drops below rated temperature



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# Conventional Detection Devices

## Ordering Information

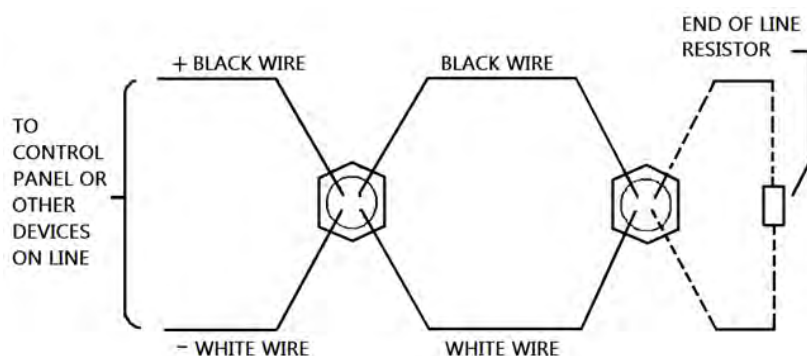
Part Number	Description
<b>721-109-00</b>	Heat Detector, rate compensation 135°F Fixed Temperature (restorable), aluminum, contacts normally open, explosion-proof

## Associated Parts

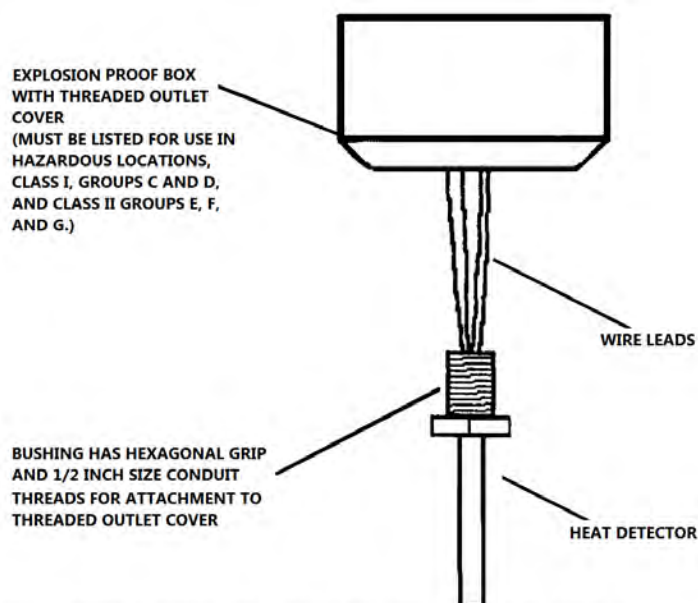
Part Number	Description
<b>729-193-00</b>	Conduit Outlet Box with Cover, explosion-proof. Box has two 1/2 in. threaded conduit entries on opposite sides. Cover as one 1/2 in. threaded conduit entry. See specifications for UL Listing.
<b>588-103-00</b>	Conduit Outlet Box with Cover, explosion-proof. Box has four 3/4 in. threaded conduit entries, one on each side. Cover has one 1/2 in. threaded conduit entry. See specifications for UL Listing.

## Drawings

### Wiring Diagram



## Mounting



EACH DETECTOR SHOULD HAVE NO TORQUE (I.E., TIGHTENING WITH A WRENCH). HAND TIGHTEN ONLY. FOR EXTERNAL USE ONLY.



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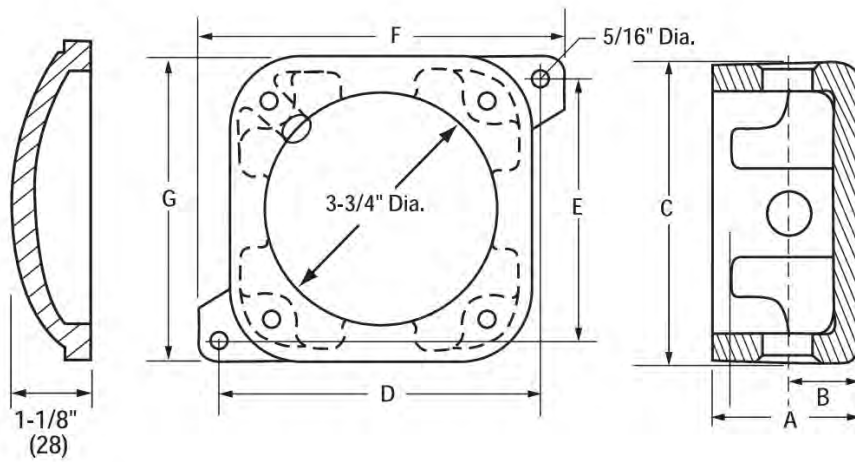
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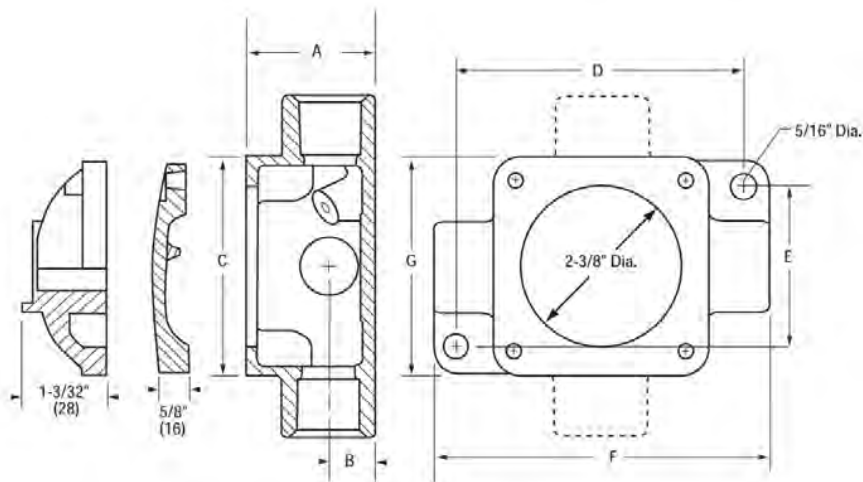
# Conventional Detection Devices

## Outlet Box and Cover Dimensions

588-103-00



729-103-00



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## Conventional Detection Devices

# Heat Detector, 194°F Fixed Temp/Rate Comp, Explosion-Proof 721-110-00



- Detector should not respond to momentary temperature fluctuation of less than 50°F (10°C) per minute between 60°F (15.6°C) and 150°F (66°C)
- Two testing options
  - Controlled heat source test at the device, or
  - Sensitivity calibration test performed in a lab
- Detector has RTI rating for installation of V-FAST
- Vertical or horizontal interior mounting
- Explosion-proof

### Specifications

*Operating Voltage/Current* 6–125 VAC / 5A  
6–25 VDC / 1A  
125 VDC / 0.5A

*Detector Type* Rate Compensation

*Contacts* Normally Open (NO)

*Detector Rated Temperature* 194°F (90°C)

*Min. Ambient Air Temperature* –40°F (–40°C)

*Max. Ceiling Temperature* 150°F to 155°F (66°C to 68°C)

*Open Area Protection* Vertical Mount: 40 ft. spacing  
(assumes a flat, uninterrupted ceiling  
at a height not exceeding 10 ft./3m)  
Horizontal Mount: 30 ft. spacing

*Mounting* Hexagonal grip bushing with 1/2 in.  
conduit threads for attaching to  
threaded outlet box cover of JL  
fixture fitting (manufacturer Killark  
Electric or equal) Must be hand  
tightened only

*Dimensions* 3 in. L x 1.25 in. OD  
(76.2 mm x 31.75 mm)

*Standards Compliance* NFPA Standard 72

*UL Listed* E35018

*State of California* 7270-0021:0001

*MEA Acceptance* 193-03-E

*Conduit Outlet Boxes* UL E10514 (P/Ns 729-193-00,  
588-103-00)

*UL Listed for Hazardous*  
*Locations* Class I, Div. 1 & 2, Groups C, D  
Class II, Div. 1 & 2, Groups E, F, G  
Class III

### Features

- Aluminum housing Conventional heat detector
- Shock and corrosion resistant
- Tamper resistant
- Hermetically sealed
- Nonferrous
- 194°F Fixed Temperature Rate Compensation
  - Slow rate of temperature rise
  - Rapid rate of temperature rise
  - Normally Open (NO) contacts
  - RestorableDetector automatically resets when ambient temperature drops below rated temperature



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# Conventional Detection Devices

## Ordering Information

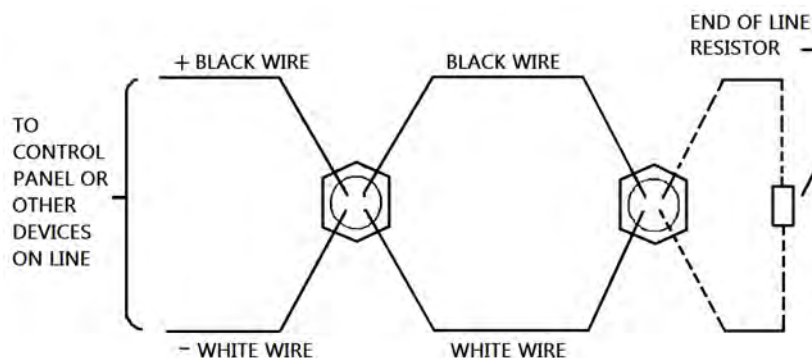
Part Number	Description
<b>721-110-00</b>	Heat Detector, rate compensation 194°F Fixed Temperature (restorable), aluminum, contacts normally open, explosion-proof

## Associated Parts

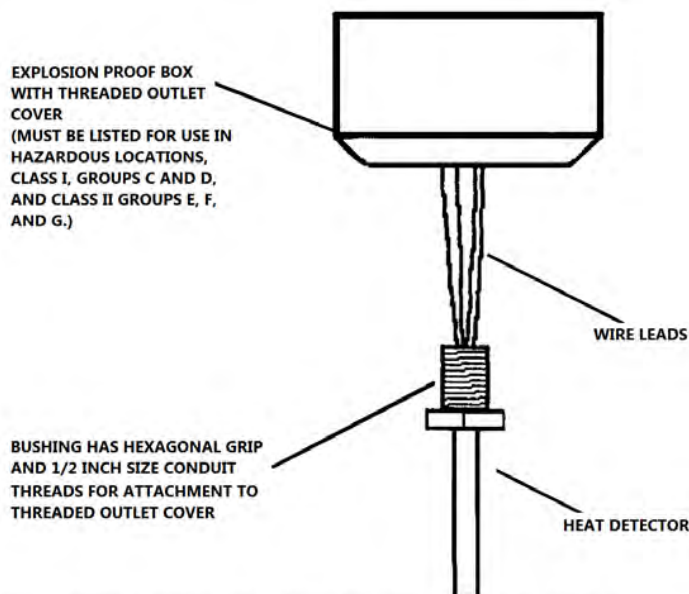
Part Number	Description
<b>729-193-00</b>	Conduit Outlet Box with Cover, explosion-proof. Box has two 1/2 in. threaded conduit entries on opposite sides. Cover as one 1/2 in. threaded conduit entry. See specifications for UL Listing.
<b>588-103-00</b>	Conduit Outlet Box with Cover, explosion-proof. Box has four 3/4 in. threaded conduit entries, one on each side. Cover has one 1/2 in. threaded conduit entry. See specifications for UL Listing.

## Drawings

### Wiring Diagram



## Mounting



EACH DETECTOR SHOULD HAVE NO TORQUE (I.E., TIGHTENING WITH A WRENCH). HAND TIGHTEN ONLY. FOR EXTERNAL USE ONLY.



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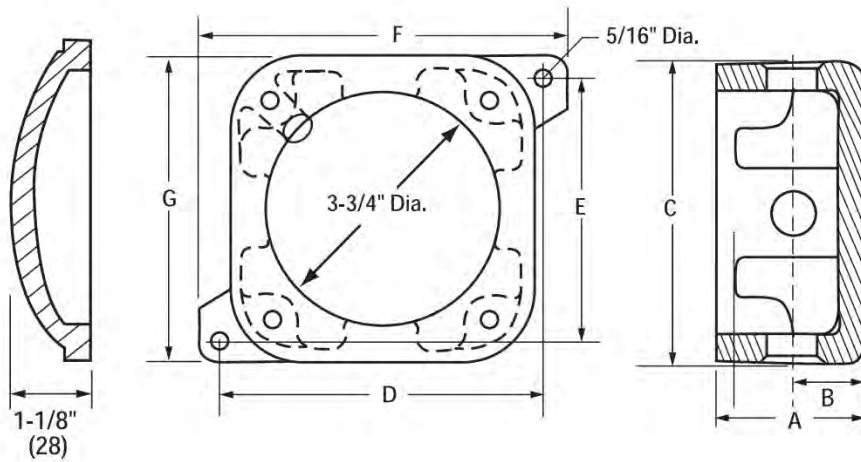
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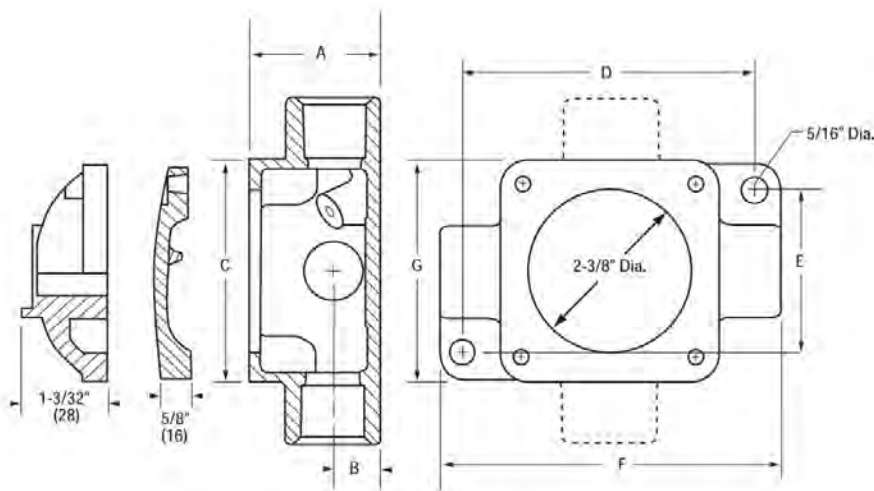
# Conventional Detection Devices

## Outlet Box Cover and Dimensions

588-103-00



729-103-00



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## Conventional Detection Devices

### Heat Detector, 135° Fixed Temperature Rate Compensation 721-117-00



- Detector should not respond to momentary temperature fluctuation of less than 30°F (1.1°C) per minute between 60°F (15.6°C) and 100°F (38°C)
- Two testing options
  - Controlled heat source test at the device, or
  - Sensitivity calibration test performed in a lab
- Detector has RTI rating for installation of QUICK
- Open-area protection
- Weatherproof

#### Specifications

*Operating Voltage/Current* 6 to 125 VAC / 5A  
6 to 25 VDC / 1A  
125 VDC / 0.5A

*Detector Type* Rate Compensation  
4-wire Leads, Weatherproof

*Contacts* Normally Open (NO)

*Detector Rated Temperature* 135°F (57°C)

*Min. Ambient Air Temperature* -40°F (-40°C)

*Max. Ceiling Temperature* 100°F to 115°F (38°C to 46°C)

*Open Area Protection* Vertical Mount: 50 ft. spacing  
(assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)  
Horizontal Mount: 40 ft. spacing

*Vertical Mounting* 3 in. or 4 in. octagon junction box

*Dimensions with Mounting Bracket* 4.125 in. L x 2 in. OD  
(105 mm x 51 mm)

*Standards Compliance* NFPA Standard 72

*UL Listed* S539

*FM* Approved

*State of California* 7270-0021:0001

*MEA Acceptance* 193-03-E

#### Features

- Aluminum housing Conventional heat detector
- Shock and corrosion resistant
- Tamper resistant
- Hermetically sealed
- Nonferrous
- 135°F Fixed Temperature Rate Compensation
  - Slow rate of temperature rise
  - Rapid rate of temperature rise
  - Normally Open (NO) contacts
  - RestorableDetector automatically resets when ambient temperature drops below rated temperature



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# Conventional Detection Devices

## Ordering Information

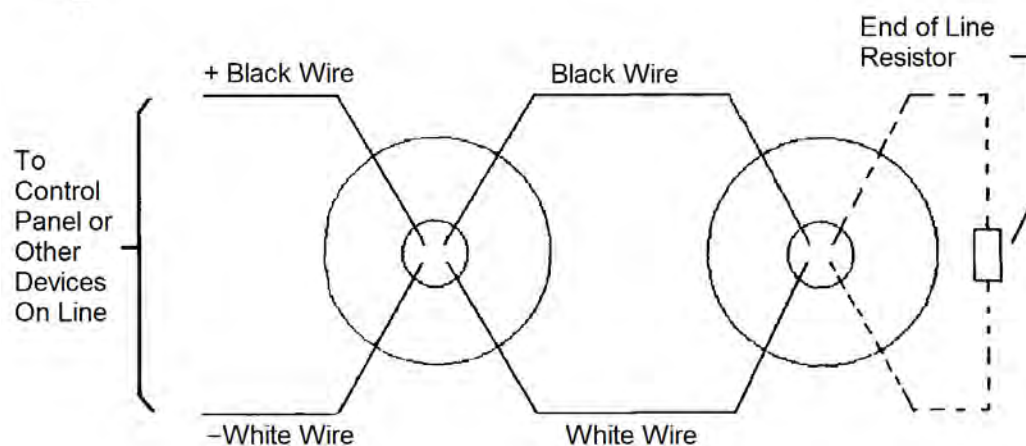
Part Number	Description
<b>721-117-00</b>	Heat Detector, rate compensation 135°F Fixed Temperature (restorable), aluminum with 4-wire leads, contacts normally open, weatherproof

## Associated Parts

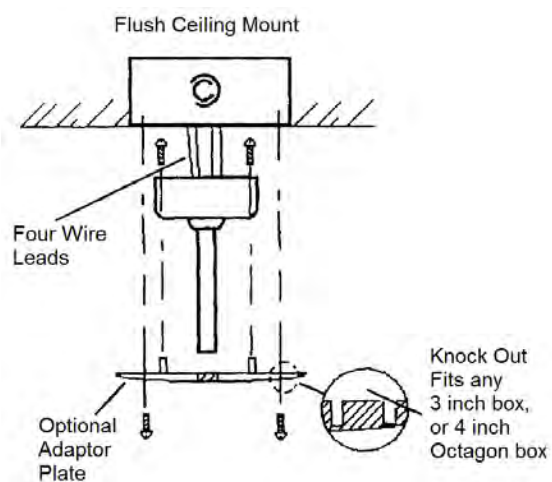
Part Number	Description
<b>729-020-00</b>	Adaptor Plate, white, 4 in. plastic box

## Drawings

### Wiring Diagram



### Junction Box Mounting



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## Conventional Detection Devices

### Heat Detector, 135°F Fixed Temperature/Rate-of-Rise

721-122-00



#### Features

- Off-white housing two-wire Conventional heat detector
- Low profile plug-in design
- Tamper resistant sensor base capability
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 135°F fixed temperature (restorable)
  - Rate-of-Rise element rated at 15°F (–9.4°C) per minute (restorable)
- Dual red LEDs for 360-degree visibility of alarm
- Two testing options
  - Cover magnet test causes LEDs to latch ON within 5 seconds, or
  - Controlled heat source test at device sensor will light LEDs when alarm setpoint is reached
- Low standby current

- Detector has RTI rating for installation of V2-FAST in accordance with FM 3210
- Open-area protection
- Optional remote LED annunciator capability

#### Specifications

<i>Voltage Range</i>	8.5 to 35 VDC
<i>Standby Current</i> (max. avg.)	80 $\mu$ A at 24 VDC (one flash every five seconds)
<i>Alarm Current</i>	10 mA min., 130 mA max. (must be limited by control panel)
<i>Detector Type</i>	2-wire, plug-in
<i>Relay Contact Ratings</i> (resistive or inductive 60% power factor load)	<b>Form A:</b> 2A at 30 VAC/DC <b>Form C:</b> 0.6A at 110 VDC, 2A @ 30 VDC; 1A @ 125 VAC, 2A @ 30 VAC
<i>Operating Temperature</i>	32°F to 100°F (0°C to 38°C)
<i>Fixed Temperature Rating</i>	135°F (57°C)
<i>Rate-of-Rise Rating</i>	15°F/min. (–9.4°C/min.)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Open Area Protection</i>	50 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)
<i>Mounting Junction Box</i> (at least 1.5 in. deep)	Single gang 4 in. square (with/without ring), or 3.5 in. octagonal, or 4 in. octagonal, or 50mm, 60mm, 70mm, or 75mm
<i>Dimensions</i>	1.64 in. H x 4 in. OD (42 mm x 102 mm)
<i>Weight</i>	2.8 oz (80 g)
<i>Standards Compliance</i>	Listed to UL 521 and FM 3210
<i>UL/ULC Listed</i>	S2101
<i>FM Approved</i>	
<i>State of California</i>	7270-1653:104



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# Conventional Detection Devices

## Ordering Information

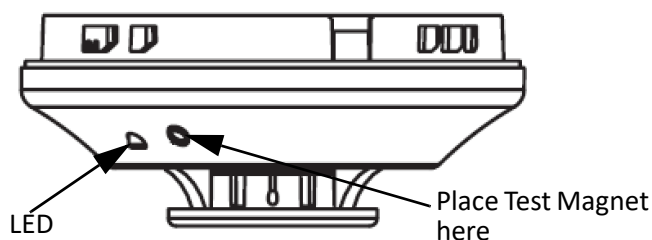
Part Number	Description
<b>721-122-00</b>	Heat Detector, combination 135°F Fixed Temperature (restorable) and 15°F/min. Rate-of-Rise (restorable), off-white, 2-wire, plug-in

Part Number	Description
<b>729-097-00</b>	Conventional detector base, plug-in, low profile, 24VDC, 2-wire, current-limiting resistor, 6.2 inches in diameter
<b>729-091-00</b>	Remote LED Annunciator. Fits standard single-gang electrical box (not included)

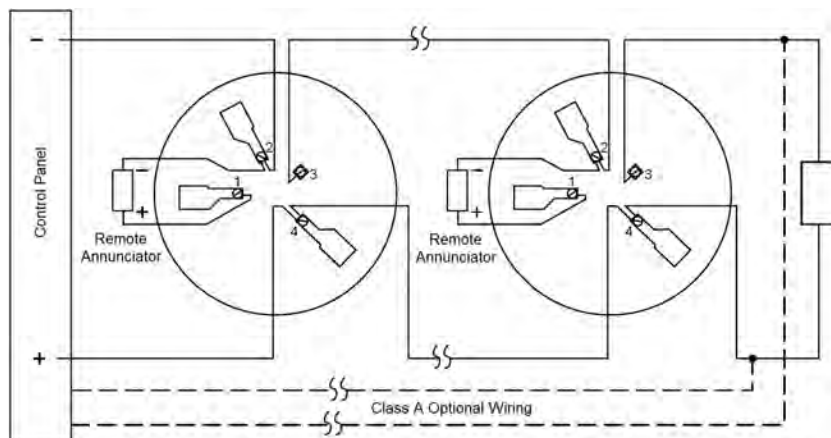
## Associated Parts

Part Number	Description
<b>729-125-00</b>	Conventional detector base, plug-in, 12/24 VDC 2-wire, 4.0 inches in diameter
<b>729-150-00</b>	Conventional detector base, plug-in, low profile, 12/24 VDC, 2-wire, 6.2 inches in diameter
<b>729-151-00</b>	Conventional detector base, plug-in, low profile, 24 VDC, 4-wire, Form A and C relay contacts, 6.2 inches in diameter

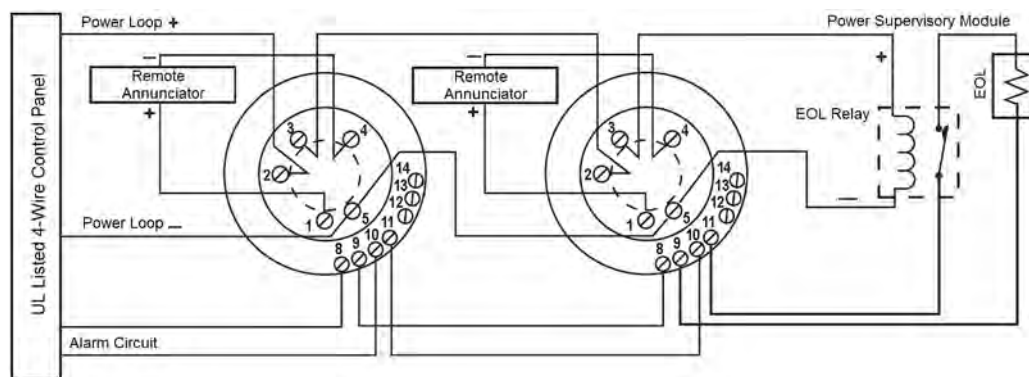
## Mounting Diagram



## Wiring Diagram - Typical 2-Wire



## Wiring Diagram - Typical 4-Wire



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## Conventional Detection Devices

### Heat Detector, 135°F Fixed Temperature/Rate-of-Rise 721-123-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- Off-white housing Conventional indoor heat detector
- Suitable for high heat output fire conditions
- Fully electronic operation
- Tamper resistant capability
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 135°F Fixed Temperature (restorable)
  - Rate-of-Rise element rated at 15°F (–9.4°C) per minute (restorable)
  - Normally Open (NO) contacts
- Dual red LEDs for 360-degree visibility of alarm
- Functional testing method using heat detector/sensor tester
- Open-area protection

#### Specifications

<i>Heat Sensing Element</i>	Thermistor
<i>Detector Type</i>	2- or 4-wire
<i>Contacts</i>	Normally Open (NO)
<i>Nominal Rated Voltage</i>	24 VDC
<i>Rated Voltage 2-Wire</i>	15 to 33 VDC
<i>Rated Voltage 4-Wire</i>	17.7 to 30 VDC
<i>Maximum Voltage</i>	42 VDC
<i>Wave Form</i>	Filtered DC, 5V ripple maximum
<i>Supervisory Current</i>	35µA at 24 VDC
<i>Surge Current</i>	160µA max. at 24 VDC
<i>Maximum Allowable Current</i>	150mA max. at 24 VDC
<i>Minimum, Alarm Trip Current</i>	6mA
<i>Fixed Temperature Rating</i>	135°F (57°C)
<i>Rate-of-Rise Rating</i>	15°F/min. (–9.4°C/min.)
<i>Operating Temperature</i>	14°F to 122°F (–10°C to 50°C)
<i>Storage Temperature</i>	–4°F to 140°F (–20°C to 60°C)
<i>Response Temperature</i>	135°F ±7.5°F
<i>Open Area Protection</i>	30 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 15 ft./5m)
<i>Mounting Junction Box</i>	4 in. square, or 4 in. octagonal
<i>Dimensions with Mounting Bracket</i>	1.5 in. H x 4 in. OD (38 mm x 101 mm)
<i>Weight</i>	3.1 oz (0.1 kg)
<i>Standards Compliance</i>	NFPA Standard 72
	UL S2966
	FM Approved
<i>State of California</i>	7270-0410:0151



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# Conventional Detection Devices

## Ordering Information

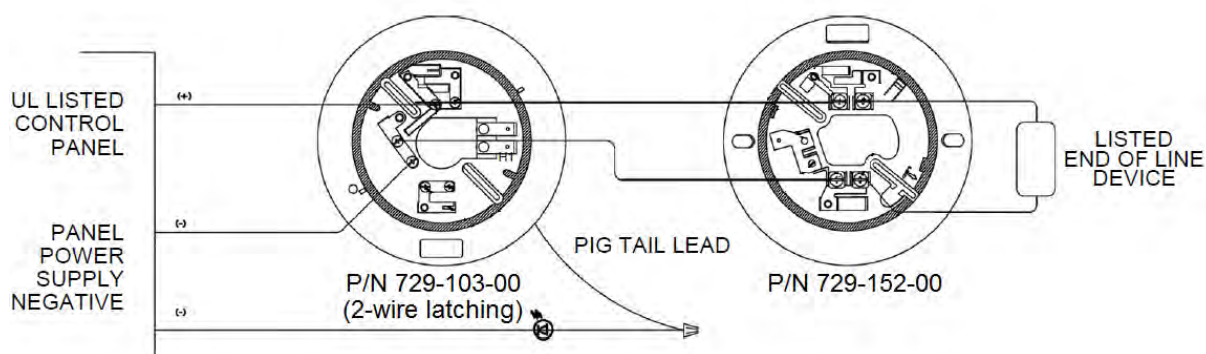
Part Number	Description
<b>721-123-00</b>	Heat Detector, combination 135°F Fixed Temperature (restorable) and 15°F/min. Rate-of-Rise (restorable), indoor, fully electronic with two LEDs, normally open contacts

## Associated Parts

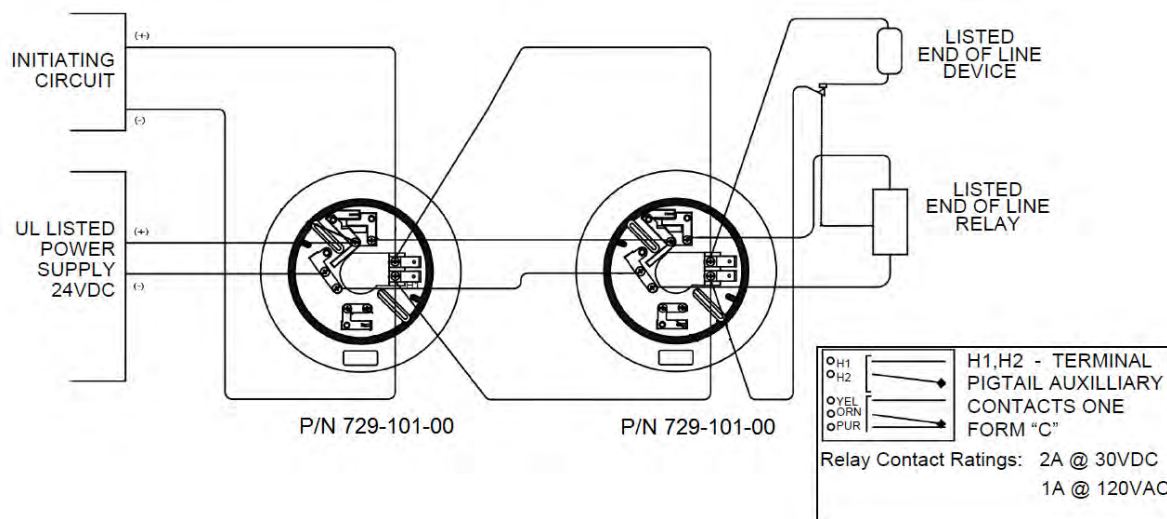
Part Number	Description
<b>729-152-00</b>	Heat Detector Base, Alarm Current 43mA (70mA @ 33V max), 2-wire, 6 in. diameter, resistor included, plastic tamper lock lug
<b>729-101-00</b>	Heat Detector Base, Alarm Current 43mA (58mA @ 30V max), 4-wire, 24 VDC, 6 in. diameter, current limited, plastic tamper lock lug
<b>729-103-00</b>	Heat Detector Base, Alarm Current 43mA (35-42mA @ 24V [54mA max]), 2-wire latching, 6 in. diameter, current limiting resistor

## Drawings

### 2-Wire



### 4-Wire



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## Conventional Detection Devices

### Heat Detector, 135°F Fixed Temperature/Rate Compensation 721-125-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- Aluminum tubular shell Conventional heat detector
- Shock and corrosion resistant
- Responds only to heat
- 135°F Fixed Temperature/Rate Compensation
  - Slow rate of temperature rise
  - Rapid rate of temperature rise
  - Normally Open (NO) contacts
  - Restorable (control panel reset)
- Incandescent lamp illuminates when in alarm
  - Can also operate one remote indicating lamp (optional)

#### Specifications

*Detector Type* Fixed Temperature Rate Compensation

*Contacts* Normally Open (NO)

*Contact Specs* 6 to 125 VAC, 5A;  
6 to 25 VDC, 1A;  
125 VDC, 0.5A

*Temperature Rating* 135°F (57°C)

*Open Area Protection* Maximum 2,500 square ft.  
(assumes a flat, uninterrupted ceiling  
at a height not exceeding 10 ft./3m)

*Vertical Mounting* 3.5 in. junction box, or  
4 in. octagon junction box

*Rod* 0.5 in. (13 mm)

*Dimensions* 4.5 in. L x 3.5 in. W (114 mm x 89 mm)

*Standards Compliance:*

*ULC* S7619

*State of California* 7270-0067:0026

#### Ordering Information

Part Number	Description
721-125-00	Heat Detector, rate compensation 135°F Fixed Temperature (restorable), aluminum, 4-wire, contacts normally open, internal lamp

#### Associated Parts

Part Number	Description
729-020-00	Adaptor Plate, white, 4 in. plastic box



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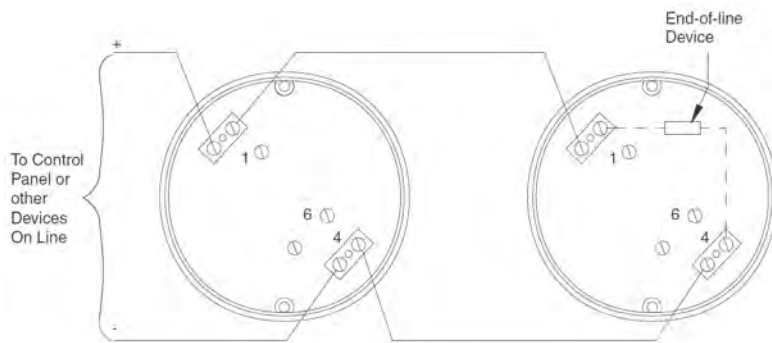




# Conventional Detection Devices

## Drawings

### Wiring Diagram

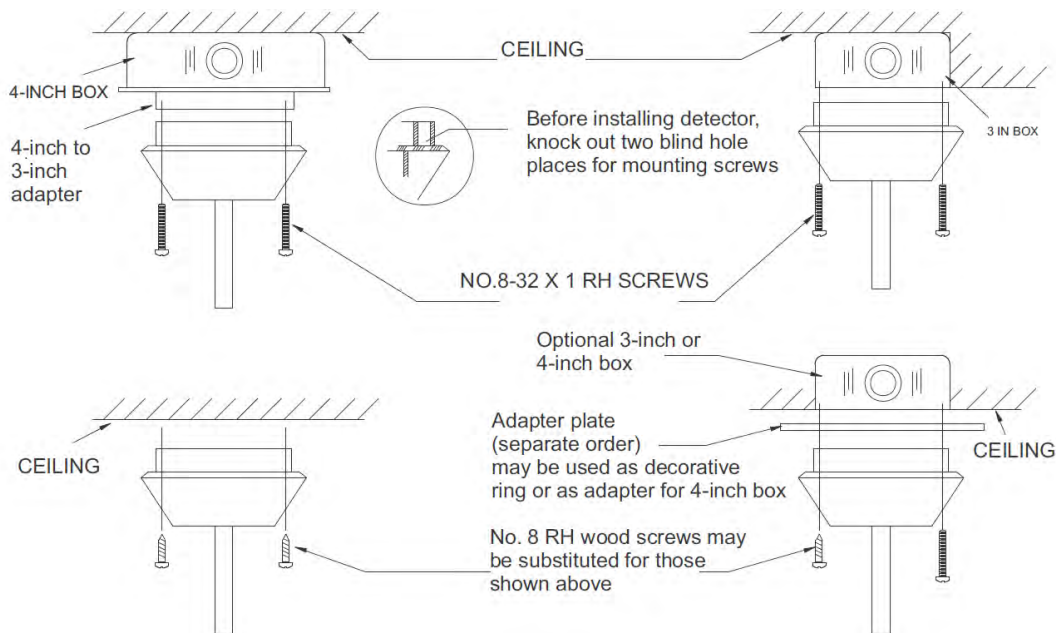


#### NOTES

Install this detector using #18 AWG thermoplastic wire housed in conduit, or limited energy cable where permitted by local codes

Must be connected to loop powered IDC circuit for internal incandescent light operation.

### Mounting Diagram



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## Conventional Detection Devices

### Heat Detector, 135°F Fixed Temperature/Rate-of-Rise 721-127-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- Plain housing, conventional heat detector
- Low profile lock-in-place design
- Reversible mounting bracket for flush- or surface-mount back box
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 135°F fixed temperature (non-restorable); when the temperature rises, air within the sealed chamber expands faster than it can escape, depressing the diaphragm, and causing the electrical contact to close the circuit
  - Rate-of-Rise element rated at 15°F (–9.4°C) per minute (restorable); detector contacts close when the temperature rate is reached, causing a fire alarm sequence
  - Sensor testing at device with controlled heat

source

– Normally Open (NO) contacts

- Indicator drops from unit when alarm detector is activated for easy identification
- Detector has RTI rating for installation of ULTRA FAST and SPECIAL (respectively) in accordance with FM 3210
- Open-area protection

#### Specifications

*Operating Voltage/* 6 to 125 VAC / 3A  
*Contact Ratings* 6 to 28 VDC / 1A  
*(Resistive)* 125 VDC / 0.3A  
250 VDC / 0.1A

*Detector Type* Single Circuit, mechanical

*Contacts* Normally Open (NO)

*Installation Temperature* 100°F (38°C) max.

*Shipping/Storage Temperature* 122°F (50°C) max.

*Fixed Temperature Rating* 135°F (57°C)

*Rate-of-Rise Rating* 15°F/min. (–9.4°C/min.)

*Relative Humidity* 5% to 95% non-condensing

*Open Area Protection* 50 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)

*Input Wiring* 14 to 22 AWG

**NOTE** Required wire gauge based on voltage drop

*Mounting* Single gang back box, or  
*(includes reversible* 4 in. square (with plaster ring), or  
*mounting bracket)* 3.5 in. octagonal back box, or  
4 in. octagonal back box

*Dimensions with* 1.69 in. H x 4.57 in. OD  
*Mounting Bracket* (43 mm x 116 mm)

*Weight* 6 oz (170 g)

*Standards Compliance:*

*UL/ULC Listed* S2101

*FM* Approved

*State of California* 7270-1653:0167



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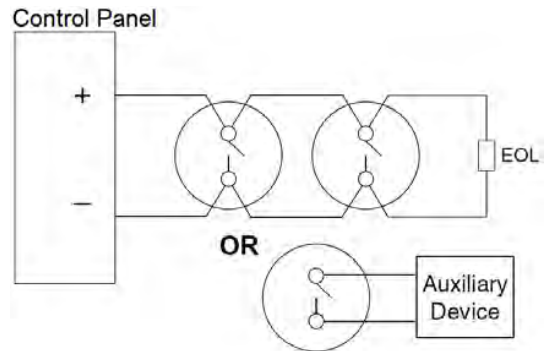
# Conventional Detection Devices

## Ordering Information

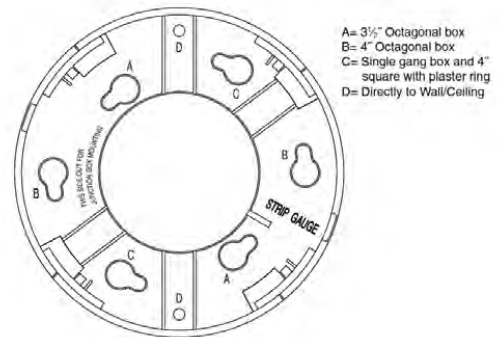
Part Number	Description
<b>721-127-00</b>	Heat Detector, combination 135°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable), plain, single circuit, normally open contacts

## Drawings

### Wiring Diagram - Single Circuit



### Reversible Mounting Bracket Mounting Locations

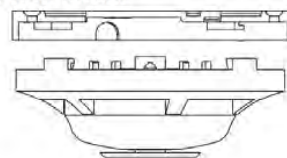


### Mounting with Reversible Mounting Bracket

#### Surface Mount



#### Flush Mount



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## Conventional Detection Devices

### Heat Detector, 135°F Fixed Temperature/Rate-of-Rise 721-128-00



**WARNING!** For life-safety installations, smoke detectors must be used instead of, or in addition to, mechanical heat detectors.

#### Features

- White housing conventional heat detector
- Low profile lock-in-place design
- Reversible mounting bracket for flush- or surface-mount back box
- 135°F Fixed and Rate-of-Rise thermal detection
  - Normally Open (NO) contacts
  - Fixed Temperature is non-restorable; when a fusible alloy reaches melting point, the spring action of a metal contact depresses the diaphragm, causing the electrical contact to close the circuit
  - Rate-of-Rise is restorable, rated at 15°F (–9.4°C) per minute (detector contacts close when temperature rate is reached causing fire alarm sequence)

- Indicator drops from unit when alarm detector is activated for easy identification
- Rate-of-Rise sensor testing at the device with controlled heat source
- Detector has RTI rating for installation of ULTRA FAST and SPECIAL (respectively) in accordance with FM 3210
- Open-area protection

#### Specifications

*Operating Voltage/* 6 to 125 VAC / 3A  
*Contact Ratings* 6 to 28 VDC / 1A  
*(Resistive)* 125 VDC / 0.3A  
250 VDC / 0.1A

*Detector Type* Dual Circuit, mechanical

*Contacts* Normally Open (NO)

*Max. Installation Temperature* 100°F (38°C)

*Shipping/Storage Temperature* 122°F (50°C) max.

*Fixed Temperature Rating* 135°F (57°C)

*Rate-of-Rise Rating* 15°F/min. (–9.4°C/min.)

*Relative Humidity* 5% to 95% non-condensing

*Open Area Protection* 50 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)

*Input Wiring* 14 to 22 AWG

**NOTE** Required wire gauge based on voltage drop

*Mounting* Single gang back box, or  
*(includes reversible* 4 in. square (with plaster ring), or  
*mounting bracket)* 3.5 in. octagonal back box, or  
4 in. octagonal back box

*Dimensions with* 1.69 in. H x 4.57 in. OD  
*Mounting Bracket* (43 mm x 116 mm)

*Weight* 6 oz (170 g)

*Standards Compliance* Listed to UL 521 and FM 3210

*UL/ULC Listed* S2101/CS630

*FM Approved* 3016008

*State of California* 7270-1653:0167



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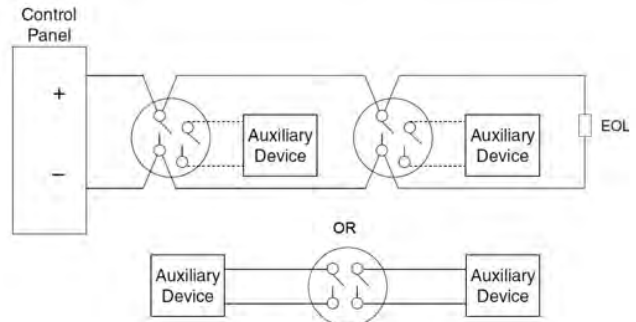
# Conventional Detection Devices

## Ordering Information

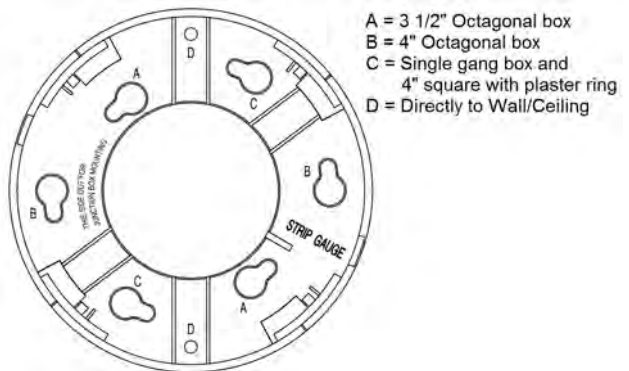
Part Number	Description
<b>721-128-00</b>	Heat Detector, combination 135°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable), mechanical dual circuit

## Drawings

### Wiring Diagram - Dual Circuit



### Reversible Mounting Bracket Mounting Locations

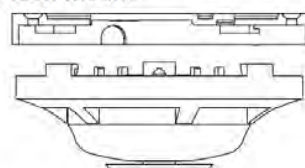


### Mounting with Reversible Mounting Bracket

#### Surface Mount



#### Flush Mount



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## Conventional Detection Devices

### Heat Detector, 194° Fixed Temperature Rate Compensation 721-132-00



**MEA**  
approved

**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- Aluminum tubular shell Conventional heat detector
- Shock and corrosion resistant
- Tamper resistant
- Hermetically sealed
- Nonferrous
- 194°F Fixed Temperature Rate Compensation
  - Slow rate of temperature rise
  - Rapid rate of temperature rise
  - Restorable
  - Normally Open (NO) contacts
- Detector automatically resets when ambient temperature drops below rated temperature

- Detector should not respond to momentary temperature fluctuation of less than 50°F (10°C) per minute between 60°F (15.6°C) and 150°F (66°C)
- Two testing options
  - Controlled heat source test at the device, or
  - Sensitivity calibration test performed in a lab
- Detector has RTI rating for installation of V-FAST
- Open-area protection
- Weatherproof

#### Specifications

*Operating Voltage/Current* 6 to 125 VAC / 5A  
6 to 25 VDC / 1A  
125 VDC / 0.5A

*Detector Type* Rate Compensation  
4-wire Leads, Weatherproof

*Contacts* Normally Open (NO)

*Temperature Rating* 194°F (90°C)

*Min. Ambient Air Temperature* -40°F (-40°C)

*Max. Ceiling Temperature* 150°F to 155°F (66°C to 68°C)

*Open Area Protection* Vertical 50 ft. spacing (UL)  
Vertical 30 ft. spacing (FM)  
Horizontal 40 ft. spacing  
(assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)

*Vertical or Horizontal Indoor Mounting* Has plastic hexagonal grip bushing with 0.5 in. conduit threads for attachment to threaded hub cover, tee conduit or any outlet box—hand tighten only

*Dimensions with Mounting Bracket* 4 in. L x 1 in. OD  
(105 mm x 51 mm)

*Standards Compliance* NFPA Standard 72

*UL Listed* S539

*FM* Approved

*State of California* 7270-0021:0001

*MEA Acceptance* 193-03-E



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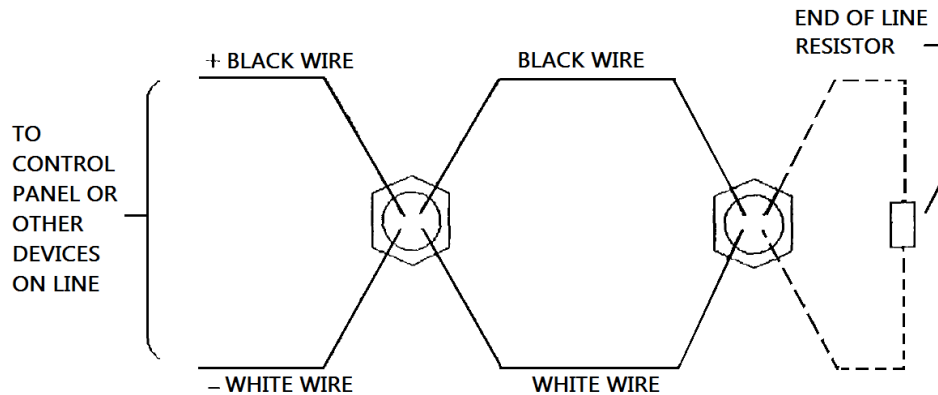
# Conventional Detection Devices

## Ordering Information

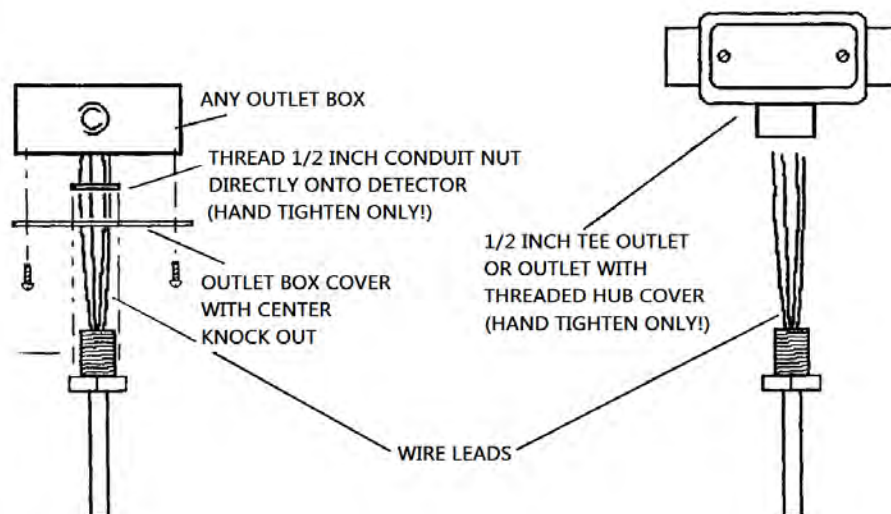
Part Number	Description
721-132-00	Heat Detector, rate compensation 194°F Fixed Temperature, restorable, aluminum with 4-wire leads, contacts normally open, weatherproof

## Drawings

### Wiring Diagram



### Junction Box Mounting



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## Conventional Detection Devices

# Heat Detector, 135° Fixed Temperature Rate Compensation 721-133-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

### Features

- Aluminum tubular shell Conventional heat detector
- Shock and corrosion resistant
- Tamper resistant
- Hermetically sealed
- Nonferrous
- 135°F Fixed Temperature Rate Compensation
  - Slow rate of temperature rise
  - Rapid rate of temperature rise
  - Normally Open (NO) contacts
  - Restorable
  - Detector automatically resets when ambient temperature drops below rated temperature

- Detector should not respond to momentary temperature fluctuation of less than 30°F (1.1°C) per minute between 60°F (15.6°C) and 100°F (38°C)
- Two testing options
  - Controlled heat source test at the device, or
  - Sensitivity calibration test performed in a lab
- Detector has RTI rating for installation of QUICK
- Open-area protection
- Weatherproof

### Specifications

<i>Operating Voltage/Current</i>	6 to 125 VAC / 5A 6 to 25 VDC / 1A 125 VDC / 0.5A
<i>Detector Type</i>	Rate Compensation 4-Wire Leads, Weatherproof
<i>Contacts</i>	Normally Open (NO)
<i>Temperature Rating</i>	135°F (57°C)
<i>Min. Ambient Air Temperature</i>	–40°F (–40°C)
<i>Max. Ceiling Temperature</i>	115°F (46°C)
<i>Open Area Protection</i>	Vertical 50 ft. spacing (UL) Vertical 20 ft. spacing (FM) Horizontal 40 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)
<i>Vertical or Horizontal Indoor Mounting</i>	Has plastic hexagonal grip bushing with 0.5 in. conduit threads for attachment to threaded hub cover, tee conduit or any outlet box — hand tighten only
<i>Dimensions with Mounting Bracket</i>	4 in. L x 1 in. OD (105 mm x 51 mm)
<i>Standards Compliance</i>	NFPA Standard 72
<i>UL Listed</i>	S539
<i>FM</i>	Approved
<i>State of California</i>	7270-0021:0001
<i>MEA Acceptance</i>	193-03-E



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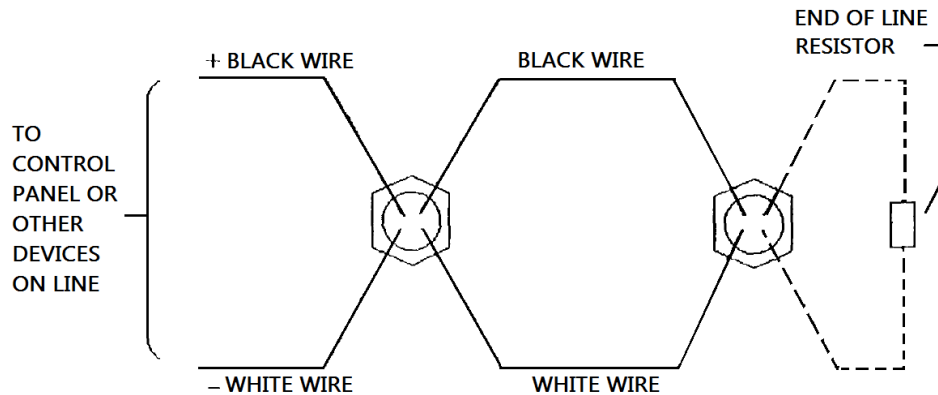
# Conventional Detection Devices

## Ordering Information

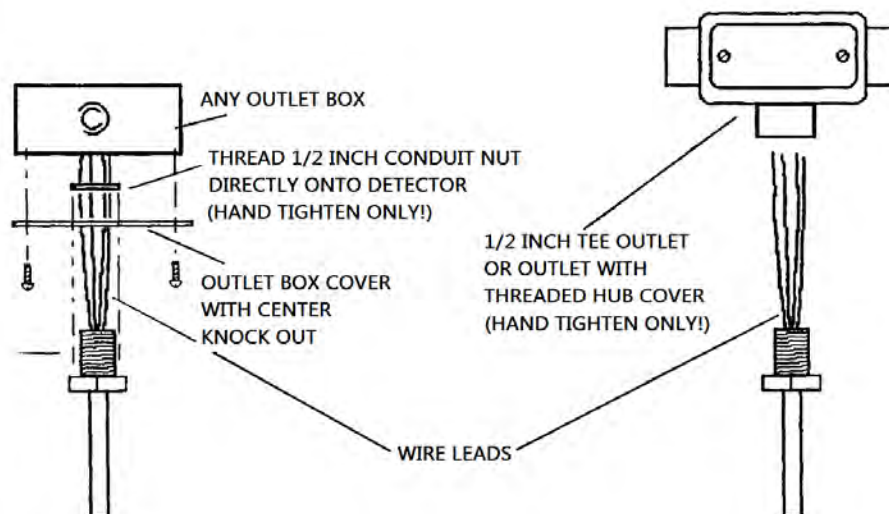
Part Number	Description
721-133-00	Heat Detector, rate compensation 135°F Fixed Temperature (restorable), aluminum with 4-wire leads, contacts normally open, weatherproof

## Drawings

### Wiring Diagram



### Junction Box Mounting



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## Conventional Detection Devices

### Heat Detector, 190°F Fixed Temperature/Rate-of-Rise 721-404-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- Off-white housing Conventional indoor heat detector
- Suitable for high heat output fire conditions
- Fully electronic operation
- Tamper resistant capability
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 190°F Fixed Temperature (restorable)
  - Rate-of-Rise element rated at 15°F (–9.4°C) per minute (restorable)
  - Normally Open (NO) contacts
- Dual red LEDs for 360-degree visibility of alarm
- Functional testing method using heat detector/sensor tester
- Open-area protection

#### Specifications

<i>Heat Sensing Element</i>	Thermistor
<i>Detector Type</i>	2- or 4-wire
<i>Contacts</i>	Normally Open (NO)
<i>Nominal Rated Voltage</i>	24 VDC
<i>Rated Voltage 2-Wire</i>	15 to 33 VDC
<i>Rated Voltage 4 Wire</i>	17.7 to 30 VDC
<i>Maximum Voltage</i>	42 VDC maximum
<i>Wave Form</i>	Filtered DC, 5V ripple maximum (when using 4-wire base full wave rectified AC can be used)
<i>Supervisory Current</i>	35µA at 24 VDC
<i>Surge Current</i>	160µA max. at 24 VDC
<i>Maximum Allowable Current</i>	150mA max. at 24 VDC
<i>Minimum, Alarm Trip Current</i>	6mA
<i>Temperature Rating</i>	190°F (88°C)
<i>Rate-of-Rise Rating</i>	15°F/min. (–9.4°C/min.)
<i>Operating Temperature</i>	14°F to 122°F (–10°C to 50°C)
<i>Storage Temperature</i>	–4°F to 140°F (–20°C to 60°C)
<i>Response Temperature</i>	190°F ±7.5°F
<i>Open Area Protection</i>	30 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 15 ft./5 m)
<i>Mounting Junction Box</i>	4 in. square, or 3.5 in. octagonal, or 4 in. octagonal
<i>Dimensions with Mounting Bracket</i>	1.5 in. H x 4 in. OD (38.1 mm x 101.6 mm)
<i>Weight</i>	3.1 oz (0.1 kg)
<i>Standards Compliance</i>	NFPA Standard 72
	UL S2966
	FM Approved
<i>State of California</i>	7270-0410:0151



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# Conventional Detection Devices

## Ordering Information

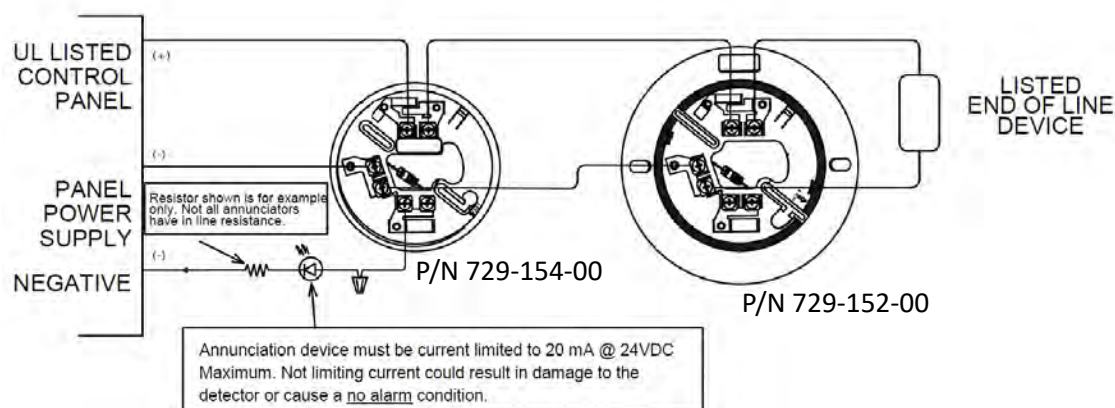
Part Number	Description
<b>721-404-00</b>	Heat Detector, combination 190°F Fixed Temperature (restorable) and 15°F/min. Rate-of-Rise (restorable), indoor, fully electronic with two LEDs, normally open contacts

## Associated Parts

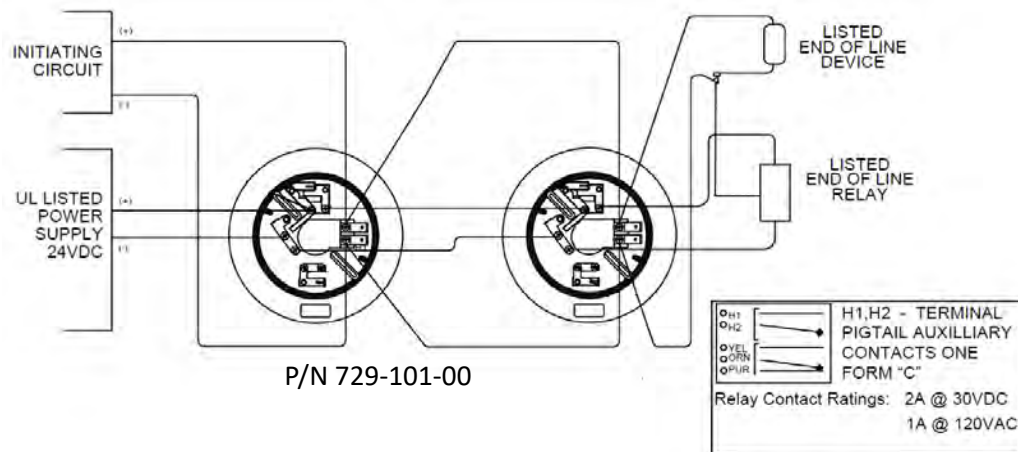
Part Number	Description
<b>729-154-00</b>	Heat Detector Base, Alarm Current 43mA (70mA @ 33V max), 2-Wire, 4 in. diameter, resistor included, plastic tamper lock lug
<b>729-152-00</b>	Heat Detector Base, Alarm Current 43mA (70mA @ 33V max), 2-Wire, 6 in. diameter, resistor included, plastic tamper lock lug
<b>729-101-00</b>	Heat Detector Base, Alarm Current 43mA (58mA @ 30V max), 4-Wire, 24 VDC, 6 in. diameter, current limited, plastic tamper lock lug

## Drawings

### 2-Wire



### 4-Wire



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## Conventional Detection Devices

### Heat Detector, 200°F Fixed Temperature/Rate Compensation 721-405-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- Aluminum tubular shell Conventional heat detector
- Shock and corrosion resistant
- Responds only to heat
- 200°F Fixed Temperature/Rate Compensation
  - Slow rate of temperature rise
  - Rapid rate of temperature rise
  - Normally Open (NO) Contacts
  - Restorable (control panel reset)
- Incandescent lamp illuminates when in alarm
  - Can also operate one remote indicating lamp (optional)

#### Specifications

*Detector Type* Fixed Temperature/Rate Compensation

*Contacts* Normally Open (NO)

*Contact Specs* 6 to 125 VAC, 5A;  
6 to 25 VDC, 1A;  
125 VDC, 0.5A

*Temperature Rating* 200°F (93°C)

*Open Area Protection* 2,500 square ft. maximum  
(Assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3 m)

*Vertical Mounting* 3 in. or 4 in. junction box

*Rod* 0.5 in. (13 mm) across

*Dimensions* 4.5 in. L x 3.5 in. W (114 mm x 89 mm)

*Standards Compliance:*

*ULC* S7619

*State of California* 7270-0067:0026

#### Ordering Information

Part Number	Description
721-405-00	Heat Detector, rate compensation 200°F Fixed Temperature (restorable), aluminum, 4-wire, contacts normally open, internal lamp

#### Associated Parts

Part Number	Description
729-020-00	Adaptor Plate, white, 4 in. plastic box



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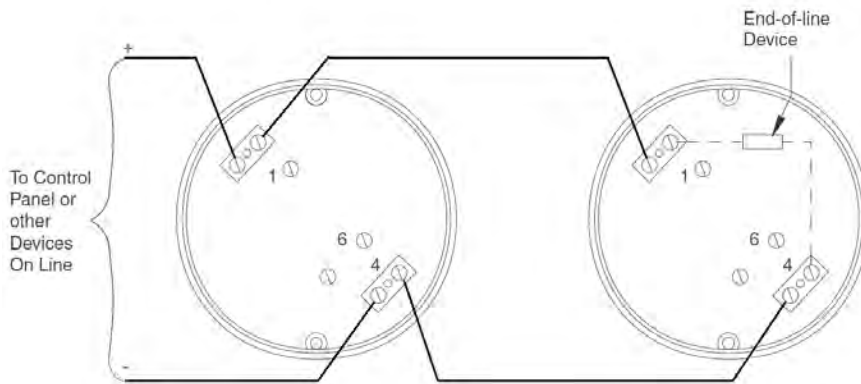




# Conventional Detection Devices

## Drawings

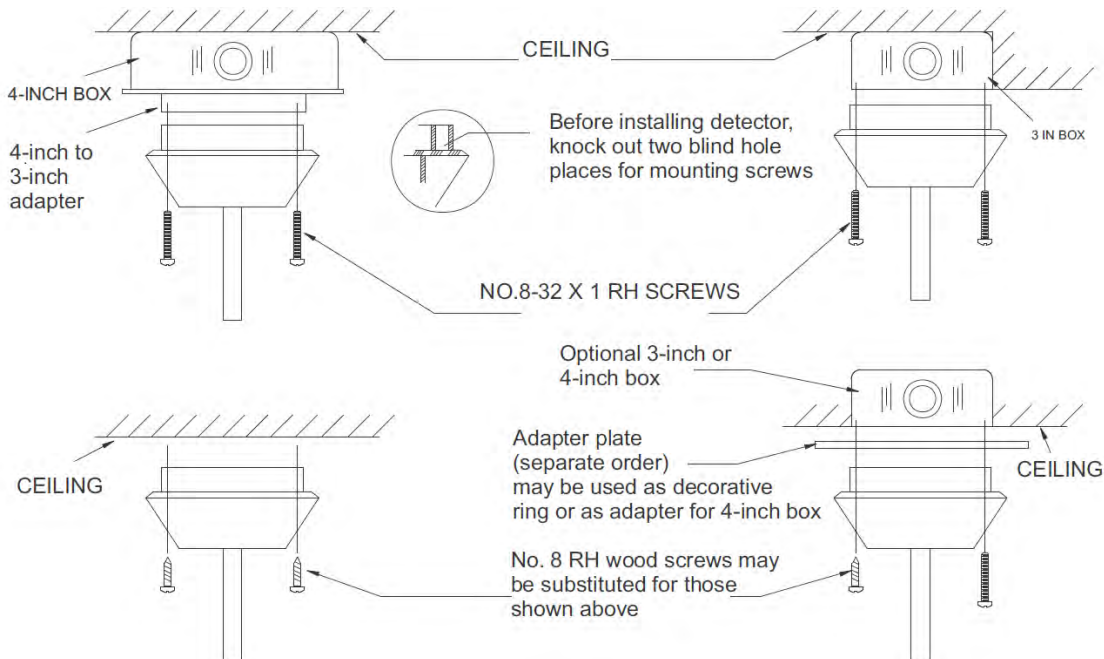
### Wiring Diagram



### NOTES

Install this detector using #18 AWG thermoplastic wire housed in conduit, or limited energy cable where permitted by local codes  
Must be connected to loop powered IDC circuit for internal incandescent light operation.

### Mounting Diagram



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## Conventional Detection Devices

### Heat Detector, 194°F Fixed Temperature/Rate-of-Rise

721-407-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- White housing Conventional indoor heat detector
- Low profile lock-in-place design
- Reversible mounting bracket for flush- or surface-mount back box
- Fixed Temperature/Rate-of-Rise thermal detection
  - Detector alarm at 194°F fixed temperature (non-restorable) (when the fusible alloy reaches its melting point, the spring action of a metal contact depresses the diaphragm causing the electrical contact to close the circuit)

- Rate-of-Rise rated at 15°F (–9.4°C)/min., (restorable) (detector contacts close when temperature rate is reached causing fire alarm sequence)
- Sensor testing at the device with controlled heat source
- Normally open (NO) contacts
- Indicator drops from unit when alarm detector is activated for easy identification
- Open-area protection

#### Specifications

*Operating Voltage/* 6 to 125 VAC / 3A  
*Contact Ratings* 6 to 28 VDC / 1A  
*(Resistive)* 125 VDC / 0.3A  
250 VDC / 0.1A

*Detector Type* Single Circuit, mechanical

*Contacts* Normally Open (NO)

*RTI Ratings* Fixed Temperature: SPECIAL  
Rate-of-Rise: ULTRA FAST

*Installation Temperature* 150°F (66°C) maximum

*Shipping/Storage Temperature* 122°F (50°C) maximum

*Fixed Temperature Rating* 194°F (90°C)

*Rate-of-Rise Rating* 15°F/min. (–9.4°C/min.)

*Relative Humidity* 5% to 95% non-condensing

*Open Area Protection* 50 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3 m)

*Input Wiring* 14 to 22 AWG

**NOTE** Required wire gauge based on voltage drop.

*Mounting* Single gang back box, or  
*(includes reversible mounting bracket)* 4 in. square (with plaster ring), or  
3.5 in. octagonal back box, or  
4 in. octagonal back box

*Dimensions with Mounting Bracket* 1.69 in. H x 4.57 in. OD  
(43 mm x 116 mm)

*Weight* 6 oz (170 g)



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# Conventional Detection Devices

Standards Compliance: Listed to UL 521 and FM 3210

UL/ULC Listed S2101

FM Approved

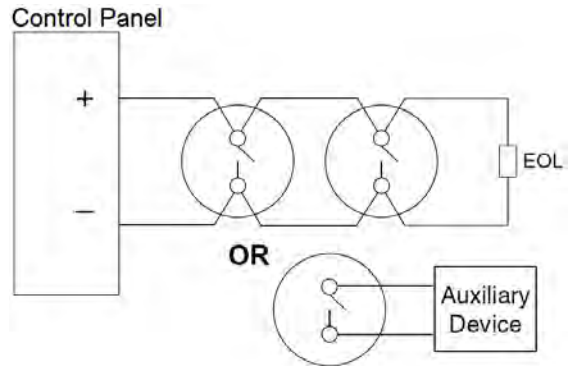
State of California 7270-1653:0167

## Order Information

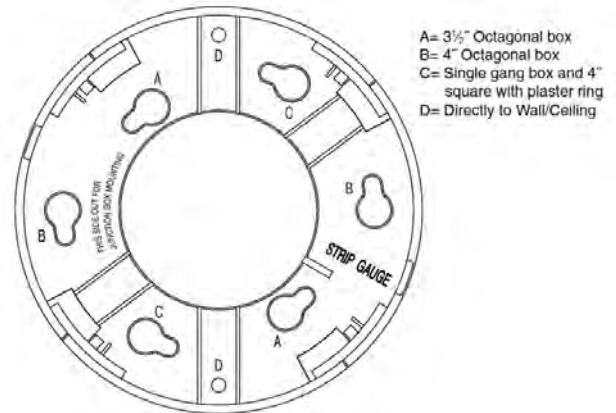
Part Number	Description
<b>721-407-00</b>	Heat Detector, combination 194°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable), white, single circuit, normally open contacts

## Drawings

### Wiring Diagram - Single Circuit



### Reversible Mounting Bracket Mounting Locations

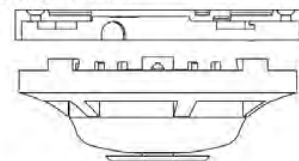


### Mounting with Reversible Mounting Bracket

#### Surface Mount



#### Flush Mount



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## Conventional Detection Devices

### Heat Detector, 194°F Fixed Temperature/Rate-of-Rise

721-408-00



**WARNING!** For life-safety installations, smoke detectors must be used instead of, or in addition to, mechanical heat detectors.

#### Features

- White housing Conventional heat detector
- Low profile lock-in-place design
- Reversible mounting bracket for flush- or surface-mount back box
- 194°F Fixed and Rate-of-Rise thermal detection
  - Normally Open (NO) contacts
  - Fixed Temperature is non-restorable (when a fusible alloy reaches melting point, the spring action of a metal contact depresses the diaphragm causing the electrical contact to close the circuit)
  - Rate-of-Rise is restorable, rated at 15°F (–9.4°C) per minute (detector contacts close when temperature rate is reached causing fire alarm sequence)

- Indicator drops from unit when alarm detector is activated for easy identification
- Rate-of-Rise sensor testing at the device with controlled heat source
- Detector has RTI rating for installation of ULTRA FAST and SPECIAL (respectively) in accordance with FM 3210
- Open-area protection

#### Specifications

*Operating Voltage/* 6 to 125 VAC / 3A  
*Contact Ratings* 6 to 28 VDC / 1A  
*(Resistive)* 125 VDC / 0.3A  
250 VDC / 0.1A

*Detector Type* Dual Circuit, mechanical

*Contacts* Normally Open (NO)

*Installation Temperature* 150°F (66°C) max.

*Shipping/Storage Temperature* 122°F (50°C) max.

*Fixed Temperature Rating* 194°F (90°C)

*Rate-of-Rise Rating* 15°F/min. (–9.4°C/min.)

*Relative Humidity* 5% to 95% non-condensing

*Open Area Protection* 50 ft. spacing  
(assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3 m)

*Input Wiring* 14 to 22 AWG

**NOTE** Required wire gauge based on voltage drop.

*Mounting* Single gang back box, or  
(includes reversible 4 in. square (with plaster ring), or  
mounting bracket) 3.5 in. octagonal back box, or  
4 in. octagonal back box

*Dimensions with* 1.69 in. H x 4.57 in. OD  
*Mounting Bracket* (43 mm x 116 mm)

*Weight* 6 oz (170 g)

*Standards Compliance* Listed to UL 521 and FM 3210

*UL/ULC Listed* S2101/CS630

*FM Approved* 3016008

*State of California* 7270-1653:0167



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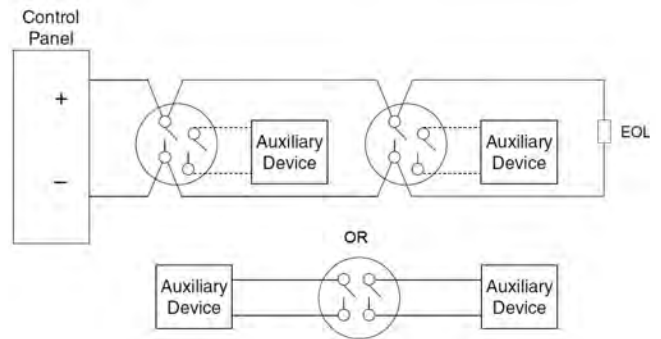
# Conventional Detection Devices

## Ordering Information

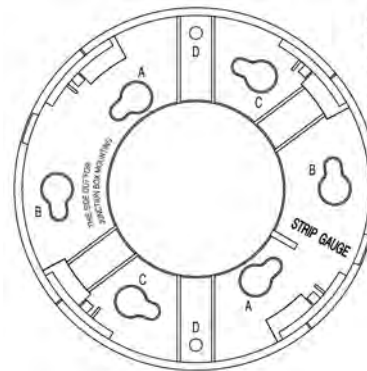
Part Number	Description
<b>721-408-00</b>	Heat Detector, combination 194°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable), mechanical dual circuit

## Drawings

### Wiring Diagram - Dual Circuit



### Reversible Mounting Bracket Mounting Locations



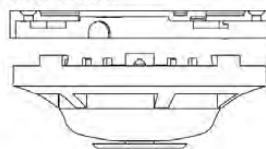
- A = 3 1/2" Octagonal box
- B = 4" Octagonal box
- C = Single gang box and 4" square with plaster ring
- D = Directly to Wall/Ceiling

### Mounting with Reversible Mounting Bracket

#### Surface Mount



#### Flush Mount



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## Conventional Detection Devices

### Heat Detector, 135°F Fixed Temperature

722-123-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- White housing Conventional heat detector
- Low profile lock-in-place design
- Reversible mounting bracket for flush- or surface-mount back box
- Fixed thermal detection
  - Detector alarm at 135°F fixed temperature (non-restorable) (When the temperature rises, air within the sealed chamber expands faster than it can escape; the diaphragm depresses and the electrical contact closes the circuit)
- Indicator drops from unit when alarm detector is activated for easy identification
- Open-area protection

#### Specifications

<i>Operating Voltage/</i>	6 to 125 VAC / 3A
<i>Contact Ratings</i>	6 to 28 VDC / 1A
<i>(Resistive)</i>	125 VDC / 0.3A
	250 VDC / 0.1A
<i>Detector Type</i>	Single Circuit, mechanical
<i>Contacts</i>	Normally Open (NO)
<i>RTI Rating</i>	SPECIAL
<i>Shipping/Storage Temperature</i>	122°F (50°C) max.
<i>Installation Temperature</i>	100°F (38°C) max.
<i>Alarm Fixed Temperature</i>	135°F (57°C)
<i>Relative Humidity</i>	5% to 95% non-condensing
<i>Open Area Protection</i>	25 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3m)
<i>Input Wiring</i>	14 to 22 AWG
	<b>NOTE</b> Required wire gauge based on voltage drop.
<i>Mounting</i>	Single gang back box, or
<i>(includes reversible mounting bracket)</i>	4 in. square (with plaster ring), or
	3.5 in. octagonal back box, or
	4 in. octagonal back box
<i>Dimensions with Mounting Bracket</i>	1.69 in. H x 4.57 in. OD
	(43 mm x 116 mm)
<i>Weight</i>	6 oz (170 g)
<i>Standards Compliance:</i>	Listed to UL 521 and FM 3210
	UL S2101
	FM Approved
<i>State of California</i>	7270-1653:0167

#### Ordering Information

Part Number	Description
722-123-00	Heat Detector, 135°F Fixed Temperature (non-restorable), white, single circuit, normally open contacts



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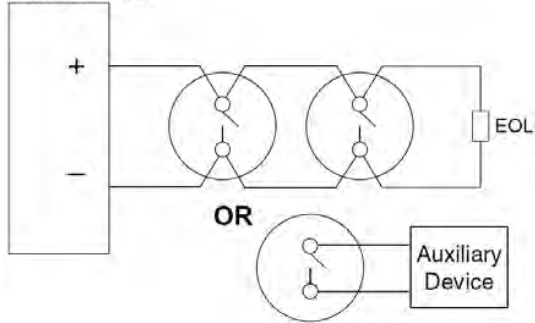


# Conventional Detection Devices

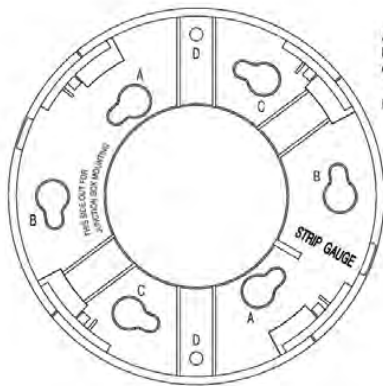
## Drawings

### Wiring Diagram - Single Circuit

Control Panel



### Reversible Mounting Bracket Mounting Locations



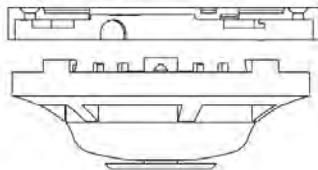
- A= 3 1/2" Octagonal box
- B= 4" Octagonal box
- C= Single gang box and 4" square with plaster ring
- D= Directly to Wall/Ceiling

### Mounting with Reversible Mounting Bracket

Surface Mount



Flush Mount



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# Conventional Detection Devices

## Heat Detector

722-125-00, 722-409-00

### Description

These dual-circuit heat detectors, with fixed temperature detection, protect property where smoke detection is not practical or appropriate.



When the rated heat level melts a fusible alloy, the spring-action metal contact it is holding closes the circuit and depresses a diaphragm that protrudes the visual alarm indicator. This element cannot be reset and therefore cannot be tested.

**WARNING!** For life-safety installations smoke detectors must be used in lieu of, or in addition to, mechanical heat detectors.

### Specifications

Operating Voltage/ 6 to 125 VAC, 3A  
Contact Ratings 6 to 28 VDC, 1A  
(Resistive) 125 VDC, 0.3A  
250 VDC, 0.1A

Wiring 14 to 22 AWG

Installation Temperature P/N 722-125-00: 100°F (37.8°C) max.  
P/N 722-409-00: 150°F (65.6°C) max.

Fixed Alarm Temperature P/N 722-125-00: 135°F (57.2°C)  
P/N 722-409-00: 194°F (90°C)

Relative Humidity 5% to 95% non-condensing

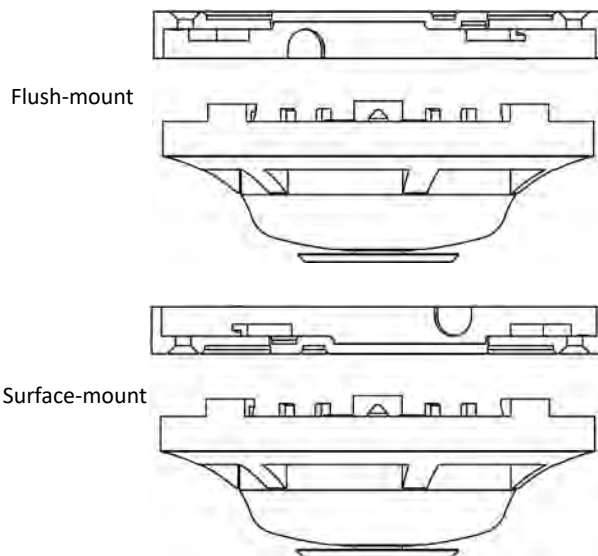
Dimensions 1.69 in. H x 4.57 in. OD  
(with Mount Bracket) (4.3 cm x 11.6 cm)

Weight 6 oz (170 g)

RTI Classification Special

### Mounting Options

- Single gang J box
- Octagonal, 3.5 in. or 4 in. J box
- Square 4 in. J box, with plaster ring
- Mounting bracket is reversible.



### Ordering Information

Part Number	Description
722-125-00	Conventional heat detector, 2-wire, mechanical dual circuit, fixed-temperature 135°F
722-409-00	Conventional heat detector, 2-wire, mechanical dual circuit, fixed-temperature 194°F



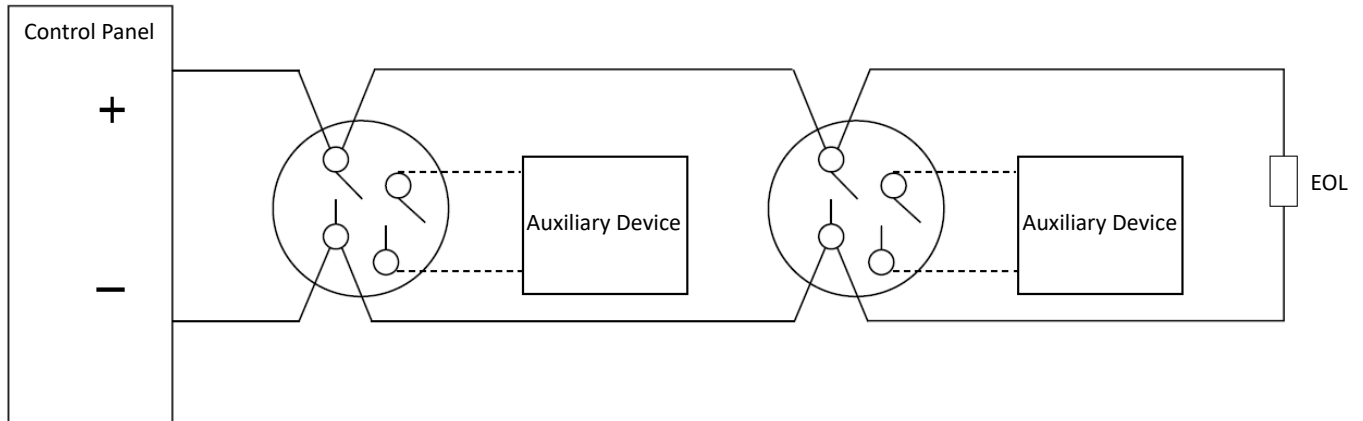
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# Conventional Detection Devices

## Wiring Diagram



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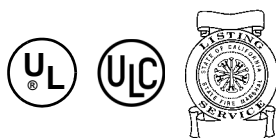
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## Conventional Detection Devices

### Heat Detector 135°F Fixed Temperature

722-127-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- Cast aluminum housing Conventional heat detector
- Low profile mounting flexibility with screw terminals
- 135°F Fixed Temperature Detector Alarm (spring-loaded plunger held in place by eutectic solder that will fuse at specified temperature [non-restorable])
- Two sets of Normally Open (NO) contacts
- Open-area protection

#### Specifications

<i>Contact Electrical Rating</i>	3A at 125 VAC 1A at 28 VDC 0.3A at 125 VDC 0.1A at 250 VDC
<i>Detector Type</i>	Dual Circuit
<i>Contacts</i>	Normally Open (NO)
<i>Installation Temperature</i>	100°F (38°C) maximum
<i>Operating Temperature</i>	-20°F to 250°F (-29°C to 121°C)
<i>Release Temperature Rating:</i>	Non-restorable, 135°F (57°C)
<i>Fin Dot Color</i>	Black
<i>Input Wiring</i>	18 AWG minimum
<i>Mounting</i>	Mounting plate fits standard octagon box (mounting holes on 3.5 in. centers)
<i>Dimensions with Mounting Bracket</i>	2 in. H x 5.25 in. OD (51 mm x 133 mm)
<i>Weight</i>	0.41 lb (0.19 kg)
<i>Shipping Weight</i>	0.6 lb (0.3 kg)
<i>Standards Compliance</i>	Listed to UL 521, ULC S531
<i>UL/ULC Listed</i>	S2406
<i>State of California</i>	7270-1110:0100

#### Ordering Information

Part Number	Description
722-127-00	Heat Detector, 135°F Fixed Temperature non-restorable, aluminum, two sets of normally open contacts



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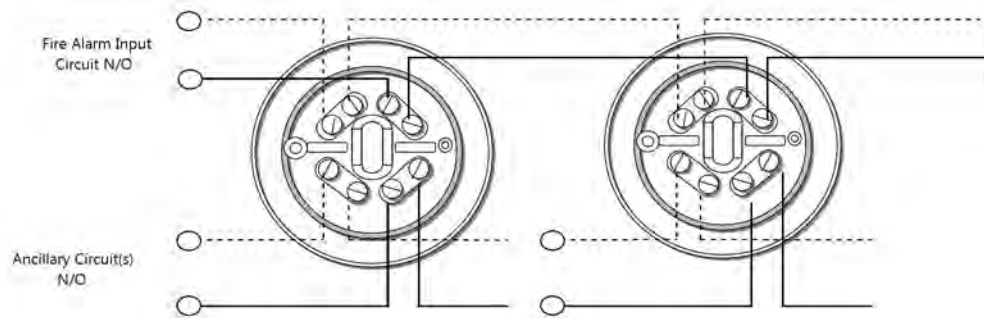
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# Conventional Detection Devices

## Drawings

### Wiring Diagram



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## Conventional Detection Devices

### Heat Detector, 194°F Fixed Temperature

722-408-00



**WARNING!** For life-safety installations, smoke detectors must be used in lieu of, or in addition to, heat detectors.

#### Features

- White conventional heat detector
- Low profile lock-in-place design
- Reversible mounting bracket for flush- or surface-mount back box
- Fixed thermal detection, alarm at 194°F (non-restorable)
- Indicator drops from unit when alarm detector is activated for easy identification
- Open-area protection

#### Specifications

*Operating Voltage/* 6 to 125 VAC / 3A  
*Contact Ratings* 6 to 28 VDC / 1A  
*(Resistive)* 125 VDC / 0.3A  
250 VDC / 0.1A

*Detector Type* Single Circuit, Mechanical

*Contacts* Normally Open (NO)

*RTI Rating* SPECIAL

*Shipping/Storage Temperature* 122°F (50°C) maximum

*Installation Temperature* 150°F (65.6°C) maximum

*Alarm Fixed Temperature* 194°F (90°C)

*Relative Humidity* 5% to 95%, non-condensing

*Open Area Protection* 25 ft. spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft./3 m)

*Input Wiring* 14 to 22 AWG

**NOTE** Required wire gauge based on voltage drop.

*Mounting* Single-gang back box, or  
*(with mounting bracket)* 4 in. square (with plaster ring), or  
3.5 in. octagonal back box, or  
4 in. octagonal back box

*Dimensions with* 1.69 in. H x 4.57 in. OD  
*Mounting Bracket* (4.3 cm x 11.6 cm)

*Weight* 6 oz (0.17 kg)

*Standards Compliance:*

*UL Listed* UL521, File S2101

*FM Approval* FM 3210, File 3016008

*State of California* 7270-1653:0167

#### Ordering Information

Part Number	Description
722-408-00	Heat Detector, 194°F Fixed Temperature (non-restorable), white, single circuit, NO contacts



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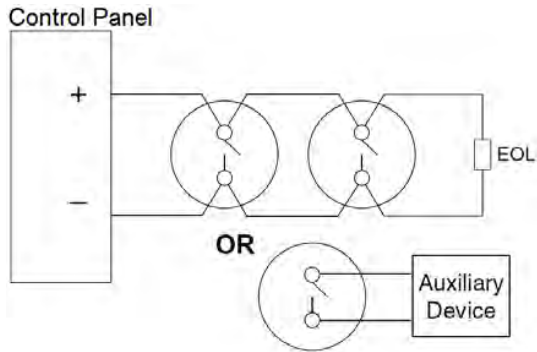




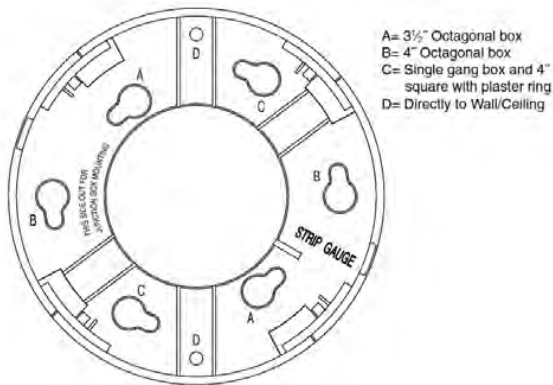
# Conventional Detection Devices

## Drawings

### Wiring Diagram - Single Circuit

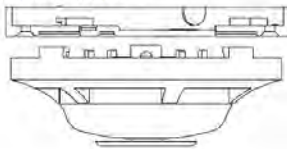


### Reversible Mounting Bracket Mounting Locations

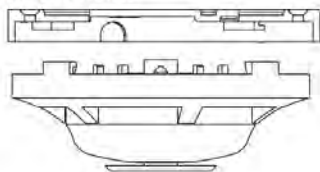


### Mounting with Reversible Mounting Bracket

#### Surface Mount



#### Flush Mount



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# Duct Detectors

## Conventional Detection Devices Catalog Section

10

### Duct Detectors

Duct Smoke Detector, Photoelectric . . . . .	723-367-00
Duct Smoke Detector . . . . .	723-368-00
Duct Smoke Detector, Photoelectric . . . . .	723-369-00

*Click to go back to "Table of Contents - Index by Product Name"*



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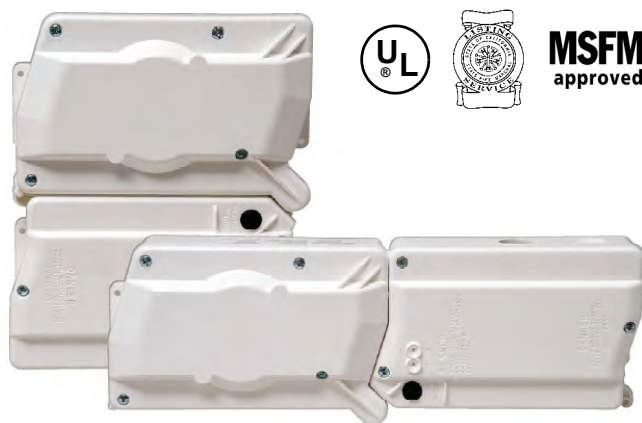
## Conventional Detection Devices

### Duct Smoke Detector, Photoelectric

723-367-00

#### Description

This 4-wire, photoelectric, air-duct smoke detector has a UL listed, watertight, NEMA 4 enclosure providing protection against falling dirt, rain, windblown dust, splashing, and hose-directed water.



A pivoting housing that fits both square and rectangular footprints mounts to round or rectangular ductwork. The detector also can be mounted to rooftop HVAC equipment or used in other harsh environments. Built-in short-circuit protection guards the unit from wiring errors during installation.

Up to 50 detectors can be interconnected. When one unit senses smoke and goes into alarm, the others will automatically switch their relays to avoid duplicating the same alarm. This allows a system operator to immediately determine the fire's location. The detector's test/reset button is accessible without removing the cover plate, and certain functions can be configured in the field with three DIP switches (cover tamper delay, number of sensors controlled, and shutdown on trouble).

Two form C relay contacts provide reliable performance for the management of fans, blowers, and air conditioning systems.

**WARNING!** Per NFPA, duct detectors must not be used as a substitute for open area detector protection as a means of life safety. Nor are they a substitute for early warning in the regular fire detection system.

#### Features

- UV-resistant housing and cover material
- Multifan shutdown
- Telescopic sampling tube installs from front or back
- Plug-in sensor helps eliminate false alarms

#### Specifications

**Power Supply Voltage** 24 VDC (20 to 29 VDC)  
24 VAC, 50/60 Hz  
120 VAC, 50/60 Hz

**Maximum Standby Current** 24 VDC: 21 mA  
24 VAC: 65 mA RMS (60 Hz)  
120 VAC: 20 mA RMS (60 Hz)

**Maximum Alarm Current** 24 VDC: 65 mA  
24 VAC: 135 mA RMS (60 Hz)  
120 VAC: 35 mA RMS (60 Hz)

**Reset Voltage** 3 VDC at 24 VDC input  
2 VAC at 24 VAC input  
10 VAC at 120 VAC input

**Signal Wiring** 18 AWG, single conductor recommended

**Alarm Response Time** 15 seconds

**Reset Time** Remote test station: 0.03 to 0.3 seconds  
Power down: 0.6 seconds maximum

**Power-up Time** 35 seconds maximum

**Air Velocity** 100 to 4,000 fpm (0.5 to 20.32 m/second)

**Operating Temperature** -4°F to 158°F (-20°C to 70°C)

**Relative Humidity** 0% to 95% non-condensing

**Dimensions** Rectangular:  
14.38 in. L x 5 in. W x 2.5 in. D  
(37 cm x 12.7 cm x 6.36 cm)  
Square:  
7.75 in. L x 9 in. W x 2.5 in. D  
(19.7 cm x 22.9 cm x 6.35 cm)

**Weight** 2.5 lb (1.14 kg)

#### NOTES

1. Load of combined accessories: ≤110 mA (aux. output); ≤50 mA (alarm output).
2. To maintain NEMA 4 rating, watertight conduit and fittings must be used.



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# Conventional Detection Devices

## Ordering Information

### Duct Smoke Detector

Part Number	Description
<b>723-367-00</b>	Conventional Duct Smoke Detector, photoelectric, 24 VDC/VAC, 120 VAC, 4-wire, NEMA 4

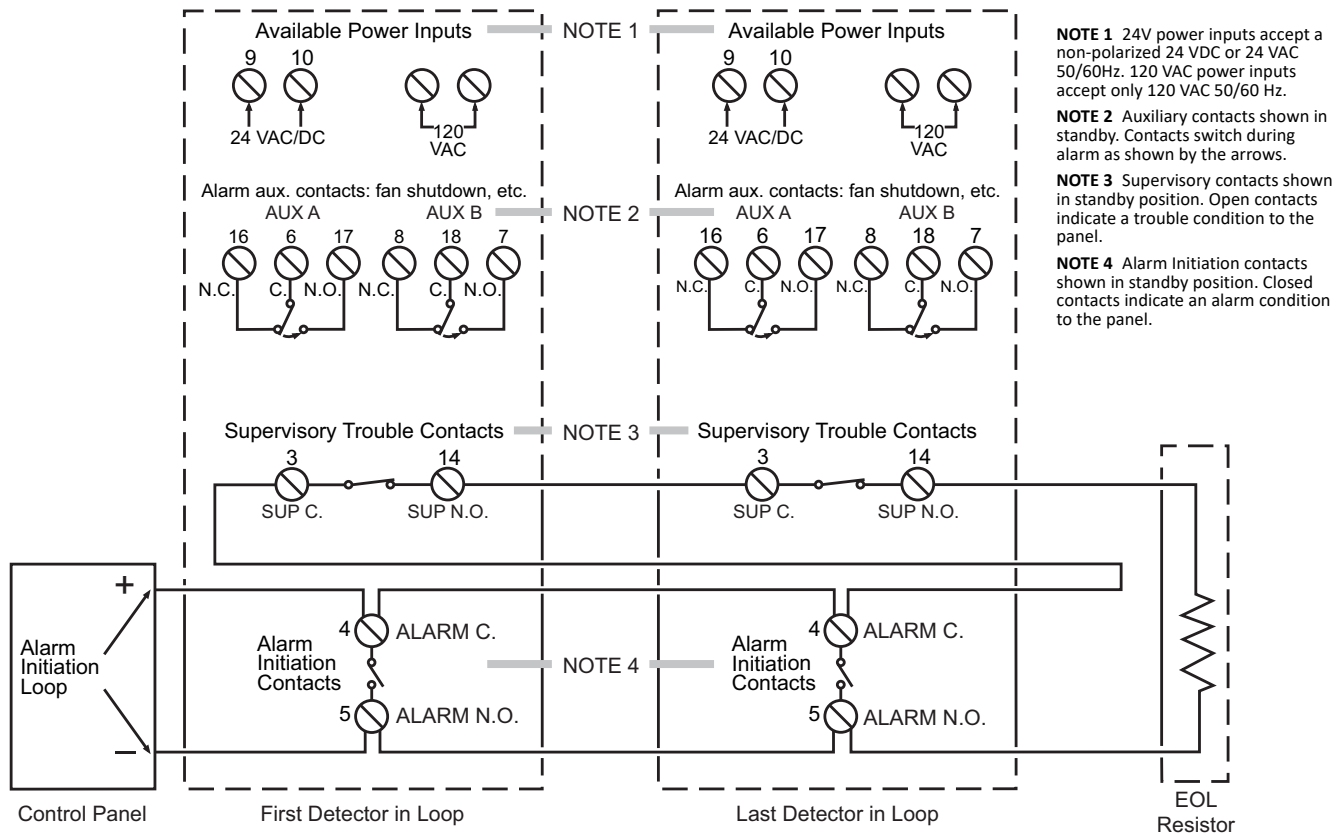
### Associated Parts

Part Number	Description
<b>723-372-00</b>	Conventional Duct Smoke Detector, photoelectric replacement head, 4-wire
<b>729-205-00</b>	Duct Smoke Detector, Sampling Tube, 1 to 2 ft.
<b>729-205-01</b>	Duct Smoke Detector, Sampling Tube, 2 to 4 ft.

Part Number	Description
<b>729-205-02</b>	Duct Smoke Detector, Sampling Tube, 4 to 8 ft.
<b>729-205-03</b>	Duct Smoke Detector, Sampling Tube, 8 to 12 ft.
<b>729-108-00</b>	Remote Test Station with LED for duct or beam smoke detector; requires test coil P/N 729-206-00
<b>729-138-00</b>	Remote Test Station with LED and Key for duct or beam smoke detectors; requires test coil P/N 729-206-00
<b>729-091-00</b>	Remote, Red LED Annunciator, fits standard single-gang electrical box (not included)
<b>729-156-00</b>	Test Magnet with 32-in. telescoping handle

**NOTE** Detector can be used with the Monaco Analog Addressable Panel (MAAP). Contact Monaco's Product Support Group.

## Wiring Diagram



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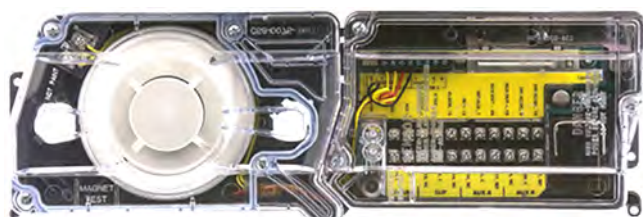
# Conventional Detection Devices

## Duct Smoke Detector

723-368-00

### Description

This 4-wire photoelectric duct smoke detector features a pivoting housing that fits both square and rectangular footprints and mounts to round or rectangular ductwork. It is easy to install, test, and maintain.



Up to 50 of these detectors can be interconnected. When one unit senses smoke and goes into alarm, the others automatically switch their relays to avoid duplicating the same alarm. This allows a system operator to immediately determine the fire's location.

The detector's test/reset button is accessible without removing the cover plate. Certain functions can be configured in the field via three DIP switches: cover tamper delay, number of sensors controlled, and shut-down on trouble. Each power board has two LEDs to indicate the status of connected sensors and a quick reference on the cover to explain LED indications (standby, maintenance, trouble, and alarm).

**WARNING!** Duct smoke detectors are NOT a substitute for open-area smoke detectors; NOT a substitute for early warning detection; NOT a replacement for a building's regular fire detection system. Refer to NFPA Standards 72 and 90A for additional information.

**NOTE** Detector can be used with Monaco's Analog Addressable Fire Alarm Control Panel (FACP). For more information, contact Monaco's Product Support Group.

**NOTE** Monaco recommends installing a Current In-rush Limiter (P/N 176-257-00) on a duct detector circuit with two or more detectors connected to AUX Power of an M-series Fire Alarm Control Panel (FACP). Do NOT connect more than seven duct detectors through the limiter.

### Features

- Square or rectangular mounting options
- Multifan shutdown
- Telescopic sampling tube installs from front or back of the detector
- Built-in short-circuit protection from wiring errors
- Two Double Pole Double Throw (DPDT) Form C relays manage fans, blowers, and air-conditioning systems
- Built-in test/reset button
- Outside mounting tabs
- Field-selectable configuration settings
- Plug-in sensor assists in eliminating false alarms (sold separately)

### Specifications

<i>Operating Voltage</i>	20 to 29 VDC 24/120 VAC, 50 to 60 Hz
<i>Max. Standby Current</i>	21 mA at 24 VDC 65 mA RMS at 24 VAC, 60 Hz 20 mA RMS at 120 VAC, 60 Hz
<i>Max. Alarm Current</i>	65 mA at 24 VDC 135 mA RMS at 24 VAC, 60 Hz 35 mA RMS at 120 VAC, 60 Hz
<i>Contact Ratings</i>	Alarm Initiation Contacts (SPST): 2A at 30 VDC (resistive) Alarm Auxiliary Contacts (DPDT): 10A at 30 VDC (resistive) 10A at 250 VAC (resistive) Supervisory Contacts (SPDT): 2A at 30 VDC (resistive) 2A at 125 VAC (resistive)
<i>Air Velocity</i>	100 to 4,000 fpm (0.5 to 20.3 m/second)
<i>Input Wiring</i>	12 to 18 AWG
<i>Reset Time (Power Down)</i>	0.6 seconds maximum
<i>Start-Up Time</i>	35 seconds maximum
<i>Alarm Response Time</i>	15 seconds
<i>Remote Test Station</i>	P/Ns 729-108-00 and 729-138-00:
<i>Current Drain</i>	0 mA in Standby; 12 mA in Alarm
<i>Operating Temperature</i>	-4°F to 158°F (-20°C to 70°C)



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# Conventional Detection Devices

**Relative Humidity** 0% to 95% non-condensing

**Dimensions** Rectangular:  
14.38 in. L x 5 in. W x 2.5 in. D  
(37 cm x 12.7 cm x 6.35 cm)  
Square:  
7.75 in. L x 9 in. W x 2.5 in. D  
(19.7 cm x 22.9 cm x 6.35 cm)

**Weight** 2.5 lb (1.14 kg)

**Standards Compliance:**

**UL Listed** UL268, File S911

**FM Approved** 3033744

**State of California** 3242-1653:0207

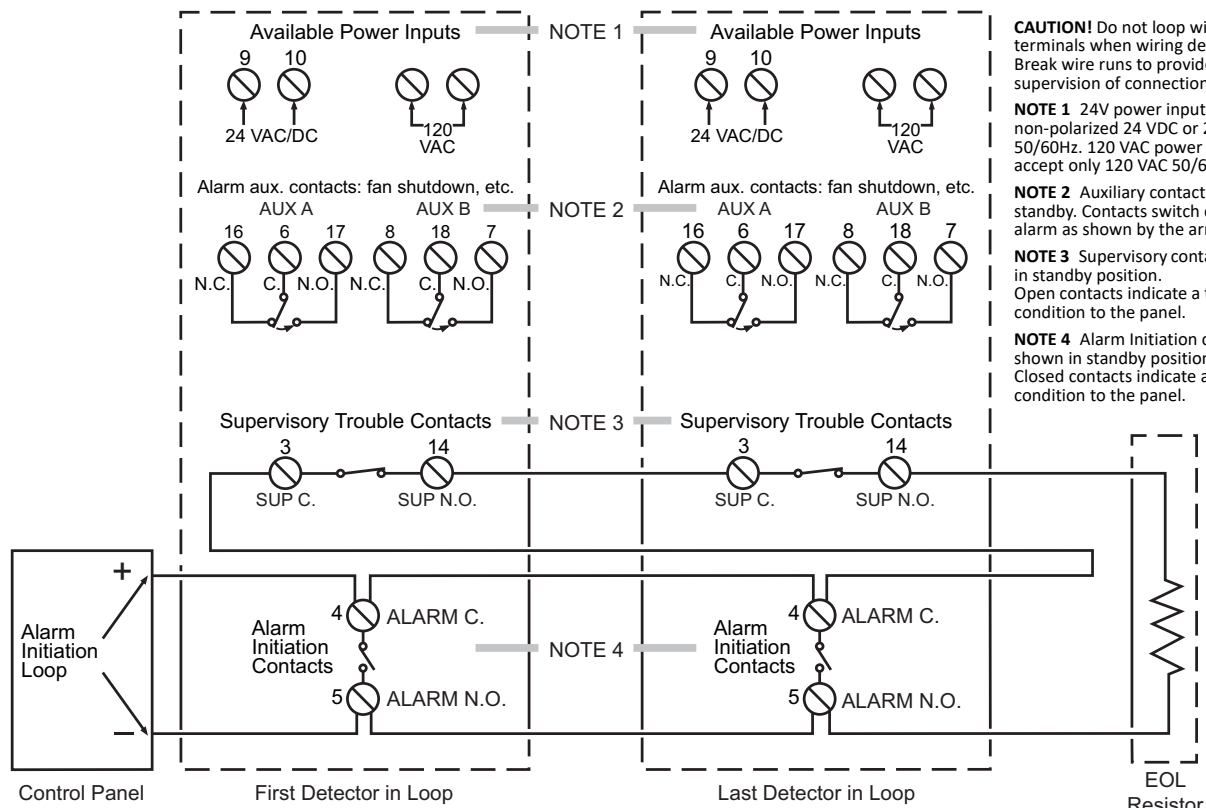
## Associated Parts

Part Number	Description
<b>723-372-00</b>	Conventional duct smoke detector, photoelectric replacement head, 4-wire
<b>729-205-00</b>	Duct Smoke Detector, Sampling Tube, 1 to 2 ft.
<b>729-205-01</b>	Duct Smoke Detector, Sampling Tube, 2 to 4 ft.
<b>729-205-02</b>	Duct Smoke Detector, Sampling Tube, 4 to 8 ft.
<b>729-205-03</b>	Duct Smoke Detector, Sampling Tube, 8 to 12 ft.
<b>729-108-00</b>	Remote Test Station with LED for duct or beam smoke detector; requires test coil P/N 729-206-00
<b>729-138-00</b>	Remote Test Station with LED and Key for duct or beam smoke detectors; requires test coil P/N 729-206-00
<b>176-257-00</b>	Current In-rush Limiter, $\leq 2.5A$ DC
<b>729-156-00</b>	Test Magnet with 32-in. telescoping handle

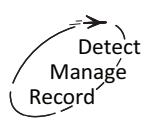
## Ordering Information

Part Number	Description
<b>723-368-00</b>	Duct Smoke Detector, photoelectric, 24 VDC, 24/120 VAC, 4-wire

## Wiring Diagram



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## Conventional Detection Devices

### Duct Smoke Detector, Photoelectric

723-369-00

#### Description

The detector contains a plug-in sensor head that limits false alarm conditions, and has broad operating temperature and humidity ranges. The detector senses airflow speeds in a range of 100–4000 fpm.



Mounting is available for round or rectangular duct work. Detector maintenance is simplified with the addition of a 3/4-in. conduit knockout and the ability to replace sampling tubes through the front or back of the unit.

The detector can be tested remotely and will provide notification when the unit's cover is tampered or improperly installed.

**WARNING!** Duct smoke detectors are NOT a substitute for open-area smoke detectors; NOT a substitute for early-warning detection; NOT a replacement for a building's regular fire detection system. Refer to NFPA 72 and 90A for additional information.

#### Features

- Square or rectangular mounting options
- Plug-in sensor
- Sampling tube installs from the front or the back of the detector with no tools required
- Tamper feature indicates a trouble condition for a removed or improperly installed detector cover
- Remote test capability

- Improved LED status
- Designed to prevent false alarms

#### Specifications

<i>Power Supply</i>	8.5–35 VDC
<i>Input Capacitance</i>	0.1 $\mu$ F maximum
<i>Peak Standby Current</i>	120 $\mu$ A
<i>Average Standby Current</i>	60 $\mu$ A
<i>Max. Alarm Current</i>	130 mA
<i>Reset Voltage</i>	2.5 VDC minimum
<i>Reset Time (Power Down)</i>	0.3 seconds maximum
<i>Power-up Time</i>	35 seconds maximum
<i>Air Duct Velocity</i>	100 to 4,000 fpm (0.5–20.32 m/second)
<i>Alarm Response Time</i>	15 seconds
<i>Operating Temperature</i>	–4°F to 158°F (–20°C to 70°C)
<i>Relative Humidity</i>	0% to 93% non-condensing
<i>Dimensions</i>	Rectangular: 14.38 in. L x 5 in. W x 2.5 in. D (37 cm x 12.7 cm x 6.36 cm) Square: 7.75 in. L x 9 in. W x 2.5 in. D (19.7 cm x 22.9 cm x 6.36 cm)
<i>Weight</i>	1.8 lb

#### Ordering Information

Part Number	Description
723-369-00*	Duct Smoke Detector, includes photoelectric low profile detector, 24V, 2-wire
*Requires duct smoke sample tube.	

#### Associated Parts

Part Number	Description
723-002-00	Conventional Duct Smoke Detector, photoelectric, low profile, 2-wire/4-wire (replacement spare part)
729-205-00	Duct Smoke Detector, sampling tube, 1 to 2 ft.
729-205-01	Duct Smoke Detector, sampling tube, 2 to 4 ft.
729-205-02	Duct Smoke Detector, sampling tube, 4 to 8 ft.



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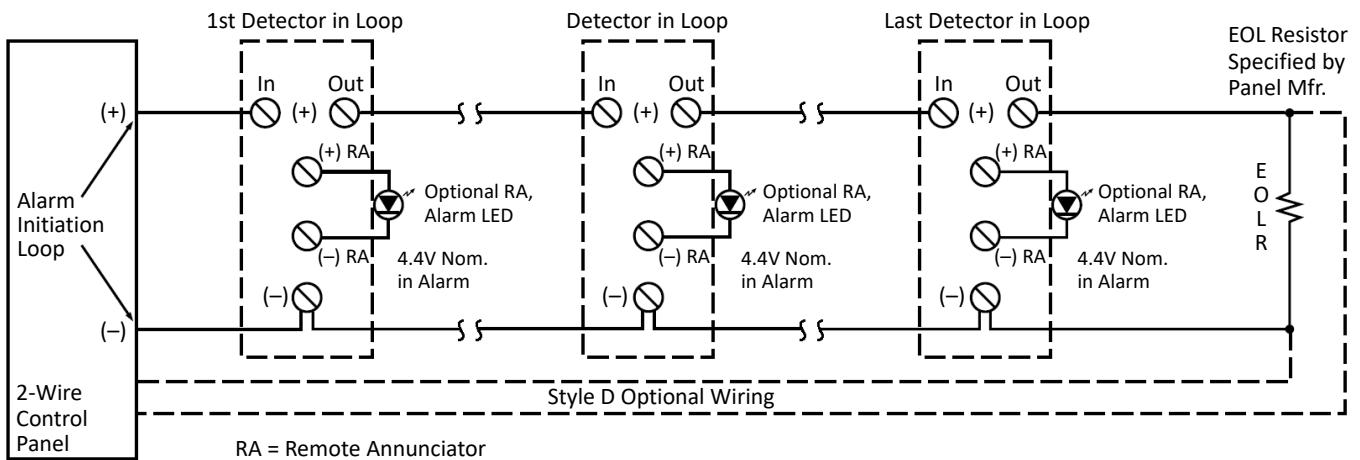


# Conventional Detection Devices

Part Number	Description
729-205-03	Duct Smoke Detector, sampling tube, 8 to 12 ft.
729-108-00	Remote Test Station with LED for duct or beam smoke detector; requires test coil P/N 729-206-00
729-138-00	Remote Test Station with LED and Key for duct or beam smoke detectors; requires test coil P/N 729-206-00
729-206-00	Remote test coil, for use with P/Ns 729-108-00 and 729-138-00
729-091-00	Remote LED Annunciator

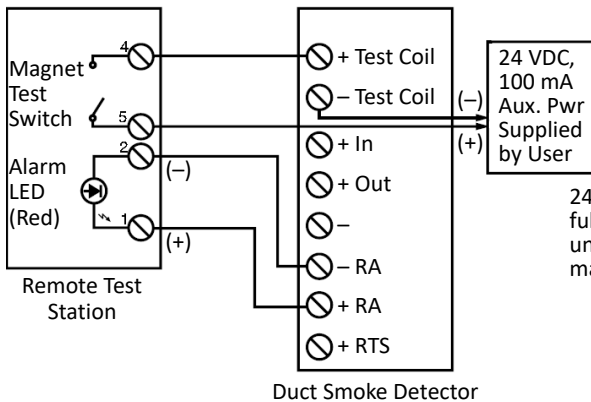
## Wiring Diagrams

### 2-Wire Smoke Detector System (IDC Powered)

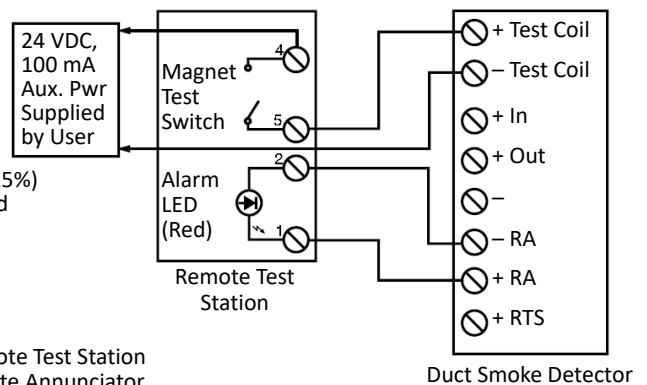


### 2-Wire Smoke Detector with Test Station

#### Method 1: Aux. Power Located at Duct Detector



#### Method 2: Aux. Power Located at Test Station



RTS = Remote Test Station  
RA = Remote Annunciator



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## Flame Detectors – Reserved

# Conventional Detection Devices Catalog Section

10

## Flame Detectors – Reserved

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## Pull Stations

# Conventional Detection Devices Catalog Section

10

### Pull Stations

Pull Station, Dual Action/Single Action Fire Alarm, NEMA 4X . . . . .	708-015-01, 708-015-03
Pull Station, Single Action . . . . .	708-022-00
Pull Station, Single Action . . . . .	708-025-01
Pull Station, Single Action . . . . .	708-025-03
Pull Station, Dual Action . . . . .	708-026-01
Pull Station, Dual/Single Action . . . . .	708-031-00

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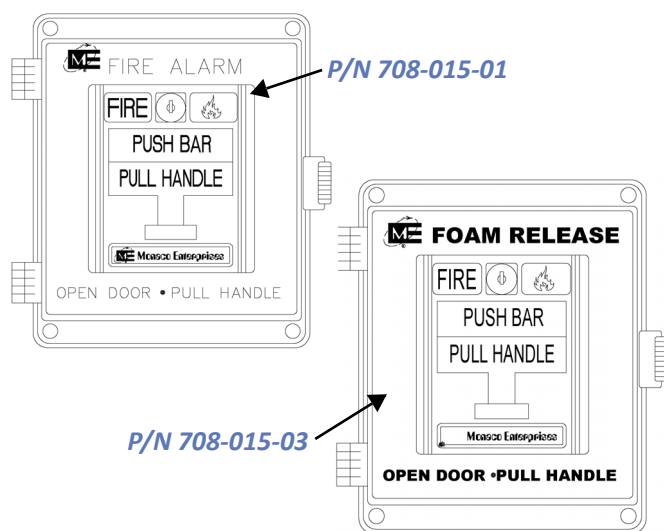
## Conventional Detection Devices

# Pull Station, Dual Action/Single Action Fire Alarm, NEMA 4X 708-015-01, 708-015-03

## Description

Monaco offers a manual Dual Action/Single Action Fire Alarm Pull Station that sits inside a weatherproof enclosure.

When configured for Dual Action, the pull stations can be activated by releasing the latch on the enclosure, pressing the Push Bar, and then pulling down on the Pull Handle. The pull stations can be converted to Single Action by removing the Push Bar.



## Features

- Dual or Single Action Fire Alarm Pull Station
- Gold-plated, corrosion resistant, normally open Single Pole Single Throw (SPST-NO) contacts
- Terminal strip connections
- Plastic break rod
- Key reset
- Listed for outdoor applications
- Meets ADA 5 lb maximum manual force requirements

## Specifications

Type	Dual or Single Action Pull Station
Contact Rating	1A at 30 VDC, 0.1A at 125 VAC
Key	CAT30 lock and keys
Input Wiring	12 AWG
Material	Die cast metal
Enclosure	NEMA 4X, fiberglass
Operating Temperature	–30°F to 150°F (–35°C to 66°C)
Dimensions	Enclosure: 8 in. H x 6 in. W x 5 in. D (20.3 cm x 15.2 cm x 12.7 cm) Pull Station: 4.9 in. H x 3.5 in. W x 2 in. D (12.45 cm x 8.9 cm x 5.1 cm)
Color	Red enamel finish with black raised lettering on a white background
Standards Compliance:	
UL Listed	Enclosure: UL508A, File E61997 Pull Station: UL38, File S7005
FM Approved	Pull Station: Approved
State of California	Pull Station: 7150-1477:0128
MEA Approved	Pull Station: 313-97-E

## Ordering Information

Part Number	Description
708-015-01	Manual Fire Alarm Pull Station, Dual Action, non-coded, SPST-NO, terminal strip, red, break rod, key reset, weatherproof red enclosure <b>NOTE</b> Can be converted to a Single Action pull station by removing Push Bar
708-015-03	Manual Foam Release Fire Alarm Pull Station, Dual Action, SPST-NO, terminal strip, red, break rod, key reset, weatherproof yellow enclosure <b>NOTE</b> Can be converted to a Single Action pull station by removing Push Bar



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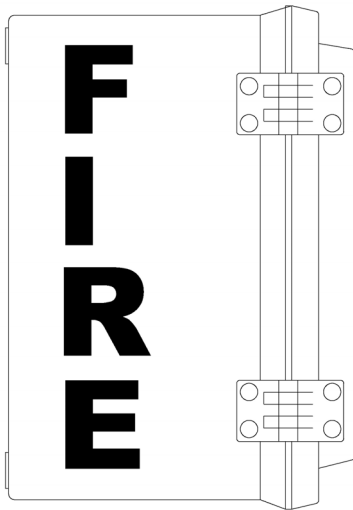
# Conventional Detection Devices

## Associated Parts

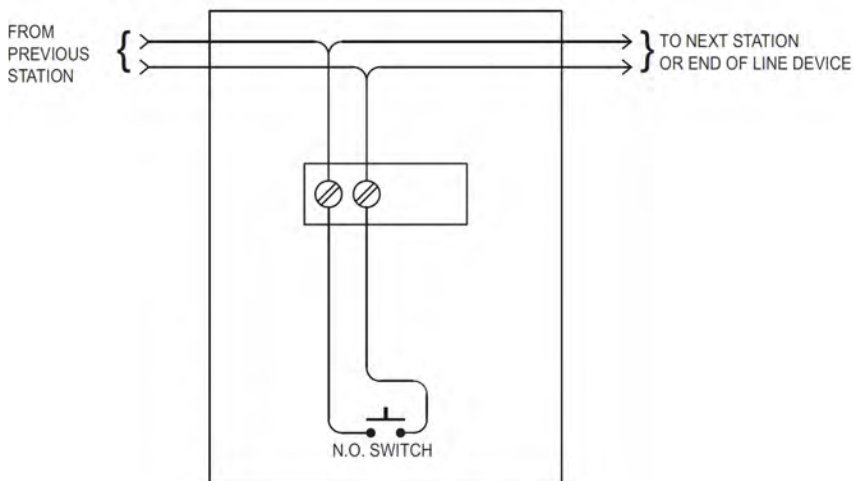
Part Number	Description
729-143-00	Intelligent Mini-monitor Module, CLIP, ivory, Type I
729-218-00	Intelligent Mini-monitor Module, AP/CLIP, white, Type II

## Drawings

### Enclosure Side View



### Wiring Diagram



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# Conventional Detection Devices

## Pull Station, Single Action

708-022-00



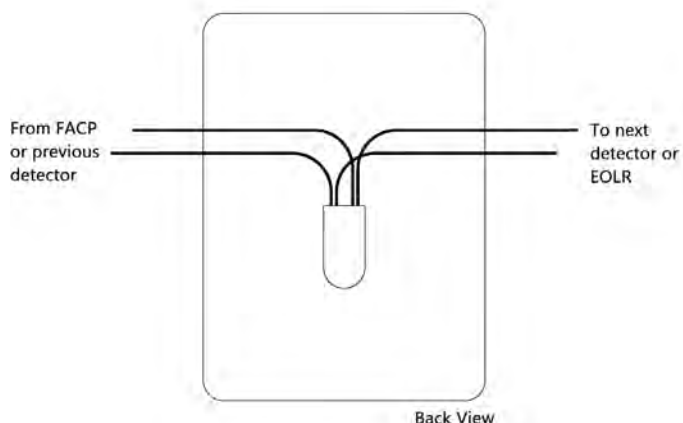
### Ordering Information

Part Number	Description
708-022-00	Pull Station, Single Action, SPST-NO, wire leads, red, non-coded, glass break rod, key reset; uses same key as Monaco Fire Alarm Control Panels

### Associated Parts

Part Number	Description
709-026-00	Back Box, surface-mount
709-029-00	Weatherproof Back Box, dust and rain-tight
729-143-00	Intelligent Mini-monitor Module, CLIP, ivory, Type I
729-218-00	Intelligent Mini-monitor Module, AP/CLIP, white, Type II

### Wiring Diagram



### Features

- Monaco Single Action Pull Station, red housing
- Non-coded with glass break rod
- Die cast metal alloy construction
- Recessed pull lever
- Keyed with Monaco Enterprises panels
- Normally open Single Pole Single Throw (SPST-NO) switch

### Specifications

*Power* 120 VAC at 3A

*Material* Die cast metal alloy

*Weight* 1.25 lb (0.6 kg)

*Dimensions* 5.25 in. H x 3.75 in. W x 1.625 in. D  
(13.34 cm x 9.53 cm x 4.13 cm)

#### Standards Compliance:

*UL Listed* File S2984

*State of California* 7150-0512:0006



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# Conventional Detection Devices

## Pull Station, Single Action

708-025-01



### Specifications

**Contact Rating** 120 VAC at 3A

**Material** Die cast metal alloy

**Weight** 1.25 lb (0.6 kg)

**Dimensions** 5.2 in. H x 3.75 in. W x 3.5 in. D  
(13.18 cm x 9.53 cm x 8.9 cm)

**Mounting** Mounts to single-gang ring on electrical junction box

**Standards Compliance:**

**UL Listed** File S2984

**State of California** 7150-0512:0006

### Ordering Information

Part Number	Description
708-025-01	Pull Station, Single Action, SPST-NO, terminal block, red, non-coded, glass break rod, key reset; uses same key as Monaco Fire Alarm Control Panels

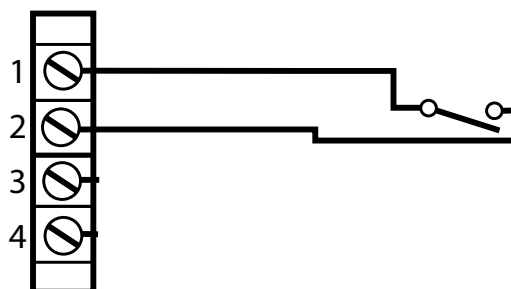
### Features

- Monaco Single Action Pull Station, red housing
- Non-coded with glass break rod
- Die cast metal alloy construction
- Recessed pull lever
- Terminal block field connections
- Keyed with Monaco Enterprises panels
- Normally open Single Pole Single Throw (SPST-NO) contacts
- Complies with Americans with Disability Act (ADA) 5 lb maximum pull force requirements

### Associated Parts

Part Number	Description
709-026-00	Back Box, surface-mount
709-029-00	Weatherproof Back Box, dust and rain-tight
729-143-00	Intelligent Mini-monitor Module, CLIP, ivory, Type I
729-218-00	Intelligent Mini-monitor Module, AP/CLIP, white, Type II

### Wiring



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## Conventional Detection Devices

### Pull Station, Single Action

708-025-03



### Specifications

*Contact Rating* 120 VAC at 3A

*Material* Die cast metal alloy

*Weight* 1.25 lb (0.6 kg)

*Dimensions* 5.2 in. H x 3.75 in. W x 3.5 in. D  
(13.18 cm x 9.53 cm x 8.9 cm)

*Mounting* Mounts to single-gang ring on electrical junction box

*Standards Compliance:*

*UL Listed* File S2984

*State of California* 7150-0512:0006

### Ordering Information

Part Number	Description
708-025-03	Pull Station, Single Action, DPST-NO, terminal block, red, non-coded, glass break rod, key reset; uses same key as Monaco Fire Alarm Control Panels

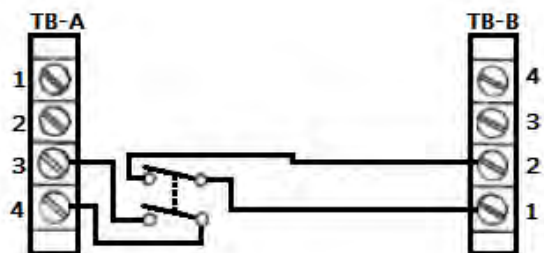
### Features

- Monaco Single Action Pull Station, red housing
- Non-coded with glass break rod
- Die cast metal alloy construction
- Recessed pull lever
- Terminal block field connections
- Keyed with Monaco Enterprises panels
- Normally open Double Pole Single Throw (DPST-NO) contacts
- Complies with Americans with Disability Act (ADA) 5 lb maximum pull force requirements

### Associated Parts

Part Number	Description
709-026-00	Back Box, surface-mount
709-029-00	Weatherproof Back Box, dust and rain-tight
729-143-00	Intelligent Mini-monitor Module, CLIP, ivory, Type I
729-218-00	Intelligent Mini-monitor Module, AP/CLIP, white, Type II

### Wiring Diagram



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# Conventional Detection Devices

## Pull Station, Dual Action

708-026-01

### Description

This Dual Action Pull Station is configured with normally open Single Pole Single Throw (SPST-NO) contacts and screw terminals for connection to an initiating circuit.



### Specifications

**Contact Rating** 0.25A at 30 VAC/VDC (resistive)

**Material** Lexan® polycarbonate

**Operating Temperature** 60°F to 80°F (15°C to 27°C)

**Relative Humidity** 10% to 93% ±2%, non-condensing

**Dimensions** 5.625 in. H x 4.25 in. W x 1.25 in. D  
(14 cm x 10.1 cm x 3.2 cm)

**Mounting** Surface- or semi-flush-mount on standard double-gang or 4 in. square electrical box

#### Standards Compliance:

**UL Listed** UL864, File S2465

**FM Approved** 3023594

**State of California** 7150-1703:0109

**MEA Approved** 67-02-E Vol. 7

### Ordering Information

Part Number	Description
708-026-01	Pull Station, Dual Action, SPST-NO, terminal block, red, non-coded, non-break glass, key reset; uses same key as Monaco Fire Alarm Control Panels

### Features

- Monaco Dual Action Pull Station, red housing
- Non-coded, non-break glass station
- Polycarbonate construction
- Operating instructions and Braille text in handle
- Keyed with Monaco Enterprises panels
- Complies with Americans with Disability Act (ADA) 5 lb maximum pull force requirements
- Shock and vibration resistant

### Associated Parts

Part Number	Description
588-102-00	Surface-mount Back Box for manual pull-station, indoor/outdoor, red, (Lexan®) polycarbonate
709-034-00	Trim Ring for semi-flush-mount, plastic
729-143-00	Intelligent Mini-monitor Module, CLIP, ivory, Type I
729-218-00	Intelligent Mini-monitor Module, AP/CLIP, white, Type II



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# Conventional Detection Devices

## Pull Station, Dual/Single Action

708-031-00

### Description

This Dual Action Pull Station is made of high quality die cast metal and is configured with normally open Single Pole Single Throw (SPST-NO) contacts and terminal block connections for easy installation.

When configured for Dual Action, the station can be activated by pressing the Push Bar and then pulling down the Pull Handle. The station is reset by completely opening the station with the key, placing the handle in its normal position, and locking the station. The pull station can be converted to Single Action by removing the Push Bar.



### Features

- Monaco Dual or Single Action Fire Alarm Pull Station
- Keyed with Monaco Enterprises panels
- Terminal block connections
- Gold-plated, corrosion resistant SPST-NO contacts
- Optional auxiliary contacts
- Plastic break rod
- Complies with Americans with Disability Act (ADA) 5 lb maximum pull force requirement

### Specifications

*Contact Ratings* 1A at 30 VDC; 0.1A at 125 VAC

*Input Wiring* 12 AWG maximum

*Material* Die cast metal

*Operating Temperature* -30°F to 150°F (-35°C to 66°C)

*Relative Humidity* 85% ± 5% at 86°F ± 3.6°F (30°C ± 2°C)

*Pull Station Dimensions* 4.9 in. H × 3.5 in. W × 2 in. D  
(12.4 cm × 8.9 cm × 5.1 cm)

*Indoor Back Box Dimensions* 5 in. H × 3.6 in. W × 2 in. D  
(12.7 × 9.1 × 5.1 cm)

*Weatherproof Back Box Dimensions* 5 in. H × 3.6 in. W × 2.2 in. D  
(12.7 × 9.1 × 5.6 cm)

*Finish* High-gloss enamel

*Color* Red with black raised lettering on a white background

#### Standards Compliance:

*UL Listed* File S7005

*FM Approved* 3062622

*State of California* 7150-1477:128

*MEA Approved* 313-97-E



**MEA**  
approved



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# Conventional Detection Devices

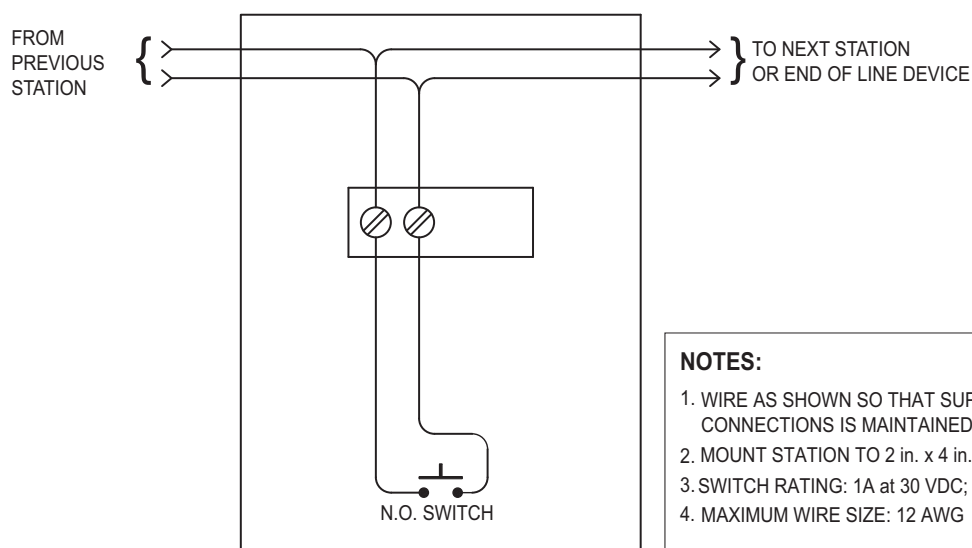
## Ordering Information

Part Number	Description
<b>708-031-00</b>	Pull Station, Dual or Single Action, SPST-NO, terminal block, red, non-coded, plastic break rod, key reset; uses the same key as the Monaco Fire Alarm Control Panels <b>NOTE</b> Can be converted to a Single Action pull station by removing Push Bar

## Associated Parts

Part Number	Description
<b>588-082-00</b>	Indoor Back Box, surface-mount, red
<b>588-083-00</b>	Weatherproof Back Box, surface-mount, red
<b>709-046-00</b>	Plastic Break Rod (package of 12)
<b>729-143-00</b>	Intelligent Mini-monitor Module, CLIP, ivory, Type I
<b>729-218-00</b>	Intelligent Mini-monitor Module, AP/CLIP, white, Type II

## Wiring Diagram



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## Flow Switches

# Conventional Detection Devices Catalog Section

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### Flow Switches

Pressure-Type Waterflow Switch .....	514-001-00
Pressure-Type Supervisory Switch .....	514-003-00

*[Click to go back to "Table of Contents - Index by Product Name"](#)*



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## Conventional Detection Devices

### Pressure-Type Waterflow Switch

514-001-00



**MEA**  
approved



### Specifications

<i>Enclosure</i>	NEMA 4/IP66 Rated Enclosure; indoor or outdoor when used with NEMA 4 conduit fittings Cover: Weather/UV/Flame Resistant High Impact Composite Base: Die Cast
<i>Pressure Connection</i>	Nylon 1/2 in. NPT male
<i>Factory Setting</i>	Factory set at 4 to 8 PSI (0.27 to 0.55 BAR)
<i>Pressure Range</i>	Adjustable between 4 and 15 PSI (0.27 and 1.03 BAR)
<i>Differential</i>	2 PSI (0.13 BAR) Typical
<i>Maximum System Pressure</i>	300 PSI (20.68 BAR)
<i>Contact Ratings</i>	One SPDT (Form C) Contact: 10.1A at 125/250 VAC and 2A at 30 VDC
<i>Operating Temperature</i>	-40°F to 140°F (-40°C to 60°C)
<i>Dimensions</i>	3.78 in. W x 3.2 in. D x 4.22 in. H (9.6 cm x 8.1 cm x 10.7 cm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	S309
<i>FM Approved</i>	Approved
<i>State of California</i>	7770-0328:0001
<i>MEA Approved</i>	299-91-E Vol.12
<i>CE Marked</i>	Fire Alarm Equipment 354L

### Features

- Maximum service pressure rating of 300 PSI
- Pressure range 4 to 8 PSI
- 1/2 in. male NPT fitting
- Cover attaches with one tamper resistant screw
- Two 1/2 in. knockouts for dual voltage application
- May be used for indoor or outdoor applications
- One Single Pole Double Throw (SPDT) Form C contact

### Ordering Information

Part Number	Description
514-001-00	Pressure-Type Waterflow Switch, one SPDT, 10.1A 125/250 VAC, 2A 30 VDC, 4 to 8 PSI factory setting

### Associated Parts

Part Number	Description
729-143-00	Intelligent Mini-monitor Module, CLIP, ivory, Type I
729-218-00	Intelligent Mini-monitor Module, AP/CLIP, white, Type II
729-142-00	Intelligent Monitor Module, CLIP, ivory, Type I
729-217-00	Intelligent Monitor Module, AP/CLIP, white, Type II



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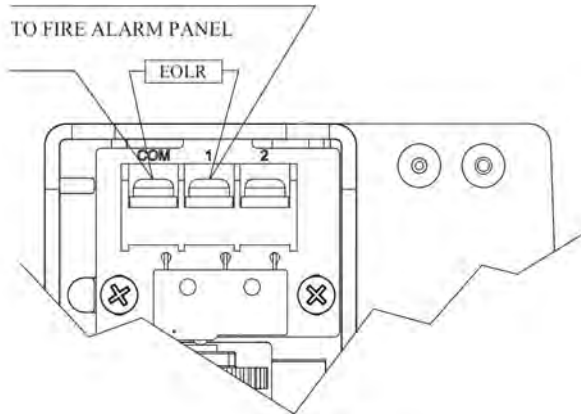
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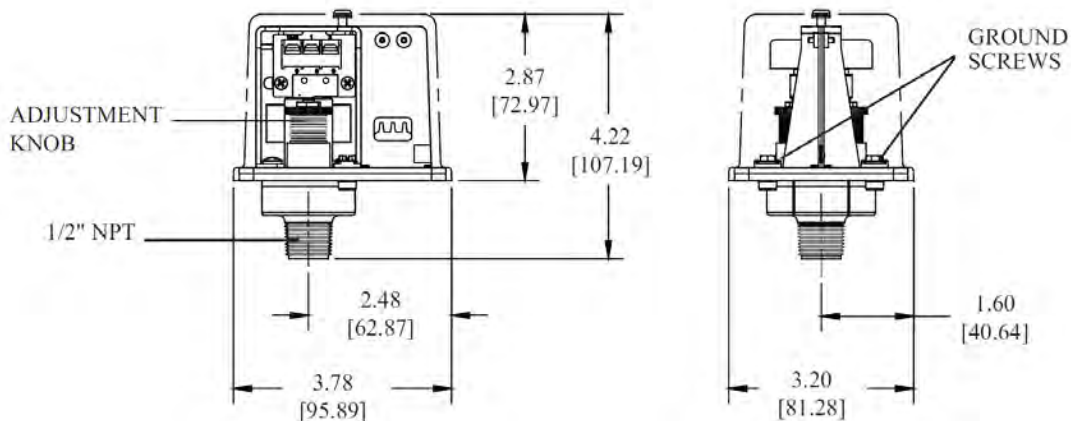
# Conventional Detection Devices

## Drawings

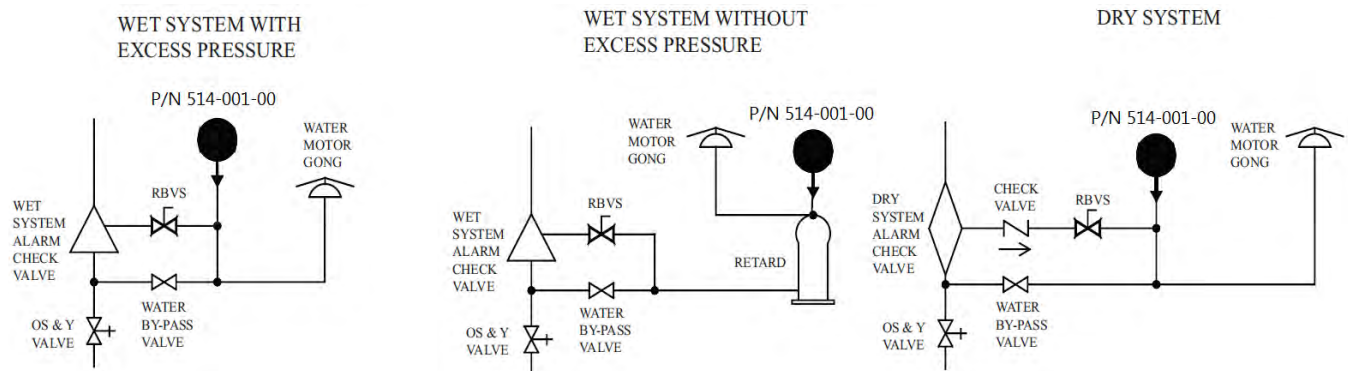
### Wiring Diagram



### Dimensions



### Applications



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## Conventional Detection Devices

### Pressure-Type Supervisory Switch

514-003-00



**MEA**  
approved



### Features

- Detects 10 PSI increase/decrease from normal system pressure in automatic fire sprinkler systems
- 300 PSI system pressure rated
- Pressure range 10–60 PSI
- 0.5 in. male NPT fitting
- Cover attaches with one tamper resistant screw
- Two 0.5 in. knockouts for dual voltage application
- Separate isolated wiring chambers
- May be used for indoor or outdoor applications
- Independent adjustment and operation for each Single Pole Double Throw (SPDT) switch

### Specifications

**Dimensions** 3.78 in. W x 3.20 in. D x 4.22 in. H  
(9.6 cm x 8.1 cm x 10.7 cm)

**Enclosure** NEMA 4/IP66 Rated Enclosure— indoor or outdoor when used with NEMA 4 conduit fittings

**Cover:** Die-Cast with textured red powder coat finish, single cover screw and rain lip  
**Base:** Die-cast

**Pressure Connection** Nylon 1/2 in. NPT male

**Factory Setting** Factory set at 40 PSI (2.8 BAR)  
Switch marked LOW set to operate at pressure decrease of 10 PSI (0.7 BAR) at 30 PSI (2.1 BAR)  
Switch marked HIGH set to operate at pressure increase of 10 PSI (0.7 BAR) at 50 PSI (3.5 BAR)

**Pressure Range** Adjustable from 10–60 PSI (0.7–4.1 BAR)

**Differential** Typical 1 lb at 10 PSI (0.07 at 0.7 BAR)  
4 lb at 60 PSI (0.28 at 4.1 BAR)

**Maximum System Pressure** 300 PSI (20.68 BAR)

**Switch Contacts** Two SPDT (Form C) contacts, rated at 10.1A at 125/250VAC and 2A at 30VDC

**Operating Temperature** –40°F to 140°F (–40°C to 60°C)

**Standards Compliance:**

**UL** S309

**FM** Approved

**State of California** 7770-0328:0010

**MEA Acceptance** 299-91-E Vol.12

**CE** Marked - Fire Alarm Equipment 354L

**LPCB** 125a/08

### Ordering Information

Part Number	Description
514-003-00	Pressure-Type Supervisory Switch, 2 SPDT, 10A, 125 VAC, 10–60 PSI



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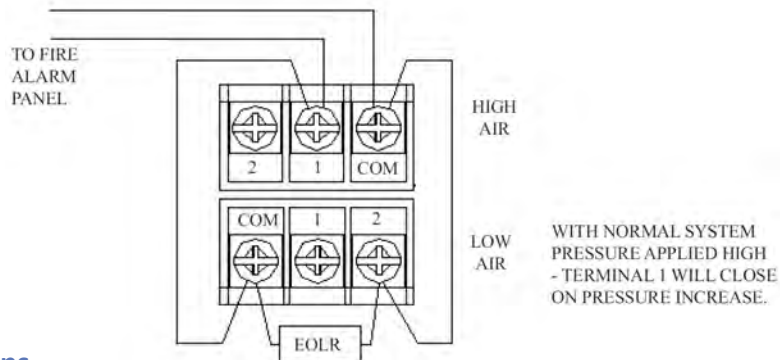
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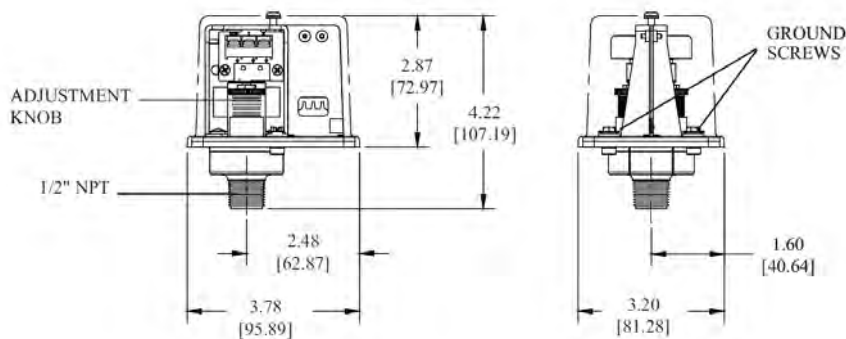
# Conventional Detection Devices

## Drawings

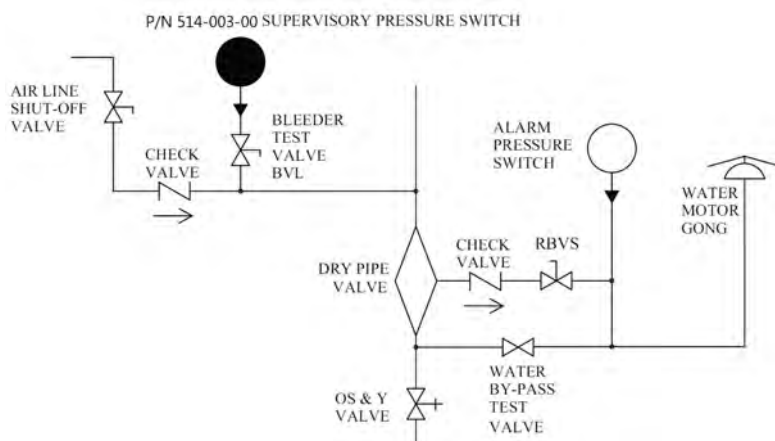
### Wiring Diagram



### Dimensions



### Application



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## Tamper Switches

### Conventional Detection Devices Catalog Section

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#### Tamper Switches

Outside Screw & Yoke Valve Supervisory/Tamper Switch . . . . .514-000-00, 514-000-01

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## Conventional Detection Devices

# Outside Screw & Yoke Valve Supervisory/Tamper Switch

514-000-00, 514-000-01



## Specifications

**Pressure Connection** Nylon 1/2 in. NPT male

**Contact Ratings** 10A at 125/250 VAC  
2A at 30 VDC resistive  
10 mA minimum at 24 VDC

**Conduit Entrances** Two knockouts for 1/2 in. conduit

**Operating Temperature** -40°F to 140°F (-40°C to 60°C)

**Enclosure** NEMA 4X (IP65) and NEMA 6P (IP67),  
indoor or outdoor, die cast material

**Finish** Cover: Red Powder Coat  
Base: Black Powder Coat  
All parts have corrosion resistant finish

**Dimensions** 6.19 in. W x 3.05 in. D x 5.69 in. H  
(15.7 cm x 7.7 cm x 14.4 cm)

**Weight** 1.6 lb (0.73 kg)

**Standards Compliance:**

**UL Listed** S309

**FM Approval** Approved

**State of California** 7770-0328:0010

## Ordering Information

Part Number	Description
514-000-00	Valve Supervisory/Tamper Switch (OS&Y gate valve switch) one SPDT Form C contact, 10A, 125/250 VAC
514-000-01	Valve Supervisory/Tamper Switch (OS&Y gate valve switch) two SPDT Form C contacts, 10A, 125/250 VAC

## Features

- Monitors the open position of an outside screw and yoke (OS&Y) type gate valve
- Three position switch detects tampering and valve closure
- Mounts to most gate valves between 2 in. and 12 in.
- Visual switch indicators
- Two tamper resistant screws hold cover in place
- May be used for indoor or outdoor applications
- Single Pole Double Throw (SPDT) switch

## Associated Parts

Part Number	Description
729-143-00	Intelligent Mini-monitor Module, CLIP, ivory, Type I
729-218-00	Intelligent Mini-monitor Module, AP/CLIP, white, Type II



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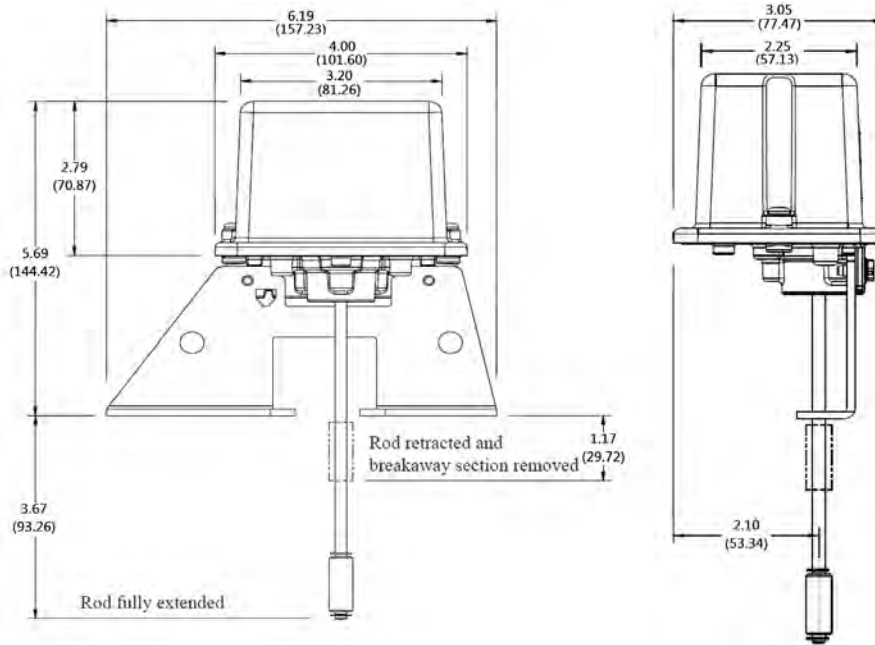
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# Conventional Detection Devices

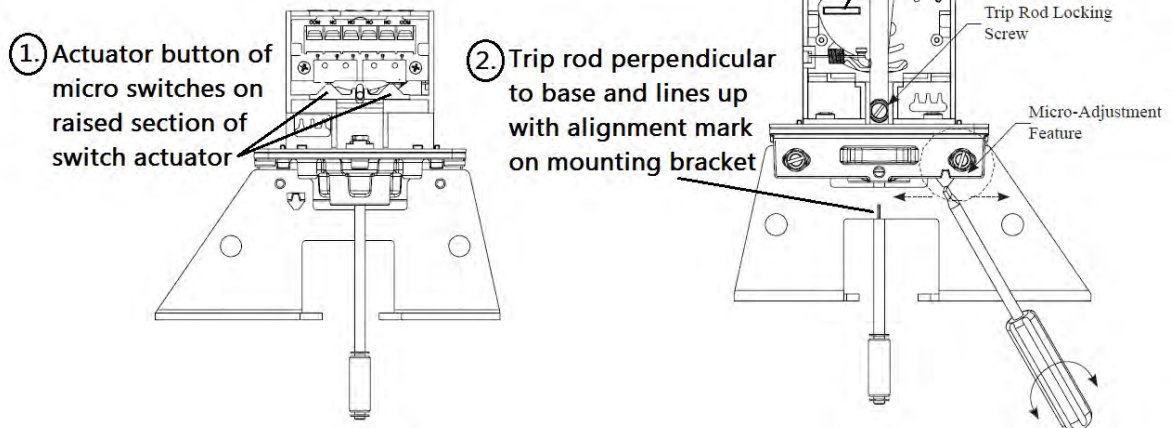
## Drawings

### Dimensions



### Visual Indicators

There are three visual indicators to determine the status of the switches:



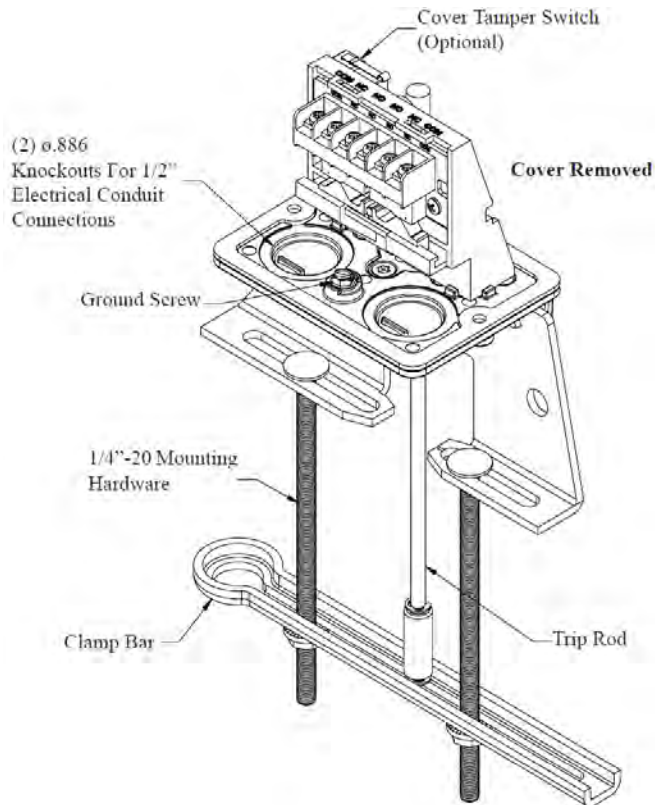
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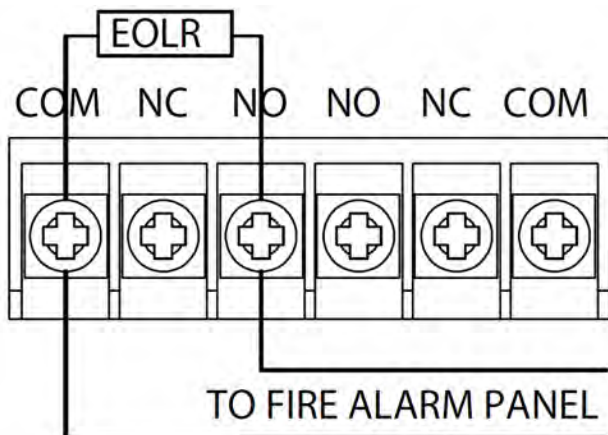


# Conventional Detection Devices

## Detail Drawing



## Wiring Diagram



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# Carbon Monoxide Detectors

## Conventional Detection Devices Catalog Section

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### Carbon Monoxide Detectors

Carbon Monoxide Detector .....725-602-00, 725-602-01

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## Conventional Detection Devices

### Carbon Monoxide Detector

725-602-00, 725-602-01

#### Description

These conventional four-wire detectors use a highly accurate and reliable electromechanical sensing cell to give early warning of dangerous carbon monoxide (CO) levels.



725-602-00



725-602-01



**RealTest Alarm Silence** After spraying canned CO into the detector as a test, the alarm automatically silences after about 20 seconds. Alarm automatically resets after CO has cleared from the sensor.

**Trouble** When sensor supervision is in a trouble condition, the detector sends a trouble signal to the panel. The detector must then be replaced. **There is no local audible signal when the detector is in trouble!**

**End of Life Timer** When the detector has reached the end of its life, the trouble contact will open, signaling the panel. This indicates that the CO sensor must be replaced. The detector's lifespan is about six years from the date of manufacture (check the "Replace by" sticker located under the detector cover).

#### Features

- Local sounder
- Low current draw
- Alarm relay, Form C
- Trouble relay, Form A
- Dual LEDs
- Test/Hush button

#### Specifications

**Operating Voltage** 12/24 VDC nominal (range 10–33V)

**Current** Standby: 20 mA, average  
Alarm: 40 mA, max.

**Contact Rating** Alarm: 30 VDC at 0.5A  
Trouble: 30 VDC at 0.5A

**LED Notification** Green, 1 blink/min.; red, temp-4 pattern

**Audible Signal (Temp 4)** 3 KHz, 85 dBA min. in alarm, 10 ft.

**Wiring** 14 to 22 AWG

**Operating Temperature** 32°F to 104°F (0°C to 40°C)

**Relative Humidity** 22% to 90%

**Dimensions** Rectangular: 5.1 in. L x 3.3 in. W x 1.25 in. D  
Circular: 1.25 in. H x 6 in. OD

**Weight** 725-602-00: 7 oz  
725-602-01: 11 oz

**Detector Life Span** ≈6 years from date of manufacture

**Hush/Alarm Silence** The audible alarm can be silenced for 5 minutes by pushing the "Test/Hush" button. The red alarm light will continue to flash in temp-4 pattern. If CO is still present after the 5-minute hush period, the audible alarm will sound. Hush will not operate at levels above 350 ppm CO.



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# Conventional Detection Devices

## Alarm Thresholds

Parts per Million	Detector Response Time
30, $\pm 3$	No alarm within 30 days
70, $\pm 3$	60–240 minutes
150, $\pm 3$	10–50 minutes
400, $\pm 3$	4–15 minutes

## Mounting

Ceiling- or wall-mounting:

- Single gang J box
- Direct-mount using drywall fasteners
- Co-plate (replacement plate) mounting accessory, P/N 588-076-00

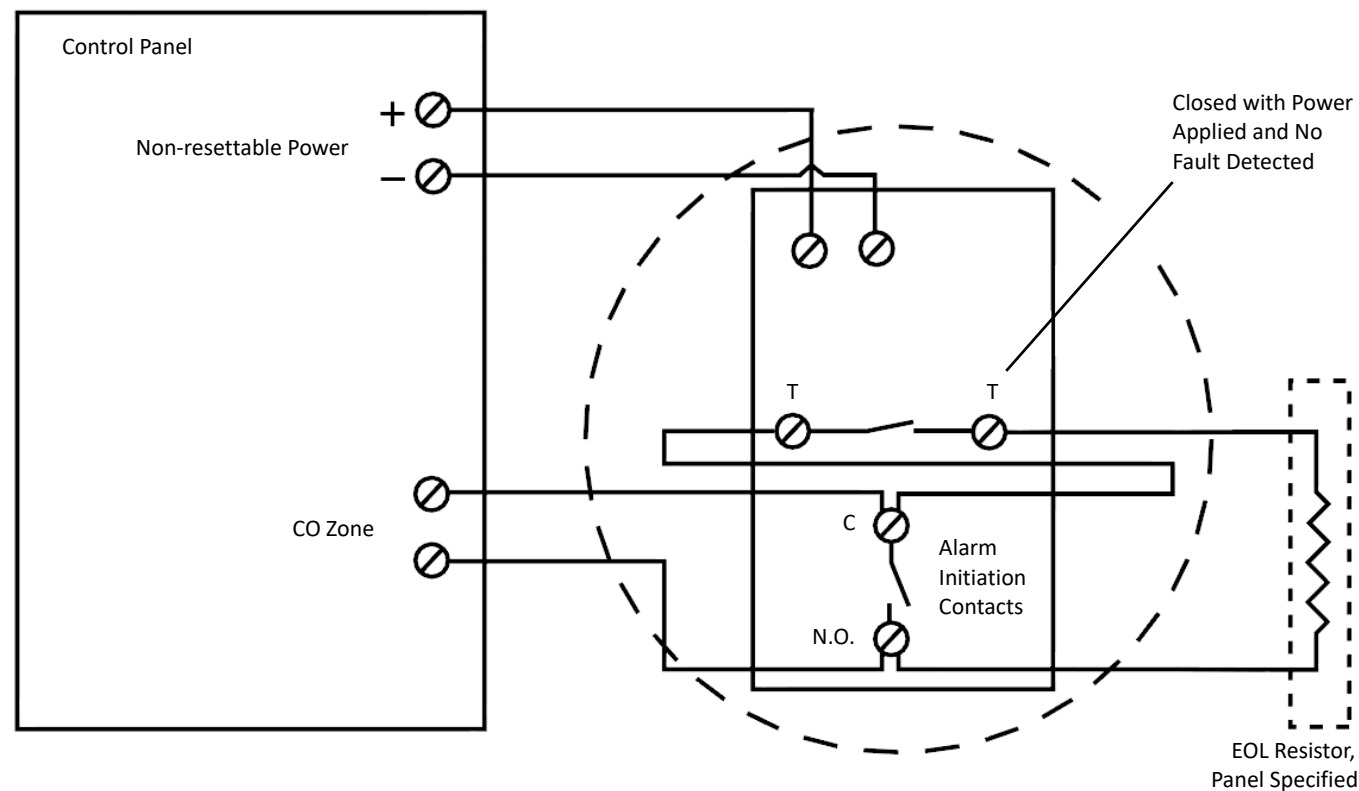
## Ordering Information

Part Number	Description
<b>725-602-00</b>	Conventional Carbon Monoxide Detector, 12/24 VDC, rectangular, 4-wire
<b>725-602-01</b>	Conventional Carbon Monoxide Detector, 12/24 VDC, circular, 4-wire

## Associated Parts

Part Number	Description
<b>588-076-00</b>	Co-plate (replacement plate) mounting accessory for P/N 725-602-00

## Wiring Diagram



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## Bases

# Conventional Detection Devices Catalog Section

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### Bases

Detector Base, Plug-in, 2-Wire .....	729-097-00
Detector Base, Plug-in, 2-Wire .....	729-150-00
Detector Base, Plug-in, 4-Wire .....	729-151-00

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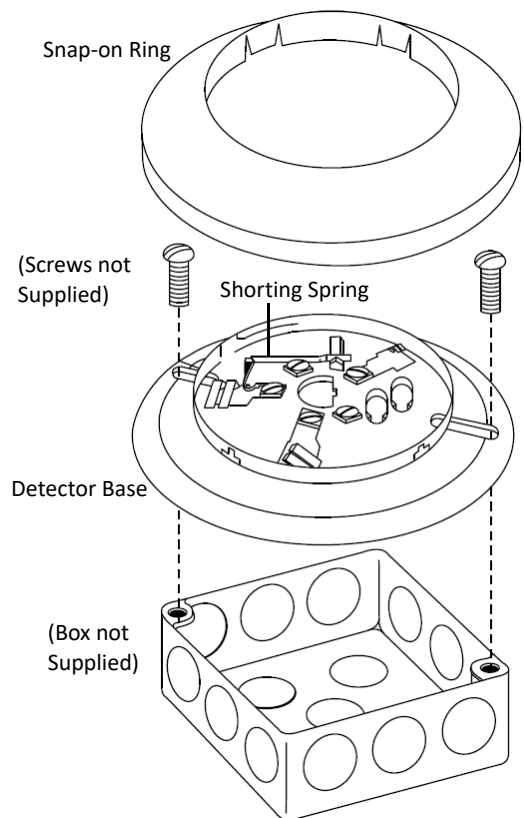
# Conventional Detection Device

## Detector Base, Plug-in, 2-Wire 729-097-00

### Description

This plug-in base is used with ionization and photoelectric detector heads. Plug-in heads are more versatile than direct-wired units.

The base is intended for two-wire (loop-powered) systems. Screw terminals connect power, ground, and remote annunciation. The base also contains a resistor for current-limiting in the alarm state and features a tamper-resistant tab.



### Mounting

Base mounts directly to 3.5 in. and 4 in. octagon boxes, and 4 in. square boxes with or without plaster rings.

### Specifications

#### Base

*Dimensions* 0.95 in. H x 6.2 in. OD (24 mm x 157 mm)

*Weight* 0.3 lb (136.1 g)

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 93% non-condensing

#### Base and Detector

*Start-up Time* 34 seconds maximum

*System Voltage* 24 VDC, 4V P-P maximum ripple

*Standby Ratings* Base: 17 VDC min., 32 VDC maximum  
Detector: 120 µA maximum

*Wiring* Up to 12 AWG, twisted pair, in separate grounded conduit

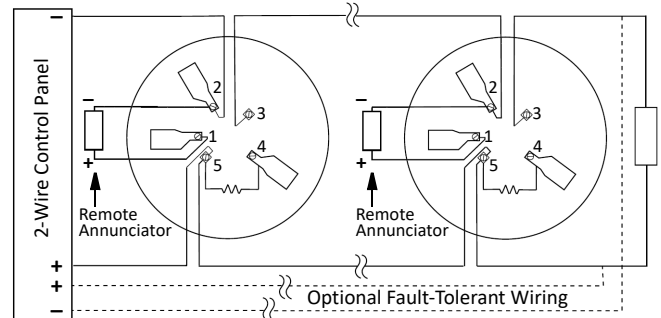
*Alarm Ratings* 10.5 VDC at 10 mA minimum  
32 VDC at 62 mA maximum

*Rating* MSFM Approved

### Wiring Diagram

#### 2-Wire System

For system supervision, do not loop wire under terminals 2, 3, 5. Break wire run to ensure system supervision of connectors.



### Ordering Information

Part Number	Description
729-097-00	Conventional Detector Base, plug-in, 24 VDC with current limiting resistor, 2-wire



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# Conventional Detection Device

## Detector Base, Plug-in, 2-Wire 729-150-00

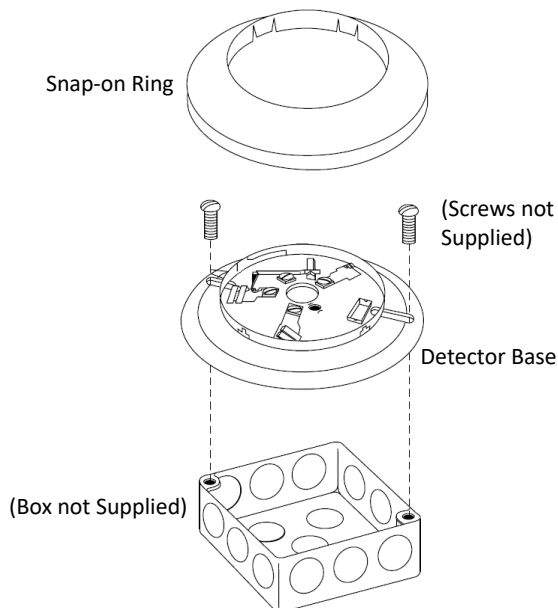
### Description

This plug-in base is used with ionization and photoelectric detector heads. The base is intended for 2-wire systems. Screw terminals connect power, ground, and optional remote annunciation. The base features a tamper-resistant tab.



### Mounting

Base mounts directly to 3.5 in. and 4 in. octagon boxes, and 4 in. square boxes with or without plaster rings.



### Specifications

#### Base

*Dimensions* 0.95 in. H x 6.2 in OD (24 mm x 157 mm)

*Weight* 0.3 lb (136.1 g)

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 93% non-condensing

#### Base and Detector

*Start-up Time* 34 seconds maximum

*System Voltage* 24 VDC, 4V P-P maximum ripple

*Standby Ratings* Base: 20 VDC min., 29 VDC maximum  
Detector: 120  $\mu$ A maximum

*Wiring* 18 AWG min., signal line  
Up to 12 AWG, base clamping plate

*Alarm Ratings* 10 mA, minimum  
100 mA, maximum

*Contact Ratings* Form A: 2A at 30 VAC/DC  
Form C: 0.6A at 110 VDC  
1A at 125 VAC  
2A at 30 VAC/VDC

### Ordering Information

Part Number	Description
729-150-00	Conventional Detector Base, plug-in, 2-wire, 12/24 VDC



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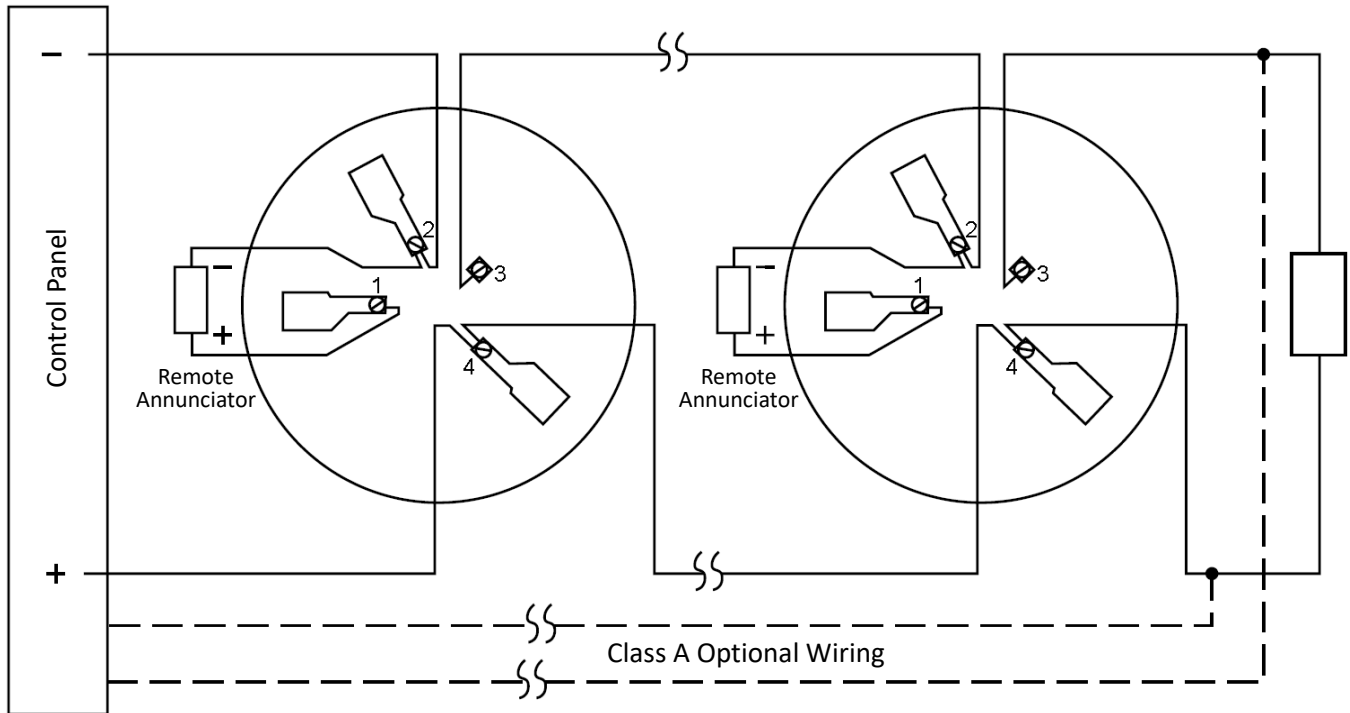
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# Conventional Detection Device

## Wiring Diagram

Typical 2-wire detector system.



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# Conventional Detection Devices

## Detector Base, Plug-in, 4-Wire

729-151-00

### Description

This plug-in base, used with ionization and photoelectronic detector heads, is for 4-wire systems. Screw terminals connect power, ground, and optional remote annunciation. The base features Form A and C contacts, shorting spring, and a tamper-resistant tab.

**Mounting** 3.5 in. octagon and 4 in. square boxes with or without plaster rings; minimum depth for both is 1.5 in.

**Standards Compliance:**

**UL Listed** S911

**FM Approved** 3025009

**State of California** 7300-1653:0109



### Ordering Information

Part Number	Description
729-151-00	Conventional Detector Base, plug-in, 24 VDC, 4-wire, Form A and C contacts

### Associated Parts

Part Number	Description
790-012-00	End-of-Line Power Supervision Relay Module, polarized, 9 to 40 VDC

### Specifications

#### Base

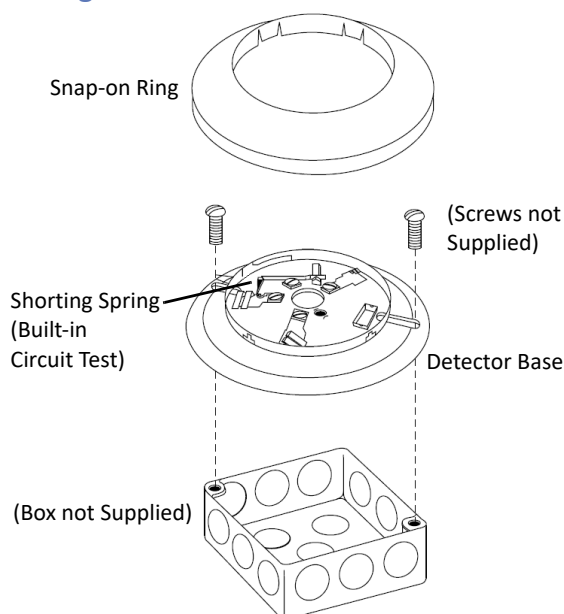
**Operating Temperature** 32°F to 120°F (0°C to 49°C)  
**Relative Humidity** 10% to 93% non-condensing  
**Dimensions** 0.95 in. H x 6.2 in. OD (2.4 cm x 15.7 cm)  
**Weight** 0.3 lb (0.136 kg)

#### Base and Detector

**Operating Voltage** 24 VDC, 4V P-P maximum ripple  
**Standby Ratings** Base: 20 VDC minimum, 29 VDC maximum  
Detector: 120  $\mu$ A maximum  
**Input Wiring** 18 AWG minimum signal line  
12 AWG maximum base clamping plate  
**Alarm Ratings** 17 mA minimum; 36 mA maximum  
**Contact Ratings** Form A:  
2A at 30 VAC/ VDC  
Form C:  
0.6A at 110 VDC  
1A at 125 VAC  
2A at 30 VAC/VDC  
**Start-up Time** 34 seconds maximum

### Diagrams

#### Mounting



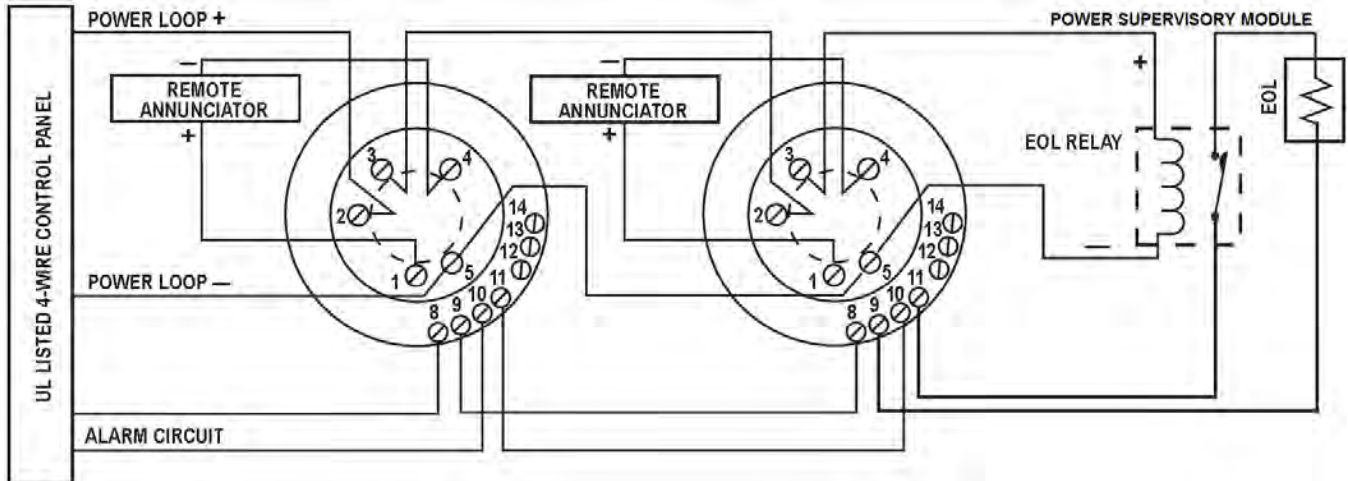
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**Phone** (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com



# Conventional Detection Devices

Typical Wiring Diagram



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## Accessories

# Conventional Detection Devices Catalog Section

10

### Accessories

Remote Test Station . . . . .	729-108-00
Remote Test Station with Key . . . . .	729-138-00

### End-of-Line Supervision Relays

End-of-Line Power Supervision Relay Module . . . . .	790-012-00
End-of-line Power Supervision Relay Module . . . . .	790-013-01

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# Conventional Detection Devices

## Remote Test Station

729-108-00

### Description

This Remote Test Station is an automatic fire detection accessory that tests a remotely located 2- or 4-wire duct/beam smoke detector. The unit can reset certain detectors (per the detector's documentation).



### Features

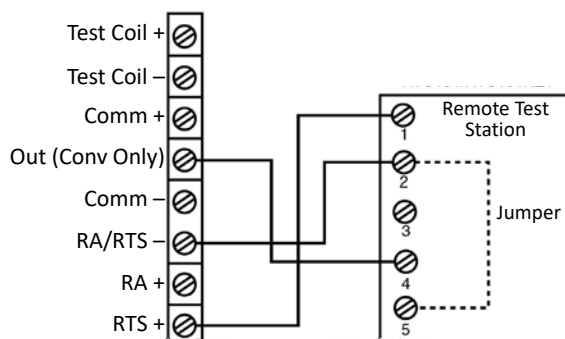
- The single red LED is off during normal operation and turns on during test/alarm
- Test is performed with a supplied test magnet
- The unit mounts to a single gang box or directly to a wall or ceiling

### Ordering Information

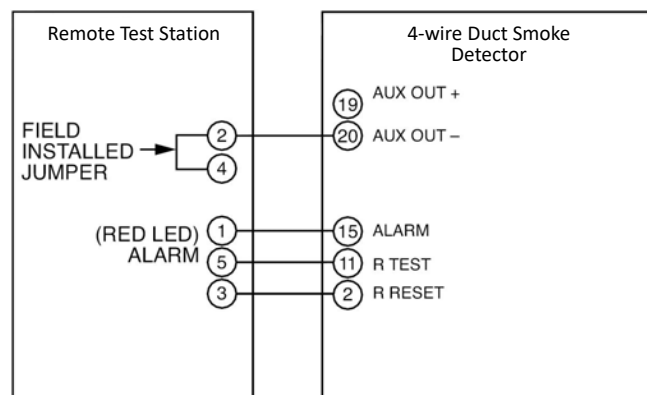
Part Number	Description
729-108-00	Remote Test Station with LED for duct or beam smoke detector; requires test coil P/N 729-206-00

### Wiring Examples

#### 2-wire



#### 4-wire



### Specifications

**Power Requirements** Alarm LED (Red):  
2.8 to 32 VDC, 12mA maximum  
Coil Current: 95mA maximum  
Total Current: 105mA maximum

**Test Switch** 10 VA at 32 VDC

**LED Indicator** Off = Normal; Red = Alarm

**Alarm Response** 40 seconds maximum

**Input Wiring** 14 to 18 AWG

**Operating Temperature** 14°F to 140°F (–10°C to 60°C)

**Relative Humidity** 0% to 95% non-condensing

**Dimensions** 4.6 in. H x 2.75 in. W x 1.8 in. D  
(11.7 cm x 7 cm x 4.6 cm)

**Weight** 0.16 lb (0.07 kg)

**Mounting** Single gang box (2.5 in. depth minimum)  
or mounts directly to wall or ceiling

#### Standards Compliance:

**UL Listed** File S2522

**FM Approved** 3034401

**State of California** 7300-1653:0212



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# Conventional Detection Devices

## Remote Test Station with Key

729-138-00

### Description

This Remote Test Station with Key is a fire detection accessory that tests a remotely located 2- or 4-wire duct/beam smoke detector. The unit can also reset certain detector models (per the detector's documentation).



### Features

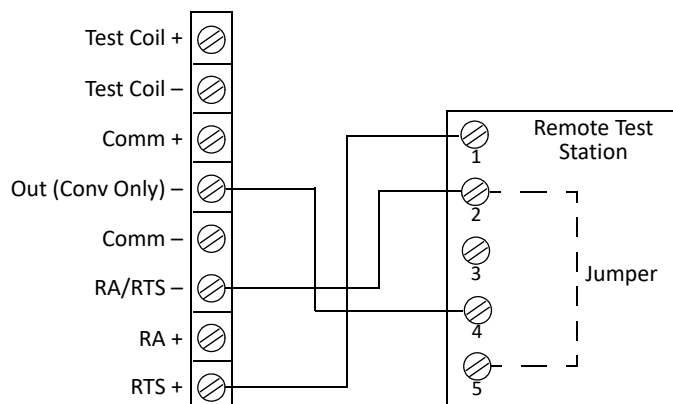
- For 4-wire detectors, the single multi-colored LED is red during test/alarm or green to indicate power – for 2-wire detectors, the LED will only illuminate red for alarm/test
- The key operates the test and reset functions

### Ordering Information

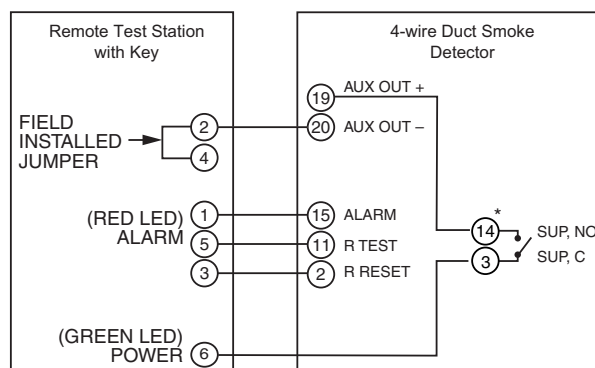
Part Number	Description
729-138-00	Remote Test Station with LED and Key for duct or beam smoke detectors; requires test coil P/N 729-206-00

### Wiring Examples

#### 2-wire



#### 4-wire



\* Sup. contacts cannot be used if they are wired to control panel.

### Specifications

**Power Requirements** Power LED (Green): 14 to 35 VDC, 12 mA maximum  
Alarm LED (Red): 2.8 to 32 VDC, 12 mA maximum  
Total Current: 105 mA maximum

**Test Switch** 10 VA at 32 VDC

**LED Indicator** Red = Alarm; Green = Power

**Alarm Response** 40 seconds maximum

**Wire Gauge** 14 to 18 AWG

**Operating Temperature** 14°F to 140°F (–10°C to 60°C)

**Relative Humidity** 0% to 95% non-condensing

**Dimensions** 4.6 in. H x 2.75 in. W x 1.8 in. D  
(11.7 cm x 7 cm x 4.6 cm)

**Weight** 0.24 lb (0.11 kg)

**Mounting** Single gang box (2.5 in. depth minimum)  
or mounts directly to wall or ceiling

**Standards Compliance:**

**UL Listed** File S2522

**FM Approved** 3034401

**State of California** 7300-1653:0212



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# End-of-Line Supervision Relays

## Conventional Detection Devices Catalog Section

10

### End-of-Line Supervision Relays

End-of-Line Power Supervision Relay Module.....	790-012-00
End-of-line Power Supervision Relay Module .....	790-013-01

*Click to go back to “Table of Contents - Index by Product Name”*



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## Conventional Detection Devices

# End-of-Line Power Supervision Relay Module

790-012-00

### Description

This is a multivoltage, SPST, epoxy-encapsulated, normally open, polarized relay for end-of-line power supervision



### Specifications

**Operating Voltage** 9 to 40 VDC, 9 to 35 Vrms unfiltered FWR

**Operating Current** 20 mA max.

**Contact Ratings** 120 VAC, 0.5A max. (resistive load)  
30 VDC, 3A max. (resistive load)

**Operating Temperature** -22 to 140°F (-30 to 60°C)

**Relative Humidity** 10–93%, noncondensing

**Wire Length** 8 in. min.

**Dimensions** 0.91 in. H x 1.65 in. W x 1.22 in. D  
(23 mm H x 42 mm W x 31 mm D)

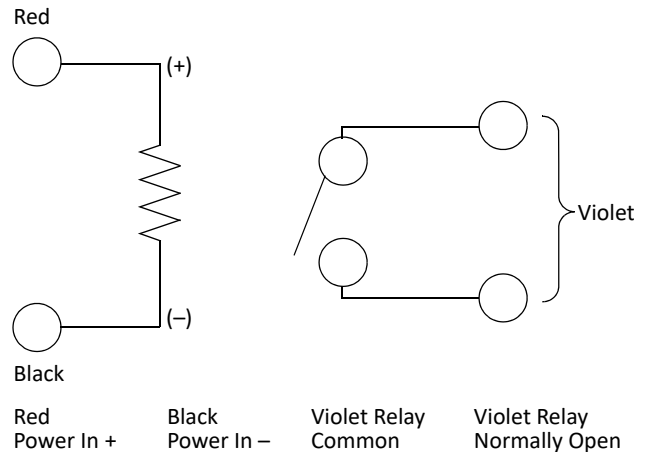
### Mounting Options

- Attach to equipment
- Inside an enclosure:
  - Supplied mounting screw
  - Double-sided tape

### Ordering Information

Part Number	Description
790-012-00	End-of-line power supervision relay module, polarized, 9 to 40 VDC

### Wiring Diagram



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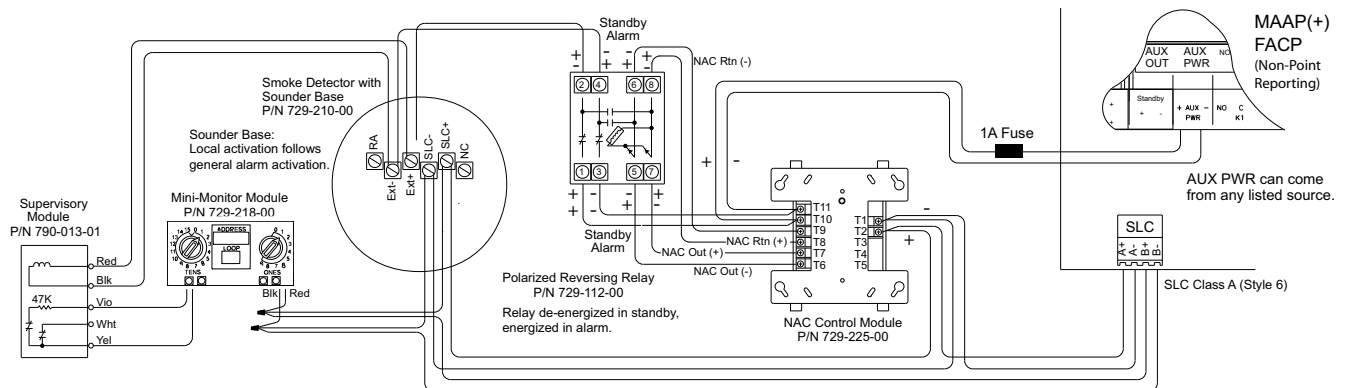




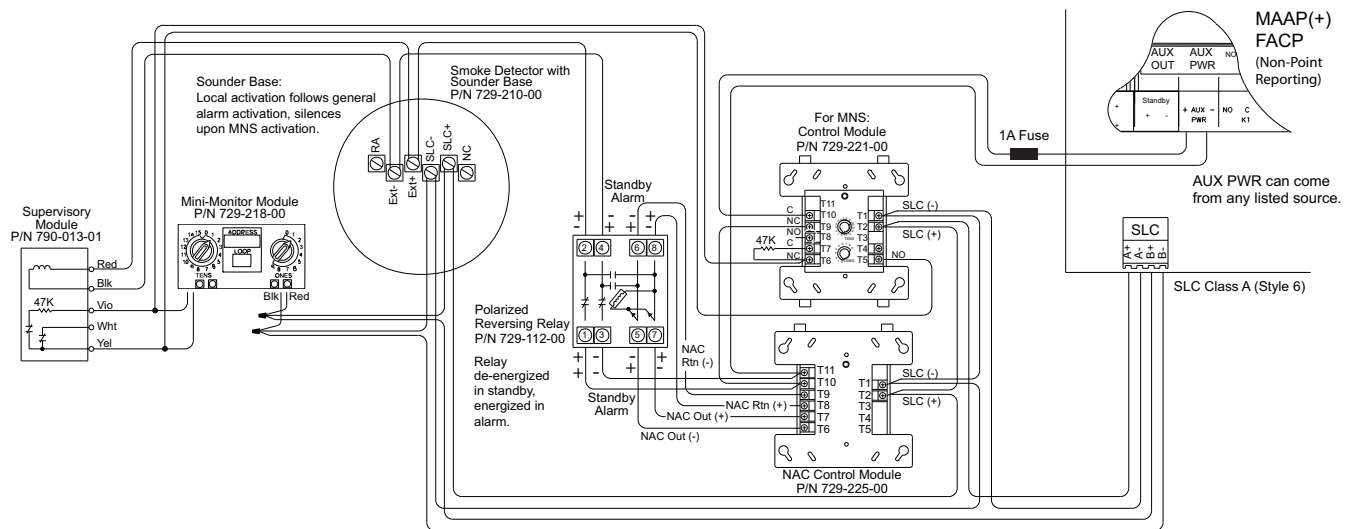


# Conventional Detection Devices

## Addressable Detector Local Sounder Base(s) and Added Secondary Sounder Control by Reverse Voltage



## Addressable Detector Local Sounder Base(s) and Added Secondary Sounder Control by Reverse Voltage with MNS Shut-off Control



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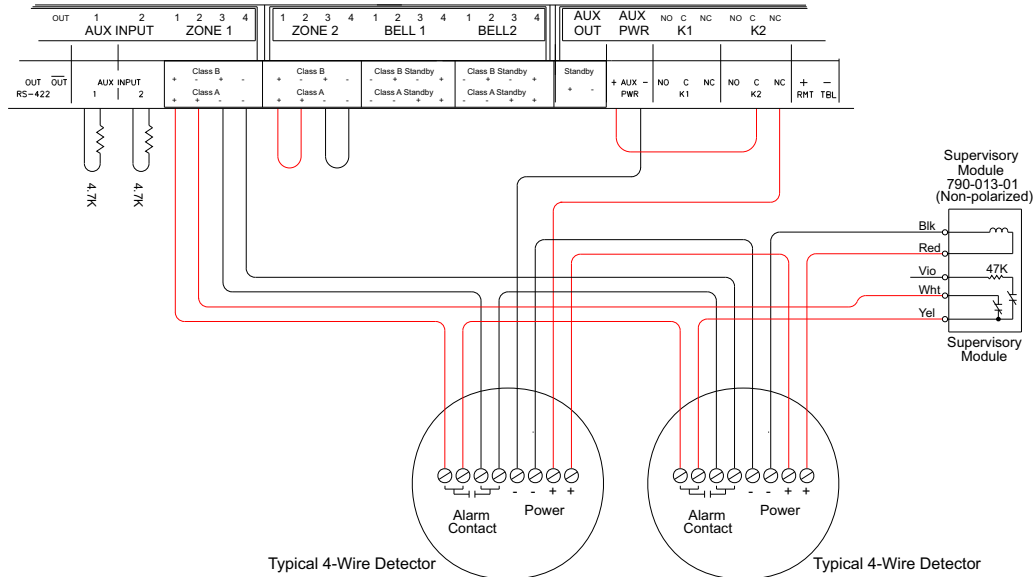
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# Conventional Detection Devices

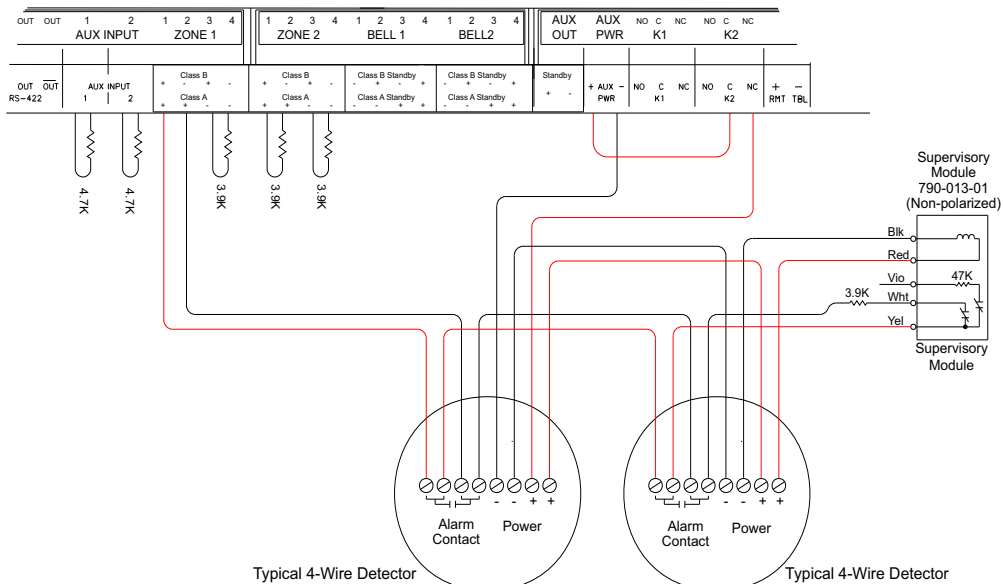
## 4-Wire Detector to Class A On-board Zone IDC, K2 Programmed as Smoke Power

"M" Integrated Transceiver/FACP



## 4-Wire Detector to Class B On-board Zone IDC, K2 Programmed as Smoke Power

"M" Integrated Transceiver/FACP



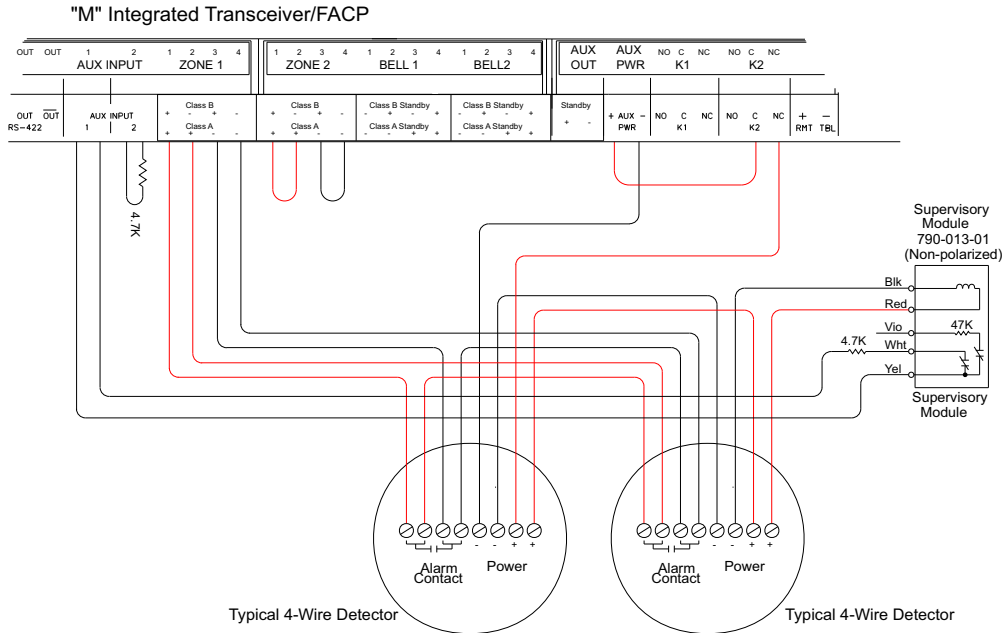
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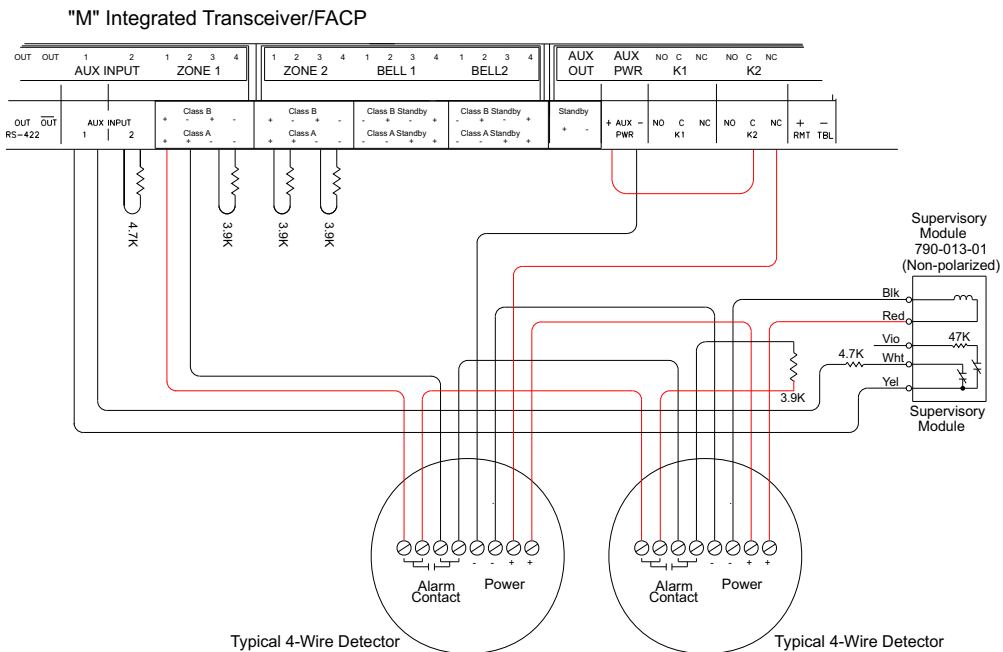


# Conventional Detection Devices

## 4-Wire Detector Class A with Aux Input IDC as Supervision, K2 Programmed as Smoke Power



## 4-Wire Detector Class B with Aux Input IDC as Supervision, K2 Programmed as Smoke Power



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# Notification Appliance Devices

## Notification Appliance Devices Catalog Section

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### Section 11. Notification Appliance Devices

#### Horns

Outdoor Horn, Red, Wall-mount, Type I . . . . .	585-067-01
Indoor Mini-Horn, Wall-mount, Type I . . . . .	585-081-00
Indoor Horn, Red, Wall-mount, Type I . . . . .	585-100-00
Indoor Horn, White, Wall-mount, Type I . . . . .	585-104-00
Explosion-proof Horn . . . . .	585-110-00

#### Strobes

Explosion-proof Strobe Light for Hazardous Locations . . . . .	367-033-00
Outdoor Strobe, Wall-mount, Red, Type II . . . . .	367-050-00
Indoor/Outdoor Strobe, White, Wall-mount, Type II . . . . .	367-050-10
Indoor Strobe, Wall-mount, White, Type II . . . . .	367-057-00
Indoor Strobe, Ceiling-mount, White, Type II . . . . .	367-058-00
Indoor Strobe, Ceiling-mount, White, Type II . . . . .	367-059-00, 367-060-00, 367-064-00
Outdoor Strobe, Wall-mount, White, Type II . . . . .	367-061-00
Outdoor Strobe, Red, Wall-mount, Type I . . . . .	367-066-00
Outdoor Strobe, White, Wall-mount, Type I . . . . .	367-066-01
Outdoor Strobe, White, Wall-mount, Type I . . . . .	367-066-02
Outdoor Strobe, White, High Candela, Wall-mount, Type I . . . . .	367-066-03
Indoor Strobe, Multi-Candela, White, Wall-mount, Type II . . . . .	367-075-00
Indoor Strobe, Ceiling-mount, White, Type II . . . . .	367-085-00
Strobe, Hazardous Locations, 285 Candela, Explosion Proof . . . . .	367-088-00
Indoor Strobe, 115/177 Candela, Ceiling-mount, White, Type II . . . . .	367-089-00
Indoor Strobe, Multi-Candela, Ceiling-mount, Red, Type II . . . . .	367-090-00
Indoor Strobe Ceiling-mount, White, Type II . . . . .	367-091-00
Indoor Strobe, Wall-mount, Red, Type II . . . . .	367-092-00
Indoor Strobe, Red, Wall-mount, Type I . . . . .	367-097-00
Indoor Strobe, White, Wall-mount, Type I . . . . .	367-098-00
Indoor Strobe, White, Wall-mount, Type I . . . . .	367-099-00
Indoor Strobe, White, Wall-mount, Type I . . . . .	367-100-00
Indoor Strobe, White, Wall-mount, Type I . . . . .	367-101-00
Indoor Strobe, Red, Ceiling-mount, Type I . . . . .	367-102-00
Indoor Strobe, White, Ceiling-mount, Type I . . . . .	367-103-00
Indoor Strobe, Red, Wall-mount, Type I . . . . .	367-104-00
Indoor Strobe, White, Ceiling-mount, Type I . . . . .	367-105-00



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## Horn Strobes

Indoor Horn Strobe, Multitone, Wall-mount, Type II . . . . .	585-018-00
Outdoor Horn Strobe, Multitone, Wall-mount, Red, Type II . . . . .	585-059-00
Indoor Horn Strobe, Multitone, Wall-mount, Red, Type II . . . . .	585-065-00
Outdoor Horn Strobe, 4-Wire, Red, Wall-mount, Type I . . . . .	585-068-00
Outdoor Horn Strobe, Red, Wall-mount, Type I . . . . .	585-069-00
Outdoor Horn Strobe, White, Wall-mount, Type I . . . . .	585-097-00
Outdoor Horn Strobe, Red, Wall-mount, Type I . . . . .	585-097-01
Indoor Horn Strobe, Red, Wall-mount, Type I . . . . .	585-098-00
Indoor Horn Strobe, Red, Ceiling-mount, Type I . . . . .	585-099-00
Indoor Horn Strobe, Red, Wall-mount, Type I . . . . .	585-101-00
Indoor Horn Strobe, White, Wall-mount, Type I . . . . .	585-102-00
Indoor Horn Strobe, White, Wall-mount, Type I . . . . .	585-103-00
Indoor Horn Strobe, White, Ceiling-mount, Type I . . . . .	585-105-00
Indoor Horn Strobe, 4-Wire, White, Wall-mount, Type I . . . . .	585-106-00
Indoor Horn Strobe, 4-Wire, Red, Wall-mount, Type I . . . . .	585-107-00
Indoor Horn Strobe, 4-Wire, White, Ceiling-mount, Type I . . . . .	585-108-00
Indoor Horn Strobe, 4-Wire, Red, Ceiling-mount, Type I . . . . .	585-109-00
Explosion-proof Horn Strobe, Hazardous Locations, Grey . . . . .	585-111-00

## Speakers

Cluster Speakers, 4-Horn Speaker System . . . . .	124-050-00
Outdoor Speaker, White, Square, Weatherproof, Type II . . . . .	124-069-00
Outdoor Speaker, White, Wall-mount, Type I . . . . .	124-072-00
Outdoor Speaker, Red, Wall-mount, Type I . . . . .	124-072-50
Indoor Speaker, White, Wall-mount, Type I . . . . .	124-091-00
Indoor Speaker, Red, Wall-mount, Type I . . . . .	124-092-00
Indoor Speaker, Red, Ceiling-mount, Type I . . . . .	124-093-00
Indoor Speaker, White, Ceiling-mount, Type I . . . . .	124-094-00
Indoor Speaker, White, Ceiling-mount, Type I . . . . .	124-095-00
Explosion-proof Speaker . . . . .	124-097-00

## Speaker Strobes

Indoor Speaker Strobe, Wall-mount, White, Type II . . . . .	580-05x-xx, 580-06x-00, 580-07x-00, 580-081-00
Indoor Speaker Strobe, Ceiling-mount, White, Type II . . . . .	580-064-00
Indoor Speaker Strobe, MC, Wall-mount, White, Type II . . . . .	580-068-00
Indoor Speaker Strobe, Ceiling-mount, White, Type II . . . . .	580-069-00
Indoor Speaker Strobe, Self-Amp, MC, Ceiling-mount, Type II . . . . .	580-070-00
Indoor Speaker Strobe, Ceiling-mount, White, Type II . . . . .	580-073-00
Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II . . . . .	580-074-00
Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II . . . . .	580-074-01
Outdoor Speaker Strobe, 180cd, Wall-mount, White, Type II . . . . .	580-075-00
Indoor Speaker Strobe, White, Ceiling-mount, Type II . . . . .	580-077-00
Outdoor Speaker Strobe, 180cd, Wall-mount, White, Type II . . . . .	580-078-00
Indoor Speaker Strobe, Self-Amp, Ceiling-mount, Type II . . . . .	580-079-00



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## Speaker Strobes Continued...

Indoor Speaker Strobe, Ceiling-mount, White, Type II . . . . .	580-080-00
Indoor Speaker Strobe, Wall-mount, White, Type II, . . . . .	580-081-00
Outdoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-087-00
Outdoor Speaker Strobe, Red, Wall-mount, Type I . . . . .	580-088-00
Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II . . . . .	580-099-00
Outdoor Speaker Strobe, White, Ceiling-mount, Type I . . . . .	580-104-00
Outdoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-105-00
Outdoor Speaker Strobe, White, Ceiling-mount, Type I . . . . .	580-106-00
Indoor Speaker Strobe, Red, Wall-mount, Type I . . . . .	580-107-00
Indoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-108-00
Indoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-110-00
Indoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-111-00
Indoor Speaker Strobe, White, Ceiling-mount, Type I . . . . .	580-112-00
Indoor Speaker Strobe, White, Ceiling-mount, Type I . . . . .	580-113-00
Indoor Speaker Strobe, White, Wall-mount, Type I . . . . .	580-114-00
Indoor Speaker Strobe, Red, Wall-mount, Type I . . . . .	580-115-00
Speaker Strobe for Hazardous Locations . . . . .	580-117-00
Speaker Strobe LED for Hazardous Locations . . . . .	580-117-01, 580-117-02

## Bells

Motorized Vibrating Alarm Bell . . . . .	581-422-00, 581-473-00
Vibrating Alarm Bell, Explosion-proof . . . . .	581-423-00, 581-451-00

## Chimes

Indoor Chime, Red, Wall-mount, Type I . . . . .	587-009-00
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## Chime Strobes

Indoor Chime Strobe, Red, Wall-mount, Type I . . . . .	587-008-00
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## MNS Wide Area

### MNS Driver Amplifier with Speaker Arrays - Reserved

## Bases – Reserved

## Accessories

Sync Module, Type II . . . . .	367-036-00
Sync Module, Type I . . . . .	367-047-00
Indoor Strobe Plate, Wall-mount, Red, Type II . . . . .	367-049-00
Indoor Strobe Plate, Wall-mount, White, Type II . . . . .	367-049-01, 367-049-02
Universal Expander Plate, Indoor, White, Wall-mount, Type I . . . . .	369-036-00
Universal Expander Plate, Indoor, White, Wall-mount, Type I . . . . .	369-037-00
Universal Expander Plate Back Box Skirt . . . . .	588-101-00

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## Horns

# Notification Appliance Devices Catalog Section

11

### Horns

Outdoor Horn, Red, Wall-mount, Type I . . . . .	585-067-01
Indoor Mini-Horn, Wall-mount, Type I . . . . .	585-081-00
Indoor Horn, Red, Wall-mount, Type I . . . . .	585-100-00
Indoor Horn, White, Wall-mount, Type I . . . . .	585-104-00
Explosion-proof Horn . . . . .	585-110-00

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## Notification Appliance Devices

### Outdoor Horn, Red, Wall-mount, Type I

585-067-01



**MEA**  
approved

### Specifications

**Nominal Voltage** Regulated 12 VDC  
Regulated 24 VDC

**Operating Voltage** 8 to 17.5V (12V nominal), or  
(includes fire alarm panels with built-in sync) 16 to 33V (24V nominal)

**Operating Voltage with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V nominal)

**Mounting** Universal Mounting Plate mounts to  
Weatherproof back box

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** -40°F to 151°F (-40°C to 66°C)

**Relative Humidity** 10% to 93% non-condensing

**Horn Dimensions** 5.6 in. L x 4.7 in. W x 1.3 in. D  
(142 mm x 119 mm x 33 mm)

**Wall-mount** 5.7 in. L x 5.1 in. W x 2 in. D

**Weatherproof Back box** (145 mm x 130 mm x 51 mm)

**Standards Compliance** Listed to UL 464

**UL Listed** S4011

**FM Approved** 3023572

**MEA Approved** MEA452-05-E

**State of California** 7125-1653:189

### Features

- Red housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and three volume selections
- Weatherproof per NEMA 4X, IP56
- Weatherproof back box included



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# Notification Appliance Devices

## Wall-mount Horn Tones, Current Draw (mA RMS), and Sound Output (dBA)

Sound Pattern	Volume Settings	16–33 VDC		24V Nominal	
		Maximum Current Draw	Sound Output	Reverberant Sound Output	Anechoic Sound Output
Temporal	High	69	84	88	99
Temporal	Medium	58	80	86	96
Temporal	Low	44	76	83	94
Non-Temporal	High	69	88	93	100
Non-Temporal	Medium	60	85	90	98
Non-Temporal	Low	50	81	88	96
Coded	High	69	88	93	101
Coded	Medium	56	85	90	97
Coded	Low	52	81	88	96

## Ordering Information

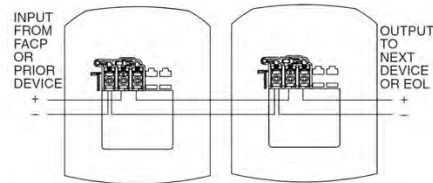
Part Number	Description
<b>585-067-01</b>	Horn, Red, Type I, Wall-mount, Outdoor, 12V or 24V, no lettering; includes weatherproof back box

## Associated Parts

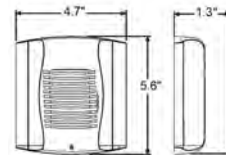
Part Number	Description
<b>589-005-00</b>	White Decals, wall-mount: AGENT, EVAC, ALERT, or FIRE <b>NOTE</b> Order two per device.
<b>588-059-50</b>	Trim Ring, wall-mount, red
<b>588-038-00</b>	Back box, outdoor weatherproof, surface wall-mount, red. Required for NEMA 4X
<b>367-047-00</b>	Sync Module, Type I

## Drawings

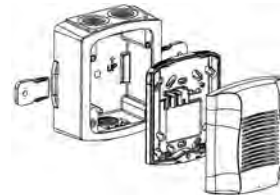
### Wiring Diagram



### Wall-mount Horn



### Weatherproof Back Box for Mounting Horn



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# Notification Appliance Devices

## Indoor Mini-Horn, Wall-mount, Type I

585-081-00



### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR or regulated 24 VDC/FWR
<i>Voltage Range</i>	8–33 VDC; 8.5–33 VDC with sync module
<i>Wire Gauge</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions</i>	4.6 in. L x 2.9 in. W x 0.45 in. D (117 mm x 74 mm x 11.5 mm)
<i>Weight</i>	2.67 oz
<i>Mounting</i>	2.5 in. deep single gang back box
<i>Standards Compliance:</i>	Listed to UL 464 UL S4011 FM Approved CSFM 7135-1653-0196



### Features

- Red housing no lettering
- High and low volume settings
- Temporal or non temporal tones
- Synchronization with sync module (P/N 367-047-00)

### Horn Current Draw and Sound Output

Position	Horn Tones		Current Draw (mA RMS) 16–33 VDC	Sound Output Reverberant (dBA @ 10 ft.) 16–33 VDC
1	Temporal	High	17	78
2	Temporal	Low	14	76
3	Nontemporal	High	29	80
4	Nontemporal	Low	21	78



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# Notification Appliance Devices

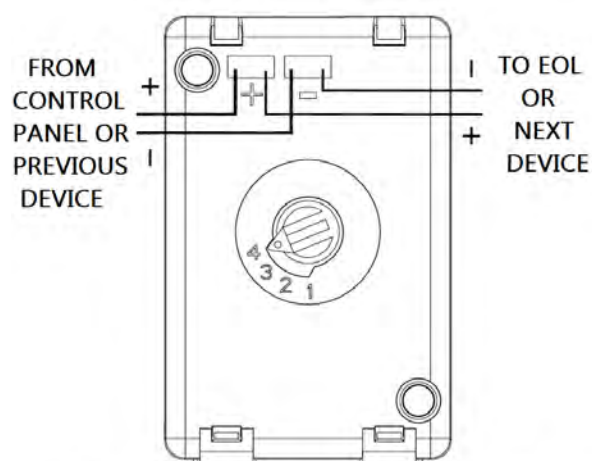
## Ordering Information

Part Number	Description
585-081-00	Indoor mini-horn, 12/24 VDC, wall-mount, red

## Associated Parts

Part Number	Description
367-047-00	Sync module, Type I

## Wiring Diagram



NOTE SHOWN WITH CONTROL PANEL  
IN ALARM. PANEL POLARITY REVERSED  
IN SUPERVISOR CONDITION.



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# Notification Appliance Devices

## Indoor Horn, Red, Wall-mount, Type I

585-100-00



### Specifications

**Nominal Voltage** Regulated 12 VDC  
Regulated 24 DC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24 V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V Nominal)

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in., or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions** 5.6 in. L 4.7 in. W x 1.25 in. D  
**Horn** (143 mm x 119 mm x 32 mm)

**Standards Compliance** Listed to ANSI/UL 464

**UL Listed** S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-0653:0503

### Features

- Red housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections



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# Notification Appliance Devices

## Horn Tones, Current Draw (mA RMS) and Sound Output (dBA @ 10 ft.) at 16–33 VDC

Pos	Horn Tones	Volume	Maximum Current Draw	Sound Output Reverberant
1	Temporal	High	44	89
2	Temporal	Low	32	83
3	Non-Temporal	High	47	90
4	Non-Temporal	Low	32	84
5	3.1 KHz Temporal	High	41	88
6	3.1 KHz Temporal	Low	32	82
7	3.1 KHz Non-Temporal	High	43	89
8	3.1 KHz Non-Temporal	Low	29	83
9	Coded	High	47	90
10	3.1 KHz Coded	High	43	89

## Ordering Information

Part Number	Description
<b>585-100-00</b>	Horn, Red, Type I, Wall-mount, Indoor, 12V or 24V, no Lettering

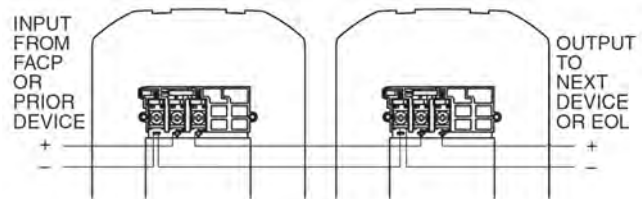
## Associated Parts

Part Number	Description
<b>589-042-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White AGENT lettering, order one per device
<b>589-043-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White ALERT lettering, order one per device
<b>589-044-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White EVAC lettering, order one per device
<b>589-045-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White FIRE lettering, order one per device
<b>588-098-00</b>	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. x 6.3 in. x 0.4 in.
<b>588-090-00</b>	Back Box, Wall-surface-mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. x 5.78 in. x 1.85 in.

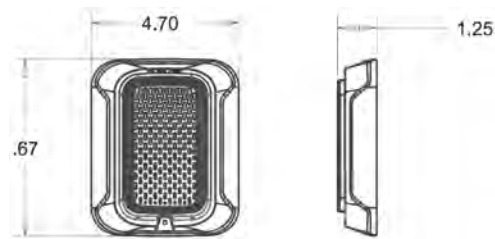
Part Number	Description
<b>367-047-00</b>	Sync Module, Type I

## Drawings

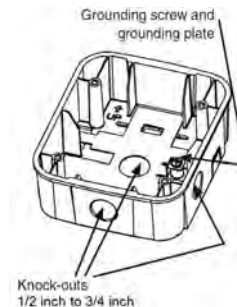
### Wiring Diagram



### Wall-mount Horn



### Back Box, Surface-mount



### Junction Box for Flush-mounting



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# Notification Appliance Devices

## Indoor Horn, White, Wall-mount, Type I

585-104-00



### Specifications

**Nominal Voltage** Regulated 12 VDC  
Regulated 24 DC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal) or  
16 to 33V (24V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal) or  
16.5 to 33V (24V nominal)

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in., or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions** 5.6 in. L x 4.7 in. W x 1.25 in. D  
**Horn** (143 mm x 119 mm x 32 mm)

**Standards Compliance** Listed to ANSI/UL 464

**UL Listed** S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-0653:0503

### Features

- White housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections



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# Notification Appliance Devices

## Horn Tones, Current Draw, and Sound Output at 16–33 VDC

Pos	Horn Tones	Volume	Maximum Current Draw	Sound Output Reverberant (dBA @ 10 ft.)
1	Temporal	High	44	89
2	Temporal	Low	32	83
3	Non-Temporal	High	47	90
4	Non-Temporal	Low	32	84
5	3.1 KHz Temporal	High	41	88
6	3.1 KHz Temporal	Low	32	82
7	3.1 KHz Non-Temporal	High	43	89
8	3.1 KHz Non-Temporal	Low	29	83
9	Coded	High	47	90
10	3.1 KHz Coded	High	43	89

## Ordering Information

Part Number	Description
<b>585-104-00</b>	Horn, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering

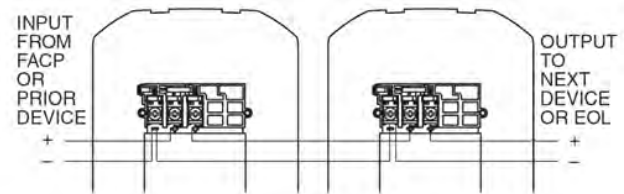
## Associated Parts

Part Number	Description
<b>589-037-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red AGENT lettering, order one per device
<b>589-038-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red ALERT lettering, order one per device
<b>589-039-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red EVAC lettering, order one per device
<b>589-040-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red FIRE lettering, order one per device
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H X 6.3 in. W X 0.4 in. D
<b>588-091-00</b>	Back Box, Wall-surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W X 5.78 in. H X 1.85 in. D

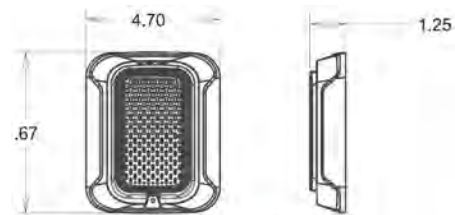
Part Number	Description
<b>367-047-00</b>	Sync Module, Type I

## Drawings

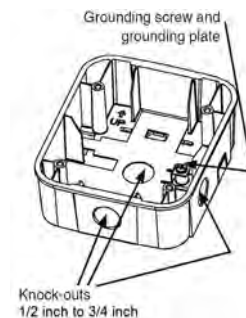
### Wiring Diagram



### Wall-mount Horn



### Back Box, Surface-mount



### Junction Box for Flush-mounting



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# Notification Appliance Devices

## Explosion-proof Horn

585-110-00

### Description

The Monaco explosion-proof horn is a diode-polarized unit rated for indoor and outdoor use.

This lightweight explosion-proof horn has been designed with a high waterproof rating to cope with harsh environmental conditions. New electronic circuitry allows the 585-110-00 to be switched between two selectable tones by either reversing supply polarity or connecting a second voltage supply.



### Features

- UL Listed for Class I, Division 1, (Groups C and D); Class I, Zone 1
- ATEX approved
- NEMA 4X, IP66
- Certified temperature: -13°F to 158°F -25°C to 70°C
- 4 wire diode monitored connection for operation in supervisory mode
- NFPA 72 compliant
- Up to 103 dBA output at 10 ft
- Marine grade alloy
- 12 VDC, 24 VDC and 48 VDC
- 27 output tones, user selectable  
Tones can be selected remotely

- Any two tones may be switched via the external voltage supply
- Three 1/2 in. NPT conduit entries (left, right, bottom)

### Specifications

*Operating Voltage* 24 VDC

*Input Current* 250 mA

*dBA Rating @10 ft.* 93 ± 3 dBA

*Operating Temperatures* -13°F to 158°F (-25°C to 70°C)

*Mounting* Wall-mount

*Dimensions* 6 11/16 in. OD x 6 19/32 in. D

*Weight* 7.7 lb (3.5 kg)

*Finish* Epoxy Paint

*Standards Compliance:*

UL UL E187688

UL Listed Class I, Div. 1, Groups C and D  
Class I, Zone 1

### Ordering Information

Part Number	Description
585-110-00	Explosion-proof Horn, vibrating, 24 VDC, three 1/2 in. NPT

### Tone Selection Table

Tone	Tone Frequency
1	Alt tones 800/970 Hz at 1/4 sec
2	Sweeping 800/970 Hz at 7 Hz
3	Sweeping 800/970 Hz at 1 Hz
4	Continuous at 2850 Hz
5	Sweeping 2400-2850 Hz at 7 Hz
6	Sweeping 2400-2850 Hz at 1 Hz
7	Slow Whoop
8	Sweep 1200-500 Hz at 1 Hz
9	Alt tones 2400/2850 Hz at 2 Hz



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# Notification Appliance Devices

Tone	Tone Frequency
10	Int tones of 970 Hz at 1 Hz
11	Alt tones 800/970 Hz at 7/8 Hz
12	Int tone at 2850 Hz at 1 Hz
13	970 Hz at 1/4 sec on 1 sec off
14	Continuous at 970 Hz
15	554 Hz for 0.1 S/440 Hz for 0.1 sec
16	Int 660 Hz 150 mS on 150 mS off
17	Int 660 Hz 1.8 sec on 1.8 sec off
18	Int 660 Hz 6.5 sec on 13 sec off
19	Continuous 660 Hz
20	Alt 554/440 Hz at 1 Hz
21	Int 660 Hz at 7/8 Hz
22	Int 2850 Hz 150 mS on 100 mS off
23	Sweep 800–970 Hz at 50 Hz
24	Sweep 2400-2850 Hz at 50 Hz
25	3x970 Hz pulses 0.5 sec off, 1.5 sec off
26	3x2850 Hz pulses 0.5 sec on/0.5 sec off, 1.5 sec off
27	Int 3100 Hz 0.3 sec on 0.7 sec off

## Application Notes

Signals selected for hazardous locations should be UL Listed and marked for at least the Hazardous Location Classifications dictated by the application. The signal should be 10 dB higher than the ambient noise level and as different from the background noise as possible.

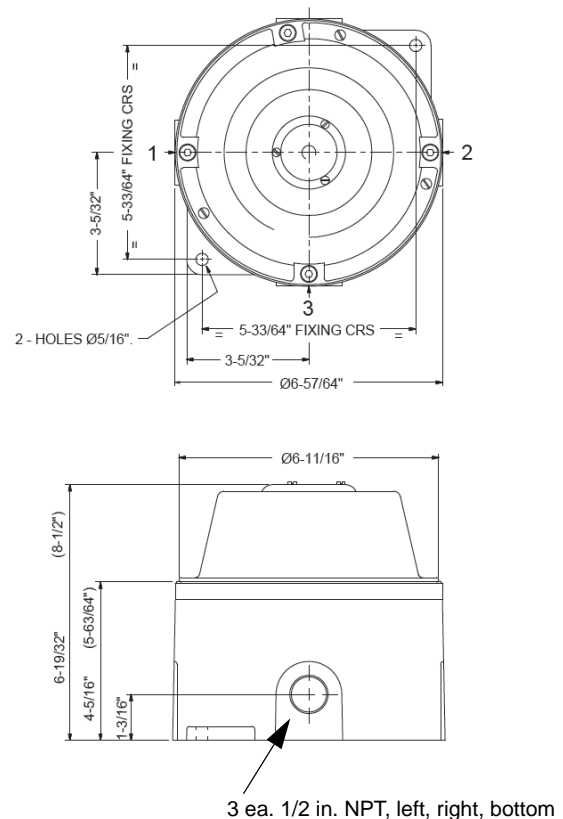
The National Electric Code has created three classes of hazardous locations: Class I Hazardous Gases; Class II Hazardous Dusts; Class III Hazardous Fibers.

Functioning electromechanical devices (e.g., bells, explosion-proof horns) can generate electrical noise on the wires to which they are connected. This noise can cause random troubles on fire alarm panels and booster power supplies and electronic signals that could cause strobes to not flash properly. Wiring for electromechanical devices should be separated from electronic devices, such as strobes, as much as possible to prevent noise induction—they should be on their

own NACs and the wiring should not share the same conduit or junction boxes. If a protected area within a building requires both a horn and a strobe, the two should not be mounted close to each other.

## Drawings

### Horn Dimensions



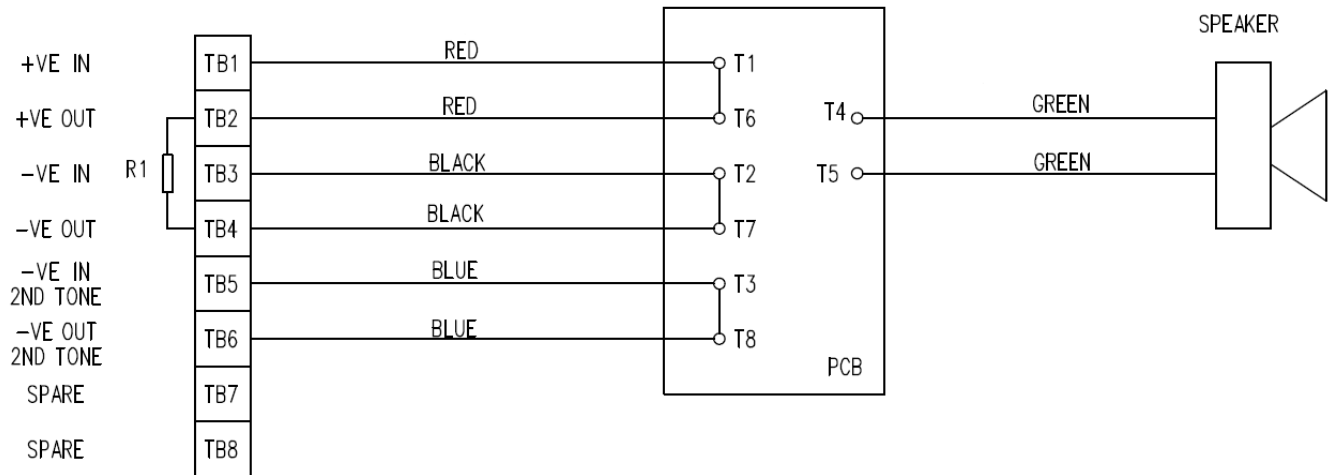
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# Notification Appliance Devices

## Wiring Diagram



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## Strobes

# Notification Appliance Devices Catalog Section

11

### Strobes

Explosion-proof Strobe Light for Hazardous Locations . . . . .	367-033-00
Outdoor Strobe, Wall-mount, Red, Type II . . . . .	367-050-00
Indoor/Outdoor Strobe, White, Wall-mount, Type II . . . . .	367-050-10
Indoor Strobe, Wall-mount, White, Type II . . . . .	367-057-00
Indoor Strobe, Ceiling-mount, White, Type II . . . . .	367-058-00
Indoor Strobe, Ceiling-mount, White, Type II . . . . .	367-059-00, 367-060-00, 367-064-00
Outdoor Strobe, Wall-mount, White, Type II . . . . .	367-061-00
Outdoor Strobe, Red, Wall-mount, Type I . . . . .	367-066-00
Outdoor Strobe, White, Wall-mount, Type I . . . . .	367-066-01
Outdoor Strobe, White, Wall-mount, Type I . . . . .	367-066-02
Outdoor Strobe, White, High Candela, Wall-mount, Type I . . . . .	367-066-03
Indoor Strobe, Multi-Candela, White, Wall-mount, Type II . . . . .	367-075-00
Indoor Strobe, Ceiling-mount, White, Type II . . . . .	367-085-00
Strobe, Hazardous Locations, 285 Candela, Explosion Proof . . . . .	367-088-00
Indoor Strobe, 115/177 Candela, Ceiling-mount, White, Type II . . . . .	367-089-00
Indoor Strobe, Multi-Candela, Ceiling-mount, Red, Type II . . . . .	367-090-00
Indoor Strobe Ceiling-mount, White, Type II . . . . .	367-091-00
Indoor Strobe, Wall-mount, Red, Type II . . . . .	367-092-00
Indoor Strobe, Red, Wall-mount, Type I . . . . .	367-097-00
Indoor Strobe, White, Wall-mount, Type I . . . . .	367-098-00
Indoor Strobe, White, Wall-mount, Type I . . . . .	367-099-00
Indoor Strobe, White, Wall-mount, Type I . . . . .	367-100-00
Indoor Strobe, White, Wall-mount, Type I . . . . .	367-101-00
Indoor Strobe, Red, Ceiling-mount, Type I . . . . .	367-102-00
Indoor Strobe, White, Ceiling-mount, Type I . . . . .	367-103-00
Indoor Strobe, Red, Wall-mount, Type I . . . . .	367-104-00
Indoor Strobe, White, Ceiling-mount, Type I . . . . .	367-105-00

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## Notification Appliance Devices

# Explosion-proof Strobe Light for Hazardous Locations

**367-033-00**

### Description

The Monaco Hazardous Location Strobe Light is an explosion-proof strobe light intended for indoor use for applications requiring supervision of signaling circuit field wiring. The strobe flashes a 360 degree beam of light approximately 65 times per minute. This strobe light is UL Listed for Class I, Division 1 (Groups C and D) and Division 2 (Groups A, B, C and D); Class II, Division 1 (Groups E, F and G) and Division 2 (Groups F and G); Class III, Division 1 and 2 locations. The strobe is also UL 1971 listed for visual signaling use for the hearing impaired in non-sleeping areas.



The National Electric Code has created three classes of hazardous locations: Class I is for Hazardous Gases, Class II is for Hazardous Dusts, and Class III is for Hazardous Fibers.

### Features

- UL 1971 listed for indoor visual signaling for the hearing impaired in non-sleeping areas
- UL Listed for Class I, Division 1 (Groups C and D) and Division 2 (Groups A, B, C and D); Class II, Division 1 (Groups E, F and G) and Division 2 (Groups F and G); Class III, Division 1 and 2 locations

- 65 flashes per minute
- Diode polarized
- Pendant mount
- Explosion-proof
- High-impact glass dome
- Epoxy powder coat for corrosion protection

### Specifications

<i>Enclosure</i>	NEMA Type 3R and Type 4X
<i>Operating Voltage Range</i>	16 to 33 VDC/FWR
<i>Operating Current</i>	0.505A @ 24 VDC (regulated) 0.683A @ 24 VDC/FWR
<i>Operating Temperature</i>	UL: -31°F to 150°F (-35°C to 66°C) ULC: -40°F to 150°F (-40°C to 66°C)
<i>Strobe Flash Rate</i>	65 times per minute
<i>Lens Color</i>	Clear
<i>Strobe Type</i>	Xenon, clear/nominal white flash
<i>Candela Rating</i>	Ceiling: 125cd (without guard) 86cd (with guard) Wall: 60cd (without guard) 51cd (with guard)
<i>Standards Compliance</i>	UL 1971, Listing E212475

### Ordering Information

Part Number	Description
<b>367-033-00</b>	Explosion-proof Strobe Light with clear lens, for hazardous locations, 125cd ceiling rating, 60cd wall rating, 24 VDC operation (mounting brackets required)

### Associated Parts

Part Number	Description
<b>369-014-00</b>	Pendant Mounting Bracket (3/4 in. conduit entry)
<b>369-017-00</b>	Stanchion Mounting Bracket
<b>369-018-00</b>	Ceiling Mounting Bracket
<b>369-019-00</b>	Wall-mount 90 degree elbow (must be used with P/N 369-018-00 Ceiling-mount Bracket)



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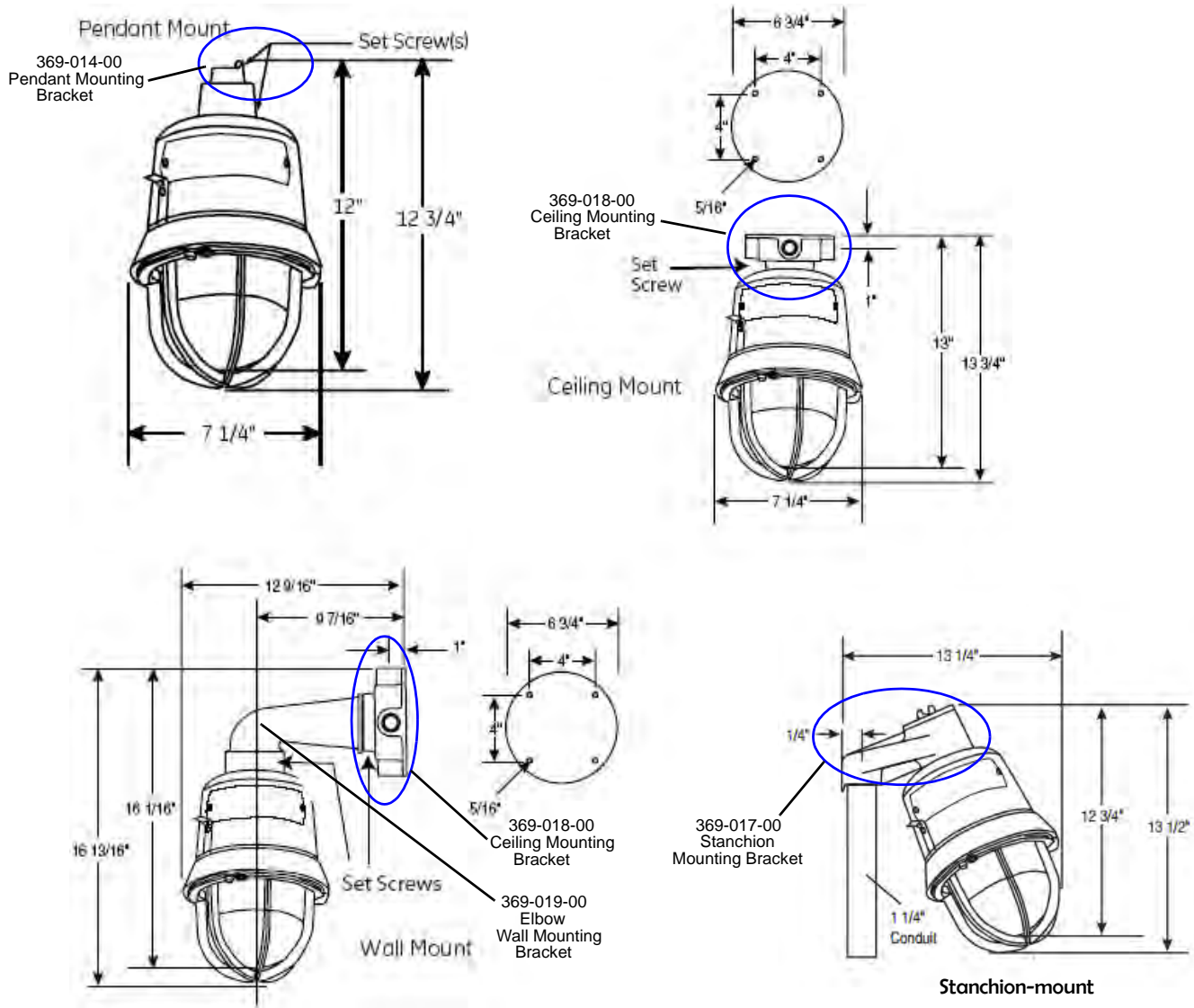
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# Notification Appliance Devices

## Drawings

### Dimensions/Mounting Options



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## Notification Appliance Devices

### Outdoor Strobe, Wall-mount, Red, Type II

367-050-00



#### Specifications

<i>Flash Rate</i>	1 flash per second
<i>Operating Voltage</i>	24 VDC with new UL "Regulated" voltage range: 16 to 33 VDC
<i>Maximum Current</i>	0.138A DC—RMs (Amps)
<i>Strobe Candela</i>	180cd at 77°F 75cd at -31°F
<i>Input Terminals</i>	12 to 18 AWG
<i>Operating Temperature</i>	-40°F to 150°F (-40°C to 66°C)
<i>Maximum Humidity</i>	95% non-condensing
<i>Dimensions</i>	4.8 in. H x 4.8 in. W x 3.05 in. D

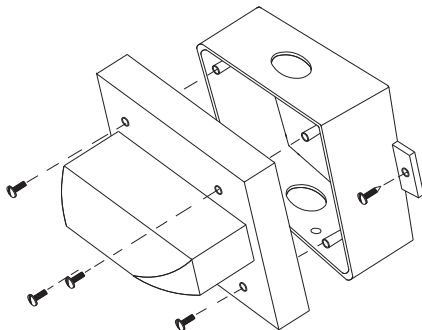
#### Features

- Meets Indoor/Outdoor UL1638 Listing, UL464, and Americans with Disabilities Act requirements; FM Approval pending
- Suitable for severe environment applications
- Uses a xenon flash tube with solid-state circuitry in a rugged lens
- Low current draw
- Compatible with Type II sync module (P/N 367-036-00)

#### Mounting Options

Use 5 3/16 in. H x 5 3/16 in. W x 1 11/16 in. D weatherproof, surface-mounted back box.

#### Weatherproof Surface-mount



#### Ordering Information

##### Strobe

Part Number	Description
<b>367-050-00</b>	Outdoor Strobe, 24 VDC, 2-wire, weatherproof, extended temperature range -31°F to 150°F, wall-mount, red, clear lens, FIRE lettering, 75cd

##### Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>588-026-00</b>	Weatherproof Back Box, surface-mount
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, 4 Class B or 2 Class A, use with Type II strobes

**NOTE** P/N 404-119-00 requires 2 ea. 12 V/7.7 Ah batteries (P/N 400-704-00) for 24-hour battery backup, or 2 ea. 12V/12 Ah batteries (P/N 400-713-00) for 72-hour battery backup



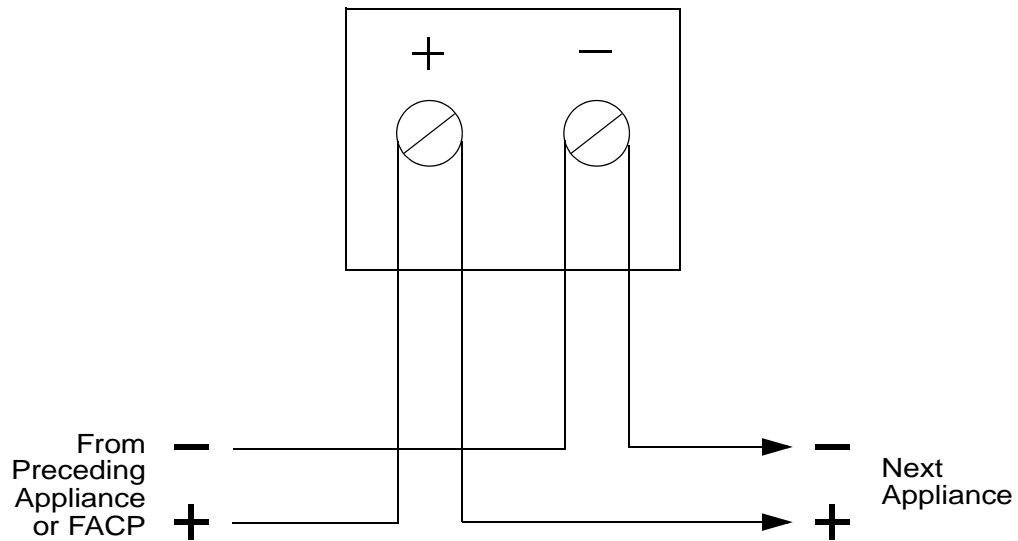
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# Notification Appliance Devices

## Wiring Diagram



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## Notification Appliance Devices

### Indoor/Outdoor Strobe, White, Wall-mount, Type II

367-050-10



**Mounting** Indoor— standard 4 in. or 2 in. single gang electrical box

Outdoor— weatherproof (NEMA 3R rated) back box with weatherproof rated conduit fitting on all back box knockouts

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temperature** -31°F to 150°F (-35°C to 66°C)

**Relative Humidity** 93% ±2%

**Dimensions** 4.8 in. H x 4.8 in. W x 0.602 in. D

**Standards Compliance:** NFPA 72, OSHA 29 Part 1910.165, ULC Listed CAN/ULC S526-07, UL Listed 29N3  
Listed to UL 1638 and UL 1971

**UL** S5391

**FM** Approved

**State of California** 7300-0785-0154

### Features

- White housing with FIRE lettering and clear lens
- Synchronized or non-synchronized strobe signal
- Polarized inputs
- Xenon flashtube in a polycarbonate lens for maximum visibility and reliability
- Low current draw
- Rated for 75cd at -31°F (-35°C)
- Weatherproof
- NEMA 3R rating

### Specifications

**Voltage** Regulated 24 VDC/FWR

**Operating Voltage** 16 to 33 (24V nominal)

**Strobe Candela** 75cd at -31°F (-35°C)  
180cd at 77°F (25°C)

**Strobe Flash Rate** 1 flash per second over regulated voltage range

### Ordering Information

Part Number	Description
367-050-10	Strobe, White, Type II, Wall-mount, Indoor/Outdoor, 24 VDC, 2-wire, red FIRE lettering, clear lens, weatherproof, extended temperature range -31°F to 150°F, 75cd; requires weatherproof back box for outdoor use

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-026-01	Weatherproof Back Box, surface-mount, white
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72 hour battery backup.



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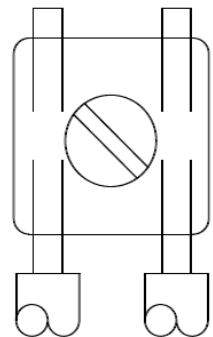
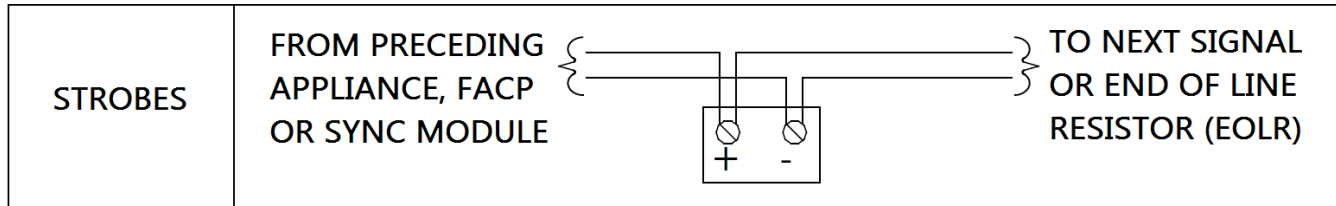




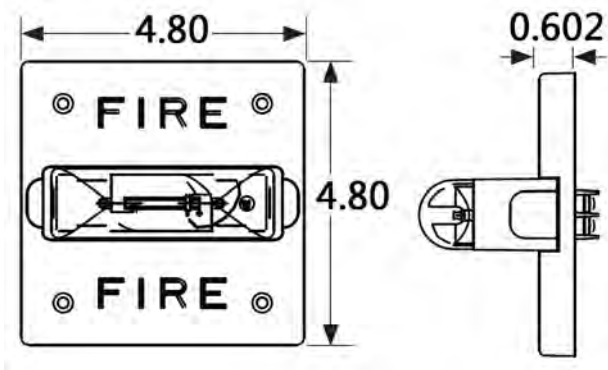
# Notification Appliance Devices

## Diagrams

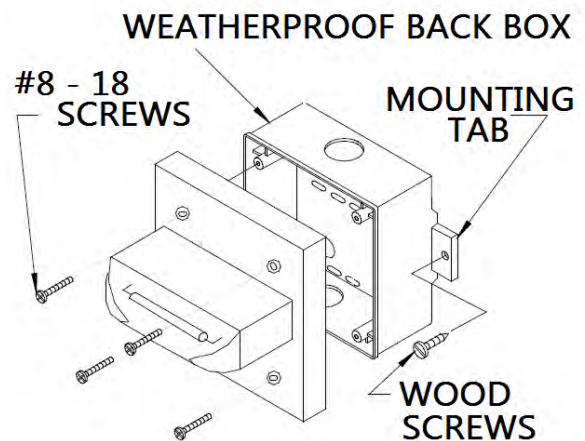
### Wiring Diagram



### Dimensions



### Mounting Diagram



MAXIMUM NUMBER OF CONDUCTORS			
AWG#18	AWG#16	AWG#14	AWG#12
4	4	4	4



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## Notification Appliance Devices

### Indoor Strobe, Wall-mount, White, Type II

367-057-00

#### Description

This in-building strobe uses a xenon flashtube with solid-state circuitry enclosed in a rugged Lexan® lens to provide maximum visibility and reliability for effective signaling. All inputs are polarized for compatibility with standard reverse-polarity supervision of circuit wiring by a fire alarm control panel (FACP).



The strobe can be used as a nonsynchronized strobe appliance when connected directly to an FACP or can be used as a synchronized appliance when used with the Type II sync module or Type II distributed power extender.

#### Back Box Mounting Options

- Surface- or flush-mounting
- Standard single- or double-gang, 4-in. square, 3.5 in. octagonal

#### Features

- Field-selectable candela settings, tamper resistant
- Clear lens
- Low current draw allows more devices per loop
- Synchronizable with Type II sync module (P/N 367-036-00)

#### Specifications

<i>Voltage</i>	24 VDC filtered/FWR unfiltered
<i>Voltage Range</i>	16 to 33 VDC
<i>Candela</i>	Standard: 15, 30, 75, 110cd
<i>Flash Rate</i>	1 flash per second
<i>Wiring</i>	12 to 18 AWG
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	93% non-condensing
<i>Dimensions</i>	See "Drawings"

#### Current Draw

Candela (cd)	16–33 VDC
	UL Max. Current (mA)
15	60
30	92
75	165
110	220

#### Ordering Information

##### Strobe

Part Number	Description
367-057-00	Indoor Strobe, 24 VDC, 2-wire, Wall-mount, White, no lettering, clear lens, standard candela: 15, 30, 75, 110cd

##### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes



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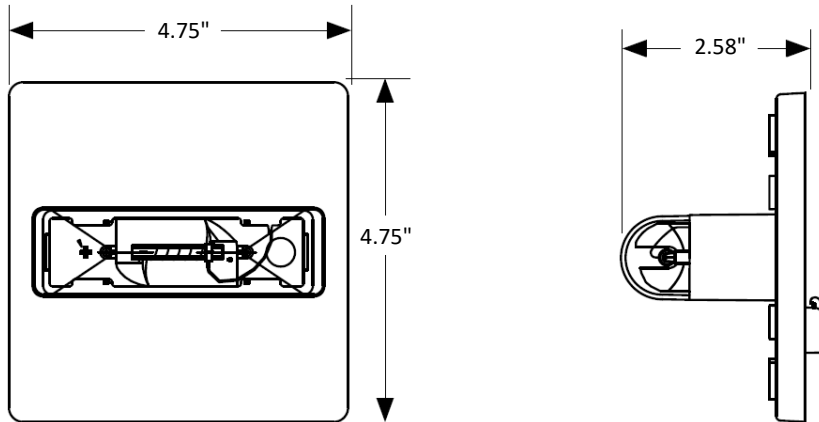
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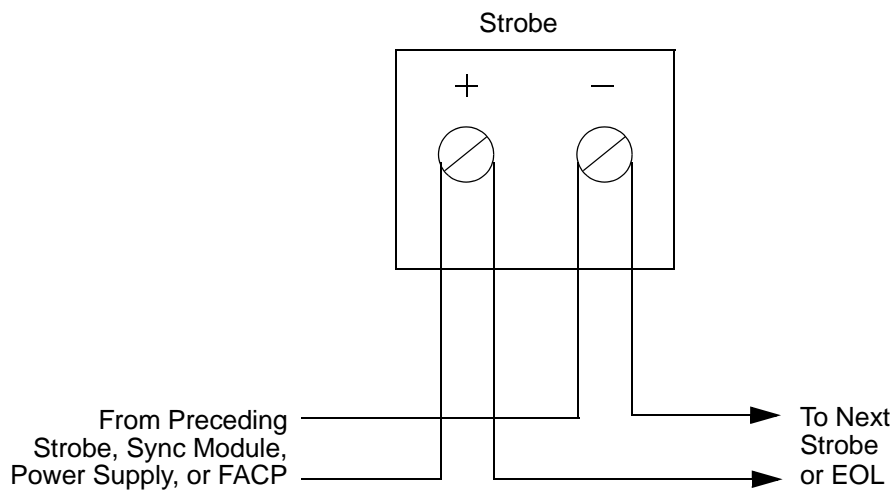
# Notification Appliance Devices

## Drawings

### Dimensions



### Wiring Diagram



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# Notification Appliance Devices

## Indoor Strobe, Ceiling-mount, White, Type II

367-058-00

### Description

The Within-Building Strobes use a Xenon flashtube with solid state circuitry enclosed in a rugged Lexan® lens to provide maximum visibility and reliability for effective signaling. All inputs are polarized for compatibility with standard reserve polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP).



Strobes can operate in a synchronized and non-synchronized mode. To operate a strobe in a synchronized mode, you must connect the strobe to an FACP/MNS NAC that is capable of Type II synchronization. If the FACP/MNS NAC is not capable of Type II synchrnoization, use an external Type II sync module (P/N 367-036-00).

### Features

- Meets UL 1971, Americans with Disabilities Act requirements, FM Approved
- Field-selectable candela settings
- Amber, green, blue, and clear strobe lens options
- Low current draw allows more devices per loop
- Can be synchronized with P/N 367-036-00
- Low profile design

### Specifications

*Flash Rate* 1 flash per second

*Voltage* 24 VDC and FWR unfiltered

*Voltage Range* 16 to 33V

*Candela* 15, 30, 75, 95cd

*Input Terminals* 12 AWG to 18 AWG

*Operating Temperature Range* 32°F to 120°F (0°C to 49°C)

*Maximum Humidity* 93% ± 28

*Dimension* 7.38 in. OD

### Ordering Information

#### Ceiling-mount

Part Number	Description
367-058-00	Indoor Strobe, 24 VDC, 2-wire, round ceiling-mount, white, no lettering, clear lens, candela: 15, 30, 75, 95

#### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes



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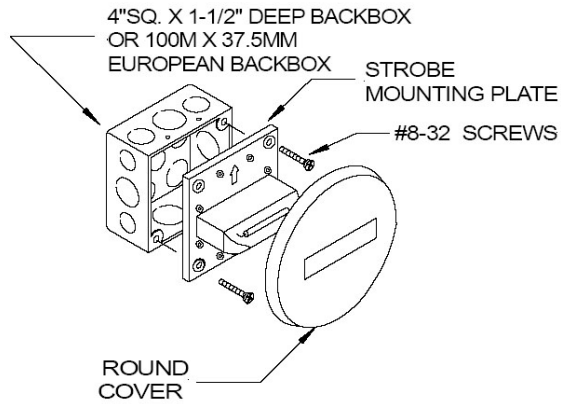
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# Notification Appliance Devices

## Mounting Diagram

FLUSH OR SURFACE MOUNT



## Current Ratings

Maximum RMS Current Draw					
	Voltage	15cd	30cd	75cd	95cd
DC	20 VDC	0.065	0.105	0.189	0.249
DC	24 VDC	0.045	0.070	0.119	0.159
DC	31 VDC	0.035	0.052	0.089	0.110



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## Notification Appliance Devices

### Indoor Strobe, Ceiling-mount, White, Type II

367-059-00, 367-060-00, 367-064-00

#### Description

These strobes use a xenon flashtube with solid-state circuitry enclosed in a rugged Lexan® lens to provide maximum visibility and reliability for effective signaling. All inputs are polarized for compatibility with standard reverse-polarity supervision of circuit wiring by a fire alarm control panel (FACP).



The strobe can be used as a nonsynchronized strobe appliance when connected directly to an FACP or can be used as a synchronized appliance when used with the Type II sync module or Type II distributed power extender.

#### Back Box Mounting Options

- Surface- or flush-mounting
- Standard single- or double-gang, 4-in. square, 3.5 in. octagonal, back box P/N 588-029-00 (surface)

#### Features

- Field-selectable candela settings
- Amber, green, and blue lens options
- Synchronizable (Type II sync module, (P/N 367-036-00))

#### Specifications

<i>Voltage</i>	24 VDC and FWR unfiltered
<i>Voltage Range</i>	16 to 33 VDC
<i>Candela</i>	Standard: 15, 30, 75, 95cd
<i>Flash Rate</i>	1 flash per second
<i>Input Terminals</i>	12 to 18 AWG
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	93% non-condensing
<i>Dimensions</i>	4.8 in. H × 4.8 in. W (12.065 cm × 12.065 cm)

#### Current Draw

Candela	16–33 VDC
	UL Max. Current (mA)
15	65
30	105
75	189
95	249

#### Ordering Information

##### Strobe

Part Number	Description
367-059-00	Indoor Strobe, 24 VDC, 2-wire, square ceiling-mount, white, no lettering, amber lens, standard candela: 15, 30, 75, 95cd
367-060-00	Indoor Strobe, 24 VDC, 2-wire, square ceiling-mount, white, no lettering, green lens, standard candela: 15, 30, 75, 95cd
367-064-00	Indoor Strobe, 24 VDC, 2-wire, square ceiling-mount, white, no lettering, blue lens, standard candela: 15, 30, 75, 95cd



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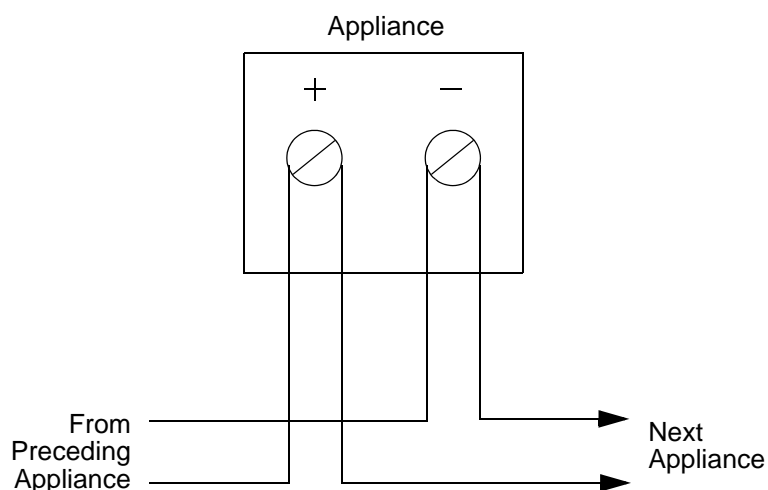


# Notification Appliance Devices

## Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes

## Wiring Diagram



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# Notification Appliance Devices

## Outdoor Strobe, Wall-mount, White, Type II

367-061-00

### Description

This weatherproof strobe uses a xenon flashtube with solid-state circuitry enclosed in a rugged Lexan® lens to provide maximum visibility and reliability for effective signaling. All inputs are polarized for compatibility with standard reverse-polarity supervision of circuit wiring by a fire alarm control panel (FACP).



**MEA**  
approved



The strobe can be used as a nonsynchronized strobe appliance when connected directly to an FACP or can be used as a synchronized appliance when used with the Type II sync module or Type II distributed power extender.

### Features

- Field-selectable candela settings, tamper resistant
- Clear lens
- Synchronizable with Type II sync module (P/N 367-036-00)

### Specifications

*Flash Rate* 1 flash per second

*Voltage* 24 VDC and FWR unfiltered

*Voltage Range* 20 to 31 VDC

*Candela* 75cd at -31°F

*Input Terminals* 12 to 18 AWG

*Operating Temperature* -31°F to 150°F (-35°C to 66°C)

*Relative Humidity* 95% non-condensing

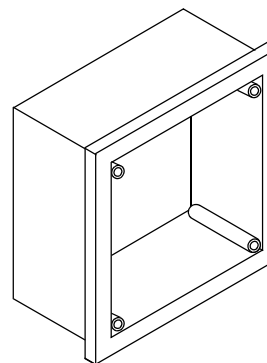
*Strobe Dimensions* 4.75 in. square (12.065 cm square),  
2.58 in. deep (6.55 cm)

### Current Draw

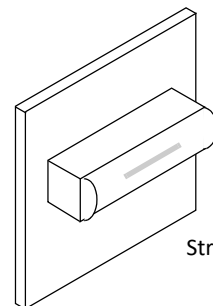
	Regulated Voltage Range		
	20 VDC	24 VDC	31 VDC
	Average Current (mA)		
Candela			
75 at -31°F	138	94	67

### Mounting

Must mount to weatherproof back box P/N 588-026-01.



Back Box  
1 11/16 in. Deep



Strobe

Generic Rendering:  
Not to Scale  
Not to Detail



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# Notification Appliance Devices

## Ordering Information

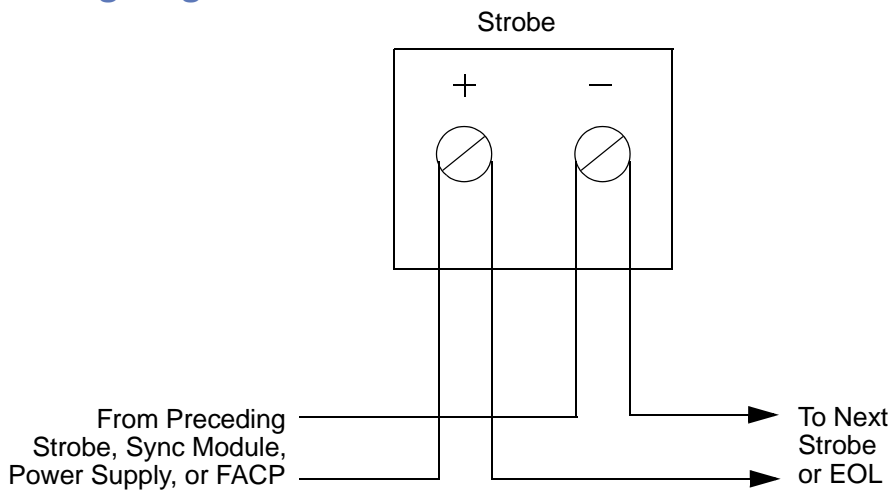
### Strobe

Part Number	Description
<b>367-061-00</b>	Outdoor Weatherproof Strobe, 24 VDC, 2-wire, wall-mount, white, no lettering, clear lens, 75cd, needs back box P/N 588-026-01

## Associated Parts

Part Number	Description
<b>588-026-01</b>	Back Box, weatherproof, white (required)
<b>367-036-00</b>	Sync Module, Type II
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes

## Wiring Diagram



### Monaco Enterprises, Inc.

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## Notification Appliance Devices

### Outdoor Strobe, Red, Wall-mount, Type I

367-066-00



**MEA**  
approved

#### Features

- Red housing with white Fire lettering and Clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75 cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 15/75cd  
24V: 15, 15/75, 30, 75, 95, 110, and 115cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Weatherproof NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

*Nominal Voltage* Regulated 12 VDC/FWR  
Regulated 24 DC/FWR

*Operating Voltage Range* 8 to 17.5V (12V nominal), or  
(Includes fire alarm panels with built in sync) 16 to 33V (24V nominal)

*Operating Voltage Range* 8.5 to 17.5V (12V nominal), or  
with Type I Sync Module 16.5 to 33V (24V nominal)

*Candela* 12 VDC: 15, 15/75cd  
24 VDC: 15, 15/75, 30, 75, 95, 110, 115cd

*Strobe Flash Rate* 1 flash per second

*Mounting* Universal Mounting Plate mounts to weatherproof back box

*Input Wiring* 12 to 18 AWG  
**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* -40°F to 151°F (-40°C to 66°C)

*Dimensions Wall-mount* 5.6 in. L x 4.7 in. W x 2.5 in. D  
(including lens)

*Wall-mount* 5.7 in. L x 5.1 in. W x 2.0 in. D  
*Weatherproof Back Box* (145 mm x 130 mm x 51 mm)

*Standards Compliance* Listed to UL 1971

*FM Approved* 3023572

*MEA Approved* MEA452-05-E

*State of California* 7300-1653:187



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# Notification Appliance Devices

## Outdoor Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
Standard Candela Range						
(do not use below 32°F)						
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd
66	77	94	158	181	202	210

## Ordering Information

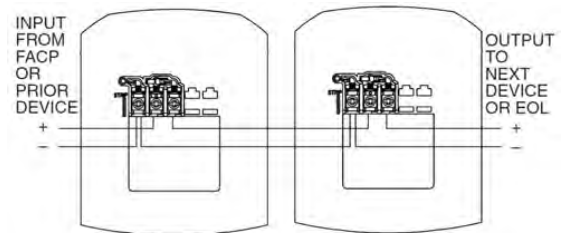
Part Number	Description
<b>367-066-00</b>	Strobe, Red, Type I, Wall-mount, Outdoor, 12 V or 24 V, White Fire lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, and 115 Candela. Includes weatherproof back box

## Associated Parts

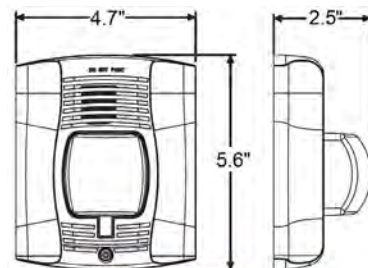
Part Number	Description
<b>588-059-50</b>	Trim Ring, wall-mount, red
<b>588-038-00</b>	Back Box, outdoor weatherproof, surface wall-mount, red. Required for NEMA 4X
<b>367-047-00</b>	Sync Module, Type I

## Drawings

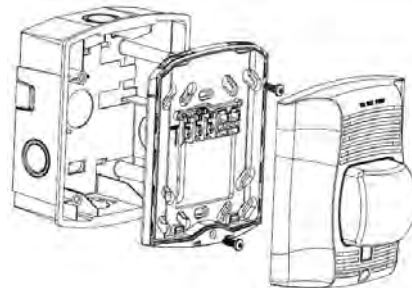
### Wiring Diagram



### Outdoor Wall-mount Strobe



### Weatherproof Back Box for Mounting Strobe



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# Notification Appliance Devices

## Outdoor Strobe, White, Wall-mount, Type I

367-066-01



**MEA**  
approved

### Features

- White housing with clear lens and no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 15/75cd  
24V: 15, 15/75, 30, 75, 95, 110, and 115cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Weatherproof NEMA 4X, IP56
- Weatherproof back box included

### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 DC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
(Includes fire alarm panels with built in sync) 16 to 33V (24V nominal)

**Operating Voltage Range** 8.5 to 17.5V (12V nominal), or  
with Type I Sync Module 16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15, 15/75cd  
24 VDC: 15, 15/75, 30, 75, 95, 110, 115cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to weatherproof back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on voltage drop.

**Operating Temperature** -40°F to 151°F (-40°C to 66°C)

**Dimensions Wall-mount** 5.6 in. L x 4.7 in. W x 2.5 in. D  
(including lens) (142 mm x 119 mm x 64 mm)

**Wall-mount** 5.7 in. L x 5.1 in. W x 2.0 in. D  
**Weatherproof Back Box** (145 mm x 130 mm x 51 mm)

**Standards Compliance** Listed to UL 1971

**FM Approved** 3023572

**MEA Approved** MEA452-05-E

**State of California** 7300-1653:187



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# Notification Appliance Devices

## Outdoor Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
Standard Candela Range						
(do not use below 32°F)						
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd
66	77	94	158	181	202	210

## Ordering Information

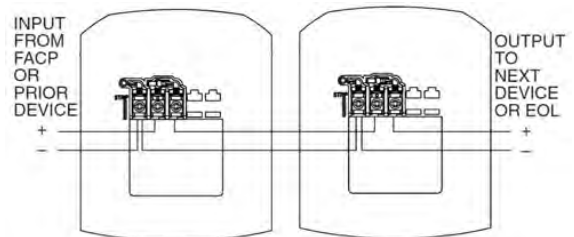
Part Number	Description
<b>367-066-01</b>	Strobe, White, Type I, Wall-mount, Outdoor, 12V or 24V, no lettering, clear lens 15, 15/75, 30, 75, 95, 110, and 115cd; includes plastic weather-proof back box

## Associated Parts

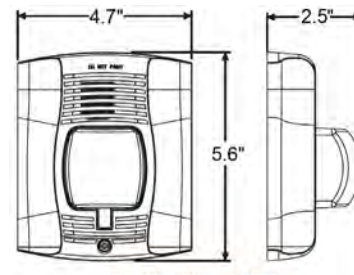
Part Number	Description
<b>589-003-00</b>	Red Decals, wall-mount: AGENT, EVAC, ALERT, or FIRE <b>NOTE</b> Order 2 per device.
<b>369-023-00</b>	Strobe Attachment, amber lens for wall-mount device; used for indoor and outdoor application
<b>369-025-01</b>	Blue lens option for wall-mount device
<b>369-026-01</b>	Red lens option for wall-mount device
<b>369-027-01</b>	Green lens option for wall-mount device
<b>588-059-00</b>	Trim Ring, wall-mount, white
<b>588-077-00</b>	Back Box, outdoor weatherproof, surface wall-mount, white, 2 in. deep. Required for NEMA 4X.
<b>367-047-00</b>	Sync Module, Type I

## Drawings

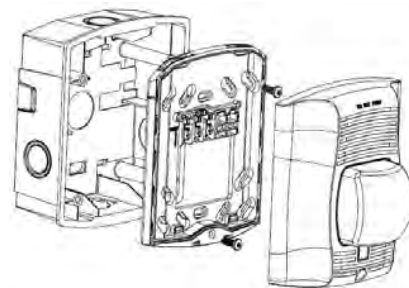
### Wiring Diagram



### Outdoor Wall-mount Strobe



### Weatherproof Back Box for Mounting Strobe



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## Notification Appliance Devices

### Outdoor Strobe, White, Wall-mount, Type I

367-066-02



**MEA**  
approved

#### Features

- White housing with red Fire lettering and Clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 15/75cd  
24V: 15, 15/75, 30, 75, 95, 110, and 115cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

- Weatherproof NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 DC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
(Includes fire alarm panels with built in sync) 16 to 33V (24V nominal)

**Operating Voltage Range** 8.5 to 17.5V (12V nominal), or  
with Type I Sync Module 16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15, 15/75cd  
24 VDC: 15, 15/75, 30, 75, 95, 110, 115cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to weatherproof back box

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temperature** -40°F to 151°F (-40°C to 66°C)

**Dimensions Wall-mount** 5.6 in. L x 4.7 in. W x 2.5 in. D  
(including lens) (142 mm x 119 mm x 64 mm)

**Wall-mount** 5.7 in. L x 5.1 in. W x 2.0 in. D  
**Weatherproof Back Box** (145 mm x 130 mm x 51 mm)

**Standards Compliance** Listed to UL 1971

**UL Listed** S4011

**FM Approved** 3023572

**MEA Approved** MEA452-05-E

**State of California** 7300-1653:187

#### Outdoor Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16 - 33 VDC						
Standard Candela Range						
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd
66	77	94	158	181	202	210



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# Notification Appliance Devices

## Ordering Information

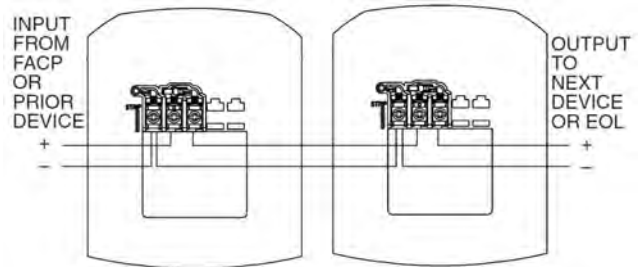
Part Number	Description
367-066-02	Strobe, White, Type I, Wall-mount, Outdoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, and 115 Candela. NEMA 4X rating. Includes plastic weatherproof back box

## Associated Parts

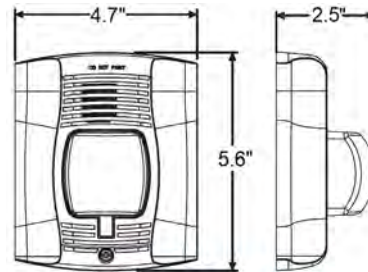
Part Number	Description
588-059-00	Trim Ring, wall-mount, white
588-077-00	Back Box, outdoor weatherproof, surface wall-mount, white, 2 in. deep. Required for NEMA 4X
367-047-00	Sync Module, Type I

## Drawings

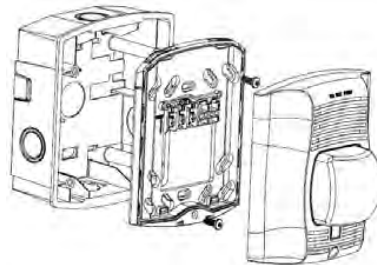
### Wiring Diagram



### Outdoor Wall-mount Strobe



### Weatherproof Back Box for Mounting Strobe



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## Notification Appliance Devices

### Outdoor Strobe, White, High Candela, Wall-mount, Type I 367-066-03



**MEA**  
approved

#### Specifications

**Nominal Voltage** Regulated 24 DC

**Operating Voltage Range** 16 to 33V (24V nominal)  
(Includes fire alarm panels with built in sync)

**Operating Voltage Range with Type I Sync Module** 16.5 to 33V (24V nominal)

**Candela** 24 VDC: 135, 150, 177, and 185cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to weatherproof back box

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop

**Operating Temperature** -40°F to 151°F (-40°C to 66°C)

**Dimensions Wall-mount (including lens)** 5.6 in. L x 4.7 in. W x 2.5 in. D  
(142 mm x 119 mm x 64 mm)

**Wall-mount Weatherproof Back Box** 5.7 in. L x 5.1 in. W x 2.0 in. D  
(145 mm x 130 mm x 51 mm)

**Standards Compliance** Listed to UL 1971 and UL 1638

**UL Listed** S3593

**FM Approved** 3023572

**MEA Approved** MEA452-05-E

**State of California** 7300-1653:187

#### Features

- White housing with clear lens and no lettering
- Plug-in design with a single captured screw for simplified installation and troubleshooting
- Tamper-resistant construction
- Listed for ceiling or wall mounting
- Automatic selection of 24V operation; Field selectable candela settings on wall units: 24V: 135, 150, 177, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Weatherproof per NEMA 4X, IP56
- Weatherproof plastic back box included
- Suitable for use in wet, outdoor environments

#### Outdoor Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16 - 33 VDC			
High Candela Range			
135cd	150cd	177cd	185cd
228	246	281	286



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# Notification Appliance Devices

## Ordering Information

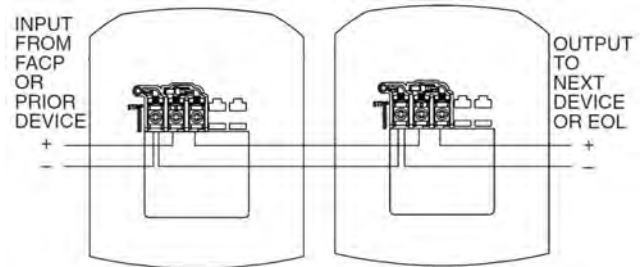
Part Number	Description
367-066-03	Strobe, White, Type I, Wall-mount, Outdoor, 24 V, no lettering, clear lens, 135, 150, 177, and 185cd, NEMA 4X rating; includes plastic weatherproof back box

## Associated Parts

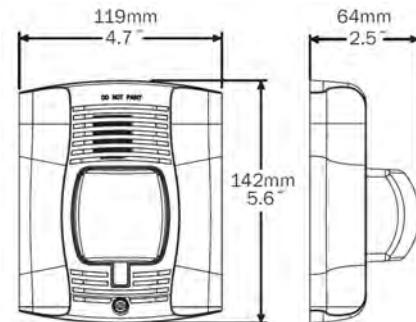
Part Number	Description
588-059-00	Trim Ring, wall-mount, white
588-077-00	Back Box, outdoor weatherproof, surface wall-mount, white, 2 in. D; required for NEMA 4X
367-047-00	Sync Module, Type I

## Drawings

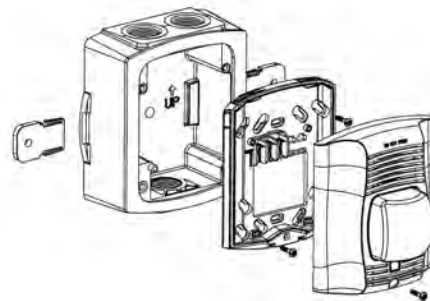
### Wiring Diagram



### Outdoor Wall-mount Strobe



### Weatherproof Back Box for Mounting Strobe



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## Notification Appliance Devices

### Indoor Strobe, Multi-Candela, White, Wall-mount, Type II 367-075-00



#### Features

- Indoor Strobe, white square housing with ALERT lettering and amber lens
- Synchronized or non-synchronized strobe signal
- Polarized inputs
- Xenon flashtube in a polycarbonate lens for maximum visibility and reliability
- Field selectable candela settings:  
24V: 15, 30, 75, and 110cd

#### Specifications

<i>Voltage</i>	Regulated 24 VDC/Vrms
<i>Operating Voltage</i>	16 to 33 VDC (filtered or FWR voltage)
<i>Candela Settings</i>	15, 30, 75, and 110cd
<i>Strobe Flash Rate</i>	1 flash per second over regulated voltage range
<i>Mounting to back box with Strobe Mounting Plate</i>	Flush-mount to single-gang, Flush or surface mount to double-gang, 4 in. (10.2 cm) European, or Shallow surface (P/N 588-021-00)
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	85%
<i>Dimensions</i>	4.75 in. W x 4.75 in. H x 2.58 in. D
<i>Standards Compliance</i>	Listed UL 1638 general signaling and UL 1971 amber lens light distribution

#### Ordering Information

Part Number	Description
367-075-00	Strobe, Square, White, Type II, Wall-mount, Indoor, 24 VDC, ALERT lettering, Amber lens, 15, 30, 75, 110cd

#### Associated Parts

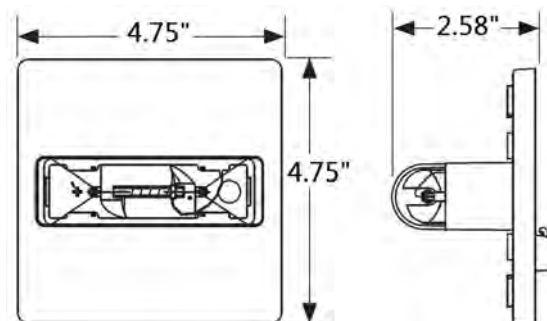
Part Number	Description
367-036-00	Sync Module, Type II
588-021-00	Back Box, square, surface mount, red
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72 hour battery backup.

#### Amber Strobe Current Draw

	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15cd	30cd	75cd	110cd
	derated for Amber Lens:			
Voltage	11cd	22cd	56cd	82cd
16-33 VDC	0.060	0.092	0.165	0.220

#### Drawings

##### Dimensions



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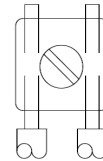
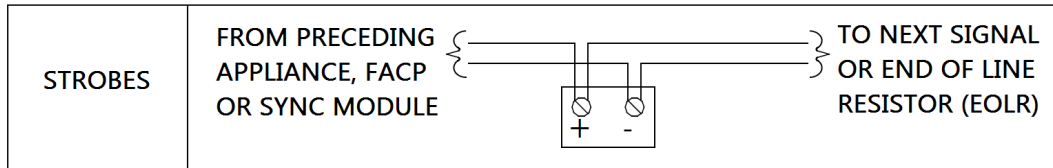
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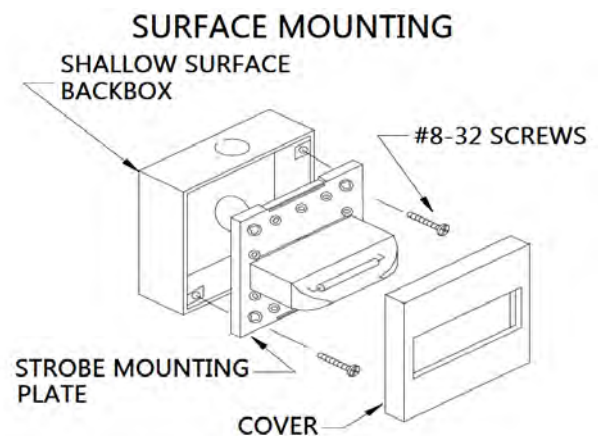
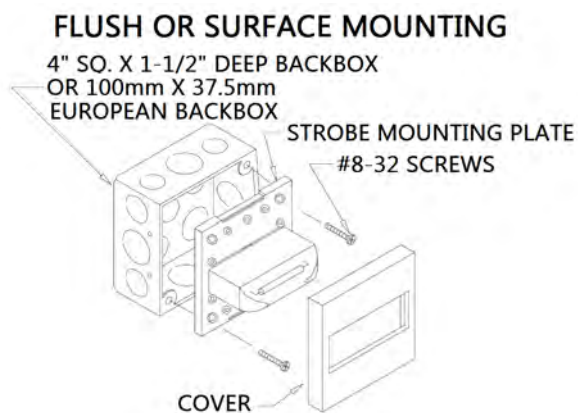
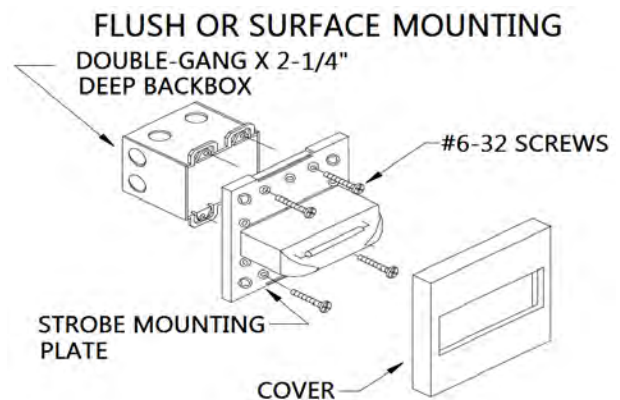
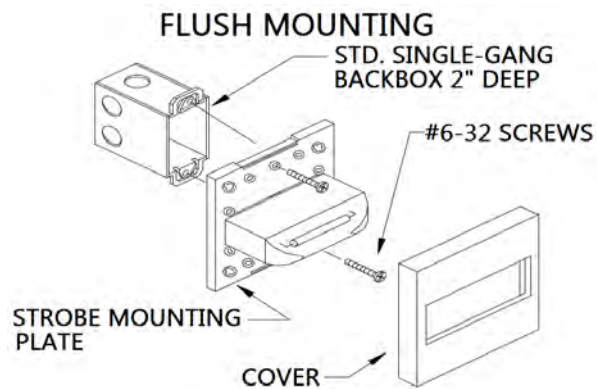


# Notification Appliance Devices

## Wiring Diagram



## Mounting



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# Notification Appliance Devices

## Indoor Strobe, Ceiling-mount, White, Type II

367-085-00



### Features

- White square housing with ALERT lettering and clear lens
- Synchronized or non-synchronized strobe signal
- Polarized inputs
- Xenon flashtube in a polycarbonate lens for maximum visibility and reliability
- Low current draw
- Field selectable candela settings:  
24V: 15/30/75/95cd
- Tamper Resistant selector switch
- In/out screw terminals for fast installation

### Specifications

**Voltage** Regulated 24 VDC/Vrms

**Operating Voltage Range** 16 to 33 (24V nominal)

**Candela Settings** 15, 30, 75, 95cd

**Strobe Flash Rate** 1 flash per second over regulated voltage range

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temp.** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 93% ±2%

**Mounting** Flush-mount single-gang,  
Flush- or surface-mount double-gang,  
Surface-mount shallow surface  
(P/N 588-021-00) back box

**Dimensions** 4.75 in. W x 4.75 in. H x 2.58 in. D

**Standards Compliance** NFPA 72, OSHA 29 Part 1910.16  
Strobe Output Rating to UL 1971

**UL** S5391

**FM** Approved

**State of California** 7125-0785:0141

### Ordering Information

Part Number	Description
367-085-00	Strobe, Square, White, Type II, Ceiling-mount, Indoor, 24 VDC, black ALERT lettering, clear lens, 15, 30, 75, 95cd

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-021-00	Back Box, square, surface mount, red
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72 hour battery backup

### Ceiling-mount Strobe Current Draw

Maximum Current Draw 16–33 VDC			
15cd	30cd	75cd	95cd
0.65	0.105	0.189	0.249



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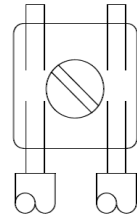
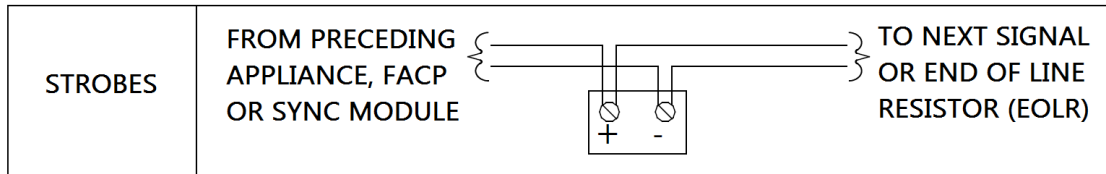
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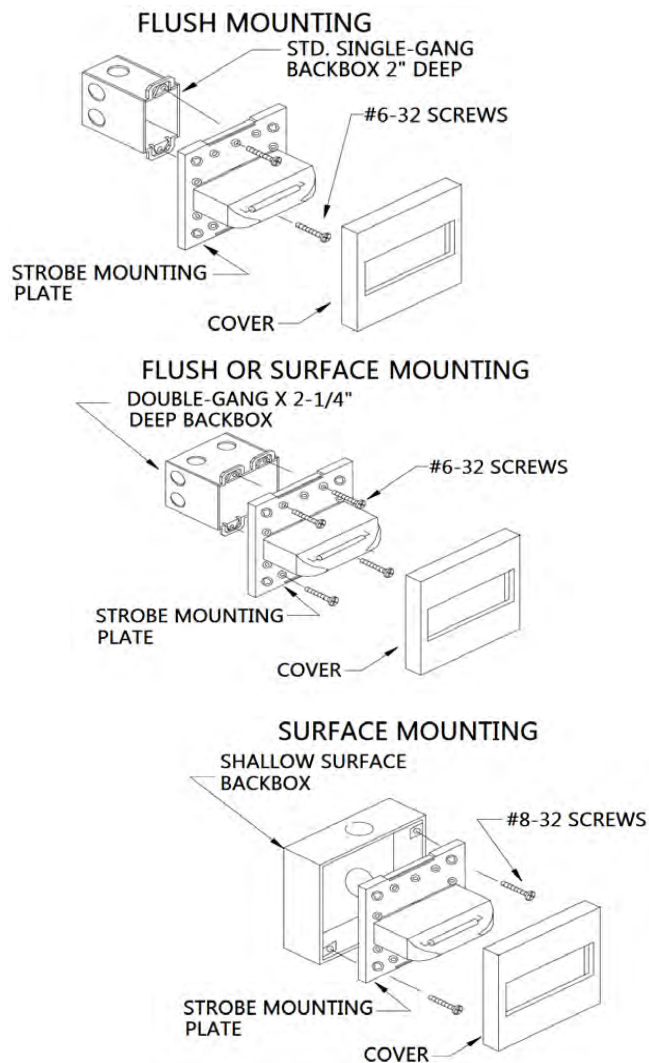
# Notification Appliance Devices

## Diagrams

### Wiring Diagram

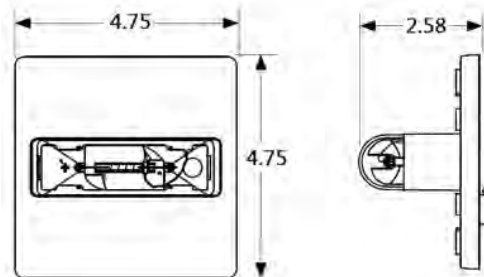


### Mounting

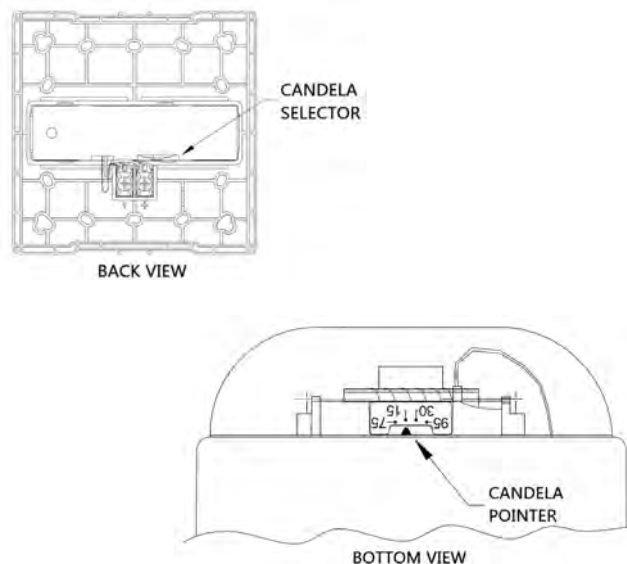


**NOTE** Maximum number of conductors is 4 for AWG#12 - AWG#18

### Dimensions



### Candela



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## Notification Appliance Devices

# Strobe, Hazardous Locations, 285 Candela, Explosion Proof 367-088-00



*UL 1971 On-axis Output* 15cd

*Mounting* Standard 1 in. x 0.75 in. NPT pipe-mount

*Input Wiring* 8 x 14 AWG

**NOTE** Required wire gauge based on voltage drop.

*Certified Temperature* -67°F to 158°F (-55°C to 70°C)

*Weight* 2.2 lb (1 kg)

*Standards Compliance* UL Listed 1638 for indoor/outdoor use  
UL Listed 1971 for hearing impaired

*UL and ULc* E251185

*State of California* 7300-1691:0103

## Ordering Information

Part Number	Description
367-088-00	Strobe for Hazardous Locations, Indoor/Outdoor, Clear Lens, 285cd, 24 VDC, Class 1, Div 2, Groups A, B, C, and D, Class 2, Div 2, Groups F and G, Explosion-Proof

## Features

- Indoor/outdoor strobe with glass reinforced polyester (GRP) housing
- UV stable glass reinforced polycarbonate lens
- For use in potentially explosive atmospheres and harsh environmental conditions
- UL Listed for hazardous locations Class I, Division 2, Groups A, B, C, and D Class 2, Division 2, Groups F and G
- Polarization diode and four-wire leads
- Optional lens guard
- Corrosion free
- Meets NEMA 4X, NEMA 6, IP 66 and IP 67 environmental requirements

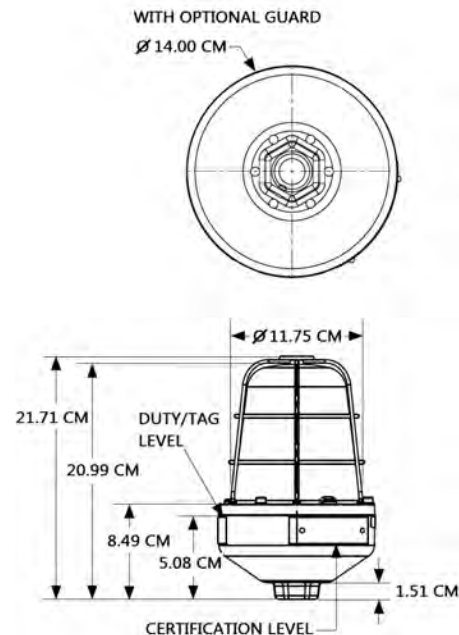
## Specifications

*Voltage* 24 VDC

*Current* 890 mA

*Flash* 1 Hz with 285cd per flash

## Dimensions



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## Notification Appliance Devices

### Indoor Strobe, 115/177 Candela, Ceiling-mount, White, Type II 367-089-00



**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temp.** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 85%

**Dimensions** 4.75 in. W x 4.75 in. H x 2.58 in. D

**Standards Compliance** Listed UL 1638 general signaling and UL 1971 amber lens light distribution

**UL** S5391

**FM** Approved

**State of California** 7125-0785:0141

### Ordering Information

Part Number	Description
367-089-00	Strobe, Square, White, Type II, Ceiling-mount, Indoor, 24 VDC, no lettering, amber lens, 115, 177cd

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-021-00	Back Box, square, surface-mount
404-119-00	NAC power extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72 hour battery backup

### Features

- Indoor Strobe, white square housing with amber lens and no lettering
- Synchronized or non-synchronized strobe signal
- Polarized inputs
- Xenon flashtube in a polycarbonate lens for maximum visibility and reliability
- Field selectable high intensity candela settings: 24V: 115/177cd

### Specifications

**Voltage** Regulated 24 VDC/Vrms

**Operating Voltage Range** 16–33 VDC (filtered or FWR voltage)

**Candela Settings** 115 and 177cd

**Strobe Flash Rate** 1 flash per second over regulated voltage range

**Mounting** Flush mount single-gang,  
Flush or surface mount double-gang,  
4 in. square (European)  
Surface mount shallow surface  
(P/N 588-021-00) back box

### Amber Strobe Current Draw

Voltage	Maximum DC, RMS Current Draw 115cd   177cd with derated amber lens:	
	86.25cd	132.25cd
16–33 VDC	0.300	0.420



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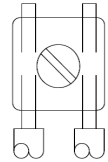
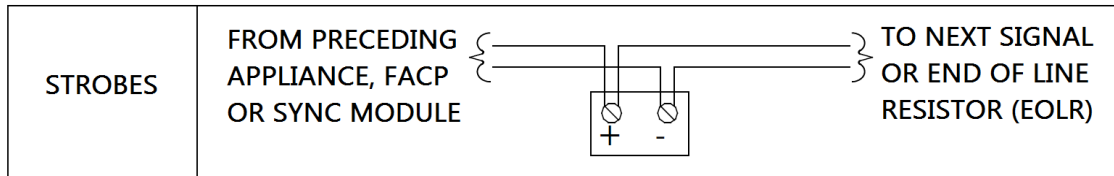




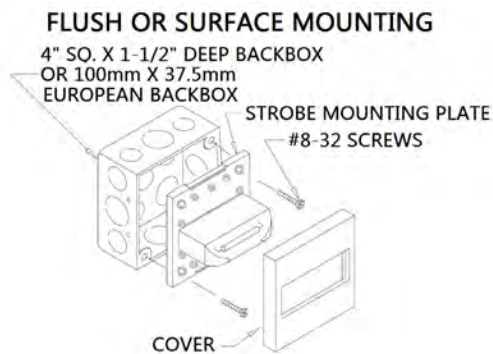
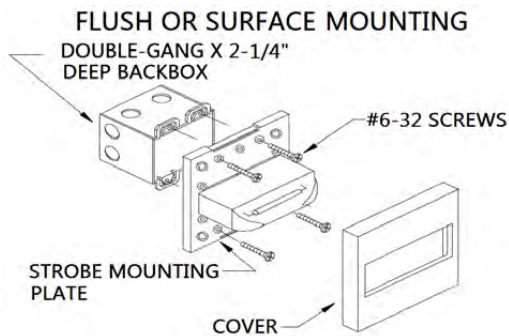
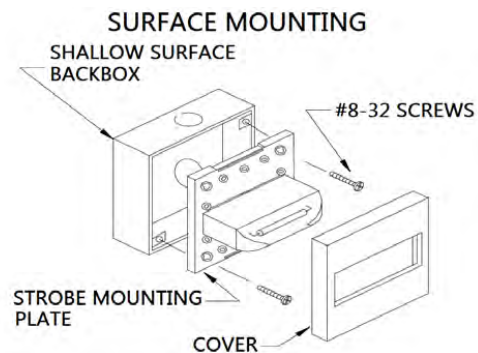
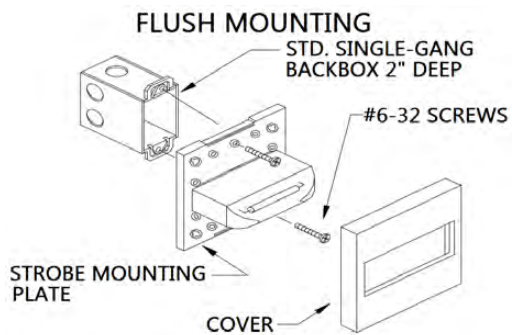
# Notification Appliance Devices

## Diagrams

### Wiring Diagram

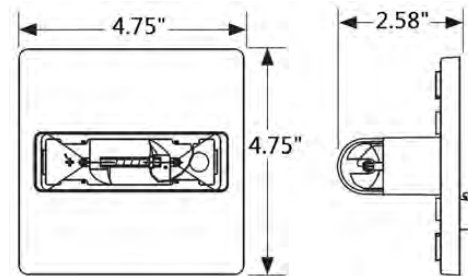


### Mounting

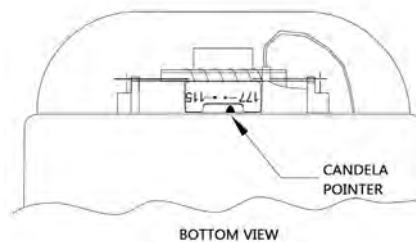


**NOTE** Maximum number of conductors is 4 for AWG#12 - AWG#18

### Dimensions



### Candela



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## Notification Appliance Devices

### Indoor Strobe, Multi-Candela, Ceiling-mount, Red, Type II 367-090-00



**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temp.** 32°F to 120°F (10°C to 49°C)

**Relative Humidity** 93% ±2%

**Dimensions** 4.75 in. W x 4.75 in. H x 2.58 in. D

**Weight** 0.4 lb (0.181 kg)

**Standards Compliance** NFPA 72, OSHA 29 Part 1910.16  
Strobe Output Rating to UL 1971

**UL** S5391

**FM** Approved

**State of California** 7125-0785:0141

### Ordering Information

Part Number	Description
367-090-00	Strobe, Square, Red, Type II, Ceiling-mount, Indoor, 24 VDC, red FIRE lettering on white lens cover, clear lens, 15, 30, 75, 95cd

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-021-00	Back box, square, surface mount, red
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, 4 Class B or 2 Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72 hour battery backup

### Features

- Red square housing with FIRE lettering and clear lens
- Synchronized or non-synchronized strobe signal
- Polarized inputs
- Xenon flashtube in a polycarbonate lens for maximum visibility and reliability
- Low current draw
- Field selectable candela settings:  
24V: 15/30/75/95cd
- Tamper Resistant selector switch
- In/out screw terminals for fast installation

### Specifications

**Voltage** Regulated 24 VDC/Vrms

**Operating Voltage Range** 16–33 (24V nominal)

**Candela Settings** 15 / 30 / 75 / 95cd

**Strobe Flash Rate** 1 flash per second over regulated voltage range

**Mounting** Flush mount single-gang,  
Flush or surface mount double-gang,  
Surface mount shallow surface  
(P/N 588-021-00) back box

### Ceiling-mount Strobe Current Draw

Maximum Current Draw 16 - 33 VDC			
15cd	30cd	75cd	95cd
0.65	0.105	0.189	0.249



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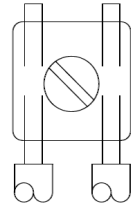
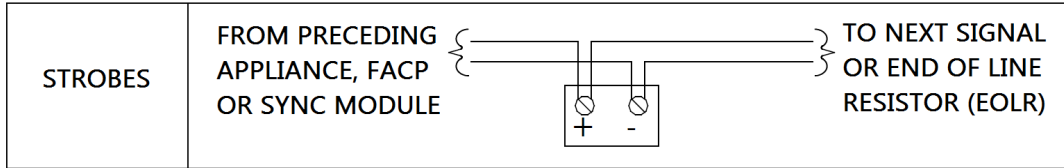
P.O. Box 14129, Spokane Valley, WA 99214-0129; 14820 E. Sprague Ave., Spokane Valley, WA 99216-2149  
**Phone** (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com



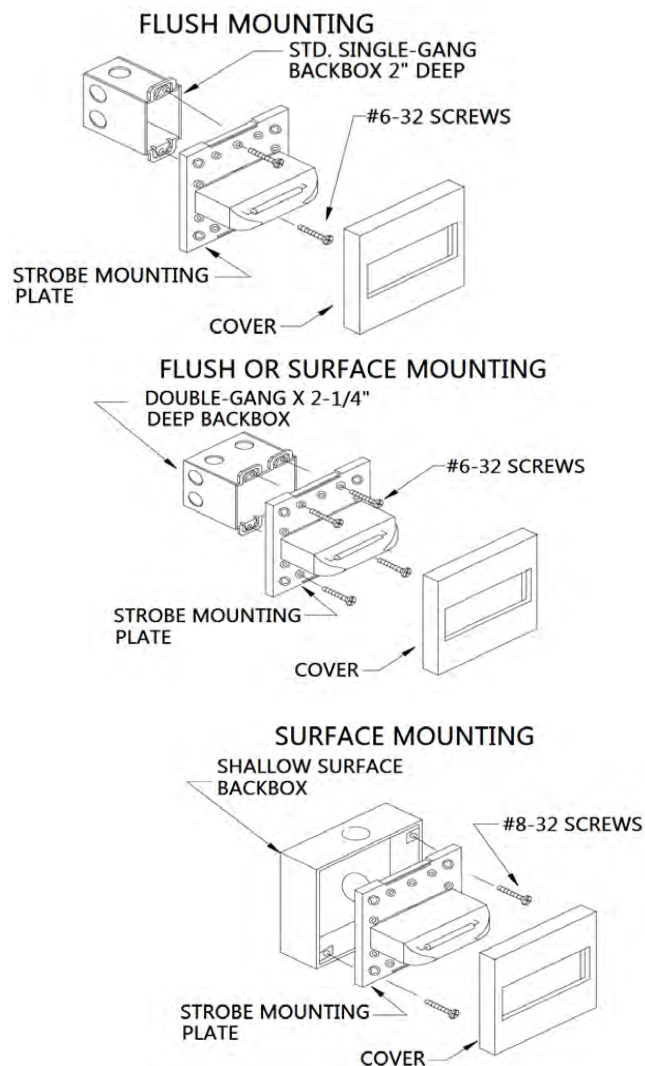
# Notification Appliance Devices

## Diagrams

### Wiring Diagram

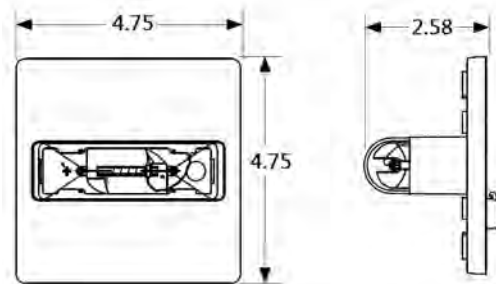


### Mounting

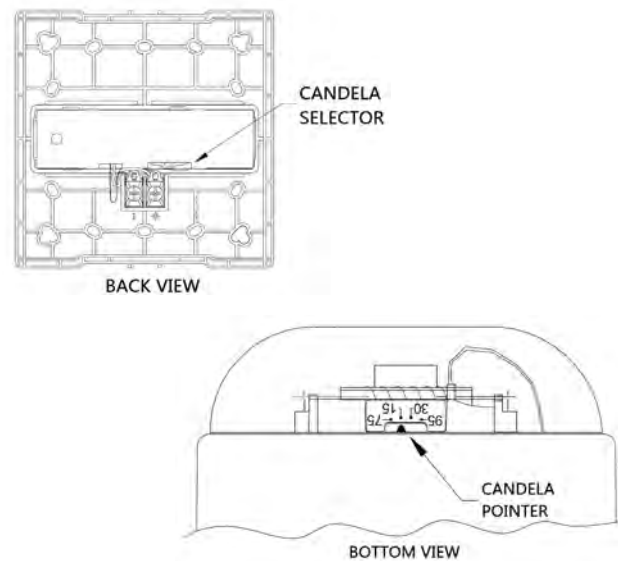


**NOTE** Maximum number of conductors is 4 for AWG#12 - AWG#18

### Dimensions



### Candela



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# Notification Appliance Devices

## Indoor Strobe Ceiling-mount, White, Type II

367-091-00



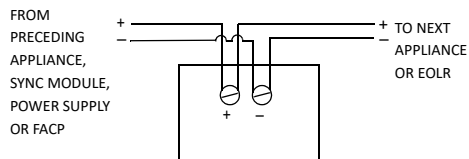
### Specifications

<i>Flash Rate</i>	1 flash per second
<i>Operating Voltage</i>	24 VDC with new UL "Regulated" voltage range: 16 to 33 VDC
<i>Maximum Current</i>	16-33 DC-RMS (amps) 115cd @0.300A 177cd @ 0.420A
<i>Strobe Candela</i>	115, 177
<i>Input Terminals</i>	12-18 AWG
<i>Operating Temperature</i>	32 to 120°F (0 to 49°C)
<i>Relative Humidity</i>	95%

### Features

- Meets Americans with Disabilities Act requirements
- Low current draw
- Compatible with Type II sync module (P/N 367-036-00)
- Can be mounted to a single gang, double gang, 4" square, or standard 4" back box
- Fast installation with IN/OUT screw terminals
- High candela, field selectable

### Wiring Diagram



### Ordering Information

#### Strobe

Part Number	Description
367-091-00	Indoor strobe, 24 VDC, 2-wire, ceiling-mount, white with FIRE lettering, clear lens, high candela: 115, 177

#### Associated Parts

Part Number	Description
367-036-00	Sync module, Type II



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# Notification Appliance Devices

## Indoor Strobe, Wall-mount, Red, Type II

367-092-00



Maximum Humidity 93% (± 2%)

Dimensions 5.24 in. H x 4.58 in. W x 2.19 in. D

Mounting Universal mounting base: 1-gang, 2-gang, 4 in. square, 3.5 in. octagonal, 4 in. octagonal

### Ordering Information

#### Strobe

Part Number	Description
367-092-00	Indoor Strobe: <ul style="list-style-type: none"><li>• 12/24 VDC</li><li>• 2-wire</li><li>• Wall-mount</li><li>• Red</li><li>• White FIRE lettering</li><li>• Multi-candela:<ul style="list-style-type: none"><li>15, 15/75, 30, 75, 95, 110, 135, 185cd</li></ul></li><li>• Includes universal mounting base</li><li>• Adjustable dB speaker; 90, 95, 99 dB</li></ul>

#### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II

### Features

- Low current draw
- Compliance: UL listed 1971, UL 464, California State Fire Marshall (CSFM), and ULC
- Eight candela settings, three audible settings
- Finger-slide switches
- Voltage test points for troubleshooting and inspection
- Includes polarized contact cover for protection
- Includes universal mounting base:
  - 1-gang
  - 2-gang
  - 4 in. square
  - 3.5 in. octagonal
  - 4 in. octagonal

### Specifications

Nominal Voltage Regulated 12/24 VDC

Strobe Flash Rate 1 per second

Operating Temperature 32°F to 120° F (0°C to 49° C)

### Current draw (mA)

Candela	12V		24V	
Standard	DC	FWR	DC	FWR
15	0.110		0.057	
15/75	0.140		0.070	
30	N/A		0.085	
75	N/A		0.135	
95	N/A		0.163	
110	N/A		0.182	
135	N/A		0.205	
185	N/A		0.253	



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## Notification Appliance Devices

### Indoor Strobe, Red, Wall-mount, Type I

367-097-00



#### Features

- Red housing, white FIRE lettering, and clear lens
- Plug in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12 V: 15, 30cd  
24 V: 15, 30, 75, 95, 110, 135, and 185cd
- Mounting plate shorting spring checks wiring continuity before device installation

#### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	8.5 to 17.5V (12V nominal) or 16.5 to 33V (24V nominal)
<i>Candela Settings</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting plate with on-board shorting spring 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with Lens</i>	5.6 in. L x 4.7 in. W x 1.25 in. D (143 mm x 119 mm x 32 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 S5512 S4011
<i>FM Approved</i>	3057383 3057072
<i>State of California</i>	7125-1653:0504 7135-1653:0503

#### Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222



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# Notification Appliance Devices

## Ordering Information

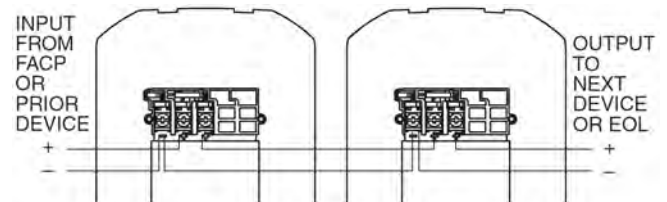
Part Number	Description
<b>367-097-00</b>	Strobe, Red, Type I, Wall-mount, Indoor, 12 V or 24V, White FIRE Lettering, Clear Lens, 15, 30, 75, 95, 110, 135, and 185cd

## Associated Parts

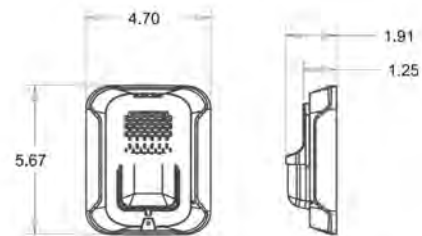
Part Number	Description
<b>589-046-00</b>	Bezel, Red, Wall-mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, no lettering, order one per device
<b>588-098-00</b>	Trim Ring, Red, Wall-mount, Type I, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-090-00</b>	Back Box, Wall-Surface-mount, Red, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

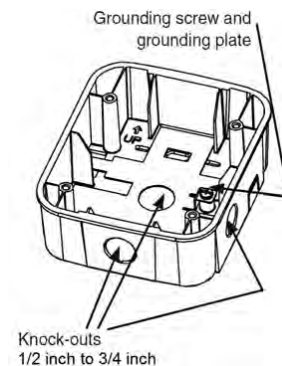
### Wiring Diagram



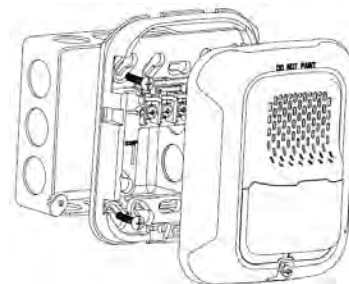
### Strobe



### Back Box, Surface-mount



### Junction Box, Flush-mount



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# Notification Appliance Devices

## Indoor Strobe, White, Wall-mount, Type I

367-098-00



### Features

- White housing with red ALERT lettering and amber lens
- Plug-in design for simplified installation and troubleshooting
- Tamper resistant Torx head screw
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rated from 32°F to 120°F (indoor devices)

### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with Lens</i>	5.6 in. L x 4.7 in. W x 1.25 in. D (143 mm x 119 mm x 32 mm)
<i>Standards Compliance:</i>	
UL Listed to ANSI/UL 1638	
State of California 7125-1653:0504	

### Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
41	63	111	134	148	172	222



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# Notification Appliance Devices

## Ordering Information

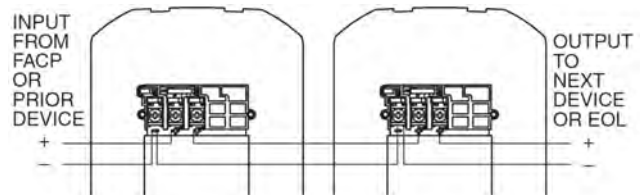
Part Number	Description
<b>367-098-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12 V or 24 V, Red ALERT Lettering, Amber Lens, 15, 30, 75, 95, 110, 135, and 185cd

## Associated Parts

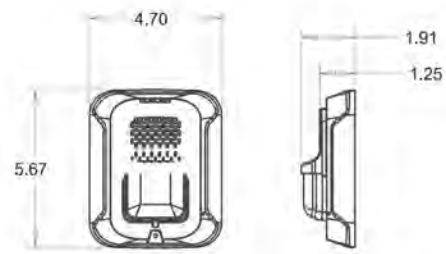
Part Number	Description
<b>589-041-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, no lettering, order one per device
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

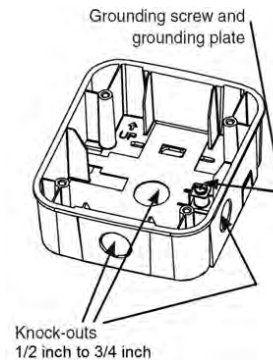
### Wiring Drawing



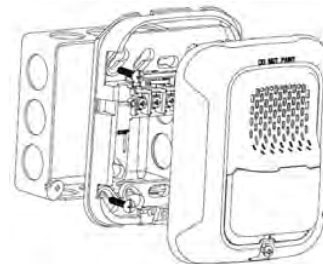
### Wall-mount Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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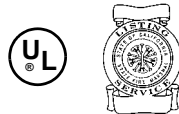
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# Notification Appliance Devices

## Indoor Strobe, White, Wall-mount, Type I

367-099-00



### Features

- White housing with red Alert lettering and Clear lens
- Plug in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12V or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with lens</i>	5.6 in. L x 4.7 in. W x 1.25 in. D (143 mm x 119 mm x 32 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 S5512 S4011
<i>State of California</i>	7125-1653:0504 7135-1653:0503

### Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222



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# Notification Appliance Devices

## Ordering Information

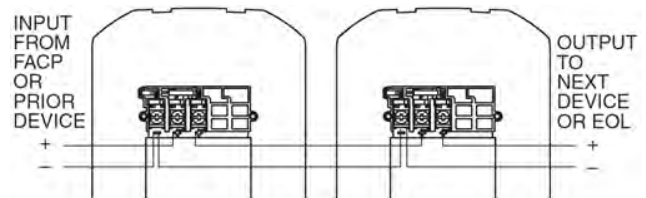
Part Number	Description
<b>367-099-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red ALERT Lettering, Clear Lens, 15, 30, 75, 95, 110, 135, and 185cd

## Associated Parts

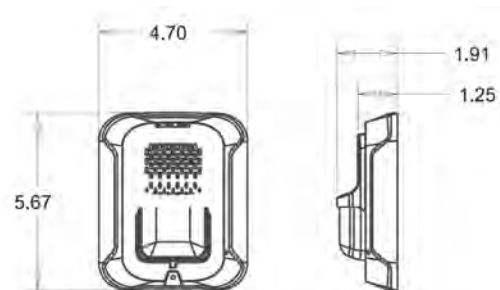
Part Number	Description
<b>589-041-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, no lettering, order one per device
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

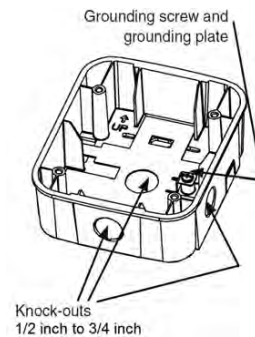
### Wiring Drawing



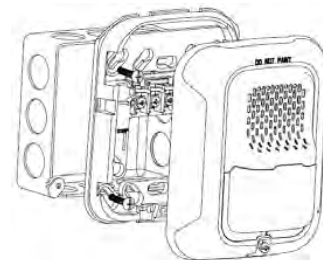
### Wall-mount Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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# Notification Appliance Devices

## Indoor Strobe, White, Wall-mount, Type I

367-100-00



### Features

- White housing with red FIRE lettering and clear lens
- Plug in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12V or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 VDC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15 and 30cd  
24 VDC: 15, 30, 75, 95, 110, 135, 185cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in. back box, or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions with lens** 5.6 in. L x 4.7 in. W x 1.25 in. D  
(143 mm x 119 mm x 32 mm)

#### Standards Compliance:

**UL Listed** Listed to UL 1971  
S5512  
S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-1653:0503

### Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16-33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222



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# Notification Appliance Devices

## Ordering Information

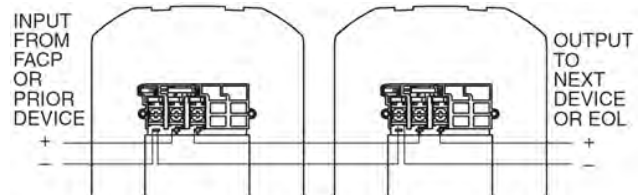
Part Number	Description
<b>367-100-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red FIRE Lettering, Clear Lens, 15, 30, 75, 95, 110, 135, and 185cd

## Associated Parts

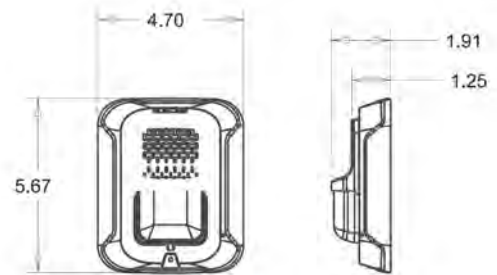
Part Number	Description
<b>589-041-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, no lettering, order one per device
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

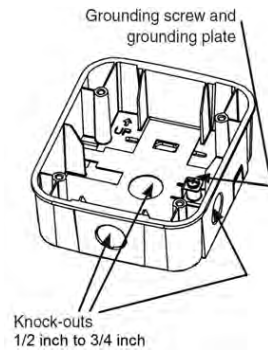
### Wiring Diagram



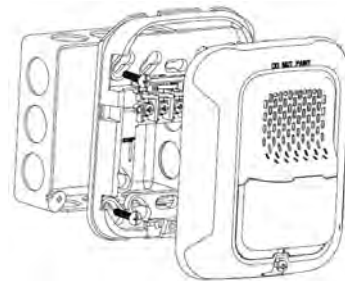
### Wall-mount Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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# Notification Appliance Devices

## Indoor Strobe, White, Wall-mount, Type I

367-101-00



### Features

- White housing with clear lens and no lettering
- Plug in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12V or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 VDC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24 V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24 V nominal)

**Candela** 12 VDC: 15 and 30cd  
24 VDC: 15, 30, 75, 95, 110, 135, 185cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in. back box, or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions with lens** 5.6 in. L x 4.7 in. W x 1.25 in. D  
(143 mm x 119 mm x 32 mm)

#### Standards Compliance:

**UL Listed** Listed to UL 1971  
S5512  
S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-1653:0503

### Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16-33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222



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# Notification Appliance Devices

## Ordering Information

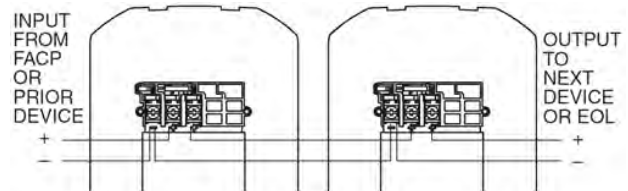
Part Number	Description
<b>367-101-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd

## Associated Parts

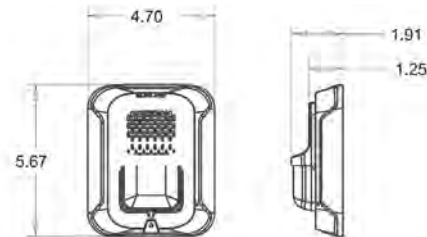
Part Number	Description
<b>589-037-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red AGENT lettering, order one per device
<b>589-038-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red ALERT lettering, order one per device
<b>589-039-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red EVAC lettering, order one per device
<b>589-040-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red FIRE lettering, order one per device
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-099-00</b>	Trim Ring, White, Type I Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

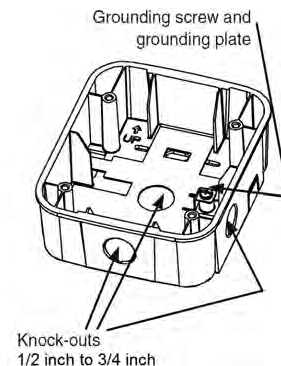
### Wiring Diagram



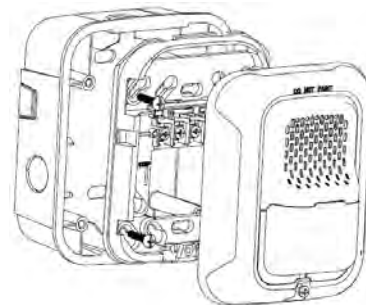
### Wall-mount Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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## Notification Appliance Devices

### Indoor Strobe, Red, Ceiling-mount, Type I

367-102-00



#### Features

- Red housing with white FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12V or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on ceiling units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 115, 150, and 177cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

#### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR, or Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 115, 150, 177cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Dimensions with lens</i>	6.8 in. OD x 2.5 in. D (173 mm x 64 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1638 and UL 1971 S5512 S4011
<i>FM Approved</i>	3057383
<i>State of California</i>	7125-1653:0504 7135-1653:0503

#### Ceiling-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	115cd	150cd	177cd
41	63	111	134	158	189	226



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# Notification Appliance Devices

## Ordering Information

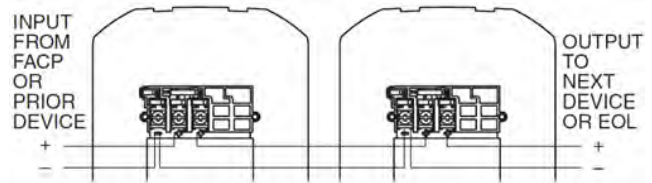
Part Number	Description
<b>367-102-00</b>	Strobe, Red, Type I, Ceiling-mount, Indoor, 12V or 24V, White FIRE lettering, clear lens, 15, 30, 75, 95, 115, 150, and 177cd

## Associated Parts

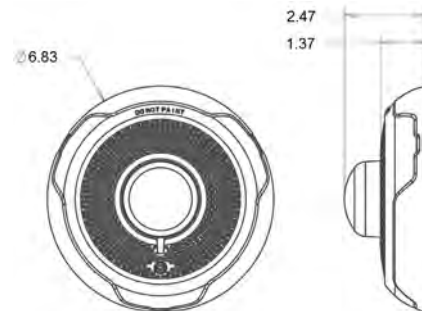
Part Number	Description
<b>589-007-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White AGENT lettering, order one per device
<b>589-009-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White ALERT lettering, order one per device
<b>589-010-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White EVAC lettering, order one per device
<b>589-012-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, no lettering, order one per device
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-096-00</b>	Trim Ring, Red, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
<b>588-097-00</b>	Back Box, Ceiling-surface-mount, Red, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD x 2.5 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

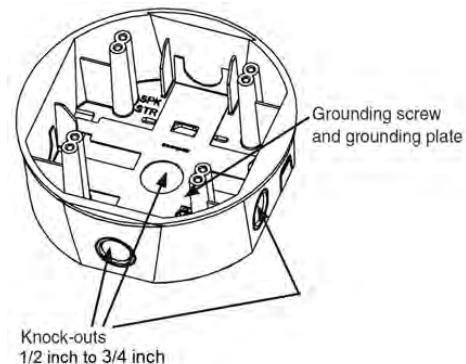
### Wiring Diagram



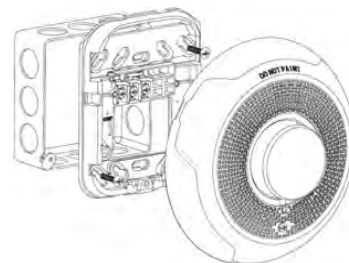
### Ceiling-mount Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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# Notification Appliance Devices

## Indoor Strobe, White, Ceiling-mount, Type I

367-103-00



### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR, or Regulated 24 VDC/FWR
<i>Operating Voltage Range</i>	8 to 17.5V (12V nominal), or 16 to 33V (24 V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	8.5 to 17.5V (12V nominal, or 16.5 to 33V (24 V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 115, 150, 177cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Dimensions with Lens</i>	6.8 in. OD x 2.5 in. D (173 mm x 64 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1638 and UL 1971 S5512 S4011
<i>FM Approved</i>	3057383
<i>State of California</i>	7125-1653:0504 7135-1653:0503

### Features

- White housing with red FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12V or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on ceiling units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 115, 150, and 177cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

### Ceiling-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	115cd	150cd	177cd
41	63	111	134	158	189	226



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# Notification Appliance Devices

## Ordering Information

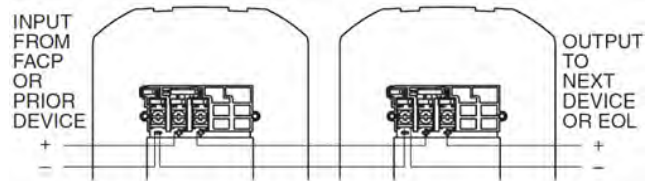
Part Number	Description
<b>367-103-00</b>	Strobe, White, Type I, Ceiling-mount, Indoor, 12V or 24 V, Red FIRE Lettering, clear lens, 15, 30, 75, 95, 115, 150, and 177cd

## Associated Parts

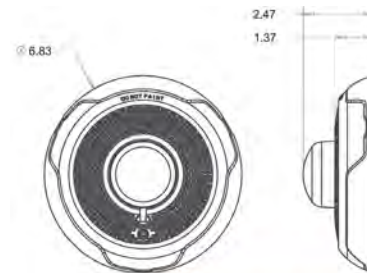
Part Number	Description
<b>589-008-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, no lettering, order one per device
<b>589-013-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red AGENT lettering, order one per device
<b>589-014-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red ALERT lettering, order one per device
<b>589-015-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red EVAC lettering, order one per device
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-095-00</b>	Trim ring, White, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
<b>588-094-00</b>	Back Box, Ceiling-Surface-mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD x 2.5 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

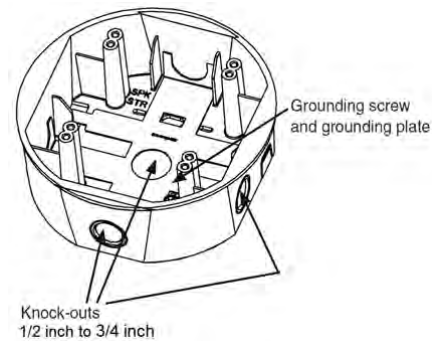
### Wiring Diagram



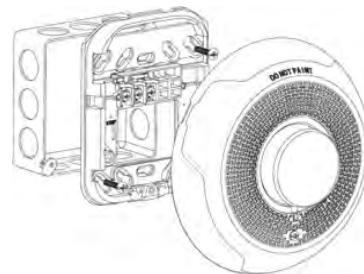
### Ceiling-mount Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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# Notification Appliance Devices

## Indoor Strobe, Red, Wall-mount, Type I

367-104-00



### Features

- Red housing with clear lens and no lettering
- Plug in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12V or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage Range</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with Lens</i>	5.6 in. L x 4.7 in. W x 1.25 in. D (143 mm x 119 mm x 32 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 S5512 S4011
<i>FM Approved</i>	3057383 3057072
<i>State of California</i>	7125 - 1653.0504 7135 - 1653.0503

### Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16 - 33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222



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# Notification Appliance Devices

## Ordering Information

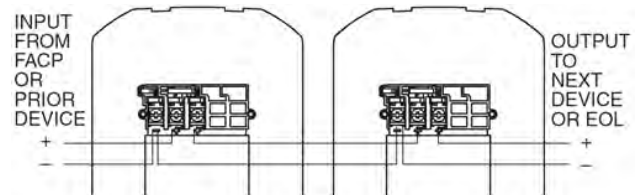
Part Number	Description
<b>367-104-00</b>	Strobe, Red, Wall-mount, Type I, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd

## Associated Parts

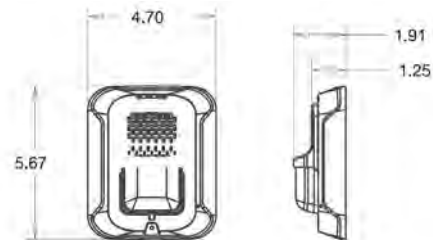
Part Number	Description
<b>589-042-00</b>	Bezel, Red, Wall-mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White AGENT lettering, order one per device
<b>589-043-00</b>	Bezel, Red, Wall-mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White ALERT lettering, order one per device
<b>589-044-00</b>	Bezel, Red, Wall-mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White EVAC lettering, order one per device
<b>589-045-00</b>	Bezel, Red, Wall-mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White FIRE lettering, order one per device
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-098-00</b>	Trim Ring, Red, Wall-mount, Type I, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-090-00</b>	Back Box, Wall-Surface-mount, Red, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

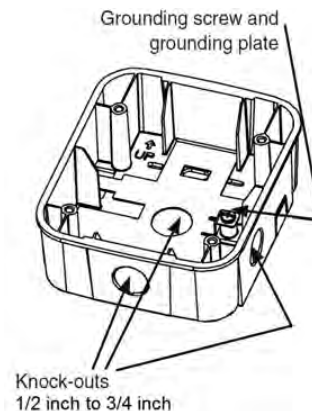
### Wiring Diagram



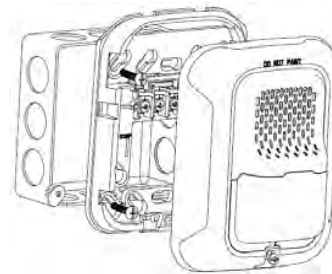
### Wall-mount Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



**Monaco Enterprises, Inc.**

P.O. Box 14129, Spokane Valley, WA 99214-0129; 14820 E. Sprague Ave., Spokane Valley, WA 99216-2149  
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# Notification Appliance Devices

## Indoor Strobe, White, Ceiling-mount, Type I

367-105-00



### Features

- White housing with red ALERT lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on ceiling strobes:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 115, 150, and 177cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 115, 150, 177cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Dimensions with Lens</i>	6.8 in. OD x 2.5 in. D (173 mm x 64 mm)
<i>Surface-mount Back Box Skirt</i>	6.9 in. OD x 3.4 in. D (175 mm x 86 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 S5512 S4011
<i>State of California</i>	7125-1653:0504 7135-1653:0503

### Ceiling-mount Strobe Current Draw (mA)

Maximum Current Draw 16 - 33 VDC						
15cd	30cd	75cd	95cd	115cd	150cd	177cd
41	63	111	134	158	189	226



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# Notification Appliance Devices

## Ordering Information

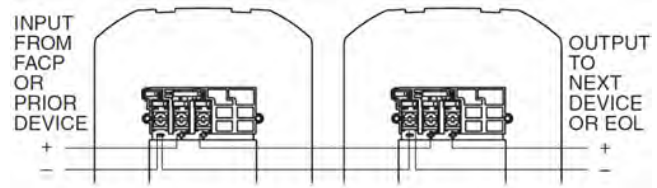
Part Number	Description
<b>367-105-00</b>	Strobe, White, Type I, Ceiling-mount, Indoor, 12V or 24V, Red ALERT lettering, clear lens, 15, 30, 75, 95, 115, 150, and 177cd

## Associated Parts

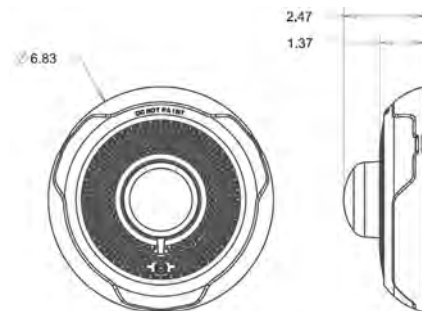
Part Number	Description
<b>589-008-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, no lettering, order one per device
<b>589-013-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red AGENT lettering, order one per device
<b>589-014-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red ALERT lettering, order one per device
<b>589-015-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red EVAC lettering, order one per device
<b>589-016-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red FIRE lettering, order one per device
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of lens
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of lens
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of lens
<b>588-095-00</b>	Trim Ring, White, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 D
<b>588-094-00</b>	Back Box, Ceiling-Surface-mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD x 2.5 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

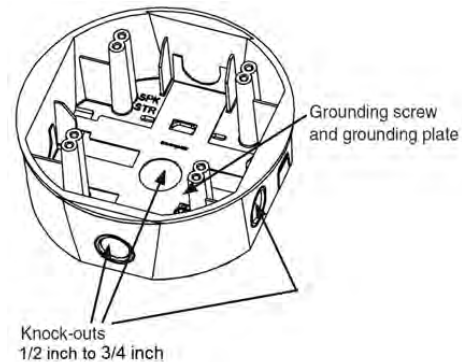
### Wiring Diagram



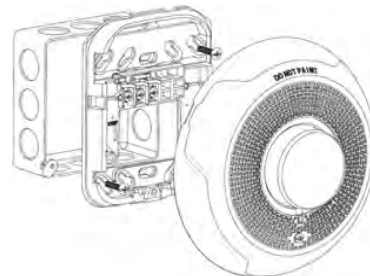
### Ceiling-mount Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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## Horn Strobes

# Notification Appliance Devices Catalog Section

11

### Horn Strobes

Indoor Horn Strobe, Multitone, Wall-mount, Type II . . . . .	585-018-00
Outdoor Horn Strobe, Multitone, Wall-mount, Red, Type II . . . . .	585-059-00
Indoor Horn Strobe, Multitone, Wall-mount, Red, Type II . . . . .	585-065-00
Outdoor Horn Strobe, 4-Wire, Red, Wall-mount, Type I . . . . .	585-068-00
Outdoor Horn Strobe, Red, Wall-mount, Type I . . . . .	585-069-00
Outdoor Horn Strobe, White, Wall-mount, Type I . . . . .	585-097-00
Outdoor Horn Strobe, Red, Wall-mount, Type I . . . . .	585-097-01
Indoor Horn Strobe, Red, Wall-mount, Type I . . . . .	585-098-00
Indoor Horn Strobe, Red, Ceiling-mount, Type I . . . . .	585-099-00
Indoor Horn Strobe, Red, Wall-mount, Type I . . . . .	585-101-00
Indoor Horn Strobe, White, Wall-mount, Type I . . . . .	585-102-00
Indoor Horn Strobe, White, Wall-mount, Type I . . . . .	585-103-00
Indoor Horn Strobe, White, Ceiling-mount, Type I . . . . .	585-105-00
Indoor Horn Strobe, 4-Wire, White, Wall-mount, Type I . . . . .	585-106-00
Indoor Horn Strobe, 4-Wire, Red, Wall-mount, Type I . . . . .	585-107-00
Indoor Horn Strobe, 4-Wire, White, Ceiling-mount, Type I . . . . .	585-108-00
Indoor Horn Strobe, 4-Wire, Red, Ceiling-mount, Type I . . . . .	585-109-00
Explosion-proof Horn Strobe, Hazardous Locations, Grey . . . . .	585-111-00

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## Notification Appliance Devices

### Indoor Horn Strobe, Multitone, Wall-mount, Type II

585-018-00



**MEA**  
approved



#### Features

- Eight selectable signals: horn, bell, march-time horn, code-3 tone, code-3 horn, slow-whoop, siren, hi/lo tone
- Code-3 horn and tone meet ANSI/NFPA temporal pattern requirements for standard emergency evacuation signaling
- Horn and strobe can operate from a single Notification Appliance Circuit with any of the eight sounds
- Standard dBA and high dBA field-selectable sound output levels
- Strobe features xenon flash tube with solid-state circuitry in a rugged lens
- Inputs polarized for compatibility with standard reverse polarity supervision

#### Specifications

*Flash Rate* 1 flash per second

*Input Voltage* 120 VAC

*Rated Candela* 15cd

*Wiring* 12 to 18 AWG

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 95%, noncondensing

#### Current and dBA Ratings for Audible

	RMS Current (Amps)		dBA at 10 ft. (UL Reverberant)	
	High Output	Standard Output	High Output	Standard Output
	UL Max.	UL Max.		
Horn	0.050	0.042	88	82
Bell	0.041	0.039	82	75
March-Time Horn	0.050	0.040	85	79
Code-3 Horn	0.050	0.042	85	75
Code-3 Tone	0.042	0.040	79	75
Slow Whoop	0.050	0.042	88	82
Siren	0.045	0.041	85	82
HI/LO	0.042	0.039	82	79

#### Mounting

- Horn strobe mounts to 4 in. square or double-gang J box
- Flush- or surface-mounting
- No trim plate required for flush-mounting



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# Notification Appliance Devices

## Ordering Information

### Horn Strobe

Part Number	Description
<b>585-018-00</b>	Indoor horn strobe, 8-tone, 120 VAC, 4-wire, wall-mount, red, clear lens, 15cd

### Associated Parts

Part Number	Description
<b>404-119-00</b>	NAC power extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes*

**\*NOTE** P/N 404-119-00 needs two 7.7 Ah batteries (P/N 400-704-00) for 24-hour battery backup, or two 12 Ah batteries (P/N 400-713-00) for 72-hour battery backup



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## Notification Appliance Devices

# Outdoor Horn Strobe, Multitone, Wall-mount, Red, Type II 585-059-00



Shown with back box P/N 588-014-00



## Specifications

*Flash Rate* 1 per second

*Input Voltage* Nominal 24 VDC

*Rated Candela* 75cd

*Strobe Current (180cd), RMS* Nominal 24 VDC: 0.094A  
UL maximum: 0.138A

*dBa Range* 75 to 94

*Input Terminals* 12 to 18 AWG

*Operating Temperature* -31°F to 150°F (-35°C to 66°C)

*Relative Humidity* 95% non-condensing

## Audible Current

	RMS Current (Amps) UL Max.	
	High Output	Standard Output
Horn	0.108	0.044
Bell	0.053	0.024
March-Time Horn	0.104	0.038
Code-3 Horn	0.091	0.035
Code-3 Tone	0.075	0.035
Slow Whoop	0.098	0.037
Siren	0.104	0.036
HI/LO	0.057	0.025

## Features

- Eight selectable signals: horn, bell, march-time horn, code-3 tone, code-3 horn, slow-whoop, siren, hi/lo tone
- Code-3 horn and tone meet ANSI/NFPA temporal pattern requirements for standard emergency evacuation signaling
- Horn and strobe can operate from a single notification appliance circuit (NAC) with any of the eight sounds
- Weatherproof
- Standard dBA and high dBA field-selectable sound output levels
- Strobe features Xenon flash tube with solid-state circuitry in a rugged lens
- Inputs polarized for compatibility with standard reverse polarity supervision
- Synchronizable strobe



### Monaco Enterprises, Inc.

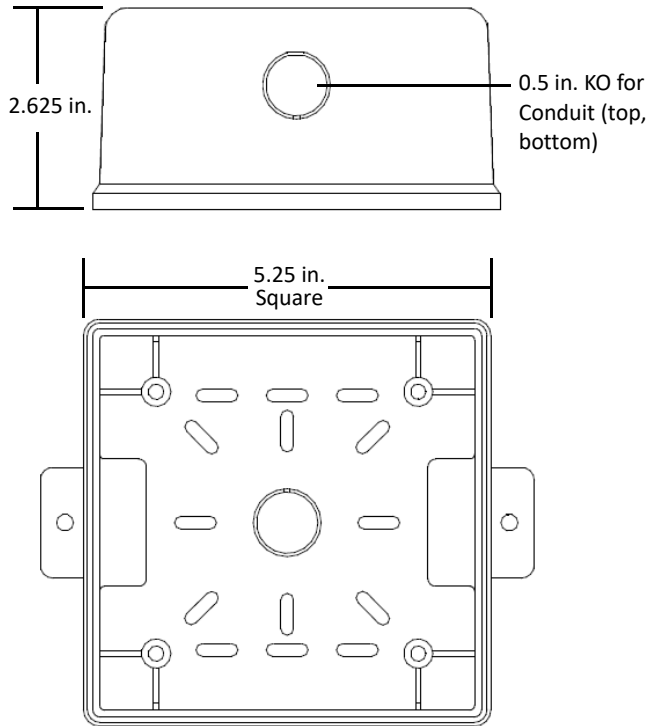
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# Notification Appliance Devices

## Mounting

Back Box P/N 588-014-00



## Ordering Information

### Horn Strobe

Part Number	Description
<b>585-059-00</b>	Outdoor Horn Strobe, 8-tone, 24 VDC, 4-wire, weatherproof, surface wall-mount, red, clear lens, 180 candela

### Associated Parts

Part Number	Description
<b>588-014-00</b>	Back Box, indoor/outdoor, surface-mount, red, use with P/N 585-059-00
<b>367-036-00</b>	Sync Module, Type II
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes*

**\*Note** P/N 404-119-00 needs two 7.7 Ah batteries (P/N 400-704-00) for 24-hour battery backup, or two 12 Ah batteries (P/N 400-713-00) for 72-hour battery backup



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## Notification Appliance Devices

### Indoor Horn Strobe, Multitone, Wall-mount, Red, Type II 585-065-00



#### Specifications

*Strobe Flash Rate* 1 per second

*Input Voltage* Nominal 24 VDC

*Rated Candela* 15, 30, 75, and 110cd

*Input Wiring* 12 to 18 AWG

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 93% ±2% non-condensing

#### *Mounting Options:*

*Indoor* Surface or semi-flush-mount back box  
(P/N 588-005-00)

*Indoor/Outdoor* Surface-mount back box  
(P/N 588-014-00)

#### *Standards Compliance:*

*UL Listed* UL1971, UL464, and UL1638  
File E5346

*FM Approved* Class 3150

*MEA Approved* 151-92-E

*State of California* 7125-0785:0155

#### Features

- Standard dBa and high dBa field selectable tone output levels
- Eight selectable tones: horn, bell, march-time horn, code-3 horn, code-3 tone, slow whoop, siren, and hi/lo

**NOTE** Code-3 horn and code-3 tone meet ANSI/NFPA temporal pattern requirements for standard emergency evacuation signaling.

- Horn and strobe can operate from a single Notification Appliance Circuit with any of the eight tones
- Strobe features Xenon flash tube with solid-state circuitry in a rugged lens
- Four field selectable candela settings at 15, 30, 75, and 110cd
- Inputs polarized for compatibility with standard reverse polarity supervision
- Synchronizable strobe

#### Horn Current Draw and Output

	RMS Current (Amps) UL Max.		dBa at 10 ft. UL Reverberant	
	High Output	Standard Output	High Output	Standard Output
Horn	0.108	0.044	92	87
Bell	0.053	0.024	86	80
March-Time Horn	0.104	0.038	89	84
Code-3 Horn	0.091	0.035	88	83
Code-3 Tone	0.075	0.035	85	80
Slow Whoop	0.098	0.037	90	89
Siren	0.104	0.036	89	84
Hi/Lo	0.057	0.026	86	81



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# Notification Appliance Devices

## Strobe Current Draw and Output

RMS Current (Amps)				
Candela	15cd	30cd	75cd	110cd
at 24 VDC	0.041	0.063	0.109	0.140
UL Max.	0.060	0.092	0.165	0.220

**NOTE** If the strobe and horn operate on the same circuit, add the strobe current from “Strobe Current Draw and Output” table to the horn current from “Horn Current Draw and Output” table.

## Ordering Information

### Indoor Horn Strobe

Part Number	Description
<b>585-065-00</b>	Indoor Horn Strobe, 8-tone, Wall-mount, Red, 4-wire, 24 VDC, white FIRE lettering, clear lens, 15, 30, 75, and 110cd

### Associated Parts

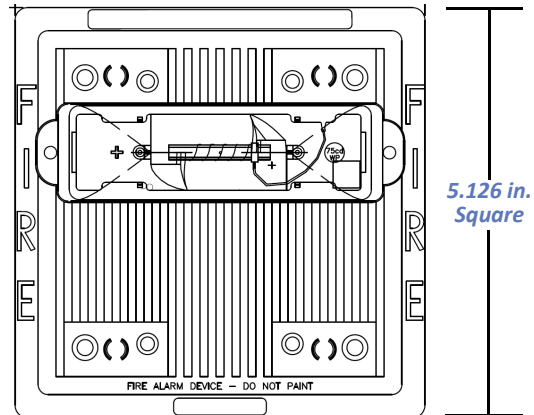
Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>588-005-00</b>	Back Box, Indoor, Surface or Semi-Flush-mount, Red, 4 in. x 4 in. x 1.5 in. deep
<b>588-014-00</b>	Back Box, Indoor/Outdoor, Surface-mount, Red, 5.25 in. x 5.25 in.
<b>404-119-00</b>	NAC Power Extender, 115 VAC, 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes See <b>NOTE</b> .

**NOTE** P/N 404-119-00 needs two 7.7 Ah batteries (P/N 400-704-00) for 24-hour battery backup, or two 12 Ah batteries (P/N 400-713-00) for 72-hour battery backup

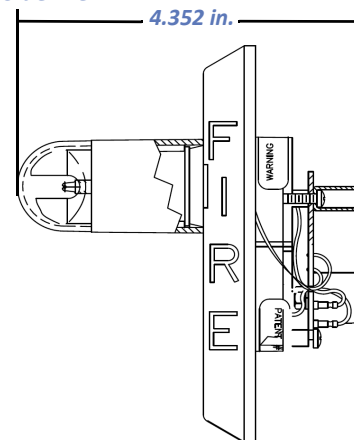
## Diagrams

### Horn Strobe Dimensions

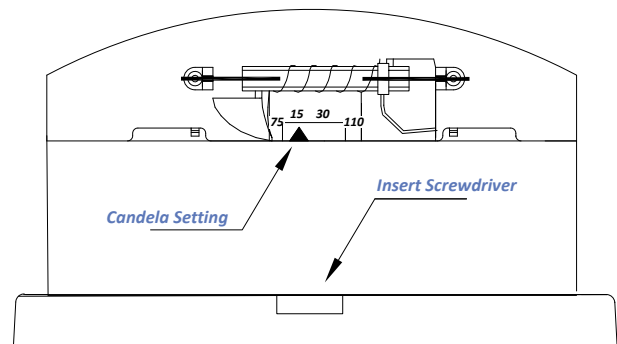
#### Front View



#### Side View



### Candela Setting Selection



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## Notification Appliance Devices

### Outdoor Horn Strobe, 4-Wire, Red, Wall-mount, Type I

585-068-00



**MEA**  
approved

#### Features

- Red housing with white FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 15/75cd  
24V: 15, 15/75, 30, 75, 95, 110, and 115cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and three volume selections
- Weatherproof per NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

**Nominal Voltage** Regulated 12 VDC  
Regulated 24 VDC

**Operating Voltage** 8 to 17.5V (12V nominal), or  
(includes fire alarm 16 to 33V (24V nominal)  
panels with built in sync)

**Operating Voltage with** 8.5 to 17.5V (12V nominal), or  
**Type I Sync Module** 16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15 and 15/75cd  
24 VDC: 15, 15/75, 30, 75, 95, 110,  
and 115cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
Weatherproof back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** -40°F to 151°F (-40°C to 66°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions** 5.6 in. L x 4.7 in. W x 2.5 in. D  
**with lens** (142 mm x 119 mm x 64 mm)

**Wall-mount** 5.7 in. L x 5.1 in. W x 2.0 in. D  
**Weatherproof Back Box** (145 mm x 130 mm x 51 mm)

**Standards Compliance** Listed to UL 1971 and UL 464

**UL Listed** S4011

**FM** Approved

**MEA Approved** MEA 452-05-E

**State of California** 7125-1653:188



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# Notification Appliance Devices

## Strobe Current Draw (mA)

Maximum Current Draw 16-33 VDC Standard Candela Range (normal temperature)							Derate Candela Output (cd) at Low Temperature (-40°F)			
(do not use below 32°F)			75cd	95cd	110cd	115cd	75cd	95cd	110cd	115cd
15cd	15/75cd	30cd								
66	77	94	158	181	202	210	44	70	110	115

## Current Draw (mA), Horn Tones and Sound Output

Sound Pattern	Volume Settings	Horn Current Draw	Horn Tones (dBA at 10 ft.)	Sound Output (dBA at 10 ft.)	
		16-33V		24V Nominal	
		DC	DC	Reverberant	Anechoic
Temporal	High	69	84	88	99
Temporal	Medium	58	80	86	96
Temporal	Low	44	76	83	94
Non-Temporal	High	69	88	93	100
Non-Temporal	Medium	60	85	90	98
Non-Temporal	Low	50	81	88	96
Coded	High	69	88	93	101
Coded	Medium	56	85	90	97
Coded	Low	52	81	88	96



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# Notification Appliance Devices

## Ordering Information

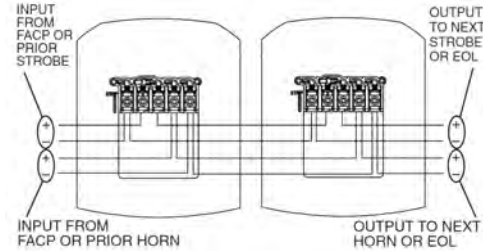
Part Number	Description
<b>585-068-00</b>	Horn Strobe, Red, Type I, Wall-mount, 4-Wire, Outdoor, 12V or 24V, White FIRE lettering, clear lens, 15, 15/75, 30, 75, 95, 110, and 115cd, weatherproof per NEMA 4X, IP56; includes weatherproof back box

## Associated Parts

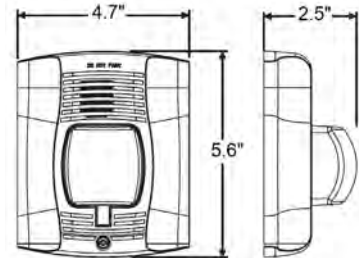
Part Number	Description
<b>589-005-00</b>	White Decals, wall-mount: AGENT, EVAC, ALERT, or FIRE <b>NOTE</b> Order two per device.
<b>369-023-00</b>	Strobe Attachment, amber lens for wall-mount device; used for indoor and outdoor applications
<b>369-025-01</b>	Blue lens option for wall-mount device
<b>369-026-01</b>	Red lens option for wall-mount device
<b>369-027-01</b>	Green lens for wall-mount device
<b>588-059-50</b>	Trim Ring, wall-mount, red
<b>588-038-00</b>	Back Box, outdoor weatherproof, surface wall-mount, red, Required for NEMA 4X
<b>367-047-00</b>	Sync Module Type I

## Drawings

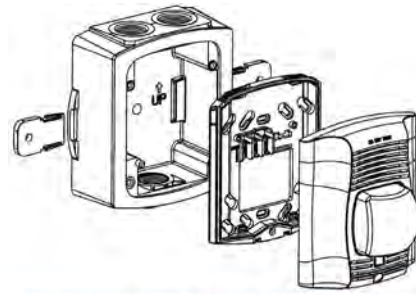
### Wiring Diagram



### Outdoor Wall-mount Horn Strobe



### Weatherproof Back Box for Mounting Horn Strobe



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## Notification Appliance Devices

### Outdoor Horn Strobe, Red, Wall-mount, Type I

585-069-00



**MEA**  
approved

#### Features

- Red housing with white FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75cd settings.
- Field-selectable candela settings on wall units:  
12V: 15, 15/75cd  
24V: 15, 15/75, 30, 75, 95, 110, and 115cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

- Rotary switch for horn tone and three volume selections
- Weatherproof per NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR, or Regulated 24 VDC/FWR
<i>Operating Voltage Range</i> (includes fire alarm panels with built in sync)	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range</i> with Type I Sync Module	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 15/75cd 24 VDC: 15, 15/75, 30, 75, 95, 110, 115cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to Weatherproof back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	−40°F to 151°F (−40°C to 66°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions</i> with lens	5.6 in. L x 4.7 in. W x 2.5 in. D (142 mm x 119 mm x 64 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 and UL 464 S4011
<i>FM</i>	Approved
<i>MEA Approved</i>	MEA 452-05-E
<i>State of California</i>	7125-1653:188



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# Notification Appliance Devices

## Wall-mount Outdoor 2-Wire Horn Strobe Candela Current Draw (mA)

DC Input and Sound Pattern	Maximum Current Draw 16–33VDC Standard Candela Range						
	15cd	15/75cd	30cd	75cd	95cd	110cd	115cd
Temporal High	79	90	107	176	194	212	218
Temporal Medium	69	80	97	157	182	201	210
Temporal Low	66	77	93	154	179	198	207
Non-Temporal High	91	100	116	176	201	221	229
Non-Temporal Medium	75	85	102	163	187	207	216
Non-Temporal Low	68	79	96	156	182	201	210

## Ordering Information

### Low Temperature Candela Derating (at –40°F)

Setting	75cd	95cd	110cd	115cd
Actual Candela	44cd	77cd	110cd	115cd

**NOTE** Do not use the 15, 15/75, and 30cd settings below 32°F.

Part Number	Description
<b>585-069-00</b>	Horn Strobe, Red, Type I, Wall-mount, 2-Wire, Outdoor, 12V or 24V, White FIRE Lettering, clear lens, 15, 15/75, 30, 75, 95, 110, and 115cd; includes weatherproof back box

## Associated Parts

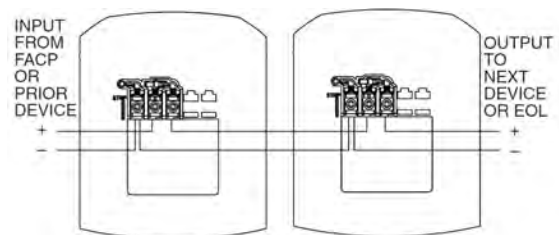
Part Number	Description
<b>588-059-50</b>	Trim Ring, wall-mount, red
<b>588-038-00</b>	Back box, outdoor weatherproof, surface-wall-mount, red, Required for NEMA 4X
<b>367-047-00</b>	Sync Module, Type I

## Wall-mount Outdoor Horn Tones and Sound Output (dBA at 10 ft.)

DC Input and Sound Pattern	Horn Tones 16–33 VDC	Sound Output 24V Nominal	
		Reverberant	Anechoic
Temporal High	84	88	99
Temporal Medium	80	86	96
Temporal Low	76	83	94
Non-Temporal High	88	93	100
Non-Temporal Medium	85	90	98
Non-Temporal Low	81	88	96

## Drawings

### Wiring Diagram



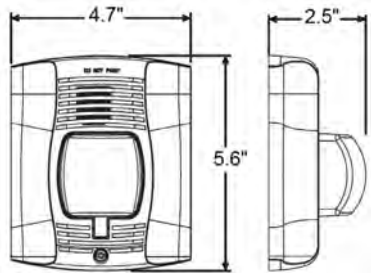
**Monaco Enterprises, Inc.**

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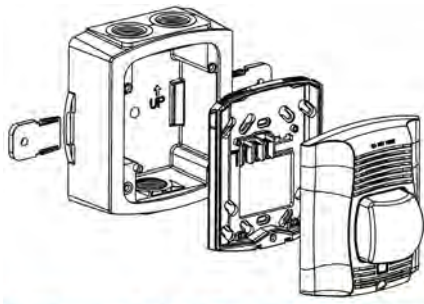


# Notification Appliance Devices

## Outdoor Wall-mount Horn Strobe



## Weatherproof Back Box for Mounting Horn Strobe



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## Notification Appliance Devices

### Outdoor Horn Strobe, White, Wall-mount, Type I

585-097-00



#### Specifications

<i>Nominal Voltage</i>	Regulated 24 VDC
<i>Operating Voltage Range</i> (includes fire alarm panels with built in sync)	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range</i> with Type I Sync Module	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>High Candela</i>	24 VDC: 135, 150, 177, and 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to Weatherproof back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	−40°F to 151°F (−40°C to 66°C)
<i>Relative Humidity</i>	Meets NEMA 4X requirements
<i>Wall-mount Dimensions with Lens</i>	5.6 in. L x 4.7 in. W x 2.5 in. D (142 mm x 119 mm x 64 mm)
<i>Wall-mount Weatherproof Back Box</i>	5.7 in. L x 5.1 in. W x 2.0 in. D (145 mm x 130 mm x 51 mm)
<i>Standards Compliance</i>	Listed to UL 1971 and UL 464
<i>UL Listed</i>	S4011
<i>FM</i>	Approved
<i>MEA Approved</i>	MEA 452-05-E
<i>State of California</i>	7125-1653:188



**MEA**  
approved

#### Features

- White housing with red FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Field selectable high candela settings: 135, 150, 177, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and three volume selections
- Weatherproof per NEMA 4X, IP56
- Weatherproof back box included



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# Notification Appliance Devices

## Wall-mount Outdoor Horn Strobe Candela Current Draw (mA)

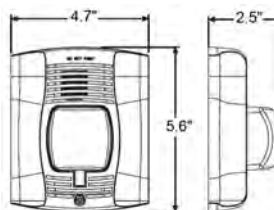
## Horn Tones and Sound Output

DC Input and Sound Pattern	Maximum Current Draw 16–33V High Candela Range				Horn Tones (dBA at 10 ft.) 16–33V	Sound Output (dBA at 10 ft.) 24V Nominal	
	135	150	177	185	DC	Reverberant	Anechoic
Temporal High	245	259	290	297	84	88	99
Temporal Medium	235	253	288	297	80	86	96
Temporal Low	232	251	282	292	76	83	94
Non-Temporal High	255	270	303	309	88	93	100
Non-Temporal Medium	242	259	293	299	85	90	98
Non-Temporal Low	238	254	291	295	81	86	96

## Ordering Information

Part Number	Description
585-097-00	Horn Strobe, White, Type I, Wall-mount, Outdoor, Weatherproof, 12V or 24V, Red FIRE Lettering, clear lens, 135, 150, 177, and 185 High Candela, NEMA 4X rating; includes Weatherproof back box

## Outdoor Wall-mount Horn Strobe



## Associated Parts

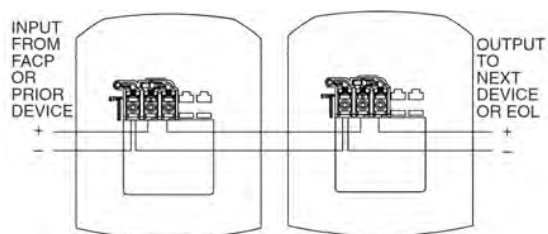
Part Number	Description
588-059-00	Trim Ring, wall-mount, white
588-077-00	Back Box, outdoor weatherproof, surface wall-mount, white, 2 in. deep. Required for NEMA 4X
367-047-00	Sync Module, Type I

## Weatherproof Back Box, Surface-mount

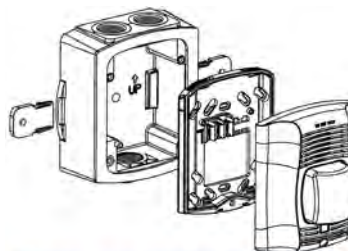


## Drawings

### Wiring Diagram



## Weatherproof Back Box for Mounting Outdoor Horn Strobe



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## Notification Appliance Devices

### Outdoor Horn Strobe, Red, Wall-mount, Type I

585-097-01



**MEA**  
approved

### Specifications

<i>Nominal Voltage</i>	Regulated 24 VDC
<i>Operating Voltage Range</i> (includes fire alarm panels with built in sync)	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range</i> with Type I Sync Module	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>High Candela</i>	24 VDC: 135, 150, 177, and 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to Weatherproof back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	−40°F to 151°F (−40°C to 66°C)
<i>Relative Humidity</i>	Meets NEMA 4X requirements
<i>Wall-mount Dimensions</i> with lens	5.6 in. L x 4.7 in. W x 2.5 in. D (142 mm x 119 mm x 64 mm)
<i>Wall-mount</i> <i>Weatherproof Back Box</i>	5.7 in. L x 5.1 in. W x 2 in. D (145 mm x 130 mm x 51 mm)
<i>Standards Compliance</i>	Listed to UL 1971 and UL 464
<i>UL Listed</i>	S4011
<i>FM</i>	Approved
<i>MEA Approved</i>	MEA 452-05-E
<i>State of California</i>	7125-1653:188

### Features

- Red housing with white Fire lettering and Clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Field selectable high candela settings: 135, 150, 177, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and three volume selections
- Weatherproof per NEMA 4X, IP56
- Weatherproof back box included



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# Notification Appliance Devices

## Wall-mount Outdoor Horn Strobe Candela Current Draw (mA)

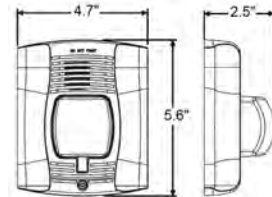
## Horn Tones and Sound Output

DC Input and Sound Pattern	Maximum Current Draw 16–33V High Candela Range				Horn Tones (dBA at 10 ft.) 16–33V	Sound Output (dBA at 10 ft.) 24V Nominal	
	135	150	177	185	DC	Reverberant	Anechoic
Temporal High	245	259	290	297	84	88	99
Temporal Medium	235	253	288	297	80	86	96
Temporal Low	232	251	282	292	76	83	94
Non-Temporal High	255	270	303	309	88	93	100
Non-Temporal Medium	242	259	293	299	85	90	98
Non-Temporal Low	238	254	291	295	81	86	96

## Ordering Information

Part Number	Description
<b>585-097-01</b>	Horn Strobe, Red, Type I, Wall-mount, Outdoor, Weatherproof, 12 V or 24 V, White FIRE lettering, clear lens, 135, 150, 177, and 185 High Candela, NEMA 4X rating; includes weatherproof back box

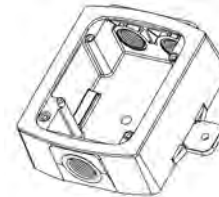
## Outdoor Wall-mount Horn Strobe



## Associated Parts

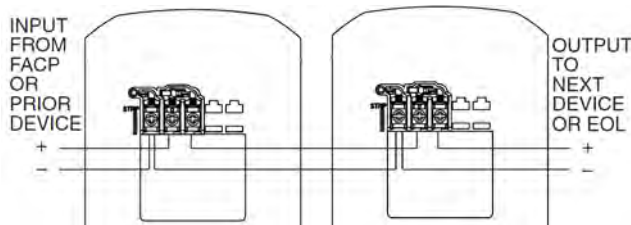
Part Number	Description
<b>588-059-50</b>	Trim Ring, wall-mount, red
<b>588-038-00</b>	Back box, outdoor weatherproof, surface wall-mount, red, Required for NEMA 4X
<b>367-047-00</b>	Sync Module, Type I

## Weatherproof Back Box, Surface-mount

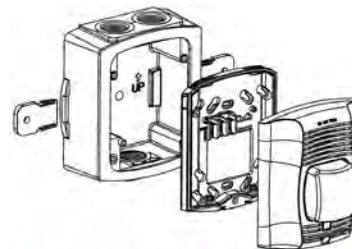


## Drawings

### Wiring Diagram



## Weatherproof Back Box for Mounting Outdoor Horn Strobe



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## Notification Appliance Devices

### Indoor Horn Strobe, Red, Wall-mount, Type I

585-098-00



#### Features

- Red housing with white FIRE lettering and clear lens
- Plug in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field-selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

#### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 VDC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15 and 30cd  
24 VDC: 15, 30, 75, 95, 110, 135, 185cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in. back box, or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions** 5.6 in. L x 4.7 in. W x 1.25 in. D  
(142 mm x 119 mm x 32 mm)

**Wall-mount Dimensions with lens** 5.6 in. L x 4.7 in. W x 1.91 in. D  
(142 mm x 119 mm x 43 mm)

#### Standards Compliance:

**UL Listed** Listed to UL 1971 and UL 464  
S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-1653:0503



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# Notification Appliance Devices

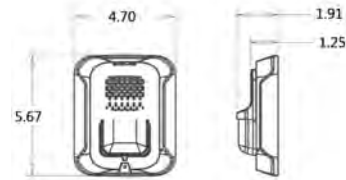
## Wall-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Pos	Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33 VDC
			15cd	30cd	75cd	95cd	110cd	135cd	185cd	
1	Temporal	High	54	74	121	142	162	196	245	89
2	Temporal	Low	44	65	111	133	157	184	235	83
3	Non-Temporal	High	73	94	139	160	182	211	262	90
4	Non-Temporal	Low	51	71	119	139	162	190	239	84
5	3.1 KHz Temporal	High	53	73	119	140	164	190	242	88
6	3.1 KHz Temporal	Low	45	66	112	133	160	185	235	82
7	3.1 KHz Non-Temporal	High	69	90	135	157	175	208	261	89
8	3.1 KHz Non-Temporal	Low	52	72	119	138	162	192	242	83

## Ordering Information

Part Number	Description
<b>585-098-00</b>	Horn Strobe, Red, Type I, Wall-mount, 2-Wire, Indoor, 12V or 24V, White FIRE Lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd

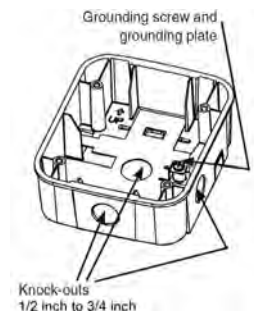
## Wall-mount Horn Strobe



## Associated Parts

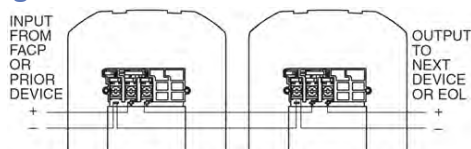
Part Number	Description
<b>589-046-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, no lettering, order one per device
<b>588-098-00</b>	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-090-00</b>	Back Box, Wall-Surface-mount, Red, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Back Box, Surface-mount

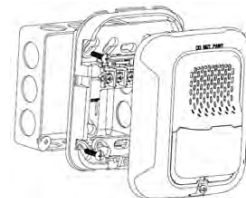


## Drawings

## Wiring Diagram



## Junction Box for Flush Mounting



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## Notification Appliance Devices

### Indoor Horn Strobe, Red, Ceiling-mount, Type I

585-099-00



### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR or Regulated 24 VDC/FWR
<i>Operating Voltage Range</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 115, 150, 177cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box Single-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Dimensions with lens</i>	6.8 in. OD x 2.5 in. D (173 mm x 64 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 and UL 464 S4011
<i>FM Approved</i>	3057383
<i>State of California</i>	7125-1653:0504 7135-1653:0503

### Features

- Red housing, white FIRE lettering, and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper resistant construction
- Automatic selection of 12 or 24V operation.  
**NOTE** 12V operation only supports 15 and 30cd settings
- Field selectable candela settings on ceiling units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 115, 150, and 177cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections



**Monaco Enterprises, Inc.**

P.O. Box 14129, Spokane Valley, WA 99214-0129; 14820 E. Sprague Ave., Spokane Valley, WA 99216-2149  
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# Notification Appliance Devices

## Ceiling-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Pos	Tone	Volume Settings	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33 VDC
			15cd	30cd	75cd	95cd	115cd	150cd	177cd	
1	Temporal	High	71	90	143	165	187	217	254	89
2	Temporal	Low	54	71	137	161	185	211	249	83
3	Non-Temporal	High	71	90	141	165	187	230	273	90
4	Non-Temporal	Low	54	71	124	161	170	216	258	84
5	3.1 kHz Temporal	High	69	94	147	163	184	229	257	88
6	3.1 kHz Temporal	Low	54	88	143	155	185	212	252	82
7	3.1 kHz Non-Temporal	High	69	94	144	164	202	229	271	89
8	3.1 kHz Non-Temporal	Low	54	88	131	155	187	217	259	83

## Ordering Information

Part Number	Description
<b>585-099-00</b>	Horn Strobe, Red, Type I, Ceiling-mount, 2-Wire, Indoor, 12V or 24V, white FIRE lettering, clear lens, 15, 30, 75, 95, 115, 150, and 177cd

## Associated Parts

Part Number	Description
<b>589-007-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White AGENT lettering, order one per device
<b>589-009-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White ALERT lettering, order one per device
<b>589-010-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White EVAC lettering, order one per device
<b>589-012-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, no lettering, order one per device
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens

Part Number	Description
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens.
<b>588-096-00</b>	Trim Ring, Red, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
<b>588-097-00</b>	Back Box, Ceiling-Surface-mount, Red, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD x 2.5 in. D
<b>367-047-00</b>	Sync Module, Type I



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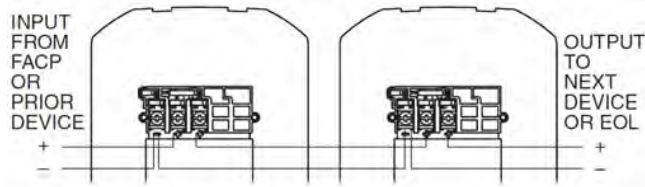
P.O. Box 14129, Spokane Valley, WA 99214-0129; 14820 E. Sprague Ave., Spokane Valley, WA 99216-2149  
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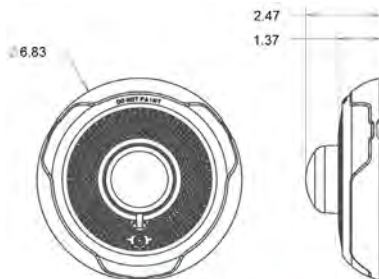
# Notification Appliance Devices

## Drawings

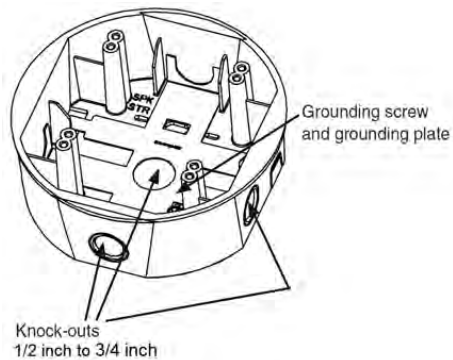
### Wiring Diagram



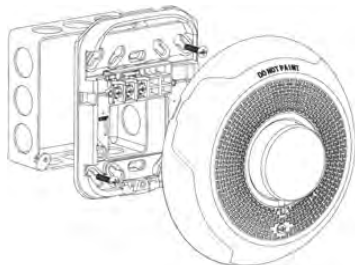
### Ceiling-mount Horn Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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## Notification Appliance Devices

### Indoor Horn Strobe, Red, Wall-mount, Type I

585-101-00



#### Features

- Red housing with clear lens and no lettering
- Plug in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation.  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

#### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 VDC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15 and 30cd  
24 VDC: 15, 30, 75, 95, 110, 135, 185cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in. back box, or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions with lens** 5.6 in. L x 4.7 in. W x 2.5 in. D  
(143 mm x 119 mm x 64 mm)

#### Standards Compliance:

**UL Listed** Listed to UL 1971 and UL 464  
S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-1653:0503



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# Notification Appliance Devices

## Wall-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Pos	Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33 VDC
			15cd	30cd	75cd	95cd	110cd	135cd	185cd	
1	Temporal	High	54	74	121	142	162	196	245	89
2	Temporal	Low	44	65	111	133	157	184	235	83
3	Non-Temporal	High	73	94	139	160	182	211	262	90
4	Non-Temporal	Low	51	71	119	139	162	190	239	84
5	3.1 KHz Temporal	High	53	73	119	140	164	190	242	88
6	3.1 KHz Temporal	Low	45	66	112	133	160	185	235	82
7	3.1 KHz Non-Temporal	High	69	90	135	157	175	208	261	89
8	3.1 KHz Non-Temporal	Low	52	72	119	138	162	192	242	83

## Ordering Information

Part Number	Description
<b>585-101-00</b>	Horn Strobe, Red, Type I, Wall-mount, 2-Wire, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd

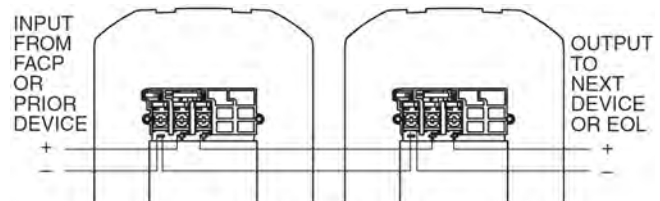
## Associated Parts

Part Number	Description
<b>589-042-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White AGENT lettering, order one per device
<b>589-043-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White ALERT lettering, order one per device
<b>589-044-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White EVAC lettering, order one per device
<b>589-045-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White FIRE lettering, order one per device
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens

Part Number	Description
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-098-00</b>	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-090-00</b>	Back Box, Wall-Surface-mount, Red, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

### Wiring Diagram



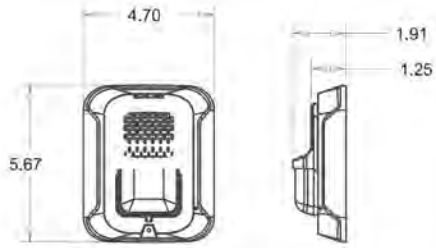
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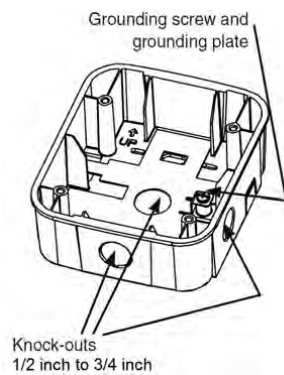


# Notification Appliance Devices

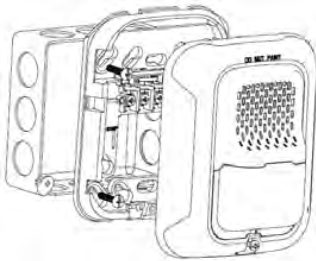
## Wall-mount Horn Strobe



## Back Box, Surface-mount



## Junction Box for Flush Mounting



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## Notification Appliance Devices

### Indoor Horn Strobe, White, Wall-mount, Type I

585-102-00



#### Features

- White housing, red FIRE lettering, and clear lens
- Plug in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

#### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 VDC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15 and 30  
24 VDC: 15, 30, 75, 95, 110, 135, 185

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in. back box, or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions** 5.6 in. L x 4.7 in. W x 2.5 in. D  
(143 mm x 119 mm x 64 mm)

#### Standards Compliance:

**UL Listed** Listed to UL 1971 and UL 464  
S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-1653:0503



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# Notification Appliance Devices

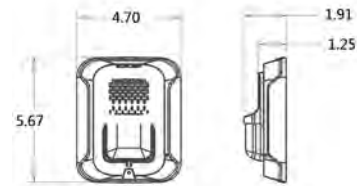
## Wall-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Pos	Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33 VDC
			15cd	30cd	75cd	95cd	110cd	135cd	185cd	
1	Temporal	High	54	74	121	142	162	196	245	89
2	Temporal	Low	44	65	111	133	157	184	235	83
3	Non-Temporal	High	73	94	139	160	182	211	262	90
4	Non-Temporal	Low	51	71	119	139	162	190	239	84
5	3.1 KHz Temporal	High	53	73	119	140	164	190	242	88
6	3.1 KHz Temporal	Low	45	66	112	133	160	185	235	82
7	3.1 KHz Non-Temporal	High	69	90	135	157	175	208	261	89
8	3.1 KHz Non-Temporal	Low	52	72	119	138	162	192	242	83

## Ordering Information

Part Number	Description
<b>585-102-00</b>	Horn Strobe, White, Type I, Wall-mount, 2-Wire, Indoor, 12V or 24V, red FIRE lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd

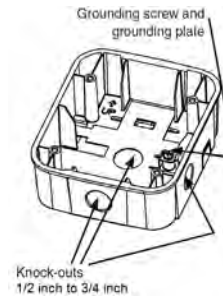
## Wall-mount Horn Strobe



## Associated Parts

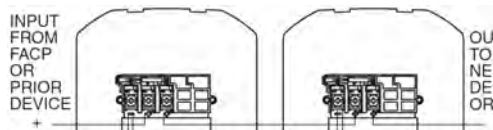
Part Number	Description
<b>589-041-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, no lettering, order one per device
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Back Box, Surface-mount

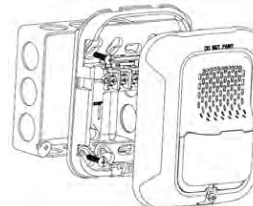


## Drawings

## Wiring Diagram



## Junction Box for Flush Mounting



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## Notification Appliance Devices

### Indoor Horn Strobe, White, Wall-mount, Type I

585-103-00



#### Features

- White housing with clear lens and no lettering
- Plug in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

#### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 VDC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24 V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15 and 30cd  
24 VDC: 15, 30, 75, 95, 110, 135, 185cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in. back box, or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions with lens** 5.6 in. L x 4.7 in. W x 2.5 in. D  
(143 mm x 119 mm x 64 mm)

#### Standards Compliance:

**UL Listed** Listed to UL 1971 and UL 464  
S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-1653:0503



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# Notification Appliance Devices

## Wall-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Pos	Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33 VDC
			15cd	30cd	75cd	95cd	110cd	135cd	185cd	
1	Temporal	High	54	74	121	142	162	196	245	89
2	Temporal	Low	44	65	111	133	157	184	235	83
3	Non-Temporal	High	73	94	139	160	182	211	262	90
4	Non-Temporal	Low	51	71	119	139	162	190	239	84
5	3.1 KHz Temporal	High	53	73	119	140	164	190	242	88
6	3.1 KHz Temporal	Low	45	66	112	133	160	185	235	82
7	3.1 KHz Non-Temporal	High	69	90	135	157	175	208	261	89
8	3.1 KHz Non-Temporal	Low	52	72	119	138	162	192	242	83

## Ordering Information

Part Number	Description
<b>585-103-00</b>	Horn Strobe, White, Type I, Wall-mount, 2-Wire, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd

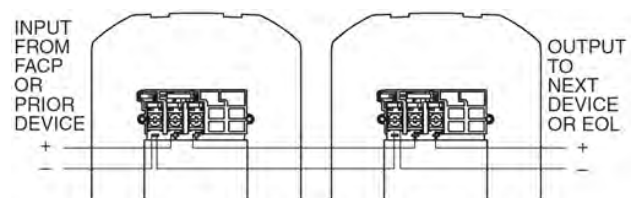
## Associated Parts

Part Number	Description
<b>589-037-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red AGENT lettering, order one per device
<b>589-038-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red ALERT lettering, order one per device
<b>589-039-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red EVAC lettering, order one per device
<b>589-040-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red FIRE lettering, order one per device
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens

Part Number	Description
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

### Wiring Diagram



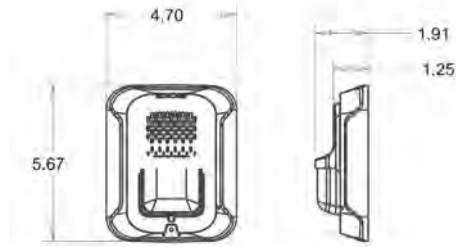
**Monaco Enterprises, Inc.**

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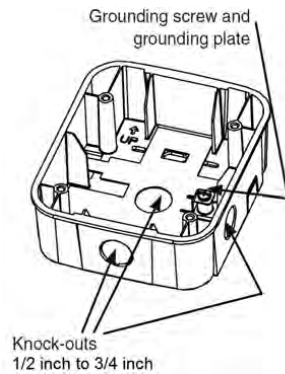


# Notification Appliance Devices

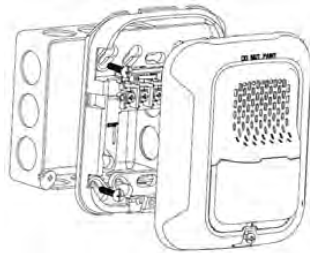
## Wall-mount Horn Strobe



## Back Box, Surface-mount



## Junction Box for Flush Mounting



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## Notification Appliance Devices

### Indoor Horn Strobe, White, Ceiling-mount, Type I 585-105-00



#### Features

- White housing with red FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on ceiling units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 115, 150, and 177cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

#### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR or  
Regulated 24 VDC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15 and 30cd  
24 VDC: 15, 30, 75, 95, 115, 150, 177cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in. back box, or  
4 in. octagon back box, or  
Double-gang back box  
Single-gang back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on  
voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Ceiling-mount Dimensions with lens** 6.8 in. OD x 2.5 in. D  
(173 mm x 64 mm)

#### Standards Compliance:

**UL Listed** Listed to UL 1971 and UL 464  
S4011

**FM Approved** 3057383

**State of California** 7125-1653:0504  
7135-1653:0503



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# Notification Appliance Devices

## Ceiling-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Pos	Tone	Volume Settings	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33 VDC
			15cd	30cd	75cd	95cd	115cd	150cd	177cd	
1	Temporal	High	71	90	143	165	187	217	254	89
2	Temporal	Low	54	71	137	161	185	211	249	83
3	Non-Temporal	High	71	90	141	165	187	230	273	90
4	Non-Temporal	Low	54	71	124	161	170	216	258	84
5	3.1 kHz Temporal	High	69	94	147	163	184	229	257	88
6	3.1 kHz Temporal	Low	54	88	143	155	185	212	252	82
7	3.1 kHz Non-Temporal	High	69	94	144	164	202	229	271	89
8	3.1 kHz Non-Temporal	Low	54	88	131	155	187	217	259	83

## Ordering Information

Part Number	Description
<b>585-105-00</b>	Horn Strobe, White, Type I, Ceiling-mount, 2-Wire, Indoor, 12 V or 24 V, Red FIRE lettering, Clear lens, 15, 30, 75, 95, 115, 150, and 177cd

Part Number	Description
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-095-00</b>	Trim Ring, White, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
<b>588-094-00</b>	Back Box, Ceiling-Surface-mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD X 2.5 in. D
<b>367-047-00</b>	Sync Module, Type I

## Associated Parts

Part Number	Description
<b>589-008-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, no lettering, order one per device
<b>589-013-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red AGENT lettering, order one per device
<b>589-014-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red ALERT lettering, order one per device
<b>589-015-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red EVAC lettering, order one per device
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens



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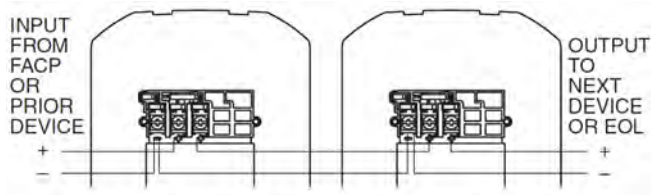




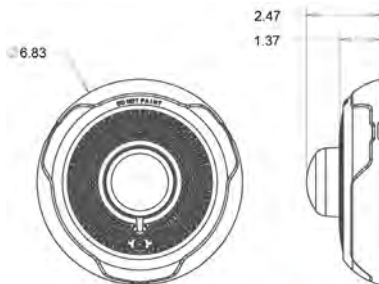
# Notification Appliance Devices

## Drawings

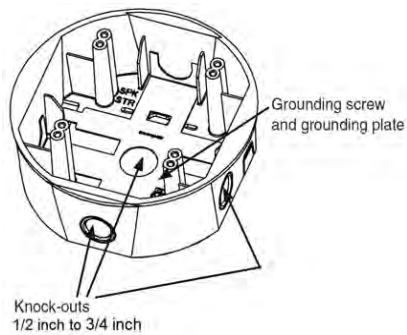
### Wiring Diagram



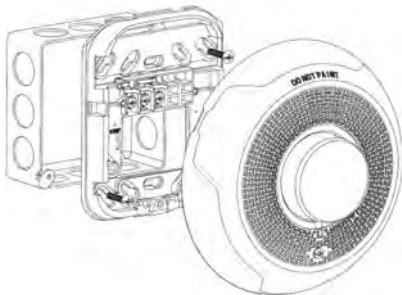
### Ceiling-mount Horn Strobe



### Back Box, Surface-mount

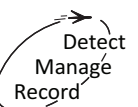


### Junction Box for Flush Mounting



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## Notification Appliance Devices

### Indoor Horn Strobe, 4-Wire, White, Wall-mount, Type I 585-106-00



#### Features

- White housing with red FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

#### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage Range</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Standard Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop
<i>Operating Temperature</i>	-40°F to 151°F (-40°C to 66°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with lens</i>	5.6 in. L x 4.7 in. W x 2.5 in. D (142 mm x 119 mm x 64 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 and UL 464 S4011
<i>FM Approved</i>	3057383 3057072
<i>State of California</i>	7125-1653:0504 7135-1653:0503



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# Notification Appliance Devices

## Wall-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33V
		15cd	30cd	75cd	95cd	110cd	135cd	185cd	
Temporal	High	54	74	121	142	162	196	245	89
Temporal	Low	44	65	111	133	157	184	235	83
Non-Temporal	High	73	94	139	160	182	211	262	90
Non-Temporal	Low	51	71	119	139	162	190	239	84
3.1 kHz Temporal	High	53	73	119	140	164	190	242	88
3.1 kHz Temporal	Low	45	66	112	133	160	185	235	82
3.1 kHz Non-Temporal	High	69	90	135	157	175	208	261	89
3.1 kHz Non-Temporal	Low	52	72	119	138	162	192	242	83

## Ordering Information

Part Number	Description
<b>585-106-00</b>	Horn Strobe, White, Type I, Wall-mount, 4-Wire, Indoor, 12V or 24V, Red FIRE Lettering, Clear Lens, 15, 30, 75, 95, 110, 135, and 185cd, Horn 88+ dBA

## Associated Parts

Part Number	Description
<b>589-037-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red AGENT lettering, order one per device
<b>589-038-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red ALERT lettering, order one per device
<b>589-039-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red EVAC lettering, order one per device
<b>589-041-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, no lettering, order one per device
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens

Part Number	Description
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x in. 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I



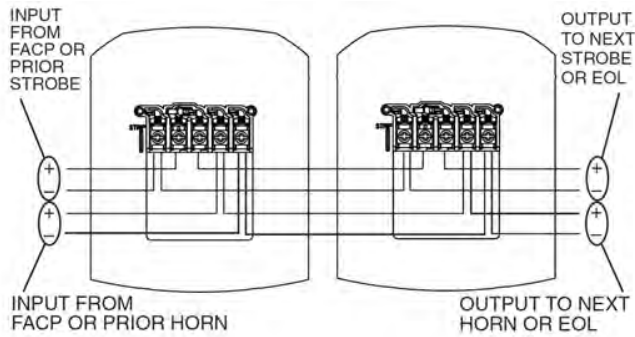
**Monaco Enterprises, Inc.**  
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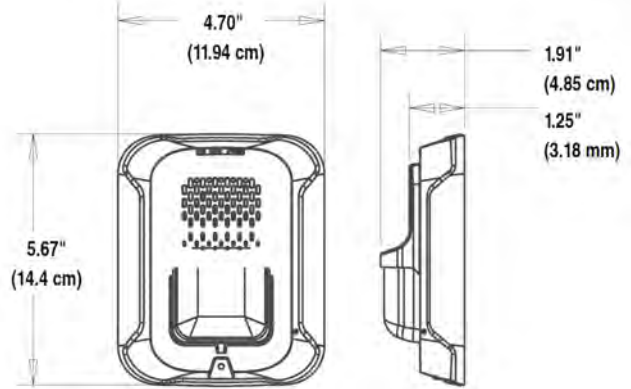
# Notification Appliance Devices

## Diagrams

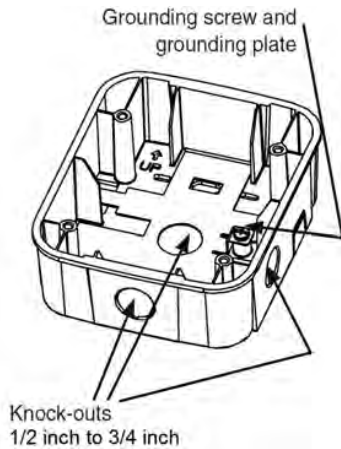
### Wiring Diagram



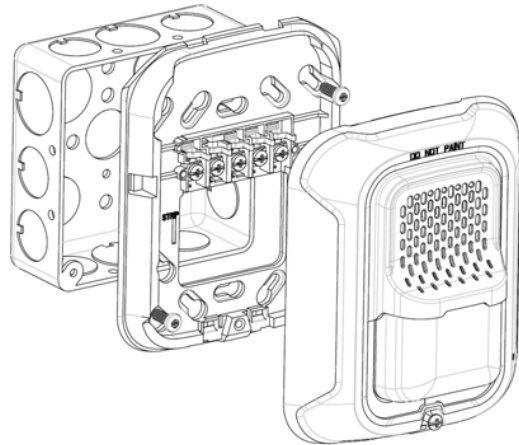
### Wall-mount Horn Strobe



### Back Box, Wall-mount Surface-mount

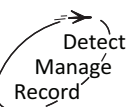


### Junction Box, Wall-mount Flush-mount



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## Notification Appliance Devices

### Indoor Horn Strobe, 4-Wire, Red, Wall-mount, Type I

585-107-00



- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

### Specifications

**Nominal Voltage** Regulated 12 VDC/FWR  
Regulated 24 VDC/FWR

**Operating Voltage Range** 8 to 17.5V (12V nominal), or  
16 to 33V (24V nominal)

**Operating Voltage Range with Type I Sync Module** 8.5 to 17.5V (12V nominal), or  
16.5 to 33V (24V nominal)

**Candela** 12 VDC: 15 and 30cd  
24 VDC: 15, 30, 75, 95, 110, 135, 185cd

**Strobe Flash Rate** 1 flash per second

**Mounting** Universal Mounting Plate mounts to  
4 in. x 4 in. x 1.5 in. back box, or  
4 in. octagon back box, or  
Double-gang back box

**Input Wiring** 12 to 18 AWG  
**NOTE** Required wire gauge based on  
voltage drop

**Operating Temperature** -40°F to 151°F (-40°C to 66°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions with lens** 5.6 in. L x 4.7 in. W x 2.5 in. D  
(143 mm x 119 mm x 64 mm)

#### Standards Compliance:

**UL Listed** Listed to UL 1971 and UL 464  
S4011

**FM Approved** 3057383  
3057072

**State of California** 7125-1653:0504  
7135-1653:0503

### Features

- Red housing with white FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation  
**NOTE** 12V operation only supports 15 and 30cd settings
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd



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# Notification Appliance Devices

## Wall-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33VDC
		15cd	30cd	75cd	95cd	110cd	135cd	185cd	
Temporal	High	54	74	121	142	162	196	245	89
Temporal	Low	44	65	111	133	157	184	235	83
Non-Temporal	High	73	94	139	160	182	211	262	90
Non-Temporal	Low	51	71	119	139	162	190	239	84
3.1 kHz Temporal	High	53	73	119	140	164	190	242	88
3.1 kHz Temporal	Low	45	66	112	133	160	185	235	82
3.1 kHz Non-Temporal	High	69	90	135	157	175	208	261	89
3.1 kHz Non-Temporal	Low	52	72	119	138	162	192	242	83

## Ordering Information

Part Number	Description
<b>585-107-00</b>	Horn Strobe, Red, Type I, Wall-mount, 4-Wire, Indoor, 12V or 24V, White FIRE lettering, Clear Lens, 15, 30, 75, 95, 110, 135, and 185cd, Horn 88+ dBA

## Associated Parts

Part Number	Description
<b>589-042-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White AGENT lettering, order one per device
<b>589-043-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White ALERT lettering, order one per device
<b>589-044-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White EVAC lettering, order one per device
<b>589-046-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, no lettering, order one per device

Part Number	Description
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>588-098-00</b>	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-090-00</b>	Back Box, Wall-Surface-mount, Red, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module Type I



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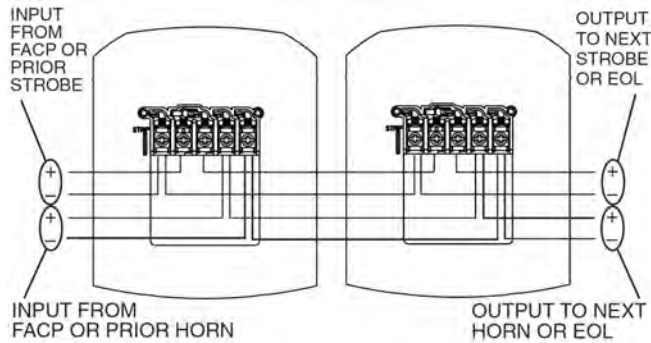




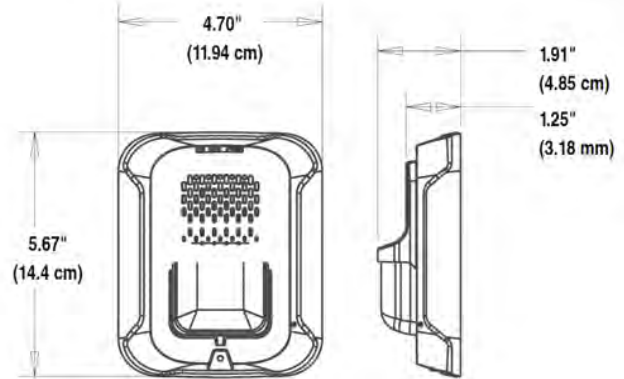
# Notification Appliance Devices

## Drawings

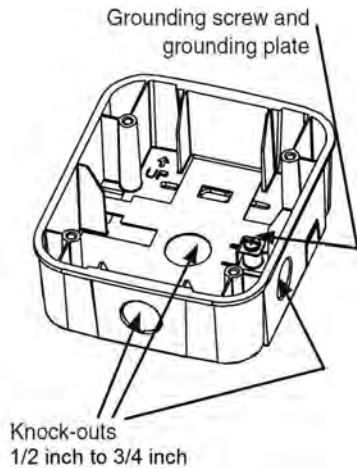
### Wiring Diagram



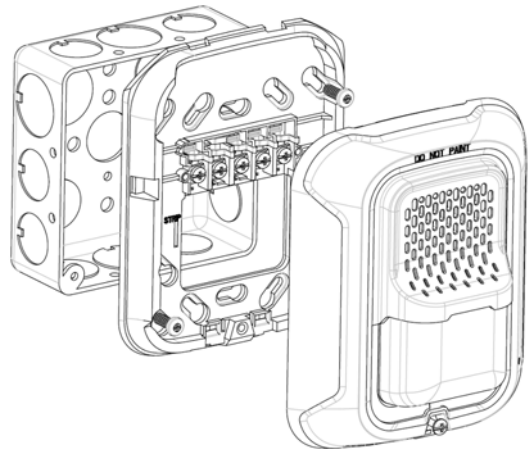
### Wall-mount Horn Strobe



### Back Box, Wall-mount Surface-mount

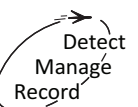


### Junction Box, Wall-mount Flush-mount



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## Notification Appliance Devices

### Indoor Horn Strobe, 4-Wire, White, Ceiling-mount, Type I 585-108-00



#### Features

- White housing with red FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on ceiling units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 115, 150, and 177cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

#### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR or Regulated 24 VDC/FWR
<i>Operating Voltage Range</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 115, 150, 177cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	-40°F to 151°F (-40°C to 66°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Dimensions with lens</i>	6.8 in. OD x 2.5 in. D (173 mm x 64 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 and UL 464 S4011
<i>FM Approved</i>	3057383
<i>State of California</i>	7125-1653:0504 7135-1653:0503



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# Notification Appliance Devices

## Ceiling-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33 VDC
		15cd	30cd	75cd	95cd	115cd	150cd	177cd	
Temporal	High	71	90	143	165	187	217	254	89
Temporal	Low	54	71	137	161	185	211	249	83
Non-Temporal	High	71	90	141	165	187	230	273	90
Non-Temporal	Low	54	71	124	161	170	216	258	84
3.1 kHz Temporal	High	69	94	147	163	184	229	257	88
3.1 kHz Temporal	Low	54	88	143	155	185	212	252	82
3.1 kHz Non-Temporal	High	69	94	144	164	202	229	271	89
3.1 kHz Non-Temporal	Low	54	88	131	155	187	217	259	83

## Ordering Information

Part Number	Description
<b>585-108-00</b>	Horn Strobe, White, Type I, Ceiling-mount, 4-Wire, Indoor, 12 V or 24 V, Red FIRE lettering, Clear Lens, 15, 30, 75, 95, 115, 150, and 177cd, Horn 88+ dBA

## Associated Parts

Part Number	Description
<b>589-008-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, no lettering, order one per device
<b>589-013-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red AGENT lettering, order one per device
<b>589-014-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red ALERT lettering, order one per device
<b>589-015-00</b>	Bezel, White, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, Red EVAC lettering, order one per device
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens

Part Number	Description
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of lens
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of lens
<b>588-095-00</b>	Trim Ring, White, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
<b>588-094-00</b>	Back Box, Ceiling-Surface-mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD X 2.5 in. D
<b>367-047-00</b>	Sync Module, Type I



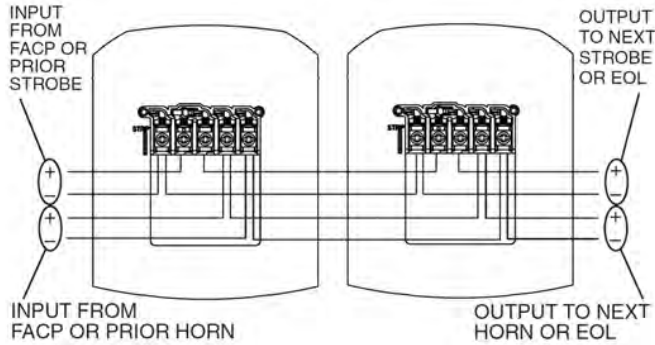
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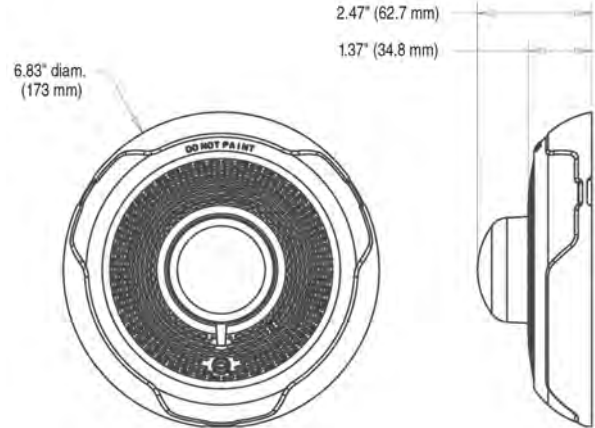
# Notification Appliance Devices

## Drawings

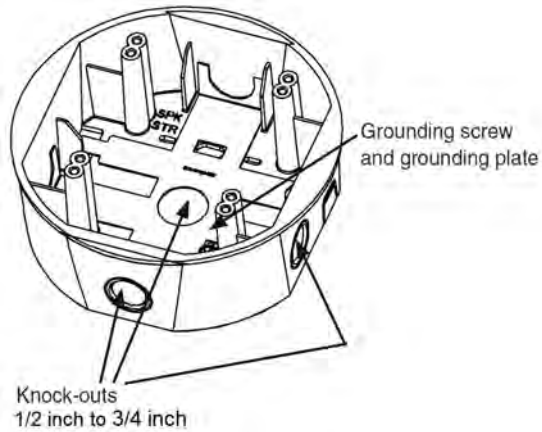
### Wiring Diagram



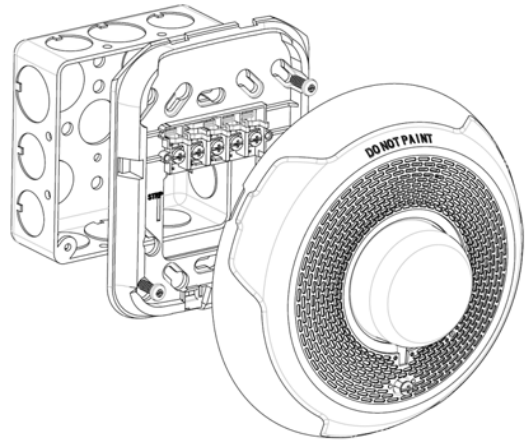
### Ceiling-mount Horn Strobe



### Back Box, Ceiling-mount Surface-mount



### Junction Box, Ceiling-mount Flush-mount



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## Notification Appliance Devices

### Indoor Horn Strobe, 4-Wire, Red, Ceiling-mount, Type I 585-109-00



#### Features

- Red housing with white FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings
- Field selectable candela settings on ceiling units:  
12 V: 15, 30cd  
24 V: 15, 30, 75, 95, 115, 150, and 177cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for horn tone and two volume selections

#### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC/FWR or Regulated 24 VDC/FWR
<i>Operating Voltage Range</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 115, 150, 177cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	-40°F to 151°F (-40°C to 66°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Dimensions with lens</i>	6.8 in. OD x 2.5 in. D (173 mm x 64 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1971 and UL 464 S4011
<i>FM Approved</i>	3057383
<i>State of California</i>	7125-1653:0504 7135-1653:0503



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# Notification Appliance Devices

## Ceiling-mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output Reverberant (dBA at 10 ft.) 16–33 VDC
		15cd	30cd	75cd	95cd	115cd	150cd	177cd	
Temporal	High	71	90	143	165	187	217	254	89
Temporal	Low	54	71	137	161	185	211	249	83
Non-Temporal	High	71	90	141	165	187	230	273	90
Non-Temporal	Low	54	71	124	161	170	216	258	84
3.1 kHz Temporal	High	69	94	147	163	184	229	257	88
3.1 kHz Temporal	Low	54	88	143	155	185	212	252	82
3.1 kHz Non-Temporal	High	69	94	144	164	202	229	271	89
3.1 kHz Non-Temporal	Low	54	88	131	155	187	217	259	83

## Ordering Information

Part Number	Description
<b>585-109-00</b>	Horn Strobe, Red, Type I, Ceiling-mount, 4-Wire, Indoor, 12V or 24V, White FIRE lettering, Clear Lens, 15, 30, 75, 95, 115, 150, and 177cd, Horn 88+ dBA

## Associated Parts

Part Number	Description
<b>589-007-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White AGENT lettering, order one per device
<b>589-009-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White ALERT lettering, order one per device
<b>589-010-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, White EVAC lettering, order one per device
<b>589-012-00</b>	Bezel, Red, Type I, Ceiling-mount, Strobe; Horn Strobe; Chime Strobe, no lettering, order one per device

Part Number	Description
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of lens
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of lens
<b>588-096-00</b>	Trim Ring, Red, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
<b>588-097-00</b>	Back Box, Ceiling-Surface-mount, Red, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD x 2.5 in. D
<b>367-047-00</b>	Sync Module, Type I



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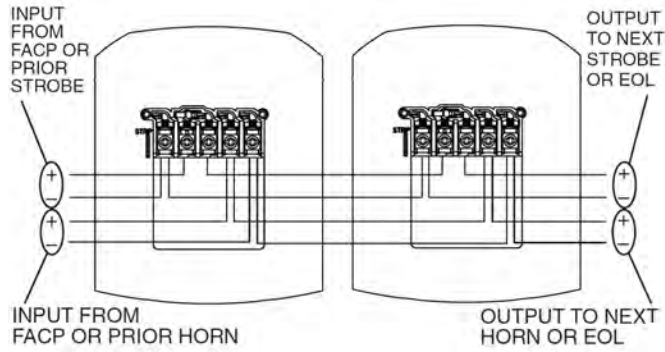




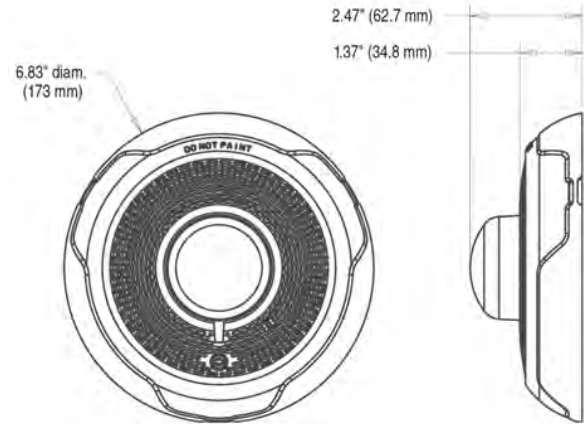
# Notification Appliance Devices

## Drawings

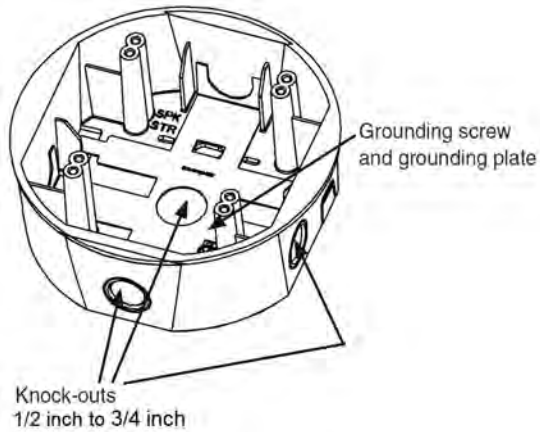
### Wiring Diagram



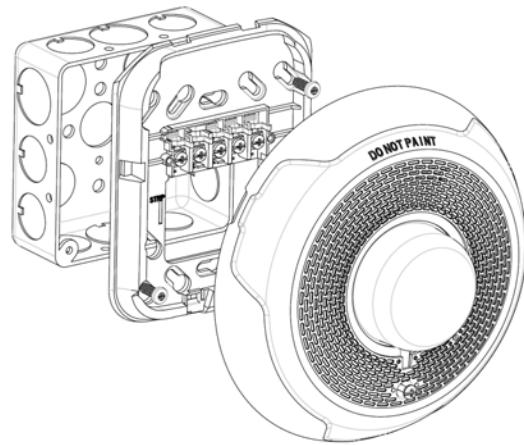
### Ceiling-mount Horn Strobe



### Back Box, Ceiling-mount Surface-mount



### Junction Box, Ceiling-mount Flush-mount



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## Notification Appliance Devices

# Explosion-proof Horn Strobe, Hazardous Locations, Grey 585-111-00

### Description

The Monaco explosion-proof horn strobe for hazardous locations is a high output alarm horn sounder with a 10 Joule Xenon strobe warning light/beacon. The robust enclosure ensures suitability for all hazardous location fire alarm and general signaling applications. The corrosion proof, marine grade aluminum die cast enclosure is chromated and powder coated providing resilience in the harshest of hazardous environments.



### Features

- Class 1 Div 2 certified temperature: -40°F to 158°F (-40°C to 70°C)
- 116 dBA alarm horn sounder with a 10 Joule Xenon strobe beacon
- NEMA 4 and 4X, IP66 enclosure
- Corrosion proof, weatherproof, marine grade aluminum die cast
- 24 VDC
- Blocking diode installed for use with NAC circuits
- 64 alarm tones, 4 remotely selectable alarm stages/channels

- Automatic synchronization on multi-sounder system
- Grey housing with a clear lens
- ATEX approved

### Application Notes

Signals selected for hazardous locations should be UL Listed and marked for at least the Hazardous Location Classifications dictated by the application. The signal should be 10 dB higher than the ambient noise level and as different from the background noise as possible.

The National Electric Code has created three classes of hazardous locations: Class I Hazardous Gases; Class II Hazardous Dusts; Class III Hazardous Fibers.

### Specifications

<i>Voltage</i>	24 VDC
<i>Operating Voltage Range</i>	20 to 28 VDC
<i>Strobe Candela</i>	Effective Intensity: 288.8cd Peak candela: 101,784cd
<i>Strobe Flash Rate</i>	1 Hz, 60 flashes per minute
<i>Maximum Output</i>	116 dBA at 3.3 ft. (1 m) 107 dBA at 10 ft. (3 m)
<i>Effective Range</i>	410 ft. (125 m) at 1 kHz
<i>Number of Tones</i>	64; 4 stages
<i>Input Wiring</i>	14 to 20 AWG <b>NOTE</b> Required wire gauge based on wire voltage drop.
<i>Operating Temperature</i>	Class 1 Div 2 -40°F to 158°F (-40°C to 70°C) All other approvals -40°F to 122°F (-40°C to 50°C)
<i>Relative Humidity</i>	95%
<i>Cable Entries</i>	2 x M20 x 1.5 mm threaded gland entries
<i>Weight</i>	6.16 lb (2.8 kg)



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# Notification Appliance Devices

## Standards Compliance:

<b>UL Listed</b>	UL464 and UL1638 Hazardous Location, File E230764
<b>State of California</b>	7136-2279:0503
<b>IECEX Cert.</b>	IECEX ULD 14.0004X
<b>ATEX Cert.</b>	DEMKO 14 ATEX 4786493904X
<b>Ex EAC Certified</b>	EAC RU C-GB.AA71.B.00273/20
<b>PFEER</b>	Compliant tones listed in the "Tone Selection Table"

## Classifications

### NEC / CEC:

- Class I Div 2 ABCD T1 Ta -40°C +70°C
- Class I Div 2 ABCD T2 Ta -40°C +50°C
- Class I Div 2 FG T4A Ta -40°C +50°C (T5 to +40°C)
- Class III Div 1&2 Ta -40°C +50°C

### NEC:

- Class I Zone 2 AEx nA IIC T1 Gc (Ta -40°C +50°C)
- Class I Zone 2 AEx nA IIC T2 Gc (Ta -40°C +40°C)
- Zone 22 AEx tc IIIC 120°C Dc (Ta -40°C +50°C)

### CEC:

- Class I Zone 2 AEx nA IIC T1 Gc X(Ta -40°C +50°C)
- Class I Zone 2 AEx nA IIC T2 Gc X(Ta -40°C +40°C)
- Zone 22 Ex tc IIIC 120°C Dc (Ta -40°C +50°C)
- Class II Div 2 EFG T4A Ta -40°C +50°C

### IECEX & ATEX:

- II 3G Ex nA IIC T1 Gc (Ta -40°C +50°C)(T2 to -40°C)
- II 3D Ex tc IIIC 90°C Dc (Ta -40°C +50°C)

## Current Draw

Type	Nominal Voltage	Voltage Range	Current Draw (at nominal)
Horn Sounder	24 VDC	10 to 30 VDC	313mA
Xenon Strobe Beacon	24 VDC	20 to 28 VDC	560mA
Combined Horn and Strobe	24 VDC	20 to 28 VDC	876mA

## Ordering Information

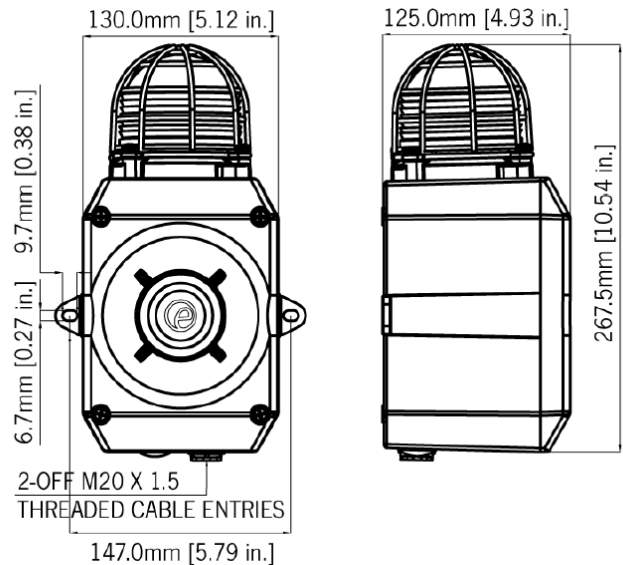
Part Number	Description
<b>585-111-00</b>	Explosion-proof Horn Strobe, Hazardous Location, weatherproof, 24 VDC, grey with clear lens, cable entries: two M20 x 1.5mm threaded gland entry

## Associated Parts

Part Number	Description
<b>589-047-00</b>	Replacement Tube, Xenon Strobe (P/N 585-111-00)

## Drawings

### Dimensions



## Tone Selection Table

**NOTE** In the table below, "T" is Tone; "S" is Stage

S 1	Description	S 2	S 3	S 4
T1	1000 Continuous – PFEER Toxic Gas	T3	T2	T44
T2	1200/500 @ 1Hz Sweeping – DIN / PFEER P.T.A.P.	T1	T3	T44



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# Notification Appliance Devices

S 1	Description	S 2	S 3	S 4
T3	1000 @ 0.5Hz (1s on, 1s off) Intermittent – PFEER Gen. Alarm	T1	T2	T44
T4	1.4KH-1.6 kHz 1s, 1.6 kHz-1.4 kHz 0.5s – NF C 48-265	T44	T24	T1
T5	544(100mS)/440 (400mS) – NF S 32-001	T52	T19	T1
T6	1500/500 – (0.5s on, 0.5s off) x3 + 1s gap – AS4428	T17	T44	T1
T7	500-1500Hz Sweeping 2 sec on 1 sec off – AS4428	T6	T44	T1
T8	500/1200Hz @ 0.26Hz(3.3s on, 0.5s off) – NEN 2575	T44	T24	T35
T9	1000 (1s on, 1s off)x7 + (7s on, 1s off) – IMO Code 1a	T18	T34	T1
T10	1000 (1s on, 1s off)x7 + (7s on, 1s off) – IMO Code 1a	T21	T34	T1
T11	420(0.5s on, 0.5s off)x3 + 1s gap – ISO 8201 Temporal	T44	T1	T8
T12	1000(0.5s on, 0.5s off)x3 + 1s gap – ISO 8201 Temporal	T44	T1	T8
T13	422/775 – (0.85 on, 0.5 off) x3 + 1s gap – NFPA Temporal	T44	T1	T8
T14	1000/2000 @ 1Hz – Singapore	T23	T3	T35
T15	300 Continuous	T44	T24	T35
T16	440 Continuous	T44	T24	T35
T17	470 Continuous	T44	T24	T35
T18	500 Continuous – IMO code 2 (Low)	T44	T24	T35
T19	554 Continuous	T64	T24	T35
T20	660 Continuous	T44	T24	T35
T21	800 Continuous – IMO code 2 (High)	T44	T24	T35
T22	1200 Continuous	T44	T24	T35
T23	2000 Continuous	T15	T3	T35
T24	2400 Continuous	T48	T20	T35
T25	440 @ 0.83Hz (0.60s on, 0.60s off) Intermittent	T1	T44	T8
T26	470 @ 0.9Hz (0.55s on, 0.55s off) Intermittent	T1	T44	T8
T27	470 @ 5Hz (0.10s on, 0.10s off) Intermittent	T1	T44	T8
T28	544 @ 1.14Hz (0.43s on, 0.44s off) Intermittent	T44	T24	T8
T29	655 @ 0.875Hz (0.57s on, 0.57s off) Intermittent	T1	T44	T8
T30	660 @ 0.28Hz (1.80s on, 1.80s off) Intermittent	T44	T24	T8
T31	660 @ 3.3Hz (0.15s on, 0.15s off) Intermittent	T30	T24	T8

S 1	Description	S 2	S 3	S 4
T32	745 @ 1Hz (0.50s on, 0.50s off) Intermittent	T44	T24	T8
T33	800 (0.25s on, 1.00s off) Intermittent	T53	T24	T8
T34	800 @ 2Hz (0.25s on, 0.25s off) – IMO code 3.a (High)	T56	T24	T8
T35	1000 @ 1Hz (0.50s on, 0.50s off) Intermittent	T44	T24	T8
T36	2400 @ 1Hz (0.50s on, 0.50s off) Intermittent	T21	T24	T8
T37	2900 @ 5Hz (0.10s on, 0.10s off) Intermittent	T53	T24	T8
T38	363/518 @ 1Hz (0.50s / 0.50s) Alternating	T1	T8	T19
T39	450/500 @ 2Hz (0.25s / 0.25s) Alternating	T1	T8	T19
T40	554/440 @ 1Hz (0.50s / 0.50s) Alternating	T44	T24	T19
T41	554/440 @ 0.65Hz (0.76s / 0.76s) Alternating	T1	T8	T19
T42	561/760 @ 0.83Hz (0.60s / 0.60s) Alternating	T1	T8	T19
T43	780/600 @ 0.96Hz (0.52s / 0.52s) Alternating	T1	T8	T19
T44	800/1000 @ 2Hz (0.25s / 0.25s) Alternating	T5	T24	T19
T45	970/800 @ 2Hz (0.25s / 0.25s) Alternating	T1	T8	T19
T46	800/1000 @ 0.875Hz (0.57s / 0.57s) Alternating	T53	T24	T19
T47	2400/2900 @ 2Hz (0.25s / 0.25s) Alternating	T57	T24	T19
T48	500/1200 @ 0.3Hz (1.67s / 1.67s) Sweeping	T44	T24	T12
T49	560/1055 @ 0.18Hz (2.73s / 2.73s) Sweeping	T44	T24	T12
T50	560/1055 @ 3.3Hz (0.15s / 0.15s) Sweeping	T44	T24	T12
T51	600/1250 @ 0.125Hz (4s / 4s) Sweeping	T44	T24	T12
T52	660/1200 @ 1Hz (0.50s / 0.50s) Sweeping	T64	T24	T12
T53	800/1000 @ 1Hz (0.50s / 0.50s) Sweeping	T56	T24	T12
T54	800/1000 @ 7Hz (0.07s / 0.07s) Sweeping	T57	T24	T12
T55	800/1000 @ 50Hz (0.01s / 0.01s) Sweeping	T54	T24	T12
T56	2400/2900 @ 7Hz (0.07s / 0.07s) Sweeping	T57	T24	T12
T57	2400/2900 @ 1Hz (0.50s / 0.50s) Sweeping	T47	T24	T12
T58	2400/2900 @ 50Hz (0.01s / 0.01s) Sweeping	T54	T24	T12
T59	2500/3000 @ 2Hz (0.25s / 0.25s) Sweeping	T44	T24	T12
T60	2500/3000 @ 7.7Hz (0.65s / 0.65s) Sweeping	T44	T24	T12
T61	800Hz Motor Siren	T44	T24	T12
T62	1200Hz Motor Siren	T44	T24	T12
T63	2400Hz Motor Siren	T44	T24	T12
T64	Simulated Bell	T44	T24	T12



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## Speakers

# Notification Appliance Devices Catalog Section

11

### Speakers

Cluster Speakers, 4-Horn Speaker System .....	124-050-00
Outdoor Speaker, White, Square, Weatherproof, Type II .....	124-069-00
Outdoor Speaker, White, Wall-mount, Type I .....	124-072-00
Outdoor Speaker, Red, Wall-mount, Type I .....	124-072-50
Indoor Speaker, White, Wall-mount, Type I .....	124-091-00
Indoor Speaker, Red, Wall-mount, Type I .....	124-092-00
Indoor Speaker, Red, Ceiling-mount, Type I .....	124-093-00
Indoor Speaker, White, Ceiling-mount, Type I .....	124-094-00
Indoor Speaker, White, Ceiling-mount, Type I .....	124-095-00
Explosion-proof Speaker .....	124-097-00

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# Notification Appliance Devices

## Cluster Speakers, 4-Horn Speaker System

124-050-00



### Features

- Speaker System comes pre-assembled with four speaker/horns prefabricated to a steel enclosure for indoor use
- Designed for high ambient noise level environments
- Omnidirectional sound
- Field selectable taps from 0.48 to 15 watts at 25 Vrms **OR** 0.9 to 15 watts at 70 Vrms
- Speaker line inputs are compatible with standard supervision of circuit wiring by a Voice Control Panel
- Each loudspeaker meets or exceeds UL Listed standards for audible signal appliances
- Supervised weatherproof horn speaker
- Swivel mounted for easy angle adjustment

### Specifications

<i>Voltage Line</i>	25V or 70V
<i>Power Handling</i>	15 watt continuous
<i>Frequency Response</i>	400–14000 Hz anechoic 400–4000 Hz (at full rated output)
<i>Sensitivity</i>	102 dB @ 15 watt @ 10 ft. (3 m) peak: 120 dB @ 15 watt, 3 ft. (1 m)
<i>Dispersion Angle</i>	70 degrees
<i>Impedance</i> (Ohms)	Field selectable 7-position switch: 5000, 2500, 1300, 666, 333, 89, 45
<i>Power Taps</i>	with 3 dB incremental rating: 25V: 0.48, 0.94, 1.8, 7.5, 15 watts 70V: 0.9, 1.8, 3.8, 7.5, 15 watts
<i>Material</i>	Horns: red, aluminum Enclosure: red, NEMA 1 steel
<i>Mounting</i>	Enclosure mounts to ceiling or wall with four pre-drilled holes and conduit knockouts, comes with mounting bracket and single locking pin
<i>Temperature Range</i>	–31°F to 150°F (–35°C to 66°C)
<i>Humidity</i>	95% RH maximum
<i>Enclosure Dimensions</i>	10 in. W x 10 in. L x 6 in. D (254 mm x 254 mm x 152 mm)
<i>Horn Dimensions</i>	7.87 in. W x 8.75 in. H x 9.32 in. D (200 mm x 222 mm x 237 mm)
<i>Horn Weight</i>	4.5 lb (2 kg)
<i>Standards Compliance:</i>	
	UL 1480
	NFPA 72 and 101
	OSHA 1910.165
<i>Horns UL Listed to</i>	S2652

### Ordering Information

Part Number	Description
124-050-00	Cluster Speakers, 4-Horn Speaker System, Indoor, 25 or 70 Vrms, NEMA 1 red enclosure



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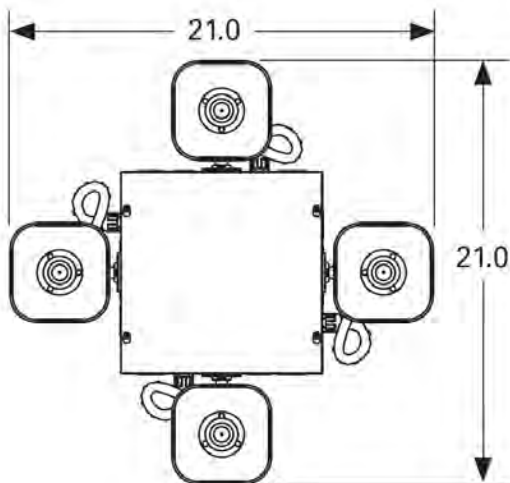




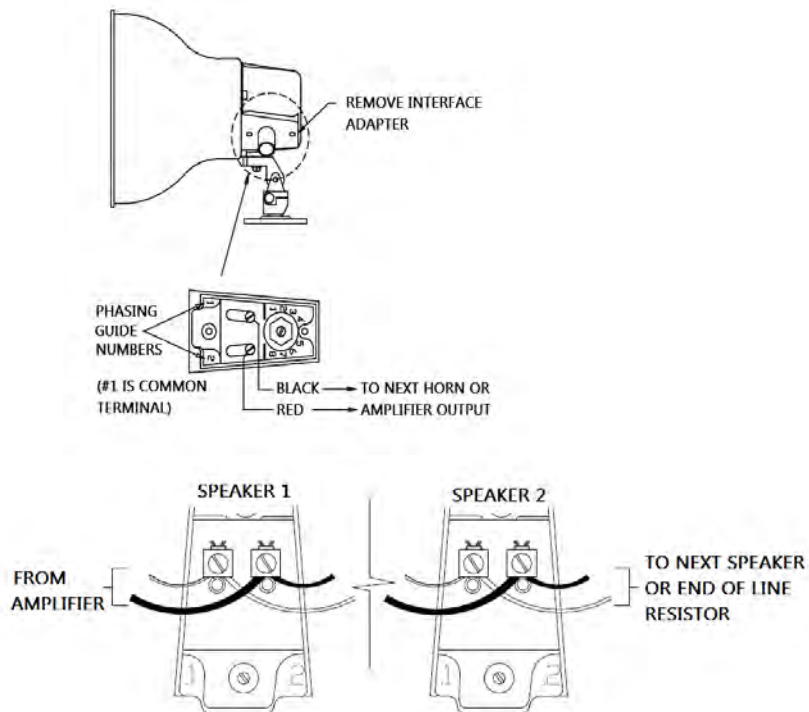
# Notification Appliance Devices

## Drawings

### Dimensions - front view



## Wiring Diagrams



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## Notification Appliance Devices

### Outdoor Speaker, White, Square, Weatherproof, Type II 124-069-00



**MEA**  
approved

#### Features

- Square, white housing with no lettering
- Vandal-resistant die cast grilles
- Covers both 25 and 70V audio systems
- Multiple wattage taps from 0.125 W to 8 W in 3 dB steps
- For both indoor and outdoor applications
- Sealed back speaker construction for extra protection and improved audibility
- Audio inputs include a 10 uF blocking capacitor for compatibility

#### Specifications

<i>Nominal Voltage</i>	24 VDC; 16 VDC or FWR to 33 VDC or FWR
<i>Supervisory Voltage</i>	33 VDC maximum
<i>Speaker Frequency Range</i>	400 to 4000 Hz
<i>Power</i>	1/8, 1/4, 1/2, 1, 2, 4, 8 W
<i>Input Wiring</i>	12–18 AWG <b>NOTE</b> Required wire gauge based on voltage drop
<i>Operating Temperature</i>	–31°F to 150°F (–35°C to 66°C)
<i>Relative Humidity</i>	Up to 95%, non-condensing
<i>Wall-mount Dimensions Speaker</i>	4.29 in. L x 4.29 in. W x 4.09 in. D (109 mm x 109 mm x 104 mm)
<i>Wall-mount Dimensions Weatherproof Back box</i>	3.375 in. L x 3.375 in. W x 2 in. D (85.725 mm x 85.725 mm x 50.8 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	1480
<i>MEA Approved</i>	151-93-E, Vol. 14
<i>State of California</i>	7320-0785: 105

#### Speaker dBA at 10 feet

Watts	1/8	1/4	1/2	1	2	4	8
dBA	77	80	83	86	87	92	94

#### Ordering Information

Part Number	Description
124-069-00	Speaker, White, Type II, Square, Surface-mount, Outdoor, 24V, no lettering, 1/8 to 8 watts

#### Associated Parts

Part Number	Description
588-055-00	Back Box, Metal Option, Wall- or Ceiling-mount, White, Weatherproof, 3.375 in. x 3.375 in. x 2 in.

#### Drawings



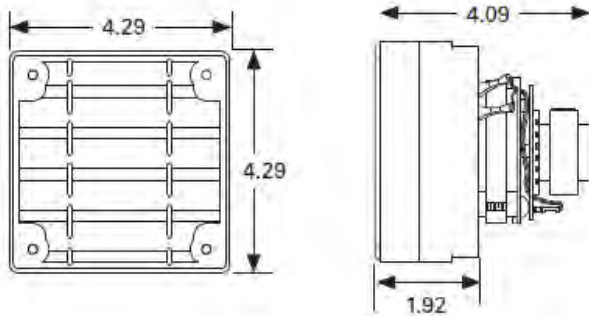
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Phone (509) 926-6277 Fax (509) 924-4980 E-mail [service@monaco-inc.com](mailto:service@monaco-inc.com) Web [www.monaco-inc.com](http://www.monaco-inc.com)

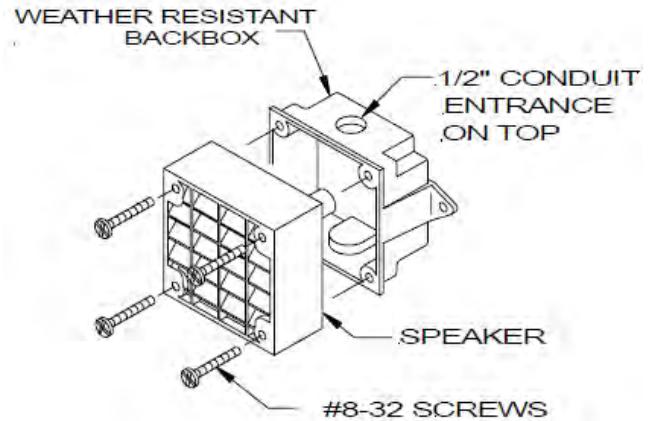


# Notification Appliance Devices

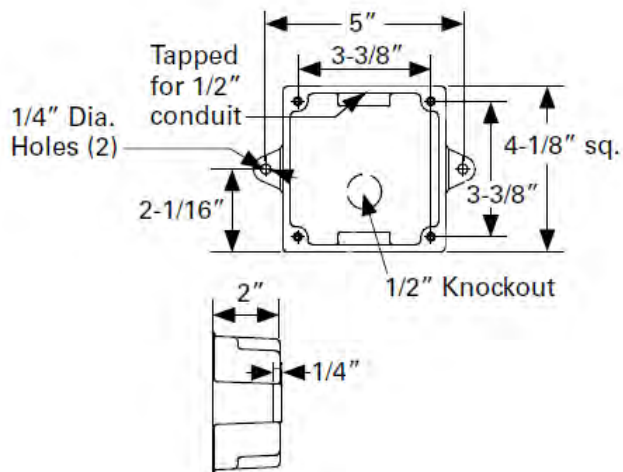
## Speaker



## Weatherproof Back Box Mounting



## Weatherproof Back Box



### MAXIMUM NUMBER OF CONDUCTORS

AWG #18	AWG #16	AWG #14	AWG #12
4	4	4	4



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# Notification Appliance Devices

## Outdoor Speaker, White, Wall-mount, Type I

124-072-00



**MEA**  
approved

### Specifications

*Nominal Voltage* 25V or 70.7V (nominal)

*Supervisory Voltage* 50 VDC maximum

*Speaker Frequency Range* 400 to 4,000 Hz

*Power* 1/4, 1/2, 1, 2 watts

*Mounting* Universal Mounting Plate mounts to Weatherproof back box

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* -40°F to 151°F (-40°C to 66°C)

*Relative Humidity* 10% to 93% non-condensing

*Wall-mount Dimensions* 6 in. L x 5 in. W x 2.9 in. D

*Speaker* (152 mm x 127 x 74 mm)

*Wall-mount* 6.5 in. L x 5.5 in. W x 2.9 in. D

*Weatherproof Back Box* (165 mm x 140 mm x 74 mm)

*Standards Compliance* Listed to S4048

*UL Listed* 75S0

*MEA Approved* 10-08-E

*State of California* 7320-1653:20-1

### Features

- White housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (1/4, 1/2, 1, 2 watts)
- Speakers offer high fidelity and high volume sound output
- Weatherproof per NEMA 4X, IP56
- Weatherproof back box included

### Wall-mount Speaker Sound Output (dBA)

Speaker	Watts			
	1/4	1/2	1	2
UL Reverberant (dBA @ 10 ft.)	81	84	87	90
UL Anechoic (dBA @ 10 ft.)	80	83	86	89



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# Notification Appliance Devices

## Ordering Information

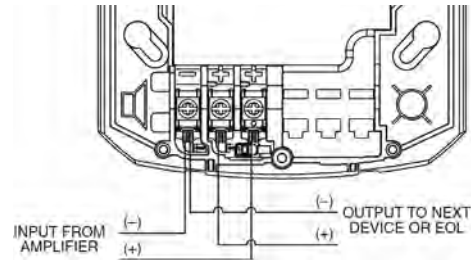
Part Number	Description
<b>124-072-00</b>	Speaker, White, Type 1, Wall-mount, Outdoor, 12V or 24V, no lettering, 1/4, 1/2, 1, 2 watts; includes plastic weatherproof back box

## Associated Parts

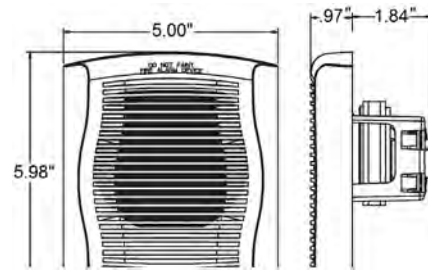
Part Number	Description
<b>589-003-00</b>	Red decals, wall-mount, use two per device: AGENT, EVAC, ALERT, or FIRE
<b>588-059-00</b>	Trim ring, wall-mount, white
<b>588-077-00</b>	Back box, outdoor weatherproof, surface wall-mount, white, 2 in. deep. Required for NEMA 4X

## Drawings

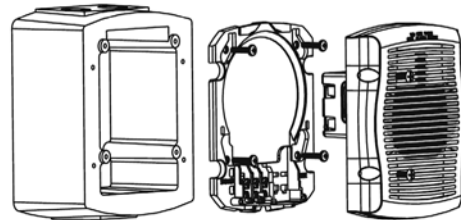
### Wiring Diagram



### Wall-mount Speaker



### Weatherproof Back Box for Mounting Speaker



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## Notification Appliance Devices

### Outdoor Speaker, Red, Wall-mount, Type I

124-072-50



**MEA**  
approved

#### Features

- Red housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (1/4, 1/2, 1, 2 watts)
- Speakers offer high fidelity and high volume sound output
- Weatherproof per NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

<i>Nominal Voltage</i>	25V or 70.7V (nominal)
<i>Supervisory Voltage</i>	50 VDC maximum
<i>Speaker Frequency Range</i>	400 to 4,000 Hz
<i>Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting</i>	Universal Mounting Plate mounts to Weatherproof back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	-40°F to 151°F (-40°C to 66°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions</i>	6 in. L x 5 in. W x 2.9 in. D
<i>Speaker</i>	(152 mm x 127 x 74 mm)
<i>Wall-mount</i>	6.5 in. L x 5.5 in. W x 2.9 in. D
<i>Weatherproof Back Box</i>	(165 mm x 140 mm x 74 mm)
<i>Standards Compliance</i>	Listed to S4048
<i>UL Listed</i>	75S0
<i>MEA Approved</i>	10-08-E
<i>State of California</i>	7320-1653:20-1

#### Wall-mount Speaker Sound Output (dBA)

Speaker	Watts			
	1/4	1/2	1	2
UL Reverberant (dBA @ 10 ft.)	77	80	83	86
UL Anechoic (dBA @ 10 ft.)	80	83	86	88



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# Notification Appliance Devices

## Ordering Information

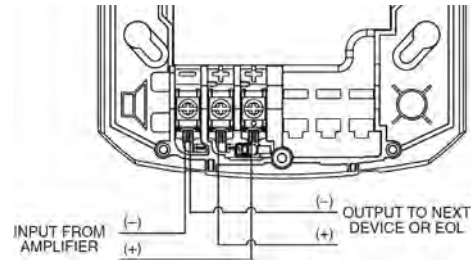
Part Number	Description
<b>124-072-50</b>	Speaker, Red, Type I, Wall-mount, Outdoor, 12V or 24V, no lettering, 1/4, 1/2, 1, 2 watts; includes plastic weatherproof back box

## Associated Parts

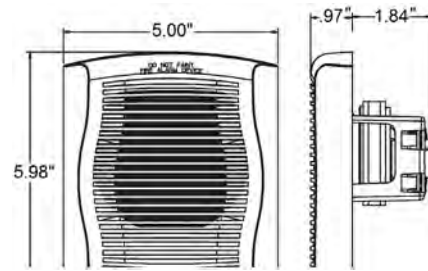
Part Number	Description
<b>589-005-00</b>	White Decals, wall-mount, use 2 per device: AGENT, EVAC, ALERT, or FIRE
<b>588-059-50</b>	Trim Ring, wall-mount, red
<b>588-038-00</b>	Back Box, outdoor weatherproof, surface wall-mount, red, Required for NEMA 4X

## Drawings

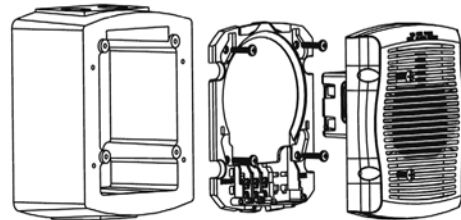
### Wiring Diagram



### Wall-mount Speaker



### Weatherproof Back Box for Mounting Speaker



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# Notification Appliance Devices

## Indoor Speaker, White, Wall-mount, Type I

124-091-00



### Features

- White housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage
- Speakers offer high fidelity and high volume sound output

### Specifications

**Nominal Voltage** 25V or 70.7V (nominal)

**Supervisory Voltage** 50 VDC maximum

**Speaker Frequency Range** 400 to 4,000 Hz

**Power** 1/4, 1/2, 1, 2 watt

**Mounting\*** Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box

\*Flush mount applications do not require an extension ring

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 10% to 93% non-condensing

**Wall-mount Dimensions** 6.5 in. L x 5 in. W x 0.97 in. D  
**Speaker** (165 mm x 127 x 23 mm)

**Dimensions with** 6.6 in. L x 5.1 in. W x 3.2 in. D  
**Surface-mount Back Box** (168 mm x 130 mm x 82 mm)

**Standards Compliance** Listed to 1480

**UL Listed** S4048

**FM Approved** 3057493

**State of California** 7320-1653:0505

### Wall-mount Speaker Sound Output (dBA)

Speaker	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	79	82	85	88
UL Anechoic (dBA @ 10 ft.)	79	82	85	88



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# Notification Appliance Devices

## Ordering Information

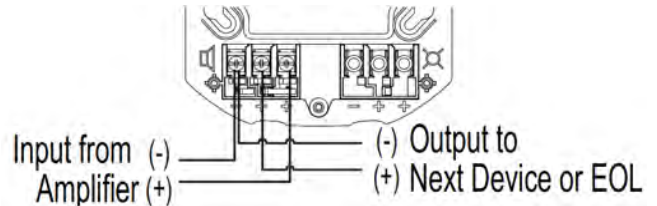
Part Number	Description
124-091-00	Speaker, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, 25/70.7V, 1/4, 1/2, 1, 2 watts

## Associated Parts

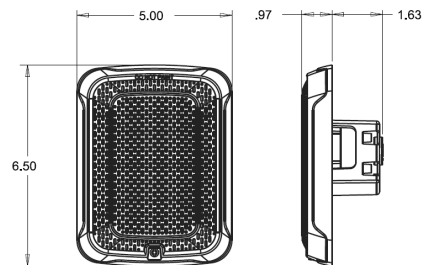
Part Number	Description
588-099-00	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H X 6.3 in. W X 0.4 in. D
588-093-00	Back Box, Wall Surface-mount, White, Type I, Speaker; Speaker Strobe, 5.12 in. x 6.62 in. x 2.25 in.

## Drawings

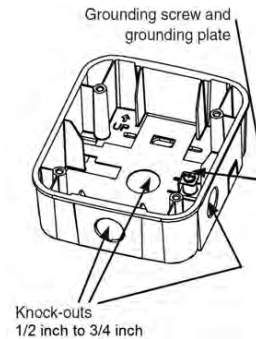
### Wiring Diagram



### Wall-mount Speaker



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in.x 4 in. x 2 1/8 in.



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# Notification Appliance Devices

## Indoor Speaker, Red, Wall-mount, Type I

124-092-00



### Features

- Red housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage
- Speakers offer high fidelity and high volume sound output

### Specifications

*Nominal Voltage* 25V or 70.7V (nominal)

*Supervisory Voltage* 50 VDC maximum

*Speaker Frequency Range* 400 to 4,000 Hz

*Power* 1/4, 1/2, 1, 2 watt

*Mounting\** Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box

\*Flush mount applications do not require an extension ring

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 93% non-condensing

*Wall-mount Speaker Dimensions* 6.5 in. L x 5 in. W x 0.97 in. D (165 mm x 127 x 23 mm)

*Dimensions with Surface-mount Back Box* 6.6 in. L x 5.1 in. W x 3.2 in. D (168 mm x 130 mm x 82 mm)

*Standards Compliance* Listed to 1480

*UL Listed* S4048

*FM Approved* 3057493

*State of California* 7320-1653:0505

### Wall-mount Speaker Sound Output (dBA)

Speaker	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	79	82	85	88
UL Anechoic (dBA @ 10 ft.)	79	82	85	88



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# Notification Appliance Devices

## Ordering Information

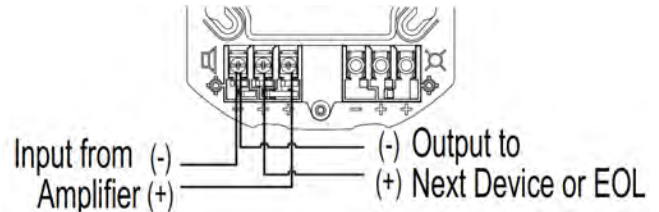
Part Number	Description
124-092-00	Speaker, Red, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, 25/70.7V, 1/4, 1/2, 1, 2 watts

## Associated Parts

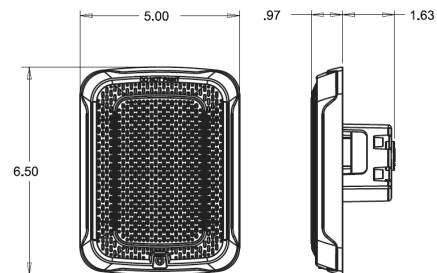
Part Number	Description
588-098-00	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. x 6.3 in. x 0.4 in.
588-092-00	Back Box, Wall Surface-mount, Red, Type I, Speaker; Speaker Strobe, 5.12 in. x 6.62 in. x 2.25 in.

## Drawings

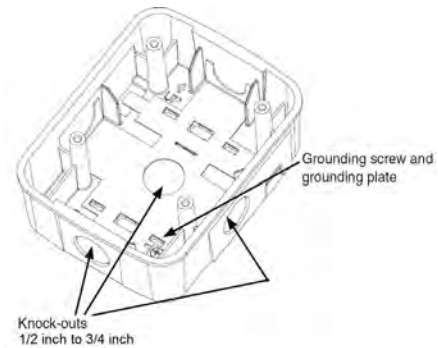
### Wiring Diagram



### Wall-mount Speaker



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2 1/8 in.



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# Notification Appliance Devices

## Indoor Speaker, Red, Ceiling-mount, Type I

124-093-00



### Specifications

*Nominal Voltage* 25V or 70.7V (nominal)

*Supervisory Voltage* 50 VDC maximum

*Speaker Frequency Range* 400 to 4,000 Hz

*Power* 1/4, 1/2, 1, 2 watt

*Mounting* Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 93% non-condensing

*Ceiling-mount Speaker Dimensions* 6.8 in. OD x 1 in. D (173 mm x 25 mm)

*Dimensions with Surface-mount Back Box* 6.9 in. OD x 3.5 in. D (176 mm x 89 mm)

*Standards Compliance:* Listed to UL 1480

*UL Listed* S4048

*FM Approved* 3057493

*State of California* 7320-1653:0505

### Features

- Red housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage
- Speaker offers high fidelity and high volume sound output
- 520 Hz capable with compatible FACP

### Ceiling-mount Speaker Sound Output (dBA)

Speaker	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	79	82	85	88
UL Anechoic (dBA @ 10 ft.)	79	82	85	88



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# Notification Appliance Devices

## Ordering Information

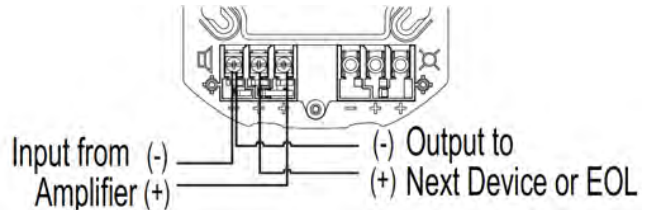
Part Number	Description
<b>124-093-00</b>	Speaker, Red, Type I, Ceiling-mount, Indoor, 6.8 in., no lettering, 25/70.7V, 1/4, 1/2, 1, 2 watts

## Associated Parts

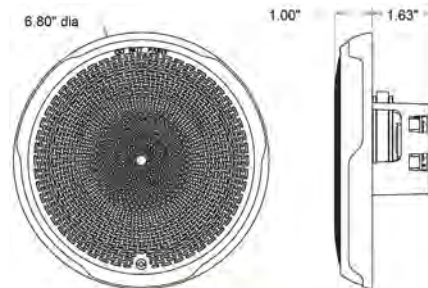
Part Number	Description
<b>588-096-00</b>	Trim Ring, Red, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in.D
<b>588-097-00</b>	Back Box, Ceiling Surface-mount, Red, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD x 2.5 in. D

## Drawings

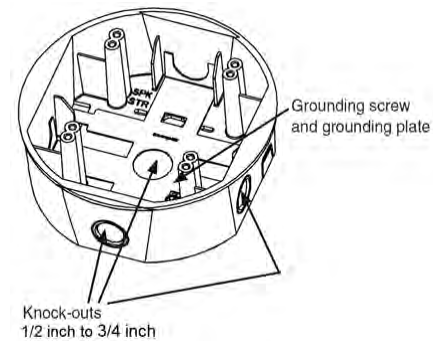
### Wiring Diagram



### Ceiling-mount Speaker



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2 1/8 in.



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# Notification Appliance Devices

## Indoor Speaker, White, Ceiling-mount, Type I

124-094-00



### Specifications

*Nominal Voltage* 25V or 70.7V (nominal)

*Supervisory Voltage* 50 VDC maximum

*Speaker Frequency Range* 400 to 4,000 Hz

*Power* 1/4, 1/2, 1, 2 watts

*Mounting* Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 10% to 93% non-condensing

*Ceiling-mount Speaker Dimensions* 6.8 in. OD x 1 in. D (173 mm x 25 mm)

*Dimensions with Surface-mount Back Box* 6.9 in. OD x 3.5 in. D (168 mm x 89 mm)

*Compliance Standards* Listed to UL 1971

*UL Listed* S4048

*FM Approved* 3057493

*State of California* 7320-1653:0505

### Features

- White housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage
- Speaker offers high fidelity and high volume sound output
- 520 Hz capable with compatible FACP

### Ceiling-mount Speaker Sound Output (dBA)

Speaker	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	79	82	85	88
UL Anechoic (dBA @ 10 ft.)	79	82	85	88



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# Notification Appliance Devices

## Ordering Information

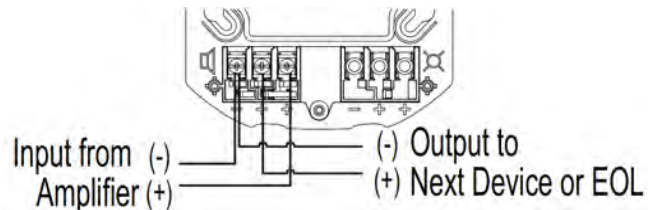
Part Number	Description
124-094-00	Speaker, White, Type I, Ceiling-mount, Indoor, 6.8 in. no lettering, 25/70.7V, 1/4, 1/2, 1, 2 watts

## Associated Parts

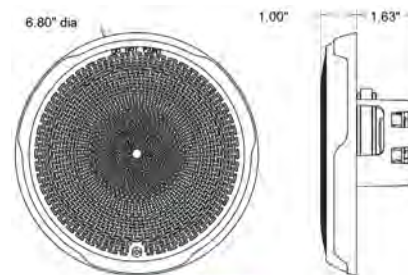
Part Number	Description
588-095-00	Trim Ring, White, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
588-094-00	Back Box, Ceiling Surface-mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD X 2.5 in. D

## Drawings

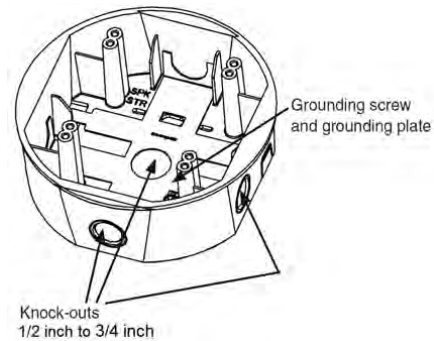
### Wiring Diagram



### Ceiling-mount Speaker



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2 1/8 in.



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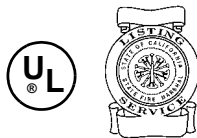
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# Notification Appliance Devices

## Indoor Speaker, White, Ceiling-mount, Type I

124-095-00



### Specifications

<i>Nominal Voltage</i>	25V or 70.7V (nominal)
<i>Supervisory Voltage</i>	50 VDC maximum
<i>Frequency Range</i>	400–4,000 Hz (Fire Alarm), 200 Hz–15 KHz (General Signaling)
<i>Power</i>	1/8, 1/4, 1/2, 1, 2, 4 and 8 watts
<i>Mounting</i>	Surface-mount with included back can, or Flush-mount with optional tile support bracket, P/N 588-100-00
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Speaker Dimensions with Grille</i>	12.8 in. OD x 2.7 in. D (325.1 mm x 68.6 mm)
<i>Speaker Dimensions with Back Can</i>	12.8 in. OD x 4.2 in. D (325 mm x 106.7 mm)
<i>Tile Support Bracket Dimensions (P/N 588-100-00)</i>	23.75 in. L x 4.125 in. W x 10.75 in. OD (603.3 mm x 104.8 mm x 273.1 mm)
<i>Standards Compliance:</i>	Listed to ANSI/UL 1480 CAN/ULC S541 CSA C22.2 No. 205 requirements for public mode and general signaling applications as well as ANSI/UL 2043 plenum rated
<i>UL Listed</i>	S4048
<i>State of California</i>	7320-1653:0500

### Features

- White housing, 8 in., no lettering
- For use with separately sold tile support bracket: P/N 588-100-00
- Flush and ceiling tile mounting with use of ceiling tile bracket
- Field selection of speaker voltage (25 and 70.7 Vrms) and power settings (1/8, 1/4, 1/2, 1, 2, 4, and 8 watts) via jumper selection
- UL and ULC listed



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# Notification Appliance Devices

## Ceiling-mount Speaker Sound Output (dBA)

Speaker	Watts						
	1/8	1/4	1/2	1	2	4	8
UL Reverberant (dBA @ 10 ft.)	75	78	81	84	87	90	93
UL Anechoic (dBA @ 10 ft.)	82	85	87	91	94	97	100

## Ordering Information

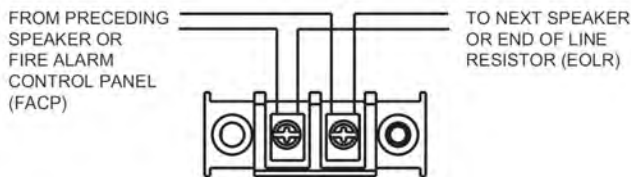
Part Number	Description
<b>124-095-00</b>	Speaker, White, Type I, Ceiling-mount, Indoor, 8 in., no lettering, 25/70.7V, 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts

## Associated Parts

Part Number	Description
<b>588-100-00</b>	Tile Support Bracket for 8 in., 1/8, 1/4, 1/2, 1, 2, 4, and 8 watt Speaker; for use on MEI P/N 124-095-00

## Drawings

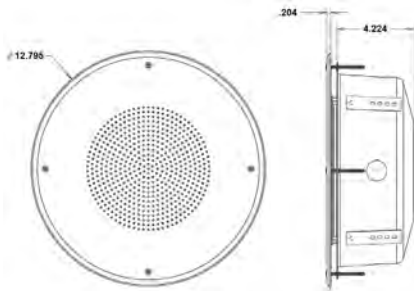
### Wiring Diagram



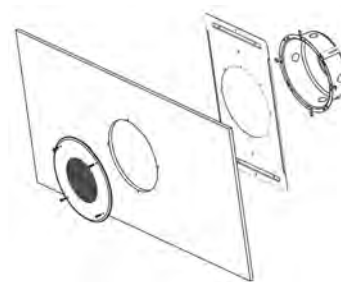
### Back Can



### Ceiling-mount Speaker



### Ceiling-mount Speaker with Back Can



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# Notification Appliance Devices

## Explosion-proof Speaker

124-097-00

### Description

The Monaco explosion-proof speaker is designed for use in hazardous locations. It produces a crisp, clear, high decibel tone/voice output on any 25 Vrms or 70 Vrms audio system. The speaker is well suited for signaling in hazardous areas with high ambient noise levels where a high efficiency, weatherproof and corrosion-resistant surface-mount speaker is required.



### Features

- Operates on 25 Vrms or 70 Vrms signal lines
- Multiple power taps at 0.5, 1, 2, 7, and 15 watts
- Built-in 15 watts high efficiency compression driver
- High dB output for large area coverage
- UL sound pressure level 99 dB(A) at 10 feet
- NFPA 70, Hazardous Locations Class I, Division 1, Groups B, C and D
- Wide Frequency Response from 400 to 4000 Hz
- NEMA 3 rated enclosure
- Indoor or outdoor use
- Supervisory capacitor
- One 1/2 in. threaded conduit entry (bottom of housing)

### Specifications

<i>Operating Voltage</i>	25 or 70 Vrms
<i>Input Power (selectable)</i>	0.5, 1, 2, 7, and 15 W
<i>Operating Temperatures</i>	-40°F to 151°F (-40°C to 66°C)
<i>Mounting</i>	Surface-mount
<i>Dimensions</i>	8.375 in. OD x 14.75 in. D (21.273 cm OD x 37.465 cm D)
<i>Approx. Shipping Weight</i>	15 lb (6.8 kg)
<i>Material</i>	Speaker: Spun Aluminum Housing: Die-Cast Aluminum
<i>Standards Compliance:</i>	UL UL E190743

### dB Specifications

Wattage Tap	UL dB(A) Sound Pressure	dB(A) Sound Power
0.5	87	104.2
1	90	106.8
2	93	109.6
7	99	114.2
15	99	116.8

### Ordering Information

Part Number	Description
124-097-00	Explosion-proof Speaker, surface mount, 25 or 70 Vrms, one 1/2 in. threaded conduit entry

### Application Notes

Signals selected for hazardous locations should be UL Listed and marked for at least the Hazardous Location Classifications dictated by the application. The signal should be 10 dB higher than the ambient noise level and as different from the background noise as possible.

The National Electric Code has created three classes of hazardous locations: Class I Hazardous Gases; Class II Hazardous Dusts; Class III Hazardous Fibers.



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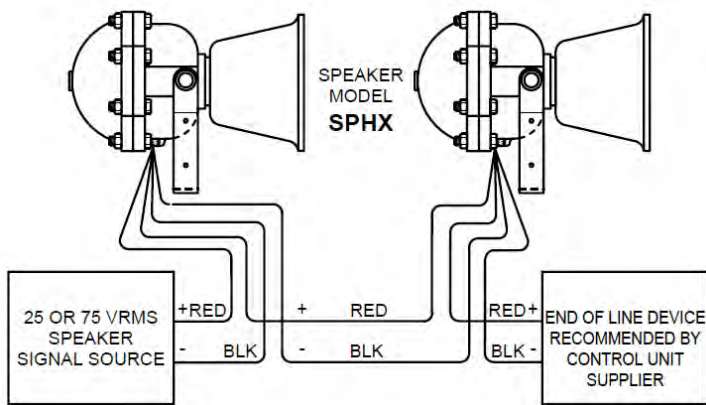




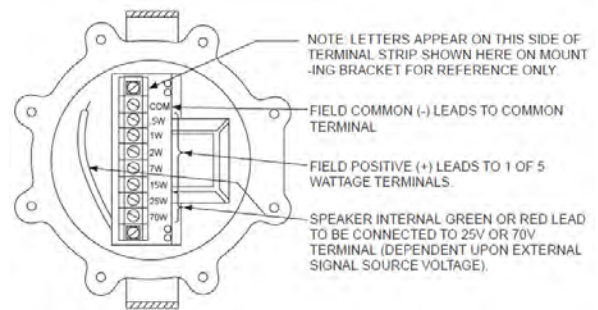
# Notification Appliance Devices

## Drawings

### Wiring Diagrams

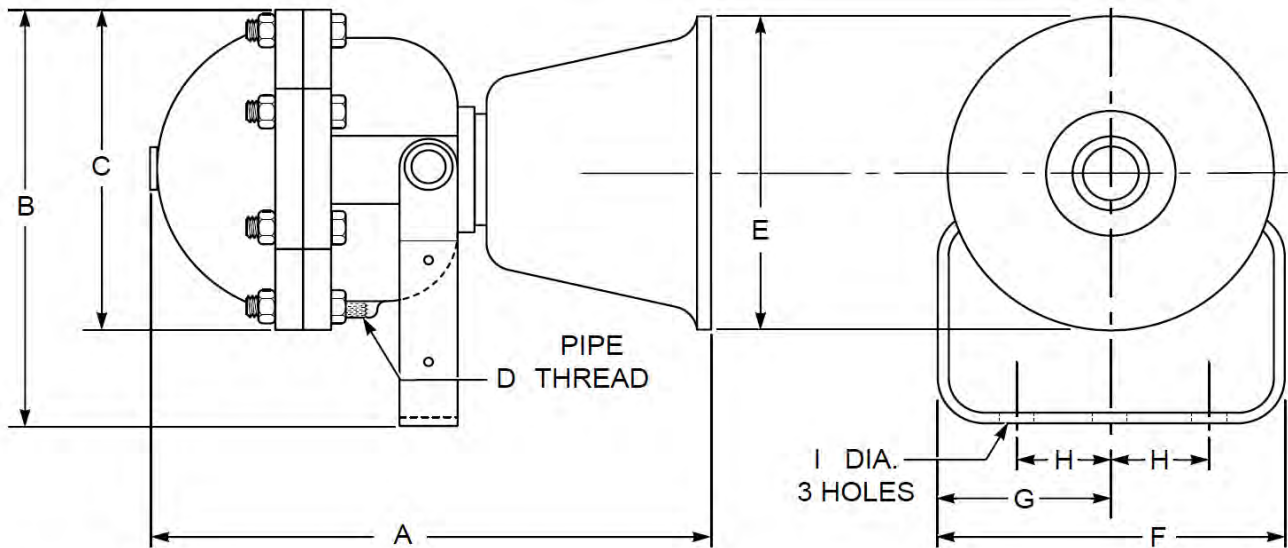


Typical Installation Wiring



Internal Multi-tap Wiring Set-up

### Speaker Dimensions



A	B	C	D	E	F	G	H	I
14.75 in.	14.75 in.	8.312 in.	0.500 in.	8.375 in.	8.875 in.	4.500 in.	2.500 in.	0.531 in.
37.5 cm.	37.5 cm.	21.1 cm.	12 mm.	21.3 cm.	22.5 cm.	11.4 cm.	6.35 cm.	13 mm.



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## Speaker Strobes

# Notification Appliance Devices Catalog Section

11

### Speaker Strobes

Indoor Speaker Strobe, Wall-mount, White, Type II. ....	580-05x-xx, 580-06x-00, 580-07x-00, 580-081-00
Indoor Speaker Strobe, Ceiling-mount, White, Type II. ....	580-064-00
Indoor Speaker Strobe, MC, Wall-mount, White, Type II. ....	580-068-00
Indoor Speaker Strobe, Ceiling-mount, White, Type II. ....	580-069-00
Indoor Speaker Strobe, Self-Amp, MC, Ceiling-mount, Type II. ....	580-070-00
Indoor Speaker Strobe, Ceiling-mount, White, Type II. ....	580-073-00
Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II. ....	580-074-00
Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II. ....	580-074-01
Outdoor Speaker Strobe, 180cd, Wall-mount, White, Type II. ....	580-075-00
Indoor Speaker Strobe, White, Ceiling-mount, Type II. ....	580-077-00
Outdoor Speaker Strobe, 180cd, Wall-mount, White, Type II. ....	580-078-00
Indoor Speaker Strobe, Self-Amp, Ceiling-mount, Type II. ....	580-079-00
Indoor Speaker Strobe, Ceiling-mount, White, Type II. ....	580-080-00
Indoor Speaker Strobe, Wall-mount, White, Type II. ....	580-081-00
Outdoor Speaker Strobe, White, Wall-mount, Type I. ....	580-087-00
Outdoor Speaker Strobe, Red, Wall-mount, Type I. ....	580-088-00
Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II. ....	580-099-00
Outdoor Speaker Strobe, White, Ceiling-mount, Type I. ....	580-104-00
Outdoor Speaker Strobe, White, Wall-mount, Type I. ....	580-105-00
Outdoor Speaker Strobe, White, Ceiling-mount, Type I. ....	580-106-00
Indoor Speaker Strobe, Red, Wall-mount, Type I. ....	580-107-00
Indoor Speaker Strobe, White, Wall-mount, Type I. ....	580-108-00
Indoor Speaker Strobe, White, Wall-mount, Type I. ....	580-110-00
Indoor Speaker Strobe, White, Wall-mount, Type I. ....	580-111-00
Indoor Speaker Strobe, White, Ceiling-mount, Type I. ....	580-112-00
Indoor Speaker Strobe, White, Ceiling-mount, Type I. ....	580-113-00
Indoor Speaker Strobe, White, Wall-mount, Type I. ....	580-114-00
Indoor Speaker Strobe, Red, Wall-mount, Type I. ....	580-115-00
Speaker Strobe for Hazardous Locations. ....	580-117-00
Speaker Strobe LED for Hazardous Locations. ....	580-117-01, 580-117-02

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## Notification Appliance Devices

### Indoor Speaker Strobe, Wall-mount, White, Type II

580-05x-xx, 580-06x-00, 580-07x-00, 580-081-00

#### Description

These low profile speaker strobes are designed for high-efficiency sound output with dual voltage capability and field-selectable taps from 1/8 to 8 watts.



#### Features

- Meets UL1971, UL1480, and Americans with Disabilities Act signaling requirements; FM approved
- 24 VDC Operation
- Fixed and selectable candela options
- 2 W and 8 W options with selectable speaker taps from 1/8 W to 2 or 8 W
- Amber and clear strobe lens options
- ALERT and FIRE options available
- Low current draw allows more devices per loop
- Synchronizable with Type II Sync Module (P/N 367-036-00) or Type II NAC Distributed Power Extender (P/N 404-119-00)

#### Specifications

*Flash Rate* 1 flash per second

*Voltage* 24 VDC and Vrms unfiltered

*Voltage Range* 16 to 33 VDC

*Candela* Indoor: 15, 30, 75, 110cd  
Weatherproof: 180cd

*Input Terminal* 12 AWG to 18 AWG

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Dimensions* 5.13 in. x 5.13 in. (13.03 cm x 13.03 cm)

*Speaker Frequency* 400–4,000 Hz

*Speaker Input Voltage* 25 or 70.07 Vrms nominal

*Speaker Power Taps* 2 W: 1/8, 1/4, 1/2, 1, 2  
8 W: 1/8, 1/4, 1/2, 1, 2, 4, 8

*Strobe Current Draw* 15, 30, 75, 95, 110, 180 (See "Strobe Current Ratings" table below)

#### Strobe Current Ratings

UL maximum current ratings (maximum RMS current draw) at voltage range 16–33 VDC.

Candela (cd)					
15	30	75	95	110	180
0.060A	0.092A	0.165A	0.249A	0.220A	0.138A

#### Ordering Information

##### Speaker Strobes

Part Number	Description
580-055-01	Indoor speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, red FIRE lettering, clear lens, multi-candela: 15, 30, 75, 110cd
580-058-00	Weatherproof speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, no lettering, clear lens, candela: 180cd
580-063-00	Indoor speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, no lettering, clear lens, multi-candela: 15, 30, 75, 110cd
580-065-00	Indoor speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, no lettering, amber lens, multi-candela: 15, 30, 75, 95cd
580-075-00	Weatherproof speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, no lettering, amber lens, candela: 180cd
580-078-00	Weatherproof speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, red ALERT lettering, clear lens, Candela: 180cd



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# Notification Appliance Devices

Part Number	Description
580-081-00	Indoor speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, red ALERT lettering, clear lens, multi-candela: 15, 30, 75, 110cd

## Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes
588-013-01	Back Box, indoor, surface-mount, white
588-028-00	Back Box, surface-mount, weatherproof, white

## Mounting Options

- Fits standard 4 in. x 4 in. x 2 1/8 in. back box with extension ring
- See "Associated Parts" for back box P/Ns



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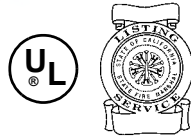
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## Notification Appliance Devices

### Indoor Speaker Strobe, Ceiling-mount, White, Type II

580-064-00



#### Specifications

<i>Voltage</i>	Regulated 24 VDC/Vrms
<i>Operating Voltage</i>	16 to 33 VDC (filtered or FWR voltage)
<i>Strobe Candela Settings</i>	15, 30, 75, and 95cd
<i>Strobe Flash Rate</i>	1 flash per second over regulated voltage range
<i>Speaker Selections</i>	1/8, 1/4, 1/2, 1, and 2 watts
<i>Frequency Range</i>	400–4,000 Hz
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	85%
<i>Mounting</i>	Ceiling-mount to standard 4 in. electrical box with extension ring
<i>Dimensions</i>	7.27 in. OD x 5.24 in. D
<i>Standards Compliance</i>	Listed UL 1638 general signaling and UL 1971 amber lens light distribution  UL S2652 CSFM 7125-0785:0152

#### Features

- Indoor Speaker Strobe with white housing, amber lens, and no lettering
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 15/30/75/95cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1 and 2 watts
- Replaceable speaker grille
- In/out screw terminals for fast installation
- Integrated mounting plate included

#### Ordering Information

Part Number	Description
<b>580-064-00</b>	Speaker Strobe, Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, no lettering, amber lens, 15, 30, 75, 95cd, frequency range 400–4,000Hz, 1/8, 1/4, 1/2, 1, and 2 watt

#### Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>588-027-00</b>	Ceiling Tile 2 ft. bridge support for 4 in. speakers
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72 hour battery backup.



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# Notification Appliance Devices

## Amber Strobe Current Draw

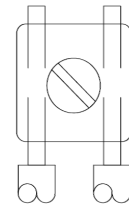
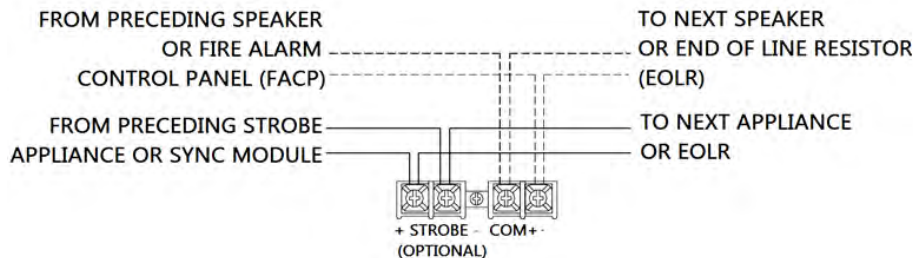
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15cd	30cd	75cd	95cd
	with derated amber lens:			
	11.25cd	22.50cd	56.25cd	71.25cd
16-33V	0.65	0.105	0.189	0.249

## Speaker Output

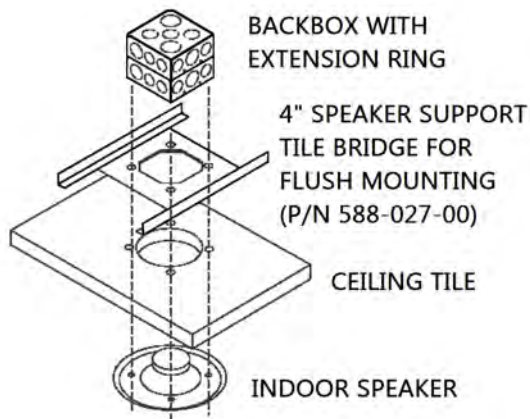
Voltage (Vrms)	Reverberant dBA at 10 ft. (per UL 1480 rated watts)				
	1/8 W	1/4 W	1/2 W	1 W	2 W
25/70	75	78	81	84	87

## Diagrams

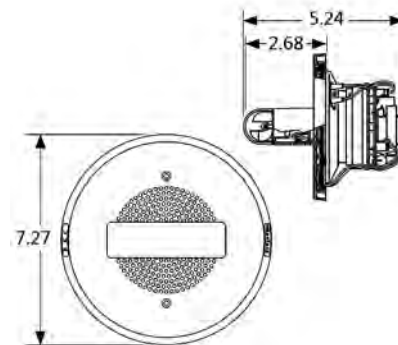
### Wiring Diagram



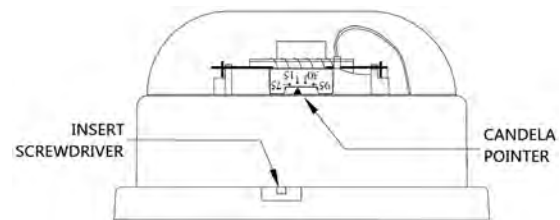
## Mounting



## Dimensions



## Candela



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## Notification Appliance Devices

### Indoor Speaker Strobe, MC, Wall-mount, White, Type II 580-068-00



**Strobe Flash Rate** 1 flash per second over regulated voltage range

**Speaker Selections** 1/8, 1/4, 1/2, 1, and 2 watt

**Frequency Range** 400–4,000 Hz

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 85%

**Mounting** flush-mount: 4 in. x 2 1/8 in. electrical box or surface-mount: 4 in. square back box

**Dimensions** 6.74 in. H x 5 in. W x 2.58 in. D

**Weight** 1.6 lb (0.73 kg)

**Standards Compliance** Listed UL 1638, UL 1480 and UL 1971

**UL** S5391

**FM** Approved

**CSFM** 7125-0785:0165

### Features

- Indoor Speaker Strobe, oblong with white housing, amber lens, and no lettering
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 15/30/75/110cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1, and 2 watts
- Replaceable speaker grille
- Integrated speaker mounting plate
- In/out screw terminals for fast installation
- No extension ring required

### Specifications

**Voltage** Regulated 24 VDC/Vrms

**Operating Voltage** 16 to 33 VDC (regulated)

**Strobe Candela** 15, 30, 75, and 110cd

### Ordering Information

Part Number	Description
580-068-00	Speaker Strobe, Oblong, White, Type II, Wall-mount, indoor, 24 VDC, no lettering, amber lens, multi-candela: 15, 30, 75, 110cd, Speaker input 25/70 Vrms, taps 1/8, 1/4, 1/2, 1, and 2 watt

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-033-00	Indoor Back Box, surface-mount, white
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72 hour battery backup.



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# Notification Appliance Devices

## Amber Strobe Current Draw

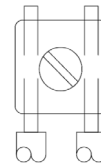
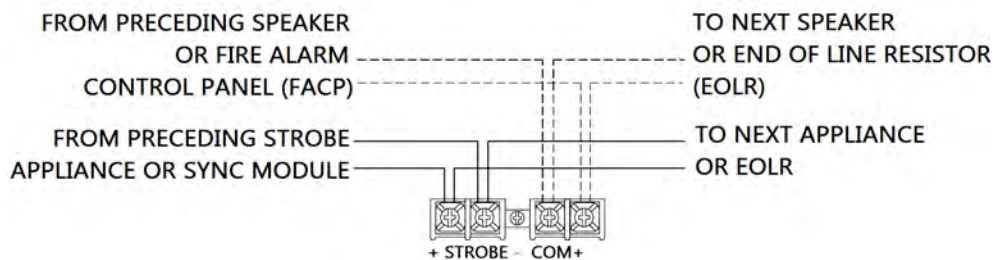
Voltage	UL Current Ratings (Amps) Maximum RMS Current with derated Amber lens:			
	15cd	30cd	75cd	110cd
16-33 VDC	0.60	0.092	0.165	0.220

## Speaker Output

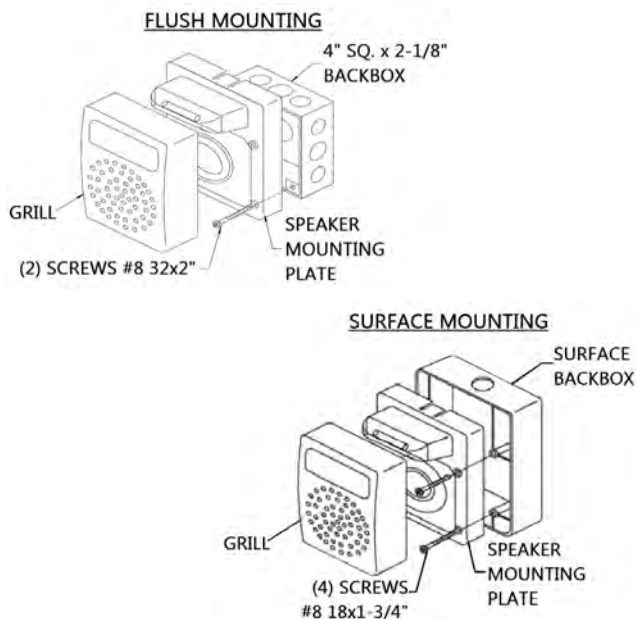
Voltage (Vrms)	Reverberant dBA at 10 ft. (Rated watts)				
	1/8 W	1/4 W	1/2 W	1 W	2 W
25/70	77	79.5	82.5	85.0	88.0

## Diagrams

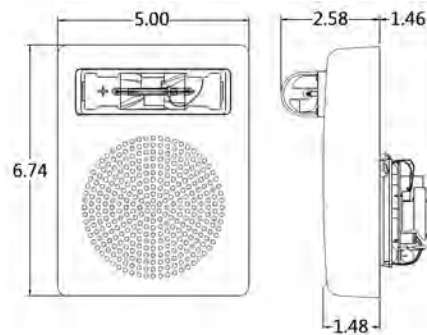
### Wiring Diagram



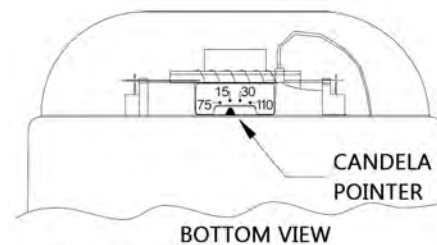
## Mounting



## Dimensions



## Candela



NOTE: PRE-SET AT 15 CD

NOTE Maximum number conductors for 12 to 18 AWG is eight.



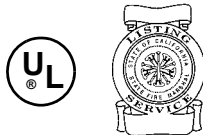
**Monaco Enterprises, Inc.**

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## Notification Appliance Devices

### Indoor Speaker Strobe, Ceiling-mount, White, Type II 580-069-00



#### Specifications

<i>Voltage</i>	Regulated 24 VDC/Vrms
<i>Operating Voltage</i>	16 to 33 VDC (filtered or FWR voltage)
<i>Strobe Candela Settings</i>	15, 30, 75, and 95cd
<i>Strobe Flash Rate</i>	1 flash per second over regulated voltage range
<i>Speaker Selections</i>	1/8, 1/4, 1/2, 1, and 2 watts
<i>Frequency Range</i>	400–4,000 Hz
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	85%
<i>Mounting</i>	Standard 4 in. electrical box or Surface-mount back box
<i>Dimensions</i>	Square: 5.13 in. H x 5.13 in. W x 5.24 in. D Round: 7.27 in. OD x 5.24 in. D
<i>Standards Compliance</i>	Listed UL 1638 general signaling <i>UL</i> S2652 <i>CSFM</i> 7125-0785:0152

#### Features

- Indoor Speaker Strobe with white housing, blue lens, and no lettering
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 15/30/75/95cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1 and 2 watts
- Replaceable speaker grille
- In/out screw terminals for fast installation

#### Ordering Information

Part Number	Description
<b>580-069-00</b>	Speaker Strobe, Square, White, Type II, Ceiling-mount, Indoor, 24 VDC, no lettering, blue lens, multi-candela: 15, 30, 75, 95cd, speaker input 25/70 Vrms, taps 1/8, 1/4, 1/2, 1, and 2 watt

#### Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>588-013-01</b>	Indoor Back Box, surface-mount, white
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Blue Strobe Current Draw

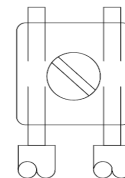
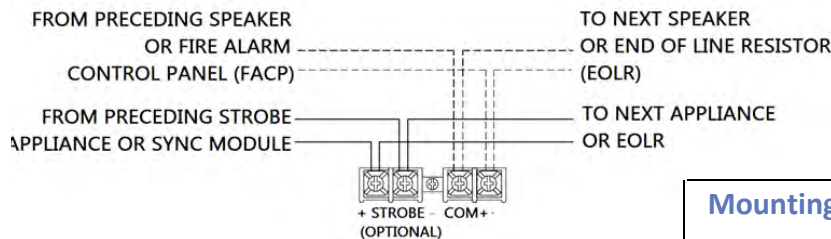
	UL Maximum Current Ratings (Amps)			
	15cd	30cd	75cd	95cd
	Maximum RMS Current with derated Blue lens:			
Voltage	4.5cd	9cd	22.5cd	28.5cd
16-33V	0.065	0.105	0.189	0.249

## Speaker Output

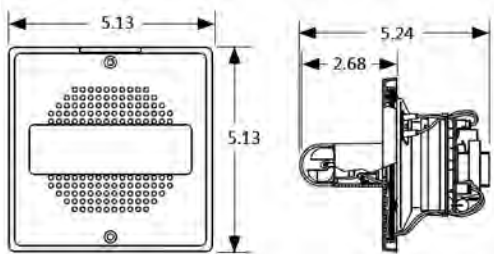
Voltage (Vrms)	Reverberant dBA at 10 ft. (per UL 1480 rated Watts)				
	1/8 W	1/4 W	1/2 W	1 W	2 W
25/70	75	78	81	84	87

## Diagrams

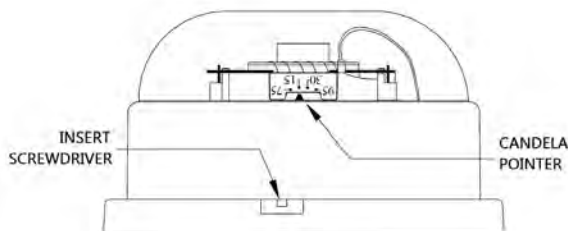
### Wiring Diagram



### Dimensions

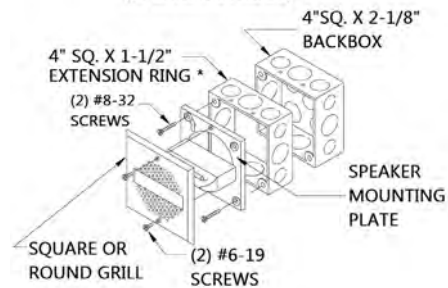


### Candela

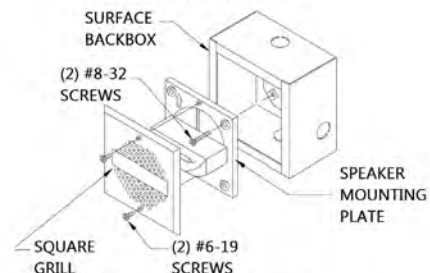


### Mounting

#### FLUSH MOUNTING (SPEAKER STROBE)



#### SURFACE MOUNTING (SPEAKER STROBE)



**NOTE:** BACKBOX IS COMPATIBLE WITH WIREMOLD AND CONDUIT. MOUNTING HOLES ARE FOR SINGLE-GANG, DOUBLE-GANG, 4-INCH SQUARE, 3 1/2-INCH AND 4-INCH OCTAGON OR ROUND BACKBOXES.



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## Notification Appliance Devices

### Indoor Speaker Strobe, Self-Amp, MC, Ceiling-mount, Type II 580-070-00



<i>Appliance Input Level</i>	0.5 Vrms or 25 Vrms (Switch selectable)
<i>Appliance Input Impedance</i>	0.5V Settings: Greater than 400 ohms, or equivalent to less than 1/1,000 W load 25V Settings: Greater than 20 kohms, or equivalent to less than 1/32 W load
<i>Strobe Candela Settings</i>	15, 30, 75, and 95cd
<i>Strobe Flash Rate</i>	1 flash per second over regulated voltage range
<i>Frequency Range</i>	400–4,000 Hz
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Mounting</i>	Mounts to 4 in. square deep back box with an extension ring
<i>Dimensions</i>	7.27 in. OD x 5.24 in. D
<i>Standards Compliance</i>	Listed to UL 1480, UL 1971

#### Features

- Indoor Speaker Strobe, Self-Amplified, Supervised, white housing, FIRE lettering, and clear lens
- Synchronized or non-synchronized strobe
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 15/30/75/95cd
- Selectable switch settings for six different sound output levels operating with audio input levels of 0.5 and 25 Vrms
- Compatible with reverse polarity supervision circuits
- Integrated speaker mounting plate

#### Specifications

<i>Voltage</i>	Regulated 24 VDC
<i>Power Input Voltage</i>	16 to 33 VDC (regulated)
<i>Current Consumption</i>	120mA RMS maximum

#### Ordering Information

Part Number	Description
<b>580-070-00</b>	Speaker Strobe, Self-Amplified, Supervised, Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, FIRE lettering, Clear lens, multi-candela: 15, 30, 75 and 95cd, speaker input 0.5 and 25 VRM with six output levels

#### Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>588-013-01</b>	Indoor Back Box, surface-mount, white
<b>588-027-00</b>	Ceiling Tile 2 ft. bridge support for 4 in. speakers
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

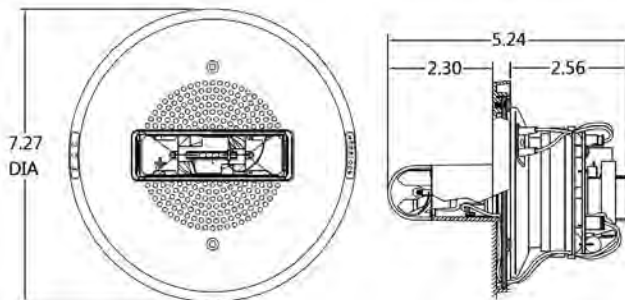
Voltage	UL Maximum Current Ratings (Amps) Maximum RMS Current			
	15cd	30cd	75cd	95cd
16-33V	0.065	0.105	0.189	0.249

## Speaker Output

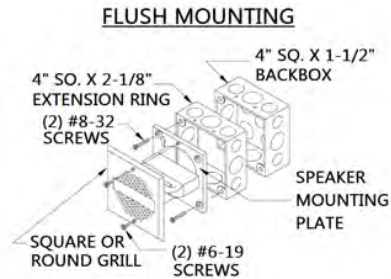
Vrms	Rated Reverberant dBA at 10 ft. (per UL 1480) Sound Level					
	6	5	4	3	2	1
0.5 and 25	84	81	77	74	71	68

## Diagrams

### Dimensions

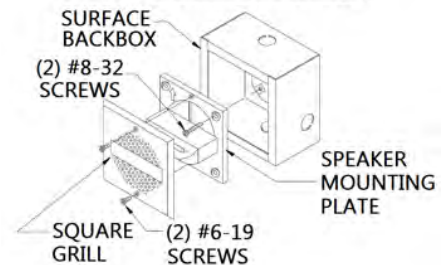


### Mounting

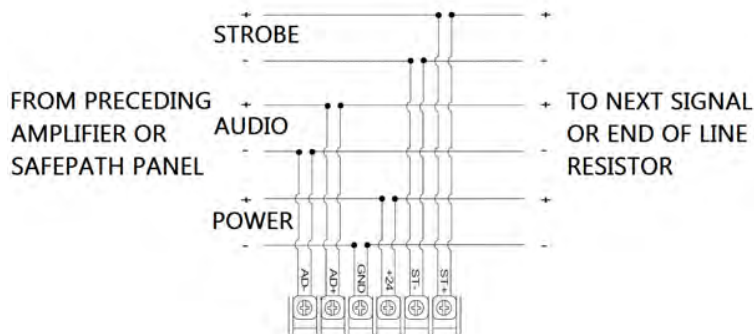


**NOTE** Max number of conductors is 8 for AWG#12 - AWG#18

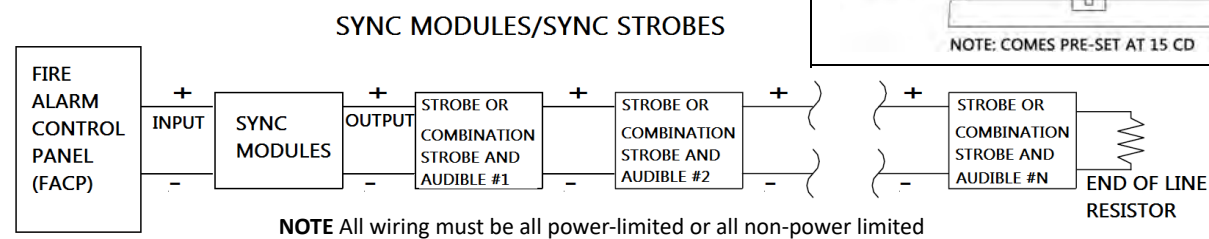
### SURFACE MOUNTING



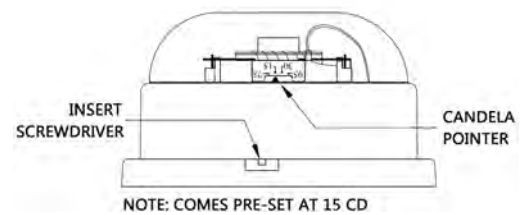
## Wiring Diagram



## Connection Diagram



## Candela



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## Notification Appliance Devices

### Indoor Speaker Strobe, Ceiling-mount, White, Type II

580-073-00



**MEA**  
approved

*Speaker Input* 25/70 Vrms

*Speaker Selections* 1/8, 1/4, 1/2, 1, and 2 watts

*Frequency Range* 400–4,000 Hz

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 85%

*Mounting* Ceiling-mount to 4 in. square back box

*Dimensions* 7.38 in. OD x 3.02 in. D

*Weight* 1.7 lb (0.77 kg)

*Standards Compliance* Listed UL 1480 and UL 1971

*UL* S5391

*FM* Approved

*CSFM* 7125-0785-0152

*MEA* 151-92-E Vol. 47

### Features

- Indoor Speaker Strobe with white housing, FIRE lettering, and clear lens
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings:  
24V: 15/30/75/95cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1, and 2 watts
- Replaceable speaker grille
- In/out screw terminals for fast installation
- Integrated mounting plate included

### Specifications

*Voltage* Regulated 24 VDC/Vrms

*Operating Voltage* 16 to 33 VDC (filtered or FWR voltage)

*Strobe Candela Settings* 15, 30, 75 and 95cd

*Strobe Flash Rate* 1 flash per second over regulated voltage range

### Ordering Information

Part Number	Description
580-073-00	Speaker Strobe, Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, red FIRE lettering, clear lens, 15, 30, 75 and 95cd, Frequency Range 400–4,000 Hz, Speaker Input: 25/70 Vrms, taps 1/8, 1/4, 1/2, 1, and 2 watt

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-027-00	Ceiling Tile 2 ft. bridge support for 4 in. speakers
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

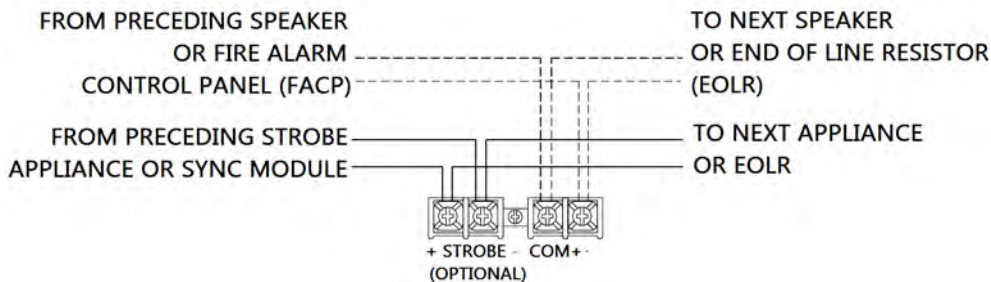
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15cd	30cd	75cd	95cd
16-33V	0.65	0.105	0.189	0.249

## Speaker Output

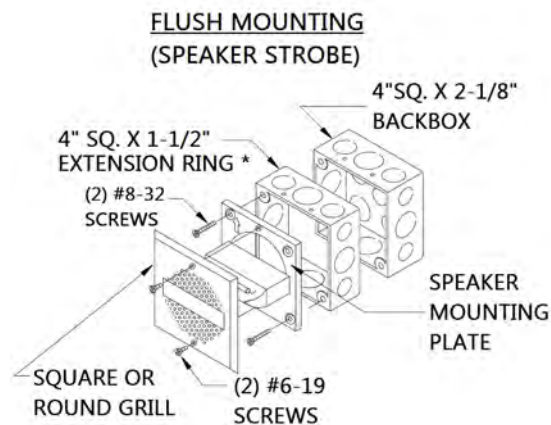
Voltage (Vrms)	Reverberant dBA at 10 ft. (rated watts)				
	1/8 W	1/4 W	1/2 W	1 W	2 W
25/70	77	79.5	82.5	85	88

## Diagrams

### Wiring Diagram

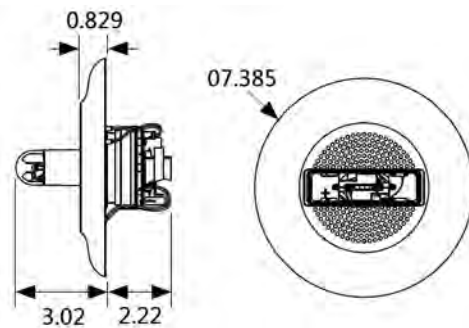


### Mounting

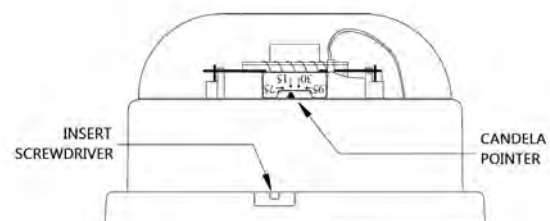


**NOTE** Max number of conductors for 12 to 18 AWG is eight.

### Dimensions



### Candela



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## Notification Appliance Devices

### Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II 580-074-00



<i>Strobe Flash Rate</i>	1 flash per second over regulated voltage range
<i>Speaker impedance</i>	8 ohms
<i>Speaker</i>	25/70 Vrms 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
<i>Frequency Range</i>	400–4,000 Hz
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	85%
<i>Mounting</i>	Flush-mount with 8 in. back box with optional 8 in. support bridge
<i>Dimensions</i>	12.81 in. OD x 3.52 in. D
<i>Weight</i>	3.12 lb (1.42 kg)
<i>Standards Compliance:</i>	Listed to UL 1480, UL 1638, UL 1971 CAN/ULC-S526, CAN/ULC-S541
<i>CSFM</i>	7320-0785:0164

### Features

- Indoor Speaker Strobe, 8 in., white housing, amber lens, and no lettering
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings:  
24V: 15/30/75/95cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
- Compatible with reverse polarity supervision circuits
- Round metal 12 in. grille
- In/out screw terminals for fast installation

### Specifications

<i>Voltage</i>	Regulated 24 VDC
<i>Operating Voltage</i>	16 to 33 VDC (filtered or FWR input voltage)
<i>Strobe Candela Settings</i>	15, 30, 75 and 95cd

### Ordering Information

Part Number	Description
<b>580-074-00</b>	Speaker Strobe, 8 in., Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, no lettering, amber lens, multi-candela: 15, 30, 75, 95cd, speaker input 25/70 Vrms, taps: 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts

### Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>129-049-00</b>	8 in. Ceiling Speaker Back Box for installation of 8 in. round speaker
<b>129-048-00</b>	Indoor 8 in. speaker support tile bridge
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72 hour battery backup.



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# Notification Appliance Devices

## Amber Strobe Current Draw

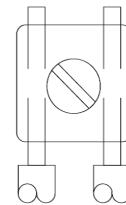
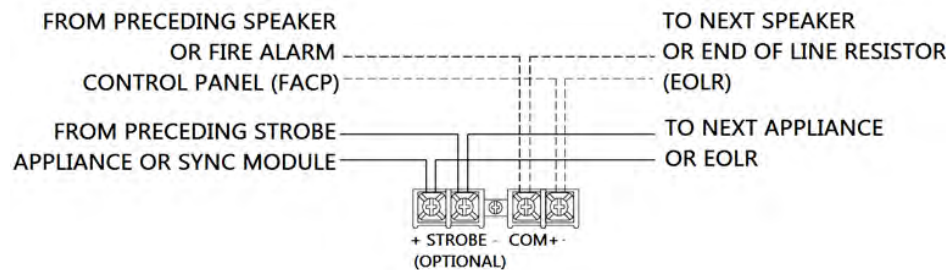
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw) with derated amber lens:			
	15cd	30cd	75cd	95cd
16-33V	0.065	0.105	0.189	0.249

## Speaker Output

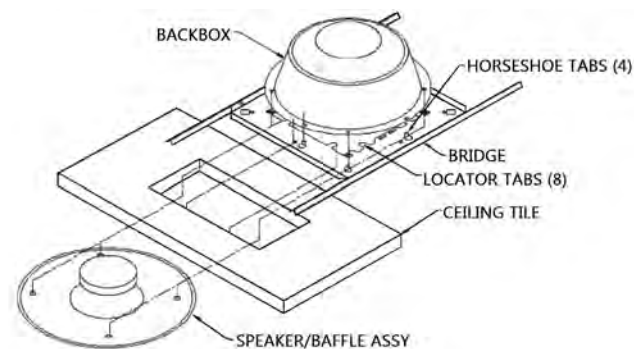
Voltage (Vrms)	Reverberant dBA at 10 ft.						
	1/8 W	1/4 W	1/2 W	1 W	2 W	4 W	8 W
25/70	75	78	81	84	87	90	93

## Diagrams

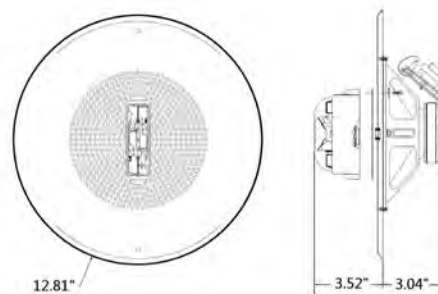
### Wiring Diagram



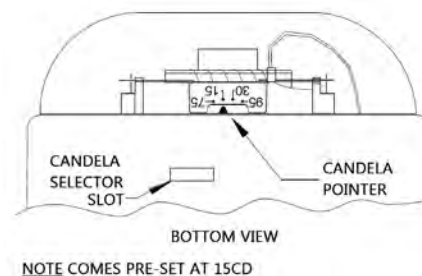
## Mounting



## Dimensions



## Candela



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## Notification Appliance Devices

### Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II 580-074-01



*Speaker impedance* 8 ohms

*Speaker Selections* 25/70 Vrms  
1/8, 1/4, 1/2, 1, 2, 4, and 8 watts

*Frequency Range* 200 Hz to 15,000 Hz  
400 Hz to 4,000 Hz (UL)

*Input Wiring* 12 to 18 AWG  
**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 85%

*Mounting* Flush-mount with 8 in. back box with optional 8 in. support bridge

*Dimensions* 12.81 in. OD x 3.52 in. D

*Weight* 3.12 lb (1.42 kg)

*Standards Compliance* Listed to UL 1480, UL 1971,  
CAN/ULC-S526, CAN/ULC-S541

*CSFM* 7320-0785:0164

### Features

- Indoor Speaker Strobe, 8 in., white housing, FIRE lettering and clear lens
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings:  
24V: 15/30/75/95cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
- Compatible with reverse polarity supervision
- Round metal 12 in. grille
- In/out screw terminals for fast installation

### Specifications

*Voltage* Regulated 24 VDC/Vrms

*Operating Voltage Range* 16 to 33 VDC (filtered DC or unfiltered Vrms input voltage)

*Strobe Candela Settings* 15, 30, 75 and 95cd

*Strobe Flash Rate* 1 flash per second over regulated voltage range

### Ordering Information

Part Number	Description
580-074-01	Speaker Strobe, 8 in., Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, FIRE lettering, clear lens, multi-candela: 15, 30, 75, 95cd, Speaker input 25/70 Vrms, taps 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
129-049-00	8 in. Ceiling Speaker Back Box for installation of 8 in. round speaker
129-048-00	Indoor 8 in. Speaker Support Tile Bridge
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

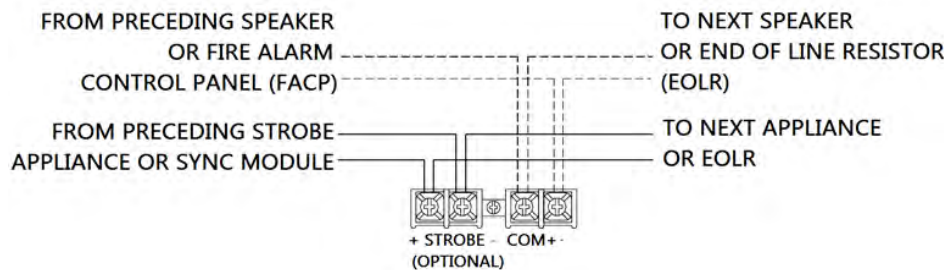
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15cd	30cd	75cd	95cd
16-33V	0.65	0.105	0.189	0.249

## Speaker Output

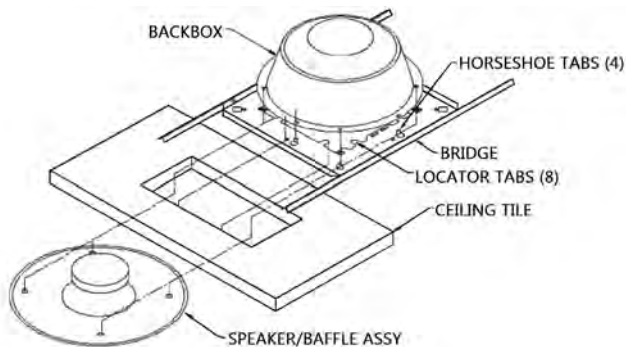
Voltage (Vrms)	Reverberant dBA at 10 ft.						
	1/8 W	1/4 W	1/2 W	1 W	2 W	4 W	8 W
25/70	75	78	81	84	87	90	93

## Diagrams

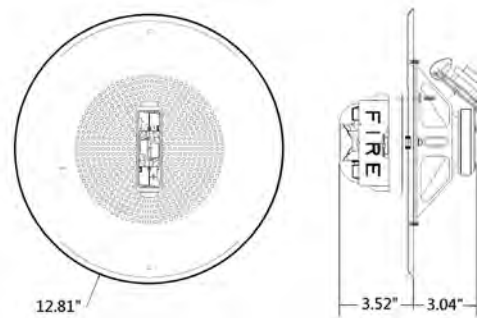
### Wiring Diagram



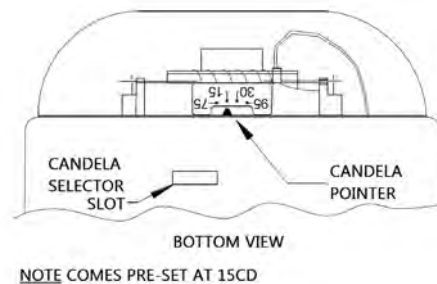
## Mounting



## Dimensions



## Candela



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## Notification Appliance Devices

### Outdoor Speaker Strobe, 180cd, Wall-mount, White, Type II 580-075-00



#### Specifications

<i>Voltage</i>	Regulated 24 VDC/Vrms
<i>Operating Voltage</i>	16 to 33 VDC (filtered or FWR voltage)
<i>Strobe Candela</i>	180cd (UL 1638 at 77°F)
<i>Strobe Flash Rate</i>	1 flash per second over regulated voltage range
<i>Speaker Selections</i>	1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
<i>Frequency Range</i>	400–4,000 Hz
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	–31°F to 150°F (–35°C to 66°C)
<i>Relative Humidity</i>	95%
<i>Mounting</i>	Surface-mount weatherproof back box
<i>Dimensions</i>	Square: 5.12 in. H x 5.12 in. W x 5.368 in. D
<i>Standards Compliance</i>	Listed UL 1638 and UL 1971 CSFM 7125-0785:0146

#### Features

- Outdoor Speaker Strobe, square with white housing, amber lens, and no lettering
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Strobe inputs polarized
- Xenon flashtube in a polycarbonate lens
- Strobe setting: 180cd, UL 1638 at 77°F
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1, 4, and 8 watts
- Replaceable speaker grille
- In/out screw terminals for fast installation
- Weatherproof

#### Ordering Information

Part Number	Description
580-075-00	Speaker Strobe, Square, White, Type II, Wall-mount, Outdoor, 24 VDC, no lettering, amber lens, 180cd, Speaker input 25/70 Vrms, taps 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts, weatherproof

#### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-028-00	Back Box, weatherproof, surface-mount, white
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

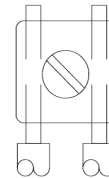
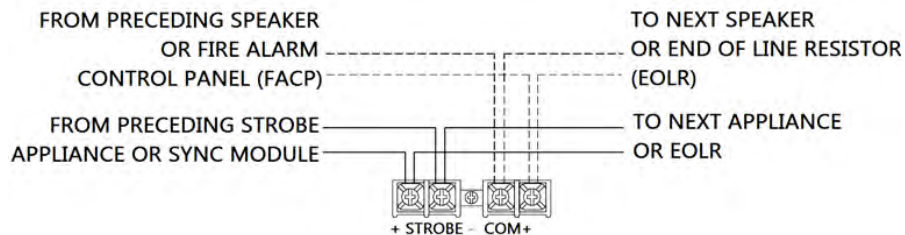
	Candela Ratings			Strobe Only Maximum Current Draw
	UL 1971	UL 1638 @ 77°F	UL 1638 @ -40°F	
<b>Candela</b>	30cd	180cd	115cd	0.138
	derate for amber lens:			
	22.5cd	135cd	86.25cd	

## Speaker Output

Voltage (Vrms)	Reverberant dBA at 10 ft. (Rated watts)						
	1/8 W	1/4 W	1/2 W	1 W	2 W	4 W	8 W
<b>25/70</b>	77	80	83	86	88	91	93

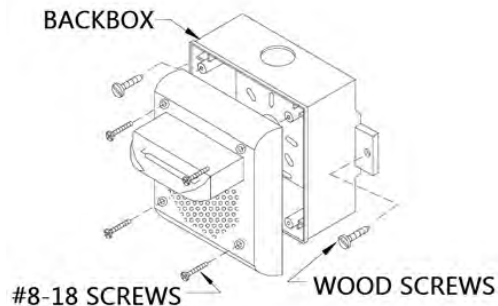
## Diagrams

### Wiring Diagram



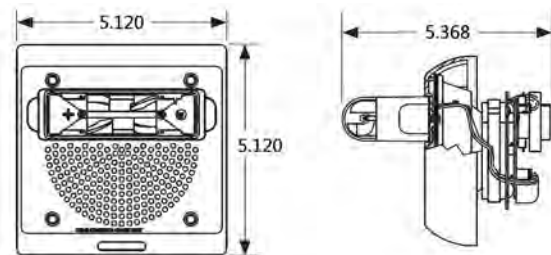
## Mounting

### SURFACE MOUNT



**NOTE** Maximum number conductors for 12 to 18 AWG is eight.

## Dimensions



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## Notification Appliance Devices

### Indoor Speaker Strobe, White, Ceiling-mount, Type II

580-077-00



*Strobe Candela Settings* 15, 30, 75, and 95cd

*Strobe Flash Rate* 1 flash per second over regulated voltage range

*Speaker Input* 25/70 Vrms

*Speaker Selections* 1/8, 1/4, 1/2, 1, and 2 watts

*Frequency Range* 400–4,000 Hz

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 85%

*Mounting* Ceiling-mount to 4 in. square back box

*Dimensions* 7.38 in. OD x 3.02 in. D

*Weight* 1.7 lb (0.77 kg)

*Standards Compliance* Listed UL 1480, UL 1638 and UL 1971

*FM* Approved

*CSFM* 7125-0785-0152

### Features

- Indoor Speaker Strobe with white housing, amber lens, and no lettering
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings:  
24V: 15/30/75/95cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1, and 2 watts
- Replaceable speaker grille
- In/out screw terminals for fast installation
- Integrated mounting plate included

### Specifications

*Voltage* Regulated 24 VDC/Vrms

*Operating Voltage* 16 to 33 VDC (filtered or FWR voltage)

### Ordering Information

Part Number	Description
580-077-00	Speaker Strobe, Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, no lettering, amber lens, 15, 30, 75, and 95cd, Frequency Range 400–4,000Hz, Speaker Input: 25/70 Vrms, taps 1/8, 1/4, 1/2, 1, and 2 watts

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-027-00	Ceiling Tile 2 ft. bridge support for 4 in. speakers
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

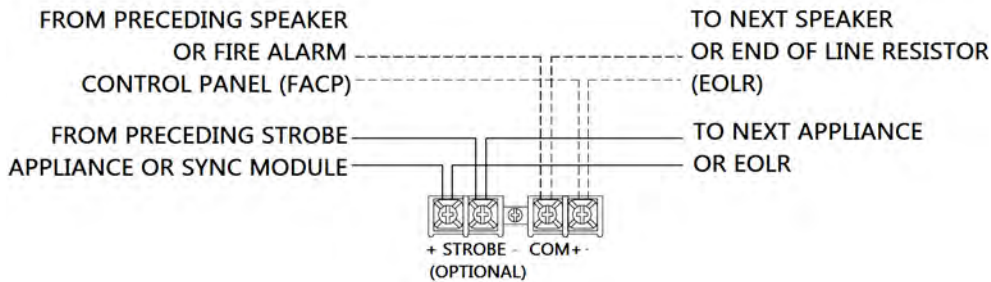
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15cd	30cd	75cd	95cd
	derate for amber lens:			
	11.25cd	22.5cd	56.25cd	71.25cd
16-33V	0.065	0.105	0.189	0.249

## Speaker Output

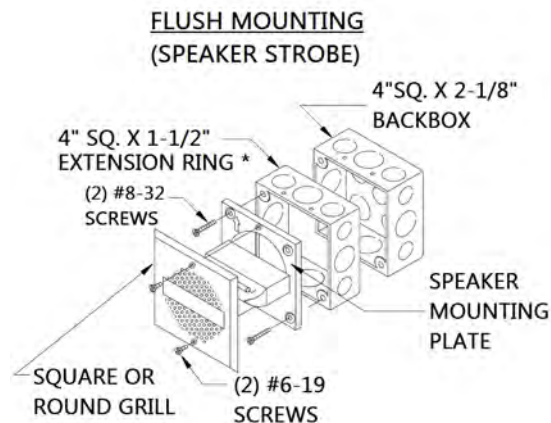
Voltage (Vrms)	Reverberant dBA at 10 ft. (rated watts)				
	1/8 W	1/4 W	1/2 W	1 W	2 W
25/70	77	79.5	82.5	85	88

## Diagrams

### Wiring Diagram

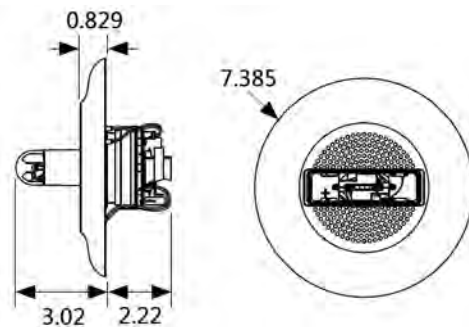


### Mounting

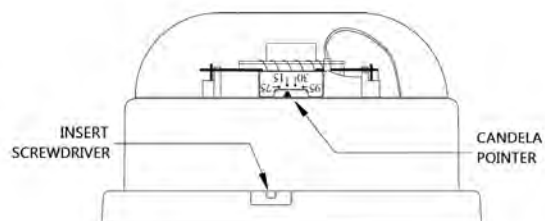


**NOTE** Max number of conductors for 12 to 18 AWG is eight.

### Dimensions



### Candela



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## Notification Appliance Devices

### Outdoor Speaker Strobe, 180cd, Wall-mount, White, Type II 580-078-00



#### Specifications

<i>Voltage</i>	Regulated 24 VDC/Vrms
<i>Operating Voltage</i>	16 to 33 VDC (filtered or FWR voltage)
<i>Strobe Candela</i>	180cd (UL 1638 at 77°F)
<i>Strobe Flash Rate</i>	1 flash per second over regulated voltage range
<i>Speaker Selections</i>	1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
<i>Frequency Range</i>	400–4,000 Hz
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	–40°F to 150°F (–40°C to 66°C)
<i>Relative Humidity</i>	95%
<i>Mounting</i>	Surface-mount weatherproof back box
<i>Dimensions</i>	Square: 5.12 in. H x 5.12 in. W x 5.368 in. D
<i>Standards Compliance</i>	Listed UL 1638, UL 1480 and UL 1971 <i>UL</i> S5391, S2652 <i>FM</i> Approved

#### Features

- Outdoor Speaker Strobe, square with white housing, ALERT lettering, and clear lens
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Strobe inputs polarized
- Xenon flashtube in a polycarbonate lens
- Strobe setting: 180cd, UL 1638 at 77°F
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1, 4, and 8 watts
- Replaceable speaker grille
- In/out screw terminals for fast installation
- Weatherproof

#### Ordering Information

Part Number	Description
<b>580-078-00</b>	Speaker Strobe, Square, White, Type II, Wall-mount, outdoor, 24 VDC, red ALERT lettering, clear lens, 180cd, Speaker input 25/70 Vrms, taps 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts, weatherproof; requires weatherproof back box

#### Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>588-028-00</b>	Back Box, weatherproof, surface-mount, white
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

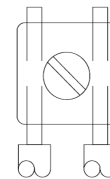
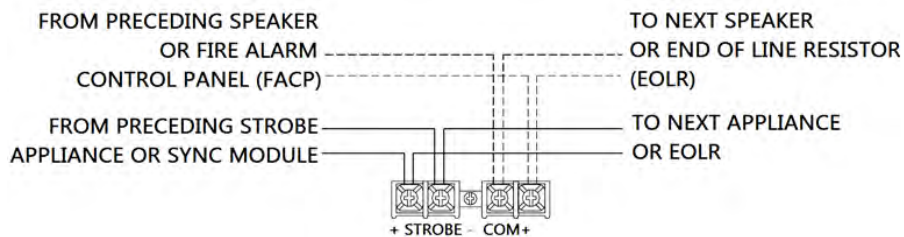
	Candela Ratings			Strobe Only Max. Current Draw
	UL 1971	UL 1638 @ 77°F	UL 1638 @ -40°F	
Candela	30cd	180cd	115cd	0.138

## Speaker Output

Voltage (Vrms)	Reverberant dBA at 10 ft. (rated watts)						
	1/8 W	1/4 W	1/2 W	1 W	2 W	4 W	8 W
25/70	77	80	83	86	88	91	93

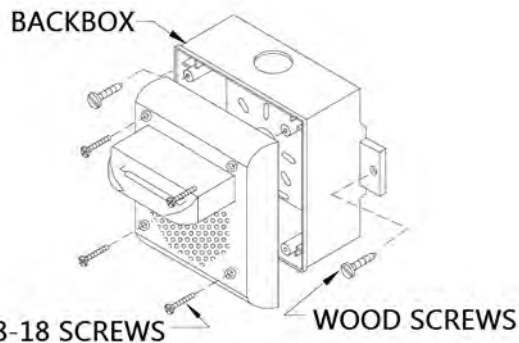
## Diagrams

### Wiring Diagram



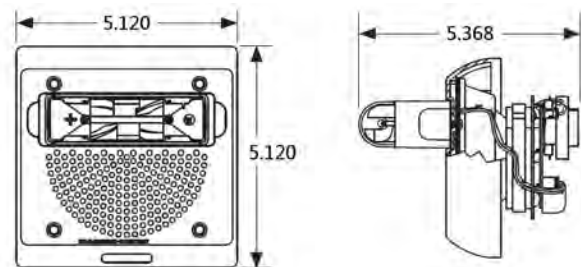
## Mounting

### SURFACE MOUNT



**NOTE** Maximum number conductors for 12 to 18 AWG is eight.

## Dimensions



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## Notification Appliance Devices

### Indoor Speaker Strobe, Self-Amp, Ceiling-mount, Type II

580-079-00



**Appliance Input Impedance** 0.5V Settings: Greater than 400 ohms, or equivalent to less than 1/1,000 W load  
25V Settings: Greater than 20 kohms, or equivalent to less than 1/32 W load

**Strobe Candela Settings** 15, 30, 75, and 95cd

**Strobe Flash Rate** 1 flash per second over regulated voltage range

**Frequency Range** 400–4,000 Hz

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Mounting** Mounts to 4 in. square deep back box with an extension ring

**Dimensions** 7.27 in. OD x 5.24 in. D

**Standards Compliance** Listed to UL 1480 and UL 1971

#### Features

- Indoor Speaker Strobe, Self-Amplified, Supervised, white housing, ALERT lettering, and clear lens
- Synchronized or non-synchronized strobe
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 15/30/75/95cd
- Selectable switch settings for six different sound output levels operating with audio input levels of 0.5 and 25 Vrms
- Compatible with reverse polarity supervision circuits
- Integrated speaker mounting plate
- In/out screw terminals for fast installation

#### Specifications

**Voltage** Regulated 24 VDC

**Power Input Voltage** 16 to 33 VDC (regulated)

**Current Consumption** 120 mA RMS maximum

**Appliance Input Level** 0.5 Vrms or 25 Vrms (Switch selectable)

#### Ordering Information

Part Number	Description
580-079-00	Speaker Strobe, Self-Amplified, Supervised, Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, red ALERT lettering, clear lens, multi-candela: 15, 30, 75 and 95cd, Speaker Input 0.5 and 25 Vrms with six output levels

#### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-013-01	Indoor Back Box, surface-mount, white
588-027-00	Ceiling Tile 2 ft. bridge support for 4 in. speakers
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

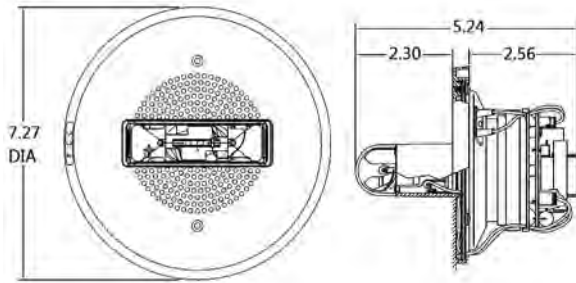
Voltage	UL Maximum Current Ratings (Amps) Maximum RMS Current			
	15cd	30cd	75cd	95cd
16-33V	0.065	0.105	0.189	0.249

## Speaker Output

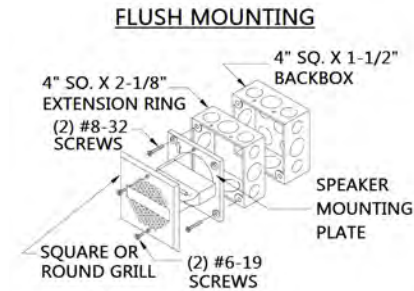
Vrms	Rated Reverberant dBA at 10 ft. (per UL 1480) Sound Level					
	6	5	4	3	2	1
0.5 and 25	84	81	77	74	71	68

## Diagrams

### Dimensions

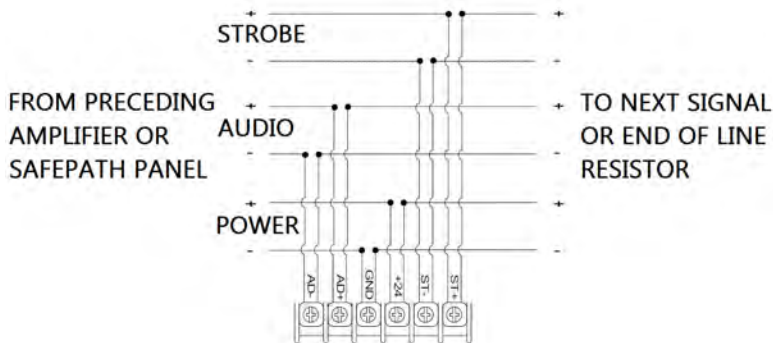


### Mounting

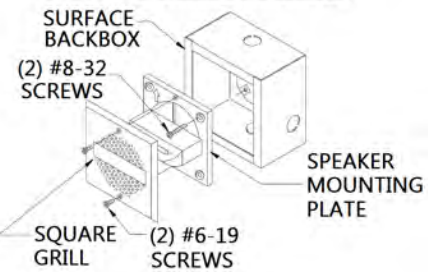


**NOTE** Max number of conductors is 8 for AWG#12 - AWG#18

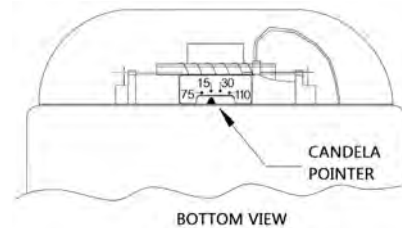
### Wiring Diagram



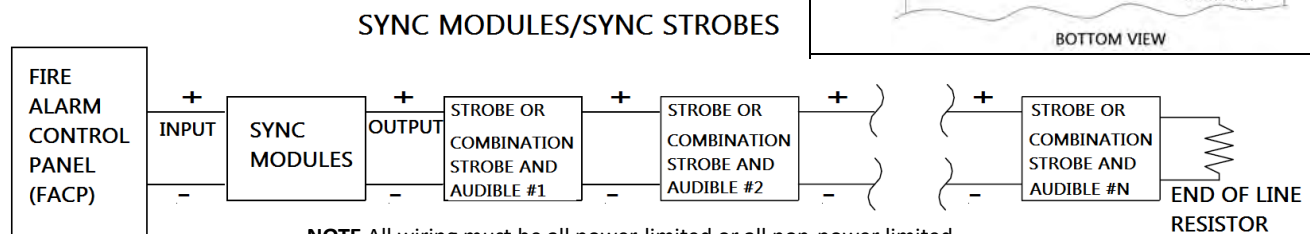
### SURFACE MOUNTING



### Candela



### Connection Diagram



**NOTE** All wiring must be all power-limited or all non-power limited



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## Notification Appliance Devices

### Indoor Speaker Strobe, Ceiling-mount, White, Type II

580-080-00



#### Features

- Indoor Speaker Strobe with white housing, ALERT lettering, and clear lens
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 15/30/75/95cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1 and 2 watts
- Replaceable speaker grille
- In/out screw terminals for fast installation
- Integrated mounting plate included

#### Specifications

*Voltage* Regulated 24 VDC/Vrms

*Operating Voltage* 16 to 33 VDC (filtered or FWR voltage)

*Strobe Candela Settings* 15, 30, 75 and 95cd

*Strobe Flash Rate* 1 flash per second over regulated voltage range

*Speaker Selections* 1/8, 1/4, 1/2, 1, and 2 watts

*Frequency Range* 400–4,000 Hz

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 85%

*Mounting* Ceiling-mount to 4 in. square back box

*Dimensions* 7.27 in. OD x 2.68 in. D

*Weight* 1.6 lb (0.73 kg)

*Standards Compliance* Listed UL 1638 and UL 1971

*UL* S5391

*CSFM* 7125-0785:0152

#### Ordering Information

Part Number	Description
580-080-00	Speaker Strobe, Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, red ALERT letter, clear lens, 15, 30, 75, 95cd, Frequency Range 400–4,000Hz, 1/8, 1/4, 1/2, 1 and 2 watts

#### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-013-01	Indoor Back Box, surface-mount, white
588-027-00	Ceiling Tile 2 ft. bridge support for 4 in. speakers
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

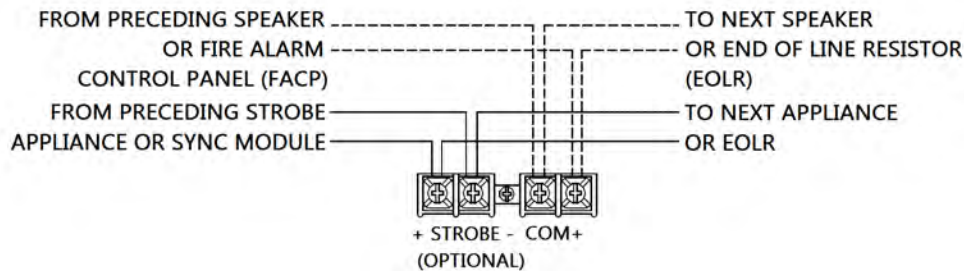
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15cd	30cd	75cd	95cd
16-33V	0.065	0.105	0.189	0.249

## Speaker Output

Voltage (Vrms)	Reverberant dBA at 10 ft. (per UL 1480 rated watts)				
	1/8 W	1/4 W	1/2 W	1 W	2 W
25/70	74	77	80	82	85

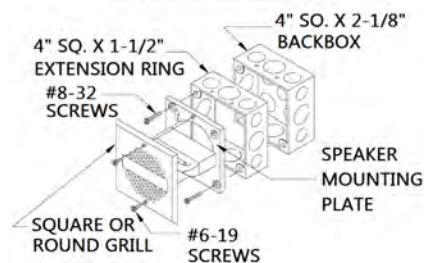
## Diagrams

### Wiring Diagram



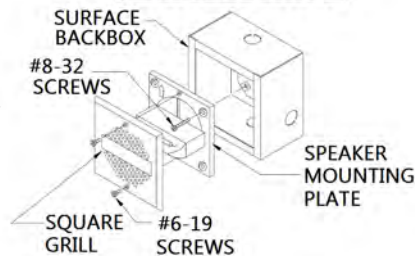
### Mounting

#### FLUSH MOUNTING



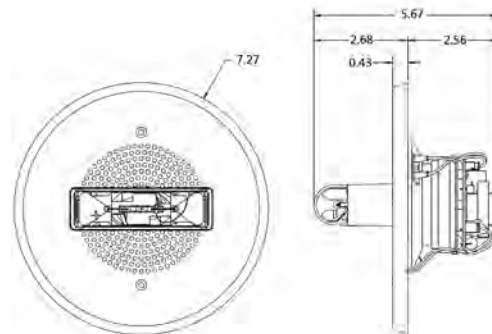
**NOTE** Max number of conductors for Flush-mount and Surface-mount is eight for AWG#12 thru AWG#18.

#### SURFACE MOUNTING

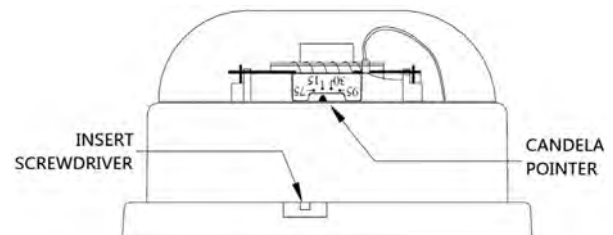


**NOTE** Back Box is compatible with wiremold and conduit. Mounting holes are for single-gang, double-gang, 4 in. square, 3.5 in. and 4 in. octagon or round back box.

### Dimensions



### Candela



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## Notification Appliance Devices

### Indoor Speaker Strobe, Wall-mount, White, Type II, 580-081-00



**Strobe Candela Settings** 15, 30, 75 and 110cd

**Strobe Flash Rate** 1 flash per second over regulated voltage range

**Speaker Selections** 1/8, 1/4, 1/2, 1 and 2 watts

**Frequency Range** 400–4,000 Hz

**Listed Sound Output** 83 dB at 10 ft.

**Input Wiring** 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 85%

**Mounting** Mounts to 4 in. square deep back box with an extension ring

**Dimensions** 5.13 in. W x 5.13 in. H x 2.56 in. D

**Weight** 1.8 lb (0.82 kg)

**Standards Compliance:** Listed UL 1480 and UL 1971

**UL** S5391

**FM** Approved

**CSFM** 7125-0785:0152

### Features

- Indoor Speaker Strobe with white housing, ALERT lettering, and clear lens
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 15/30/75/110cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1 and 2 watts
- Replaceable speaker grille
- In/out screw terminals for fast installation
- Integrated mounting plate included

### Specifications

**Voltage** Regulated 24 VDC/Vrms

**Operating Voltage** 16 to 33 VDC (filtered or FWR voltage)

### Ordering Information

Part Number	Description
<b>580-081-00</b>	Speaker Strobe, Square, White, Type II, Wall-mount, Indoor, 24 VDC, red ALERT letter, clear lens, 15, 30, 75, 110cd, Frequency Range 400–4,000Hz, Speaker input 25/70 Vrms, taps 1/8, 1/4, 1/2, 1 and 2 watts

### Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>588-013-01</b>	Indoor Back Box, surface-mount, white
<b>404-119-00</b>	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

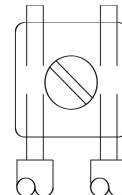
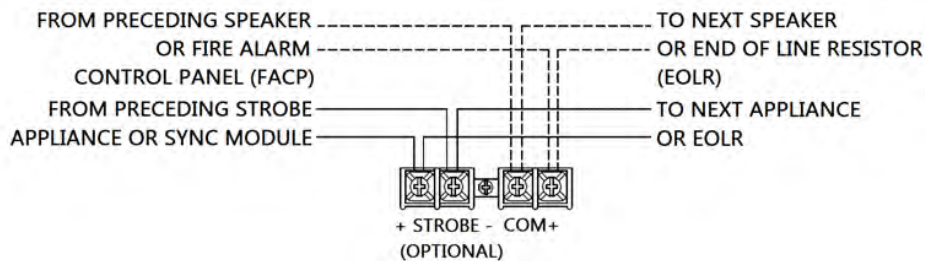
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15cd	30cd	75cd	110cd
16-33V	0.06	0.092	0.165	0.22

## Speaker Output

Voltage (Vrms)	Reverberant dBA at 10 ft. (per UL 1480 rated watts)				
	1/8 W	1/4 W	1/2 W	1 W	2 W
25/70	71	75	78	81	83

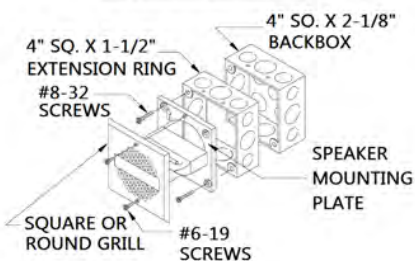
## Diagrams

### Wiring Diagram



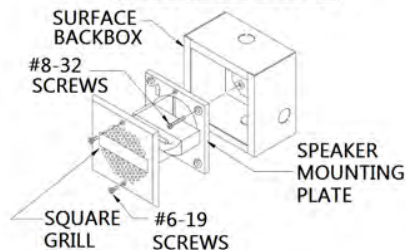
## Mounting

### FLUSH MOUNTING



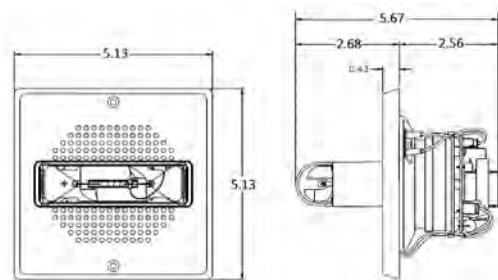
**NOTE** Max number of conductors for Flush-mount and Surface-mount is eight for AWG#12 thru AWG#18.

### SURFACE MOUNTING

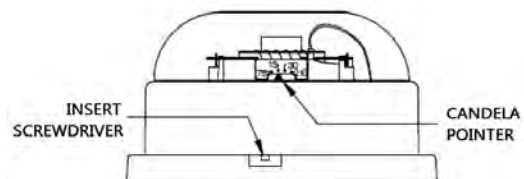


**NOTE** Back Box is compatible with wire-mold and conduit. Mounting holes are for single-gang, double-gang, 4 in. square, 3.5 in. and 4 in. octagon or round back box

## Dimensions



## Candela



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## Notification Appliance Devices

### Outdoor Speaker Strobe, White, Wall-mount, Type I

580-087-00



**MEA**  
approved

#### Features

- White housing with red FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 15/75cd  
24V: 15, 15/75, 30, 75, 95, 110, and 115cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage (25 and 70 Vrms) and power settings (1/4, 1/2, 1, 2 W)

- Speakers offer high fidelity and high volume sound output
- Weatherproof NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 DC/FWR
<i>Operating Voltage Range (Includes fire alarm panels with built in sync)</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15, 15/75cd 24 VDC: 15, 15/75, 30, 75, 95, 110, 115cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400 to 4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 W
<i>Mounting</i>	Universal Mounting Plate mounts to weatherproof back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	-40°F to 151°F (-40°C to 66°C)
<i>Relative Humidity</i>	Meets NEMA 4X, IP56 rating requirements
<i>Dimensions Wall-mount (Including Lens and Speaker)</i>	6 in. L x 5 in. W x 4.7 in. D (152 mm x 127 mm x 119 mm)
<i>Wall-mount Weatherproof Back Box</i>	6.5 in. L x 5.5 in. W x 2.9 in. D (165 mm x 140 mm x 74 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1638 and UL 1480 75S0 S4048 (Speaker)
<i>MEA Approved</i>	10-08-E
<i>State of California</i>	7320-1653:201



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# Notification Appliance Devices

## Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd
66	77	94	158	181	202	210

## Low Temperature Candela Derating (at –40°F)

Setting	75cd	95cd	110cd	115cd
Actual Candela	44cd	77cd	110cd	115cd

**NOTE** Do not use the 15, 15/75, and 30cd settings below 32°F.

## Wall-mount Speaker Sound Output (dBA)

Speaker	Watts			
	1/4	1/2	1	2
UL Reverberant (dBA @ 10 ft.)	80	83	86	89

## Ordering Information

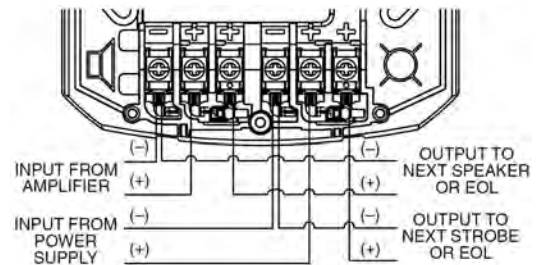
Part Number	Description
<b>580-087-00</b>	Speaker Strobe, White, Type I, Wall-mount, Outdoor, 12V or 24V, red FIRE lettering, clear lens, 15, 15/75, 30, 75, 95, 110, and 115cd, 25/70 Vrms, 1/4, 1/2, 1, 2 W, NEMA 4-X Rating, includes plastic weatherproof back box

## Associated Parts

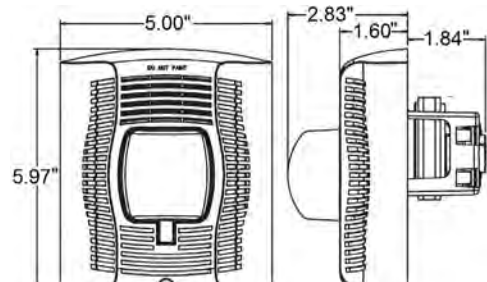
Part Number	Description
<b>588-059-00</b>	Trim Ring, wall-mount, white
<b>588-056-00</b>	Back Box, metal option, wall-mount, white, weatherproof, 6.5 in. L x 5.5 in. W x 2.9 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

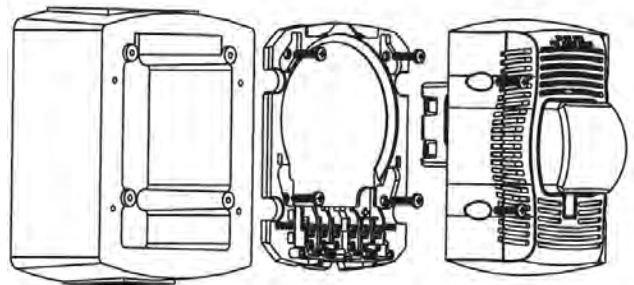
### Wiring Diagram



### Outdoor Wall-mount Speaker Strobe



### Weatherproof Back Box for Mounting Outdoor Wall-mount Speaker Strobe



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## Notification Appliance Devices

### Outdoor Speaker Strobe, Red, Wall-mount, Type I

580-088-00



**MEA**  
approved

#### Features

- Red housing with white FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 15/75cd  
24V: 15, 15/75, 30, 75, 95, 110, and 115cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage (25 and 70 Vrms) and power settings (1/4, 1/2, 1, 2 W)

- Speakers offer high fidelity and high volume sound output
- Weatherproof NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 DC/FWR
<i>Operating Voltage Range (Includes fire alarm panels with built in sync)</i>	8 to 17.5 V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15, 15/75cd 24 VDC: 15, 15/75, 30, 75, 95, 110, 115cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 W
<i>Mounting</i>	Universal Mounting Plate mounts to weatherproof back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	–40°F to 151°F (–40°C to 66°C)
<i>Relative Humidity</i>	Meets NEMA 4X, IP56 rating requirements
<i>Dimensions Wall-mount (Including Lens and Speaker)</i>	6 in. L x 5 in. W x 4.7 in. D (152 mm x 127 mm x 119 mm)
<i>Wall-mount Weatherproof Back Box</i>	6.5 in. L x 5.5 in. W x 2.9 in. D (165 mm x 140 mm x 74 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1638 and UL 1480 75S0 S4048 (Speaker)
<i>MEA Approved</i>	10-08-E
<i>State of California</i>	7320-1653:201



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# Notification Appliance Devices

## Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd
66	77	94	158	181	202	210

## Low Temperature Candela Derating (at –40°F)

Setting	75cd	95cd	110cd	115cd
Actual Candela	44cd	77cd	110cd	115cd

**NOTE** Do not use the 15, 15/75, and 30cd settings below 32°F.

## Wall-mount Speaker Sound Output (dBA)

Speaker	Watts			
	1/4	1/2	1	2
UL Reverberant (dBA @ 10 ft.)	80	83	86	89

## Ordering Information

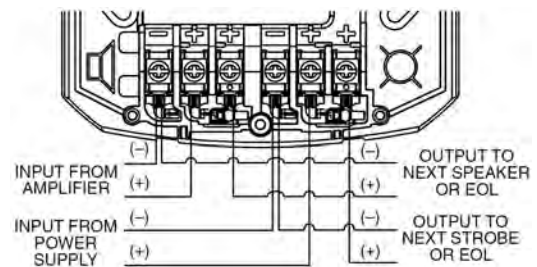
Part Number	Description
<b>580-088-00</b>	Speaker Strobe, Red, Type I, Wall-mount, Outdoor, 12V or 24V, White FIRE lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, and 115cd, 25/70 Vrms, 1/4, 1/2, 1, 2 W, NEMA 4-X Rating, includes plastic weatherproof back box

## Associated Parts

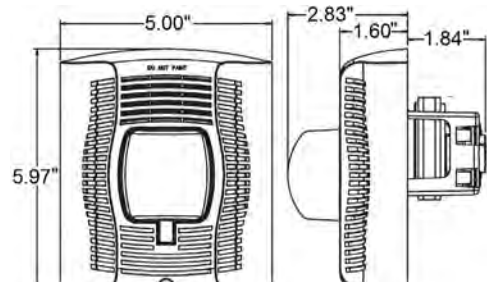
Part Number	Description
<b>588-059-50</b>	Trim Ring, wall-mount, red
<b>588-056-01</b>	Back Box, metal option, wall-mount, red, weatherproof, 6.5 in. L x 5.5 in. W x 2.9 in. D
<b>367-047-00</b>	Sync Module Type I

## Drawings

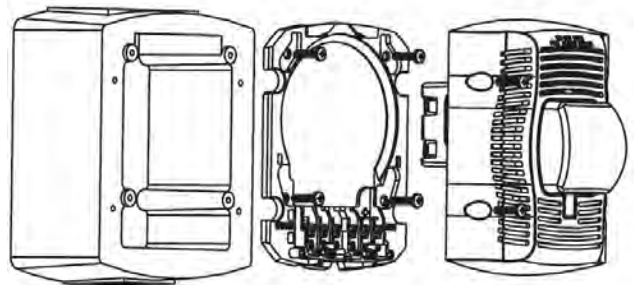
### Wiring Diagram



### Outdoor Wall-mount Speaker Strobe



### Weatherproof Back Box for Mounting Outdoor Wall-mount Speaker Strobe



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## Notification Appliance Devices

### Indoor Speaker Strobe, 8 in., Ceiling-mount, White, Type II 580-099-00



*Speaker impedance* 8 ohms

*Speaker* 25/70 Vrms  
1/8, 1/4, 1/2, 1, 2, 4, and 8 W

*Frequency Range* 400–4,000 Hz

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* 32°F to 120°F (0°C to 49°C)

*Relative Humidity* 85%

*Mounting* Flush-mount with 8 in. back box with optional 8 in. support bridge

*Dimensions* 12.81 in. OD x 3.52 in. D

*Weight* 3.12 lb (1.42 kg)

*Standards Compliance* Listed to UL 1480, UL 1971  
CAN/ULC-S526, CAN/ULC-S541

*CSFM* 7320-1785:0164

### Features

- Indoor Speaker Strobe, 8 in., white housing, FIRE lettering, and clear lens
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 115/177cd
- Speaker input voltage: of 25/70 Vrms and field selectable taps: 1/8, 1/4, 1/2, 1, 2, 4, and 8 watt
- Compatible with reverse polarity supervision circuits
- Round metal 12 in. grille
- In/out screw terminals for fast installation

### Specifications

*Voltage* Regulated 24 VDC

*Operating Voltage* 16 to 33 VDC (filtered or FWR input voltage)

*Strobe Candela Settings* 115/177cd

*Strobe Flash Rate* 1 flash per second over regulated voltage range

### Ordering Information

Part Number	Description
580-099-00	Speaker Strobe, 8 in., Round, White, Type II, Ceiling-mount, Indoor, 24 VDC, FIRE lettering, clear lens, high intensity candela: 115/177, Speaker input 25/70 Vrms, taps: 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts

### Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
129-049-00	8 in. Ceiling Speaker Back Box for installation of 8 in. round speaker
129-048-00	Indoor 8 in. speaker support tile bridge
404-119-00	NAC Power Extender, 115 VAC 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes <b>NOTE</b> P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12V/12Ah batteries (P/N 400-713-00) for 72-hour battery backup.



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# Notification Appliance Devices

## Strobe Current Draw

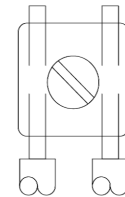
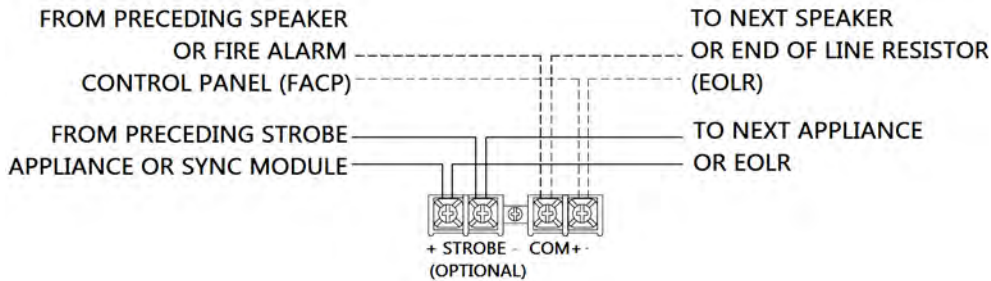
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)	
	115cd	177cd
16-33V	0.300	0.420

## Speaker Output

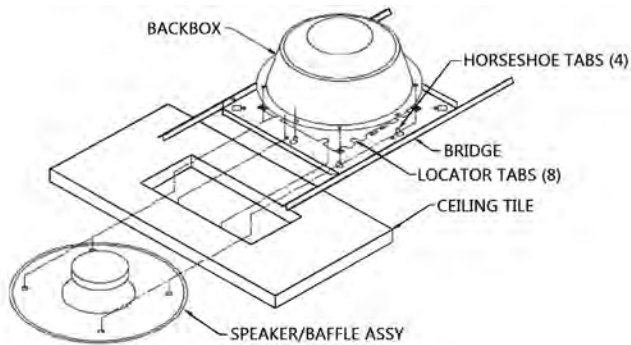
Voltage (Vrms)	Reverberant dBA at 10 ft.						
	1/8 W	1/4 W	1/2 W	1 W	2 W	4 W	8 W
25/70	75	78	81	84	87	90	93

## Diagrams

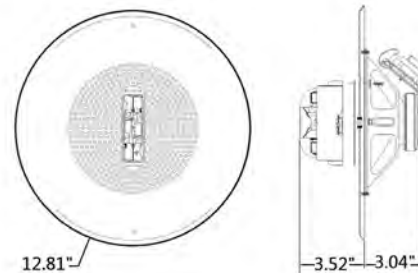
### Wiring Diagram



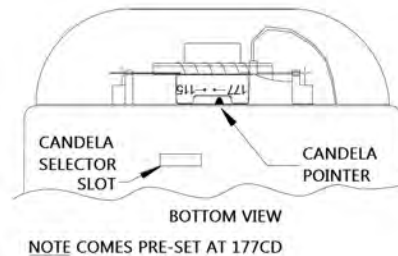
## Mounting



## Dimensions



## Candela



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## Notification Appliance Devices

# Outdoor Speaker Strobe, White, Ceiling-mount, Type I 580-104-00



**MEA**  
approved

### Features

- White housing with clear lens and no lettering
- Plug-in design reduces ground faults
- Tamper-resistant construction
- Field selectable high candela settings:  
24V: 135, 150, 177, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage (25 and 70 Vrms) and power settings (1/4, 1/2, 1, 2 watts)
- Speakers offer high fidelity and high volume sound output
- Weatherproof NEMA 4X, IP56
- Weatherproof back box included

### Specifications

*Nominal Voltage (Speakers)* 25 or 70 Vrms (nominal)

*Supervisory Voltage (Speakers)* 50 VDC maximum

*Nominal Voltage (Strobes)* Regulated 24 VDC/FWR

*Operating Voltage (Includes Fire Alarm Panels with built in sync)* 8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)

*Operating Voltage with Type I Sync Module* 9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)

*Candela* 24 VDC: 135, 150, 177 and 185cd

*Strobe Flash Rate* 1 flash per second

*Speaker Frequency Range* 400–4,000 Hz

*Power* 1/4, 1/2, 1, 2 watts

*Mounting* Universal Mounting Plate mounts to weatherproof back box

*Input Wiring* 12 to 18 AWG

**NOTE** Required wire gauge based on voltage drop.

*Operating Temperature* –40°F to 151°F (–40°C to 66°C)

*Relative Humidity* Meets NEMA 4X, IP56 rating requirements

*Dimensions Ceiling-mount (Including Lens and Speaker)* 6.8 in. OD x 4.7 in. D (173 mm x 119 mm)

*Weatherproof Back Box* 7.2 in. OD x 7.6 in. D (183 mm x 193 mm)

*Standards Compliance:*

*UL Listed* Listed to UL 1638 and UL 1480 S4048

*MEA Approved* 10-08-E

*State of California* 7320-1653:201

### Ceiling-mount Strobe High Candela Current Draw (mA)

Maximum Current Draw 16–33 VDC			
135cd	150cd	177cd	185cd
228	246	281	286



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P.O. Box 14129, Spokane Valley, WA 99214-0129; 14820 E. Sprague Ave., Spokane Valley, WA 99216-2149  
Phone (509) 926-6277 Fax (509) 924-4980 E-mail [service@monaco-inc.com](mailto:service@monaco-inc.com) Web [www.monaco-inc.com](http://www.monaco-inc.com)



# Notification Appliance Devices

## Outdoor Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	80	83	86	89

## Ordering Information

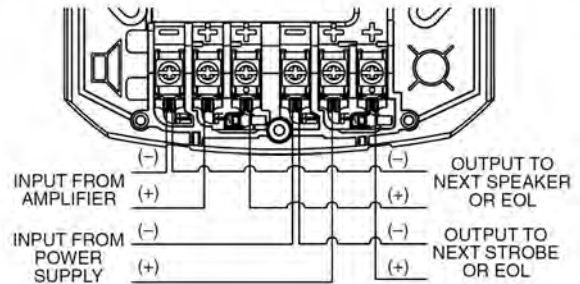
Part Number	Description
<b>580-104-00</b>	Speaker Strobe, White, Type I, Ceiling-mount, Outdoor, 12V or 24V, no lettering, clear lens, 135, 150, 177, and 185 High Candela, 25/70 Vrms, 1/4, 1/2, 1, 2 watts, NEMA 4X rating, includes plastic weatherproof back box

## Associated Parts

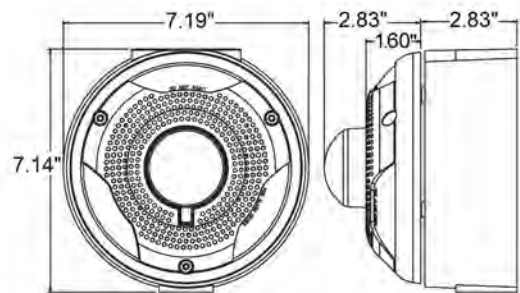
Part Number	Description
<b>589-004-00</b>	Red Decals, ceiling-mount: AGENT, EVAC, ALERT, or FIRE <b>NOTE</b> Order three per device.
<b>369-022-00</b>	Strobe Attachment, amber lens option for ceiling-mount device
<b>369-025-00</b>	Blue lens option for ceiling-mount device
<b>369-026-00</b>	Red lens option for ceiling-mount device
<b>369-027-00</b>	Green lens option for ceiling-mount device
<b>588-060-00</b>	Trim Ring, ceiling-mount, white
<b>367-047-00</b>	Sync Module, Type I

## Drawings

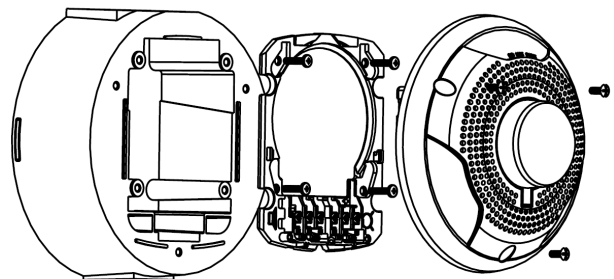
### Wiring Diagram



### Outdoor Ceiling-mount Speaker Strobe



### Weatherproof Back Box for Mounting Outdoor Ceiling-mount Speaker Strobe



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## Notification Appliance Devices

### Outdoor Speaker Strobe, White, Wall-mount, Type I

580-105-00



**MEA**  
approved

#### Features

- White housing with red ALERT lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75cd settings.
- Field selectable candela settings on wall units:  
12 V: 15, 15/75cd  
24 V: 15, 15/75, 30, 75, 95, 110, and 115cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

- Rotary switch simplifies field selection of speaker voltage
- Speakers offer high fidelity and high volume sound output
- Weatherproof NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage (Includes Fire Alarm Panels with built in sync)</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Standard Candela</i>	12 VDC: 15, 15/75cd 24 VDC: 15, 15/75, 30, 75, 95, 110, 115cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting</i>	Universal Mounting Plate mounts to weatherproof back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	–40°F to 151°F (–40°C to 66°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions Wall-mount (Including Lens and Speaker)</i>	6 in. L x 5 in. W x 4.7 in. D (152 mm x 127 mm x 119 mm)
<i>Wall-mount Weatherproof Back Box</i>	6.5 in. L x 5.5 in. W x 2.9 in. D (165 mm x 140 mm x 74 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1638 and UL 1480 7550
<i>MEA Approved</i>	10-08-E
<i>State of California</i>	7320-1653:201



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# Notification Appliance Devices

## Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd
66	77	94	158	181	202	210

## Low Temperature Candela Derating (at –40°F)

Setting	75cd	95cd	110cd	115cd
Actual Candela	44cd	77cd	110cd	115cd

**NOTE** Do not use the 15, 15/75, and 30cd settings below 32°F.

## Wall-mount Speaker Sound Output (dBA)

Speaker	Watts			
	1/4	1/2	1	2
UL Reverberant (dBA @ 10 ft.)	80	83	86	89

## Ordering Information

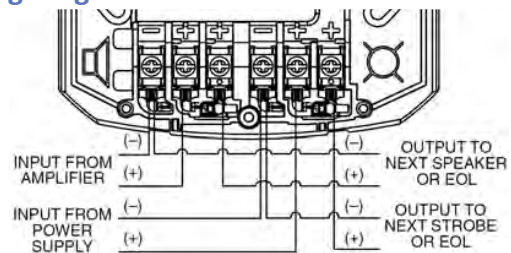
Part Number	Description
<b>580-105-00</b>	Speaker Strobe, White, Type I, Wall-mount, Outdoor, 12V or 24V, Red ALERT lettering, clear lens, 15, 15/75, 30, 75, 95, 110, and 115cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts, includes plastic weatherproof back box

## Associated Parts

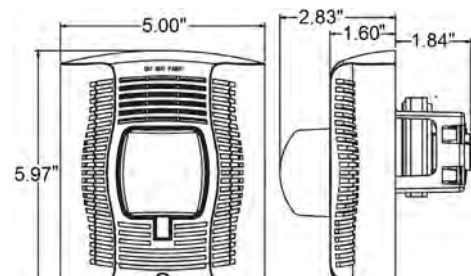
Part Number	Description
<b>369-023-00</b>	Strobe Attachment, amber lens for wall-mount device; used for indoor and outdoor application
<b>588-059-00</b>	Trim Ring, wall-mount, white
<b>588-056-00</b>	Back Box, metal option, wall-mount, white
<b>367-047-00</b>	Sync Module, Type I

## Drawings

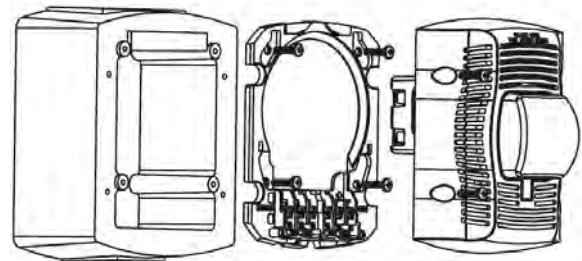
### Wiring Diagram



### Outdoor Wall-mount Speaker Strobe



### Weatherproof Back Box for Mounting Outdoor Wall-mount Speaker Strobe



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## Notification Appliance Devices

### Outdoor Speaker Strobe, White, Ceiling-mount, Type I 580-106-00



#### Features

- White housing with red ALERT lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 15/75cd settings.
- Field selectable candela settings on ceiling strobes:  
12V: 15, 15/75cd  
24V: 15, 15/75, 30, 75, 95, 110, and 115cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch simplifies field selection of speaker voltage (25 and 70 Vrms) and power settings (1/4, 1/2, 1, 2 watts)

- Speakers offer high fidelity and high volume sound output
- Weatherproof NEMA 4X, IP56
- Weatherproof back box included

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage (Includes Fire Alarm Panels with built in sync)</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15, 15/75cd 24 VDC: 15, 15/75, 30, 75, 95, 110, 115cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting</i>	Universal Mounting Plate mounts to weatherproof back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	–40°F to 151°F (–40°C to 66°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions Ceiling-mount (Including Lens and Speaker)</i>	6.8 in. OD x 4.7 in. D (173 mm x 119 mm)
<i>Weatherproof Back Box</i>	7.2 in. OD x 2.9 in. D (182 mm x 74 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1638 and UL 1480 75S0
<i>MEA Approved</i>	10-08-E
<i>State of California</i>	7320-1653:201



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# Notification Appliance Devices

## Ceiling-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd
66	77	94	158	181	202	210

## Low Temperature Candela Derating (at –40°F)

Setting	75cd	95cd	110cd	115cd
Actual Candela	44cd	77cd	110cd	115cd

**NOTE** Do not use the 15, 15/75, and 30cd settings below 32°F.

## Outdoor Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	80	83	86	89

## Ordering Information

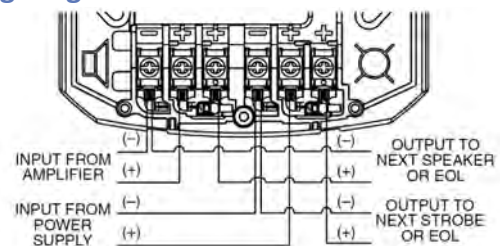
Part Number	Description
<b>580-106-00</b>	Speaker Strobe, White, Type I, Ceiling-mount, Outdoor, 12V or 24V, Red ALERT lettering, clear lens, 15, 15/75, 30, 75, 95, 110, and 115cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts, includes plastic weatherproof back box

## Associated Parts

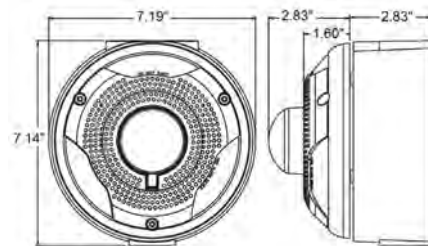
Part Number	Description
<b>589-004-00</b>	Red Decals, ceiling-mount: AGENT, EVAC, ALERT, or FIRE <b>NOTE</b> Order three per device.
<b>369-022-00</b>	Strobe Attachment, amber lens option for ceiling-mount device
<b>369-025-00</b>	Blue lens option for ceiling-mount device
<b>369-026-00</b>	Red lens option for ceiling-mount device
<b>369-027-00</b>	Green lens option for ceiling-mount device
<b>588-060-00</b>	Trim Ring, ceiling-mount, white
<b>367-047-00</b>	Sync Module, Type I

## Drawings

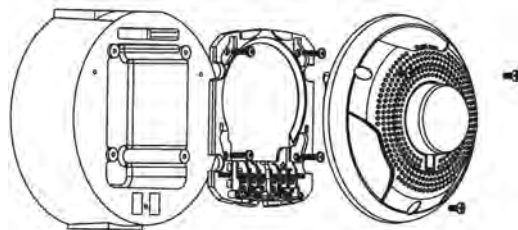
### Wiring Diagram



### Ceiling-mount Speaker Strobe



### Weatherproof Back Box for Mounting Outdoor Ceiling-mount Speaker Strobe



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# Notification Appliance Devices

## Indoor Speaker Strobe, Red, Wall-mount, Type I

580-107-00



### Features

- Red housing with white FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12V or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

- Rotary switch simplifies field selection of speaker voltage
- Speakers offer high fidelity and high volume sound output

### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage (includes fire alarm panels with built in sync)</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting*</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box  *Flush-mount applications do not require an extension ring.
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with lens and speaker</i>	6.5 in. L x 5.0 in. W x 3.9 in. D (165 mm x 127 mm x 99 mm)
<i>Dimensions with Surface-mount Back Box</i>	6.6 in. L x 5.1 in. W x 4.5 in. D (168 mm x 130 mm x 116 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1480 and UL 1971 S4048
<i>FM Approved</i>	3057493
<i>State of California</i>	7320-1653:0505



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# Notification Appliance Devices

## Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222

## Wall-mount Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	77	80	83	86
UL Anechoic (dBA @ 10 ft.)	77	80	83	86

## Ordering Information

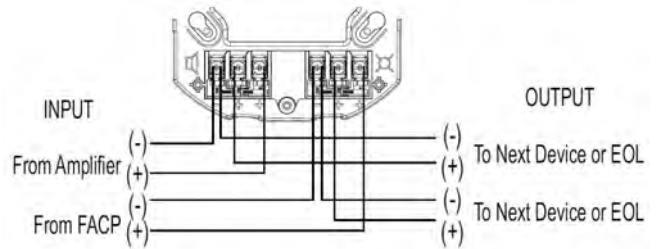
Part Number	Description
<b>580-107-00</b>	Speaker Strobe, Red, Type I, Wall-mount, Indoor, 12V or 24V, White FIRE lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

## Associated Parts

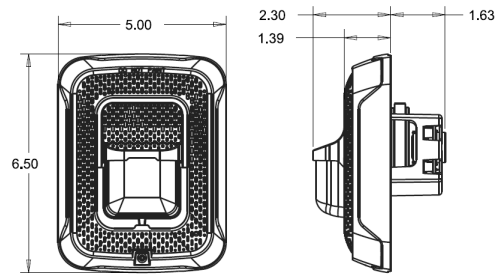
Part Number	Description
<b>589-021-00</b>	Bezel, Red, Type I, Wall-mount, Speaker Strobe, no lettering, order one per device
<b>588-098-00</b>	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-092-00</b>	Back Box, Wall-Surface-mount, Red, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D
<b>367-047-00</b>	Sync Module Type I

## Drawings

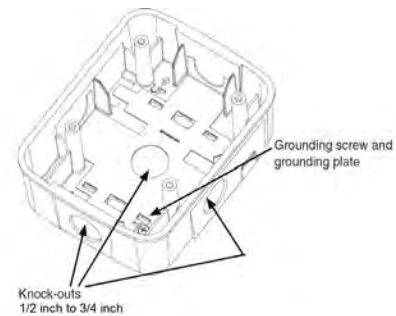
### Wiring Diagram



### Wall-mount Speaker Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2-1/8 in.



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## Notification Appliance Devices

### Indoor Speaker Strobe, White, Wall-mount, Type I

580-108-00



#### Features

- White housing with red FIRE lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

- Rotary switch simplifies field selection of speaker voltage
- Speakers offer high fidelity and high volume sound output

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage (Includes Fire Alarm Panels with built in sync)</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting*</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 2-1/8 in. back box *Flush-mount applications do not require an extension ring.
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with Lens and Speaker</i>	6.5 in. L x 5.0 in. W x 3.9 in. D (165 mm x 127 mm x 99 mm)
<i>Dimensions with Surface-mount Back Box</i>	6.6 in. L x 5.1 in. W x 4.5 in. D (168 mm x 130 mm x 116 mm)
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<i>FM Approved</i>	3057493
<i>State of California</i>	7320-1653:0505



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# Notification Appliance Devices

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## Ordering Information

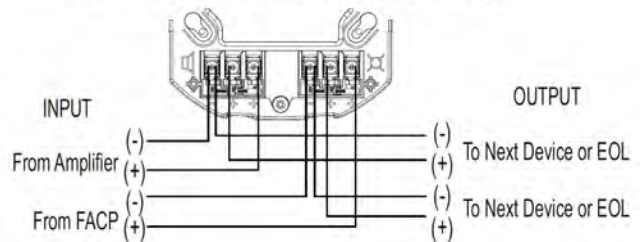
Part Number	Description
<b>580-108-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red FIRE lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

## Associated Parts

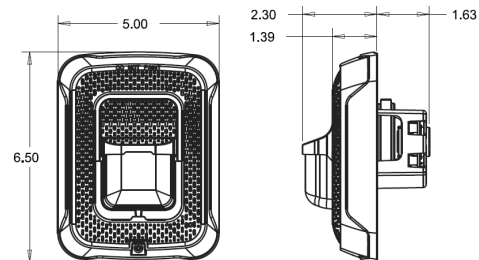
Part Number	Description
<b>589-026-00</b>	Bezel, White, Type I, Wall-mount, Speaker Strobe, no lettering, order one per device
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-093-00</b>	Back Box, Wall-surface-mount, White, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

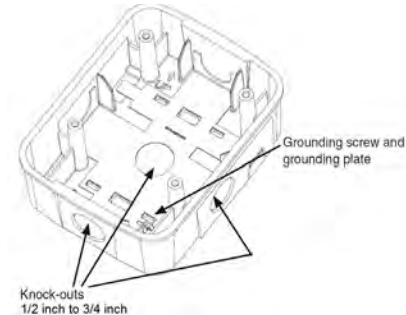
### Wiring Diagram



### Wall-mount Speaker Strobe



### Back Box, Surface-mount



### Junction Box for Flush-mounting use 4 in. x 4 in. x 2 1/8 in.



**Monaco Enterprises, Inc.**

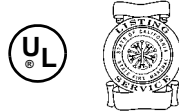
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## Notification Appliance Devices

### Indoor Speaker Strobe, White, Wall-mount, Type I 580-110-00



#### Features

- White housing with red ALERT lettering and amber lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant Torx head screw
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rated from 32°F to 120°F (indoor devices)

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage (Includes Fire Alarm Panels with built in sync)</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with Lens And Speaker</i>	6.5 in. L x 5.0 in. W x 3.9 in. D (165 mm x 127 mm x 99 mm)
<i>Dimensions with Surface-mount Back Box</i>	6.6 in. L x 5.1 in. W x 4.5 in. D (168 mm x 130 mm x 116 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Speaker Listed to ANSI/UL 1480 Strobe Listed to ANSI/UL 1638 S4048
<i>State of California</i>	7320-1653:0505



**Monaco Enterprises, Inc.**  
P.O. Box 14129, Spokane Valley, WA 99214-0129; 14820 E. Sprague Ave., Spokane Valley, WA 99216-2149  
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# Notification Appliance Devices

## Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222

## Wall-mount Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	77	80	83	86
UL Anechoic (dBA @ 10 ft.)	77	80	83	86

## Ordering Information

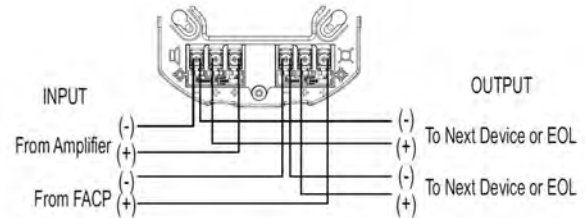
Part Number	Description
580-110-00	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12 V or 24 V, Red ALERT lettering, amber lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

## Associated Parts

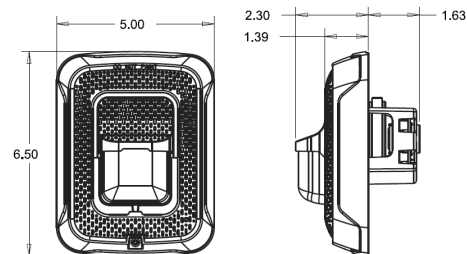
Part Number	Description
589-026-00	Bezel, White, Type I, Wall-mount, Speaker Strobe, no lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
588-093-00	Back Box, Wall-Surface-mount, White, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D.
367-047-00	Sync Module, Type I

## Drawings

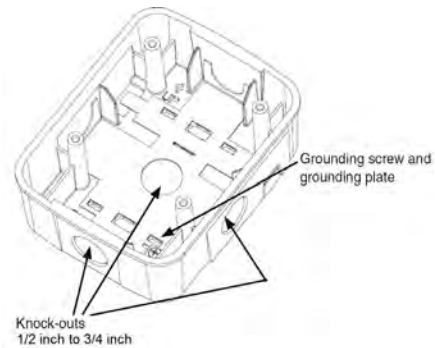
### Wiring Diagram



### Wall-mount Speaker Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2 1/8 in.



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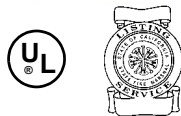




## Notification Appliance Devices

### Indoor Speaker Strobe, White, Wall-mount, Type I

580-111-00



#### Features

- White housing with red ALERT lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

- Rotary switch simplifies field selection of speaker voltage
- Speakers offer high fidelity and high volume sound output

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage (Includes Fire Alarm Panels with built in sync)</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting*</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box <b>*Flush-mount applications do not require an extension ring.</b>
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Wall-mount Dimensions with Lens and Speaker</i>	6.5 in. L x 5 in. W x 2.3 in. D (165 mm x 127 mm x 58 mm)
<i>Dimensions with Surface-mount Back Box</i>	6.6 in. L x 5.1 in. W x 4.5 in. D (168 mm x 130 mm x 116 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1480 and UL 1971 S4048
<i>State of California</i>	7320-1653:0505



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# Notification Appliance Devices

## Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222

## Wall-mount Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	77	80	83	86
UL Anechoic (dBA @ 10 ft.)	77	80	83	86

## Ordering Information

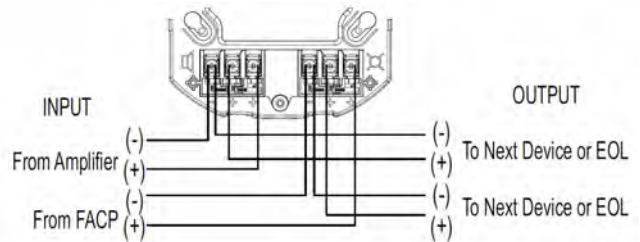
Part Number	Description
<b>580-111-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12 V or 24 V, Red ALERT Lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

## Associated Parts

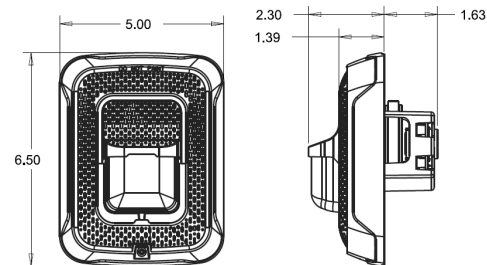
Part Number	Description
<b>589-026-00</b>	Bezel, White, Type I, Wall-mount, Speaker Strobe, no lettering, order one per device
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-093-00</b>	Back Box, Wall-Surface-mount, White, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

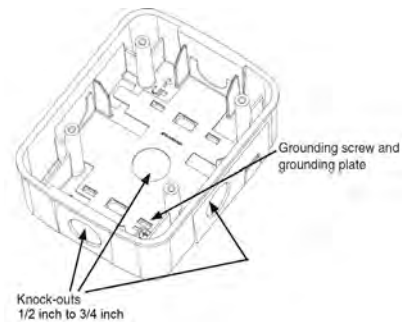
### Wiring Diagram



### Wall-mount Speaker Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2 1/8 in.



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# Notification Appliance Devices

## Indoor Speaker Strobe, White, Ceiling-mount, Type I 580-112-00



### Features

- White housing with red ALERT lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper resistant Torx head screw
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on ceiling units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 115, 150, and 177cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed

- Rated from 32°F to 120°F (indoor devices)

### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage (Includes Fire Alarm Panels with built in sync)</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 115, 150, 177cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Dimensions with Lens and Speaker</i>	6.8 in. OD x 4.5 in. D (173 mm x 73 mm)
<i>Dimension with Surface-mount Back Box</i>	6.9 in. OD x 5.37 in. D (176 mm x 136 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to 1480 and UL 1971 S4048
<i>State of California</i>	7320-1653:0505

### Ceiling-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	115cd	150cd	177cd
41	63	111	134	158	189	226



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# Notification Appliance Devices

## Ceiling-mount Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	77	80	83	86

## Ordering Information

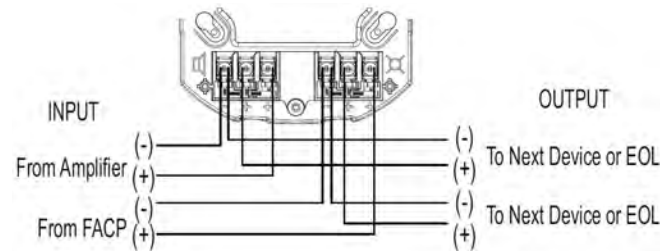
Part Number	Description
<b>580-112-00</b>	Speaker Strobe, White, Type I, Ceiling-mount, Indoor, 12 V or 24 V, Red ALERT lettering, clear lens, 15, 30, 75, 95, 115, 150, and 177cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

## Associated Parts

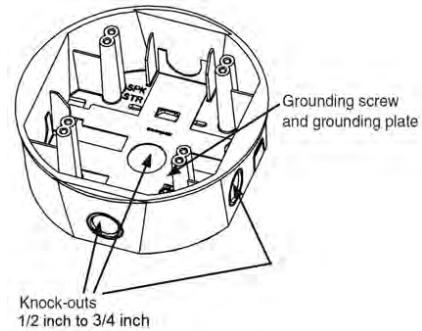
Part Number	Description
<b>589-034-00</b>	Bezel, White, Type I, Ceiling-mount, Speaker Strobe, no lettering, order one per device
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-095-00</b>	Trim Ring, White, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
<b>588-094-00</b>	Back Box, Ceiling-Surface-mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD x 2.5 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

### Wiring Diagram



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2 1/8 in.



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## Notification Appliance Devices

### Indoor Speaker Strobe, White, Ceiling-mount, Type I 580-113-00



#### Features

- White housing with no lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper resistant Torx head screw
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on ceiling units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 115, 150, and 177cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rated from 32°F to 120°F (indoor devices)

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 115, 150, 177cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box
<i>Wiring Input</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Ceiling-mount Dimensions with Lens and Speaker</i>	6.8 in. OD x 2.8 in. D (173 mm x 73 mm)
<i>with Surface-mount Back Box</i>	6.9 in. OD x 5.37 in. D (176 mm x 136 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1480 and UL 1971 S4048
<i>FM Approved</i>	3057493
<i>State of California</i>	7320-1653:0505

#### Ceiling-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	115cd	150cd	177cd
41	63	111	134	158	189	226



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# Notification Appliance Devices

## Ceiling-mount Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	79	82	85	88

## Ordering Information

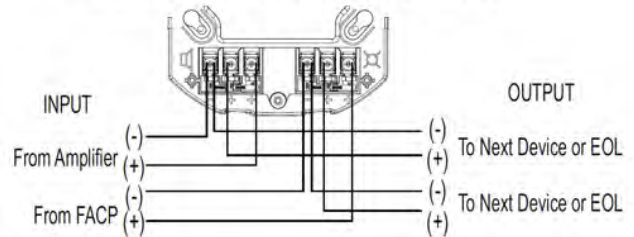
Part Number	Description
<b>580-113-00</b>	Speaker Strobe, White, Type I, Ceiling-mount, Indoor, 12V or 24V, No Lettering, Clear Lens, 15, 30, 75, 95, 115, 150, and 177cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

## Associated Parts

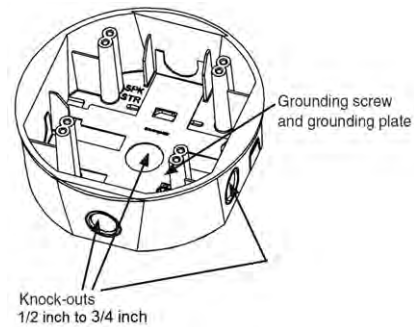
Part Number	Description
<b>589-027-00</b>	Bezel, White, Type I, Ceiling-mount, Speaker Strobe, Red EVAC lettering, order one per device
<b>589-031-00</b>	Bezel, White, Type I, Ceiling-mount, Speaker Strobe, Red AGENT lettering, order one per device
<b>589-032-00</b>	Bezel, White, Type I, Ceiling-mount, Speaker Strobe, Red ALERT lettering, order one per device
<b>589-033-00</b>	Bezel, White, Type I, Ceiling-mount, Speaker Strobe, Red FIRE lettering, order one per device
<b>365-013-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-017-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-018-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-019-00</b>	Lens, Type I, Ceiling-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-095-00</b>	Trim Ring, White, Type I, Ceiling-mount, Universal, 8.5 in. OD x 0.4 in. D
<b>588-094-00</b>	Back Box, Ceiling-Surface-mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9 in. OD x 2.5 in. D
<b>367-047-00</b>	Sync Module Type I

## Drawings

### Wiring Diagram



### Back Box, Ceiling-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2 1/8 in.



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## Notification Appliance Devices

### Indoor Speaker Strobe, White, Wall-mount, Type I

580-114-00



#### Features

- White housing with no lettering and clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper resistant Torx head screw
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rated from 32°F to 120°F (indoor devices)

#### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions Wall-mount with Lens and Speaker</i>	6.5 in. L x 5 in. W x 3.9 in. D (165 mm x 127 mm x 99 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1480 and UL 1971 S4048
<i>FM Approved</i>	3057493
<i>State of California</i>	7320-1653:0505

#### Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222



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# Notification Appliance Devices

## Wall-mount Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	77	80	83	86

## Ordering Information

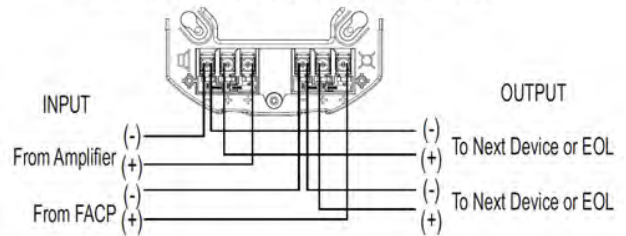
Part Number	Description
<b>580-114-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

## Associated Parts

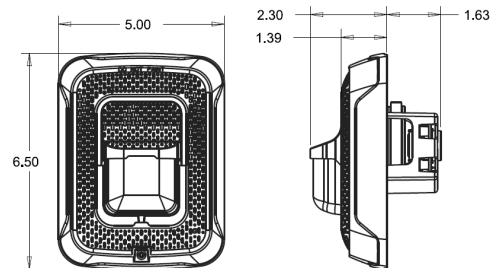
Part Number	Description
<b>589-022-00</b>	Bezel, White, Type I, Wall-mount, Speaker Strobe, Red AGENT lettering, order one per device
<b>589-023-00</b>	Bezel, White, Type I, Wall-mount, Speaker Strobe, Red ALERT lettering, order one per device
<b>589-024-00</b>	Bezel, White, Type I, Wall-mount, Speaker Strobe, Red EVAC lettering, order one per device
<b>589-025-00</b>	Bezel, White, Type I, Wall-mount, Speaker Strobe, Red FIRE lettering, order one per device
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-099-00</b>	Trim Ring, White, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-093-00</b>	Back Box, Wall-Surface-mount, White, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

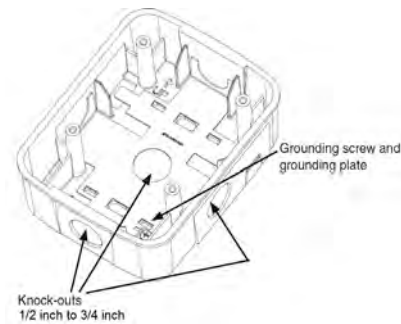
### Wiring Diagram



### Wall-mount Speaker Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 2 1/8 in.



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# Notification Appliance Devices

## Indoor Speaker Strobe, Red, Wall-mount, Type I

580-115-00



### Features

- Red housing with clear lens and no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper resistant Torx head screw
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rated from 32°F to 120°F (indoor devices)

### Specifications

<i>Nominal Voltage (Speakers)</i>	25 or 70 Vrms (nominal)
<i>Supervisory Voltage (Speakers)</i>	50 VDC maximum
<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal), or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Speaker Frequency Range</i>	400–4,000 Hz
<i>Speaker Power</i>	1/4, 1/2, 1, 2 watts
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 2 1/8 in. back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions Wall-mount with Lens And Speaker</i>	6.5 in. L x 5.0 in. W x 3.9 in. D (165 mm x 127 mm x 99 mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	Listed to UL 1480 and UL 1971 S4048
<i>FM Approved</i>	3057493
<i>State of California</i>	7320-1653:0505

### Wall-mount Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222



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# Notification Appliance Devices

## Wall-mount Speaker Sound Output

Sound Output	1/4 W	1/2 W	1 W	2 W
UL Reverberant (dBA @ 10 ft.)	77	80	83	86

## Ordering Information

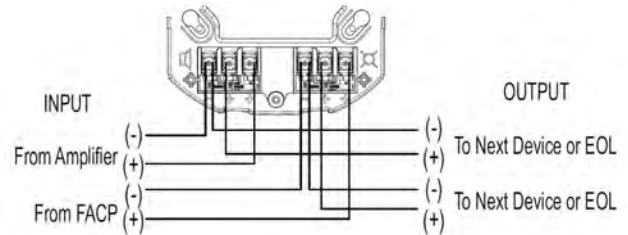
Part Number	Description
<b>580-115-00</b>	Speaker Strobe, Red, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

## Associated Parts

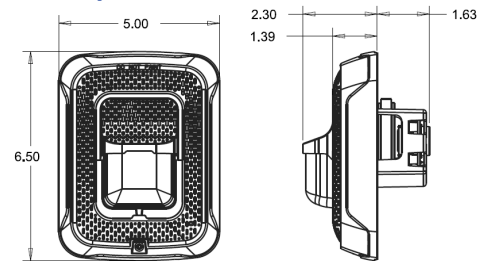
Part Number	Description
<b>589-017-00</b>	Bezel, Red, Type I, Wall-mount, Speaker Strobe, White AGENT lettering, order one per device
<b>589-018-00</b>	Bezel, Red, Type I, Wall-mount, Speaker Strobe, White ALERT lettering, order one per device
<b>589-019-00</b>	Bezel, Red, Type I, Wall-mount, Speaker Strobe, White EVAC lettering, order one per device
<b>589-020-00</b>	Bezel, Red, Type I, Wall-mount, Speaker Strobe, White FIRE lettering, order one per device
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-098-00</b>	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-092-00</b>	Back Box, Wall-Surface-mount, Red, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

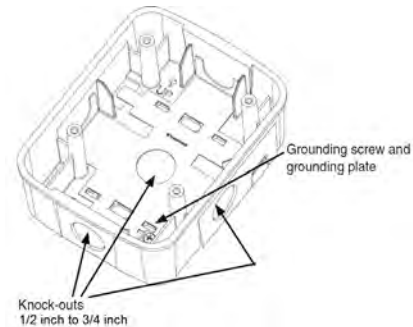
### Wiring Diagram



### Wall-mount Speaker Strobe



### Back Box, Surface-mount



### Junction Box for Flush Mounting use 4 in. x 4 in. x 8.5 in.



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# Notification Appliance Devices

## Speaker Strobe for Hazardous Locations

580-117-00

### Description

This speaker strobe for hazardous locations is a modular design—each can be functional as a stand-alone device or as a 2-module configuration when more than one signal is required. The connecting system requires only a single explosion-proof wiring gland external to the device. When connected, they can be wired to function independently or in tandem. The robust enclosure ensures suitability for all hazardous location fire alarm and general signaling applications.



### Features

- UL and cUL listed for Class I, Div 2, Groups A, B, C, and D; Class II, Div 2, Groups F and G; Class III
- Zone 1, 21 Rated, IECEx, ATEX, IIC
- Non-metallic corrosion resistant design with glass reinforced polyester (GRP) housings
- NEMA 4X, IP66 enclosure; visual signal is also IP69K compliant
- 24 VDC
- 15 W, 70 Vrms loudspeaker
- 21 joule high-output Xenon strobe
- 10,000 hour lamp life
- Strobe has a supervisory diode and 4-wire terminal block
- 316 stainless steel fasteners and strobe dome guard

- Black housing with a blue lens
- Standard M20 cable entries; 1/2 in. NPT and 3/4 in. NPT adaptors available; M25 cable entry option

### Application Notes

Signals selected for hazardous locations should be UL Listed and marked for at least the Hazardous Location Classifications dictated by the application. The signal should be 10 dB higher than the ambient noise level and as different from the background noise as possible.

The National Electric Code has created three classes of hazardous locations: Class I Hazardous Gases; Class II Hazardous Dusts; Class III Hazardous Fibers.

### Specifications

<i>Voltage</i>	24 VDC
<i>Strobe Candela</i>	500cd
<i>Strobe Flash Rate</i>	60 flashes per minute
<i>Loudspeaker Output</i>	106 dBA at 3.3 ft. (1 m) 96 dBA at 10 ft. (3 m)
<i>Input Wiring</i>	14 to 20 AWG <b>NOTE</b> Required wire gauge based on wire voltage drop.
<i>Operating Temperature</i>	−67°F to 158°F (−55°C to 70°C)
<i>Relative Humidity</i>	95%
<i>Cable Entries</i>	2 x M20 x 1.5 mm threaded gland entries available
<i>Dimensions</i>	8.95 in. H x 6.09 in. W x 15.7 in. L (22.74 cm x 15.48 cm x 39.88 cm)
<i>Weight</i>	18.84 lb (8.54 kg)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	UL 121201, UL 1638, UL 1480, UL 1480A, UL 60079-0, 60079-1, 60079-31
<i>Certificates</i>	E207119, E488522, 20170926-E12629, and 20171020-E492950
<i>IECEx Cert.</i>	Strobe IECEx BAS 15.0103X Audible IECEx BAS 15.0104X
<i>ATEX Cert.</i>	Strobe Baseefa 15 ATEX0154X Audible Baseefa 15 ATEX0155X



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# Notification Appliance Devices

## Loudspeaker Output Level and Current Draw

Audio Level	Max. Current Draw	Decibels at 10 ft. (3 m)	Decibels at 3.3 ft. (1 m)
70 Vrms	0.16A	96 dBA	106 dBA

## Strobe Output Level\* and Current Draw

Operating Voltage	Nominal Oper. Current	Light Output in Candela*	Flash Rate
24 VDC	1.5A	500cd	60 FPM

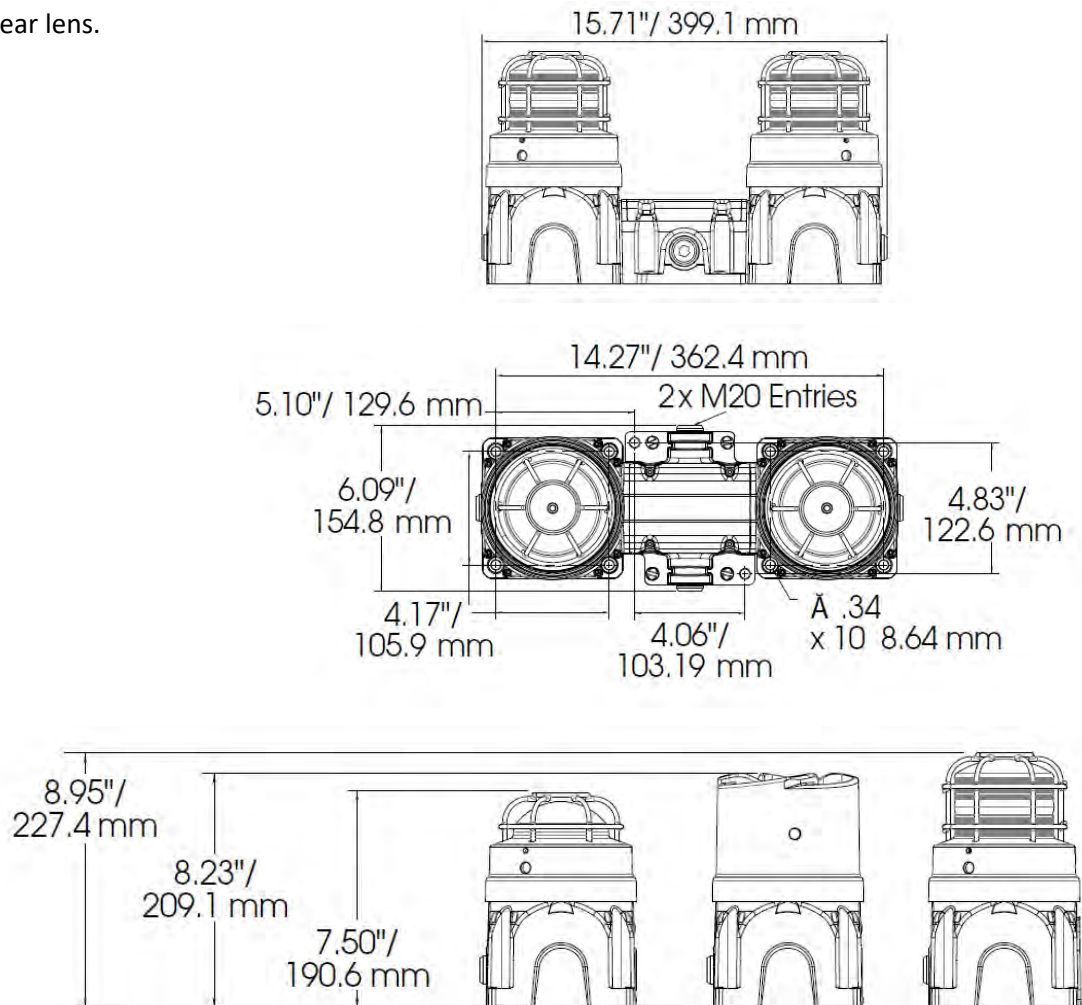
\*Output based on clear lens.

## Ordering Information

Part Number	Description
<b>580-117-00</b>	Speaker Strobe for Hazardous Locations, 24 VDC, 70 Vrms, 15 W speaker, 21 J strobe, 96 dBA, 500cd output, black housing with blue lens, cable entries: two M20 x 1.5 mm threaded gland entry

## Drawings

### Dimensions



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# Notification Appliance Devices

## Speaker Strobe LED for Hazardous Locations

580-117-01, 580-117-02

### Description

This speaker strobe LED for hazardous locations is a modular design - each can be functional as a stand-alone device or as a 2-module configuration when more than one signal is required. The connecting system requires only a single explosion-proof wiring gland external to the device. When connected, they can be wired to function independently or in tandem. The robust enclosure ensures suitability for all hazardous location fire alarm and general signaling applications.



P/N 580-117-01 Shown

### Features

- UL and cUL listed for Class I, Div 2, Groups A, B, C, and D; Class II, Div 2, Groups F and G; Class III
- Zone 1, 21 Rated, IECEx, ATEX, IIC
- Non-metallic corrosion resistant design with glass reinforced polyester (GRP) housings
- NEMA 4X, IP66 enclosure; visual signal is also IP69K compliant
- 24 VDC
- 15 W, 70 Vrms loudspeaker
- LED strobe with eight field selectable flash patterns including 60, 75, and 90 FPM; default is 60 FPM
- 50,000 hour lamp life
- LED has a supervisory diode and 4-wire terminal block
- 316 stainless steel fasteners and LED dome guard
- Black housing with a blue or amber lens

- Standard M20 cable entries; 1/2 in. NPT and 3/4 in. NPT adaptors available; M25 cable entry option

### Application Notes

Signals selected for hazardous locations should be UL Listed and marked for at least the Hazardous Location Classifications dictated by the application. The signal should be 10 dB higher than the ambient noise level and as different from the background noise as possible.

The National Electric Code has created three classes of hazardous locations: Class I Hazardous Gases; Class II Hazardous Dusts; Class III Hazardous Fibers.

### Specifications

<i>Voltage</i>	24 VDC
<i>Strobe Candela</i>	175cd
<i>Strobe Flash Rate</i>	default 60 FPM (eight settings available)
<i>Loudspeaker Output</i>	106 dBA at 3.3 ft. (1 m) 96 dBA at 10 ft. (3 m)
<i>Input Wiring</i>	14 to 20 AWG <b>NOTE</b> Required wire gauge based on wire voltage drop.
<i>Operating Temperature</i>	−67°F to 158°F (−55°C to 70°C)
<i>Relative Humidity</i>	95%
<i>Cable Entries</i>	2 x M20 x 1.5 mm threaded gland entries available
<i>Dimensions</i>	8.23 in. H x 6.09 in. W x 15.7 in. L (20.91 cm x 15.48 cm x 39.88 cm)
<i>Weight</i>	17.84 lb (8.09 kg)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	UL 121201, UL 1638, UL 1480, UL 1480A, UL 60079-0, 60079-1, 60079-31
<i>Certificates</i>	E207119, E488522, 20170926-E12629, and 20171020-E492950
<i>IECEx Cert.</i>	LED IECEx BAS 15.0102X Audible IECEx BAS 15.0104X
<i>ATEX Cert.</i>	LED Baseefa 15 ATEX0153X Audible Baseefa 15 ATEX0155X



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# Notification Appliance Devices

## Loudspeaker Output Level and Current Draw

Audio Level	Max Current Draw	Decibels at 10 ft. (3 m)	Decibels at 3.3 ft. (1 m)
70 Vrms	0.16A	96 dBA	106 dBA

## Strobe Output Level\* and Current Draw

Operating Voltage	Operating Current	Light Output in Candela*	Default Flash Rate
24 VDC	0.3A	175cd	60 FPM

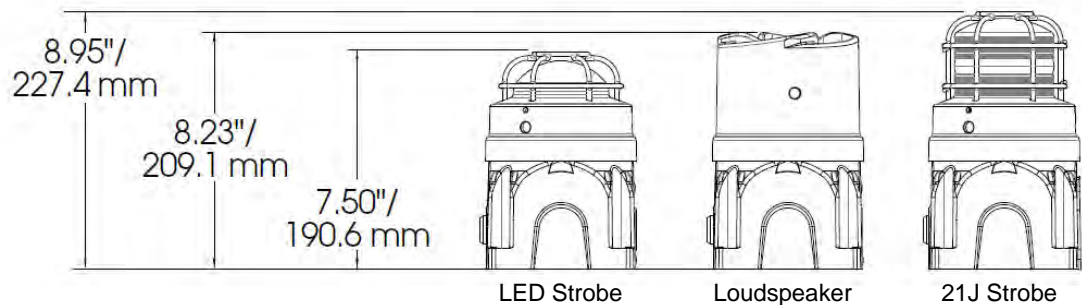
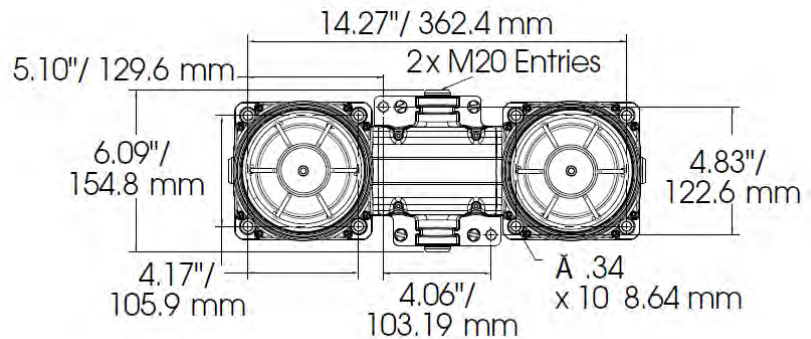
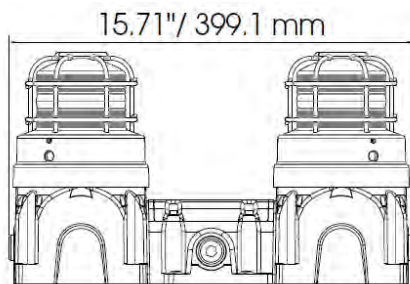
\*Output based on clear, low profile lens.

## Ordering Information

Part Number	Description
<b>580-117-01</b>	Speaker Strobe LED for Hazardous Locations, 24 VDC, 70 Vrms, 15 W speaker, 96 dBA, 175cd output, black housing with low profile blue lens, cable entries: two M20 x 1.5 mm threaded gland entry
<b>580-117-02</b>	Speaker Strobe LED for Hazardous Locations, 24 VDC, 70 Vrms, 15 W speaker, 96 dBA, 175cd output, black housing with low profile amber lens, cable entries: two M20 x 1.5 mm threaded gland entry

## Drawings

### Dimensions



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## Bells

# Notification Appliance Devices Catalog Section

11

### Bells

Motorized Vibrating Alarm Bell . . . . .	581-422-00, 581-473-00
Vibrating Alarm Bell, Explosion-proof . . . . .	581-423-00, 581-451-00

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# Notification Appliance Devices

## Motorized Vibrating Alarm Bell

581-422-00, 581-473-00



P/N 581-473-00 Shown



**Sound Output** P/N 581-422-00: 95 dBA at 10 ft.  
P/N 581-473-00: 81 dBA at 10 ft.

Sound output measured at Underwriter Laboratories as specified in UL464

**Environmental** P/N 581-422-00: -40°F to 150°F (-40°C to 66°C)  
P/N 581-473-00: -31°F to 140°F (-35°C to 60°C)

### Mounting Options:

**Indoor** Surface or semi-flush-mount back box (P/N 588-005-00).  
Adaptor plate required for concealed conduit (P/N 588-006-00) and semi-flush-mounting (P/N 588-008-00).

**Outdoor** Weatherproof back box (P/N 588-000-01)

### Standards Compliance:

**UL Listed** P/N 581-422-00: S3247  
P/N 581-473-00: S4011

**FM Approved** P/N 581-473-00: 3005255

**State of California** P/N 581-422-00: 7135-0328:0519  
P/N 581-473-00: 7135-1653:0125

## Features

- 24 VDC, 6 in. or 10 in. shell sizes, red housing
- Prewired for simplified installation
- Mounting options for surface, semi-flush, outdoor, and concealed conduit installation
- Motorized alarm bell
- Low power consumption with high sound output
- Polarized for DC supervision with built-in transient protection
- Weatherproof

## Specifications

**Dimensions** P/N 581-422-00: 6 in. OD (15.2 cm)  
P/N 581-473-00: 10 in. OD (25.4 cm)

**Input Voltage** 24 VDC

**Input Current** P/N 581-422-00: 20mA maximum  
P/N 581-473-00: DC 31.1mA/FWR 53.5mA

## Ordering Information

Part Number	Description
581-422-00	Motorized 6 in. Bell, 20mA at 24 VDC
581-473-00	Motorized 10 in. Bell, DC 31.1mA/FWR 53.5mA at 24 VDC

## Associated Parts

Part Number	Description
588-000-01	Back Box, Weatherproof with Gasket, Red
588-005-00	Back Box, Indoor, Surface or Semi-flush-mount, Red
588-006-00	Adaptor Plate, Red
588-008-00	Adaptor Plate, Semi-Flush, Red



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## Notification Appliance Devices

### Vibrating Alarm Bell, Explosion-proof

581-423-00, 581-451-00

#### Description

Use these diode-polarized, vibrating-type alarm bells for hazardous locations. They are ideally suited for aircraft hangars and areas where they might be exposed to gasoline or other fuels, paint spray, or dust.



Signals selected for hazardous locations should be UL Listed and marked for at least the Hazardous Location Classifications indicated by the application. The signal should be 10 dB higher than the ambient noise level and as different from the background noise as possible.

The National Electric Code has created three classes of hazardous locations:

- Class I—Hazardous Gases
- Class II—Hazardous Dusts
- Class III—Hazardous Fibers

#### Features

- UL Listed locations:
  - Class I, Divisions 1 and 2 (Groups B, C, D)
  - Class II, Divisions 1 and 2 (Groups E, F, G)
  - Class III, Divisions 1 and 2
- Self-compensating plunger never needs adjustment
- Polarized for DC supervision of alarm lines
- Mounts to any solid surface using 3/8 in. fasteners
- Fitted with sealing fitting for 3/4 in. conduit
- Corrosion-resistant finish
- NEMA Type 4 enclosure

#### Specifications

*Input Voltage* 24 VDC

*Amperes RMS* P/N 581-423-00: 0.290A  
P/N 581-451-00: 0.290A

*dBa at 10 ft.* P/N 581-423-00: 83 dB  
P/N 581-451-00: 86 dB

*Weight* P/N 581-423-00: 5.25 lb  
P/N 581-451-00: 7 lb

*Dimensions* See "Drawings"

#### Ordering Information

##### Bells

Part Number	Description
581-423-00	Vibrating Alarm Bell, explosion-proof, 6 in., 24 VDC
581-451-00	Vibrating Alarm Bell, explosion-proof, 8 in., 24 VDC

##### Associated Parts

Part Number	Description
210-544-00	Transient Protector for explosion-proof devices, required



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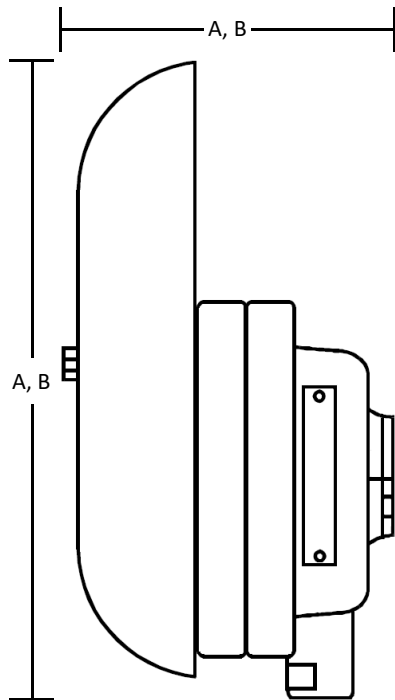
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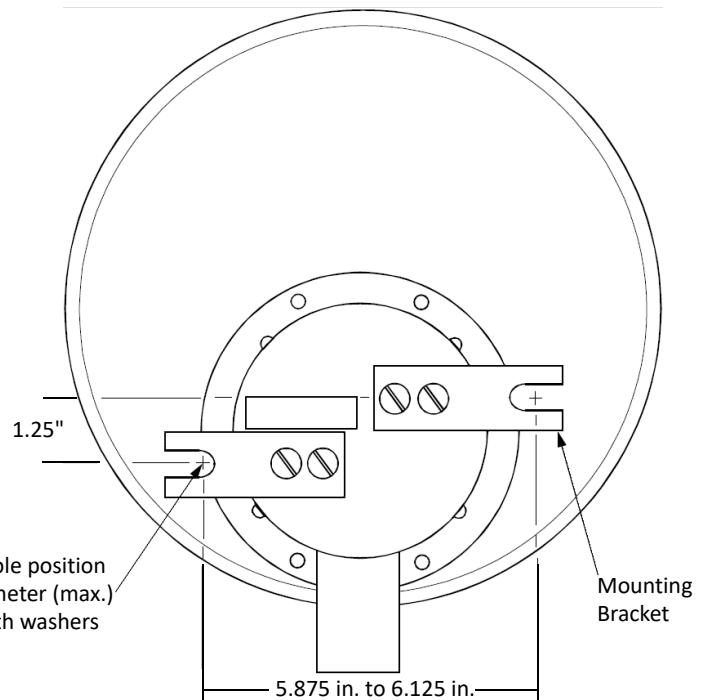


# Notification Appliance Devices

## Drawings



A (P/N 581-423-00): 7 in. High, 5 in. Deep  
8 (P/N 581-451-00): 9 in. High, 5.125 in. Deep



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## Chimes

# Notification Appliance Devices Catalog Section

11

### Chimes

Indoor Chime, Red, Wall-mount, Type I . . . . .587-009-00

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# Notification Appliance Devices

## Indoor Chime, Red, Wall-mount, Type I

587-009-00



### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC Regulated 24 DC/FWR
<i>Operating Voltage Range</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage Range with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. Octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions Wall-mount Chime</i>	5.6 in. L x 4.7 in. W x 1.25 in. D (143 mm x 119 mm x 32 mm)
<i>Standards Compliance</i>	Listed to UL 464
<i>UL Listed</i>	S4011
<i>FM Approved</i>	3057383 3057072
<i>State of California</i>	7135-1653:0503

### Features

- Red housing with no lettering
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for tone and volume selections
- Five selectable tones with high and low volume settings



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# Notification Appliance Devices

## Chime Current Draw (mA), Sound Output (dBA)

Sound Pattern	Volume	Maximum Current Draw 16–33 VDC	Sound Output (dBA) 16–33 VDC
1 Second Chime	High	8	62
1 Second Chime	Low	8	55
1/4 Second Chime	High	10	70
1/4 Second Chime	Low	9	61
Temporal Chime	High	10	66
Temporal Chime	Low	9	60
5 Second Whoop	High	15	78
5 Second Whoop	Low	10	64
Coded	High	15	51

## Ordering Information

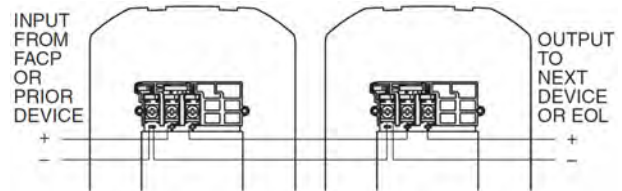
Part Number	Description
<b>587-009-00</b>	Chime, Red, Type I, Wall-mount, Indoor, 12V or 24V, no lettering

## Associated Parts

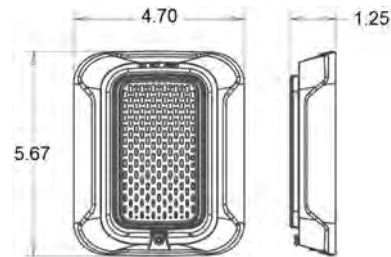
Part Number	Description
<b>589-042-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White AGENT lettering, order one per device
<b>589-043-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White ALERT lettering, order one per device
<b>589-044-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White EVAC lettering, order one per device
<b>589-045-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White FIRE lettering, order one per device
<b>588-098-00</b>	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. H X 6.3 in. W X 0.4 in. D
<b>588-090-00</b>	Back Box, Wall Surface-mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W X 5.78 in. H X 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

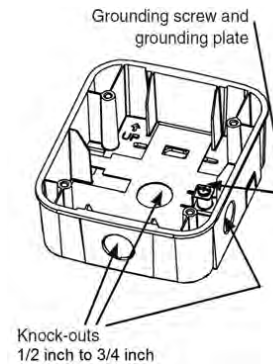
### Wiring Diagram



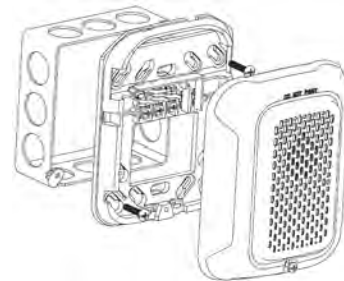
### Wall-mount Chime



### Back Box, Surface-mount



### Junction Box for Flush Mounting



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## Chime Strobes

# Notification Appliance Devices Catalog Section

11

### Chime Strobes

Indoor Chime Strobe, Red, Wall-mount, Type I . . . . .587-008-00

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## Notification Appliance Devices

### Indoor Chime Strobe, Red, Wall-mount, Type I

587-008-00



#### Features

- Red housing with clear lens and no lettering
- Plug-in design with minimal intrusion into the back box
- Tamper resistant construction
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.
- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd

- Universal mounting plate with an on-board shorting spring that allows wire continuity testing before device is installed; disengages after device is installed
- Rotary switch for tone and volume selections
- Five selectable tones with high and low volume settings

#### Specifications

<i>Nominal Voltage</i>	Regulated 12 VDC Regulated 24 DC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal), or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	8.5 to 17.5V (12V nominal), or 16.5 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15 and 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting Plate mounts to 4 in. x 4 in. x 1.5 in. back box, or 4 in. Octagon back box, or Double-gang back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions Wall-mount Chime Strobe with lens</i>	5.6 in. L x 4.7 in. W x 1.91 in. D (143 mm x 119 mm x 49 mm)
<i>Standards Compliance</i>	Listed to UL 1638 and UL 464
<i>UL Listed</i>	S4011
<i>FM Approved</i>	3057383 3057072
<i>State of California</i>	7135-1653:0503



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# Notification Appliance Devices

## Wall-mount Chime Strobe Current Draw (mA) and Sound Output (dBA)

Chime Tone	Volume Setting	Maximum Current Draw 16–33 VDC							Sound Output (dBA) 16–33 VDC
		15cd	30cd	75cd	95cd	110cd	135cd	185cd	
1 Second Chime	High	51	71	115	136	161	202	238	62
1 Second Chime	Low	50	70	116	136	154	199	242	55
1/4 Second Chime	High	52	72	117	137	168	201	242	70
1/4 Second Chime	Low	49	70	115	136	165	199	241	61
Temporal Chime	High	49	69	112	137	168	201	246	66
Temporal Chime	Low	47	68	111	136	167	196	241	60
5 Second Whoop	High	52	70	113	132	176	206	243	78
5 Second Whoop	Low	46	66	108	130	170	202	240	64
Coded - for Chime Only	High	na	na	na	na	na	na	na	51

## Ordering Information

Part Number	Description
<b>587-008-00</b>	Chime Strobe, Red, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela

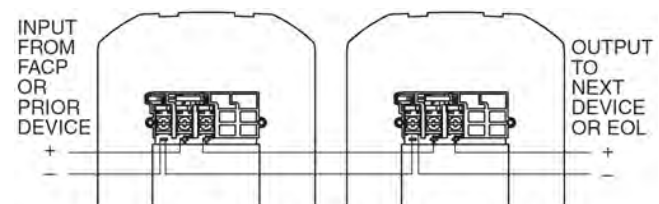
## Associated Parts

Part Number	Description
<b>589-042-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White AGENT lettering, order one per device
<b>589-043-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White ALERT lettering, order one per device
<b>589-044-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White EVAC lettering, order one per device
<b>589-045-00</b>	Bezel, Red, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White FIRE lettering, order one per device
<b>365-012-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to <b>change</b> color of clear lens
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens

Part Number	Description
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to <b>change</b> color of clear lens
<b>588-098-00</b>	Trim Ring, Red, Type I, Wall-mount, Universal, 8.2 in. H x 6.3 in. W x 0.4 in. D
<b>588-090-00</b>	Back Box, Wall Surface-mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>367-047-00</b>	Sync Module, Type I

## Drawings

### Wiring Diagram



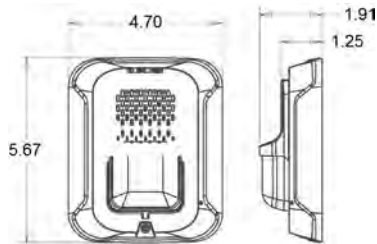
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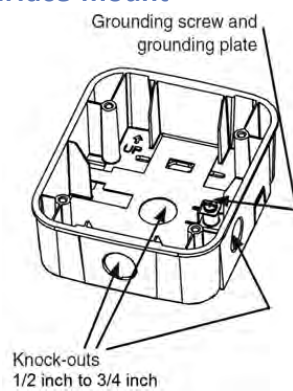


# Notification Appliance Devices

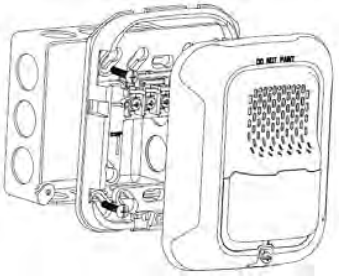
## Wall-mount Chime Strobe



## Back Box, Surface-mount



## Junction Box for Flush Mounting



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## MNS Wide Area

# Notification Appliance Devices Catalog Section

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## MNS Wide Area

MNS Driver Amplifier with Speaker Arrays - Reserved

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**Bases – Reserved**

## **Notification Appliance Devices Catalog Section**

**11**

**Bases – Reserved**

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## Accessories

# Notification Appliance Devices Catalog Section

11

### Accessories

Sync Module, Type II .....	367-036-00
Sync Module, Type I .....	367-047-00
Indoor Strobe Plate, Wall-mount, Red, Type II .....	367-049-00
Indoor Strobe Plate, Wall-mount, White, Type II .....	367-049-01, 367-049-02
Universal Expander Plate, Indoor, White, Wall-mount, Type I .....	369-036-00
Universal Expander Plate, Indoor, White, Wall-mount, Type I .....	369-037-00
Universal Expander Plate Back Box Skirt .....	588-101-00

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# Notification Appliance Devices

## Sync Module, Type II

367-036-00

### Description

The Type II Sync Module provides independent operation of synchronized temporal pattern (Code 3) horn and synchronized strobe flash, as well as the ability to silence the horn while maintaining the strobe flash. Additional circuits can be added by connecting the input and output terminals between modules.



The Type II Sync Module incorporates two input NAC circuits for power connection from the fire alarm control panel (FACP): one for the strobe NAC circuit and one for the audible NAC circuit, plus an additional strobe circuit input/output for control of either two Class B NAC circuits or one Class A NAC circuit. Upon activation of the audible silence function at the FACP, the audible signal component of a horn strobe combination appliance may be silenced while maintaining strobe activation.

The module can interconnect up to 20 sync modules for synchronous horn and strobe operation on multiple NAC circuits (40 maximum).

### Specifications

*Input Voltage* 12 or 24 VDC

*Average Current* 0.02A at 12 VDC, 0.035A at 24 VDC

*Load Current* 3A per NAC circuit, 12 or 24 VDC

*Input Wiring* 12 to 18 AWG

*Module Dimensions* 4.97 in. H x 4.97 in. W x 1.34 in. D  
(12.62 cm x 12.62 cm x 3.4 cm)

*Back Box Dimensions* 4 11/16 in. H x 4 11/16 in. W x 2 1/8 in. D  
(11.91 cm x 11.91 cm x 5.4 cm)

*Standards Compliance:*

*UL Listed* UL1947, File E5946

*FM Approved* Approved

*MEA Approved* 151-92-E

*State of California* 7300-0785:0132

### Current Requirements (Amps)

		Rated Average Current		Rated Peak Current		Rated Inrush Current	
		In1/In2	Audible	In1/In2	Audible	In1/In2	Audible
UL Listed Voltage	12 VDC	0.020	0.004	0.064	0.004	0.170	0.019
	24 VDC	0.035	0.008	0.080	0.008	0.342	0.030

### Ordering Information

Part Number	Description
367-036-00	Sync Module, Type II

### Associated Parts

Part Number	Description
367-049-00	Indoor Strobe Plate, Wall-mount, Red, 24 VDC, white FIRE lettering, clear lens, 15, 30, 75, and 110cd
367-049-01	Indoor Strobe Plate, Wall-mount, White, 24 VDC, red FIRE lettering, clear lens, 15, 30, 75, and 110cd
367-049-02	Indoor Strobe Plate, Wall- or Ceiling-mount, White, 24 VDC, no lettering, amber lens, 15, 30, 75, and 95cd



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# Notification Appliance Devices

## Sync Module, Type I

367-047-00

### Description

The sync module works with Monaco Type I series of notification appliances, synchronizing temporal-coded horns/chimes and one-second flash timing of strobes. It can silence horns and chimes in combination appliances over two-wire circuitry and still leave strobes active.

The module can synchronize multiple zones by daisy-chaining multiple modules together and resynchronizing each other along the chain.



### Mounting Options

Use a 4 11/16 in. square × 2 1/8 in. deep back box.

### Specifications

**Operating Voltage** No Strobes:  
12 VDC/FWR (range: 8 to 17.5V)  
24 VDC/FWR (range: 16 to 33V)  
With Strobes:  
12 VDC/FWR (range: 8.5 to 17.5V)  
24 VDC/FWR (range: 16.5 to 33V)

**Maximum Load** 3A per loop

**Operating Temperature** 32°F to 120°F (0°C to 49°C)

**Dimensions** 5.25 in. square (13.335 cm x 13.335 cm)

### Current Draw (mA)

Voltage	Average		Peak		Inrush		NAC Slave Input	
	DC	FWR	DC	FWR	DC	FWR	DC	FWR
12 VDC	10	12	50	60	100	120	3.5	4
24 VDC	12	15	60	75	120	150	4.5	5

### Ordering Information

Part Number	Description
367-047-00	Sync Module, Type I

### Features

- Synchronizes strobes at 1 Hz
- Synchronizes one Class A or two Class B circuits
- Allows slave module operation for additional circuits



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# Notification Appliance Devices

## Indoor Strobe Plate, Wall-mount, Red, Type II

367-049-00

### Description

The multi-candela strobe plate is a cost-effective way to retrofit required strobe appliances to bells, horns, chimes, multitone appliances, or speakers.



### Features

- UL, ULC, MEA, CSFM, FM, and BFP listed
- Allows existing audible signals or speakers to be easily upgraded
- Low current draw with temperature compensation reduces power consumption and wiring costs
- Synchronization with Type II sync module (P/N 367-036-00)
- Field selectable candela settings of 15, 30, 75, and 110cd

### Specifications

<i>Flash Rate</i>	1 per second
<i>Input Voltage</i>	24 VDC and FWR unfiltered
<i>Voltage Range</i>	16 to 33 VDC
<i>Candela</i>	15, 30, 75, and 110cd
<i>Input Terminals</i>	12 to 18 AWG
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	93% ± 2% non-condensing
<i>Mounting</i>	Indoor surface- or semi-flush mount back box P/N 588-005-00
<i>Standards Compliance:</i>	
<i>UL/ULC Listed</i>	File S5391
<i>FM Approved</i>	RSSP
<i>MEA Approved</i>	151-92-E
<i>State of California</i>	7125-0785:0141

### Strobe Current Draw and Output

RMS Current (Amps) 16–33 VDC			
15cd	30cd	75cd	110cd
0.060	0.092	0.165	0.220

### Ordering Information

Part Number	Description
367-049-00	Indoor Strobe Plate, Wall-mount, Red, 24 VDC, white FIRE lettering, clear lens, 15, 30, 75, and 110cd



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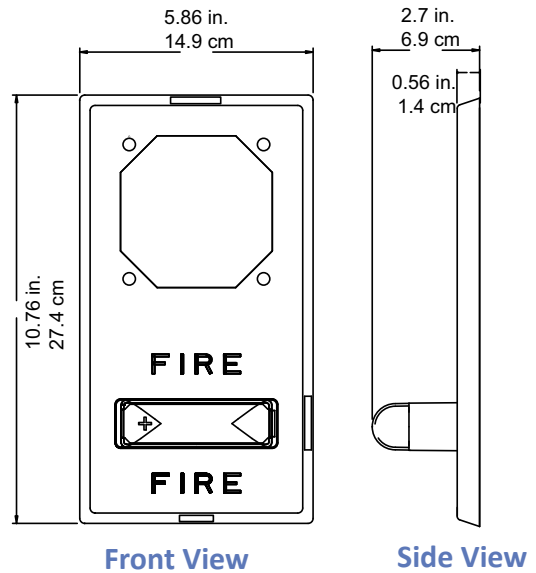


# Notification Appliance Devices

## Associated Parts

Part Number	Description
<b>367-036-00</b>	Sync Module, Type II
<b>588-005-00</b>	Back Box, Indoor, Surface or Semi-Flush-mount, Red, 4 in. x 4 in. x 1.5 in.
<b>404-119-00</b>	NAC Power Extender, 115 VAC, 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes; See <b>NOTE</b>
<b>NOTE</b> P/N 404-119-00 needs two 7.7 Ah batteries (P/N 400-704-00) for 24-hour battery backup, or two 12 Ah batteries (P/N 400-713-00) for 72-hour battery backup	

## Dimensions



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## Notification Appliance Devices

### Indoor Strobe Plate, Wall-mount, White, Type II

367-049-01, 367-049-02

#### Description

The multi-candela strobe plate is a cost-effective way to retrofit required strobe appliances to bells, horns, chimes, multitone appliances, or speakers.



#### Specifications

Flash Rate	1 per second
Input Voltage	24 VDC and FWR unfiltered
Voltage Range	16 to 33 VDC
Candela	P/N 367-049-01: 15, 30, 75, and 110cd P/N 367-049-02: 15, 30, 75, and 95cd
Input Terminals	12 to 18 AWG
Operating Temperature	32°F to 120°F (0°C to 49°C)
Relative Humidity	93% ± 2%, non-condensing
Mounting	Indoor surface- or semi-flush mount back box P/N 588-005-00
Standards Compliance:	
UL/ULC Listed	File S5391
FM Listed	RSSP
MEA Approved	151-92-E
State of California	7125-0785:141 7300-0785:154

#### Strobe Current Draw and Output

	RMS Current (Amps) 16–33 VDC				
	15cd	30cd	75cd	95cd	110cd
P/N 367-049-01	0.060	0.092	0.165	X	0.22
P/N 367-049-02	0.065	0.105	0.189	0.249	X

#### Features

- UL, ULC, MEA, CSFM, FM, and BFP listed
- Allows existing audible signals or speakers to be easily upgraded
- Low current draw with temperature compensation reduces power consumption and wiring costs
- Synchronization with Type II sync module (P/N 367-036-00)
- Field selectable candela settings:  
P/N 367-049-01: 15, 30, 75, and 110cd  
P/N 367-049-02: 15, 30, 75, and 95cd

#### Ordering Information

Part Number	Description
367-049-01	Indoor Strobe Plate, Wall-mount, White, 24 VDC, red FIRE lettering, clear lens, 15, 30, 75, and 110cd
367-049-02	Indoor Strobe Plate, Wall- or Ceiling-mount, White, 24 VDC, no lettering, amber lens, 15, 30, 75, and 95cd



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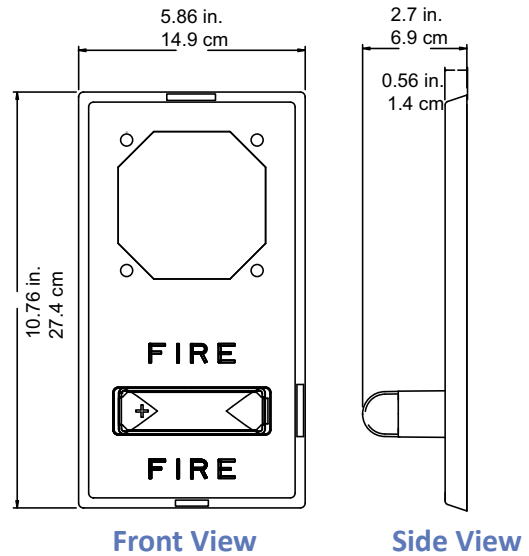


# Notification Appliance Devices

## Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-005-00	Back Box, Indoor, Surface or Semi-Flush-mount, Red, 4 in. x 4 in. x 1.5 in. deep
404-119-00	NAC Power Extender, 115 VAC, 60 Hz, 12/24 VDC, 8A, four Class B or two Class A, use with Type II strobes; See <b>NOTE</b>
<b>NOTE</b> P/N 404-119-00 needs two 7.7 Ah batteries (P/N 400-704-00) for 24-hour battery backup; or two 12 Ah batteries (P/ 400-713-00) for 72-hour battery backup.	

## Dimensions



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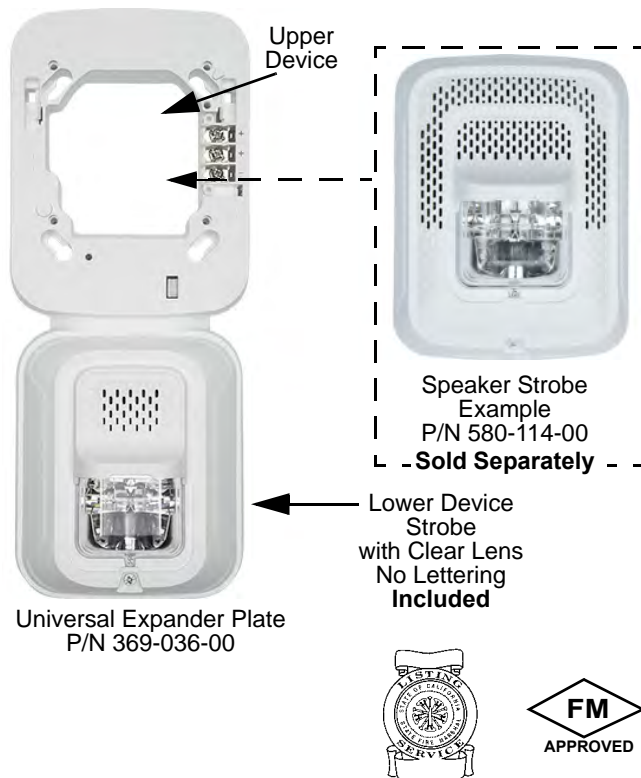


# Notification Appliance Devices

## Universal Expander Plate, Indoor, White, Wall-mount, Type I 369-036-00

### Description

This is an indoor, white, wall-mount, Universal Expander Plate with Clear Strobe and no lettering. The open upper device allows for mounting an additional Speaker, Strobe, Speaker Strobe, Horn, or Horn Strobe to create a combination emergency communication device.



- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd
- Compatible with a Speaker, Strobe, Speaker Strobe, Horn, or Horn Strobe mounted to upper device
- Universal mounting plate with on-board shorting spring checks wiring continuity on Speaker and Horn Strobes before device installation

### Specifications

<i>Nominal Voltage (Strobes)</i>	Regulated 12 VDC/FWR, Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal) or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15, 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting plate mounts to a 4 in. x 4 in. x 2 1/8 in. or deeper back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Expander Plate Dimensions with Strobe</i>	13.1 in. L x 5.4 in. W x 2.4 in. D (332 mm x 137 mm x 61 mm)
<i>Back Box Skirt Dimensions</i>	13.75 in. L x 6.1 in. W x 2.5 in. D (349.3 mm x 154.9 mm x 63.5mm)

#### Standards Compliance:

<i>UL</i>	File No. S5512 Investigated to ANSI/UL1638 and ANSI/UL1971 (Clear Lens Strobe)
<i>State of California</i>	7300-1653:0511
<i>FM Approved</i>	Class of Work: 3150

### Features

- White Expander Plate housing with clear lens strobe and no lettering
- Optional tamper-resistant Torx head screw (included)
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.



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# Notification Appliance Devices

## Expander Plate Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222

## Ordering Information

Part Number	Description
<b>369-036-00</b>	Universal Expander Plate, White, Type I, Wall-mount, Indoor, 12V or 24V, Clear Lens Strobe with no lettering; 15, 30, 75, 95, 110, 135, and 185cd; compatible with Speaker, Strobe, Speaker Strobe, Horn or Horn Strobe—mounts to upper device

## Associated Parts

Part Number	Description
<b>Speakers</b>	
<b>124-091-00</b>	Speaker, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, 25/70 Vrms, 1/4, 1/2, 1, 2 watts
<b>124-092-00</b>	Speaker, Red, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, 25/70 Vrms, 1/4, 1/2, 1, 2 watts
<b>Strobes</b>	
<b>367-099-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V Red ALERT lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>367-100-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red FIRE lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>367-101-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>Speaker Strobes</b>	
<b>580-111-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red ALERT lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts
<b>580-108-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red FIRE lettering, clear lens, 15, 30, 75, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

Part Number	Description
<b>580-114-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts
<b>Horns</b>	
<b>585-100-00</b>	Horn, Red, Type I, Wall-mount, Indoor, 12V or 24V, No Lettering
<b>585-104-00</b>	Horn, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering
<b>Horn Strobes</b>	
<b>585-102-00</b>	Horn Strobe, White, Type I, Wall-mount, 2-Wire, Indoor, 12V or 24V, Red FIRE lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>585-103-00</b>	Horn Strobe, White, Type I, Wall-mount, 2-Wire, Indoor, 12V or 24V, no lettering, Clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>Bezels</b>	
<b>589-038-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red ALERT lettering, order one per device
<b>589-039-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red EVAC lettering, order one per device
<b>589-040-00</b>	Bezel, White, Type I, Wall-mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red FIRE lettering, order one per device
<b>Expander Plate Lens Kits</b>	
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red order one per device to <b>change</b> color of lens
<b>Other</b>	
<b>588-093-00</b>	Back Box, Wall-Surface-mount, White, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D



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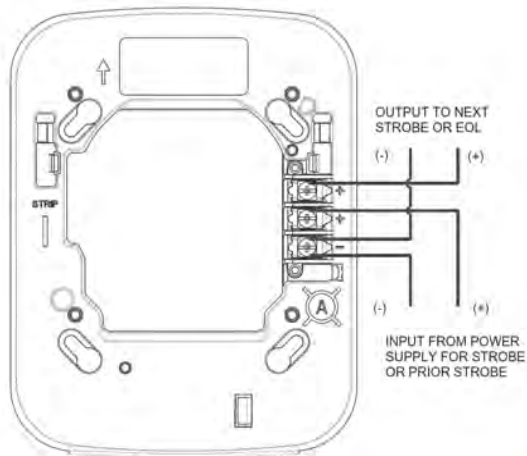
# Notification Appliance Devices

Part Number	Description
<b>588-101-00</b>	Universal Expander Plate Back Box Skirt, White, Surface-Wall-mount, Type I. (2.5 in. deep); Requires back box

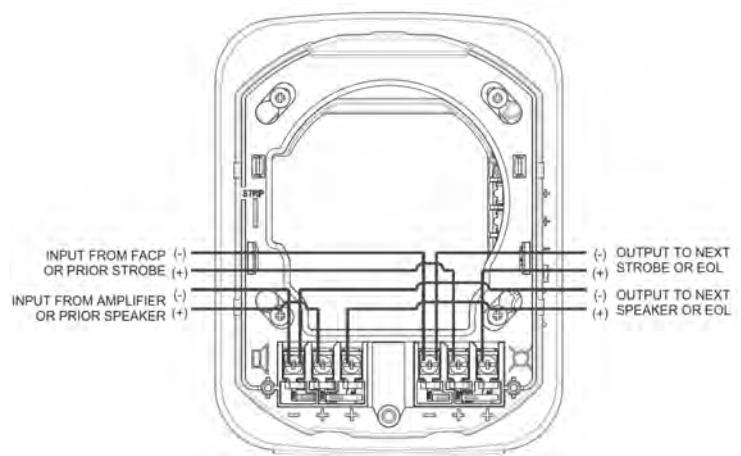
Part Number	Description
<b>367-047-00</b>	Sync Module, Type I

## Diagrams

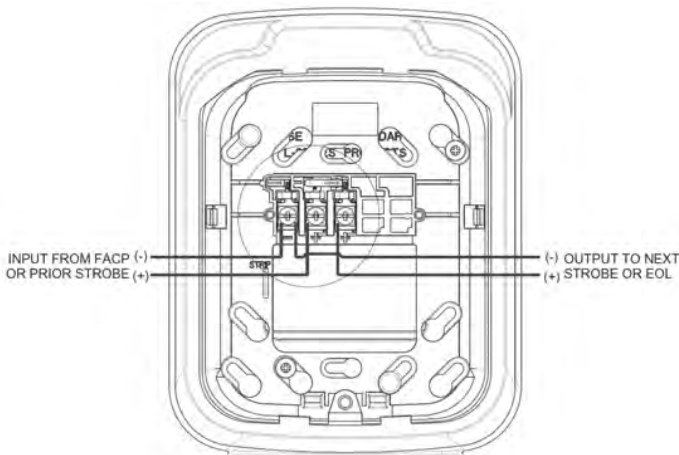
### Wiring Diagrams



Connect Universal Expander Plate's Lower Strobe

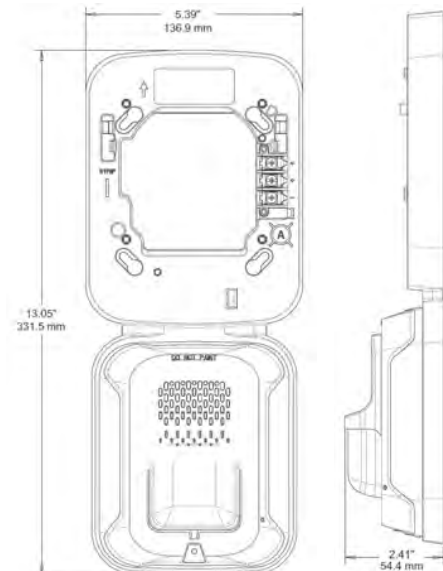


Connect Speaker Strobe to Upper Device



Connect Horn Strobe to Upper Device

### Expander Plate Dimensions



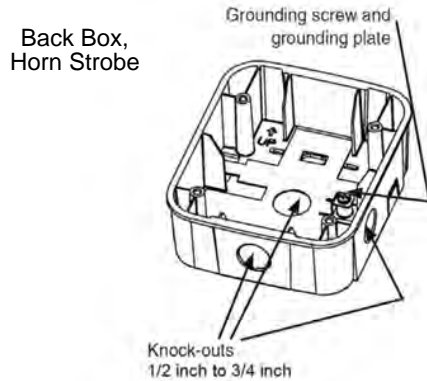
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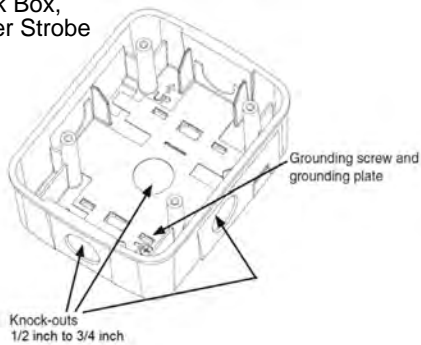


# Notification Appliance Devices

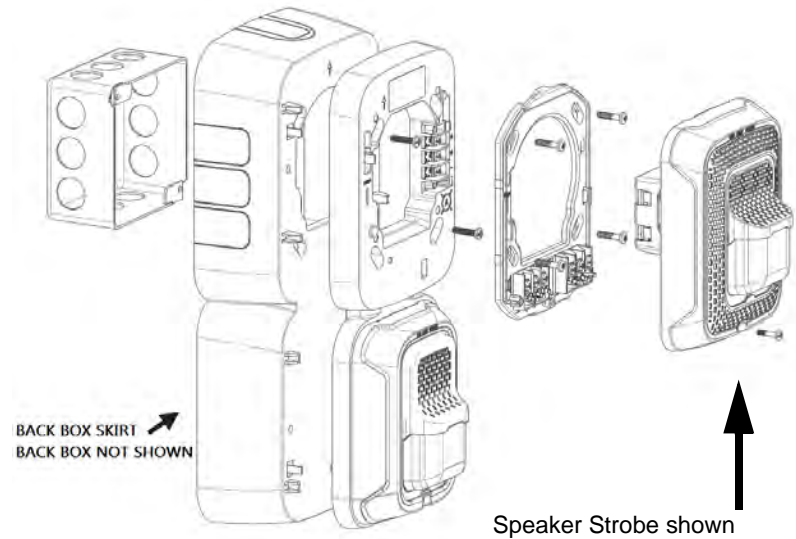
## Back Box, Wall-mount



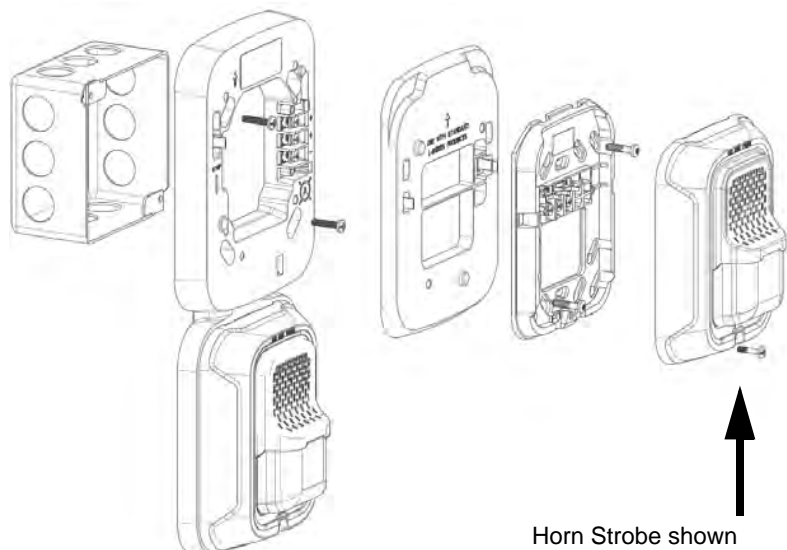
## Back Box, Speaker Strobe



## Surface, Wall-mount

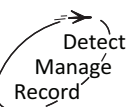


## Junction Box, Flush-mount



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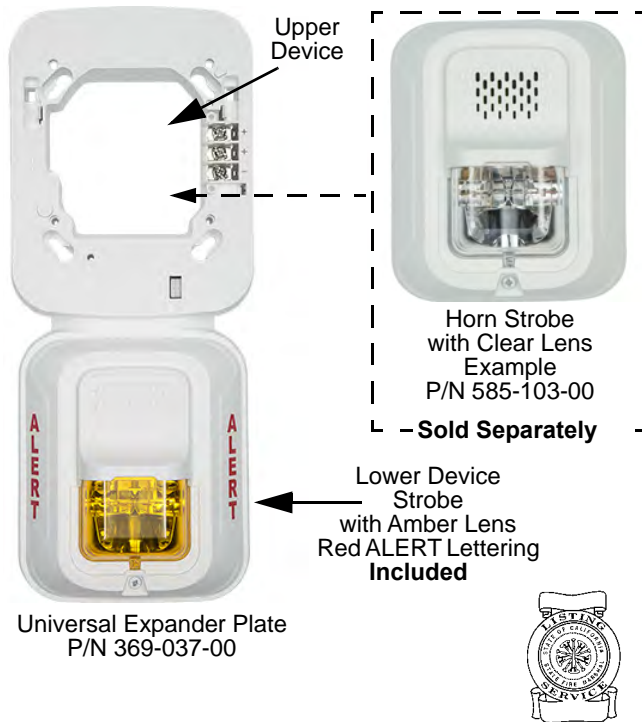


## Notification Appliance Devices

### Universal Expander Plate, Indoor, White, Wall-mount, Type I 369-037-00

#### Description

This is an indoor, white, wall mount, Universal Expander Plate with Amber ALERT Strobe. The upper device location allows for mounting an additional Speaker, Strobe, Speaker Strobe, Horn or Horn Strobe to create a combination emergency communication device.



#### Features

- White Expander Plate housing, amber lens strobe with red ALERT lettering included
- Optional tamper-resistant Torx head screw (included)
- Automatic selection of 12 or 24V operation  
**NOTE** 12V operation only supports 15 and 30cd settings.

- Field selectable candela settings on wall units:  
12V: 15, 30cd  
24V: 15, 30, 75, 95, 110, 135, and 185cd
- Upper device location compatible with Speaker, Strobe, Speaker Strobe, Horn, or Horn Strobe
- Universal mounting plate with on-board shorting spring checks wiring continuity on Speaker and Horn Strobes before device installation

#### Specifications

<i>Nominal Voltage (strobes)</i>	Regulated 12 VDC/FWR, Regulated 24 VDC/FWR
<i>Operating Voltage</i>	8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
<i>Operating Voltage with Type I Sync Module</i>	9 to 17.5V (12V nominal) or 17 to 33V (24V nominal)
<i>Candela</i>	12 VDC: 15, 30cd 24 VDC: 15, 30, 75, 95, 110, 135, 185cd
<i>Strobe Flash Rate</i>	1 flash per second
<i>Mounting</i>	Universal Mounting plate mounts to a 4 in. x 4 in. x 2 1/8 in. or deeper back box
<i>Input Wiring</i>	12 to 18 AWG <b>NOTE</b> Required wire gauge based on voltage drop.
<i>Operating Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	10% to 93% non-condensing
<i>Dimensions with Speaker Strobe</i>	13.1 in. L x 5.4 in. W x 2.4 in. D (332 mm x 137 mm x 61 mm)
<i>Back Box Skirt Dimensions</i>	13.75 in. L x 6.10 in. W x 2.5 in. D (349.3 mm x 154.9 mm x 63.5mm)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	File No. S5512 Investigated to ANSI/UL1638
<i>State of California</i>	7300-1653:0511



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# Notification Appliance Devices

## Expander Plate Strobe Current Draw (mA)

Maximum Current Draw 16–33 VDC						
15cd	30cd	75cd	95cd	110cd	135cd	185cd
43	63	107	121	148	172	222

## Ordering Information

Part Number	Description
<b>369-037-00</b>	Universal Expander Plate, White, Type I, Wall-mount, Indoor, 12V or 24V, Amber Lens Strobe with Red ALERT lettering; 15, 30, 75, 95, 110, 135 and 185cd; Compatible with Speaker, Strobe, Speaker Strobe, Horn, or Horn Strobe— mounts to upper device

## Associated Parts

Part Number	Description
<b>Speakers</b>	
<b>124-091-00</b>	Speaker, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, 25/70 Vrms, 1/4, 1/2, 1, 2 watts
<b>124-092-00</b>	Speaker, Red, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, 25/70 Vrms, 1/4, 1/2, 1, 2 watts
<b>Strobes</b>	
<b>367-099-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red ALERT lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>367-100-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red FIRE lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>367-101-00</b>	Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>Speaker Strobes</b>	
<b>580-111-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red ALERT lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts
<b>580-108-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, Red FIRE lettering, clear lens, 15, 30, 75, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts

Part Number	Description
<b>580-114-00</b>	Speaker Strobe, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd, 25/70 Vrms, 1/4, 1/2, 1, 2 watts
<b>Horns</b>	
<b>585-100-00</b>	Horn, Red, Type I, Wall-mount, Indoor, 12V or 24V, no lettering
<b>585-104-00</b>	Horn, White, Type I, Wall-mount, Indoor, 12V or 24V, no lettering
<b>Horn Strobes</b>	
<b>585-102-00</b>	Horn Strobe, White, Type I, Wall-mount, 2-Wire, Indoor, 12V or 24V, Red FIRE lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>585-103-00</b>	Horn Strobe, White, Type I, Wall-mount, 2-Wire, Indoor, 12V or 24V, no lettering, clear lens, 15, 30, 75, 95, 110, 135, and 185cd
<b>Expander Plate Lens Kits</b>	
<b>365-014-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to <b>change</b> color of clear lens
<b>365-015-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green order one per device to <b>change</b> color of clear lens
<b>365-016-00</b>	Lens, Type I, Wall-mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red order one per device to <b>change</b> color of lens
<b>Other</b>	
<b>588-093-00</b>	Back Box, Wall-Surface-mount, White, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D
<b>588-091-00</b>	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D
<b>588-101-00</b>	Universal Expander Plate Back Box Skirt, White, Surface-Wall-mount, Type I. (2.5 in. deep); requires back box
<b>367-047-00</b>	Sync Module Type I



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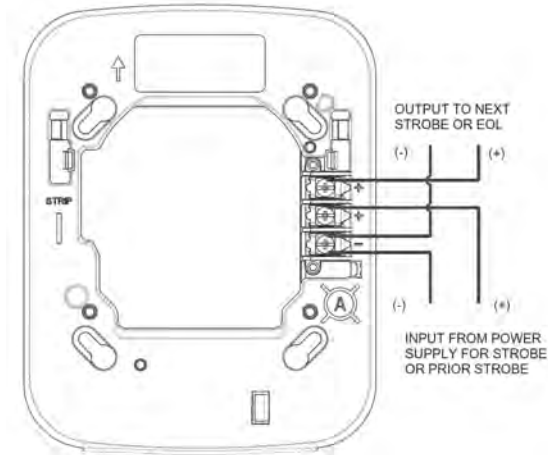
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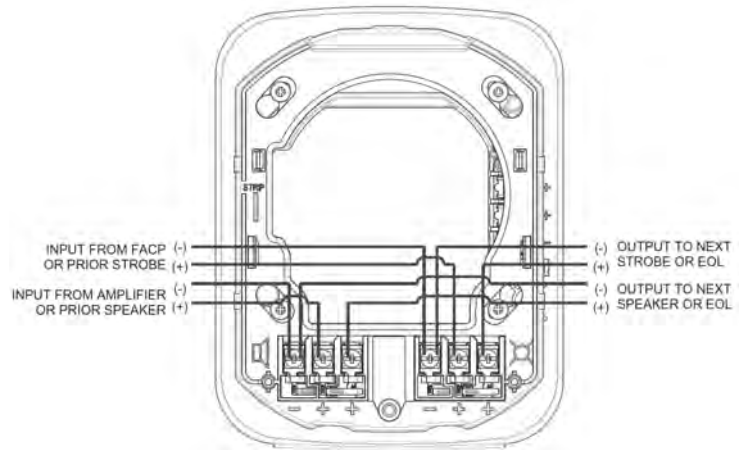
# Notification Appliance Devices

## Diagrams

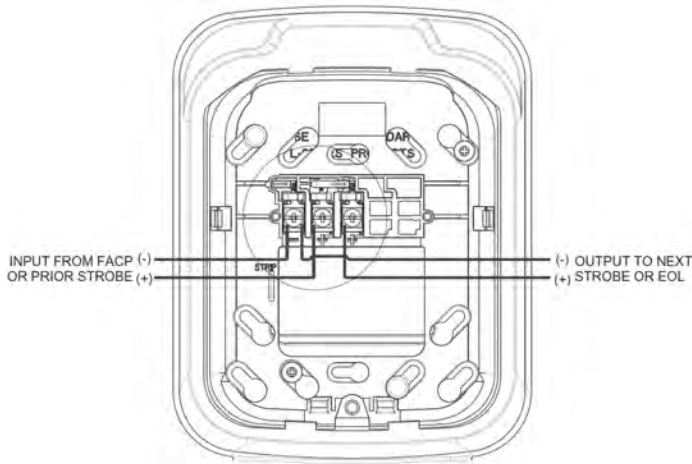


Connect Universal Expander Plate's Lower Strobe

## Wiring Diagrams

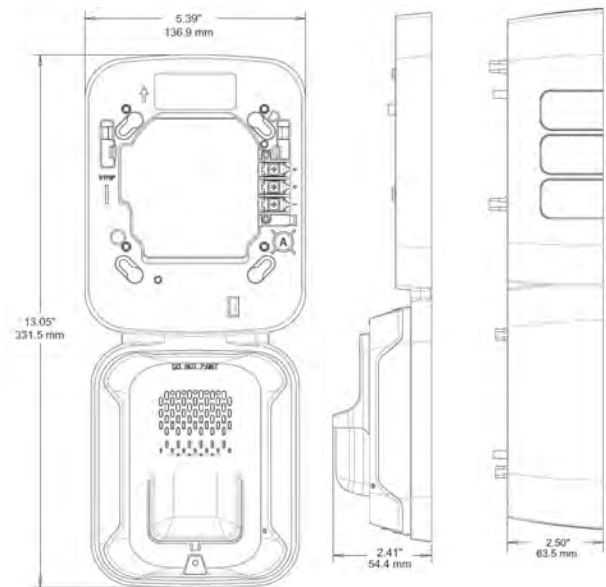


Connect Speaker Strobe to Upper Device



Connect Horn Strobe to Upper Device

## Expander Plate Dimensions



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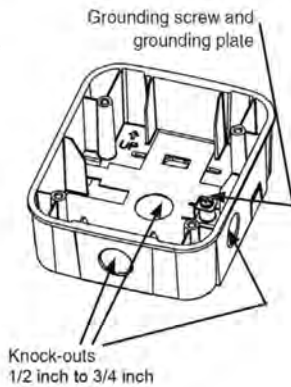
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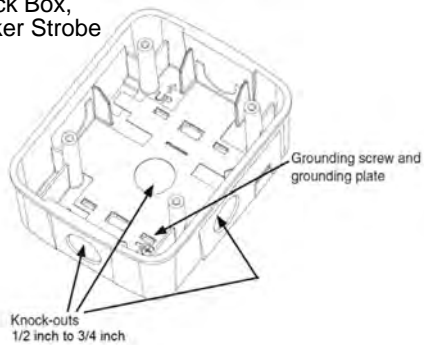
# Notification Appliance Devices

## Back Box, Wall-mount

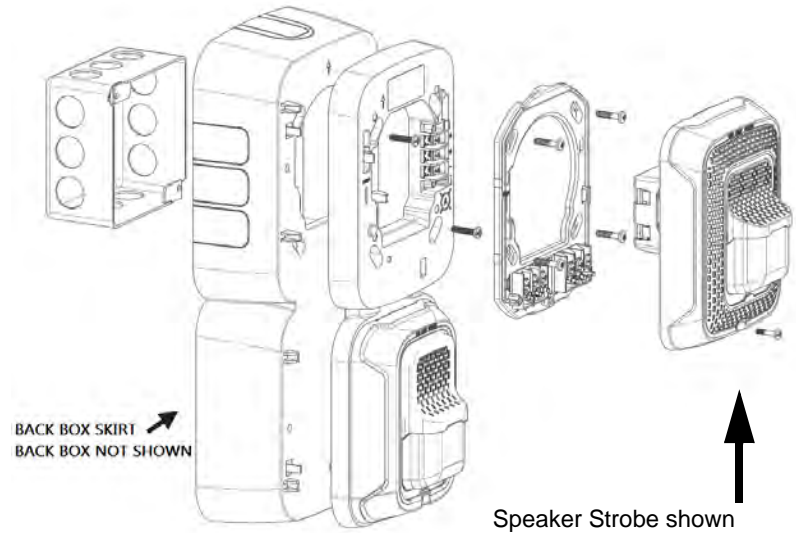
Back Box,  
Horn Strobe



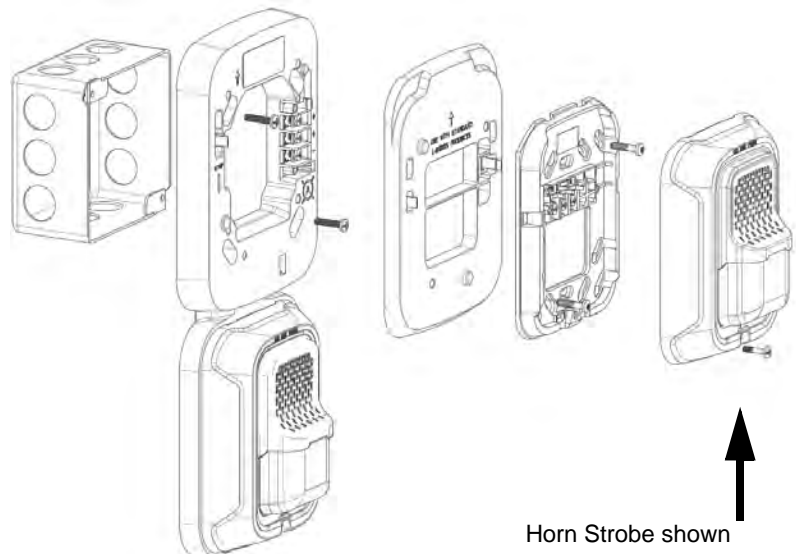
Back Box,  
Speaker Strobe



## Surface, Wall-mount



## Junction Box, Flush-mount



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# Notification Appliance Devices

## Universal Expander Plate Back Box Skirt

588-101-00



Expander Plate  
Back Box Skirt

Shown with  
Universal  
Expander Plate  
P/N 369-037-00  
and  
Speaker Strobe  
P/N 580-108-00

### Ordering Information

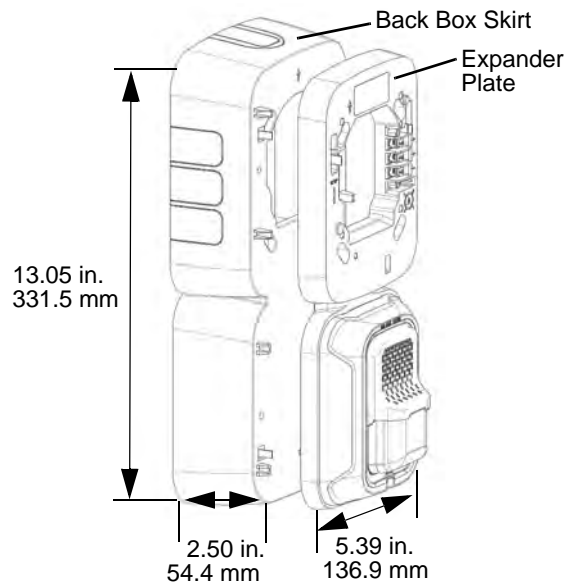
Part Number	Description
588-101-00	Back Box skirt for use with strobe, speaker strobe, horn strobe expander plate, indoor, surface wall-mount, white, Type I, 2.5 in. deep; requires back box

### Associated Parts

Part Number	Description
588-093-00	Back Box, Wall-surface-mount, White, Type I, Speaker; Speaker Strobe, 5.12 in. W x 6.62 in. H x 2.25 in. D <b>NOTE</b> Wall-mount Speaker Strobes using this back box and expander plate (P/N 369-031-00) require back box skirt (P/N 588-084-00).
588-091-00	Back Box, Wall-Surface-mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82 in. W x 5.78 in. H x 1.85 in. D <b>NOTE</b> Available for use with Dual Strobe Expander Plate.

### Drawings

#### Dimensions



### Features

- White housing, no lettering
- Compatible with Universal Expander Plate for Strobes, Speaker Strobes, and Horn Strobes
- Snap on Assembly

### Specifications

*Mounting* 4 in. x 4 in. x 2 1/8 in. Back Box

*Back Box Skirt Dimensions* 13.75 in. L x 6.10 in. W x 2.5 in. D  
(349.3 mm x 154.9 mm x 63.5mm)



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## Security Devices

### Security Devices Catalog Section

12

#### Section 12. Security Devices

**Motion Detectors – Reserved**

**Door Mags – Reserved**

**Accessories – Reserved**

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## Motion Detectors – Reserved

### Security Devices Catalog Section

12

#### Motion Detectors – Reserved

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Door Mags – Reserved

## Security Devices Catalog Section

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Door Mags – Reserved

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## Accessories – Reserved

# Security Devices Catalog Section

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Accessories – Reserved

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## Generic Accessories

### Generic Accessories Catalog Section

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#### Section 13. Generic Accessories

Wire Mold – Reserved

Off-the-Shelf Generic Electrical Boxes – Reserved

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**Wire Mold – Reserved**

## **Generic Accessories Catalog Section**

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**Wire Mold – Reserved**

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## Off-the-Shelf Generic Electrical Boxes – Reserved

### Generic Accessories Catalog Section

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Off-the-Shelf Generic Electrical Boxes – Reserved

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## Supplemental Equipment

### Supplemental Equipment Catalog Section

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#### Section 14. Supplemental Equipment

Cabinet, Fire Alarm Terminal, 32 point . . . . .	.081-243-00
Cabinet Assembly, Record Document Storage . . . . .	.081-261-01
Current In-rush Limiter . . . . .	.176-257-00
Contact Mapping Data Transmitter/Receiver Pair . . . . .	.196-400-00, 197-700-00
Ethernet Firewall, 8-Port, 10/100 VPN . . . . .	.200-442-11
Ethernet Switch, Managed 10-Port, L2 . . . . .	.200-459-01
KVM Assembly . . . . .	.200-464-03, 200-470-04
KVMA Single and Dual-Monitor Extender Kit . . . . .	.200-476-01, 200-476-02
Key Switch, FACP Suspend on Test . . . . .	.510-319-10
USB Serial Adaptor, High Speed. . . . .	.649-118-00
HVAC Shutdown Kit . . . . .	.708-032-01
Emergency Message Display . . . . .	.710-057-00
Annunciator, Red LED, Remote . . . . .	.729-091-00

#### **Battery Enclosures**

Enclosures with Batteries . . . . .	.081-155-00, 081-156-0x, 081-172-00, 081-177-00, 081-182-00
Batteries . . . . .	.400-70x-00, 400-71x-00, 400-720-00

#### **Auxiliary Power Supplies**

UPS Kit, 1200W, 120V . . . . .	.404-064-01
NAC Distributed Power Supply . . . . .	.404-073-00
UPS 120 VAC, 60 Hz, 800 W . . . . .	.404-111-10, 404-111-11
UPS 120 VAC, 60 HZ, 400W . . . . .	.404-114-01

#### **Power Supply/Battery Chargers**

Power Supply/Battery Charger, 24 VDC, 3 Amp, 115 VAC . . . . .	.404-095-00
Power Supply/Battery Charger 24 VDC, 10/8 Amp, 115 VAC . . . . .	.404-098-00
Power Supply/Battery Charger 24 VDC, 8/10 Amp, 230 VAC . . . . .	.404-098-10
Power Supply/Battery Charger, 12/24 VDC, 6A, 115/230 VAC . . . . .	.404-150-00

#### **NAC Boosters**

NAC Distributed Power Extender . . . . .	.404-126-00, 404-126-01
NAC Distributed Power Extender . . . . .	.404-164-00



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## Relays

Relay, SPDT, 120-277 VAC, 10A.....	451-700-00, 451-700-01
Relay, SPDT, 24 VDC, 7A .....	453-100-00
Relay, SPDT, 24 VDC, 7A .....	453-102-00, 453-103-00
Relay, DPDT, 24 VDC, 7A .....	453-104-00, 453-105-00
Relay, SPDT, 24 VDC/VAC, 10A.....	453-106-00, 453-106-01
Relay, SPDT, 24 VDC/VAC, 10A.....	453-107-00, 453-107-01
Relay, DPDT, 24 VDC/VAC, 10A .....	453-110-00, 453-110-01
Relay, SPDT, 10–30 VDC, 10A Input.....	453-111-00, 453-111-01
Relay, SPDT, 24 VDC/VAC, 7A and 10A .....	453-114-00
Relay, Time Delay, SPDT, 10A.....	453-117-00

## AC and DC Surge Protection

Surge Protector, Transient, 2-Outlet Direct Plug In.....	210-505-00
Surge Protector, Signal Line .....	210-508-00, 210-511-00, 210-512-00
Surge Protector Kit, 120 VAC, Transient .....	210-509-00, 210-510-00
Surge Protector, Initiating/Indicating Circuit, 24 VDC.....	210-514-00
Surge Protectors, 120 VAC, 240 VAC, and 120/240 VAC.....	210-524-00, 210-555-00, 210-556-00
Surge Protector, 4-Wire Leased Line, 5V, SPD .....	210-526-00
Surge Suppressor, RJ-45 Ethernet .....	210-540-00
Surge Protector Module and Base .....	210-549-xx, 210-550-xx, 210-551-xx

## Enclosure Heater

Silicone Rubber Enclosure Heater .....	532-001-00, 532-002-00
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## Supplemental Equipment

### Cabinet, Fire Alarm Terminal, 32 point

081-243-00



#### Features

- Red enclosure with white lettering
- Lift-away hinged front cover
- 2 in. lettering displays FIRE ALARM TERMINAL CABINET
- Barrier terminal strips
- Terminal strip and field ID labels

#### Specifications

**Dimensions** 14 in. W x 3 1/4 in. D x 14 in. H

**Enclosure** 16 gauge cold rolled steel  
Red powder coat finish

**Front Cover** Removable, hinged  
30 CAT keyed lock

**Mounting** Wall-mount

**Knockout Clusters** 0.5 in., 0.75 in., 1 in., 1.5 in., and 2 in.  
EMT on top, bottom and left side

**Terminal Strips** Dual 16 point barrier terminal strips  
20A max. 250V (Class B/UL)

**Wire Rating** 12 gauge

**Standards Compliance:**

UL S2580

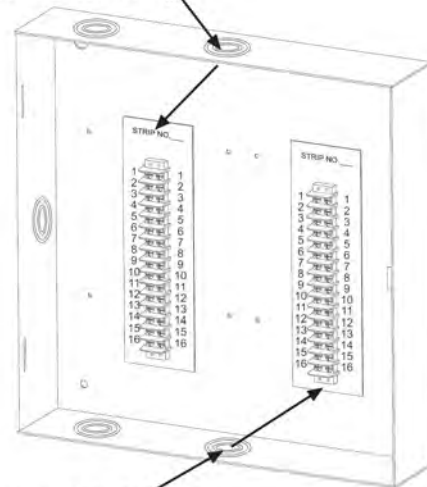
State of California 7300-0553:0110

#### Ordering Information

Part Number	Description
081-243-00	Cabinet, Fire Alarm Terminal, electric, dual 16 point barrier terminal strips, wall-mount, 20A max. 250V

#### Wiring Diagram

Power-Limited Wiring



Nonpower-Limited Wiring

Power-Limited and Nonpower Limited circuit wiring must remain separated in the cabinet. All power-limited circuit wiring must remain at least 1/4 inch from nonpower limited wiring and must enter cabinet through different knockouts or conduits.



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## Supplemental Equipment

### Cabinet Assembly, Record Document Storage

081-261-01

#### Description

The Record Document Storage Cabinet provides for storage of important system documents near the system control unit.

This cabinet has an 8 GB digital flash memory drive with a slide tab that allows selection between USB-C or Micro USB connector to access records electronically. The cabinet protects important hard copy documents and accommodates standard 8 1/2 in. x 11 in. manuals and document records.

#### Features

- Durable construction
- Red cabinet with white lettering
- Business card holder for important contacts
- Two key ring hooks for system keys
- Hinged enclosure door swings down with attached information and maintenance label
- Meets NFPA 72 7.7.2.4 requirements

#### Specifications

*Material* 18 Gauge Cold Rolled Steel

*Finish* Powder Coat

*Hinge* 12 in. stainless steel piano

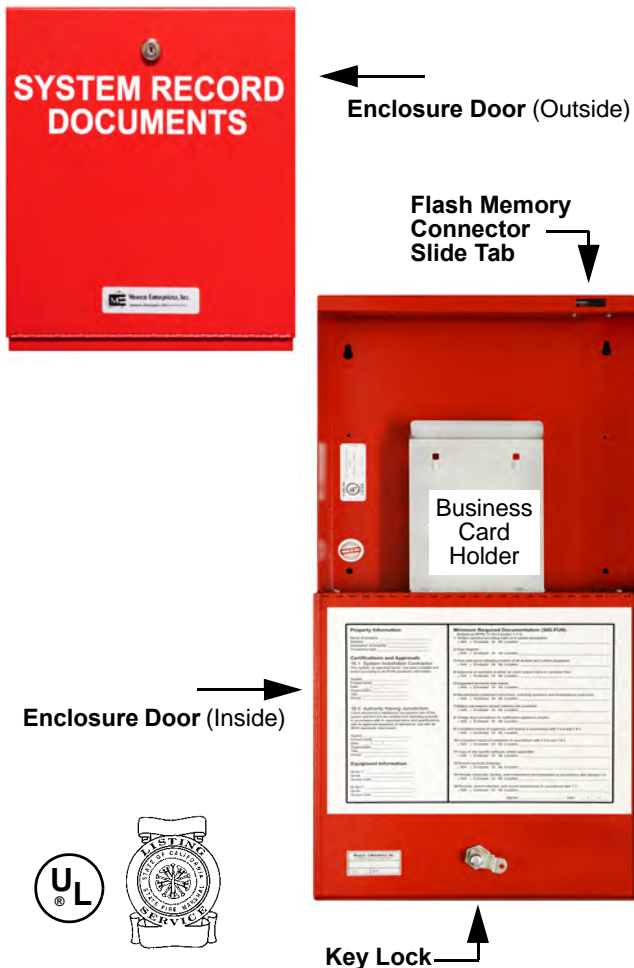
*Dimensions* 12 in. H x 13 in. L x 2.25 in. D

*Mounting* Four mounting holes in back box—mount to wall using appropriate mounting screws (not supplied)

*Standards Compliance* UL Listed S2580 Vol 3 and CSFM 7300-0553:0110

#### Ordering Information

Part Number	Description
081-261-01	Cabinet Assembly, Record Document Storage with digital storage, uses same key as Monaco Fire Alarm Control Panel (C415A)



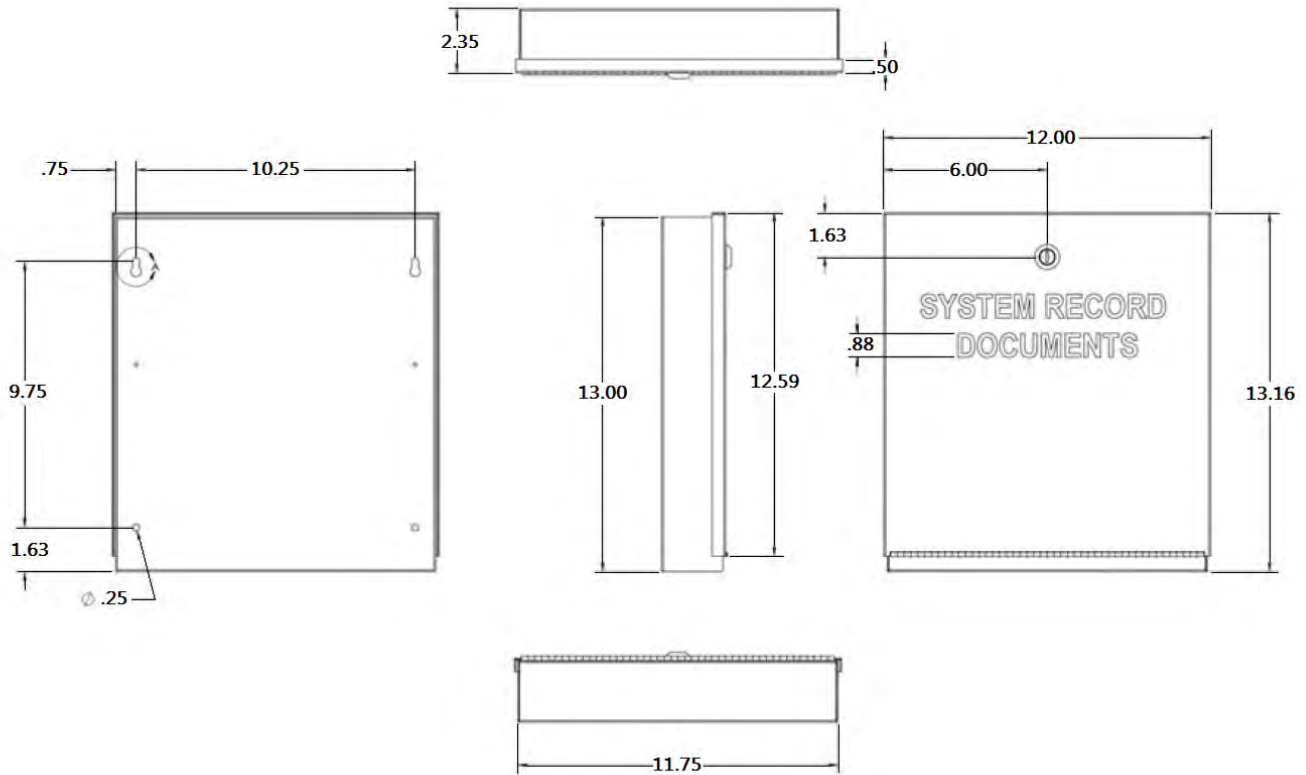
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# Supplemental Equipment

## Dimensions (in.)



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## Supplemental Equipment

### Current In-rush Limiter

176-257-00

#### Description

The in-rush current limiter is designed to limit the in-rush current drawn by a device or devices connected to the AUX Power terminal of a conventional or addressable M-series fire alarm control panel.



The in-rush current limiter limits peak momentary current to a level sustainable by the main power source ( $\leq 2.5A$  DC). When the attached device(s) reach their nominal operating current, the current limiting device becomes electrically invisible and allows normal function. No adjustments or maintenance is required.

The in-rush current limiter is wired to the AUX POWER terminals of the M-series panel on the side marked Power INPUT and connected to the device(s) such as duct smoke detectors on the side marked Power OUTPUT. When power is applied to the Power INPUT terminal of the in-rush current limiter, the LEDs marked PWR IN and PWR OUT will light.

When using the panel to power smoke detectors, an M-series panel relay is installed and designated "Smoke Power." The in-rush current limiter is wired after the smoke power relay. The M-series panel activates the smoke power relay during panel reset to remove power from the smoke detector and allow a latched smoke detector to reset.

**NOTE** Only use the current limiting assembly to limit the main power supply out rush current when the attached device presents a momentary high current demand on the fire panel power supply. For instance, in the case of duct detectors connected directly to the AUX power of the fire panel, those detectors have a high in-rush current and require the use of the limiter when two or more are connected. However, if more than seven duct detectors are needed provide an auxiliary power supply to provide sufficient power to the detectors.

#### Specifications

<i>Input Volts</i>	$\leq 30$ VDC maximum
<i>Sustained Output Current</i>	$\leq 0.6A$ DC maximum
<i>Instantaneous Output Current</i>	$\leq 2.5A$ DC maximum
<i>Temperature Rise</i>	$\leq 60^{\circ}C$ at 0.6A DC maximum

#### Ordering Information

Part Number	Description
176-257-00	Current In-rush Limiter, $\leq 2.5A$ DC

#### Associated Parts

Part Number	Description
501-123-00	Fuse, slow-blow, 1A, 250V, 1/4 in. x 1 1/4 in.



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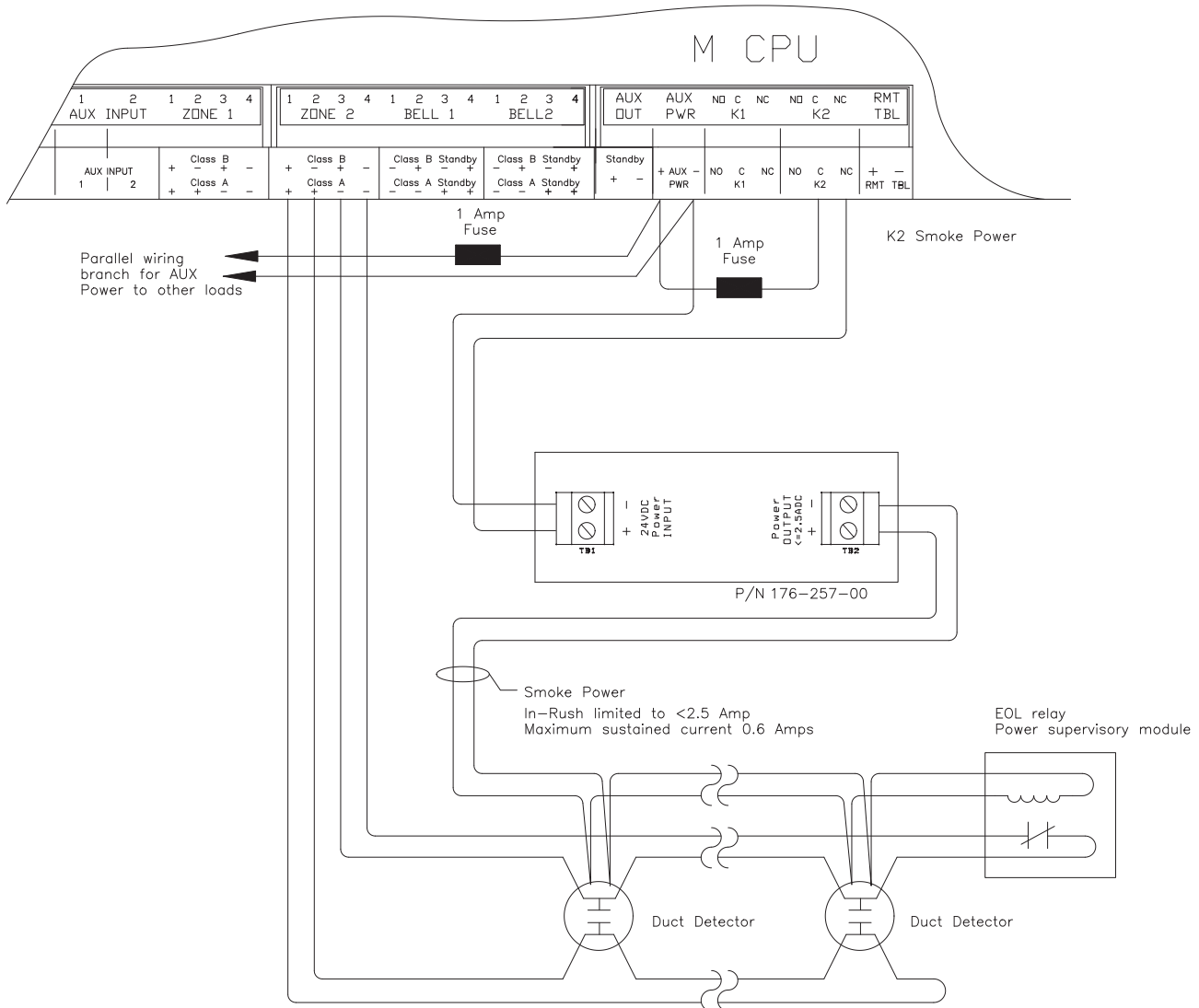
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# Supplemental Equipment

## Wiring Diagram

### Class A Configuration



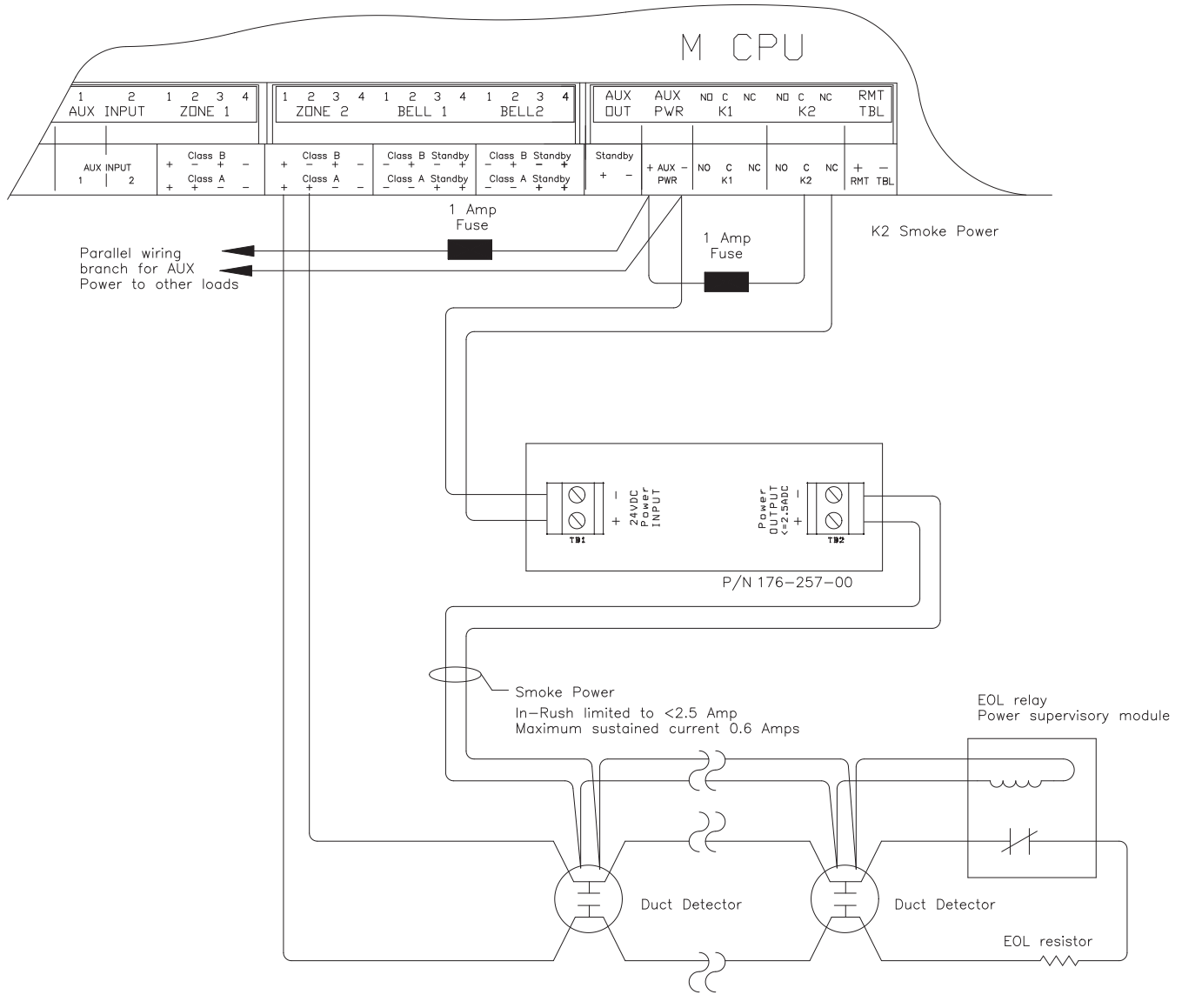
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# Supplemental Equipment

## Class B Configuration



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## Supplemental Equipment

### Contact Mapping Data Transmitter/Receiver Pair

196-400-00, 197-700-00

#### Description

The full duplex data contact mapping transmitter and receiver provide transmission of up to eight independent contact closures over one optical fiber. Utilizing microprocessor-based logic for exceptionally robust communications channel redundancy. A plug-and-play design ensures ease of installation requiring no electrical or optical adjustments. Each module incorporates power and individual status indicating LEDs for monitoring confirmation of contact closure of each of the eight channels.



#### Features

- Transmits up to eight contact closures over one fiber
- Eight channel point-to-point transmission architecture
- Power and eight individual channel status LED indicators
- Eight SPST reed relays (with individual indicators)
- Loss of carrier relay for alarm notifications
- Relay contact rating: 200 VDC, 0.5A, normally open
- No in-field electrical or optical adjustments required
- Automatic resettable solid-state current limiters
- Transmission distances up to 2.5 miles

#### Specifications

<i>Input/Output Channels</i>	8
<i>Contact Relay Rating</i>	200 VDC, 0.5A, 12 watts, Normally Open
<i>Response Time</i>	25 ms maximum
<i>Number of Fibers</i>	1
<i>Wavelength</i>	850nm
<i>Power</i>	12 VDC @ 150 mA
<i>Current Protection</i>	Automatic Resettable Solid-State Current Limiters
<i>Dimensions</i>	7 in. x 4.9 in. x 2 in. (17.8 cm x 12.5 cm x 5. cm)
<i>Shipping Weight</i>	< 2 lb/0.9 kg
<i>Operating Temperature</i>	-40°F to 165.2°F (-40°C to 74°C)
<i>Storage Temperature</i>	-40°F to 185°F (-40°C to 85°C)
<i>Relative Humidity</i>	0% to 95% (non-condensing)
<i>Transmission Distance</i>	Up to 2.5 miles (4 km)

#### Ordering Information

Part Number	Description
197-700-00	Contact Mapping Transmitter, 850 nm, multimode (62.5/125 $\mu$ m) fiber optic transmitter, eight individual point-to-point, form A (normally open, short active) relay zone inputs
196-400-00	Contact Mapping Receiver, 850 nm, multimode (62.5/125 $\mu$ m) fiber optic receiver, eight individual point-to-point, form A (normally open, short active) relay outputs



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## Supplemental Equipment

### Ethernet Firewall, 8-Port, 10/100 VPN

**200-442-11**

#### Description

This Ethernet firewall unit is a next-generation, full-featured adaptive security appliance. It delivers high-performance firewall, SSL and IPsec VPN, and rich networking services that enable Monaco certified D-21 technicians to remotely assist with systems troubleshooting.



#### Features

- High speed 24/7 Monaco remote support
- Multibus architecture
- Flexible 8-port 10/100 Fast Ethernet switch
- Ports can be dynamically grouped to create up to three separate VLANs for improved network segmentation and security
- Two Power over Ethernet (PoE) ports
- Three USB ports
- One expansion slot (SSC)
- RJ-45 console serial port
- Security lock slot

#### Specifications

*Power Input (Nominal)* 100 to 240 VAC, 50/60 Hz

*Power Output* • Steady State: 20 W  
• Maximum Peak: 96 W

*Firewall Throughput* Up to 150 Mbps

*VPN Throughput* Up to 100 Mbps

*Concurrent Sessions* 10,000

*IPsec VPN Peers* 10

*New Connections* 4,000 per second

*Acoustic Noise* 0 dBA maximum

*Memory* 512 Mb

*System Flash* 128 Mb min.

*Operating Temperature* 32 to 104°F (0 to 40°C)

*Relative Humidity* 5% to 95% non-condensing

*Dimensions* 1.75 in. H x 7.89 in. W x 6.87 in. D  
(4.45 cm x 20.04 cm x 17.45 cm)

*Weight* 4 lb (1.8 kg)

*Compliance and* Safety: UL 60950

*Certifications* Certification: FIPS 140-2 Level 2

#### Ordering Information

Part Number	Description
200-442-11	Ethernet Firewall, 8-port, 10/100 VPN



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## Supplemental Equipment

### Ethernet Switch, Managed 10-Port, L2

200-459-01

The Ethernet switch is an intelligent, high-performance device that provides network flexibility and robust security features. The switch secures the network from viruses using Access Control Lists (ACL), IP-MAC-Port Binding (IMPB) and Safeguard Engine™ functions.



The switch supports eight gigabit ports with two combination SFP ports. It has fanless technology to reduce heat and noise.

#### Features

- Ports that have no link are automatically powered down
- Ten 10/100/1000BASE-T gigabit ports
- Fiber support with two or four combo small-form pluggable (SFP) ports
- 4k VLAN
- Jumbo frame support up to 10,240 bytes
- MLD snooping v1/v2
- Loop-back detection
- Integrated malicious traffic and performance degradation prevention functions
- 802.1X authentication
- Web-based access control (WAC)
- MAC-based access control (MAC)
- IP-MAC-port binding
- SSH/SSL
- Microsoft® NAP (supports IPv4/v6)
- Eight priority queues
- 802.1p priority queues/multilayer CoS

- Traffic segmentation
- Bandwidth control
- Per-flow bandwidth control
- Broadcast storm control
- Port mirroring
- Web-based GUI (supports IPv4/v6)
- Command line interface
- Telnet client/server (supports IPv4/v6)
- RADIUS/TACACS+ authentication for management access

#### Specifications

*Port Density* 10

*MAC Address Table* 8k

*Switch Fabric* 20 Gbps

*Transmission Method* Store-and-forward

*Forwarding Rate* 14,880 pps (10M), 148,800 pps (100M), 1,488,000 pps (1000M)

*VLANs* Support up to 4k VLAN Groups

*Priority Queues* 8 queues

*Packet Buffer* 128 kB

*Multicast Support* IGMP snooping, MLD snooping

*Diagnostic LEDs* Per Unit: Power

Console Per Port: Link, Act, Speed

#### Interface Options

*RJ-45* 10BASE-T, 100BASE-TX, 1000BASE-T

*SFP/Mini-GBICs* 1000BASE-X support based on type of SFP, LC

*RS-232 DB-9* Console port for out-of-band configuration

#### Network Management

*In and Out of Band* Telnet, CLI/Console, RMON (4 groups), SNMPv1/2/3, SSH, SSL, TACACS, Authentication, RADIUS client

#### Electrical and Emissions Summary

*Emissions* CE, FCC Class A, C-Tick, VCCI Class A

*Power Supply* AC Input: 100 to 240 VAC, 50/60 Hz



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# Supplemental Equipment

*Power Consumption* 20.9 watts maximum

*Heat Dissipation* 71.3 BTU per hour

*Ventilation* Fanless

## Environmental

*Operating Temperature* 32°F to 104°F (0°C to 40°C)

*Relative Humidity* 5% to 95% non-condensing

## Physical Specifications

*Dimensions* 11 in. W x 7.1 in. D x 1.7 in. H  
(280 mm W x 180 mm D x 43 mm H)  
1U rack height

*Weight* 3.3 lb (1.5 kg)

## Ordering Information

Part Number	Description
<b>200-459-01</b>	Ethernet Switch, managed, 8-port gigabit L2 switch with two 1000BASE-T/SFP ports



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# Supplemental Equipment

## KVM Assembly

200-464-03, 200-470-04

### Description

This KVM, for use with Monaco Central Receiving rack-mounted systems, is a rack-mount KVM drawer with a built-in 8-port high-density USB switch that includes LCD monitor, keyboard, and touch-pad mouse. The unit serves as a control station for up to eight rack-mount computers.



### Features

- Drawer adjusts to rack depths from 22 in. to 39 in.
- Forward-folding 17 in. monitor
- On-screen display for setting system characteristics
- Wide tilt-angle on monitor for optimal viewing adjustment
- Compatible with PS/2 and USB computers
- Drawer locks into place when open
- Front panel security lock
- Rear connectors:
  - IEC power connector
  - Eight 15-pin HD CPU connectors (video, device)
  - One RJ45 female connector (labeled RS232) for CPU interface to control switch function
  - Optional USB port

### Specifications

<i>Monitor</i>	Size: 17 in. Resolution: 1280 x 1024 Tilt-angle Range: 120 degrees
<i>Power Input</i>	100 to 240 VAC, 50/60 Hz
<i>Power Consumption</i>	30 W
<i>In-rush Current</i>	30A, maximum
<i>Operating Temperature</i>	32°F to 104°F (0°C to 40°C)
<i>Relative Humidity</i>	20% to 90% non-condensing
<i>Dimensions</i>	19 in. W x 21.9 in. D x 1.75 in. H (48.3 cm x 60.7 cm x 4.4 cm) Handle adds 1.5 in. (3.8 cm) to depth when monitor is closed
<i>Weight</i>	26 lb (12 kg)

### Ordering Information

Part Number	Description
<b>200-464-03</b>	KVM Drawer, integrated 8-port KVM switch, USB, 17 in. monitor, high-density connectors
<b>200-470-04</b>	Cable Kit for connecting a local rack-mount server. Kit consists of a 1 ft. CAT6 cable and a 6 ft. male 15-pin HD to male 15-pin HD + male USB Type A interface cable



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## Supplemental Equipment

### KVMA Single and Dual-Monitor Extender Kit

200-476-01, 200-476-02

#### Description

The KVMA Extender Kits give you the flexibility to keep the D-21 servers and clients in a secure location and use monitor, mouse, keyboard, and audio up to 1,000 ft. away over CAT6.



#### Features

- Stereo audio support
- Compatible with most video resolutions to 1920 x 1200
- Keyboard and mouse are hot pluggable
- Built-in surge protection
- Connect over CAT5 or CAT6 from the computer to the desktop

#### Specifications

*Input Power* 100/240 VAC, 50/60 Hz

*Power Consumption* 12.5 W

*Audio* Two 3.5 mm jacks

*Video* One HD15 F  
Res: 1920 x 1200 less than 500 ft.  
Res: 1600 x 1200 at 1,000 ft. maximum

*Operating Temperature* 32°F to 104°F (0°C to 40°C)

*Dimensions* 200-476-01: 2.9 in. W x 1 in. H x 6.4 in. D  
200-476-02:  
Local: 4.7 in. W x 2 in. H x 3 in. D  
Remote: 6.4 in. W x 2 in. H x 3 in. D

*USB Specs* Four USB Ports

*Compliance* CE/ROHS

#### Ordering Information

##### Extender Kit

Part Number	Description
200-476-01	KVMA Extender Kit, single-monitor client, USB with audio, rack-mount, local/remote
200-476-02	KVMA Extender Kit, dual-monitor client, USB with audio, rack-mount, local/remote

##### Associated Parts

Part Number	Description
200-464-03	KVM Drawer, 1U Rack-mount, integrated 8-port KVM switch, USB, 17 in. monitor, high-density connectors
200-477-00	KVMA, 2U Rack-mount, USB, holds up to 16 local or remote extenders
404-112-00	UPS, Tower Case, in/out, 1500VA/865 W, 230V, 50/60 Hz
409-005-00	AC Adaptor Plug, black, C14 (female) to universal socket, accepts plugs Type A-L, international
626-096-00	AC Power Cord, European CEE 7/7 Plug, black, C13 (male) connector, 10A/250 VAC, plug Type F, 8.2 ft. cable length
626-098-00	AC Power Cord, United Kingdom 1363A Plug, black, C13 (male) connector, 10A/250 VAC, plug Type G, 6ft. cable length
626-099-00	Type L Cord Jumper, black, C14 (female) to C13 (male), 10A/250 VAC, 6 ft. cable length

**NOTE:** For international purchases, buy **one** P/N 409-005-00 and **one** P/N 626-096-00 or 626-098-00 (depending on your location) per Extender Kit.

**NOTE:** For international purchases: UPS P/N 404-112-00 to be used on remote end to provide backup power for AC fails. Also purchase P/N 626-099-00.



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## Supplemental Equipment

### Key Switch, FACP Suspend on Test

510-319-10

#### Description

The key switch supports MAAP(+) and MAAP-X Fire Alarm Control Panel (FACP) test and maintenance activity. The goal is to test a panel without shutting down certain system outputs.



The user must set **Suspend On Test** options in the FACP's Planner software for pertinent addressable and conventional outputs, and for an addressable input device configured as the Mini-Monitor module that connects to the switch. See the wiring diagram on the next page.

- **Suspend On Test** Checking this box (or using Action Code #203) enables alarm or trouble conditions on the output device to be temporarily suspended during a MAAP(+) system test conditionally controlled by one or more inputs configured to put the MAAP(+) in System Test Mode. This option is not available if the conventional output is assigned to MNSAction #1-#4.

#### NAC Suspend Configuration

While testing an Addressable MAAP(+) or MAAP-X, the FACP **Suspend On Test** switch connected to a Mini-Monitor Module can be placed in the Test Mode position, preventing outputs set to **Suspend On Test** from activating, like an HVAC shutdown or the horn strobe NAC devices.

The Mini-Monitor Module's alarm state is annunciated on the panel and sent to the Central as a supervisory alarm, indicating the panel is under test due to the Test Switch being the Test Mode position. When testing is done, the switch is restored back to its normal position (FACP Normal), the alarm clears, and an End Alarm message is sent to Central.

When in the FACP Normal position, all systems should function as expected.

#### Features

- Furnished with two keys per lock
- 11 criss-cross blade tumbler
- Bright chrome finish

#### Specifications

##### Switch

*Finish* Bright chrome

*Dimensions* 2.8 in. W x 4.5 in. H x 2 in. D

*Switch Rating* 4A at 115 VAC / 28 VDC

*Positions* Two positions, rotates 180 degrees clockwise

*Keys* Two keys per lock, 11 criss-cross blade tumblers

##### Back Box

*Material* Aluminum

*Dimensions* 2.75 in. W x 4.5 in. H x 2 in. D

*Color* Grey



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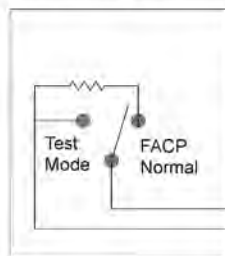
# Supplemental Equipment

## Ordering Information

Part Number	Description
<b>510-319-10</b>	Key Switch Assembly, FACP Suspend on Test, normally open, Form A, dry contacts

## Assembly Drawing

P/N 510-319-10  
FACP Test Key Switch



P/N 729-143-00

Mini  
Monitor  
Module

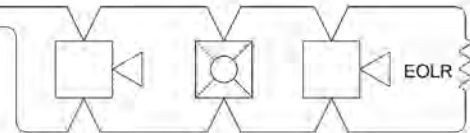
SLC

MAAP(+)  
Point Reporting  
or  
MAAP-X

HVAC  
Shutdown

Relay  
Control  
Module

SLC



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## Supplemental Equipment

### USB Serial Adaptor, High Speed

649-118-00

#### Description

A simple reliable solution for connecting devices with a 9-pin serial port to a USB Type-A port on a computer or laptop. The adaptor can be used with all RS-232 serial devices. Works well with Monaco panels and Planner software.



#### Features

- High-Speed USB-to-Serial Adaptor
- Supports data transfer speeds up to 230 Kbps (twice the speed of a built-in serial port)
- Works with any USB cable up to 16 ft.
- LED data activity indicator
- No external power supply needed


#### Specifications

<i>Serial Port</i>	DB9
<i>USB Port</i>	Type A
<i>Windows Compatible</i>	Windows® 2000, XP, Vista, 7, 8, 8.1, 10 Server 2008 R2, Server 2012, Server 2012 R2, Server 2016
<i>Macintosh Compatible</i>	Mac OS X 10.6, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12, 10.13, 10.14
<i>Cable</i>	3 ft., detachable
<i>Color</i>	Black
<i>Dimensions</i>	1 in. H x 1.6 in. W x 3.1 in. D (2.54 cm x 4.06 cm x 7.87 cm)
<i>Weight</i>	2 oz
<i>TAA</i>	Compliant

#### Ordering Information

Part Number	Description
649-118-00	USB to 9-pin RS-232 Serial Adaptor (needed for laptops with USB only in order to program the panel)

#### Drawing - Connectors

DB9 (MALE) 

USB-A (MALE) 



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## Supplemental Equipment

### HVAC Shutdown Kit

708-032-01

#### Description

This HVAC Shutdown Kit includes a yellow stopper station and a clear cover. The stopper station is ADA compliant and is designed to stop accidental activation.



The clear cover is a strong polycarbonate material, approved for indoor and outdoor use.

#### Features

- Momentary Mushroom button activation
- Yellow shell color with red push button
- Clear cover with red label included
- Indoor/outdoor cover protects against accidental or intentional damage

#### Specifications

##### Shutdown button Specification

**Material** Polycarbonate with stainless steel backplate

**Temperature Ratings** Button housing:  
–40°F to 250°F (–40°C to 121°C)  
Button electronics:  
–40°F to 120°F (–40°C to 49°C)

**Note** Below –4°F (–20°C), remote power source recommended

**Input Power** Commercial AC wired at a J Box

**Switch Contact Rating**

- 6A @ 600 VAC
- 1A @ 250 VAC
- Single-pole, double throw (SPDT)

##### Cover Specifications

**Material** Polycarbonate

**Temperature Rating** –40°F to 250°F (–40°C to 121°C)

#### Ordering Information

##### HVAC Shutdown Kit

Part Number	Description
708-032-01	HVAC Shutdown Kit, includes shutdown button and cover

##### Associated Parts

Part Number	Description
709-020-00	Weatherproofing Gasket; order two if using spacer
709-023-00	Spacer, for surface-mount
709-024-00	Spacer Conduit Knockout Gasket
709-031-00	Backplate, for proper sealing



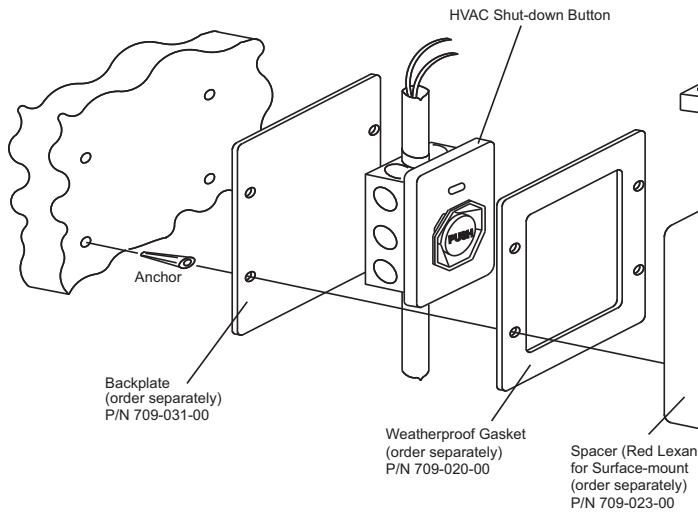
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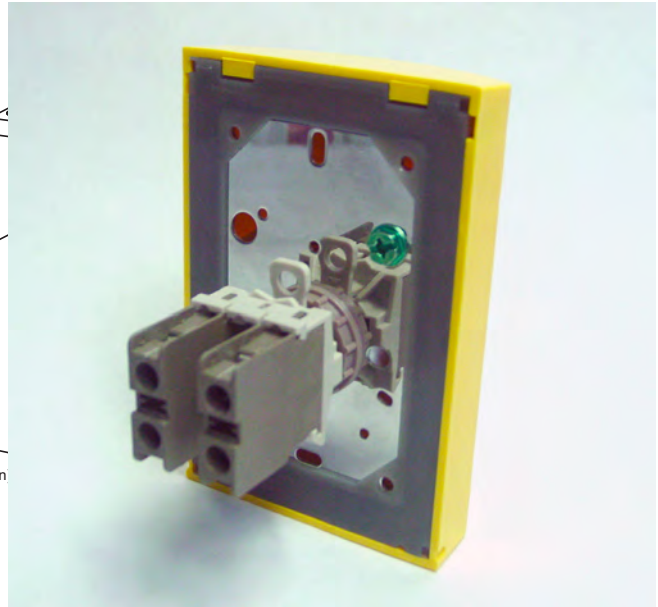


# Supplemental Equipment

## Mounting, Dimensions Drawings



## Terminal Block Detail



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# Supplemental Equipment

## Emergency Message Display

710-057-00

### Description

The Emergency Message Display is an LED illuminated text sign that provides two independently lit text messages: "Announcement" and "Evacuate".



### Specifications

Operating Voltage 24 VDC

Current Draw 70 mA per circuit

Input Wiring 14 to 22 AWG

Dimensions 14.5 in. L x 8 in. H x 2 in. D  
(36.83 cm x 20.32 cm x 5.08 cm)

Standards Compliance:

UL Listed UL48, File E318141

### Ordering Information

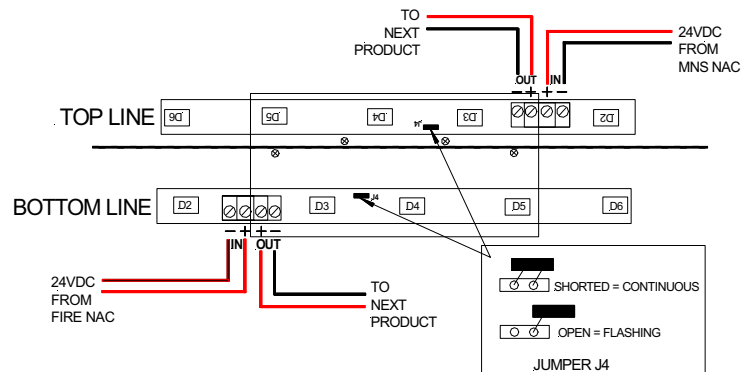
Part Number	Description
710-057-00	Emergency Message Display; back box with 0.5 in. knockouts included

The sign is designed to comply with UFC requirements for Mass Notification Systems (MNS) where a text sign is required over the door of egress stairwells or other locations.

### Features

- UFC 4-021-01 compliant
- Meets IP-65 rating, sealed against dust and protected from water splashes and low pressure water jets
- Two independently activated messages: "Announcement" and "Evacuate"
- Messages can be independently set to either a continuous or flashing LED illumination mode
- Compatible with reverse polarity supervision circuits

### Wiring Diagram



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## Supplemental Equipment

### Annunciator, Red LED, Remote

729-091-00



#### Features

- Polarized for both conventional and addressable intelligent applications
  - Provided jumper must be installed for use with conventional systems
- Red LED indicates alarm condition

#### Specifications

**Voltage Range** Conventional System: 3.1 to 32 VDC  
Intelligent System: 18 to 32 VDC

**Alarm Current** 10 mA maximum

**Operating Temperature** 14°F to 140°F (–10°C to 60°C)

**Dimensions** 4.6 in. H x 2.8 in. W x 1.3 in. D  
(11.7 cm x 7.11 cm x 3.3 cm)

**Mounting** Single gang electrical outlet box

#### Standards Compliance:

**UL Listed** File S2522

**FM Approved** 3034401

**State of California** 7300-1653:0212

**CE Marked** 9080301

#### Ordering Information

Part Number	Description
729-091-00	Remote, Red LED Annunciator, fits standard single gang electrical box (not included)



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# Battery Enclosures

## Supplemental Equipment Catalog Section 14

### Battery Enclosures

Enclosures with Batteries . . . . .	081-155-00, 081-156-0x, 081-172-00, 081-177-00, 081-182-00
Batteries . . . . .	400-70x-00, 400-71x-00, 400-720-00

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## Supplemental Equipment

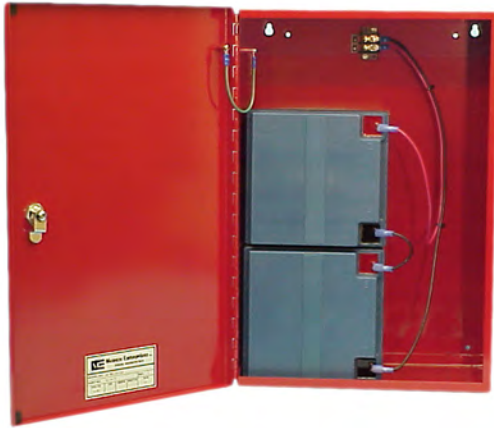
### Enclosures with Batteries

**081-155-00, 081-156-0x, 081-172-00, 081-177-00, 081-182-00**

#### Description

Sealed Lead Acid (SLA) batteries are used in Monaco's products as a backup power source, and in some cases as the primary power source for Monaco's solar powered equipment. SLA batteries in enclosures that are configured for 12V and 24V backup are available in different Ah capacities. Select the appropriate P/N with the Ah capacity that is close to, but higher than, the backup Ah requirement.

Enclosure with Batteries P/N 081-156-00



#### Features

- Sealed, leak-proof, maintenance-free, usable in any position
- Compact, rugged, and rechargeable
- Pressure-relief valves allow venting of gases in the event of overcharging
- Cycle or float service applications (no memory effect)
- Extended shelf life

#### Specifications

##### Batteries

*Voltage* 12 VDC

*Ah size* Ah size varies (See P/N in Ordering Information for Ah sizes)

#### Ordering Information

Part Number	Description
<b>081-155-00</b>	Batteries with enclosure: Two 12V/18 Ah batteries in an 18 in. H x 12 in. W x 6 in. D red, NEMA 1 battery enclosure with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACPs, provides 24 VDC 18 Ah.
<b>081-156-00</b>	Batteries with enclosure: Two 12V/26 Ah batteries in an 18 in. H x 12 in. W x 6 in. D red, NEMA 1 battery enclosure with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACPs, provides 24 VDC 26 Ah
<b>081-156-01</b>	Batteries with enclosure: Two 12V/26 Ah batteries in an 18 in. H x 12 in. W x 6 in. D red, NEMA 1 battery enclosure. Assembly has an enclosure mounted military grade threaded battery connect and disconnect port with a MAAP-X battery cable assembly; for use with MAAP-X FACPs, provides 24 VDC 26 Ah
<b>081-177-00</b>	Batteries with enclosure: Two 12V/40 Ah batteries in a 20 in. H x 16 in. W x 8 in. D red, NEMA 1 enclosure with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACPs, provides 24 VDC 40 Ah
<b>081-182-00</b>	Batteries with enclosure: Two 12V/75 Ah batteries in a 12 in. H x 24 in. W x 8 in. D red, NEMA 1 enclosure with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACPs, provides 24 VDC 75 Ah
<b>081-172-00</b>	Batteries with enclosure: Four 12V/18 Ah batteries in a 20 in. H x 16 in. W x 6 in. D red, NEMA 3R battery enclosure with wire harness and tamper switch for use with BT-X 12 VDC panels, provides 12 VDC 72 Ah



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# Supplemental Equipment

## Batteries

**400-70x-00, 400-71x-00, 400-720-00**

### Description

Sealed Lead Acid (SLA) batteries are used in Monaco's products as a backup power source and as the primary power source in the case of Monaco's solar powered equipment. Batteries are available in 12 VDC and in several capacity options ranging from 1.2 Ah to 100 Ah.



P/N 400-701-00 Shown

### Features

- Sealed, leak-proof construction allows for safe, maintenance-free operation in any position
- Compact, rugged, and rechargeable
- Pressure-relief valves allow venting of gases in the event of overcharging
- Cycle or float service applications (no memory effect)
- Extended shelf life

### Specifications

*Voltage* 12 VDC

*Capacity* P/N 400-703-00: 1.4 Ah  
P/N 400-720-00: 3.3 Ah  
P/N 400-704-00: 8 Ah  
P/N 400-713-00: 12 Ah  
P/N 400-712-00: 18 Ah  
P/N 400-701-00: 26 Ah  
P/N 400-714-00: 40 Ah  
P/N 400-716-00: 75 Ah  
P/N 400-717-00: 100 Ah  
P/N 400-718-00: 100 Ah

### Ordering Information

Part Number	Description
400-703-00	Battery, SLA, rechargeable, 12V/1.4 Ah, quick connect, 3.78 in. L x 1.69 in. W x 2.28 in. H, 1.2 lb
400-720-00	Battery, SLA, rechargeable, 12V/3.3 Ah, quick connect, 5.24 in. L x 2.64 in. W x 2.6 in. H, 2.9 lb
400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95 in. L x 2.56 in. W x 3.9 in. H, 3.5 lb
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb
400-712-00	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13 in. L x 3.03 in. W x 6.59 in. H, 12.6 lb
400-701-00	Battery, SLA, rechargeable, 12V/26 Ah, quick connect, 6.56 in. L x 6.97 in. W x 4.92 in. H, 17 lb
400-714-00	Battery, SLA, rechargeable, 12V/40 Ah, nut and bolt, 7.76 in. L x 6.5 in. W x 6.69 in. H, 29.1 lb
400-716-00	Battery, SLA, rechargeable, 12V/75 Ah, universal terminal, 10.25 in. L x 6.6 in. W x 8.98 in. H, 50.6 lb
400-717-00	Battery, SLA, rechargeable, 12V/100 Ah, universal terminal, 12 in. L x 6.6 in. W x 8.98 in. H, 68 lb
400-718-00	Battery, SLA, rechargeable, 12V/100 Ah, universal terminal, 12.01 in. L x 6.61 in. W x 9.06 in. H, 65.34 lb



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## Auxiliary Power Supplies

### Supplemental Equipment Catalog Section

14

#### Auxiliary Power Supplies

UPS Kit, 1200W, 120V .....	404-064-01
NAC Distributed Power Supply .....	404-073-00
UPS 120 VAC, 60 Hz, 800 W .....	404-111-10, 404-111-11
UPS 120 VAC, 60 HZ, 400W .....	404-114-01

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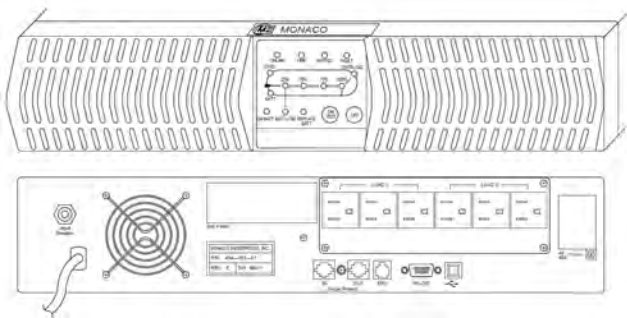
# Supplemental Equipment

## UPS Kit, 1200W, 120V

404-064-01

### Description

This Uninterruptible Power Supply (UPS) is a 1500 VA, 1200 W 120 VAC true on-line, double conversion, extended run-time unit. The UPS is designed for critical, power-sensitive electronic environments. The on-battery output waveform is true sine wave.



The full-load backup time is five minutes; the half-load backup time is 12.7 minutes. These are best estimates, however, actual backup run-time varies according to protected equipment and battery condition.

### Features

- 19 in. rack and cabinet install
- 0.8 power factor (W) for large capacities
- Output receptacle control for non-critical load-shedding capacity
- Extended run-time using external battery packs
- Independent battery pack chargers to reduce battery recharge times
- Simultaneous RS-232, USB and SNMP communications
- Front panel display with load/battery and status indicators
- Dedicated remote Emergency Power Off (EPO) port
- "Hot swappable" batteries
- Phone/modem/network protection
- Six fully protected outlets
- EMI/RFI filtering
- SNMP manageable

### Kit Contents

*UPS* 1200W, 120 VAC, 50/60 Hz  
*Surge Protector Kit* 15A, 120 VAC  
*UPS to CPS Cable* 484, 6 ft.  
*Manual* UPS and Reserve Power Supply Charger  
IOM Manual, P/N 001-150-00

### Specifications

*Power* 1200W; power factor 0.8; 1500 VA  
*Energy Dissipation* 800 joules  
*Input Voltage* 110/120 VAC  
*Frequency* 50/60 Hz  $\pm$  6 Hz autosensing  
*Power Factor Correction* Equal to or greater than 97% at full load  
*Battery Type* VRLA, sealed, non-spillable  
*Battery Dynamic Response*  $\pm$  5% at 100 load change in 30 ms  
*Battery Transfer Time* 0 ms  
*Battery Recharge Time* 8 hours from total discharge  
*Battery voltage* 48 VDC (four 12V/72 Ah batteries)  
*Battery Weight* 6 lb  
*Operating Temperature* 32°F (0°C) to 104°F (40°C)  
*Humidity* 95% non-condensing  
*Unit Dimensions* 3.5 in. H x 17.3 in. L x 17 in. D  
*Weight* 43.12 lb

### Ordering Information

Part Number	Description
404-064-01	Uninterruptible Power Supply Kit, 1200 W, 120 VAC, 50/60 Hz, 20 minute backup



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# Supplemental Equipment

## NAC Distributed Power Supply

404-073-00

### Description

The Notification Appliance Circuit (NAC) power extender is designed to extend the power capabilities of existing NACs.



This remote power supply can be connected to any 12V or 24V Fire Alarm Control Panel (FACP) or may be used as a standalone power supply.

### Features

- Fully supervised power supply, battery, and NACs
- Able to cascade up to four power supplies
- Five Class B NACs
- Built-in strobe synchronization
- 6A continuous output in standalone mode
- Safety compliance: NFPA 72, UL 864, UL 1481
- Coded signal synchronization
- Integral supervised battery charger for lead acid batteries only
- Removable terminal blocks

### Specifications

<i>Power Input</i>	120 VAC, 50/60 Hz, 5A maximum
<i>Wire Size</i>	12 to 14 AWG minimum with 600V insulation
<i>Trigger Input Voltage</i>	9 to 32 VDC
<i>Trigger Current</i>	2 mA (16 to 32V); 1 mA per input
<i>Trouble Contact Rating</i>	4A at 24 VDC
<i>Auxiliary Power Output</i>	500 mA maximum
<i>Output Circuits</i>	<ul style="list-style-type: none"><li>• 24 VDC filtered, regulated</li><li>• 1A regulated</li><li>• 3A special applications</li><li>• 6A maximum total continuous current for all outputs</li></ul>
<i>Maximum Total Current</i>	6A alarm; 3A standby
<i>Secondary Power Charging Circuit (Battery)</i>	<ul style="list-style-type: none"><li>• Supports lead acid batteries only</li><li>• Float charge voltage: 27.6 VDC</li><li>• Maximum current charge: 1.5A</li><li>• Maximum battery capacity: 18Ah</li></ul>
<i>Enclosure Dimensions</i>	20 in. H x 14.5 in. W x 3.5 in. D (50.8 cm x 36.83 cm x 8.9 cm)
<i>Weight</i>	With two 7Ah batteries: 24 lb (10.9 kg) With two 18Ah batteries: 39 lb (17.7 kg)
<i>Standards Compliance:</i>	
<i>UL Listed</i>	S2424
<i>FM Approved</i>	Approved
<i>State of California</i>	7315-0075:0510

### Ordering Information

Part Number	Description
404-073-00	NAC Power Extender, 120 VAC, 50/60 Hz, 24 VDC, five Class B NACs, 6A maximum



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## Supplemental Equipment

### UPS 120 VAC, 60 Hz, 800 W

**404-111-10, 404-111-11**

#### Description

The 230 VAC, 1000VA uninterruptible power supply is ideal for backing up devices that operate using 230 VAC power.



The unit provides surge suppression outputs. The unit has five LED indicators to show line power, battery power, overload, voltage regulation, and battery low/replace status. Audible alerts indicate power failure, overload, and low battery conditions.

#### Features

- Battery backup and AC power protection
- Switches to 1kVA/800 W battery mode in milliseconds to keep your equipment running long enough to save files and safely shut down with no data loss
- Internal battery provides 14 minutes of support at half load (400 W) and four minutes at full load (800 W)
- Provides safe unattended shutdown and saves files during prolonged power failures

#### Specifications

<i>Output Power</i>	800 W, 1000 VA
<i>Nominal Output Voltage</i>	120 VAC
<i>Output Frequency</i>	60 Hz
<i>Dimensions</i>	6.2 in. H x 23.5 in. W x 22.5 in. D
<i>Weight</i>	36 lb
<i>Operating Temperature</i>	5°F to 122°F (–15°C to 50° C)
<i>Operating Humidity</i>	0% to 95% non-condensing

#### Ordering Information

Part Number	Description
<b>404-111-10</b>	1KVA rack-mount, uninterruptible power, 1KVA, 800W, 120 VAC in/out 60 Hz, 1U rack-mount with rail
<b>404-111-11</b>	1KVA rack-mount kit, uninterruptible power, 1KVA, 800W, 120VAC in/out 60 Hz, 1U rack-mount



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## Supplemental Equipment

### UPS 120 VAC, 60 HZ, 400W

404-114-01

#### Description

This uninterruptible power supply (UPS) provides the battery backup needed to continue working through medium-length power outages.



This UPS protects equipment against damaging surges and spikes on utility and data lines. Its automatic voltage regulation (AVR) adjusts high or low voltages to safe levels during overvoltages and brownouts.

"Power saving outlets" have a user-settable option to enable/disable idle peripherals. High-efficiency charging and AVR bypass reduce power consumption.

#### Features

- LCD provides status for over 20 utility and battery backup conditions; audible alarms
- Three "battery backup and surge-protected" outlets
- Three "surge only" outlets (includes two power-saving "controlled" outlets)
- Data line surge protection for Ethernet or coaxial cable lines
- Pushbutton circuit breaker
- Automatic diagnostic testing
- Auto Shutdown Software manages the unit through USB or serial interface

#### Specifications

##### Input

*Voltage, Frequency* 120 VAC, 50/60 Hz

*Input Connector* 6 ft. cord with NEMA 5-15 plug

##### Output

*Capacity* 700 VA, 420 W

*Voltage, Frequency (Utility)* 120 VAC, 60 Hz

*Voltage, Frequency (Battery)* 115 VAC  $\pm$  8%, 60 Hz

*Waveform Type* Stepped approximation to sine wave

##### Surge Protection

*AC Power Surge* All outlets

*Data Line Surge* Network: 1000BASE-T Ethernet (gigabit)  
Coaxial: CATV, SATV, modem, A/V

##### Physical

*Dimensions* 7.5 in. H x 3.6 in. W x 12.2 in. D

*Weight* 15.7 lb

##### Battery

Sealed, lead-acid, maintenance-free

##### Certification/Approvals

FCC Part 15 Class B

FCC Part 68

NOM

UL 1778

#### Ordering Information

Part Number	Description
404-114-01	UPS 120 VAC, 60 Hz, 700 VA, 400 W



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## Power Supply/Battery Chargers

### Supplemental Equipment Catalog Section

14

#### Power Supply/Battery Chargers

Power Supply/Battery Charger, 24 VDC, 3 Amp, 115 VAC .....	404-095-00
Power Supply/Battery Charger 24 VDC, 10/8 Amp, 115 VAC .....	404-098-00
Power Supply/Battery Charger 24 VDC, 8/10 Amp, 230 VAC .....	404-098-10
Power Supply/Battery Charger, 12/24 VDC, 6A, 115/230 VAC .....	404-150-00

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## Supplemental Equipment

# Power Supply/Battery Charger, 24 VDC, 3 Amp, 115 VAC 404-095-00

### Description

This Power Supply and Battery Charger converts a 115 VAC 60 Hz input into a single fuse 24 VDC at 3A Class 2 rated power limited output. Comes in a red enclosure with Cam lock. Enclosure will accommodate two 12V/12 Ah batteries.



### Features

- Indoor Power Supply/Battery Charger with Class 2 rated power limited output
- Short circuit and thermal overload protection
- Filtered and regulated
- Battery backup instantaneous upon AC loss
- LED indicators
- Low battery disconnect
- Battery Leads included

### Specifications

**Input Voltage** 115 VAC 60 Hz, 3.5A

**Output Voltage** 12 VDC or 24 VDC selectable

**Supply Current** 12 VDC @ 4A continuous (max.), or  
24 VDC @ 3A continuous (max.)

**Battery Charger** 0.7A maximum charge current

**BTU/Hr (approx.)** 12 VDC: 25 BTU/Hr  
24 VDC: 37 BTU/Hr

**Supervision** AC Failure - Form "C" contacts  
Low Battery - Form "C" contacts

**Power Output Switch** 12 VDC - Switch Position: SW1 ON  
24 VDC - Switch Position: SW1 OFF

**LED Indicators** Input voltage present and DC output powered

**Temperature** Operating: 32°F to 120°F (0°C to 49°C)  
Storage: -4°F to 158°F (-20°C to 70°C)

**Relative Humidity** 85% ±5%

**Enclosure Dimensions** 13.5 in. H x 13 in. W x 3.25 in. D  
(342.9 mm x 330.2 mm x 82.55 mm)

**Weight** 6.95 lb (3.25 kg)

#### Standards Compliance

**UL Listed** UTRZ.S4707 UL 1481 (Fire Protective Signaling Systems)

**CSFM** 7315-1335:0100

**MEA** MEA 120-93-E Vol.3

**FM** Approved  
Class of Work: 3010 Fire Alarm Systems

### Ordering Information

#### Power Supply/Charger

Part Number	Description
404-095-00	Power Supply/Battery Charger, 24 VDC @ 3A, 115 VAC 60 Hz, in red enclosure, battery recharge current 0.7A (max); use with SLA battery (P/N 400-704-00), two required

#### Associated Parts

Part Number	Description
400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95 in.L x 2.56 in.W x 3.90 in.H, 3.50 lb



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## Supplemental Equipment

# Power Supply/Battery Charger 24 VDC, 10/8 Amp, 115 VAC 404-098-00

### Description

This Power Supply and Battery Charger converts a 115 VAC 60 Hz input into 24 VDC at 8 Amp continuous supply current with 10 Amp supply current during alarm for Fire Alarm applications. Comes in a red enclosure with Cam lock. Enclosure will accommodate two 12V/12 Ah batteries.



### Features

- Indoor Power Supply/Battery Charger non-power limited output
- 24 VDC output at 8A supply current in non-alarm condition and at 10A supply current during alarm for Fire Alarm Applications
- 24 VDC output at 10A supply current for Access Control Applications
- Short circuit and thermal overload protection
- Filtered and electronically regulated
- Built-in battery charger

- Automatic switch over to stand-by battery when AC fails
- LED indicators
- Battery Leads included

### Specifications

<i>Input Voltage</i>	115 VAC 60 Hz, 4.2A
<i>Output Voltage</i>	24 VDC
<i>Supply Current</i>	24 VDC @ 8A continuous, 10A during alarm for Fire Alarm Applications 24 VDC @ 10A for Access Control Applications
<i>Battery Charger</i>	3.6A maximum charge current
<i>BTU/Hr (approx.)</i>	24 VDC: 123 BTU/Hr
<i>Supervision</i>	AC Failure - Form "C" contacts Low Battery - Form "C" contacts Battery Presence - Form "C" contacts
<i>LED Indicators</i>	Input voltage present and DC output powered
<i>Temperature</i>	Operating: 32°F to 120°F (0°C to 49°C) Storage: -4°F to 158°F (-20°C to 70°C)
<i>Relative Humidity</i>	85% ± 5%
<i>Enclosure</i>	Red, NEMA 1
<i>Enclosure Dimensions</i>	15.5 in. H x 12 in. W x 4.5 in. D (394 mm x 305 mm x 114 mm)
<i>Weight</i>	9.25 lb (4.2 kg)
<i>Standards Compliance</i>	
<i>UL Listed</i>	URTZ.S4707 UL 1481 (Fire Protective Signaling Systems)
<i>CSFM</i>	7315-1335:0100
<i>MEA</i>	168-92-E Vol. 12
<i>FM</i>	Approved Class of Work: 3010 Fire Alarm Systems



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# Supplemental Equipment

## Ordering Information

Part Number	Description
<b>404-098-00</b>	Power Supply/Battery Charger, 24 VDC @ 8A continuous, 10A during alarm, 115 VAC 60 Hz, red enclosure. Battery recharge current 3.6A (max), use with SLA battery (P/N 400-713-00), two required

## Associated Parts

Part Number	Description
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in.L x 3.86 in. W x 3.86 in.H, 7.92 lb



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## Supplemental Equipment

# Power Supply/Battery Charger 24 VDC, 8/10 Amp, 230 VAC 404-098-10

### Description

This Power Supply and Battery Charger converts a 230 VAC 50/60 Hz input into a single fused 24 VDC output at 10A supply current. Comes in a red enclosure with Cam lock. Enclosure will accommodate two 12V/12 Ah batteries.



### Features

- Indoor Power Supply/Battery Charger regulating output
- 24 VDC output at 8A supply current with 10A during alarm
- Short circuit and thermal overload protection
- Filtered and electronically regulated
- Built-in battery charger
- Upon AC loss, instantaneous
- LED indicators
- Battery Leads included

### Specifications

<i>Input Voltage</i>	230 VAC 50/60 Hz, 2.5A
<i>Output Voltage</i>	24 VDC
<i>Supply Current</i>	24 VDC @ 8A continuous, 10A during alarm for Fire Alarm Applications 24 VDC @ 10A for Access Control Applications
<i>Battery Charger</i>	3.6 A maximum charge current
<i>BTU/Hr (approx.)</i>	24 VDC: 123 BTU/Hr
<i>Supervision</i>	AC Failure - Form "C" contacts Low Battery - Form "C" contacts
<i>LED Indicators</i>	Input voltage present and DC output powered
<i>Temperature</i>	Operating: 32°F to 120°F (0°C to 49°C) Storage: -4°F to 158°F (-20°C to 70°C)
<i>Relative Humidity</i>	85% ±5%
<i>Enclosure</i>	Red, NEMA 1
<i>Enclosure Dimensions</i>	15.5 in. H x 12 in. W x 4.5 in. D (394 mm x 305 mm x 114 mm)
<i>Weight</i>	9.25 lb (4.2 kg)
<i>Standards Compliance</i>	
<i>UL Listed</i>	URTZ.S4707 UL 1481 (Fire Protective Signaling Systems)
<i>CSFM</i>	7315-1335:0100
<i>MEA</i>	168-92-E Vol. 12
<i>FM</i>	Approved Class of Work: 3010 Fire Alarm Systems



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# Supplemental Equipment

## Ordering Information

Part Number	Description
<b>404-098-10</b>	Power Supply/Battery Charger, 24 VDC @ 8A continuous, 10A during alarm, 230 VAC 50/60 Hz, red enclosure, battery recharge current 3.6 Amp (max). Use with SLA battery (P/N 400-713-00), two required

## Associated Parts

Part Number	Description
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb



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## Supplemental Equipment

# Power Supply/Battery Charger, 12/24 VDC, 6A, 115/230 VAC 404-150-00

### Description

This Power Supply and Battery Charger is complete with transformers and power supply. The power supply converts a 115 VAC 60 Hz or a 230 VAC 50/60 Hz input into 6 Amp at 12 VDC or 24 VDC non-power limited output. Comes in a grey enclosure with Cam lock. The enclosure will accommodate two 12V/12 Ah batteries.



### Features

- Power Supply/Battery Charger with non-power limited output
- Short circuit and thermal overload protection
- Filtered and regulated
- Battery backup instantaneous upon AC loss
- LED indicators
- Low battery disconnect
- Battery leads included
- Short circuit and thermal overload protection
- Filtered and regulated

### Specifications

<i>Input Voltage</i>	115 VAC 60 Hz, 1.9A or 230 VAC 50/60 Hz, 0.95A
<i>Output Voltage</i>	12 VDC or 24 VDC selectable
<i>Supply Current</i>	6A continuous
<i>Charge Current</i>	0.7A (maximum)
<i>BTU/Hr (approx.)</i>	12 VDC: 37 BTU/Hr 24 VDC: 74 BTU/Hr
<i>Supervision</i>	AC Failure - Form "C" contacts Low Battery - Form "C" contacts Battery Presence - Form "C" contacts
<i>Power Output Switch</i>	12 VDC - Switch Position: SW1 ON 24 VDC - Switch Position: SW1 OFF
<i>LED Indicators</i>	Input voltage present DC output powered
<i>Mounting</i>	Indoor, wall-mount
<i>Temperature</i>	Operating: 32°F to 120°F (0°C to 49°C) Storage: -4°F to 158°F (-20°C to 70°C)
<i>Relative Humidity</i>	85% ±5%
<i>Enclosure</i>	NEMA 1
<i>Enclosure Dimensions</i>	15.5 in. H x 12 in. W x 4.5 in. D (394 mm x 304.8 mm x 114 mm)
<i>Weight</i>	12.6 lb (5.72 kg)
<i>Standards Compliance</i>	
<i>UL Listed</i>	UL 1481 (Fire Protective Signaling Systems)



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# Supplemental Equipment

## Ordering Information

### Power Supply/Charger

Part Number	Description
<b>404-150-00</b>	Power Supply/Battery Charger, 12/24 VDC at 6A, 115 VAC 60 Hz or 230 VAC 50/60 Hz, grey enclosure, battery recharge current 0.7A (max.), use with SLA battery (P/N 400-713-00), two required

### Associated Parts

Part Number	Description
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb



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## NAC Boosters

# Supplemental Equipment Catalog Section

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### NAC Boosters

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## Supplemental Equipment

### NAC Distributed Power Extender

404-126-00, 404-126-01

#### Description

This NAC distributed power extender is an 8A unit with built-in battery charger. The NAC power extender can be connected to any Monaco Fire Alarm Control Panel (FACP).



Primary applications are notification appliance (horn or strobe) circuit expansion (supports ADA requirements) and auxiliary power to system accessories.

**NOTE** Batteries (for AC failure back-up) can interfere with conduit entry in the bottom of the enclosure. Batteries must be ordered separately. Battery Ah size varies based on backup replacements.

#### Features

- Two Class A, Style Z or two Class B, Style W, Y FACP inputs
  - Two NC dry-contact trigger inputs
  - Programmable, supervised outputs:
    - Four Class B, Style W, Y—or,
    - Four Class A, Style Z—or,
    - A combination of two Class A, Style Z and two Class B, Style W, Y
  - Two 24 VDC, 1A Aux power outputs
    - Aux 1 automatically disconnects when AC lost
    - Aux 2 has battery backup during AC fail
  - 2.5A max. per NAC output, 1A max. Aux 2 power output, 8As max total NACS and Aux 2
- NOTE** P/N 404-126-01 also supports Class B, Style X inputs and outputs.
- With P/N 404-126-01, two outputs can be paralleled for more power on an indicating circuit
  - Thermal, short-circuit protection with auto-reset
  - Supervision (Form C contact, 1A/28 VDC):
    - AC fail supervision with field-selectable delay options
    - Instant local AC trouble reporting relay
    - Battery presence and low-battery supervision
  - Automatic switch-over to batteries on AC fail—zero voltage drop
  - Input and output status LEDs
  - Common trouble input and output
  - Ground fault detection
  - Signal circuit trouble memory identifies intermittent faults
  - 2-wire horn/strobe sync mode allows audible notification appliances (horns) to be silenced while visual notification appliances (strobes) continue to operate
  - Horn/strobe sync protocols include:
    - System Sensor®
    - Cooper Wheelock®
    - Gentex®
    - Faraday
    - Potter/Amseco
    - Monaco Type I and Type II devices
  - Synchronization modes: Temporal 3, steady, input to output, follower



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# Supplemental Equipment

## Agency Approvals

These apply only to P/N 404-126-00:



NFPA 72 Compliant

## Specifications

**AC Power** P/N 404-126-00: 120 VAC (nominal), 60 Hz, 5A

P/N 404-126-01: 220 VAC (nominal), 50/60 Hz, 2.5A

- Output**
- 24 VDC regulated, power limited
  - 2.5A max. per output
  - Two auxiliary outputs:
    - AUX1: 1A max. primary AC power only, disconnect on secondary battery power
    - AUX2: 1A max. primary AC power and secondary battery power
  - 8A total for panel

**Batteries** Two 12 VDC/12 Ah or two 12 VDC/7 Ah

**Standby Current** 90 mA

**Alarm Current** 175 mA Panel consumption plus all NAC and Aux out current loads; total current must not exceed 8A

**EOL Resistor** 2.2 kohms

**Gnd Fault Test Imped.** 1,000 ohms, maximum

**Weight** 16.9 lb without batteries

**Dimensions** 18 in. H x 14.5 in. W x 4.5 in.D

## Stand-by Specifications

Batteries	Stand-by Time	Alarm Output Current	Aux 2 Output
24 VDC / 7.7 Ah (use two 12 VDC batteries in series)	24 Hours	8A / 5 minutes	—
24 VDC / 12 Ah (use two 12 VDC batteries in series)	24 Hours	8A / 5 minutes	50mA
24 VDC / 36 Ah (use two 12 VDC batteries in series)	24 Hours	8A / 5 minutes	1A

**NOTE** Unit is equipped with two 1A max. auxiliary outputs: "AUX1" will automatically disconnect when AC is lost. "AUX2" will remain battery backed up during power outage. For loads connected to "AUX2", refer to battery "Stand-by Specifications" above for ratings. When loads are connected to "AUX1" and/or "AUX2" outputs during an alarm condition, the remaining outputs may not exceed 8A total alarm current.  
Example: AUX1 = 1A, AUX2 = 1A, outputs up to 7A.

## Ordering Information

### NAC Power Extender

Part Number	Description
404-126-00*	NAC Power Extender, 120 VAC, 60 Hz, 24 VDC, 8A total NACs and Aux 2, four Class B or four Class A NACs; Aux 1 - 1A AC power only, no battery backup, Aux 2 - 1A with battery backup*
404-126-01*	NAC Power Extender, 220 VAC, 50/60 Hz, 24 VDC, 8A, four Class B or four Class A NACs, two 1A auxiliary outputs
*Batteries ordered separately	

### Associated Parts

Part Number	Description
400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95 in. L x 2.56 in. W x 3.90 in. H, 3.50 lb
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in.L x 3.86 in. W x 3.86 in.H, 7.92 lb
<b>NOTE</b> 2 each required, Ah based on backup requirements.	



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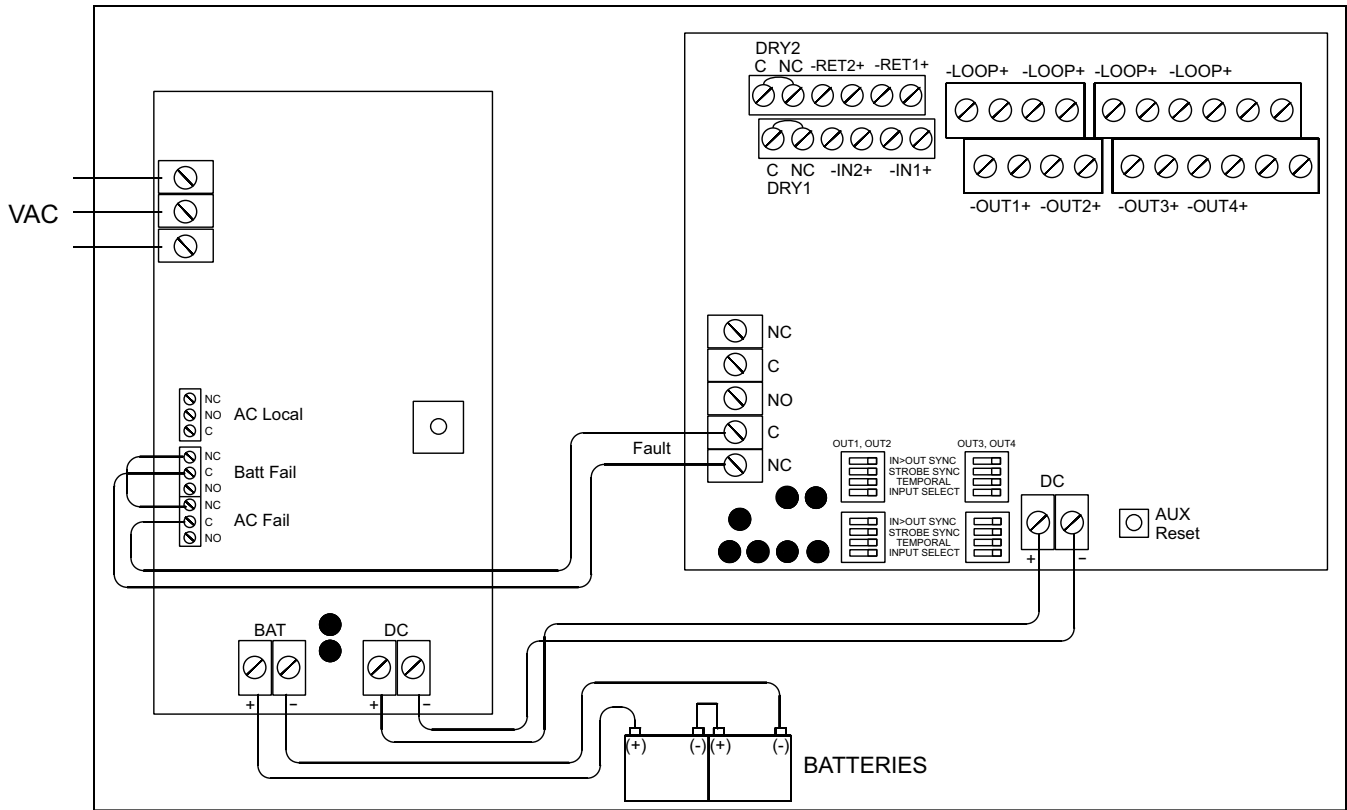
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# Supplemental Equipment

## Wiring Example



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## Supplemental Equipment

### NAC Distributed Power Extender

404-164-00

#### Description

The NAC Distributed Power Extender is a compact, easy to install, 6.5A unit complete with battery charger. It is equipped with horn strobe sync modes that support several styles of horn strobe appliances allowing horns to be silenced while strobes continue to operate without additional sync modules. It may be connected to any Monaco Fire Alarm Control Panel (FACP) or stand-alone.



Primary applications include notification appliance (horn or strobe) circuit expansion (supports ADA requirements). The NAC extender contains a battery charger capable of charging sealed lead acid or gel-type batteries.

**NOTE** Due to the size of the enclosure, batteries (for AC failure back-up) may interfere with conduit entry in the bottom of the enclosure.

#### Features

- Power input 220 VAC, 50/60 Hz, 1.2A
- 24 VDC output, 6.5A total alarm current
- Separate 1A auxiliary output

- Compatible with 12 VDC or 24 VDC fire panels
- Two Class A, Style Z or two Class B, Style W, X, Y FACP inputs
- Two NC dry-contact trigger inputs
- Two outputs may be paralleled for more power on an indicating circuit
- Programmable, supervised, IC outputs:
  - 4 Class B, Style W, X, Y—or,
  - 2 Class A, Style Z—or,
  - A combination of 1 Class A, Style Z and 2 Class B, Style W, X, Y
- Thermal and short-circuit protection with auto reset
- AC fail supervision (Form C contact, 1A/28 VDC), factory set for 30 seconds with optional 2.5 to 3 hour delay setting (field selectable)
- Instant local AC trouble reporting relay (Form C contact, 1A/28 VDC)
- Battery presence and low-battery supervision (Form C contact, 1A/28 VDC)
- Common trouble input and output
- Input and output status LEDs
- Ground fault detection
- 2-wire horn/strobe sync mode allows audible notification appliances (horns) to be silenced while visual notification appliances (strobes) continue to operate
- Horn/strobe sync protocols include:
  - System Sensor®
  - Cooper Wheelock®
  - Gentex®
  - Faraday
  - Amseco

The power extender will only synchronize horns, horn/strobes and strobes that contain synchronization capability.



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# Supplemental Equipment

## Specifications

**AC Power** 220 VAC (nominal), 50/60 Hz, 1.2A

- Output**
- 24 VDC regulated, power limited
  - 2.5A max. per output
  - Auxiliary out 1A max.
  - 6.5A total for panel

**Batteries** Two 12 VDC/8 Ah or two 12 VDC/12 Ah

**Standby Current** 90 mA

**Alarm Current** 175 mA panel consumption plus all NAC and Aux out current loads; total current must not exceed 6.5A

**EOL Resistor** 2.2 kohm (2,200 ohm)

**Gnd Fault Test Imped.** 1,000 ohms, maximum

**Weight** 9.6 lb without batteries

**Dimensions** 15.5 in. H x 12 in. W x 4.5 in. D

## Ordering Information

### NAC Power Extender

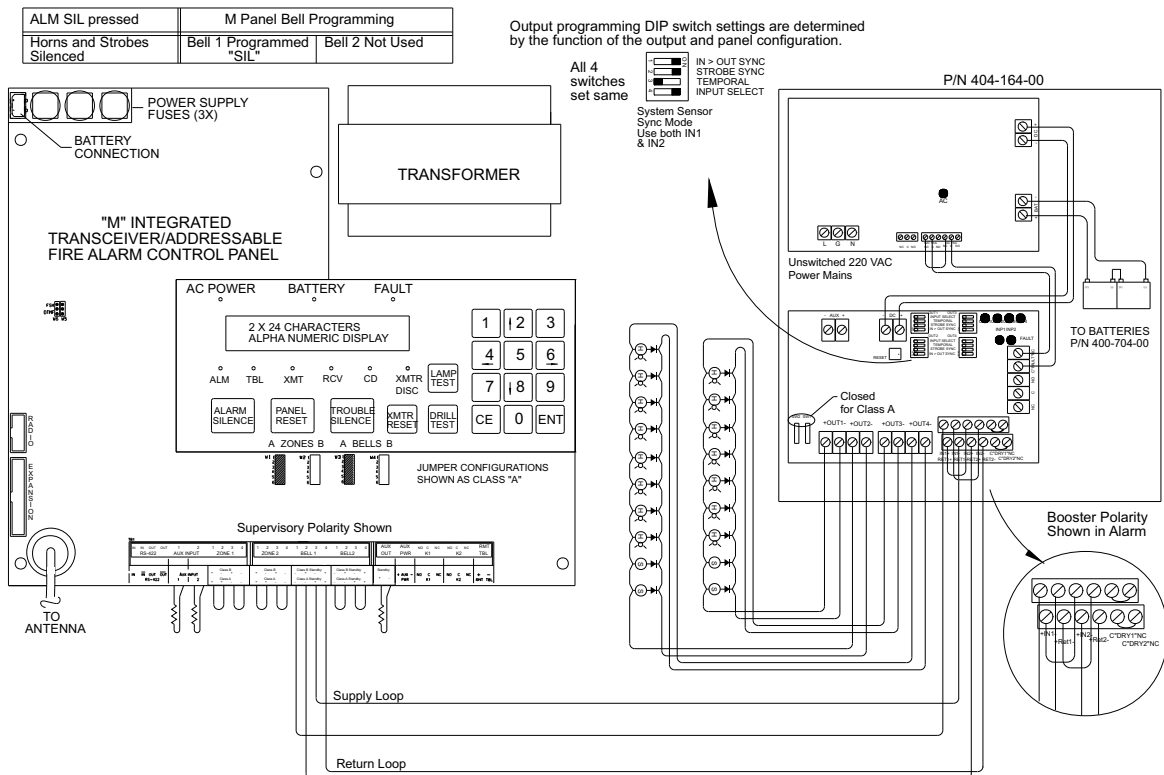
Part Number	Description
<b>404-164-00</b>	NAC power extender, 220 VAC, 50/60 Hz, 24 VDC, 6.5A, four Class B or two Class A NACs (2.5A each), 1A AUX power

### Associated Parts

Part Number	Description
<b>400-704-00</b>	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95 in. L x 2.56 in. W x 3.90 in. H, 3.50 lb
<b>400-713-00</b>	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94 in. L x 3.86 in. W x 3.86 in. H, 7.92 lb

## Wiring Diagram

The NAC power extender must be properly connected to the FACP to ensure the proper functioning of the synchronization feature of Type I and Type II panels.



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## Relays

### Supplemental Equipment Catalog Section

14

#### Relays

Relay, SPDT, 120-277 VAC, 10A.....	451-700-00, 451-700-01
Relay, SPDT, 24 VDC, 7A .....	453-100-00
Relay, SPDT, 24 VDC, 7A .....	453-102-00, 453-103-00
Relay, DPDT, 24 VDC, 7A .....	453-104-00, 453-105-00
Relay, SPDT, 24 VDC/VAC, 10A.....	453-106-00, 453-106-01
Relay, SPDT, 24 VDC/VAC, 10A.....	453-107-00, 453-107-01
Relay, DPDT, 24 VDC/VAC, 10A .....	453-110-00, 453-110-01
Relay, SPDT, 10-30 VDC, 10A Input.....	453-111-00, 453-111-01
Relay, SPDT, 24 VDC/VAC, 7A and 10A .....	453-114-00
Relay, Time Delay, SPDT, 10A.....	453-117-00

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## Supplemental Equipment

### Relay, SPDT, 120-277 VAC, 10A

451-700-00, 451-700-01

#### Description

This enclosed SPDT Dry-Contact Class 2 Relay can be activated by a wide range of dry contacts such as thermostats, switches or other relays. 10 Amp contacts are isolated from input power and dry contact input and can be wired to switch any other power-load or low-voltage load. This relay can operate from any voltage from 120 VAC to 277 VAC.



#### Features

- SPDT Relay with one continuous duty coil
- Single Relay Module
- Expected relay life of 10 million cycles minimum-mechanical
- 1.8 seconds operate time
- LED illuminates when active
- UL Accepted for use in Plenum, NEMA 1

#### Specifications

<i>Power Input</i>	50 mA @ 240 VAC maximum
<i>Contact Ratings</i>	10A General Use @ 277 VAC 10A Resistive @ 30 VDC (NO) 7A Resistive @ 30 VDC (NC) 470 VA Pilot Duty @ 125 VAC 770 VA Pilot Duty @ 250 VAC
<i>Wiring</i>	16 in. 600V rated
<i>Dimensions</i>	1.7 in. H x 2.8 in. W x 1.5 in. D (43.18 mm x 71.12 mm x 38.1 mm) with 0.5 in. (12.7 mm) NPT nipple
<i>Shipping Weight</i>	0.314 lb (0.142 kg)
<i>Temperature</i>	-30°F to 140°F (34.4°C to 60°C)
<i>Relative Humidity</i>	5% to 95% non-condensing
<i>Standards Compliance</i>	UL E68805 Management Equipment UL Listed UL916
<i>CSFM</i>	7300-1555:0100

#### Ordering Information

Part Number	Description
451-700-00	Relay, SPDT, 120-277 VAC, 10A, Dry Contact, Class 2, LED, grey enclosure
451-700-01	Relay, SPDT, 120-277 VAC, 10A, Dry Contact, Class 2, LED, red enclosure



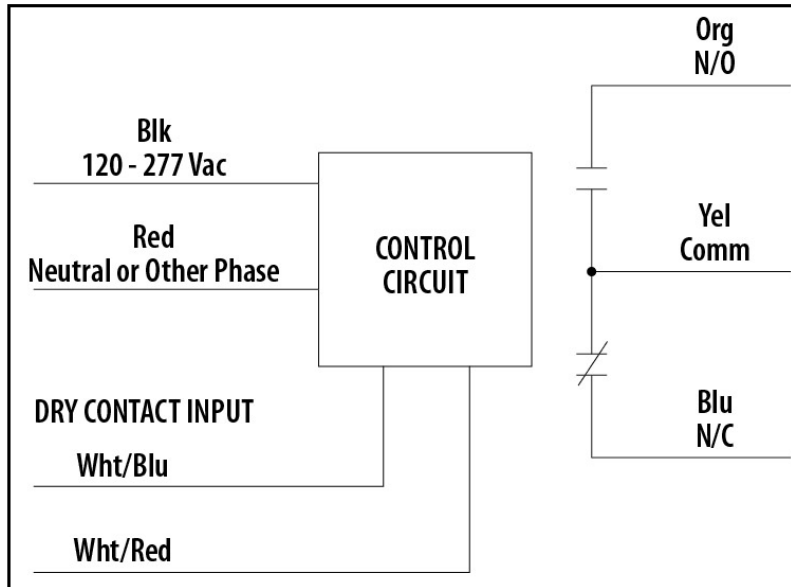
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# Supplemental Equipment

## Wiring Diagram



### Dry Contact Input Operation

Close White/Red wire to White/Blue wire to activate relay.

If more than one dry contact relay in-a- box shares a single dry contact input, White/Blue must be common



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## Supplemental Equipment

### Relay, SPDT, 24 VDC, 7A 453-100-00

#### Description

This SPDT track-mounted relay offers 7A contact at 24VDC or 10A contact at 120 VAC and manual override capabilities through an integral three position switch. The switch requires 24 VDC or 24 VAC constant supply power source to energize the relay.



When the switch is in the ON position, the relay is energized; when the switch is in the AUTO position, the relay operates as signaled by the control panel. The relay is not energized when the switch is in the OFF position.

#### Features

- Relay with manual override switch
- Relay can be energized from 24 VDC or 24 VAC
- Single module configuration
- Red LED illuminates when energized

#### Specifications

<i>Voltage</i>	24 VDC or 24 VAC @ 15 mA
<i>Contact Ratings</i>	Resistive load: 7A @ 24 VDC, 10A @ 120 VAC
<i>Contacts</i>	Dry form "C" SPDT
<i>Wiring</i>	Solid or Stranded #14 to #22 AWG Terminals
<i>Track-mounting</i>	3.5 in. wide, low profile snap track with mounting screws
<i>Track-mount Dimensions</i>	3.5 in. H x 2 in. W x 1.375 in. D (89 mm x 51 mm x 35 mm)
<i>Ambient Temperature</i>	32°F to 120°F (0°C to 49°C)
<i>Relative Humidity</i>	85% @ 32°F non-condensing, non-freezing
<i>Standards Compliance</i>	UL UL Listed UL864 (10th edition) UL Recognized Component #S3403 UOXX2.S3403

#### Ordering Information

Part Number	Description
453-100-00	Relay, SPDT, 24 VDC, 7A contacts, override, LED, track-mount (track included)



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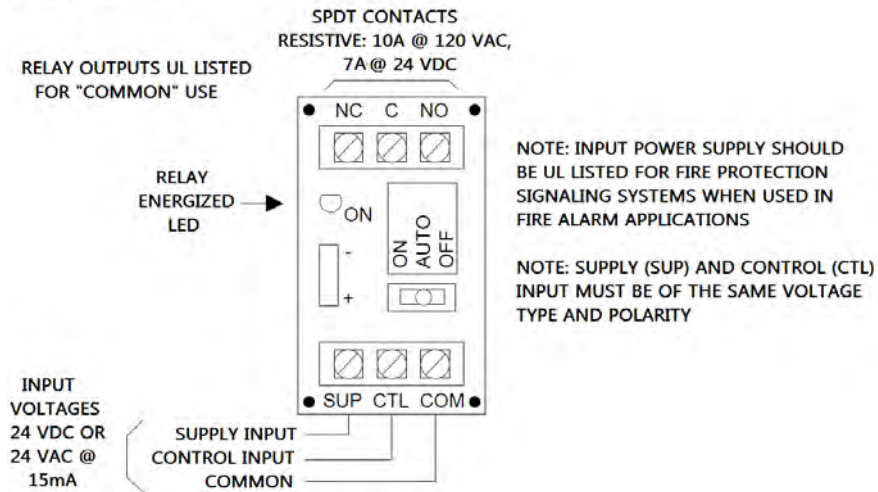
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# Supplemental Equipment

## Wiring Diagram

TYPICAL FOR ONE MODULE POSITION:



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## Supplemental Equipment

### Relay, SPDT, 24 VDC, 7A

453-102-00, 453-103-00

#### Description

These SPDT Multi-Voltage Control Relays offer 7A and 10A contacts which may be operated by one of four input control voltages.



P/N 453-102-00



P/N 453-103-00

#### Features

- Multi-Voltage Control Relay with override capabilities
- Relay can be energized from a voltage source of 24 VDC, 24 VAC, 120 VAC, or 230 VAC
- Single Relay Module
- DC Control Inputs are polarized
- Red LED illuminates when energized

#### Specifications

##### P/N 453-102-00:

**Power** per module position:  
24 VDC @ 15 mA  
24 VAC @ 48 mA, 120 VAC @ 21 mA,  
230 VAC @ 19 mA

**Polarized Coil Inputs** DC control inputs only

**Current Requirement** 18mA per module position

**Contacts** Dry Form "C" SPDT per module position

**Contact Ratings** 7A @ 30 VDC  
**(Resistive)** 10A @ 125 VAC  
7A @ 250 VAC

**Wiring** Solid or stranded:  
#14 to #22 AWG terminals

**Mounting** Track-mount  
3.5 in. wide, low profile, plastic snap track  
provided with mounting screws

**Dimensions** 3.25 in. H x 2.125 in. W x 1.50 in. D  
(82 mm x 54 mm x 38 mm)

**Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 93% non-condensing, non-freezing

**Standards Compliance:**

**UL** UL Recognized Component  
UL Listed UL864, S3403 Control Unit  
Accessories UOXX2

**CSFM** 7300-1004:106

##### P/N 453-103-00:

**Power** Per module position:  
24 VDC @ 15 mA  
24 VAC @ 48 mA, 120 VAC @ 21 mA,  
230 VAC @ 19 mA

**Polarized Coil Inputs** DC control inputs only

**Current Requirement** 18mA per module position

**Contacts** Dry Form "C" SPDT per module position

**Contact Ratings** 7 A @ 30 VDC  
**(Resistive)** 10 A @ 125 VAC  
7 A @ 250 VAC

**Wiring** Solid or stranded:  
#14 to #22 AWG terminals

**Enclosure** Grey, ABS-94V-0 Plastic

**Mounting** Back Box  
18 gage CRS, plated with 1/2 in. conduit  
knockouts top and bottom

**Dimensions** 5.125 in. H x 3.125 in. W x 2.5 in. D  
(130 mm x 79 mm x 63 mm)

**Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 93% non-condensing, non-freezing

**Standards Compliance**

**UL** UL Listed UL864, S3403 Control Unit  
Accessories UOXX, UOXX7

**CSFM** 7300-1004:101

**MEA** 73-92-E Vol. 14



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# Supplemental Equipment

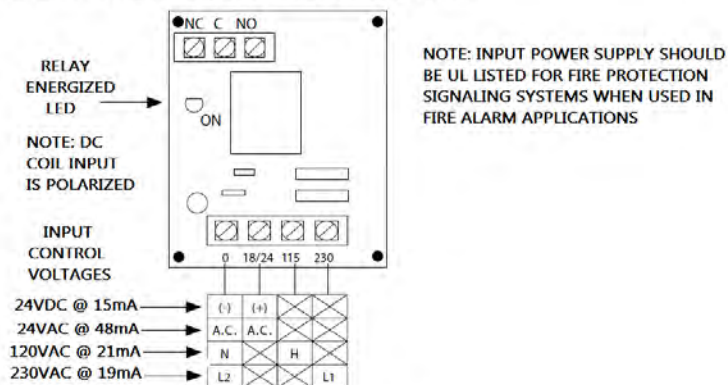
## Ordering Information

Part Number	Description
453-102-00	Relay, SPDT, 24 VDC, 7A contacts, polarized, LED, 3.5 in. track-mount (included)
453-103-00	Relay, SPDT, 24 VDC, 7A contacts, polarized, LED, enclosure

## Wiring Diagram

### SPDT CONTACT

RESISTIVE: 7A @ 30VDC, 10A @ 125VAC, 7A @ 250VAC



NOTE: THE INPUT CURRENT SHALL NOT EXCEED THE MARKED RATING OF THE PRODUCT

RELAY OUTPUTS UL LISTED FOR "COMMON" USE



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# Supplemental Equipment

## Relay, DPDT, 24 VDC, 7A

453-104-00, 453-105-00

### Description

These DPDT Multi-Voltage Control Relays offer 7A and 10A contacts which may be operated by one of four input control voltages.



P/N 453-104-00



P/N 453-105-00

### Features

- Multi-voltage Control Relay with override capabilities
- Relay can be energized from a voltage source of 24 VDC, 24 VAC, 120 VAC, or 230 VAC
- Single Relay Module
- DC Control Inputs are polarized
- Red LED illuminates when energized

### Specifications

#### P/N 453-104-00:

**Power** per module position:  
24 VDC @ 28 mA  
24 VAC @ 69 mA, 120 VAC @ 45 mA,  
230 VAC @ 36 mA

**Polarized Coil Inputs** DC control inputs only

**Current Requirement** 40mA per module position

**Contacts** Dry Form "C" DPDT per module position

**Contact Ratings** 7A @ 30 VDC  
(Resistive) 10A @ 125 VAC  
7A @ 250 VAC

**Wiring** Solid or stranded:  
#14 to #22 AWG terminals

**Mounting** Track-mount  
3.5 in. wide, low profile, plastic snap track  
provided with mounting screws

**Dimensions** 3.25 in. H x 2.125 in. W x 1.5 in. D  
(82 mm x 54 mm x 38 mm)

**Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 93% non-condensing, non-freezing

**Standards Compliance:**

**UL** UL Recognized Component  
UL Listed UL864, S3403 Control Unit Acces-  
sories UOXX2

**CSFM** 7300-1004:106

#### P/N 453-105-00:

**Power** Per module position:  
24 VDC @ 28 mA  
24 VAC @ 69 mA, 120 VAC @ 45 mA,  
230 VAC @ 36 mA

**Polarized Coil Inputs** DC control inputs only

**Current Requirement** 40 mA per module position

**Contacts** Dry Form "C" DPDT per module position

**Contact Ratings** 7 A @ 30 VDC  
(Resistive) 10 A @ 125 VAC  
7 A @ 250 VAC

**Wiring** Solid or stranded: #14 to #22 AWG terminals

**Enclosure** Grey, ABS-94V-0 Plastic

**Mounting** Back Box  
18 gage CRS, plated with 1/2 in. conduit  
knockouts top and bottom

**Dimensions** 5.125 in. H x 3.125 in. W x 2.5 in. D  
(130 mm x 79 mm x 63 mm)

**Temperature** 32°F to 120°F (0°C to 49°C)

**Relative Humidity** 93% non-condensing, non-freezing

**Standards Compliance**

**UL** UL Listed UL864, S3403 Control Unit  
Accessories UOXX, UOXX7

**CSFM** 7300-1004:101

**MEA** 73-92-E Vol. 16



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# Supplemental Equipment

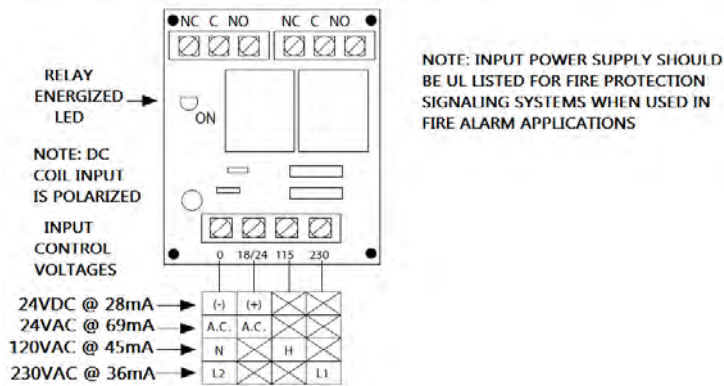
## Ordering Information

Part Number	Description
453-104-00	Relay, DPDT, 24 VDC, 7A contacts, polarized, LED, 3.5 in. track-mounted
453-105-00	Relay, DPDT, 24 VDC, 7A contacts, polarized, LED, enclosure

## Wiring Diagram

### DPDT CONTACTS

RESISTIVE: 7A @ 30VDC, 10A @ 125VAC, 7A @ 250VAC



NOTE: THE INPUT CURRENT SHALL NOT EXCEED THE MARKED RATING OF THE PRODUCT

RELAY OUTPUTS UL LISTED FOR "COMMON" USE



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## Supplemental Equipment

### Relay, SPDT, 24 VDC/VAC, 10A

453-106-00, 453-106-01

#### Description

This SPDT enclosed Fire Alarm Relay is 10A, polarized with 24 VDC/VAC coil. The relay is designed for operation in systems that require supervision from controllers and utilize end-of-line resistors. This relay can also be operated from A/C voltage (non-polarized) if desired.



P/N 453-106-00 shown

#### Features

- SPDT Relay with one continuous duty coil
- Single Relay Module
- Expected relay life of 10 million cycles minimum-mechanical
- 6 ms operate time
- LED illuminates when active
- UL accepted for use in Plenum, NEMA 1

#### Specifications

<i>Coil Voltage Input</i>	24 VDC/VAC, 50/60 Hz Drop out = 3.8 VDC / 3 VAC Pull In = 20 VDC / 20 VAC
<i>Coil Current</i>	18 mA at 24 VDC 31 mA at 24 VAC
<i>Contact Ratings</i>	10A Resistive at 30 VDC (NO) 7A Resistive at 30 VDC (NC)
<i>Wiring</i>	16 in. 600V rated
<i>Dimensions</i>	1.70 in. H x 2.80 in. W x 1.50 in. D (43.18 mm x 71.12 mm x 38.1 mm) with 0.50 in. (12.7 mm) NPT nipple
<i>Shipping Weight</i>	0.291 lb (0.132 kg)
<i>Temperature</i>	-30°F to 140°F (-34.4°C to 60°C)
<i>Relative Humidity</i>	5% to 95% non-condensing
<i>Standards Compliance</i>	<i>UL</i> UL Listed UL916, UL864, C-UL <i>CSFM</i> 7300-1555:0100

#### Ordering Information

Part Number	Description
453-106-00	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, coil, 10A contacts, polarized, LED, grey enclosure
453-106-01	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, coil, 10A contacts, polarized, LED, red enclosure



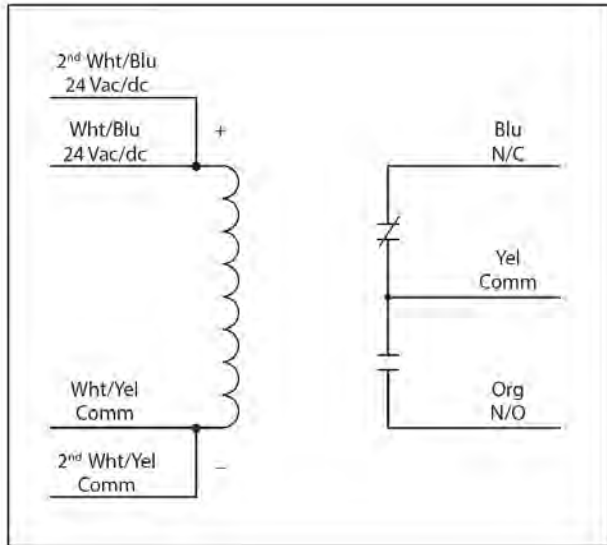
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# Supplemental Equipment

## Wiring Diagram



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## Supplemental Equipment

### Relay, SPDT, 24 VDC/VAC, 10A

453-107-00, 453-107-01

#### Description

This Single Pole Double Throw (SPDT) enclosed Fire Alarm Relay is polarized and rated for 10A. It has 24 VDC/VAC coil and override switch. The relay is designed for operation in systems that require supervision from controllers and utilize end-of-line resistors. This relay can also be operated from VAC (non-polarized) if desired.



P/N 453-107-00  
Grey Enclosure



P/N 453-107-01  
Red Enclosure



#### Features

- SPDT Relay
- Single Relay Module
- Expected relay life of 10 million mechanical cycles minimum
- Operate time of 6 ms
- LED illuminates when active
- Override switch
- UL listed for use in plenum-rated NEMA 1 housing

**NOTE** Hand Off Auto Switch position is not supervised, so it can be left in the "OFF" position without causing a trouble condition on the fire alarm control panel.

#### Specifications

<i>Coil Voltage Input</i>	24 VDC/VAC, 50 to 60 Hz Drop Out: 3.8 VDC/3 VAC Pull In: 20 VDC/VAC
<i>Coil Current</i>	18 mA at 24 VDC 31 mA at 24 VAC
<i>Contact Ratings</i>	10A Resistive at 30 VDC (NO) 7A Resistive at 30 VDC (NC)
<i>Wiring</i>	16 in. 600V rated
<i>Operate Time</i>	6 ms
<i>Dimensions</i>	1.7 in. H x 2.8 in. W x 1.5 in. D (4.318 cm x 7.112 cm x 3.81 cm) with 0.5 in. (1.27 cm) NPT nipple
<i>Shipping Weight</i>	0.291 lb (0.132 kg)
<i>Operating Temperature</i>	-30°F to 140°F (-34.4°C to 60°C)
<i>Relative Humidity</i>	5% to 95%, non-condensing
<i>Standards Compliance:</i>	
<i>UL Listing</i>	UL916, UL864
<i>State of California</i>	7300-1555:0100

#### Ordering Information

Part Number	Description
453-107-00	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, coil, 10A contacts, polarized, override, LED, grey enclosure
453-107-01	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, coil, 10A contacts, polarized, override, LED, red enclosure



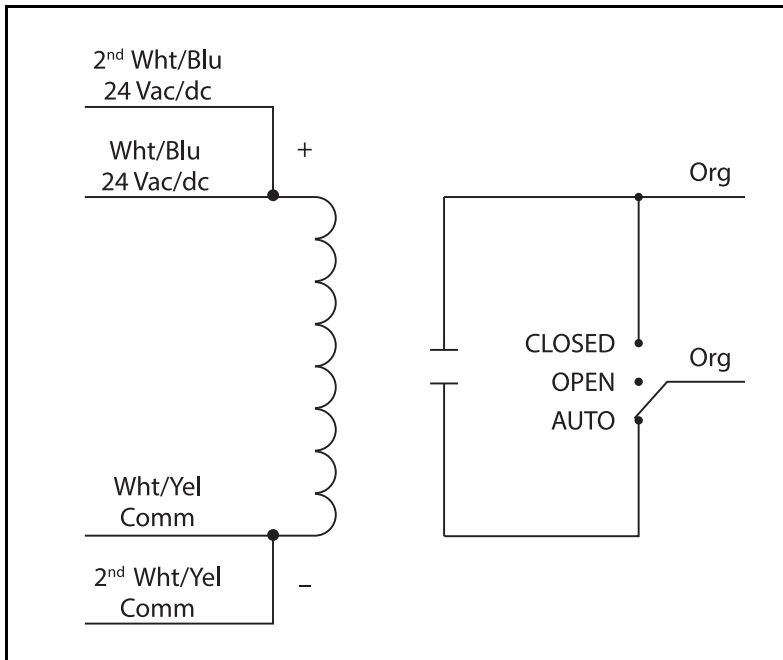
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# Supplemental Equipment

## Wiring Diagram



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## Supplemental Equipment

### Relay, DPDT, 24 VDC/VAC, 10A

453-110-00, 453-110-01

#### Description

This enclosed DPDT Pilot Relay is rated 10A with 24 VDC/VAC, 120 VAC Coil.



#### Specifications

**Coil Voltage Input** 24 VDC/VAC; 120 VAC; 50/60 Hz  
Drop Out = 3.8 VDC / 3 VAC  
Pull In = 20 VDC / 18 VAC

**Coil Current** 24 mA at 24 VDC  
32 mA at 24 VAC  
31 mA at 120 VAC

**Contact Ratings** 10A Resistive at 30 VDC  
**B300 Pilot Duty:**  
120 VAC 30A Make 3A Break (360 VA)  
240 VAC 15A Make 1.5A Break (360 VA)  
24 VAC 30A Make 5A Break (120 VA)  
5A max.

**Wiring** 16 in. 600V rated

**Dimensions** 1.7 in. H x 2.8 in. W x 1.5 in. D  
(43.18 mm x 71.12 mm x 38.1 mm)  
with 0.50 in. (12.7 mm) NPT nipple

**Shipping Weight** 0.336 lb (0.152 kg)

**Temperature** -30°F to 140°F (-34.4°C to 60°C)

**Relative Humidity** 5% to 95% non-condensing

**Standards Compliance**

**UL** UL Listed UL916, UL864, C-UL

**CSFM** 7300-1555:0100

#### Features

- DPDT Relay with one continuous duty coil
- Single Relay Module
- Expected relay life of 10 million cycles minimum-mechanical
- 8 ms operate time
- LED illuminates when active
- UL Accepted for use in Plenum, NEMA 1

#### Ordering Information

Part Number	Description
453-110-00	Relay, DPDT, 24 VDC/VAC, 50/60 Hz, coil, 10A contacts, LED, grey enclosure
453-110-01	Relay, DPDT, 24 VDC/VAC, 50/60 Hz, coil, 10A contacts, LED, red, enclosure



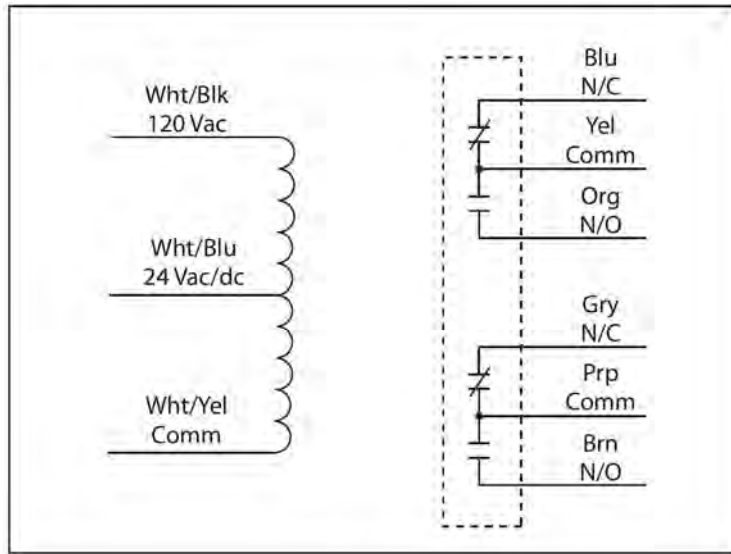
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# Supplemental Equipment

## Wiring Diagram



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## Supplemental Equipment

### Relay, SPDT, 10–30 VDC, 10A Input

453-111-00, 453-111-01

#### Description

This enclosed SPDT Pilot Relay is rated 10A with 10–30 VDC/VAC, 120 VAC Coil.



#### Specifications

**Coil Voltage Input** 10–30 VDC/VAC; 120 VAC; 50/60 Hz  
Drop Out = 2.8 VDC / 2.1 VAC  
Pull In = 10 VDC / 9 VAC

**Coil Current** 18 mA at 24 VDC  
46 mA at 24 VAC  
28 mA at 120 VAC

**Contact Ratings** 10A Resistive at 28 VDC  
600 watt Tungsten at 120 VAC (NO)  
240 watt Tungsten at 120 VAC (NC)

**Wiring** 16 in. 600V rated

**Dimensions** 1.7 in. H x 2.8 in. W x 1.5 in. D  
(43.18 mm x 71.12 mm x 38.1 mm)  
with 0.5 in. (12.7 mm) NPT nipple

**Shipping Weight** 0.3 lb (0.14 kg)

**Temperature** –30°F to 140°F (–34.4°C to 60°C)

**Relative Humidity** 5% to 95% non-condensing

**Standards Compliance**

**UL** UL Listed UL916, UL864, C-UL

**CSFM** 7300-1555:0100

#### Features

- SPDT Relay with one continuous duty coil
- Single Relay Module
- Expected relay life of 10 million cycles minimum-mechanical
- 20 ms operate time
- LED illuminates when active
- UL Accepted for use in Plenum, NEMA 1

#### Ordering Information

Part Number	Description
453-111-00	Relay, SPDT, 10–30 VDC, 10A contacts, LED, grey enclosure
453-111-01	Relay, SPDT, 10–30 VDC, 10A contacts, LED, red enclosure



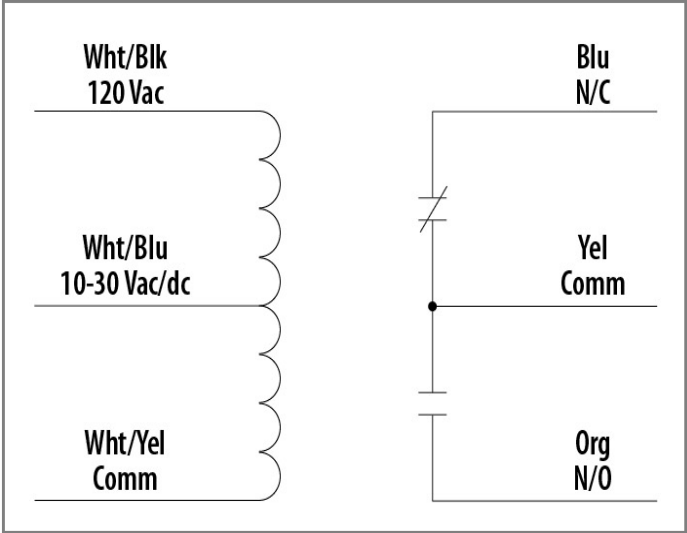
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# Supplemental Equipment

## Wiring Diagram



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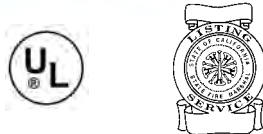
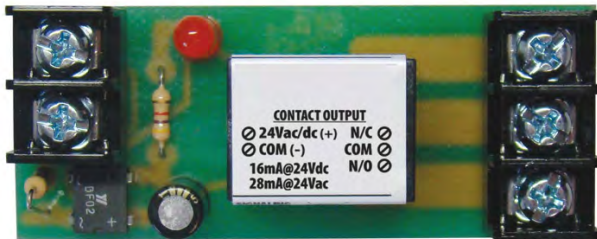
## Supplemental Equipment

# Relay, SPDT, 24 VDC/VAC, 7A and 10A

453-114-00

### Description

The Single Pole Double Throw (SPDT) 24 VDC/VAC, Fire Alarm Relay is track-mounted, polarized, and offers 10A at 30 VDC normally open (NO) contacts and 7A at 30 VDC normally closed (NC) contacts. The relay is designed for operation in systems that require supervision from controllers and utilize end-of-line resistors. This relay can also be operated from AC voltage (non-polarized) if desired.



### Features

- SPDT Relay with one continuous duty coil
- Single relay module
- Expected relay life of 10 million mechanical cycles minimum
- Operating time of 6 ms
- LED illuminates when active

### Specifications

**Coil Voltage Input** 24 VDC/VAC; 50 to 60 Hz  
Drop Out: 2.5 VDC/2 VAC  
Pull In: 11 VDC/9 VAC

**Coil Current** 18 mA at 24 VDC  
31 mA at 24 VAC

**Contact Ratings** 10A Resistive at 30 VDC (NO)  
7A Resistive at 30 VDC (NC)  
470 VA Pilot Duty at 125 VAC  
770 VA Pilot Duty at 250 VAC

**Track-Mounting** Screw 2.75 in. W mounting track to any flat surface

**Dimensions** 1.1 in. H x 2.75 in. W x 1.75 in. D  
(27.94 mm x 69.85 mm x 44.45 mm)  
With 0.5 in. (12.7 mm) NPT nipple

**Shipping Weight** 0.12 lb (0.05 kg)

**Temperature** -30°F to 140°F (-34.4°C to 60°C)

**Relative Humidity** 5% to 95% non-condensing

**Standards Compliance:**

**UL Listing** UL916, UL864, C-UL

**State of California** 7300-1555:0100

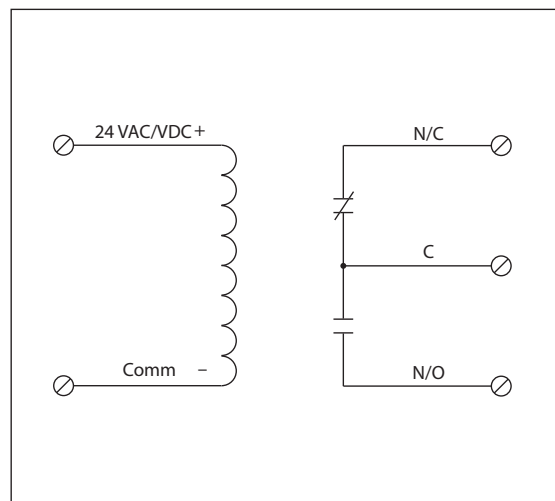
### Ordering Information

Part Number	Description
453-114-00	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, 10A contacts, polarized, LED, 2.75 in. track-mount

### Associated Parts

Part Number	Description
082-431-00	Mounting Track for Relay, 2 in. L x 2.75 in. W, PVC flame rated 94-5V, mounting holes 2 in. center to center; for use with P/N 453-114-00

### Wiring Diagram



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## Supplemental Equipment

# Relay, Time Delay, SPDT, 10A 453-117-00

### Description

Monaco's relays are ideal for applications where local or remote contacts are required for control of electrical loads or general purpose switching. Suitable for use with heating, ventilating, and air conditioning (HVAC) systems, temperature control, fire alarm, security, energy management, and lighting control systems.



### Features

- Enclosed, Time Delay Relay
- Single Pole Double Throw (SPDT) Continuous Duty Coil Relay
- Expected relay life of 10 million mechanical cycles (minimum)
- LED Indicator

### Specifications

**Contact Rating** 10A General Use at 277 VAC  
10A Resistive at 30 VDC (N/O)  
7A Resistive at 30 VDC (N/C)  
1/2 HP at 125 VAC  
1 HP at 250 VAC  
1/4 HP at 277 VAC  
C300 Pilot Duty

**Input Current** 66 mA at 24 VAC  
38 mA at 24 VDC  
40 mA at 120 to 277 VAC

**Coil Voltage Input** 24 VAC/VDC; 120-277 VAC; 50-60 Hz  
Drop Out = 3 VAC / 3.8 VDC  
Pull In = 20 VAC / 20 VDC

**Timing** Mode: Delay On Make (N/O)  
Operate Time: 6ms after Time Delay  
Range: 6 seconds to 20 minutes  
Adjustment: four position DIP switch for range selection and single turn potentiometer for timing adjustment within range  
Tolerance: Switches 1 and 2:  $\pm 10\%$   
Switches 3 and 4:  $\pm 5\%$   
Repeatability:  $\pm 1\%$   
Temperature:  $\pm 1\%$   
Voltage:  $\pm 1\%$   
Recycle Time: 750 ms maximum

**LED** Relay Status: Red LED On = Activated  
Time Delay: Pink LED Flashing = Timing

**Wire Length** 16 in., 600V rated

**Enclosure** Gray, Plenum, NEMA 1

**Operating Temperature**  $-30^{\circ}\text{F}$  to  $140^{\circ}\text{F}$  ( $-34.4^{\circ}\text{C}$  to  $60^{\circ}\text{C}$ )

**Humidity** 5% to 95% non-condensing

**Dimensions** 4 in. H x 4 in. W x 1.8 in. D  
with 0.5 in. NPT nipple

#### Standards Compliance:

**UL Listed** UL916 Energy Management,  
UL864 Fire

**CSFM** 7300-1555:0100

### Ordering Information

Part Number	Description
453-117-00	Relay, Time Delay, SPDT, 24 VAC 50-60 Hz, 10A Contacts, gray enclosure



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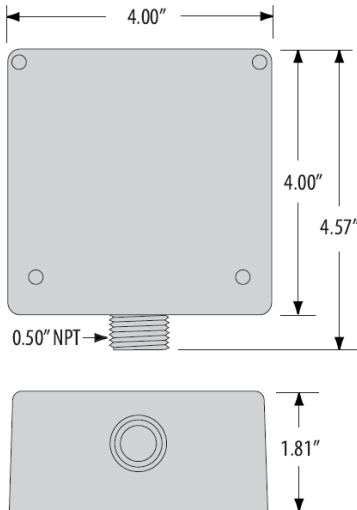
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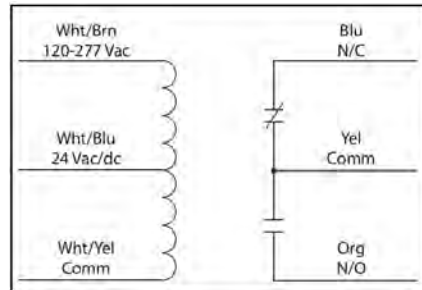
# Supplemental Equipment

## Diagrams

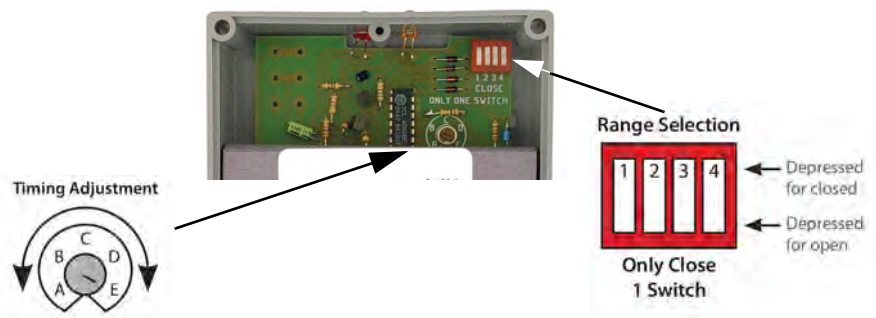
### Dimensions



### Wiring

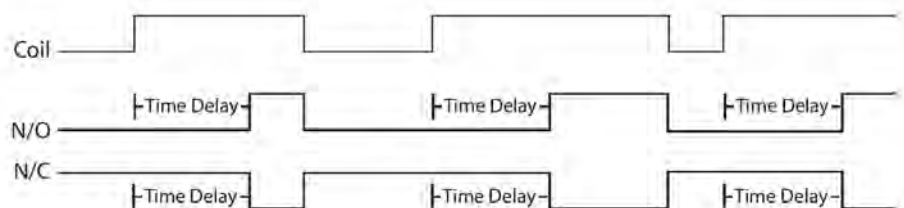
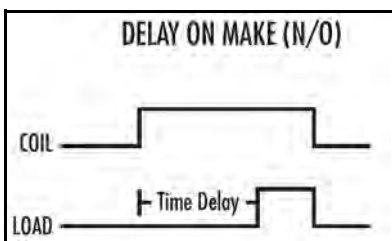


### Timing Adjustment, Range Selection and Timing Table



TIMING TABLE						
Switch Ranges	Close Dip Switch	Potentiometer Setting				
		A	B	C	D	E
6s-20s	1	6s	9s	13s	16s	20s
22s-1min15s	2	22s	36s	50s	1min4s	1min15s
1min30s-5min	3	1min30s	2min10s	3min20s	4min16s	5min
6min-20min	4	6min	9min	13min20s	17min20s	20min

### Timing Diagram



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# AC and DC Surge Protection

## Supplemental Equipment Catalog Section

14

### AC and DC Surge Protection

Surge Protector, Transient, 2-Outlet Direct Plug In. ....	210-505-00
Surge Protector, Signal Line .....	210-508-00, 210-511-00, 210-512-00
Surge Protector Kit, 120 VAC, Transient .....	210-509-00, 210-510-00
Surge Protector, Initiating/Indicating Circuit, 24 VDC .....	210-514-00
Surge Protectors, 120 VAC, 240 VAC, and 120/240 VAC .....	210-524-00, 210-555-00, 210-556-00
Surge Protector, 4-Wire Leased Line, 5V, SPD .....	210-526-00
Surge Suppressor, RJ-45 Ethernet .....	210-540-00
Surge Protector Module and Base .....	210-549-xx, 210-550-xx, 210-551-xx

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## Supplemental Equipment

# Surge Protector, Transient, 2-Outlet Direct Plug In 210-505-00

### Description

This Transient, 2-outlet, Direct Plug-in, Surge Protector protects computer peripherals and audio/visual equipment against surges, spikes and line noise. The integrated 15A Circuit Breaker protects all outlets and shuts down connected equipment in the event of an overload. Automatic shutoff permanently cuts power to outlets if protection circuit is incapacitated, preventing equipment damage and indicating replacement is required.



### Features

- Indoor, Surge Protection Device (SPD)
- Two NEMA 5-15R surge-protected outlets
- 1,410 joules surge protection rating
- Safe thermal fusing prevents unsafe conditions during extreme extended overvoltages and catastrophic occurrences
- Isolated filter banks remove damaging line noise
- Diagnostic LEDs confirm power, protection and line fault status
- Plugs directly into outlet without a power cord

### Specifications

<i>Nominal Input Voltage</i>	120 VAC
<i>Frequency Compatibility</i>	50/60 Hz
<i>Output</i>	1800 watts
<i>Circuit Breaker (amps)</i>	15A
<i>Input Plug Type</i>	NEMA 5-15P
<i>EMI/RFI Noise Filter</i>	40–80 dB
<i>Clamping Voltage</i>	140 Vrms
<i>AC Suppression Response Time</i>	NM = 0 ns. CM = < 1 ns
<i>AC Suppression Surge Current Rating</i>	48,000A
<i>Protection Mode</i>	Full normal: H-N Common mode: N-G/H-G
<i>Housing</i>	Black, metal
<i>Mounting</i>	Direct plug-in format with retaining bracket supports wall mounting directly to standard AC wall socket
<i>Dimensions</i>	4 in. H x 2.5 in. W x 2.5 in. D (10.16 cm x 6.35 cm x 6.35 cm)
<i>Weight</i>	0.8 lb (0.36 kg)
<i>Standards Compliance</i>	
<i>UL</i>	Tested to UL 1449 3rd Edition Safety Standards
<i>IEEE</i>	587 Category A and B Surge Suppression Specifications
<i>ANSI</i>	C62.41

### Ordering Information

Part Number	Description
210-505-00	Surge Protector Kit, 15A/120 VAC, Plug-in, 4 in. H x 2.5 in. W x 2.5 in. D



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## Supplemental Equipment

### Surge Protector, Signal Line

210-508-00, 210-511-00, 210-512-00

#### Description

The Signal Line Surge Protectors protect critical equipment in RS-422 protocol data networks while remaining transparent to data throughput. These surge protectors provide effective protection against electrical transient surges that are generated by external lightning events and internal switching events.



#### Features

- Indoor, four-line surge protection device (SPD)
- Silicon Avalanche Suppressor Diode (SASD) protection
- Screw Terminal Connectors
- 4X Wall-mounting Tabs

#### Specifications

<i>Voltage</i>	12 VDC (P/N 210-508-00) 27 VDC (P/N 210-511-00) 52 VDC (P/N 210-512-00)
<i>Surge Current Rating</i>	200A @ 10/1000 $\mu$ s (P/N 210-508-00) 134A @ 10/1000 $\mu$ s (P/N 210-511-00) 67A @ 100/1000 $\mu$ s (P/N 210-512-00)
<i>Protection Mode</i>	L-G
<i>Data Rate</i>	1.5 Mb/s
<i>Response Time</i>	5 ns
<i>Ports</i>	1
<i>Mounting</i>	Wall-mount
<i>Grounding</i>	6-32 Stud, 14 AWG max.
<i>Operating Temperature</i>	-40°F to 185°F (-40°C to 85°C)
<i>Dimensions</i>	2.2 in. H x 3.16 in. W x 1.44 in. D (55.88 mm x 80.26 mm x 36.58 mm)
<i>Weight</i>	0.15 lb (68.04 g)

#### Ordering Information

Part Number	Description
210-508-00	Surge Protector, Signal Line, 12 VDC
210-511-00	Surge Protector, Signal Line, 27 VDC
210-512-00	Surge Protector, Signal Line, 52 VDC



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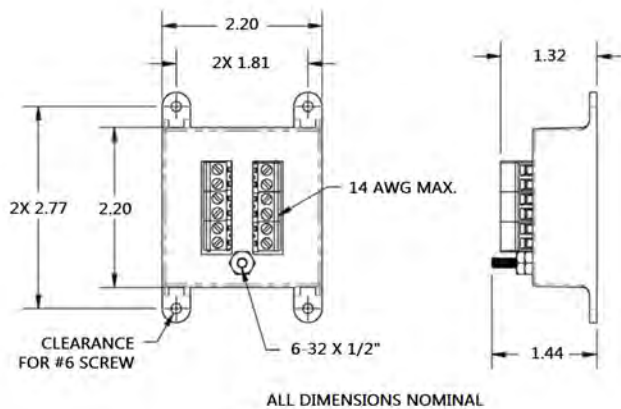
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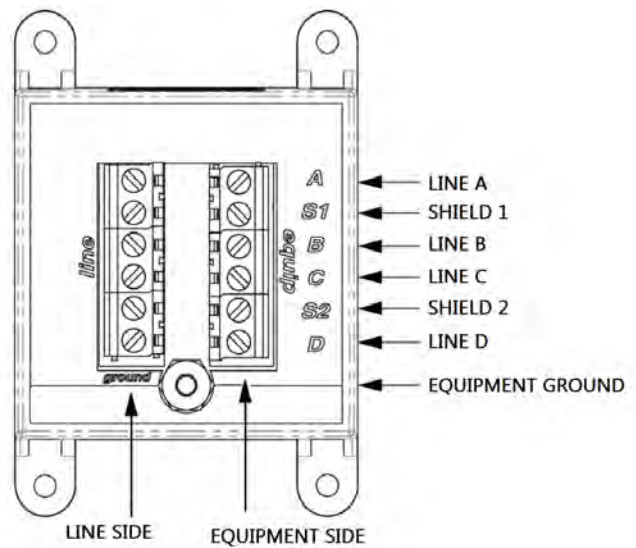
# Supplemental Equipment

## Diagrams

### Dimensions



### Wiring Diagram



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## Supplemental Equipment

### Surge Protector Kit, 120 VAC, Transient 210-509-00, 210-510-00

#### Description

These Surge Protector Kits provide AC Surge Protection for equipment that operates on 120 VAC, Single-Phase, electrical service. These surge protectors provide protection against electrical transient surges generated by external lightning and internal switching events.



#### Features

- Indoor, Surge Protection Device (SPD)
- 100% Silicon Avalanche Suppressor Diode (SASD) protection
- Suppression Status Lamp
- Hardwired

#### Specifications

##### 210-509-00

<i>Electrical Configuration</i>	120 VAC 60 Hz single-phase, 15A Fused 6 in., 14 AWG - Line and Load bidirectional protection
<i>Maximum Continuous Operating Voltage (MCOV)</i>	L-N 138 VAC
<i>Nominal Discharge Current Rating (In)</i>	0.7 kA
<i>Response Time</i>	5 nanoseconds
<i>Protection Mode</i>	L-N/G
<i>Housing Material and Plating</i>	Noryl N190X
<i>Mounting</i>	Panel mount
<i>Operating Temperature</i>	-22°F to 149°F (-30°C to 65°C)
<i>Humidity</i>	90% non-condensing
<i>Dimensions</i>	6.5 in. H x 3 in. W x 2.7 in. D (165.1 mm x 76.2 mm x 68.58 mm)
<i>Weight</i>	0.7 lb (317.51 g)

##### P/N 210-510-00

<i>Electrical Configuration</i>	120 VAC 60 Hz single-phase, 15A Pigtail, color-coded leads
<i>Maximum Continuous Operating Voltage (MCOV)</i>	L-N 138 VAC
<i>Nominal Discharge Current Rating (In)</i>	0.7 kA
<i>Voltage Protection Level</i>	8/20 $\mu$ s L-N 330 @ 500A Vpk
<i>Protection Mode</i>	L-N/G
<i>Housing Material and Plating</i>	Noryl N190X
<i>Mounting</i>	Panel or Wall-mount
<i>Operating Temperature</i>	-40°F to 158°F (-40°C to 70°C)
<i>Humidity</i>	90% non-condensing
<i>Dimensions</i>	2.2 in. H x 2.2 in. W x 0.88 in. D (55.88 mm x 55.88 mm x 22.35 mm)
<i>Weight</i>	0.2 lb (90.72 g)



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# Supplemental Equipment

## Ordering Information

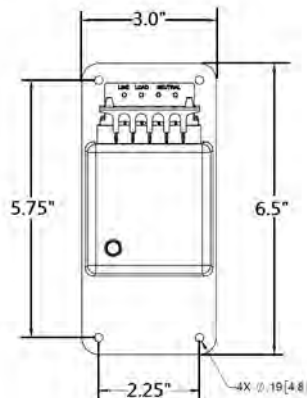
Part Number	Description
<b>210-509-00</b>	Surge Protector Kit, Transient, 120 VAC 60 Hz Single Phase, 15A, Terminal Block, 6.5 in. H x 3 in. W x 2.7 in. D

Part Number	Description
<b>210-510-00</b>	Surge Protector Kit, Transient, 120 VAC 60 Hz Single Phase, 15A Fused, Pigtail, 2.2 in. H x 2.2 in. W x 0.88 in. D

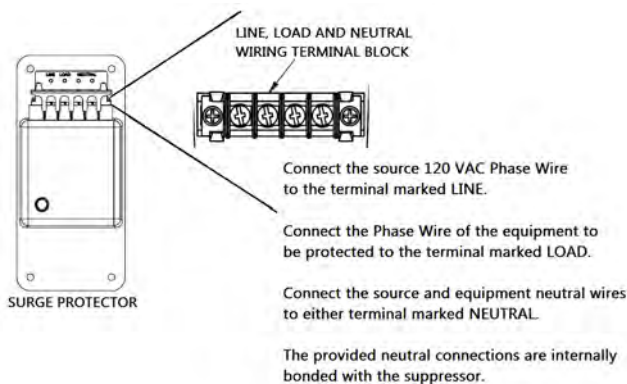
## Diagrams

**P/N 210-509-00**

### Dimensions

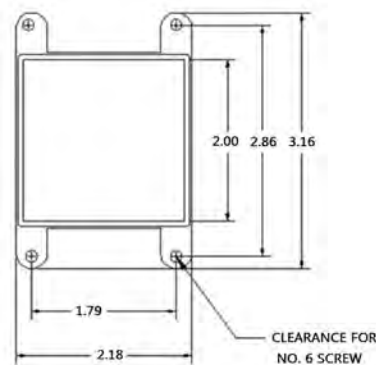


### Wiring Diagram

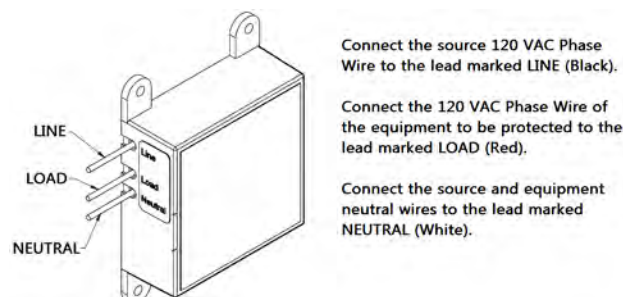


**P/N 210-510-00**

### Dimensions



### Wiring Diagram



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## Supplemental Equipment

# Surge Protector, Initiating/Indicating Circuit, 24 VDC 210-514-00

### Description

This Initiating/Indicating Circuit Surge Protector Device (SPD) protects critical equipment in CATV Repeaters/Amplifiers protocol data networks while remaining transparent to data throughput. This surge protector protects against electrical transient surges that are generated by external lightning events and internal switching events.



### Features

- Indoor, Isolated Loop Circuit Protector
- 100% Silicon Avalanche Suppressor Diode (SASD) protection
- Low Frequency DC, Communications Pairs
- Wired Lead Connectivity
- IP20 Environmental Protection Rating

### Specifications

<i>Voltage</i>	24 VDC
<i>Application</i>	RS-422
<i>Protected Pins</i>	[1,2], [3,6], [4,5], [7,8]
<i>Surge Current Rating</i>	67A @ 10/1000 $\mu$ s
<i>Voltage Protection Level</i>	48 Vpk @ 67A @ 10/1000 $\mu$ s
<i>Protection Mode</i>	L-L
<i>Connectors</i>	Three 6 in. Wired Leads
<i>Ports</i>	1
<i>Mounting</i>	4X Wall-mounting tabs
<i>Operating Temperature</i>	-22°F to 149°F (-30°C to 65°C)
<i>Dimensions</i>	2.2 in. H x 3.16 in. W x 0.88 in. D (55.88 mm x 80.26 mm x 22.35 mm)
<i>Weight</i>	0.15 lb (68.04 g)
<i>Standards Compliance:</i>	Listed to UL 497B UL E220064

### Ordering Information

Part Number	Description
210-514-00	Surge Protector, initiating/indicating circuit, 24 VDC, CATV Repeaters/Amplifier data protocols



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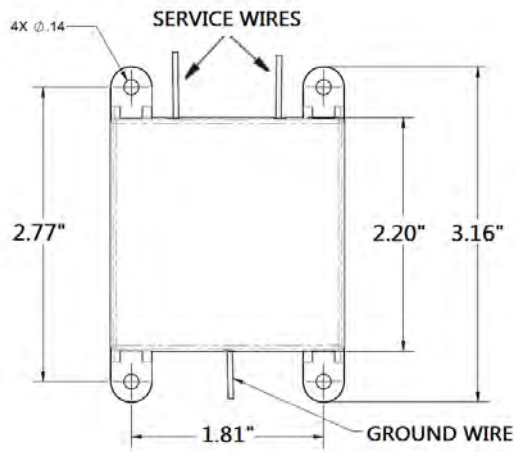




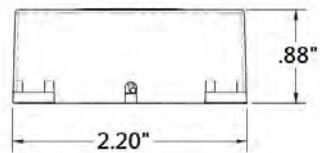
# Supplemental Equipment

## Diagrams

### Dimensions

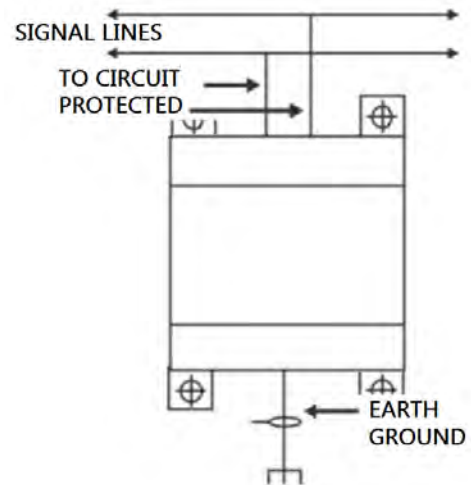


FRONT VIEW



SIDE VIEW

### Wiring Diagram



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## Supplemental Equipment

### Surge Protectors, 120 VAC, 240 VAC, and 120/240 VAC 210-524-00, 210-555-00, 210-556-00



#### Features

- Surge Protectors protect fire alarm panels and other dedicated branch circuit loads
- Approved for 20A circuit breakers
- Small size allows for mounting in many locations
- NEMA 4X Weatherproof enclosure
- Diagnostic LED indicates ground presence, system power and SPD function

#### Specifications

**Voltage:** P/N 210-524-00 Single Phase, 120VAC, 2 Wire  
P/N 210-555-00 Single Phase, 240 VAC, 2 Wire  
P/N 210-556-00 Dual Phase, 120/240 VAC, 3 Wire

**MCVO:** P/N 210-524-00 150 V  
P/N 210-555-00 320 V  
P/N 210-556-00 150/320 V

**Voltage Protection Rating:**  
P/N 210-524-00 700 V L-G, 700 V L-N, 1,500 V N-G  
P/N 210-555-00 1,200 V L-G, 1,200 V L-N, 2,000 V N-G  
P/N 210-556-00 700 V L-G, L-N, 1,500 V L-L,  
1,500 V N-G

#### Surge Current Rating:

P/N 210-524-00 50,000A  
P/N 210-555-00 50,000A  
P/N 210-556-00 100,000A

**Short Circuit  
Current Rating** 10kA

**Nominal Discharge  
Current Rating (In)** 10kA

#### SPD Type:

P/N 210-524-00) Type 2 SPD for hardwired parallel installation on 120 VAC single branch circuit (P/N 210-524-00)  
(P/N 210-555-00) Type 1 and Type 2 SPD for hardwired parallel installation on 240 VAC single branch circuits (  
(P/N-210-556-00) Type 1 and Type 2 SPD for hardwired parallel installation on 120/240 dual phase circuits with a neutral leg

**Connection** 3/4 in. Parallel Wired

**Temperature Range** -31°F to 176°F (-35°C to 80°C)

**Maximum Humidity** 95% non-condensing

**Dimensions** 3.5 in. L x 1.89 in. W x 3.4 in. H  
(88.9 mm x 48.3 mm x 86.4 mm)

**Weight** 0.55 lb (0.25 kg)

#### Standards Compliance:

UL E328921  
UL 1449 4th Edition, cUL

ANSI/IEEE C62.41 and C62.45 Category B  
Standards

#### Ordering Information

Part Number	Description
210-524-00	Surge Protector, 120VAC, Hardwired, Single Phase, 10kA
210-555-00	Surge Protector, 240VAC, Hardwired, Single Phase, 10kA
210-556-00	Surge Protector, 120/240 VAC, Hardwired, Dual Phase, 10kA



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## Supplemental Equipment

### Surge Protector, 4-Wire Leased Line, 5V, SPD 210-526-00

#### Description

The 5 volt, 4-wire Leased Line Surge Protector provides effective protection against electrical transient surges that are generated both by external lightning events and by internal switching events. This surge suppressor supports long-term system reliability by absorbing high amounts of transient energy while maintaining a very low clamping voltage.



#### Features

- Indoor, Leased Line Surge Protection Device (SPD)
- 100% Silicon Avalanche Suppressor Diode (SASD) protection
- Specialized for Marine Applications
- Screw Terminal connections clearly identified for equipment, signal line and ground

#### Specifications

<i>Service Voltage</i>	5V
<i>Leakage Current</i>	5 $\mu$ A
<i>Surge Current Rating</i>	100 A @ 10/1000 $\mu$ s
<i>Voltage Protection Level</i>	7.5V @ 100A 10/1000 $\mu$ s
<i>Protection Mode</i>	L-G
<i>Impedance (data)</i>	33 ohms per line (peak)
<i>Response Time</i>	5 ns
<i>Connectors</i>	Screw Terminal
<i>Ports</i>	Eight
<i>Mounting</i>	Wall-mount
<i>Grounding</i>	6 - 32 Stud, Terminal Ring #22 - #16 AWG
<i>Operating Temperature</i>	-22°F to 149°F (-30°C to 65°C)
<i>Dimensions</i>	2.2 in. H x 3.16 in. W x 1.43 in. D (55.88 mm x 80.26 mm x 36.32 mm)
<i>Weight</i>	0.18 lb (81.65 g)

#### Ordering Information

Part Number	Description
210-526-00	Surge Protector, 4-wire Leased Line, 5V



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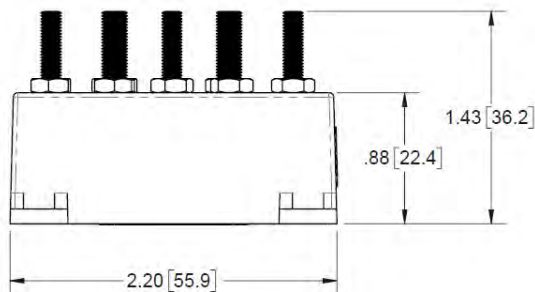
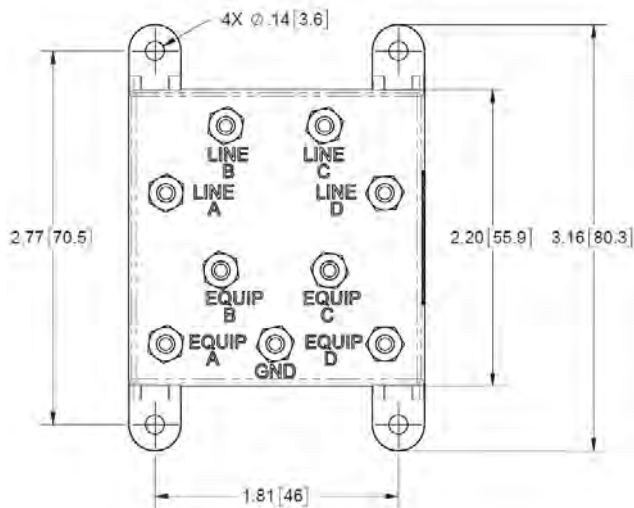
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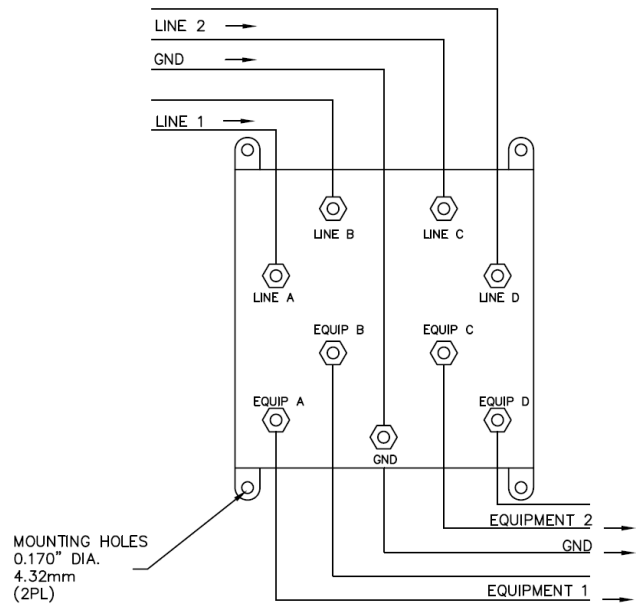
# Supplemental Equipment

## Diagrams

### Dimensions



### Wiring Diagram



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## Supplemental Equipment

### Surge Suppressor, RJ-45 Ethernet 210-540-00

#### Description

The surge suppressor provides a path to ground (Protective Earth) that protects connected radio equipment from near-miss lightning strikes.



The surge suppressor has two separate protection circuits. The Ethernet suppressor circuit comprises of a common mode and differential protection scheme across both pairs of data lines (pins 1 and 2, and 3 and 6) Power lines are also protected against surges in common mode and differentially.

#### Features

- Protects all varieties of power configurations - Offers full isolation between the four power pins (pins 4, 5, 7, and 8)
- Simplified installation and setup - Ground washer is shipped in the isolated position for easy installation

#### Specifications

*Operating Temperature* -40°F to 140°F (-40°C to 60°C)

*Storage Temperature* -40°F to 185°F (-40°C to 85°C)

*Energy Dissipation (Data and Powerlines)* 2.1 Joules

*Ethernet Max. Common Mode Voltage* 75V

*Ethernet Max. Common Mode Current* 200A

*DC Power Line Max. Common Mode Voltage* 93V

*DC Power Line Max. Common Mode Current* 16A

*Dimensions* 5.1 in. H x 3.5 in. W x 1.6 in. D

*Weight* 0.5 lb

*Physical Connections* 2 x RJ45

#### Ordering Information

Part Number	Description
210-540-00	Surge Suppressor, RJ-45, Ethernet, 160–170V 60Hz



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## Supplemental Equipment

### Surge Protector Module and Base

210-549-xx, 210-550-xx, 210-551-xx

#### Description

The Surge Protector Module is designed with ease of installation in mind. Because of the Surge Protector Module's modular edge card connection design, it can be removed from its base and replaced even when system power is applied.



Surge Protector Module  
P/N 210-551-00 shown

The Surge Protector Module is capable of protecting two circuit pairs, but can be ganged together with additional modules in a mounting track to protect up to ten circuit pairs with a common ground.

Operation of this Surge Protector is automatic and has no visible effect on the operation of the equipment or the dedicated circuit it is connected to. The Surge Protector continuously monitors line voltage; if the protector "sees" voltage above its rated level it will go into a low impedance state providing the voltage surge with a direct path to ground. Once the surge is routed to the ground, the surge protector returns to its normal state.

If the Surge Protector fails, this indicates it has protected the connected equipment or circuit from a voltage surge greater than the surge protector could dissipate. The Surge Protector is not repairable; and the protected circuit or equipment must not be placed back into service until the Surge Protector has been replaced.

#### Features

- Multi-stage, SAD technology, and hybrid design provide excellent surge protection
- Designed for easy installation
- Field replaceable, and can be added and removed from base with power applied
- Hard-wire mounting base
- Modular edge card connection design
- Protects two circuit pairs per module; when used with mounting track (P/N 210-546-05) up to 10 pairs can be protected with a common ground
- Suitable for use on AC and DC circuits
- Provides protection for:
  - 4–20 mA current loops
  - Fire Alarm Control Panel NACs
  - SLC and IDC loops

#### Specifications

*Maximum Continuous Current* 5As

*Surge Current Rating* 20 kA

*Data Rate* 200 kbps (5V) to 2 Mbps (130V)

*Service Voltage* 12V (P/N 210-550-xx)  
24V (P/N 210-551-xx)  
75V (P/N 210-549-xx)

*MCOV* 18V (P/N 210-550-xx)  
33V (P/N 210-551-xx)  
90V (P/N 210-549-xx)

*Clamping Voltage* 21.6V (P/N 210-550-xx)  
39V (P/N 210-551-xx)  
108V (P/N 210-549-xx)

*Protection Modes* Line-Ground

*Base Connection* 10 AWG max. screw terminals

*Housing* ABS

*Operating Temperature* –40°F to 158°F (–40°C to 70°C)

*Maximum Humidity* 95% non-condensing



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# Supplemental Equipment

## Dimensions and Weight:

<b>Module</b>	2.1 in. L x 1.4 in. W x 1.9 in. H (53 mm x 36 mm x 48 mm) Weight 1.2 oz (34 g)
<b>Module with Base</b>	3.25 in. L x 1.5 in. W x 2.6 in. H (83 mm x 38 mm x 66 mm) Weight 2.8 oz (79 g)

## Standards Compliance:

UL Listed UL497B

## Ordering Information

Part Number	Description
<b>210-550-00</b>	Surge Protector Module and Base, 12 VDC, protects two circuit pairs, plug-in base
<b>210-550-01</b>	Surge Protector Module, 12 VDC, without base, protects two circuit pairs (replacement module for P/N 210-550-00)
<b>210-551-00</b>	Surge Protector Module and Base, 24 VDC, protects two circuit pairs, plug-in base
<b>210-551-01</b>	Surge Protector Module, 24VDC, without base, protects two circuit pairs (replacement module for P/N 210-551-00)
<b>210-549-00</b>	Surge Protector Module and Base, 75 VDC, protects two circuit pairs, plug-in base
<b>210-549-01</b>	Surge Protector Module, 75 VDC, without base, protects two circuit pairs (replacement module for P/N 210-549-00)

## Associated Parts

Part Number	Description
<b>210-546-00</b>	Surge Protector Mounting Base, with track, holds four Surge Protector Module; for use with P/Ns 210-550-01, 210-551-01, and 210-549-01
<b>210-546-05</b>	Surge Protector Mounting Base, with track, holds five Surge Protector Modules; for use with P/Ns 210-550-01, 210-551-01, and 210-549-01



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## Enclosure Heater

# Supplemental Equipment Catalog Section

14

### Enclosure Heater

Silicone Rubber Enclosure Heater . . . . .532-001-00, 532-002-00

*[Click to go back to "Table of Contents - Index by Product Name"](#)*



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## Supplemental Equipment

### Silicone Rubber Enclosure Heater

532-001-00, 532-002-00

#### Description

This silicone rubber enclosure heater is a rugged, lightweight, thin and flexible heater that allows heat to be put where it is needed. The heater is constructed with a wire-wound element or an etched foil element. The fiberglass-reinforced silicone rubber gives the heater dimensional stability without sacrificing flexibility and because very little material separates the element from the part, heat transfer is rapid and efficient.



*Max. Watt Densities* 80 W/in.<sup>2</sup> (125 W/cm<sup>2</sup>)

*Dimensions* 5 in. L x 2 in. W (P/N 532-001-00)  
10 in. L x 2 in. W (P/N 532-002-00)

*Element Thickness* Wire Wound: 0.055 in. (1.4 mm)  
Etched Fill: 0.22 in. (0.56 mm)

*Lead Length* 12 in. (305 mm) (P/N 532-001-00)  
24 in. (610 mm) (P/N 532-002-00)

*Lead other* Color: White  
Material: PTFE, insulated, flexible plated copper. Lead connections are insulated.

*Thermostat* 40°F/55°F

*Ambient Temperature* 80°F (26.7°C) minimum

*Operating Temperature* 500°F (260°C) maximum

#### Ordering Information

Part Number	Description
532-001-00	Silicon Rubber Enclosure Heater, 50 W heater, thermostat, for use in small enclosure
532-002-00	Silicon Rubber Enclosure Heater, 100 W heater, thermostat, for use in large enclosure

#### Features

- Moisture and chemical-resistant silicone rubber material
- Delivers low mass and easily repeatable distributed watt densities
- Thermostat on heater
- Freeze protection
- Condensation prevention
- Vulcanizing adhesives or fasteners
- Air-sensing thermostat senses air temperature with nominal setting of 40°F/55°F

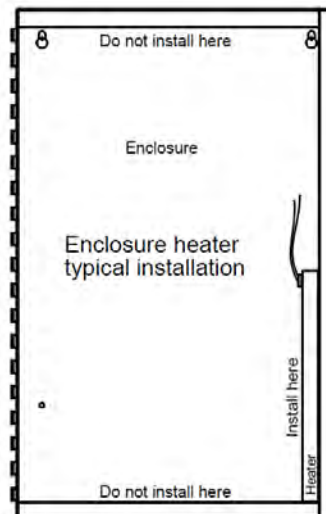
#### Specifications

*Volts* 120 VAC

*Watts* 50 (P/N 532-001-00)  
100 (P/N 532-002-00)

*Wire Wound Elements* Rated at 5 in.<sup>2</sup> (0.78 W/cm<sup>2</sup>)

#### Enclosure Installation



For optimum heat circulation, mount heater toward the rear of the enclosure on the side panel that is most accessible to 120 VAC power.

Ensure installation method does not damage, or cause the heater to come into contact with other enclosure components.



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## Test Equipment

### Test Equipment Catalog Section

15

#### Section 15. Test Equipment

##### Test Equipment

Programmable Scanner .....	196-100-00
Signal Direction Finder (SDF) .....	225-791-00
Signal Receiving Device (SRD) .....	225-793-xx
Wattmeter Kit, 25–1,000 MHz, 5 to 500 Watt, Fixed Element RF .....	290-050-01
Analog/Digital Multimeter .....	290-701-01
RF Communications Service Monitor Kit .....	297-002-00
Dynamic Battery Analyzer .....	297-300-00
Dual Mode Battery Analyzer .....	297-301-00

##### Monaco FACP, BT-X, Repeater Planner Programmer Suite

Monaco Planner Suite/Programmer .....	225-163-00
BT-XM In-Building MNS Communicator Tester .....	227-451-xx

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## Test Equipment

### Test Equipment Catalog Section

15

#### Test Equipment

Programmable Scanner .....	196-100-00
Signal Direction Finder (SDF) .....	225-791-00
Signal Receiving Device (SRD) .....	225-793-xx
Wattmeter Kit, 25–1,000 MHz, 5 to 500 Watt, Fixed Element RF .....	290-050-01
Analog/Digital Multimeter .....	290-701-01
RF Communications Service Monitor Kit .....	297-002-00
Dynamic Battery Analyzer .....	297-300-00
Dual Mode Battery Analyzer .....	297-301-00

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## Test Equipment

### Programmable Scanner

196-100-00

#### Description

This handheld radio Scanner covers 12 bands, from 25 to 512 MHz. It scans 60–180 channels per second and also provides direct channel access.



The integral keypad allows you to program 300 channels to any VHF or UHF frequency. Ten channels can be selected for priority monitoring (every two seconds). The keypad also provides scan, delay, lockout, and search controls and a lock to prevent accidental reprogramming of the scanner. An illuminated (backlit) LCD provides frequency and operating information. The Scanner is certified in accordance with FCC rules and regulations Part 15.

The Scanner features Close Call™ RF Capture Technology, a setting where the scanner detects and displays the frequency of a strong, nearby radio transmission. Unlike regular scanning, Close Call™ doesn't need to be tuned to a specific frequency to check for a transmission. Instead, Close Call™ detects the source of the strong signal, and immediately tunes to the source's frequency. Close Call™ can operate as the primary means of scanning (with normal scanning turned off), the secondary scanner (with normal scanning turned on), or Close Call can be turned off during normal scanning.

The Scanner can be used with Monaco's Radio Alarm Central Receiving Systems to monitor system transmissions or other RF activity on the system frequency. It is provided with an ac adaptor/charger, flexible BNC type antenna, and belt clip.

#### Features

- 300 channels / 10 banks
- Covers 12 bands
- Pager Screen function
- Full-frequency LCD display with backlight
- Close Call TM RF Capture Technology
- AC or DC Tuning
- Extended memory backup
- Built-in scan delay
- Channel lockout
- Keypad lock
- Low battery indicator
- Manual channel access
- Key Confirmation tones
- Priority Channels feature

#### Specifications

*Power Input* 13.8 Vdc, center positive

*Audio Output* 360 mW

*Internal Speaker* 24 ohms

*Search Rate* Normal - 90 steps per second  
Hyper - 270 steps per second (max)

*Channel Scan Rate* 90 per second (maximum)

*Scan Delay* 2 seconds

*Size* 2.75 in. W × 4.5 in. H × 1.25 in. D

*Weight* 6.17 oz.

*Operating Temperature* 0°F to 140° F (–18°C to 60° C)

*Antenna* BNC Type - 50 W Impedance

#### Ordering Information

Part Number	Description
196-100-00	Programmable Scanner, 300 channel, LB/HB, UHF and VHF



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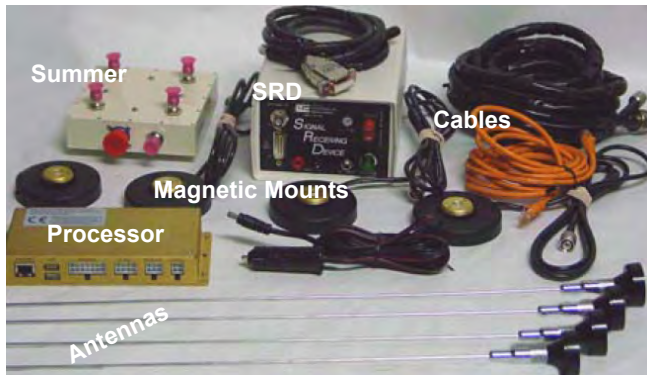
# Test Equipment

## Signal Direction Finder (SDF)

225-791-00

### Description

The Signal Direction Finder (SDF) along with the Signal Receiving Device (SRD) is used to locate the source of a radio signal causing RF carrier alarms at the Central Receiving System.



### Features

- Signal Direction Finder (SDF) Kit comes with
  - Antenna Kit with four antennas and four magnetic mounts
  - Processor for SDF signal information
  - SDF Summer that combines the SDF Signal data from antennas
  - Connectivity Cables that connect:
    - SDF Summer to SDF Processor and the SRD
    - SDF Processor to a laptop computer
    - SDF Processor to the SRD
    - SDF Processor to the power source

### Specifications

<i>Voltage Range</i>	11–14 VDC
<i>Power</i>	6.5 W @ 12 VDC (processor and antennas)
<i>Interfaces</i>	Two USB Host Ethernet (RJ45) Receiver Audio and RSSI 3.5 mm Speaker Output
<i>Frequency Range</i>	125–1,000 MHz
<i>Accuracy</i>	1 degree rms (eight element antenna) 2.5 degree rms (four element antenna)
<i>Resolution</i>	0.1 degree
<i>Sampling Rate</i>	Two samples per second (adjustable)
<i>Sensitivity</i>	–123 dBm (FM receiver dependent)
<i>Averaging</i>	Adjustable from 1 to 20 samples
<i>RF Pulse Detection</i>	80 ms minimum
<i>Commuation Frequency</i>	Adjustable (250, 500, 1000, 2000 Hz)
<i>Antennas</i>	136–500M 1/4 wave whip with magnetic base
<i>Summer</i>	Mounts on top of vehicle Operates with four 1/4 wave magnetic mount antennas
<i>Laptop (not included)</i>	Runs Series 7000 (MPT) UI software Connects to Processor
<i>Temperature Range</i>	Processor: 32°F to 158°F (0°C to 70°C) Antenna: –40°F to 185°F (–40°C to 85°C)
<i>Standards Compliance</i>	
<i>Per EN</i>	EN 61000-6-2 EN 61000-6-4 EN 301 489-1

### Ordering Information

Part Number	Description
225-791-00	Signal Direction Finder (SDF) Kit, enclosed in two rugged carrying cases. Requires Signal Receiving Device (P/N 225-793-xx)



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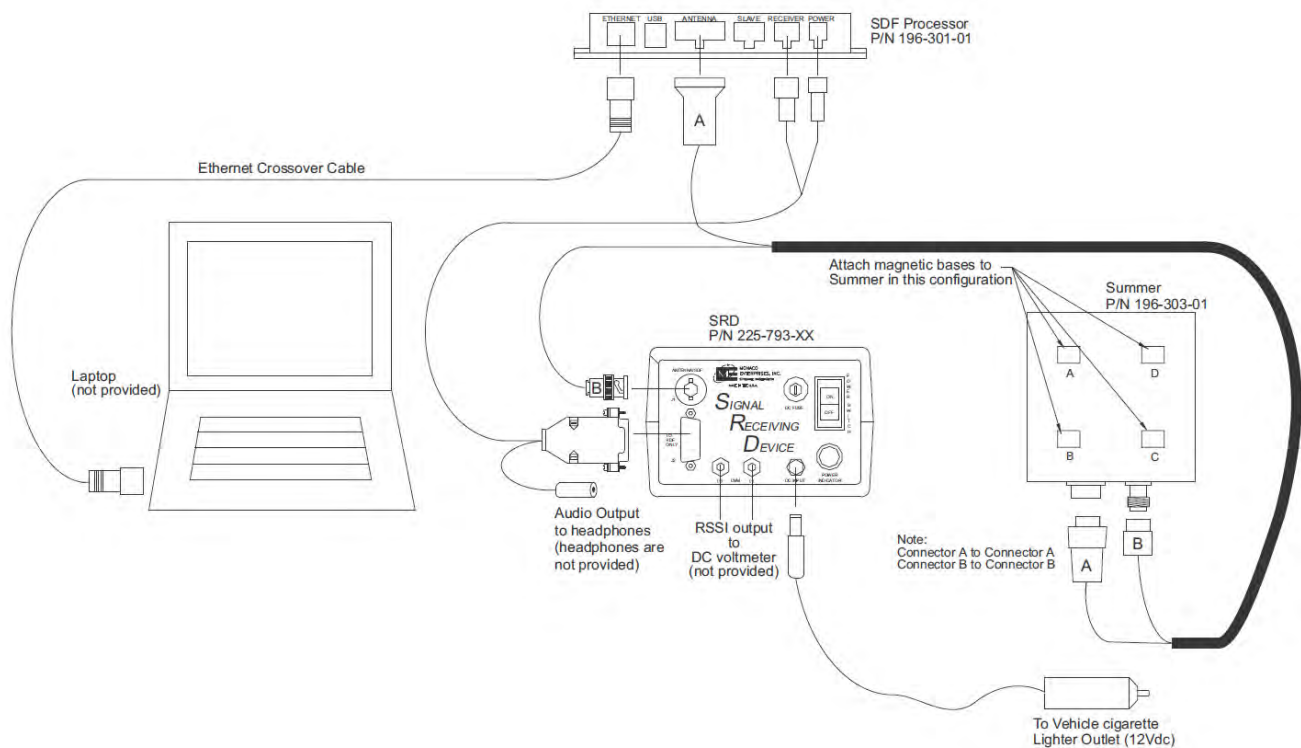


# Test Equipment

## Associated Parts

Part Number	Description
225-793-xx	Signal Receiving Device (SRD), includes adaptor power cable, 1/4 wave antenna whip, magnetic base, and case

## Wiring Diagram



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## Test Equipment

### Signal Receiving Device (SRD)

225-793-xx

#### Description

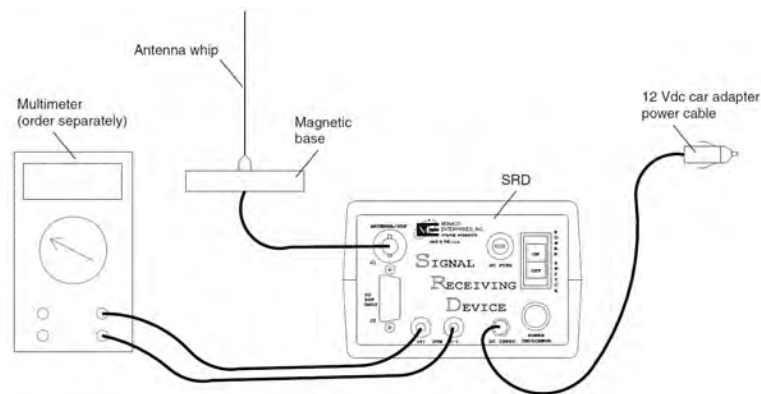
The Signal Receiving Device (SRD) is a self-contained narrowband transceiver. When used with a digital multimeter the SRD assists in determining antenna installation and alignment. When used with a Signal Direction Finder (SDF) the SRD is used in locating a radio signal source.



#### Features

- Factory tuned to the Central Receiving System operating frequency
- Receives any narrowband or wideband RF signal within approximately 10 kHz of its frequency
- Measures RF field strength
- Signal displays on an attached multimeter
- Sets on vehicle roof using magnetic base

#### Wiring Diagram



#### Specifications

<i>Fuse</i>	Slow Blow, 1A/250V
<i>Battery</i>	Internal - connected to 12 VDC vehicle power outlet (through cigarette lighter or use of an adaptor power cable [included])
<i>Antenna Whip</i>	1/4 wave, omnidirectional (to be cut for 136–174 MHz VHF or 406–470 MHz UHF) Antenna Height 22 in., Power Rating 200 W
<i>Magnetic Base</i>	Mounting: 5/16 in. x 24 in. THDS roof-mount, 3.5 in. x 3 in. with a pull strength of 50 lb and includes 12 ft. of coax

#### Ordering Information

Part Number	Description
225-793-xx	Signal Receiving Device (SRD), includes adaptor power cable, 1/4 wave antenna whip, magnetic base, and case

#### Associated Parts

Part Number	Description
225-791-00	Signal Direction Finder (SDF) Kit, enclosed in two rugged carrying cases; requires Signal Receiving Device (SRD) (P/N 225-793-xx)
290-701-01	Analog/Digital Multimeter
501-123-00	Fuse, slow-blow, 1A, 250V, 1/4 in. x 1 1/4 in.
400-703-00	Battery, SLA, rechargeable, 12V/1.4 Ah, quick connect, 3.78 in. L x 1.69 in. W x 2.28 in. H, 1.2 lb



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## Test Equipment

# Wattmeter Kit, 25–1,000 MHz, 5 to 500 Watt, Fixed Element RF 290-050-01



**Insertion VSWR** UHF Connector:  
25–512 MHz, 1.08 max.  
512–1000 MHz, 1.12 max.  
N Connector:  
25–512 MHz, 1.05 max.  
512–1000 MHz, 1.07 max.

**Insertion Loss** UHF Connector:  
25–512 MHz, 0.1 dB max.  
512–1000 MHz, 0.15 dB max.  
N Connector:  
25–512 MHz, 0.1 dB max.  
512–1000 MHz, 0.13 dB max.

**Accuracy** 25–100 MHz,  $\pm 7\%$  of full scale (with correction factor)  
100–512 MHz,  $\pm 6\%$  of full scale  
512–1000 MHz,  $\pm 7\%$  of full scale

**Connectors** QC Type (Female N normally supplied)

**Finish** Light Grey, powder coat

**Dimensions** 6 7/8 in. H x 5 1/8 in. W x 3 5/8 in. D  
(175 mm x 130 mm x 92 mm)  
Includes connectors

**Weight** 4 lb (1.8 kg) with N Connectors

## Features

- Fixed 25–1,000 MHz, 5 to 500 watt, Fixed Element RF Wattmeter
- Measures RF Power and Load Match in 50 ohm coaxial transmission lines
- Uses a Single Broadband Element with 5-position Range Switch
- Can be used with CW, AM, FM, and TV modulation
- Portable
- Microammeter is specially shock mounted
- Aluminum housing

## Specifications

**Power Range** 5, 15, 50, 150, 500 watt

**Power Rating** 500 watt, 25–800 MHz  
150 watt, 800–1,000 MHz

**Frequency Range** 25–1,000 MHz

## Ordering Information

Part Number	Description
290-050-01	RF Power Wattmeter with 50 ohm RF load resistor, coaxial interconnect cable, UHF/BNC Connector Adaptors, and a carrying case

## Associated Parts

Part Number	Description
299-008-00	Spare RF Coaxial Load, 25 watt with N male connector
299-006-01	RF Attenuator Sampler Kit, with RF attenuator element, –50 dB attenuation, 25–1,000 MHz, and case
626-071-00	Adaptor, N female to UHF male, required to connect coaxial RF load to Wattmeter



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## Test Equipment

# Analog/Digital Multimeter 290-701-01



### Features

- Accurate current, voltage and frequency measurements on variable signal devices
- Offers true RMS AC voltage and current for measuring non-linear signals
- Captures intermittents as short as 250  $\mu$ s
- Two level backlight
- IP30 rating

### Specifications

<b>Voltage AC/DC</b>	1000 V RMS - maximum between any terminal and earth ground
<b>Current AC/DC</b>	10 A
<b>Resistance</b>	50 Mohms
<b>Frequency</b>	200 kHz
<b>Capacitance</b>	10,000 $\mu$ F
<b>Temperature</b>	1994°F (1,090°C)
<b>Conductance</b>	60 ns
<b>Fuse Protection</b>	0.44A, 1000 V IR 10 kA 11A, 1000 V IR 17 kA
<b>Battery Type</b>	9 V zinc, NEDA 1604 or IEC 6F22
<b>Battery Life</b>	400 hours typical with alkaline (and backlight off)

<b>Vibration</b>	Per MIL-PRF-28800 Class 2 instrument
<b>Shock</b>	1 meter drop (per IEC 61010-1:2001)
<b>Digital Display</b>	6000 counts, updates 4/sec has 19,999 counts in high-res mode
<b>Analog Bargraph Display</b>	33 segments, updates 40/sec, frequency: 19,999 counts, updates 3/sec at >10 Hz
<b>Operating Temperature</b>	-4°F to 131°F (-20°C to 55°C)
<b>Storage Temperature</b>	-40°F to 140°F (-40°C to 60°C)
<b>Altitude</b>	Operating: 2,000 m, Storage: 10,000 m
<b>Relative Humidity</b>	0% to 90% 32°F to 95°F (0°C to 35°C) 0% to 70% 95°F to 131°F (35°F to 55°C)
<b>Dimensions</b>	1.25 in. H x 3.41 in. W x 7.35 in. L (3.1 cm x 8.6 cm x 18.6 cm)
<b>Dimensions with Holster and Flex Stand</b>	2.06 in. H x 3.86 in. W x 7.93 in. L (5.2 cm x 9.8 cm x 20.1 cm)
<b>Weight</b>	12.5 oz (.35 kg)
<b>Weight with Holster and Flex Stand</b>	22.0 oz (.62 kg)
<b>Standards Compliance:</b>	
<b>UL listed</b>	UL61010-1
<b>ANSI/ISA</b>	S82.01-204
<b>CSA</b>	22.2 No. 1010.1:2004 to 1000 V Overvoltage Category III
<b>IEC</b>	Digital Multimeter Specifications 5 664 to 600 Overvoltage Category IV
<b>IEC</b>	61010-1: Pollution Degree 2 61010-2-033: CAT IV 600 V / CAT III 1000 V

#### Electromagnetic Compatibility (EMC):

<b>International</b>	IEC 61326-1: Portable Electromagnetic Environment: IEC 61326-2-2 CISPR 11: Group 1, Class A
<b>Korea (KCC)</b>	Class A equipment
<b>USA (FCC)</b>	47 CFR 15 subpart B - this product exempt device per clause 15.103

### Ordering Information

Part Number	Description
290-701-01	Analog/Digital Multimeter



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## Test Equipment

# RF Communications Service Monitor Kit

297-002-00

### Description

The portable RF Communications Service Monitor measures and monitors communications equipment from 100 kHz to 1.0 GHz with 0.1 ppm accuracy. The Full duplex design enables independent and separate measurement and testing of transmitter and receiver circuits simultaneously.



### Features

- Built-in features include:
  - Power Meter and Dummy Load
  - Sweep Generator with sweep features of linear, octave and decade up to 10,000 points
  - SINAD Meter checks true SINAD receiver sensitivity and provides audio loop-back for equipment being tested
  - Self-calibrating RSSI Meter tests filter designs, performance, and cable characteristics
  - RS-232 Control serial interface
  - Battery Meter displays remaining battery charge
- Receives and displays AM and FM Modulation for transmitter testing
- Instantaneous reading of RF output power in either watts or dBm
- Scanner Mode scans through a sequence of 100 stores
- Elastomeric Touch Keypad

### Specifications

<i>Primary Power</i>	100-240 VAC 50/60 Hz power Li-ion battery
<i>Display</i>	16 x 140 pixels, high contrast dual vacuum fluorescent graphical displays
<i>Power Meter</i>	Displays power from +23 dBm to +50 dBm, $\pm 0.5$ dB (200 mW — 100 W)
<i>Dummy Load</i>	100 W 30 dB feed through attenuator with sample port on rear, 25% duty cycle full power
<i>Attenuator Output</i>	–30 dB sample port from load for external equipment
<i>Audio Generator</i>	0.1 H to 3 kHz test tones CTS and DPL encode tones
<i>Frequency Range</i>	Receives: 100 kHz to 1 GHz in 10 Hz steps Generates: 100 kHz to 1 GHz in 1 Hz steps Frequency Counter: 100 kHz to 1 GHz Audio Counter: 60 Hz 30 3000 Hz
<i>FM</i>	Bandwidth: 0.1 Hz to 75 kHz Modulation: $\pm 75$ kHz max. in 0.1 Hz to 0.1 kHz, 10 Hz steps to 10 kHz, 100 Hz steps to 75 kHz
<i>AM</i>	Bandwidth: 10 Hz–10 kHz Modulation: 0%–75% in 1% steps to -100 dBm, 0%–50% to –140 dBm
<i>SINAD Meter</i>	Displays reading from –30 dB to 0 dB of SINAD
<i>Self-Calibrating RSSI Meter</i>	80 dB of range on receiver side –40 dBm to –102 dBm
<i>Memories</i>	100 sequences of 100 registers plus system memories
<i>Dimensions</i>	6 in. H x 11.94 in. W x 14.75 in. D (152 mm x 303 mm x 375 mm)
<i>Weight</i>	14 lb (6.5 kg)

### Ordering Information

Part Number	Description
297-002-00	RF Communications Service Monitor Kit, includes 10 VAC EIA cord, BNC-BNC test cable, whip antenna, and a BP3010A Li-Ion battery



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# Test Equipment

## Dynamic Battery Analyzer

297-300-00



**Dynamic Load Time Interval** 120 to 270 seconds, dependent on battery voltage and Ah selection (all intervals  $\pm 1\%$ )

**Static Indicator Transition Voltages**

<b>6V:</b>	
<6.05	too low to test
6.05–6.75	normal charged battery
6.75–7.1	normal charging voltage
>7.1	overcharging, open battery
<b>12V:</b>	
<12.10	too low to test
12.1–13.5	normal charged battery
13.5–14.2	normal charging voltage
>14.2	overcharging, open battery

All transitions have 50 mV hysteresis

**Input Terminals** Standard Banana Jacks, color coded

**Test Leads**

- 48 in., high voltage cable, color coded
- Stranded, tinned, copper conductor with soldered connections
- Plated alligator clips with color coded vinyl insulating boots
- Plated right angle banana plugs

**Battery Condition LED Display**

Green	- good
Yellow	- marginal
Red	- bad

**Operating Temperature** 0°F to 140°F (–18°C to 60°C)

**Finish** MIL-spec black epoxy paint

**Dimensions** 2.25 in. H x 3.75 in. W x 4.75 in. L (51 mm x 95 mm x 121 mm)

**Weight** 1 lb (.45 kg) includes test leads

**Shipping Weight** 2 lb (.9 kg)

## Features

- Tests 6 and 12 volt SLA batteries, sizes 2 to 24 Ah
- Analyzer powered by battery under test
- Microprocessor controlled
- Automatic selection of battery voltage
- Static Test monitors battery and charging circuit voltage; displays text results with color background
- Load Test evaluates battery condition; displays text results with color background
- Rugged, die-cast aluminum enclosure with strong polycarbonate graphic overlay

## Specifications

**Input Voltage from Battery** 5 to 16 VDC

**Load Current** 30 mA during static test, 3.5A max, during dynamic test

**Dynamic Load Current** 1 to 3.5A, dependent on Ah

## Ordering Information

Part Number	Description
297-300-00	Dynamic Battery Analyzer Kit, 6 VDC and 12 VDC, 2 to 24 Ah, with case and leads <b>NOTE</b> Monaco recommends this analyzer be limited to use with batteries of 6 or 12 volts 24 Ah or less in capacity. For batteries over 24 Ah, use Dual Mode Battery Analyzer (P/N 297-301-00).



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## Test Equipment

### Dual Mode Battery Analyzer

297-301-00



#### Features

- Tests 6 and 12V SLA batteries, sizes 4 to 100 Ah
- Analyzer powered by battery under test
- Microprocessor controlled
- Thermo laser gun
- Pre-load Static Test determines voltage of battery
- Dynamic Load Test evaluates battery condition; displays text results with color background
- Additional test to evaluate battery capacity
- Unit is contained in an unbreakable, waterproof, carrying case with foam padding for protection

#### Specifications

*Input Voltage* 5 to 15 VDC  
*from Battery* Auto-select for 6V or 12V

*Testing Range* 4 to 110 Ah, 12V  
4 to 60 Ah, 6V

*Load Current* 200 mA during static test,  
30A max, during dynamic test  
Actual load is approximately 1/2 Ah  
rating

*Dynamic Load* 60 to 120 seconds  
*Time Interval* Approximately 50 to 100 seconds for  
Ah determination

*Test Leads*

- 48 in., high flex instrumentation cable
- Stranded, copper conductor with soldered connections
- Heavy duty copper alligator clips with color coded vinyl insulating boots
- Military grade connector assembly

*Input Connection* MIL Spec 97 Series Connector set

*Displays* Two Line vacuum florescent for  
prompts and data display  
Five LEDs for battery voltage and load  
test results

*Data Input* 12 button keypad with vacuum  
florescent for Ah, prompts, battery  
temperature and data

*Operating Temperature* 32°F to 140°F (0°C to 60°C)

*Relative Humidity* 90%

*Battery Temperature* Non-contact infrared thermometer for  
*Input* reading  
Keypad entry for temperature

*Dimensions* 5 in. H x 11.5 in. W x 11 in. D  
(127 mm x 292.1 mm x 279.4 mm)

*Weight* 7.7 lb (3.5 kg) includes test leads  
16.7 lb (7.6 kg) in carrying case

*Shipping Weight* 18 lb (8.2 kg)

#### Ordering Information

Part Number	Description
297-301-00	Dual Mode Battery Analyzer, 6 VDC and 12 VDC, 4 to 100 Ah, with case and leads



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# Monaco FACP, BT-X, Repeater Planner Programmer Suite

## Test Equipment Catalog Section

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### Monaco FACP, BT-X, Repeater Planner Programmer Suite

Monaco Planner Suite/Programmer . . . . .	225-163-00
BT-XM In-Building MNS Communicator Tester . . . . .	227-451-xx

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## Test Equipment

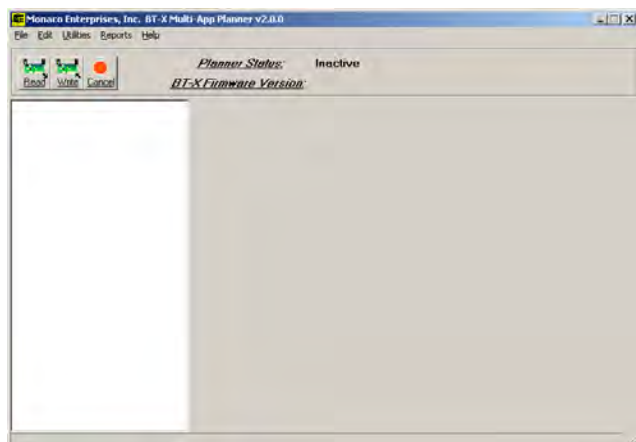
### Monaco Planner Suite/Programmer

225-163-00

#### Description

The Monaco Planner Suite Programmer is a dedicated kit for programming and maintaining Monaco Enterprises' panels and repeaters compatible with the D-21 Central Receiving System. The Suite can program:

- Addressable Fire Alarm Control Panels (FACPs)
- Conventional FACPs
- Combination Fire Alarm MNS Voice Evacuation Panel
- BT-X building transceivers
- Repeaters.



The Monaco Planner Suite Programmer kit includes:

- Portable CPU programmer with a built-in RS-232 Port, including pre-installed Planners.
- Planner software on CDs with documentation
- Interface cables to connect the portable CPU programmer to panels and repeaters.

#### Features

- Pre-installed planner software for the following panels:
  - M-2 Conventional Fire Alarm Control Panel (FACP)
  - MAAP-2 Addressable Point Reporting FACP
  - MAAP(+) Addressable FACP
  - MAAP-X Fire Alarm MNS Voice Evacuation Panel
  - BT-X building transceivers
  - D-700R repeater
  - RFM-XR repeater
- Monaco panel databases are backed up on the CPU programmer hard-drive, separate from the panels, for maintenance, replacement/upgrade, and configuration programming changes.
- Integrated RS-232 port for reliable connection to panels.
- Portable for in-field use

#### Ordering Information

Part Number	Description
225-163-00	Planner Suite/Programmer with interface cables for use with: Monaco FACP/MNS, BT-X building transceiver, D-21 compatible repeaters



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## Test Equipment

# BT-XM In-Building MNS Communicator Tester

227-451-xx

### Description

The Monaco Mass Notification System (MNS) tester is a portable, BT-XM installed in a rugged carrying case.



The tester unit provides the ability to test the D-21 configuration of the four on-board BT-XM zones and D-21 MNS output before installing and configuring the building's actual BT-XM. In troubleshooting, the unit also allows "dividing the system" to help determine if an issue is on the D-21 end or the BT-XM end.

### Features

- Toggle switches to stimulate zones
- Speaker plays live voice MNS messages from the D-21; relay board LEDs indicate prerecorded MNS message output for a separate MNS panel
- Audio jack for speaker headphones

### Specifications

*AC Input* 115/230 VAC, 50/60 Hz

*DC Output*

- Power supply output: 16 VDC, non-adjustable
- Battery charger output: 13.8 VDC float; 14.5 VDC boost
- Nominal Amps, 6 zone cards: 175 mA, 1.5A transmit

*Battery*

- 12V/1.4 Ah
- Low battery signal: 11.5 VDC
- Low battery disconnect: 9.75 VDC

*Radio*

- FM narrowband
- FSK modulation
- Duty cycle 50%, 30-second max. transmit
- Output impedance: 50 ohms

*Operating Temperature* -22°F to 140°F (-30°C to 60°C)

*Relative Humidity* 0% to 90% non-condensing

**NOTE** Existing antenna must be in place.

### Ordering Information

Part Number	Description
227-451-xx*	BT-XM MNS live voice and prerecorded message tester, portable, narrowband radio, relay board, audio board, zone switches, and MNS audio output (headphone jack and speaker)
*Specify frequency (-xx) when ordering.	



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# Cables

## Cable Catalog Section 16

### Section 16. Cables

#### **Fire – Reserved**

#### **MNS – Reserved**

#### **Signaling Line Circuit (SLC)**

Cable, Fire Alarm. . . . .621-02x-00, 621-040-00, 621-06x-00,  
621-07x-00

#### **Communication**

Cable, Audio, Control, Communications, Instrumentation . . . . .621-026-00

Cable, RS-485, Plenum and Non-Plenum . . . . .621-083-00, 621-084-00

#### **CAT5**

Cable, CAT5E Network. . . . .624-026-00

#### **CAT6**

Cable, CAT6 Plenum and Non-Plenum. . . . .624-03x-00, 624-04x-00

Cable, CAT6A OSP Broadband. . . . .624-050-00

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**Fire – Reserved**

## **Cable Catalog Section 16**

**Fire – Reserved**

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**MNS – Reserved**

## **Cable Catalog Section 16**

**MNS – Reserved**

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# Signaling Line Circuit (SLC)

## Cable Catalog Section

16

### Signaling Line Circuit (SLC)

Cable, Fire Alarm. . . . .621-02x-00, 621-040-00, 621-06x-00,  
621-07x-00

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# Cable

## Cable, Fire Alarm

621-02x-00, 621-040-00, 621-06x-00, 621-07x-00

### Description

These power limited, fire-resistant fire alarm cables meet National Electric Code (NEC) requirements for power-limited applications. Refer to Article 760, paragraphs 51 and 53.

Cables are UL Listed and marked as FPL, FPLP, or FPLR:

**FPL** General-purpose—not for risers, ducts, plenums, or spaces used for environmental air. FPL cables are rated for 140°F (60°C).

**FPLP** Suitable for ducts, plenums, and other environmental airspaces. This cable has low smoke-producing characteristics and is rated for 167°F (75°C).

**FPLR** Suitable for vertical runs in a shaft or from a floor.

### Wire Gauge

Select cables according to current and the two-way lineal distance to each device (critical in 24 VDC circuits that feed audible/visual signaling devices). The wire lengths shown in this chart include to-and-from length of both cable conductors.

Current Draw	AWG Wire Size (Solid)			
	#18	#16	#14	#12
200 mA	1,720 ft.	2,640 ft.	4,365 ft.	6,875 ft.
400 mA	860 ft.	1,320 ft.	2,180 ft.	3,435 ft.
600 mA	570 ft.	880 ft.	1,455 ft.	2,300 ft.
800 mA	430 ft.	660 ft.	1,090 ft.	1,715 ft.
1A	340 ft.	525 ft.	870 ft.	1,380 ft.

### Ordering Information

#### NOTES

1. All cables are unshielded solid copper.
2. Monaco ships all cable on 1,000 ft. spools.

Part Number	Description
621-020-00	Cable, FPLR: <ul style="list-style-type: none"><li>• 2-conductor, 18 AWG</li><li>• PVC insulation, red PVC jacket</li><li>• Cable Diameter: 0.158 in.</li><li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li><li>• Nominal DC Resistance, 68°F: 6.52 ohms/1,000 ft.</li></ul>
621-022-00	Cable, FPLR: <ul style="list-style-type: none"><li>• 2-conductor, 14 AWG</li><li>• PVC insulation, red PVC jacket, zip cord</li><li>• Cable Diameter: 0.206 in.</li><li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li><li>• Nominal DC Resistance, 68°F: 2.57 ohms/1,000 ft.</li></ul>
621-040-00*	Cable, FPLR: <ul style="list-style-type: none"><li>• 4-conductor, 18 AWG</li><li>• Red PVC jacket, zip cord</li><li>• Cable Diameter: 0.184 in.</li><li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li><li>• Nominal DC Resistance, 68°F: 6.4 ohms/1,000 ft.</li></ul>
621-060-00	Cable, FPLR: <ul style="list-style-type: none"><li>• 6-conductor, 18 AWG</li><li>• Polypropylene insulation, PVC jacket; zip cord</li><li>• Cable Diameter: 0.208 in.</li><li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li><li>• Nominal DC Resistance, 68°F: 6.4 ohms/1,000 ft.</li></ul>
621-062-00	Cable, FPLR: <ul style="list-style-type: none"><li>• 4-conductor, 14 AWG</li><li>• Red PVC jacket, zip cord</li><li>• Cable Diameter: 0.24 in.</li><li>• Temperature Rating: -4°F to 167°F (-20°C to 75°C)</li><li>• Nominal DC Resistance, 68°F: 2.57 ohms/1,000 ft.</li></ul>
621-063-00*	Cable, FPLP: <ul style="list-style-type: none"><li>• 2-conductor, 18 AWG</li><li>• Low-smoke PVC insulation and red PVC jacket</li><li>• Cable Diameter: 0.158 in.</li><li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li><li>• Nominal DC Resistance, 68°F: 6.52 ohms/1,000 ft.</li></ul>
621-064-00	Cable, FPLP: <ul style="list-style-type: none"><li>• 4-conductor, 18 AWG</li><li>• Low-smoke PVC insulation and jacket; zip cord</li><li>• Cable Diameter: 0.184 in.</li><li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li><li>• Nominal DC Resistance, 68°F: 6.4 ohms/1,000 ft.</li></ul>
*Suitable for SLC wiring	



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# Cable

Part Number	Description
<b>621-065-00</b>	Cable, FPLP: <ul style="list-style-type: none"> <li>• 6-conductor, 18 AWG</li> <li>• Low-smoke PVC insulation and jacket; zip cord</li> <li>• Cable Diameter: 0.211 in.</li> <li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li> <li>• Nominal DC Resistance, 68°F: 6.4 ohms/1,000 ft.</li> </ul>
<b>621-066-00</b>	Cable, FPLP: <ul style="list-style-type: none"> <li>• 2-conductor, 14 AWG</li> <li>• Low-smoke PVC insulation and red PVC jacket</li> <li>• Cable Diameter: 0.206 in.</li> <li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li> <li>• Nominal DC Resistance, 68°F: 2.6 ohms/1,000 ft.</li> </ul>
<b>621-067-00</b>	Cable, FPLP: <ul style="list-style-type: none"> <li>• 4-conductor, 14 AWG</li> <li>• Low-smoke PVC insulation and jacket; zip cord</li> <li>• Cable Diameter: 0.242 in.</li> <li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li> <li>• Nominal DC Resistance, 68°F: 2.43 ohms/1,000 ft.</li> </ul>
<b>621-068-00*</b>	Cable, FPLR: <ul style="list-style-type: none"> <li>• 2-conductor, 12 AWG</li> <li>• Polypropylene insulation, red PVC jacket</li> <li>• Cable Diameter: 0.244 in.</li> <li>• Temperature Rating: -4°F to 140°F (-20°C to 60°C)</li> <li>• Nominal DC Resistance, 68°F: 1.53 ohms/1,000 ft.</li> </ul>
<b>621-069-00*</b>	Cable, FPLR: <ul style="list-style-type: none"> <li>• 2-conductor, 14 AWG</li> <li>• Red PVC jacket</li> <li>• Cable Diameter: 0.210 in.</li> <li>• Temperature Rating: -4°F to 140°F (-20°C to 60°C)</li> <li>• Nominal DC Resistance, 68°F: 2.57 ohms/1,000 ft.</li> </ul>

Part Number	Description
<b>621-070-00*</b>	Cable, FPLR: <ul style="list-style-type: none"> <li>• 2-conductor, 16 AWG</li> <li>• Red PVC jacket</li> <li>• Cable Diameter: 0.178 in.</li> <li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li> <li>• Nominal DC Resistance, 68°F: 4.10 ohms/1,000 ft.</li> </ul>
<b>621-071-00*</b>	Cable, FPLR: <ul style="list-style-type: none"> <li>• 2-conductor, 18 AWG</li> <li>• Low-smoke PVC insulation and red PVC jacket</li> <li>• Cable Diameter: 0.158 in.</li> <li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li> <li>• Nominal DC Resistance, 68°F: 6.52 ohms/1,000 ft.</li> </ul>
<b>621-072-00*</b>	Cable, FPLP: <ul style="list-style-type: none"> <li>• 2-conductor, 16 AWG</li> <li>• PVC insulation and jacket</li> <li>• Cable Diameter: 0.178 in.</li> <li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li> <li>• Nominal DC Resistance, 68°F: 4.1 ohms/1,000 ft.</li> </ul>
<b>621-073-00*</b>	Cable, FPLP: <ul style="list-style-type: none"> <li>• 2-conductor, 12 AWG</li> <li>• PVC insulation and jacket</li> <li>• Cable Diameter: 0.239 in.</li> <li>• Temperature Rating: 32°F to 167°F (0°C to 75°C)</li> <li>• Nominal DC Resistance 68°F: 1.8 ohms/1,000 ft.</li> </ul>
*Suitable for SLC wiring	



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# Communication

## Cable Catalog Section

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### Communication

Cable, Audio, Control, Communications, Instrumentation . . . . .	621-026-00
Cable, RS-485, Plenum and Non-Plenum . . . . .	621-083-00, 621-084-00

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# Cable

## Cable, Audio, Control, Communications, Instrumentation 621-026-00

### Description

This is stranded, six-conductor, tinned copper cable, insulated, unshielded, and jacketed in gray PVC. Four conductors are 22 AWG, two are 18 AWG.

**NOTE** This cable is not rated for plenum runs.

### Ordering Information

Part Number	Description
621-026-00	Cable for audio, control, communications, instrumentation 6-conductor: two at 18 AWG, four at 22 AWG PVC insulation, grey PVC jacket, unshielded

### Specifications

*Stranding* 18 AWG: 19 x 30  
22 AWG: 7 x 30

*Conductors* Tinned copper

*Insulation, Outer Jacket* PVC

*Color Coding* Red: 22 AWG  
Green: 22 AWG  
Brown: 22 AWG  
Blue: 22 AWG  
White: 18 AWG  
Black: 18 AWG

*Nominal Diameter* 0.236 in.

*Minimum Bend Radius* 2.5 in.

*DC Resistance (68°F)* 18 AWG: 15.5 ohms per 1,000 ft.  
22 AWG: 6.8 ohms per 1,000 ft.

*Recommended Current* 18 AWG: 2.5A per conductor at 77°F  
22 AWG: 5.6A per conductor at 77°F

*Operating Temperature* -4°F to 176°F

*Compliance*

- UL Flame Test (UL 1685 FT4)
- NEC/(UL): GMG
- AWM: UL Style 2576 (150V 176°F)



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# Cable

## Cable, RS-485, Plenum and Non-Plenum

621-083-00, 621-084-00



### Cable:

*Length* 1,000 ft.

*Minimum Bend* Plenum: 2.25 in.

*Radius* Non-plenum: 2.5 in.

### Capacitance:

*Conductor to* Plenum: 12pF/ft

*Conductor* Non-plenum: 12.8pF/ft

*Conductor to* Plenum: 22 pF/ft.

*Shield* Non-plenum: 23 pF/ft.

### Maximum Recommended Current:

*Plenum* 4A per conductor at 25°C Ambient

*Non-plenum* 2.1A per conductor at 25°C Ambient  
(10°C temperature rise)

*Voltage Rating* 300 Vrms (CM)

*Impedance* 120 ohms

*DC Resistance* 24 ohms/1,000 ft.

### Flammability:

*Plenum* (UL910) NFPA 262 Plenum Flame Test

*Non-plenum* UL 1685 (UL loading)

## Features

- Multi-conductor
- Low capacitance
- Suitable for EIA RS-485 applications
- Flammability tested

## Specifications

*Stranding* 24 AWG, 7 x 32 Tinned Copper

*Color Coding* White/Blue and Blue/White

*Insulation* Plenum: Foam Fluoride Ethylene Propylene (FFEP)

Non-plenum: Polyethylene (PE)

### Materials:

*Outer Shield* Tape: Aluminum/Polyester  
Braid: Tinned Copper

*Outer Jacket* Plenum: low smoke PVC  
Non-plenum: PVC

## Ordering Information

Part Number	Description
621-083-00	RS485 Cable - Plenum Rated <ul style="list-style-type: none"><li>• Two conductors</li><li>• 24 AWG twisted pair with drain and shield</li><li>• FFEP</li><li>• Low Smoke PVC outer jacket</li><li>• Cable Diameter: 0.204 in.</li><li>• Temperature Range: 0°C to 75°C</li><li>• Impedance: 120 ohms</li></ul>
621-084-00	RS485 Cable - Non-plenum Rated <ul style="list-style-type: none"><li>• Two conductors</li><li>• 24 AWG twisted pair with drain and shield</li><li>• PE</li><li>• PVC outer jacket</li><li>• Cable Diameter: 0.232 in.</li><li>• Temperature Range: -30°C to 80°C</li><li>• Impedance: 120 ohms</li></ul>



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## CAT5

# Cable Catalog Section 16

### CAT5

Cable, CAT5E Network. . . . .624-026-00

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# Cable

## Cable, CAT5E Network 624-026-00

### Description

These cables are designed to meet advanced UTP horizontal cable application. This cable is intended for high speed data applications up to 1 Gbps.

### Features

- RoHS compliant
- Increases network efficiency and uptime

### Specifications

*Category* 5E

*Diameter* 0.2 in. (5.08 mm)

*Conductor Size* 24 AWG

*Conductor Type* Solid

*Shielded* Unshielded twisted pair

*Jacket Color* Yellow

### Ordering Information

**NOTE** Monaco ships all cable on 1,000 ft. spools.

Part Number	Description
624-026-00	CAT5E Cable <ul style="list-style-type: none"><li>• 4-conductor, 24 AWG</li><li>• PVC insulation, yellow PVC jacket</li><li>• Cable Diameter: 0.187 in.</li><li>• Temperature Rating: -14°F to 167° F (-10°C to 75° C)</li><li>• Nominal DC Resistance: 9.38 ohms/328 ft. (100 m)</li><li>• Length: 1,000 ft.</li><li>• Riser</li></ul>



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## CAT6

### Cable Catalog Section

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#### CAT6

Cable, CAT6 Plenum and Non-Plenum . . . . .	624-03x-00, 624-04x-00
Cable, CAT6A OSP Broadband. . . . .	624-050-00

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# Cable

## Cable, CAT6 Plenum and Non-Plenum

624-03x-00, 624-04x-00



### Features

- Category 6, Plenum and Non-Plenum Cables
- PVC Jacket - blue, white, yellow, green, and purple
- Performance to 350 MHz
- Divider separator designed for consistent electrical performance
- Rip cord applied longitudinally under jacket

### Specifications

<i>Application</i>	1000BASE-T (Gigabit Ethernet), 100 BASE-TX, 10BASE-T
<i>Conductors</i>	23 AWG, solid bare annealed copper
<i>Shield</i>	U/UTP Unshielded Twisted Pair
<i>Conductor Pair Count</i>	4 Pair
<i>Pair Color Coding</i>	<ul style="list-style-type: none"><li>● Pair 1: Blue-White/Blue</li><li>● Pair 2: Orange-White/Orange</li><li>● Pair 3: Green-White/Green</li><li>● Pair 4: Brown-White/Brown</li></ul>
<i>Jacket</i>	Plenum: Low Smoke, Flame-Retardant PVC Non-Plenum: Flame-Retardant PVC

*Insulation* Plenum: Fluoropolymer/Dual-Layer  
Polyolefin  
Non-Plenum: Polyolefin

*Length* 1,000 ft.

*Cable Type* GenSPEED® 6 CAT6

*Maximum Pull Force* Plenum and Non-Plenum: 32 lb

*Nominal Cable Diameter* Plenum: 0.205 in. (5.207 mm)  
Non-Plenum: 0.22 in. (5.588 mm)

*Minimum Bend Radius* Plenum and Non-Plenum: 1 in.

*Cable Weight* Plenum: 25 lb/1,000 ft.  
Non-Plenum: 24 lb/1,000 ft.

*Temperature Rating* -4°F to 167°F (-20°C to 75°C)

*Impedance* Frequency 1-350 MHz  
100 ± 15 ohms

*DC Resistance* ohms/328 ft (100 m) @ 68°F (28°C)  
9.38 max., 7.50 nominal

*Velocity of Propagation* % Speed of Light  
Plenum: 70 nominal  
Non-Plenum: 68 nominal

#### Standards Compliance:

*NEC/CEC* Plenum: Type CMP (NFPA 262)  
Non-Plenum: Type CMR (UL 1666)

*UL Listed* UL 444

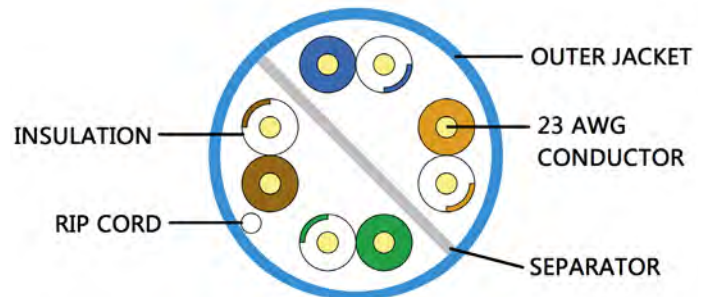
*ANSI/TIA* 854: 1000BASE-TX

*ANSI/TIA* 568-C.2, 862 Building Automation

*ICEA* S-102-700 (Category 6)  
S-116-732 (Category 6 and 6A)

*ROHS* Compliant Directive 2011/65/EU

### Cross Section



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# Cable

## Ordering Information

**NOTE** Monaco ships all cable on 1,000 ft. spools.

### Plenum Cables

Part Number	Description
<b>624-044-00</b>	CAT6 Cable - Plenum Rated, Green Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-045-00</b>	CAT6 Cable - Plenum Rated, Purple Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-046-00</b>	CAT6 Cable - Plenum Rated, Yellow Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-047-00</b>	CAT6 Cable - Plenum Rated, White Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-049-00</b>	CAT6 Cable - Plenum Rated, Blue Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>

### Non-Plenum (Riser) Cables

Part Number	Description
<b>624-034-00</b>	CAT6 Cable - Non-Plenum Rated, Green Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-035-00</b>	CAT6 Cable - Non-Plenum Rated, Purple Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-036-00</b>	CAT6 Cable - Non-Plenum Rated, Yellow Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-037-00</b>	CAT6 Cable - Non-Plenum Rated, White Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-039-00</b>	CAT6 Cable - Non-Plenum Rated, Blue Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-Retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>

### Associated Part

Part Number	Description
<b>624-050-00</b>	CAT6A Cable - OSP Broadband, Black Jacket <ul style="list-style-type: none"> <li>• 10BASE-T through 10GBASE-T Ethernet</li> <li>• 23 AWG solid annealed copper</li> <li>• U/FTP - Unshielded/Foiled Twisted Pair</li> <li>• Jacket: OSP-grade Polyethylene</li> <li>• Nominal Cable Diameter: 0.39 in (9.906 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>



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# Cable

## Cable, CAT6A OSP Broadband 624-050-00



**Color Coding**

- Green-green
- Brown-brown
- Orange-orange
- Blue-blue

**Jacket** Black, Polyethylene

**Insulation** Polyolefin

**Separator** Polyolefin cross-web

**Dry Water Block** SAP powder

**Core** PFM gel filled, water repellent

**Length** 1,000 ft.

**Cable Type** OSP Broadband, CAT6A

**Maximum Pull Force** 25 lb (110 N)

**Nominal Cable Diameter** 0.39 in. (9.906 mm)

**Cable Weight** 72 lb/1,000 ft.

**Temperature Rating** -40°F to 176°F (-40°C to 80°C)

**Impedance** 100 ± 15 ohms

**Velocity of Propagation** 68% (% speed of light)

**Standards Compliance:**

**Fire Rating** General Purpose

**ANSI/TIA** 568-C.2

**ANSI/ICEA** S-107-704-2006

**RoHS** Compliant

### Features

- Outdoor, Category 6A data cable
- Sunlight and weather resistant outer jacket
- Transmission performance characterized to 500 MHz
- Dry block between shield/armor and inner jacket
- Lashed aerial, underground conduit or low-risk direct burial

### Specifications

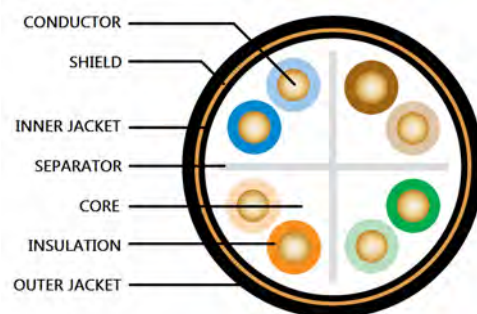
**Application** 10BASE-T through 10GBASE-T Ethernet

**Conductors** 23 AWG solid annealed copper

**Shield** U/FTP - Unshielded/Foiled Twisted Pair

**Conductor Pair Count** Four pair

### Cross Section



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# Cable

## Ordering Information

**NOTE** Monaco ships all cable on 1,000 ft. spools.

Part Number	Description
<b>624-050-00</b>	CAT6A Cable - OSP Broadband, Black Jacket <ul style="list-style-type: none"> <li>• 10BASE-T through 10GBASE-T Ethernet</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/FTP - Unshielded/Foiled Twisted Pair</li> <li>• Jacket: OSP-grade Polyethylene</li> <li>• Nominal Cable Diameter: 0.39 in. (9.906 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>

## Associated Parts

### Plenum Cables

Part Number	Description
<b>624-044-00</b>	CAT6 Cable - Plenum Rated, Green Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in. (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-045-00</b>	CAT6 Cable - Plenum Rated, Purple Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in. (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-046-00</b>	CAT6 Cable - Plenum Rated, Yellow Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in. (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-047-00</b>	CAT6 Cable - Plenum Rated, White Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in. (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>

Part Number	Description
<b>624-049-00</b>	CAT6 Cable - Plenum Rated, Blue Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Low Smoke, Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.205 in. (5.207 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>

### Non-Plenum (Riser) Cables

Part Number	Description
<b>624-034-00</b>	CAT6 Cable - Non-Plenum Rated, Green Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in. (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-035-00</b>	CAT6 Cable - Non-Plenum Rated, Purple Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in. (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-036-00</b>	CAT6 Cable - Non-Plenum Rated, Yellow Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in. (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-037-00</b>	CAT6 Cable - Non-Plenum Rated, White Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in. (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>
<b>624-039-00</b>	CAT6 Cable - Non-Plenum Rated, Blue Jacket <ul style="list-style-type: none"> <li>• 1000BASE-T, 100BASE-TX, 10BASE-T</li> <li>• 23 AWG solid bare annealed copper</li> <li>• U/UTP Unshielded Twisted Pair</li> <li>• Jacket: Flame-retardant PVC</li> <li>• Nominal Cable Diameter: 0.220 in. (5.588 mm)</li> <li>• Impedance: 100 ± 15 ohms</li> </ul>



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# Antenna Systems

## Antenna Systems Catalog Section

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### Section 17. Antenna Systems

#### VHF Antennas

VHF Antenna, Omnidirectional . . . . .	190-211-0x, 190-212-00, 190-400-00, 190-418-xx
VHF Antenna, Yagi Directional . . . . .	190-401-xx

#### UHF Antennas

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UHF Antenna, Yagi Directional . . . . .	190-410-xx

#### Antenna Mounting Hardware

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Antenna Mount Clamp Set . . . . .	199-056-00

#### Coaxial Cables

Coaxial Cable, 50 ohm, Mini RG-8X . . . . .	620-023-00, 625-100-0x, 626-000-0x
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Coaxial Cable, 50 ohm, 1/4 in. Helix, Superflex . . . . .	620-029-00
Coaxial Cable, 50 ohm, 1/2 in. Helix, Superflex . . . . .	620-030-00
Coaxial Cable, 50 ohm, 1/2 in. Helix, LDF . . . . .	620-031-00
Coaxial Cable, 50 ohm, 5/8 in. Helix, LDF . . . . .	620-032-00
Coaxial Cable, 50 ohm, 7/8 in. Helix, Foam . . . . .	620-033-00

#### Coaxial Connectors, Adaptors

Ground Rod and Clamp, Copper, for Lightning . . . . .	661-000-00, 661-001-00
Air Terminal Hardware, Copper, for Lightning . . . . .	661-002-00, 661-004-00

#### Crimp Kit

Coaxial Cable Tool Kit . . . . .	303-000-00
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#### Lightning Arrestors

Lightning Arrestors and Kits . . . . .	198-021-xx, 198-022-xx
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## VHF Antennas

# Antenna Systems Catalog Section

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### VHF Antennas

VHF Antenna, Omnidirectional . . . . .	190-211-0x, 190-212-00, 190-400-00, 190-418-xx
VHF Antenna, Yagi Directional . . . . .	190-401-xx

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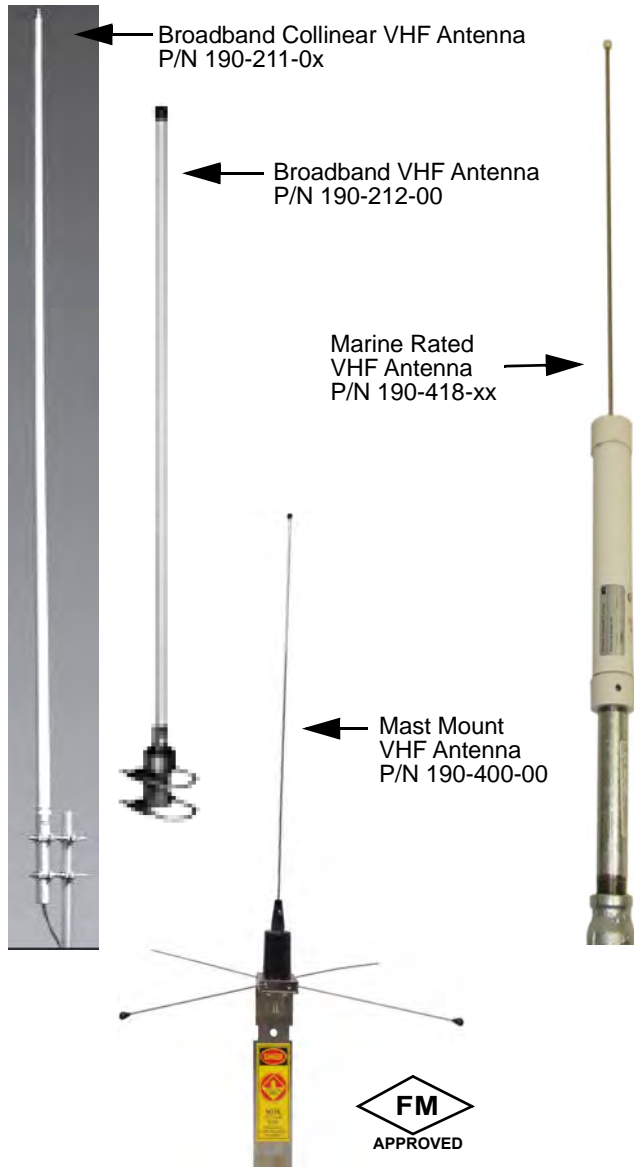
## Antenna Systems

### VHF Antenna, Omnidirectional

190-211-0x, 190-212-00, 190-400-00, 190-418-xx

#### Description

These Omnidirectional VHF antennas transmit and receive VHF signals in any horizontal direction between a transceiver and radio frequency modem connected to the Central Receiving System.



#### Broadband Collinear Antennas

P/N 190-211-0x

These antennas are built to withstand corrosive gases, ultraviolet radiation, icing, salt spray, acid rain, and windblown abrasives. All junctions are fully soldered to prevent RF intermodulation.

#### Weather Resistant Antenna

P/N 190-212-00

These rugged construction, small size antennas feature a broad frequency band. Radiating elements are constructed of copper alloy, encased in a weather resistant low loss fiberglass radome. Ideal for use as emergency backup antennas. Their size and mounting fixtures allow for easy storage and fast installation.

#### BSA-1 VHF Omnidirectional Antenna

P/N 190-400-00

These are the primary antennas used with BTs, M-Panels, M Addressable Panels, and RFMs that operate in the VHF frequency range.

#### Marine Rated VHF Antenna

P/N 190-418-xx

The Marine Rated VHF antenna is a painted aluminum tube with a large diameter, high tensile strength, stainless steel whip rod with a protective ball at the tip.

During operation, this antenna exhibits an excellent propagation pattern with a low angle of radiation. Corrosion resistant materials provide years of optimum performance under the most severe weather and vibration conditions.

#### Specifications

P/N 190-211-0x\*

Description VHF, Omnidirectional  
Broadband Collinear Antenna

Material Heavy Duty Fiberglass

Frequency 138–175 MHz, 8 bands



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# Antenna Systems

**Connector** Recessed, Type N Female

**Polarization** Vertical

**Power Rating** 500 W

**Gain** 6 dBd

**Impedance** 50 ohms nominal

**VSWR** 1.5 to 1 or less

**Beam Width** 20 degrees

**Lightning Protection** DC ground

**Dimensions** P/N 190-211-01 and P/N 190-211-02:  
256 in. x 2.75 in. (650 cm x 7 cm)  
Other Antennas: 244 in. x 2.75 in.  
(620 cm x 7 cm)

**Weight** 43 lb (20 kg) (antenna and clamps)

**Wind Rating** 150 mph (241 km/h) without ice,  
125 mph (201 km/h) with 0.5 in. ice  
Bending moment at top clamp:  
P/N 190-211-01 and P/N 190-211-02:  
1,090 ft-lb;  
Other Antennas: 1,010 ft-lb

\* "-0x" indicates frequency

## P/N 190-212-00

**Description** VHF, Omnidirectional  
Fixed, Weather Resistant Antenna

**Material** Fiberglass Radome

**Frequency** 118–174 MHz  
Specify frequency when ordering.

**Connector** Bottom location, Type N Female

**Polarization** Vertical

**Power Rating** 100 W

**Gain** 0 dBd

**Impedance** 50 ohms nominal

**VSWR** 1.5 to 1 or less

**Beam Width** 80 degrees

**Lightning Protection** Direct ground

**Overall Height** 4.7 ft. (1.43 m)

**Weight** 1.6 lb (1 kg)  
(without mounting hardware)

**Wind Rating** 125 mph (200 km/h)  
Max Wind Loading Area: 0.3 sq. ft.  
Bending moment 1 in. below top  
mounting pipe, Nm: 25.3 ft-lb  
Wind load, side, N: 10.34 ft-lb

## P/N 190-400-00

**Description** VHF, Omnidirectional  
BSA-1, Mast Mount Antenna

**Material** Stainless Steel

**Frequency** 136–174 MHz  
Must be cut to frequency.  
Monaco trimming service available.

**Connector** PL-259 Female

**Polarization** Vertical

**Gain** 3 dBd, 5/8 wave ground plane

**Impedance** 50 ohms nominal

**VSWR** 1.5 to 1 or less

**Wind Rating** 100 mph (161 km/h)

**Standards Compliance** FM Approval  
BSA-1 antenna is standard for  
frequencies in the VHF range.

## P/N 190-418-xx\*

**Description** VHF, Omnidirectional  
Marine Rated Antenna

**Material** Aluminum

**Frequency** 122–300 MHz

**Connector** PL-259 Female

**Power Rating** 100 W maximum

**Gain** 0 dBd

**Impedance** 50 ohms nominal

**VSWR** 1.5 to 1 or less

**Overall Height** 4.5 ft. (1.38 m)

**Weight** ≈2.5 lb (≈1.1 kg)

**Wind Rating** 100 mph (161 km/h)

\* "-xx" indicates frequency



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# Antenna Systems

## Ordering Information

### Antenna

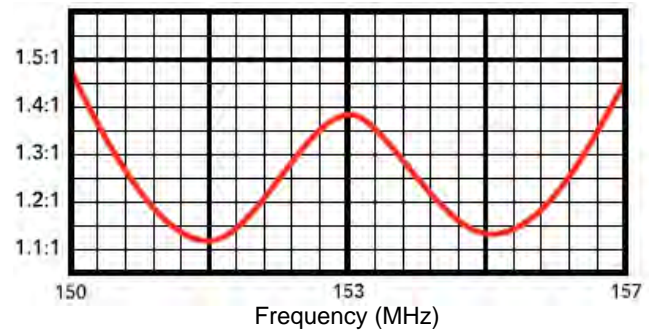
Part Number	Description
<b>190-211-01</b>	VHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 138–144 MHz, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-211-02</b>	VHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 144–151 MHz, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-211-03</b>	VHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 150–157 MHz, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-211-04</b>	VHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 156–164 MHz, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-211-05</b>	VHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 158–166 MHz, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-211-06</b>	VHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 161–168 MHz, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-211-07</b>	VHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 167–172.5 MHz, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-211-08</b>	VHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 171–175 MHz, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-212-00</b>	VHF Antenna, omnidirectional, 0 dBd gain, fiberglass, 118–174 MHz, N female, weather resistant; must specify frequency when ordering
<b>190-400-00</b>	BSA-1 VHF Antenna, omnidirectional, 3 dBd gain, 136–174 MHz, PL-259 female, mounting hardware, ground clamp, coaxial cable seal; Must be cut to frequency—Optional Monaco trimming service available, P/N 199-910-00
<b>190-418-xx</b>	VHF Antenna kit, omnidirectional, 0 dBd gain, marine rated, 122–300 MHz, PL-259 female; specify frequency (-xx) when ordering
<b>NOTE</b> Broadband collinear antennas include a dual clamp set (for mounting to a 1.5–3.5 in. outside diameter support pipe) and a 24 in. removable RG-213 N male jumper.	

### Associated Parts

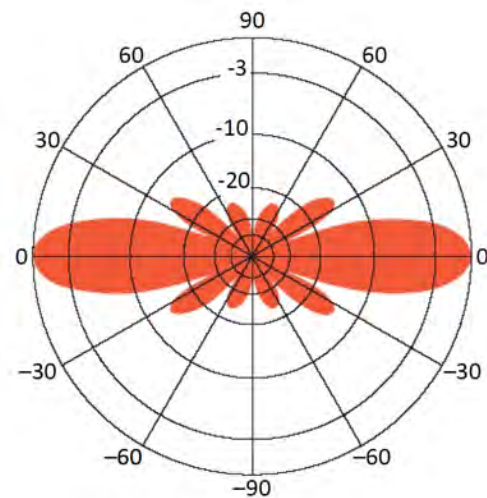
Part Number	Description
<b>199-001-00</b>	Spare 54 in. Antenna Whip for P/N 190-400-00; customer must cut antenna whip to frequency
<b>199-002-00</b>	Spare VHF Coil for P/N 190-400-00
<b>643-554-00</b>	Adaptor PL-259 female to N male
<b>164-004-03</b>	Coaxial Seal, 10 in. long
<b>199-057-00</b>	Antenna Mounting Kit, low profile, marine rated, 4 ft. gold stanchion and clamp set

## Broadband Collinear Antennas

### Typical VSWR Response, P/N 190-211-0x



### Vertical Plane Radiation Pattern, P/N 190-211-0x



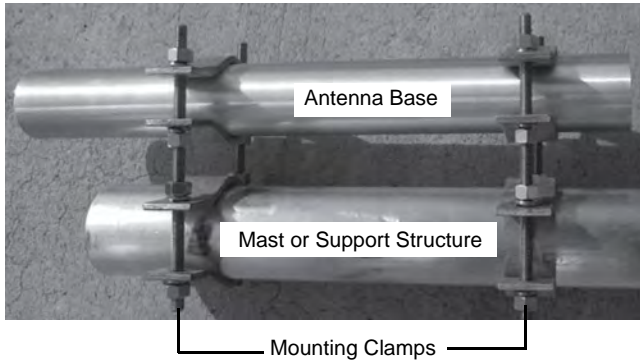
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# Antenna Systems

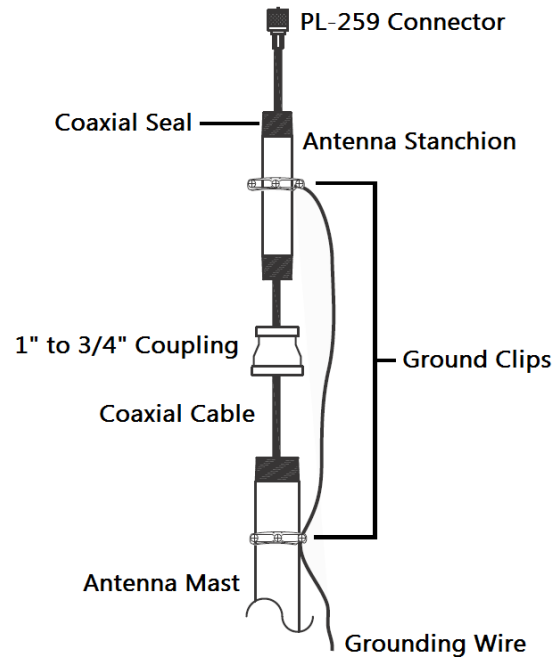
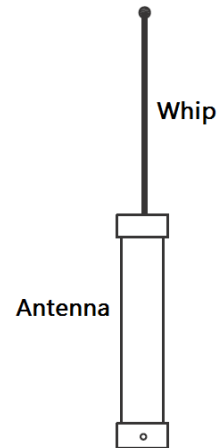
## Mounting Clamps



Broadband collinear antennas (190-211-0x) include a dual-clamp set for mounting to a 1.5 in. to 3.5 in. (OD) support pipe and a 24 in. removable N male jumper. Stand-off and top mounts are also available.

Requires a lightning surge protector for additional surge protection.

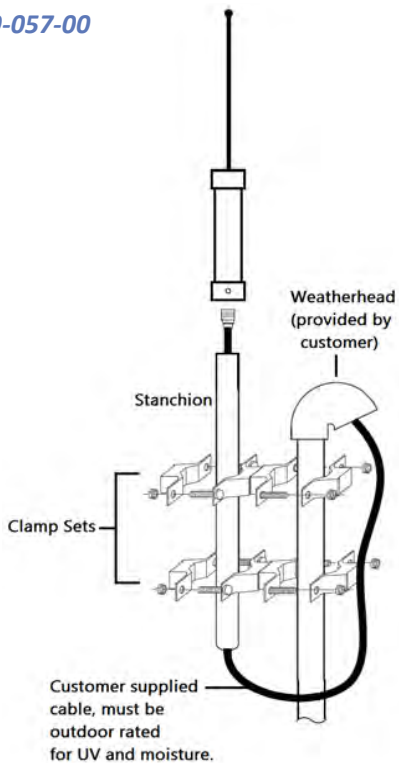
## Standard Components



## Antenna Components

### Optional Mounting Components

P/N 199-057-00



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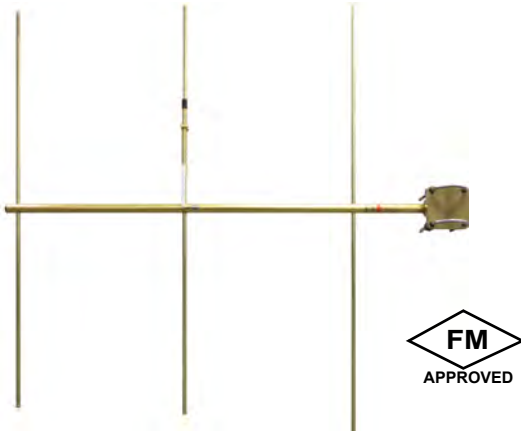


# Antenna Systems

## VHF Antenna, Yagi Directional 190-401-xx

### Description

These directional antennas transmit and receive VHF signals between a transceiver and the radio frequency modem connected to the Central Receiving System.



Gold anodized Yagi Directional antennas, transmit and receive in one direction; used to transmit VHF signals over longer distances or in areas where significant interference exists.

Customer tuning required, comes with N female connector with PL-259 female adaptor, weather seal, and aluminum mounting kit with stainless steel hardware.

### Specifications

<b>P/N 190-401-xx*</b>	VHF, Yagi Directional BSA-2
<b>Material</b>	Aluminum
<b>Frequency</b>	P/N 190-401-10: 136–142 MHz P/N 190-401-11: 142–150 MHz P/N 190-401-12: 150–158 MHz P/N 190-401-13: 158–166 MHz P/N 190-401-14: 166–174 MHz
<b>Connector</b>	N Female (RF adaptor for PL-259 Female included)
<b>Polarization</b>	Vertical
<b>Power</b>	300 W Maximum
<b>Gain</b>	7.1 dBd

*Front to Back Ratio* 17 dBd

*Impedance* 50 ohms nominal

*VSWR* 2 to 1 or less

*Wind Rating* 150 mph (241 km/h) without ice,  
80 mph (129 km/h) with 0.5 in. ice

*Beam Width* Horizontal: 78 degrees  
Vertical: 74 degrees

*Tuning* See cutting chart that ships with  
antenna

*Standards Compliance* FM Approval,  
BSA-2 directional antenna is optional  
for use in the VHF range

\* "xx" indicates frequency

### Ordering Information

Part Number	Description
<b>190-401-10</b>	BSA-2, VHF 3-element Yagi Directional Antenna, 136–142 MHz, N female connector with PL-259 female adaptor, mounting hardware, and coaxial cable seal; customer must cut to frequency
<b>190-401-11</b>	BSA-2, VHF 3-element Yagi Directional Antenna, 142–150 MHz, N female connector with PL-259 female adaptor, mounting hardware, and coaxial cable seal; customer must cut to frequency
<b>190-401-12</b>	BSA-2, VHF 3-element Yagi Directional Antenna, 150–158 MHz, N female connector with PL-259 female adaptor, mounting hardware, and coaxial cable seal; customer must cut to frequency
<b>190-401-13</b>	BSA-2, VHF 3-element Yagi Directional Antenna, 158–166 MHz, N female connector with PL-259 female adaptor, mounting hardware, and coaxial cable seal; customer must cut to frequency
<b>190-401-14</b>	BSA-2, VHF 3-element Yagi Directional Antenna, 166–174 MHz, N female connector with PL-259 female adaptor, mounting hardware, and coaxial cable seal; customer must cut to frequency

### Associated Parts

Part Number	Description
<b>643-554-00</b>	Adaptor PL-259 female to N male
<b>164-004-03</b>	Coaxial Seal, 10 in. long



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## UHF Antennas

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#### UHF Antennas

UHF Antenna, Omnidirectional . . . . .	190-216-xx, 190-249-00, 190-403-xx, 190-409-xx, 190-417-xx
UHF Antenna, Yagi Directional . . . . .	190-410-xx

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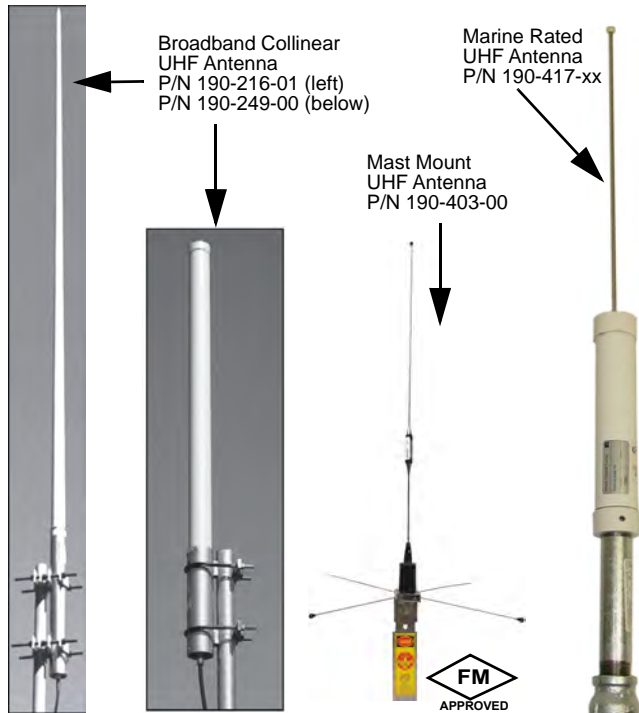
# Antenna Systems

## UHF Antenna, Omnidirectional

190-216-xx, 190-249-00, 190-403-xx, 190-409-xx, 190-417-xx

### Description

UHF Omnidirectional antennas transmit and receive signals between an UHF transceiver and the radio frequency modem that is connected to the Central Receiving System.



### Marine Rated Antennas P/N 190-417-xx

The Marine Rated Antennas have a large diameter, high tensile strength, stainless steel whip rod with a protective ball at the tip. During operation, this antenna exhibits an excellent propagation pattern with a low angle of radiation. Corrosion resistant materials provide years of optimum performance under the most severe weather and vibration conditions.

**NOTE** UHF antennas require low loss cabling. N-type and BNC connectors are preferred, except when the antenna has only a PL-259 connector.

### Specifications

#### P/N 190-216-xx\*

<i>Description</i>	UHF, Omnidirectional Broadband Collinear Antenna
<i>Material</i>	Heavy Duty Fiberglass
<i>Frequency</i>	P/N 190-216-01: 405–440 MHz P/N 190-216-02: 445–480 MHz
<i>Connector</i>	Recessed, Type N Female
<i>Power Rating</i>	500 W
<i>Gain</i>	6 dBd
<i>Impedance</i>	50 ohms nominal
<i>VSWR</i>	1.5 to 1 or less
<i>Beam Width</i>	18 degrees
<i>Lightning Protection</i>	DC ground
<i>Dimensions</i>	P/N 190-216-01: 101 in. x 2.375 in. (256.54 cm x 6.03 cm) P/N 190-216-02: 94 in. x 2.375 in. (238.76 cm x 6.03 cm)
<i>Weight</i>	P/N 190-216-01: 22 lb (10 kg) P/N 190-216-02: 21 lb (9.5 kg)
<i>Wind Rating</i>	P/N 190-216-01: 185 mph (298 km/h) without ice, 155 mph (249 km/h) with 0.5 in. ice P/N 190-216-02: 150 mph (241 km/h) without ice, 125 mph (201 km/h) with 0.5 in. ice

\* "xx" indicates the frequency

### Broadband Collinear Antennas P/N 190-216-xx and P/N 190-249-00

These antennas are built to withstand corrosive gases, ultraviolet radiation, icing, salt spray, acid rain, and windblown abrasives. The antennas can mount to the top or side of a tower. All junctions are fully soldered to prevent RF intermodulation

### BSA-3 and BSA-8 Antennas P/N 190-403-xx and P/N 190-409-xx

These are the primary antennas used with BTs, M-Panels, M Addressable Panels, and RFMs that operate in the UHF frequency range.



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# Antenna Systems

## P/N 190-249-00

**Description** UHF, Omnidirectional, Broadband Collinear Mast Mount Antenna

**Material** Brass and Copper elements

**Frequency** 406–512 MHz

**Connector** Recessed N Female

**Power Rating** 500 W

**Gain** 2.5 dBd

**Impedance** 50 ohms nominal

**VSWR** 1.5 to 1 or less

**Vertical Beam Width** 38 degrees

**Dimensions** 42 in. L x 2.75 in. OD (106.7 cm x 7.0 cm)

**Tower Weight (antenna + clamps)** 9 lb (4.1 kg)

**Wind Rating** 200 mph (321 km/h) without ice, 150 mph (241 km/h) with 0.5 in. ice

**Material** Stainless Steel

**Frequency** 406–420 MHz, 420–430 MHz, 450–470 MHz  
Customer must cut to frequency

**Connector** BNC Male

**Polarization** Vertical

**Gain** 3.4 dBd, 5/8 wave ground plane

**Impedance** 50 ohms nominal

**VSWR** 1.5 to 1 or less

**Wind Rating** 100 mph (161 km/h)

\* “xx” indicates the frequency.

## P/N 190-417-xx\*

**Description** UHF, Omnidirectional Marine Rated Antenna

**Material** Anodized Aluminum/Stainless Steel

**Frequency** 300 MHz–3 GHz

**Connector** PL-259 Female

**Power Rating** 100 W maximum

**Gain** 0 dBd

**Impedance** 50 ohms nominal

**VSWR** 1.15 to 1 or less

**Beam Width** 87 degrees

**Height** 25 in. (63.5 cm)

**Weight** ≈2.5 lb (≈1.1 kg)

**Wind Rating** 100 mph (161 km/h)

\* “xx” indicates frequency

## P/N 190-403-xx\*

**Description** UHF, Omnidirectional BSA-3, Mast Mount Antenna

**Material** Stainless Steel

**Frequency** 406–420 MHz, 420–440 MHz, 450–470 MHz  
Must be cut to frequency. Optional Monaco trimming service available.

**Connector** PL-259 Female

**Polarization** Vertical

**Gain** 3.4 dBd, 5/8 wave ground plane

**Impedance** 50 ohms nominal

**VSWR** 1.5 to 1 or less

**Wind Rating** 100 mph (161 km/h)

**Standards Compliance** FM Approval  
BSA-3 antenna is standard for frequencies in the UHF range

\* “xx” indicates the frequency.

## P/N 190-409-xx\*

**Description** UHF, Omnidirectional BSA-8, Magnetic Mount Antenna

## Ordering Information

Part Number	Description
190-216-01	UHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 405–440 MHz continuous, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>
190-216-02	UHF Antenna, omnidirectional, 6 dBd gain, fiberglass, 445–480 MHz continuous, N female, includes mounting clamps and N male jumper; see <b>NOTE</b>



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# Antenna Systems

Part Number	Description
<b>190-249-00</b>	UHF Antenna, omnidirectional, 2.5 dbd gain, fiberglass, 406–512 MHz continuous, includes mounting clamps and N male jumper; see <b>NOTE</b>
<b>190-403-01</b>	BSA-3 UHF Antenna, omnidirectional, 3.4 dbd gain, 406–420 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial seal, must be cut to frequency; optional Monaco trimming service available, P/N 199-910-00
<b>190-403-02</b>	BSA-3 UHF Antenna, omnidirectional, 3.4 dbd gain, 420–440 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial seal, must be cut to frequency; optional Monaco trimming service available, P/N 199-910-00
<b>190-403-04</b>	BSA-3 UHF Antenna, omnidirectional, 3.4 dbd gain, 450–470 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial seal, must be cut to frequency; optional Monaco trimming service available, P/N 199-910-00
<b>190-409-01</b>	BSA-8 UHF Antenna, omnidirectional, 3.4 dbd gain, 406–420 MHz, magnetic-mount, portable, BNC male connector; customer must cut to frequency
<b>190-409-02</b>	BSA-8 UHF Antenna, omnidirectional, 3.4 dbd gain, 420–430 MHz, magnetic-mount, portable, BNC male connector; customer must cut to frequency
<b>190-409-04</b>	BSA-8 UHF Antenna, omnidirectional, 3.4 dbd gain, 450–470 MHz, magnetic-mount, portable, BNC male connector; customer must cut to frequency
<b>190-417-xx</b>	UHF Antenna Kit, omnidirectional, 0 dbd gain, marine rated, 300 MHz – 3 GHz; specify frequency (-xx) when ordering
<b>NOTE</b> Broadband collinear antennas include a dual clamp set (for mounting to a 1.5 in. to 3.5 in. outside diameter support pipe) and a 24 in. removable RG-213 N male jumper.	

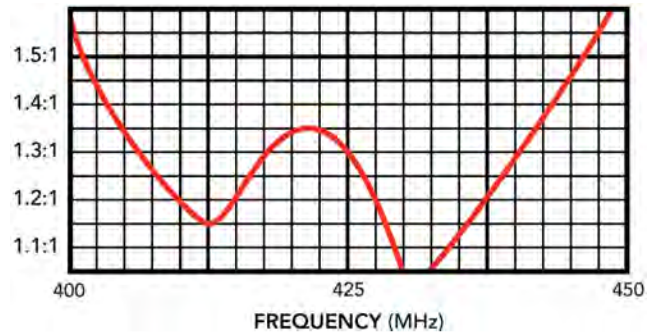
## Associated Parts

Part Number	Description
<b>190-414-00</b>	Spare BSA-3 UHF Omnidirectional Antenna Whip and nose cone, only for replacing P/N 190-403-01 antenna whips, upgrades antenna whip Type I and Type II to current Type III design; customer must cut to frequency
<b>643-554-00</b>	Adaptor PL-259 female to N male
<b>164-004-03</b>	Coaxial Seal, 10 in. long
<b>199-057-00</b>	Antenna Mounting Kit, low profile, marine rated, 4 ft. gold stanchion and clamp set

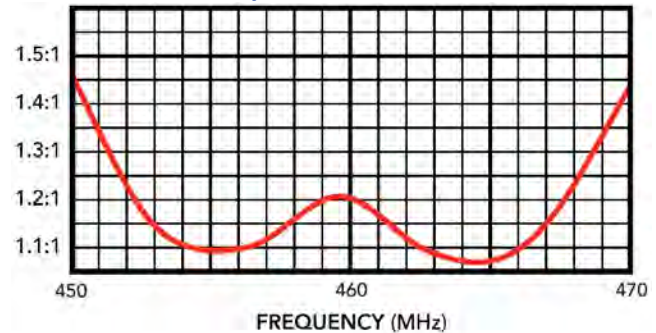
## Performance Graphs

### VSWR vs Frequency: Typical Radiation Pattern

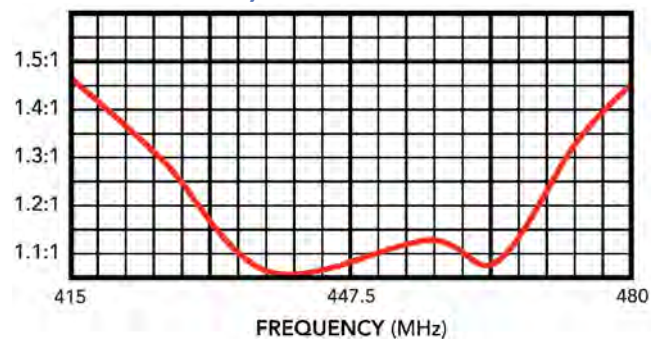
*P/N 190-216-01*



*P/N 190-216-02*



*P/N 190-249-00*



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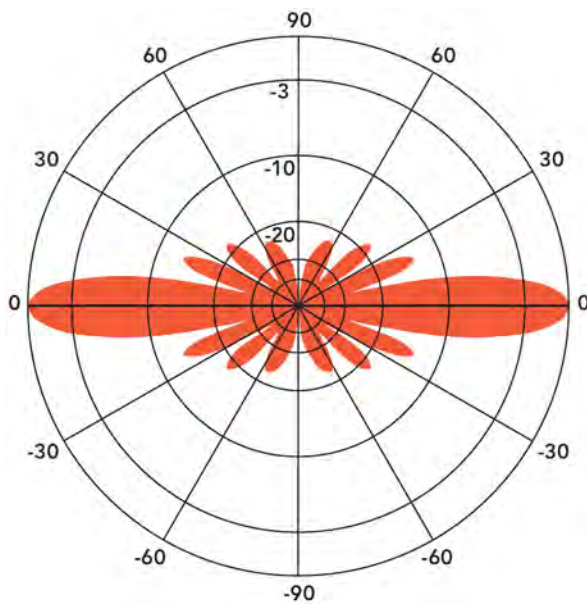
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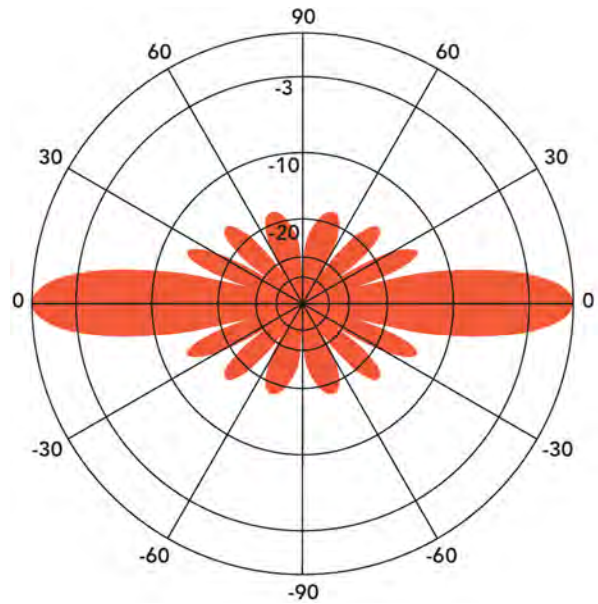
# Antenna Systems

## Vertical Radiation Pattern for Vertical Polarization

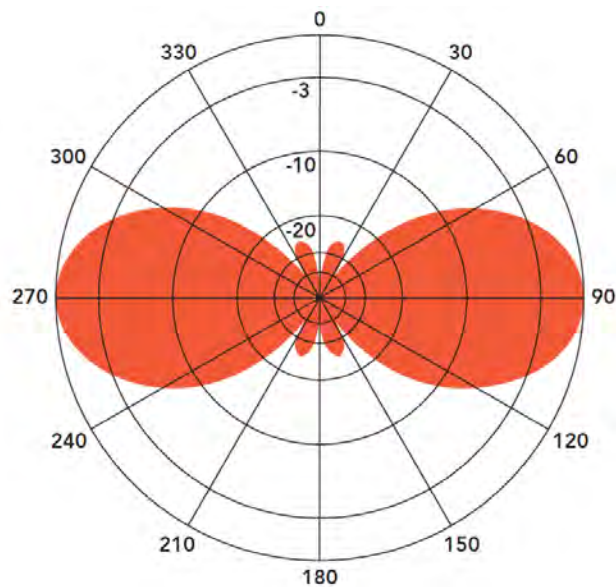
*P/N 190-216-01*



*P/N 190-216-02*



*P/N 190-249-00*



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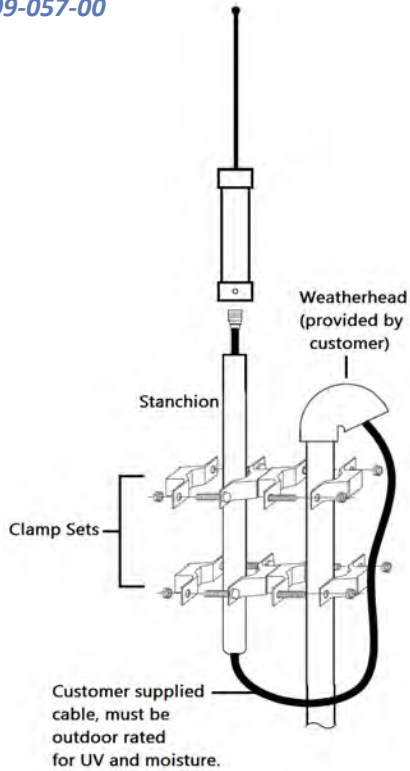


# Antenna Systems

## Antenna Components

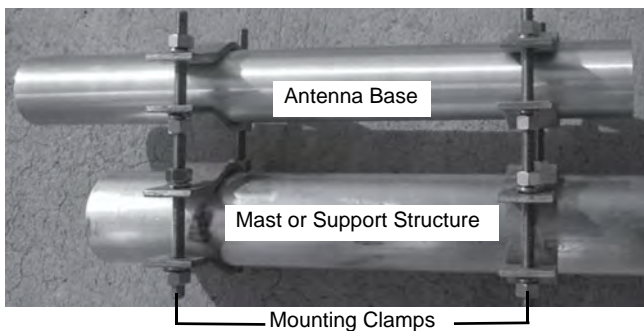
### Optional Mounting Components

P/N 199-057-00



### Mounting Clamps for

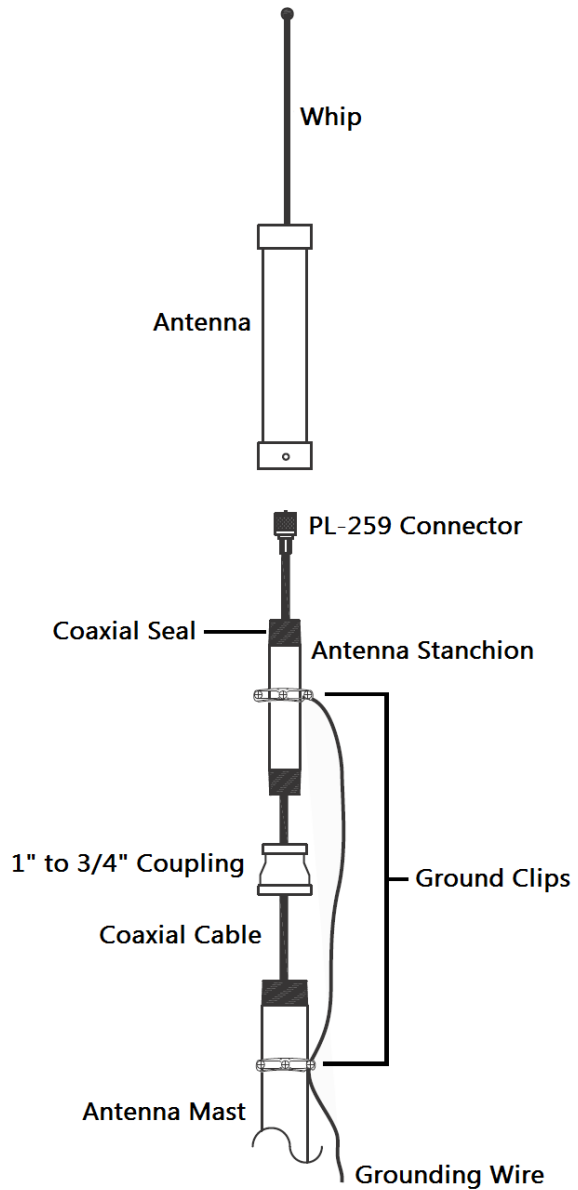
P/N 190-216-xx, P/N 190-249-00



Broadband collinear antennas include a dual-clamp set for mounting to a 1.5 in. to 3.5 in. (OD) support pipe and a 24 in. removable N male jumper. Stand-off and top mounts are also available.

Requires a lightning surge protector for additional surge protection.

## Standard Components



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# Antenna Systems

## UHF Antenna, Yagi Directional 190-410-xx

### Description

These Yagi Directional antennas transmit and receive UHF signals between a transceiver and radio frequency modem connected to the Central Receiving System. They transmit and receive in one direction over longer distances or in areas of significant interference.



### Specifications

<b>P/N 190-410-xx*</b>	UHF, Yagi Directional BSA-9
<b>Material</b>	Aluminum
<b>Mounting</b>	Mast Mounting Antenna comes pre-drilled for included U-bolt mounting hardware which allows the antenna to be mounted to a 1 in. to 2 in. antenna mast.
<b>Frequency</b>	P/N 190-410-01: 406–430 MHz P/N 190-410-02: 450–470 MHz P/N 190-410-03: 420–440 MHz
<b>Connector</b>	PL-259 female

**Polarization** Vertical

**Gain** 9.2 dBd

**Impedance** 50 ohms nominal

**VSWR** 1.5 to 1 maximum

**Horizontal Beam Width** P/N 190-410-01: 54 degrees  
P/N 190-410-02: 53 degrees  
P/N 190-410-03: 56 degrees

**Vertical Beam Width** P/N 190-410-01: 47 degrees  
P/N 190-410-02: 46 degrees  
P/N 190-410-03: 48 degrees

**Wind Rating** 100 mph

**Standards Compliance** FM Approval  
BSA-9 directional antenna is optional for use in the UHF range.

\* "xx" indicates the frequency.

### Ordering Information

Part Number	Description
<b>190-410-01</b>	BSA-9 UHF 5-element Yagi Directional, 406–430 MHz, N female connector with PL-259 female adaptor, mounting hardware, ground clamp, coaxial cable seal
<b>190-410-02</b>	BSA-9 UHF 5-element Yagi Directional, 450–470 MHz, N female connector with PL-259 female adaptor, mounting hardware, ground clamp, coaxial cable seal
<b>190-410-03</b>	BSA-9 UHF 5-element Yagi Directional, 420–440 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial cable seal



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# Antenna Mounting Hardware

## Antenna Systems Catalog Section

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### Antenna Mounting Hardware

Antenna Mounting Hardware.....	199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01
Antenna Mount Clamp Set.....	199-056-00

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# Antenna Systems

## Antenna Mounting Hardware

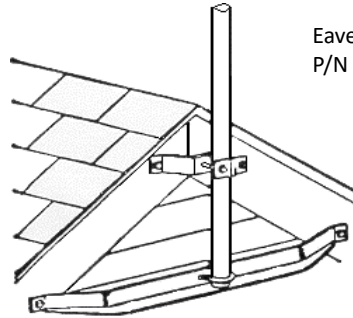
199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

### Description

Mounting methods depend on antenna location and desired height.



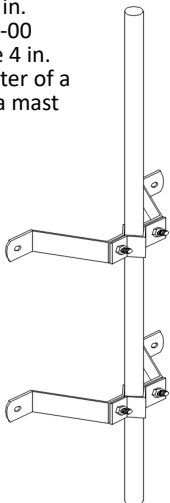
Tripod Mount  
P/N 199-008-00



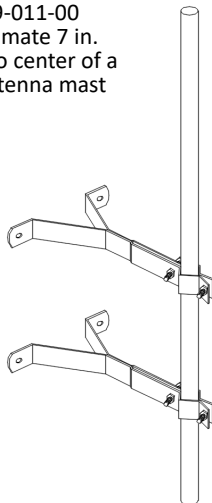
Eaves-mount Pair  
P/N 199-012-00

#### Wall-mount Pairs:

U-bracket, 4 in.  
P/N 199-010-00  
Approximate 4 in.  
offset to center of a  
1 in. antenna mast



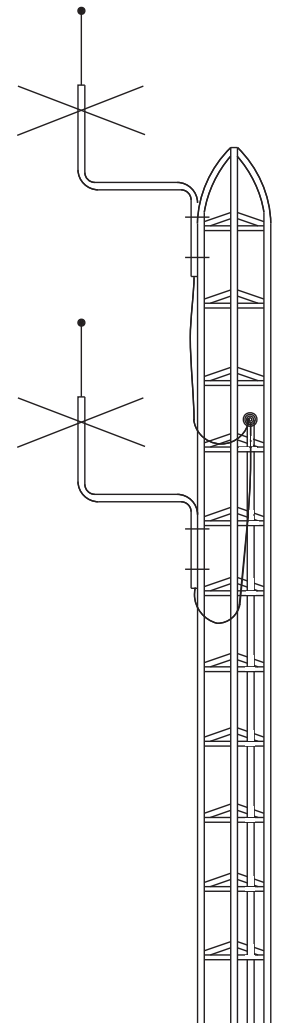
Y-bracket, 7 in.  
P/N 199-011-00  
Approximate 7 in.  
offset to center of a  
1 in. antenna mast



#### Antenna Tower Kit P/N 199-014-01

- Pre-zinc tubing
- Pre-galvanized with baked aluminum paint
- Heat-treated and cadmium-plated hardware
- Single-bolt holes

**NOTE** Conduit, weather-head, and antennas shown but not included.



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# Antenna Systems

## Ordering Information

Part Number	Description
<b>199-008-00</b>	Tripod Mount, 3 ft., heavy duty, use with up to 1.75 in. diameter mast
<b>199-010-00</b>	Wall-mount 4 in. U-Bracket Pair, lag bolts, approximate 4 in. offset to center of a 1 in. antenna mast
<b>199-011-00</b>	Wall-mount 7 in. Y-Bracket Pair, lag bolts, approximate 7 in. offset to center of a 1 in. antenna mast
<b>199-012-00</b>	Eaves-mount Pair, adjustable 45 in. to 60 in. heavy-duty, lag bolts, use with up to 1.5 in. diameter mast
<b>199-014-01</b>	Antenna Tower Kit: 42 ft., three tower sections, top section with 1.25 in. x 5 ft. mast, one 12 in. adjustable house bracket, one motor mount, all assembly hardware

## Associated Parts for Tower, P/N 199-014-01

Part Number	Description
<b>199-013-00</b>	Accessory Pad Kit for Tripod Mount, three 2 in. x 0.25 in. pitch pads, six lag bolts
<b>199-020-00</b>	Tower Section, 10 ft. optional addition for P/N 199-014-01
<b>199-021-00</b>	Adjustable House Bracket, 12 in., for tower section (P/N 199-020-00)
<b>199-022-00</b>	Tower Hinged Base for flat roof or ground foundation, towers must be bracketed or guyed, use with P/N 199-014-01
<b>199-023-00</b>	Tower Non-hinged Base, use with P/N 199-014-01
<b>199-024-00</b>	Adjustable Bracket, 20 to 24 in., for connecting tower to building, use with P/N 199-014-01
<b>199-025-00</b>	Adjustable Bracket, 24 in. to 33 in., for connecting tower to building, use with P/N 199-014-01
<b>199-031-00</b>	Spare Tower, top section



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# Antenna Systems

## Antenna Mount Clamp Set

199-056-00



### Features

- Clamp designed to secure an antenna to a pipe, wooden pole, tower leg, or mast
- Can rotate jaws 90 degrees to mount onto a vertical or horizontal mounting surface
- Outdoor Application

### Specifications

*Clamp Material* Gold iridite aluminum alloy

*Conductor Material* Bare Copper

*Conductor Type* Solid

*Dielectric Material* FEP-Fluorinated Ethylene Propylene

*Impedance* 50 ohm

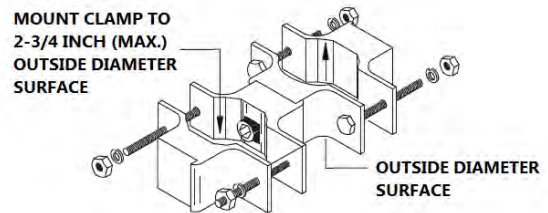
*Compatible Diameter* 1 in. to 2.8 in.  
(25.4 mm to 71.1 mm)

*Standards Compliance* ISO 9001:2015

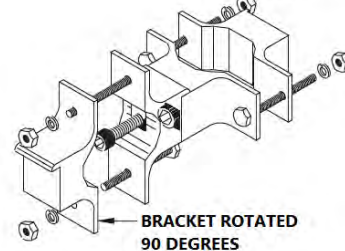
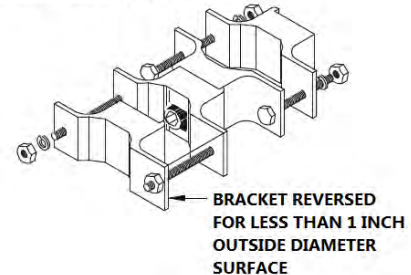
### Ordering Information

Part Number	Description
199-056-00	Antenna Mount Clamp Set

### Mounting Diagrams



VERTICAL MOUNTING



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## Coaxial Cables

### Antenna Systems Catalog Section

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#### Coaxial Cables

Coaxial Cable, 50 ohm, Mini RG-8X .....	620-023-00, 625-100-0x, 626-000-0x
Coaxial Cable, 50 ohm, Low-Loss. ....	620-026-00
Coaxial Cable, 50 ohm, 1/4 in. Helix, Superflex .....	620-029-00
Coaxial Cable, 50 ohm, 1/2 in. Helix, Superflex .....	620-030-00
Coaxial Cable, 50 ohm, 1/2 in. Helix, LDF .....	620-031-00
Coaxial Cable, 50 ohm, 5/8 in. Helix, LDF .....	620-032-00
Coaxial Cable, 50 ohm, 7/8 in. Helix, Foam .....	620-033-00

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## Antenna Systems

### Coaxial Cable, 50 ohm, Mini RG-8X

620-023-00, 625-100-0x, 626-000-0x

#### Description

Miniature 50 ohm coaxial cable is standard in most VHF applications. These types are available:

- **Preassembled Type 1**  
Terminated with a BNC male connector on one end and a PL-259 male connector on the other end. This type connects the lightning arrestor to the building transceiver or the radio frequency modem.
- **Preassembled Type 2**  
Terminated with a PL-259 male connector on each end. This type connects the antenna to the lightning arrestor.
- **Bulk Cable and Connectors**  
Assembled in the field.

#### Specifications

*Nominal Impedance* 50 ohms

*Nominal Inductance* 0.065  $\mu$ H/ft

*Nominal Capacitance* 24.8 pF/ft

*Nominal Attenuation* 100 MHz: 3.1  
(Loss/dB per 100 ft.) 200 MHz: 4.5

*Bend Radius* 2.5 in. minimum

*Outside Diameter* 0.242 in.

*Maximum Power* 200 MHz: 190W  
*Rating* 400 MHz: 110W

*AWG Stranding* 15 AWG stranded (19 x 29) solid  
0.058 in. bare copper conductor

*Dielectric* 0.155 in. diameter foam

*Outer Shield/Jacket* Shield: Braid bare copper, 95%  
Jacket: PVC

*UL Ratings* Temperature: 80°C UL AWM Style 1354  
Flame: UL1685 UL Loading

#### Ordering Information

##### Cable

Part Number	Description
620-023-00	Coaxial Cable, 50 ohm Mini RG-8X, bulk (no connectors), specify length in feet

##### Preassembled Type 1 Coaxial Cable

50 ohm RG-8X miniature coaxial with a PL-259 male connector on one end and a BNC connector on the other.

Part Number	Description
626-000-07	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 1, 5 ft.
626-000-06	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 1, 15 ft.
626-000-05	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 1, 20 ft.
626-000-02	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 1, 40 ft.
626-000-01	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 1, 60 ft.
626-000-03	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 1, 80 ft.
626-000-04	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 1, 100 ft.

##### Preassembled Type 2 Coaxial Cable

50 ohm RG-8X miniature coaxial with a PL-259 male connector on each end.

Part Number	Description
625-100-05	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 2, 2 ft.
625-100-06	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 2, 15 ft.
625-100-00	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 2, 20 ft.



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# Antenna Systems

Part Number	Description
625-100-01	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 2, 40 ft.
625-100-02	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 2, 60 ft.
625-100-03	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 2, 80 ft.
625-100-04	Coaxial Cable, 50 ohm mini RG-8X, preassembled Type 2, 100 ft.

## Associated Parts

Part Number	Description
643-553-00	Connector, crimp, Type PL-259 male
643-527-00	Connector, crimp, Type BNC male
643-556-00	Connector, crimp, Type N male
164-004-00	Coaxial Seal, package of four 12 ft. rolls
303-000-00	Coaxial Cable Tool Kit: crimper, die sets, strippers for mini- and low-loss cable
302-104-00	Replacement Blade Set for cable strippers

## Application

Coaxial cable routes from the antenna to the lightning arrestor (static discharge unit) and from the lightning arrestor to the building transceiver (BT) or M-2/MAAP or RFM. Antenna connections must be weatherproofed with a sealant (P/N 164-004-00).

Application considerations:

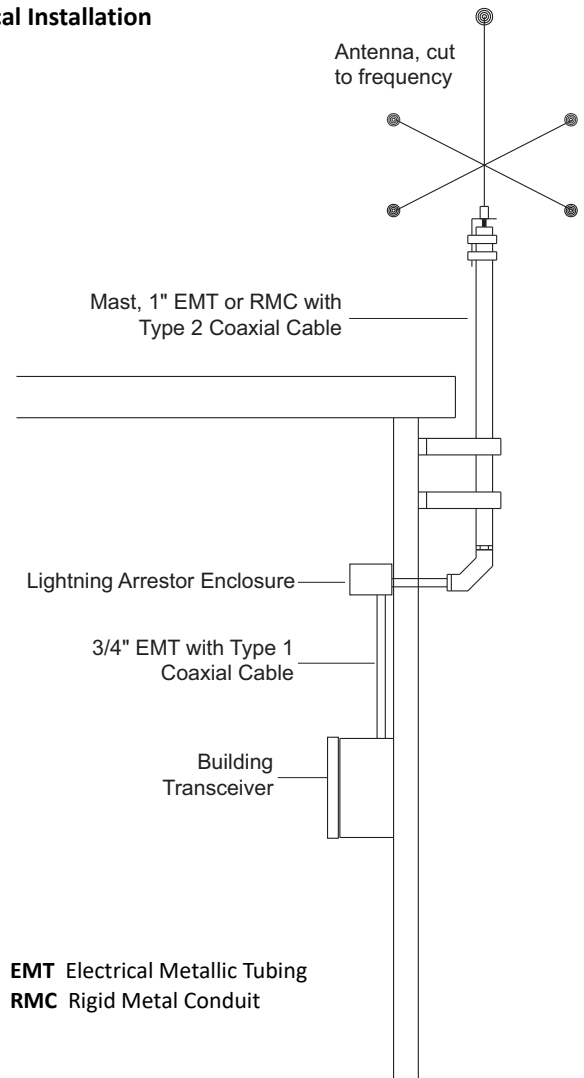
- Monaco recommends enclosing coaxial cable in its own conduit. Conduit penetrating the building should be, at minimum, 3/4 in. rigid metal conduit.
- If possible, the lightning arrestor enclosure should be located so that the penetrating conduit directly enters the enclosure on the inside of the building. If the location prevents, the enclosure must be near as possible to the conduit penetration point.

The coaxial cable should only be long enough to reach the BT, M-2/MAAP, or RFM with a 12 in. to 18 in. service loop that complies with the 2.5 in. minimum bend radius specification. Excess cable increases line loss of the RF signal from the transceiver and decreases

output at the antenna. Monaco recommends the total coaxial cable run be no more than 100 ft. If necessary, the coaxial cable assembly should be cut and reterminated to provide the correct length.

**Important!** The installer must reterminate connectors carefully. Incorrect retermination can severely damage the transceiver.

## Typical Installation



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# Antenna Systems

## Coaxial Cable, 50 ohm, Low-Loss 620-026-00

### Description

All Monaco antenna installations require 50 ohm coaxial cable. Low-loss coaxial is used in UHF and VHF antenna system installations where signal strength is critical. A typical cable run is 100 ft. or less for UHF, 200 ft. or less for VHF. Cable comes in bulk for field assembly.

### Specifications

*Nominal Impedance* 50 ohm

*Nominal Inductance* 0.59  $\mu$ H/ft

*Nominal Capacitance* 24.6 pF/ft

*Minimum Bend Radius* 4 in.

*Outside Diameter* 0.405 in.

*Power* 600 W maximum

*AWG Stranding* 10 AWG, solid bare copper

*Dielectric* Semi-solid polyethylene

*Outer Shield Jacket* PVC

*UL Operating Temperature* -40°F to 176°F (-40°C to 80°C)

### Attenuation (Nominal)

Frequency (MHz)	Attenuation (dB/100 ft.)
100	1.4
200	1.8
400	2.6
700	3.6

### Ordering Information

#### Coaxial Cable

Part Number	Description
620-026-00	Coaxial Cable, 50 ohm, low-loss, specify length in feet

### Connectors and Adaptors

Part Number	Description
643-555-00	Connector crimp Type N male (3 required per BT)
643-530-00	Coaxial Cable Connector Kit: four connector crimp, Type PL-259 male connectors; 1 kit required per BT
643-530-01	Connector crimp Type PL-259 male
643-548-00	Adaptor straight BNC male to Type N female
643-557-00	Connector compression Type BNC male, center crimp or solder pin
643-526-00	Adaptor right-angle BNC male to BNC female
643-529-00	Adaptor straight BNC male to Type PL-259 female

### Associated Parts

Part Number	Description
303-000-00	Coaxial Cable Tool Kit: crimper, die sets, strippers for mini- and low-loss cable
302-104-00	Replacement Blade Set for cable strippers
164-004-00	Coaxial Seal, package of four 12 ft. rolls
164-004-03	Coaxial Seal, 10 in. long
227-625-00	BT-X Low-loss Cable Kit, Type N female

### Application

Coaxial cable connects the antenna to the lightning arrestor, and the lightning arrestor to the transceiver with RF connectors. The antenna connection must be weatherproofed with a sealant (P/N 164-004-00).

Run coaxial cable in its own conduit (should be 3/4 in. rigid metallic). This conduit should enter the lightning arrestor enclosure at the point of building penetration. If this is not possible, the lightning arrestor enclosure should be as near as possible to the conduit penetration. Provide a drip loop where the cable enters conduit (or, if conduit cannot be used, where cable enters the building) to prevent rain or moisture from entering.

Cable should be long enough to provide a 12 in. to 18 in. service loop at lightning arrestor and panel enclosure. Excess cable increases line loss of the signal to and from the transceiver, which can result in a unit "No Reply."



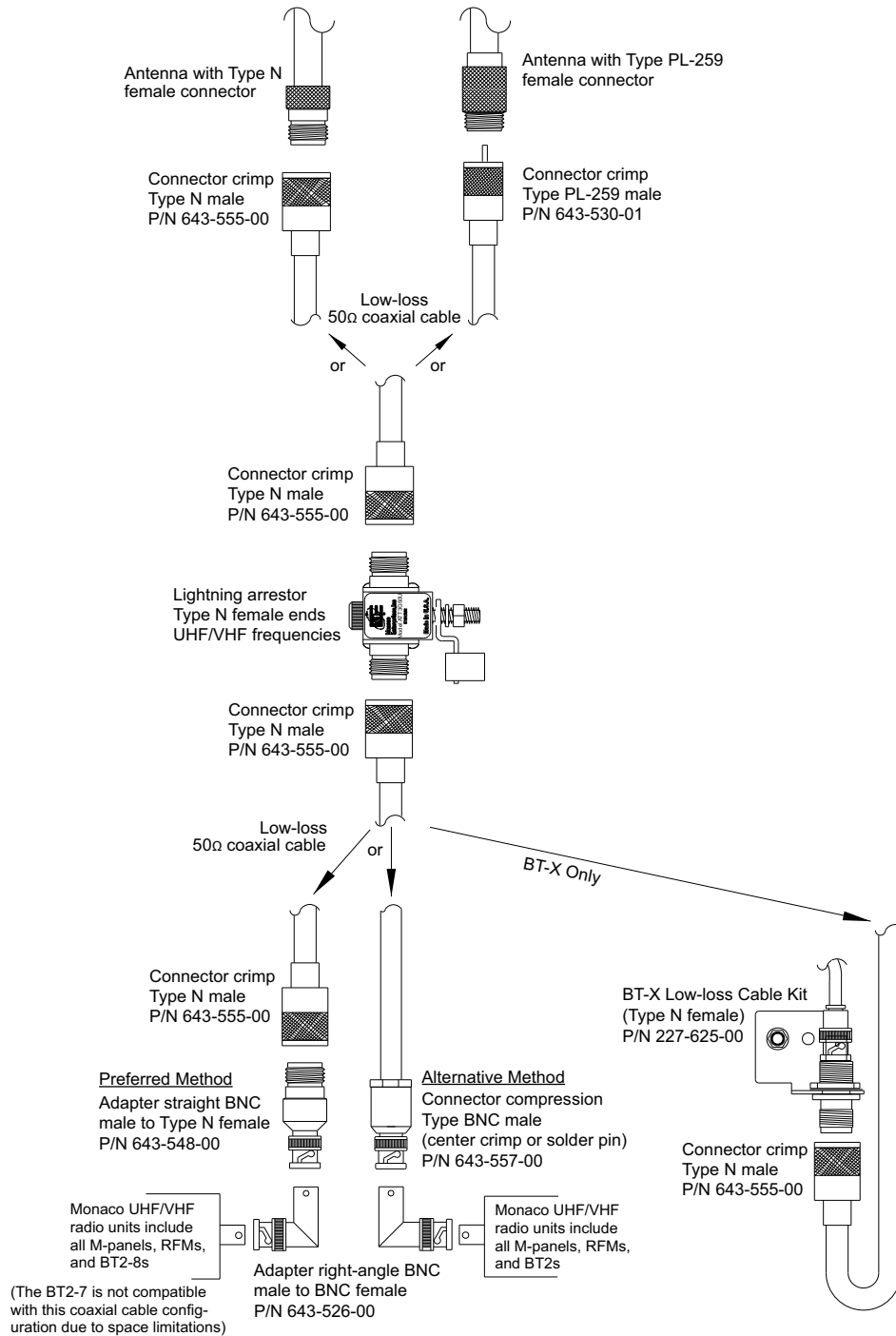
#### Monaco Enterprises, Inc.

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# Antenna Systems

## Application Drawing, UHF



APG-000023 RAV2



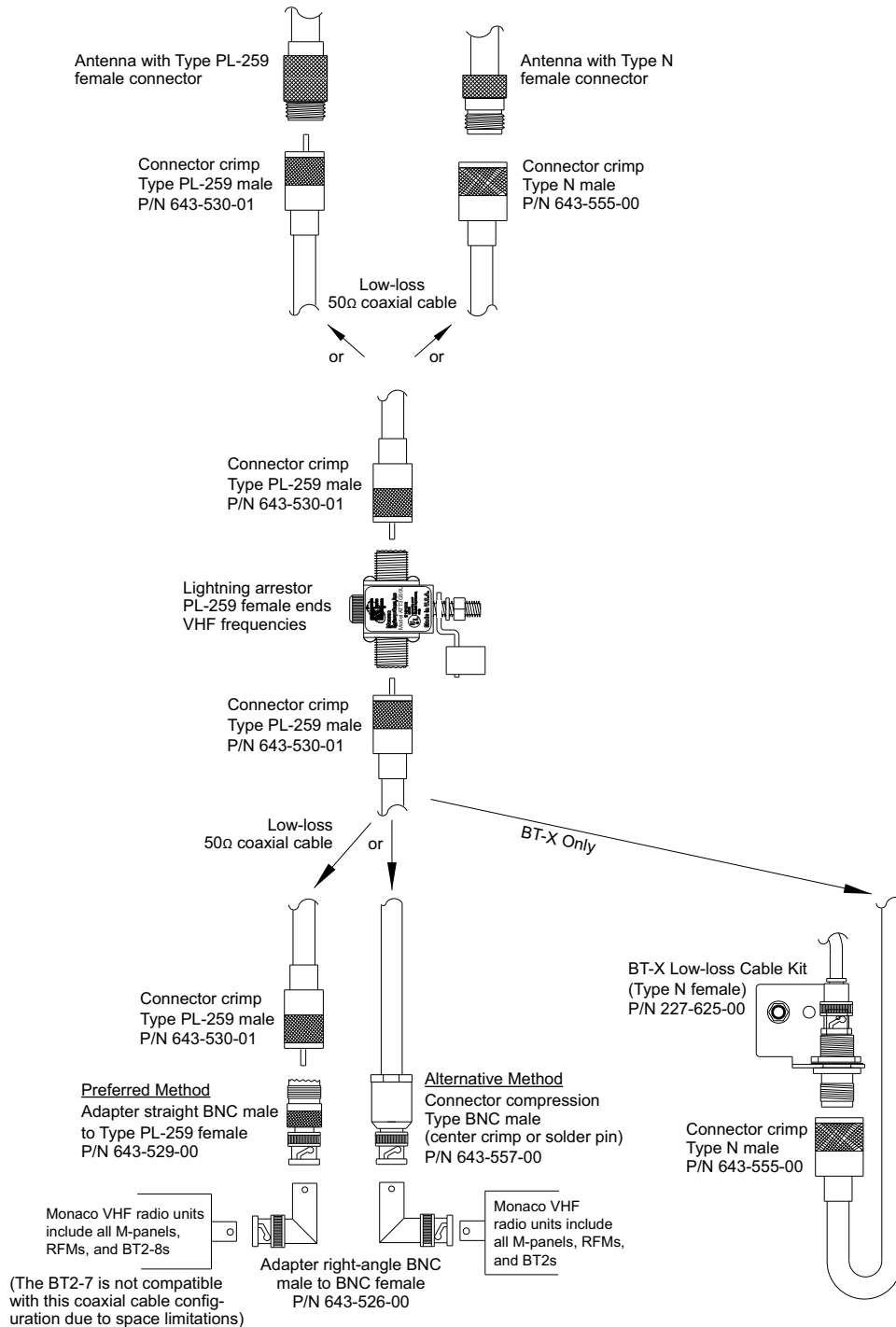
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# Antenna Systems

## Application Drawing, VHF



APG-000024 RAV2



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## Antenna Systems

### Coaxial Cable, 50 ohm, 1/4 in. Heliax, Superflex

620-029-00

#### Description

The 1/4 in. Heliax Superflex Coaxial Cable is a high-grade cable used in UHF and VHF antenna installations. A typical cable run is 90 ft. or less for UHF and 180 ft. or less for VHF. This cable pulls easily through conduit. Check the connector type for your antenna before ordering adaptors or connectors.



#### Specifications

<i>Impedance</i>	50 ohms $\pm$ 1 ohm
<i>Inductance</i>	0.061 $\mu$ H/ft. (0.2 $\mu$ H/m)
<i>Capacitance</i>	24.201 pF/ft. (79.4 pF/m)
<i>Inner Conductor</i>	3 ohms/1,000 ft.
<i>DC Resistance</i>	(9.843 ohms/m)
<i>Outer Conductor</i>	2.199 ohms/1,000 ft.
<i>DC Resistance</i>	(7.216 ohms/m)
<i>Inner Conductor Material</i>	Copper-Clad Aluminum Wire
<i>Outer Conductor Material</i>	Corrugated Copper
<i>Jacket Material</i>	PE
<i>Dielectric Material</i>	Foam PE
<i>Outside Diameter</i>	0.25 in. (6.35 mm)
<i>Cable Weight</i>	0.047 lb per ft. (0.07 kg per m)
<i>Bend Radius</i>	1 in. (25.4 mm)
<i>Number of Bends</i>	20 typical, 15 minimum
<i>Peak Power</i>	6.4 kW
<i>Operating Frequency Band</i>	1 to 18,000 MHz
<i>Operating Temperature</i>	-67°F to 185°F (-55°C to 85°C)

#### Attenuation (Nominal)

Frequency (MHz)	Attenuation (dB/100 ft.)
100	1.795
150	2.210
200	2.563
400	3.673
450	3.906
500	4.128

#### Ordering Information

**IMPORTANT!** If the antenna has an N-type connector, the antenna mast must be 1 in. electrical metallic tubing (EMT). Monaco's installation guidelines require that coaxial cable and connectors fit inside the antenna mast. The inside diameter of 3/4 in. rigid metal conduit is too small for N-type connectors. (However, PL-259 and BNC-type connectors will fit inside 3/4 in. rigid conduit.)

#### Cable

Part Number	Description
<b>620-029-00</b>	Coaxial Cable, 50 ohm, 1/4 in. Heliax, Superflex; specify length in feet <b>NOTE</b> Cable order is non-cancellable and non-refundable.

#### Connectors and Adaptors

Part Number	Description
<b>643-526-00</b>	Adaptor, right-angle BNC male to BNC female
<b>643-545-00</b>	Connector, compression Type N male
<b>643-546-00</b>	Connector, compression Type BNC male
<b>643-547-00</b>	Connector, solder Type PL-259
<b>643-548-00</b>	Adaptor, straight BNC male to Type N female
<b>643-569-00</b>	Adaptor, straight N female to PL-259 male



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# Antenna Systems

## Associated Parts

Part Number	Description
227-625-00	BT-X Low-loss Cable Kit, Type N female
164-004-00	Coaxial Seal, package of four 12 ft. rolls
198-020-00	Lightning Arrestor Replacement ARC Plug/Gas Tube Cartridge for arrestors (P/N 198-022-00)
198-022-00	Lightning Arrestor Kit with N-type UHF/VHF UL Listed Arrestor, with two 10 in. strip coaxial seals, mounting bracket, and terminal lug with hardware
198-022-01	Lightning Arrestor Kit with N-type UHF/VHF UL Listed Arrestor, with two 10 in. strip coaxial seals, mounting bracket, terminal lug with hardware, and 8 in. x 8 in. x 6 in. NEMA 3R enclosure (P/N 081-076-01)
302-101-00	Cutting Tool for 1/4 in. and 1/2 in. FSJ series Heliax
302-102-00	Five Pack Replacement Blades for P/N 302-101-00

## Application

The coaxial cable is routed from the antenna to the lightning arrestor (static discharge unit) and from the lightning arrestor to the building transceiver (BT), conventional or addressable panel, or RFM, etc. The connections at the antenna and lightning arrestor must be weatherproofed with sealant P/N 164-004-00.

**Monaco recommends the coaxial cable be enclosed in its own conduit.**

Minimum 3/4 in. conduit allows clearance for connectors—see “**IMPORTANT!**” on the preceding page for the exception. Conduit should enter a transceiver enclosure either through the side or the bottom.

The 1/4 in. Superflex Heliax Cable should be long enough to reach its connection from the lightning arrestor with a 1 ft. service loop; the total cable run from transceiver to antenna can be no more than 90 ft. (UHF) or 180 ft. (VHF) with a minimum bend radius of 1 in. Excess cable in an arrestor enclosure should be no more than 36 in. (two 18 in. service loops).

Excess cable increases line loss of the RF signal to and from the transceiver, which can result in a “No Reply.” If necessary, the coaxial cable should be cut and reterminated to the correct length.

### **Reterminate connectors correctly!**

Incorrect retermination can cause severe damage to the transceiver and adversely affect transmission and reception.



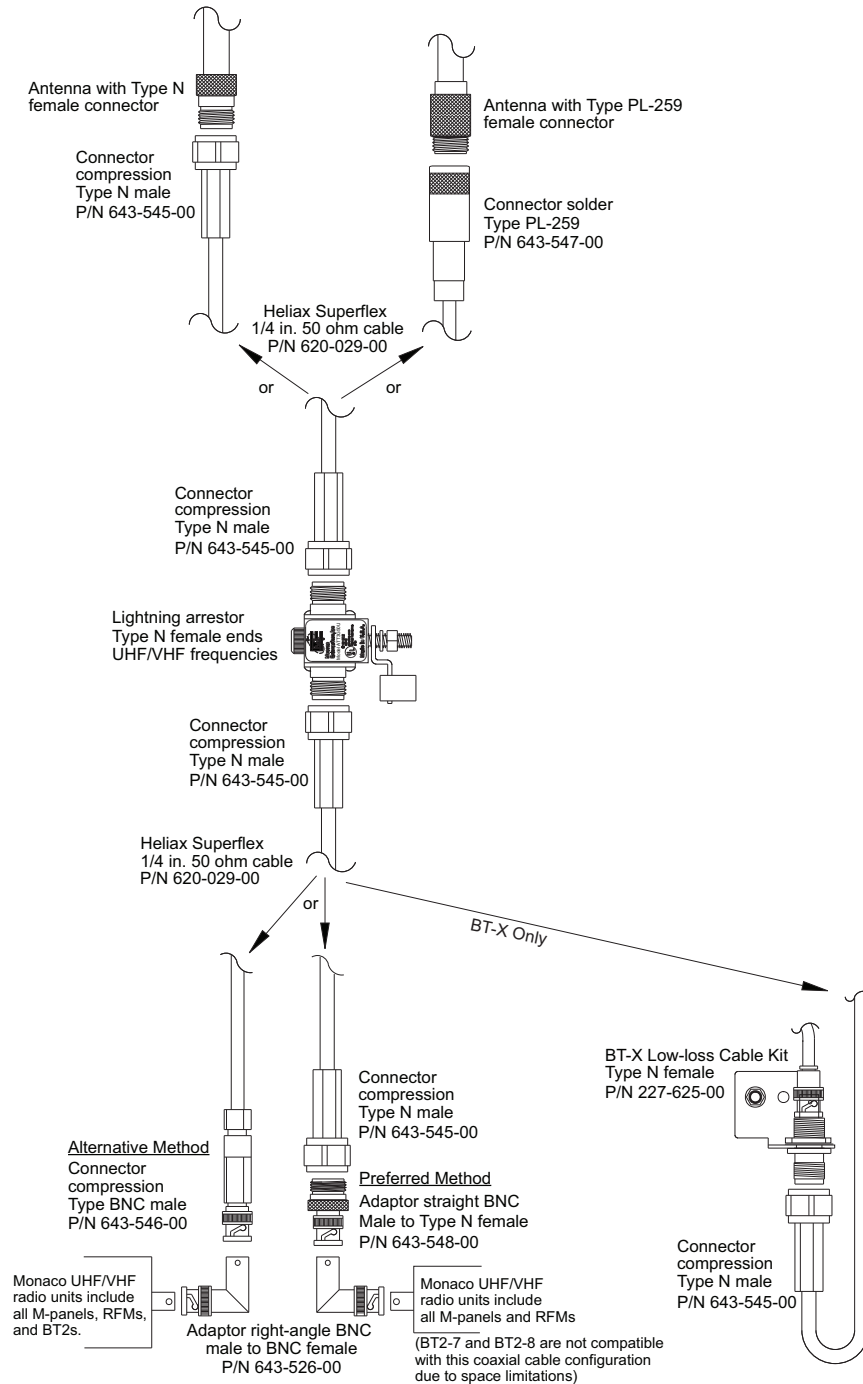
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# Antenna Systems

## Application Drawing



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## Antenna Systems

### Coaxial Cable, 50 ohm, 1/2 in. Heliax, Superflex

620-030-00

#### Description

This 1/2 in. Heliax Coaxial Cable is high-grade cable used in UHF and VHF antenna installations. A typical cable run is 110 ft. or less for UHF and 220 ft. or less for VHF. This cable pulls easily through conduit, but note the cautionary statements in this sheet. Check the connector type for your antenna before ordering adaptors or connectors.

#### Specifications

<i>Impedance</i>	50 ohms $\pm$ 1 ohm
<i>Inductance</i>	0.063 $\mu$ H/ft. (0.207 $\mu$ H/m)
<i>Capacitance</i>	25.207 pF/ft. (82.7 pF/m)
<i>Inner Conductor DC Resistance</i>	0.82 ohms/1,000 ft. (2.69 ohms/km)
<i>Outer Conductor DC Resistance</i>	1.56 ohms/1,000 ft. (5.12 ohms/km)
<i>Inner Conductor Material</i>	Copper-Clad Aluminum Wire
<i>Outer Conductor Material</i>	Corrugated Copper
<i>Jacket Material</i>	PE
<i>Dielectric Material</i>	Foam PE
<i>Outside Diameter</i>	0.5 in. (12.7 mm)
<i>Cable Weight</i>	0.14 lb per ft. (0.21 kg per m)
<i>Bend Radius</i>	1.25 in. (31.75 mm) minimum
<i>Number of Bends</i>	50 typical, 20 minimum
<i>Peak Power</i>	22.5 kW
<i>Operating Frequency Band</i>	1 to 10,200 MHz
<i>Operating Temperature</i>	-67°F to 185°F (-55°C to 85°C)

#### Attenuation (Nominal)

Frequency (MHz)	Attenuation (dB/100 ft.)
100	1.038
150	1.285
200	1.496
400	2.170
450	2.314
500	2.451

#### Ordering Information

**IMPORTANT!** If the antenna has an N-type connector, the antenna mast must be 1 in. electrical metallic tubing (EMT). Monaco's installation guidelines require that coaxial cable and connectors fit inside the antenna mast. The inside diameter of 3/4 in. rigid metal conduit is too small for N-type connectors. (However, PL-259 and BNC-type connectors will fit inside 3/4 in. rigid conduit.)

#### Cable

Part Number	Description
620-030-00	Coaxial Cable, 50 ohm, 1/2 in. Heliax, Superflex; specify length in feet <b>NOTE</b> Cable is special order—non-cancellable and non-returnable.

#### Adaptors and Connectors

Part Number	Description
643-526-00	Adaptor, right-angle BNC male to BNC female
643-548-00	Adaptor, straight BNC male to Type N female
643-549-00	Connector, compression Type N male
643-569-00	Adaptor, straight N female to PL-259 male

#### Associated Parts

Part Number	Description
164-004-00	Coaxial Seal, package of four 12 ft. rolls
198-020-00	Lightning Arrestor Replacement ARC Plug/Gas Tube Cartridge for arrestors (P/N 198-022-00)
198-022-00	Lightning Arrestor Kit with N-type UHF/VHF UL Listed Arrestor, with two 10 in. strip coaxial seals, mounting bracket, and terminal lug with hardware
198-022-01	Lightning Arrestor Kit with N-type UHF/VHF UL Listed Arrestor, with two 10 in. strip coaxial seals, mounting bracket, terminal lug with hardware, and 8 in. x 8 in. x 6 in. NEMA 3R enclosure (P/N 081-076-01)
302-101-00	Cutting Tool for 1/4 in. and 1/2 in. FSJ series Heliax
302-102-00	Five Pack Replacement Blades for P/N 302-101-00



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# Antenna Systems

## Application

The coaxial cable is routed from the antenna to the lightning arrester (static discharge unit) and from the lightning arrester to the building transceiver (BT), conventional or addressable panel, or RFM, etc. The connections at the antenna and lightning arrester must be weatherproofed with sealant (P/N 164-004-00).

**Monaco recommends the coaxial cable be enclosed in its own conduit.**

A minimum 3/4 in. conduit allows clearance for connectors—see **"IMPORTANT!"** on the preceding page for the exception. The conduit should enter a transceiver enclosure through the side or through the bottom.

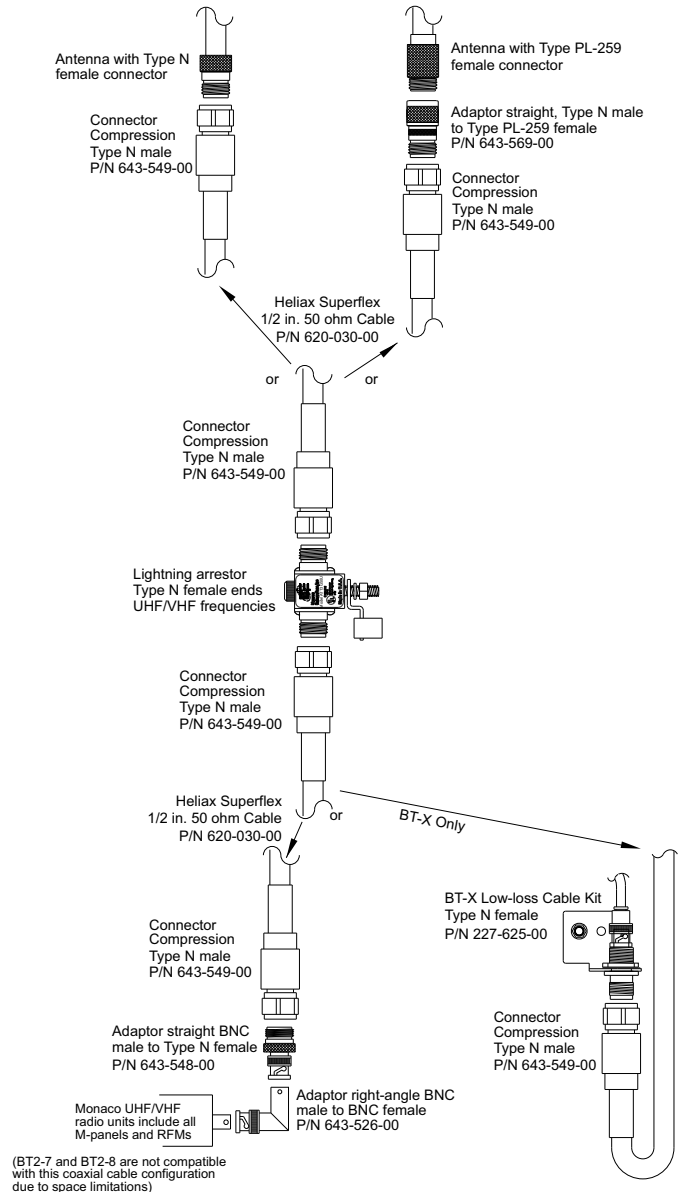
The 1/2 in. Superflex Heliac Cable should be long enough to reach its connection from the lightning arrester with a 1 ft. service loop; the total cable run from transceiver to antenna can be no more than 110 ft. (UHF) or 220 ft. (VHF) with a minimum bend radius of 1.25 in. Excess cable in an arrester enclosure should be no more than 36 in. (two 18 in. service loops).

Excess cable increases line loss of the RF signal to and from the transceiver, which can result in a unit "No Reply." If necessary, the coaxial cable should be cut and reterminated to the correct length.

### Retermminate connectors correctly!

Incorrect retermination can cause severe damage to the transceiver and adversely affect transmission and reception.

## Application Drawing



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# Antenna Systems

## Coaxial Cable, 50 ohm, 1/2 in. Heliax, LDF 620-031-00



### Features

- 1/2 in. coaxial wireless cable
- Heliax, low density foam
- Designed for repeated bends

### Specifications

*Impedance* 50 ohm, +/- 1 ohm

*Inductance* 0.058  $\mu$ H/ft (0.190  $\mu$ H/m)

*Capacitance* 23.1 pF/ft. (75.8 pF/m)

#### DC Resistance

*inner conductor* 1.48 ohm/km

*outer conductor* 2.69 ohm/km

#### Material

*inner conductor* Copper-clad aluminum wire

*outer conductor* Corrugated copper

*Jacket* Black, PE

*Dielectric* Foam PE

#### Cable

*Outside Diameter* 1/2 in.

*Weight* 0.22 kg/m

*Bend Radius* 5 in. (127.00 mm) - multiple bends  
2 in. (50.80 mm) - single bend

*Power* 40 kW

*Operating Frequency Band* 1–8800 MHz

*Operating Temperature* –67°F to 185°F (–55°C to 85°C)

### Attenuation (Nominal)

Frequency (MHz)	Attenuation (dB/100 ft.)
108	0.688
150	0.815
174	0.88
400	1.36
450	1.447
500	1.53

### Ordering Information

**IMPORTANT!** If the antenna has an N-type connector, the antenna mast must be 1 in. electrical metallic tubing (EMT). Monaco's installation guidelines require that the coaxial cable and connectors fit inside the antenna mast.

The inside diameter of 3/4 in. rigid metal conduit is too small for N-type connectors. (However, PL-259 and BNC type connectors will fit inside 3/4 in. rigid conduit.)

### Cable

Part Number	Description
<b>620-031-00</b>	1/2 in. Heliax, Low-density foam, 50 ohm. <b>IMPORTANT!</b> Cable is special order—non-cancellable and non-returnable!

### Adaptors and Connectors

Part Number	Description
<b>643-572-00</b>	Connector 1/2 in. Heliax male positive stop
<b>643-526-00</b>	Adaptor right-angle BNC male to BNC female
<b>643-548-00</b>	Adaptor straight BNC male to Type N female
<b>643-569-00</b>	Adaptor, straight N female to PL-259 male



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# Antenna Systems

## Associated Parts

Part Number	Description
164-004-00	Coaxial Seal, package of four 12 ft. rolls
198-022-01	Lightning Arrestor Kit with N-Type UHF/VHF, UL Listed Arrestor, with two 10 in. strip coaxial seal, mounting bracket, terminal lug with hardware and 8 in. x 8 in. x 6 in. NEMA 3R enclosure (P/N 081-076-01)
198-022-00	Lightning Arrestor Kit with N-Type UHF/VHF, UL Listed Arrestor, with two 10 in. strip coaxial seal, mounting bracket, and terminal lug with hardware
198-020-00	Lightning Arrestor Replacement ARC Plug/Gas Tube Cartridge (P/N 198-022-00)
629-003-00	Cable Termination Kit, N male connector for 1/2 in. Heliax
227-625-00	BT-X Low-loss Cable Kit, Type N female

## Application

The coaxial cable is routed from the antenna to the lightning arrestor (static discharge unit) and from the lightning arrestor to the building transceiver (BT), or conventional/addressable panel, or RFM, etc. The connections at the antenna and lightning arrestor must be weatherproofed with sealant P/N 164-004-00.

**Monaco recommends the coaxial cable be enclosed in its own conduit.**

Minimum 3/4 in. conduit allows clearance for connectors— see **“Important!”** on the preceding page for the exception. Conduit should enter a transceiver enclosure either through the side or the bottom.

The 1/2 in. LDF Heliax cable should be long enough to reach its connection from the lightning arrestor with a 1 ft. service loop; the total cable run from transceiver to antenna can be no more than 225 ft. (UHF) or 300 ft. (VHF), with a minimum single bend radius of 2 in., multiple bend radius of 5 in. Excess cable in an arrestor enclosure should be no more than 36 in., in two 18 in. service loops.

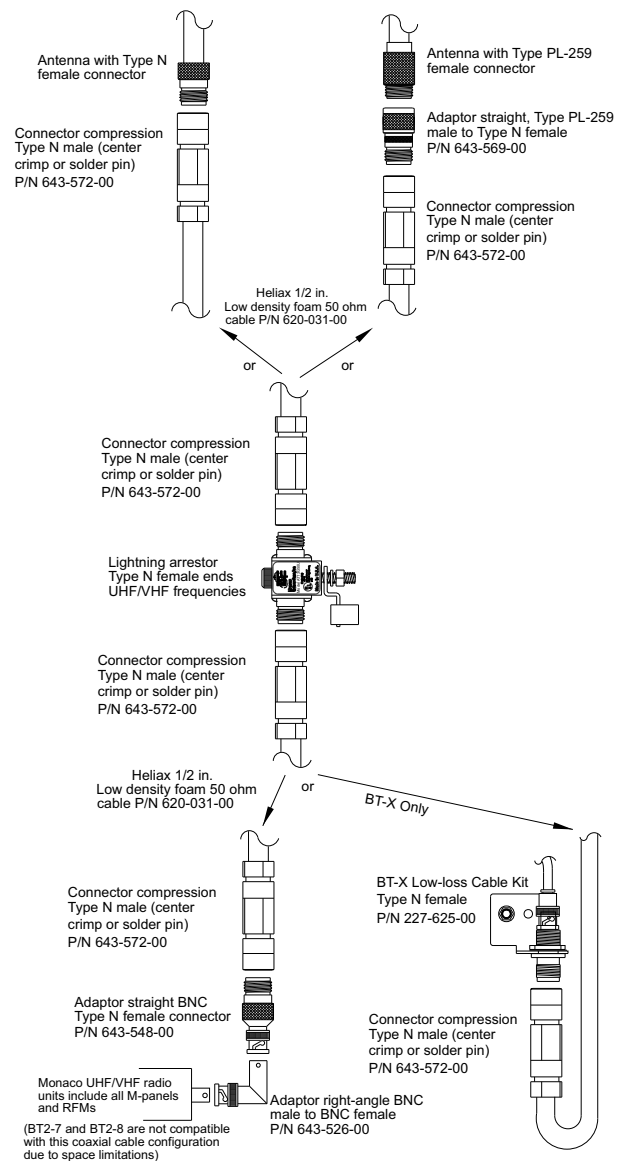
Excess cable increases line loss of the RF signal to and from the transceiver, which can result in a unit **“No Reply.”**

If necessary, the coaxial cable should be cut and reterminated to the correct length.

### Retermenate connectors correctly!

Incorrect retermination can cause severe damage to the transceiver and adversely affect transmission and reception.

## Application Drawing



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## Antenna Systems

### Coaxial Cable, 50 ohm, 5/8 in. Heliax, LDF 620-032-00



#### Features

- 5/8 inch coaxial wireless cable
- Heliax, low density foam
- Designed for repeated bends

#### Specifications

*Impedance* 50 ohm  $\pm$  1 ohm

*Inductance* 0.057  $\mu$ H/ft (0.187  $\mu$ H/m)

*Capacitance* 23.2 pF/ft (76.1 pF/m)

##### DC Resistance

*inner conductor* 0.220 ohm/kft (0.722 ohm/km)

*outer conductor* 0.420 ohm/kft (1.378 ohm/km)

##### Material

*inner conductor* Copper-clad aluminum wire

*outer conductor* Corrugated copper

*Jacket* Black, PE

*Dielectric* Foam PE

##### Cable

*Outside Diameter* 5/8 in.

*Weight* 0.27 lb/ft (0.40 kg/m)

*Bend Radius* 8 in. (203.2 mm) - multiple bends

*Power* 62 kW

*Operating Frequency Band* 1–6100 MHz

*Operating Temperature* –67°F to 185°F (–55°C to 85°C)

#### Attenuation (Nominal)

Frequency (MHz)	Attenuation (dB/100 ft)
108	0.493
150	0.586
174	0.633
400	0.989
450	1.054
500	1.117

#### Ordering Information

**IMPORTANT!** If the antenna has an N-type connector, the antenna mast must be 1 in. electrical metallic tubing (EMT). Monaco's installation guidelines require that coaxial cable and connectors fit inside the antenna mast.

The inside diameter of 3/4 in. rigid metal conduit is too small for N-type connectors. (However, PL-259 and BNC type connectors will fit inside 3/4 in. rigid conduit.)

#### Cable

Part Number	Description
<b>620-032-00</b>	Coaxial Cable, 50 ohm, 5/8 in. Heliax, Low-density foam <b>IMPORTANT!</b> Cable is special order—non-cancellable and non-returnable!

#### Adaptors and Connectors

Part Number	Description
<b>643-573-00</b>	Connector Compression Type N male 5/8 in. Heliax connector (center crimp or solder pin)
<b>643-526-00</b>	Adaptor right-angle BNC male to BNC female
<b>643-548-00</b>	Adaptor straight BNC male to Type N female
<b>643-569-00</b>	Adaptor straight N female to PL-259 male



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# Antenna Systems

## Associated Parts

Part Number	Description
164-004-00	Coaxial Seal, package of four 12 ft. rolls
198-022-01	Lightning Arrestor Kit with N-Type UHF/VHF, UL Listed Arrestor, with two 10 in. strip coaxial seal, mounting bracket, terminal lug with hardware and 8 in. x 8 in. x 6 in. NEMA 3R enclosure (P/N 081-076-01)
198-022-00	Lightning Arrestor Kit with N-Type UHF/VHF, UL Listed Arrestor, with two 10 in. strip coaxial seal, mounting bracket, and terminal lug with hardware.
198-020-00	Lightning Arrestor Replacement ARC Plug/Gas Tube Cartridge for arrestors(P/N 198-022-00)
629-004-00	Cable Termination Kit, N male connector for 5/8 in. Heliax
227-625-00	BT-X Low-loss Cable Kit, Type N female

## Application

The coaxial cable is routed from the antenna to the lightning arrestor (static discharge unit) and from the lightning arrestor to the building transceiver (BT), or conventional/addressable panel, or RFM, etc. The connections at the antenna and lightning arrestor must be weatherproofed with sealant P/N 164-004-00.

**Monaco recommends the coaxial cable be enclosed in its own conduit.**

Minimum 3/4 in. conduit allows clearance for connectors— see the **IMPORTANT!** on the preceding page for the exception. Conduit should enter a transceiver enclosure either through the side or the bottom.

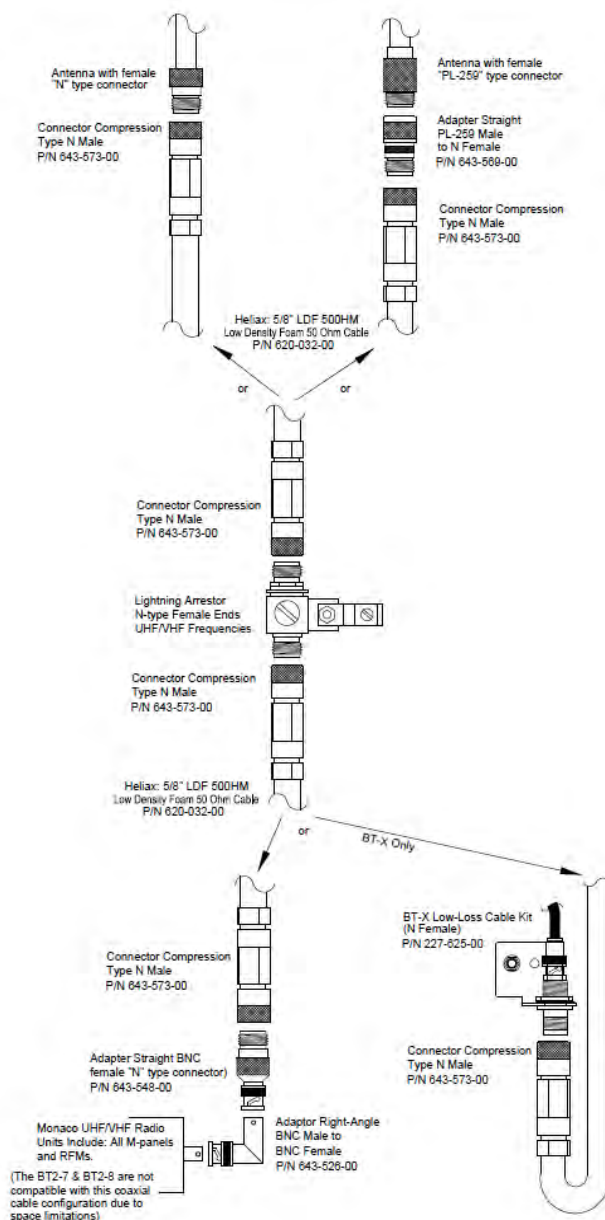
The 5/8 in. LDF Heliax cable should be long enough to reach its connection from the lightning arrestor with a 1 ft. service loop; the total cable run from transceiver to antenna can be no more than 110 ft. (UHF) or 220 ft. (VHF), with a minimum single bend radius of 3 in., multiple bend radius of 8 in. Excess cable in an arrestor enclosure should be no more than 36 in., in two 18 in. service loops.

Excess cable increases line loss of the RF signal to and from the transceiver, which can result in a unit “No Reply.” If necessary, the coaxial cable should be cut and reterminated to the correct length.

## Reterminate connectors correctly!

Incorrect retermination can cause severe damage to the transceiver and adversely affect transmission and reception.

## Application Drawing



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# Antenna Systems

## Coaxial Cable, 50 ohm, 7/8 in. Heliax, Foam 620-033-00



### Features

- 7/8 inch, coaxial wireless cable
- Heliax, foam
- Designed for repeated bends

### Specifications

*Impedance* 50 ohm,  $\pm 1$  ohm

*Inductance* 0.056  $\mu\text{H}/\text{ft}$  (0.184  $\mu\text{H}/\text{m}$ )

*Capacitance* 22 pF/ft (73 pF/m)

#### dc Resistance:

*inner conductor* 0.41 ohm/kft. (1.435 ohm/km)

*outer conductor* 0.34 ohm/kft. (1.116 ohm/km)

#### Material:

*inner conductor* Cooper tube

*outer conductor* Corrugated Copper

*Jacket* Black, PE

*Dielectric* Foam PE

#### Cable:

*Outside Diameter* 7/8 in

*Weight* 0.3 lb/ft (0.45 kg/m)

*Bend Radius* single: 5 in. (127 mm)

*Number of Bends* 30 typical, 15 minimum

*Operating Frequency Band* 1–5000 MHz

*Power* 91 kW

*UL Temperature Rating*  $-67^{\circ}\text{F}$  to  $158^{\circ}\text{F}$  ( $-55^{\circ}\text{C}$  to  $70^{\circ}\text{C}$ )

### Attenuation (Nominal)

Frequency (MHz)	Attenuation (dB/100 ft.)
100	0.354
150	0.437
200	0.507
400	0.731
450	0.778
700	0.986

### Ordering Information

**IMPORTANT!** If the antenna has an N-type connector, the antenna mast must be 1 in. electrical metallic tubing (EMT). Monaco's installation guidelines require that coaxial cable and connectors fit inside the antenna mast.

The inside diameter of 3/4 in. rigid metal conduit is too small for N-type connectors.

### Cable

Part Number	Description
620-033-00	Coaxial cable, 50 ohm, 7/8 in. Heliax, foam <b>IMPORTANT!</b> Cable is special order—non-cancellable and non-returnable!

### Connectors and Adapters

Part Number	Description
643-574-00	Connector compression Type N male (center crimp or solder pin)
643-526-00	Adaptor, right-angle BNC male to BNC female
643-548-00	Adaptor, straight BNC male to Type N female
643-569-00	Adaptor, straight N Fem to PL259 male



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# Antenna Systems

## Associated Parts

Part Number	Description
164-004-00	Coaxial Seal, package of four 12 ft. rolls
198-022-01	Lightning Arrestor Kit with N-Type UHF/VHF, UL Listed Arrestor, with two 10 in. strip coaxial seal, mounting bracket, terminal lug with hardware and 8 in. x 8 in. x 6 in. NEMA 3R enclosure (P/N 081-076-01)
198-022-00	Lightning Arrestor Kit with N-type UHF/VHF, UL Listed Arrestor, with two 10 in. strip coaxial seal, mounting bracket, and terminal lug with hardware
198-020-00	Lightning Arrestor Replacement ARC Plug/Gas Tube cartridge for arrestors (P/N 198-022-00)
629-005-00	Cable Termination Kit, N male connector for 7/8 in. Heliax
227-625-00	BT-X Low-loss Cable Kit, Type N female <b>NOTE</b> Comes with UHF BT-X; must be ordered separately for VHF BT-X.

## Application

The coaxial cable is routed from the antenna to the lightning arrestor (static discharge unit) and from the lightning arrestor to the building transceiver (BT), or conventional/addressable panel, or RFM, etc. The connections at the antenna and lightning arrestor must be weatherproofed with sealant P/N 164-004-00.

**Monaco recommends the coaxial cable be enclosed in conduit where physical protection is required.**

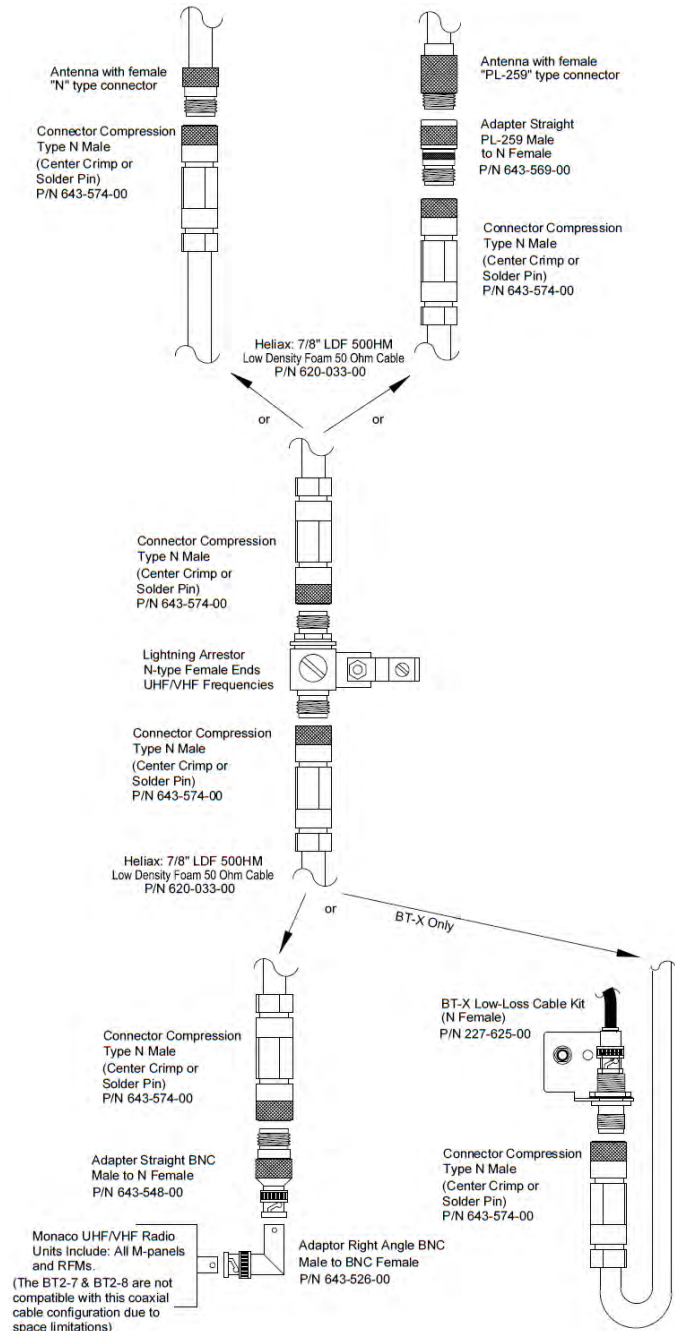
The 7/8 in. Heliax cable total cable run from transceiver to antenna can be no more than 400 ft. (UHF) or 550 ft. (VHF), with a minimum single bend radius of 5 in., multiple bend radius of 10 in.

Excess cable increases line loss of the RF signal to and from the transceiver, which can result in a unit "No Reply." If necessary, the coaxial cable should be cut and reterminated to the correct length.

### Reterminate connectors correctly!

Incorrect retermination can cause severe damage to the transceiver and adversely affect transmission and reception.

## Application Drawing



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## Coaxial Connectors, Adaptors

### Antenna Systems Catalog Section

17

#### Coaxial Connectors, Adaptors

Ground Rod and Clamp, Copper, for Lightning .....661-000-00, 661-001-00  
Air Terminal Hardware, Copper, for Lightning.....661-002-00, 661-004-00

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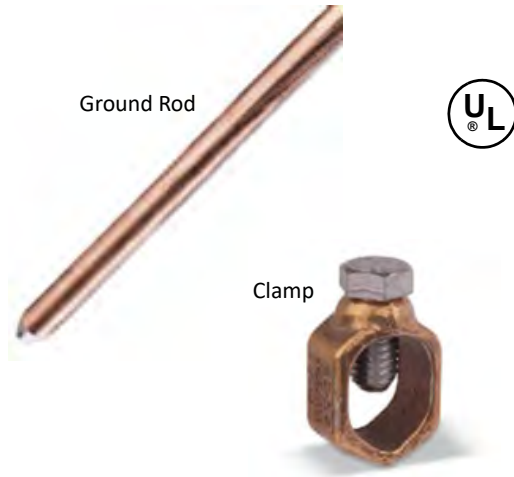


## Antenna Systems

# Ground Rod and Clamp, Copper, for Lightning

### 661-000-00, 661-001-00

Specifications



### Ground Rod Clamp

*Material* Copper  
*Conductor Size* 10 AWG Solid to 2 AWG Stranded  
*Installation* Hex Head Bolt  
*Mounting* Horizontal or vertical  
*Dimensions* 5/8 in. L x 1 1/16 in. W x 1-15/16 in. H  
*Thread Size* 3/8 - 16 UNC - 2A

### Ordering Information

Part Number	Description
661-000-00	Ground rod, 0.75 in. x 10 ft. copper-weld, UL rated
661-001-00	Ground rod clamp, 0.75 in., copper-weld, UL rated

## Specifications

### Ground Rod

*Material* Copper bonded steel  
*Tensile Strength* 80,000 PSI min.  
*Rod Type* Pointed  
*Dimensions* Diameter: 0.681 in. actual, 3.4 in. nominal  
Length: 10 ft.  
*Plating Thickness* 10 mil  
*Weight* 12.6 lb



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## Antenna Systems

### Air Terminal Hardware, Copper, for Lightning

661-002-00, 661-004-00

Air Terminal  
Bare copper rod with  
threaded base.



Mounting Base  
Positive single-bolt tension for multi-  
directional cable clamping.

### Specifications

#### Air Terminal

*Material* Bare copper  
*Point Type* Blunt  
*Dimensions* Diameter: 1/2 in.  
Height: 15 in.  
*Thread Size* 1/2 UNC  
*Weight* 0.91 lb

#### Mounting Base

*Material* Bare Copper  
*Conductor Size* Class 1–Class 2 (4/0 max.)  
*Mounting Hole Size* 1/4 in.  
*Mounting* Horizontal or vertical  
*Dimensions* 3.07 in. W x 2.9 in. D x 1 in. H  
*Weight* 0.835 lb

### Ordering Information

Part Number	Description
661-002-00	Air Terminal, copper, threaded base, 15 in. x 1/2 in.
661-004-00	Mounting Base, copper, for air terminal 1/2 in.



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## Crimp Kit

# Antenna Systems Catalog Section

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### Crimp Kit

Coaxial Cable Tool Kit .....303-000-00

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# Central Receiving Systems

## Coaxial Cable Tool Kit

303-000-00

### Description

The Coaxial Cable Tool Kit is used to terminate mini RG-8/X and low-loss coaxial cables with crimp-style connectors.



### Features

- Crimper
- Die set 4005-01
- Die set 4005-02
- Stripper LC CST-58/59
- Stripper LC CST-11

### Specifications

#### Crimper:

*Material* High-carbon, heat-treated, stamped steel

#### Die Set 4005-01:

*For Use With* Mini RG-8/X cable

*Cavity* 0.052 in., 0.068 in., 0.1 in., 0.213 in., and 0.255 in.

*Dimensions* (1.32 mm, 1.73 mm, 2.54 mm, 5.41 mm, and 6.5 mm)

#### Die Set 4005-02:

*For Use With* Low-loss cable

*Cavity* 0.1 in., 0.128 in., and 0.429 in.

*Dimensions* (2.54 mm, 3.25 mm, and 10.9 mm)

#### Strippers:

*For Use With* Stripper LC CST-58/59: mini RG-8/X cable

Stripper LC CST-11: low-loss cable

*Weight* 1.7 oz (50 g)

*Dimensions* 4.25 in. H x 1.52 in. W x 0.09 in. D  
(108 mm x 39 mm x 2.29 mm)

### Ordering Information

Part Number	Description
303-000-00	Coaxial Cable Tool Kit: crimper, die sets, and strippers for mini RG-8/X and low-loss cables

### Associated Parts

Part Number	Description
302-104-00	Replacement Blade Set for cable strippers
302-200-00	Replacement Crimper, Dies, and Case
302-100-00	Replacement Stripper LC CST-11 for low-loss cable
302-103-00	Replacement Stripper LC CST-58/59 for mini RG-8/X cable



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# Lightning Arrestors

## Antenna Systems Catalog Section

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### Lightning Arrestors

Lightning Arrestors and Kits .....198-021-xx, 198-022-xx

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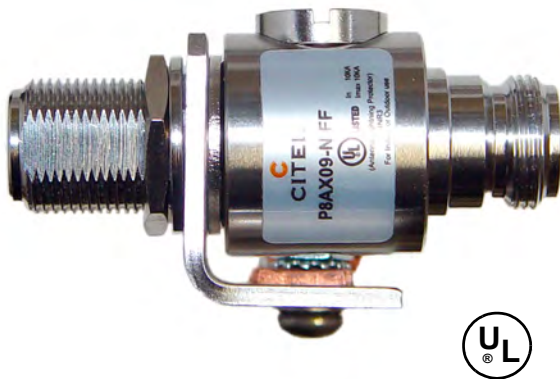
# Antenna Systems

## Lightning Arrestors and Kits

198-021-xx, 198-022-xx

### Description

Monaco's Lightning Arrestor Kits contain UL listed lightning arrestors with an arc-plug/gas tube cartridge that protects electronic equipment by carrying excess voltages or currents generated by lightning or static buildup to earth ground.



The lightning arrestor connects to the coaxial cable between the antenna and the building transceiver (BT), or radio frequency modem (RFM). The Lightning Arrestor Kit may be located outside or inside, depending on the grounding system of the building. It must be installed as near as possible to the point where the coaxial cable enters the building. It may not be near combustible material nor in a classified hazardous location as defined in NFPA 70 (NEC) Article 500.

The lightning arrestor uses a unique isolated ground system that permits direct earth connection while preventing arc energy from being coupled to the equipment. It must be grounded in accordance with NFPA 70 (NEC) Section 810-21.

An arc-plug/gas tube cartridge, consisting of two metal electrodes sealed in a gas-filled ceramic cylinder, is the basis of static discharge. A sufficient voltage

across the cartridge element causes an arc to form between the electrodes, which act as voltage-dependent switches, capable of carrying large currents for brief periods of time. Excess voltages or currents from lightning proximity are discharged through the arrestor arc-plug/gas tube cartridge to the grounding system.

The PL-259 lightning arrestor in kit P/Ns 198-021-xx and the N-type lightning arrestor in kit P/Ns 198-022-xx allow easy replacement of the arc-plug/gas tube cartridge in the field. The cartridge is installed in a threaded hole and makes a solderless, pressure-fit connection. No disassembly or disconnection from the coaxial cable is necessary for replacement.

**CAUTION!** An arrestor does not protect against a direct lightning strike.

### Specifications

<i>Insertion Loss</i>	<0.2 dB
<i>Frequency Range</i>	PL-259 arrestor in kit P/Ns 198-021-xx: 0–500 MHz, VHF N arrestor in kit P/Ns 198-022-xx: 0–3,000 MHz, VHF and UHF
<i>Connector</i>	Arrestor is bidirectional and can be installed in either direction  50 ohms; connector style depends on arrestor
<i>Unit Impedance</i>	50 ohms
<i>VSWR</i>	1.2 to 1 or less
<i>Nominal Discharge Current</i>	5 kA (8/20μs test x 10 - C2 category)
<i>Maximum Discharge Current</i>	20 kA (maximum withstand at 8/20μs)
<i>Protection Level</i>	<800V
<i>Standards Compliance</i>	IEC61643-21 / EN61643-21 / UL497C / UL497E
<i>Arrestor:</i>	UL Listed:
	P8AX09-N/FF E349646
	P8AX09-U/FF E349646



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# Antenna Systems

## Ordering Information

### Lightning Arrestors

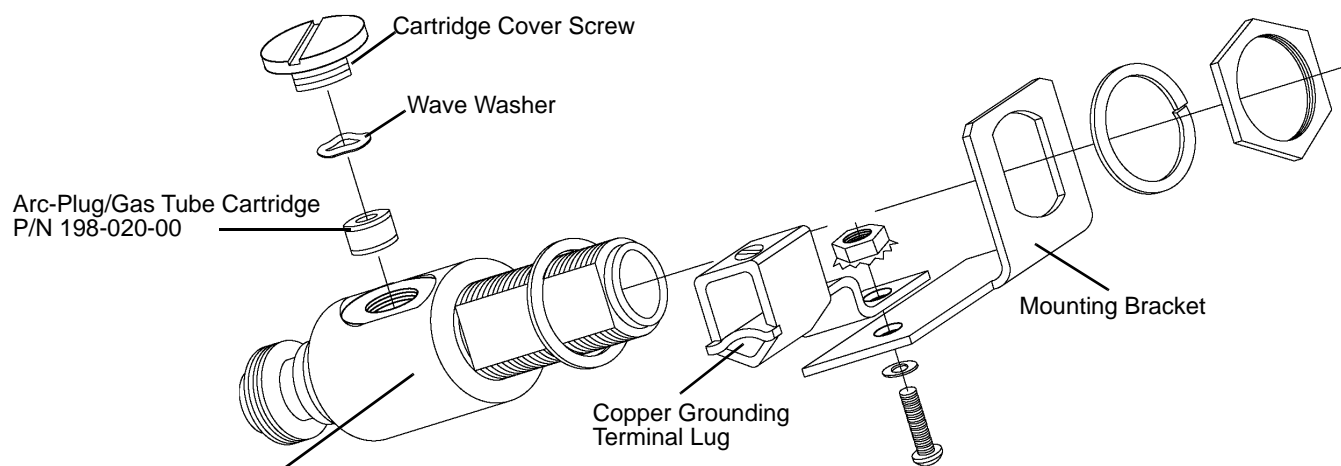
Part Number	Description
<b>198-021-00</b>	Lightning Arrestor Kit with PL-259 VHF UL Listed Arrestor, with two 10 in. strip coaxial seals, mounting bracket, and terminal lug with hardware
<b>198-021-01</b>	Lightning Arrestor Kit with PL-259 VHF UL Listed Arrestor, with two 10 in. strip coaxial seals, mounting bracket, terminal lug with hardware, and 8 in. x 8 in. x 6 in. NEMA 3R enclosure (P/N 081-076-01)
<b>198-022-00</b>	Lightning Arrestor Kit with N-Type UHF/VHF UL Listed Arrestor, with two 10 in. strip coaxial seals, mounting bracket, and terminal lug with hardware
<b>198-022-01</b>	Lightning Arrestor Kit with N-Type UHF/VHF UL Listed Arrestor, with two 10 in. strip coaxial seals, mounting bracket, terminal lug with hardware, and 8 in. x 8 in. x 6 in. NEMA 3R enclosure (P/N 081-076-01)

### Associated Parts

Part Number	Description
<b>198-019-01</b>	Lightning Arrestor with PL-259 female connectors; replacement part only for P/N 198-021-00
<b>198-017-01</b>	Lightning Arrestor with N-type female connectors; replacement part only for P/N 198-022-00
<b>198-020-00</b>	Lightning Arrestor Replacement ARC Plug/Gas Tube Cartridge for arrestors (P/N 198-022-00)
<b>081-076-01</b>	Lightning Arrestor Enclosure, NEMA 3R rain-tight, 8 in. x 8 in. x 6 in., UL rated
<b>081-225-00</b>	Lightning Arrestor Enclosure, NEMA 3R rain-tight, 12 in. x 12 in. x 6 in., UL rated
<b>661-000-00*</b>	Ground Rod, 0.75 in. x 10 ft. copper-weld, UL rated
<b>661-001-00*</b>	Ground Rod Clamp, 0.75 in. copper-weld, UL rated
<b>164-004-00</b>	Coaxial Seal, package of four 12 ft. rolls
<b>164-004-03</b>	Coaxial Seal, 10 in. long
*Drop-ship is the only available shipping method.	

## Drawings

### Lightning Arrestor Kit Standard Components



UL Listed Lightning Arrestor Body

- P/N 198-019-01 with PL-259 female connector, or
- P/N 198-017-01 with N-type female connector



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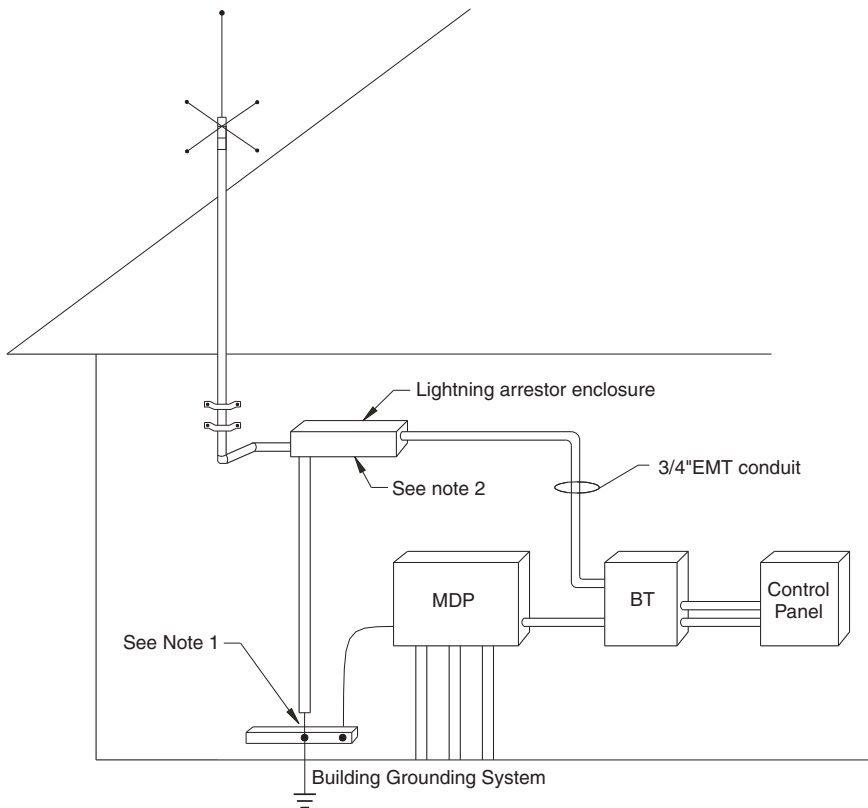
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# Antenna Systems

## Installation Diagram

Typical Lightning Arrestor Kit installation where building grounding system is accessible and adequate.



### Notes

1. Lightning Arrestor Kit to be connected to main building ground per NFPA 70 (NEC) Article 810-21.
2. Bond all conduit together with grounding bushings to building grounding system. Minimum ground wire size is 10 AWG.
3. For complete installation details, refer to the installation manuals and applicable codes and standards.



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## Index by Product Part Number

LEGEND		
Entry Contents (Format)	Relevance	Example
Part Number, Description (Bold)	Product index entry	176-214-00, BT-X Relay Board
Description, Part Number (Regular, Indented)	Cut sheet referencing the entry above	BT-XF, 227-60x-xx

**081-076-01, Lightning Arrestor Enclosure, NEMA 3R**

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**081-155-00, NEMA 1 enclosure, two 12V/18 Ah batteries**

Enclosure w Batteries, 081-15x-0x, 081-17x-00, 081-182-00

**081-156-00, NEMA 1 enclosure, two 12V/26 Ah batteries**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

Enclosure w Batteries, 081-15x-0x, 081-17x-00, 081-182-00

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

MAAP-X Upgrade, 227-912-xx

Remote Display Unit, 710-070-01, 710-070-02

**081-156-01, NEMA 1 enclosure, two 12V/26 Ah batteries**

Enclosure w Batteries, 081-15x-0x 081-17x-00 081-182-00

**081-172-00, NEMA 3R enclosure, four 12V/18 Ah batteries**

Enclosure w Batteries, 081-15x-0x, 081-17x-00, 081-182-00

**081-177-00, NEMA 1 enclosure, two 12V/40 Ah batteries**

Enclosure w Batteries, 081-15x-0x, 081-17x-00, 081-182-00

**081-182-00, NEMA 1 enclosure, two 12V/75 Ah batteries**

Enclosure w Batteries, 081-15x-0x, 081-17x-00, 081-182-00

**081-214-02, Rack Shelf, 2U**

**081-215-01, Rack Shelf, black 19 in., 1U**

**081-225-00, Lightning Arrestor Enclosure, NEMA 3R**

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**081-243-00, Cabinet Fire Alarm Terminal, 32 Pt**

**081-261-01, Cabinet, Record Document Storage with Monaco Key**

**081-264-00, NEMA 4X Text Display Enclosure**

MAAP-X Text Display 24 VDC, 710-075-00

**082-431-00, Mounting track, 2 in. W x 2.75 in. L**

Relay, SPDT, 453-114-00

**085-153-00, Speaker Bird Screen**

Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00

**085-214-01, Rack Blank Panel**

Rack blank panels, 085-214-0x

**085-214-02, Rack Blank Panel**

KVM Extender Tray, 200-477-00

Rack blank panels, 085-214-0x

**085-214-03, Rack Blank Panel**

Rack blank panels, 085-214-0x

**085-214-04, Rack Blank Panel**

Rack blank panels, 085-214-0x

**085-214-05, Rack Blank Panel**

Rack blank panels, 085-214-0x

**085-214-06, Rack Blank Panel**

Rack blank panels, 085-214-0x





**085-800-01, RFM Rack Mount Kit, Single 2U**

RFM Rack Mount Kits, 085-800-0x, 227-327-00

RFM-XH Modem, 227-323-00

RFM-XHR Modem, 227-317-xx

**085-800-02, RFM Rack Mount Kit, Dual 4U**

RFM Rack Mount Kits, 085-800-0x, 227-327-00

**085-800-03, RFM Rack Mount Kit, Triple 6U**

RFM Rack Mount Kits, 085-800-0x, 227-327-00

**085-800-04, RFM Rack Mount Kit, Single, for adjust rails**

RFM Rack Mount Kits, 085-800-0x, 227-327-00

RFM-XH Modem, 227-323-00

RFM-XHR Modem, 227-317-xx

**086-210-01, Adaptor Plate**

BT2 to BT-X Conversion Kit, 227-647-xx

**086-244-00, Optional Pole-Mount Bracket for 4-speaker hanging pendant cluster**

Indoor/Outdoor PA Speaker, 124-077-00

**086-265-00, Ceiling Mount Bracket**

MAAP-X Text Display 24 VDC, 710-075-00

**089-010-00, Pole mount Kit**

BT-XF Pull Station, Single Action, 227-665-xx

**097-500-00, Keylock Assembly**

MNS Panels, 703-228-00, 703-228-01

**097-523-00, Turn Latch Lock Kit**

MAAP-X LOC/RDU, 710-072-01 710-072-02

**104-011-00, Rack Cabinet, 40U**

**104-012-00, Rack Cabinet, 24U**

**122-008-10, D-21 System VoIP Desktop Microphone Link Assembly**

**122-012-00, MAAP-X Microphone**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X LOC/RDU, 710-072-01 710-072-02

MAAP-X Upgrade, 227-912-xx

**122-012-05, MAAP-X MNS Microphone**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X LOC/RDU, 710-072-01 710-072-02

MAAP-X Upgrade, 227-912-xx

**122-012-06, MAAP-X Paging Microphone**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X LOC Keypad, 710-072-51 710-072-52

MAAP-X LOC/RDU, 710-072-01 710-072-02

MAAP-X Upgrade, 227-912-xx

**122-015-01, Replacement Desktop PTT Microphone**

D-21 System VoIP Desktop Microphone Link Assembly, 122-017-10

D-21 VoIP Link Assembly, 122-008-10

**122-017-10, D-21 System VoIP Desktop Microphone Link Assembly**

Live Voice Input Radio Switch, 194-541-01

**124-050-00, Cluster Speakers, 4-Horn Speaker System**

**124-069-00, Speaker, White, Type II, Square, Surface-mount**

**124-072-00, Outdoor Speaker, White, Wall-Mount, Type I, no letter**

**124-072-50, Outdoor Speaker, Red, Wall-Mount, Type I, no letter**

**124-077-00, Outdoor PA Speaker, white, multi-surface-mount**

**124-080-00, ASC Mass Notification Speaker Station, 1600 W**

Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00



- 124-087-01, Outdoor PA Speaker Horn, Surface-Mount, Bidirectional Bells, Grey**
- 124-089-00, Indoor PA Speaker, 2 ft. Square, White, Ceiling Tile**
- 124-090-00, Indoor PA Speaker, 8 in. Round, White, Ceiling-Mount**
- 124-091-00, Indoor Speaker, White, Wall-Mount, Type I, no letter**
  - Univ Expander Plate, 369-036-00
  - Univ Expander Plate, 369-037-00
- 124-092-00, Indoor Speaker, Red, Wall-Mount, Type I, no letter**
  - Univ Expander Plate, 369-036-00
  - Univ Expander Plate, 369-037-00
- 124-093-00, Indoor Speaker, Red, Ceiling-Mount, Type I, no letter**
- 124-094-00, Indoor Speaker, White, Ceiling-Mount, Type I, no letter**
- 124-095-00, Indoor Speaker, White, Ceiling-Mount, Type I, 8 in., no letter**
- 124-097-00, Explosion-proof Speaker, Red, surface-mount**
- 129-048-00, 8 in. speaker support tile bridge**
  - Indoor Speaker Strobe, 580-074-00
  - Indoor Speaker Strobe, 580-074-01
  - Indoor Speaker Strobe, 580-099-00
- 129-049-00, Back Box, 8 in.**
  - Indoor Speaker Strobe, 580-074-00
  - Indoor Speaker Strobe, 580-074-01
  - Indoor Speaker Strobe, 580-099-00
- 129-057-01, Audio Isolator Transformer Module**
  - RFM King-Fisher Assembly, 227-333-NR
- 164-004-00, Coaxial Seal 12 ft. rolls**
  - Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
  - Coaxial Cable, 620-026-00
  - Coaxial Cable, 620-029-00
  - Coaxial Cable, 620-030-00
  - Coaxial Cable, 620-031-00
  - Coaxial Cable, 620-032-00
  - Coaxial Cable, 620-033-00
  - Lightning Arrestors and Kits, 198-021-xx, 198-022-xx
- 164-004-03, Coaxial Seal, 10 in. long**
  - Coaxial Cable, 620-026-00
  - Lightning Arrestors and Kits, 198-021-xx, 198-022-xx
  - UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
  - VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx
  - VHF Yagi directional Antenna, 190-401-xx
- 175-047-00, 4-Zone Alarm Interface PCB**
  - Interface PCB, Alarm, Alarm/Trouble, 175-047-00, 176-133-00, 176-177-00, 790-026-00
  - Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx
- 176-133-00, 4-Zone Expansion Module**
  - Interface PCB, Alarm, Alarm/Trouble, 175-047-00, 176-133-00, 176-177-00, 790-026-00
  - Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx
- 176-181-01, Vulcan I Alarm Verification Module**
  - Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx
- 176-184-01, M-2 CPU Replacement Kit**
  - M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx
- 176-184-03, M-2 CPU and FSK Replacement Kit**
  - M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx



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**176-185-00, M Conv FACP Expansion Backplane**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**176-186-00, Zone Expansion Card (ZEC)**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**176-187-00, Auxiliary Output Card (AOC)**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**176-193-01, Analog Addressable Controller (AAC)**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**176-194-00, Addressable Driver Card (ADC)**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx  
MAAP-X Expansion Backplane, 176-273-99  
MAAP-X Sub-Panel, 700-101-00  
MAAP-X Upgrade, 227-912-xx

**176-197-00, Universal Input Card (UIC)**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**176-206-00, BT-XF Fire Zone Card**

BT2 to BT-X Conversion Kit, 227-647-xx  
BT2-3 to BT-X Conv Kit, 227-646-xx  
BT-XF, 227-60x-xx  
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx

**176-206-01, BT-XS Security Zone Card**

BT2 to BT-X Conversion Kit, 227-647-xx  
BT2-3 to BT-X Conv Kit, 227-646-xx  
BT-XS Security, 227-6xx-xx

**176-208-00, BT-X Audio Board**

BT2 to BT-X Conversion Kit, 227-647-xx  
BT2-3 to BT-X Conv Kit, 227-646-xx  
BT-XF Outdoor Pull Station, Single Action, 227-668-xx  
BT-XF, 227-60x-xx  
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx  
BT-XM2 Interface Conv Kits 227-371-02, 227-372-0x, 227-623-MN, 227-811-MN  
BT-XS Security, 227-6xx-xx

**176-212-00, BT-X Zone Expansion Backplane**

BT2 to BT-X Conversion Kit, 227-647-xx  
BT2-3 to BT-X Conv Kit, 227-646-xx  
BT-XF, 227-60x-xx  
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx  
BT-XS Security, 227-6xx-xx

**176-214-00, BT-X Relay Board**

BT2 to BT-X Conversion Kit, 227-647-xx  
BT2-3 to BT-X Conv Kit, 227-646-xx  
BT-XF, 227-60x-xx  
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx  
BT-XM2 Interface Conv Kits 227-371-02, 227-372-0x, 227-623-MN, 227-811-MN  
BT-XS Security, 227-6xx-xx  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**176-257-00, Current In-rush Limiter**

Conv Duct Smoke Detect, 723-368-00

**176-268-00, Multiplexer Assembly RS-422 to RS-485**

Remote Display Unit, 710-070-01, 710-070-02

**176-268-02, Multiplexer RS-422 to RS-485**

MAAP-X Upgrade, 227-912-xx

**176-272-00, Speaker Output Card (SOC)**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
MAAP-X Expansion Backplane, 176-273-99  
MAAP-X Sub-Panel, 700-101-00  
MAAP-X Upgrade, 227-912-xx

**176-273-99, MAAP-X Expansion Backplane Assembly****176-279-00, Addressable Driver Card (ADC II)**

MAAP-X Expansion Backplane, 176-273-99  
MAAP-X Sub-Panel, 700-101-00

**176-286-02, LOC Multiplexer, RS-422 to RS-485**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
MAAP-X Expansion Backplane, 176-273-99  
MAAP-X LOC Keypad, 710-072-51 710-072-52  
MAAP-X LOC/RDU, 710-072-01 710-072-02  
MAAP-X Sub-Panel, 700-101-00

**176-286-03, MAAP-X Text Display Multiplexer Kit**

MAAP-X Expansion Backplane, 176-273-99  
MAAP-X Sub-Panel, 700-101-00  
MAAP-X Text Display 24VDC, 710-075-01

**176-296-01, Audio Output Limiter 60V P-P**

Audio Booster Panels, 703-16x-00 703-20x-00

**176-297-01, Sub-Panel LOC Surge Protector PCB Kit**

MAAP-X Expansion Backplane, 176-273-99  
MAAP-X LOC Keypad, 710-072-51 710-072-52  
MAAP-X LOC/RDU, 710-072-01 710-072-02  
MAAP-X Sub-Panel, 700-101-00

**176-422-99, BT-XM Factory MNS Upgrade**

BT2 to BT-X Conversion Kit, 227-647-xx  
BT2-3 to BT-X Conv Kit, 227-646-xx

**190-211-01, VHF Antenna, Omnidirectional, 6dBd Gain, 138–144 MHz**

VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx

**190-211-02, VHF Antenna, Omnidirectional, 6dBd Gain, 144–151 MHz**

VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx

**190-211-03, VHF Antenna, Omnidirectional, 6dBd Gain, 150–157 MHz**

VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx

**190-211-04, VHF Antenna, Omnidirectional, 6dBd Gain, 156–164 MHz**

VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx



- 190-211-05, VHF Antenna, Omnidirectional, 6dBd Gain, 158–166 MHz**  
VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx
- 190-211-06, VHF Antenna, Omnidirectional, 6dBd Gain, 161–168 MHz**  
VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx
- 190-211-07, VHF Antenna, Omnidirectional, 6dBd Gain, 167–172.5 MHz**  
VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx
- 190-211-08, VHF Antenna, Omnidirectional, 6dBd Gain, 171–175 MHz**  
VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx
- 190-212-00, VHF Antenna, Omnidirectional, 2.1dBd Gain, 118–174 MHz**  
VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx
- 190-216-01, UHF Antenna, Omnidirectional, 6dBd Gain, 405–440 MHz continuous**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-216-02, UHF Antenna, Omnidirectional, 6dBd Gain, 445–480 MHz continuous**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-249-00, UHF Antenna, Omnidirectional, 2.5 dBd gain, 406–512 MHz continuous**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-400-00, BSA-1 VHF Antenna, Omnidirectional, 136–174 MHz**  
BT2 to BT-X Conversion Kit, 227-647-xx  
BT2-3 to BT-X Conv Kit, 227-646-xx  
VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx
- 190-401-10, VHF Antenna, Yagi Directional, BSA-2, 3 element, 136–142 MHz**  
VHF Yagi directional Antenna, 190-401-xx
- 190-401-11, VHF Antenna, Yagi Directional, BSA-2, 3 element, 142–150 MHz**  
VHF Yagi directional Antenna, 190-401-xx
- 190-401-12, VHF Antenna, Yagi Directional, BSA-2, 3 element, 150–158 MHz**  
VHF Yagi directional Antenna, 190-401-xx
- 190-401-13, VHF Antenna, Yagi Directional, BSA-2, 3 element, 158–166 MHz**  
VHF Yagi directional Antenna, 190-401-xx
- 190-401-14, VHF Antenna, Yagi Directional, BSA-2, 3 element, 166–174 MHz**  
VHF Yagi directional Antenna, 190-401-xx
- 190-403-01, UHF Antenna, Omnidirectional, BSA-3, 406–420 MHz**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-403-02, UHF Antenna, Omnidirectional, BSA-3, 420–440 MHz**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-403-04, UHF Antenna, Omnidirectional, BSA-3, 450–470 MHz**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-409-01, UHF Antenna, Omnidirectional, BSA-8, 406–420 MHz**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-409-02, UHF Antenna, Omnidirectional, BSA-8, 420–430 MHz**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-409-04, UHF Antenna, Omnidirectional, BSA-8, 450–470 MHz**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-410-01, UHF Antenna, Yagi directional, BSA-9, 5 element, 406–430 MHz**  
UHF Yagi directional Antenna, 190-410-xx
- 190-410-02, UHF Antenna, Yagi directional, BSA-9, 5 element, 450–470 MHz**  
UHF Yagi directional Antenna, 190-410-xx
- 190-410-03, UHF Antenna, Yagi directional, BSA-9, 5 element, 420–440 MHz**  
UHF Yagi directional Antenna, 190-410-xx
- 190-414-00, Spare BSA-3 UHF Omnidirectional Antenna Whip and Nose Cone**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx
- 190-417-00, UHF Antenna, Omnidirectional, Marine Rated, 300 MHz–3 GHz**  
UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx



**190-418-xx, VHF Antenna, Omnidirectional, Marine Rated, 122–300 MHz**

VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx

**192-048-01, Monitor, 23.5 in., IPS**

D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**192-055-10, Monitor, 55 in. LED**

D-21 Remote Display Controller, 227-063-01

D-21 View Generator, 227-062-30

**192-060-10, Monitor, 49 in. LED**

D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**192-854-02, Tilt Wall-mount**

Monitor, 55 in., 192-055-10

**194-512-10, D-21 System VoIP Desktop Module Assembly**

D-21 System VoIP Desktop Microphone Link Assembly, 122-017-10

D-21 VoIP Link Assembly, 122-008-10

Live Voice Input Radio Switch, 194-541-01

**194-518-01, NTP Time Server, Desktop**

**194-518-11, NTP Time Server, Rack Mount**

**194-523-01, VoIP Module Audio Signal**

Live Voice Input Radio Switch, 194-541-01

**194-527-01, Spare Fiber Optic to Ethernet Converter**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

BT-XF, 227-60x-xx

M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**194-527-07, MAAP-X EN Fiber Optic to Ethernet Converter**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

**194-527-08, BT-XF EN Fiber Optic to Ethernet Converter**

BT-XF, 227-60x-xx

**194-527-09, Monaco Conv EN Fiber Optic to Ethernet Converter**

M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**194-535-02, MAAP-X Sub-Panel Audio Unidirectional Kit**

MAAP-X Sub-Panel, 700-101-00

**194-535-03, MAAP-X Sub-Panel Audio Bidirectional Kit**

MAAP-X Sub-Panel, 700-101-00

**194-538-02, MAAP-X Sub-Panel LOC RS-485 Communication Kit**

MAAP-X Sub-Panel, 700-101-00

**194-539-00, VIM-Z1 Module PCB Assembly**

Live Voice Input Radio Switch, 194-541-01

**194-540-00, PTSN Telephone Interface Module**

Live Voice Input Radio Switch, 194-541-01

**194-541-01, Live Voice Input Radio Switch for MNS**

**194-810-01, Multiplexer, RS-232 to 4 RS-485 ports**

Text Annunciator, 710-054-00

**194-810-24, Multiplexer, mounting accessories**

Text Annunciator, 710-054-01

**196-100-00, Programmable Scanner**

**196-400-00, Contact Mapping Receiver**

**197-700-00, Contact Mapping Transmitter**

**198-016-00, Lightning Arrestor**

Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00

**198-017-01, Lightning Arrestor Replacement Part**

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx





**198-019-01, Lightning Arrestor Replacement Part**

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**198-020-00, Lightning Arrestor Replacement ARC Plug/Gas Tube**

Coaxial Cable, 620-029-00

Coaxial Cable, 620-030-00

Coaxial Cable, 620-031-00

Coaxial Cable, 620-032-00

Coaxial Cable, 620-033-00

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**198-021-00, Lightning Arrestor Kit with PL-259 VHF Arrestor**

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**198-021-01, Lightning Arrestor Kit with PL-259 VHF Arrestor, NEMA 3R Enclosure**

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**198-022-00, Lightning Arrestor Kit**

Coaxial Cable, 620-029-00

Coaxial Cable, 620-030-00

Coaxial Cable, 620-031-00

Coaxial Cable, 620-032-00

Coaxial Cable, 620-033-00

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**198-022-01, Lightning Arrestor Kit**

Coaxial Cable, 620-029-00

Coaxial Cable, 620-030-00

Coaxial Cable, 620-031-00

Coaxial Cable, 620-032-00

Coaxial Cable, 620-033-00

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**199-001-00, Spare 54 in. Antenna Whip**

BT2 to BT-X Conversion Kit, 227-647-xx

BT2-3 to BT-X Conv Kit, 227-646-xx

VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx

**199-002-00, Spare VHF Coil**

VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx

**199-008-00, Tripod Mount**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-010-00, Wall-mount, 4 in. U bracket pair**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-011-00, Wall-mount, 7 in. Y bracket pair**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-012-00, Eaves-mount, adjustable 45 to 60 in. heavy duty**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-013-00, Accessory Pad Kit**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-014-01, Antenna Tower Kit, 42 ft, 3 tower sections**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-020-00, Tower Section**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-021-00, Adjustable House Bracket**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-022-00, Tower Base Hinged**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-023-00, Tower Base Non-hinged**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-024-00, Adjustable Bracket, 20 to 24 in.**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-025-00, Adjustable Bracket, 24 to 33 in.**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-031-00, Spare Tower - Top Section**

Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

**199-056-00, Antenna Mount Clamp Set****199-057-00, Antenna Mounting Kit**

UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx

VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx

**199-061-00, Antenna Kit**

BT-XF Pull Station, Single Action, 227-665-xx

**200-438-00, Switch, 5-Port, Industrial****200-442-11, Ethernet Firewall, 8-port****200-442-21, Ethernet Firewall, 8-port****200-444-00, Fiber Transceiver Module, 1310 nm**

Ethernet Switch, 24 port, 200-471-11

RFM-X Ethernet Network Assy, 4X, 227-325-N1

**200-444-01, Fiber Module, Optical Transceiver Hot Plug, 1550 nm**

Ethernet Switch, 24 port, 200-471-11

RFM-X Ethernet Network Assy, 4X, 227-325-N1

**200-444-02, Fiber Module, Transceiver, Hot Plug for DoDIN Switch**

Switch Assembly, 12 Port, 200-485-01

Switch Assembly, 24 Port 200-480-01

**200-444-06, Fiber Transceiver Module, 1310 nm**

Ethernet Switch Assembly, 200-491-01

RFM-X Ethernet Network, 227-317-N1

**200-444-07, Fiber Transceiver Module, 1490 nm**

RFM-X Ethernet Network, 227-317-N1

**200-457-00, Fiber Module, Optical Transceiver, Hot Plug****200-459-01, Ethernet Switch, Managed, 8-port, L2****200-461-00, KVM Switch, USB, 8 Port****200-464-03, KVM Drawer, integrated 8-port KVM switch**

KVMA Extender Kit, 200-476-01, 200-476-02

**200-467-00, USB HUB Cable for Broadcast MNS Server**

Live Voice Input Radio Switch, 194-541-01

**200-470-04, Cable Kit for local rack-mount server****200-471-11, Ethernet Switch Assy, 24 Port**

RFM-X Ethernet Network Assy, 4X, 227-325-N1

**200-476-01, KVMA Single Monitor Extender Kit****200-476-02, KVMA Dual Monitor Extender Kit****200-477-00, KVM Rack-mount Extender Tray**

KVMA Extender Kit, 200-476-01, 200-476-02

**200-480-01, Switch Assembly, 24 Port, 4 SFPs, Managed, Layer 2, 1U, DoDIN ApL****200-481-01, Switch Assembly, 24 Port, 4SFP, Managed, 1U, Layer 2, POE, DoDIN****200-482-01, Ethernet Switch Assembly, 48 Port, 2 SFP+, Managed, Layer 2, 1U, DoDIN****200-483-01, Switch Assembly, 48 Port, 2 SFP, Managed, Layer 2, 1U, DoDIN ApL****200-484-01, Ethernet Switch Assembly, 12 port, 1 GIG Ethernet SFP, Managed, 1U, DoDIN****200-485-01, Switch Assembly, 12 Port, 2 SFPs, Managed, Layer 3, 1U, DoDIN APL**



**200-490-02, MAAP-X Panel Ethernet Kit 2FO/3CO**

MAAP-X Expansion Backplane, 176-273-99

MAAP-X Sub-Panel, 700-101-00

**200-491-01, Switch Assembly, 24 Port, 8 SFPs, Managed, Layer 2/3, 1U, DoDIN APL**

RFM-X Ethernet Network, 227-317-N1

**200-495-02, MAAP-X Panel Ethernet Kit 4FO/4CO**

MAAP-X Expansion Backplane, 176-273-99

MAAP-X Sub-Panel, 700-101-00

**203-055-01, D-21 MNS Message Broadcast System**

Live Voice Input Radio Switch, 194-541-01

**204-004-00, Device Server**

RFM-XHR Modem, 227-317-xx

**204-016-01, Dual-port RFM-XR Device Server, 100 Base-T**

RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx

**205-032-00, MAAP Printer, Desktop**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X Upgrade, 227-912-xx

**205-064-01, Color Laserjet Printer with Ethernet Adaptor**

**207-045-00, RFM-XR Planner Kit**

RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx

**207-546-25, Text to Speech Broadcast Site License**

D-21 Tone Alert Panel, 227-095-00

**207-572-00, D-21 Anyconnect License**

Firewall, 200-442-21

**207-607-00, BT-X Planner Kit**

BT2 to BT-X Conversion Kit, 227-647-xx

BT2-3 to BT-X Conv Kit, 227-646-xx

BT-XF to BT-XM Upgrade, 227-422-99

BT-XF, 227-60x-xx

BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx

BT-XS Security, 227-6xx-xx

**207-610-00, BT-X/WAC Planner Support Kit**

Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00

**207-617-00, MAP+ Planner Kit**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**207-625-00, MAAP-X Planner Kit**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X Expansion Backplane, 176-273-99

MAAP-X Sub-Panel, 700-101-00

MAAP-X Upgrade, 227-912-xx

**207-627-00, MAAP-X Text Display Address Programing Utility Planner Kit**

MAAP-X Text Display 24VDC, 710-075-01

**207-813-00, M Conventional Planner Kit - CD**

M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**207-813-01, Upgrade M Conventional Planner Kit - CD**

M Conventional Planner Kit - CD, 207-813-00

**207-830-00, D-21 License, Fire Client**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-831-00, D-21 License, Security Client**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx



**207-832-00, D-21 License, Fire and Security Client**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-833-00, D-21 License, Fire Client w/Maps**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-834-00, D-21 License, Security Mgmnt Client w/Maps**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-835-00, D-21 License, Fire and Security Client w/Maps**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-842-00, D-21 License, Mass Notification Client**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-843-00, D-21 License, Mass Notification System**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-849-00, D-21 License, MNS Mass Notif Sys (Maps)**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-860-01, D-21 License, Automatic Vehicle Location**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-862-00, D-21 License, Mobile Client**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-863-00, D-21 Fire Client Upgrade**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-864-00, D-21 Security Client Upgrade**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-878-00, D-21 License, Server**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-878-01, D-21 License, Option Key**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-880-00, D-21 License, Mobile Data Display**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-882-00, D-21 License, E911 Interface Communicator**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-886-00, Remote Interface Driver License**

D-21 Tone Alert Panel, 227-095-00

**207-905-00, Server Text to Speech Support Kit**

D-21 Tone Alert Panel, 227-095-00

**207-913-00, D-21 Mobile Law Enforcement Client Kit**

D-21 Mobile Tablet, 227-099-30

**207-940-00, D-21 License, D-21 Command Decision Display Tools**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-940-01, D-21 License, Map Tools**

D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**207-946-00, D-21 System Point Reporting Upgrade Kit with Licensing Upgrade Key**

**207-973-20, D-21 Support Kit, Communicator**

Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00

**207-973-25, D-21 Support Kit, Activation Screen**

Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00

**207-981-10, D-21 EM Fire Software Kit**

D-21 Mobile Laptop WIN10, 227-098-30

D-21 Mobile Tablet, 227-099-30

**209-057-00, D-21 Rack Mount Kit**

D-21 View Generator, 227-062-30

**210-505-00, Surge Protector, Transient, 2-Outlet Plug In**

**210-508-00, Surge Protector, Signal Line, 12 VDC**



- 210-509-00, Surge Protector Kit, Transient, 120 VAC, Single-Phase, 15A**
- 210-510-00, Surge Protector Kit, Transient, 120 VAC, Single-Phase, 15A Fused**
  - MNS Panels, 703-228-00, 703-228-01
- 210-511-00, Surge Protector, Signal Line, 27 VDC**
- 210-512-00, Surge Protector, Signal Line, 52 VDC**
- 210-514-00, Surge Protector, initiating/indicating circuit, 24 VDC**
- 210-524-00, Surge Protector, 120 VAC**
  - Surge Protectors, 210-524-00, 210-555-00, 210-556-00
- 210-526-00, Surge Suppressor, 4-wire, leased line, 5V**
- 210-540-00, Surge Suppressor**
- 210-544-00, Transient Protector**
  - Alarm Bell, 581-423-00, 581-451-00
- 210-546-00, Surge Protector Mount Base, track, for four modules**
  - Surge Protector Module and Base, 210-549-xx, 210-550-xx, 210-551-xx
- 210-546-05, Surge Protector Mount Base, track, for five modules**
  - Surge Protector Module and Base, 210-549-xx, 210-550-xx, 210-551-xx
- 210-549-00, Surge Protector Module and Base, 75 VDC**
- 210-549-01, Surge Protector Module, No Base, 75 VDC**
- 210-550-00, Surge Protector Module and Base, 12 VDC**
- 210-550-01, Surge Protector Module, No Base, 12 VDC**
- 210-551-00, Surge Protector Module and Base, 24 VDC**
- 210-551-01, Surge Protector Module, No Base, 24 VDC**
- 210-555-00, Surge Protector, 240 VAC**
  - Surge Protectors, 210-524-00, 210-555-00, 210-556-00
- 210-556-00, Surge Protector, 120/240 VAC**
  - Surge Protectors, 210-524-00, 210-555-00, 210-556-00
- 225-163-00, Monaco Planner Suite/Programmer**
  - BT2 to BT-X Conversion Kit, 227-647-xx
  - BT2-3 to BT-X Conv Kit, 227-646-xx
  - BT-XF, 227-60x-xx
  - BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx
  - BT-XS Security, 227-6xx-xx
  - M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx
  - M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx
  - M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN
- 225-791-00, Signal Direction Finder (SDF)**
  - SRD, 225-793-xx
- 225-793-xx, Signal Receiving Device (SRD)**
  - SDF, 225-791-00
- 226-529-00, M Serial Data Kit**
  - M Conventional Planner Kit - CD, 207-813-00
- 227-010-10, D-21 Comm Tower**
  - D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
- 227-010-12, D-21 Comm Rack-mount (4U)**
  - D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
- 227-010-13, D-21 Comm Rack-mount (2U)**
  - D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
- 227-010-14, D-21 Comm Rack (14U) Server**
  - D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
- 227-011-10, D-21G (Graphics) Comm Tower**
  - D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx



**227-011-12, D-21G Comm Rack-mount (4U)**  
D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**227-011-13, D-21G Comm Rack-mount (2U)**  
D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**227-012-10, D-21M (Maps) Comm Tower**  
D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**227-012-12, D-21M Comm Rack-mount (4U)**  
D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**227-012-13, D-21M Comm Rack-mount (2U)**  
D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**227-020-10, D-21 Alarm/Dispatch Tower**  
D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**227-020-13, D-21 Alarm/Dispatch Rack (4U)**  
D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**227-020-62, EM, Repair by Replace, MMS Server Rack-mount**

**227-020-63, EM, Repair by Replace, MMS NAS Drive Rack-mount**

**227-020-71, EM, Repair by Replace, View Generator**

**227-020-81, Standard, Repair by Replace, Server/Client Rack-mount**

**227-020-82, Standard, Repair by Replace, Client Rack-mount**

**227-020-83, Standard, Repair by Replace, Server Rack-mount**

**227-020-84, Standard, Repair by Replace, Client Tower**

**227-020-85, Standard, Repair by Replace, Server Tower**

**227-020-86, Standard, Repair by Replace, Server/Client Tower**

**227-020-88, EM, Repair by Replace, MMS Client Tower**

**227-020-89, EM, Repair by Replace, MMS Client Rack-mount**

**227-020-94, Standard, Repair by Replace, View Generator**

**227-020-97, EM, Repair by Replace, Mobile Fire - Laptop**

**227-020-98, EM, Repair by Replace, Mobile Cops - Laptop**

**227-020-99, EM, Repair by Replace, Mobile Fire - Tablet**

**227-045-01, D-21 General Purpose Input-Output, 32 DPDT, 10A outputs**  
Tri-color Annunciator, 710-073-00, 710-073-01, 369-035-00

**227-056-00, General Purpose Input-Output, 16 input, 16 relay output**

**227-062-30, D-21 View Generator, WIN 10**  
D-21 Remote Display Controller, 227-063-01

**227-063-01, D-21 Remote Display Controller**

**227-095-00, D-21 Tone Alert Panel**

**227-095-10, Tone Alert Panel Upgrade**  
D-21 Tone Alert Panel, 227-095-00

**227-098-30, D-21 EM Mobile Client Laptop WIN10**

**227-099-30, D-21 EM Mobile Client Tablet, WIN 10**

**227-245-xx, BT2-8 Building Transceiver, narrowband, 16 zones, NEMA 1**  
BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx

**227-246-xx, BT2-8 Building Transceiver, narrowband, 16 zones, NEMA 3R**  
BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx

**227-247-xx, BT2-8 Building Transceiver, narrowband, 32 zones, NEMA 1**  
BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx

**227-255-xx, BT2-8 Electronics Pkg**  
BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx

**227-259-00, BT2-8 16 Zone Expander Assy**  
BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx

**227-271-xx, BT2-8 Bldg Transc, narrowband, 16 zones, NEMA 1 flush-mount**  
BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx

**227-312-00, RFM 7000H Harlow Modem**





**227-317-CE, RFM-XHR Radio Frequency Modem, Europe w hardwire options**  
**227-317-N1, RFM-X Ethernet Network Assembly, Rackmount**  
**227-317-xx, RFM-XHR Radio Frequency Modem w hardwire option**  
D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx  
RFM-XHR-HP Radio Frequency Modem, 227-334-xx  
**227-323-00, RFM-XH Hardwire Modem**  
D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx  
**227-325-N1, RFM-X Ethernet Network Assembly, 4X**  
**227-325-xx, RFM-X Radio Frequency Modem in NEMA 4X Enclosure**  
**227-327-00, RFM Rack Mount Kit, Single 2U with on/off switch**  
RFM Rack Mount Kits, 085-800-0x, 227-327-00  
RFM-XHR Modem, 227-317-xx  
**227-329-CE, RFM-XR single repeater, NEMA 4X, Europe option**  
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx  
**227-329-xx, RFM-XR single repeater, NEMA 4X**  
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx  
**227-333-NR, D-21 RFM King-Fisher Assembly**  
**227-358-CE, RFM-XR(2) redundant repeater, NEMA 4X, Europe option**  
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx  
**227-358-xx, RFM-XR(2) redundant repeater, NEMA 4X**  
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx  
**227-359-CE, RFM-XR, Electronics Pkg, Europe Option**  
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx  
**227-359-xx, RFM-XR, Electronics Pkg**  
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx  
**227-371-02, M-2 to M-2 Conventional FACP Conversion Kit for MNS Operation**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN  
**227-372-02, MAAP-2 to MAAP-2 Conventional FACP Conversion Kit for MNS Operation**  
**227-372-03, MAAP(+) Conversion Kit for MNS Operation**  
**227-422-99, BT-XF to BT-XM Upgrade Kit**  
**227-451-xx, BT-XM In-Bldg MNS Communication Tester**  
**227-550-MN, M-2 FACP, MNS 19x18x3.6 NEMA 1 surface-mount**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN  
**227-550-xx, M-2 Conv NEMA1, surface-mount, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
**227-551-EN, M-2 FACP NEMA1, surface-mount, hardwired (Ethernet)**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
**227-551-MN, M-2 FACP MNS, 28x18x3.6 NEMA 1 surface-mount**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN  
**227-551-xx, M-2 Conv NEMA1, surface-mount, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
**227-552-MN, M-2 FACP, MNS 43x18x3.6 NEMA 1 surface-mount**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN  
**227-552-xx, M-2 Conv NEMA1, surface-mount, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
**227-554-MN, M-2 FACP, MNS 60x18x3.6 NEMA 1 surface-mount**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN  
**227-554-xx, M-2 Conv NEMA1, surface-mount, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
**227-558-xx, Narrowband Electronics Pkg**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx



**227-560-MN, M-2 FACP, MNS 19x18x3.6 NEMA 1 flush-mount**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**227-560-xx, M-2 Conv NEMA1, flush-mount, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-561-EN, M-2 FACP NEMA1, flush-mount, hardwire (Ethernet)**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-561-MN, M-2 FACP, MNS 28x18x3.6 NEMA 1 flush-mount**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**227-561-xx, M-2 Conv NEMA1, flush-mount, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-562-MN, M-2 FACP, MNS 43x18x3.6 NEMA 1 flush-mount**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**227-562-xx, M-2 Conv NEMA1, flush-mount, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-563-MN, M-2 FACP, MNS 24x24x8 NEMA 3R**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**227-563-xx, M-2 Conv NEMA 3R, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-564-MN, M-2 FACP, MNS 60x18x3.6 NEMA 1 flush-mount**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**227-564-xx, M-2 Conv NEMA1, flush-mount, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-570-MN, M-2 FACP, MNS 20x16x6 NEMA 3R**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

**227-570-xx, M-2 Conv NEMA 3R, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-571-xx, M-2 Narrowband Upgrade Kit, Type 1**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-574-00, MAAP Serial Interface Kit**  
BT-X Planner Kit, 207-607-00  
BT-XF, 227-60x-xx  
BT-XM2 Interface Conv Kits 227-371-02, 227-372-0x, 227-623-MN, 227-811-MN  
BT-XS Security, 227-6xx-xx  
MAAP-X Planner, 207-625-00  
MAP+ Planner, 207-617-00

**227-587-xx, M-2 Conv NEMA 4X, narrowband**  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

**227-600-xx, BT-XF, 4-28 zones, narrowband, single wide**  
BT-XF, 227-60x-xx

**227-601-xx, BT-XF, 4-28 zones, narrowband, single wide, NEMA 3R**  
BT-XF, 227-60x-xx

**227-603-xx, BT-XF, 4-60 zones, narrowband, double wide**  
BT-XF, 227-60x-xx

**227-605-00, BT-XFH, 4-28 zones, no radio, single wide, audio board**  
BT-XF, 227-60x-xx

**227-605-EN, BT-XFH EN, 4-28 zones, no radio, single wide, audio board**  
BT-XF, 227-60x-xx

**227-606-00, BT-XFH, 4-60 zones, no radio, double wide, audio board**  
BT-XF, 227-60x-xx

**227-606-EN, BT-XFH EN, 4-60 zones, no radio, double-wide, audio board**  
BT-XF, 227-60x-xx

**227-607-00, BT-XFH, 4-28 zones, no radio, single wide, NEMA 3R audio board**  
BT-XF, 227-60x-xx



- 227-610-xx, BT-XS, 0-24 zones, radio blue single wide**  
BT-XS Security, 227-6xx-xx
- 227-611-xx, BT-XS, 0-24 zones, radio, blue NEMR 3R**  
BT-XS Security, 227-6xx-xx
- 227-613-xx, BT-XS, 0-56 zones, radio, blue double wide**  
BT-XS Security, 227-6xx-xx
- 227-615-00, BT-XHS, 0-24 zones, hardwire, blue single wide**  
BT-XS Security, 227-6xx-xx
- 227-616-00, BT-XHS, 0-56 zones, hardwire, blue double wide**  
BT-XS Security, 227-6xx-xx
- 227-617-00, BT-XS I button keypad option**  
BT-XS Security, 227-6xx-xx
- 227-617-01, BT-XS I button remote keypad option**  
BT-XS Security, 227-6xx-xx
- 227-621-xx, BT-XM In-Bldg Mass Notif Comm, radio, hardwire capable, double wide NEMA 1**
- 227-622-xx, BT-XM In-Bldg Mass Notif Communicator, radio, hardwire capable, NEMA 3R**
- 227-623-MN, BT-XM to BT-XM2 Conversion Kit**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN
- 227-623-xx, BT-XM In-Building Mass Notification Communicator**  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN
- 227-625-00, BT-X Low Loss Cable Kit**  
BT2 to BT-X Conversion Kit, 227-647-xx  
BT2-3 to BT-X Conv Kit, 227-646-xx  
Coaxial Cable, 620-026-00  
Coaxial Cable, 620-029-00  
Coaxial Cable, 620-031-00  
Coaxial Cable, 620-032-00  
Coaxial Cable, 620-033-00
- 227-627-01, BT-X LCD Keypad**  
BT-XS Security, 227-6xx-xx
- 227-630-xx, BT-X Electronics Package**  
BT-XF, 227-60x-xx  
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx  
BT-XS Security, 227-6xx-xx
- 227-634-CE, BT-X WAC/ASC CE**  
Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00
- 227-634-xx, BT-X WAC/ASC**  
Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00
- 227-646-xx, BT2-3 to BT-X Conversion Kit, large or small enclosure**
- 227-647-xx, BT-2 to BT-X Conversion Kit, standard enclosure**
- 227-648-xx, BT-XHS, 0-24 zones, radio/hardwire dual comm, blue single wide**  
BT-XS Security, 227-6xx-xx
- 227-649-xx, BT-XHS, 0-56 zones, radio/hardwire dual comm, blue double wide**  
BT-XS Security, 227-6xx-xx
- 227-661-xx, Replacement BT-X WAC/ASC electronic package**  
Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00
- 227-665-xx, BT-XF Outdoor Pull Station, AC Powered, Single Action, NEMA-4X enclosure**
- 227-668-xx, BT-XF Outdoor Pull Station, Solar Power, Single Action, NEMA 4X Grey Enclosure**
- 227-671-xx, BT-X WAC/ASC with integral BT-X Wide Area Controller**  
Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00

**227-811-MN, MAAP(+) Electronics Pkg**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-811-xx, MAAP+ Electronics Pkg Upgrade**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-855-EN, Hard-wire Only (Ethernet) Units**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-855-MN, Non-radio unit supporting D-21 MNS**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-855-xx, Integrated radio unit, NEMA 1 surface-mount**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-856-EN, Hard-wire Only (Ethernet) Units**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-856-MN, Non-radio unit supporting D-21 MNS**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-856-xx, Integrated radio unit, NEMA 1 surface-mount**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-857-MN, Non-radio unit supporting D-21 MNS**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-857-xx, Integrated radio unit, NEMA 1 surface-mount**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-865-EN, Hard-wire Only (Ethernet) Units**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-865-MN, Non-radio unit supporting D-21 MNS**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-865-xx, Integrated radio unit, NEMA 1 flush-mount**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-866-EN, Hard-wire Only (Ethernet) Units**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-866-MN, Non-radio unit supporting D-21 MNS**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-866-xx, Integrated radio unit, NEMA 1 flush-mount**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-868-xx, Integrated radio unit, NEMA 4X stainless steel**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-869-xx, Integrated radio unit, NEMA 3R red enclosure**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**227-912-NR, MAAP-X Upgrade Package, Standalone, No Radio**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

**227-912-xx, MAAP-X Upgrade Package**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

**227-955-EN, Hardwire Only MAAP-X FAC MNS Evac, surface-mount**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

**227-955-NR, Standalone-No Radio MAAP-X FAC MNS Evac, surface-mount**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

**227-955-xx, Integrated Radio MAAP-X FAC MNS surface-mount**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X LOC Keypad, 710-072-51 710-072-52

MAAP-X LOC/RDU, 710-072-01 710-072-02

**227-956-EN, Hardwire Only MAAP-X FAC MNS Evac, surface-mount**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

**227-956-NR, Standalone-No Radio MAAP-X FAC MNS Evac, surface-mount**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx



- 227-956-xx, Integrated Radio MAAP-X FAC MNS Evac, surface-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 227-957-xx, Integrated Radio MAAP-X FAC MNS Evac, surface-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 227-965-EN, Hardwire Only MAAP-X FAC MNS Evac, flush-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 227-965-NR, Standalone-No Radio MAAP-X FAC MNS Evac, flush-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 227-965-xx, Integrated Radio MAAP-X FAC MNS Evac, flush-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
MAAP-X LOC Keypad, 710-072-51 710-072-52  
MAAP-X LOC/RDU, 710-072-01 710-072-02
- 227-966-EN, Hardwire Only MAAP-X FAC MNS Evac, flush-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 227-966-NR, Standalone-No Radio MAAP-X FAC MNS Evac, flush-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 227-966-xx, Integrated Radio MAAP-X FAC MNS Evac, flush-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 227-968-xx, Integrated Radio MAAP-X FAC MNS Evac, surface-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 227-969-xx, Integrated Radio MAAP-X FAC MNS Evac, surface-mount**  
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx
- 290-050-01, Wattmeter Kit, 25–1000 MHz, 5–500 W, Fixed Element RF**
- 290-701-01, Analog/Digital Multimeter**  
SRD, 225-793-xx
- 297-002-00, RF Communications Service Monitor Kit**
- 297-300-00, Dynamic Battery Analyzer**
- 297-301-00, Dual Mode Battery Analyzer**
- 299-006-01, RF Attenuator Sampler Kit**  
Wattmeter Kit, 290-050-01
- 299-008-00, Spare RF Coaxial Load**  
Wattmeter Kit, 290-050-01
- 299-016-01, D-21 Weather Station Kit**  
D-21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
- 302-100-00, Replacement Stripper for low-loss cable**  
Coaxial Cable Tool Kit, 303-000-00
- 302-101-00, Cutting Tool**  
Coaxial Cable, 620-029-00  
Coaxial Cable, 620-030-00
- 302-102-00, Replacement Blades**  
Coaxial Cable, 620-029-00  
Coaxial Cable, 620-030-00
- 302-103-00, Replacement Stripper for mini RG-8/X cable**  
Coaxial Cable Tool Kit, 303-000-00
- 302-104-00, Replacement Blade Set**  
Coaxial Cable Tool Kit, 303-000-00  
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x  
Coaxial Cable, 620-026-00
- 302-200-00, Replacement Crimper, Dies, and Case**  
Coaxial Cable Tool Kit, 303-000-00



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**303-000-00, Coaxial Cable Tool Kit**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x  
Coaxial Cable, 620-026-00

**326-M00-01, MNS Standard Message SD Card**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
MAAP-X Upgrade, 227-912-xx

**326-M01-01, MNS Custom Message Set**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
MAAP-X Upgrade, 227-912-xx

**326-M10-01, MNS Custom Message Set Field Installation Kit**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
MAAP-X Upgrade, 227-912-xx

**365-012-00, Lens, Amber**

Indoor Chime Strobe, 587-008-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-103-00  
Indoor Horn Strobe, 585-106-00  
Indoor Horn Strobe, 585-107-00  
Indoor Speaker Strobe, 580-114-00  
Indoor Speaker Strobe, 580-115-00  
Indoor Strobe, 367-101-00  
Indoor Strobe, 367-104-00

**365-013-00, Lens, Amber**

Indoor Horn Strobe, 585-099-00  
Indoor Horn Strobe, 585-105-00  
Indoor Horn Strobe, 585-108-00  
Indoor Horn Strobe, 585-109-00  
Indoor Speaker Strobe, 580-112-00  
Indoor Speaker Strobe, 580-113-00  
Indoor Strobe, 367-102-00  
Indoor Strobe, 367-103-00  
Indoor Strobe, 367-105-00

**365-014-00, Lens, Blue**

Indoor Chime Strobe, 587-008-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-103-00  
Indoor Horn Strobe, 585-106-00  
Indoor Horn Strobe, 585-107-00  
Indoor Speaker Strobe, 580-114-00  
Indoor Speaker Strobe, 580-115-00  
Indoor Strobe, 367-101-00  
Indoor Strobe, 367-104-00  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00





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**365-015-00, Lens, Green**

Indoor Chime Strobe, 587-008-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-103-00  
Indoor Horn Strobe, 585-106-00  
Indoor Horn Strobe, 585-107-00  
Indoor Speaker Strobe, 580-114-00  
Indoor Speaker Strobe, 580-115-00  
Indoor Strobe, 367-101-00  
Indoor Strobe, 367-104-00  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00

**365-016-00, Lens, Red**

Indoor Chime Strobe, 587-008-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-103-00  
Indoor Horn Strobe, 585-106-00  
Indoor Horn Strobe, 585-107-00  
Indoor Speaker Strobe, 580-114-00  
Indoor Speaker Strobe, 580-115-00  
Indoor Strobe, 367-101-00  
Indoor Strobe, 367-104-00  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00

**365-017-00, Lens, Blue**

Indoor Horn Strobe, 585-099-00  
Indoor Horn Strobe, 585-105-00  
Indoor Horn Strobe, 585-108-00  
Indoor Horn Strobe, 585-109-00  
Indoor Speaker Strobe, 580-112-00  
Indoor Speaker Strobe, 580-113-00  
Indoor Strobe, 367-102-00  
Indoor Strobe, 367-103-00  
Indoor Strobe, 367-105-00

**365-018-00, Lens, Green**

Indoor Horn Strobe, 585-099-00  
Indoor Horn Strobe, 585-105-00  
Indoor Horn Strobe, 585-108-00  
Indoor Horn Strobe, 585-109-00  
Indoor Speaker Strobe, 580-112-00  
Indoor Speaker Strobe, 580-113-00  
Indoor Strobe, 367-102-00  
Indoor Strobe, 367-103-00  
Indoor Strobe, 367-105-00



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**365-019-00, Lens, Red**

Indoor Horn Strobe, 585-099-00  
Indoor Horn Strobe, 585-105-00  
Indoor Horn Strobe, 585-108-00  
Indoor Horn Strobe, 585-109-00  
Indoor Speaker Strobe, 580-112-00  
Indoor Speaker Strobe, 580-113-00  
Indoor Strobe, 367-102-00  
Indoor Strobe, 367-103-00  
Indoor Strobe, 367-105-00

**367-033-00, Explosion-proof Strobe Light, clear lens**

**367-036-00, Sync module, Type II**

Indoor Horn Strobe, 4-Wire, 585-065-00  
Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
Indoor Speaker Strobe, 580-064-00  
Indoor Speaker Strobe, 580-068-00  
Indoor Speaker Strobe, 580-069-00  
Indoor Speaker Strobe, 580-070-00  
Indoor Speaker Strobe, 580-073-00  
Indoor Speaker Strobe, 580-074-00  
Indoor Speaker Strobe, 580-074-01  
Indoor Speaker Strobe, 580-077-00  
Indoor Speaker Strobe, 580-079-00  
Indoor Speaker Strobe, 580-080-00  
Indoor Speaker Strobe, 580-081-00  
Indoor Speaker Strobe, 580-099-00  
Indoor Strobe Plate 367-049-01, 367-049-02  
Indoor Strobe Plate, 367-049-00  
Indoor Strobe, 367-057-00  
Indoor Strobe, 367-075-00  
Indoor Strobe, 367-085-00  
Indoor Strobe, 367-089-00  
Indoor Strobe, 367-090-00  
Indoor Strobe, 367-091-00  
Indoor Strobe, 367-092-00  
Indoor Strobe, Square Ceiling-Mount, 367-059-00, 367-060-00, 367-064-00  
Indoor Strobe, Type II, 367-058-00  
Indoor/Outdoor Strobe, 367-050-10  
Outdoor Horn Strobe, 585-059-00  
Outdoor Speaker Strobe, 580-075-00  
Outdoor Speaker Strobe, 580-078-00  
Outdoor Strobe, 367-050-00  
Outdoor Strobe, 367-061-00



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**367-047-00, Sync module, Type I**

Indoor Chime Strobe, 587-008-00  
Indoor Chime, 587-009-00  
Indoor Horn Strobe, 585-098-00  
Indoor Horn Strobe, 585-099-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-102-00  
Indoor Horn Strobe, 585-103-00  
Indoor Horn Strobe, 585-105-00  
Indoor Horn Strobe, 585-106-00  
Indoor Horn Strobe, 585-107-00  
Indoor Horn Strobe, 585-108-00  
Indoor Horn Strobe, 585-109-00  
Indoor Horn, 585-100-00  
Indoor Horn, 585-104-00  
Indoor Mini Horn, 585-081-00  
Indoor Speaker Strobe, 580-104-00  
Indoor Speaker Strobe, 580-107-00  
Indoor Speaker Strobe, 580-108-00  
Indoor Speaker Strobe, 580-110-00  
Indoor Speaker Strobe, 580-111-00  
Indoor Speaker Strobe, 580-112-00  
Indoor Speaker Strobe, 580-113-00  
Indoor Speaker Strobe, 580-114-00  
Indoor Speaker Strobe, 580-115-00  
Indoor Strobe, 367-097-00  
Indoor Strobe, 367-098-00  
Indoor Strobe, 367-099-00  
Indoor Strobe, 367-100-00  
Indoor Strobe, 367-101-00  
Indoor Strobe, 367-102-00  
Indoor Strobe, 367-103-00  
Indoor Strobe, 367-104-00  
Indoor Strobe, 367-105-00  
Outdoor Horn Strobe, 585-068-00  
Outdoor Horn Strobe, 585-069-00  
Outdoor Horn Strobe, 585-097-00  
Outdoor Horn Strobe, 585-097-01  
Outdoor Horn, 585-067-01  
Outdoor Speaker Strobe, 580-087-00  
Outdoor Speaker Strobe, 580-088-00  
Outdoor Speaker Strobe, 580-105-00  
Outdoor Speaker Strobe, 580-106-00  
Outdoor Strobe, 367-066-00  
Outdoor Strobe, 367-066-01  
Outdoor Strobe, 367-066-02  
Outdoor Strobe, 367-066-03  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00

**367-049-00, Indoor Strobe Plate, Red, Wall-Mount, Type II, FIRE letter, clear lens**

Sync Module, Type II, 367-036-00



- 367-049-01, Indoor Strobe Plate, White, Wall-Mount, Type II, FIRE letter, clear lens**  
Sync Module, Type II, 367-036-00
- 367-049-02, Indoor Strobe Plate, White, Wall-Mount, Type II, no letter, amber lens**  
Sync Module, Type II, 367-036-00
- 367-050-00, Outdoor Strobe, Red, Wall-Mount, Type II, FIRE letter, clear lens**
- 367-050-10, Indoor/Outdoor Strobe, White, Wall-Mount, Type II, FIRE letter, clear lens**
- 367-057-00, Indoor Strobe, White, Wall-Mount, Type II, no letter, clear lens**
- 367-058-00, Indoor Strobe, White, Ceiling Mount, Type II, no letter, clear lens**
- 367-059-00, Indoor Strobe, White, Square Ceiling-Mount, Type II, no letter, amber lens**
- 367-060-00, Indoor Strobe, White, Square Ceiling-Mount, Type II, no letter, green lens**
- 367-061-00, Outdoor Strobe, White, Wall-Mount, Type II, no letter, clear lens**
- 367-064-00, Indoor Strobe, White, Square Ceiling-Mount, Type II, no letter, blue lens**
- 367-066-00, Outdoor Strobe, Red, Wall-Mount, Type I, FIRE letter, clear lens**
- 367-066-01, Outdoor Strobe, White, Wall-Mount, Type I, FIRE letter, clear lens**
- 367-066-02, Outdoor Strobe, White, Wall-Mount, Type I, FIRE letter, clear lens**
- 367-066-03, Outdoor Strobe, White, Wall-Mount, Type I, no letter, clear lens**
- 367-075-00, Indoor Strobe, Square, White, Wall-Mount, Type II, Black ALERT letter, amber lens**
- 367-085-00, Indoor Strobe, Square, White, Ceiling-Mount, Type II, ALERT letter, clear lens**
- 367-088-00, Indoor/Outdoor Strobe for Hazardous Locations, 285 Candela, Explosion-proof**
- 367-089-00, Indoor Strobe, Square, White, Ceiling-Mount, Type II, no letter, amber lens**
- 367-090-00, Indoor Strobe, Square, Red, Ceiling-Mount, Type II, FIRE letter, clear lens**
- 367-091-00, Indoor Strobe, White, Ceiling-Mount, Type II, FIRE letter, clear lens**
- 367-092-00, Indoor Strobe, Red, Wall-Mount, Type II, FIRE letter, clear lens**
- 367-097-00, Indoor Strobe, Red, Wall-Mount, Type I, FIRE letter, clear lens**
- 367-098-00, Indoor Strobe, White, Wall-Mount, Type I, ALERT letter, amber lens**
- 367-099-00, Indoor Strobe, White, Wall-Mount, Type I, ALERT letter, clear lens**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00
- 367-100-00, Indoor Strobe, White, Wall-Mount, Type I, FIRE letter, clear lens**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00
- 367-101-00, Indoor Strobe, White, Wall-Mount, Type I, no letter, clear lens**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00
- 367-102-00, Indoor Strobe, Red, Ceiling-Mount, Type I, FIRE letter, clear lens**
- 367-103-00, Indoor Strobe, White, Ceiling-Mount, Type I, FIRE letter, clear lens**
- 367-104-00, Indoor Strobe, Red, Wall-Mount, Type I, no letter, clear lens**
- 367-105-00, Indoor Strobe, White, Ceiling-Mount, Type I, ALERT letter, clear lens**
- 369-014-00, Pendant Mounting Bracket**  
Strobe Light, 367-033-00
- 369-017-00, Stanchion Mounting Bracket**  
Strobe Light, 367-033-00
- 369-018-00, Ceiling Mounting Bracket**  
Strobe Light, 367-033-00
- 369-019-00, Wall-mount Elbow**  
Strobe Light, 367-033-00
- 369-022-00, Strobe attachment, amber lens**  
Indoor Speaker Strobe, 580-104-00  
Outdoor Speaker Strobe, 580-106-00



**369-023-00, Strobe attachment, amber lens**

Outdoor Horn Strobe, 585-068-00  
Outdoor Speaker Strobe, 580-105-00  
Outdoor Strobe, 367-066-01

**369-025-00, Lens, Blue**

Indoor Speaker Strobe, 580-104-00  
Outdoor Speaker Strobe, 580-106-00

**369-025-01, Lens, Blue**

Outdoor Horn Strobe, 585-068-00  
Outdoor Strobe, 367-066-01

**369-026-00, Lens, Red**

Indoor Speaker Strobe, 580-104-00  
Outdoor Speaker Strobe, 580-106-00

**369-026-01, Lens, Red**

Outdoor Horn Strobe, 585-068-00  
Outdoor Strobe, 367-066-01

**369-027-00, Lens, Green**

Indoor Speaker Strobe, 580-104-00  
Outdoor Speaker Strobe, 580-106-00

**369-027-01, Lens, Green**

Outdoor Horn Strobe, 585-068-00  
Outdoor Strobe, 367-066-01

**369-035-00, Tri-color Light Bar**

Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00

**369-036-00, Universal Expander Plate, White, Type I, Indoor, no letter, clear lens**

**369-037-00, Universal Expander Plate, White, Type I, Indoor, ALERT letter, amber lens**

**400-701-00, Battery, SLA 12V/26 Ah quick connect**

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

**400-703-00, Battery, SLA 12V/1.4 Ah quick connect**

SRD, 225-793-xx

**400-704-00, Battery, SLA 12V/8 Ah quick connect**

D-21 Tone Alert Panel, 227-095-00  
MAAP-X Text Display 24VDC, 710-075-01  
MNS Panels, 703-228-00, 703-228-01  
NAC Power Extender 6.5A, 404-164-00  
NAC Power Extender, 404-126-00 404-126-01  
Power Supply/Battery Charger 3A, 404-095-00

**400-712-00, Battery, SLA 12V/18 Ah quick connect**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx  
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN  
MAAP-X Upgrade, 227-912-xx  
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx

**400-713-00, Battery, SLA 12V/12 Ah quick connect**

Audio Booster Panels, 703-16x-00 703-20x-00  
BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx  
BT-XF Pull Station, Single Action, 227-665-xx  
BT-XF, 227-60x-xx  
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx  
BT-XS Security, 227-6xx-xx  
GPIO, 227-045-01, 227-056-00  
MAAP-X Text Display 24VDC, 710-075-01  
MNS Panels, 703-228-00, 703-228-01  
NAC Power Extender 6.5A, 404-164-00  
NAC Power Extender, 404-126-00 404-126-01  
Power Supply/Battery Charger 6A, 404-150-00  
Power Supply/Battery Charger 8A/10A 115VAC, 404-098-00  
Power Supply/Battery Charger 8A/10A 230VAC, 404-098-00  
Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00

**400-714-00, Battery, SLA 12V/40 Ah nut and bolt****400-716-00, Battery, SLA 12V/75 Ah universal terminal****400-717-00, Battery, SLA 12V/100 Ah universal terminal****400-718-00, Battery, SLA 12V/100 Ah universal terminal**

Wide Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00

**400-720-00, Battery, SLA 12V/3.3 Ah quick connect****403-018-10, UPS External Battery - use with P/N 404-099-10**

UPS, Network Devices, 404-099-10

**403-020-00, UPS External Battery Pack**

UPS Battery Backup, 404-112-01

**403-022-00, External Battery Pack**

UPS, 404-105-00

**403-099-20, Cartridge Replacement Battery - use with P/N 404-099-10**

UPS, Network Devices, 404-099-10

**404-064-01, UPS Kit, 1200W, 120V****404-073-00, NAC Power Extender, 120 VAC, 50/60 Hz, 24 VDC, 6A****404-090-00, BT-X Power Supply**

BT-XF, 227-60x-xx

RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx

**404-093-00, NAC Power Extender**

Text Annunciator, 710-054-00

**404-094-00, Power Supply-Charger**

Text Annunciator, 710-054-00

**404-095-00, Power Supply/Battery Charger, 24VDC @ 3A, 115 VAC****404-098-00, Power Supply/Battery Charger, 24 VDC @ 8A/10A, 115 VAC 60 Hz, red enclosure****404-098-10, Power Supply/Battery Charger, 24 VDC @ 8A/10A, 230 VAC 50/60 Hz, red enclosure****404-099-10, UPS, Network Devices, 2000 VA, 1800W, 120 VAC, Tower, Rack Mount****404-105-00, UPS 1500VA 120VAC, Rack Tower****404-111-10, 1KVA rack- mount kit, UPS, 800W, rail****404-111-11, 1KVA rack- mount kit, UPS, 800W, no rail****404-112-00, UPS Tower Case**

KVMA Extender Kit, 200-476-01, 200-476-02

**404-112-01, UPS Battery Backup Kit****404-114-01, UPS 400 W**





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**404-119-00, NAC Power Extender**

Indoor Horn Strobe, 4-Wire, 585-065-00  
Indoor Horn Strobe, 585-018-00  
Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
Indoor Speaker Strobe, 580-064-00  
Indoor Speaker Strobe, 580-068-00  
Indoor Speaker Strobe, 580-069-00  
Indoor Speaker Strobe, 580-070-00  
Indoor Speaker Strobe, 580-073-00  
Indoor Speaker Strobe, 580-074-00  
Indoor Speaker Strobe, 580-074-01  
Indoor Speaker Strobe, 580-077-00  
Indoor Speaker Strobe, 580-079-00  
Indoor Speaker Strobe, 580-080-00  
Indoor Speaker Strobe, 580-081-00  
Indoor Speaker Strobe, 580-099-00  
Indoor Strobe Plate 367-049-01, 367-049-02  
Indoor Strobe Plate, 367-049-00  
Indoor Strobe, 367-057-00  
Indoor Strobe, 367-075-00  
Indoor Strobe, 367-085-00  
Indoor Strobe, 367-089-00  
Indoor Strobe, 367-090-00  
Indoor Strobe, Square Ceiling-Mount, 367-059-00, 367-060-00, 367-064-00  
Indoor Strobe, Type II, 367-058-00  
Indoor/Outdoor Strobe, 367-050-10  
Outdoor Horn Strobe, 585-059-00  
Outdoor Speaker Strobe, 580-075-00  
Outdoor Speaker Strobe, 580-078-00  
Outdoor Strobe, 367-050-00  
Outdoor Strobe, 367-061-00

**404-126-00, NAC Power Extender, 120 VAC, 60 Hz**

**404-126-01, NAC Power Extender, 220 VAC, 50/60 Hz**

**404-127-01, Uninterruptible Power Supply**

Monitor, 55 in., 192-055-10

**404-150-00, Power Supply/Battery Charger, 12/24 VDC at 6A, 115 VAC 60 Hz or 230 VAC**

**404-164-00, NAC Power Extender, 220 VAC, 50/60 Hz, 24 VDC, 6.5A**

**404-167-00, D-21 System UPS Network Monitoring for D-21 Workstation Desks**

**404-173-01, UPS Kit**

Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00

**404-190-00, Power Supply/Battery Charger, 10/8A, 115 VAC, 60 Hz**

MAAP-X Text Display 24VDC, 710-075-01

**404-194-00, Power Supply/Battery Charger, 10/8A, 220 VAC, 50/60 Hz**

MAAP-X Text Display 24VDC, 710-075-01

**409-005-00, AC Adaptor Plug**

KVMA Extender Kit, 200-476-01, 200-476-02

**451-700-00, SPDT Relay, grey enclosure**

**451-700-01, SPDT Relay**

Relay Control Module, AP/CLIP, Type II, 729-221-00

Relay Control Module, CLIP, Type I, 729-159-00

Smoke Detector, 723-370-00, 723-371-00

**453-100-00, Relay, SPDT, 24 VDC, 7A contacts, track mount**



453-102-00, Relay, SPDT, 24 VDC, 7A contacts, track mount  
453-103-00, Relay, SPDT, 24 VDC, 7A contacts, enclosure  
453-104-00, DPDT, 24 VDC, 7A contacts, track mount  
453-105-00, DPDT, 24 VDC, 7A contacts, enclosure  
453-106-00, Relay, SPDT, 24 VDC/VAC, 10A contacts, grey enclosure  
453-106-01, Relay, SPDT, 24 VDC/VAC, 10A contacts, red enclosure  
453-107-00, Relay, SPDT, 24 VDC/VAC, 10A contacts, grey enclosure  
453-107-01, Relay, SPDT, 24 VDC/VAC, 10A contacts, red enclosure  
453-110-00, Relay, DPDT, 24 VDC/VAC 10A contacts, grey enclosure  
453-110-01, Relay, DPDT, 24 VDC/VAC, 10A contacts, red enclosure  
453-111-00, Relay, SPDT, 10-30 VDC, 10A contacts, grey enclosure  
453-111-01, Relay, SPDT, 10-30 VDC, 10A contacts, red enclosure  
453-114-00, Relay, SPDT, 24 VDC/VAC, 10A contacts, track mount  
457-117-00, Relay, Time Delay, SPDT, 10A  
501-123-00, Fuse, slow-blow  
    Current In-rush Limiter, 176-257-00  
    SRD, 225-793-xx  
510-319-10, Key Switch, FACP Suspend on Test  
513-410-00, Tamper Switch Kit  
    BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx  
513-411-00, M Tamper Switch Kit  
    GPIO, 227-045-01, 227-056-00  
    M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx  
    M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
    M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN  
513-411-01, MAAP-X Tamper Switch Kit  
    Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx  
    MAAP-X Upgrade, 227-912-xx  
513-412-00, BT-X Enclosure Tamper Switch  
    BT-XF, 227-60x-xx  
    BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx  
514-000-00, OS&Y Gate Valve Switch, 1 SPDT, 10A, 125/250VAC  
514-000-01, OS&Y Gate Valve Switch, 2 SPDT, 10A, 125/250VAC  
514-001-00, Conventional Pressure-Type Waterflow Switch, 1 SPDT, 10A 125V, 4-8 PSI  
514-003-00, Conventional Pressure-Type Supervisory Switch  
517-016-00, Tilt Switch  
    BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-xx  
    M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx  
    M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN  
532-001-00, Silicon Rubber Enclosure Heater, 50 W heater  
532-002-00, Silicon Rubber Enclosure Heater, 100 W heater  
580-055-01, Indoor Speaker Strobe, FIRE letter, clear lens  
    Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
580-058-00, Indoor Speaker Strobe, weatherproof, no letter, clear lens  
    Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
580-063-00, Indoor Speaker Strobe, no letter, clear lens  
    Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
580-064-00, Indoor Speaker Strobe, White, Ceiling-Mount, Type II, no letter, amber lens  
580-065-00, Indoor Speaker Strobe, no letter, amber lens  
    Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
580-068-00, Indoor Speaker Strobe, White, Wall-Mount, Type II  
580-069-00, Indoor Speaker Strobe, Square, White, Ceiling-Mount, Type II, blue lens



**580-070-00, Indoor Speaker Strobe, Self-Amp, White, Ceiling-Mount, Type II, FIRE letter, clear lens**  
**580-073-00, Indoor Speaker Strobe, White, Ceiling-Mount, Type II, FIRE letter, clear lens**  
**580-074-00, Indoor Speaker Strobe, 8 in., White, Ceiling-Mount, Type II, no letter, amber lens**  
**580-074-01, Indoor Speaker Strobe, 8 in., White, Ceiling-Mount, Type II, FIRE letter, clear lens**  
**580-075-00, Outdoor Speaker Strobe, White, Wall-Mount, 180cd, Type II, no letter, amber lens**  
Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
**580-077-00, Indoor Speaker Strobe, White, Ceiling-Mount, Type II, no letters, amber lens**  
**580-078-00, Outdoor Speaker Strobe, weatherproof, ALERT letter, clear lens**  
Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
**580-079-00, Indoor Speaker Strobe, Self-Amp, White, Ceiling-Mount, Type II, ALERT letter, clear lens**  
**580-080-00, Indoor Speaker Strobe, White, Ceiling-Mount, Type II, ALERT letter, clear lens**  
**580-081-00, Indoor Speaker Strobe, White, Wall-Mount, Type II, ALERT letter, clear lens**  
Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
**580-087-00, Outdoor Speaker Strobe, White, Wall-Mount, Type I, FIRE letter, clear lens**  
**580-088-00, Outdoor Speaker Strobe, Red, Wall-Mount, Type I, FIRE letter, clear lens**  
**580-099-00, Indoor Speaker Strobe, White, Ceiling-mount, Type I, FIRE letter, clear lens**  
**580-104-00, Indoor Speaker Strobe, White, Ceiling-Mount, Type I, no letter, clear lens**  
**580-105-00, Outdoor Speaker Strobe, White, Wall-Mount, Type I, ALERT letter, clear lens**  
**580-106-00, Outdoor Speaker Strobe, White, Ceiling-Mount, Type I, ALERT letter, clear lens**  
**580-107-00, Indoor Speaker Strobe, Red, Wall-Mount, Type I, FIRE letter, clear lens**  
**580-108-00, Indoor Speaker Strobe, White, Wall-Mount, Type I, FIRE letter, clear lens**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00  
**580-110-00, Indoor Speaker Strobe, White, Wall-Mount, Type I, ALERT letter, amber lens**  
**580-111-00, Indoor Speaker Strobe, White, Wall-Mount, Type I, ALERT letter, clear lens**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00  
**580-112-00, Indoor Speaker Strobe, White, Ceiling-Mount, Type I, ALERT letter, clear lens**  
**580-113-00, Indoor Speaker Strobe, White, Ceiling-Mount, Type I, no letter, clear lens**  
**580-114-00, Indoor Speaker Strobe, White, Wall-Mount, Type I, no letter, clear lens**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00  
**580-115-00, Indoor Speaker Strobe, Red, Wall-Mount, Type I, no letter, clear lens**  
**580-117-00, Speaker Strobe for Hazardous Locations, black housing with blue lens**  
**580-117-01, Speaker Strobe LED, Hazardous Locations, black housing, low profile blue lens**  
**580-117-02, Speaker Strobe LED, Hazardous Locations, black housing, low profile amber lens**  
**581-422-00, Motorized 6 in. Vibrating Alarm Bell**  
Alarm Bell, 581-422-00, 581-473-00  
**581-423-00, Vibrating Alarm Bell, Explosion Proof, 6 in.**  
Alarm Bell, 581-423-00, 581-451-00  
**581-451-00, Vibrating Alarm Bell, Explosion Proof, 8 in.**  
Alarm Bell, 581-423-00, 581-451-00  
**581-473-00, Motorized 10 in. Vibrating Alarm Bell**  
Alarm Bell, 581-422-00, 581-473-00  
**585-018-00, Indoor Horn Strobe, Multitone, Red, Wall-Mount, Type II, FIRE letter, clear lens**  
**585-059-00, Outdoor Horn Strobe, Red, Wall-Mount, Type II, multitone, clear lens**  
**585-065-00, Indoor Horn Strobe, 4-Wire, Red, Wall-Mount, Type II, multitone, clear lens**  
**585-067-01, Outdoor Horn, Red, Wall-Mount, Type I, no letter**  
**585-068-00, Outdoor Horn Strobe, 4-Wire, Red, Wall-Mount, Type I, FIRE letter, clear lens**  
**585-069-00, Outdoor Horn Strobe, Red, Wall-Mount, Type I, FIRE letter, clear lens**  
**585-081-00, Indoor Mini Horn, Red, Wall-Mount, Type I**



**585-097-00, Outdoor Horn Strobe, White, Wall-Mount, Type I, FIRE letter, clear lens**  
**585-097-01, Outdoor Horn Strobe, Red, Wall-Mount, Type I, FIRE letter, clear lens**  
**585-098-00, Indoor Horn Strobe, Red, Wall-Mount, Type I, FIRE letter, clear lens**  
**585-099-00, Indoor Horn Strobe, Red, Ceiling-Mount, Type I, FIRE letter, clear lens**  
**585-100-00, Indoor Horn, Red, Wall-Mount, Type I, no letter**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00  
**585-101-00, Indoor Horn Strobe, Red, Wall-Mount, Type I, no letter, clear lens**  
**585-102-00, Indoor Horn Strobe, White, Wall-Mount, Type I, FIRE letter, clear lens**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00  
**585-103-00, Indoor Horn Strobe, White, Wall-Mount, Type I, no letter, clear lens**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00  
**585-104-00, Indoor Horn, White, Wall-Mount, Type I, no letter**  
Univ Expander Plate, 369-036-00  
Univ Expander Plate, 369-037-00  
**585-105-00, Indoor Horn Strobe, White, Ceiling-Mount, Type I, FIRE letter, clear lens**  
**585-106-00, Indoor Horn Strobe, 4-wire, White, Wall-Mount, Type I, FIRE letter, clear lens**  
**585-107-00, Indoor Horn Strobe, 4-wire, Red, Wall-Mount, Type I, FIRE letter, clear lens**  
**585-108-00, Indoor Horn Strobe, 4-wire, White, Ceiling-Mount, Type I, FIRE letter, clear lens**  
**585-109-00, Indoor Horn Strobe, Red, 4-Wire, Ceiling-Mount, Type I, FIRE letter, clear lens**  
**585-110-00, Indoor/Outdoor Explosion-proof Horn, Red**  
**585-111-00, Explosion-proof Horn Strobe, Hazardous Location, grey with clear lens**  
**587-008-00, Indoor Chime Strobe, Red, Wall-Mount, Type I, no letter, clear lens**  
**587-009-00, Indoor Chime, Red, Wall-Mount, Type I, no letter**  
**588-000-01, Back Box, weatherproof**  
Alarm Bell, 581-422-00, 581-473-00  
**588-005-00, Back Box, surface-mount**  
Alarm Bell, 581-422-00, 581-473-00  
Indoor Horn Strobe, 4-Wire, 585-065-00  
Indoor Strobe Plate 367-049-01, 367-049-02  
Indoor Strobe Plate, 367-049-00  
**588-006-00, Adaptor Plate**  
Alarm Bell, 581-422-00, 581-473-00  
**588-008-00, Adaptor Plate, semi-flush, red**  
Alarm Bell, 581-422-00, 581-473-00  
**588-013-01, Back Box, surface-mount**  
Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02  
Indoor Speaker Strobe, 580-069-00  
Indoor Speaker Strobe, 580-070-00  
Indoor Speaker Strobe, 580-079-00  
Indoor Speaker Strobe, 580-080-00  
Indoor Speaker Strobe, 580-081-00  
**588-014-00, Back Box, surface-mount**  
Indoor Horn Strobe, 4-Wire, 585-065-00  
Outdoor Horn Strobe, 585-059-00  
**588-021-00, Back Box, surface-mount**  
Indoor Strobe, 367-075-00  
Indoor Strobe, 367-085-00  
Indoor Strobe, 367-089-00  
Indoor Strobe, 367-090-00



**588-026-00, Back Box, surface-mount**

Outdoor Strobe, 367-050-00

**588-026-01, Back Box, surface-mount**

Indoor/Outdoor Strobe, 367-050-10

Outdoor Strobe, 367-061-00

**588-027-00, 4 in. speaker support tile bridge**

Indoor Speaker Strobe, 580-064-00

Indoor Speaker Strobe, 580-070-00

Indoor Speaker Strobe, 580-073-00

Indoor Speaker Strobe, 580-077-00

Indoor Speaker Strobe, 580-079-00

Indoor Speaker Strobe, 580-080-00

**588-028-00, Back Box, surface mount**

Indoor Speaker Strobe, 580-05x-xx, 580-06x-00, 580-07x-00, 580-081-02

Outdoor Speaker Strobe, 580-075-00

Outdoor Speaker Strobe, 580-078-00

**588-033-00, Back Box, surface-mount**

Indoor Speaker Strobe, 580-068-00

**588-038-00, Back Box, surface mount**

Outdoor Horn Strobe, 585-068-00

Outdoor Horn Strobe, 585-069-00

Outdoor Horn Strobe, 585-097-01

Outdoor Horn, 585-067-01

Outdoor Speaker, 124-072-50

Outdoor Strobe, 367-066-00

**588-055-00, Back box, Metal Option, Wall- or Ceiling-mount, White**

Speaker, 124-069-00

**588-056-00, Back Box, Metal**

Outdoor Speaker Strobe, 580-087-00

Outdoor Speaker Strobe, 580-105-00

**588-056-01, Back Box, Metal**

Outdoor Speaker Strobe, 580-088-00

**588-059-00, Trim Ring, White**

Outdoor Horn Strobe, 585-097-00

Outdoor Speaker Strobe, 580-087-00

Outdoor Speaker Strobe, 580-105-00

Outdoor Strobe, 367-066-01

Outdoor Strobe, 367-066-02

Outdoor Strobe, 367-066-03

Speaker, 124-072-00

**588-059-50, Trim Ring, Red**

Outdoor Horn Strobe, 585-068-00

Outdoor Horn Strobe, 585-069-00

Outdoor Horn Strobe, 585-097-01

Outdoor Horn, 585-067-01

Outdoor Speaker Strobe, 580-088-00

Outdoor Speaker, 124-072-50

Outdoor Strobe, 367-066-00



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**588-060-00, Trim Ring, White**

Indoor Speaker Strobe, 580-104-00

Outdoor Speaker Strobe, 580-106-00

**588-076-00, Replacement Plate for 725-602-00**

Conv Carbon Monoxide Detector, 725-602-00 725-602-01

**588-077-00, Back Box, surface-mount**

Outdoor Horn Strobe, 585-097-00

Outdoor Strobe, 367-066-01

Outdoor Strobe, 367-066-02

Outdoor Strobe, 367-066-03

Speaker, 124-072-00

**588-082-00, Back Box, surface-mount**

Conv Pull Station, 708-031-00

**588-083-00, Back Box, weatherproof**

Conv Pull Station, 708-031-00

**588-090-00, Back Box, surface-mount**

Indoor Chime Strobe, 587-008-00

Indoor Chime, 587-009-00

Indoor Horn Strobe, 585-098-00

Indoor Horn Strobe, 585-101-00

Indoor Horn Strobe, 585-107-00

Indoor Horn, 585-100-00

Indoor Strobe, 367-097-00

Indoor Strobe, 367-104-00

**588-091-00, Back Box, surface-mount**

Indoor Horn Strobe, 585-102-00

Indoor Horn Strobe, 585-103-00

Indoor Horn Strobe, 585-106-00

Indoor Horn, 585-104-00

Indoor Strobe, 367-098-00

Indoor Strobe, 367-099-00

Indoor Strobe, 367-100-00

Indoor Strobe, 367-101-00

Univ Expander Plate Backbox Skirt, 588-101-00

Univ Expander Plate, 369-036-00

Univ Expander Plate, 369-037-00

**588-092-00, Back Box, surface-mount**

Indoor Speaker Strobe, 580-107-00

Indoor Speaker Strobe, 580-115-00

Indoor Speaker, 124-092-00

**588-093-00, Back Box, surface-mount**

Indoor Speaker Strobe, 580-108-00

Indoor Speaker Strobe, 580-110-00

Indoor Speaker Strobe, 580-111-00

Indoor Speaker Strobe, 580-114-00

Indoor Speaker, 124-091-00

Univ Expander Plate Backbox Skirt, 588-101-00

Univ Expander Plate, 369-036-00

Univ Expander Plate, 369-037-00





**588-094-00, Back Box, surface mount**

Indoor Horn Strobe, 585-105-00  
Indoor Horn Strobe, 585-108-00  
Indoor Speaker Strobe, 580-112-00  
Indoor Speaker Strobe, 580-113-00  
Indoor Speaker, 124-094-00  
Indoor Strobe, 367-103-00  
Indoor Strobe, 367-105-00

**588-095-00, Trim Ring, White**

Indoor Horn Strobe, 585-105-00  
Indoor Horn Strobe, 585-108-00  
Indoor Speaker Strobe, 580-112-00  
Indoor Speaker Strobe, 580-113-00  
Indoor Speaker, 124-094-00  
Indoor Strobe, 367-103-00  
Indoor Strobe, 367-105-00

**588-096-00, Trim Ring, Red**

Indoor Horn Strobe, 585-099-00  
Indoor Horn Strobe, 585-109-00  
Indoor Speaker, 124-093-00  
Indoor Strobe, 367-102-00

**588-097-00, Back Box, surface-mount**

Indoor Horn Strobe, 585-099-00  
Indoor Horn Strobe, 585-109-00  
Indoor Speaker, 124-093-00  
Indoor Strobe, 367-102-00

**588-098-00, Trim Ring, Red**

Indoor Chime Strobe, 587-008-00  
Indoor Chime, 587-009-00  
Indoor Horn Strobe, 585-098-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-107-00  
Indoor Horn, 585-100-00  
Indoor Speaker Strobe, 580-107-00  
Indoor Speaker Strobe, 580-115-00  
Indoor Speaker, 124-092-00  
Indoor Strobe, 367-097-00  
Indoor Strobe, 367-104-00

**588-099-00, Trim Ring, White**

Indoor Horn Strobe, 585-102-00  
Indoor Horn Strobe, 585-103-00  
Indoor Horn Strobe, 585-106-00  
Indoor Horn, 585-104-00  
Indoor Speaker Strobe, 580-108-00  
Indoor Speaker Strobe, 580-110-00  
Indoor Speaker Strobe, 580-111-00  
Indoor Speaker Strobe, 580-114-00  
Indoor Speaker, 124-091-00  
Indoor Strobe, 367-098-00  
Indoor Strobe, 367-099-00  
Indoor Strobe, 367-100-00  
Indoor Strobe, 367-101-00

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**588-100-00, Bracket, Tile Support**

Indoor Speaker, 124-095-00

**588-101-00, Univ Expander Plate Back Box Skirt, White, Wall**

Univ Expander Plate, 369-036-00

Univ Expander Plate, 369-037-00

**588-102-00, Back Box, surface mount**

Conv Pull Station, 708-026-01

**588-103-00, Hub Cover, 3/4 in.**

Conv Heat Detect, 721-110-00

Conv Heat Detector, 721-109-00

**589-003-00, Decals, Red**

Outdoor Strobe, 367-066-01

Speaker, 124-072-00

**589-004-00, Decals, Red**

Indoor Speaker Strobe, 580-104-00

Outdoor Speaker Strobe, 580-106-00

**589-005-00, Decals, White**

Outdoor Horn Strobe, 585-068-00

Outdoor Horn, 585-067-01

Outdoor Speaker, 124-072-50

**589-007-00, Bezel, red, AGENT letter**

Indoor Horn Strobe, 585-099-00

Indoor Horn Strobe, 585-109-00

Indoor Strobe, 367-102-00

**589-008-00, Bezel, white, no letter**

Indoor Horn Strobe, 585-105-00

Indoor Horn Strobe, 585-108-00

Indoor Strobe, 367-103-00

Indoor Strobe, 367-105-00

**589-009-00, Bezel, red, ALERT letter**

Indoor Horn Strobe, 585-099-00

Indoor Horn Strobe, 585-109-00

Indoor Strobe, 367-102-00

**589-010-00, Bezel, red, EVAC letter**

Indoor Horn Strobe, 585-099-00

Indoor Horn Strobe, 585-109-00

Indoor Strobe, 367-102-00

**589-012-00, Bezel, red, no letter**

Indoor Horn Strobe, 585-099-00

Indoor Horn Strobe, 585-109-00

Indoor Strobe, 367-102-00

**589-013-00, Bezel, white, AGENT letter**

Indoor Horn Strobe, 585-105-00

Indoor Horn Strobe, 585-108-00

Indoor Strobe, 367-103-00

Indoor Strobe, 367-105-00

**589-014-00, Bezel, white, ALERT letter**

Indoor Horn Strobe, 585-105-00

Indoor Horn Strobe, 585-108-00

Indoor Strobe, 367-103-00

Indoor Strobe, 367-105-00



**589-015-00, Bezel, white, EVAC letter**

Indoor Horn Strobe, 585-105-00

Indoor Horn Strobe, 585-108-00

Indoor Strobe, 367-103-00

Indoor Strobe, 367-105-00

**589-016-00, Bezel, white, FIRE letter**

Indoor Strobe, 367-105-00

**589-017-00, Bezel, red, AGENT letter**

Indoor Speaker Strobe, 580-115-00

**589-018-00, Bezel, red, ALERT letter**

Indoor Speaker Strobe, 580-115-00

**589-019-00, Bezel, red, EVAC letter**

Indoor Speaker Strobe, 580-115-00

**589-020-00, Bezel, red, FIRE letter**

Indoor Speaker Strobe, 580-115-00

**589-021-00, Bezel, red, no letter**

Indoor Speaker Strobe, 580-107-00

**589-022-00, Bezel, white, AGENT letter**

Indoor Speaker Strobe, 580-114-00

**589-023-00, Bezel, white, ALERT letter**

Indoor Speaker Strobe, 580-114-00

**589-024-00, Bezel, white, EVAC letter**

Indoor Speaker Strobe, 580-114-00

**589-025-00, Bezel, white, FIRE letter**

Indoor Speaker Strobe, 580-114-00

**589-026-00, Bezel, white, no letter**

Indoor Speaker Strobe, 580-108-00

Indoor Speaker Strobe, 580-110-00

Indoor Speaker Strobe, 580-111-00

**589-027-00, Bezel, white, EVAC letter**

Indoor Speaker Strobe, 580-113-00

**589-031-00, Bezel, white, AGENT letter**

Indoor Speaker Strobe, 580-113-00

**589-032-00, Bezel, white, ALERT letter**

Indoor Speaker Strobe, 580-113-00

**589-033-00, Bezel, white, FIRE letter**

Indoor Speaker Strobe, 580-113-00

**589-034-00, Bezel, white, no letter**

Indoor Speaker Strobe, 580-112-00

**589-037-00, Bezel, white, AGENT letter**

Indoor Horn Strobe, 585-103-00

Indoor Horn Strobe, 585-106-00

Indoor Horn, 585-104-00

Indoor Strobe, 367-101-00

**589-038-00, Bezel, white, ALERT letter**

Indoor Horn Strobe, 585-103-00

Indoor Horn Strobe, 585-106-00

Indoor Horn, 585-104-00

Indoor Strobe, 367-101-00

Univ Expander Plate, 369-036-00

**589-039-00, Bezel, white, EVAC letter**

Indoor Horn Strobe, 585-103-00  
Indoor Horn Strobe, 585-106-00  
Indoor Horn, 585-104-00  
Indoor Strobe, 367-101-00  
Univ Expander Plate, 369-036-00

**589-040-00, Bezel, white, FIRE letter**

Indoor Horn Strobe, 585-103-00  
Indoor Horn, 585-104-00  
Indoor Strobe, 367-101-00  
Univ Expander Plate, 369-036-00

**589-041-00, Bezel, white, no letter**

Indoor Horn Strobe, 585-102-00  
Indoor Horn Strobe, 585-106-00  
Indoor Strobe, 367-098-00  
Indoor Strobe, 367-099-00  
Indoor Strobe, 367-100-00

**589-042-00, Bezel, red, AGENT letter**

Indoor Chime Strobe, 587-008-00  
Indoor Chime, 587-009-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-107-00  
Indoor Horn, 585-100-00  
Indoor Strobe, 367-104-00

**589-043-00, Bezel, red, ALERT letter**

Indoor Chime Strobe, 587-008-00  
Indoor Chime, 587-009-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-107-00  
Indoor Horn, 585-100-00  
Indoor Strobe, 367-104-00

**589-044-00, Bezel, red, EVAC letter**

Indoor Chime Strobe, 587-008-00  
Indoor Chime, 587-009-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn Strobe, 585-107-00  
Indoor Horn, 585-100-00  
Indoor Strobe, 367-104-00

**589-045-00, Bezel, red, FIRE letter**

Indoor Chime Strobe, 587-008-00  
Indoor Chime, 587-009-00  
Indoor Horn Strobe, 585-101-00  
Indoor Horn, 585-100-00  
Indoor Strobe, 367-104-00

**589-046-00, Bezel, red, no letter**

Indoor Horn Strobe, 585-098-00  
Indoor Horn Strobe, 585-107-00  
Indoor Strobe, 367-097-00

**589-047-00, Replacement tube, Xenon strobe**

Explosion-proof Horn Strobe, 585-111-00

**620-023-00, Coax Cable bulk**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x



**620-026-00, Coaxial Cable, 50 Ohm, Low Loss**  
**620-029-00, Coaxial Cable 50 Ohm Heliast Superflex**  
**620-030-00, Coaxial Cable, 50 ohm, 1/2 in., Heliast Superflex**  
**620-031-00, Coaxial Cable, 50 Ohm, 1/2 in. Heliast, LDF**  
**620-032-00, Coaxial Cable, 50 Ohm, 5/8 in. Heliast, LDF**  
**620-033-00, Coaxial Cable, 50 Ohm, 7/8 in. Heliast, Foam**  
**621-020-00, Cable, FPLR 2-conductor 18 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-022-00, Cable, FPLR 2-conductor 14 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-025-00, 22 AWG 4-wire cable, twisted pair with drain and shield**  
MAAP-X LOC Keypad, 710-072-51 710-072-52  
MAAP-X LOC/RDU, 710-072-01 710-072-02  
Remote Display Unit, 710-070-01, 710-070-02  
**621-026-00, Cable for audio, control, communications, instrumentation**  
**621-040-00, Cable, FPLR 4-conductor 18 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-060-00, Cable, FPLR 6-conductor 18 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-062-00, Cable, FPLR 4-conductor 14 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-063-00, Cable, FPLP 2-conductor 18 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-064-00, Cable, FPLP 4-conductor 18 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-065-00, Cable, FPLP 6-conductor 18 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-066-00, Cable, FPLP 2-conductor 14 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-067-00, Cable, FPLP 4-conductor 14 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-068-00, Cable, FPLR 2-conductor 12 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-069-00, Cable, FPLR 2-conductor 14 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-070-00, Cable, FPLR 2-conductor 16 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-071-00, Cable, FPLR 2-conductor 18 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-072-00, Cable, FPLP 2-conductor 16 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-073-00, Cable, FPLP 2-conductor 12 AWG**  
Cable, 621-02x-00 621-040-00 621-06x-00 621-07x-00  
**621-083-00, Cable, RS-485, Plenum**  
Cable, 621-083-00, 621-084-00  
MAAP-X LOC Keypad, 710-072-51 710-072-52  
MAAP-X LOC/RDU, 710-072-01 710-072-02  
**621-084-00, Cable, RS-485, Non-plenum**  
Cable, 621-083-00, 621-084-00  
MAAP-X LOC Keypad, 710-072-51 710-072-52  
MAAP-X LOC/RDU, 710-072-01 710-072-02

**621-085-00, Wire, plenum, unshielded, 1,000 ft.**

Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00

**624-015-00, Cable for D-21 Weather Station**

D-21 Incident and EM Mgmt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx

**624-026-00, Cable, CAT5E 4-conductor 24 AWG**

**624-034-00, CAT 6 Cable, non-plenum, green jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-035-00, CAT 6 Cable, non-plenum, purple jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-036-00, CAT 6 Cable, non-plenum, yellow jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-037-00, CAT 6 Cable, non-plenum, white jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-039-00, CAT 6 Cable, non-plenum, blue jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-044-00, CAT 6 Cable, plenum, green jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-045-00, CAT 6 Cable, plenum, purple jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-046-00, CAT 6 Cable, plenum, yellow jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-047-00, CAT 6 Cable, plenum, white jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-049-00, CAT 6 Cable, plenum, blue jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

Cable CAT6A, 624-050-00

**624-050-00, CAT6A Cable, OSP Broadband, black jacket, 23 AWG**

Cable CAT6, 624-03x-00 624-04x-00

**625-100-00, Coax Cable, Type II, preassembled, 20 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**625-100-01, Coax Cable, Type II, preassembled, 40 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**625-100-02, Coax Cable, Type II, preassembled, 60 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**625-100-03, Coax Cable, Type II, preassembled, 80 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**625-100-04, Coax Cable, Type II, preassembled, 100 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**625-100-05, Coax Cable, Type II, preassembled, 2 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**625-100-06, Coax Cable, Type II, preassembled, 15 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x





**625-111-00, RFM to Device Server Serial Cable**

Device Server, 204-004-00

**625-123-01, RFM-X RS-232/power 100 Base-T server cable**

Device Server, 204-004-00

RFM-XH Modem, 227-323-00

RFM-XHR Modem, 227-317-xx

**625-178-00, Live Voice Radio Switch to VoIP Module Audio Input Cable**

Live Voice Input Radio Switch, 194-541-01

**625-178-01, VoIP Module to Sound Card Cable**

Live Voice Input Radio Switch, 194-541-01

**625-179-00, VoIP Module Audio to RFM-X Module Audio Converter Cable**

Live Voice Input Radio Switch, 194-541-01

**625-179-01, VoIP Module Audio to Radio Switch Audio Converter Cable**

Live Voice Input Radio Switch, 194-541-01

**625-214-00, King-Fisher Interface Cable and Bracket**

RFM King-Fisher Assembly, 227-333-NR

**626-000-01, Coax Cable, Type I, preassembled, 60 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**626-000-02, Coax Cable, Type I, preassembled, 40 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**626-000-03, Coax Cable, Type I, preassembled, 80 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**626-000-04, Coax Cable, Type I, preassembled, 100 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**626-000-05, Coax Cable, Type I, preassembled, 20 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**626-000-06, Coax Cable, Type I, preassembled, 15 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**626-000-07, Coax Cable, Type I, preassembled, 5 ft.**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**626-071-00, Adaptor N female to UHF male**

Wattmeter Kit, 290-050-01

**626-096-00, AC Power Cord, European**

KVMA Extender Kit, 200-476-01, 200-476-02

**626-098-00, AC Power Cord, UK**

KVMA Extender Kit, 200-476-01, 200-476-02

**626-099-00, Type L Cord Jumper**

KVMA Extender Kit, 200-476-01, 200-476-02

**626-266-00, BT-X 24 in. Cable**

BT2 to BT-X Conversion Kit, 227-647-xx

**626-277-00, USB Cable, Sound Card to USB Hub**

Live Voice Input Radio Switch, 194-541-01

**629-003-00, Cable Termination Kit, N male connector for 1/2 in. Helix**

Coaxial Cable, 620-031-00

**629-004-00, Cable Termination Kit for 5/8 in.**

Coaxial Cable, 620-032-00

**629-005-00, Cable Termination Kit**

Coaxial Cable, 620-033-00

**630-011-00, BT-XS Keypad Interface Harness**

BT-XS Security, 227-6xx-xx

**643-526-00, Adaptor, Right-Angle BNC male to BNC female**

Coaxial Cable, 620-026-00  
Coaxial Cable, 620-029-00  
Coaxial Cable, 620-030-00  
Coaxial Cable, 620-031-00  
Coaxial Cable, 620-032-00  
Coaxial Cable, 620-033-00

**643-527-00, Connector, crimp, Type BNC male**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**643-529-00, Adaptor Straight BNC male to PL-259 Female**

Coaxial Cable, 620-026-00

**643-530-00, Coaxial Cable Connector Kit, PL-259 male**

Coaxial Cable, 620-026-00

**643-531-00, Connector Crimp, PL-259 male**

Coaxial Cable, 620-026-00

**643-545-00, Connector Compression N male**

Coaxial Cable, 620-029-00

**643-546-00, Connector Compression BNC male**

Coaxial Cable, 620-029-00

**643-547-00, Connector Solder PL-259**

Coaxial Cable, 620-029-00

**643-548-00, Adaptor, Straight BNC male to N female**

Coaxial Cable, 620-026-00  
Coaxial Cable, 620-029-00  
Coaxial Cable, 620-030-00  
Coaxial Cable, 620-031-00  
Coaxial Cable, 620-032-00  
Coaxial Cable, 620-033-00

**643-549-00, Connector Compression N male**

Coaxial Cable, 620-030-00

**643-553-00, Connector, crimp, Type PL-259 male**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**643-554-00, Adaptor, PL-259 Female to N male**

UHF Omni Antenna, 190-216-xx, 190-403-xx, 190-409-xx, 190-417-xx  
VHF Omni Antenna, 190-211-0x, 190-212-00, 190-400-00, 190-418-xx  
VHF Yagi directional Antenna, 190-401-xx

**643-555-00, Connector Crimp**

Coaxial Cable, 620-026-00

**643-556-00, Connector, crimp, Type N male**

Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x

**643-557-00, Connector Compression**

Coaxial Cable, 620-026-00

**643-569-00, Adaptor, Straight N female to PL-259 male**

Coaxial Cable, 620-029-00  
Coaxial Cable, 620-030-00  
Coaxial Cable, 620-031-00  
Coaxial Cable, 620-032-00  
Coaxial Cable, 620-033-00

**643-572-00, Connector 1/2 in heliax male positive stop**

Coaxial Cable, 620-031-00

**643-573-00, Connector Compression N male for 5/8 in.**

Coaxial Cable, 620-032-00



**643-574-00, Connector Compression N male for 7/8 in.**

Coaxial Cable, 620-033-00

**649-118-00, USB to RS-232 serial port adaptor**

BT-X Planner Kit, 207-607-00

BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx

M Conventional Planner Kit - CD, 207-813-00

M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

MAAP-X Planner, 207-625-00

MAP+ Planner, 207-617-00

**661-000-00, Ground Rod**

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**661-001-00, Ground Rod Clamp**

Lightning Arrestors and Kits, 198-021-xx, 198-022-xx

**661-002-00, Copper threaded base**

**661-004-00, Copper mounting base**

**700-026-00, Vulcan I FACP, NEMA 1, surface-mount**

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx

**700-027-00, Vulcan I FACP, NEMA 1, surface-mount**

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx

**700-027-01, Vulcan I FACP, NEMA 1, flush-mount**

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx

**700-028-00, Vulcan I FACP, NEMA 1, surface-mount**

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx

**700-028-01, Vulcan I FACP, NEMA 1, flush-mount**

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx

**700-101-00, MAAP-X Sub-Panel Assembly**

**703-161-00, MNS Push Button**

MNS Panels, 703-228-00, 703-228-01

**703-163-00, Audio Splitter**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-164-00, Audio Booster 160W, 120 VAC**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-165-00, Audio Booster 320W, 120 VAC**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-166-00, Volume Control**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-167-00, Audio Booster 80W, 120 VAC**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-168-00, Remote Microphone Expander**

MNS Panels, 703-228-00, 703-228-01

**703-169-00, Remote Microphone**

MNS Panels, 703-228-00, 703-228-01

**703-171-00, Addressable Splitter**

MNS Panels, 703-228-00, 703-228-01

**703-172-00, Telephone Controller**

MNS Panels, 703-228-00, 703-228-01

**703-181-00, Message Kit**

MNS Panels, 703-228-00, 703-228-01

**703-188-00, Remote Microphone and LOC, surface-mount**

MNS Panels, 703-228-00, 703-228-01

**703-192-00, Speaker Splitter Mounting Bracket**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-193-00, Remote Microphone and LOC, flush-mount**

MNS Panels, 703-228-00, 703-228-01

**703-194-00, HVAC Emergency Shut-Off Switch**

MNS Panels, 703-228-00, 703-228-01

**703-206-00, Audio Booster 160W, 240 VAC**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-207-00, Audio/Strobe Booster 80W, 240 VAC**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-208-00, Audio Booster 320W, 240 VAC**

Audio Booster Panels, 703-16x-00 703-20x-00

MNS Panels, 703-228-00, 703-228-01

**703-228-00, Single Channel, 40W, MNS Panel, 120 VAC**

MNS Panels, 703-228-00, 703-228-01

**703-228-01, Single Channel, 40W, MNS Panel, 240 VAC**

MNS Panels, 703-228-00, 703-228-01

**708-015-01, Fire Alarm Pull Station**

Conv Pull Station, 708-015-01, 708-015-03

**708-015-03, Foam Release Fire Alarm Pull Station**

Conv Pull Station, 708-015-01, 708-015-03

**708-022-00, Conventional Pull Station, Single Action, SPST, NO wire leads**

**708-025-01, Conventional Pull Station, Single Action, Single Pole**

**708-025-03, Conventional Pull Station, Single Action, DPST**

**708-026-01, Conventional Pull Station, Double Action, Single Pole**

**708-031-00, Conventional Pull Station, Double/Single Action, Single Pole**

**708-032-01, HVAC Shutdown Kit**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X LOC Keypad, 710-072-51 710-072-52

MAAP-X LOC/RDU, 710-072-01 710-072-02

**709-020-00, Weatherproofing gasket**

HVAC Shutdown Kit, 708-032-01

**709-023-00, Surface-mount Spacer**

HVAC Shutdown Kit, 708-032-01

**709-024-00, Spacer conduit knockout gasket**

HVAC Shutdown Kit, 708-032-01

**709-026-00, Back Box, surface-mount**

Conv Pull Station 708-022-00

Conv Pull Station, 708-025-01

Conv Pull Station, 708-025-03

**709-029-00, Back Box, weatherproof**

Conv Pull Station 708-022-00

Conv Pull Station, 708-025-01

Conv Pull Station, 708-025-03



**709-031-00, Backplate**

HVAC Shutdown Kit, 708-032-01

**709-034-00, Trim Ring**

Conv Pull Station, 708-026-01

**709-046-00, Plastic breakrod**

Conv Pull Station, 708-031-00

**709-047-00, Locator Light Kit**

BT-XF Pull Station, Single Action, 227-665-xx

**710-054-01, Remote Text Annunciator**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X Upgrade, 227-912-xx

**710-057-00, Emergency Message Display**

**710-070-01, Remote Display Unit, surface-mount**

**710-070-02, Remote Display Unit, flush-mount**

**710-072-01, MAAP-X LOC/RDU Touch Screen, surface-mount**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X Expansion Backplane, 176-273-99

MAAP-X LOC/RDU, 710-072-01 710-072-02

MAAP-X Sub-Panel, 700-101-00

MAAP-X Upgrade, 227-912-xx

**710-072-02, MAAP-X LOC/RDU Touch Screen, flush-mount**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X Expansion Backplane, 176-273-99

MAAP-X LOC/RDU, 710-072-01 710-072-02

MAAP-X Sub-Panel, 700-101-00

MAAP-X Upgrade, 227-912-xx

**710-072-51, MAAP-X LOC Keypad, MNS surface-mount**

MAAP-X LOC Keypad, 710-072-51 710-072-52

**710-072-52, MAAP-X LOC Keypad, MNS flush-mount**

MAAP-X LOC Keypad, 710-072-51 710-072-52

**710-073-00, Controller, 240 VAC**

Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00

**710-073-01, Controller, 120 VAC**

Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00

**710-075-01, MAAP-X Text Display, 24 VDC, two line, multicolor**

Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx

MAAP-X Expansion Backplane, 176-273-99

MAAP-X Sub-Panel, 700-101-00

MAAP-X Upgrade, 227-912-xx

**721-107-00, Conventional Heat Detector, 194F Fixed Temperature Rate Compensation**

**721-108-00, Conventional Heat Detector, 194F Fixed Temp Rate Compensation, weatherproof**

**721-109-00, Conventional Heat Detector, 135 Fixed Temp Rate Compensation, Explosion Proof**

**721-110-00, Conventional Heat Detector, 194F Fixed Temp Rate Compensation, Explosion Proof**

**721-117-00, Conventional Heat Detector, 135F Fixed Temperature Rate Compensation, weatherproof**

**721-122-00, Conventional Heat Detector, 135F Fixed Temperature Rate of Rise**

**721-123-00, Conventional Heat Detector, 135F Fixed Temperature Rate of Rise**

**721-124-00, Addressable Intelligent Heat Detector, 135F Fixed Temp Rate of Rise, CLIP, Type I**

**721-125-00, Conventional Heat Detect, 135F Fixed Temperature/Rate Compensation**

**721-127-00, Conventional Heat Detector, 135 Fixed Temperature/Rate-of-Rise**

**721-128-00, Conventional Heat Detector, combo, 135F Fixed, Rate-of-Rise (dual circuit)**

**721-132-00, Conventional Heat Detector, 194F Fixed Temp Rate Compensation, weatherproof**

**721-133-00, Conventional Heat Detector, 135F Fixed Temp Rate Compensation, weatherproof**



721-134-00, Addressable Intelligent Heat Detector, 135F Fixed Temp/ROR, AP/CLIP, Type II  
721-404-00, Conventional Heat Detector, 190F Fixed Temperature Rate of Rise  
721-405-00, Conventional Heat Detector, 200F Fixed Temperature/Rate Compensation  
721-407-00, Conventional Heat Detector, 194F Fixed Temperature Rate of Rise  
721-408-00, Conventional Heat Detector, 194F Fixed Rate of Rise  
722-121-00, Addressable Intelligent Heat Detector, Electronic 135F, CLIP, Type I  
722-123-00, Conventional Heat Detector, 135F Fixed Temperature  
722-125-00, Conventional Heat Detector, 2-wire mechanical dual circuit 135F Fixed Temp  
722-127-00, Conventional Heat Detector, 135 Fixed Temperature  
722-129-00, Heat Detector, 135°F Fixed Temperature, AP/CLIP, Type II  
722-406-00, Addressable Intelligent Heat Detector, 190F Fixed High Temp, CLIP, Type I  
722-408-00, Conventional Heat Detector, 194F Fixed Temperature  
722-409-00, Conventional Heat Detector, 2-wire mechanical dual circuit 194F Fixed Temp  
722-413-00, Addressable Intelligent Heat Detector, 190°F Fixed High Temp, AP/CLIP, Type II  
723-002-00, Conventional Smoke Detector, Duct, 2-/4-wire, Photoelectric  
    Conv Duct Smoke Detect, 723-369-00  
723-003-00, Conventional Smoke Detector, 135F Fixed Temperature, 2/4-Wire, Photoelectric  
723-340-00, Conv Smoke Detector, 2-wire  
    Conv Smoke Detector, 723-340-xx 723-508-xx  
723-340-01, Conv Smoke Detector, photoelectric, 2-wire, 135 fixed temp  
    Conv Smoke Detector, 723-340-xx 723-508-xx  
723-353-00, Addressable, Intelligent photoelectric Smoke Detector, CLIP, Type I  
723-361-00, Addressable Intelligent photoelectric Smoke Detector, 135F Fixed, CLIP, Type I  
723-367-00, Conventional Duct Smoke Detector, photoelectric, 4-wire  
723-368-00, Conventional Duct Smoke Detector, photoelectric 4-wire  
723-369-00, Conventional Duct Smoke Detector, photoelectric, 2-wire  
723-370-00, Duct Smoke Detector  
    Smoke Detector, AP/CLIP, Type II, 723-602-00  
723-371-00, Duct Smoke Detector  
    Smoke Detector, AP/CLIP, Type II, 723-602-00  
723-372-00, Conventional Duct Smoke Detector, Photoelectric, plug-in  
    Conv Duct Smoke Detect, 723-367-00  
    Conv Duct Smoke Detect, 723-368-00  
723-508-00, Conv Smoke Detector, 4-wire  
    Conv Smoke Detector, 723-340-xx 723-508-xx  
723-508-01, Conv Smoke Detector, 4-wire, 135F fixed temp  
    Conv Smoke Detector, 723-340-xx 723-508-xx  
723-600-00, Addressable Intelligent photoelectric smoke detector, remote test, CLIP, Type I  
    Smoke Detector, 723-370-00, 723-371-00  
723-601-00, Intelligent Photoelectric Smoke Detector, AP/CLIP, Type II  
723-602-00, Intelligent Photoelectric Smoke Detector, Remote Test in Duct, AP/CLIP, Type II  
    Smoke Detector, 723-370-00, 723-371-00  
723-603-00, Intelligent Photoelectric Smoke Detector, 135°F Fixed Temperature, AP/CLIP, Type II  
723-606-00, Intelligent 135°F Fixed Temp Infrared Smoke Detector, AP Only, Type II  
723-607-00, Addressable Intelligent High Sensitivity Smoke Detector, AP Only, Type II  
725-002-00, Reflected Beam Smoke Detector  
725-313-00, Reflected Beam Smoke Detector w integ sensitivity test capability  
725-602-00, Carbon Monoxide Detector, rectangular  
    Conv Carbon Monoxide Detector, 725-602-00 725-602-01  
725-602-01, Carbon Monoxide Detector, circular  
    Conv Carbon Monoxide Detector, 725-602-00 725-602-01





- 725-603-00, Addressable Intelligent CO Detector, AP Only, Type II**
- 725-604-00, Addressable Intelligent Fire/CO Detector, AP Only, Type II**
- 725-605-00, Intelligent Smoke/CO Detector, AP Only, Type II**
- 729-020-00, Adaptor plate**
  - Conv 135F Heat Detector, 721-117-00
  - Conv Heat Detector, 721-107-00
  - Conv Heat Detector, 721-108-00
  - Conv Heat Detector, 721-125-00
  - Conv Heat Detector, 721-405-00
- 729-091-00, Annunciator, LED**
  - 135F Heat Detector ROR, CLIP, Type I, 721-124-00
  - 135F Heat Detector, CLIP, Type I, 722-121-00
  - 135F Smoke Detector, AP/CLIP, Type II, 723-603-00
  - 135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00
  - 190F Heat Detector, CLIP, Type I, 722-406-00
  - CO Detector, AP Only, Type II, 725-603-00
  - Conv 135F ROR Heat Detector, 721-122-00
  - Conv Duct Smoke Detect, 723-367-00
  - Conv Duct Smoke Detect, 723-369-00
  - Conv Duct Smoke Detector, 723-372-00
  - Conv Smoke Detector, 723-002-00
  - Conv Smoke Detector, 723-003-00
  - Conv Smoke Detector, 723-340-xx 723-508-xx
  - Fire/CO Detector, AP Only, Type II, 725-604-00
  - Heat Detector, AP/CLIP, Type II, 721-134-00
  - Heat Detector, AP/CLIP, Type II, 722-129-00
  - Heat Detector, AP/CLIP, Type II, 722-413-00
  - High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00
  - Smoke Detector, 723-353-00, 723-361-00, 723-600-00
  - Smoke Detector, 723-370-00, 723-371-00
  - Smoke Detector, AP/CLIP, Type II, 723-601-00
  - Smoke Detector, AP/CLIP, Type II, 723-602-00
  - Smoke/CO Detector, AP Only, Type II, 725-605-00
- 729-097-00, Conventional Detector Base, plug-in, 2-wire**
  - Conv 135F ROR Heat Detector, 721-122-00
  - Conv Smoke Detector, 723-002-00
  - Conv Smoke Detector, 723-003-00
- 729-101-00, Heat Detector Base**
  - Conv Heat Detector, 721-123-00
  - Conv Heat Detector, 721-404-00
- 729-103-00, Heat Detector Base**
  - Conv Heat Detector, 721-123-00
- 729-105-01, Alarm Only Directory Annunciator, positive common**
  - Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx
- 729-106-01, Alarm Only Directory Annunciator, positive common**
  - Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx
- 729-107-01, Alarm Only Directory Annunciator, positive common**
  - Vulcan I FACP 700-026-00, 700-027-xx, 700-028-xx



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**729-108-00, Remote Test Station**

Conv Duct Smoke Detect, 723-367-00  
Conv Duct Smoke Detect, 723-368-00  
Conv Duct Smoke Detect, 723-369-00  
Conv Duct Smoke Detector, 723-372-00  
Conv Smoke Detector, 725-313-00  
Reflected Beam Smoke Detector, 725-002-00  
Smoke Detector, 723-370-00, 723-371-00

**729-109-00, Addressable Intelligent Detector Base, Sounder, 6.875 in., AP Only, Type II**

High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00

**729-125-00, Detector Base, plug-in, 2-wire**

Conv 135F ROR Heat Detector, 721-122-00  
Conv Smoke Detector, 723-002-00  
Conv Smoke Detector, 723-003-00

**729-127-00, Addressable Intelligent Detector Base, plug-in, 4.1 in., CLIP, Type I**

135F Heat Detector ROR, CLIP, Type I, 721-124-00  
135F Heat Detector, CLIP, Type I, 722-121-00  
190F Heat Detector, CLIP, Type I, 722-406-00  
Conv Duct Smoke Detector, 723-372-00  
Smoke Detectors, CLIP, Type I, 723-353-00, 723-361-00, 723-600-00

**729-129-00, Addressable Intelligent Detector Base, plug-in, sounder, CLIP, Type I**

135F Heat Detector ROR, CLIP, Type I, 721-124-00  
135F Heat Detector, CLIP, Type I, 722-121-00  
190F Heat Detector, CLIP, Type I, 722-406-00  
Smoke Detector, CLIP, Type I, 723-353-00, 723-361-00, 723-600-00

**729-129-01, Addressable Intelligent Detector Base, plug-in, sounder, low frequency, CLIP, Type I**

Smoke Detector, CLIP, Type I, 723-353-00, 723-361-00, 723-600-00

**729-132-00, Addressable Intelligent Detector Base, plug-in, 6.1 in., CLIP, Type I**

135F Heat Detector ROR, CLIP, Type I, 721-124-00  
135F Heat Detector, CLIP, Type I, 722-121-00  
190F Heat Detector, CLIP, Type I, 722-406-00  
Conv Duct Smoke Detector, 723-372-00  
Smoke Detector, CLIP, Type I, 723-353-00, 723-361-00, 723-600-00

**729-133-00, Addressable Intelligent Detector Base, plug-in, isolator, CLIP, Type I**

135F Heat Detector ROR, CLIP, Type I, 721-124-00  
135F Heat Detector, CLIP, Type I, 722-121-00  
190F Heat Detector, CLIP, Type I, 722-406-00  
Smoke Detector, CLIP, Type I, 723-353-00, 723-361-00, 723-600-00

**729-134-00, Addressable Intelligent, detector relay base, CLIP, Type I**

135F Heat Detector ROR, CLIP, Type I, 721-124-00  
Smoke Detector, CLIP, Type I, 723-353-00, 723-361-00, 723-600-00

**729-138-00, Remote Test Station and key**

Conv Duct Smoke Detect, 723-367-00  
Conv Duct Smoke Detect, 723-368-00  
Conv Duct Smoke Detect, 723-369-00  
Conv Duct Smoke Detector, 723-372-00  
Conv Smoke Detector, 725-313-00  
Reflected Beam Smoke Detector, 725-002-00  
Smoke Detector, 723-370-00, 723-371-00

**729-140-00, Addressable Intelligent Module, Fault Isolator, CLIP, Type I**

**729-142-00, Addressable Intelligent Monitor Module, CLIP, Type I**

Switch, 514-001-00



**729-143-00, Addressable Intelligent Module, Mini-Monitor, CLIP, Type I**

Audio Booster Panels, 703-16x-00 703-20x-00  
Conv Pull station, 708-015-01, 708-015-03  
Conv Pull Station, 708-022-00  
Conv Pull Station, 708-025-01  
Conv Pull Station, 708-025-03  
Conv Pull Station, 708-026-01  
Conv Pull Station, 708-031-00  
OS&Y Valve Supervisory/Tamper Switch, 514-000-00, 514-000-01  
Switch, 514-001-00

**729-144-00, Addressable Intelligent Module, Zone Interface, CLIP, Type I**

**729-150-00, Conventional Detector Base, 2-wire, plug-in, 12/24 VDC**

Conv 135F ROR Heat Detector, 721-122-00  
Conv Smoke Detector, 723-002-00  
Conv Smoke Detector, 723-003-00

**729-151-00, Conventional Detector Base, 4 wire, plug-in Form A and C Contacts**

Conv 135F ROR Heat Detector, 721-122-00  
Conv Smoke Detector, 723-002-000  
Conv Smoke Detector, 723-003-00

**729-152-00, Heat Detector Base**

Conv Heat Detector, 721-123-00  
Conv Heat Detector, 721-404-00

**729-154-00, Heat Detector Base**

Conv Heat Detector, 721-404-00

**729-156-00, Test magnet**

135F Heat Detector ROR, CLIP, Type I, 721-124-00  
135F Heat Detector, CLIP, Type I, 722-121-00  
135F Smoke Detector, AP/CLIP, Type II, 723-603-00  
135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00  
190F Heat Detector, CLIP, Type I, 722-406-00  
CO Detector, AP Only, Type II, 725-603-00  
Conv Duct Smoke Detect, 723-367-00  
Conv Duct Smoke Detect, 723-368-00  
Fire/CO Detector, AP Only, Type II, 725-604-00  
Heat Detector, AP/CLIP, Type II, 721-124-00  
Heat Detector, AP/CLIP, Type II, 722-129-00  
Heat Detector, AP/CLIP, Type II, 722-413-00  
High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00  
Smoke Detector, 723-370-00, 723-371-00  
Smoke Detector, AP/CLIP, Type II, 723-601-00  
Smoke Detector, AP/CLIP, Type II, 723-602-00  
Smoke Detector, CLIP, Type I, 723-353-00, 723-361-00, 723-600-00

**729-158-00, Addressable Intelligent Module, Supervised NAC Control, CLIP, Type I**

**729-159-00, Addressable Intelligent Module, Relay Control, CLIP, Type I**

Six Zone Interface Module, CLIP, Type I, 729-164-00  
Smoke Detector, 723-370-00, 723-371-00  
Zone Interface Module, CLIP, Type I, 729-144-00

**729-160-00, Two Module Cabinet**

Six Relay Control Module, AP/CLIP, Type II, 729-224-00  
Six Relay Control Module, CLIP, Type I, 729-165-00  
Six Zone Interface Module, CLIP, Type I, 729-164-00  
Ten Input Monitor Module, AP/CLIP, Type II, 729-223-00  
Ten Input Monitor Module, CLIP, Type I, 729-162-00



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**729-161-00, Six Module Cabinet**

Six Relay Control Module, AP/CLIP, Type II, 729-224-00  
Six Relay Control Module, CLIP, Type I, 729-165-00  
Six Zone Interface Module, CLIP, Type I, 729-164-00  
Ten Input Monitor Module, AP/CLIP, Type II, 729-223-00  
Ten Input Monitor Module, CLIP, Type I, 729-162-00

**729-162-00, Addressable Intelligent Module, Ten Input Monitor, CLIP, Type I**

**729-164-00, Addressable Intelligent Module, Six Zone Interface, CLIP, Type I**

**729-165-00, Addressable Intelligent Module, Six Relay Control, CLIP, Type I**

**729-166-00, Six Module Mounting Bracket**

Six Relay Control Module, AP/CLIP, Type II, 729-224-00  
Six Relay Control Module, CLIP, Type I, 729-165-00  
Six Zone Interface Module, CLIP, Type I, 729-164-00  
Ten Input Monitor Module, AP/CLIP, Type II, 729-223-00  
Ten Input Monitor Module, CLIP, Type I, 729-162-00

**729-182-00, Addressable Intelligent Module, Dual Input Monitor Module, CLIP, Type I**

**729-187-00, Multi-mounting Kit**

Reflected Beam Smoke Detector, 725-002-00

**729-188-00, Long-Range Kit**

Conv Smoke Detector, 725-313-00  
Reflected Beam Smoke Detector, 725-002-00

**729-189-00, Surface-Mount Kit**

Conv Smoke Detector, 725-313-00  
Reflected Beam Smoke Detector, 725-002-00

**729-193-00, Hub Cover, square 1/2 in.**

Conv Heat Detect, 721-110-00  
Conv Heat Detector, 721-109-00

**729-204-01, Alarm and Trouble Indicator Directory Annunciator, positive common and reset switch**

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx

**729-205-00, Sampling Tube, 1 to 2 ft.**

Conv Duct Smoke Detect, 723-367-00  
Conv Duct Smoke Detect, 723-368-00  
Conv Duct Smoke Detect, 723-369-00  
Smoke Detector, 723-370-00, 723-371-00

**729-205-01, Sampling Tube, 2 to 4 ft.**

Conv Duct Smoke Detect, 723-367-00  
Conv Duct Smoke Detect, 723-368-00  
Conv Duct Smoke Detect, 723-369-00  
Smoke Detector, 723-370-00, 723-371-00

**729-205-02, Sampling Tube, 4 to 8 ft.**

Conv Duct Smoke Detect, 723-367-00  
Conv Duct Smoke Detect, 723-368-00  
Conv Duct Smoke Detect, 723-369-00  
Smoke Detector, 723-370-00, 723-371-00

**729-205-03, Sampling Tube, 8 to 12 ft.**

Conv Duct Smoke Detect, 723-367-00  
Conv Duct Smoke Detect, 723-368-00  
Conv Duct Smoke Detect, 723-369-00  
Smoke Detector, 723-370-00, 723-371-00

**729-206-00, Remote Test Coil**

Conv Duct Smoke Detect, 723-369-00

**729-208-00, Addressable Intelligent Module, Six Fault Isolator**



**729-209-00, Addressable Intelligent Detector Base, Sounder, 6.875 in., AP Only, Type II**

135F Smoke Detector, AP/CLIP, Type II, 723-603-00  
135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00  
CO Detector, AP Only, Type II, 725-603-00  
Detector Base, 6.875 in., AP Only, Type II, 729-209-00, 729-212-00  
Fire/CO Detector, AP Only, Type II, 725-604-00  
Heat Detector, AP/CLIP, Type II, 721-134-00  
Heat Detector, AP/CLIP, Type II, 722-129-00  
Heat Detector, AP/CLIP, Type II, 722-413-00  
Smoke Detector, AP/CLIP, Type II, 723-601-00  
Smoke/CO Detector, AP Only, Type II, 725-605-00

**729-210-00, Addressable Intelligent Detector Base, Sounder, 6.875 in., AP/CLIP, Type II**

135F Smoke Detector, AP/CLIP, Type II, 723-603-00  
135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00  
CO Detector, AP Only, Type II, 725-603-00  
Detector Base, 6.875 in., AP/CLIP, Type II, 729-210-00, 729-211-00  
Fire/CO Detector, AP Only, Type II, 725-604-00  
Heat Detector, AP/CLIP, Type II, 721-134-00  
Heat Detector, AP/CLIP, Type II, 722-129-00  
Heat Detector, AP/CLIP, Type II, 722-413-00  
High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00  
Smoke Detector, AP/CLIP, Type II, 723-601-00  
Smoke/CO Detector, AP Only, Type II, 725-605-00

**729-211-00, Addressable Intelligent Detector Base, Sounder, Low Freq, 6.875 in., AP/CLIP, Type II**

135F Smoke Detector, AP/CLIP, Type II, 723-603-00  
135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00  
CO Detector, AP Only, Type II, 725-603-00  
Detector Base, 6.875 in., AP/CLIP, Type II, 729-210-00, 729-211-00  
Fire/CO Detector, AP Only, Type II, 725-604-00  
Heat Detector, AP/CLIP, Type II, 721-134-00  
Heat Detector, AP/CLIP, Type II, 722-129-00  
Heat Detector, AP/CLIP, Type II, 722-413-00  
High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00  
Smoke Detector, AP/CLIP, Type II, 723-601-00  
Smoke/CO Detector, AP Only, Type II, 725-605-00

**729-212-00, Addressable Intelligent Detector Base, Sounder, Low Freq, 6.875 in., AP Only, Type II**

135F Smoke Detector, AP/CLIP, Type II, 723-603-00  
135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00  
CO Detector, AP Only, Type II, 725-603-00  
Detector Base, 6.875 in., AP Only, Type II, 729-209-00, 729-212-00  
Fire/CO Detector, AP Only, Type II, 725-604-00  
Heat Detector, AP/CLIP, Type II, 721-134-00  
Heat Detector, AP/CLIP, Type II, 722-129-00  
Heat Detector, AP/CLIP, Type II, 722-413-00  
High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00  
Smoke Detector, AP/CLIP, Type II, 723-601-00  
Smoke/CO Detector, AP Only, Type II, 725-605-00



**729-213-00, Addressable Intelligent Detector Base, plug-in, isolator, AP/CLIP, Type II**

135F Smoke Detector, AP/CLIP, Type II, 723-603-00  
135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00  
CO Detector, AP Only, Type II, 725-603-00  
Fire/CO Detector, AP Only, Type II, 725-604-00  
Heat Detector, AP/CLIP, Type II, 722-121-00  
Heat Detector, AP/CLIP, Type II, 722-129-00  
Heat Detector, AP/CLIP, Type II, 722-413-00  
High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00  
Smoke Detector, AP/CLIP, Type II, 723-601-00  
Smoke/CO Detector, AP Only, Type II, 725-605-00

**729-214-00, Addressable Intelligent, Detector Relay Base, AP/CLIP, Type II**

135F Smoke Detector, AP/CLIP, Type II, 723-603-00  
135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00  
CO Detector, AP Only, Type II, 725-603-00  
Fire/CO Detector, AP Only, Type II, 725-604-00  
Heat Detector, AP/CLIP, Type II, 721-124-00  
Heat Detector, AP/CLIP, Type II, 722-413-00  
High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00  
Smoke Detector, AP/CLIP, Type II, 723-601-00  
Smoke/CO Detector, AP Only, Type II, 725-605-00

**729-215-00, Addressable Intelligent Detector Base, plug-in, 4.1 in., AP/CLIP, Type II**

135F Smoke Detector, AP/CLIP, Type II, 723-603-00  
135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00  
CO Detector, AP Only, Type II, 725-603-00  
Fire/CO Detector, AP Only, Type II, 725-604-00  
Heat Detector, AP/CLIP, Type II, 721-134-00  
Heat Detector, AP/CLIP, Type II, 722-129-00  
Heat Detector, AP/CLIP, Type II, 722-413-00  
High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00  
Smoke Detector, AP/CLIP, Type II, 723-601-00  
Smoke/CO Detector, AP Only, Type II, 725-605-00

**729-217-00, Addressable Intelligent Monitor Module, AP/CLIP, Type II**

Switch, 514-001-00

**729-218-00, Addressable Intelligent Module, Mini-Monitor, AP/CLIP, Type II**

Audio Booster Panels, 703-16x-00 703-20x-00  
Conv Pull station, 708-015-01, 708-015-03  
Conv Pull Station, 708-022-00  
Conv Pull Station, 708-025-01  
Conv Pull Station, 708-025-03  
Conv Pull Station, 708-026-01  
Detector Base, 6.875 in., AP Only, Type II, 729-209-00, 729-212-00  
Detector Base, 6.875 in., AP/CLIP, Type II, 729-210-00, 729-211-00  
Detector Base, CLIP, Type I, 729-129-00, 729-129-01  
MAAP-X LOC Keypad, 710-072-51, 710-072-52  
OS&Y Valve Supervisory/Tamper Switch, 514-000-00, 514-000-01  
Switch, 514-001-00

**729-219-00, Addressable Intelligent Zone Interface Module, AP/CLIP, Type II**

**729-220-00, Addressable Intelligent Dual Input Monitor Module, AP/CLIP, Type II**

**729-221-00, Addressable Intelligent Relay Control Module, AP/CLIP, Type II**

Smoke Detector, 723-370-00, 723-371-00  
Zone Interface Module, AP/CLIP, Type II, 729-219-00





- 729-223-00, Addressable Intelligent Ten Input Monitor Module, AP/CLIP, Type II**
- 729-224-00, Addressable Intelligent Six Relay Control Module, AP/CLIP, Type II**
- 729-225-00, Addressable Intelligent Supervised NAC Control Module, AP/CLIP, Type II**
- 729-226-00, Cover/Trim Ring, Ivory, for AP/CLIP Smoke Detectors**
  - 135F Smoke Detector, AP/CLIP, Type II, 723-603-00
  - Detector Base, 4.1 in., AP/CLIP, Type II, 729-215-00
  - Detector Base, 6.1 in., AP/CLIP, Type II, 729-228-00
  - Detector Base, 6.875 in., AP/CLIP, Type II, 729-210-00, 729-211-00
  - Detector Base, Isolator, AP/CLIP, Type II, 729-213-00
  - High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00
  - Smoke Detector, AP/CLIP, Type II, 723-601-00
  - Smoke/CO Detector, AP Only, Type II, 725-605-00
- 729-227-00, Cover/Trim Ring, Ivory, for AP/CLIP Infrared Smoke Detectors**
  - 135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00
  - Detector Base, 4.1 in., AP/CLIP, Type II, 729-215-00
  - Detector Base, 6.1 in., AP/CLIP, Type II, 729-228-00
  - Detector Base, 6.875 in., AP/CLIP, Type II, 729-210-00, 729-211-00
  - Detector Base, Isolator, AP/CLIP, Type II, 729-213-00
  - Fire/CO Detector, AP Only, Type II, 725-604-00
- 729-228-00, Addressable Intelligent Detector Base, plug-in, 6.1 in., AP/CLIP, Type II**
  - 135F Smoke Detector, AP/CLIP, Type II, 723-603-00
  - 135F Smoke Detector, Infrared, AP Only, Type II, 723-606-00
  - CO Detector, AP Only, Type II, 725-603-00
  - Fire/CO Detector, AP Only, Type II, 725-604-00
  - Heat Detector, AP/CLIP, Type II
  - Heat Detector, AP/CLIP, Type II, 722-129-00
  - Heat Detector, AP/CLIP, Type II, 722-413-00
  - High Sensitivity Smoke Detector, AP Only, Type II, 723-607-00
  - Smoke Detector, AP/CLIP, Type II, 723-601-00
  - Smoke/CO Detector, AP Only, Type II, 725-605-00
- 790-012-00, EOL Power Supervision Relay Module**
  - Conv Detector Base, 729-151-00
  - Conv Duct Smoke Detector, 723-372-00
  - Conv Smoke Detector, 723-002-00
  - Conv Smoke Detector, 723-003-00
  - Conv Smoke Detector, 723-340-xx 723-508-xx
  - NAC Control Module, CLIP, Type I, 729-158-00
  - Supervised NAC Control Module, AP/CLIP, Type II, 729-225-00
- 790-013-01, EOL Power Supervision Relay Module, non-polarized**
  - Conv Smoke Detector, 723-002-00
  - Conv Smoke Detector, 723-003-00
  - Detector Base, 6.875 in., AP Only, Type II, 729-209-00, 729-212-00
  - Detector Base, 6.875 in., AP/CLIP, Type II, 729-210-00, 729-211-00
  - Detector Base, CLIP, Type I, 729-129-00, 729-129-01
- 790-022-00, Drill Switch**
  - Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx
- 790-023-00, Vulcan I HVAC Disconnect Switch**
  - Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx
- 790-024-00, BT2 Transmitter Disconnect Switch**
  - Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx



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**790-026-00, 4-Zone Expander Alarm/Trouble Interface Kit**

Interface PCB, Alarm, Alarm/Trouble, 175-047-00, 176-133-00, 176-177-00, 790-026-00

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx

**790-027-00, Vulcan I Class A Audible Circuit Module**

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx

**790-031-00, HVAC Disconnect Switch**

M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx

M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN

Vulcan I FACP, 700-026-00, 700-027-xx, 700-028-xx