Monaco Products Catalog



Monaco Enterprises, Inc.

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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 index can and often changes without notice. If further information is needed or your index is more than three months old, contact Monaco Enterprises to answer your questions or request an updated index.

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 index 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, information about quantity pricing, delivery, local representation, and training programs.

How to Use this Catalog

- If you know the name or product type, go to the Table of Contents - by Product Name section. Click on the product name of interest.
- If you know or want to search by product number, go to the Index - by Product Part Number section. Click on the part number of interest (repeated part numbers are tied to specific product names).

This is an electronic document with specific "go to" links without page numbers. It serves the user best on a computer.

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VHF Antenna, Yagi Directional 190-401-xx

UHF Antennas

UHF Antenna, Omnidirectional 190-216-xx, 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 Cable

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

Lightning Arrestors

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

Central Receiving Systems Catalog Section
01

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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Central Receiving Systems

Monitor, 21.5-in. LED

192-048-01

Description

This widescreen monitor with LED-backlit LCD display has a low-glare commercial grade TN panel.



Features

- Flicker-free technology
- Less than 0.005W Off Mode power consumption
- 30% recycled materials
- VESA mount capability
- Fully adjustable HAS stand
- Matte black bezel

Specifications

AC Power	100-240V, 50/60Hz
Power Consumption	21W (typical)
Display	21.5" Video Monitor, flat screen Resolution: 1920 x 1080 Active Display Area: 47.64" horizontal x 268.11" vertical (121 cm horizontal x 681 cm vertical) Aspect Ratio: 16.9 Color Support: 16.7 M Brightness: 250nit (typical) Response Time: 5 ms Contrast Ratio: 1000:1 (typical) Dynamic Contrast Ratio: Mega
Viewing Angle	170° horizontal / 160° vertical
Input Signal	Analog: VGA Digital: DVI
Dimensions	w stand: 16.7" H x 19.9" W x 8.3" D (425.3 x 504.3 x 210.0 mm) w/o stand: 11.9" H x19.9" W x 2.2" D (302.3 x 504.3 x 55.9 mm)
VESA Mount	100 mm x 100 mm
Weight	w/stand: 10.1 lbs (4.6 kg) w/o stand: 6.8 lbs (3.1 kg)
Temperature	50°F to -40°F (10°C to -40°C)
Humidity	10-80% noncondensing
Standards Compliance:	
UL	Listed to UL60950-1
FCC	Part 15 subpart B
Energy Star	6.0

Ordering Information

Part Number	Description
192-048-01	Monitor, 21.5" LED Flat screen, black, VGA/DVI, 100-240V 50/60 HZ

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Detect Manage Record

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 uninteruptible power supply (UPS)

Specifications

AC Power	100-240 VAC, 50/60 Hz
Power Consumption	60 watts/hour (typical)
Display	55" LED Monitor Resolution: 1920 x 1080 (FHD) Active Display Area: 47.6" horizontal x 26.7" 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° horizontal / 178° vertical
Sound	Built-in Speaker (10W + 10W)
Uninterruptible Power Supply (UPS)	750 VA, 120 VAC
Dimensions	27.8" H x 48.4" W x 1.9" D (706.9 mm x 1230.6 mm x 49.9 mm)
VESA Mount	400 mm x 400 mm
Weight	33.9 lbs (15.4 kg)
Temperature	32°F to 104°F (0°C to 40°C)
Humidity	10-80% noncondensing
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", 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" displays
404-127-01	Uninteruptable 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" rack or cabinet
- Includes brackets and mounting screws

Ordering Information

Power Supply

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

Associated Parts

Part Number	Description
085-214-02	Rack blank panel, 19", 2U, 3.50" H

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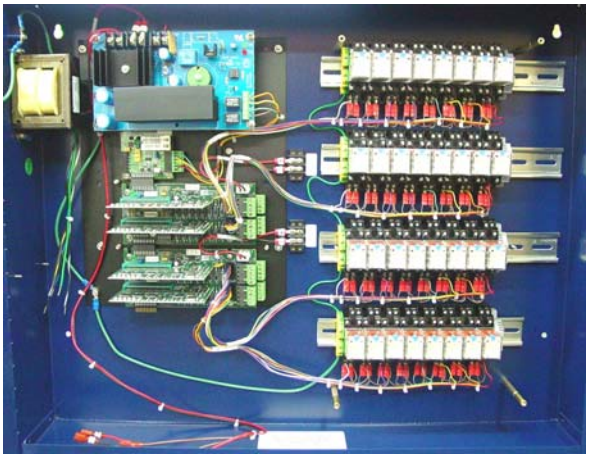
Central Receiving Systems

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

227-045-01, 227-056-00

Description

The General Purpose Input/Output 32 panel provides sixteen NFPA Class B fire zone inputs, or thirty-two 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 thirty-two DPDT 10 A 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 can activate or deactivate devices through the GPIO to help manage the response without dispatcher intervention.

Features

- 16 Class B zone inputs, or 32 single-ended zone inputs.
- 32 DPDT 10 A relay outputs
- Controlled through the D-21 network
- Operates using 120/240 VAC, 50/60 Hz power
- 24 V 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" H x 25" W x 4" D
Batteries (included)	Two 12V/12 Ah rechargeable batteries
Battery Backup	4 hours

Ordering Information

General Purpose Input/Output for D-21

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

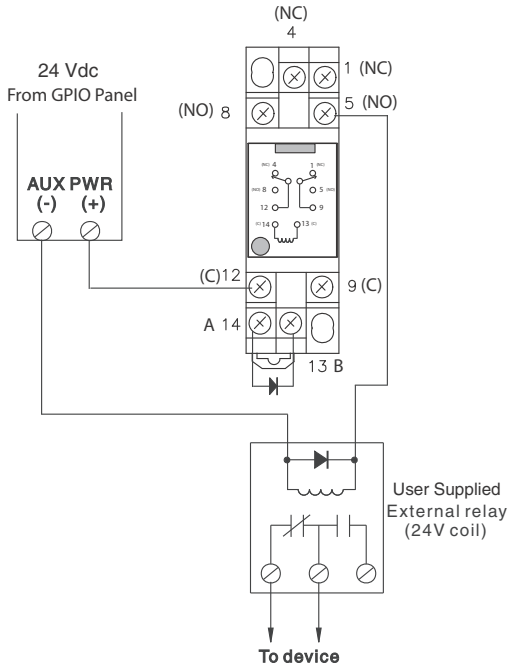
Associated Parts

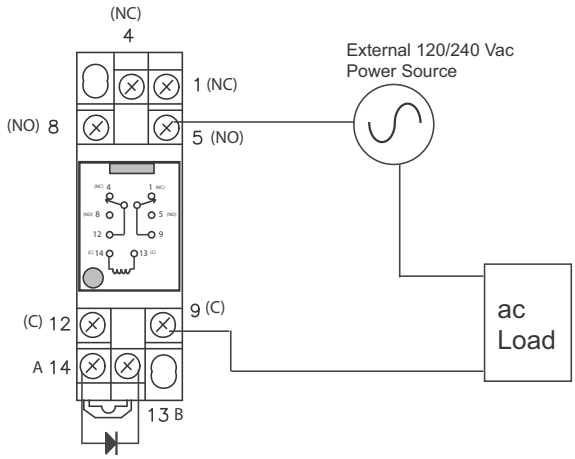
Part Number	Description
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94" L x 3.86" W x 3.86" H, 7.92 lb
513-411-00	M-2 Tamper Switch Kit

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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" LED, black, wall-mount. Includes 110VAC 50/60 Hz UPS
209-057-00	Rack side rail mounting kit, 26" 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" H x 7.29" W x 5.18" 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

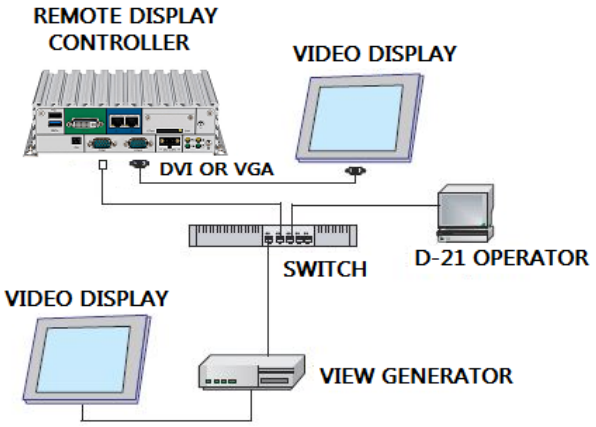
Remote Display Controller

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", 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	100-240V AC 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° Direction +/- 2% Accuracy
Compass	1° RMS
GPS	Accuracy: < 5m 90% (autonomous), < 4m 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 lbs (4.31 kg) base unit without wind monitor

Ordering Information

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

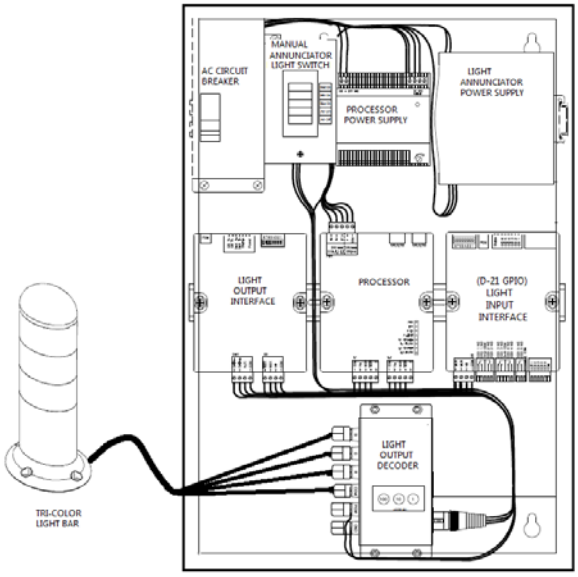
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Central Receiving Systems

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

Light Annunciator Power Supply

Provides 24 VDC, 10 Amp 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 15 Amp, 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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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

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

Tri-Color Light Bar

Light Bar	Kit (P/N 369-035-00)
Maximum Operating Current	24 VDC 35 mA
Light Colors	Red, White, Blue
Light Source	LED
Lens Type	Fresnel, steady light module
Lamp Life	50,000 Hours
Operating Temperature	-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	1.20" H x 3.15" W x 3.94" 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 with Wiring Module	1.20" H x 1.97" W x 2.75" L (31 mm x 50mm x 70 mm) 3.07" H x 1.97" W x 2.75" L (78 mm x 50 mm x 70 mm) Net Weight: 5.64 oz (0.16 kg)
LED Light (each)	1.69" H x 1.97" W x 2.75" L (43 mm x 50.0 mm x 70 mm) Weight: 1.41 oz (0.04 kg)
Standards Compliance	UL, cUL, CE, ROHS

Ordering Information

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

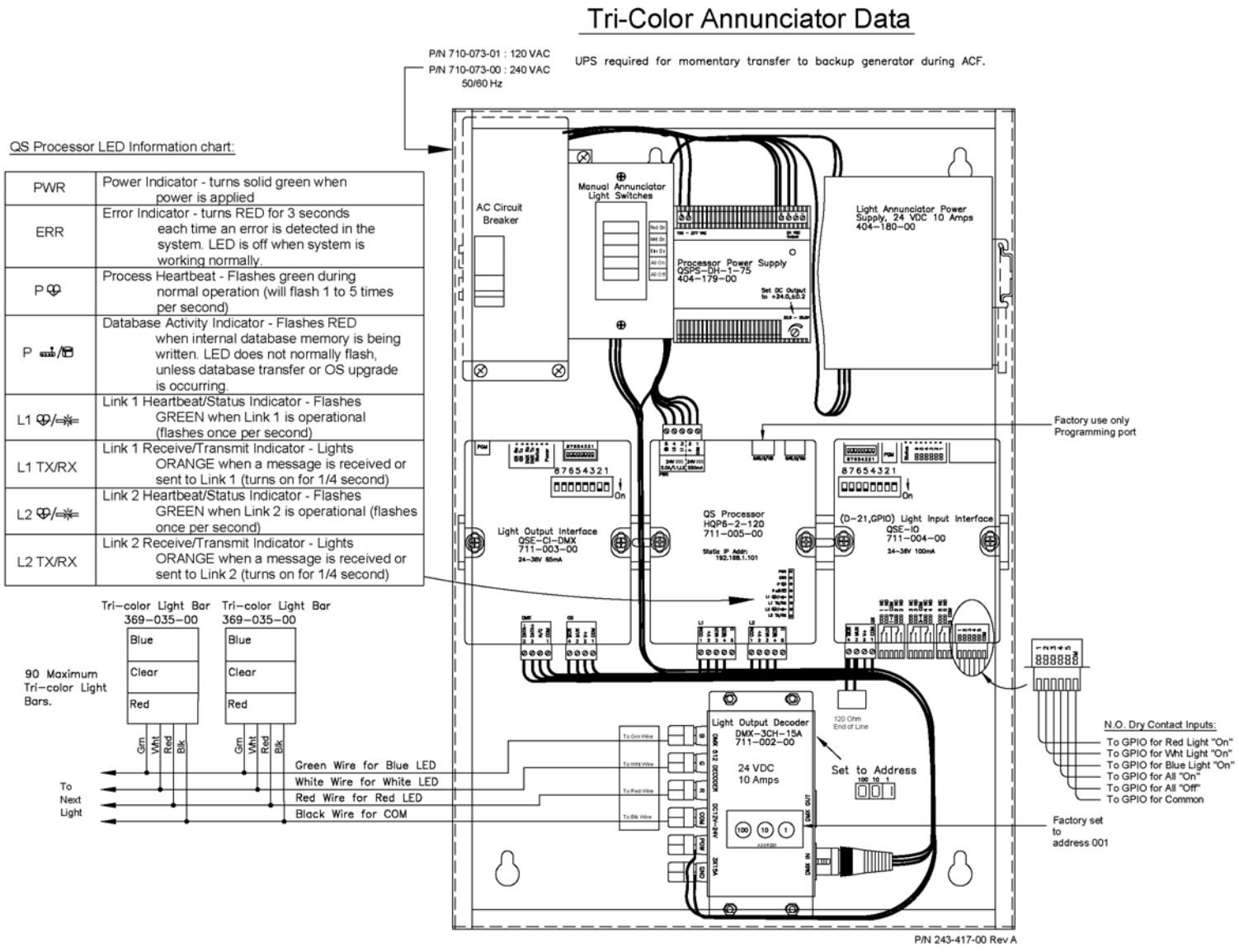
Associated Parts

Part Number	Description
207-973-20	D-21 Support Kit, D-21 EM Notification Communicator
207-973-25	D-21 Support Kit, D-21 EM Unified Notification Sequence Activation Screen
227-045-01	GPIO, 32 DPDT, 10 A outputs, 120/240 VAC, 50/60 Hz, 24 V control voltage
621-085-00	Wire, plenum, unshielded, 1000 ft
404-173-01	Uninterruptible Power Supply Kit: enclosure with UPS 120 VAC, 60 hz, 700 VA, 400 W **NOTE** UPS Required for momentary transfer to backup generator during ACF.

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Wiring Diagram



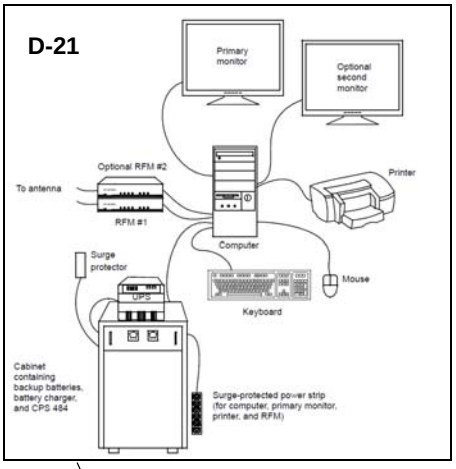
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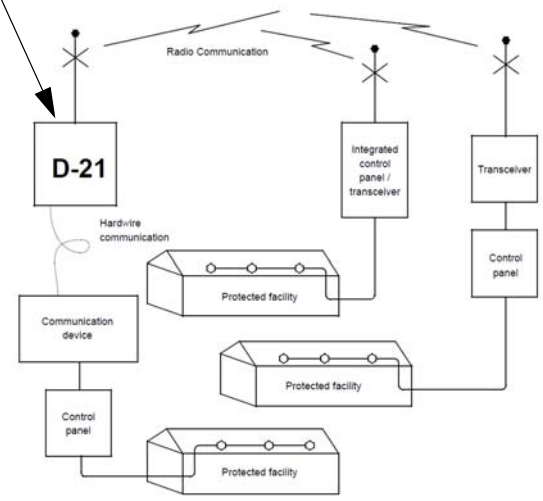
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Central Receiving Systems

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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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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  - 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
227-010-10	D-21 Central Receiving Station Communicator, WIN 10, Tower
227-011-10	D-21G (Graphics) Central Receiving Station Communicator, WIN 10, Tower
227-012-10	D-21M (Maps) Central Receiving Station Communicator, WIN 10, Tower

D-21 Central Receiving Station Rackmount

Part Number	Description
227-010-12	D-21 Central Receiving Station Communicator, WIN 10, Rackmount (4U)
227-010-13	D-21 Central Receiving Station Communicator, WIN 10, Rackmount (2U) Portable
227-011-12	D-21G (Graphics) Central Receiving Station Communicator, WIN 10, Rackmount (4U)
227-011-13	D-21G (Graphics) Central Receiving Station Communicator, WIN 10, Rackmount (2U) Portable
227-012-12	D-21M (Maps) Central Receiving Station Communicator, WIN 10, Rackmount (4U)
227-012-13	D-21M (Maps) Central Receiving Station Communicator, WIN 10, Rackmount (2U) Portable
227-010-14	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
227-020-10	D-21 Client Alarm and Dispatch Station Communicator, WIN10, Tower
227-020-13	D-21 Client Alarm and Displatch Station Communicator, WIN 10, Rackmount (4U)

Associated Parts

D-21 License Options

Part Number	Description
207-843-00	D-21 Mass Notification System license
207-849-00	D-21 MNS Mass Notification System (Maps) license
207-860-01	D-21 Automatic Vehicle Locating license
207-882-00	D-21 E911 Interface Communicator
207-830-00	D-21 Fire Client
207-833-00	D-21 Fire Client with Maps
207-832-00	D-21 Fire and Security Client
207-835-00	D-21 Fire and Security Client with Maps
207-831-00	D-21 Security Client
207-834-00	D-21 Security Management Client with Maps
207-842-00	D-21 Mass Notification Client
207-880-00	D-21 Mobile Data Display
207-862-00	D-21 Mobile Client
207-878-00	D-21 Shortest Route Server. Route calculates and displays the shortest route between two points on the D-21 map. Requires option key.
207-878-01	D-21 Shortest Route Client Option key.
207-940-00	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.
207-940-01	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
207-863-00	D-21 Fire Client upgrade from Graphics to Maps
207-864-00	D-21 Security Client upgrade from Graphics to Maps

RFM-X Modem

Part Number	Description
227-323-00	RFM-XH hardwire modem, black
227-317-xx	RFM-XHR Radio frequency modem with hard-wire option, black enclosure. Specify frequency when ordering.

Optional Monitors

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

D-21 Weather Station

Part Number	Description
299-016-01	D-21 Weather Station Kit
624-015-00	Cable for Weather Station with mil-spec connector, 5 Pair, PVC, UV Resistant, 300 ft max, priced per foot (required with P/N 299-016-01)

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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
227-020-81	Kit, D-21, Repair by Replace, WIN10, Server/Client, Rack Mount
227-020-82	Kit, D-21, Repair by Replace, WIN10, Client, Rack Mount
227-020-83	Kit, D-21, Repair by Replace, WIN10, Server, Rack Mount
227-020-84	Kit, D-21, Repair by Replace, WIN10, Client, Tower
227-020-85	Kit, D-21, Repair by Replace, WIN10, Server, Tower
227-020-86	Kit, D-21, Repair by Replace, WIN10, Server/Client Tower
227-020-94	Kit, D-21 CPU, Repair by Replace, View Generator, WIN10

Emergency Management Systems

Part Number	Description
227-020-89	Kit, MMS Class CPU, Repair by Replace, WIN10, Client, 2U Rack Mount
227-020-88	Kit, MMS Class CPU, Repair by Replace, WIN10, Client, Tower
227-020-62	Kit, EM CPU, Repair by Replace, Server, Rack Mount
227-020-63	Kit, D-21, Repair by Replace, NAS Drive, Rack Mount
227-020-97	Kit, D21 EM, Repair by Replace, Mobile Fire, WIN10, Laptop
227-020-98	Kit, D21 EM, Repair by Replace, Mobile Cops, WIN10, Laptop
227-020-99	Kit, D21 EM, Repair by Replace, Mobile Fire, WIN10, Tablet
227-020-71	D21 EM, Repair by Replace, View Generator, WIN10

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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 inch 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 Adapter	Input AC 120/230V (50/60Hz)
Dimensions	11.5"H x 2.9" D x 11.9" W
Weight	8.2 lbs
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: IEE 802.1X

Ordering Information

Part Number	Description
227-098-30*	D-21 EM Mobile Client, WIN 10, rugged laptop computer, WIFI, Bluetooth, Memory Card Reader
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 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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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"H x 0.8" D x 10.6" W
Weight	2.4 lbs
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: IEE 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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Central Receiving System

D-21 Tone Alerting Panel

227-095-00

Description

The D-21 Tone Alerting Panel provides building-wide transmission of pre-recorded 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 pre-recorded 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 pre-recorded messages over the paging system speaker network. For additional information contact Monaco Enterprises.

Pre-recorded 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 pre-recorded 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 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" H × 16" W × 8"D
Input Power	115 – 230 VAC @ 50/60 Hz

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Ordering Information

Part Number	Description
227-095-00	D-21 Tone Alerting Panel, includes text-to-speech license for a single building and two 12 VDC/8 Ah batteries. **NOTE** Requirements: • D-21 Tone Alerting Panel requires a Tone Alert Panel Remote Interface Driver (RID) License P/N 207-886-00. • Use of text to speech requires a D-21 Server Text-to-Speech Support Kit, P/N 207-905-00.

Associated Parts

Part Number	Description
227-095-10	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 (purchase separately).
207-886-00	Tone Alert Panel Remote Interface Driver (RID) License. Enables the Tone Alert Panel RID on the D-21. (One required per D-21 server.) **NOTE** Requires: • D-21 Tone Alert Panel, P/N 227-095-00.
207-905-00*	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.) **NOTE** Requires: • D-21 Tone Alert Panel, P/N 227-095-00, • Tone Alert Panel RID License, P/N 207-886-00.
207-546-25*	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.) **NOTE** Requires: • D-21 Tone Alert Panel, P/N 227-095-00, • Tone Alert Panel RID License, P/N 207-886-00, • D-21 Server Text to Speech Support Kit, P/N 207-905-00.
400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95" L x 2.56" W x 3.90" H, 3.50 lb.
***NOTE** The D-21 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 license (P/N 207-546-25) has also been purchased.	

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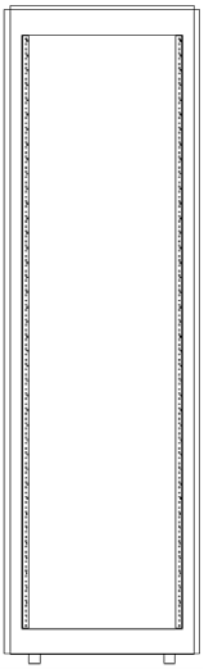
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Central Receiving Systems

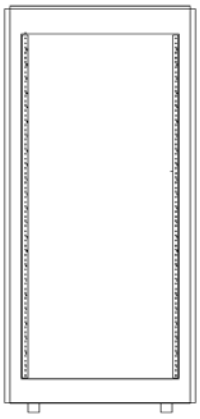
Rack Cabinets
104-011-00, 104-012-00

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 adapter 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

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

Ordering Information

Rack Cabinet

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

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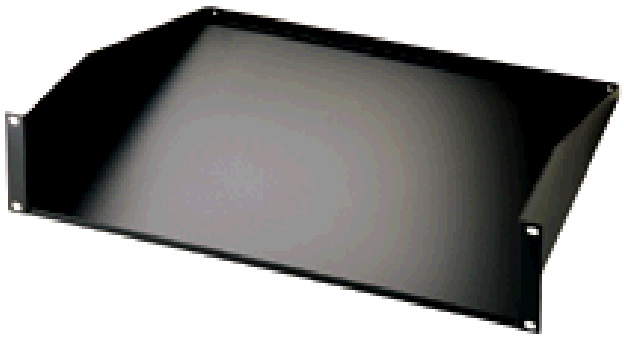
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Central Receiving Systems

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" W x 14.50" D Racking height 3.5" Rack width 19"
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" to 44"
Racking height: 1.5"
Rack width: 19"

Ordering Information

Part Number	Description
081-215-01	Rack shelf, black, 19", 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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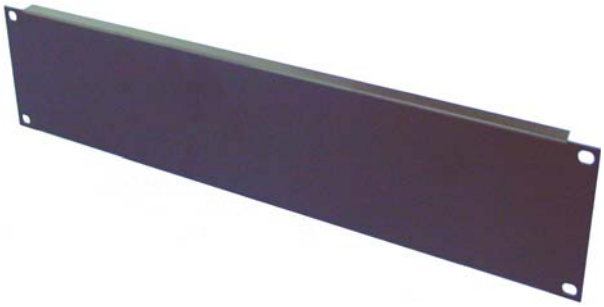
Central Receiving Systems

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" W; height based on order number (see "Ordering Information")

Ordering Information

Part Number	Description
085-214-01	Rack blank panel, black, 19", 1U 1.75" H
085-214-02	Rack blank panel, black, 19", 2U 3.50" H
085-214-03	Rack blank panel, black, 19", 3U 5.25" H
085-214-04	Rack blank panel, black, 19", 4U 7.00" H
085-214-05	Rack blank panel, black, 19", 5U 8.25" H
085-214-06	Rack blank panel, black, 19", 6U 10.50" 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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Detect Manage Record

Central Receiving Systems

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



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

Specifications

Supply Voltage	24 VDC
Supply Voltage Range	12 VDC - 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" H x 1.1" W x 2.7" D (110 mm x 28 mm x 70 mm)
Weight	0.6 lbs (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

Ordering Information

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

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Detect Manage Record

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.



Features

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

Specifications

Power Supply	3.3 V
Port Connection	Gigabit Ethernet: 1000BASE SFP Optical Transceiver
Fiber Type	Single Mode Fiber (SMF)
Switch Type	Small Form Factor-Pluggable (SFP)
Connectors	Dual LC
Interface Type	ZX
Transmit Wavelength	1550nm
Distance	80km
Transmit Supply Current	90 to 130 mA
Receive Supply Current	80 to 110 mA
Transmit Output Power	+2 to 5 dBm
Receive Input Power	-3 dBm
Transmit Data Rate	1250 mb/s
Operating Temperature	Recommended: 122°F (50°C) Range: 32°F to 158°F (-0°C to 70°C)
Storage Temperature	Range: -40°F to 185°F (-40°C to 85°C)
Standards Compliance:	
IEC	60825-1 Laser Class 1
IEEE	802.3Z Output Optical Eye
RoHS	Compliant

Ordering Information

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

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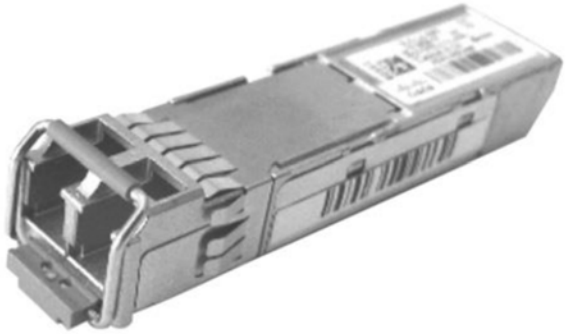
Central Receiving Systems

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

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

SFP Port Cabling:

Core size (µ)	ITU-T G.652µ SMF (as specified by IEEE 802.3z standard)
Minimum Cable Distance	6.5 ft (2 m)
Operating Distance	32,821 ft (10,000 m) single-mode

Optical:

Transmit Power Range	-3 to - 9.5 (dBm)
Receive Power Range	-3 to -20 (dBm)
*Maximum Channel Insertion Loss**	6 (G.652 SMF) in dB
Transmit and Receive Wavelength Range	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:

Dimensions	0.33" H x 0.53" W x 2.22" L (8.5 mm x 13.4 mm x 56.5 mm)
Weight	0.16 lb (75 grams) (typical)
Operating Temperature	23°F to 185°F (-5°C to 85°C)
Storage Temperature	-40°F to 185°F (-40°C to 85°C)

Standards Compliance:

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

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

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Detect Manage Record

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.



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

Specifications

Dimensions	13.3" W x 5.9" D x 1.75" H
AC Power	110/220 VAC, 50/60 Hz via IEC connector
Operating Temperature	32 to 100° F (0 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.

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Detect Manage Record

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 10/10/1000BASE-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
- 4 Combo 10/100/1000BASE-T/SFP ports
- 4 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

Interfaces	20 10/100/1000BASE-T Ports, with 4 Combo Ports (10/10/1000BASE-T or SFP) plus 4 10 Gigabit SFP+ Ports
Ports	Console Port: RJ45 and Mini USB Management Port: 10/100/1000BASE-T RJ45 Ethernet Alarm Port: RJ45 USB Port: USB 2.0 Type A
Optional Redundant Power Supply	DPS-500A
Physical Stacking	Up to 80G stacking bandwidth Up to 9 switches in a stack Ring/chain topology suppport
Switch Capacity	128 Gbps
Packet Forwarding Rate	95.24 Mpps
Mac Address Table	up to 68K entries
Jumbo Frame	12 KBytes
In and Out of Band	Telnet, CLI, SNMP v1/v2c/v3, SSH, SSL, Radius and TACACS+ Authentication
Power Input	100 to 240 VAC, 50/60 Hz
Power Consumption (Max)	42.4 watts
Standby Power Consumpton	28.1 watts
Dimensions	17.4" L x 10.2" W x 1.73" H (441 mm x 260 mm x 44 mm)
Weight	8.25 lbs (3.74 kg)
Ventilation	2 Smart Fans
Operating Temperature	23°F to 122°F (-5°C to 50°C)
Operating Humidity	10% to 95% RH

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Ordering Information

Part Number	Description
200-471-11	Assembly for Ethernet Switch, 24-port (10/100/1000BASE-T ports + 4 10 GB SFP+ ports), Managed layer 3, 1U, Rackmount, 100-240 VAC, 50/60 Hz. Comes with enhanced software (EI) license

Associated Parts

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

Internal Power Supply	Fixed (auto ranging unit)
Voltage	100 to 240 VAC
Current	1A to 0.5A current, 50/60Hz
Switch Power Rating	0.039 kVA, 12V: 4A, 53V: N/A (maximum consumption values)
CPU	600 MHz dual core
Memory	Flash: 128 MB, DRAM: 512 MB
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
Dimensions	1.75" H x 17.5" W x 11" D (4.5 cm x 44.5 cm x 27.9 cm)
Weight	8.9 lb (4.0 kg)
Operating Temperature	Up to 5,000 ft (1500 m): 23°F to 113°F (-5°C to 45°C) Up to 10,000 ft (3000 m) 23°F to 104°F (-5°C to 40°C)
Storage Temperature	Up to 15,000 ft (4573 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, 1000BASE-T)
DODIN	Approved
TAA and RoHS	Compliant

Ordering Information

Part Number	Description
200-480-01	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, DODIN Apl, TAA, RoHS

Associated Parts

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

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" H x 17.5" W x 14.5" D (4.5 cm x 44.5 cm x 36.8 cm)
Weight	12.8 lb (5.8 kg)
Operating Temperature	Up to 5000 ft (1500 m): 23°F to 113°F (-5°C to 45°C) Up to 10,000 ft (3000 m): 23°F to 104°F (-5°C to 40°C)
Storage Temperature	Up to 15,000 ft (4573 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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Detect Manage Record

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

Internal Power Supply	Fixed (auto ranging unit)
Voltage	100 to 240 VAC
Current	1A to 0.5A current, 50/60Hz
Switch Power Rating	0.049 kVA, 12V: 4A, 53V: N/A (maximum consumption values)
CPU	600 MHz dual core
Memory	Flash: 128 MB DRAM: 512 MB
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
Stack Members	8
Dimensions	1.75" H x 17.5" W x 11" D (4.5 cm x 44.5 cm x 27.9 cm)
Weight	9.6 lb (4.3 kg)
Operating Temperature	Up to 5,000 ft (1500 m): 23°F to 113°F (-5°C to 45°C) Up to 10,000 ft (3000 m): 23°F to 104°F (-5°C to 40°C)
Storage Temperature	Up to 15,000 ft (4573 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), 802.3ae
DODIN	Approved
TAA and RoHS	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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Detect Manage Record

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

Internal Power Supply	Fixed (auto ranging unit)
Voltage	100 to 240 VAC
Current	2A to 5A current, 50/60Hz
Switch Power Rating	0.048 kVA, 12V: 4A, 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	24 ports up to 15.4 W
Max. number PoE+ Ports	12 ports up to 30 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" H x 17.5" W x 14.5" D (4.5 cm x 44.5 cm x 36.8 cm)
Weight	12.9 lbs (5.8 kg)
Operating Temperature	Up to 5,000 ft (1500 m): 23°F to 113°F (-5°C to 45°C) Up to 10,000 ft (3000 m): 23°F to 104°F (-5°C to 40°C)
Storage Temperature	Up to 15,000 ft (4573 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, 802.3at, 802.3az, 802.3x full duplex on (10BASE-T, 100BASE-TX, and 1000BASE-T ports), 802.3ae
DoDIN	Approved
TAA and RoHS	Compliant

Ordering Information

Part Number	Description
200-483-01	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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Detect Manage Record

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 Mangement 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" H x 17.5" W x 17.7" 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 (1500 m): 23°F to 113°F (-5°C to 45°C) Up to 10,000 ft (3000 m): 23°F to 104°F (-5°C to 40°C)
Storage Temperature	Up to 15,000 ft (4572 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, 082.1p, 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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Detect Manage Record

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 equpment 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

AC/DC Input	IP Voltage: 100-240 VAC IP Current: 0.5 - 0.2 A
Power Rating	30 Watts, 0.05 KVA, 170.6 BTU
Switch throughput *Power Consumption*	100%: 20.8 Watts 10% : 20.6 Watts 0% (with EEE): 15.6 Watts
Ethernet Ports	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" H x 10.6" W x 8.4" 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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Detect Manage Record

Ordering Information

Part Number	Description
200-485-01	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
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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Detect Manage Record

Central Receiving Supplemental Equipment Catalog Section 02

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Detect Manage Record

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/O connection	Network: 10/100BaseT Ethernet, RJ-45
Outputs	ESE Time-Code™ TC89 or TC90, Drives 100 slaves @ 4000', BNC
GPS receiver	Internal 12-channel
Antenna	Indoor/outdoor with 16 ft cable (extendable)
Antenna input	L1, 1.57542 GHz, TNC
Drift	33ms/Day (if no GPS signal)
Configuration	HTTP or Telnet

Physical and Environmental

Enclosure	Desktop, black anodized aluminum
Dimensions	1.6" H x 7" W x 5" D
Electrical	117 VAC, 50/60 Hz
Power	5W 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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Detect Manage Record

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

Power Input	92–240 VAC, 50/60 Hz
Power Output	Steady state: 12V @ 3.0A Max. peak: 12V @ 5.0A
Form Factor	1 Rack Unit, 19-inch rack mount
Integrated I/O	8 x 1 Gigabit Ethernet
USB 2.0 Ports	Port Type A, High Speed 2.0
Serial Ports	1 RJ-45 and Mini-USB Console
Memory	8 GB
System Flash	8 GB
Solid State Drive	100 GB mSATA (usable space dependent on system software)
Application Control (AVC) Throughput	850 Mbps
Application Control (AVC and IPS) Throughput	450 Mbps
Concurrent Sessions	250,000 (max.)
New Connections	20,000 (per second max.)
3DES/AES VPN Throughput	Up to 250 Mbps
IPsec Site-to-Site VPN Peers	300
Virtual Interfaces (VLANS)	100
High Availability	Active/Active and Active/Standby
Acoustic Noise	41.6 dBA type 67.2 dBA max.
Temperature	Operating: 32°F to 104°F (0°C to 40°C) Storage: -13°F to 158°F (-25°C to 70°C)
Relative Humidity	10% to 90% noncondensing
Altitude	Operating: 0 to 10,000 ft (3048 m) Storage: 0 to 15,000 ft (4572 m)
Dimensions	1.72" H x 17.20" W x 11.29" D (4.37 cm x 43.69 cm x 28.67 cm)
Weight	8 lb (3.62 kg) includes AC Power Supply
Standards Compliance:	
Safety	UL 60950-1
CE Marking	per directives 2004/108/EC and 2006/108/EC

Ordering Information

Part Number	Description
200-442-21	Ethernet firewall, 8-port, 10/100/1000, VPN, 2/250 Anyconnect, 3DES/AES

Associated Parts

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

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Detect Manage Record

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 (Monaco P/N 404-112-00).



Specifications

Battery	Type: 9 Ah SLA, maintenance free, leakproof 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" H x 4.4" W x 15" D (30 cm x 11 cm x 38 cm)
Weight	29.5 lbs (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.



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	120 V (nominal)
Frequency	50/60 Hz
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	2-4 ms
Battery	Type: maintenance free SLA with suspended electrolyte, leakproof Life expectancy: 3-5 years Volt-Amp-Hour capacity: 690 Recharge time: 3 hours (typical)
Surge Energy Rating	540 Joules
Color	Black
Rack Height	2U
Dimensions	3.36" H x 17.0" W x 26.26" D (8.5 cm x 43.2 cm x 66.7 cm)
Weight	84.6 lbs (38.45 kg)
Operating Temperature	32°F to 104°F (0°C to 40°C)
Relative Humidity	0-95%
Standards Compliance	
UL	YEDU.E95463 Investigated to ANSI/UL1778 5th Ed.
RoHS	Compliant

Ordering Information

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

Associated Parts

Part Number	Description
403-018-10	UPS External Battery Pack, 1200VA. 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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Detect Manage Record

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

Output Power	1500 VA / 865 Watts
Voltage	230 V (nomnal), 50/60 Hz
Output Transfer Time	10 ms (typical): 12 ms (maximum)
Output Connections	5 IEC 320 C13 (Battery Backup) 2 IEC Jumpers (Battery Backup) 5 IEC 320 C13 (selector_surgetitle)
Input Connections	IEC-320 C14
Battery	Type: maintenance free SLA with suspended electrolyte, leakproof Life expectancy: 3-5 years Volt-Amp-Hour capacity: 187 Recharge time: 8 hours (typical)
Surge Energy Rating	441 Joules
Data Line Protection	Analog phone line for phone/ fax/ modem/DSL (RJ-11 connector); Network to 10/100/1000 Base-T Ethernet (RJ-45 connector)
Color	Black
Dimensions	11.9" H x 4.4" W x 15.0" D (30.2 x 11.2 x 38.1 cm)
Unit Weight	29.5 lbs (13.4 kg)
Operating Temperature	32°F to 104°F (0°C to 40°C)
Relative Humidity	0-95%
Standards Compliance	
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 404-112-00

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Detect Manage Record

Building Transceivers Catalog Section
03

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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 option 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. Specify Frequency.

Associated Parts

Part Number	Description
176-212-00	BT-X zone expansion backplane, supports 2 zone cards (fire or security)
176-206-00	BT-XF fire zone card, provides 4 zone inputs and 8 relay driver outputs
176-206-01	BT-XS security zone card, provides 4 zone inputs and 8 relay driver outputs
176-214-00	BT-X relay board with 8 on-board Form C relays
176-208-00	BT-X audio board
190-400-00	BSA-1 VHF Omnidirectional antenna, 136-174 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial cable seal. Customer must cut to frequency.
199-001-00	Spare 54" antenna whip for P/N 190-400-00. Customer must cut to frequency.

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Part Number	Description
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

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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. Specify Frequency.

Associated Parts

Part Number	Description
176-212-00	BT-X zone expansion backplane, supports 2 zone cards (fire or security)
176-206-00	BT-XF fire zone card, provides 4 zone inputs and 8 relay driver outputs
176-206-01	BT-XS security zone card, provides 4 zone inputs and 8 relay driver outputs
176-214-00	BT-X relay board with 8 on-board Form C relays
176-208-00	BT-X audio board
190-400-00	BSA-1 VHF Omnidirectional antenna, 136-174 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial cable seal. Customer must cut to frequency.
199-001-00	Spare 54" antenna whip for P/N 190-400-00. Customer must cut 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 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	Adapter plate for double-wide enclosure
626-266-00	BT-X 24" cable for double-wide enclosure

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Building Transceivers

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

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

Description

Monaco's 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) through integrated transceiver or hardwire communication. BT-XF receives commands from Central and reports status from its zone inputs, and its self using unit addresses.



FM APPROVED

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 panel includes:

- Field assembly (the core electronics package)
- FM narrowband radio (for radio-communication units)
- Power supply unit
- 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-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

D-21 Interface

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

BT-XF reports alarm and trouble conditions on its zones to the D-21. FACPs or 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 multidrop
- Digital RS-485 multidrop
- Digital RS-422 point-to-point

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

Either manually or automatically, the D-21 controls BT-XF relay driver outputs.

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Building Transceivers

Fire Inputs

Each 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. Two fire zone cards can be plugged into each zone expansion backplane. Each fire zone card provides an additional four Class B zone inputs.

NOTE: A single-wide BT-XM has space for up to three zone expansion backplanes. A double-wide enclosure has space for up to seven. Additional backplanes and zone cards must be ordered separately.

Fire Outputs

BT-XF provides eight relay driver outputs. The onboard relay drivers can be connected to an optional BT-X relay board to initiate time or programmed events on a connected device or panel. Relay driver outputs are controlled by the D-21 operator. Remote device control by the BT-XF includes:

- Gates can be opened or closed
- Lights turned on or off
- Motors and pumps started or stopped
- Remote annunciator LEDs activated

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

Power Operation

The BT-XF's primary source of power is 115 or 230 VAC (50/60 Hz). Its secondary power is one or two 12V/12 Ah SLA-type batteries. If a primary AC power loss occurs, the BT-XF 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-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. 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-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—The electronics package includes:
  - Master processor
  - Ports
  - Switches
  - Four Class B zone inputs
  - Eight relay outputs
- Audio Board—Addition to the field assembly for BT-XF units that use hard-wire communication
- Power Supply—Converts AC input to DC
- 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—Optional driver for the eight Form C relay outputs
- Status LEDs—
  - General alarm
  - General trouble
  - System fault
  - In-communication

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  - Carrier detect
  - Transmit
  - Primary power
  - Battery boost charge
  - Battery float charge
- Zone LEDs—
  - Trouble
  - Alarm
  - Normal
  - Power supplied to fire zone cards
- Tamper Switch—Optional kit (Purchase separately. See Associated Parts P/N 513-412-00)

BT-XFH EN, hardwire with Ethernet

Description

The BT-XFH EN combines an Ethernet Reporting Module and a Monaco BT-X building transmitter in one modular, compact unit.

Hard-wire with Ethernet (EN) communication to the RFM-XH connected to a D-21 Central.

One or two 12V backup batteries can be installed in each BT-X, depending on the power requirements of the BT-XFH EN configuration.

The BT-XFH EN communicates with D-21 systems through hard-wire Ethernet port to a private EN network (e.g., CAT5). The versatile BT-XFH EN can be used for Fire Management.

The BT-XFH EN model also has 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.

The BT-XFH EN communicates alarm and trouble conditions on its zones to the D-21. Local control panels or 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-XFH EN onboard zone inputs.

The BT-XHE is available in a single-wide enclosure which supports the same zone and relay expansion hardware as the standard BT-XF. The BT-XFH EN does not support live voice MNS but the overall operation of the rest of the unit is the same as the BT-XF.

Specifications

AC Input	115/230 VAC, 50/60 Hz
DC Output	■ Power supply output: 16 VDC, nonadjustable ■ Battery charger output: 13.8 VDC float; 14.5 VDC boost ■ BT-XF nominal current 125mA 1.5 A 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-second max. transmit ■ Output impedance: 50Ω
Antennas and Coaxial Cables	Varies by site and system configuration. Contact Monaco for assistance.
Operating Temperature	–22 to 140°F (–30 to 60°C)
Relative Humidity	0–90%, noncondensing
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. The BT-XF power supply contains surge protection meeting the requirements of IEEE C62.41.

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Building Transceivers

Ordering Information

BT-XF

Integrated Radio Units

Part Number	Description
227-600-xx*	BT-XF, 4–28 zones, narrowband radio, 20" H x 12" W x 4" D red single-wide, one 12V/12 Ah battery
227-601-xx*	BT-XF, 4–28 zones, narrowband radio, 20" H x 16" W x 6" D red single-wide NEMA 3R, one 12V/12 Ah battery
227-603-xx*	BT-XF, 4–60 zones, narrowband radio, 20" H x 25" W x 4" D red double-wide, two 12V/12 Ah batteries
227-605-00	BT-XFH, 4–28 zones, no radio, 20" H x 12" W x 4" D red single-wide, audio board for hard-wire communication, one 12V/12 Ah battery
227-606-00	BT-XFH, 4–60 zones, no radio, 20" H x 25" W x 4" D red double-wide, audio board for hard-wire communication, two 12V/12 Ah batteries
227-607-00	BT-XFH, 4–28 zones, no radio, 20" H x 16" W x 6" D red single-wide NEMA 3R, audio board for hard- wire communication, one 12V/12 Ah battery
*Specify frequency (-xx) when ordering.	

Hard-wire Only (Ethernet) Unit

Part Number	Description
227-605-EN	BT-XFH EN, 4–28 zones, no radio, 20" H x 12" W x 4" D red single-wide, audio board for Ethernet communication, one 12V/12 Ah battery

Associated Parts

Part Number	Description
227-630-xx*	BT-X electronics package (no audio board)
176-208-00	BT-X audio board
176-206-00	BT-XF fire zone card, provides 4 zone inputs and 8 relay driver outputs
176-212-00	BT-X zone expansion backplane supports 2 zone cards (fire or security)
176-214-00	BT-X relay board with 8 on-board Form C relays
194-527-08	BT-XFH EN Fiber Optic-to-Ethernet converter single mode 1 Gb Kit with mounting hardware. (1 required per Ethernet BT-XFH EN to convert it to Fiber Optic.)
194-527-01	Fiber Optic to Ethernet Converter, single mode 1 Gb. (Spare part for P/N 194-527-08.)
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
227-574-00	MAAP serial interface kit, includes programming cable and adaptor
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94" L x 3.86" W x 3.86" H, 7.92 lb
404-090-00	Power supply for BT-X, 15 VDC, 2.8A. (Replacement spare part for P/Ns 227-600-xx, 227-601-xx, 227-603-xx, 227-605-00, 227-605-00-EN, 227-606-00 and 227-607-00)
513-412-00	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 acknowledgement from Central.




Locator Light Option

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
- 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: 45W Circuit Breaker: 2-pole
DC Power	16 VDC nominals
Enclosure Dimensions	20" H x 16" W x 9.4" D

Ordering Information

BT-X with Pull Station

Part Number	Description
227-665-xx*	Outdoor AC Power BT-XF Pull Station with Central acknowledgement LED indicator. • BT-XF mounted in a NEMA 4X Gray Composite enclosure with key lock, tamper switch, tilt switch and one 12V/12 Ah battery • 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. *Specify frequency when ordering.

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"L x 3.86"W x 3.86"H, 7.92 lb

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Detect Manage Record

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 activiation 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—The electronics package includes:
  - 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 - 30 VDC
- Battery charger output: 13.8 VDC float; 14.5 VDC boost
- BT-XF nominal current 125mA 1.5 A 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-second max. transmit
- Output impedance: 50Ω

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 0–90%, 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
- Gray
- 20" H x 16" W x 9" D
- Key lock

Pull Station
- NEMA 4X composite
- Red
- 7.5" H x 6" W x 5" 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. ■ BT-XF mounted in a NEMA 4X gray composite enclosure with key lock, tamper switch, tilt switch and one 12V/12 Ah battery. ■ 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. ***Note:*** *Solar power source must be ordered separately.* *specify frequency when ordering

Associated Parts

Part Number	Description
176-208-00	BT-X audio board

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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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 pre-recorded messages or tones resident on a connected mass notification panel.



BT-XM

FM APPROVED

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 MNS panel to D-21 Central. The BT-XM transmits live-voice received from a radio, telephone, or microphone and pre-recorded messages from the D-21 Mass Notification System to within-building mass notification panels or PA speaker systems.

The BT-XM communicates with a D-21 Mass Notification System 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 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. 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-type 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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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 pre-recorded messages from the D-21 Mass Notification System to within-building mass notification panels
- Receives and transmits live voice from the D-21 through radio, telephone, or microphone input
- Pre-recorded 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: 50Ω

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

Relative Humidity 0-90% noncondensing

Compliance In a standard configuration: BT-XM
- EN 55011:2007+A2:2007
- EN 61000-3-2:2006
- EN 61000-3-3:1995
Product Familiy 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 1 audio board, 1 relay board, 1 BT-XM firmware IC, 2 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. **NOTE** 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 MNS panel to the D-21 Central Receiving System (Central).



FM APPROVED

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 pre-recorded 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 radio-communication units)
- 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 Mass Notification System 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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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 Mass Notification Systems panel activates:

- Secure live-voice messages from the D-21
- Pre-recorded 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 pre-recorded 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 Associated Parts P/N 176-214-00)

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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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—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
- Tamper Switch—Optional kit (Purchase separately. See Associated Parts P/N 513-412-00.)

Specifications

AC Input	115/230 VAC, 50/60 Hz
DC Output	■ Power supply output: 16 VDC, nonadjustable ■ 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: ■ FM narrowband ■ FSK modulation ■ Duty cycle 50%, 30-second max. transmit ■ RF Antenna output impedance: 50Ω
Antennas and Coaxial Cables	Varies by site and system configuration. Contact Monaco for assistance.
Operating Temperature	–22 to 140°F (–30 to 60°C)
Relative Humidity	0–90%, noncondensing
Compliance	In a standard configuration, BT-XM 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. The BT-XM power supply contains surge protection meeting the requirements of IEEE C62.41.

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Ordering Information

BT-XM

Part Number	Description
227-621-xx*	BT-XM mass notification communicator, narrowband radio, capability for fallback to hard-wire communication, 20" H × 25" W × 4" D double-wide NEMA 1, audio board, two 12V/12 Ah batteries, relay board ordered separately
227-622-xx*	BT-XM mass notification communicator, narrowband radio, capability for fallback to hard-wire communication, 20" H × 16" W × 6" D NEMA 3R, audio board, two 12V/12 Ah batteries, relay board ordered separately
227-623-xx*	BT-XM mass notification communicator, narrowband radio, capability for fallback to hard-wire communication, 20" H × 12" W × 4" D 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
227-630-xx	BT-X electronics package (no audio board)
176-206-00	BT-X fire zone card, provides four zone inputs and eight relay driver outputs
176-208-00	BT-X audio board
176-212-00	BT-X zone expansion backplane, supports 2 zone cards (fire or security)
176-214-00	BT-X relay board with 8 on-board Form C relays
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
513-412-00	BT-X enclosure tamper switch kit
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86"W x 3.86"H, 7.92 lb.
649-118-00	USB to serial port adaptor (needed for laptops with USB only in order to program the panel)

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BT-XM2 Interface Conversion Kits

227-371-xx, 227-372-xx, 227-623-MN, 227-811-MN

Description

The BT-XM2 can be connected to up to two M-Type Fire Alarm Control Panels (conventional or addressable) and two Mass Notification Panels using a single antenna for radio communication with a D-21 Central. Once converted, the BT-XM2 reports any connected M-Type FACP and MNS panel status to central, and controls the in-building MNS system.

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, upgrading to a new MAAP(+) addressable for MNS or from DTMF (M-1) to MNS operation (M-2), the panel will require programming work. Also, an audio board is required.

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 in use. This alerts 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 M-Panels audible alarm 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 pre-recorded MNS messages. Expansion zones are not needed.

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 pre-recorded messages from the D-21 Mass Notification System to in-building mass notification panels
- Receives and transmits live-voice through radio from MNS sources such as telephone and microphone
- Pre-recorded messages can be triggered via relay contact closure
- Security features prevent unauthorized take-over of live-voice transmissions
- BT-XM2 status LEDs: general trouble, system fault, in-communication, carrier detect, transmit, primary power, battery boost charge, and battery float charge
- Communication LEDs indicate the method of communication used: radio or hard-wire and if a live-voice message is being sent
- Full-duplex RS-232 port used for programming the BT-XM2 via laptop computer
- 115 or 230 VAC power is monitored with automatic switch-over 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: 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.

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

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M-Panel (227-371-xx, 227-372-xx, 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

Kits

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 **(the BT-XM being converted must have an audio board attached to function correctly)**
Order one of the following conversion kits based on the type of M-series FACP being converted to interface with the BT-XM2.	
227-371-01	M-1 to M-2 Conventional FACP Conversion Kit for MNS operation. Includes M-2 CPU for FSK communication, RFM-XM2, interconnection cable and EPROM.
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" high). Replaces M CPU, power supply, AAC, ADC, and display (existing ADCs may still be used with the upgrade). Includes BT-XM2 MNS interface. Specify frequency when ordering **NOTES:** 1. Ah capacity required depends on system; other battery options available. Contact Monaco for help in determining battery requirements. 2. Antenna system required for radio versions; Contact Monaco.

Associated Parts

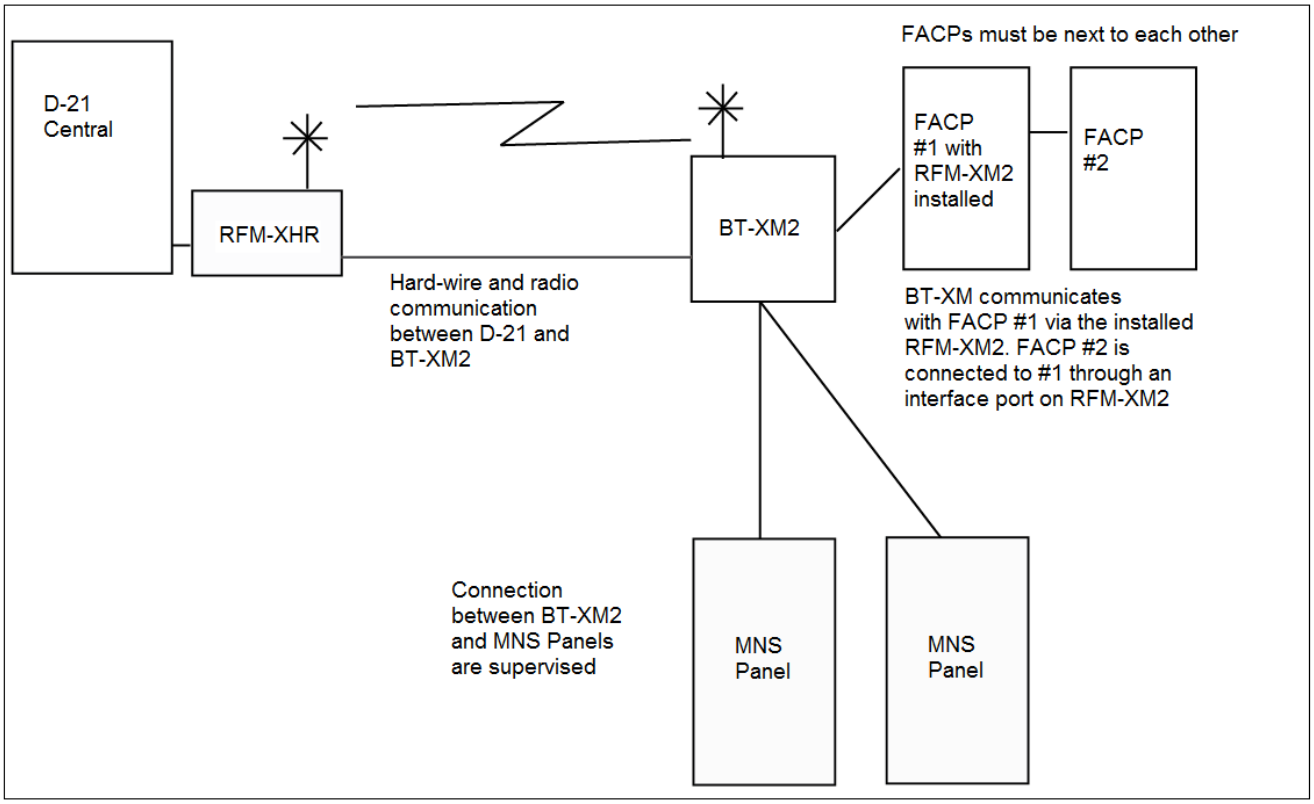
Part Number	Description
176-208-00	BT-X Audio Board
176-214-00	BT-X relay board with 8 on-board Form C relays
227-574-00	MAAP serial interface kit, includes programming cable and adapter

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Diagrams

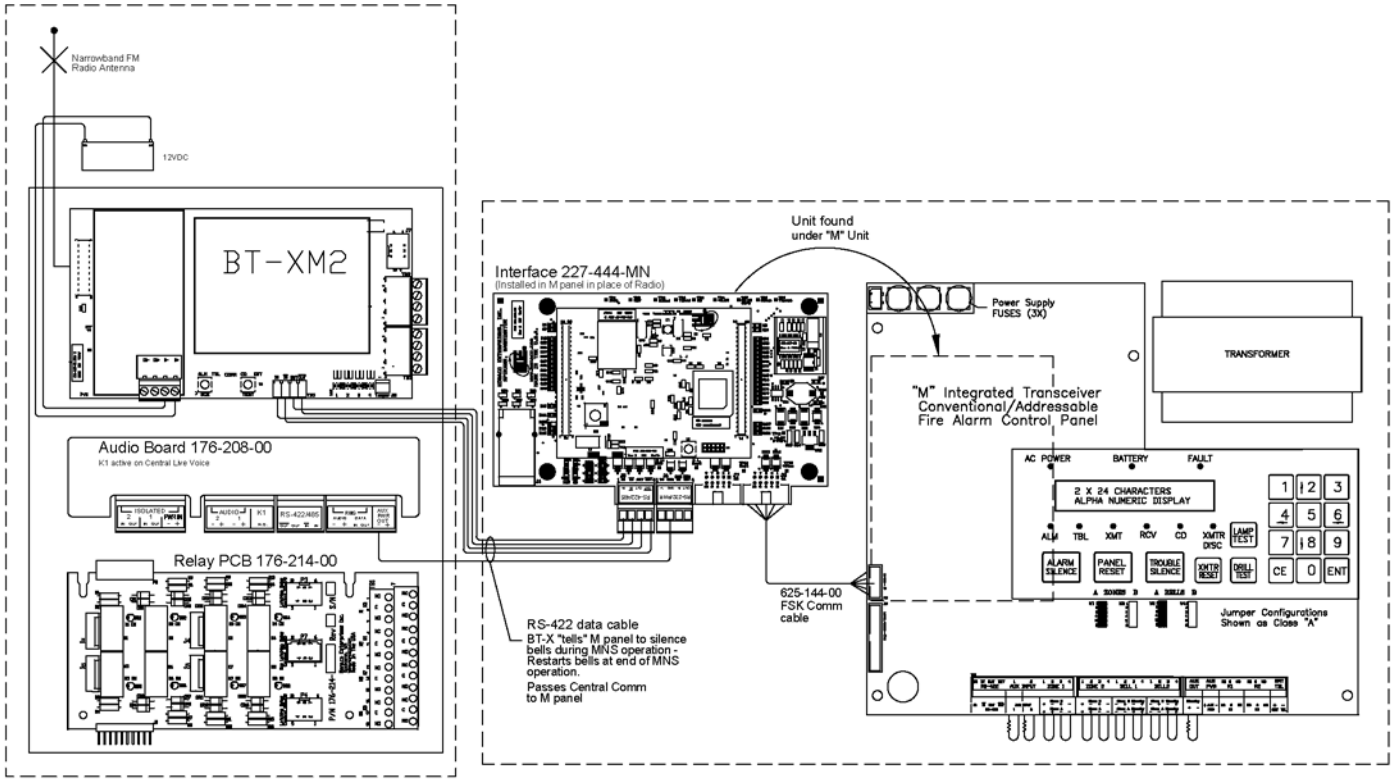
System Diagram



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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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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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- 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
- Tamper Switch—Optional 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 (10 K EOL), and secure resistance (22 K 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: 50Ω
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 to 140°F (–30 to 60°C)
Relative Humidity	0–90%, noncondensing
Compliance	Communication and line security comply with DCID 1/21 Annex B (Class II) and UL1076 Class AA

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Detect Manage Record

Building Transceivers

Ordering Information

BT-XS

Part Number	Description
227-610-xx*	BT-XS, 0–24 zones, radio, 20" H × 12" W × 4" D, blue single-wide, one 12V/12 Ah battery, audio and relay board options ordered separately
227-611-xx*	BT-XS, 0–24 zones, radio, 20" H × 16" W × 6" D, blue NEMA 3R, one 12V/12 Ah battery, audio and relay board options ordered separately
227-613-xx*	BT-XS, 0–56 zones, radio, 20" H × 25" W × 4" D, blue double-wide, two 12V/12 Ah batteries, audio and relay board options ordered separately
227-615-00	BT-XHS, 0–24 zones, hard-wire, 20" H × 12" W × 4" D, blue single-wide, one 12V/12 Ah battery, audio board, relay board option ordered separately
227-616-00	BT-XHS, 0–56 zones, hard-wire, 20" H × 25" W × 4" D, blue double-wide, two 12V/12 Ah batteries, audio board, relay board option ordered separately
227-617-00	BT-XS I button (IB) keypad option assembly for use with BT-XS electronics package 227-630-xx
227-617-01	BT-XS Remote I button (IB) remote keypad with relay control option assembly, for use with BT-XS electronics package 227-630-xx
227-630-xx*	BT-X electronics package (no audio board). Must order audio board separately for hard wire. **NOTE** If BT-X unit has a keypad, must also order 227-617-00 or 227-617-01 with the BT-X unit.
227-648-xx*	BT-XHS, 0–24 zones, radio/hard-wire dual comm, 20" H × 12" W × 4" D, blue, single-wide, one 12V/12 Ah battery, audio board, relay board option ordered separately
227-649-xx*	BT-XHS, 0–56 zones, radio/hard-wire dual comm, 20" H × 25" W × 4" D, 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
176-212-00	BT-X zone expansion backplane, supports two security zone cards (fire or security)
176-206-01	BT-XS security zone card, provides four zone inputs and eight relay driver output
176-208-00	BT-X audio board
176-214-00	BT-X relay board with 8 on-board Form C relays
227-627-01	BT-X keypad with 2 x 24 character LCD, PIN entry; requires BT-X keypad harness P/N 630-011-00
630-011-00	BT-XS keypad interface harness
227-574-00	MAAP serial interface kit, includes programming cable and adaptor
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(+), MAAP-X) BT-X building transceiver, and D-21 compatible repeaters
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86"W x 3.86"H, 7.92 lb.

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Detect Manage Record

Building Transceivers

Wide-Area Mass Notification Speaker Station, 1600 Watt

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

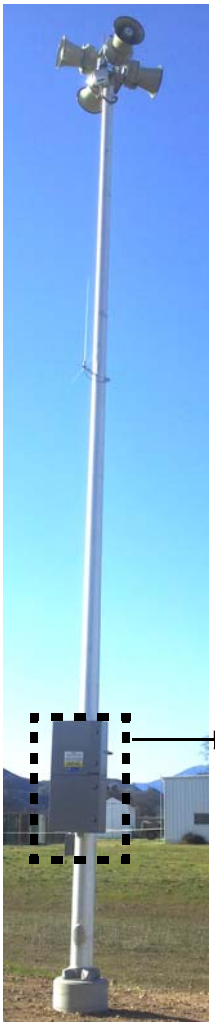
Description

The Wide Area Mass Notification Speaker Station provides 1600W of speaker power to a speaker array for pre-recorded 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 announce-ments, and a speaker array.

The speaker array includes four speakers with mounting bracket, 50 feet 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 1600W Control System



Battery Enclosure

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
- Pre-recorded 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

AC Input (Primary Power)	120 VAC, 10A
DC Output (Secondary Power)	24 VDC
Battery Backup Power	Two 12 VDC/100 Ah batteries
Battery backup during AC Fail	Standby: Active:
Audio Output Power	1600 Watt
Speaker Sound Pressure at 100 ft	121 dB (360 degrees)
Wind Resistance	140 mph
Operating Temperature	–40° to 140°F (–40° to 60°C)
Relative Humidity	0–100%, noncondensing
Speaker Array Weight	225 lb (all four speakers)
Enclosure Dimensions (Speaker Control Station and Battery)	48 in. H × 24 in. W × 8 in. D

BT-X WAC Unit

DC Input (Primary Power)	24 VDC from speaker control station
Battery Backup (Secondary Power)	One 12 VDC/12 Ah batteries
Batery backupduring AC Fail	Standby: 55 hours
Operating Temperature	–22° to 140°F (–30° to 60°C)
Relative Humidity	0–90%, noncondensing

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
227-671-xx*	BT-X WAC/ASC Mass Notification Speaker Station with integral BT-X Wide Area Controller; 1600 W, omnidirectional; double NEMA 4X SS enclosure; Amplifier w/tone generator and AGC for pre-recorded and Live-Voice announcements; four speaker array with bracket, 50' 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. Pre-recorded Message Card (P/N 055-SXX-01) sold separately.
227-634-xx*	BT-X WAC/ASC; Wide Area Controller for American Signal Mass Notification Speaker Station; includes mounting bracket, lightning arrestor, and all inter-connection wiring harnesses; 12v/12 Ah battery.
227-634-CE*	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.
227-661-xx*	Replacement BT-X WAC/ASC electronic package with RF Module and Audio Board for 227-634-xx.
124-080-00	ASC Mass Notification Speaker Station, 1600 W; double NEMA 4X SS enclosure; Amplifier with tone generator and AGC for pre-recorded and Live-Voice announcements; four speaker array with bracket, 50' speaker cable, and pole mounting kit (pole not included).
***Specify frequency when ordering. **NOTE Antenna must be purchased separately. (Contact Monaco for ordering information.)**	

Associated Parts

Part Number	Description
207-610-00	BT-X/WAC Planner Support Kit
400-718-00	Battery, deep cycle, rechargeable, 12V/100 Ah, universal terminal, 12.01"L x 6.61"W x 9.06"H, 65.34 lb (spare)*
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86"W x 3.86"H, 7.92 lb (spare)
198-016-00	Lightning Arrestor
085-153-00	Speaker bird screen, 1 per speaker (4 per array)
*Original purchase comes with voucher for two batteries of this specification.	

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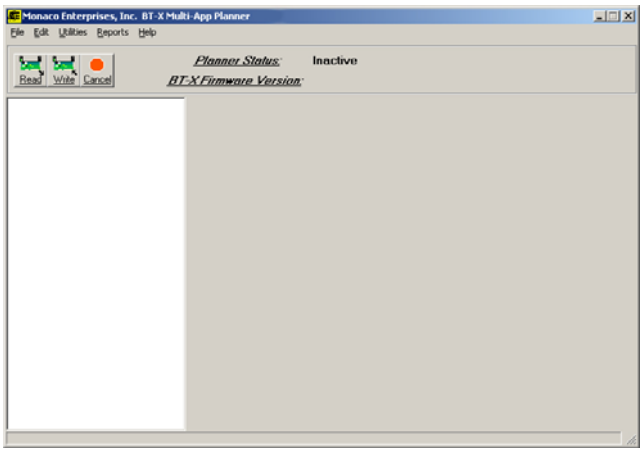
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Building Transceivers

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 adapter must be used to program the Monaco panels. Monaco USB to serial adapter (P/N 649-118-00) has provided the most reliable communication between various laptops and Monaco panels. Other USB to serial adapters 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 adapter
227-574-00	MAAP serial interface kit, includes programming cable and adapter

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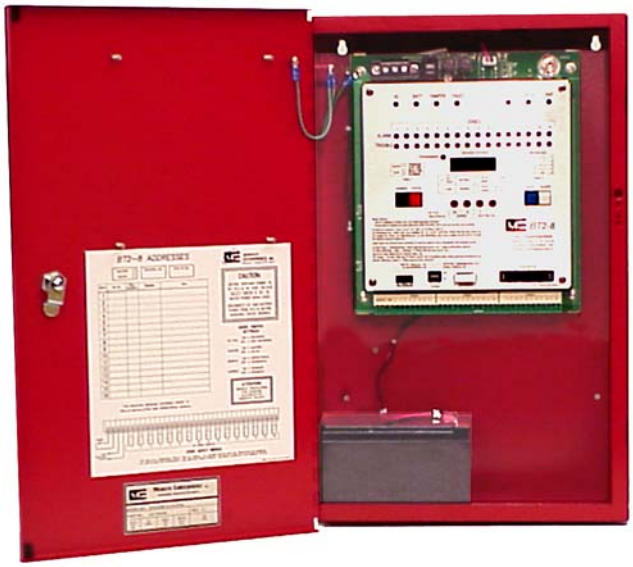
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BT2-8 Building Transceivers

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

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Building Transceivers

- 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)
- 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

Ordering Information

Building Transceivers

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

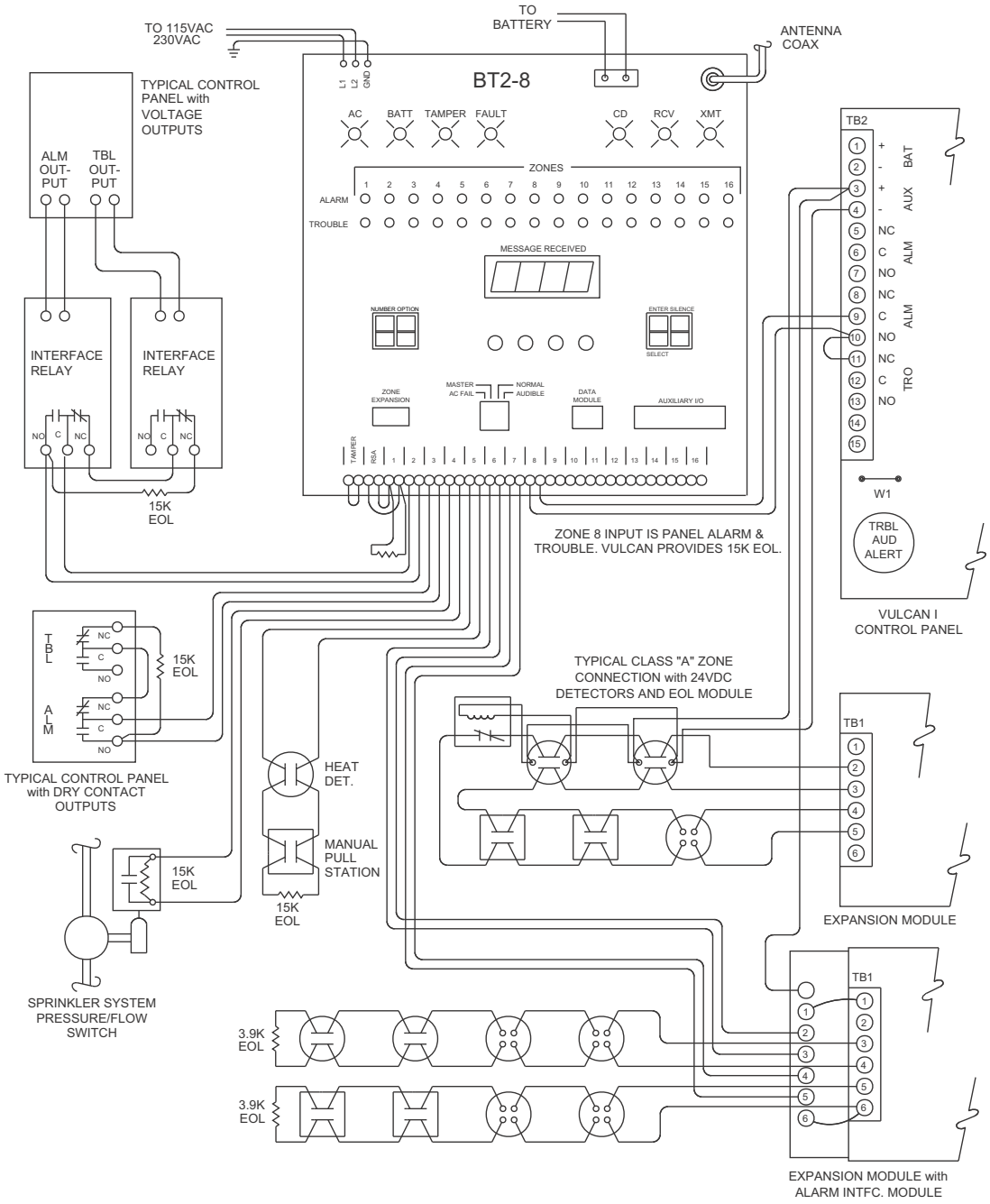
Associated Parts

Part Number	Description
227-259-00	BT2-8 16 zone Expander Assembly, no radio, 20" x 12" x 4" red NEMA 1 enclosure for use with P/N 227-245-xx BT2-8 Building Transceiver
227-255-xx	BT2-8 Building Transceiver electronics package, narrowband radio, 16 zones. Specify frequency when ordering
400-713-00	Battery, SLA, rechargeable 12v/12 Ah quick connect, 5.94" L x 3.86" W x 5.86" H, 7.92 lb
513-410-00	Tamper Switch Kit for use on any BT2-8 Building Transceiver for improved security
517-016-00	Tilt Switch

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BT2-8 Interconnection Diagram

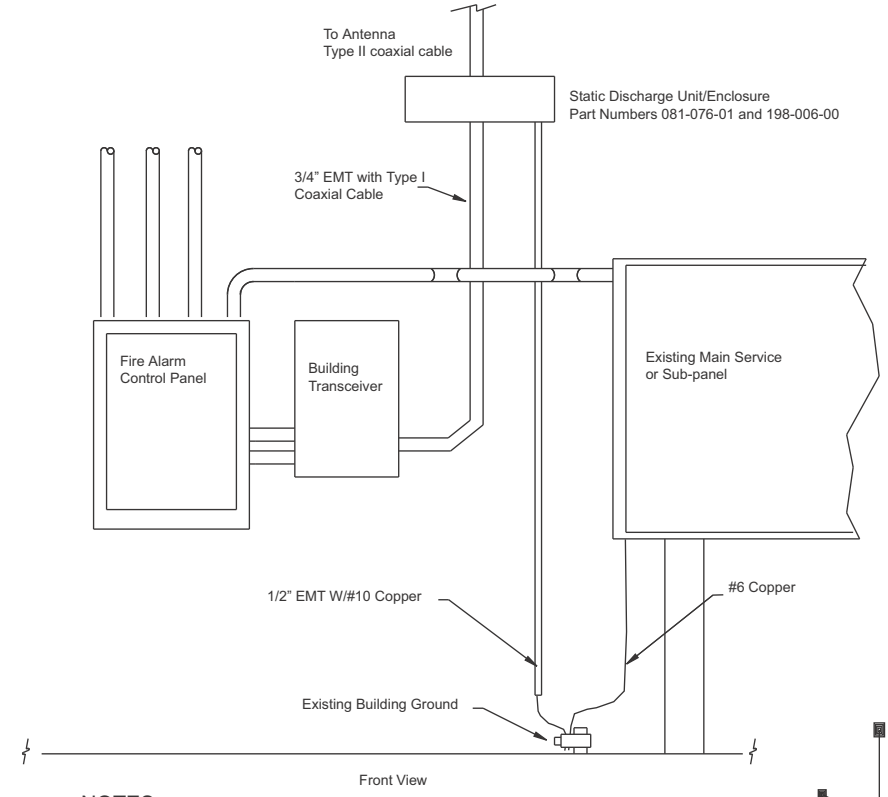


The NEMA 1 enclosure provides two knockouts on each side. For complete installation information, refer to the I-O-M Manual (P/N 001-203-00) and applicable codes and standards.

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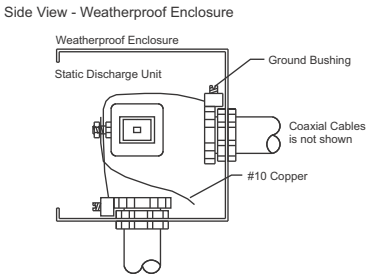
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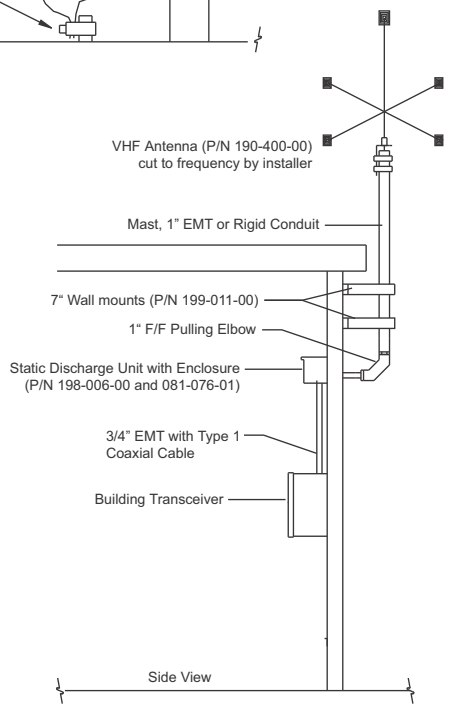
BT2-8 Typical Installation Drawings



NOTES

1. Avoid sharp bends in both the coax cable and ground conductor.
2. For complete installation details, reference the installation manuals and applicable codes and standards.
3. Always do a complete "System" test per NFPA Standards after a new installation or any modifications.





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RFMs and Repeaters Catalog Section
04

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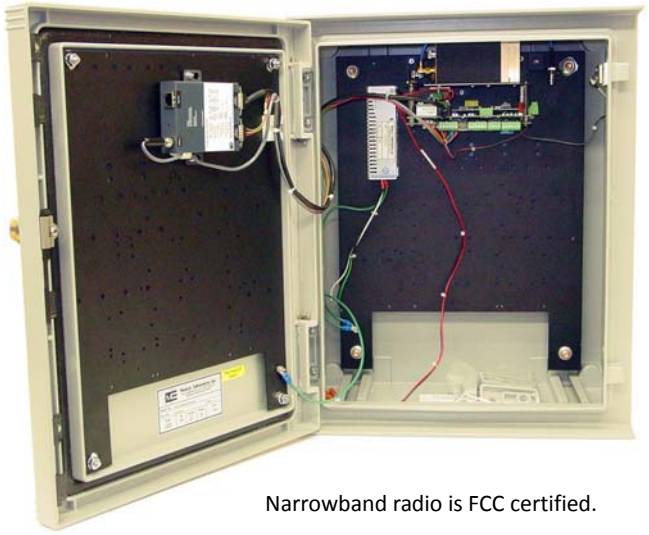
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RFMs and Repeaters

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	100–240 VAC, 50/60 Hz, 1.75A, 40W (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 to 140°F (–30 to 60°C)
Relative Humidity	0 to 90% noncondensing

Enclosure

Type	Wall-mount
Material	Fiberglass
Color	Gray
Dimensions	20.2" H x 16.26" W x 9.0" D

Ordering Information

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

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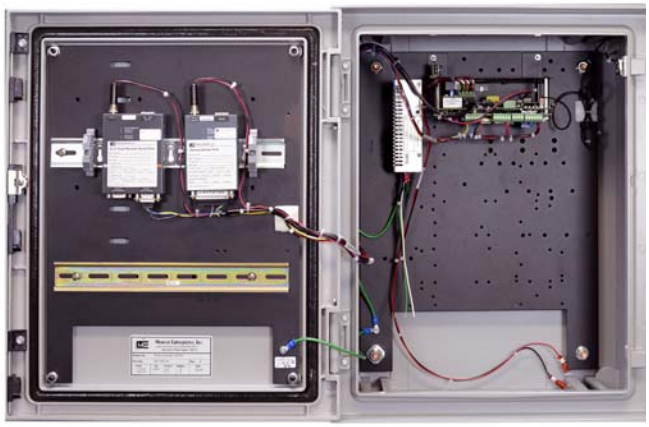
RFMs and Repeaters

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 Pre-Recorded 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 pre-recorded 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 pre-recorded 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	100-240 VAC, 50/60 Hz, 1.75A, 40W (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° to 140°F (-30° to 60°C)
Relative Humidity	0 to 90% noncondensing
Enclosure	
Type	Wall-mount
Material	Fiberglass

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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

Color Gray

Dimensions 20.2" H x 16.26" W x 9.0" D

Ordering Information

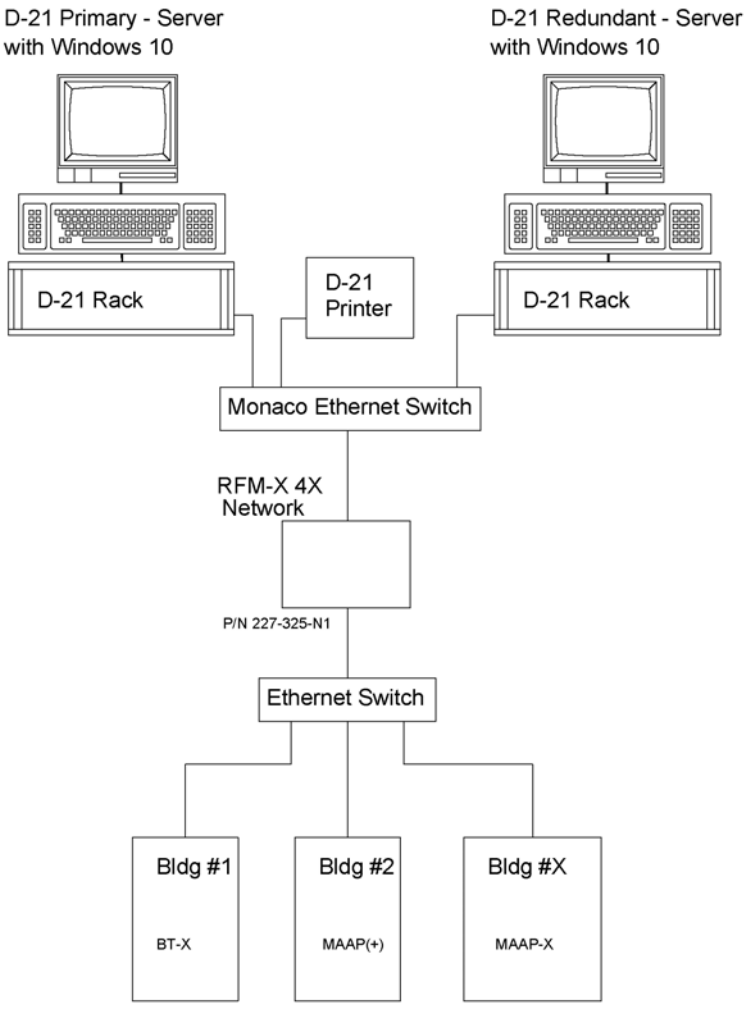
Part Number	Description
227-325-N1	RFM-X Ethernet Network Modem in a Gray NEMA 4X Enclosure with one 12 VDC 18 Ah battery

Associated Parts

Part Number	Description
200-471-11	Assembly for Ethernet Switch, 24-port (10/100/1000BASE-T ports + 4 10 GB SFP+ ports), Managed layer 3, 1U, Rackmount, 100-240 VAC, 50/60 Hz. Comes with enhanced software (EI) license
200-444-00	Fiber Transceiver Module, 1310 nm, Multi/Single Mode, SFP, LC, 1 GB, 10 KM distance, hot plug, plugs into SFP+ port
200-444-01	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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Detect Manage Record

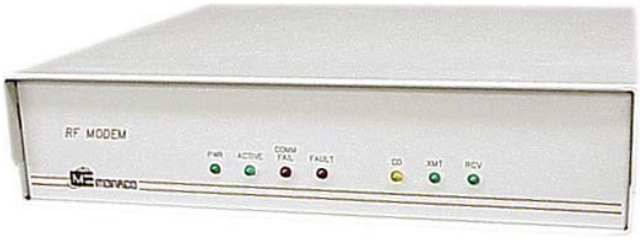
RFMs and Repeaters

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.



FM APPROVED

CE

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, 40W (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	32–120°F (0–49°C)
Relative Humidity	10 to 90%, noncondensing
Dimensions	3" H x 12" W x 11" D

Ordering Information

RFM-XHR

Part Number	Description
227-317-xx*	■ RFM-XHR Radio frequency modem with hard-wire option ■ Black enclosure *Specify frequency when ordering.
227-317-CE*	■ RFM-XHR Radio frequency modem with hard-wire option ■ Black enclosure ■ Customer option for Europe *Specify frequency when ordering.

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RFMs and Repeaters

Associated Parts

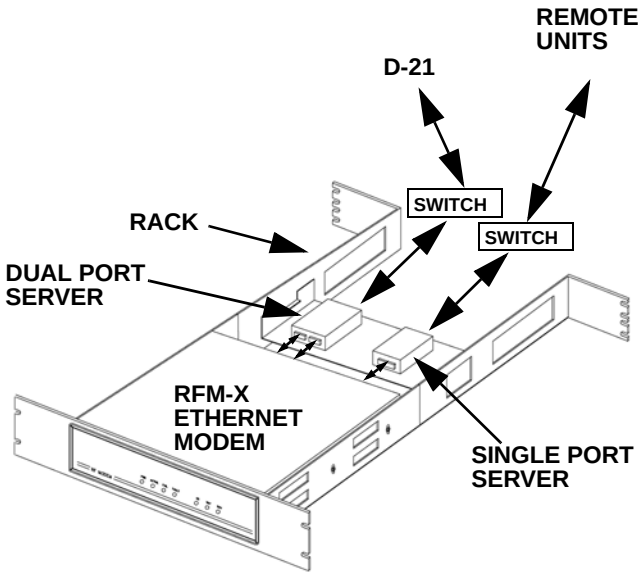
Part Number	Description
085-800-01	Single 2U, RFM rack-mount for 19" rack-mount cabinet, black face
085-800-04	Single RFM rack-mount for 19" rack-mount cabinet with adjustable rails (22"–28" extension) shelf, black face
204-004-00	RS-232 to 100Base-T single port network device server
227-327-00	Single 2U, RFM rack-mount for 19" rack-mount cabinet with on/off switch for push-to-talk MNS MIC with holder, provides mounting space for serial to network device server
625-123-01	RFM-X RS-232/power 100Base-T single port network device server cable with 1 DB9 pin male, 1 DB9 pin female, and 1 DB25 pin connector

RFMs and Repeaters

RFM-X Ethernet Network Assembly, Rackmount
227-317-N1

Description

The RFM-X Ethernet Network Assembly, Rackmount 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 Panels.



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 to support communication between the remote units and the D-21. The RFM-X Ethernet modem supports Zone and Point Fire Reporting and Pre-Recorded 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 pre-recorded 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). 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 pre-recorded MNS for the MAAP-X Monaco 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	100-240 VAC, 50/60 Hz, 1.75A, 40W (per RFM-X)
Power Supply Outputs	+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° to 140°F (-30° to 60°C)
Relative Humidity	0 to 90% noncondensing
Type	Rack-mount, adjustable
Material	Fiberglass
Color	Gray
Dimensions	3.5" H x 19" W x 22" - 28" D (7.62 cm x 48.26 cm x 55.88 - 71.12 cm)

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RFMs and Repeaters

Ordering Information

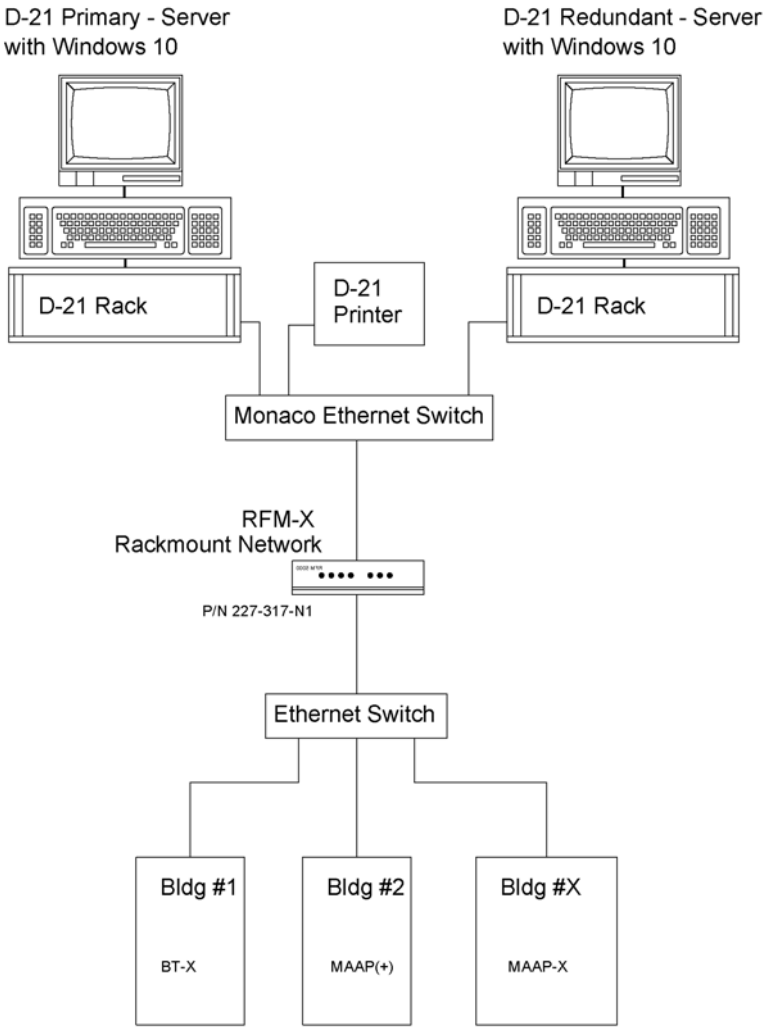
Part Number	Description
227-317-N1	RFM-X Ethernet Network Assembly, 2U Rackmount, RFM-X Ethernet Modem, 100BASE-T single port device server, dual port encrypted device server

Associated Parts

Part Number	Description
200-471-11	Assembly for Ethernet Switch, 24-port (10/100/1000BASE-T ports + 4 10 GB SFP+ ports), Managed layer 3, 1U, Rackmount, 100-240 VAC, 50/60 Hz. Comes with enhanced software (EI) license
200-444-00	Fiber Transceiver Module, 1310 nm, Multi/Single Mode, SFP, LC, 1 GB, 10 KM distance, hot plug, plugs into SFP+ port
200-444-01	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, Rackmount



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Detect Manage Record

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 pre-recorded messages, and fire reporting.

Full MNS live voice capability requires additional dedicated hardwire copperwire 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 (FACP), 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 to 120° F (0 to 49° C)
Relative Humidity	10 to 90% non-condensing
Dimensions	3" H x 12" W x 11" 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" rack-mount cabinet, black finish.
085-800-04	Single RFM rack-mount for 19" cabinet with adjustable rails (22" to 28" extension) shelf, black finish.
625-123-01	RFM-X RS-232/power 100Base-T single port network device server cable with 1 DB9 pin male, 1 DB9 pin female, and 1 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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Detect Manage Record

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

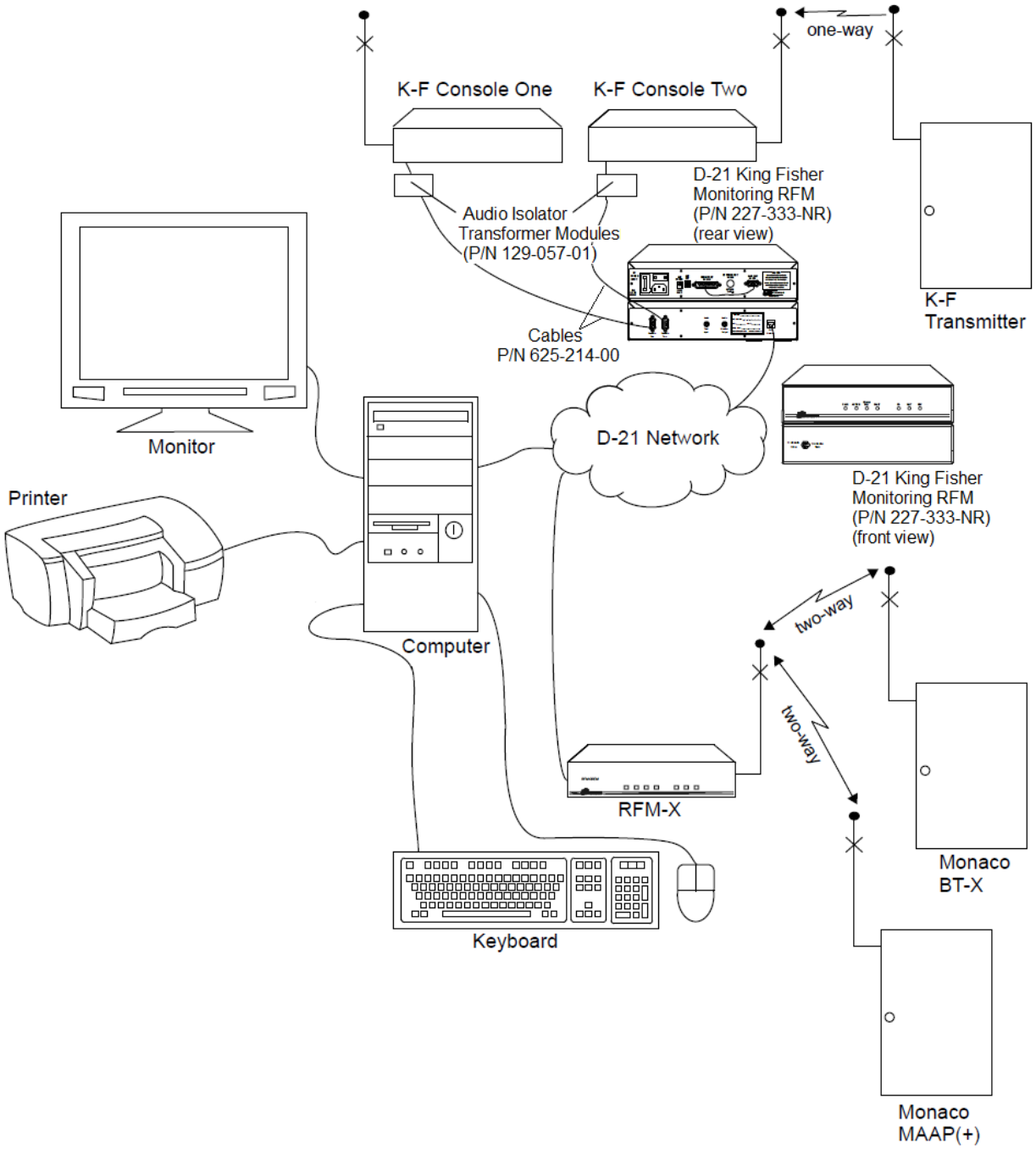
Associated Parts

Part Number	Description
625-214-00	King-Fisher Interface 22 AWG Stranded Cable and Bracket. For use with 227-333-NR. One required for each KF Console.
129-057-01	Audio Isolator Transformer Module. For use with 227-333-NR. One required for each KF Console.

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Drawing: Typical D-21 System with a D-21 King-Fisher Monitoring RFM



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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, ~100W
Fuses	SB 1A/250V
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	Max. 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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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	100–240 VAC, 50/60 Hz, 1.75A, 40W (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 to 140°F (–30 to 60°C)
Relative Humidity	0 to 90% noncondensing

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RFMs and Repeaters

Ordering Information

Part Number	Description
227-329-xx*	■ RFM-XR single repeater ■ NEMA 4X enclosure, 20" H x 16" W x 9" D ■ One 12V/18Ah backup battery included *Specify frequency when ordering.
227-329-CE*	■ RFM-XR single repeater ■ NEMA 4X enclosure, 20" H x 16" W x 9" D ■ One 12V/18Ah backup battery included ■ Customer option for Europe *Specify frequency when ordering.
227-358-xx*	■ RFM-XR^2 redundant repeater (master/slave) ■ NEMA 4X enclosure, 20" H x 16" W x 9" D ■ One 12V/18 Ah backup battery *Specify frequency when ordering **Note** The RFM-XR^2 requires separate independent antenna networks, one for each repeater.
227-358-CE*	■ RFM-XR^2 redundant repeater (master/slave) ■ NEMA 4X enclosure, 20" H x 16" W x 9" D ■ One 12V/18 Ah backup battery ■ Customer option for Europe *Specify frequency when ordering **Note** The RFM-XR^2 requires separate independent antenna networks, one for each repeater.
227-359-xx*	■ RFM-XR electronics package ■ Field replacement assembly for 227-329-xx OR 227-358-xx ■ Does not include a power supply or cables *Specify frequency when ordering **Note** Specify function (single, master, slave) when ordering. **Note** Electronics package must be factory configured.
227-359-CE*	■ RFM-XR electronics package ■ Field replacement assembly for 227-329-xx OR 227-358-xx ■ Does not include a power supply or cables ■ Customer option for Europe *Specify frequency when ordering **Note** Specify function (single, master, slave) when ordering. **Note** Electronics package must be factory configured.

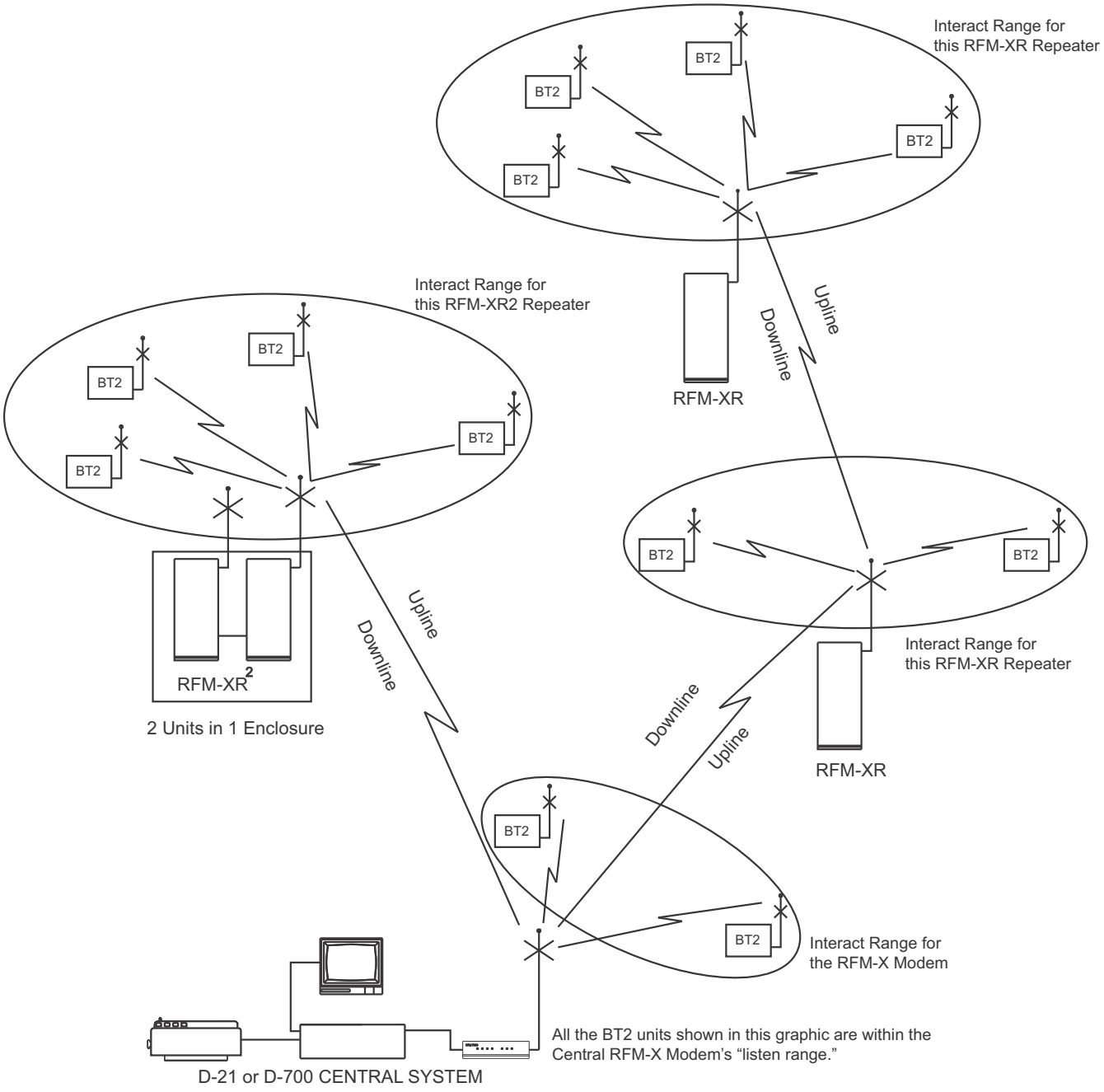
Associated Parts

Part Number	Description
204-016-01	Dual-port RFM-XR repeater device server, 100 Base-T, 256 AES encryption
207-045-00	RFM-XR Program Planner Kit, comes with RFM-XR, RFM-XR^2 Repeater **NOTE** Purchase this kit as a spare or is additional programming kit for RFM-XR, RFM-XR^2 Repeaters.
400-712-00	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13"L x 3.03"W x 6.59"H, 12.60 lb
404-090-00	Power supply for BT-X, 15 VDC, 2.8 A

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RFM-XR and RFM-XR^2 Application



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RFMs and Repeaters

RFM Rack-Mount Kits

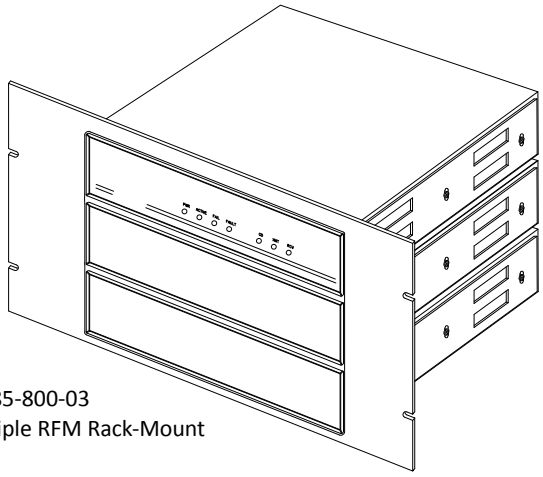
085-800-01, 085-800-02, 085-800-03, 085-800-04, 227-327-00

Description

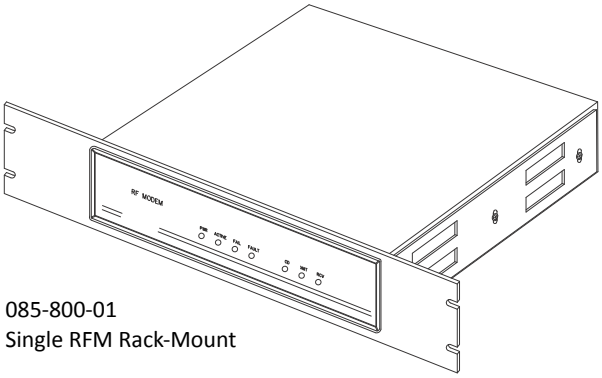
Rack-mounts come in five configurations:

- **Single:** 3.5" H x 19" W x 11" D (7.62 cm H x 48.26 cm W x 27.94 cm D)
- **Double:** 6.97" H x 19" W x 11" D (17.7 cm H x 48.26 cm W x 27.94 cm D)
- **Triple:** 10.47" H x 19" W x 11" D (26.6 cm H x 48.26 cm W x 27.94 cm D)
- **Single:** 3.5" H x 19" W x 11" D (7.62 cm H x 48.26 cm W x 27.94 cm D) with shelf 12" W x 5.5" D that sits on rails which extend 22"–28"
- **Single:** 3.46" H x 19" W x 20" D (8.79 cm H x 48.26 cm W x 50.8 cm D)

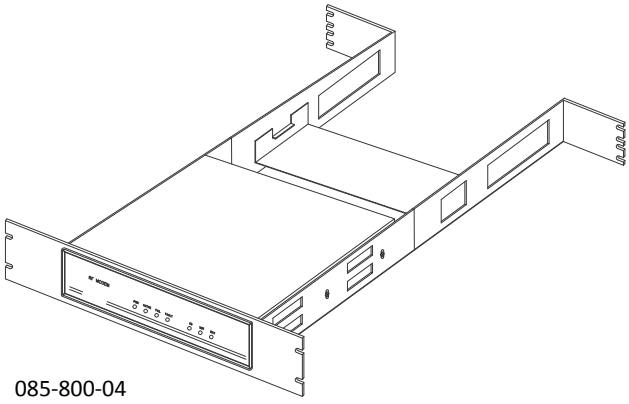
Note RFMs are pictured in mounts for clarity only. Rack-mount kits do not come with RFMs.



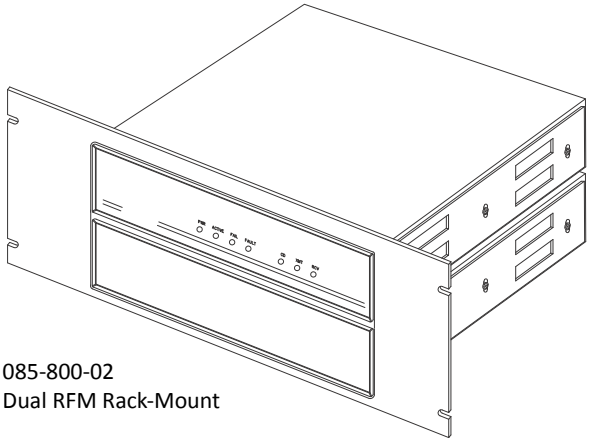
085-800-03
Triple RFM Rack-Mount



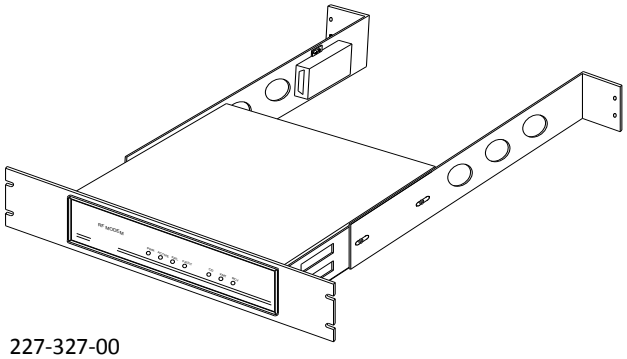
085-800-01
Single RFM Rack-Mount



085-800-04
Single RFM Rack-Mount with Adjustable Rails and Added Shelf



085-800-02
Dual RFM Rack-Mount



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
085-800-01	Single 2U, RFM Rack-Mount for 19" Rack-Mount Cabinet, black face
085-800-02	Dual 4U, RFM Rack-Mount for 19" Rack-Mount Cabinet, black face
085-800-03	Triple 6U, RFM Rack-Mount for 19" Rack-Mount Cabinet, black face
085-800-04	Single RFM Rack-Mount for 19" Rack-Mount Cabinet with adjustable rails (22"–28" extension) shelf, black face
227-327-00	Single 2U, RFM rack-mount for 19" 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

Network Interface	RJ-45 10Base-T/100Base-TX Ethernet Port
Input Power	9-30 VDC (center +) or 9-24 VAC (1.5W max power required)
Serial Interface	DB25F 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	-40°F to 158°F (-40°C to 70°C)
Operating Humidity	10-90% non-condensing 40-60% recommended
Enclosure	Metal with integrated wall mounts
IP Rating	30
Dimensions	0.9" H x 2.5" W x 3.5" D (2.3 cm x 6.4 cm x 9.0 cm)
Weight	0.45 lb (0.2 kg)
Standards Compliance	UL Listed 864
UL	E128144, S24286

Ordering Information

Part Number	Description
204-004-00	RS-232 to 100Base-T Single port network device server

Associated Parts

Part Number	Description
625-123-01	RFM-X RS-232/power 100Base-T single port network device server cable with 1 DB9 pin male,1 DB9 pin female, and 1 DB25 pin connector. Note: Additional cables or modules may be required, depending on the desired communication setup and function. Contact Monaco for details.
625-111-00	Cable Assembly, RFM to Device Server Serial Cable. Use with RFM-7000.

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Addressable Fire Alarm Control Panels Catalog Section 05

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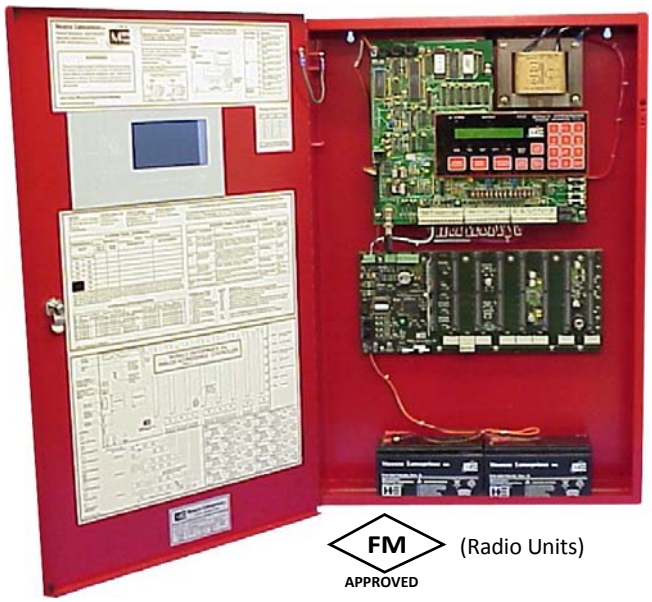
Addressable Fire Alarm Control Panels

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 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 (D-21) through integrated transceiver or hardwire communication. This enables dispatchers to monitor the fire-spread while notifying first responders, keeping them out of harm's way.



FM APPROVED (Radio Units)

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.

The basic panel includes:

- 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," or contact Monaco for more information.

User Interface

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 LCD, printer, or laptop.

Easy to use keypad with alarm silence, trouble silence, panel reset, drill test and lamp test buttons. 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 Signaling Line Circuits (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

- Initiating Device Circuits (IDCs): Two Class A or four Class B
- 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—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 MAP(+) 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, 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/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 (85–110%) selected by primary winding pigtail, 48–62 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 2 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, 8 ADCs max, LED illumination, 20 devices max
Per ADC:
- 2 Class B or 1 Class A/X SLC input(s)
- 99 smoke or heat sensors
- 99 monitor or control modules

Wiring: Unshielded twisted pair
Loop Resistance: 40Ω

Conventional Circuits IDCs (Zones):
- 2 Class A or 4 Class B
- 24 VDC
- 3.9k EOL resistor (Class B)
  Class A ZECs need 3.9k at terminals
- 35Ω resistance per circuit

NACs (Bells):
- 2 Class A or 4 Class B
- Polarity reversing
- 24 VDC, 1.5A per NAC
- 3.5A max., all NACs; per Class B ≤2A
- 4.7k EOL resistor (Class B)
- 3Ω resistance per leg

Auxiliary Input:
- 2 Class B
- Non-loop powered
- 4.7k EOL resistor
- 35Ω resistance per circuit

Auxiliary Output:
- 1 Class B
- Polarity reversing
- 24VDC, filtered, 1.5A
- 4.7k EOL resistor
- 3Ω resistance per leg

Remote Trouble:
- 24 VDC, filtered, 150 mA limited
- Unsupervised

Relays 2 Form C, rated at 24 VDC 1.25A max.

Radio Output Power 4W minimum (2W, some frequencies)

Operating Temperature 32°F to 120°F (0°C to 49°C)

Relative Humidity 0–90% noncondensing

Ordering Information

Panels

Integrated Radio Units, FM Approved.

Part Number	Description
227-855-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 surface-mount red enclosure 28" H x 18" W x 3.6" D ■ Two 12V/18 Ah batteries
227-856-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: ■ One AAC backplane for up to 8 ADCs ■ Space for optional expansion backplane ■ One ADC supporting 198 addressable devices ■ NEMA 1 surface-mount red enclosure 43" H x 18" W x 3.6" D ■ Four 12V/18 Ah batteries
227-857-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: ■ One AAC backplane for up to 8 ADCs ■ Space for 3 optional expansion backplanes ■ One ADC supporting 198 addressable devices ■ NEMA 1 surface-mount red enclosure 60" H x 18" W x 3.6" D ■ Four 12V/18 Ah batteries
227-865-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 flush-mount red enclosure 28" H x 18" W x 3.6" D ■ Two 12V/18 Ah batteries

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Addressable Fire Alarm Control Panels

Part Number	Description
227-866-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: ■ One AAC backplane for up to 8 ADCs ■ Space for optional expansion backplane ■ One ADC supporting 198 addressable devices ■ NEMA 1 flush-mount red enclosure 43" H x 18" W x 3.6" D ■ Four 12V/18 Ah batteries
227-868-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 4X stainless steel enclosure: 24" H x 24" W x 8" D ■ Two 12V/18 Ah batteries
227-869-xx*	MAAP(+) Point Reporting Addressable FACP with integrated radio transceiver: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 3R red enclosure 24" H x 24" W x 8" D ■ Two 12V/18 Ah batteries
*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
227-855-MN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 surface-mount red enclosure 28" H × 18" W × 3.6" D ■ Two 12V/18 Ah batteries
227-856-MN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 surface-mount red enclosure 43" H × 18" W × 3.6" D ■ Four 12V/18 Ah batteries
227-857-MN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 surface-mount red enclosure 60" H × 18" W × 3.6" D ■ Four 12V/18 Ah batteries
227-865-MN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 flush-mount red enclosure 28" H × 18" W × 3.6" D ■ Two 12V/18 Ah batteries
227-866-MN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 flush-mount red enclosure 43" H × 18" W × 3.6" D ■ Four 12V/18 Ah batteries
*Specify frequency (-MN) when ordering.	

Panels

Hard-wire Only (Ethernet) Units

Part Number	Description
227-855-EN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 surface-mount red enclosure 28" H × 18" W × 3.6" D ■ Two 12V/18 Ah batteries
227-856-EN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 surface-mount red enclosure 43" H × 18" W × 3.6" D ■ Four 12V/18 Ah batteries
227-865-EN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 flush-mount red enclosure 28" H × 18" W × 3.6" D ■ Two 12V/18 Ah batteries

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Addressable Fire Alarm Control Panels

Part Number	Description
227-866-EN*	MAAP(+) Point Reporting Addressable FACP: ■ One AAC backplane for up to 8 ADCs ■ One ADC supporting 198 addressable devices ■ NEMA 1 flush-mount red enclosure 43" H × 18" W × 3.6" D ■ Two 12V/18 Ah batteries

Associated Parts

Part Number	Description
227-811-xx*	MAAP(+) electronics package upgrade for existing MAAP-1, MAAP-2 (legacy addressable) and M-2 conventional panels (except 19" high). Replaces M CPU, power supply, AAC, ADC, display, and radio (existing ADCs may still be used with the upgrade)
227-811-MN*	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
176-185-00	M Conventional FACP Expansion Backplane. Capacity for up to 7 expansion cards: ZEC, AOC, or UIC
176-186-00	Zone Expansion Card (ZEC), 2 Class A or 4 Class B zones
176-187-00	Auxiliary Output Card (AOC), drives 8 LED's per card. Exansion backplane required for M FACP
176-193-01	Analog Addressable Controller (AAC), supports up to 8 ADCs
176-194-00	Addressable Driver Card (ADC), supports up to 198 addressable devices on a Signaling Line Circuit
176-197-00	Universal Input Card (UIC), four pairs of input terminals connecting up to four, 2-wire input zones

Part Number	Description
194-527-09	MAAP(+) EN Fiber Optic to Ethernet Converter, single mode 1 Gb kit with mounting hardware. (1 required per Ethernet MAAP(+) EN to convert it to Fiber Optic.)
194-527-01	Fiber Optic to Ethernet Converter, single mode, 1 Gb. (Spare part for 194-527-09)
513-411-00	M tamper switch kit
081-156-00	Batteries with enclosure: ■ NEMA 1 Red surface-mount enclosure, 18" H x 12" W x 6" D, with wire harness for use with M-2 conventional, MAAP+, MAAP-X and Vulcan 1 FACPs ■ Two 12 VDC/26 Ah batteries
205-032-00	MAAP Printer Kit, includes optoisolator with power adaptor, RJ-45 DTE to DB-25 male DCE adaptor, RJ-45 cable, DB-25 extension cable
207-617-00	MAP(+) Planner Support Kit: Planner CD, programming cable with adaptor (required)
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
400-701-00	Battery, SLA, rechargeable, 12V/26 Ah, quick connect, 6.56"L x 6.97"W x 4.92"H, 17 lb
400-712-00	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13"L x 3.03"W x 6.59"H, 12.60 lb
649-118-00	USB to serial port adaptor (needed for laptops with USB only in order to program the panel)
*Specify frequency (-xx) (-MN) when ordering.	
NOTES 1. Ah capacity required depends on system; other battery options available. Contact Monaco for help in determining battery requirements. 2. Antenna system required for radio versions; Contact Monaco.	

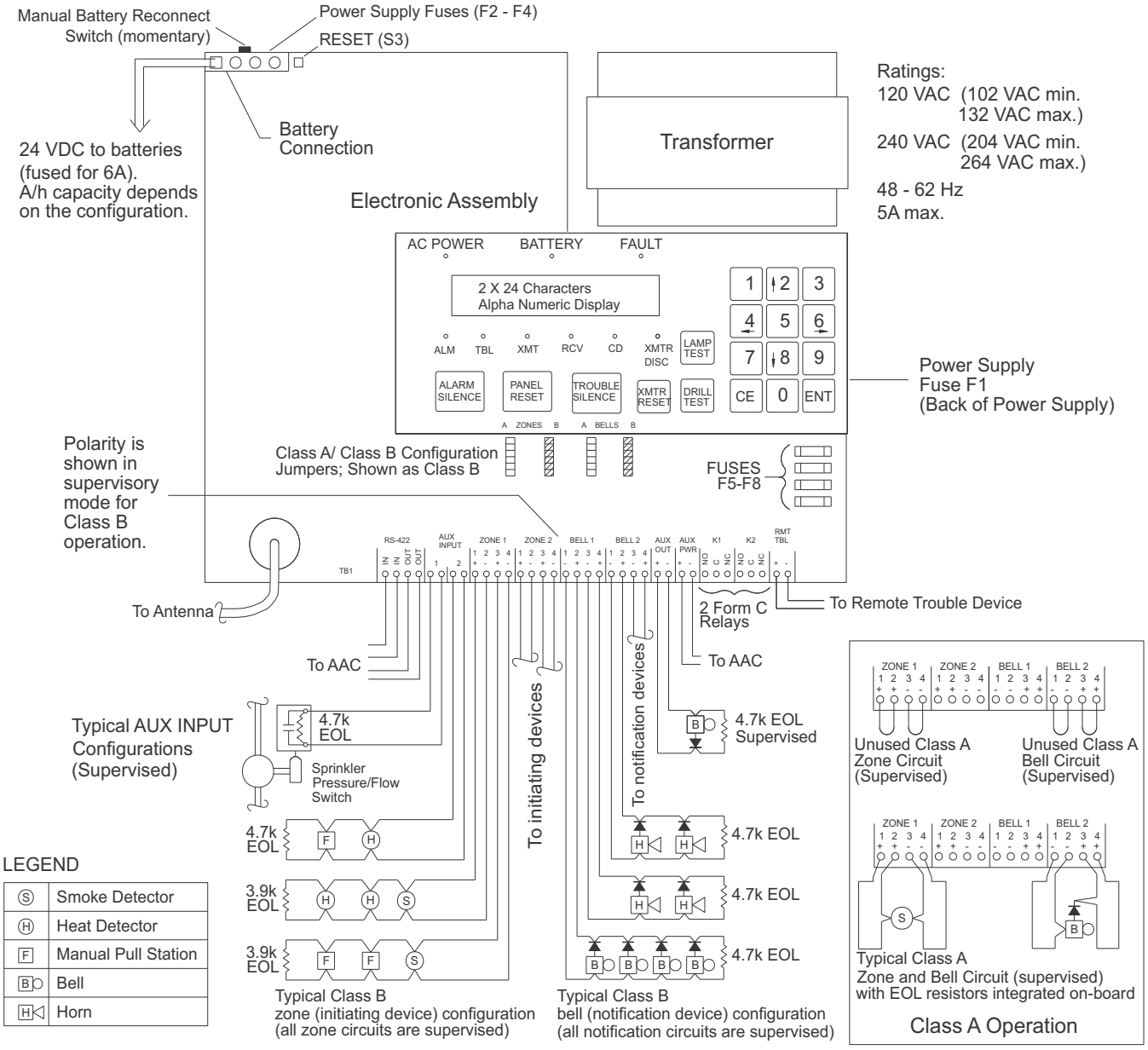
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Addressable Fire Alarm Control Panels

Wiring Diagrams

Electronic Assembly



LEGEND

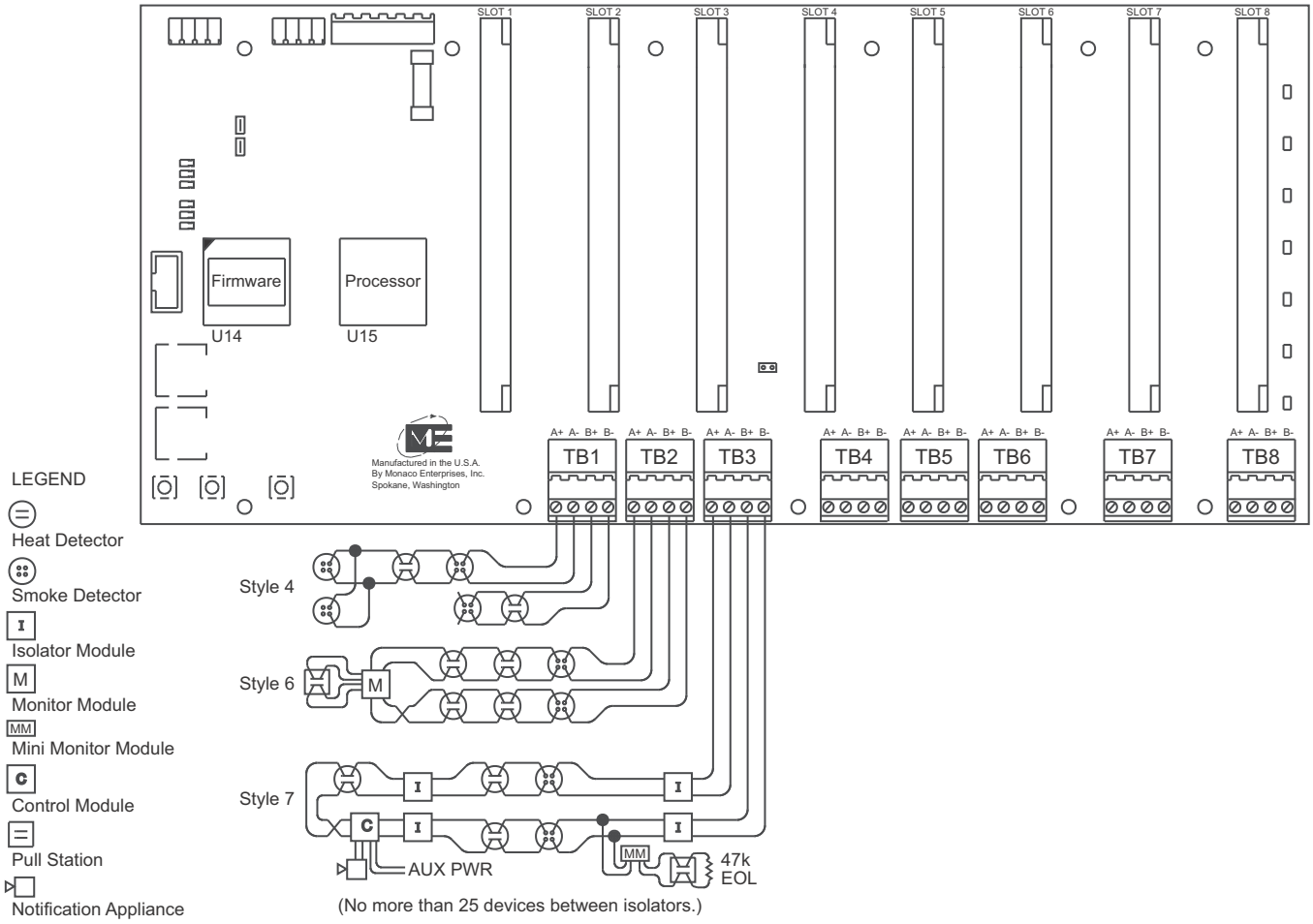
Ⓢ	Smoke Detector
Ⓗ	Heat Detector
F	Manual Pull Station
B	Bell
H	Horn

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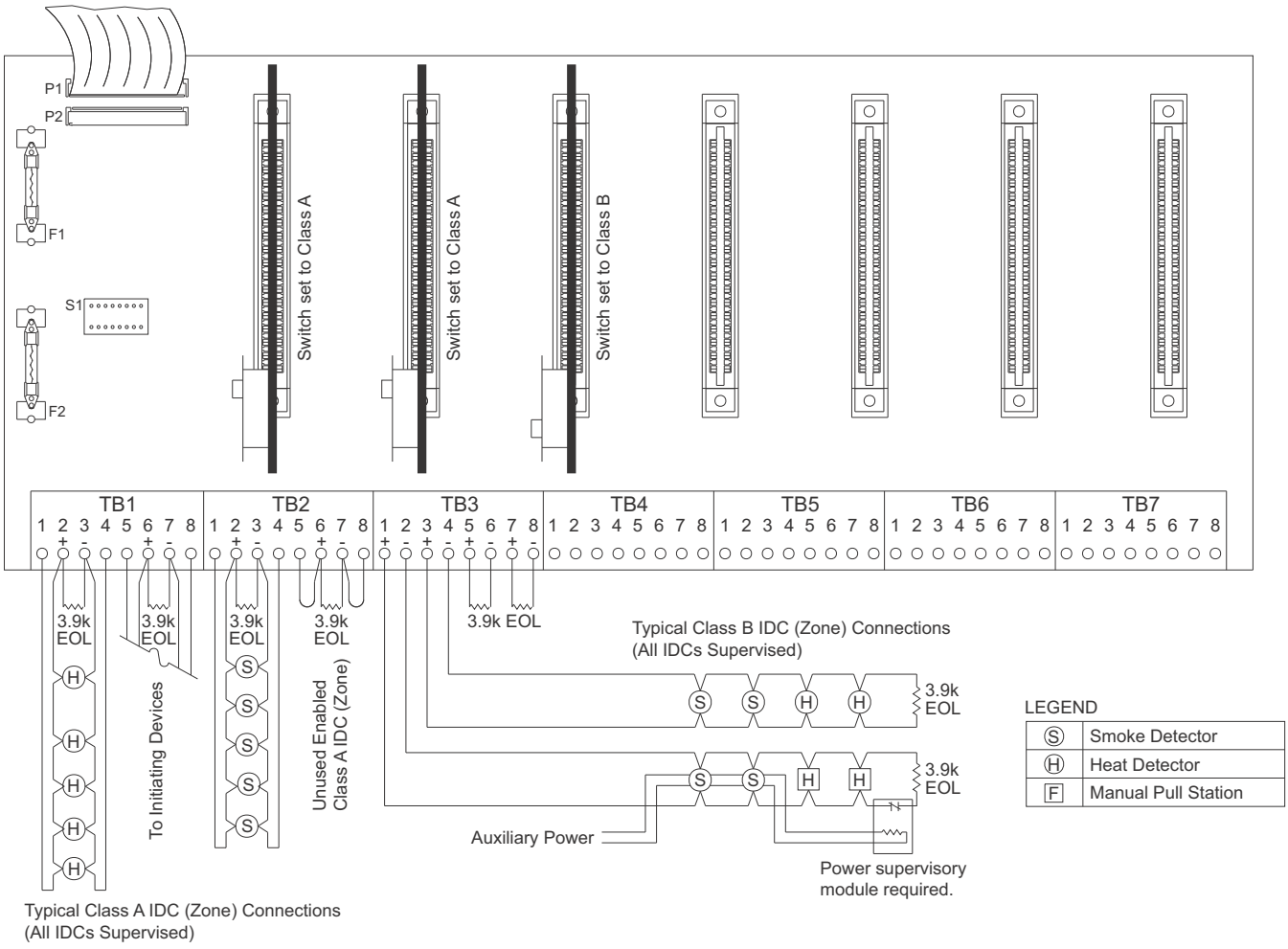
Analog Addressable Controller



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Conventional Expansion Backplane



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Detect Manage Record

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 2000 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 2000 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" H x 18" W x 3.6" 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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- 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
710-070-01	Remote display unit, red, 19" H x 18" W x 3.6" D, NEMA 1 enclosure, surface mount, two 12V/18 Ah backup batteries. Requires multiplexer P/N 176-268-00
710-070-02	Remote display unit, red, 19" H x 18" W x 3.6" D, NEMA 1 enclosure, flush-mount, two 12V/18 Ah backup batteries. Requires multiplexer P/N 176-268-00

Associated Parts

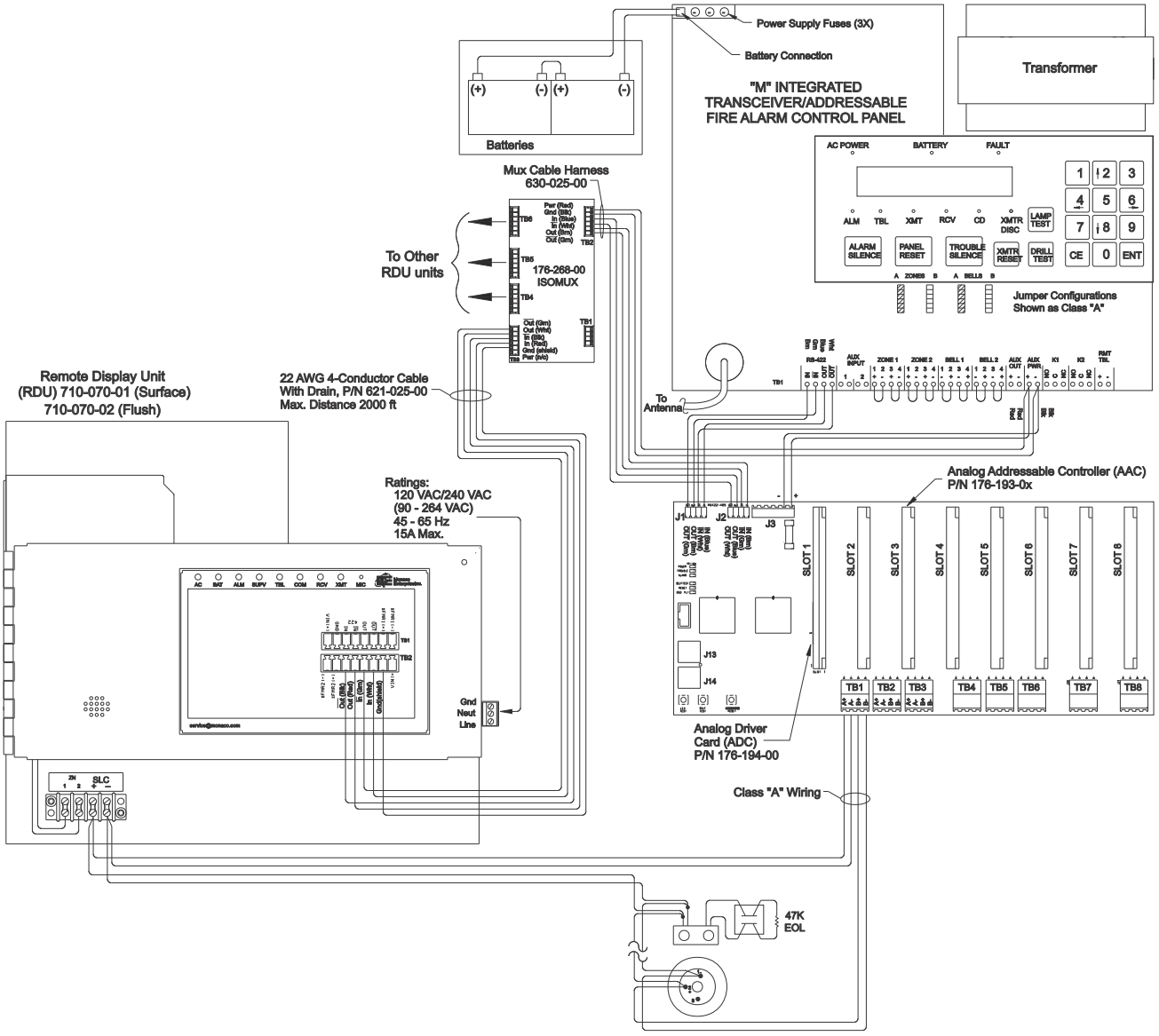
Part Number	Description
081-156-00	Batteries with enclosure: - NEMA 1 Red surface-mount enclosure, 18" H x 12" W x 6" D, with wire harness for use with M-2 conventional, MAAP+, MAAP-X and Vulcan 1 FACPs - Two 12 VDC/26 Ah batteries
176-268-00	Isolated Multiplexer assembly: ■ 422/485 master port ■ Four 422 or eight 485 slave ports ■ Mounts in any MAAP enclosure (19", 28", 43", or 60") ■ One multiplexer **required** for one to four RDUs ■ More than four RDUs require additional multiplexers in a star configuration.* ■ Includes multiplexer to addressable panel cable harness, P/N 630-025-00
621-025-00	22 AWG 4-wire cable with drain, RDU to multi-plexer. Specify length needed.
*** For installations requiring more than four RDU's connected to a single MAAP(+), contact Monaco Customer Service.**	

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Wiring Diagram



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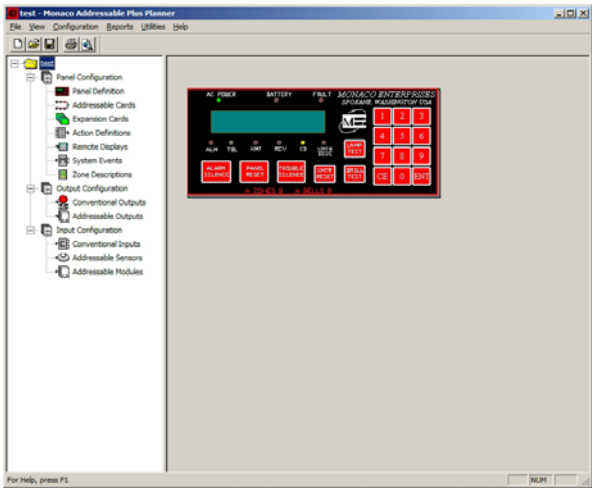
Addressable Fire Alarm Control Panels

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 adapter must be used to program the Monaco panels. Monaco USB to serial adapter (P/N 649-118-00) has provided the most reliable communication between various laptops and Monaco panels. Other USB to serial adapters 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 adapter

Associated Parts

Part Number	Description
649-118-00	USB to 9 pin serial adapter
227-574-00	MAAP serial interface kit, includes programming cable and adapter

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Detect Manage Record

Addressable Fire Alarm Control Panels

MAAP Printer, Desktop

205-032-00

Description

The MAAP Printer Kit provides an attractive desktop printer that can be connected to a Monaco Addressable Fire Alarm Control Panel.



Use the MAAP dot matrix printer to print the current panel status, device status, history, and configuration of the panel.

The optoisolator isolates the signals transferred between the printer and the panel and prevents power surges that could damage either device. The panel will experience a ground fault if the optoisolator is not installed.

NOTE The printer included with this kit cannot be connected to the auxiliary power supply from the panel.

Features

- For use with Monaco Addressable Fire Alarm Control Panels
- Parallel and serial interface
- Control panel provides easy selection for font and pitch, line/form feed, and print speed/quality
- Resident fonts include: Courier, Roman, Sans Serif, Prestige, Script, Bold PS
- Self-test prints samples of each resident font
- Fanfold (tractor feed) and single sheet (friction feed) paper options
- Optoisolator for ground fault prevention

Specifications

Printer Type	Impact serial dot matrix, 24 pin, B&W
Power	120 VAC (60 Hz)
Language Simulation	Epson LQ-300 IBM Proprinter X24E
Resolution	360 dpi x 360 dpi
Operating System	Windows® 95, 3.11 and 3.1 printer drivers
Ports/Connectors	Centronics parallel RS-232C/serial interface
Memory/RAM	12 kB/54 kB (max)
Printer Output (Micron)	**Draft:** Up to 300 char/sec. **Normal:** Up to 10 char/sec.
Paper	Continuous 4.0 to 10.0", 16 to 24 lb
Operating Temperature	Operating Temperature: 10–35°C (50–95°F)
Relative Humidity	30–80% noncondensing
Dimensions	17.1" W x 12.8" D × 5.5" H (434.34 × 325.12 × 139.7 mm)
Weight	Approx. 12 lb (5.4 kg.)

Ordering Information

MAAP Printer Kit

Part Number	Description
205-032-00	MAAP Printer Kit includes printer with power cable, ink cartridge, optoisolator with power cable, RJ-45 to DB-25 female adapter, and RJ-45 cable

Associated Parts

Part Number	Description
209-070-00	Printer ribbon cassette
070-013-00	Paper, 8.5" × 11", 5,000 sheets
070-006-00	Paper, 9.5" × 11", fan fold, 2600 sheets

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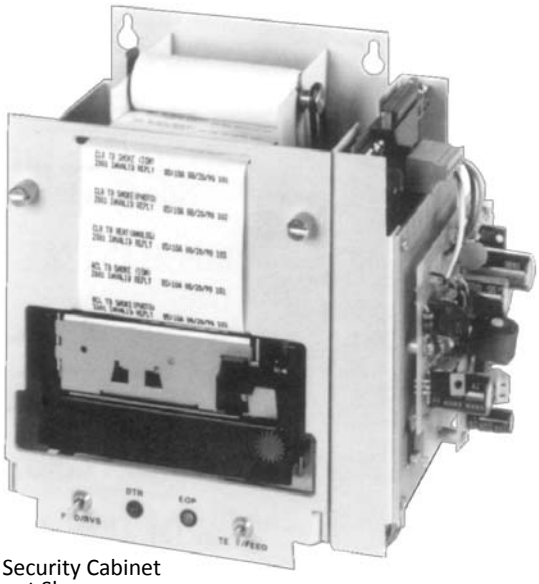
Detect
Manage
Record

Addressable Fire Alarm Control Panels

Printer, Wall-Mount
205-050-00

Description

This dot matrix printer can be mounted in a security cabinet up to three feet away from a Monaco addressable fire alarm control panel. The printer provides crisp, clear printing in a compact 40-column format.



Security Cabinet not Shown

The printed records on the built-in paper take-up reel can be easily unwound and rewound for viewing by pressing a switch on the front panel. The enclosure viewing window displays 12 message lines, plus printer and paper status LEDs. Ribbon cartridge and paper roll are easy to replace.

The printer can be powered from auxiliary power on the addressable panel if no other components are supplied by it.

Features

- Meets UL Fire and Security printing speed requirement of 50 alarm messages within 90 seconds
- Red/black print
- RS-232C compatible
- 40-column format
- Built-in paper take-up reel
- Messages time- and date-stamped
- Manual test switch
- Paper feed switch
- End-of-paper LED
- Data terminal ready LED

Specifications

Nominal Power	24 VDC, +10%/–20%, regulated, limited
Aux Power Option	Cable: 14 AWG Fuse: 1A fast blow
Current	Standby: 0.03A Max. (all output relays active): 158 mA
Character Set	ASCII, 96 upper and lower case
Character Size	1.3 mm W x 2.9 mm H; 210 dots/line
Printer	Buffer: 8,192 characters Columns: 40 Speed: 2.2 LPS, nominal
Paper Roll	Plain, 3" x 3" (76.2 x 76.2 cm)
Ribbon	Snap-in cassette
Operating Temperature	32 to 122°F (0 to 50°C)
Relative Humidity	20–90% noncondensing
Dimensions, Printer	8.75" W x 9.5" H x 5.5" D (22.25 x 24.13 x 13.97 cm)
Dimensions, Security Cabinet	Rear Box: 13.0" W x 13.25" H x 4.75" D (33.0 x 33.65 x 12.65 cm) With Cover: 14.34" W x 14.5" H x 6.0" D (36.66 x 36.83 x 15.24 cm)

Ordering Information

Printer

Part Number	Description
205-050-00	MAAP FACP Dot matrix printer, 24V, wall-mount, RS-232C compatible

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Detect Manage Record

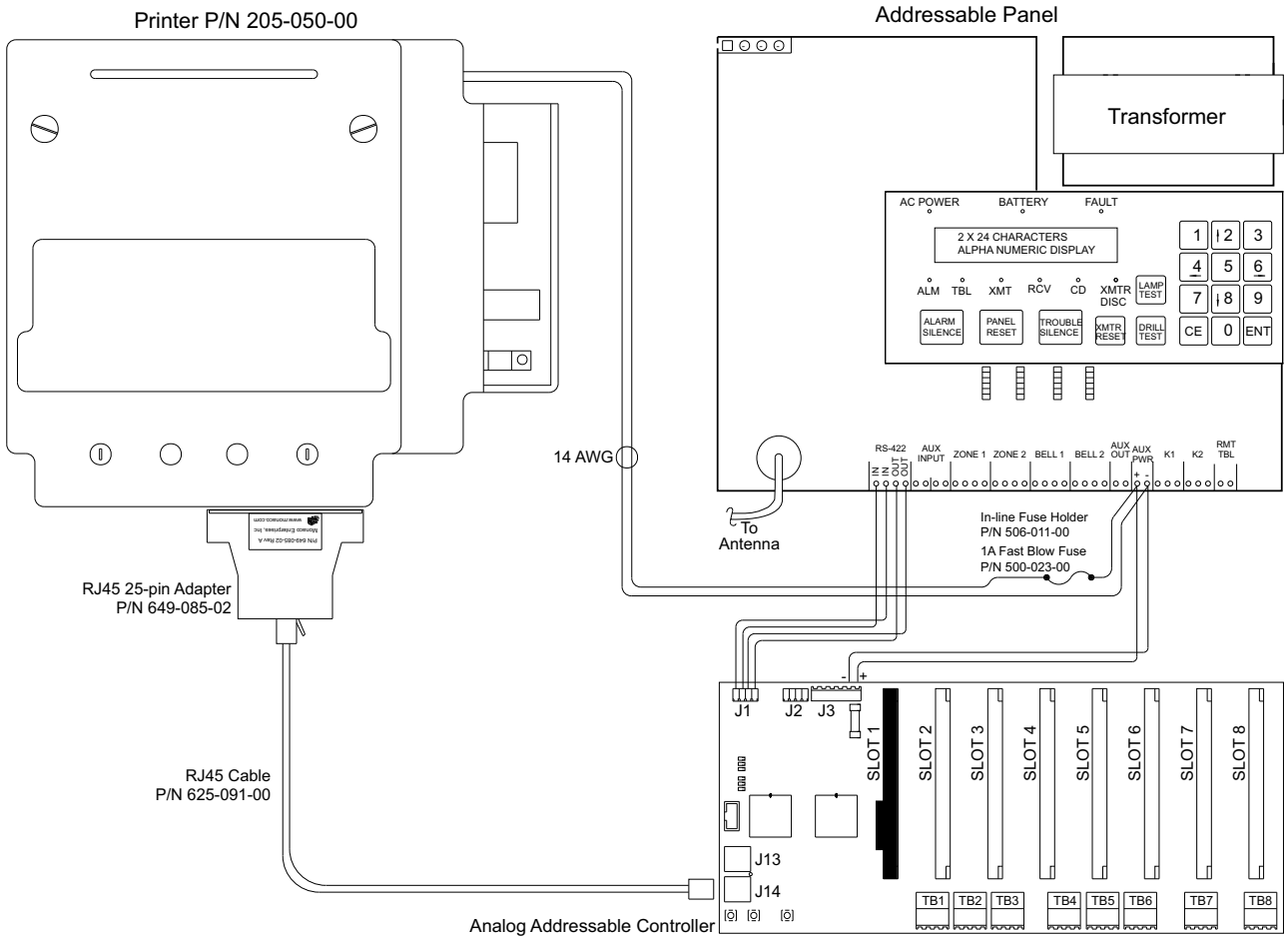
Addressable Fire Alarm Control Panels

Associated Parts

Part Number	Description
081-197-00	Enclosure, red
625-091-00	Monaco Addressable Planner cable, RJ45 (see “Wiring Diagrams”)
649-085-02	RJ45 DTE to DB-25 male DCE adapter
506-011-00	In-line fuse holder
500-023-00	Fuse, fast-blow, 1A, 250A, 1/4" x 1 1/4"

Wiring Diagrams

Wired to Panel AUX Pwr

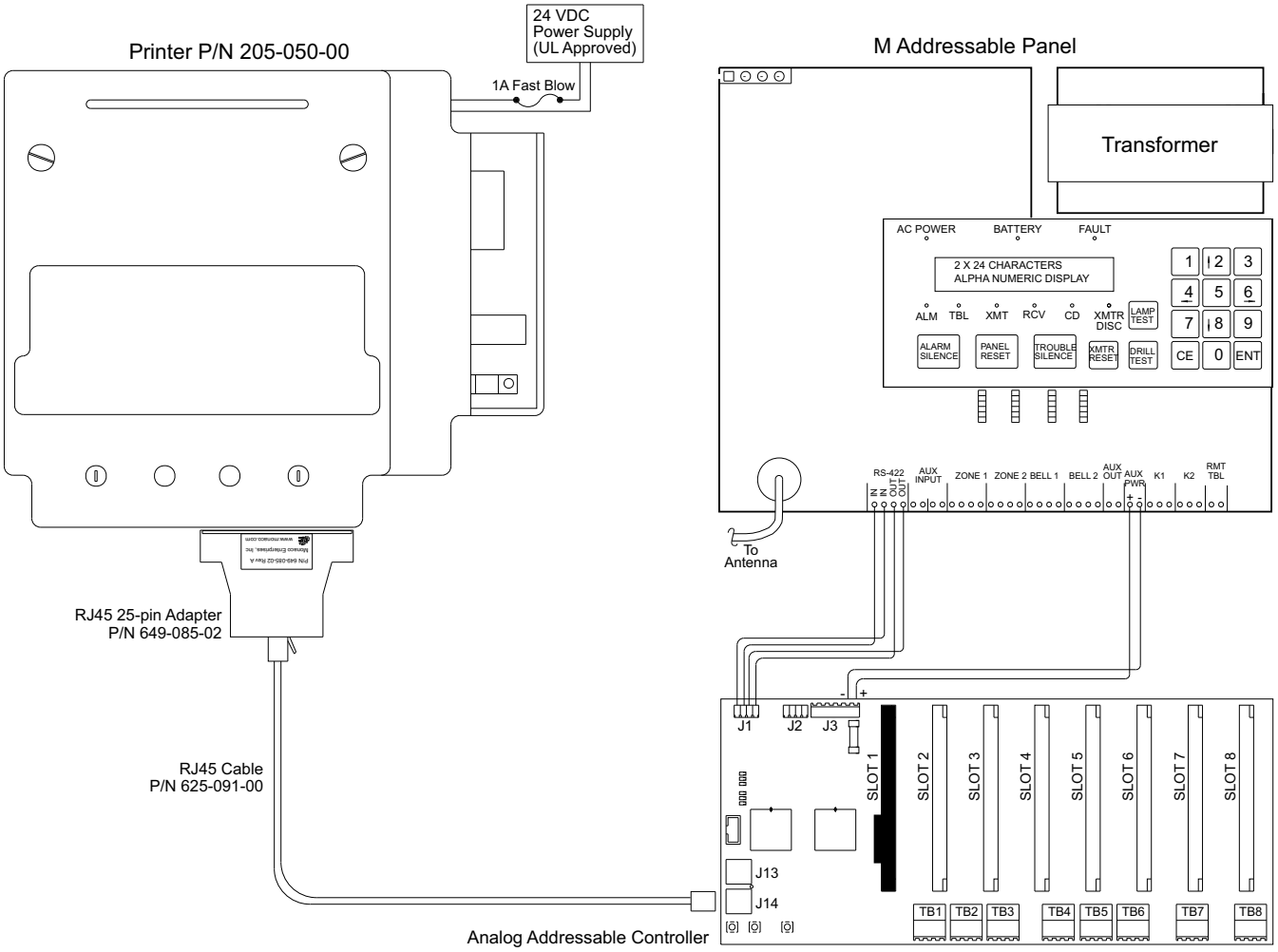


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Detect Manage Record

Addressable Fire Alarm Control Panels

Wired to Separate 24V Source



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Detect
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Addressable Fire Alarm Control Panels

Annunciator, Text
710-054-01

Description

The Remote Text Annunciator is a backlighted 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 × 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 inch or 60 inch 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 feet 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 feet, the multiplexer kit (P/N 198-810-24) is required. It is recommended that annunciators not be over 2000 feet from the multiplexer, 4000 feet 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-feet maximum distance from panel (multiplexer required for distances over 50 feet from the panel or if more than one Remote Text Annunciator is connected)
- Multiplexer RS-485 communication to Remote Text Annunciator, 2000 feet typical, 4000 feet 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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Detect
Manage
Record

Addressable Fire Alarm Control Panels

Ordering Information

Remote Text Annunciator

Part Number	Description
710-054-01	Remote text annunciator, 2 lines, 40 characters ea.

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" or 60 " addressable panel enclosure; for use with P/N 710-054-01. See Note 1
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 Note 1
404-093-00	NAC power extender, 24 VDC, 6.5A max., 4 Class B or 2 Class A NACs (2.5A each), 1A AUX power. See Note 2
404-094-00	Power supply/charger, red enclosure, 115 VAC 60 Hz, 12 VDC 2.5A, 24 VDC 2.5A*

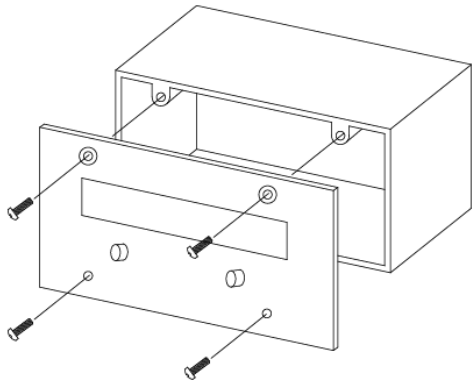
NOTE 1 A multiplexer is required when the Remote Text Annunciator is more than 50 feet from the FACP or when more than one annunciator is required. One multiplexer will support up to 4 annunciators or 3 annunciators and an additional multiplexer.

NOTE 2 Order batteries separately.

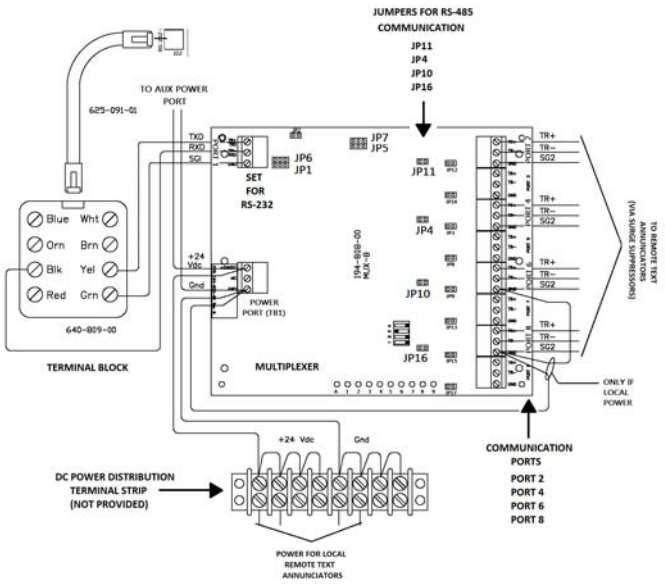
Diagrams

Mounting

Remote Text Annunciator



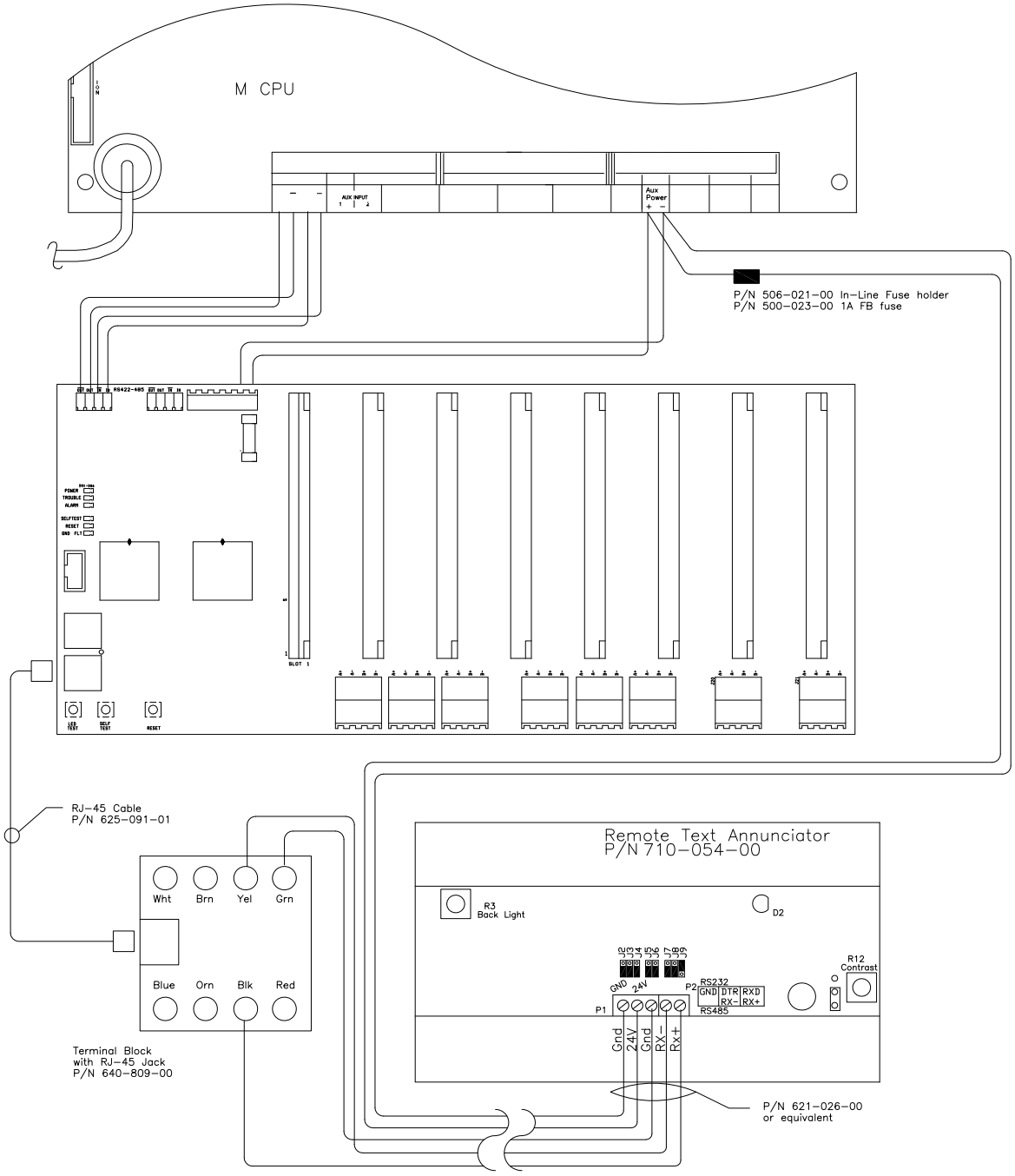
Multiplexer



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Detect Manage Record

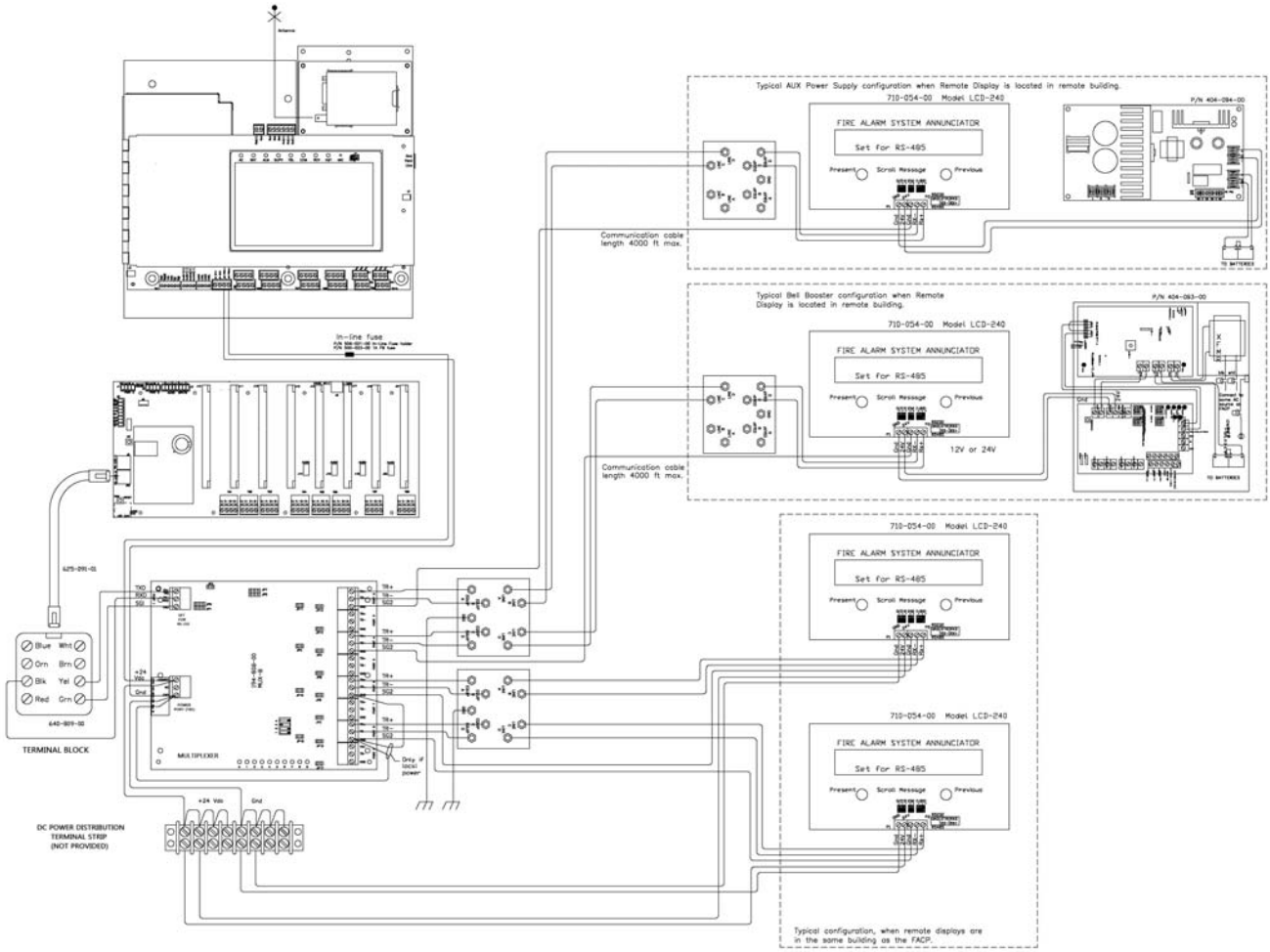
Wiring Diagrams



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Detect
Manage
Record

With Multiplexer

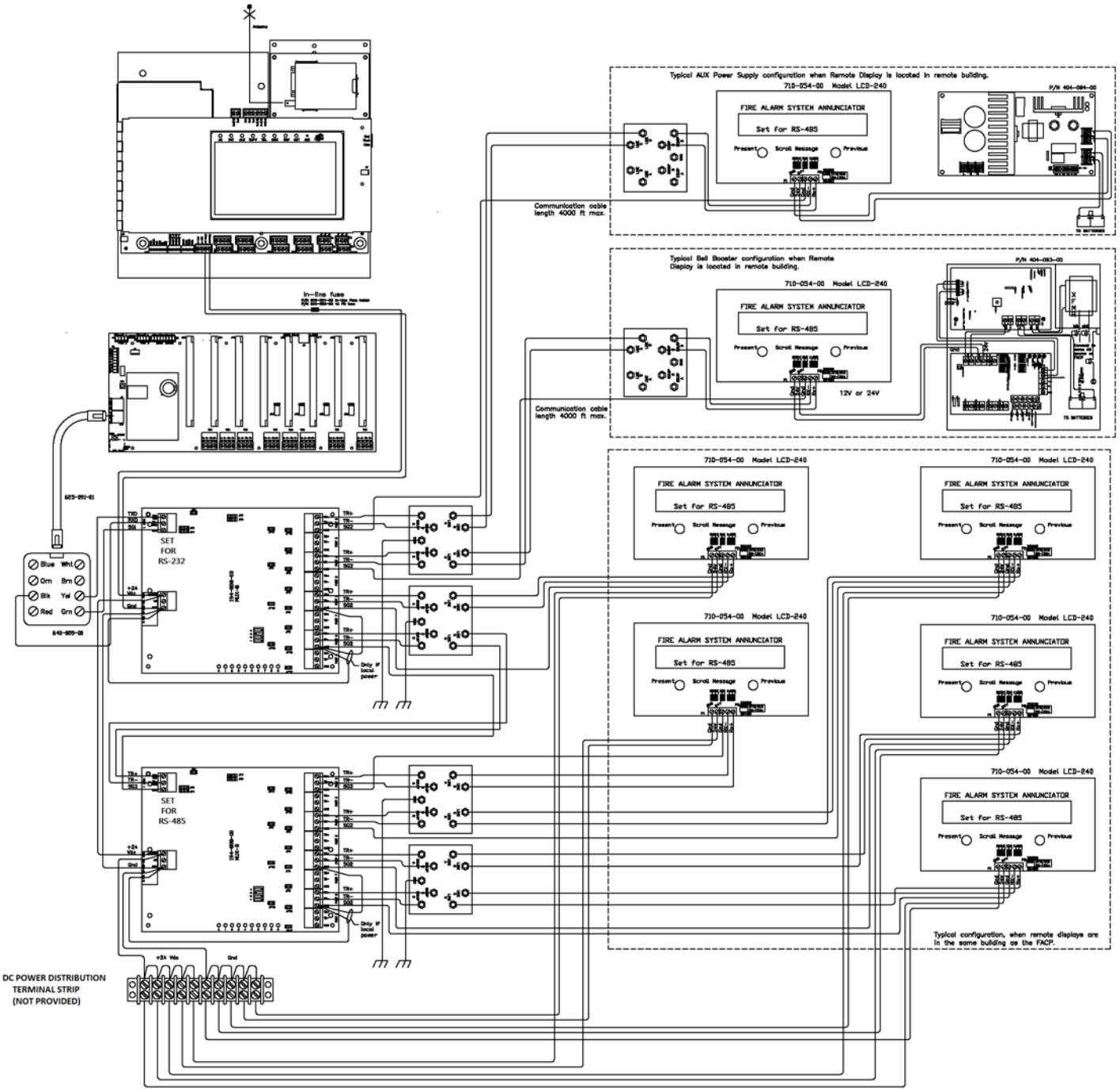


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Detect Manage Record

Addressable Fire Alarm Control Panels

With Multiple Multiplexers



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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

Addressable Fire Alarm Control Panels w/MNS Catalog Section 06

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Detect
Manage
Record

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

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 pre-recorded MNS functions which are compatible with the D-21 system.



FM APPROVED

Made in USA

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 pre-recorded 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 100W 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

Upgrading existing Monaco 28 inch 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 pre-recorded 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)

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

- 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
- 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

Message Card

- Standard card has eight default pre-recorded MNS messages and one fire evacuation message for a total of nine pre-recorded messages
- User-defined messages available with a customer-option message card with eight user-defined pre-recorded MNS messages and one user-defined pre-recorded 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 SOCs (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, 32W 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 pre-recorded 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.

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS



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 pre-recorded 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 1–60 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 3rd 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 pre-recorded 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

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 foot cable included.
- Handheld push to talk MNS microphone in red 8" H x 6" W x 3" D enclosure. 15 ft cable for connection to MAAP-X included.
- Handheld push to talk Paging microphone in red 8" H x 6" W x 3" 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.

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

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, pre-recorded, 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

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.

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Detect Manage Record

Addressable Fire Alarm Control Panels with 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 kΩ 1/4W, Class B only
Max. loop resistance: 50Ω per leg

NAC (Notification Appliance Circuit Outputs)
Capacity: 4 Class A or 8 Class B, polarity reversing
EOL: 3.9 kΩ 1/4W, Class B only
NACs programmed as "regulated":
Power: 24 VDC 1A
Max. loop resistance: 1.5Ω per leg
NACs programmed as "special application" (synchronized strobes):
Power: 24 VDC 2A
Max. loop resistance: 0.75Ω per leg
Wiring: Standard fire-alarm-rated cable

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: 0–29 VDC polling protocol
Supervision: open, short, ground fault
Max. loop resistance: 40Ω per leg
Wiring: Unshielded twisted pair

Speaker Circuits
Per SOC: 2 Class B or 1 Class A output(s)
Power: 25 VAC RMS, 32W max. each, 100W total
Supervision: open, short, ground fault
EOL: 3.9 kΩ 1/4W, Class B only
Max. loop resistance: 1.5Ω per leg
Wiring: Standard fire-alarm-rated cable

AUX PWR
Power: 24 VDC 2A
Supervision: none
Max. loop resistance: 1Ω 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
4W minimum (2W, 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: 20.4 VDC
Low battery disconnect: 18.5 VDC

AC Power
3-wire autosensing, 120/240 VAC
100 VAC 2.8 Amps (85-110) VAC
120 VAC 2.4 Amps (102-132 VAC)
240 VAC 1.0 Amps (204-264 VAC)
50/60 Hz

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° to 120°F (0 to 49°C)

Relative Humidity 0–90%, noncondensing

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

Ordering Information

Panels

Integrated Radio, Surface- and Flush-mount

Part Number	Description
227-955-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **surface-mount** red enclosure 28"H x 18"W x 3.6"D ■ Two 12V/18 Ah batteries
227-956-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **surface-mount** red enclosure 43"H x 18"W x 3.6"D ■ Four 12V/18 Ah batteries
227-957-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **surface-mount** red enclosure 60"H x 18"W x 3.6"D ■ Four 12V/18 Ah batteries
227-965-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **flush-mount** red enclosure 28"H x 18"W x 3.6"D ■ Two 12V/18 Ah batteries
227-966-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **flush-mount** red enclosure 43"H x 18"W x 3.6"D ■ Four 12V/18 Ah batteries
227-968-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 4X **surface-mount** stainless steel enclosure 24"H x 24"W x 8"D ■ Two 12V/18 Ah batteries
227-969-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 3R **surface-mount** red enclosure 24"H x 24"W x 8"D ■ Two 12V/18 Ah batteries
*Specify frequency (-xx) when ordering.	

Hard-wire Only (Ethernet), Surface- and Flush-mount

Part Number	Description
227-955-EN*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, hard-wire—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **surface-mount** red enclosure 28"H x 18"W x 3.6"D ■ Two 12V/18 Ah batteries
227-956-EN*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, hard-wire—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **surface-mount** red enclosure 43"H x 18"W x 3.6"D ■ Four 12V/18 Ah batteries
227-965-EN*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, hard-wire—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **flush-mount** red enclosure 28"H x 18"W x 3.6"D ■ Two 12V/18 Ah batteries

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

Part Number	Description
227-966-EN*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, hard-wire—single comm: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **flush-mount** red enclosure 43"H x 18"W x 3.6"D ■ Four 12V/18 Ah batteries
*Does not support D-21 Central live voice; for options contact Monaco.	

Standalone - No Radio, Surface- and Flush-mount

Part Number	Description
227-955-NR	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, Standalone - No Radio: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **surface mount** red enclosure 28"H x 18"W x 3.6"D ■ Two 12V/18 Ah batteries
227-956-NR	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, Standalone - No Radio: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **surface mount** red enclosure 43"H x 18"W x 3.6"D ■ Four 12V/18 Ah batteries
227-965-NR	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, Standalone - No Radio: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **flush mount** red enclosure 28"H x 18"W x 3.6"D ■ Two 12V/18 Ah batteries
227-966-NR	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, Standalone - No Radio: ■ One AAC II backplane for ADCs/SOCs ■ One ADC supporting 198 addressable devices ■ One SOC, 25 VAC RMS, 32W audio output ■ NEMA 1 **flush-mount** red enclosure 43"H x 18"W x 3.6"D ■ Four 12V/18 Ah batteries

Associated Parts

Part Number	Description
081-156-00	Batteries with enclosure: ■ -NEMA 1 Red **surface mount** enclosure, 18" H x 12" W x 6" D, with wire harness for use with M-2 conventional, MAAP+, MAAP-X and Vulcan 1 FACPs ■ - Two 12 VDC/26 Ah batteries
122-012-00	Handheld Push-to-Talk Microphone and holder for use on LOC/ RDU Touch Screen. Includes 2-foot cable for connection to LOC/RDU Touch Screen.
122-012-05	Handheld Push-to-Talk MNS Microphone in red enclosure, 8"H x 6"W x 3"D with window. Includes 15-foot cable for connecting to MAAP-X or LOC/RDU Touch Screen.
122-012-06	Handheld Non-Emergency Push-to-Talk Paging Microphone in red enclosure, 8"H x 6"W x 3"D. Includes 15-foot 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.
708-032-01	HVAC Shutdown kit. Includes shutdown button and cover. (Mini Monitor Module P/N 729-143-00, not included.)
176-194-00	Addressable Driver Card (ADC), supports up to 198 addressable devices on a Signaling Line Circuit
176-268-02	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 NOTE 1
176-272-00	Speaker Output Card (SOC)
194-527-07	MAAP-X EN Fiber Optic to Ethernet Converter, single mode 1 Gb kit with mounting hardware. (1 required per Ethernet MAAP-X EN to convert it to Fiber Optic.)
194-527-01	Fiber Optic to Ethernet Converter, single mode, 1 Gb. (Spare part for 194-527-07)
205-032-00	MAAP Printer Kit, includes optoisolator with power adaptor, RJ-45 DTE to DB-25 male DCE adaptor, RJ-45 cable, DB-25 extension cable
207-625-00	MAAP-X Addressable Planner kit, CD, CAT6 programming cable, 45 DTE-9F DCE adapter
227-912-xx	MAAP-X upgrade for M-1, M-2, MAAP(+) Fire only Panels with 28" high or larger enclosures. Specify frequency (-xx) when ordering. **NOTE** Can also use as a spare MAAP-X electronic package.

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

Part Number	Description
400-712-00	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13"L x 3.03"W x 6.59"H, 12.60 lb
513-411-01	MAAP-X Tamper Switch Kit
710-054-01	Remote text annunciator, two-line, 40 characters ea.
710-075-01	MAAP-X Text Display, 24 VDC, two line, multi-color, default text display. **Requires MAAP-X Panel firmware version A.4.6 or higher.** See NOTE 2 and NOTE 3.
710-072-01	LOC/RDU with touch screen, fire/MNS, 19"H, surface-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup. See NOTE 1
710-072-02	LOC/RDU with touch screen, fire/MNS, 19"H, flush-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup. See NOTE 1

NOTE 1 The MAAP-X panel can support up to 30 LOCs. Of the 30 LOCs a maximum of 10 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 176-268-02) 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 8 LOC/RDU Touchscreens maximum.
Contact Monaco if your system requires more LOCs.

NOTE 2 Requires Text Display Interface, Program Utility and DC Power Supply, see Cutsheet 710-075-01 for more information.

NOTE 3 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 feet, the display is required to be configured with only a single line of text so the font is large enough to view properly.

MNS Message Card Kit

Part Number	Description
326-M00-01	MAAP-X standard message card—8 MNS, 1 Carbon Monoxide (CO), 1 Medical Emergency, 1 Fire, for 11 total pre-recorded messages. These are summaries, not the full-message text: Message 1 Emergency, evacuate to designated area Message 2 Bomb threat, evacuate at nearest exit Message 3 Severe weather warning Message 4 Intruder, follow designated pre-plan Message 5 Shelter in-place Message 6 Emergency, use alternate exit Message 7 Emergency has ended Message 8 Test of Monaco Mass Notification System Message 9 CO Detected Message 10 Medical Emergency (EMS) Dedicated Fire Message
326-M01-01	MAAP-X customer option message card—8 MNS, 1 fire, for 9 total pre-recorded messages: **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.**
326-M10-01	MAAP-X customer option message card field upgrade kit—8 MNS, 1 fire, for 9 total pre-recorded messages: **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.**

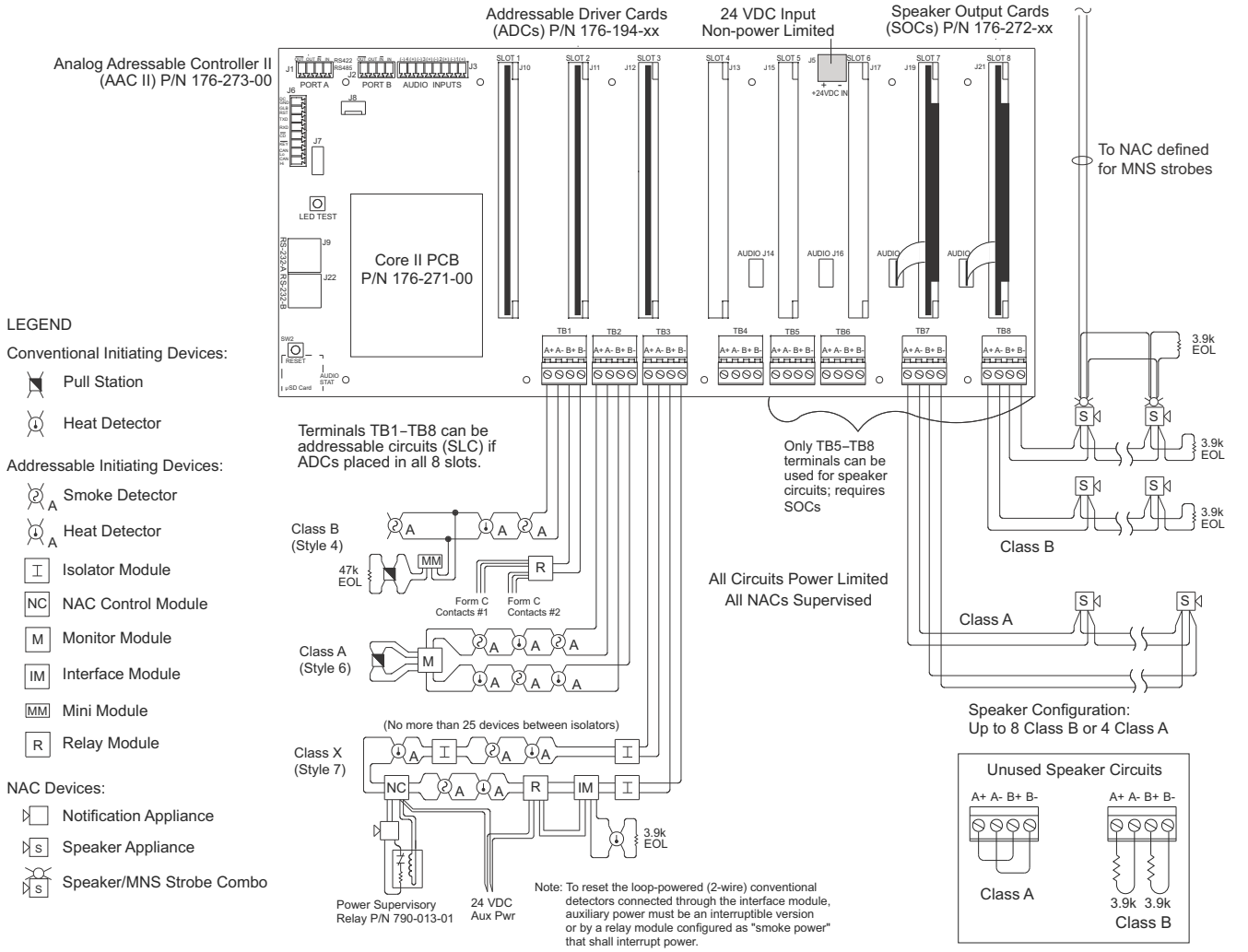
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Addressable Fire Alarm Control Panels with MNS

Wiring Diagram

Addressable Circuits

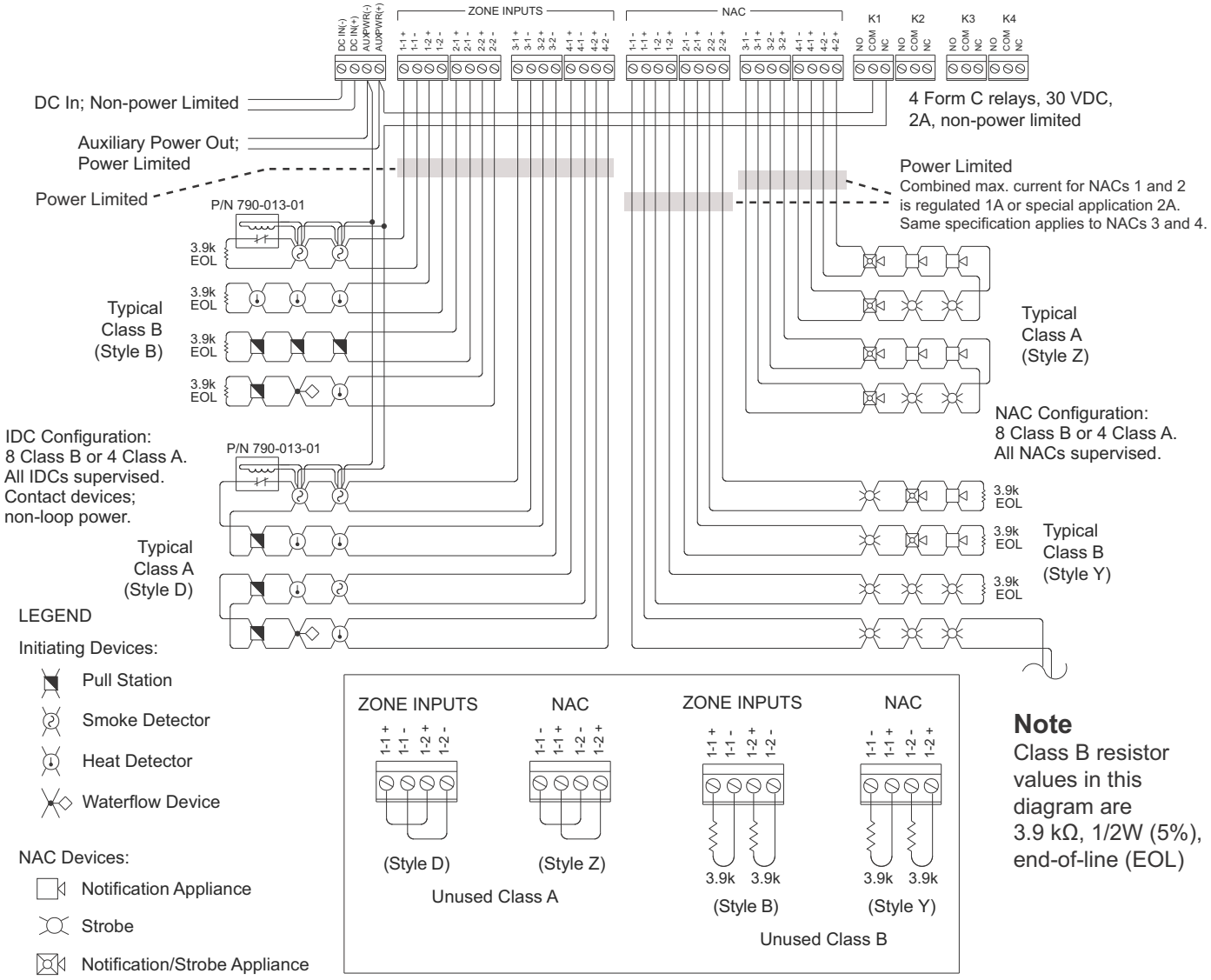


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Addressable Fire Alarm Control Panels with MNS

Conventional Circuits



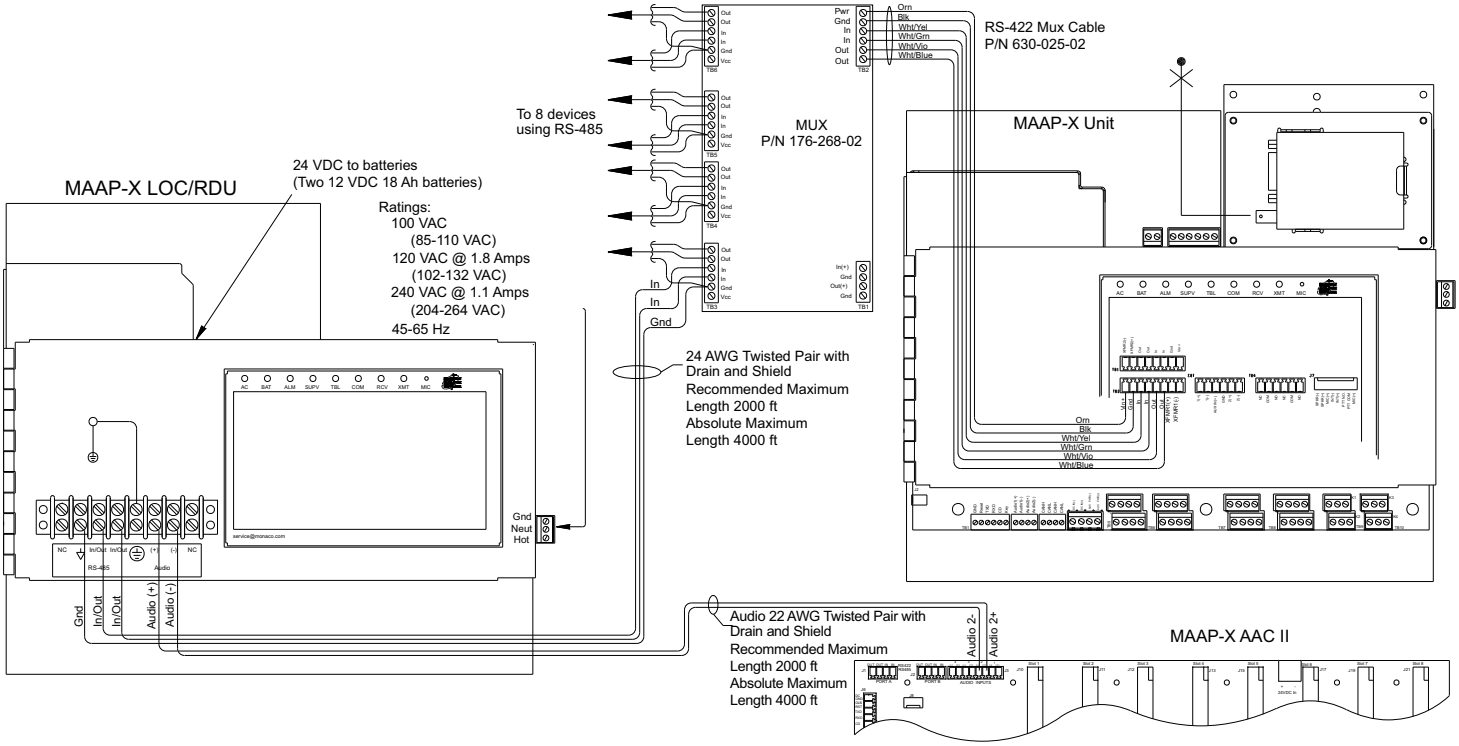
Note
Class B resistor values in this diagram are 3.9 kΩ, 1/2W (5%), end-of-line (EOL)

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Addressable Fire Alarm Control Panels with MNS

MAAP-X to LOC/RDU Wiring



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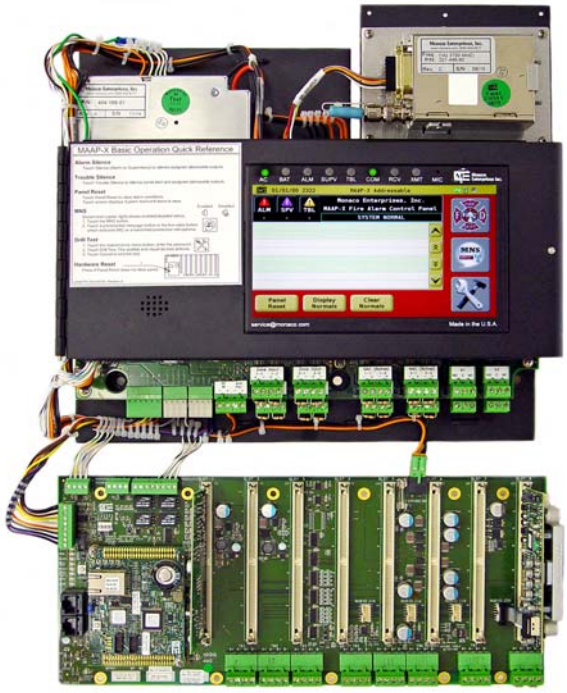
Addressable Fire Alarm Control Panels with MNS

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 pre-recorded MNS functions which are compatible with the D-21 system.

Upgrading existing Monaco 28 inch 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.



Made in USA

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 pre-recorded MNS functions and fire voice evacuation
- Up to 100W 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 intelligibiity 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 pre-recorded 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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Detect Manage Record

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 pre-recorded MNS messages and one fire evacuation message for a total of nine pre-recorded messages
- User-defined messages available with a customer-option message card with eight user-defined pre-recorded MNS messages and one user-defined pre-recorded 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 SOCs (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, 32W 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 1–60 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 pre-recorded 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

Sensor Grouping

With point reporting enabled, MAAP-X supports the Monaco sensor-group feature:

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

- 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" H x 6" W x 3" D enclosure. 15 ft cable for connection to MAAP-X included.
- Handheld push to talk paging microphone in red 8" H x 6" W x 3" 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, pre-recorded, 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

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

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

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 kΩ 1/4W, Class B only
Max. loop resistance: 50Ω per leg

NAC (Notification Appliance Circuit Outputs)
Capacity: 4 Class A or 8 Class B, polarity reversing
EOL: 3.9 kΩ 1/4W, Class B only
NACs programmed as "regulated":
Power: 24 VDC 1A
Max. loop resistance: 1.5Ω per leg
NACs programmed as "special application" (synchronized strobes):
Power: 24 VDC 2A
Max. loop resistance: 0.75Ω per leg
Wiring: Standard fire-alarm-rated cable

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: 0–29 VDC polling protocol
Supervision: open, short, ground fault
Max. loop resistance: 40Ω per leg
Wiring: Unshielded twisted pair

Speaker Circuits
Per SOC: 2 Class B or 1 Class A output(s)
Power: 25 VAC RMS, 32W max. each, 100W total
Supervision: open, short, ground fault
EOL: 3.9 kΩ 1/4W, Class B only
Max. loop resistance: 1.5Ω per leg
Wiring: Standard fire-alarm-rated cable

AUX PWR
Power: 24 VDC 2A
Supervision: none
Max. loop resistance: 1Ω 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
4W minimum (2W, 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: 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 to 120°F (0 to 49°C)

Relative Humidity 0–90% noncondensing

Ordering Information

Panels

Integrated Radio, Surface- and Flush-mount

Part Number	Description
227-912-xx	MAAP-X upgrade for M-1, M-2, MAAP(+) Fire only Panels with 28" high or larger enclosures. Specify frequency (-xx) when ordering. **NOTE** Can also use as a spare MAAP-X electronic package.

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

Associated Parts

Part Number	Description
081-156-00	Batteries with enclosure: - NEMA 1 Red surface-mount enclosure, 18" H x 12" W x 6" D, with wire harness for use with M-2 conventional, MAAP+, MAAP-X and Vulcan 1 FACPs - Two 12 VDC/26 Ah batteries
122-012-00	Handheld Push-to-Talk Microphone and holder for use on LOC/ RDU Touch Screen. Includes 2-foot cable for connection to LOC/RDU Touch Screen.
122-012-05	Handheld Push-to-Talk MNS Microphone in red enclosure, 8"H x 6"W x 3"D with window. Includes 15-foot cable for connecting to MAAP-X or LOC/RDU Touch Screen
122-012-06	Handheld Non-Emergency Push-to-Talk Paging Microphone in red Enclosure, 8"H x 6"W x 3"D. Includes 15-foot 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
176-194-00	Addressable driver card (ADC), supports up to 198 addressable devices on a Signaling Line Circuit
176-268-02	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 NOTE 1
176-272-00	Speaker Output Card (SOC)
205-032-00	MAAP Printer Kit, includes optoisolator with power adaptor, RJ-45 DTE to DB-25 male DCE adaptor, RJ-45 cable, DB-25 extension cable
207-625-00	MAAP-X Addressable Planner kit, CD, CAT6 programming cable, 45 DTE-9F DCE adapter
400-712-00	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13"L x 3.03"W x 6.59"H, 12.60 lb
513-411-01	MAAP-X Tamper Switch Kit
710-054-01	Remote text annunciator, two-line, 40 characters ea.

Part Number	Description
710-075-01	MAAP-X Text Display, 24 VDC, two line, multi-color, default text display. **Requires MAAP-X Panel firmware version A.4.6 or higher.** **NOTE** Requires Text Display Interface, Program Utility and DC Power Supply, see Cutsheet 710-075-01 for more information. **NOTE** 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 feet, the display is required to be configured with only a single line of text so the font is large enough to view properly
710-072-01	MAAP-X LOC/RDU touch screen, fire/MNS 19" H, surface-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup. See NOTE 1
710-072-02	MAAP-X LOC/RDU touch screen, fire/MNS, 19" H, flush- mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup. See NOTE 1
NOTE 1 The MAAP-X Panel can support up to 30 LOCs. Of the 30 LOCs a maximum of 10 can be RDU/LOC 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 8 LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.	

MNS Message Card Kit

Part Number	Description
326-M00-01	MAAP-X standard message card—8 MNS, 1 Carbon Monoxide (CO), 1 Medical Emergency, 1 Fire, for 11 total pre-recorded messages. These are summaries, not the full-message text: Message 1 Emergency, evacuate to designated area Message 2 Bomb threat, evacuate at nearest exit Message 3 Severe weather warning Message 4 Intruder, follow designated pre-plan Message 5 Shelter in-place Message 6 Emergency, use alternate exit Message 7 Emergency has ended Message 8 Test of Monaco Mass Notification System Message 9 CO Detected Message 10 Medical Emergency (EMS) Dedicated Fire Message

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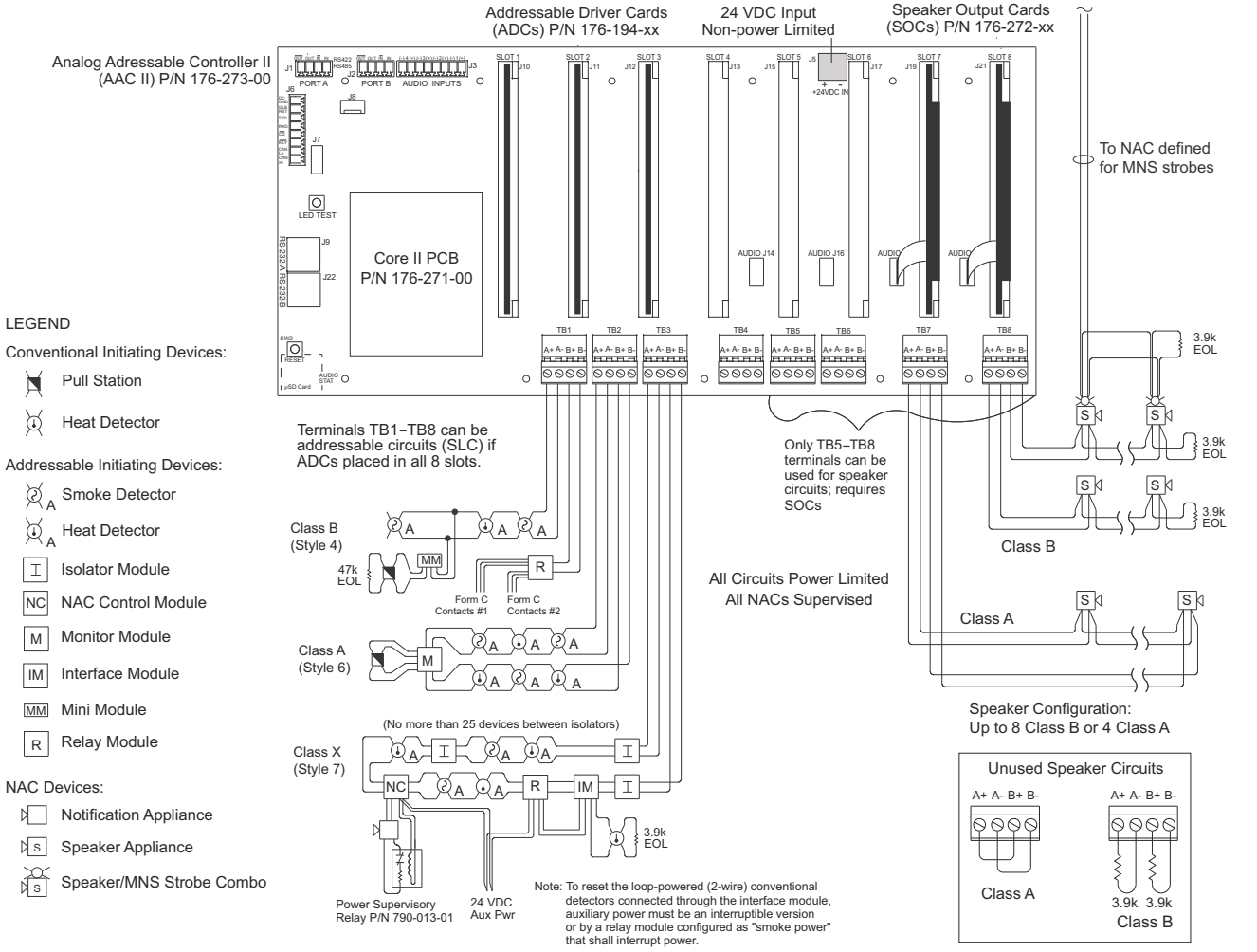
Addressable Fire Alarm Control Panels with MNS

Part Number	Description
326-M01-01	MAAP-X customer option message card—8 MNS, 1 fire, for 9 total pre-recorded messages: **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.**

Part Number	Description
326-M10-01	MAAP-X customer option message card field upgrade kit—8 MNS, 1 fire, for 9 total pre-recorded messages: **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.**

Wiring Diagrams

Addressable Circuits

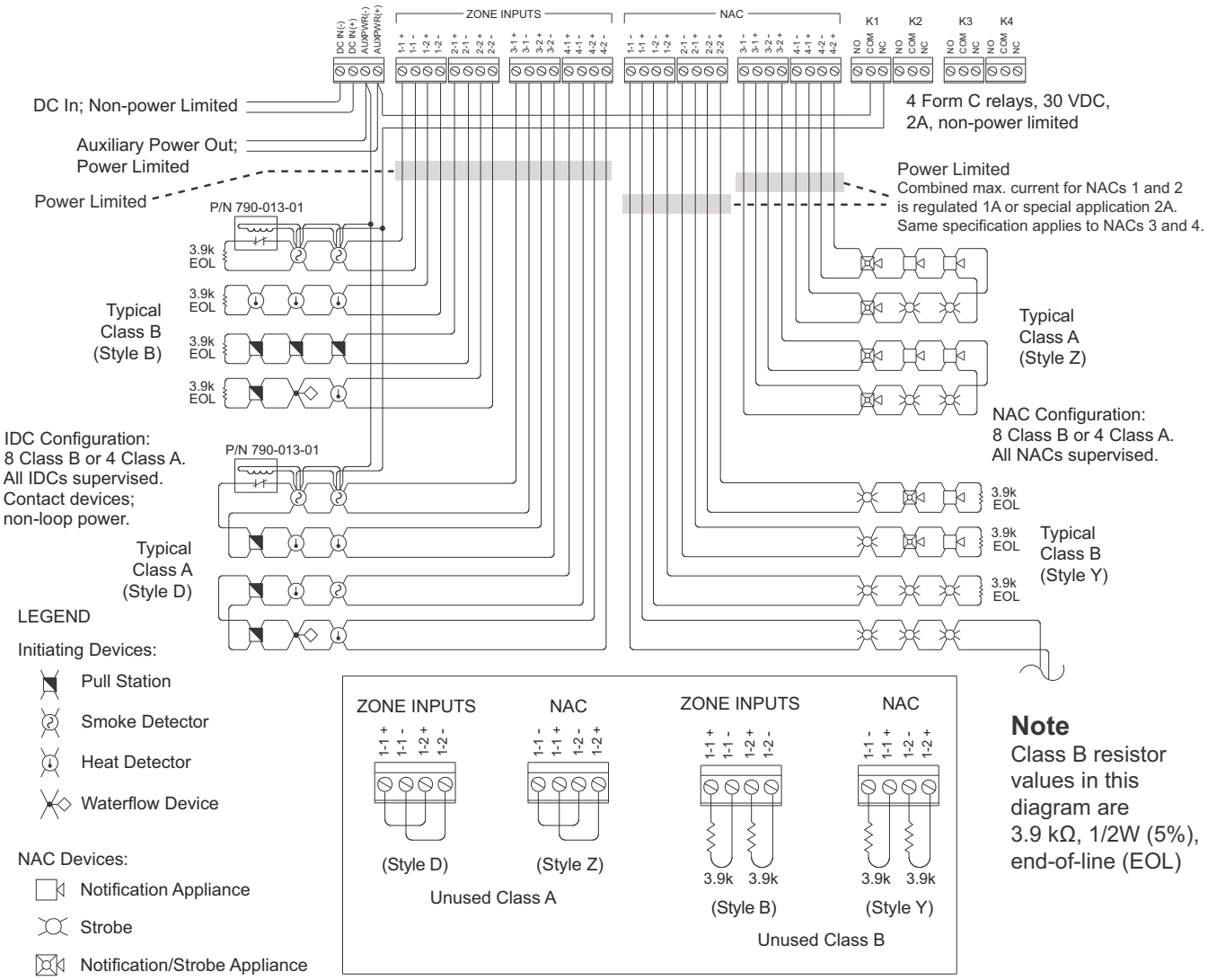


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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

Conventional Circuits



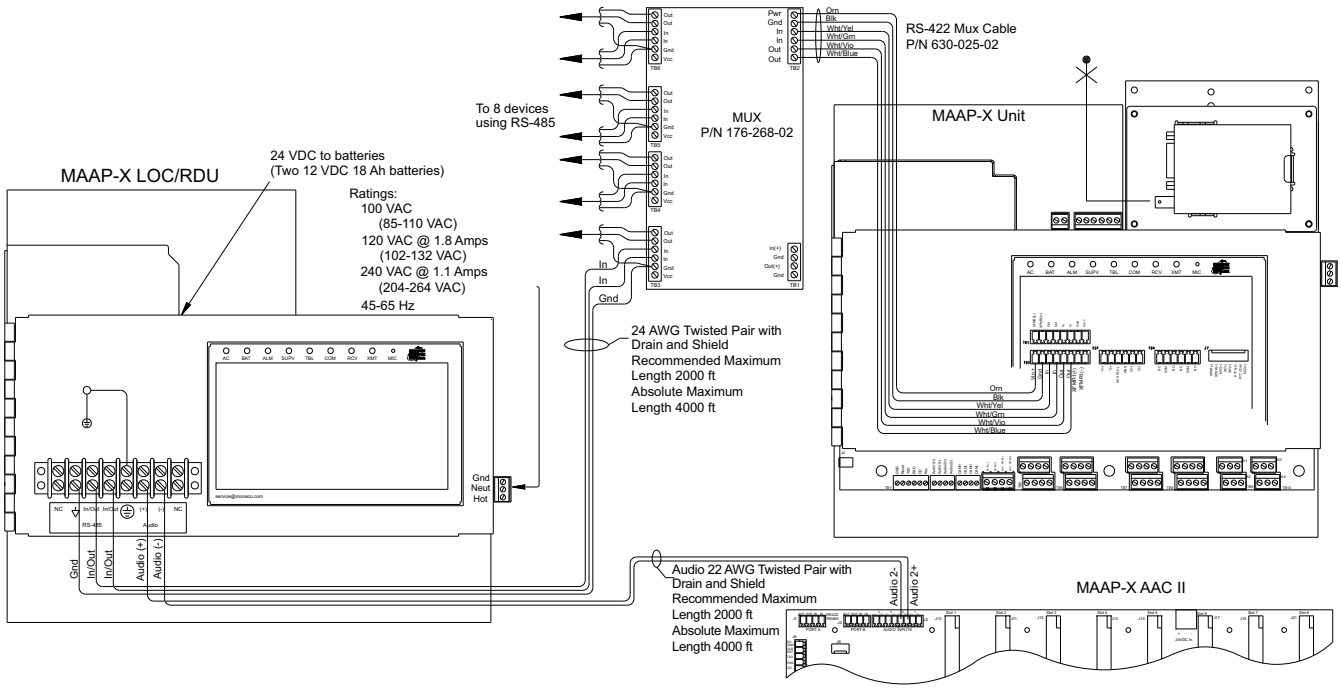
Note
Class B resistor values in this diagram are 3.9 kΩ, 1/2W (5%), end-of-line (EOL)

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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

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 pre-recorded 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.



FM APPROVED

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.

The touch screen LOC/RDU provides all the standard features of an MNS LOC and Fire Alarm Panel Remote Control Annunciator, with advanced features that only an integrated design can offer.

Features

- Clear situation-awareness at all LOC/RDUs
- LOC/RDU functions are the same as the main panel, at key locations within the protected building:
  - Overriding a fire alarm for live voice or pre-recorded announcements
  - Prioritized MNS operation by message, live voice, and LOC/RDU locations
- 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
- 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

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

- Each touch screen provides a visual indication for active pre-recorded 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 pre-recorded 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.

Specifications

AC Input 3 selectable VAC ranges:
- 100 VAC (85 to 110)
- 1.8 Amps, 120 VAC (102 to 132 VAC)
- 1.1 Amps, 240 VAC (204 to 264 VAC)

45 to 65 Hz

DC Output 24 VDC nominal, factory adjusted to 27.6V

Current 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 2000 ft
Absolute maximum length 4000 ft
RS-485 Recommend 120 Ω impedance

Audio Line 22 AWG twisted pair with drain and shield
Recommended maximum length 2000 ft
Absolute maximum length 4000 ft

Trouble Sounder 2 kHz tone, 60 dBa at 5 ft

Operating Temperature 32 to 120°F (0 to 49°C)

Relative Humidity 0–90%, noncondensing

Dimensions 19" H x 18" W x 3.5" D

Ordering Information

Part Number	Description
710-072-01	MAAP-X LOC/RDU touch screen, fire/MNS, 19" H, surface-mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup. See NOTE 1
710-072-02	MAAP-X LOC/RDU touch screen, fire/MNS, 19" H, flush- mount, 115/230 VAC, 50/60 Hz, 72-hour battery backup. See NOTE 1
NOTE 1 The MAAP-X panel can support up to 30 LOCs. Of the 30 LOCs a maximum of 10 can be RDU/LOC 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 8 LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.	

Associated Parts

Part Number	Description
227-955-xx*	MAAP-X point-reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver - single comm: • One AAC II backplane for ADCs/SOCs • One ADC supporting 198 addressable devices • One SOC, 25 VAC RMS, 32W audio output • NEMA 1 surface-mount, red enclosure 28" H x 18" W x 3.6" D • Two 12V/18 Ah batteries
227-965-xx*	MAAP-X point-reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver - single comm: • One AAC II backplane for ADCs/SOCs • One ADC supporting 198 addressable devices • One SOC, 25 VAC RMS, 32W audio output • NEMA 1 **flush-mount**, red enclosure 28" H x 18" W x 3.6" D • Two 12V/18 Ah batteries
***Specify frequency (-xx) when ordering.**	
176-268-02	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 NOTE 1
122-012-00	Handheld Push-to-Talk Microphone and holder for use on LOC/ RDU Touch Screen. Includes 2-foot cable for connection to LOC/RDU Touch Screen.

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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

Part Number	Description
122-012-05	Handheld Push-to-Talk MNS Microphone in red enclosure, 8"H x 6"W x 3"D with window. Includes 15-foot cable for connecting to MAAP-X or LOC/RDU Touch Screen.
122-012-06	Handheld Non-Emergency Push-to-Talk Paging Microphone in red Enclosure, 8"H x 6"W x 3"D. Includes 15-foot 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.
708-032-01	HVAC Shutdown kit. Includes shutdown button and cover. (Mini Monitor Module P/N 729-143-00, not included.)
097-523-00	Turn Latch Lock Kit, 5/8" cylinder, tumble-turn lock. Replacement for standard MAAP-X LOC/RDU touch screen panel lock.
621-025-00	22 AWG twisted pair with drain and shield, RDU to multiplexer. Specify length needed.

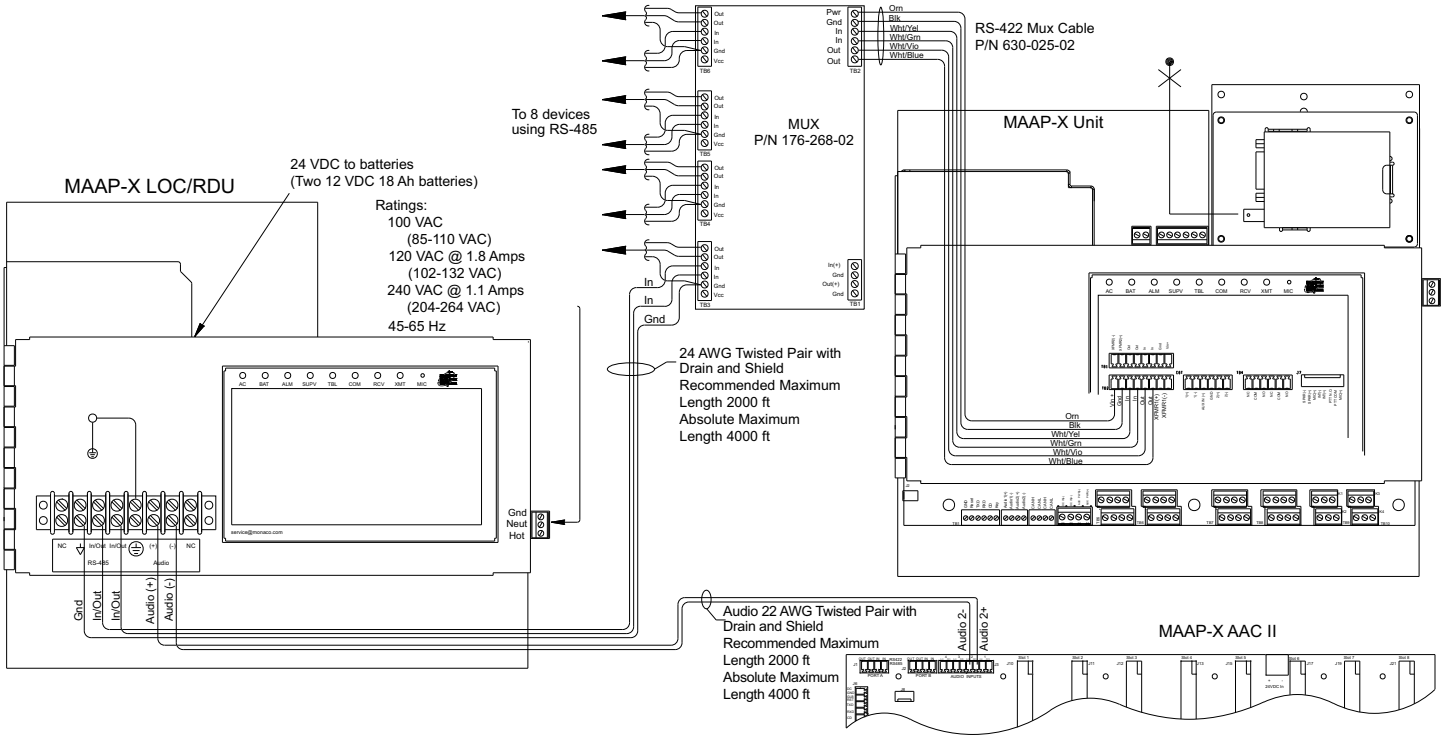
Part Number	Description
621-083-00	RS485 Cable - Plenum Rated ■ 2 conductors ■ 24 AWG twisted pair with drain and shield ■ FFEP ■ Low Smoke PVC outer jacket ■ Cable Diameter: 0.204 in. ■ Temperature range: 0°C to 75°C ■ Impedance: 120 Ohms
621-084-00	RS485 cable - Non-plenum Rated ■ 2 conductors ■ 24 AWG twisted pair with drain and shield ■ PE ■ PVC outer jacket ■ Cable diameter: 0.232 in. ■ Temperature range: -30°C to 80°C ■ Impedance: 120 Ohms
NOTE 1 The MAAP-X panel can support up to 30 LOCs. Of the 30 LOCs a maximum of 10 can be RDU/LOC 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 8 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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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 Pre-recorded 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 Pre-recorded messages. An optional paging microphone is available for non-emergency use. The LOC Keypad is available in flush and surface mount enclosures with a non-locking turn button latch, (optional lock kit available). It has 12 tactile push buttons for Pre-recorded MNS, a push-to-talk 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 are provided for Message Button labeling that include the most common Pre-recorded messages in addition to blank decals for user definable labels. The console can be located a recommended maximum distance of 2000 feet from the MAAP-X panel; no more than the absolute maximum distance of 4000 feet.

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 Pre-recorded messages at MAAP-X panel
- User selectable message name decals
- Console cable to MAAP-X panel:
  - Recommended maximum length 2000 ft
  - Absolute maximum length 4000 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 Pre-recorded, 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 push-to-talk live voice MNS microphone
  - Optional handheld live voice push-to-talk 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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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS

Specifications

Power Supply

AC input	90-240 VAC 50/60 Hz
DC Output	24 VDC nominal, factory adjusted to 27.6V

LOC Keypad Assembly

Current draw	30mA @ 29.4 VDC (in Standby) 61mA @ 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 2000 ft Absolute maximum length 4000 ft RS-485 Recommend 120 Ω impedance
Audio Line	22 AWG, twisted pair with drain and shield Recommended maximum length 2000 ft Absolute maximum length 4000 ft
Operating Temperature	32°F to 120°F (0°C to 50°C)
Relative Humidity	0-90%, noncondensing
Enclosure Dimensions	20" H x 12" W x 4" D

Ordering Information

LOC Keypad

Part Number	Description
710-072-51*	MAAP-X LOC Keypad, 12 tactile push buttons for pre-recorded MNS messages, PTT Mic for live voice, red NEMA 1 **surface-mount** enclosure 20" H x 12" W x 4" D, 115/230 VAC, 50/60 Hz, two 12V/8Ah batteries for 72-hour battery backup. See NOTE 1
710-072-52*	MAAP-X LOC Keypad, 12 tactile push buttons for pre-recorded MNS messages, PTT Mic for live voice, red NEMA 1 **flush-mount** enclosure 20" H x 12" W x 4" D, 115/230 VAC, 50/60 Hz, two 12V/8Ah batteries for 72-hour battery backup. See NOTE 1
***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 RDU/LOC Touch Screens, the rest need to be LOC Keypad7s. 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 8 LOC/RDU Touch Screens maximum.

Contact Monaco if your system requires more LOCs.

Associated Parts

Part Number	Description
227-955-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver - single comm: • One AAC II backplane for ADCs/SOCs • One ADC supporting 198 addressable devices • One SOC, 25 VAC RMS, 32W audio output • NEMA 1 **surface-mount** red enclosure 28" H x 18" W x 3.6" D • Two 12V/18 Ah batteries
227-965-xx*	MAAP-X point reporting, addressable, fire alarm control, mass notification, voice evacuation panel, integrated radio transceiver - single comm: • One AAC II backplane for ADCs/SOCs • One ADC supporting 198 addressable devices • One SOC, 25 VAC RMS, 32W audio output • NEMA 1 **flush-mount** red enclosure 28" H x 18" W x 3.6" D • Two 12V/18 Ah batteries
***Specify frequency (-xx) when ordering.**	

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Addressable Fire Alarm Control Panels with MNS

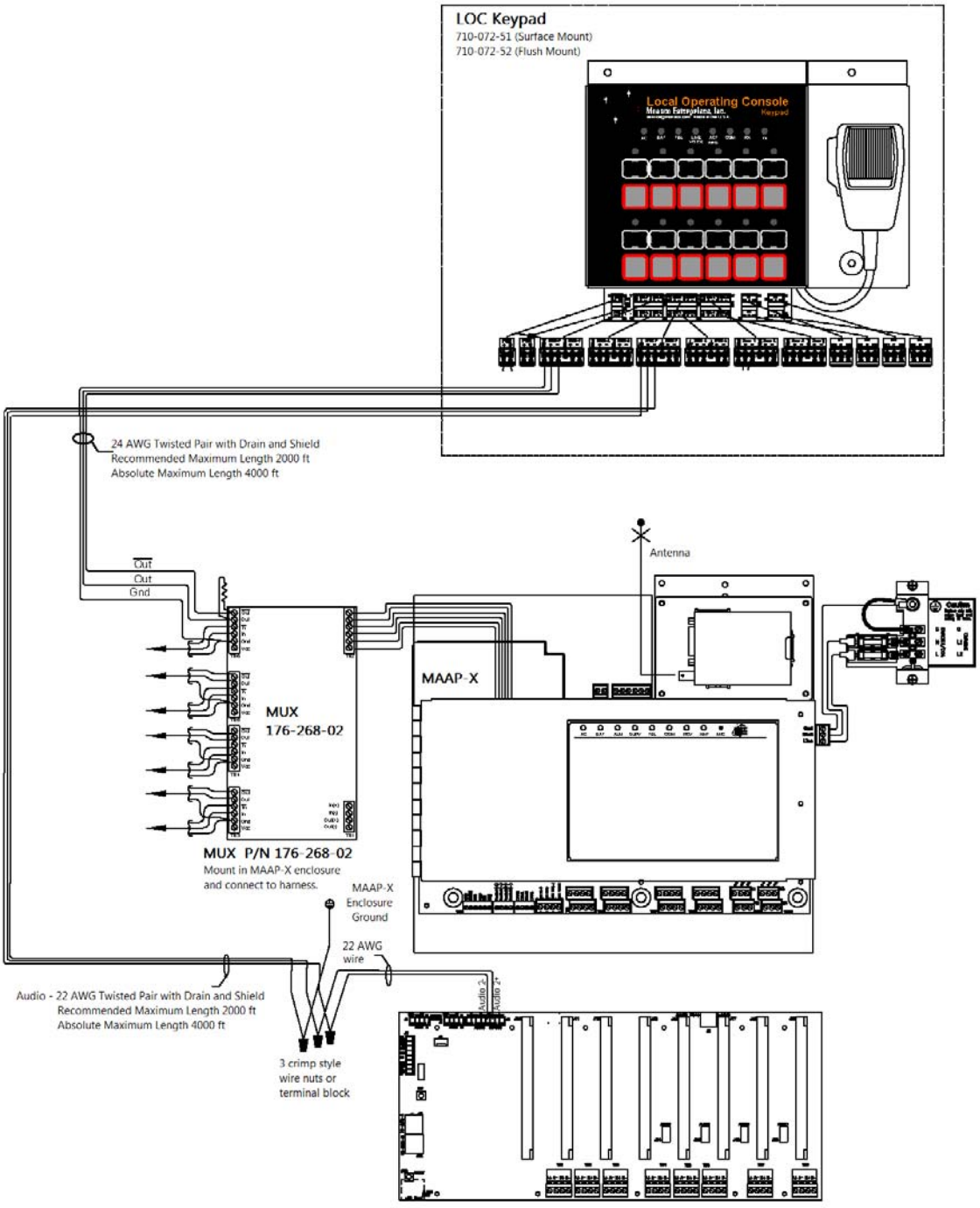
Part Number	Description
176-268-02	Multiplexer, RS-422 to 8 RS-485 ports with surge suppression, 24 VDC, to support MAAP-X LOC/RDU Touch Screens and LOC Keypads per output. See NOTE 1
122-012-06	Handheld Non-Emergency Push-to-Talk Paging Microphone in red Enclosure, 8" H x 6" W x 3" D. Includes 15-foot 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.
708-032-01	HVAC Shutdown kit. Includes shutdown button and cover. (Mini Monitor Module P/N 729-143-00, not included.)
729-143-00	Intelligent mini-monitor module
621-025-00	22 AWG twisted pair with drain and shield, RDU to multiplexer. Specify length needed.

Part Number	Description
621-083-00	RS485 Cable - Plenum Rated ■ 2 conductors ■ 24 AWG twisted pair with drain and shield ■ FFEP ■ Low Smoke PVC outer jacket ■ Cable Diameter: 0.204 in. ■ Temperature range: 0°C to 75°C ■ Impedance: 120 Ohms
621-084-00	RS485 cable - Non-plenum Rated ■ 2 conductors ■ 24 AWG twisted pair with drain and shield ■ PE ■ PVC outer jacket ■ Cable diameter: 0.232 in. ■ Temperature range: -30°C to 80°C ■ Impedance: 120 Ohms
NOTE 1 The MAAP-X panel can support up to 30 LOCs. Of the 30 LOCs a maximum of 10 can be RDU/LOC 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 8 LOC/RDU Touch Screens maximum. Contact Monaco if your system requires more LOCs.	

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MAAP-X - Multiplexer - LOC Keypad Diagram



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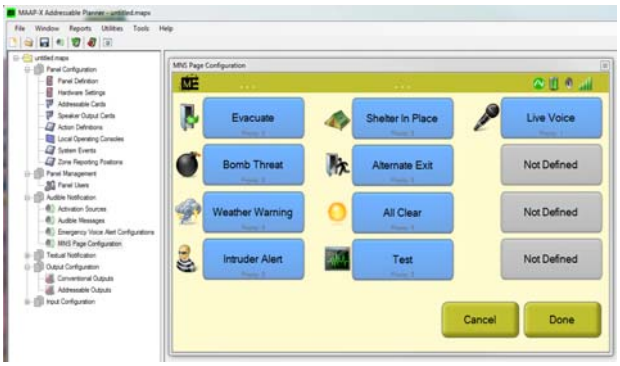
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Addressable Fire Alarm Control Panels with MNS

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
- Creates a MAAP-X configuration file that is 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 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® (XP, 7.0, 8.0, 10) compatible Monaco MAAP-X Planner software
- Define zone and device descriptions

Specifications

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

NOTE Newer laptops typically do not have a serial port so a USB to serial adapter must be used to program the Monaco panels. Monaco USB to serial adapter (P/N 649-118-00) has provided the most reliable communication between various laptops and Monaco panels. Other USB to serial adapters 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 adapter

Associated Parts

649-118-00	USB to 9 pin serial adapter
227-574-00	MAAP serial interface kit, includes programming cable and adapter

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Addressable Fire Alarm Control Panels with MNS

MAAP-X Push-to-Talk MNS Microphone

122-012-00, 122-012-05

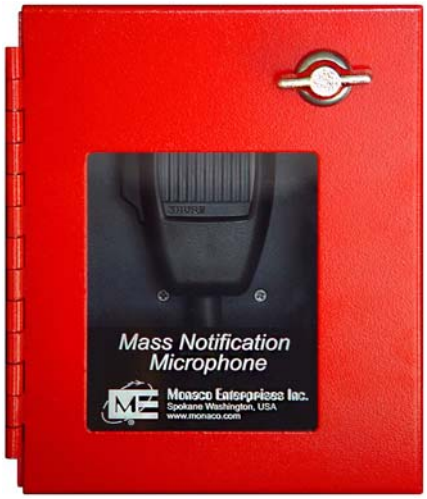
Description

This push-to-talk MNS microphone is ideal for the MAAP-X addressable Fire Alarm Control Panel (FACP) with Mass Notification System.

LOC Handheld Push-to-Talk MNS MIC and Holder (P/N 122-012-00)



MAAP-X or LOC/RDU Touch Screen Handheld Push-to-Talk MNS MIC with Enclosure (P/N 122-012-05)



The LOC touch screen handheld push-to-talk MNS MIC and holder (P/N 122-012-00) comes ready to install in a LOC/RDU.

The MAAP-X or LOC touch screen with handheld push-to-talk MNS Mic 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, push-to-talk, dynamic handheld MIC
- 5-foot extended length MIC cord
- MAAP-X or LOC/RDU touch screen with handheld push- to-talk MNS MIC with enclosure (P/N 122-012-05) includes a red enclosure with an easy-access turn latch.

Specifications

LOC Handheld Push-to-Talk MNS MIC and Holder (P/N 122-012-00)

For use With	LOC/RDU
Holder Size	6.6‘'W x 3.3"H
Connector Cable Length	2-feet

MAAP-X or LOC/RDU Touch Screen with Handheld Push-to-Talk MNS MIC in Enclosure (P/N 122-012-05)

For use With	MAAP-X Addressable FACP with MNS
Enclosure Color	Red
Enclosure Size	8"H x 6"W x 3"D
Connector Cable Length	15-feet

Microphone (for P/N 122-012-00 and 122-012-05)

Imepdance	400 ohm at 1,000 Hz
Frequency Response	200 to 5,000 Hz
Type	Dynamic
Polar Pattern	Omnidirectional
Output Level	-33 dB ±3.0 dB
Relative Humidity	0.95% (non-condensing
Operating Temperature	-40° to 165°F (-40° to 74°C)
MIC Cable Length	5-foot extended length
MIC Cable Material	4-conductor (2 shielded) vinyl-jacketed coil-cable
MIC Cable Color	Black

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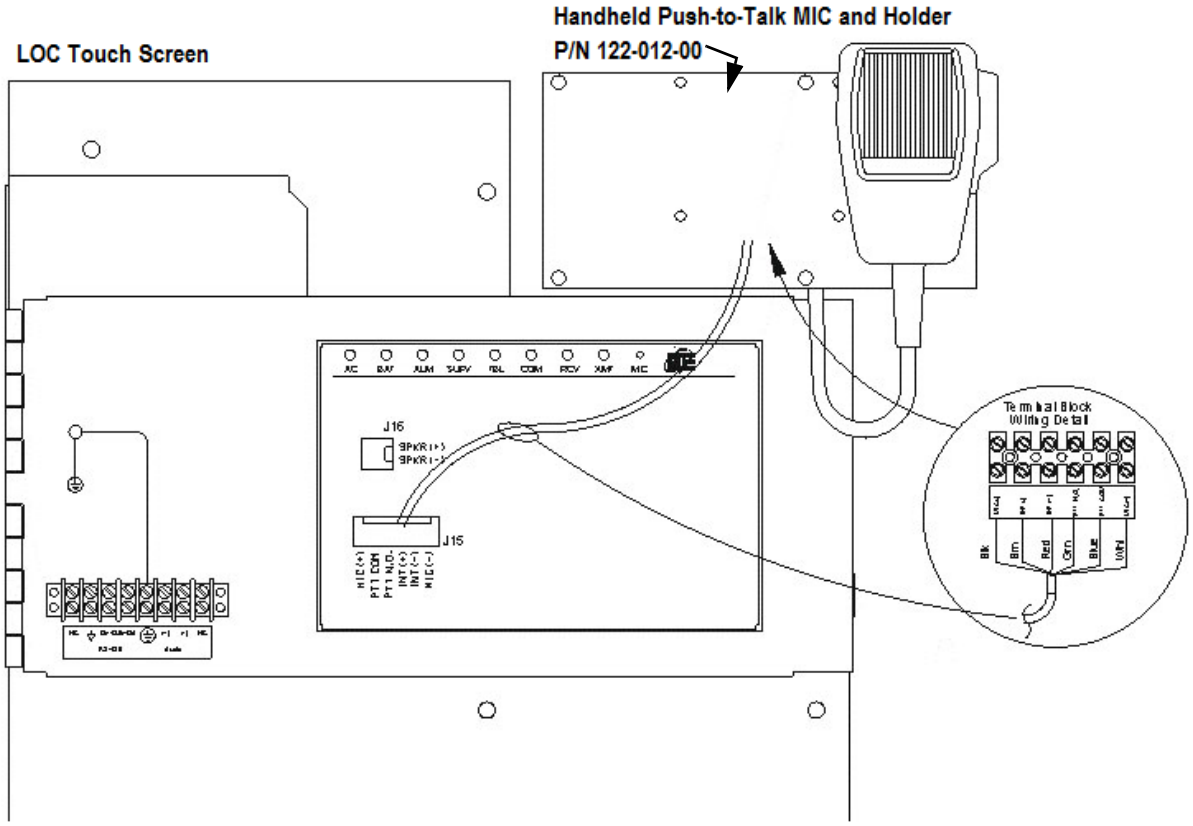
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Ordering Information

Part Number	Description
122-012-00	Handheld Push-to-Talk Microphone and holder for use on LOC/ RDU Touch Screen. Includes 2-foot cable for connection to LOC/RDU Touch Screen.
122-012-05	Handheld Push-to-Talk MNS Microphone in red enclosure, 8"H x 6"W x 3"D with window. Includes 15-foot cable for connecting to MAAP-X or LOC/RDU Touch Screen.

Assembly Drawing

LOC Touch Screen with Handheld Push-to-Talk MIC and Holder (P/N 122-012-00)

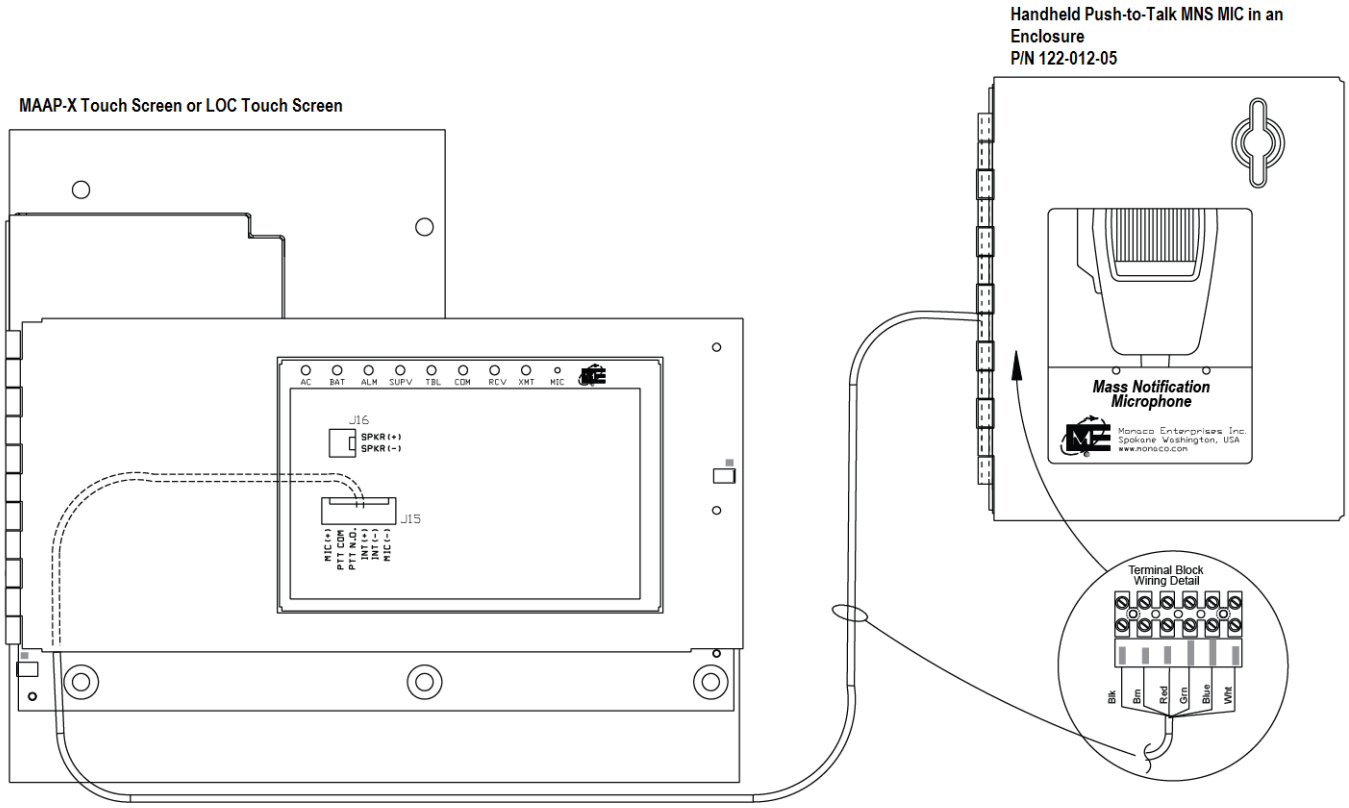


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Addressable Fire Alarm Control Panels with MNS

MAAP-X or LOC Touch Screen with Handheld Push-to-Talk MIC in Enclosure (P/N 122-012-05)



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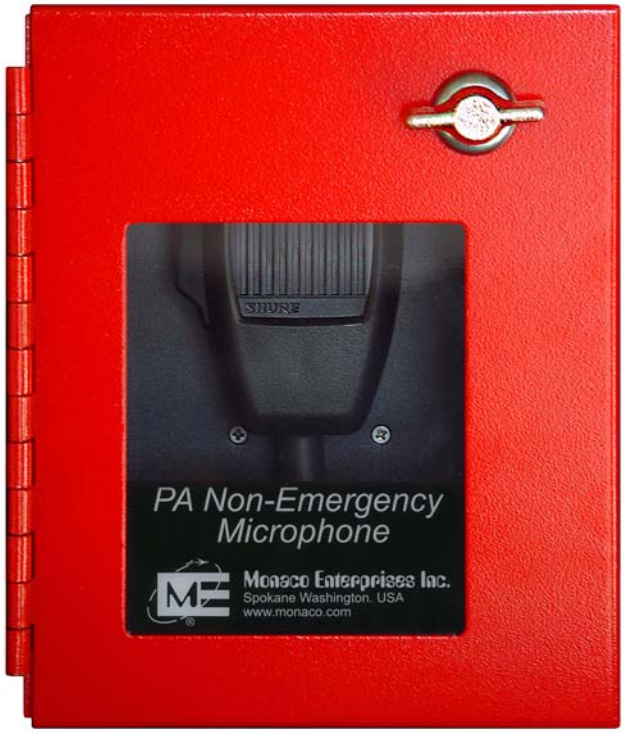
Addressable Fire Alarm Control Panels with MNS

MAAP-X Push-to-Talk Paging Microphone
122-012-06

Description

This push-to-talk paging microphone is ideal for the MAAP-X addressable Fire Alarm Control Panel (FACP) with Mass Notification System (MNS).

Handheld Push-to-Talk Paging MIC in Enclosure
P/N 122-012-06



The handheld push-to-talk paging microphone in enclosure (P/N 122-012-06) comes in a separate red enclosure to connect to the MAAP-X.

Features

- Wiring harness to connect directly back to the MAAP-X
- Easy-to-Use, push-to-talk, dynamic handheld MIC
- 5-foot extended length MIC cord
- Handheld push-to-talk Paging MIC with enclosure (P/N 122-012-06) includes a red enclosure with an easy-access turn latch

Specifications

Handheld Push-to-Talk Paging Microphone in Enclosure (P/N 122-012-06)

For use With	MAAP-X Addressable FACP with MNS
Enclosure Color	Red
Enclosure Size	8" H x 6" W x 3" D
Connector Cable Length	15-feet

Microphone (For 122-012-06)

Impedance	400 ohm at 1,000 Hz
Frequency Response	200 to 5,000 Hz
Type	Dynamic
Polar Pattern	Omnidirectional
Output Level	-33 dB ±3.0 dB
Relative Humidity	0-95% (non-condensing)
Operating Temperature	-40° to 165° F (-40° to 74° C)
MIC Cable Length	5-foot extended length
MIC Cable Material	4-conductor (2 shielded) vinyl-jacketed coil-cable
MIC Cable Color	Black

Ordering Information

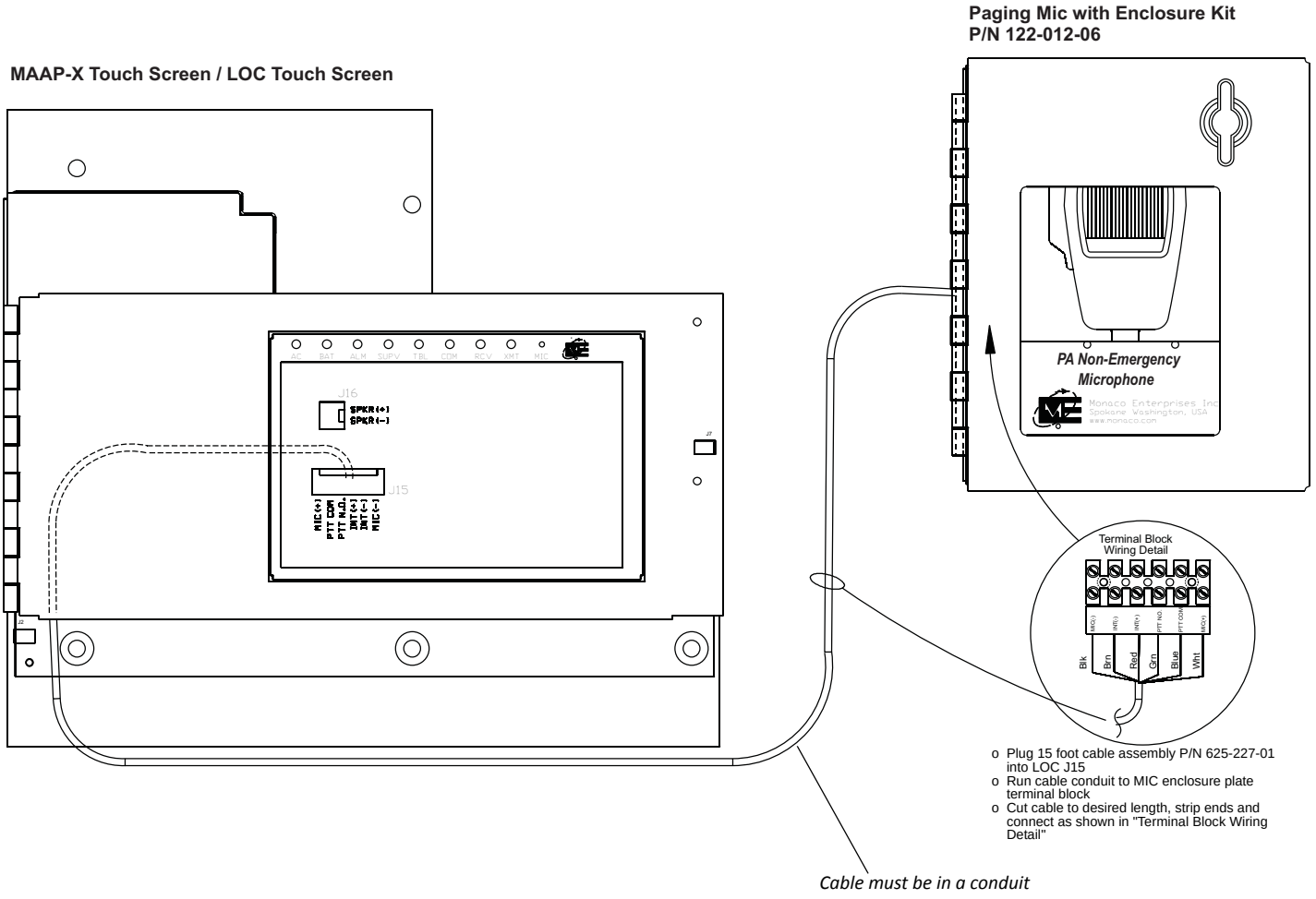
Part Number	Description
122-012-06	Handheld Non-Emergency Push-to-Talk Paging Microphone in red Enclosure, 8"H x 6"W x 3"D. 15-foot single cable for connecting to MAAP-X, LOC/RDU Touch Screen or LOC Keypad. Dual cable also included if connecting MNS and Paging microphone to the MAAP-X or LOC /RDU Touch Screen.

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Assembly Drawings

Handheld Push-to-Talk Paging MIC (P/N 122-012-06) to LOC Touch Screen or MAAP-X Touch Screen

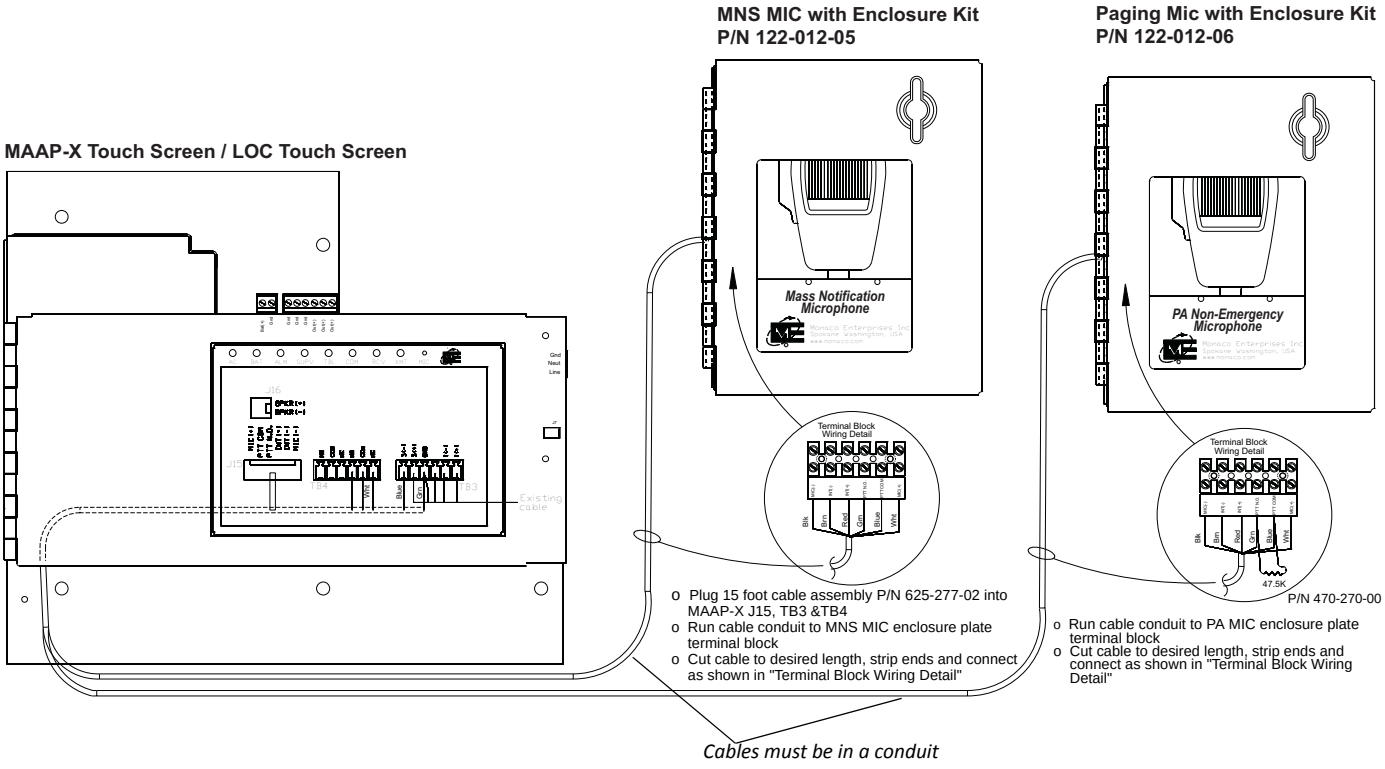


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Addressable Fire Alarm Control Panels with MNS

Handheld Push-to-Talk MNS (P/N 122-012-05) and Paging Mic (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, Multi-Color

710-075-01

Description

The MAAP-X Text Display (P/N 710-075-01) is a 24 VDC, two line, multi-color 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 and/or D-21 Mass Notification System (MNS). Up to 31 Text Displays can be connected to a single MAAP-X.



The MAAP-X Text Display is highly visible and can display one or two lines of text in three colors (red, green, and amber). MAAP-X communicates through a network port to a "MAAP-X Text Display Interface". The distance between text displays and the "MAAP-X Text Display Interface" output is 4000 feet maximum.

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 date and time or building name.

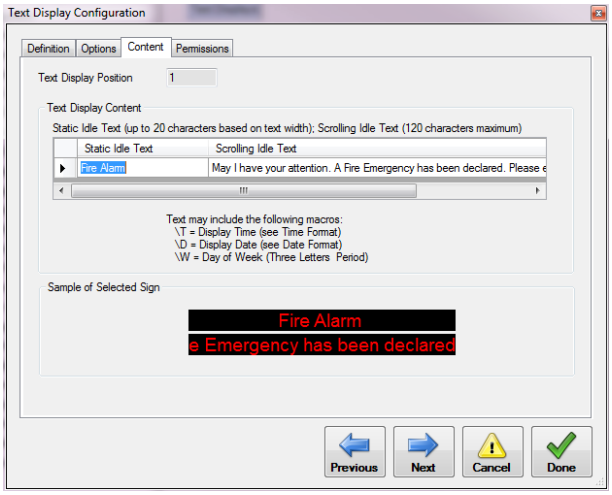
Text Display addresses are programmed into each text display using the MAAP-X Text Display Address Programming Utility Planner Kit. The Planner is currently limited to 16 text displays.

Features

- Integrates with Monaco Enterprises' MAAP-X MNS
- Up to 31 text displays can be controlled at once from a single MAAP-X
- One or two-line text display
- Three text color options (red, green, and amber)
- Ceiling or wall mounting options
- Display operation is supervised
- Indoor installation
- Operates using 24 VDC
- Complies to NFPA® 72, 2016: Section 24.5.18

MAAP-X Operation

MAAP-X Planner Text Display programming screen



The MAAP-X is programmed using the MAAP-X Planner. The MAAP-X Planner allows text messages and pre-recorded messages to be matched so that when an MNS activation occurs, the MAAP-X plays an audio message while simultaneously activating a matching message on the text display(s). During a live voice operation (through either a Central activation or local MNS activation), the text display(s) indicate that a live voice announcement is in progress.

At the conclusion of an MNS operation, the text display(s) revert to their pre-programmed "idle text" which may include date and time.

- Up to 20 characters can be programmed as static (non-scrolling) text
- Up to 150 characters can be programmed as scrolling text (120 for idle text)

The date and time displayed by the text display is controlled by 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.4.6 or higher.

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Addressable Fire Alarm Control Panels with MNS

Specifications

Physical Dimensions	7.4" H x 37.2" L x 3.2" D
Pixel Size (Diameter)	0.2" (0.05 cm)
Center-to-Center Pixel Spacing (Pitch)	0.3" (0.762 cm)
Pixel (LED) Color	Red, green and amber
Resolution	120 Columns x 16 Rows
Display Array	120 x 16 Pixels
Character Size	One-line format: 4.8" (12.2 cm) Two-line format: 2.1" (5.3 cm)
Characters per Line:	
Static	Up to 20 characters upper/lower case
Scrolling	Idle: 120 maximum MNS: 150 maximum
Character Set	Block (sans serif), decorative (serif), upper/lower case, slim, wide, double-wide
Real-Time Clock	Date and time, 12 or 24-hour format, maintains accurate time without power for up to 30 days typical
Networking Options	RS-485 (up to 31 text displays), maximum distance 4000 ft
Power	16-33 VDC (30 watt maximum) 800 mA nominal @ 24 VDC 1.3 Amp maximum
Approximate Weight	11 lbs (5.0 kg)
Operating Temperature	32°F to 122°F (0°C to 50°C)
Humidity Range	0% to 95% non-condensing
Mounting	indoor wall mounting hardware (included)
Standards Compliance	
UL	UL 1638
NFPA	NFPA 72
FCC	FCC Class A

Ordering Information

Text Display

Part Number	Description
710-075-01	MAAP-X Text Display, 24 VDC, two line, multi-color, default text display. **Requires MAAP-X Panel firmware version A.4.6 or higher.** **NOTE** Must order appropriate text display interfaces based on the number of text displays connected to the MAAP-X, 31 maximum. **NOTE** The MAAP-X Planner Kit (P/N 207-627-00) is required to program addresses into Text Displays. The MAAP-X Planner is currently limited to 16 text displays. If more than 16 text displays are required, contact the Product Support Group (PSG). **NOTE** 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 feet, the display is required to be configured with only a single line of text so the font is large enough to view properly.

MAAP-X Text Display Interfaces

710-059-10	MAAP-X to Text Display Interface, Ethernet to 8 RS-485 ports. Each port supports up to 4 text displays when text displays are daisy chained together. The MAAP-X panel can support a maximum of 31 text displays. If additional RS-485 ports are needed, order expansion kit (P/N 710-059-11) listed below. Red enclosure 20"H x 12"W x 4"D, one 12V/12Ah battery
710-059-11	Expansion Kit for MAAP-X to Text Display Interface, adds 8 RS-485 ports. Kit contains hardware, cable harness and PCB which is installed inside the interface enclosure (P/N 710-059-10) listed above.

MAAP-X Text Display Programming

207-627-00	MAAP-X Text Display Address Programming Utility Planner Kit. Required to program addresses into Text Displays. The MAAP-X Planner is currently limited to 16 text displays. If more than 16 text displays are required, contact the Product Support Group (PSG).

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Associated Parts

Power Supply and Battery Charger

404-098-00	Power Supply/Battery Charger, 24 VDC @ 8A continuous, 10A during alarm, 115 VAC 60 Hz, red enclosure. Battery recharge current 3.6 Amp (max). Use with SLA battery (P/N 400-713-00), two required.
404-098-10	Power Supply/Battery Charger, 24 VDC @ 8A continuous, 10A during alarm, 230 VAC 50/60 Hz, grey enclosure. Battery recharge current 3.6 Amp (max). Use with SLA battery (P/N 400-713-00), two required.
404-150-00	Power Supply/Battery Charger, 12/24 VDC @ 6A, 115 VAC 50 Hz or 230 VAC 50/60 Hz, grey enclosure. Battery recharge current 0.7 Amp (max). Use with SLA battery (P/N 400-713-00), two required.

Batteries

400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95"L x 2.56"W x 3.90"H, 3.50 lb.
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86" W x 3.86"H, 7.92 lb.

Ceiling Mount Hardware

086-265-00	Ceiling Mounting Bracket for MAAP-X Text Display, Includes 2 brackets, 4 6-32 screws

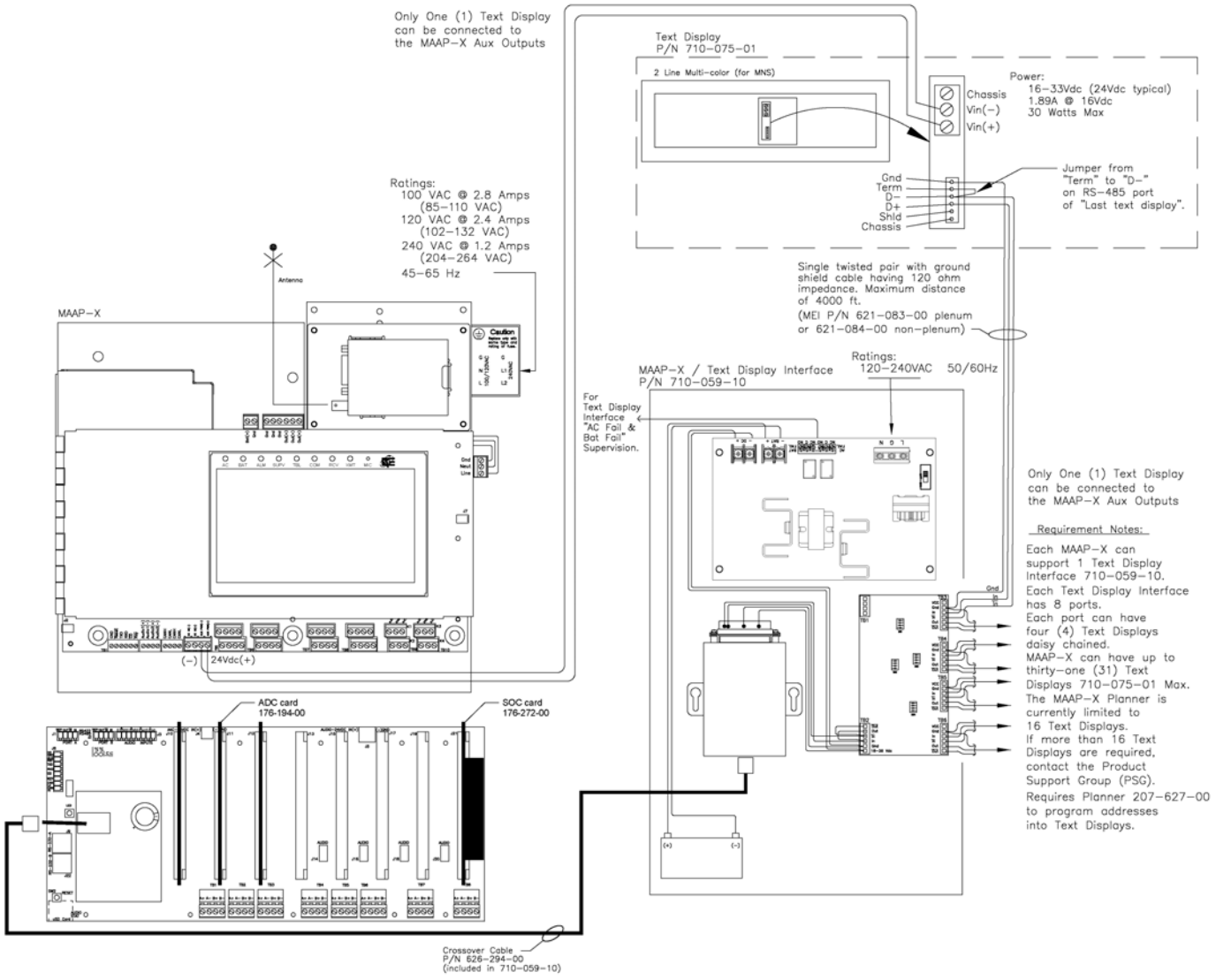
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Addressable Fire Alarm Control Panels with MNS

Assembly Drawings

Power from Panel

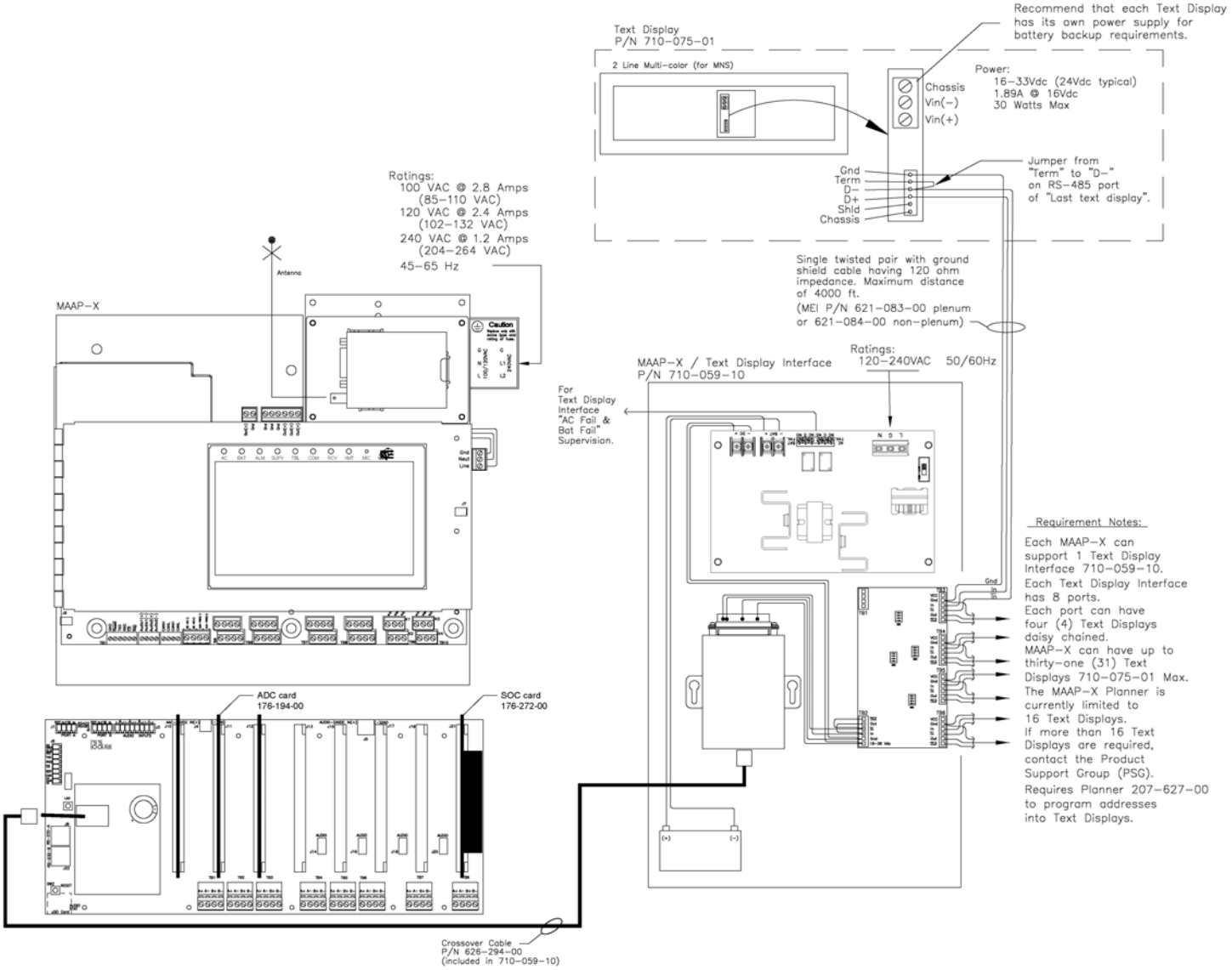


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Power from Power Supply



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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, pre-recorded messages with 24 VDC battery backup capabilities.



Boosters can be inter-connected to accomodate large installations (maximum of 5,280 watts of supervised audio power) with supervised audio power as well as supervised and synchronized strobe power.

The 320 W audio booster draws 2.4 watts 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 watts of audio power to properly operate and provides additional supervised audio output power. Additional strobe power is available using the audio booster (P/N 703-167-00).

Features

- UL Standard 864, UL Standard 1711
- California State Fire Marshal (CSFM)
- 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, 0.5 amp @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

Power Input	703-164-00: 120 VAC, 3.8 Amp, 50/60 Hz 703-167-00: 120 VAC, 3.8 Amp, 50/60 Hz 703-206-00: 220 VAC, 2.5 Amp, 50/60 Hz 703-207-00: 220 VAC, 2.5 Amp, 50/60 Hz
Standby Current Draw	120 mA per amplifier board
Alarm Current Draw	9 amps per amplifier board.
Output Voltage	25 or 70 volts (selectable)
Signal Frequency Response	Voice: 400 Hz - 6.5 kHz BGM: 275 Hz - 15 kHz
Signal to Noise Ratio	> 70 dB
Dynamic Range	> 65 dB
Total Harmonic Distortion	2%
Dimensions	21" H x 16" W x 6" D
Weight	36 lbs (without batteries)
Finish	Red
Audio Booster Power	703-167-00: 80 W, 115 VAC, 50/60Hz 703-164-00: 160 W, 115 VAC, 50/60Hz 703-207-00: 80 W, 220 VAC, 50/60 Hz 703-206-00: 160 W, 220 VAC, 50/60Hz

703-165-00, 703-208-00

Power Input	703-165-00: 120 VAC, 3.8 amp, 50/60 Hz 703-208-00: 240 VAC, 2.5 amp, 50/60 Hz
Standby Current Draw	120 mA per amplifier board
Alarm Current Draw	9 amps per amplifier board.
Output Voltage	25 or 70 volts (selectable)
Signal Frequency Response	Voice: 400 Hz - 6.5 kHz BGM: 275 Hz - 15 kHz
Signal to Noise Ratio	> 70 dB
Dynamic Range	> 65 dB
Total Harmonic Distortion	2%
Dimensions	36" H x 24" W x 6" D
Weight	80 lbs (without batteries)
Finish	Red
Audio Booster Power	703-165-00: 320 W, 115 VAC, 60Hz 703-208-00: 320 W, 220 VAC, 50 Hz

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Ordering Information

Audio Boosters

Part Number	Description
703-167-00	Audio Booster 80W, 115 VAC, 50/60 Hz, two 2A strobe circuits
703-164-00	Audio Booster 160W, 115 VAC, 50/60 Hz, no power for strobe circuits
703-165-00	Audio Booster 320W, 115 VAC, 50/60 Hz, no power for strobe circuits
703-207-00	Audio/Strobe Booster 80W, 220 VAC, 50/60 Hz, with two 2A strobe power circuits
703-206-00	Audio Booster 160W, 220 VAC, 50/60 Hz, no power for strobe circuits
703-208-00	Audio Booster 320W, 220 VAC, 50/60 Hz, no power for strobe circuits

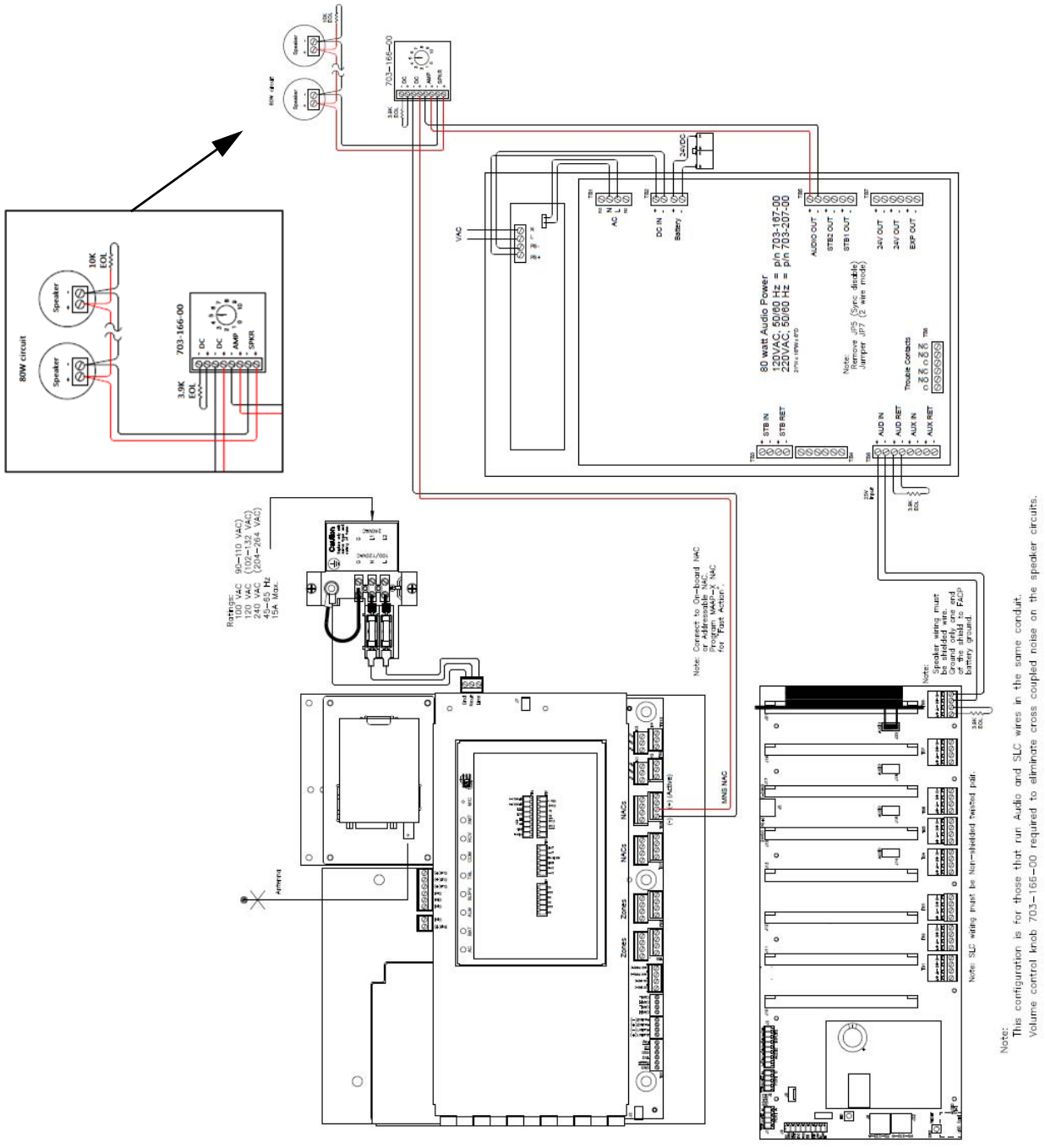
Associated Parts

Part Number	Description
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86"W x 3.86"H, 7.92 lb.
703-163-00	Audio Splitter (4 Class B or 2 Class A), audio splitter bracket required.
703-192-00	Speaker Splitter Mounting Bracket. Required when audio splitter P/N 703-163-00 is used. **NOTE** Bracket supports two audio splitters (P/N 703-163-00).
703-166-00	Supervised Volume Control (only one per audio circuit)

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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

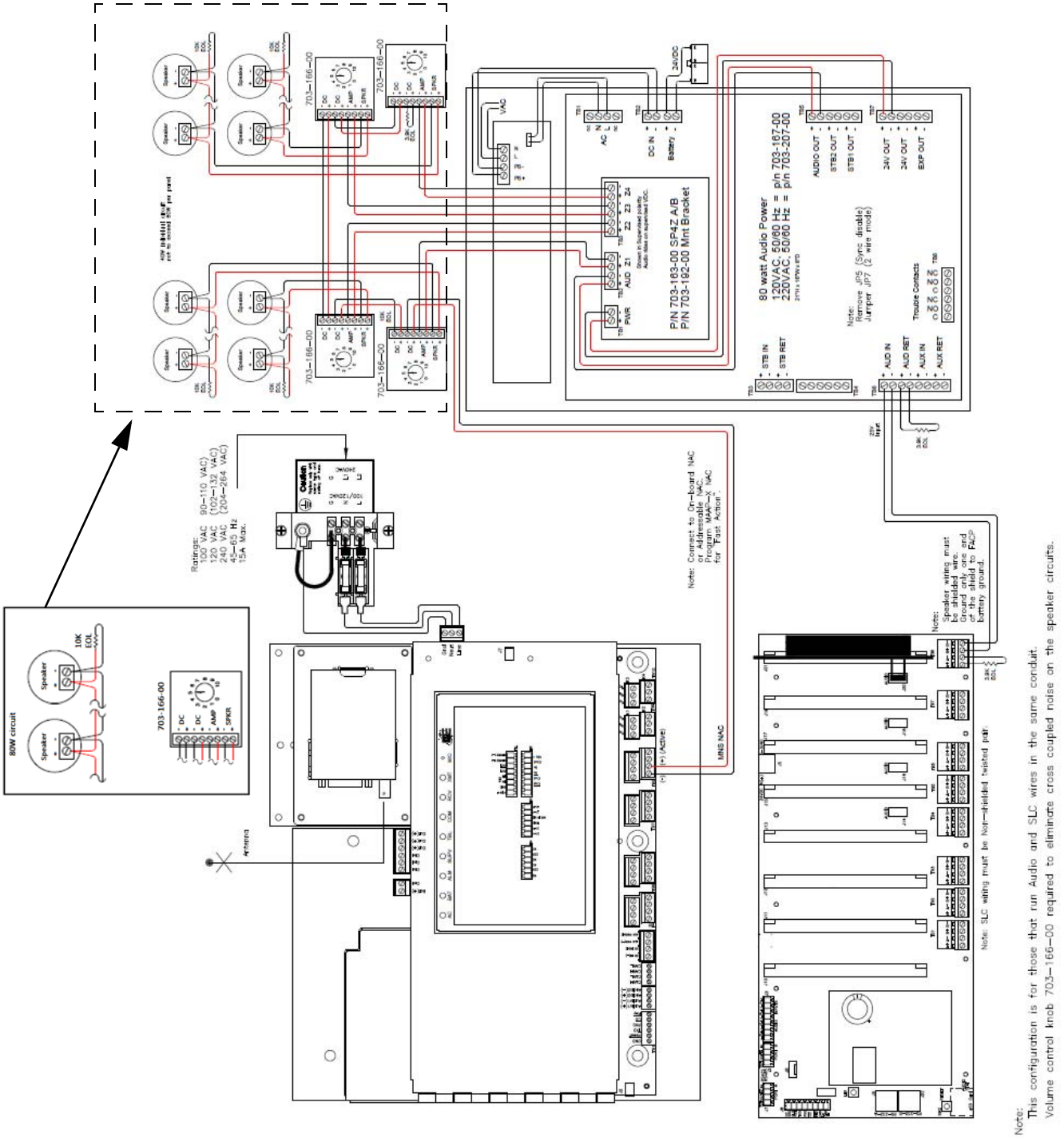
Wiring Diagrams



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Detect Manage Record

Addressable Fire Alarm Control Panels with MNS



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Conventional Fire Alarm Control Panels Catalog Section 07

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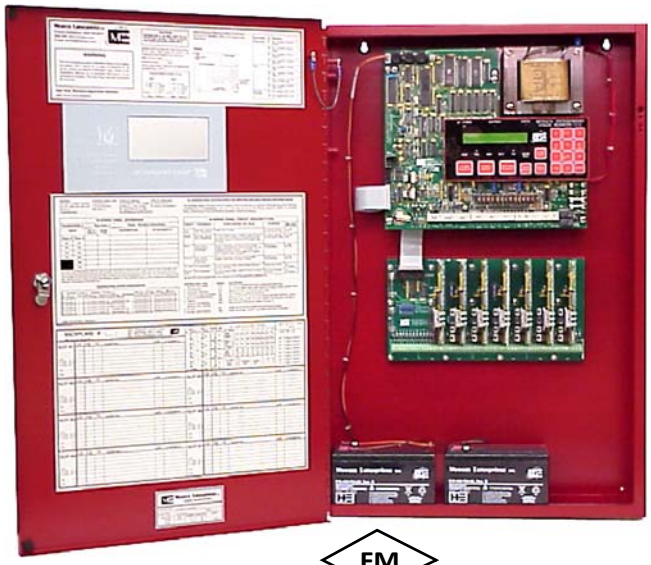
Conventional Fire Alarm Control Panels

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 hardwire communication. The integrated transceiver needs no external wiring or interfacing relays.



FM APPROVED

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.

M-2 can monitor up to 58 Class A or 60 Class B zones if the enclosure is the 60-in.-high version.

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 noncoded

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
- IDC zone types:
  - Standard
  - Supervisory

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Detect Manage Record

  - 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 nonpowered 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 transceiver address and 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. 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.-high enclosure has two on each side; 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 an troubleshooting procedures

Specifications

AC Input	Selectable 115 or 230 VAC, 50/60 Hz (range = 85–110% 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
IDCs	■ Supply 24 VDC filtered power for loop-powered devices ■ Current 3 mA standby, 50 mA shorted ■ 3.9 kΩ EOL resistor ■ Loop resistance ≤35Ω
NACs	■ Polarity reversing ■ 24 VDC filtered, 1.5A ■ Total Bell 1 (B1 and B2) or Bell 2 (B3 and B4) current ≤2A; total current all NACs ≤3.5A ■ Loop resistance ≤3Ω per circuit ■ 4.7 kΩ EOL resistor, in parallel, Class B
Auxiliary Input Circuits	■ Total loop resistance ≤35Ω per circuit ■ 4.7 kΩ EOL resistor, in parallel
Auxiliary Output Circuit	■ Polarity reversing ■ 24 VDC filtered, 1.5A ■ Loop resistance ≤3Ω total circuit ■ 4.7 kΩ EOL resistor, in parallel
Remote Trouble Circuit	150 mA of 24 VDC filtered power
Radio Output Power	4W
Operating Temperature	32° to 120°F (0° to 49°C)
Relative Humidity	0–90%, noncondensing

IMPORTANT Combined current of IDCs, NACs, auxiliary circuits, and remote trouble circuit cannot exceed 4A.

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Detect Manage Record

Conventional Fire Alarm Control Panels

Ordering Information

Panels

Integrated Radio Units

Part Number	Description
227-550-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 19" H × 18" W × 3.6" D NEMA 1, surface-mount ■ Narrowband ■ Two Class A or four Class B zones ■ Two 12V/18 Ah batteries
227-551-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 28" H × 18" W × 3.6" D NEMA 1, surface-mount ■ Narrowband ■ Two Class A or four Class B zones ■ Two 12V/18 Ah batteries ■ Space for one expansion backplane—up to 7 ZECs, AOCs, UICs
227-552-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 43" H × 18" W × 3.6" D NEMA 1, surface-mount ■ Narrowband ■ Two Class A or four Class B zones ■ Four 12V/18 Ah batteries ■ Space for two expansion backplanes—up to 14 ZECs, AOCs, UICs
227-554-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 60" H × 18" W × 3.6" D NEMA 1, surface-mount ■ Narrowband ■ Two Class A or four Class B zones ■ Four 12V/18 Ah batteries ■ Space for four expansion backplanes—up to 28 ZECs, AOCs, UICs
227-560-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 19" H × 18" W × 3.6" D NEMA 1, flush-mount ■ Narrowband ■ Two Class A or four Class B zones ■ Two 12V/18 Ah batteries
227-561-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 28" H × 18" W × 3.6" D NEMA 1, flush-mount ■ Narrowband ■ Two Class A or four Class B zones ■ Two 12V/18 Ah batteries ■ Space for one expansion backplane—up to 7 ZECs, AOCs, UICs
227-562-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 43" H × 18" W × 3.6" D NEMA 1, flush-mount ■ Narrowband ■ Two Class A or four Class B zones ■ Four 12V/18 Ah batteries ■ Space for two expansion backplanes—up to 14 ZECs, AOCs, UICs
227-563-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 24" H × 24" W × 8" D NEMA 3R ■ Narrowband ■ Two Class A or four Class B zones ■ Two 12V/18 Ah batteries **Note** Security version configured differently; contact Monaco for details.
227-564-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 60" H × 18" W × 3.6" D NEMA 1, flush-mount ■ Narrowband ■ Two Class A or four Class B zones ■ Four 12V/18 Ah batteries ■ Space for four expansion backplanes—up to 28 ZECs, AOCs, UICs
227-570-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 20" H × 16" W × 6" D NEMA 3R ■ Narrowband ■ Two Class A or four Class B zones ■ Two 12V/18 Ah batteries
227-587-xx*	M-2 Conventional FACP with Integrated Radio Transceiver: ■ 24" H × 24" W × 8" D NEMA 4X ■ Narrowband ■ Two Class A or four Class B zones ■ Two 12V/18 Ah batteries

*Specify frequency (-xx) when ordering.

Notes

1. Antenna system required. Contact Monaco.
2. Battery options available. Ah capacity depends on system configuration. Contact Monaco for help in determining battery requirements.

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Detect Manage Record

Conventional Fire Alarm Control Panels

Hard-wire Only (Ethernet) Units

Part Number	Description
227-551-EN	M-2 Fire Alarm Control Panel ■ Two Class A or four Class B zones ■ Capacity for one Expansion backplane for up to seven cards max. in any combination of zone expansion, auxiliary output, or universal input ■ NEMA 1 surface-mount red enclosure 28" H × 18" W × 3.6" D ■ Two 12V/18 Ah batteries
227-561-EN	M-2 Fire Alarm Control Panel ■ Two Class A or four Class B zones ■ Capacity for one Expansion backplane for up to seven cards max. in any combination of zone expansion, auxiliary output, or universal input ■ NEMA 1 flush-mount red enclosure 28" H × 18" W × 3.6" D ■ Two 12V/18 Ah batteries

Associated Parts

Part Number	Description
227-558-xx*	Narrowband electronics package, conventional M-2
227-571-xx*	M-2 narrowband upgrade kit, Type 1: CPU and flash memory chips, transceiver, power supply PCB, cables
227-575-xx*	M-2 narrowband upgrade kit, Type 2: radio module and cables
176-184-01	M-2 CPU replacement kit
176-184-03	M-2 CPU and FSK replacement kit
176-185-00	M Conventional FACP Expansion Backplane. Capacity for up to 7 expansion cards: ZEC, AOC, or UIC
176-186-00	Zone Expansion Card (ZEC), 2 Class A or 4 Class B zones
176-187-00	Auxiliary Output Card (AOC), drives 8 LED's per card. Exansion backplane required for M FACP
176-197-00	Universal Input Card (UIC), four pairs of input terminals connecting up to four, 2-wire input zones
194-527-09	M-2 Conventional EN Fiber Optic to Ethernet Converte r, single mode 1 Gb kit with mounting hardware. (1 required per Ethernet M-2 Conventional EN to convert it to Fiber Optic.)
194-527-01	Fiber Optic to Ethernet Converter, single mode, 1 Gb. (Spare part for 194-527-09)
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 adapter, IOM manual, requires 9 pin serial port on laptop or USB to serial adapter.
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"L x 3.03"W x 6.59"H, 12.60 lb
*Specify frequency (-xx) when ordering.	

Wiring Diagrams

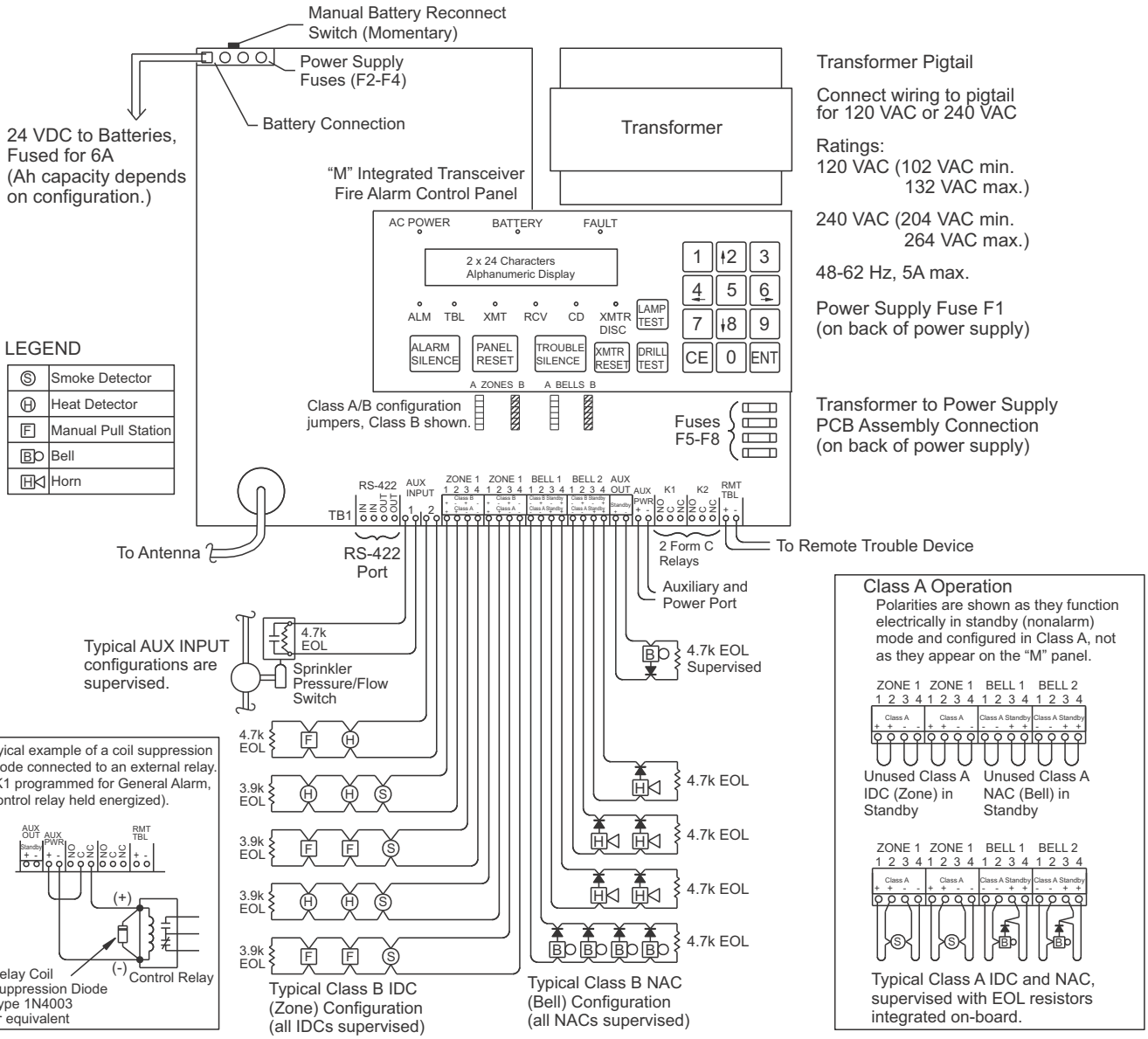
The drawings on the next two pages represent typical applications, not all possible options.

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Conventional Fire Alarm Control Panels

Conventional Wiring, No Expansion Backplane



Transformer Pigtail

Connect wiring to pigtail for 120 VAC or 240 VAC

Ratings:
120 VAC (102 VAC min. 132 VAC max.)

240 VAC (204 VAC min. 264 VAC max.)

48-62 Hz, 5A max.

Power Supply Fuse F1 (on back of power supply)

Transformer to Power Supply PCB Assembly Connection (on back of power supply)

Class A Operation

Polarities are shown as they function electrically in standby (nonalarm) mode and configured in Class A, not as they appear on the "M" panel.

Unused Class A IDC (Zone) in Standby

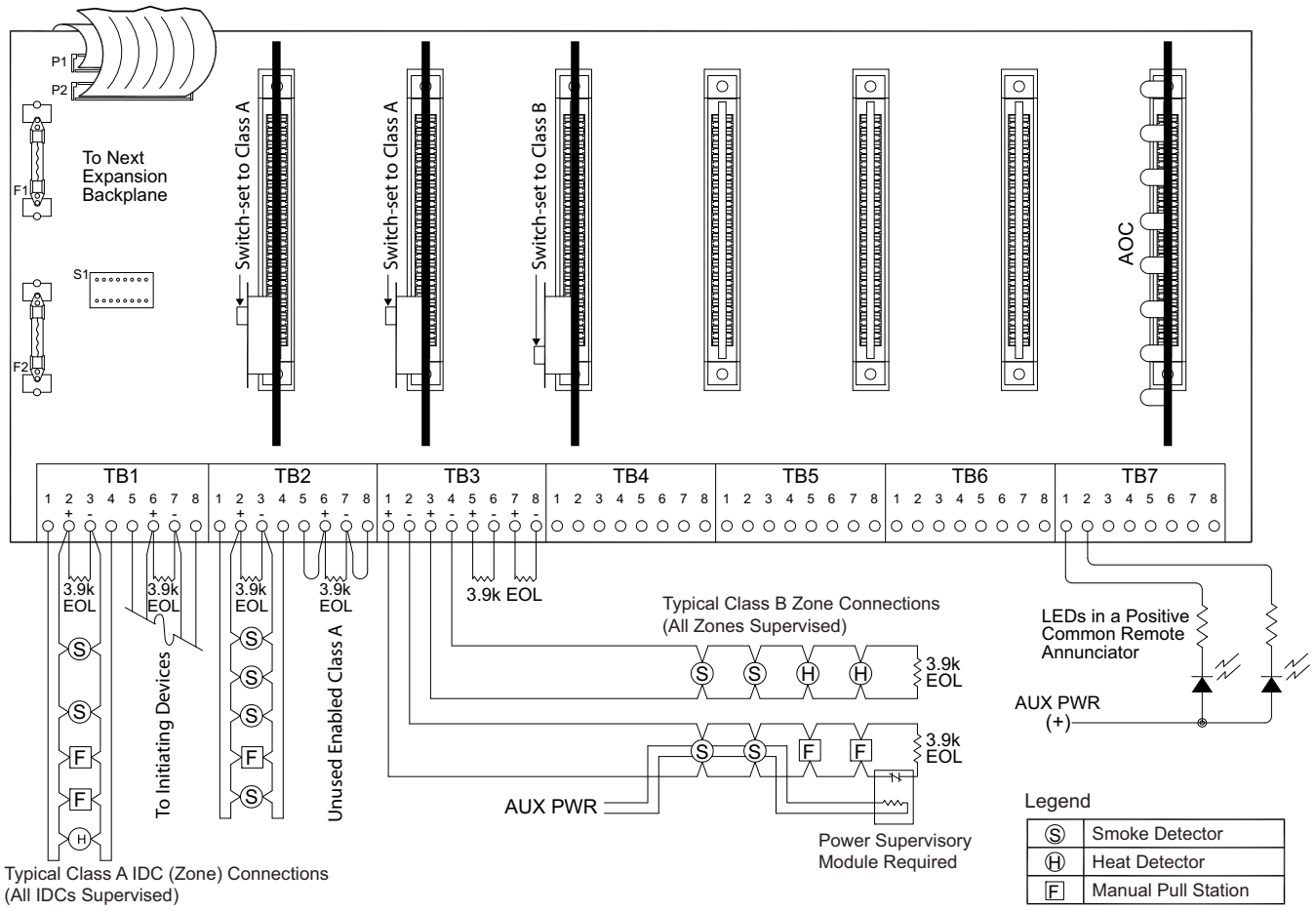
Unused Class A NAC (Bell) in Standby

Typical Class A IDC and NAC, supervised with EOL resistors integrated on-board.

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Detect Manage Record

Expansion Backplane Wiring



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Detect Manage Record

Conventional Fire Alarm Control Panels

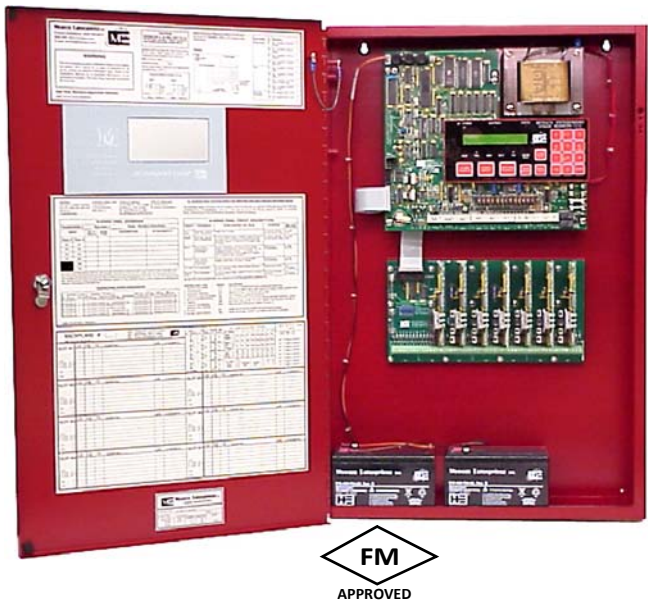
M-2 Conventional FACP, Mass Notification

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.-high 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 nonpowered 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. 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.-high 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

AC Input	Selectable 115 or 230 VAC, 50/60 Hz (range = 85–110% 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
IDCs	■ Supply 24 VDC filtered power for loop-powered devices ■ Current 3 mA standby, 50 mA shorted ■ 3.9 kΩ EOL resistor ■ Loop resistance ≤35Ω
NACs	■ Polarity reversing ■ 24 VDC filtered, 1.5A ■ Total Bell 1 (B1 and B2) or Bell 2 (B3 and B4) current ≤2A; total current all NACs ≤3.5A ■ Loop resistance ≤3Ω per circuit ■ 4.7 kΩ EOL resistor, in parallel, Class B
Auxiliary Input Circuits	■ Total loop resistance ≤35Ω per circuit ■ 4.7 kΩ EOL resistor, in parallel
Auxiliary Output Circuit	■ Polarity reversing ■ 24 VDC filtered, 1.5A ■ Loop resistance ≤3Ω total circuit ■ 4.7 kΩ EOL resistor, in parallel
Auxiliary Power Circuit	24 VDC filtered, 2A
Remote Trouble Circuit	24 VDC filtered, 150 mA
Operating Temperature	32° to 120°F (0° to 49°C)
Relative Humidity	0–90%, noncondensing

IMPORTANT Combined current of IDCs, NACs, auxiliary circuits, and remote trouble circuit cannot exceed 4A.

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Detect Manage Record

Conventional Fire Alarm Control Panels

Ordering Information

Panels

Part Number	Description
227-550-MN	M-2 Fire Alarm Control Panel, MNS: ■ 19" H × 18" W × 3.6" D NEMA 1, surface-mount ■ Two Class A or four Class B ■ Two 12V/18 Ah batteries
227-551-MN	M-2 Fire Alarm Control Panel, MNS: ■ 28" H × 18" W × 3.6" D NEMA 1, surface-mount ■ Two Class A or four Class B ■ Two 12V/18 Ah batteries ■ Space for one expansion backplane—up to 7 ZECs, AOCs, or UICs
227-552-MN	M-2 Fire Alarm Control Panel, MNS: ■ 43" H × 18" W × 3.6" D NEMA 1, surface-mount ■ Two Class A or four Class B ■ Four 12V/18 Ah batteries ■ Space for two expansion backplanes—up to 14 ZECs, AOCs, or UICs
227-554-MN	M-2 Fire Alarm Control Panel, MNS: ■ 60" H × 18" W × 3.6" D NEMA 1, surface-mount ■ Two Class A or four Class B ■ Four 12V/18 Ah batteries ■ Space for four expansion backplanes—up to 28 ZECs, AOCs, or UICs
227-560-MN	M-2 Fire Alarm Control Panel, MNS: ■ 19" H × 18" W × 3.6" D NEMA 1, flush-mount ■ Two Class A or four Class B ■ Two 12V/18 Ah batteries
227-561-MN	M-2 Fire Alarm Control Panel, MNS: ■ 28" H × 18" W × 3.6" D NEMA 1, flush-mount ■ Two Class A or four Class B ■ Two 12V/18 Ah batteries ■ Space for one expansion backplane—up to 7 ZECs, AOCs, or UICs
227-562-MN	M-2 Fire Alarm Control Panel, MNS ■ 43" H × 18" W × 3.6" D NEMA 1, flush-mount ■ Two Class A or four Class B ■ Four 12V/18 Ah batteries ■ Space for two expansion backplanes—up to 14 ZECs, AOCs, or UICs
227-563-MN	M-2 Fire Alarm Control Panel, MNS: ■ 24" H × 24" W × 8" D NEMA 3R ■ Two Class A or four Class B ■ Two 12V/18 Ah batteries
227-564-MN	M-2 Fire Alarm Control Panel, MNS: ■ 60" H × 18" W × 3.6" D NEMA 1, flush-mount ■ Two Class A or four Class B ■ Four 12V/18 Ah batteries ■ Space for four expansion backplanes—up to 28 ZECs, AOCs, or UICs
227-570-MN	M-2 Fire Alarm Control Panel, MNS: ■ 20" H × 16" W × 6" D NEMA 3R ■ Two Class A or four Class B ■ Two 12V/18 Ah batteries

Notes

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).
2. MNS panel required. If no existing panel, order from Monaco.
3. Battery options available. Ah capacity depends on system. Contact Monaco for help in determining battery requirements.

Associated Parts

Part Number	Description
227-623-xx*	BT-XM mass notification communicator, narrowband radio, capability for fallback to hard-wire communication, 20" H × 12" W × 4" D 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.	
176-214-00	BT-X relay board with 8 on-board Form C relays.
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 (**the BT-XM being converted must have an audio board attached to function correctly**)
227-371-02	M-2 to M-2 Conventional FACP Conversion Kit for MNS operation. Includes RFM-XM2, interconnection cable, and EPROM.
176-185-00	M Conventional FACP Expansion Backplane. Capacity for up to 7 expansion cards: ZEC, AOC, or UIC
176-186-00	Zone Expansion Card (ZEC), 2 Class A or 4 Class B zones
176-187-00	Auxiliary Output Card (AOC), drives 8 LED's per card. Exansion backplane required for M FACP
176-197-00	Universal Input Card (UIC), four pairs of input terminals connecting up to four, 2-wire input zones.

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Detect Manage Record

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 adapter, IOM manual, requires 9 pin serial port on laptop or USB to serial adapter.
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"L x 3.03"W x 6.59"H, 12.60 lb

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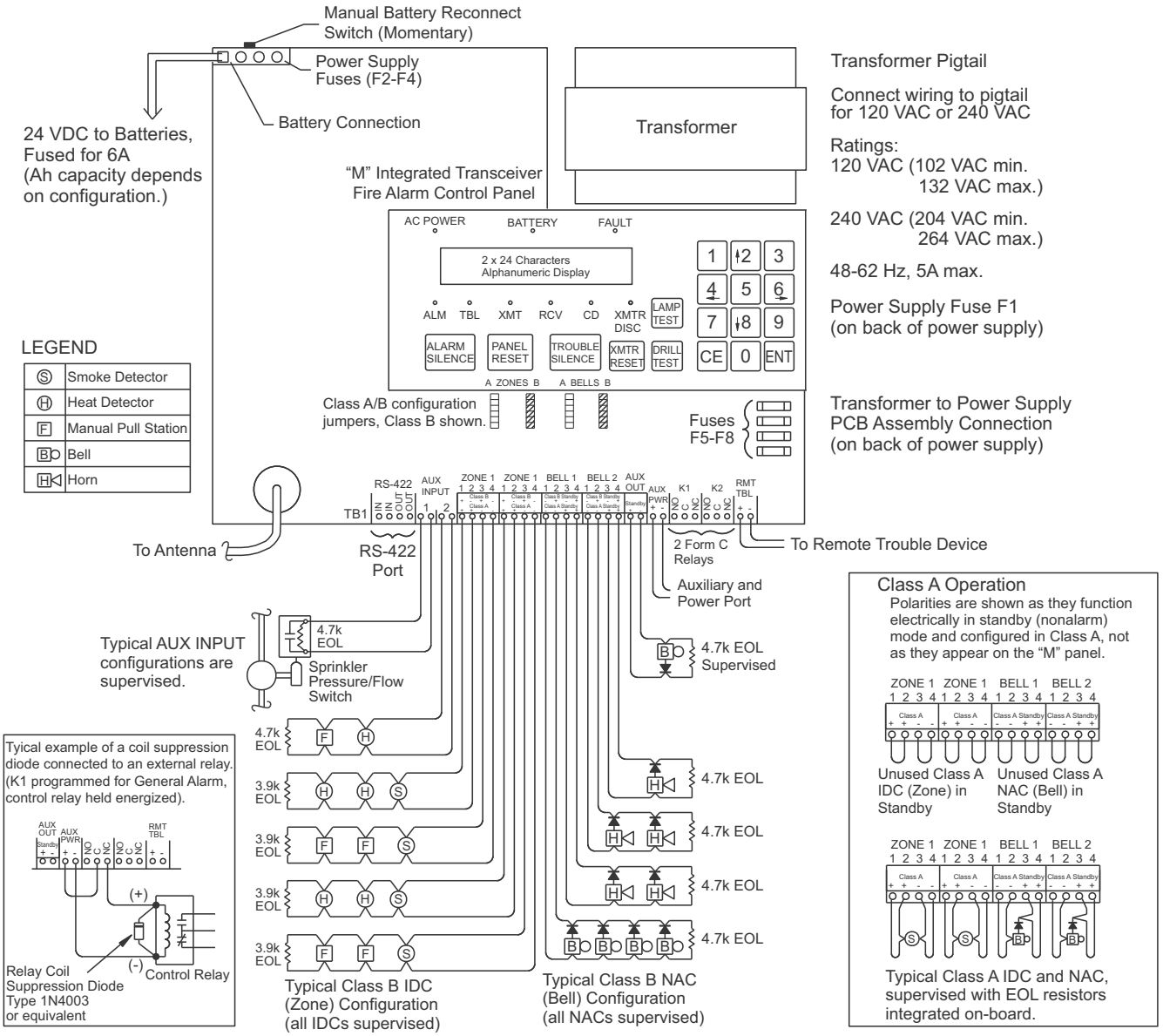
Detect
Manage
Record

Conventional Fire Alarm Control Panels

Wiring Diagrams

The following diagrams represent typical applications, not all possible options.

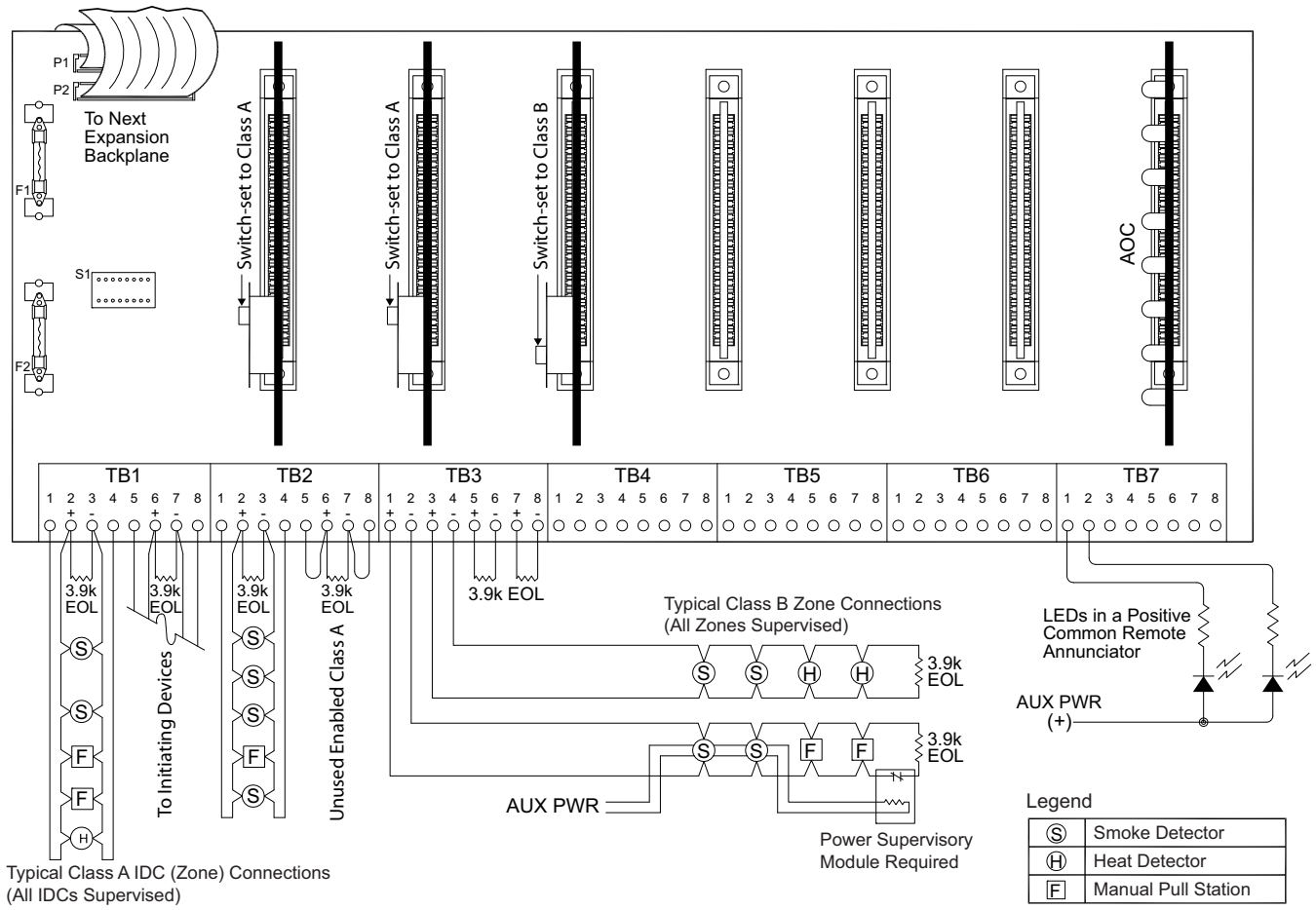
Conventional Wiring, No Expansion Backplane



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Expansion Backplane Wiring



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Detect Manage Record

Conventional Fire Alarm Control Panels

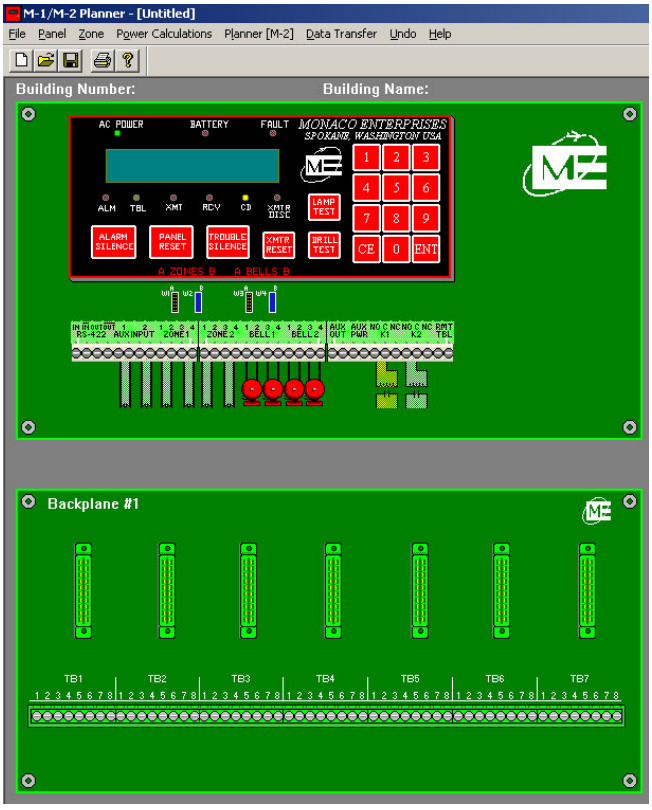
M Conventional Planner

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 adapter must be used to program the Monaco panels. Monaco USB to serial adapter (P/N 649-118-00) has provided the most reliable communication between various laptops and Monaco panels. Other USB to serial adapters may not produce a satisfactory customer experience.

Ordering Information

Part Number	Description
207-813-00	M Conventional Planner Kit Assembly. CD, programming cable and adapter, IOM manual, requires 9 pin serial port on laptop or USB to serial adapter.

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 adapter and programming cable.
649-118-00	USB to 9 pin serial adapter

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Detect Manage Record

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 2 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 two- and four-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
700-026-00*	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" x 18" x 3" surface-mount red NEMA 1 enclosure.
700-027-00*	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" X 18" x 3.6" 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)
700-027-01*	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" X 18" x 3.6" 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)
700-028-00*	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" X 18" x 3.6" 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)
700-028-01*	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" X 18" x 3.6" 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)
*** NOTE** 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
Zone Options	
176-133-00	Four-Zone Expansion Module, 24 VDC, two Class A or four Class B Zones or one Class A or two Class B Zones
175-047-00	4-Zone Alarm Interface Module
790-026-00	Zone Expansion module with 4-Zone Alarm/Trouble Interface Module (P/N 176-177-00)
176-181-01	Vulcan I Alarm Verification Module for Zone Expansion Modules
Remote Annunciators	
729-105-01	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.
729-106-01	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.
729-107-01	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.
729-204-01	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.
Auxiliary Switch Options	
790-022-00	Drill Switch
790-023-00	Vulcan I HVAC Disconnect Switch
790-024-00	BT2 Transmitter Disconnect Switch
790-027-00	Vulcan I Class A Audible Circuit Module
790-031-00	HVAC disconnect switch, permits panel testing without deactivating HVAC fans

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Detect Manage Record

Conventional Fire Alarm Control Panels

Interface PCB, 4-Zone Alarm, 4-Zone Alarm/Trouble

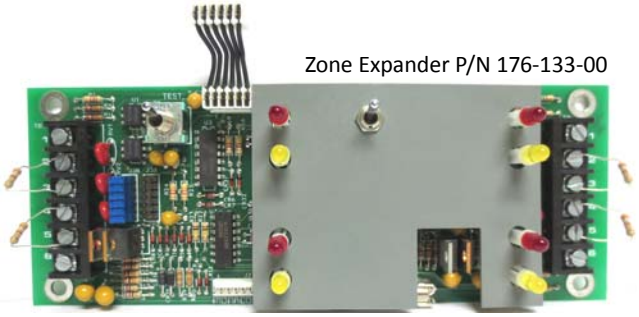
175-047-00, 176-133-00, 176-177-00, 790-026-00

Description

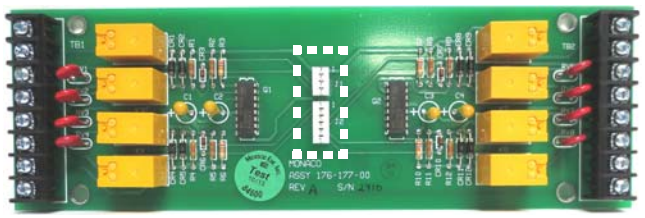
The 4-zone alarm only and 4-zone alarm/trouble interface PCBs, mounted in a Vulcan I enclosure, provide individual detection-loop alarm only and alarm/trouble signaling to a Monaco building transceiver (BT). These features are an enhancement to normal Vulcan I general alarm and general trouble operation.



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 ■ One Zone Expander PCB (P/N 176-133-00) modified with cabling harness ■ One 4-Zone Alarm/Trouble Interface PCB (P/N 176-177-00)

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.

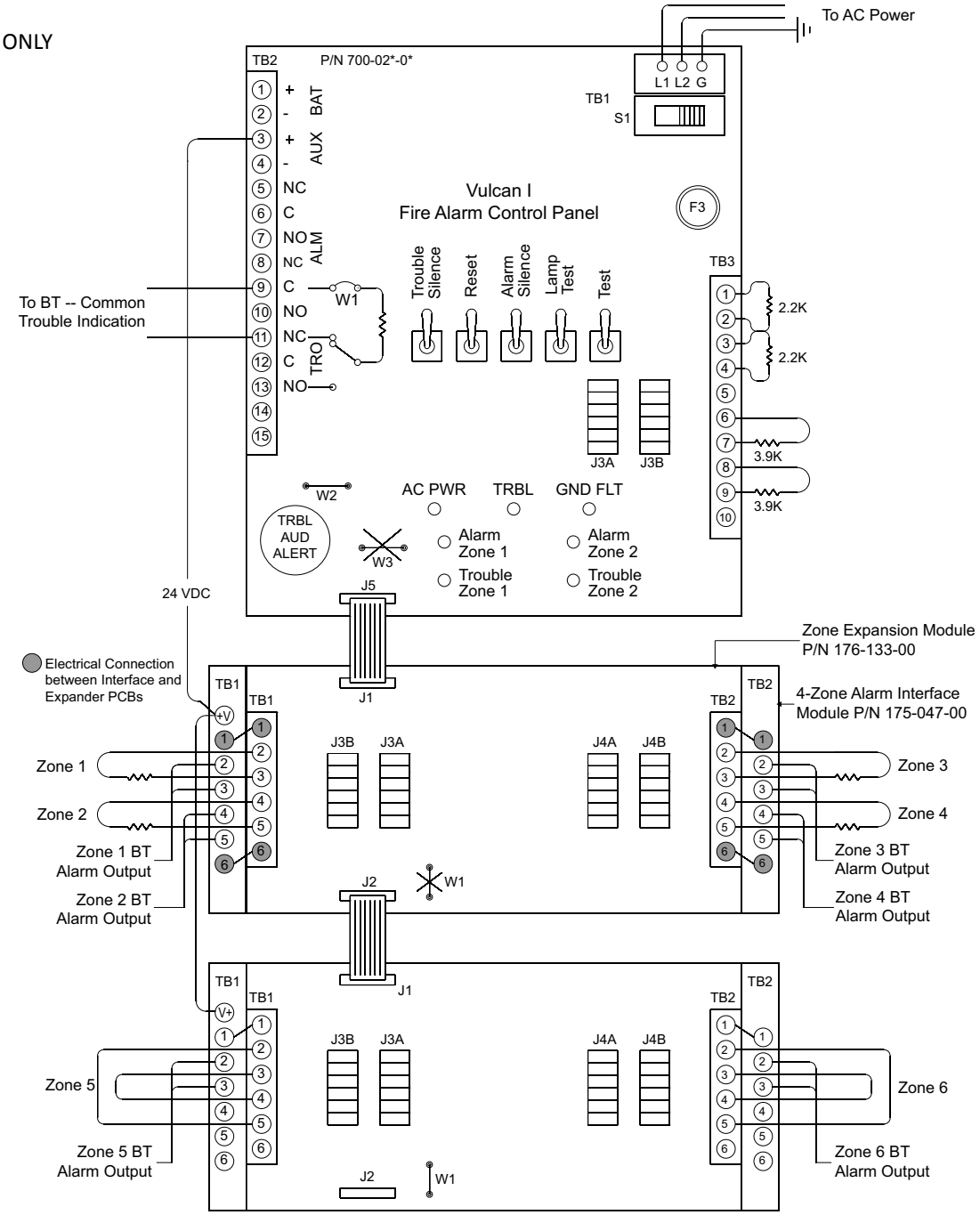
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Wiring Diagrams

4-Zone Alarm Interconnection

EXAMPLE ONLY

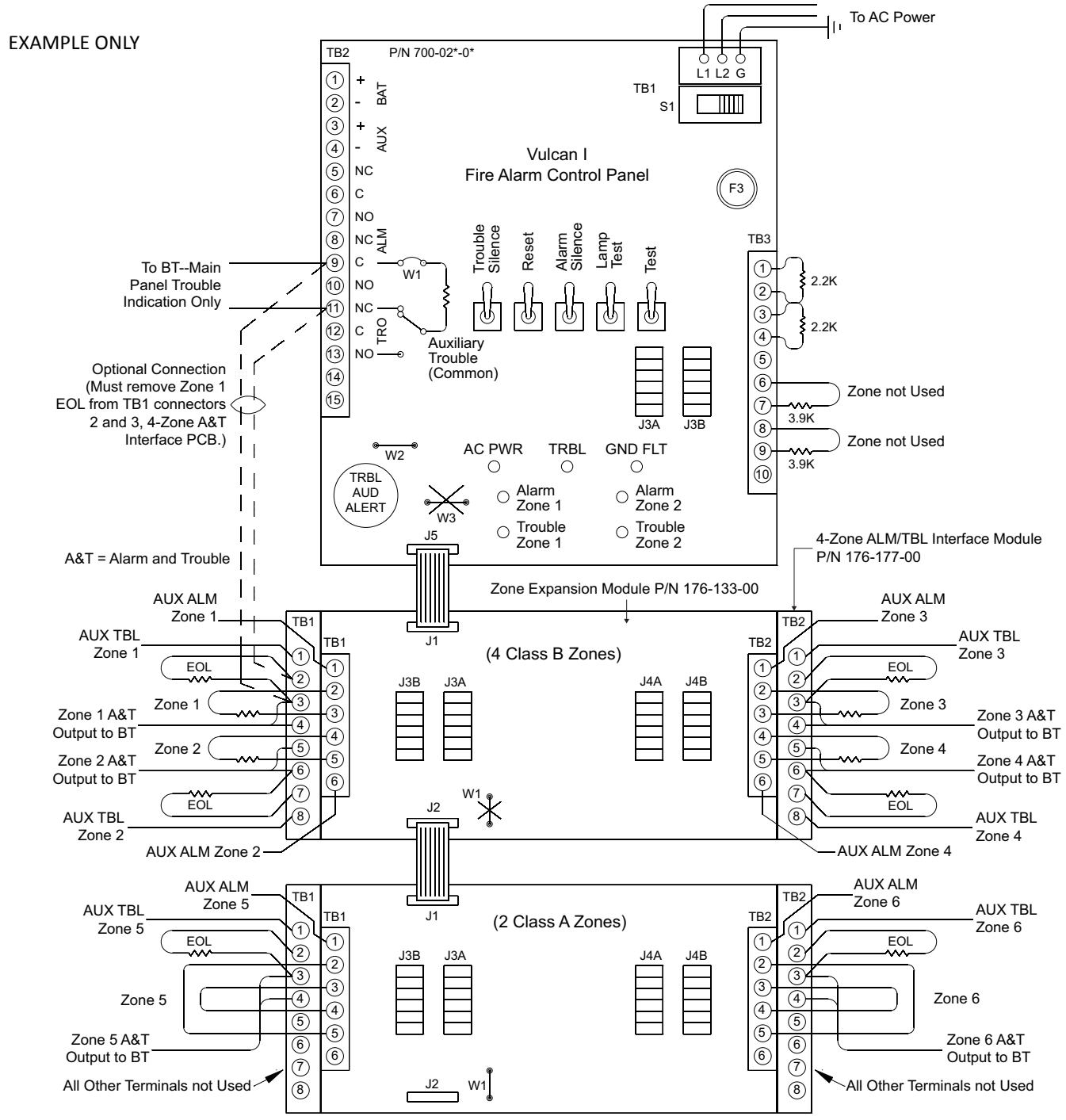


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Conventional Fire Alarm Control Panels

4-Zone Alarm/Trouble Interconnection



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Detect Manage Record

Mass Notification (MNS) Catalog Section
08

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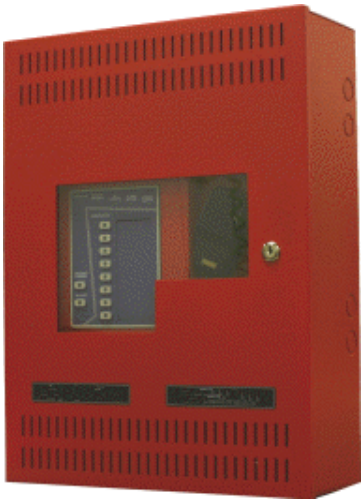
Mass Notification (MNS)

In-Building, 40 Watt, Mass Notification Panel

703-228-00, 703-228-01

Description

The basic 40W Mass Notification Panel, with background music and general paging, provides multiple functions with full supervision and 24 VDC battery backup.



To meet the UFC requirement for automatic audible alarm shutoff after 10 minutes, the panel includes a time-out feature, which deactivates emergency digital-voice message inputs 1–6 after 10 minutes. Inputs 7 and 8 do not automatically time out and thus serve well for alarm messages such as fire.

A message activates from a closed contact within the system or from the push button at the panel. For 1–6, each activation source has its own 10 minute period. If both sources are activated separately, their play times could overlap for a total period longer than 10 minutes. Also, a lower priority message activated during the play time of a higher priority message will be overridden for the duration of the higher priority. The lower priority will play for less than 10 minutes or perhaps not at all.

The system consists of a single channel of supervised high-fidelity audio power at 40W and 2A of supervised 24 VDC synchronized single-circuit strobe power. The audio circuit is expandable from one Class B to two Class A circuits or to four Class B with a splitter (P/N 703-163-00).

There is an on-board digital voice messaging system with eight standard messages, prealert toning (code-3 or continuous), a hand-held microphone, and a power supply/battery charger. A remote microphone, and local operator console with microphone are available options.

The system is expandable to 5280W using supervised audio power boosters.

NOTE Using the same voltage 40W MNS panel and power booster type is not required. For example, a 115 VAC MNS panel can interface with a 220 VAC power booster.

Features

- UL Standard 864, 9th Edition; UL Standard 1711
- Complies to NFPA 72, Sect. 6.8.4; OSHA 1910.165; and ADA requirements
- Designed for Department of Defense (DOD) facilities
- Automatic audible alarm shutoff after 10 minutes— meets United Facilities Criteria (UFC) requirements
- Background music; telephone pager interface
- System supervision
- Supervised NAC speaker and strobe circuits
- Local microphone override
- 8 digitally prerecorded voice messages (~30 seconds)
- Uses selectable pre tones for messages
- 40W supervised audio power (25V or 70.7V)
- In-field recording messages
- Onboard push-to-talk microphone
- Addressable paging capabilities (optional)
- 115 VAC (60 Hz) or 220 VAC (50/60 Hz) models available

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Detect Manage Record

Mass Notification (MNS)

Ordering Information

Panel

Part Number	Description
703-228-00	Single channel 40W MNS panel (21" H x 16" W x 6" D), 115 VAC (60 Hz) 10-minute time out feature, red enclosure, batteries not included (2 required)
703-228-01	Single channel 40W MNS panel (21" H x 16" W x 6" D), 220 VAC (50/60 Hz) 10-minute time out feature, red enclosure, batteries not included (2 required)

Associated Parts

Part Number	Description
703-181-00	Message kit, eight programmed messages
703-163-00	Audio splitter (4 Class B or 2 Class A), audio splitter bracket required
703-192-00	Audio splitter mounting bracket
703-171-00	Addressable splitter (4 Class B or 2 Class A)
703-172-00	Telephone controller (13" H x 7.6" W x 2.15" D)
703-166-00	Volume control (only one per audio circuit)
703-169-00	Remote microphone
703-168-00	Remote microphone expander
703-167-00	Audio booster 80W, 115 VAC, 60 Hz, two 2A strobe circuits
703-207-00	Audio/Strobe Booster 80W / 4A, 220 VAC, with two 2A strobe power circuits
703-164-00	Audio booster 160W, 115 VAC, 60 Hz, no power for strobe circuits
703-206-00	Audio booster 160W, 220 VAC, 50/60 Hz, no power for strobe circuits
703-165-00	Audio booster 320W, 115 VAC, 60 Hz, no power for strobe circuits
703-208-00	Audio booster 320W, 220 VAC, 50/60 Hz, no power for strobe circuits
400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95" L x 2.56" W x 3.90" H, 3.50 lb
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94" L x 3.86" W x 3.86" H, 7.92 lb
703-188-00	Remote microphone and local operator console, surface mount (14.5" W x 15.5" H x 4" D)
703-193-00	Remote microphone and local operator console, flush mount (15.5" W x 16.25" H x 4" D)
703-194-00	HVAC emergency shut-off switch option for 703-188-00 or 703-193-00
097-500-00	Key lock assembly to key MNS panel same as Monaco equipment
703-161-00	MNS push button
210-510-00	Surge Protector Kit, Transient, 120 VAC 60 Hz Single Phase, 15 A Fused, Pigtail, 2.2" H x 2.2" W x 0.88" D

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Detect Manage Record

Addressable Intelligent Devices and Modules Catalog Section 09

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Addressable Intelligent Devices and Modules

Heat Detector, 135°F Fixed Temperature/Rate-of-Rise

721-124-00



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

Voltage Range	15–32 VDC peak
Standby Current (max. avg.)	300 µA @ 24 VDC (one communication every 5 seconds, LED blink enabled)
LED Current (max.)	6.5 mA @ 24 VDC
Detector Type	Single Circuit
Contacts	Normally Open (NO)
Operating Temperature Range:	
Thermal Range	-4° to 100°F (-20° to 38°C)
High Temperature	-4°F to 150°F (-20°C to 66°C)
Release Temperature Ratings:	
Fixed Temperature	135°F (57°C)
Rate-of-Rise	15°F/min. (-9.4°C/min.)
Operating Humidity	10–93%, noncondensing
Open Area Protection	50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Mounting Junction Box	Single gang, or 4" square (with/without ring), or 3.5" octagonal, or 4.0" octagonal, or 50mm, 60mm, 70mm, or 75mm
Dimensions installed in base (depending on base selected)	2.0" High x 4.1" Diameter (53 mm) x (104 mm), or 2.0" High x 6.1" Diameter (53 mm) x (155 mm)
Weight	4.8 oz (136 g)
Standards Compliance	meets : ANSI/UL 521 & FM 3210
UL Listed	S911
FM	Approved
State of California	7270-1653:0137

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Detect Manage Record

Addressable Intelligent Devices and Modules

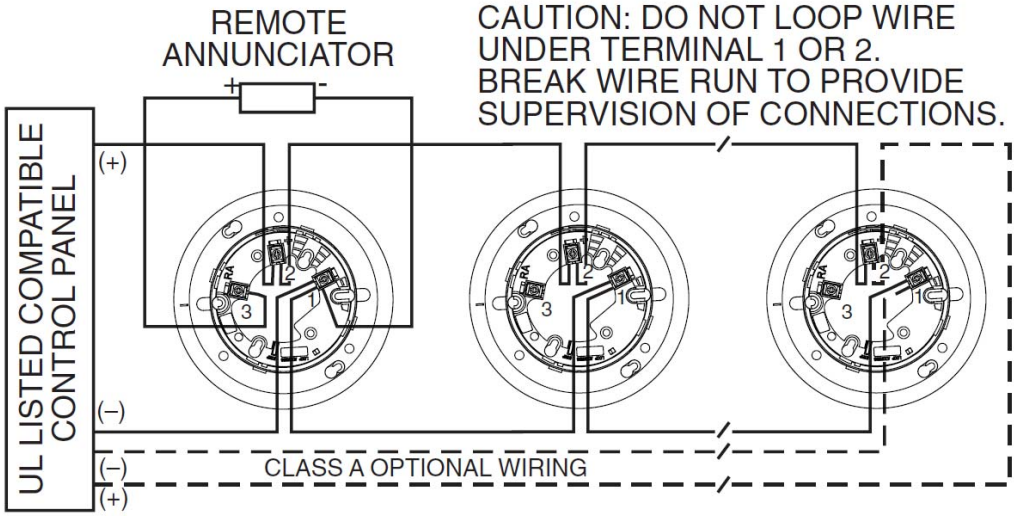
Ordering Information

Part Number	Description
721-124-00	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
729-127-00	Intelligent detector standard mounting base, plug-in, 4.1", flangeless
729-132-00	Intelligent detector mounting base, plug-in, 6.1" flanged
729-129-00	Intelligent detector sounder mounting base, plug-in, 6.875", standard frequency
729-133-00	Intelligent detector isolator mounting base, plug-in, 6.875"
729-134-00	Intelligent detector relay mounting base, plug-in, 6.875"
729-091-00	Remote LED annunciator
729-156-00	Test magnet with 32-in. telescoping handle

Wiring Diagram



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Detect Manage Record

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 µA @ 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 to 100°F (-20°C to 38°C)
RTI Rating	Fast
Relative Humidity	10–93%, noncondensing
Diameter (Depending on Base)	4.1" (10.4 cm) in a 4.1" flangless base 6.1" (15.5 cm) in a 6.1" base
Height	2.0" (51 mm)
Weight	4.8 ounces
J Box Mounting Options	4" square (with or without plaster ring), 3.5" or 4" 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

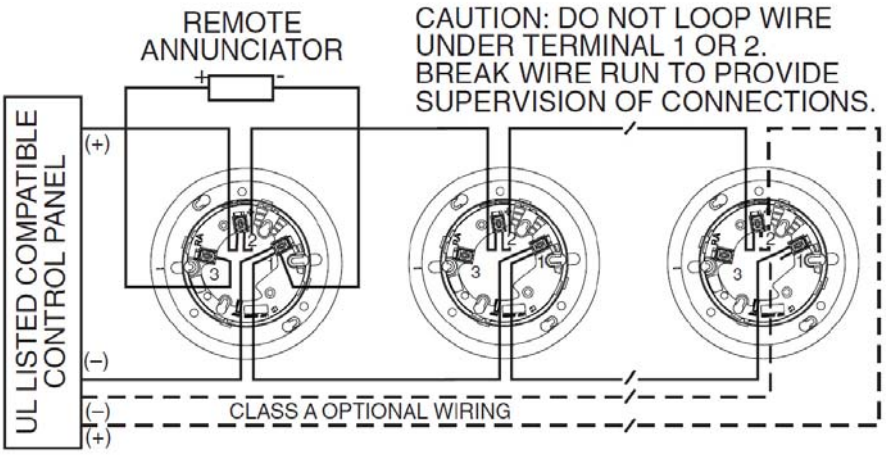
Part Number	Description
729-127-00	Intelligent detector standard mounting base, plug-in, 4.1" flangeless
729-132-00	Intelligent detector mounting base, plug-in, 6.1" flanged
729-129-00	Intelligent detector sounder mounting base, plug-in, 6.875"
729-133-00	Intelligent detector isolator mounting base, plug-in, 6.875"
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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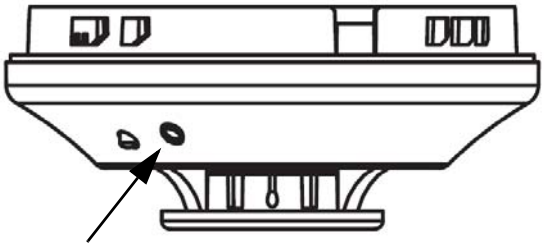
Detect Manage Record

Wiring Diagram

Diagrams



Test Magnet Diagram



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Addressable Intelligent Devices and Modules

Heat Detector, Intelligent, 190°F Fixed High Temperature
722-406-00



Sensitivity	190°F (88°C) Fixed High Temperature
Installation & Operating Temperature Range	–4 to 150°F (-20°C to 66°C)
RTI Rating	Quick
Relative Humidity	10–93%, noncondensing
Diameter (Depending on Base)	4.1" (10.4 cm) in 4.1" flangless base 6.1" (15.5 cm) in 6.1" base
Height	2.0" (51 mm)
Weight	4.8 ounces
J Box Mounting Options	4" square (with or without plaster ring), 3.5" or 4" octagonal, single gang
Standards Compliance	
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

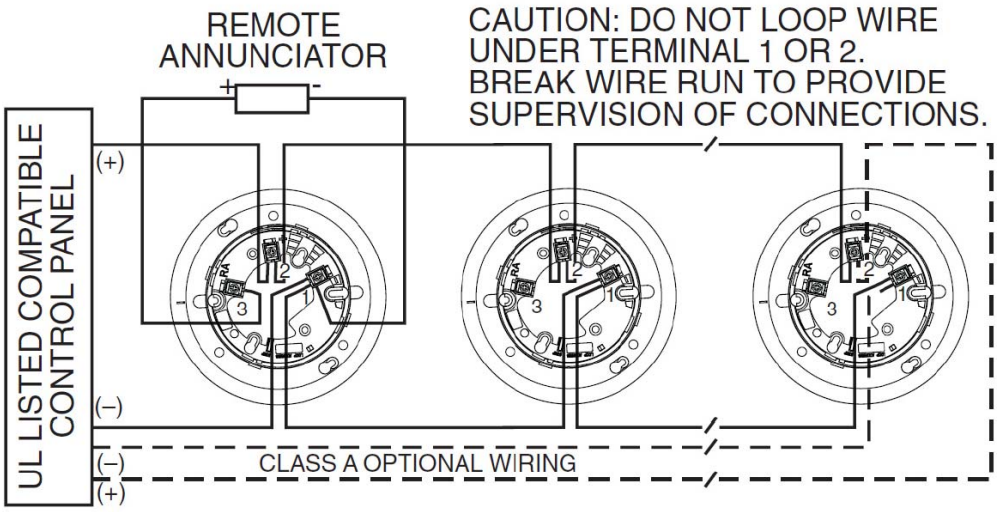
Part Number	Description
729-127-00	Intelligent detector standard mounting base, plug-in, 4.1" flangeless
729-132-00	Intelligent detector mounting base, plug-in, 6.1" flanged
729-129-00	Intelligent detector sounder mounting base, plug-in, 6.875"
729-133-00	Intelligent detector isolator mounting base, plug-in, 6.875"
729-091-00	RRemote LED annunciator. Fits standard single-gang electrical box (not included)
729-156-00	Test magnet with 32-in. telescoping handle

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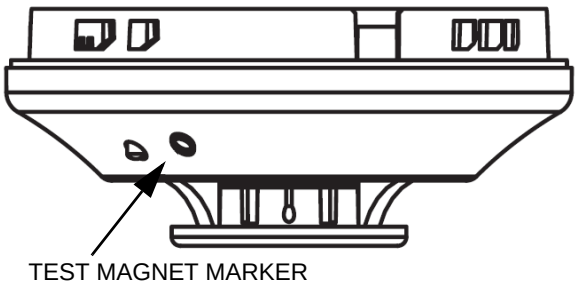
Detect Manage Record

Diagrams

Wiring Diagram



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

UL Listed Velocity Range	**Photoelectric/Photoelectric with Thermal:** 0 to 4000 fpm (0 to 20 m/sec) (suitable for installation in ducts)
Voltage Range	15 to 32 VDC, peak
Maximum Average Standby Current	**Photoelectric:** 300 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled)
LED Current (maximum)	6.5 mA @ 24 VDC (LED on)
Operating Temperature	**Photoelectric:** 32 to 120°F (0 to 49°C) **Photoelectric with Thermal:** 32 to 100°F (0 to 38°C) **Thermal:** –4 to 100°F (–20 to 38°C) **High Temperature:** –4 to 150°F (–20 to 66°C)
Relative Humidity	10 to 93% noncondensing
Diameter	6.1" (155 mm) installed on P/N 729-132-00 base 4.1" (104 mm) installed on P/N 729-127-00 base
Height	2.0" (51 mm) installed in P/N 729-132-00

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Detect Manage Record

Ordering Information

Smoke Detectors

Part Number	Description
723-353-00	Intelligent photoelectric smoke detector, plug-in, low profile
723-361-00	Intelligent photoelectric smoke detector, plug-in, low profile, fixed-temperature, 135°F
723-600-00	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
729-091-00	Remote LED Annunciator. Fits standard single-gang electrical box (not included)
729-127-00	Intelligent detector standard mounting base, plug-in, 4.1", flangeless
729-129-00	Intelligent detector sounder mounting base, plug-in, 6.875"
729-129-01	Intelligent detector sounder mounting base, plug-in, 6.875", low frequency, 520 Hz
729-132-00	Intelligent detector mounting base, plug-in, 6.1", flanged
729-133-00	Intelligent detector isolator mounting base, plug-in, 6.875"
729-134-00	Intelligent detector relay mounting base, plug-in, 6.875"
729-156-00	Test magnet with 32" 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 SLCs.



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 both standard and 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 falls within these parameters.

The detector housing is installed with an addressable photoelectric sensor head (P/N 723-600-00) 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.

No additional DC power 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 fire alarm control panel via a signaling line circuit (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 a substitute for an open-area smoke detector or early warning system, 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 fire alarm control panels with integrated radio transceiver
- Rated for air velocities from 100 to 4000 fpm
- Sampling tube installs from 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

Duct Air Velocity	100–4000 fpm (0.5–20.32 m/sec.)
Operating Temperature	–4°F to 158°F (–20°C to 70°C)
Relative Humidity	0–95% noncondensing
Dimensions	Rectangular: 14.38" L × 5" W × 2.5" D (37 cm × 12.7 cm × 6.35 cm) Square: 7.75" L x 9" W x 2.5" 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

Ordering Information

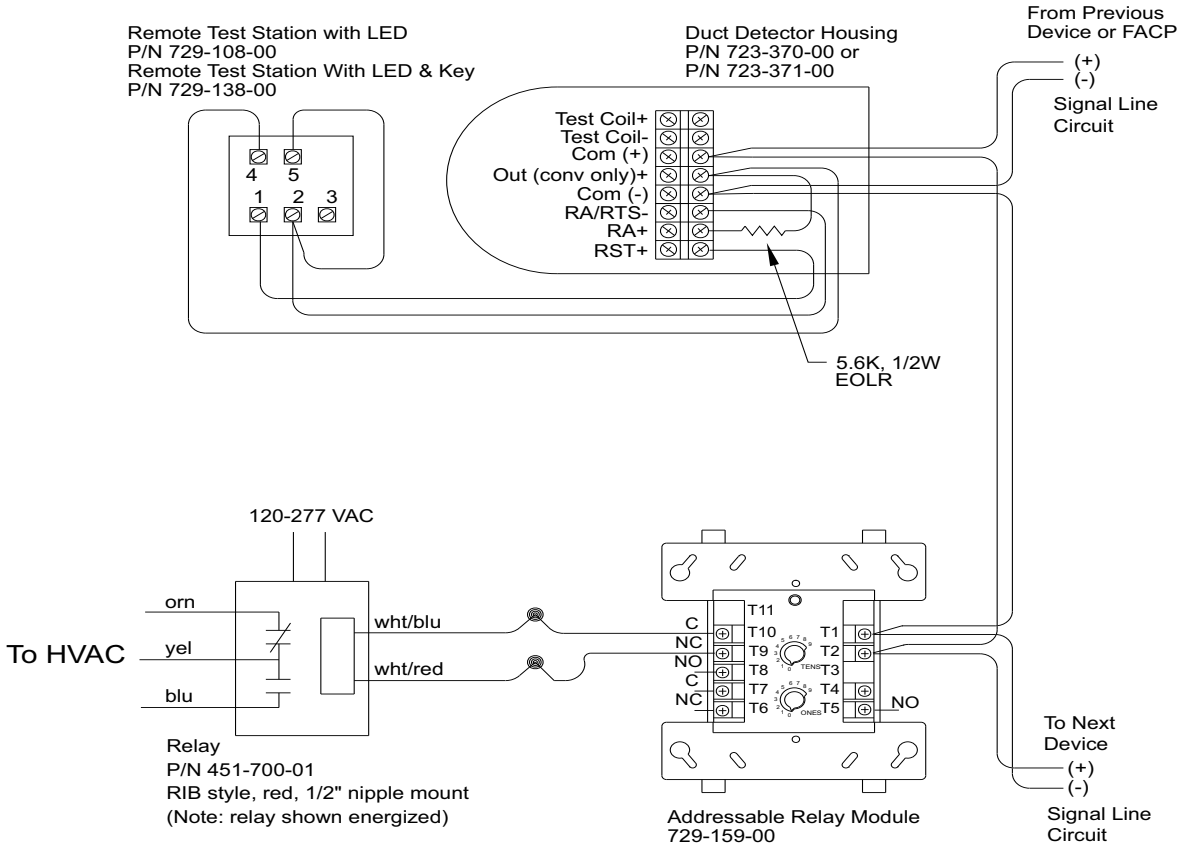
Duct Smoke Detector Primary Components

Part Number	Description
723-370-00	Duct detector housing
723-371-00	Duct detector housing, watertight, NEMA 4

Associated Parts

Part Number	Description
723-600-00	Intelligent photoelectric smoke detector, plug-in, low profile, remote test, for use in duct detector P/Ns 723-370-00 and 723-371-00 only
729-205-00	Duct smoke detector, sampling tube, 1–2 ft
729-205-01	Duct smoke detector, sampling tube, 2–4 ft
729-205-02	Duct smoke detector, sampling tube, 4–8 ft
729-205-03	Duct smoke detector, sampling tube, 8–12 ft
729-159-00	Intelligent relay control module, two Form C contacts
729-108-00	Duct smoke detector, remote test station with LED
729-138-00	Duct smoke detector, remote test station with LED and key
729-091-00	Remote LED annunciator
729-156-00	Test magnet with 32" telescoping handle
451-700-01	SPDT relay, 120–277 VAC, 10A contacts, LED, red enclosure

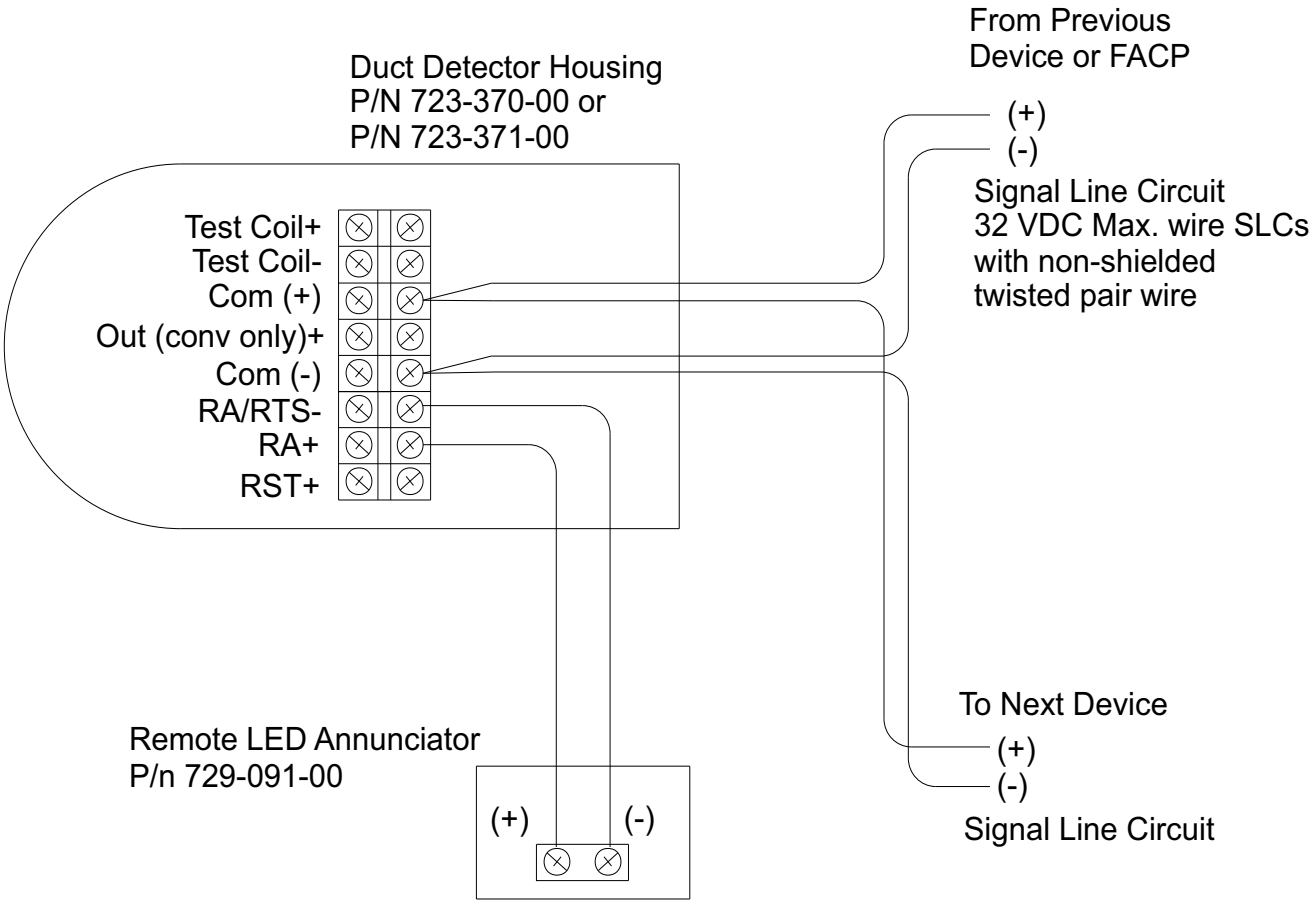
Wiring Diagrams



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Reflected Beam Smoke Detector

725-001-00, 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 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 (shown above) and a separate reflector.

Indicators

- **Green LED** Blinks, indicating standby
- **Red LED** On for alarm
- **Yellow LED** Blinks in patterns to diagnose troubles
- **Dual Digital Display** 0–99, indicates beam signal strength and sensitivity in percent obscuration

Testing

725-001-00 Manual sensitivity (obscuration) test, local test switch, or test commands from the panel or optional remote test station

725-002-00 Integral sensitivity (obscuration) test, local test switch, or test commands from the panel or 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

Operating Voltage	24 VDC nominal (15–32V): ■ SLC loop ■ External (P/N 725-002-00 only, aux. power required) ■ Remote output
Current	Standby (LED flashing): 2 mA max. Alarm (LED on): 8.5 mA max. Trouble (LED on): 4.5 mA max. Alignment: 20 mA max. External power: 0.5A max. Remote output: 6–15 mA, 2.2 kΩ resistor-limited
Range	16–230 feet (5–70m); 230–328 feet (70–100m) with P/N 729-188-00 (See "Associated Parts.")
Spacing	30–60 feet (9.1–18.3m)
Adjustment Angle	+/– 10 degrees
Typical Response Time	Alarm: 20 seconds Trouble: 30 seconds
Wiring	12–18 AWG, non-shielded, twisted pair removable terminal block
Operating Temperature	–22 to 131°F (–30 to 55°C); ice must not form on components

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Detect Manage Record

Relative Humidity	10–93%, noncondensing (essential)
Dimensions	Detector: 10" H x 7.5" W x 3.3" D (254 mm x 191 mm x 83.8 mm) Reflector: 7.9" H x 9.1" W (200.7 mm x 231.1 mm)
Weight (Shipping)	3.9 lb (1.77 kg)
Standards Compliance:	
UL	S911
State of California	7260-1653:0169
MEA	53-04-E

Sensitivity

Sensitivity Setting	Percent Obscuration	Display Reading	Acceptable Distance, Detector to Reflector	
			Feet	Meters
Level 1	25	25	16.4–120	5.0–36.6
Level 2	30	30	25–150	7.6–45.7
Level 3	40	40	60–220	18.3–67.0
Level 4*	50	50	80–328	24.4–100.0
Acclimate Level 1	30–50	A1	80–150	24.4–45.7
Acclimate Level 2	40–50	A2	80–220	24.4–67.0
*Factory default				

Ordering Information

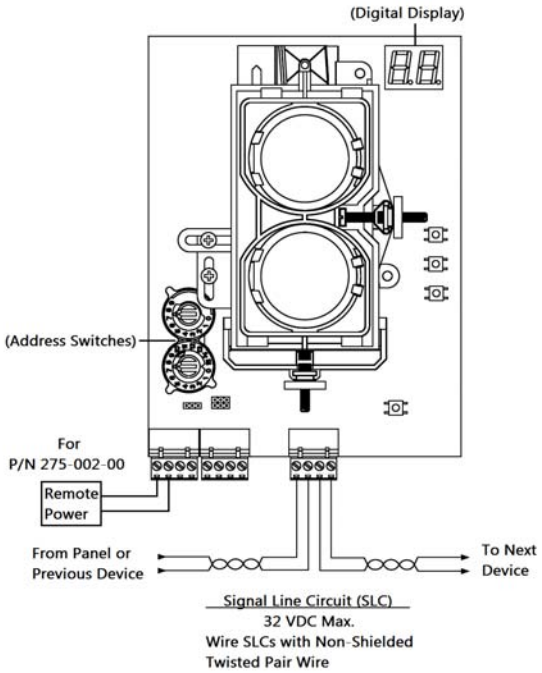
Detector

Part Number	Description
725-001-00	Intelligent reflected beam smoke detector, loop powered, 32V max.
725-002-00	Intelligent reflected beam smoke detector, loop powered, 32V max., integral sensitivity test capability (separately powered)

Associated Parts

Part Number	Description
729-108-00	Duct* smoke detector, remote test station with LED; requires test coil P/N 729-206-00.
729-138-00	Duct* smoke detector, remote test station with LED and key; requires test coil P/N 729-206-00.
729-187-00	Mounting kit for smoke detector P/Ns 725-001-00 and 725-002-00, if needed to achieve +/– 10 degree alignment angle with either transmit/ receive unit or reflector; not compatible with P/N 729-188-00
729-188-00	Kit of 3 additional reflectors to extend range of smoke detector P/Ns 725-001-00 and 725-002-00 from 230 to 328 feet; not compatible with P/N 729-187-00
729-189-00	Kit required for smoke detector P/Ns 725-001-00 and 725-002-00 when mounting the transmit/ receive unit: ■ Over a recessed J box ■ With multi-mount kit P/N 729-187-00
*Test station can be used for smoke detector applications other than duct.	

Wiring Diagram



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Detector Base, Standard, Plug-in, 4.1"

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 µA
Dimensions	Base Diameter: 4.1" (104.14 mm) Base Height: 0.74" (18.8 mm)

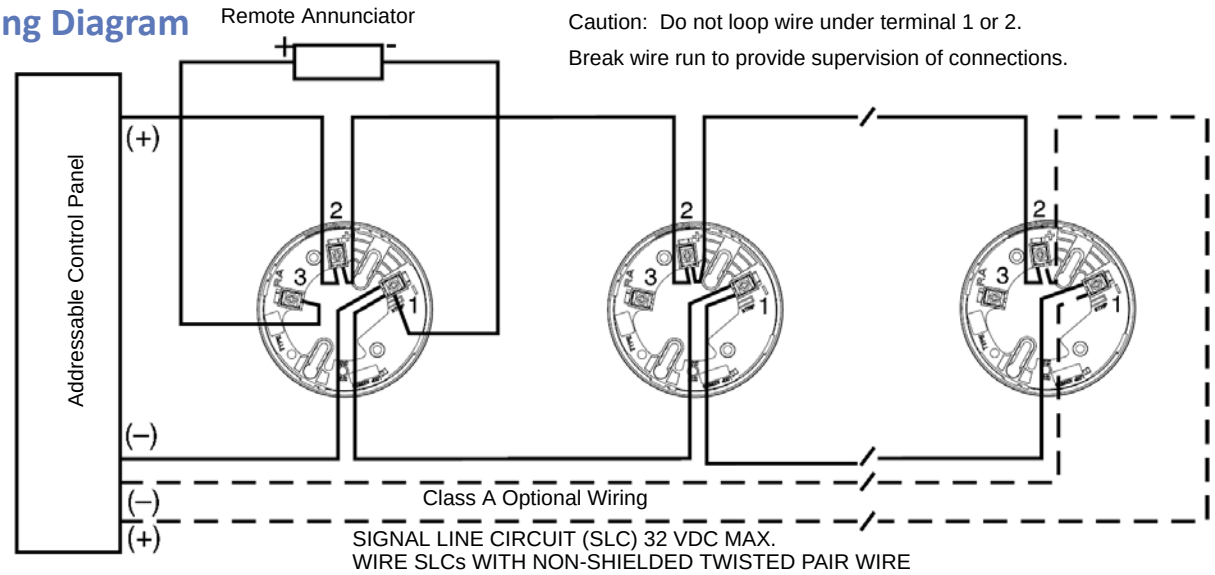
Mounting

- 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" flangeless

Wiring Diagram



Caution: Do not loop wire under terminal 1 or 2.

Break wire run to provide supervision of connections.

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Detect Manage Record

Addressable Intelligent Devices and Modules

Detector Base, Sounder, Plug-in 6.875"

729-129-00, 729-129-01

Description

NOTE For use with Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



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.

Up to six bases can be grouped. 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.

Specifications

729-129-00

External Supply Voltage	16 to 33 VDC (FWR)
Standby Current	1 mA max.
Alarm Current	35 mA max.
SLC Operating Voltage	15 to 32 VDC
SLC Standby Current	300 µA max.
Sound Output	> 85 dBA min., measured in a UL reverberant room at 10 feet 24V (continuous tone)
Relative Humidity	10-93%, noncondensing
Base Diameter	6.875" (17.46 cm)
Base Height (without Sensor)	2.0" (5.08 cm)
Weight	0.5 lb (227 kg)
Standards Compliance	UL268 and UL464
UL Listed	S911
FM Approval	3035027
State of California	7135-1653:0213

729-129-01

External Supply Voltage	16 to 33 VDC (FWR)
Standby Current	1 mA max.
Alarm Current	65 mA max. @ 33 VDC 90 mA max. @ 24 VDC
SLC Operating Voltage	15 to 32 VDC
SLC Standby Current	300 µA max.
Sound Output	> 85 dBA min., measured in a UL reverberant room at 10 feet 24V (continuous tone)
Relatiave Humidity	10-93%, noncondensing
Base Diameter	6.875" (17.46 cm)
Base Height (without Sensor)	2.0" (5.08 cm)
Weight	0.6 lb (272 kg)
Standards Compliance	UL268 and UL464
UL Listed	S911
FM Approved	3035027
State of California	7300-1653:0238

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Detect Manage Record

Ordering Information

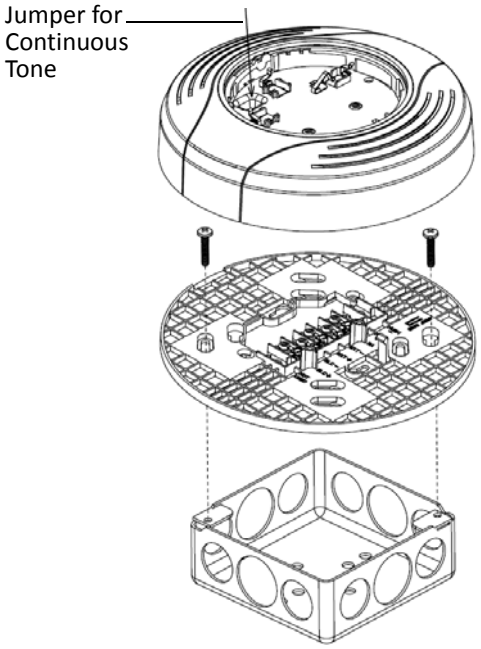
Part Number	Description
729-129-00	Intelligent detector sounder mounting base, plug-in, 6.875", standard frequency
729-129-01	Intelligent detector sounder mounting base, plug-in, 6.875", low frequency, 520 Hz

Associated Parts

Part Number	Description
729-143-00	Intelligent mini-monitor module
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

Mounting

The mounting plate allows connection prewiring. The housing mates with the plate and locks into position with two retaining screws, which are covered by the sensor head for added tamper resistance.

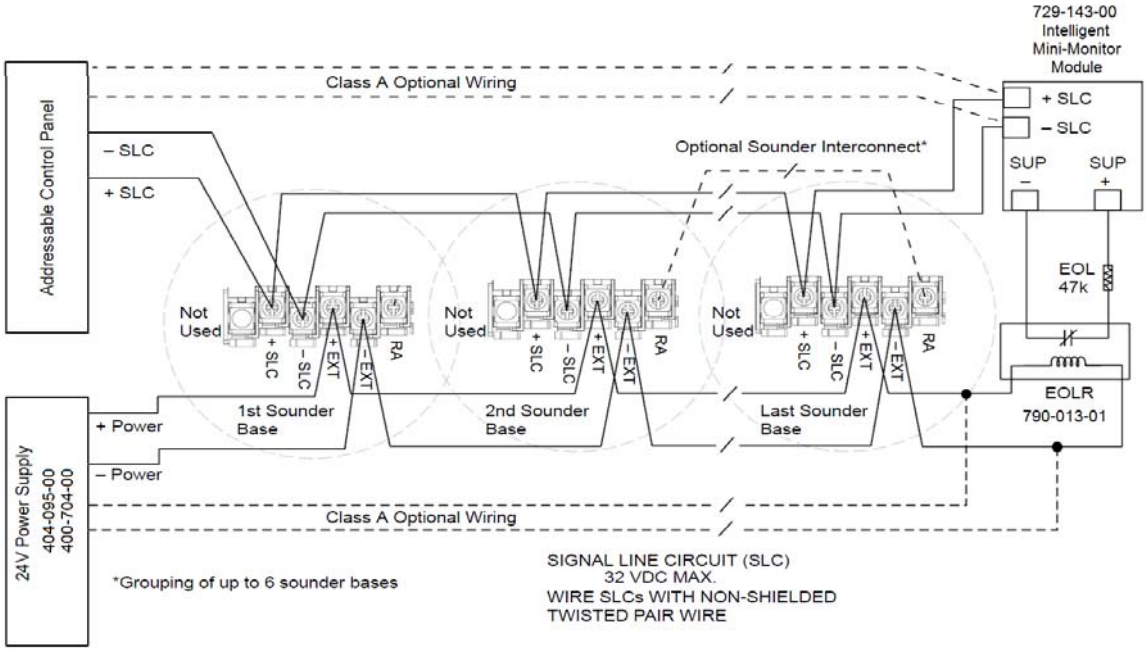


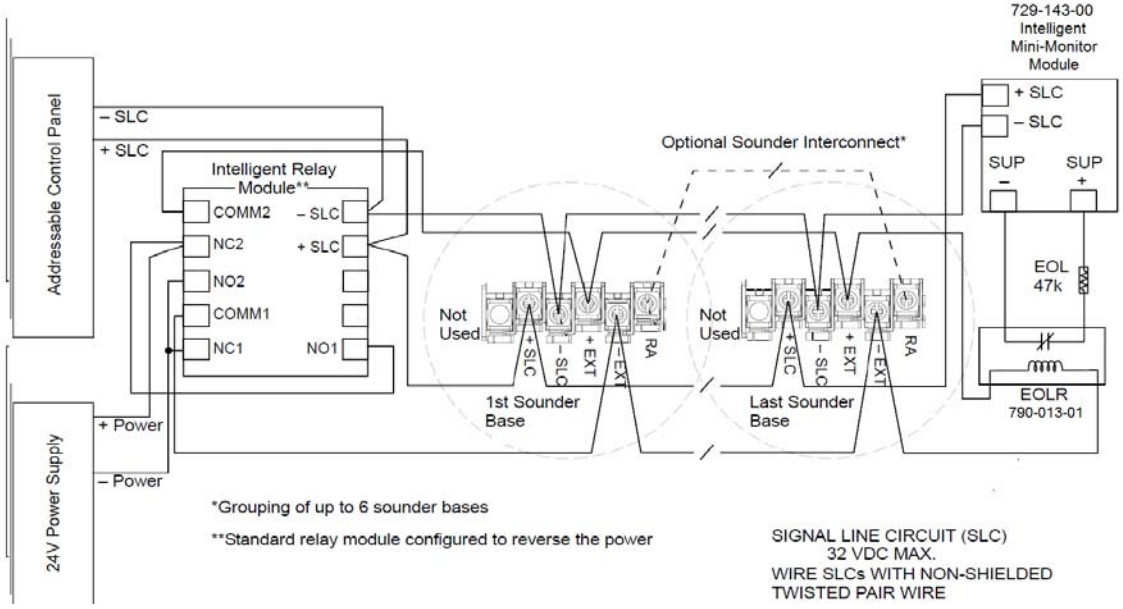
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Detect
Manage
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Wiring Diagrams

Detector Acitvates Sounder Base(s)





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Detect
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Addressable Intelligent Devices and Modules

Detector Base, Standard, Plug-in, 6.1"

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

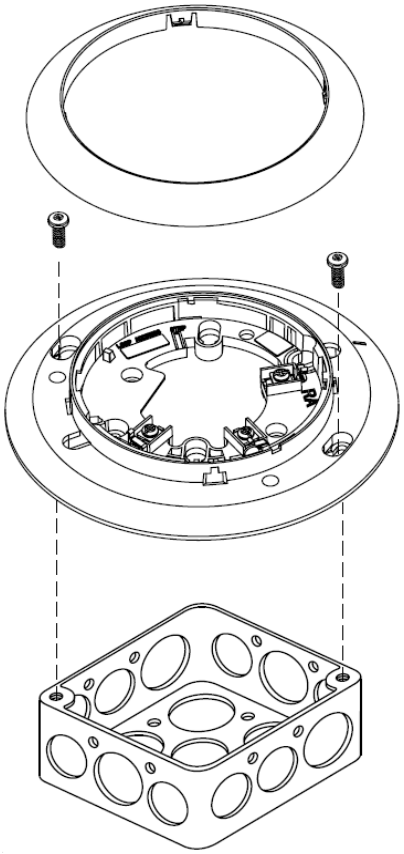
Operating Voltage	15 to 32 VDC
Standby Current	170 µA
Wire Gauge	Detector: 18 AWG min. recommended Base: 12 AWG max.
Base Diameter	6.1" (154.94 mm)
Base Height	0.76" (19 mm)

Ordering Information

Part Number	Description
729-132-00	Intelligent detector mounting base, plug-in, 6.1" flanged

Mounting

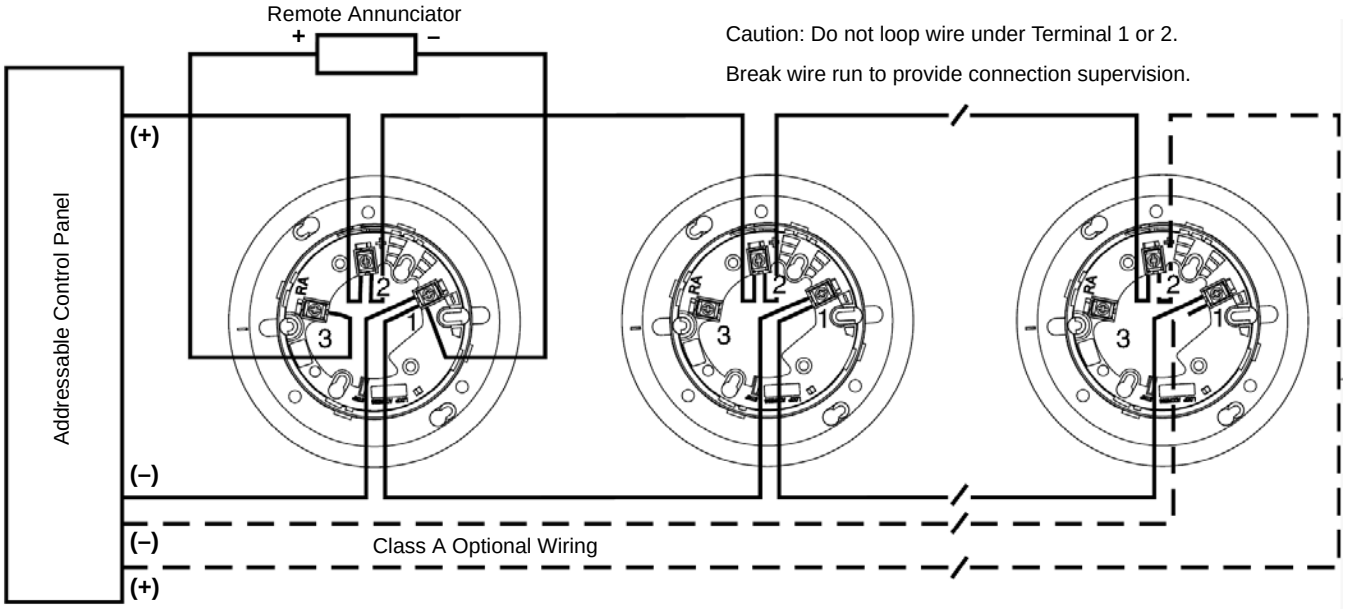
This detector base mounts directly to 4-in. square (with or without plaster rings), 4-in. octagon, 3.5-in. octagon, 70 mm, and single gang junction boxes.



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Detect Manage Record

Wiring Diagram



SIGNAL LINE CIRCUIT (SLC) 32 VDC MAX.
WIRE SLCs WITH NON-SHIELDED TWISTED PAIR WIRE

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Detect
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Addressable Intelligent Devices and Modules

Detector Base, Isolator, Plug-in 6.875"

729-133-00

Description

NOTE For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



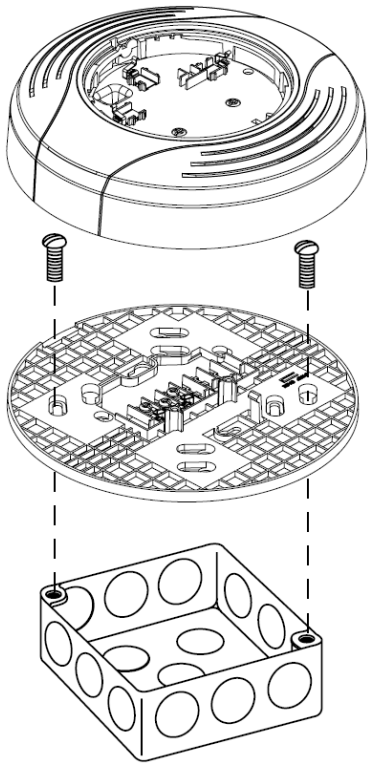
Isolator bases prevent an entire Signaling Line Circuit (SLC) from being disabled when a short circuit occurs. They do this by isolating the shorted portion of the SLC from the remainder of the SLC. These bases automatically restore the entire SLC when the short is corrected. Up to 25 addressable detectors 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 µA 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% noncondensing
Base Diameter	6.875" (17.462 cm)
Base Height	1.61" (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

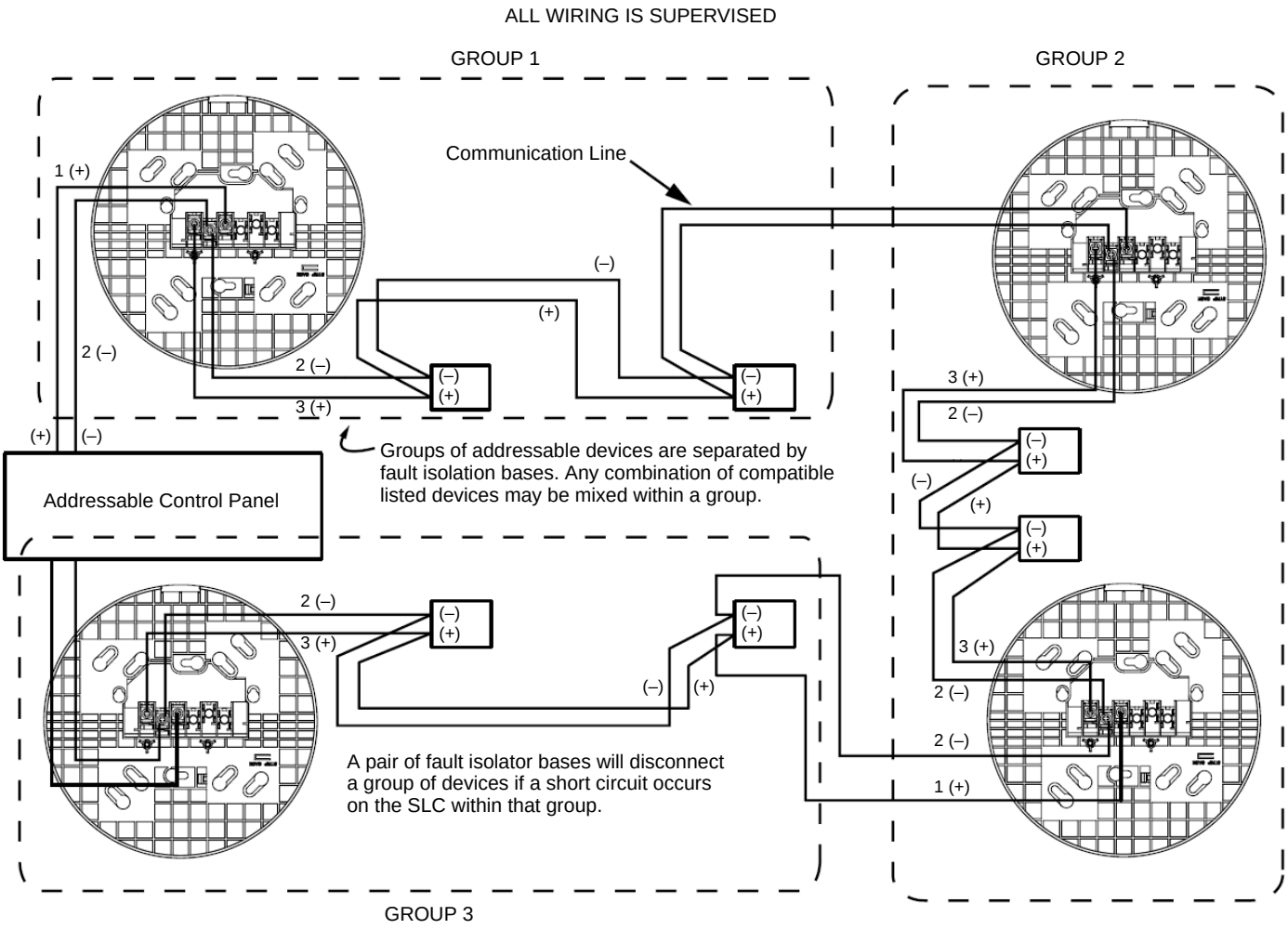
Part Number	Description
729-133-00	Intelligent detector isolator mounting base, plug-in, 6.875"

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Detect Manage Record

Addressable Intelligent Devices and Modules

Wiring Diagram



SIGNAL LINE CIRCUIT (SLC)
32 VDC MAX.
WIRE SLCs WITH NON-SHIELDED
TWISTED PAIR WIRE

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Detect Manage Record

Addressable Intelligent Devices and Modules

Detector Base, Relay, Plug-in, 6.875"

729-134-00

Description

NOTE For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.

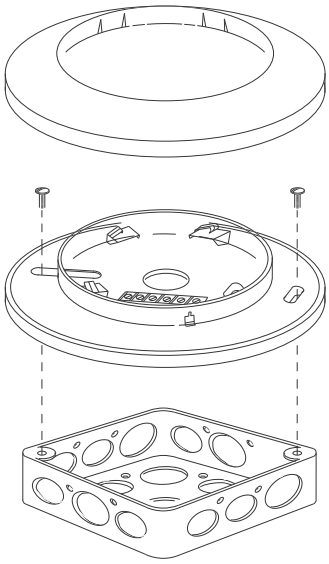


Addressable detectors are installed on detector relay bases that are activated by the detector's LED. When the LED has been on for the settable time, the relay activates. This relay can be used to control a variety of devices, such as a fire-door release or elevator recall. Short- or long-delay activation modes are available, determined by shunt position.

Specifications

Operating Voltage	15 to 32 VDC
Standby Current	170/450 µA 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 Temp.	32°F–120°F (0°C–49°C)
Relative Humidity	10–93% noncondensing
Mounting	Minimum depth of 1.5" (38 mm) for these mountings: 4" sq. box with/without plaster ring 4" octagon box 3.5" octagon box
Diameter	6.875" (17.462 cm)
Height	1.61" (4.1 cm)

Mounting



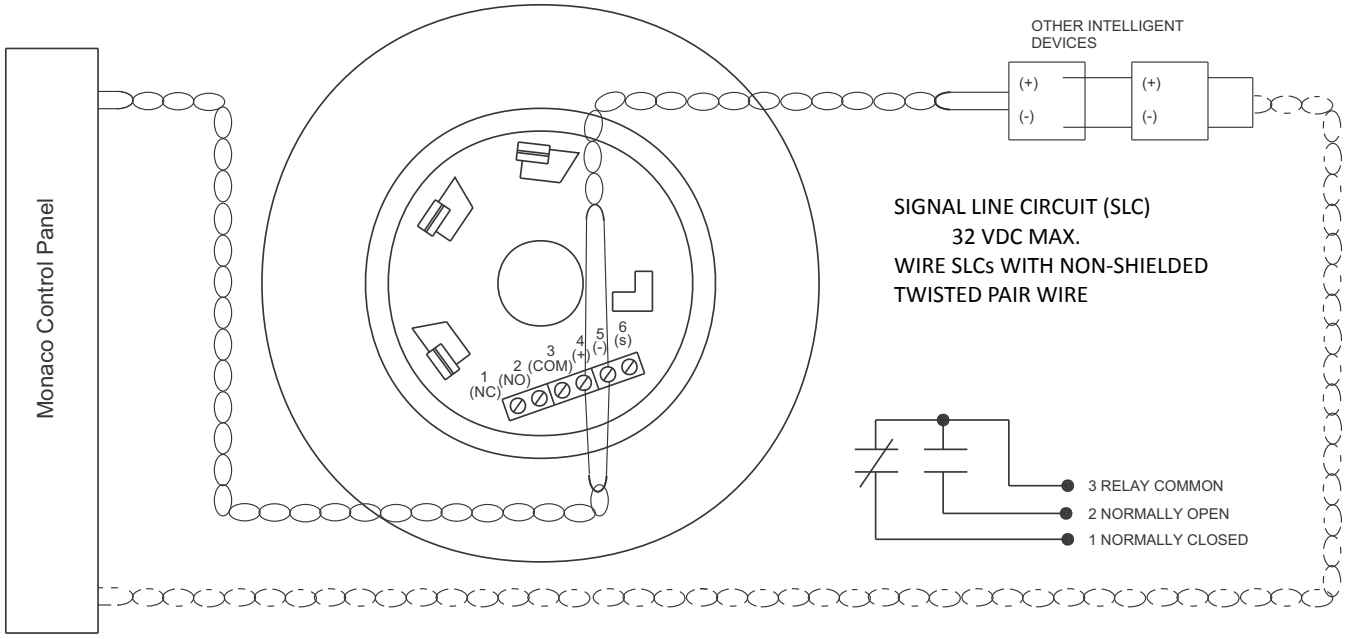
Ordering Information

Part Number	Description
729-134-00	Intelligent detector relay mounting base, plug-in, 6.875"

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Wiring Diagram



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Detect Manage Record

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 µA max. (not isolating)
Isolation Current	17 mA
Fault Detection Delay	250 ms min.
SLC Impedance	40Ω
Isolation Impedance	2.25 to 2.9 kΩ
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Mounting	Directly to 4-in. square × 2 1/8-in. deep junction box
Dimensions	4.5" H x 4" W x 0.25" D

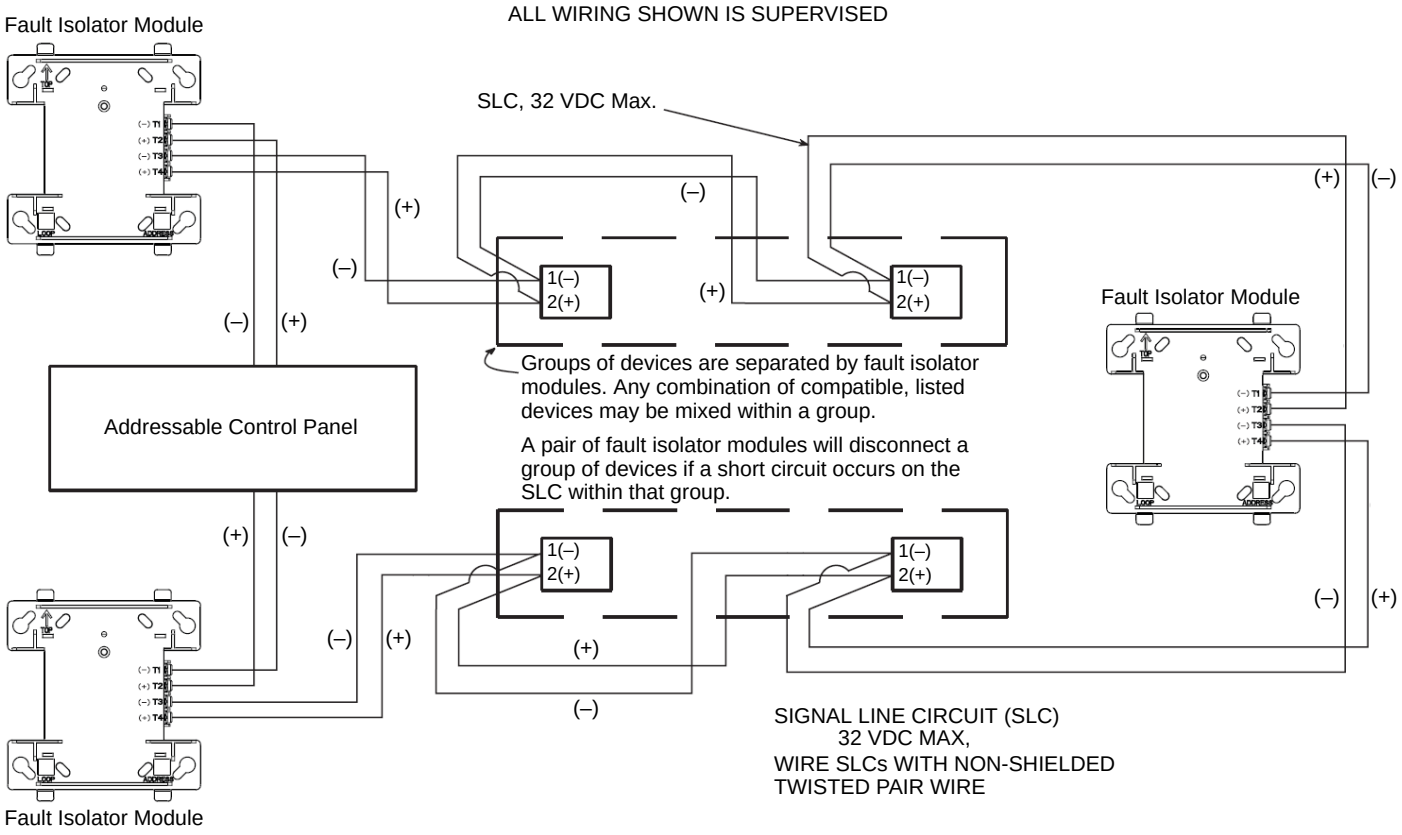
Ordering Information

Part Number	Description
729-140-00	Intelligent fault isolator module

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Detect Manage Record

Wiring Diagram



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Detect Manage Record

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.



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.

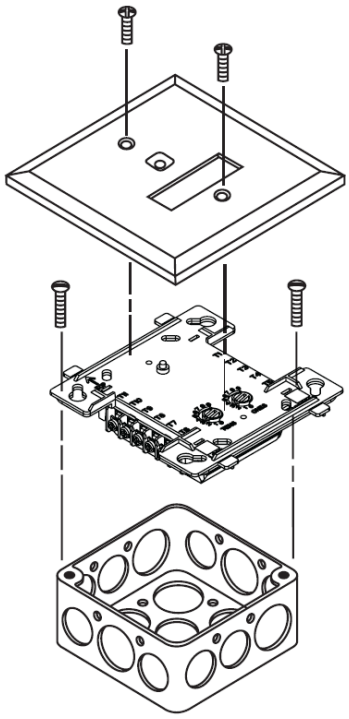
The supervised state of the monitored device (normal, short, or open) is transmitted back to the addressable control panel along with the full analog supervision measurement. This allows detection of impedance changes in the supervised loop. All status changes are annunciated at the addressable control 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 × 2 1/8 in. deep junction box.



Specifications

Operating Voltage	15–32 VDC
Standby Current	400 µA maximum @ 24 VDC (one communication every 5 seconds with 47k EOL) 600 µA maximum @ 24 VDC (one communication every 5 seconds with EOL > 1k) 5.0 mA (with LED latched on)
EOL Resistor	47 kΩ
Communication Line Loop Impedance	40Ω maximum

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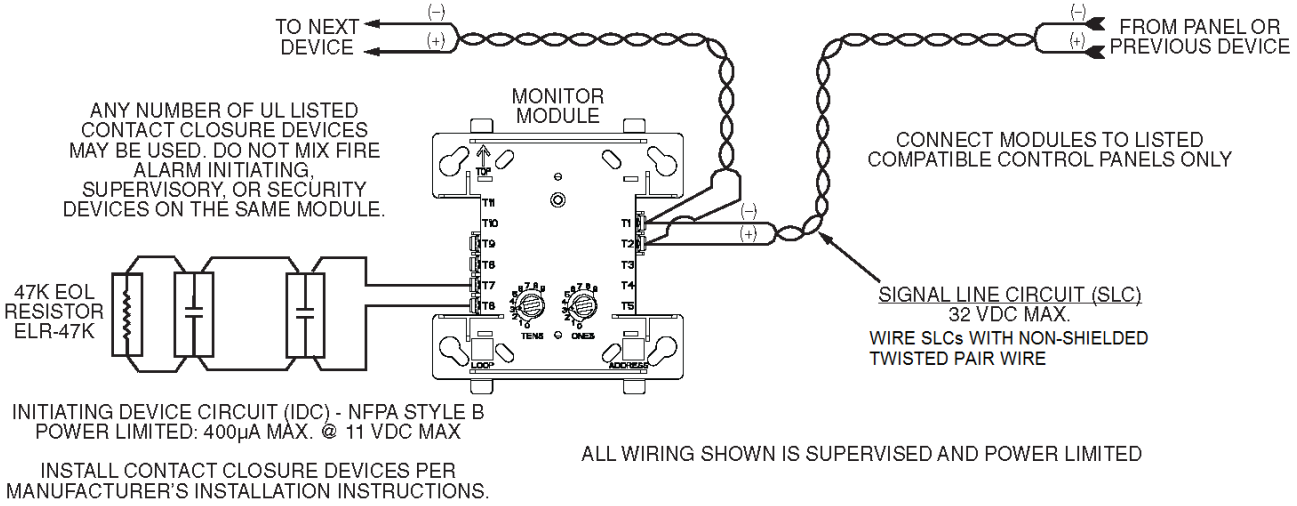
Operating Temperature	32–120°F (0–49°C)
Relative Humidity	10–93% noncondensing
Dimensions	4.5" W × 4.0" H × 1.25" D

Ordering Information

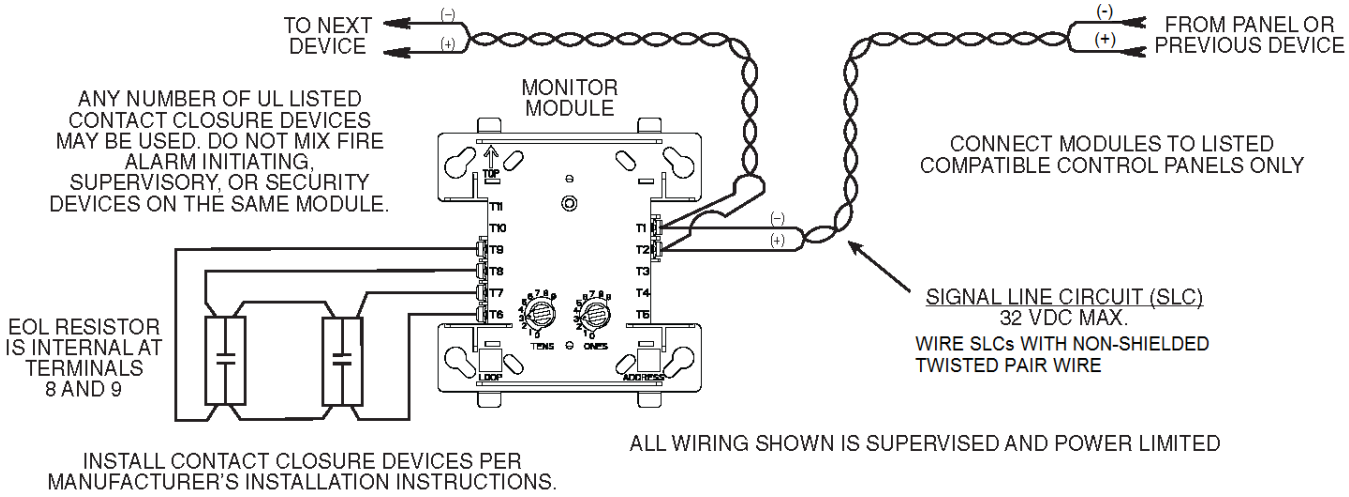
Part Number	Description
729-142-00	Intelligent monitor module

Wiring Diagrams

Typical Class B IDC



Typical Class A Fault Tolerant IDC



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Detect Manage Record

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 µA maximum at 24 VDC (one communication every 5 seconds with 47k EOL) 600 µA maximum at 24 VDC (one communication every 5 seconds with IDC shorted)
Wire Length	6" minimum
Communication Line Impedance	40Ω maximum
Maximum IDC Wiring Resistance	40Ω
Maximum IDC Voltage	11 volts
Maximum IDC Current	400 µA
EOL Resistance	47 kΩ (included)
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Dimensions	1.25" H x 2.7" W x 0.5" D* *Basic casing only; 0.72" with cable entry ports Minimum back box depth of 0.90" recommended for wire bend radius.

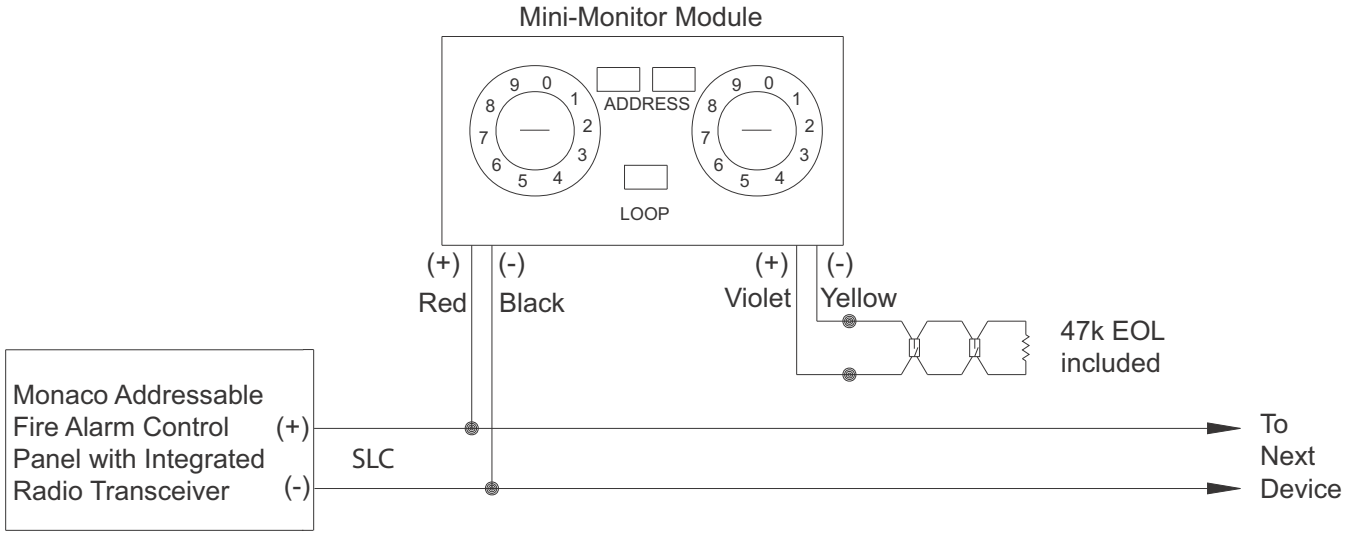
Ordering Information

Part Number	Description
729-143-00	Intelligent mini-monitor module

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Wiring Diagram



NOTE Wire SLC with nonshielded twisted-pair wire.

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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 × 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 µA, one communication and one LED flash every 5 seconds (3.9k EOL)
EOL Resistance	3.9 kΩ
Max. IDC Resistance	25Ω
IDC Supply Voltage (Between T10, T11)	Regulated DC: 24V Ripple Voltage: 0.1 VRMS max. Current: 90 mA
Temperature Range	32 to 120°F (0 to 49°C)
Relative Humidity	10–93%
Dimensions	4.5" H x 4" W x 1.25" D

Ordering Information

Module

Part Number	Description
729-144-00	Intelligent interface module

Associated Parts

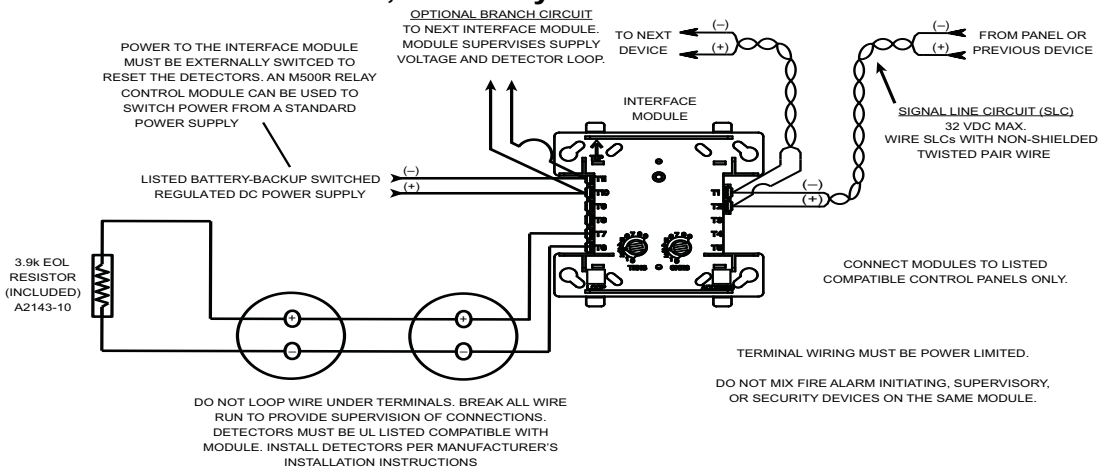
Part Number	Description
729-159-00	Intelligent relay control module, 2 Form C contacts

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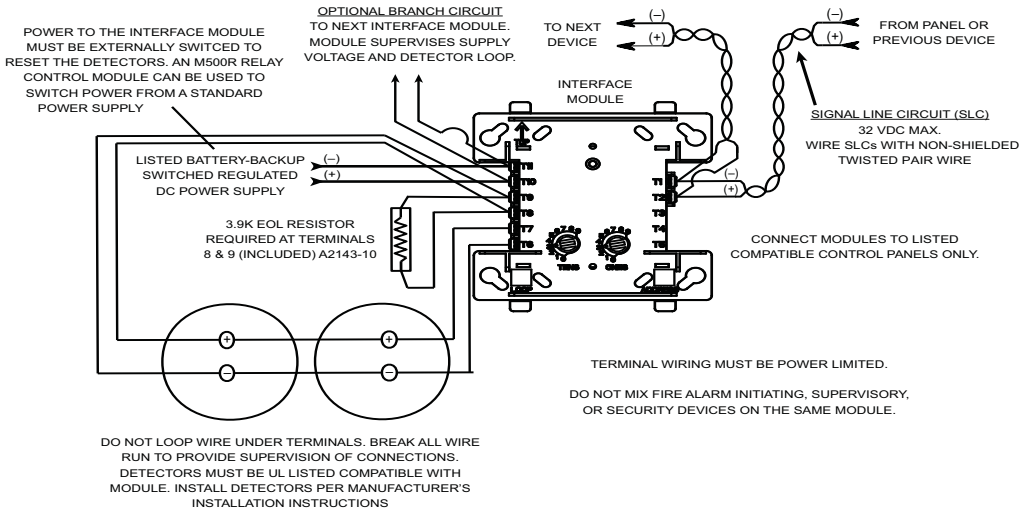
Wiring Diagrams

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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Detect Manage Record

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 µA Max.: One communication every 5 seconds, 47k EOL 485 µA 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	10–93% noncondensing
Dimensions	4.675" H x 4.275" W x 1.4" D

Ordering Information

Module

Part Number	Description
729-158-00	Intelligent supervised NAC control module

Associated Parts

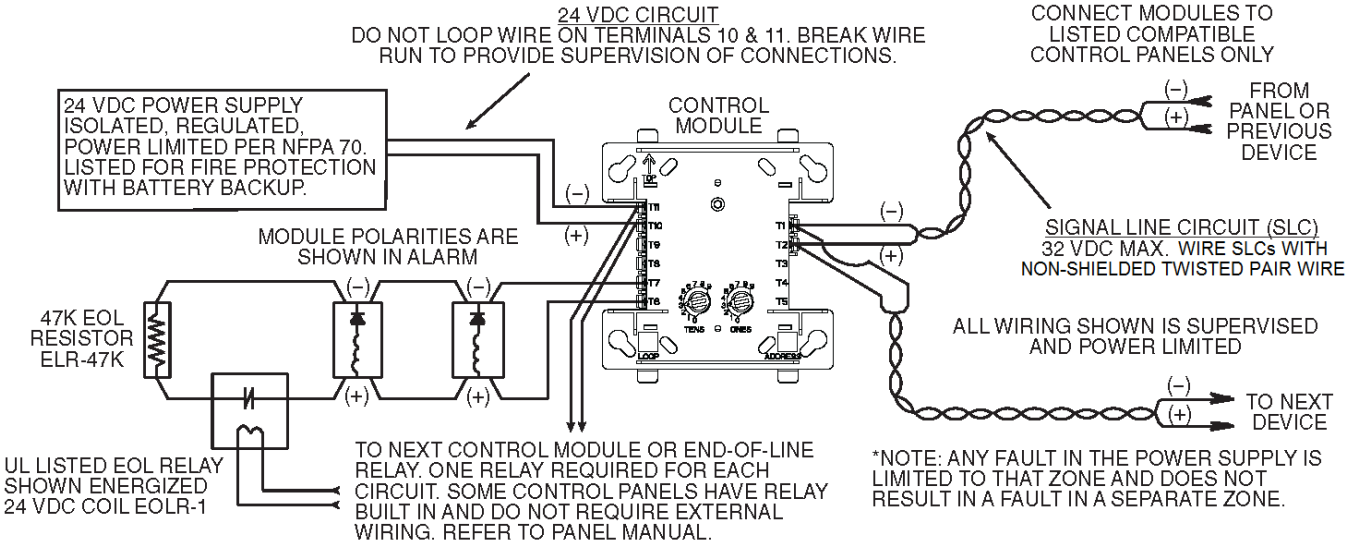
Part Number	Description
790-012-00	End of line power supervision relay Module, 9-40 VDC

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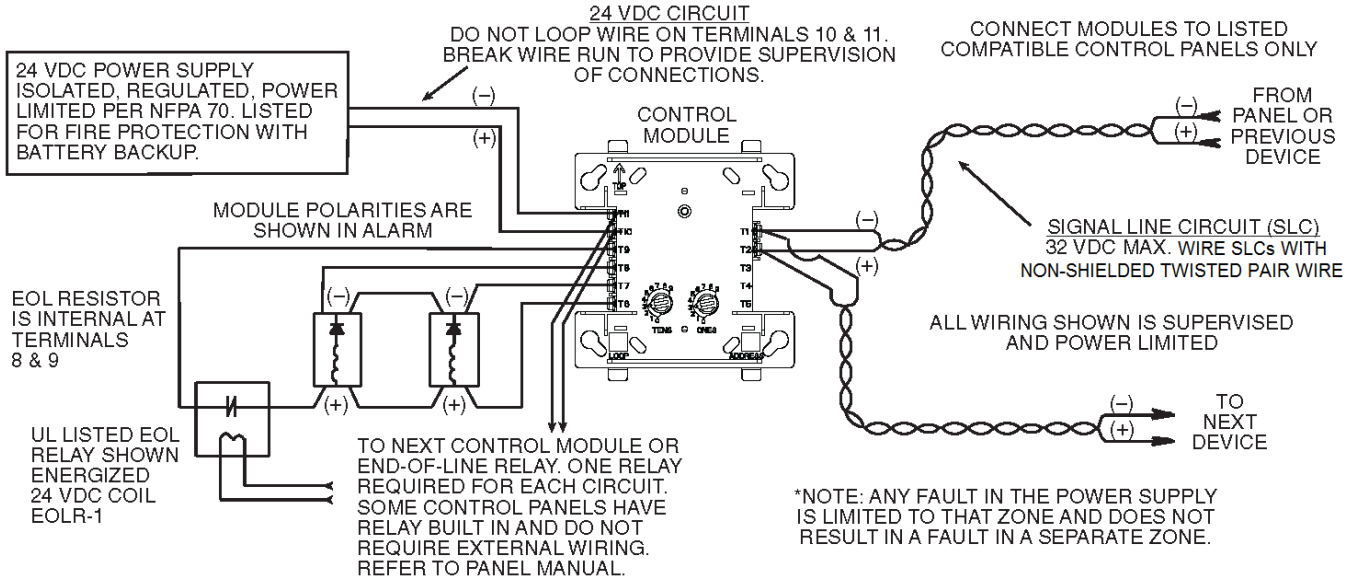
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Wiring Diagrams

NAC—NFPA Class B



NAC—NFPA Class A



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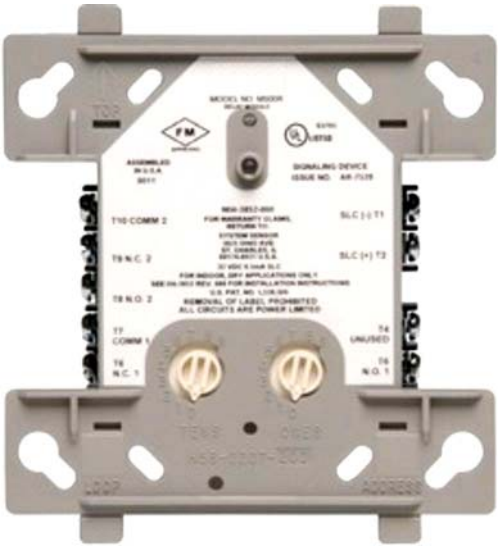
Detect Manage Record

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 µA, one communication LED every 5 seconds
Relay Contact Ratings	■ 3.0A, 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 to 120°F (0 to 49°C)
Relative Humidity	10–93%, noncondensing
Dimensions	4.675" H x 4.275" W x 1.4" D

Ordering Information

Module

Part Number	Description
729-159-00	Intelligent relay control module, 2 Form C contacts

Associated Parts

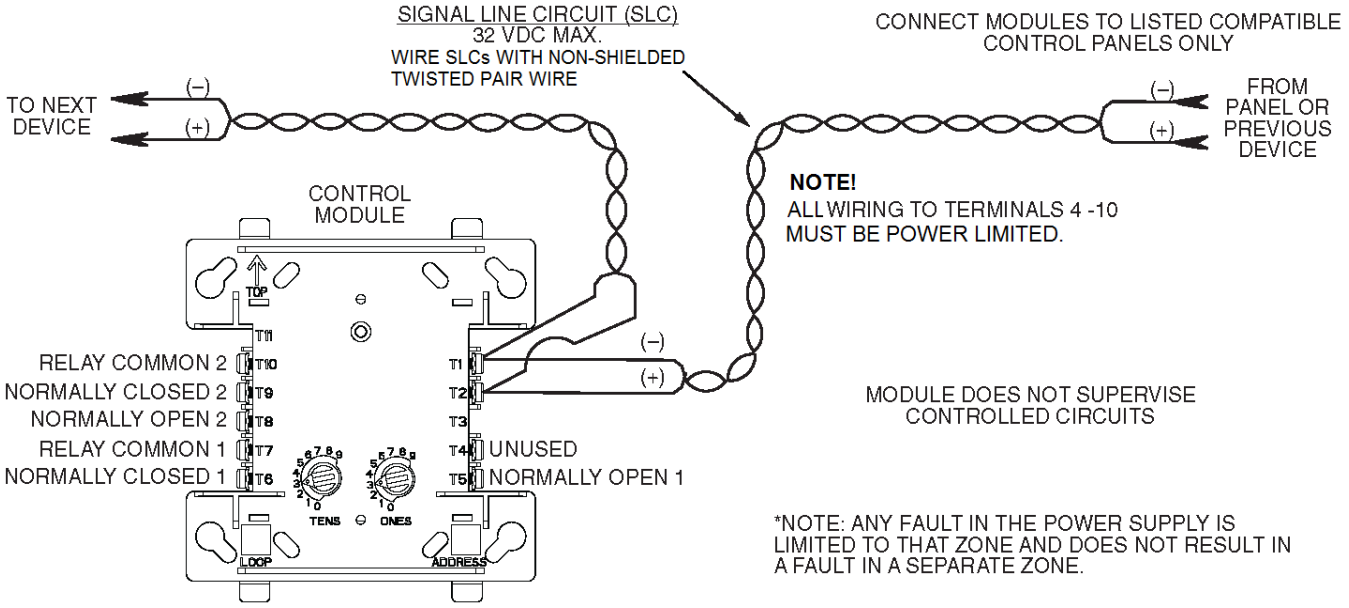
Part Number	Description
451-700-01	SPDT relay, 120-277 VAC, 10A contacts, LED, red enclosure

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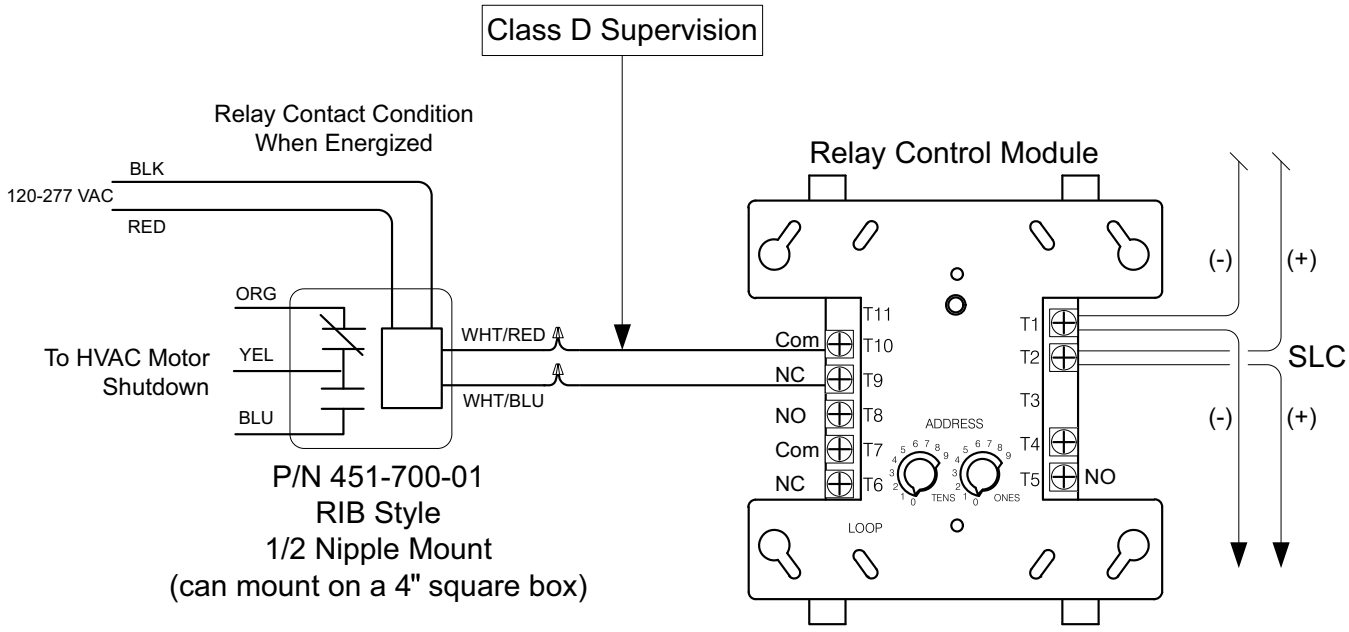
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Wiring Diagrams

Relay Control Module



Dry Contact Relay



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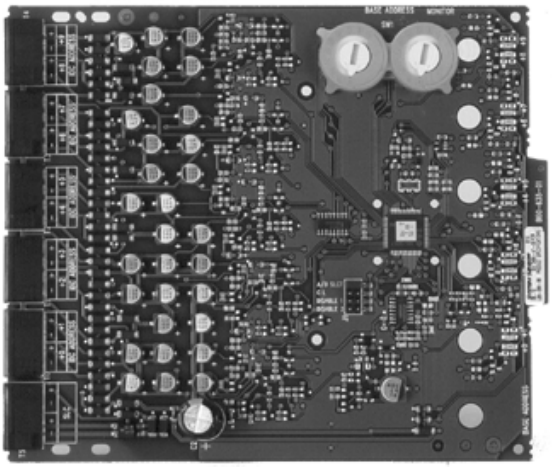
Detect Manage Record

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.



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.

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	12–18 AWG
Max. SLC Resistance	40Ω
Max. IDC Resistance	40Ω
Operating Temp.	32–120°F (0–49°C)
Humidity	10–85% noncondensing
Module Dimensions	6.8" H × 5.8" W × 1.25" D (17.27 cm H × 14.73 cm W × 3.175 cm D)

Ordering Information

Module

Part Number	Description
729-162-00	Intelligent ten-input monitor module

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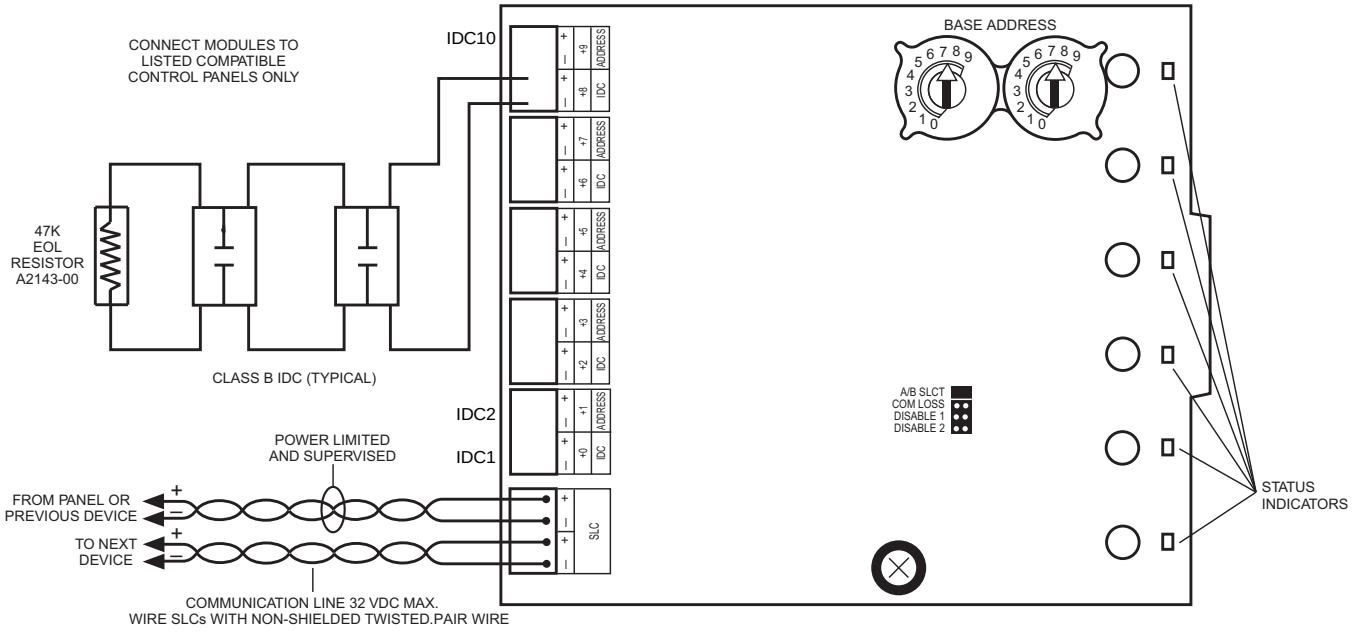
Detect Manage Record

Associated Parts

Part Number	Description
729-160-00	Two-module cabinet, red, 12" H × 9" W × 3.67" D (30.48 cm H × 22.86 cm W × 9.32 cm D)
729-161-00	Six-module cabinet, red, 24" H × 12.55" W × 6.5" D (61.0 cm H × 31.88 cm W × 16.43 cm D)
729-166-00	Mounting bracket for six-module cabinet

Wiring Diagrams

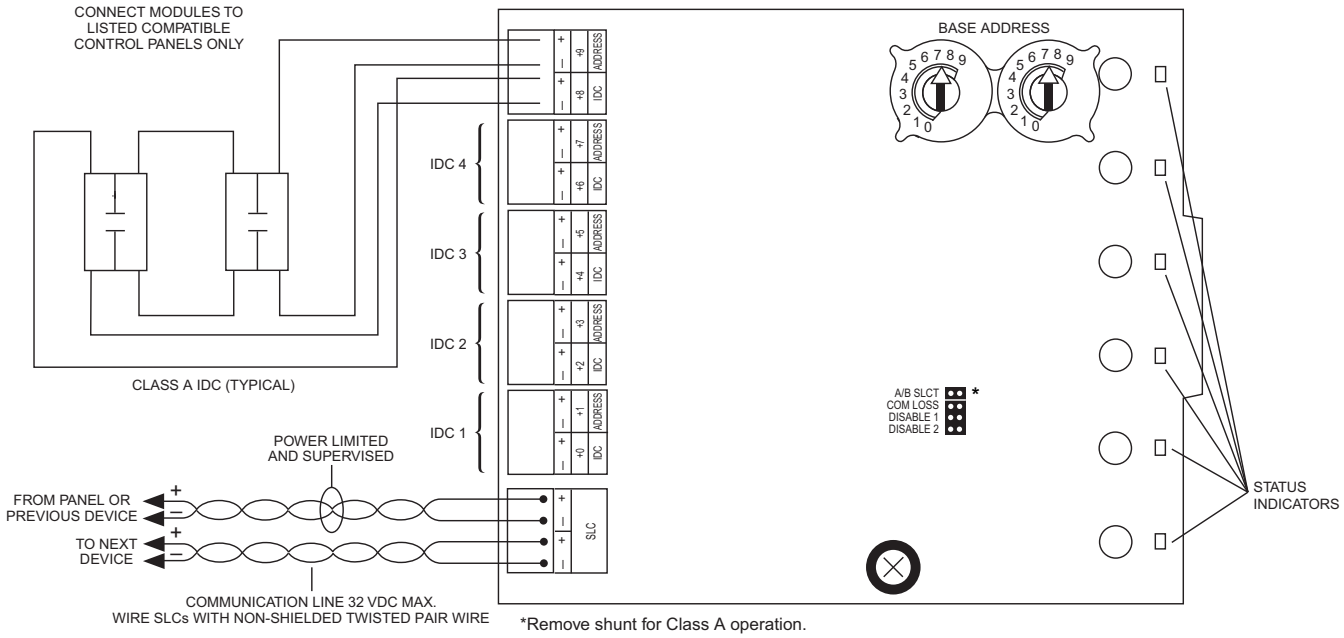
Typical IDC Configuration—Class B



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Typical Fault Tolerant IDC Configuration—Class A



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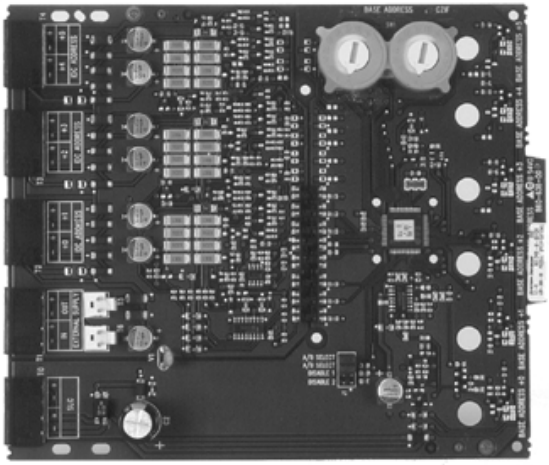
Detect Manage Record

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.



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	40Ω
Max. IDC Resistance	25Ω

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Wire Gauge, Removable Terminal Block	12–18 AWG
Operating Temperature	32°F–120°F (0°C–49°C)
Humidity	10–85% noncondensing
Dimensions	6.8" H × 5.8" W × 1.25" D (17.27 cm H ×14.73 cm W × 3.18 cm D)

Ordering Information

Module

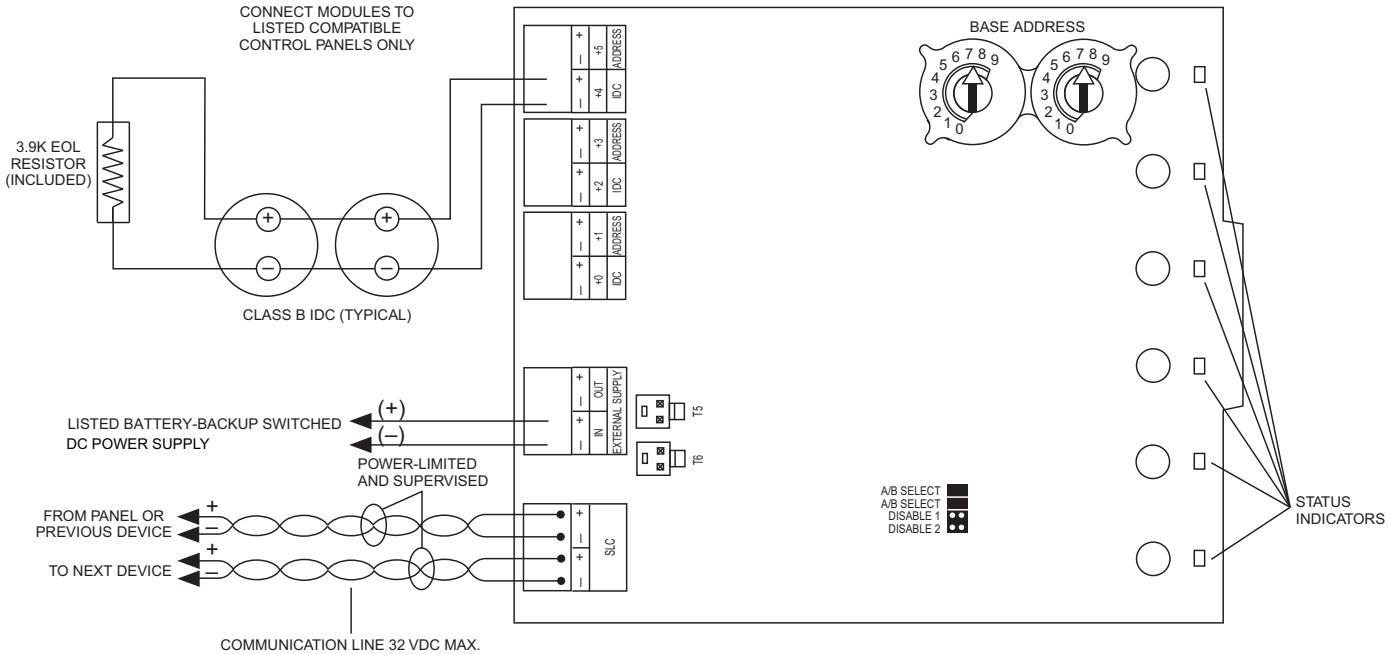
Part Number	Description
729-164-00	Intelligent six zone interface module

Associated Parts

Part Number	Description
729-160-00	Two-module cabinet, red, 12" H × 9" W × 3.67" D (30.48 cm H × 22.86 cm W × 9.32 cm D)
729-161-00	Six-module cabinet, red, 24" H × 12.55" W × 6.5" D (61.0 cm H × 31.88 cm W × 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



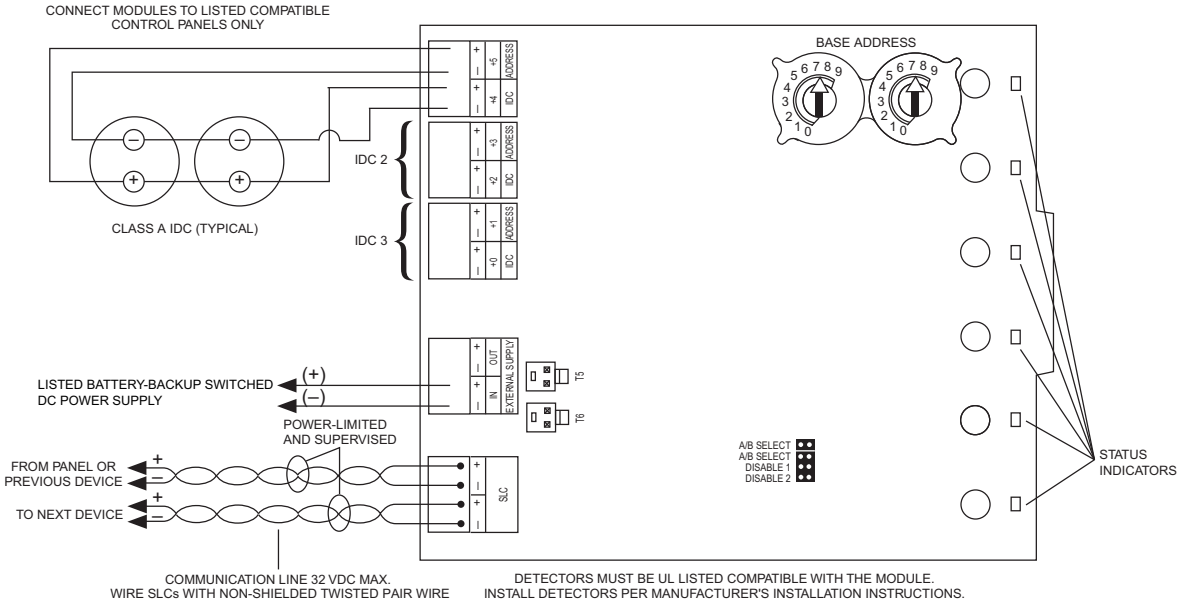
POWER TO THE INTERFACE MODULE MUST BE EXTERNALLY SWITCHED TO RESET LOOP POWERED DETECTORS ON A PANEL RESET. A RELAY MODULE (P/N 729-158-00) WITH AN ACTION ASSIGNMENT OF SMOKE POWER CAN BE USED TO SWITCH POWER TO THE INTERFACE MODULE FROM AN AUXILIARY POWER SUPPLY.

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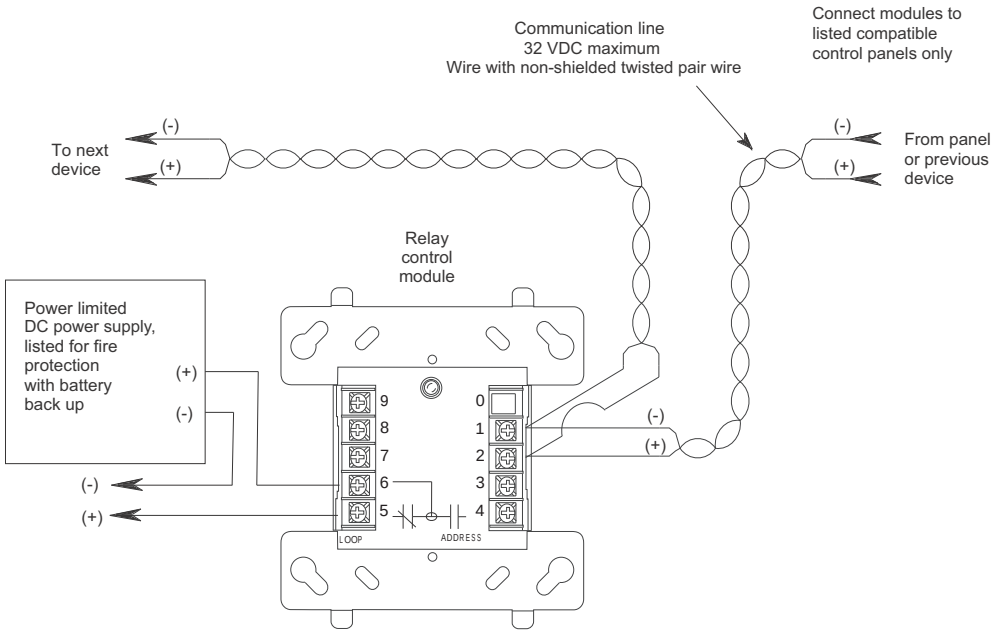
Addressable Intelligent Devices and Modules

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.

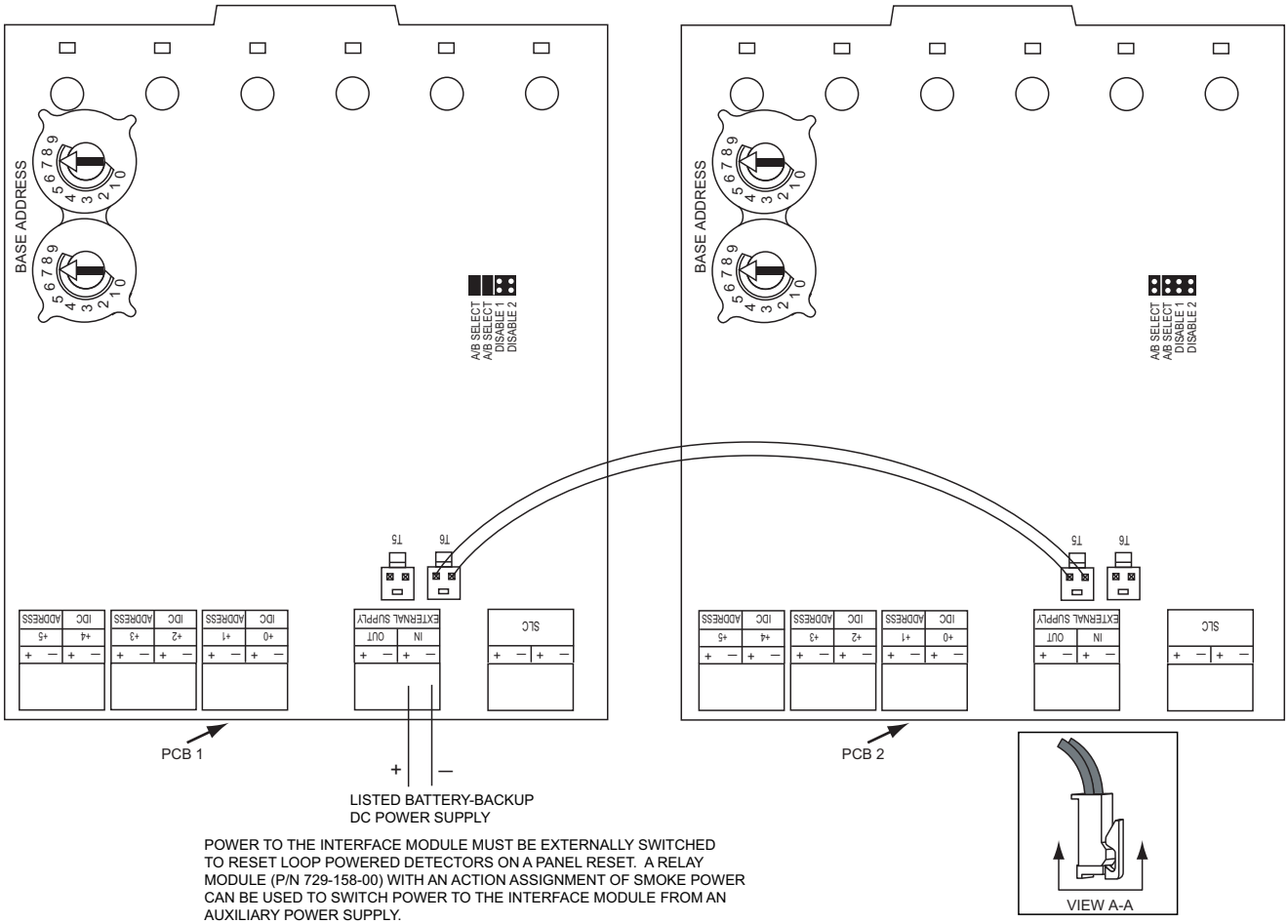
Relay Control Module Used to Disconnect a Power Supply (Typically Smoke Power Reset)



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Detect Manage Record

Example of Multiple Boards Sharing the Same External Supply



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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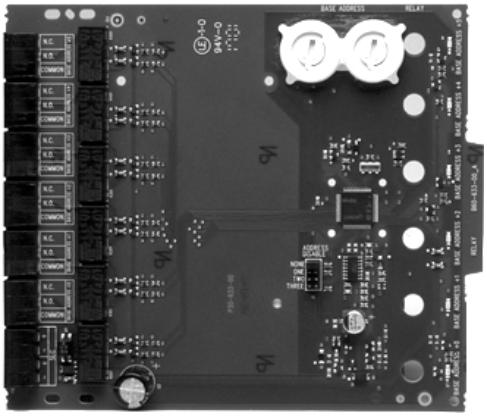
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Addressable Intelligent Devices and Modules

Module, Six-Relay Control
729-165-00

Description

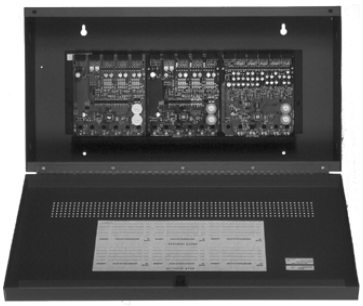
NOTE For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



Six Relay Addressable Control Module

two module cabinet





six module cabinet

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	40Ω
Wire Gauge, Removable Terminal Block	12–18 AWG
Operating Temp.	32°F–120°F (0°C–49°C)
Humidity	10–85% noncondensing
Dimensions	6.8" H × 5.8" W × 1.25" D

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Ordering Information

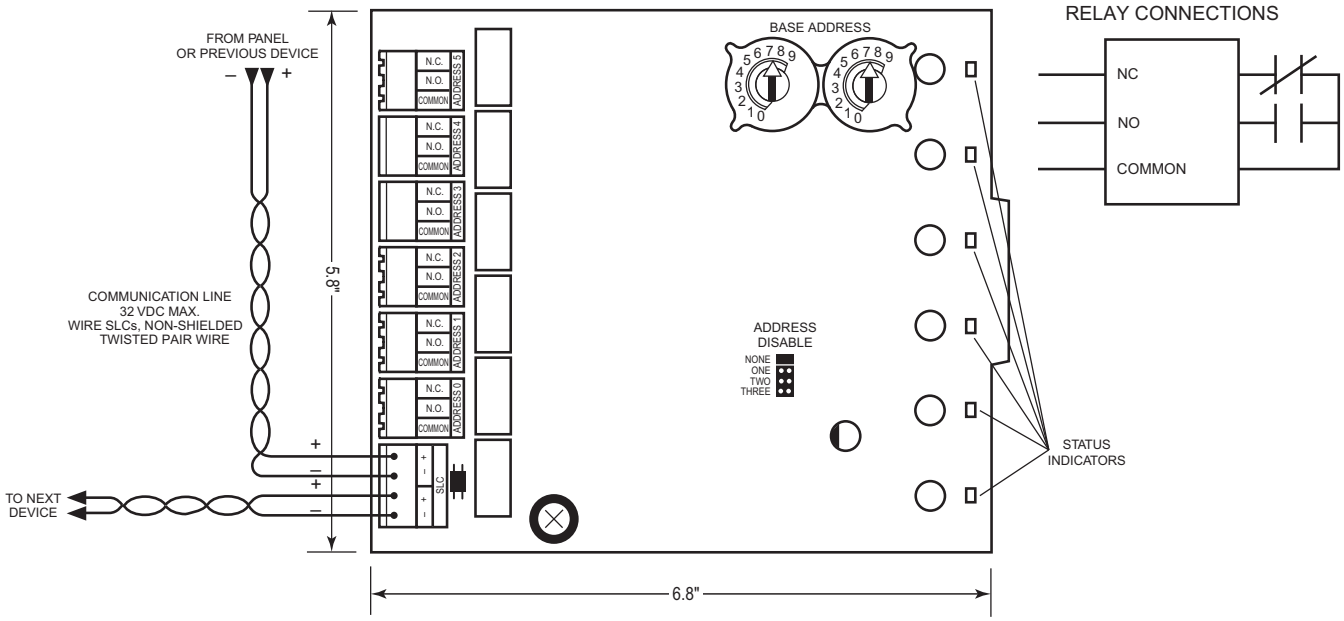
Module

Part Number	Description
729-165-00	Intelligent six relay control module, Form C contacts

Associated Parts

Part Number	Description
729-160-00	Red 2-module cabinet, 12" H × 9" W × 3.67" D (30.48 cm H × 22.86 cm W × 9.32 cm D)
729-161-00	Red 6-module cabinet, 24" H × 12.55" W × 6.5" D (61.0 cm H × 31.88 cm W × 16.43 cm D)
729-166-00	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 × 2 1⁄8-in. deep junction box

Specifications

Operating Voltage	15 to 32 VDC
Max. Current	6.4 mA (LED on)
Average Operating Current	750 µA (LED flashing)
EOL Resistance	47 kΩ
Max. SLC Resistance	40Ω
Max. IDC Resistance	1500Ω
Max. IDC Voltage	11V
Max. IDC Current	240 µA
Temperature Range	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Dimensions	4.5" H x 4.275" W x 1.4" D

Ordering Information

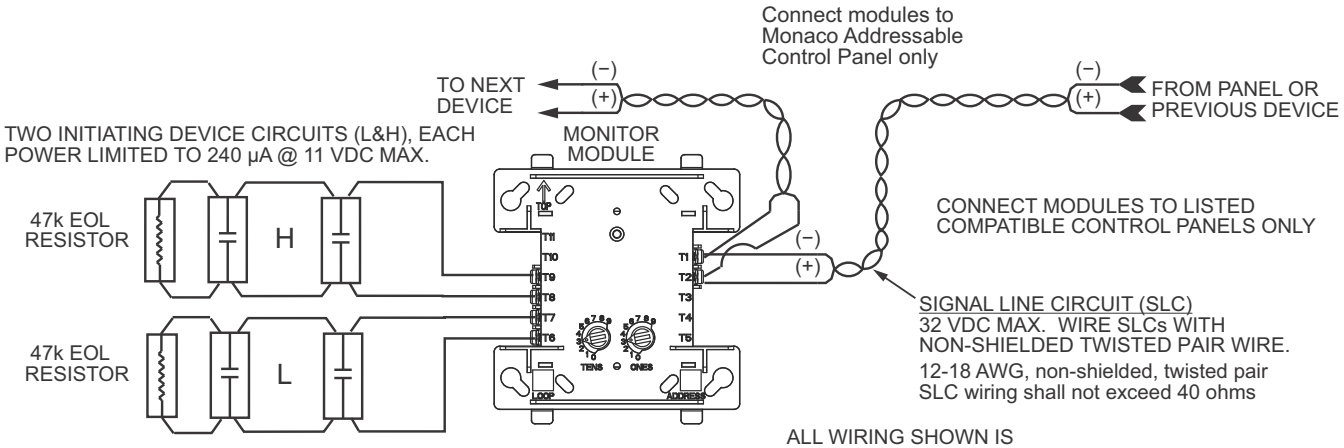
Part Number	Description
729-182-00	Intelligent dual-input monitor module

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Addressable Intelligent Devices and Modules

Wiring Diagram



UL LISTED CONTACT CLOSURE DEVICES MAY BE USED. DO NOT MIX FIRE ALARM INITIATING, SUPERVISORY, OR SECURITY DEVICES ON THE SAME INITIATING DEVICE CIRCUIT.

The module is for use with non-loop-powered devices or conventional 4-wire auxiliary power source detectors.

MONITOR L (TERMINALS 6 & 7) RESPONDS AT ADDRESS SET ON CODE SWITCHES. MONITOR H (TERMINALS 8 & 9) RESPONDS AT NEXT HIGHER ADDRESS.

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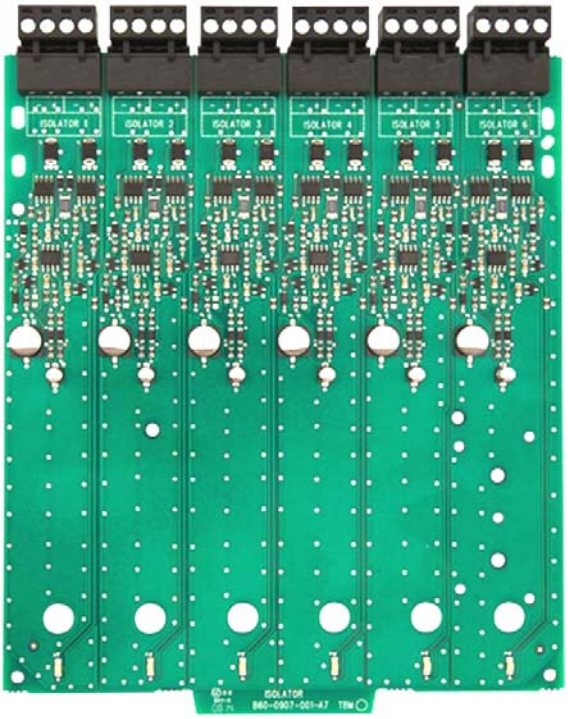
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Addressable Intelligent Devices and Modules

Module, Six Fault Isolator
729-208-00

Description

NOTE For use with all Monaco Addressable Integrated Radio Transceiver and Fire Alarm Control Panel SLCs.



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 µA max. (per cicuit) 2.7 mA all circuits
Isolation Current	17 mA in isolation 102 mA all circuits in isolation
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93%, noncondensing
Wire Gauge	12–18 AWG
Dimensions	6.8" H x5.8" W x 1.0" D

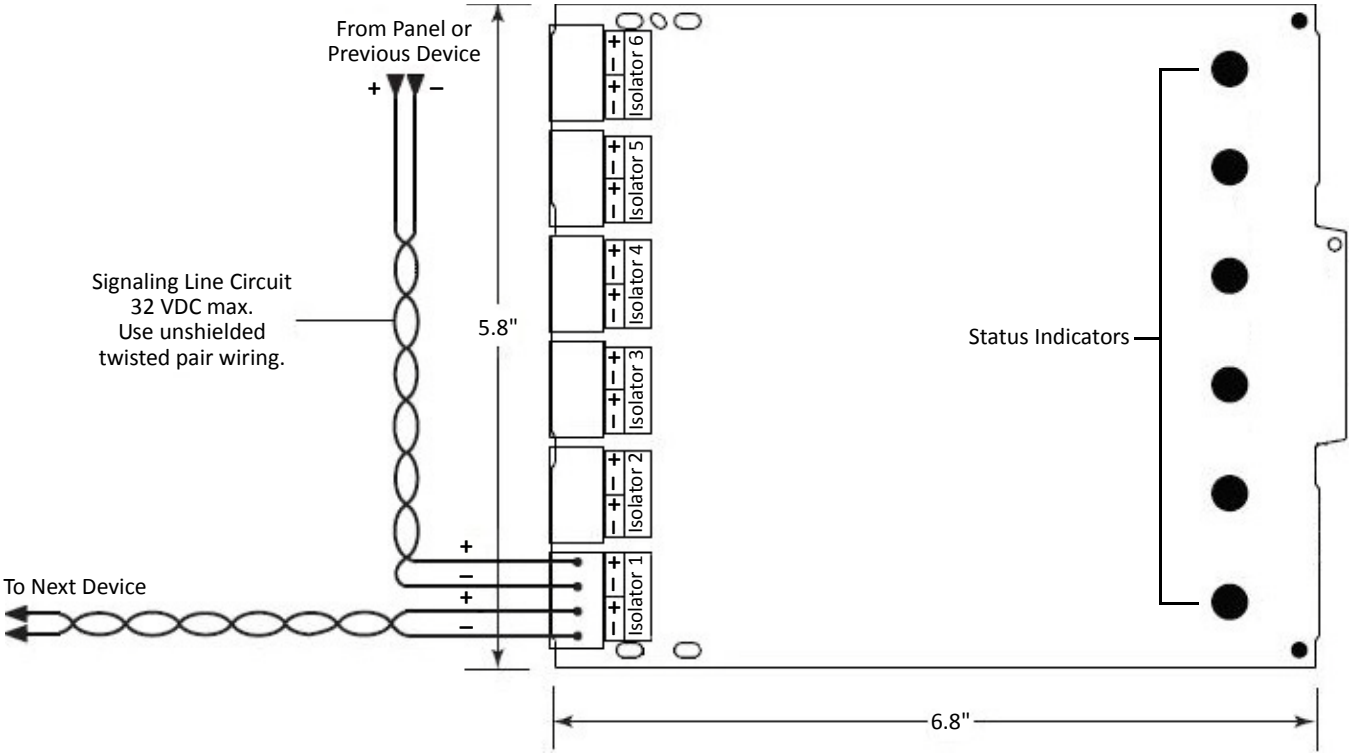
Ordering Information

Part Number	Description
729-208-00	Intelligent six fault islolator module

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Wiring Diagram



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Conventional Detection Devices Catalog Section 10

Monaco Enterprises, Inc.
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

Conventional Detection Devices

Smoke Detector, 2 Wire/4 Wire, Photoelectric

723-002-00



Features

- White, flame retardant thermoplastic, Conventional smoke detector
- Low profile, photoelectric
- Plug-in head/base options
- Two- or four-wire base compatibility
- Optical sensing chamber
- Dual LEDs for 360-degree alarm visibility
  – LEDs latch on during alarm, are off for a trouble
- Remote LED annunciator capable
- Internal magnet test reed switch
- Removable cover and screen
- Four 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
Two Wire Bases	24 VDC P/N 729-097-00 12/24 VDC P/N 's 729-125-00, 729-150-00
Four Wire Base	12/24 VDC P/N 729-151-00
Standby Current	120 µA, max.
Velocity Range	0 - 3000 fpm (0 - 15.2 m/s)
Latching Alarm	Momentary power interruption reset
Operating Temp	32°F (0°C) to 120°F (49°C)
Relative Humidity	10–93%, noncondensing
Mounting	with base: P/Ns 729-097-00, 729-150-00 or 729-151-00 installs to single gang, 3 1/2" octagon, 4" octagon, or 4" square junction box
Dimensions	2.0" H x 4.1" D (base: P/N 729-125-00) 2.0" H x 6.2" D (base: P/Ns 729-097-00, 729-150-00, and 729-151-00)
Weight	3.1 oz (88 kg)
Open Area Protection	30 foot spacing (smooth ceiling)
Standards Compliance:	to NFPA 72
UL	S911
FM	Approved
State of California	7272-1653:0122

Ordering Information

Part Number	Description
723-002-00	Conventional duct smoke detector, photoelectric, low profile, 2-wire/4-wire (replacement spare part)

Associated Parts

Compatible Bases

Part Number	Description
729-097-00	Conventional detector base, plug-in, low profile, 24 VDC, 2-wire, current-limiting resistor, 6.2 inches in diameter
729-125-00	Conventional detector base, plug-in, 12/24 VDC, 2-wire, 4.0 inches in diameter
729-150-00	Conventional detector base, plug-in, low profile, 12/24 VDC, 2-wire, 6.2 inches in diameter
729-151-00	Conventional detector base, plug-in, low profile, 24 VDC, 4-wire, Form A and C relay contacts, 6.2 inches in diameter

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Detect Manage Record

Conventional Detection Devices

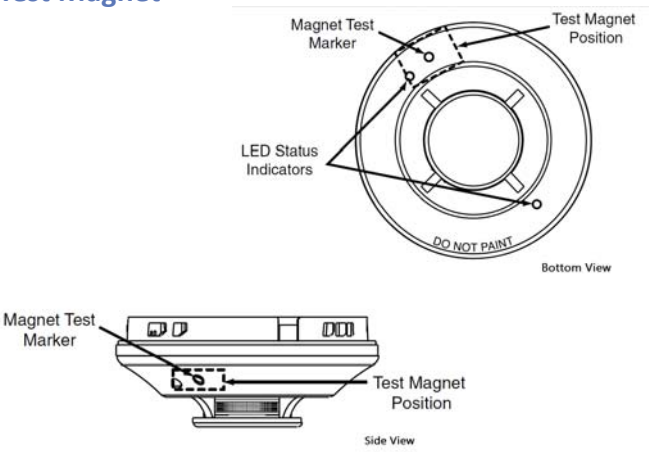
Other

Part Number	Description
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, 9-40 VDC

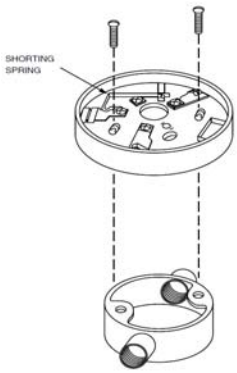
Part Number	Description
790-013-01	End-of-line power supervision relay module, non-polarized, 9-40 VDC, with built-in 47k EOL resistor or a set of N.C. dry contacts

Drawings

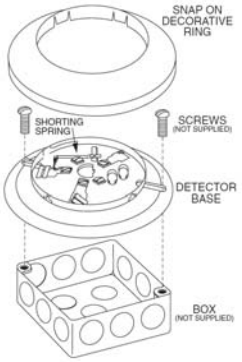
Test Magnet



Mounting



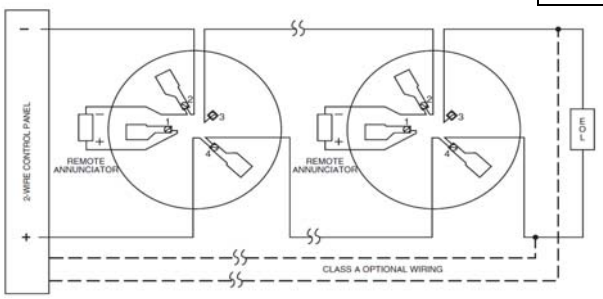
Detector Bases P/N's
729-097-00,
729-125-00,
729-150-00,
or 729-151-00



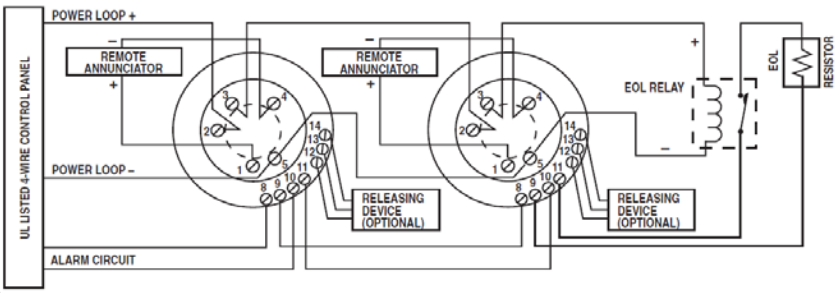
Detector Bases P/N's
729-097-00,
729-150-00,
or 729-151-00

Typical Detector Base Wiring Diagrams

2-Wire



4-Wire



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Detect Manage Record

Conventional Detection Devices

Smoke Detector, 2/4 Wire, Photoelectric, 135°F Fixed Temp

723-003-00



Features

- White, flame retardant thermoplastic, Conventional smoke detector
- Low profile, photoelectric
- 135°F Fixed Temperature thermal sensing
- Plug-in head/base options
- Two- or four-wire base compatibility
- Optical sensing chamber
- Dual LEDs for 360-degree alarm visibility
  – LEDs latch on during alarm, are off for a trouble
- Remote LED annunciator capable
- Internal magnet test reed switch and direct heat thermal testing
- Removable cover and screen
- Four 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	2.0A at 30 VAC/DC
Form C	0.6A at 110 VDC, 2.0A at 30 VDC 1.0A at 125 VAC, 2.0A at 30 VAC
Operating Voltage:	8.5 to 35 VDC
Two Wire Bases	24 VDC P/N 729-097-00 12/24 VDC P/N 's 729-125-00, 729-150-00
Four Wire Base	12/24 VDC P/N 729-151-00)
Standby Current	120 µA, max.
Velocity Range	0 - 3000 fpm (0 - 15.2 m/s)
Latching Alarm	Momentary power interruption reset
Operating Temp	32°F (0°C) to 100°F (38°C)
Relative Humidity	10–93%, noncondensing
Mounting	with base: P/Ns 729-097-00, 729-150-00 or 729-151-00 installs to single gang, 3 1/2" octagon, 4" octagon, or 4" square junction box
Dimensions	2.0" H x 4.1" D (base: P/N 729-125-00) 2.0" H x 6.1" D (base: P/Ns 729-097-00, 729-150-00, and 729-151-00)
Weight	3.1 oz (88 g)
Open Area Protection	30 foot spacing (smooth ceiling)
Standards Compliance:	to NFPA 72
UL	S911
FM	Approved
State of California	7272-1653:0122
MEA	205-94 Vol. 8

Ordering Information

Part Number	Description
723-003-00	Conventional photoelectric smoke/heat detector head, plug-in, low profile, 2-wire/4-wire, fixed-temperature 135°F (restorable)

Associated Parts

Compatible Bases

Part Number	Description
729-097-00	Conventional detector base, plug-in, low profile, 24 VDC, 2-wire, current-limiting resistor, 6.2 inches in diameter
729-125-00	Conventional detector base, plug-in, 12/24 VDC, 2-wire, 4.0 inches in diameter

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Detect Manage Record

Conventional Detection Devices

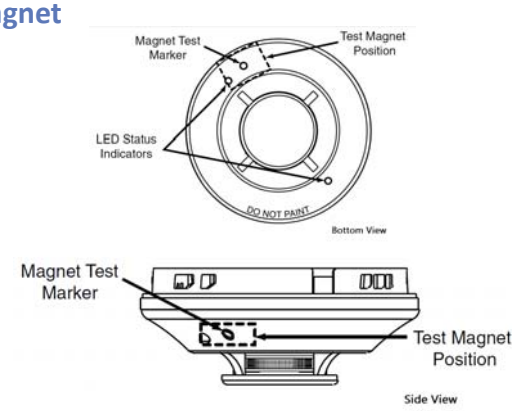
Part Number	Description
729-150-00	Conventional detector base, plug-in, low profile, 12/24 VDC, 2-wire, 6.2 inches in diameter
729-151-00	Conventional detector base, plug-in, low profile, 24 VDC, 4-wire, Form A and C relay contacts, 6.2 inches in diameter

Other

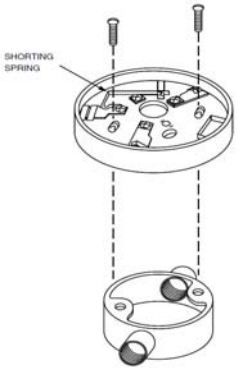
Part Number	Description
729-091-00	Remote LED Annunciator. Fits standard single-gang electrical box (not included)
790-012-00	End-of-line power supervision relay module, polarized, 9-40 VDC
790-013-01	End-of-line power supervision relay module, non-polarized, 9-40 VDC, with built-in 47k EOL resistor or a set of N.C. dry contacts

Drawings

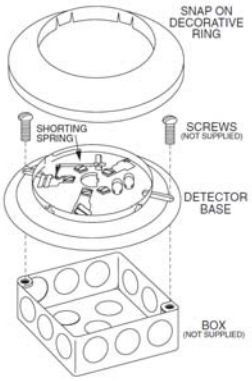
Test Magnet



Mounting



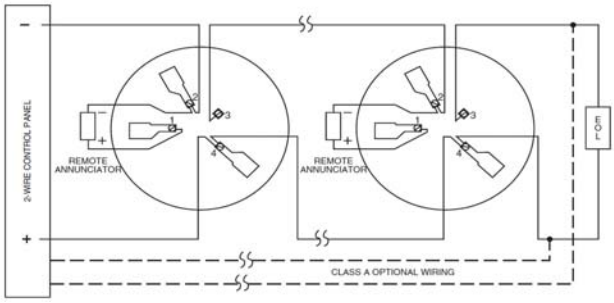
Detector Bases P/N's
729-097-00,
729-125-00,
729-150-00,
or 729-151-00



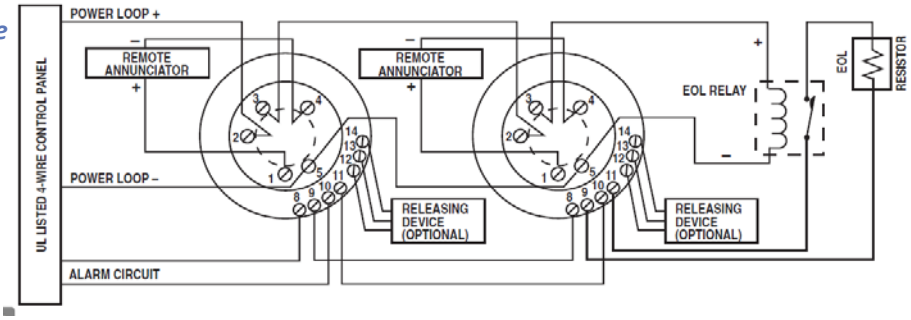
Detector Bases P/N's
729-097-00,
729-150-00,
or 729-151-00

Typical Detector Base Wiring Diagrams

2-Wire



4-Wire



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Detect Manage Record

Conventional Detection Devices

Smoke Detector

723-340-00, 723-340-01, 723-508-00, 723-508-01

Description

These are two-wire and four-wire detectors, some with fixed-temperature heat detector 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
- For units that have it, the restorable heat detector can also detect freeze condition
- Red LED and green LED indicators
- Sensing chamber is screened
- Built-in test switch
- Tamper resistant

Specifications

DC Power	Nom: 12/24 VDC (nonpolarized) Range: 8.5–35 VDC Max. Ripple: 30% P-P applied voltage
Max. Standby Current	50 µA average
Max. Alarm Current	2-Wire: 130 mA, limited by panel 4-Wire: 20 mA 12VDC, 23 mA 24 VDC
Alarm Reset Time	0.3 second
Sensitivity	2.5% per foot, nominal
Heat Sensor (Applicable Units)	Heat: 135°F fixed Freeze Trouble: <41°F
Wiring	14–22 AWG (twisted pair acceptable)
Operating Temperature	No Heat Detector: 32–120°F (4–49°C) Heat Detector: 32–100°F (4–37.8°C)
Relative Humidity	0–95%, noncondensing
Dimensions, with Base	Diameter: 5.3" Height: 2"
Weight	6.3 oz

LED Modes

Mode	Green	Red
Power-up	Blink every 10s	Blink every 10s
Normal	Blink every 5s	Off
Out of Sensitivity	Off	Blink every 5s
Freeze Trouble	Off	Blink every 10s
Alarm	Off	On solid

Ordering Information

Smoke Detectors

Part Number	Description
723-340-00	Conventional photoelectric smoke detector, plug-in, 2-wire
723-340-01	Conventional photoelectric smoke detector, plug-in, 2-wire, fixed-temperature 135°F, freeze detection
723-508-00	Conventional photoelectric smoke detector, plug-in, 4-wire
723-508-01	Conventional photoelectric smoke detector, plug-in, 4-wire, fixed-temperature 135°F, freeze detection

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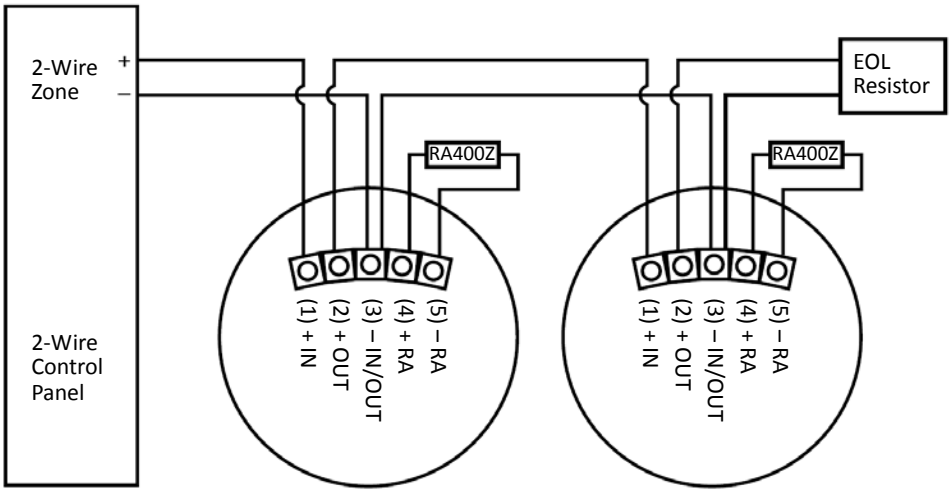
Detect Manage Record

Associated Parts

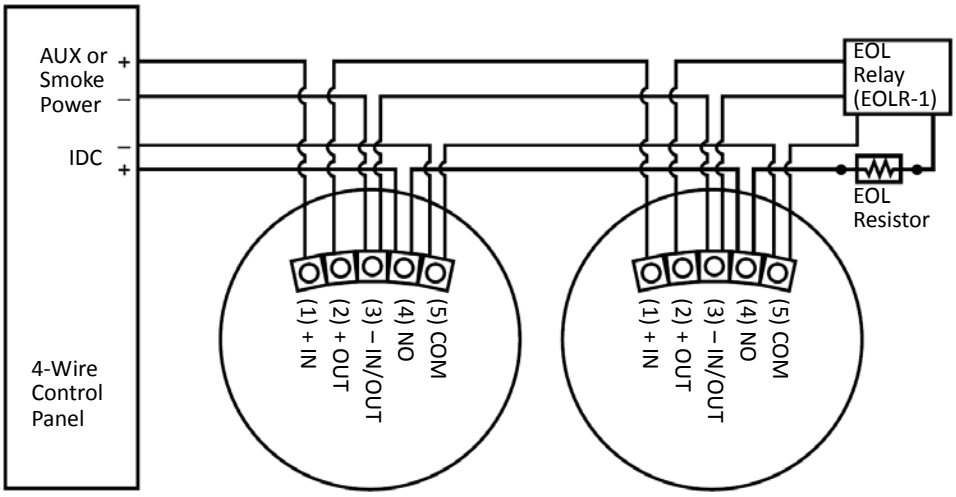
Part Number	Description
729-091-00	Remote LED annunciator
790-012-00	End-of-line power supervision relay module, 9–40 VDC (required for 4-wire detectors)

Wiring Diagrams

2-Wire



4-Wire



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Detect Manage Record

Conventional Detection Devices

Smoke Detector, Four-Wire, Photoelectric, 135°F Heat, T3

723-357-01

Description

This four-wire photoelectric isolated 135° heat detector with its own alarm output is an open-area system detector. It operates on the light-scattering principle using a pulsing LED light source and photodiode sensor in a fully screened sensing chamber.



A LED on the front of the detector housing pulses to indicate that the detector is powered and lights steady when the detector is in alarm.

The detector provides Form A dry relay contact that can be used to connect to a fire alarm control panel if required. It also includes an additional Form C relay output and 90 dBA T3 audible horn.

Features

- White housing
- Isolated 135° heat thermal sensor
- 90 dBA (at 10 ft) Temporal 3 Sounder
- Form C auxiliary dry relay contact
- Non-latching circuit operation

Specifications

Operating Voltage	24 VDC
Standby Current	6 mA
Alarm Current	60 mA
Sensitivity	2.5% Nominal
Alarm Relay Contact	Form A - 1 Amp Normally Open (Resistive
Alarm Auxiliary Contact	Form C - 1 Amp Normally Open(Resistive)
Horn	3100 Hz (nominal) 90 dBA T3 audible alarm per NFPA 72
Input Wiring	16 AWG
Wall or Ceiling Mounting	2" x 3" switch box or 4" octagonal junction box
Temperature	40° to 100°F (4.4° to 37.8°C)
Humidity	10%-93% Relative
Size	5.7" W x 5.7" H x 2.8" D
Standards Compliance:	
UL	ANSI/UL 268 Listed
CSFM	7272-0569:102
MEA	928-84-SA
MSFM Listing	1929

Ordering Information

Part Number	Description
723-357-01	Smoke Detector, Photoelectric, four-wire, 24 VDC: Form A - Alarm dry relay contact, Form C - Auxiliary dry relay contact, isolated 135°F thermal heat, integral 90 dBA local horn, Temporal 3 Sounder, **non-latching circuit**

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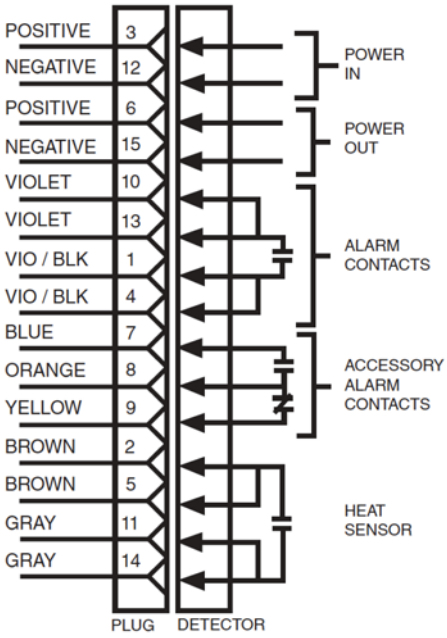
Detect Manage Record

Associated Parts

Part Number	Description
790-012-00	End-of-line power supervision relay module, polarized, 9-40 VDC

Wiring Diagrams

Isolated Thermal Wiring Diagram

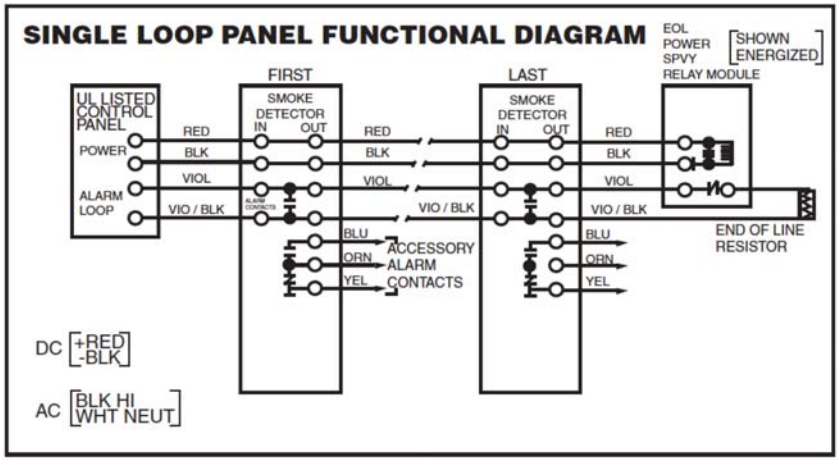


24VDC

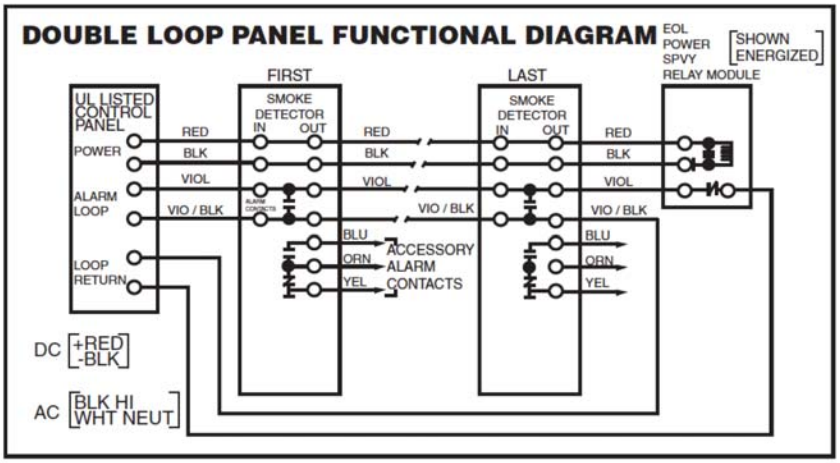
Positive
(Red) Wire:
Pin 3 & Pin 6

Negative
(Black) Wire:
Pin 12 & Pin 15

Single Loop Panel Functional Diagram



Double Loop Panel Functional Diagram



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Detect Manage Record

Conventional Detection Devices

Smoke Detector, Four-Wire, Photoelectric, 135°F Heat, Horn
723-357-02

Description

This four-wire photoelectric isolated 135° heat detector with its own alarm output is an open-area system detector. It operates on the light-scattering principle using a pulsing LED light source and photodiode sensor in a fully screened sensing chamber.



A LED on the front of the detector housing pulses to indicate that the detector is powered and lights steady when the detector is in alarm.

The detector provides Form A dry relay contact that can be used to connect to a fire alarm control panel if required. It also includes an additional Form C relay output and 90 dBA T3 audible horn.

Features

- White housing
- Isolated 135° heat thermal sensor
- 90 dBA (at 10 ft) temporal 3 (T3) audible horn
- Form C auxiliary dry relay contact
- Latching (manual reset) circuit operation

Specifications

Operating Voltage	24 VDC
Standby Current	6 mA
Alarm Current	60 mA
Sensitivity	2.5% Nominal
Alarm Relay Contact	Form A - 1 Amp Normally Open (Resistive
Alarm Auxiliary Contact	Form C - 1 Amp Normally Open(Resistive)
Horn	3100 Hz (nominal) 90 dBA T3 audible alarm per NFPA 72
Input Wiring	16 AWG
Wall or Ceiling Mounting	2" x 3" switch box or 4" octagonal junction box
Temperature	40° to 100°F (4.4° to 37.8°C)
Humidity	10%-93% Relative
Size	5.7" W x 5.7" H x 2.8" D
Standards Compliance:	
UL	ANSI/UL 268 Listed
CSFM	7272-0569:102
MEA	928-84-SA
MSFM Listing	1929

Ordering Information

Part Number	Description
723-357-02	Smoke Detector, Photoelectric, four-wire, 24 VDC: Form A - Alarm dry relay contact, Form C - Auxiliary dry relay contact, isolated 135°F thermal heat, integral 90 dBA T3 audible horn

Associated Parts

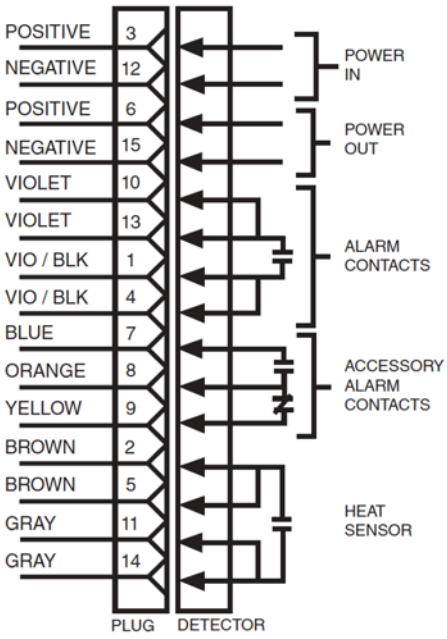
Part Number	Description
790-012-00	End-of-line power supervision relay module, polarized, 9-40 VDC

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Detect Manage Record

Wiring Diagrams

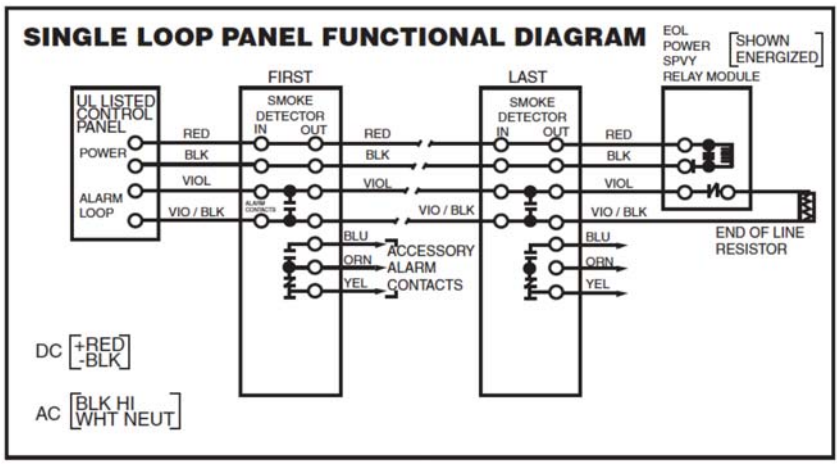
Isolated Thermal Wiring Diagram



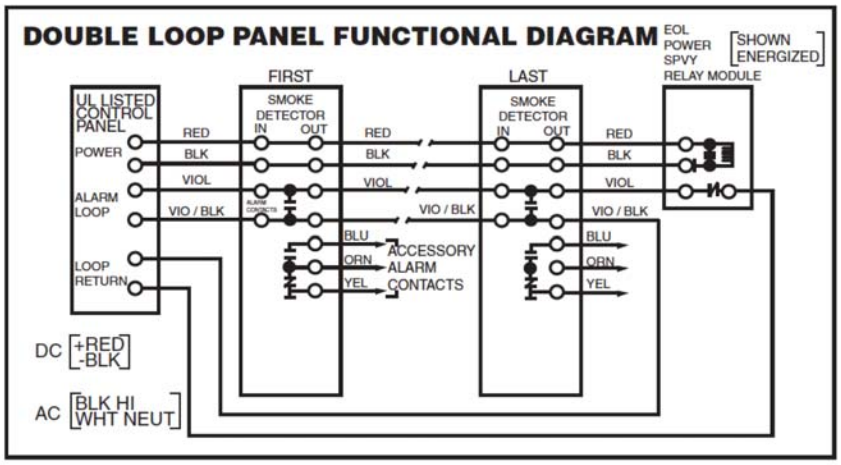
24VDC
Positive
(Red) Wire:
Pin 3 & Pin 6

Negative
(Black) Wire:
Pin 12 & Pin 15

Single Loop Panel Functional Diagram



Double Loop Panel Functional Diagram



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Detect Manage Record

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 µA or 170 µA, max., depending on base
Operating Temperature	–4 to 158°F (–20 to 70°C)
Relative Humidity	10–95%, noncondensing
Dimensions	Diameter: depends on base Height: 2.0"
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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Detect Manage Record

Conventional Detection Devices

Base

One of these is required.

Part Number	Description
729-132-00	Intelligent detector mounting base, plug-in, flanged: ■ Standby current: 170 µA ■ Wiring: 12–18 AWG ■ Mounting: Single gang 4" square (plaster ring optional) 3.5", 4" octagonal 70 mm ■ Diameter: 6.1" ■ Height: 0.76" ■ Operating temperature: –4 to 158°F (–20 to 70°C) ■ Relative humidity: 10–93%, noncondensing
729-127-00	Intelligent detector mounting base, plug-in, flangeless: ■ Standby current: 150 µA ■ Wiring: 12–18 AWG ■ Mounting: 4" square (plaster ring required) 3.5" octagonal 50 mm, 60 mm, 70 mm ■ Diameter: 4.1" ■ Height: 0.74" ■ Operating temperature: –4 to 158°F (–20 to 70°C) ■ Relative humidity: 10–93%, noncondensing

Associated Parts

Part Number	Description
729-091-00	Remote LED annunciator
790-012-00	End-of-line power supervision relay module, 9–40 VDC
729-108-00	Duct smoke or beam detector, remote test station with LED
729-138-00	Duct smoke or beam detector, remote test station with LED and key

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Detect
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Conventional Detection Devices

Reflected Beam Smoke Detector

725-312-00, 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 (shown above) and a separate reflector. It is a four-wire system connected to a control panel for communication and DC power.

Indicators

- **Green LED** Blinks, indicating standby
- **Red LED** On for alarm
- **Yellow LED** Blinks in patterns to diagnose troubles
- **Dual Digital Display** 0–99, indicates beam signal strength and sensitivity in percent obscuration

Testing

725-312-00 Manual sensitivity (obscuration) test, local test switch, or test commands from the panel or optional remote test station

725-313-00 Integral sensitivity (obscuration) test, local test switch, or test commands from the panel or optional remote test station

Features

- Form A (N.O.) contact for alarm, Form B (N.C.) contact for trouble
- Sensitivity setting and testing
- Dual digital display
- Signal-strength monitoring for updating alarm and trouble thresholds

Specifications

Operating Voltage	12/24 VDC nominal 12 VDC range: 10.2–32V 24 VDC range: 15–32V **Note** P/N 725-313-00 should be on 24V nominal only
Current (at 24 VDC)	Standby: 17 mA max. Alarm: 38.5 mA max. Trouble: 8.5 mA max. Alignment: 28 mA max. P/N 725-313-00 test mode: 0.5A max. Remote output: 6–15 mA, 2.2 kΩ resistor-limited
Range	16–230 feet (5–70m); 230–328 feet (70–100m) with P/N 729-188-00 (See "Associated Parts.")

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Conventional Detection Devices

Spacing	30–60 feet (9.1–18.3m)
Adjustment Angle	+/– 10 degrees
Typical Response Time	Alarm: 20 seconds Trouble: 30 seconds
Wiring	12–22 AWG, shielded twisted pair run through separate conduit
Operating Temperature	–22 to 131°F (–30 to 55°C); ice must not form on components
Relative Humidity	10–93%, noncondensing (essential)
Dimensions	Detector: 10" H x 7.5" W x 3.3" D (254 mm x 191 mm x 83.8 mm) Reflector: 7.9" H x 9.1" W (200.7 mm x 231.1 mm)
Weight (Shipping)	3.9 lb (1.77 kg)

Sensitivity

Sensitivity Setting	Percent Obscuration	Display Reading	Acceptable Distance, Detector to Reflector	
			Feet	Meters
Level 1	25	25	16.4–120	5.0–36.6
Level 2	30	30	25–150	7.6–45.7
Level 3	40	40	60–220	18.3–67.0
Level 4*	50	50	80–328	24.4–100.0
Acclimate Level 1	30–50	A1	80–150	24.4–45.7
Acclimate Level 2	40–50	A2	80–220	24.4–67.0
*Factory default				

Ordering Information

Detector

Part Number	Description
725-312-00	Conventional reflected beam smoke detector, 32V max., 4-wire
725-313-00	Conventional reflected beam smoke detector, 32V max., 4-wire, integral sensitivity test capability

Associated Parts

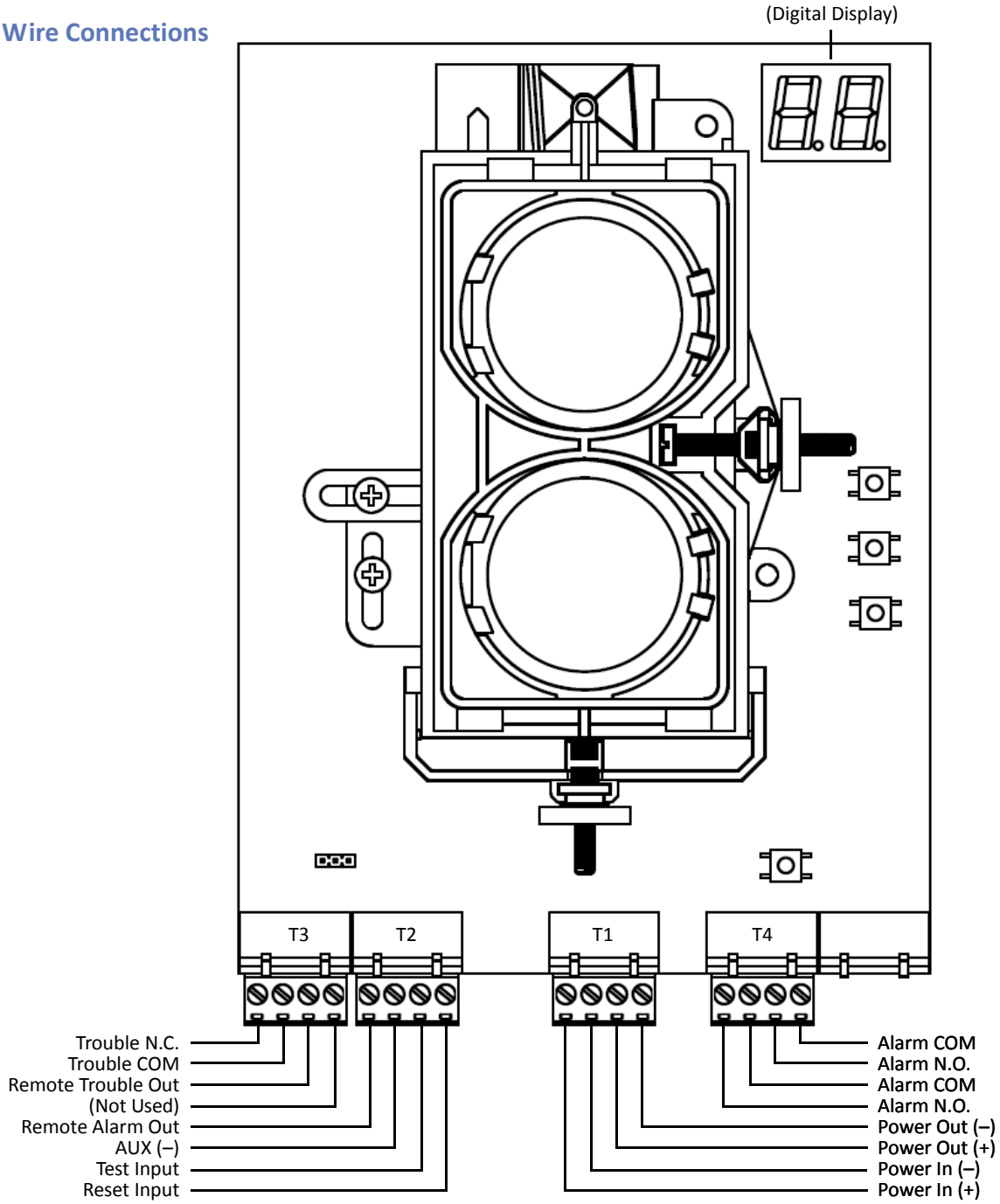
Part Number	Description
729-108-00	Duct* smoke detector, remote test station with LED
729-138-00	Duct* smoke detector, remote test station with LED and key
729-187-00	Mounting kit for smoke detector P/Ns 725-312-00 and 725-313-00, if needed to achieve +/– 10 degree alignment angle with either transmit/ receive unit or reflector; not compatible with P/N 729-188-00
729-188-00	Kit of 3 additional reflectors to extend range of smoke detector P/Ns 725-312-00 and 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/Ns 725-312-00 and 725-313-00 when mounting the transmit/ receive unit: ■ Over a recessed J box ■ With multi-mount kit P/N 729-187-00
*Test station can be used for smoke detector applications other than duct.	

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Detect Manage Record

Drawings

Wire Connections

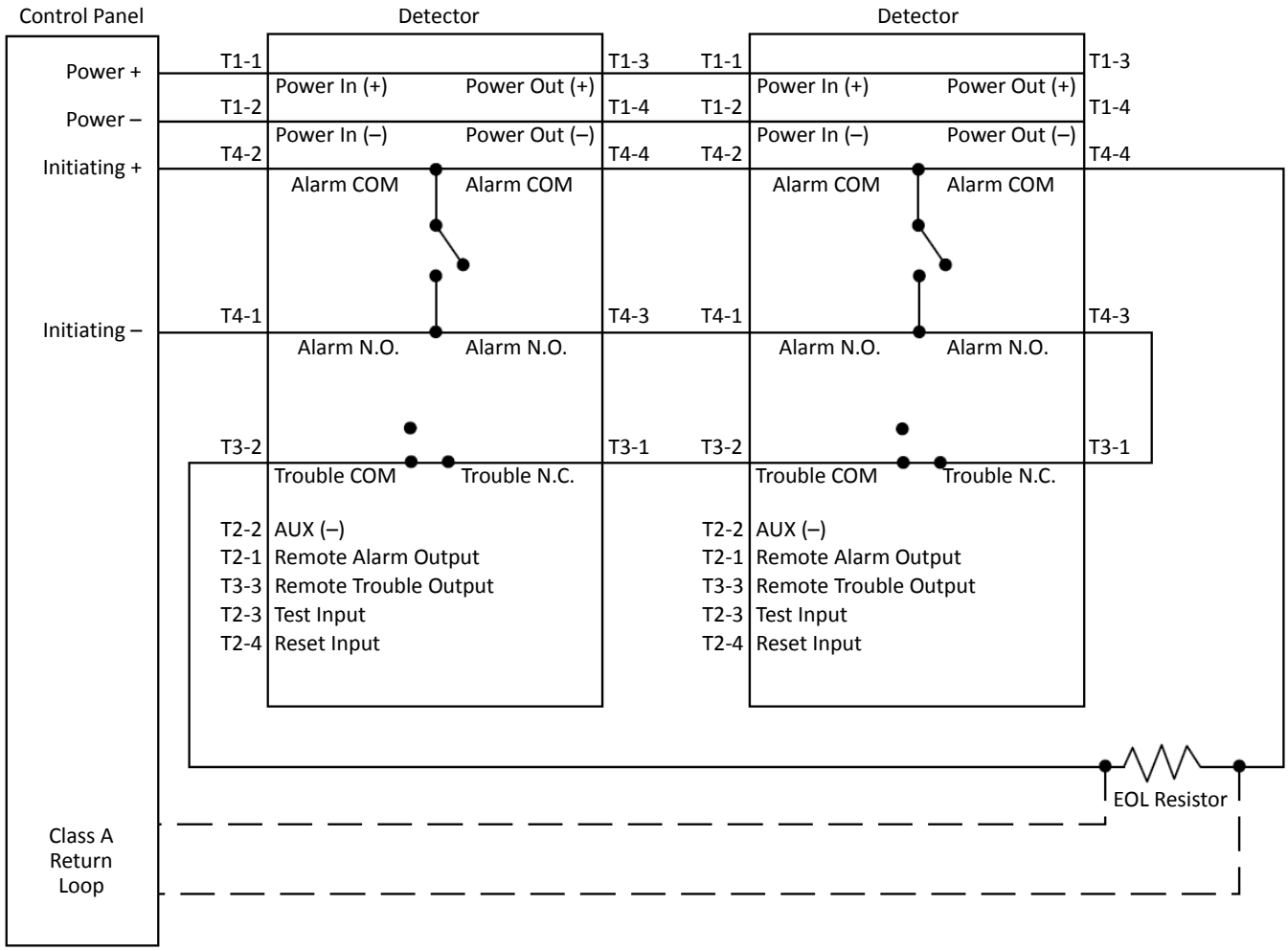


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Detect Manage Record

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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Detect Manage Record

Conventional Detection Devices

Heat Detector, 194° Fixed Temperature Rate Compensation

721-107-00



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
- Detector should not respond to momentary temperature fluctuation of less that 50°F (10°C) per minute between 60° (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 - 125 VAC / 5 A 6 - 25 VDC / 1 A 125 VDC / 0.5 A
Detector Type	Fixed Temperature Rate Compensation
Contacts	Normally Open (NO)
Detector Rated Temperature	194°F (90°C)
Minimum Ambient Air Temperature	-40°F (-40°C)
Maximum Ceiling Temperature	150°F to 155°F (66°C to 68°C)
Open Area Protection	50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Vertical Mounting	3" or 4" octagon junction box
Dimensions with Mounting Bracket	4.125" Length x 2" Diameter (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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Detect Manage Record

Conventional Detection Devices

Ordering Information

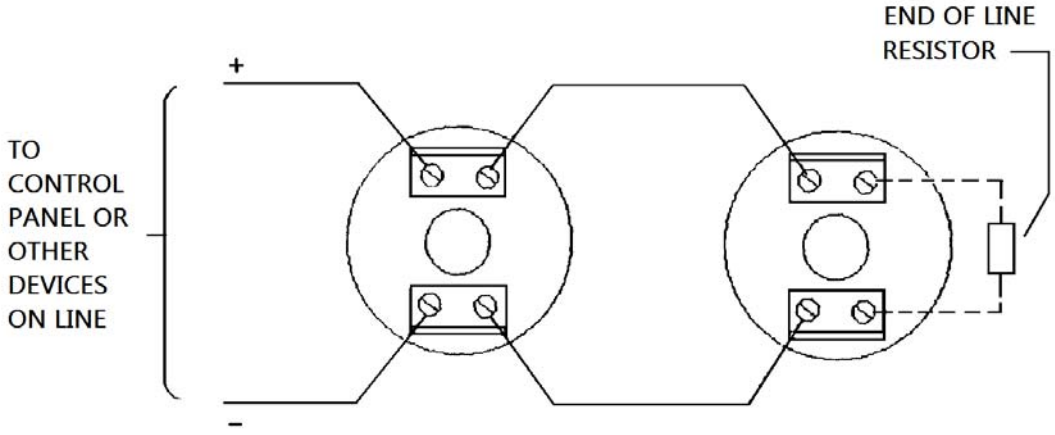
Part Number	Description
721-107-00	Heat Detector, rate compensation 194°F Fixed Temperature (restorable), aluminum, contacts normally open

Associated Parts

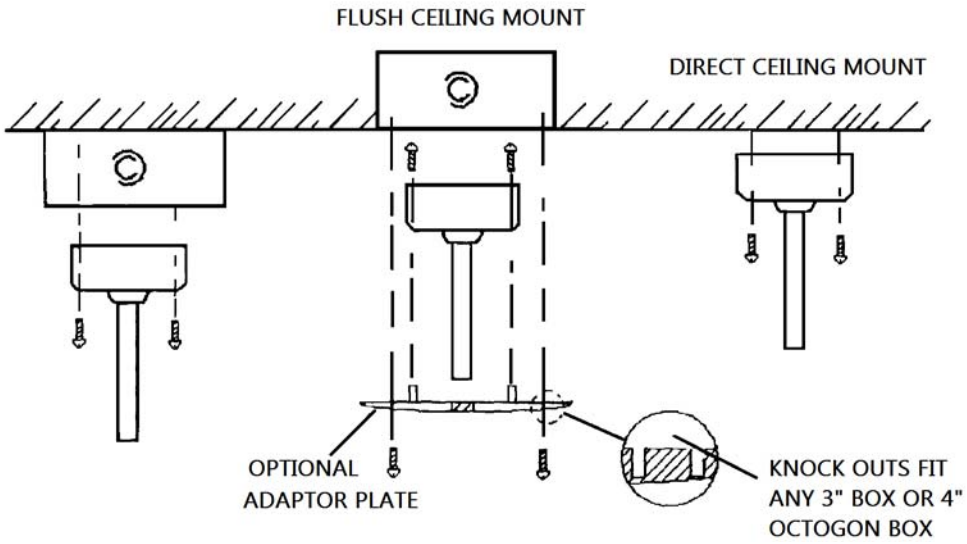
Part Number	Description
729-020-00	Adapter Plate, white, 4" plastic box

Drawings

Wiring Diagram



Junction Box Mounting



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Conventional Detection Devices

Heat Detector, 194° Fixed Temperature Rate Compensation

721-108-00



- 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

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

Specifications

Operating Voltage/ Current	6 - 125 VAC / 5 A 6 - 25 VDC / 1 A 125 VDC / 0.5 A
Detector Type	Rate Compensation 4-Wire Leads, Weatherproof
Contacts	Normally Open (NO)
Detector Rated Temperature	194°F (90°C)
Minimum Ambient Air Temperature	-40°F (-40°C)
Maximum Ceiling Temperature	150°F to 155°F (66°C to 68°C)
Open Area Protection	Vertical Mount: 50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Vertical Mounting	3" or 4" octagon junction box
Dimensions with Mounting Bracket	4.125" Length x 2" Diameter (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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Detect Manage Record

Conventional Detection Devices

Ordering Information

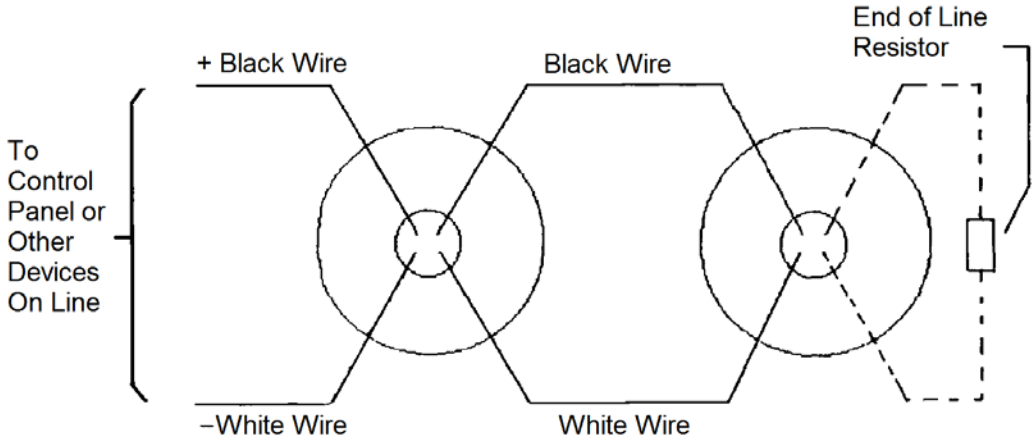
Part Number	Description
721-108-00	Heat Detector, rate compensation 194°F Fixed Temperature (restorable), aluminum with 4-wire leads, contacts normally open, weatherproof

Associated Parts

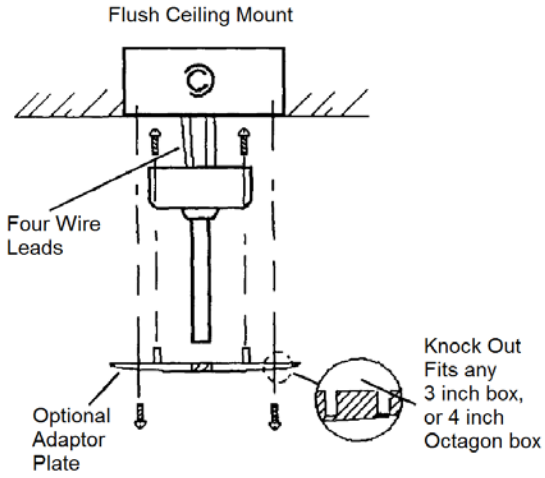
Part Number	Description
729-020-00	Adapter Plate, white, 4" plastic box

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° (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 / 5 A 6 - 25 VDC / 1 A 125 VDC / 0.5 A
Detector Type	Rate Compensation
Contacts	Normally Open (NO)
Detector Rated Temperature	135°F (57°C)
Minimum Ambient Air Temperature	-40°F (-40°C)
Maximum Ceiling Temperature	100°F to 115°F (38°C to 46°C)
Open Area Protection	Vertical Mount: 40 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m) Horizontal Mount: 30 foot spacing
Mounting	Hexagonal grip bushing with 1/2" conduit threads for attaching to threaded hub cover of JL fixture fitting (manufacturer Killark Electric or equal) Must be hand tightened only
Dimensions	3" Length x 1.25" Diameter (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

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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Detect Manage Record

Conventional Detection Devices

Ordering Information

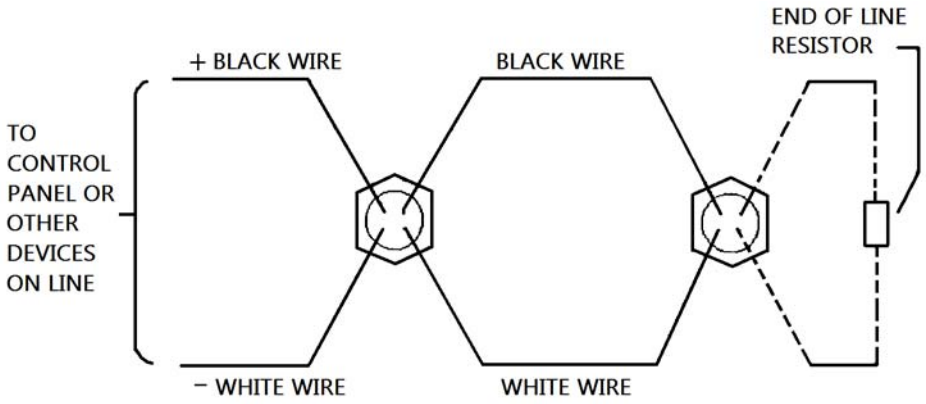
Part Number	Description
721-109-00	Heat Detector, rate compensation 135°F Fixed Temperature (restorable), aluminum, contacts normally open, explosion proof

Associated Parts

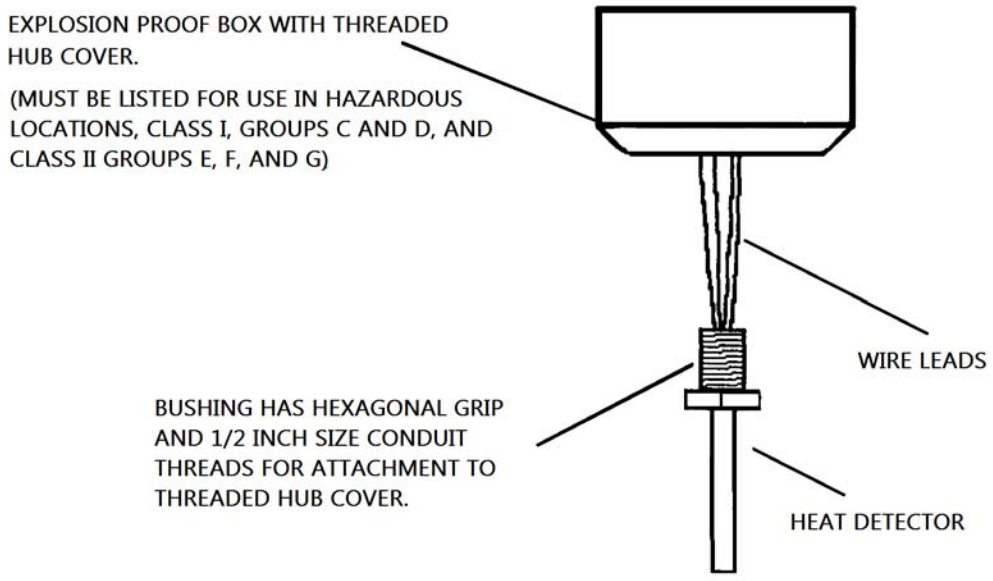
Part Number	Description
729-193-00	Hub: Cover, Square, 1/2 in. Explosion Proof

Drawings

Wiring Diagram



Mounting



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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

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

Specifications

Operating Voltage/ Current	6 - 125 VAC / 5 A 6 - 25 VDC / 1 A 125 VDC / 0.5 A
Detector Type	Rate Compensation
Contacts	Normally Open (NO)
Detector Rated Temperature	194°F (90°C)
Minimum Ambient Air Temperature	-40°F (-40°C)
Maximum Ceiling Temperature	150°F to 155°F (66°C to 68°C)
Open Area Protection	Vertical Mount: 40 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m) Horizontal Mount: 30 foot spacing
Mounting	Hexagonal grip bushing with 1/2" 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" Length x 1.25" Diameter (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

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Detect Manage Record

Conventional Detection Devices

Ordering Information

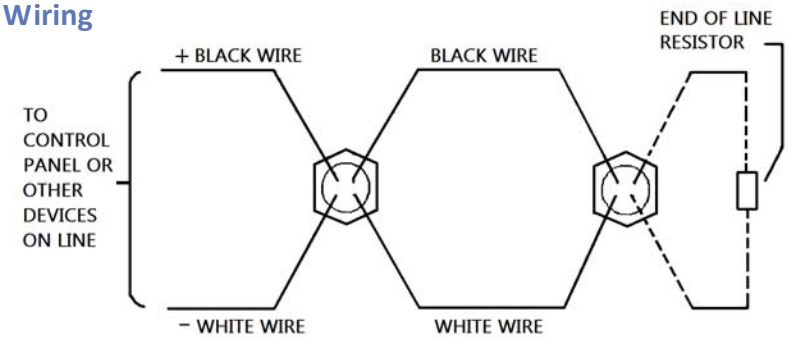
Part Number	Description
721-110-00	Heat Detector, rate compensation 194°F Fixed Temperature (restorable), aluminum, contacts normally open, explosion proof

Associated Parts

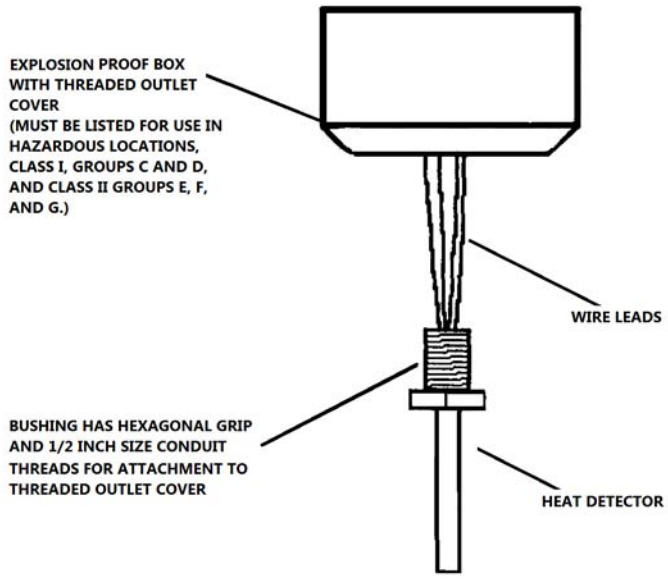
Part Number	Description
729-193-00	Conduit Outlet Box Cover, 1/2" cover, explosion proof.

Drawings

Wiring

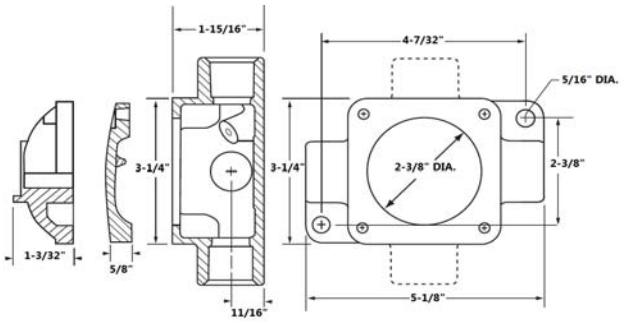


Mounting



EACH DETECTOR SHOULD HAVE NO TORQUE (I.E., TIGHTENING WITH A WRENCH). HAND TIGHTEN ONLY. FOR EXTERNAL USE ONLY.

Outlet Box and Cover Dimensions



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Detect Manage Record

Conventional Detection Devices

Heat Detector, 135° Fixed Temperature Rate Compensation

721-117-00



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
- 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 - 125 VAC / 5 A 6 - 25 VDC / 1 A 125 VDC / 0.5 A
Detector Type	Rate Compensation 4-Wire Leads, Weatherproof
Contacts	Normally Open (NO)
Detector Rated Temperature	135°F (57°C)
Minimum Ambient Air Temperature	-40°F (-40°C)
Maximum Ceiling Temperature	100°F to 115°F (38°C to 46°C)
Open Area Protection	Vertical Mount: 50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m) Horizontal Mount: 40 foot spacing
Vertical Mounting	3" or 4" octagon junction box
Dimensions with Mounting Bracket	4.125" Length x 2" Diameter (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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Detect Manage Record

Conventional Detection Devices

Ordering Information

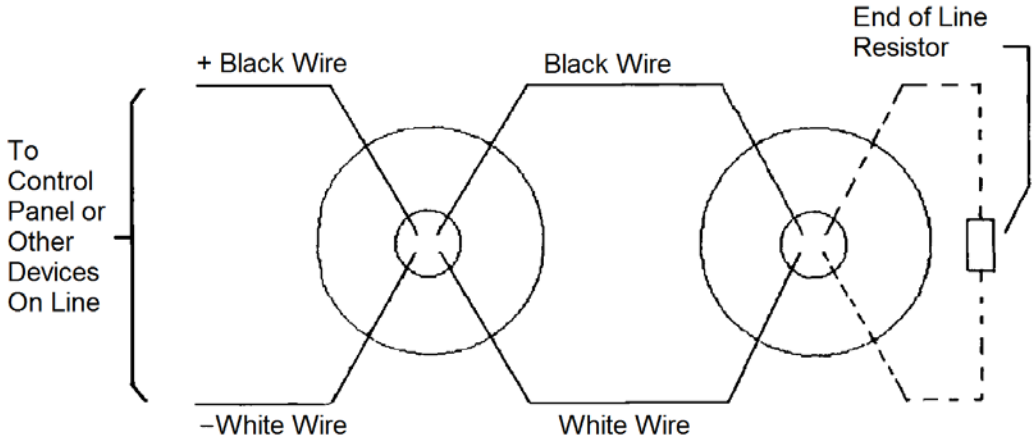
Part Number	Description
721-117-00	Heat Detector, rate compensation 135°F Fixed Temperature (restorable), aluminum with 4-wire leads, contacts normally open, weatherproof

Associated Parts

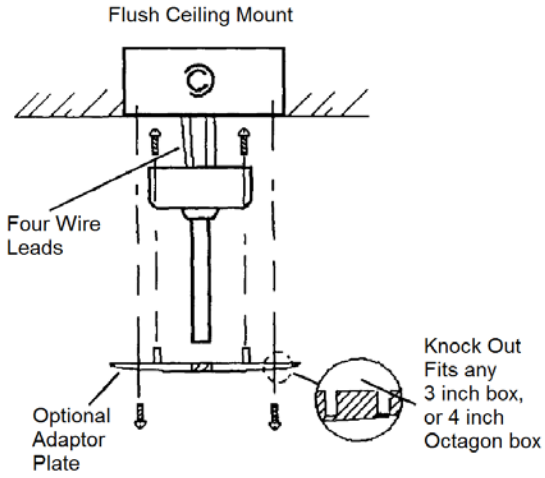
Part Number	Description
729-020-00	Adapter Plate, white, 4" plastic box

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



- Detector has RTI rating for installation of V2-FAST in accordance with FM 3210
- Open-area protection
- Optional remote LED annunciator capability

Specifications

Voltage Range	8.5–35 VDC
Standby Current (max. avg.)	80 µA @ 24 VDC (one flash every five seconds)
Alarm Current	10 mA min., 130 mA max. (must be limited by control panel)
Detector Type	2-wire, plug-in
Relay Contact Ratings (resistive or inductive 60% power factor load):	
Form A	2.0 A @ 30 VAC/DC
Form C	0.6 A @ 110 VDC, 2.0 A @ 30 VDC; 1.0 A @ 125 VAC, 2.0 A @ 30 VAC
Operating Temperature Range	32° to 100°F (0° to 38°C)
Release Temperature Ratings:	
Fixed Temperature	135°F (57°C)
Rate-of-Rise	15°F/min. (-9.4°C/min.)
Operating Humidity (Relative Humidity)	10% to 93% noncondensing
Open Area Protection	50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Mounting Junction Box (at least 1.5" deep)	Single gang 4" square (with/without ring), or 3.5" octagonal, or 4.0" octagonal, or 50mm, 60mm, 70mm, or 75mm
Dimensions	1.64" High x 4.0" Diameter (42 mm) x (102 mm)
Weight	2.8 oz (80 g)
Standards Compliance	Listed to UL 521 and FM 3210
UL/ULC Listed	S2101
FM	Approved
State of California	7270-1653:104

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

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Detect Manage Record

Conventional Detection Devices

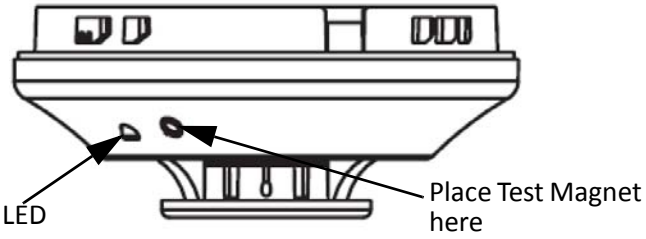
Ordering Information

Part Number	Description
721-122-00	Heat Detector, combination 135°F Fixed Temperature (restorable) and 15°F/min. Rate-of-Rise (restorable), off-white, 2-wire, plug-in

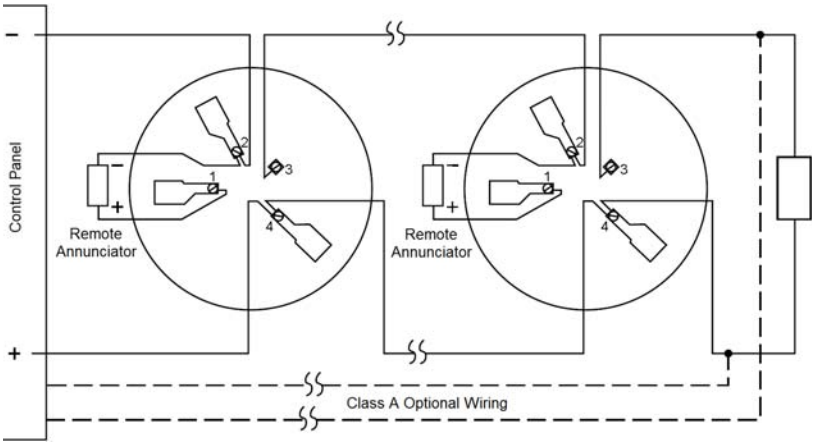
Associated Parts

Part Number	Description
729-125-00	Conventional detector base, plug-in, 12/24 VDC 2-wire, 4.0 inches in diameter
729-150-00	Conventional detector base, plug-in, low profile, 12/24 VDC, 2-wire, 6.2 inches in diameter
729-151-00	Conventional detector base, plug-in, low profile, 24 VDC, 4-wire, Form A and C relay contacts, 6.2 inches in diameter
729-097-00	Conventional detector base, plug-in, low profile, 24VDC, 2-wire, current-limiting resistor, 6.2 inches in diameter
729-091-00	Remote LED Annunciator. Fits standard single-gang electrical box (not included)

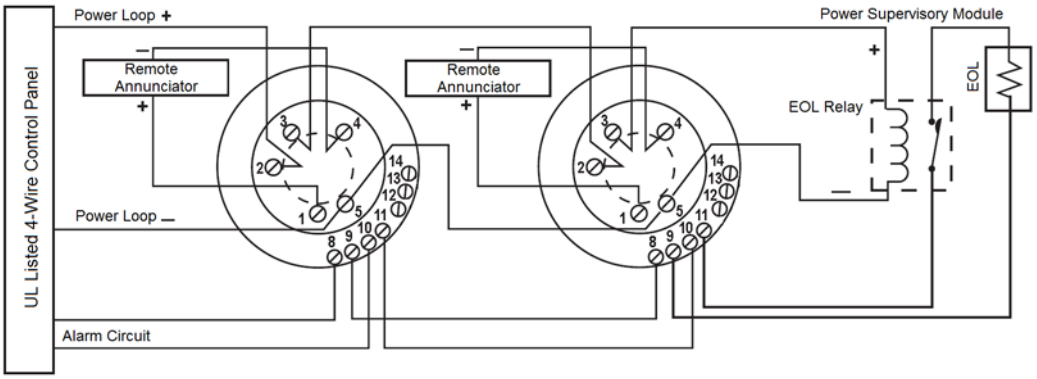
Mounting Diagram



Wiring Diagram - Typical 2-Wire



Wiring Diagram - Typical 4-Wire



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Detect Manage Record

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

Heat Sensing Element	Thermistor
Detector Type	2 or 4 wire
Contacts	Normally Open (NO)
Nominal Rated Voltage	24 VDC
Rated Voltage 2-Wire	15.0 ~ 33.0 VDC
Rated Voltage 4 Wire	17.7 ~ 30.0 VDC
Maximum Voltage	42.0 VDC maximum
Wave Form	Filtered DC, 5V ripple maximum
Supervisory Current	35µA @ 24 VDC
Surge Current	160µA max. @ 24 VDC
Maximum Allowable Current	150mA max. @ 24 VDC
Minimum, Alarm Trip Current	6mA
Fixed Temperature *Rate-of-Rise*	135°F (57°C) 15°F/min. (-9.4°C/min.)
Operating Temperature	-14°F to 122°F (-10°C to 50°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Response Temperature	135°F ±7.5°F
Open Area Protection	30 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 15 ft/5m)
Mounting *Junction Box*	4" square, or 4" octagonal
Dimensions with *Mounting Bracket*	1.5" High x 4" Diameter (38 mm) x (101 mm)
Weight	3.1 oz (0.1 kg)
Standards Compliance	NFPA Standard 72
UL	S2966
FM	Approved
State of California	7270-0410:0151

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Detect Manage Record

Conventional Detection Devices

Ordering Information

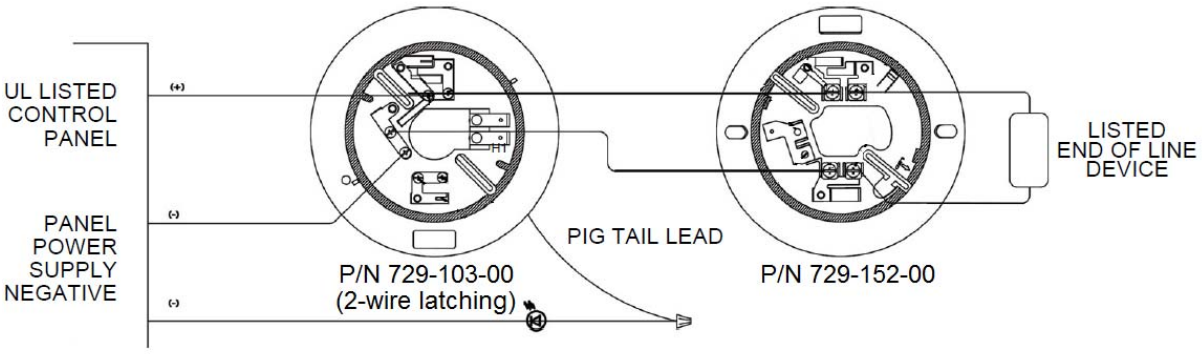
Part Number	Description
721-123-00	Heat Detector, combination 135°F Fixed Temperature (restorable) and 15°F/min. Rate-of-Rise (restorable), indoor, fully electronic with 2 LEDs, normally open contacts

Associated Parts

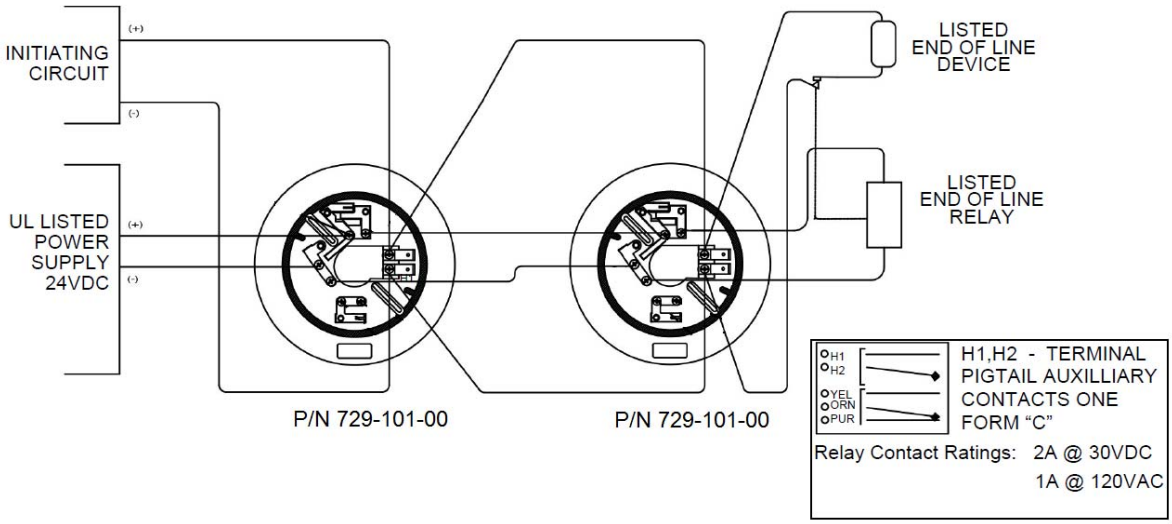
Part Number	Description
729-152-00	Heat Detector Base, Alarm Current 43mA (70mA @ 33.0V max), 2-Wire, 6" diameter, resistor included, plastic tamper lock lug
729-101-00	Heat Detector Base, Alarm Current 43mA (58mA @30.0V max), 4-Wire, 24 VDC, 6" diameter, current limited, plastic tamper lock lug
729-103-00	Heat Detector Base, Alarm Current 43mA (35-42mA @ 24V [54mA max]), 2-Wire Latching, 6" diameter, current limiting resistor

Drawings

2-Wire



4-Wire



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Detect Manage Record

Conventional Detection Devices

Heat Detector, 135°F Fixed Temperature/Rate Compensation

721-125-00



Specifications

Detector Type	Fixed Temperature Rate Compensation
Contacts	Normally Open (NO)
Contact Specs	6-125 VAC, 5 Amps; 6-25 VDC, 1 Amp; 125 VDC, 0.5 Amps
Detector Rated Temperature	135°F (57°C)
Open Area Protection	Maximum 2500 square feet (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Vertical Mounting	3 1/2" junction box, or 4 inch octagon junction box
Rod	1/2" (13 mm)
Dimensions	4 1/2" L x 3 1/2" W (114 mm) x (89 mm)
Standards Compliance:	
ULC	S7619
State of California	7270-0067:0026

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)

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

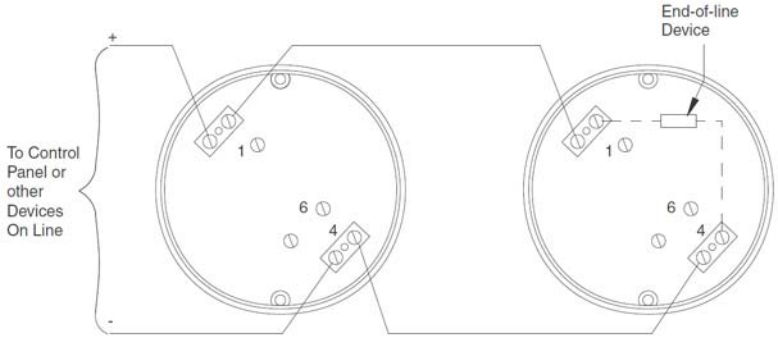
Part Number	Description
729-020-00	Adapter Plate, white, 4" plastic box

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Detect Manage Record

Drawings

Wiring Diagram

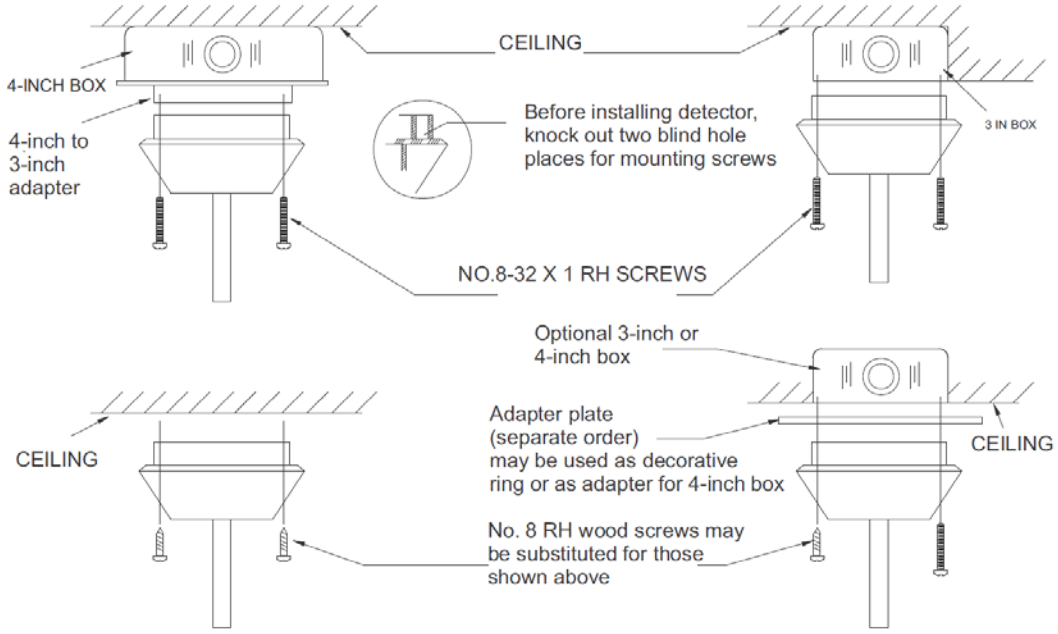


NOTES

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 backbox
- 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; the diaphram depresses and the electrical contact closes 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/ Contact Ratings (Resistive)	6 - 125 VAC / 3 A 6 - 28 VDC / 1 A 125 VDC / 0.3 A 250 VDC / 0.1 A
Detector Type	Single Circuit, mechanical
Contacts	Normally Open (NO)
Installation Temperature	100°F (38°C) max.
Shipping/Storage Temperature (max.)	122°F (50°C)
Release Temperature Ratings:	
Fixed Temperature	135°F (57°C
Rate-of-Rise	15°F/min. (-9.4°C/min.)
Operating Humidity	5 to 95% RH noncondensing
Open Area Protection	50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	14–22 AWG **NOTE** Required wire gauge based on voltage drop
Mounting (includes reversible mounting bracket)	Single gang backbox, or 4" square (with plaster ring), or 3.5" octagonal backbox, or 4.0" octagonal backbox
Dimensions with Mounting Bracket	1.69" High x 4.57" Diameter (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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Detect Manage Record

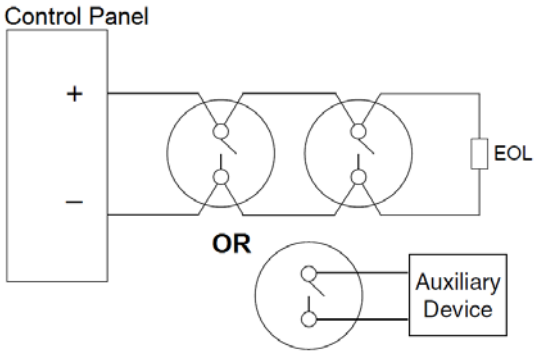
Conventional Detection Devices

Ordering Information

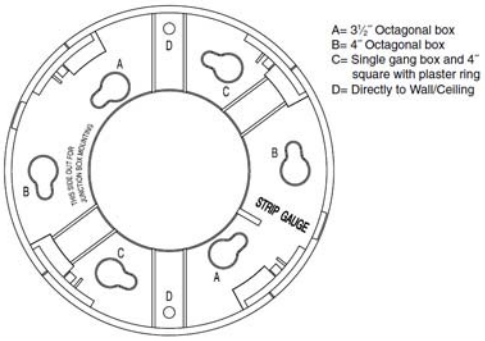
Part Number	Description
721-127-00	Heat Detector, combination 135°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable), plain, single circuit, normally open contacts

Drawings

Wiring Diagram - Single Circuit

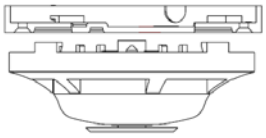


Reversible Mounting Bracket Mounting Locations

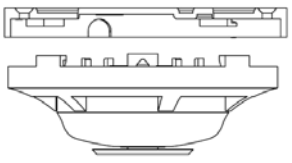


Mounting with Reversible Mounting Bracket

Surface Mount



Flush Mount



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Detect Manage Record

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 backbox
- 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 diaphram 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/ Contact Ratings (Resistive)	6 - 125 VAC / 3 A 6 - 28 VDC / 1 A 125 VDC / 0.3 A 250 VDC / 0.1 A
Detector Type	Dual Circuit, mechanical
Contacts	Normally Open (NO)
Maximum Installation Temperature	100°F (38°C)
Shipping/Storage Temperature (max.)	122°F (50°C)
Release Temperature Ratings: *Fixed Temperature* *Rate-of-Rise*	 135°F (57°C) 15°F/min. (-9.4°C/min.)
Operating Humidity	5 to 95% RH noncondensing
Open Area Protection	50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	14–22 AWG **NOTE** Required wire gauge based on voltage drop
Mounting (includes reversible mounting bracket)	Single gang backbox, or 4" square (with plaster ring), or 3.5" octagonal backbox, or 4.0" octagonal backbox
Dimensions with Mounting Bracket	1.69" High x 4.57" Diameter (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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Detect Manage Record

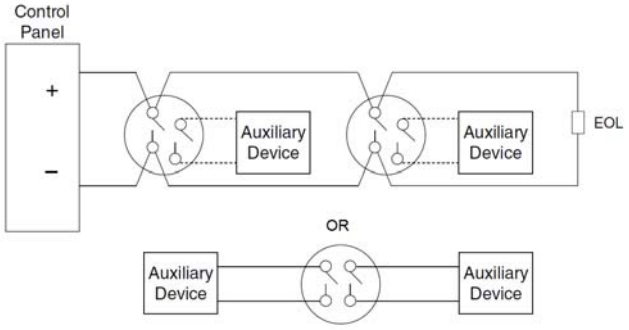
Conventional Detection Devices

Ordering Information

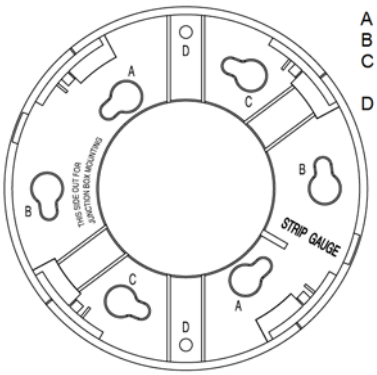
Part Number	Description
721-128-00	Heat Detector, combination 135°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable), mechanical dual circuit

Drawings

Wiring Diagram - Dual Circuit



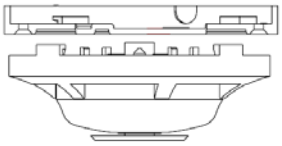
Reversible Mounting Bracket Mounting Locations



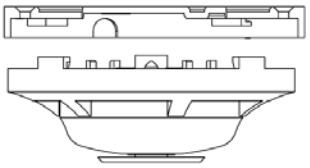
A = 3 1/2" Octagonal box
B = 4" Octagonal box
C = Single gang box and 4" square with plaster ring
D = Directly to Wall/Ceiling

Mounting with Reversible Mounting Bracket

Surface Mount



Flush Mount



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Detect Manage Record

Conventional Detection Devices

Heat Detector, 135°F Fixed Temp/Rate-of-Rise Explosion Proof

721-129-00



Features

- Anodized aluminum housing Conventional heat detector
- Operates normally at low temperatures
- Fixed Temperature and Rate-of-Rise thermal detection
  - Detector alarm at 135°F Fixed Temperature (non-restorable)
    (spring-loaded plunger held in place by eutectic solder that fuses at fixed temperature causing device remains in alarm state until replaced)
  - Rate-of-Rise element rated at 15°F (-9.4°) per minute (restorable - operating on Rate-of-Rise only) (detector contacts close when the temperature rate is reached causing fire alarm sequence)
    - Sensor testing at the device with controlled heat source (below fixed temperature setting)
  - Normally Open (NO) Contacts
- Dust and water-tight
- Moisture proof
- Explosion proof

Application

- Class I, Group C and Group D
- Class II, Group E and Group F
- Class III, Group G
- Class III, location where there is explosion danger due to presence of flammable fibers or flyings

Specifications

Contact Rating	3A @ 125 VAC, 1A @ 28 VDC 0.3A @ 125 VDC, 0.1A @ 250 VDC
Alarm Current	Dual Circuit
Detector Type	Normally Open (NO)
Operating Temp Range	40°F (-40°C) to 250°F (120°C)
Max. Installation Temp	100°F (37.8°C)
Wiring	18 AWG
Release Temp Ratings:	Fixed Temp 135°F (57°C) Rate of Rise 15°F/min (-9.4°C/min)
Open Area Protection	Ceiling Spacing: 50 ft (15.2 m) (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m) Distance to wall: 25 ft/7.5m
Mounting	Use 1/2" threaded conduit
Dimensions	3.6" H x 5.5" D (92 mm) x (140 mm)
Weight	2.0 lb (.90 kg)
Standards Compliance:	UL Listed 41H8
ULC	Listed 42A0 Issue No. AU-1402
UL Certified for Canada	UIRV7.E210635
State of California	7270-1110:0100

Ordering Information

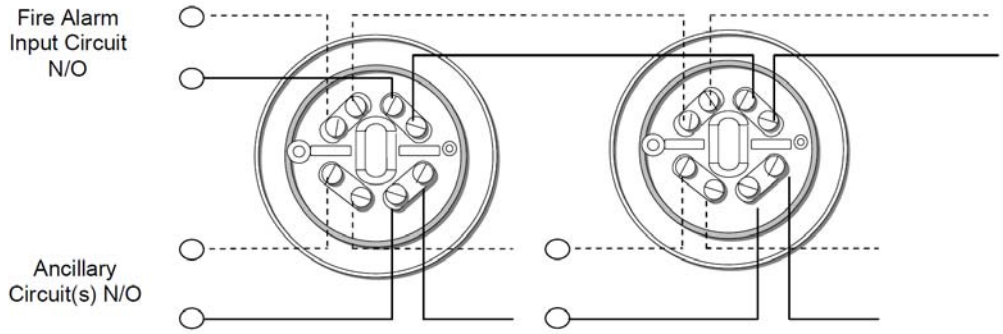
Part Number	Description
721-129-00	Heat Detector, combination 135°F Fixed Temperature (non-restorable), Rate-of-Rise (restorable*), aluminum, conventional, dual circuit, normally open contacts, moisture proof, explosion proof *Non-restorable if fixed temp alarm state initiated

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Detect Manage Record

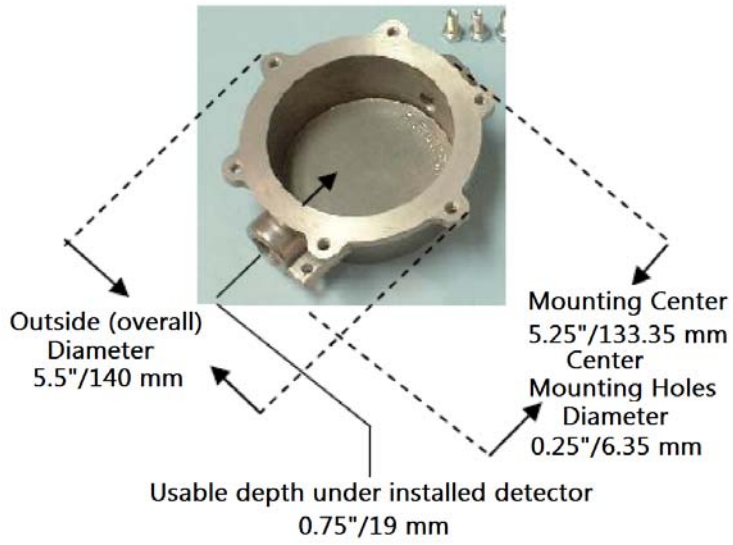
Drawings

Wiring Diagram



CAUTION: All wiring must be installed in compliance with the local electrical code using approved cable, 18 AWG minimum. Begin electrical connections by stripping approximately 1 inch (2.5 cm) from the end of each wire. Insert stripped end into the wire retaining hole in the terminal bar, wrap clockwise around the terminal screw and tighten. Circuit wiring must be broken at each terminal to ensure proper supervision.

Mounting



Install using 1/2" threaded conduit in accordance with local electrical code requirements.

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Conventional Detection Devices

Heat Detector, 135°F Fixed Temperature/Rate of Rise

721-130-00



Specifications

Contact Electrical Rating	3 A @ 125 VAC 1 A @ 28 VDC 0.3 A @ 125 VDC 0.1 A @ 250 VDC
Detector Type	Dual Circuit
Contacts	Normally Open (NO)
Maximum Installation Temperature	100°F (38°C)
Operating Temperature Range	-20°F to 250°F (-29°C to 121°C)
Release Temperature Rating: *Fixed Temperature* *Rate-of-Rise*	 Non-restorable, 135°F (57°C) Restorable, 15°F/min. (-9.4°C/min.)
Open Area Protection	70 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	18 AWG minimum
Mounting	Mounting plate fits standard octagon box (mounting holes on 3.5" centers)
Dimensions with Mounting Bracket	2" High x 5.25" Diameter (51 mm) x (133 mm)
Weight	0.41 lbs (0.19 kg)
Shipping Weight	0.6 lbs (0.3 kg)
Standards Compliance	Listed to UL 521, ULC S531
UL/ULC Listed	S2406
State of California	7270-1110:0100

Features

- Cast aluminum housing Conventional heat detector
- Low profile mounting flexibility with screw terminals
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 135°F Fixed Temperature (non-restorable)
    (spring-loaded plunger held in place by eutectic solder that fuses at fixed temperature causing device to remain in alarm state until replaced)
  - Rate-of-Rise element rated at 15°F (-9.4°) per minute (restorable - operating on Rate-of-Rise only) (detector contacts close when the temperature rate is reached causing fire alarm sequence)
    - Sensor testing at the device with controlled heat source (below fixed temperature setting)
- Two Sets of Normally Open (NO) contacts
- Open-area protection

Ordering Information

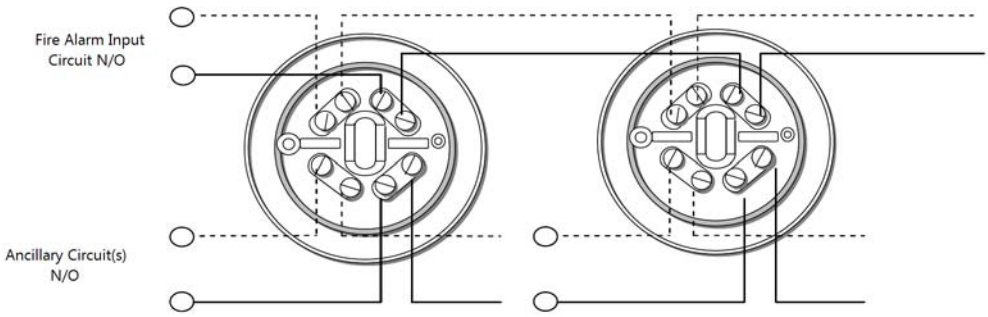
Part Number	Description
721-130-00	Heat Detector, combination 135°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable*), aluminum, two sets of normally open contacts *Non-restorable if fixed temp alarm state initiated

Monaco Enterprises, Inc.
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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

Drawing

Wiring Diagram



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Detect
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Conventional Detection Devices

Heat Detector, 135°F Fixed Temperature/Rate of Rise

721-131-00



Specifications

Contact Electrical Rating	3 A @ 125 VAC 1 A @ 28 VDC 0.3 A @ 125 VDC 0.1 A @ 250 VDC
Detector Type	Dual Circuit, Waterproof
Contacts	2 sets, Normally Open (NO)
Maximum Installation Temperature	100°F (37.8°C)
Operating Temperature Range	-20°F to 250°F (-29°C to 121°C)
Release Temperature Rating: *Fixed Temperature* *Rate-of-Rise*	 Non-restorable, 135°F (57°C) Restorable, 15°F/min. (-9.4°C/min.)
Open Area Protection	70 foot (21 meter) spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	18 AWG minimum
Mounting	Mounting plate fits 4" standard octagon box 4" exterior cast metal backbox and gasket
Dimensions with Mounting Bracket	2" High x 5.25" Diameter (50 mm) x (133 mm)
Weight	0.41 lbs (0.19 kg)
Standards Compliance	Listed to UL 521, ULC S531
UL/ULC Listed	S2406
State of California	7270-1110:0100

Features

- Anodized aluminum housing Conventional heat detector
- Low profile mounting flexibility with screw terminals
- Fixed and Rate-of-Rise thermal detection
  - – Detector alarm at 135°F Fixed Temperature (non-restorable)
    (spring-loaded plunger held in place by eutectic solder that fuses at fixed temperature causing device to remain in alarm state until replaced)
  - – Rate-of-Rise element rated at 15°F (-9.4°) per minute (restorable - operating on Rate-of-Rise only) (detector contacts close when the temperature rate is reached causing fire alarm sequence)
    - Sensor testing at the device with controlled heat source (below fixed temperature setting)
- Normally Open (NO) contacts
- Open Area Protection
- Waterproof

Ordering Information

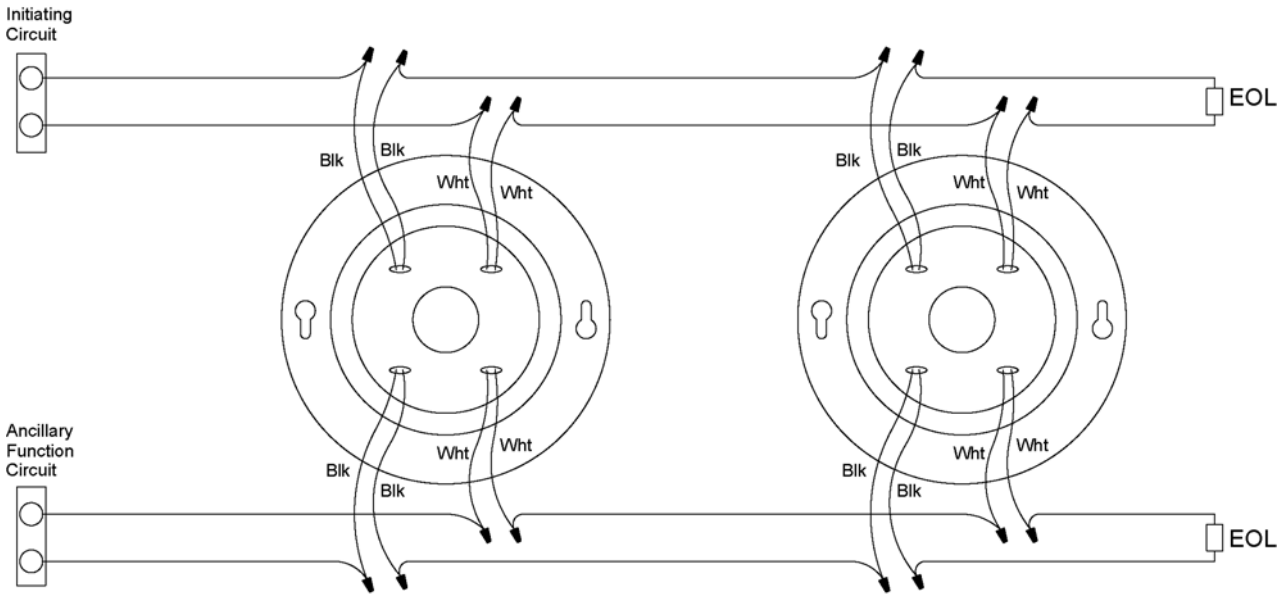
Part Number	Description
721-131-00	Heat Detector, combination 135°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable*), aluminum, dual circuit, normally open contacts, waterproof *Non-restorable if fixed temp alarm state initiated

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Detect Manage Record

Drawing

Wiring Diagram



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Detect Manage Record

Conventional Detection Devices

Heat Detector, 194° Fixed Temperature Rate Compensation

721-132-00



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
- 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 - 125 VAC / 5 A 6 - 25 VDC / 1 A 125 VDC / 0.5 A
Detector Type	Rate Compensation 4-Wire Leads, Weatherproof
Contacts	Normally Open (NO)
Detector Rated Temperature	194°F (90°C)
Minimum Ambient Air Temperature	-40°F (-40°C)
Maximum Ceiling Temperature	150°F to 155°F (66°C to 68°C)
Open Area Protection	Vertical 50 foot spacing (UL) Vertical 30 foot spacing (FM) Horizontal 40 foot 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 1/2" conduit threads for attachment to threaded hub cover, tee conduit or any outlet box - hand tighten only.
Dimensions with Mounting Bracket	4" Length x 1" Diameter (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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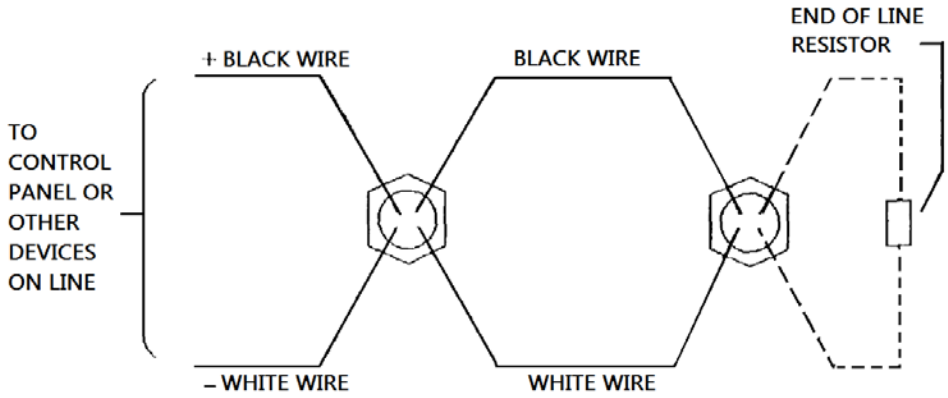
Detect Manage Record

Ordering Information

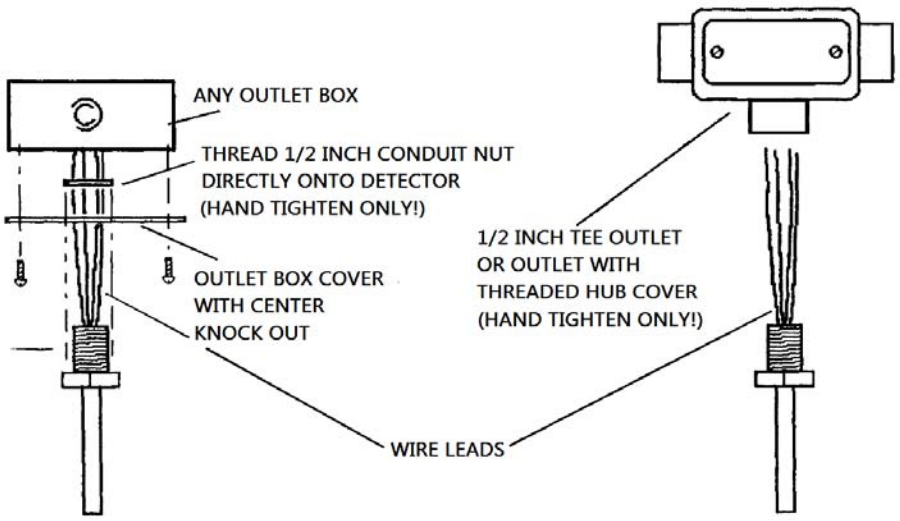
Part Number	Description
721-132-00	Heat Detector, rate compensation 194°F Fixed Temperature, restorable, aluminum with 4-wire leads, contacts normally open, weatherproof

Drawings

Wiring Diagram



Junction Box Mounting



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Detect Manage Record

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

Operating Voltage/ Current	6 - 125 VAC / 5 A 6 - 25 VDC / 1 A 125 VDC / 0.5 A
Detector Type	Rate Compensation 4-Wire Leads, Weatherproof
Contacts	Normally Open (NO)
Detector Rated Temperature	135°F (57°C)
Minimum Ambient Air Temperature	-40°F (-40°C)
Maximum Ceiling Temperature	115°F (46°C)
Open Area Protection	Vertical 50 foot spacing (UL) Vertical 20 foot spacing (FM) Horizontal 40 foot 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 1/2" conduit threads for attachment to threaded hub cover, tee conduit or any outlet box - hand tighten only.
Dimensions with Mounting Bracket	4" Length x 1" Diameter (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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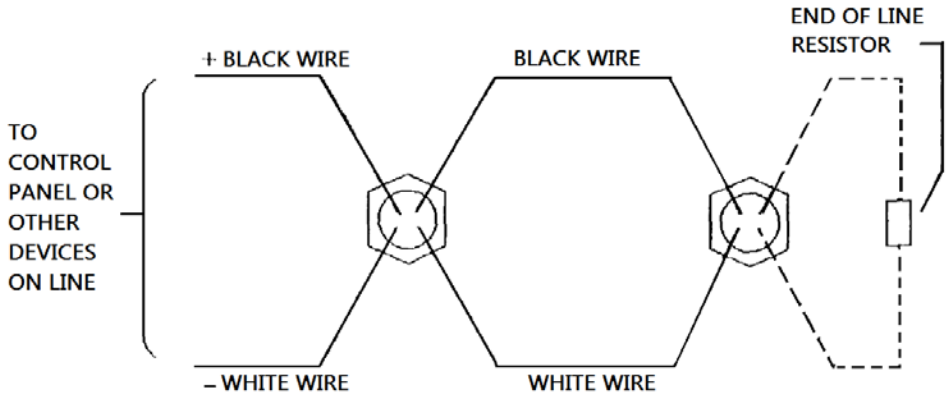
Detect Manage Record

Ordering Information

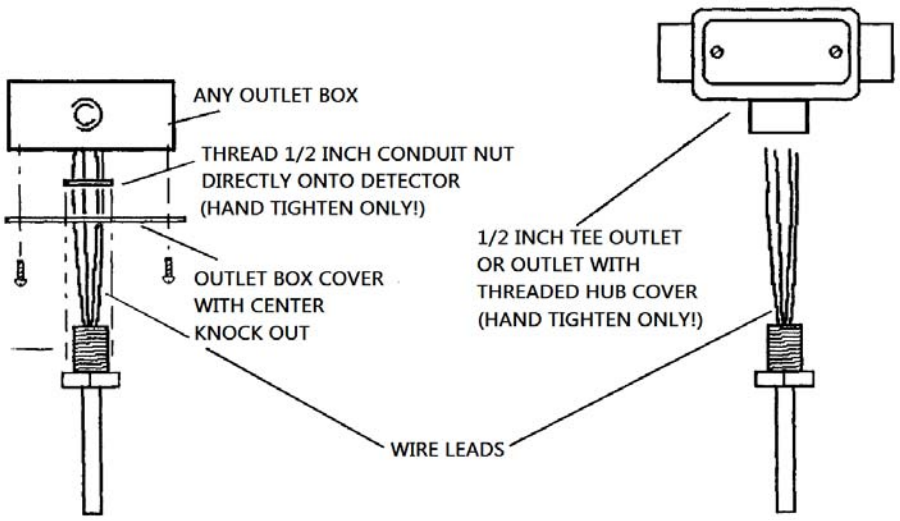
Part Number	Description
721-133-00	Heat Detector, rate compensation 135°F Fixed Temperature (restorable), aluminum with 4-wire leads, contacts normally open, weatherproof

Drawings

Wiring Diagram



Junction Box Mounting



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Detect
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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

Heat Sensing Element	Thermistor
Detector Type	2 or 4 wire
Contacts	Normally Open (NO)
Nominal Rated Voltage	24 VDC
Rated Voltage 2-Wire	15.0 ~ 33.0 VDC
Rated Voltage 4 Wire	17.7 ~ 30.0 VDC
Maximum Voltage	42.0 VDC maximum
Wave Form	Filtered DC, 5V ripple maximum (when using 4-wire base full wave rectified AC can be used)
Supervisory Current	35µA @ 24 VDC
Surge Current	160µA max. @ 24 VDC
Maximum Allowable Current	150mA max. @ 24 VDC
Minimum, Alarm Trip Current	6mA
Fixed Temperature *Rate-of-Rise*	190°F (88°C) 15°F/min. (-9.4°C/min.)
Operating Temperature	-14°F to 122°F (-10°C to 50°C)
Storage Temperature	-4°F to 140°F (-20°C to 60°C)
Response Temperature	190°F ±7.5°F
Open Area Protection	30 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 15 ft/5m)
Mounting Junction Box	4" square, or 3.5" octagonal, or 4" octagonal
Dimensions with Mounting Bracket	1.5" High x 4" Diameter (38 mm) x (101 mm)
Weight	3.1 oz (0.1 kg)
Standards Compliance	NFPA Standard 72
UL	S2966
FM	Approved
State of California	7270-0410:0151

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Detect Manage Record

Ordering Information

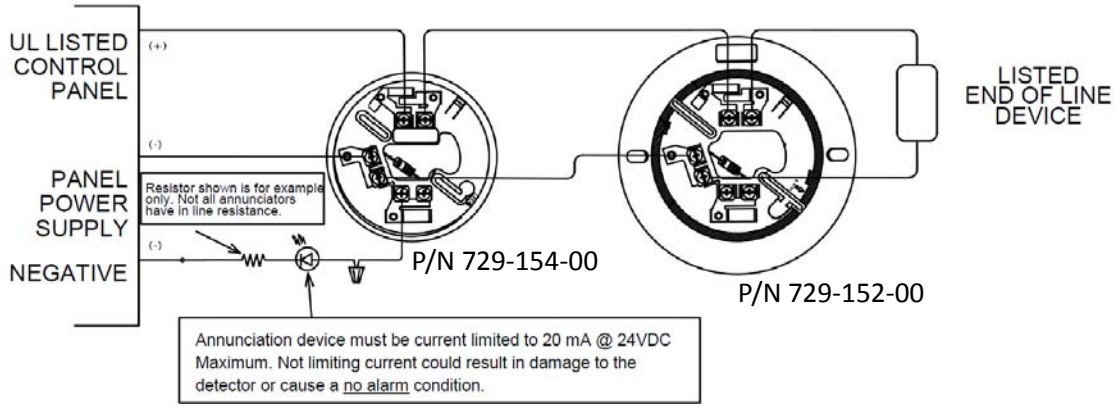
Part Number	Description
721-404-00	Heat Detector, combination 190°F Fixed Temperature (restorable) and 15°F/min. Rate-of-Rise (restorable), indoor, fully electronic with 2 LEDs, normally open contacts

Associated Parts

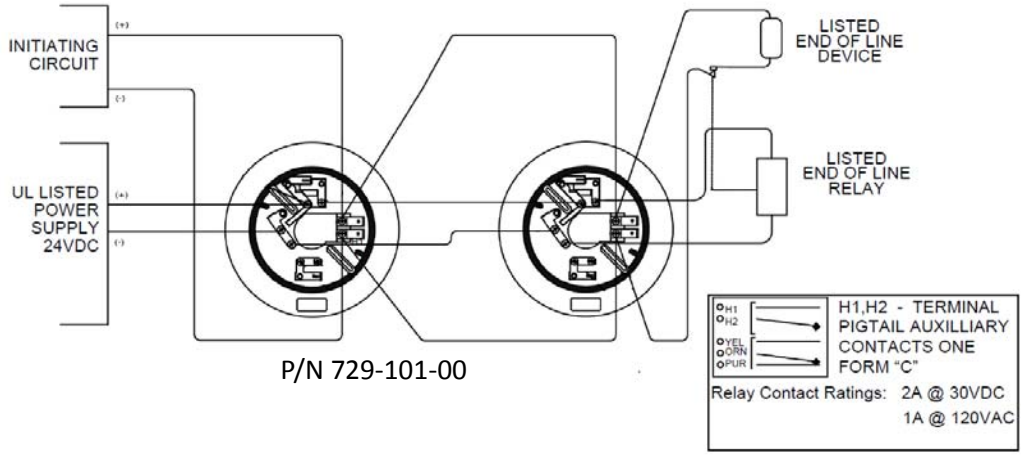
Part Number	Description
729-154-00	Heat Detector Base, Alarm Current 43mA (70mA @ 33.0V max), 2-Wire, 4" diameter, resistor included, plastic tamper lock lug
729-152-00	Heat Detector Base, Alarm Current 43mA (70mA @ 33.0V max), 2-Wire, 6" diameter, resistor included, plastic tamper lock lug
729-101-00	Heat Detector Base, Alarm Current 43mA (58mA @30.0V max), 4-Wire, 24 VDC, 6" diameter, current limited, plastic tamper lock lug

Drawings

2-Wire



4-Wire



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Detect Manage Record

Conventional Detection Devices

Heat Detector, 200°F Fixed Temperature/Rate Compensation

721-405-00



Specifications

Detector Type	Fixed Temperature/Rate Compensation
Contacts	Normally Open (NO)
Contact Specs	6-125 VAC, 5 Amps; 6-25 VDC, 1 Amp; 125 VDC, 0.5 Amps
Detector Rated Temperature	200°F (93°C)
Open Area Protection	Maximum 2500 square feet (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Vertical Mounting	3 or 4 inch junction box
Rod	1/2" (13 mm) across
Dimensions	4 1/2" L x 3 1/2" W (114 mm) x (89 mm)
Standards Compliance:	
ULC	S7619
State of California	7270-0067:0026

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)

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

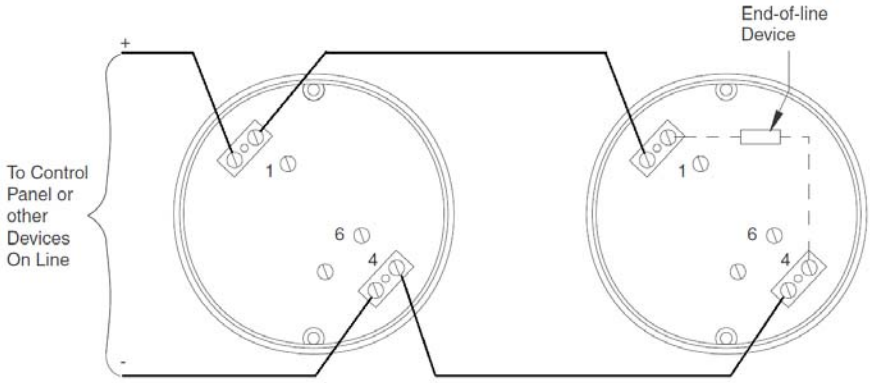
Part Number	Description
729-020-00	Adapter Plate, white, 4" plastic box

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Detect Manage Record

Drawings

Wiring Diagram

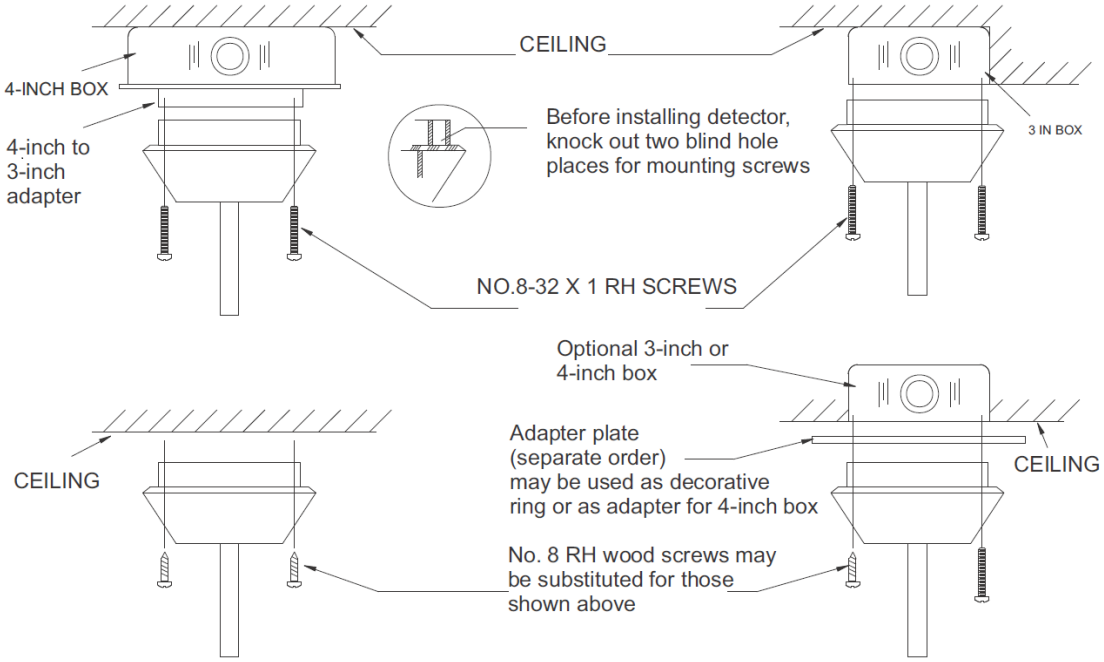


NOTES

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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Detect
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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 backbox
- 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
  - Normallly open (NO) contacts
- Indicator drops from unit when alarm detector is acitvated for easy identification
- Open-area protection

Specifications

Operating Voltage/ Contact Ratings (Resistive)	6 - 125 VAC / 3 A 6 - 28 VDC / 1 A 125 VDC / 0.3 A 250 VDC / 0.1 A
Detector Type	Single Circuit, mechanical
Contacts	Normally Open (NO)
RTI Ratings	Fixed Temperature: SPECIAL Rate-of-Rise: ULTRA FAST
Installation Temperature (max.)	150°F (66°C) maximum
Shipping/Storage Temperature (max.)	122°F (50°C) maximum
Release Temperature Rating:	
Fixed Temperature	194°F (90°C)
Rate-of-Rise	15°F/min. (-9.4°C/min.)
Operating Humidity	5 to 95% RH noncondensing
Open Area Protection	50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	14–22 AWG **NOTE** Required wire gauge based on voltage drop
Mounting (includes reversible mounting bracket)	Single gang backbox, or 4" square (with plaster ring), or 3.5" octagonal backbox, or 4.0" octagonal backbox
Dimensions with Mounting Bracket	1.69" High x 4.57" Diameter (43 mm) x (116 mm)
Weight	6 oz (170 g)

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Detect Manage Record

Conventional Detection Devices

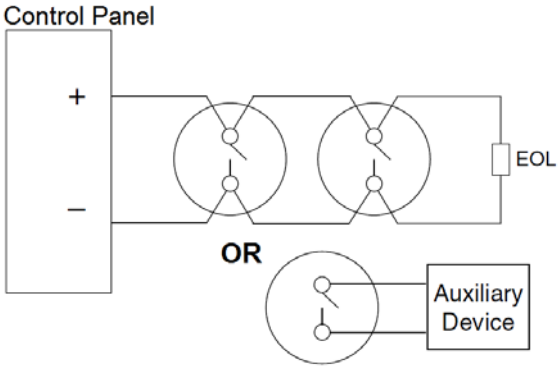
Standards Compliance: Listed to UL 521 and FM 3210
UL/ULC Listed S2101
FM Approved
State of California 7270-1653:0167

Order Information

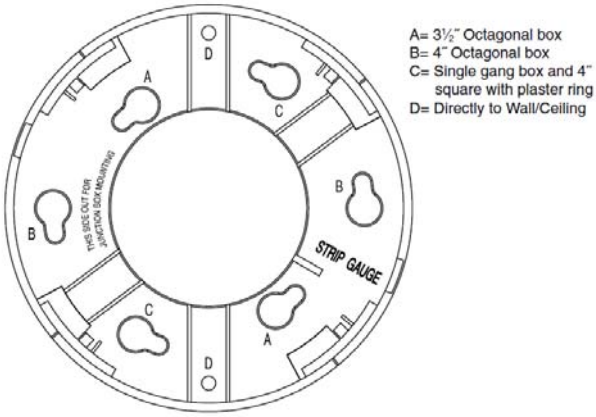
Part Number	Description
721-407-00	Heat Detector, combination 194°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable), white, single circuit, normally open contacts

Drawings

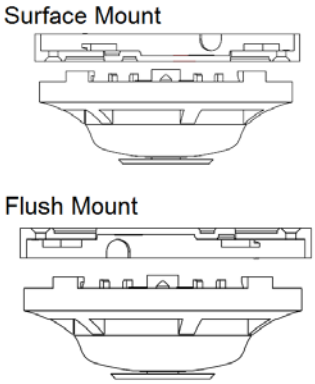
Wiring Diagram - Single Circuit



Reversible Mounting Bracket Mounting Locations



Mounting with Reversible Mounting Bracket



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Detect Manage Record

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 backbox
- 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 diaphram 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/ Contact Ratings (Resistive)	6 - 125 VAC / 3 A 6 - 28 VDC / 1 A 125 VDC / 0.3 A 250 VDC / 0.1 A
Detector Type	Dual Circuit, mechanical
Contacts	Normally Open (NO)
Maximum Installation Temperature	150°F (66°C)
Shipping/Storage Temperature (max.)	122°F (50°C)
Release Temperature Ratings: Fixed Temperature	194°F (90°C)
Rate-of-Rise	15°F/min. (-9.4°C/min.)
Operating Humidity	5 to 95% RH noncondensing
Open Area Protection	50 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	14–22 AWG **NOTE** Required wire gauge based on voltage drop
Mounting (includes reversible mounting bracket)	Single gang backbox, or 4" square (with plaster ring), or 3.5" octagonal backbox, or 4.0" octagonal backbox
Dimensions with Mounting Bracket	1.69" High x 4.57" Diameter (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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Detect Manage Record

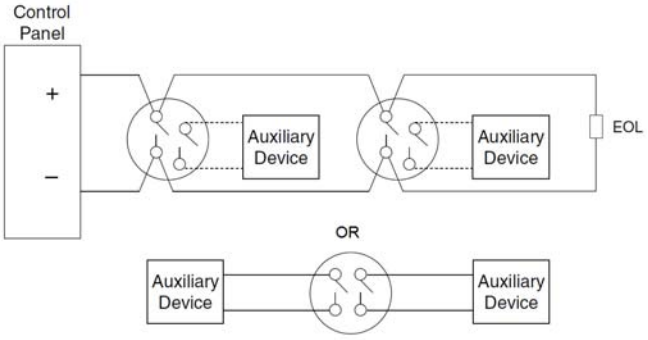
Conventional Detection Devices

Ordering Information

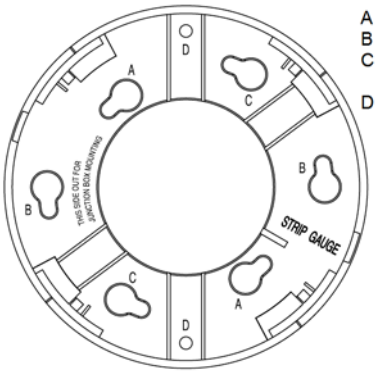
Part Number	Description
721-408-00	Heat Detector, combination 194°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable), mechanical dual circuit

Drawings

Wiring Diagram - Dual Circuit



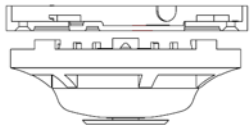
Reversible Mounting Bracket Mounting Locations



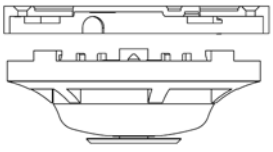
A = 3 1/2" Octagonal box
B = 4" Octagonal box
C = Single gang box and 4" square with plaster ring
D = Directly to Wall/Ceiling

Mounting with Reversible Mounting Bracket

Surface Mount



Flush Mount



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Detect Manage Record

Conventional Detection Devices

Heat Detector, 200°F Fixed Temp/Rate-of-Rise Explosion Proof

721-409-00



Features

- Anodized aluminum housing Conventional heat detector
- Operates normally at low temperatures
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 200°F Fixed Temperature (non-restorable)
    (spring-loaded plunger held in place by eutectic solder that will fuse at fixed temperature causing device to remain in alarm state until replaced)
  - Rate-of-Rise element rated at 15°F (-9.4°) per minute
    (restorable - operating on Rate-of-Rise only)
    (detector contacts close when the temperature rate is reached causing fire alarm sequence)
    - Sensor testing at the device with controlled heat source (below fixed temperature setting)
  - Normally Open (NO) Contacts
- Dust and water-tight
- Moisture proof
- Explosion proof

Application

- Class I, Group C and Group D
- Class II, Group E and Group F
- Class III, Group G
- Class III, location where there is explosion danger due to presence of flammable fibers or flyings

Specifications

Contact Rating	3A @ 125 VAC, 1A @ 28 VDC 0.3A @ 125 VDC, 0.1A @ 250 VDC
Alarm Current	Panel zone current limit point
Detector Type	Dual Circuit, Normally Open (NO)
Operating Temp Range	40°F (-40°C) to 250°F (120°C)
Max. Installation Temp	160°F (71°C)
Wiring	18 AWG
Release Temp Ratings:	Fixed Temp 200°F (93°C) Rate of Rise 15°F/min (-9.4°C/min)
Open Area Protection	Ceiling spacing: 50 ft (15.2 m) (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3 m) Distance to wall: 25 ft/7.5m
Mounting	Use 1/2" threaded conduit
Dimensions	3.6" H x 5.50" D (92 mm) x (140 mm)
Weight	2.0 lb (.90 kg)
Standards Compliance:	UL Listed 41H8
ULC	Listed 42A0 Issue No. AU-1402
UL Certified for Canada	UIRV7.E210635
State of California	7270-1110:0100

Ordering Information

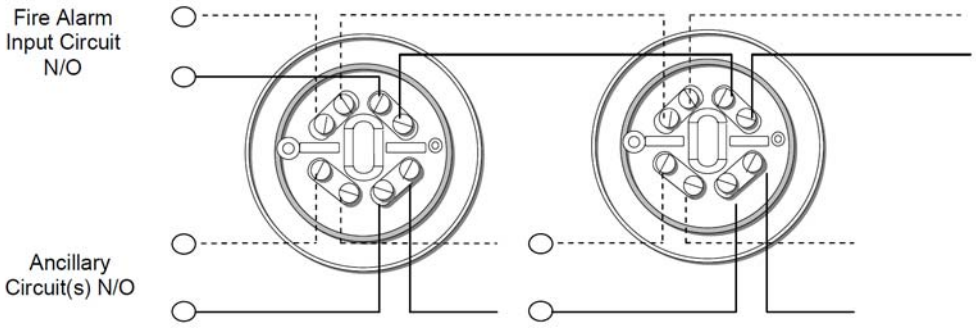
Part Number	Description
721-409-00	Heat Detector, combination 200°F Fixed Temperature (non-restorable), Rate-of-Rise, (restorable*), aluminum, conventional, dual circuit, normally open contacts, moisture proof, explosion proof *Non-restorable if fixed temp alarm state initiated

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Detect Manage Record

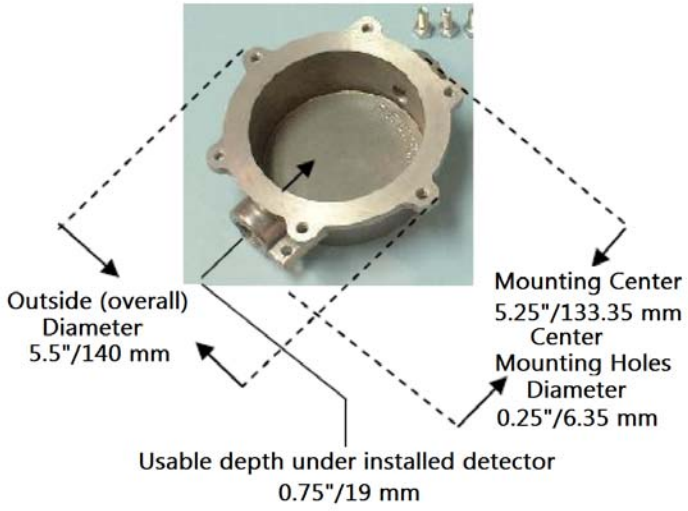
Drawings

Wiring Diagram



CAUTION: All wiring must be installed in compliance with the local electrical code using approved cable, 18 AWG minimum. Begin electrical connections by stripping approximately 1 inch (2.5 cm) from the end of each wire. Insert stripped end into the wire retaining hole in the terminal bar, wrap clockwise around the terminal screw and tighten. Circuit wiring must be broken at each terminal to ensure proper supervision.

Mounting



Install using 1/2" threaded conduit in accordance with local electrical code requirements.

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Detect
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Conventional Detection Devices

Heat Detector, 200°F Fixed Temperature/Rate of Rise

721-410-00



Features

- Cast aluminum housing Conventional heat detector
- Low profile mounting flexibility with screw terminals
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 200°F fixed temperature (non-restorable)
    (spring-loaded plunger held in place by eutectic solder that fuses at fixed temperature causing device to remain in alarm state until replaced)
  - Rate-of-Rise element rated at 15°F (-9.4°) per minute (restorable - operating on Rate-of-Rise only) (detector contacts close when the temperature rate is reached causing fire alarm sequence)
    - Sensor testing at the device with controlled heat source (below fixed temperature setting)
  - Two sets of Normally Open (NO) contacts
- Open-area protection

Specifications

Contact Electrical Rating	3 A @ 125 VAC 1 A @ 28 VDC 0.3 A @ 125 VDC 0.1 A @ 250 VDC
Detector Type	Dual Circuit
Contacts	Normally Open (NO)
Maximum Installation Temperature	150°F (65°C)
Operating Temperature Range	-20°F to 250°F (-29°C to 121°C)
Release Temperature Rating: *Fixed Temperature* *Rate-of-Rise*	 Non-restorable, 200°F (93°C) Restorable, 15°F/min. (-9.4°C/min.)
Open Area Protection	70 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	18 AWG minimum
Mounting	Mounting plate fits standard octagon box (mounting holes on 3.5" centers)
Dimensions with Mounting Bracket	2" High x 5.25" Diameter (51 mm) x (133 mm)
Weight	0.41 lbs (0.19 kg)
Shipping Weight	0.6 lbs (0.3 kg)
Standards Compliance	Listed to UL 521, ULC S531
UL/ULC Listed	S2406
State of California	7270-1110:0100

Ordering Information

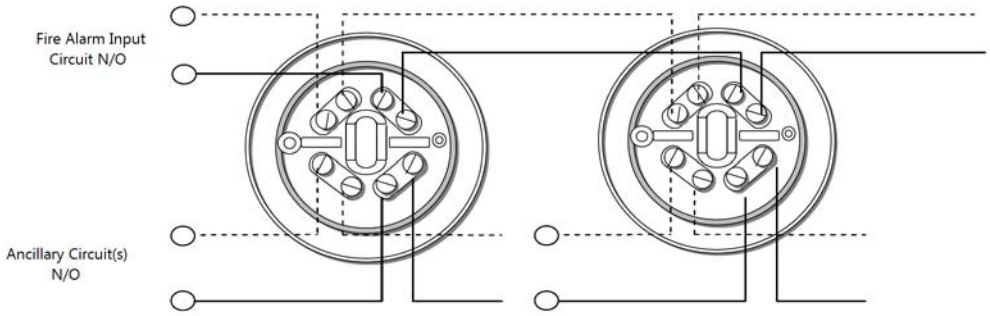
Part Number	Description
721-410-00	Heat Detector, combination 200°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable*), aluminum, two sets of normally open contacts *Non-restorable if fixed temp alarm state initiated

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Detect Manage Record

Drawing

Wiring Diagram



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Conventional Detection Devices

Heat Detector, 200°F Fixed Temperature/Rate of Rise

721-411-00



Specifications

Contact Electrical Rating	3 A @ 125 VAC 1 A @ 28 VDC 0.3 A @ 125 VDC 0.1 A @ 250 VDC
Detector Type	Dual Circuit, Weatherproof
Contacts	2 sets, Normally Open (NO)
Maximum Installation Temperature	150°F (65.6°C)
Operating Temperature Range	-20°F to 250°F (-29°C to 121°C)
Release Temperature Rating:	
Fixed Temperature	Non-restorable, 200°F (93°C)
Rate-of-Rise	Restorable, 15°F/min. (-9.4°C/min.)
Open Area Protection	70 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	18 AWG minimum
Mounting	Mounting plate fits 4" standard octagon box 4" exterior cast metal backbox and gasket
Dimensions with Mounting Bracket	2" High x 5.25" Diameter (51 mm) x (134 mm)
Weight	0.41 lbs (0.19 kg)
Shipping Weight	0.6 lbs (0.3 kg)
Standards Compliance	Listed to UL 521, ULC S531
UL/ULC Listed	S2406
State of California	7270-1110:0100

Features

- Cast aluminum housing Conventional heat detector
- Low profile mounting flexibility with screw terminals
- Fixed and Rate-of-Rise thermal detection
  - Detector alarm at 200°F Fixed Temperature (non-restorable)
    (spring-loaded plunger held in place by eutectic solder that fuses at fixed temperature causing device to remain in alarm state until replaced)
  - Rate-of-Rise element rated at 15°F (-9.4°) per minute (restorable - operating on Rate-of-Rise only) (detector contacts close when the temperature rate is reached causing fire alarm sequence)
    - Sensor testing at the device with controlled heat source (below fixed temperature setting)
  - Normally Open (NO) contacts
- Waterproof
- Open-area protection

Ordering Information

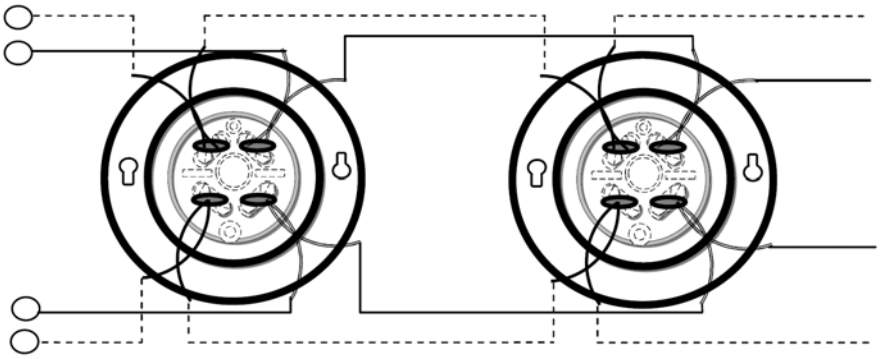
Part Number	Description
721-411-00	Heat Detector, combination 200°F Fixed Temperature (non-restorable) and 15°F/min. Rate-of-Rise (restorable*), aluminum, dual circuit, normally open contacts, waterproof *Non-restorable if fixed temp alarm state initiated

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Detect Manage Record

Drawing

Wiring Diagram



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Detect
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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 backbox
- 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 diaphram depresses and the electrical contact closes the circuit)
- Indicator drops from unit when alarm detector is activated for easy identification
- Open-area protection

Specifications

Operating Voltage/ Contact Ratings (Resistive)	6–125 VAC / 3 A 6–28 VDC / 1 A 125 VDC / 0.3 A 250 VDC / 0.1 A
Detector Type	Single Circuit, mechanical
Contacts	Normally Open (NO)
RTI Rating	SPECIAL
Shipping/Storage Temperature (max.)	122°F (50°C)
Installation Temperature	100°F (38°C) max.
Alarm Fixed Temperature	135°F (57°C)
Operating Humidity	5 to 95% RH non-condensing
Open Area Protection	25 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	14–22 AWG NOTE Required wire gauge based on voltage drop
Mounting (includes reversible mounting bracket)	Single gang backbox, or 4" square (with plaster ring), or 3.5" octagonal backbox, or 4.0" octagonal backbox
Dimensions with Mounting Bracket	1.69" High x 4.57" Diameter (43 mm) x (116 mm)
Weight	6 oz (170 g)
Standards Compliance:	Listed to UL 521 and FM 3210
UL	S2101
FM	Approved
State of California	7270-1653:0167

Ordering Information

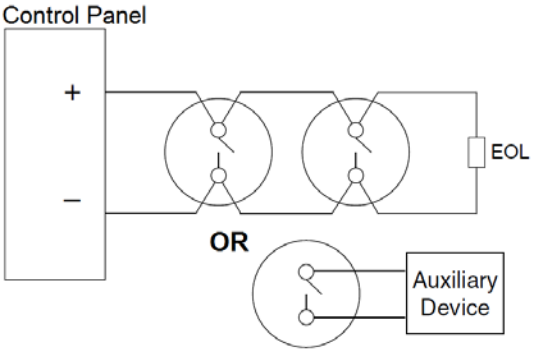
Part Number	Description
722-123-00	Heat Detector, 135°F Fixed Temperature (non-restorable), white, single circuit, normally open contacts

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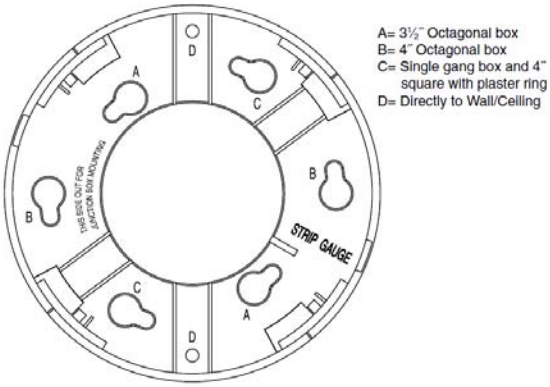
Detect Manage Record

Drawings

Wiring Diagram - Single Circuit

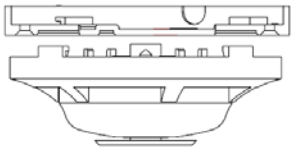


Reversible Mounting Bracket Mounting Locations

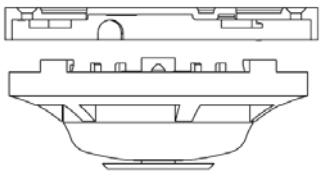


Mounting with Reversible Mounting Bracket

Surface Mount



Flush Mount



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Detect Manage Record

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.

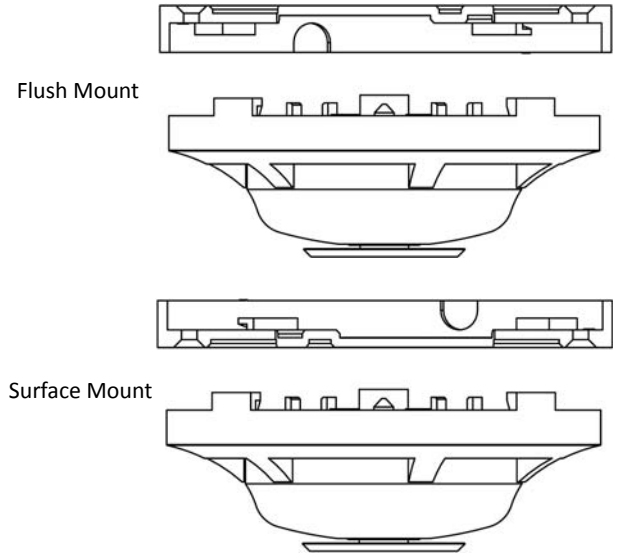
WARNING! For life-safety installations smoke detectors must be used in lieu of, or in addition to, mechanical heat detectors.

Specifications

Operating Voltage/Contact Ratings (Resistive)	6–125 VAC, 3A 6–28 VDC, 1A 125 VDC, 0.3A 250 VDC, 0.1A
Wiring	14–22 AWG
Max. Installation Temperature	P/N 722-125-00: 100°F (37.8°C) P/N 722-409-00: 150°F (65.6°C)
Fixed Alarm Temperature	P/N 722-125-00: 135°F (57.2°C) P/N 722-409-00: 194°F (90°C)
Relative Humidity	5–95%, noncondensing
Dimensions (with Mount Bracket)	Diameter: 4.57" (11.6 cm) Height: 1.69" (4.3 cm)
Weight	6 oz (170 grams)
RTI Classification	Special

Mounting Options

- Single gang J box
- Octagonal, 3.5" or 4" J box
- Square 4" J box, with plaster ring
- Mounting bracket is reversible.



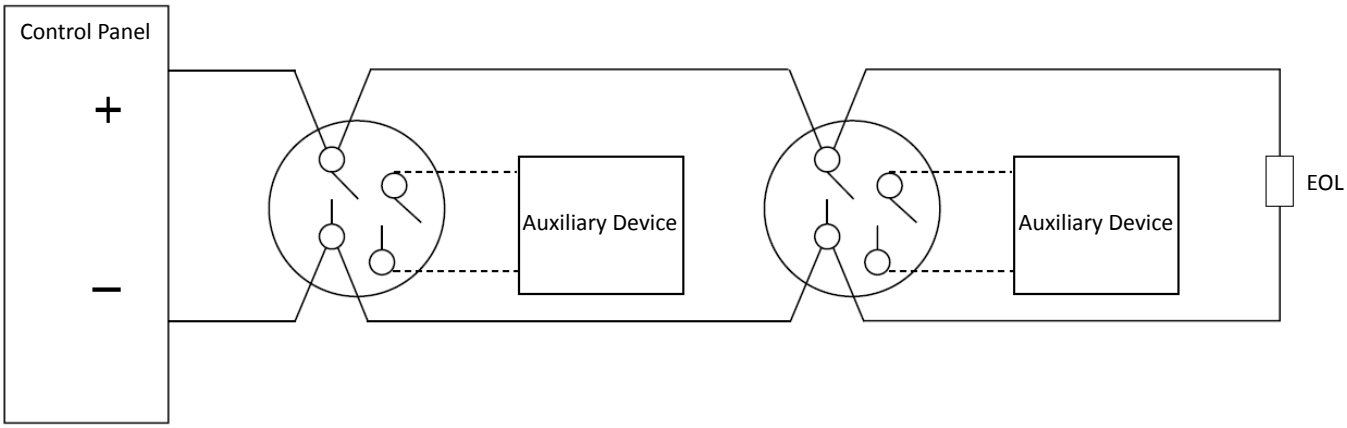
Ordering Information

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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Detect Manage Record

Wiring Diagram



Monaco Enterprises, Inc.
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Detect
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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

Contact Electrical Rating	3 A @ 125 VAC 1 A @ 28 VDC 0.3 A @ 125 VDC 0.1 A @ 250 VDC
Detector Type	Dual Circuit
Contacts	Normally Open (NO)
Maximum Installation Temperature	100°F (38°C)
Operating Temperature Range	-20°F to 250°F (-29°C to 121°C)
Release Temperature Rating:	Non-restorable, 135°F (57°C)
Fin Dot Color	Black
Input Wiring	18 AWG minimum
Mounting	Mounting plate fits standard octagon box (mounting holes on 3.5" centers)
Dimensions with Mounting Bracket	2" High x 5.25" Diameter (51 mm) x (133 mm)
Weight	0.41 lbs (0.19 kg)
Shipping Weight	0.6 lbs (0.3 kg)
Standards Compliance	Listed to UL 521, ULC S531
UL/ULC Listed	S2406
State of California	7270-1110:0100

Ordering Information

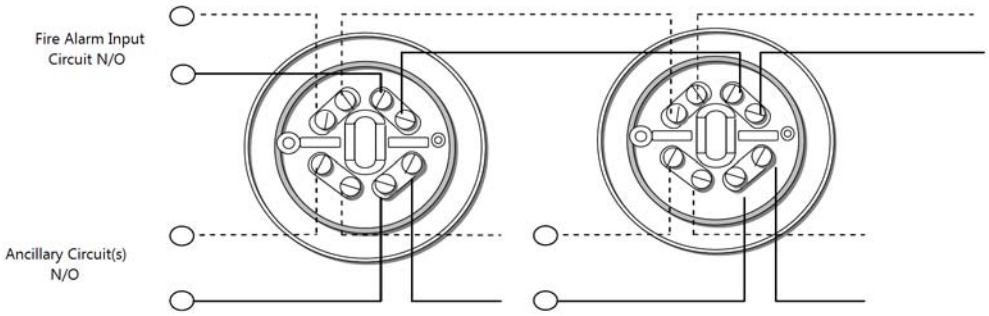
Part Number	Description
722-127-00	Heat Detector, 135°F Fixed Temperature non-restorable, aluminum, two sets of normally open contacts

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Detect Manage Record

Drawings

Wiring Diagram



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Detect
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Record

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 housing Conventional heat detector
- Low profile lock-in-place design
- Reversible mounting bracket for flush- or surface-mount backbox
- Fixed thermal detection
  - Detector alarm at 194°F fixed temperature (non-restorable) (When the temperature rises, air within the sealed chamber expands faster than it can escape; the diaphram depresses and the electrical contact closes the circuit)
- Indicator drops from unit when alarm detector is activated for easy identification
- Open-area protection

Specifications

Operating Voltage/ Contact Ratings (Resistive)	6–125 VAC / 3 A 6–28 VDC / 1 A 125 VDC / 0.3 A 250 VDC / 0.1 A
Detector Type	Single Circuit, mechanical
Contacts	Normally Open (NO)
RTI Rating	SPECIAL
Shipping/Storage Temperature (max.)	122°F (50°C)
Installation Temperature	150°F (65.6°C) max.
Alarm Fixed Temperature	194°F (90°C)
Operating Humidity	5 to 95% RH non-condensing
Open Area Protection	25 foot spacing (assumes a flat, uninterrupted ceiling at a height not exceeding 10 ft/3m)
Input Wiring	14–22 AWG NOTE Required wire gauge based on voltage drop
Mounting (includes reversible mounting bracket)	Single gang backbox, or 4" square (with plaster ring), or 3.5" octagonal backbox, or 4.0" octagonal backbox
Dimensions with Mounting Bracket	1.69" High x 4.57" Diameter (43 mm) x (116 mm)
Weight	6 oz (170 g)
Standards Compliance:	Listed to UL 521 and FM 3210
UL	S2101
FM	Approved
State of California	7270-1653:0167

Ordering Information

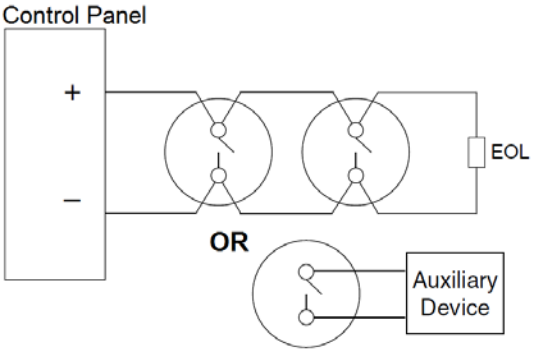
Part Number	Description
722-408-00	Heat Detector, 194°F Fixed Temperature (non-restorable), white, single circuit, normally open contacts

Monaco Enterprises, Inc.
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

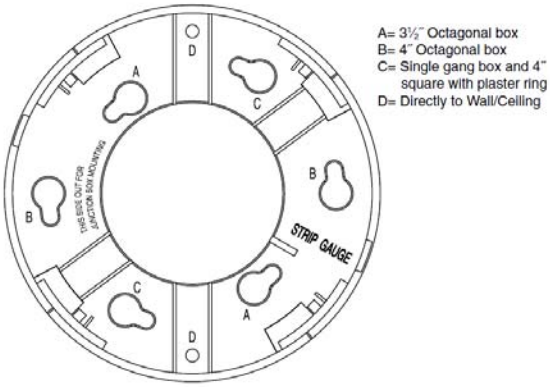
Detect Manage Record

Drawings

Wiring Diagram - Single Circuit

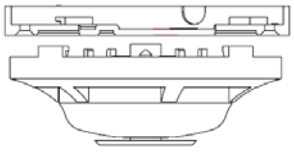


Reversible Mounting Bracket Mounting Locations

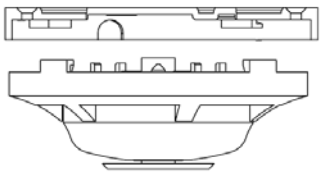


Mounting with Reversible Mounting Bracket

Surface Mount



Flush Mount



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Detect Manage Record

Conventional Detection Devices

Heat Detector, 200°F Fixed Temperature

722-411-00



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
- 200°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

Contact Electrical Rating	3 A @ 125 VAC 1 A @ 28 VDC 0.3 A @ 125 VDC 0.1 A @ 250 VDC
Detector Type	Dual Circuit
Contacts	Normally Open (NO)
Maximum Installation Temperature	150°F (65°C)
Operating Temperature Range	-20°F to 250°F (-29°C to 121°C)
Release Temperature Rating:	Non-restorable 200°F (93°C)
Fin Dot Color	Black and White
Input Wiring	18 AWG minimum
Mounting	Mounting plate fits standard octagon box (mounting holes on 3.5" centers)
Dimensions with Mounting Bracket	2" High x 5.25" Diameter (51 mm) x (133 mm)
Weight	0.41 lbs (0.19 kg)
Shipping Weight	0.6 lbs (0.3 kg)
Standards Compliance	Listed to UL 521, ULC S531
UL/ULC Listed	S2406
State of California	7270-1110:0100

Ordering Information

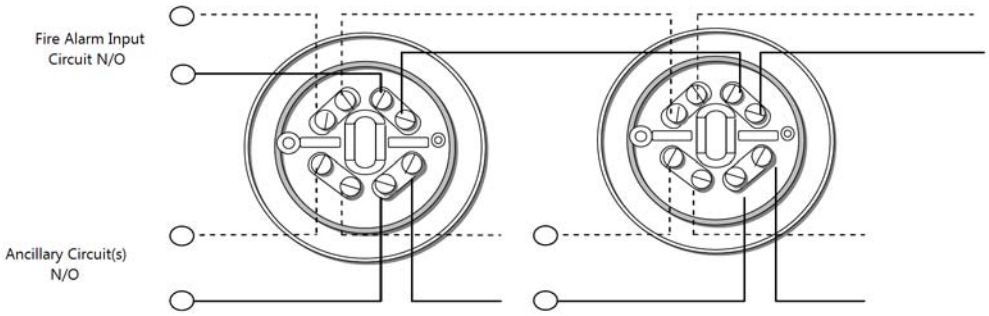
Part Number	Description
722-411-00	Heat Detector, 200°F Fixed Temperature non-restorable, aluminum, two sets of normally open contacts

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Detect Manage Record

Drawings

Wiring Diagram



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Detect
Manage
Record

Conventional Detection Devices

Duct Smoke Detector, Photoelectric

723-367-00

Description

This four-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 (20–29 VDC) ■ 24 VAC, 50/60 Hz ■ 120 VAC, 50/60 Hz
Power-up Time	35 seconds, max.
Max. Standby Current	24 VDC: 21 mA 24 VAC: 65 mA RMS (60 Hz) 120 VAC: 20 mA RMS (60 Hz)
Alarm Response Time	15 seconds
Max. Alarm Current	24 VDC: 65 mA 24 VAC: 135 mA RMS (60 Hz) 120 VAC: 35 mA RMS (60 Hz)
Reset Voltage	3VDC at 24 VDC input 2 VAC at 24 VAC input 10 VAC at 120 VAC input
Reset Time	Remote test station: 0.03 to 0.3 sec. Power down: 0.6 sec. max.
Air Duct Velocity	100 to 4000 fpm (0.5 to 20.32 m/sec.)
Signal Wiring	18 AWG, single conductor recomm.
Operating Temperature	–4 to 158°F (–20 to 70°C)
Relative Humidity	0–95 percent, noncondensing
Dimensions	Rectangular: 14.38" L x 5" W x 2.5" D (37 cm L x 12.7 cm W x 6.36 cm D) Square: 7.75" L x 9" W x 2.5" D (19.7 cm L x 22.9 cm W x 6.35 cm D)
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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Detect Manage Record

Ordering Information

Duct Smoke Detector

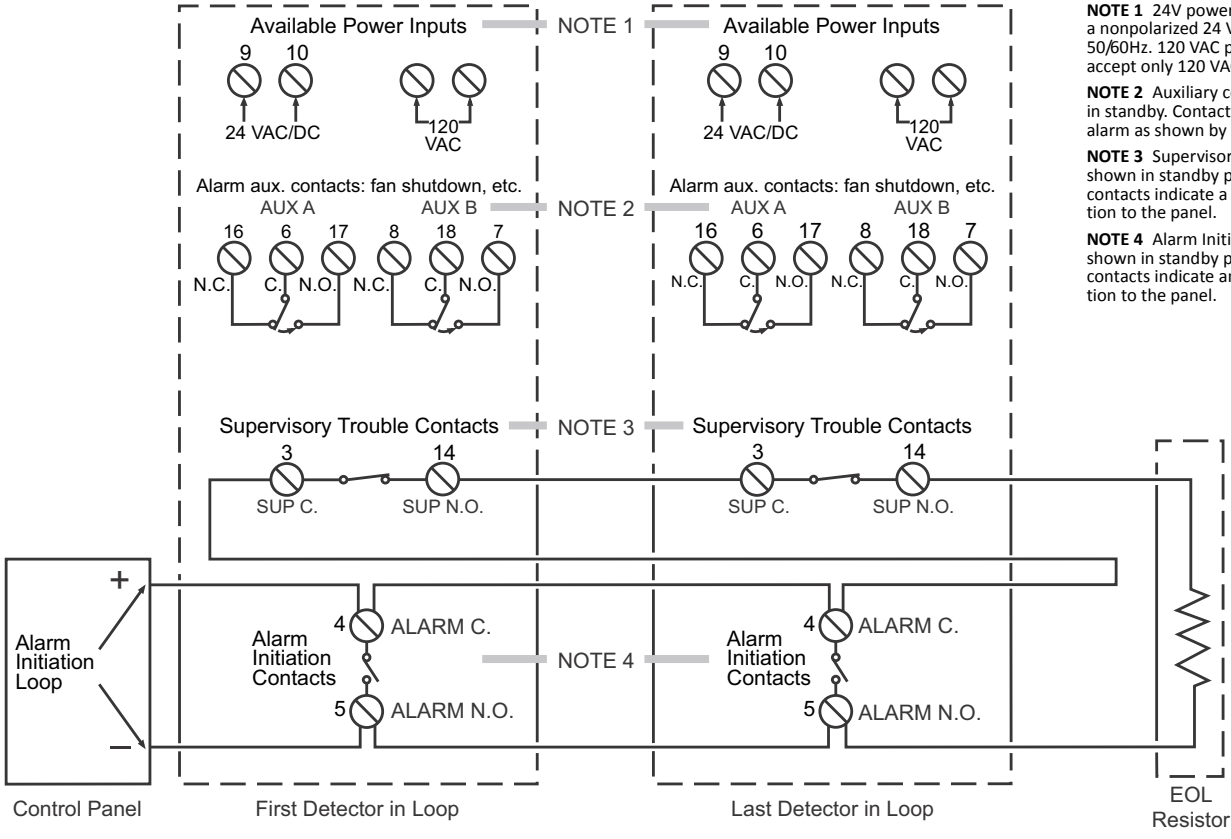
Part Number	Description
723-367-00	Conventional duct smoke detector, photoelectric, 24 VDC/VAC, 120 VAC, 4-wire, NEMA 4

Associated Parts

Part Number	Description
723-372-00	Conventional duct smoke detector, photoelectric replacement head, 4-wire
729-205-00	Duct smoke detector, sampling tube, 1–2 ft
729-205-01	Duct smoke detector, sampling tube, 2–4 ft
729-205-02	Duct smoke detector, sampling tube, 4–8 ft
729-205-03	Duct smoke detector, sampling tube, 8–12 ft
729-108-00	Duct smoke detector, remote test station with LED
729-138-00	Duct smoke detector, remote test station with LED and key
729-091-00	Remote LED annunciator
729-156-00	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



NOTE 1 24V power inputs accept a nonpolarized 24 VDC or 24 VAC 50/60Hz. 120 VAC power inputs accept only 120 VAC 50/60 Hz.

NOTE 2 Auxiliary contacts shown in standby. Contacts switch during alarm as shown by the arrows.

NOTE 3 Supervisory contacts shown in standby position. Open contacts indicate a trouble condition to the panel.

NOTE 4 Alarm Initiation contacts shown in standby position. Closed contacts indicate an alarm condition to the panel.

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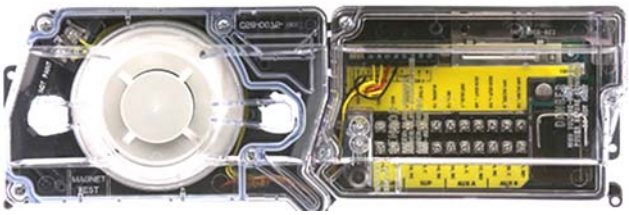
Detect Manage Record

Conventional Detection Devices

Duct Smoke Detector
723-368-00

Description

This 4-wire photoelectric air-duct smoke detector features a pivoting housing that fits both square and rectangular footprints, and mounts to round or rectangular duct work. 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 explains LED status (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 72 and 90A for additional information.

NOTE Detector can be used with Monaco's Analog Addressable Fire Alarm Control Panel. 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 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 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

Operating Voltage	20–29 VDC 24/120 VAC, 50-60 Hz
Standby Current	24 VDC: 21 mA 24 VAC: 65 mA RMS 120 VAC: 20 mA RMS
Alarm Current	24 VDC: 65 mA 24 VAC: 135 mA RMS 120 VAC: 35 mA RMS
Contact Ratings	Alarm Initiation Contacts (SPST): 2.0A @ 30 VDC (resistive) Alarm Auxiliary Contacts (DPDT): 10A @ 30 VDC (resistive) 10A @ 250 VAC (resistive) Supervisory Contacts (SPDT): 2.0A @ 30 VDC (resistive) 2.0A @ 125 VAC (resistive)
Air Duct Velocity	100–4000 fpm (0.5–20.3 m/sec.)
Wiring	12–18 AWG
Reset Time (Power Down)	0.6 sec. max.

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Detect Manage Record

Conventional Detection Devices

Power-up Time	35 sec. max.
Alarm Response Time	15 sec.
Remote Test Station	P/Ns 729-108-00, 729-138-00: Current drain (standby): 0 mA Current drain (alarm): 12 mA
Operating Temperature	–4 to 158°F (–20 to 70°C)
Relative Humidity	0–95%, noncondensing
Dimensions	Rectangular: 14.38" L x 5" W x 2.5" D (37 cm L x 12.7 cm W x 6.35 cm D) Square: 7.75" L x 9" W x 2.5" D (19.7 cm L x 22.9 cm W x 6.35 cm D)
Weight	2.5 lb (1.14 kg)

Ordering Information

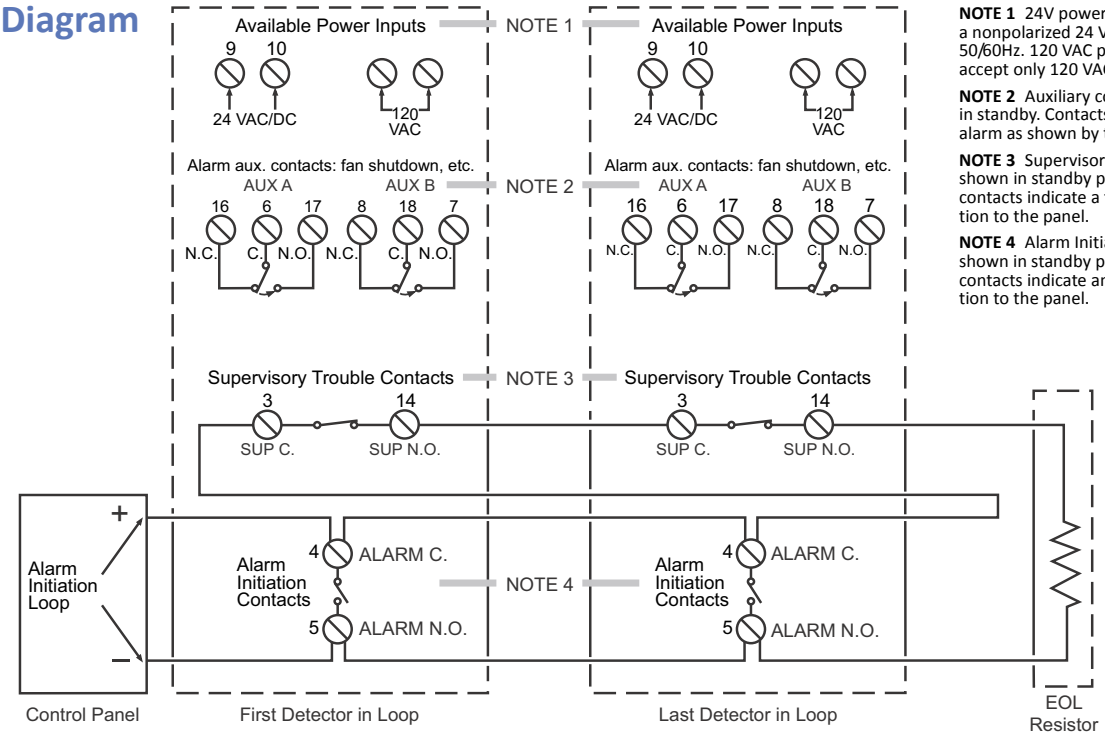
Smoke Detector

Part Number	Description
723-368-00	Duct smoke detector, photoelectric, 24 VDC, 24/120 VAC, 4-wire

Associated Parts

Part Number	Description
723-372-00	Conventional duct smoke detector, photoelectric replacement head, 4-wire
729-205-00	Duct smoke detector, sampling tube, 1–2 feet
729-205-01	Duct smoke detector, sampling tube, 2–4 feet
729-205-02	Duct smoke detector, sampling tube, 4–8 feet
729-205-03	Duct smoke detector, sampling tube, 8–12 feet
729-108-00	Duct smoke detector, remote test station with LED; requires test coil P/N 729-206-00
729-138-00	Duct smoke detector, remote test station with LED and key; requires test coil P/N 729-206-00
176-257-00	Current in-rush limiter, ≤2.5A DC
729-156-00	Test magnet with 32-in. telescoping handle

Wiring Diagram



NOTE 1 24V power inputs accept a nonpolarized 24 VDC or 24 VAC 50/60Hz. 120 VAC power inputs accept only 120 VAC 50/60 Hz.

NOTE 2 Auxiliary contacts shown in standby. Contacts switch during alarm as shown by the arrows.

NOTE 3 Supervisory contacts shown in standby position. Open contacts indicate a trouble condition to the panel.

NOTE 4 Alarm Initiation contacts shown in standby position. Closed contacts indicate an alarm condition to the panel.

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Detect Manage Record

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

Power Supply	8.5–35 VDC
Input Capacitance	0.1 µF max.
Peak Standby Current	120 µA
Average Standby Current	60 µA
Max. Alarm Current	130 mA
Reset Voltage	2.5 VDC min.
Reset Time (power down)	0.3 sec. max.
Power-up Time	35 sec. max.
Air Duct Velocity	100–4000 fpm (0.5–20.32 m/sec.)
Alarm Response Time	15 sec.
Operating Temperature	–4 to 158°F (–20 to 70°C)
Relative Humidity	0–93% noncondensing
Dimensions	Rectangular: 14.38" L x 5" W x 2.5" D (37 cm L x 12.7 cm W x 6.36 cm D) Square: 7.75" L x 9" W x 2.5" D (19.7 cm L x 22.9 cm W x 6.36 cm D)
Weight	1.8 lb

Ordering Information

Smoke Detector

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, 1–2 feet.
729-205-01	Duct smoke detector, sampling tube, 2–4 feet.

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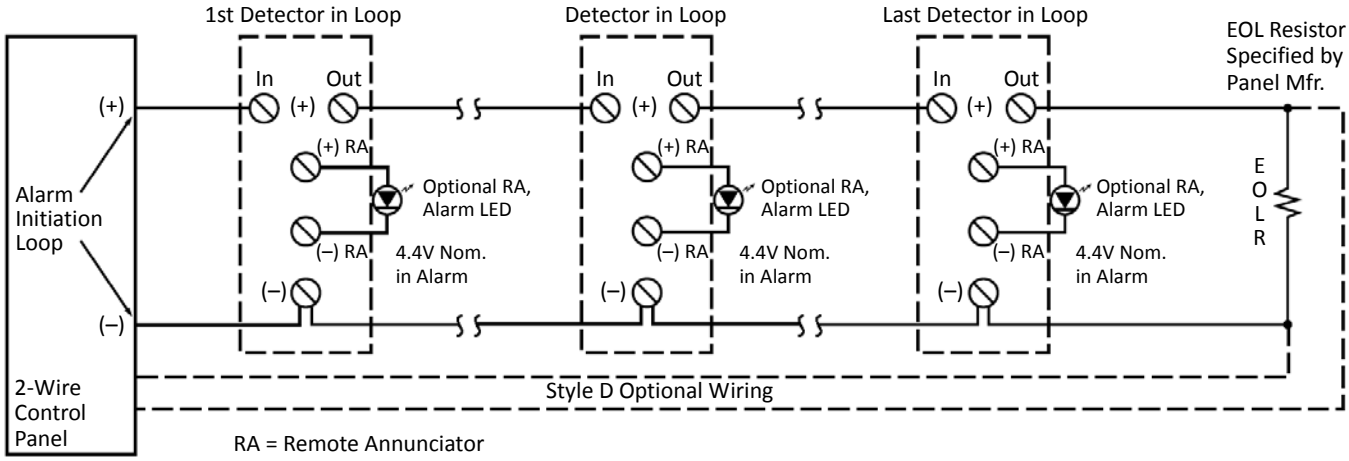
Detect Manage Record

Conventional Detection Devices

Part Number	Description
729-205-02	Duct smoke detector, sampling tube, 4–8 feet.
729-205-03	Duct smoke detector, sampling tube, 8–12 feet.
729-108-00	Duct smoke detector, remote test station with LED; requires test coil P/N 729-206-00.
729-138-00	Duct smoke detector, remote test station with LED and key; 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.

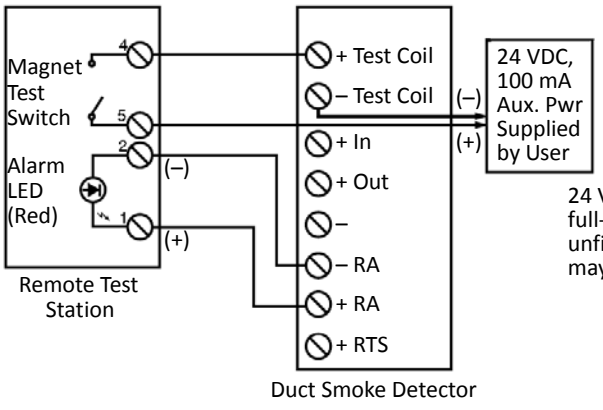
Wiring Diagrams

2-Wire Smoke Detector System (IDC Powered)



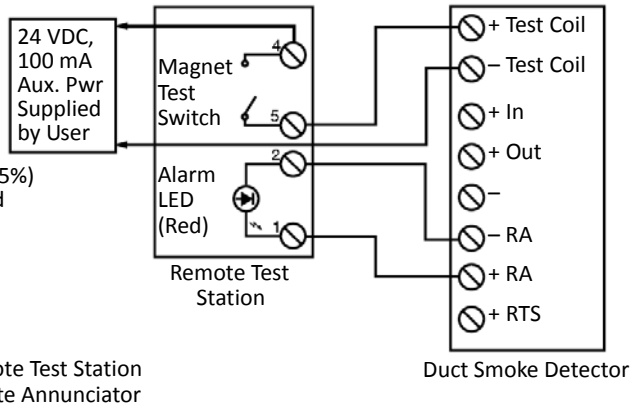
2-Wire Smoke Detector with Test Station

Method 1: Aux. Power Located at Duct Detector



24 VAC (+10%/–15%) full-wave rectified unfiltered power may be used.

Method 2: Aux. Power Located at Test Station



RTS = Remote Test Station
RA = Remote Annunciator

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Detect Manage Record

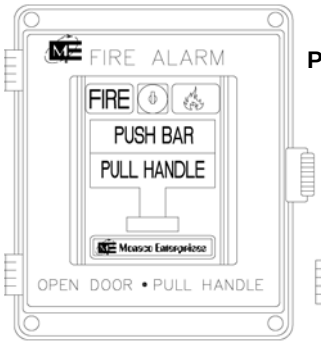
Conventional Detection Devices

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. The Pull Station sits inside a weatherproof enclosure. It is activated by releasing a latch on the enclosure, pushing in on the Push Bar and pulling forward on the Pull Handle.



P/N 708-015-01



P/N 708-015-03

This Pull Station can be converted to a Single Action Pull Station by removing the Push Bar.

Features

- Dual or Single Action Fire Alarm Pull Station
- Corrosion resistant normally open SPST Contacts
- Terminal Strip Connections
- Plastic breakrod
- Key reset
- Listed for outdoor applictions
- Meets ADA 5 lb. maximum manual force

Specifications

Type	Dual or Single Action Pull Station
Contact Rating	1A @ 30 VDC, 0.1A @ 125 VAC
Key	CAT30 lock and keys
Wiring	12 AWG
Enclosure	NEMA 4X
Pull Station	Die-cast metal, Red finish with black raised lettering on a white background
Dimensions	Enclosure: 7.5" H x 6" W x 5.03" D (191 mm x 152 mm x 128 mm) Pull Station: 4.9" H x 3.5" W x 2.0" D (124 mm x 89 mm x 51 mm)
Mounting	Weatherproof Backbox
Standards Compliant:	
Enclosure	UL Listed UL508A
Pull Station	UL/ULc Listed S7005 FM Approved MEA 313-97-E CSFM 7150-1477:0128

Ordering Information

Part Number	Description
708-015-01	Manual Fire Alarm Pull Station, dual action, noncoded, SPST-NO, terminal strip, red, break rod, key reset, weatherproof red enclosure; backbox required. 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; backbox required. Can be converted to a single-action pull station by removing push bar

Associated Parts

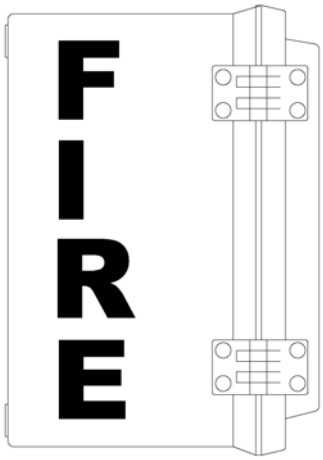
Part Number	Description
588-083-00	Weatherproof backbox, surface mount, red
729-143-00	Intelligent mini-monitor module

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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

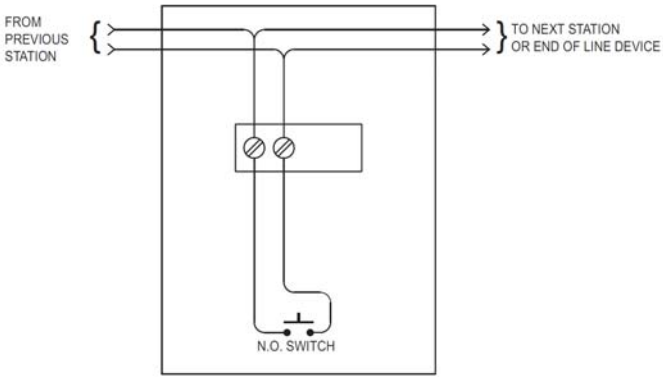
Conventional Detection Devices

Enclosure Side View



P/N 708-015-03 shown

Wiring Diagram



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Detect
Manage
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Conventional Detection Devices

Pull Station, Single Action
708-022-00



Specifications

Switch Contact Ratings	120 VAC @ 3 amp 125 VAC @ 3 amp
Material	Die-cast metal alloy
Weight	1.25 lbs (20 oz)
Dimensions	5.25" H x 3.75" W x 1.625" D
Standards Compliance:	
UL	S2984
CSFM	7150-0512-0006

Ordering Information

Part Number	Description
708-022-00	Pull station, single action, SPST, normally open, wire leads, red, non-coded, break rod, key reset. Uses same key as Monaco Fire Alarm Control Panels

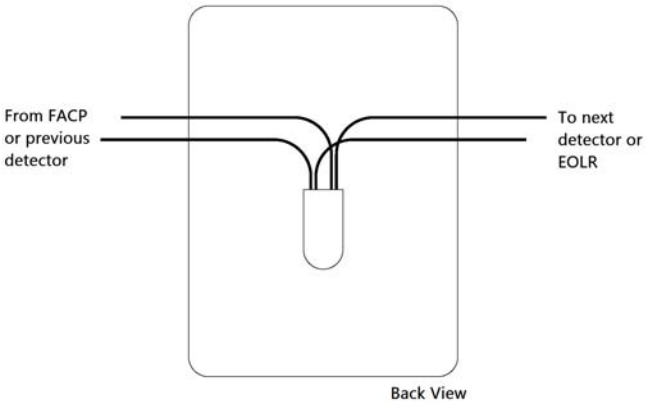
Associated Parts

Part Number	Description
709-026-00	Backbox, surface mount
709-029-00	Weatherproof Backbox, dust and rain-tight
729-143-00	Intelligent mini-monitor module

Features

- Monaco Pull Station, Single Action, red housing
- Non-code non-break glass station
- Die-cast metal alloy construction
- Recessed pull lever
- Keyed with Monaco Enterprises panels

Wiring Diagram



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Detect
Manage
Record

Conventional Detection Devices

Pull Station, Single Action

708-025-01



Specifications

Switch Contact Rating	120 VAC @ 3 amp 125 VAC @ 3 amp
Material	Die-cast metal alloy
Weight	1.25 lbs (20 oz)
Dimensions	5.1875" H x 3.75" W x 3.5" D
Mounting	Mounts to single gang ring on electrical junction box
Standards Compliance:	
UL	S2984
CSFM	7150-0512-0006

Ordering Information

Part Number	Description
708-025-01	Pull station, single action, SPST, normally open, terminal block, red, non-coded, non-break, key reset. Uses same key as Monaco Fire Alarm Control Panels

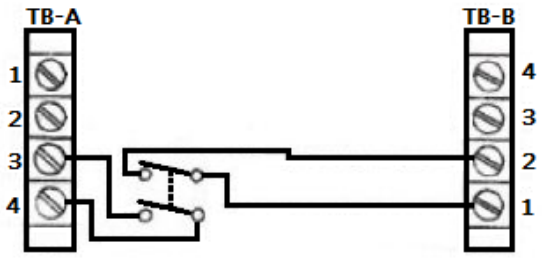
Associated Parts

Part Number	Description
709-026-00	Backbox, surface mount
709-029-00	Weatherproof Backbox, dust and rain-tight
729-143-00	Intelligent mini-monitor module

Features

- Monaco Pull Station, Single Action, red housing
- Non-code non-break glass station
- Die-cast metal alloy construction
- Recessed pull lever
- Terminal block field connections
- Keyed with Monaco Enterprises panels

Wiring



Monaco Enterprises, Inc.
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

Detect Manage Record

Conventional Detection Devices

Pull Station, Single Action

708-025-03



Specifications

Switch Contact Rating	120 VAC @ 3 amp 125 VAC @ 3 amp
Field Connections	Terminal Block
Poles	Double
Material	Die-cast metal alloy
Weight	1.25 lbs (20 oz)
Dimensions	5.1875" H x 3.75" W x 3.5" D
Mounting	Mounts to single gang ring on electrical junction box
Standards Compliance:	
UL	S2984
CSFM	7150-0512-0006

Ordering Information

Part Number	Description
708-025-03	Pull station, single action, DPST, normally open, terminal block, red, non-coded, non-break, key reset. Uses same key as Monaco Fire Alarm Control Panels.

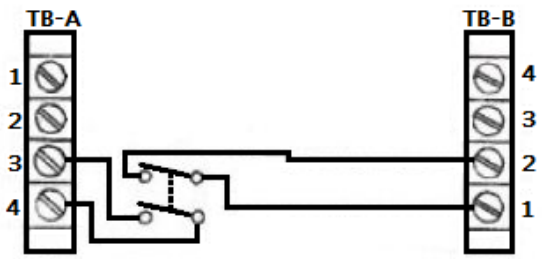
Associated Parts

Part Number	Description
709-026-00	Backbox, surface mount
709-029-00	Weatherproof Backbox, dust and rain-tight
729-143-00	Intelligent mini-monitor module

Features

- Monaco Pull Station, Single Action, red housing
- Non-code non-break glass station
- Die-cast metal alloy construction
- Recessed pull lever
- Terminal block field connections
- Keyed with Monaco Enterprises panels

Wiring



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Detect Manage Record

Conventional Detection Devices

Pull Station, Double Action

708-026-01



Specifications

Contact Rating	0.25 amps @ 30 VAC/VDC (resistive)
Switch Contacts	Normally Open
Recommended Operating Temperature	60°F to 80°F (15°C to 27°C)
Material	Lexan®
Dimensions	5.625" H x 4.25" W x 1.25" D (14 x 10.1 x 3.2 cm)
Mounting	Surface or semi-flush on standard double-gang or 4 inch (10.2 cm) square electrical box
Standards Compliance	Investagated to ANSI/UL38
UL	S2465
FM	Approved
CSFM	7150-1703:0109

Ordering Information

Part Number	Description
708-026-01	Pull station, double action, SPST, normally open, terminal block, red, non-coded, non-break, key reset. Uses same key as Monaco Fire Alarm Control Panels.

Associated Parts

Part Number	Description
588-102-00	Surface-mount backbox 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

Features

- Monaco Pull Station, Double Action, Red housing
- Non-coded
- Polycarbonate construction
- Operating instructions and Braille text in handle
- Complies with American Disabilities Act (ADA) 5 pound pull force requirement
- Keyed with Monaco Enterprises panels
- Single pole contacts and screw terminals for connection to an initiating circuit
- Shock and vibration resistant

Mounting

The pull station may be surface-mounted (use backbox P/N 588-102-00) or semi-flush mounted on a standard double-gang, or 4-inch (10.2 cm) square electrical box.

An optional trim ring (P/N 709-034-00) may also be used for semi-flush mounting.

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Detect Manage Record

Conventional Detection Devices

Pull Station, Double/Single Action, SPST

708-031-00

Description

This double action pull station is made of high quality die-cast metal, and is configured with SPST normally open (NO) contacts and terminal strip connections for easy installation. The pull station can be converted to a single action by removing the push bar. The pull station can be surface mounted to a standard metal (P/N 588-082-00) or weatherproof (P/N 588-083-00) backbox.



Double action configured pull station



Optional single action configured pull station. (Push bar removed.)

The double action pull station is activated by pushing in the "PUSH BAR" and pulling down the "PULL HANDLE". The station reset process consists of completely opening the station with the key, placing the handle in its normal position, and locking the station.

Features

- Double action push and pull
- Key reset process
- Terminal strip connections
- Corrosion resistant, gold plated SPST NO contact
- Optional auxiliary contacts
- Red enamel, high-gloss finish
- 1 amp, 30 Vdc normally open contact
- Plastic breakrod
- Meets ADA requirements

Specifications

Switch rating	1 amp @ 30 Vdc 0.1 amp @ 125 Vac
Pull Station Dimensions	4.9" H × 3.5" W × 2.0" D (12.4 × 8.9 × 5.1 cm)
Surface Backbox Dimensions	5.0" H × 3.6" W × 2.0" D (12.7 × 9.1 × 5.1 cm)
Weatherproof Backbox Dimensions	5.0" H × 3.6" W × 2.2" D (12.7 × 9.1 × 5.6 cm)

Ordering Information

Pull Station

Part Number	Description
708-031-00	Pull station, double action, SPST, terminal strip, normally open, red, non-coded, break rod, key reset. Uses the same key as the Monaco Fire Alarm Control Panels. Can be converted to a single-action by removing push bar.

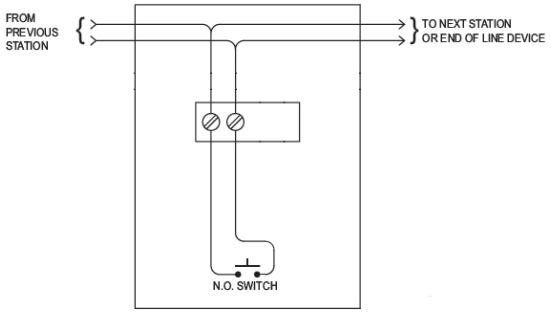
Associated Parts

Part Number	Description
588-082-00	Indoor backbox, surface mount, red
588-083-00	Weatherproof backbox, surface mount, red
709-046-00	Plastic breakrod (package of 12)
729-143-00	Intelligent mini-monitor module

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Detect Manage Record

Wiring Diagram



- Wire as shown so the supervision of connections is maintained
- Maximum wire size is No. 12 AWG
- Mount pull station to a 2" H x 4" W x 2.25" D outlet box

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Detect
Manage
Record

Conventional Detection Devices

Pressure-Type Waterflow Switch

514-001-00



Specifications

Dimensions	3.78" W x 3.20" D x 4.22" 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" NPT male
Factory Setting	Factory set at 4-8 PSI (0.27 - 0.55 BAR)
Low Pressure Supervisory Signal	Adjustable between 4 and 15 PSI (0.27 and 1.03 BAR)
Differential	2 PSI (0.13 BAR) Typical
Maximum System Pressure	300 PSI (20.68 BAR)
Switch Contacts	One SPDT (Form C) contacts 10.1 Amps at 125/250VAC and 2.0 Amps at 30VDC
Operating Temperature	-40°F (-40°C) to 140°F (60°C)
Standards Compliance	
UL	S309
FM	Approved
State of California	7770-0328:0001
MEA Acceptance	299-91-E Vol.12
CE	Marked - Fire Alarm Equipment 354L
LPCB	125a/05

Features

- Maximum service pressure rating of 300 PSI
- Pressure range 4-8 PSI
- 1/2" male NPT fitting
- Cover attaches with one tamper resistant screw
- Two 1/2" knockouts for dual voltage application
- May be used for indoor or outdoor applications
- Single Pull Double Throw (SPDT) form C Contacts

Ordering Information

Part Number	Description
514-001-00	Pressure-Type Waterflow Switch, 1 SPDT, 10.1A 125/250 VAC, 2.0A 30 VDC, 4-8 psi factory setting

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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

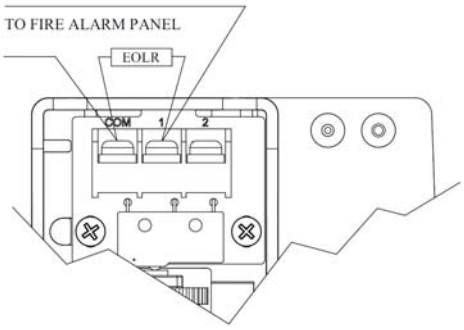
Conventional Detection Devices

Associated Parts

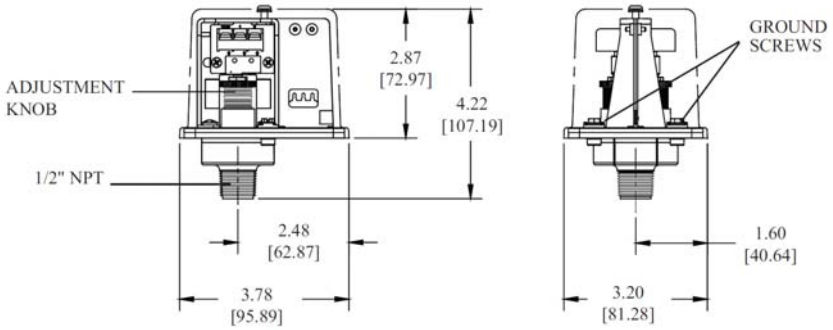
Part Number	Description
729-143-00	Intelligent mini-monitor module
OR	
721-142-00	Intelligent monitor module

Drawings

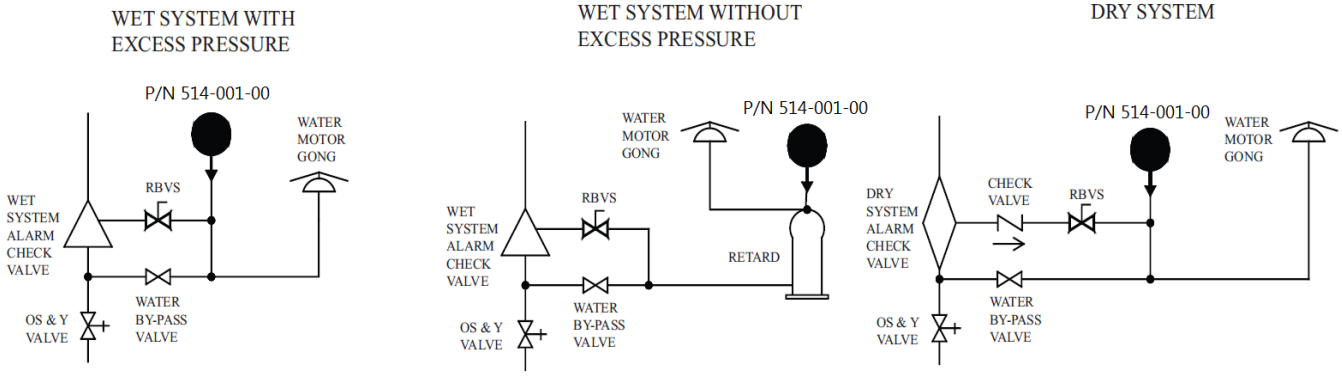
Wiring Diagram



Dimensions



Applications



Monaco Enterprises, Inc.
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Detect Manage Record

Conventional Detection Devices

Pressure-Type Supervisory Switch

514-003-00



Specifications

Dimensions	3.78" W x 3.20" D x 4.22" 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" NPT male
Factory Setting	Factory set at 40 PSI (2.8 BAR) Switch marked LOW set to operate at pressure decrease of 10 PSI (.7 BAR) at 30 PSI (2.1 BAR) Switch marked HIGH set to operate at pressure increase of 10 PSI (.7 BAR) at 50 PSI (3.5 BAR)
Pressure Range	Adjustable from 10-60 PSI (.7-4.1 BAR)
Differential	Typical 1 lb at 10 PSI (.07 at .7 BAR) 4 lbs at 60 PSI (.28 at 4.1 BAR)
Maximum System Pressure	300 PSI (20.68 BAR)
Switch Contacts	Two SPDT (Form C) contacts, rated at 10.1 Amps at 125/250VAC and 2.0 Amps at 30VDC
Operating Temperature	-40°F (-40°C) to 140°F (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

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
- 1/2" male NPT fitting
- Cover attaches with one tamper resistant screw
- Two 1/2" 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

Ordering Information

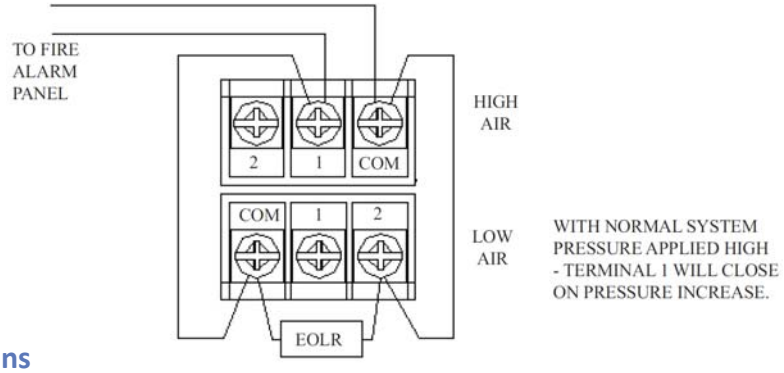
Part Number	Description
514-003-00	Pressure-Type Supervisory Switch, 2 SPDT, 10A, 125VAC, 10-60 psi

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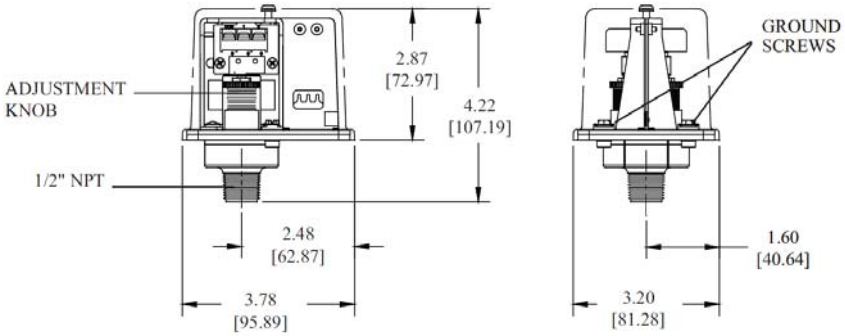
Detect Manage Record

Drawings

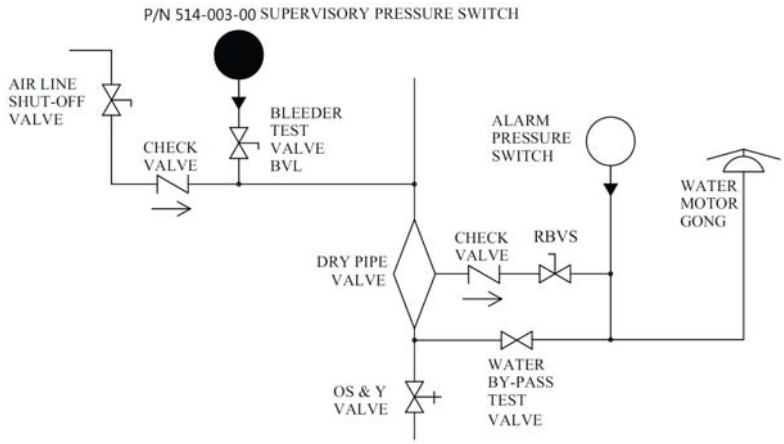
Wiring Diagram



Dimensions



Application



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Detect
Manage
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Conventional Detection Devices

Outside Screw & Yoke Valve Supervisory/Tamper Switch

514-000-00, 514-000-01



Specifications

Dimensions	6.19" W x 3.05" D x 5.69" H (15.7 cm) x (7.7 cm) x (14.4 cm)
Weight	1.6 lbs (0.73 kg)
Enclosure	NEMA 4X (IP65) and NEMA 6P (IP67) indoor or outdoor *Cover*: Die-Cast, Red powder-coat *Base*: Die-Cast, Black powder-coat all parts - corrosion resistant finish
Pressure Connection	Nylon 1/2" NPT male
Contact Ratings	One set SPDT (Form C) contacts 10 Amps at 125/250 VAC 2.0 Amps at 30 VDC Resistive 10 mAmps minimum at 24 VDC
Conduit Entrances	Two knockouts for 1/2 inch conduit
Operating Temperature	-40°F (-40°C) to 140°F (60°C)
Standards Compliance	
UL	S309
FM	Approved
State of California	7770-0328:0010
CE	Fire Alarm Equipment 354L RoHS compliant

Features

- Monitors open position of outside screw and yoke (OS&Y) type gate valve
- Three position switch detects tampering and valve closure
- Mounts to most 2 inch to 12 inch gate valves
- Visual switch indicators
- Two tamper resistant screws hold cover in place
- May be used for indoor or outdoor applications
- Single Pull Double Throw (SPDT) switch

Ordering Information

Part Number	Description
514-000-00	Valve Supervisory/Tamper Switch (Outside Screw and Yoke [OS&Y] gate valve switch), 1 SPDT Form C Contacts, 10A, 125/250 VAC
514-000-01	Valve Supervisory/Tamper Switch (Outside Screw and Yoke [OS&Y] gate valve switch), 2 SPDT Form C Contacts, 10A, 125/250 VAC

Associated Parts

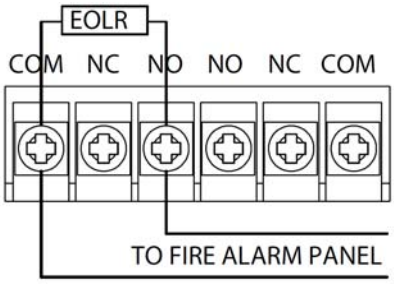
Part Number	Description
729-143-00	Intelligent mini-monitor module

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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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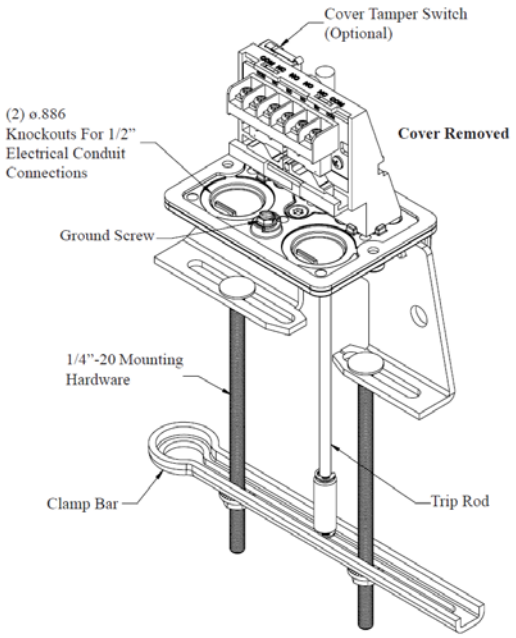
Detect Manage Record

Drawings

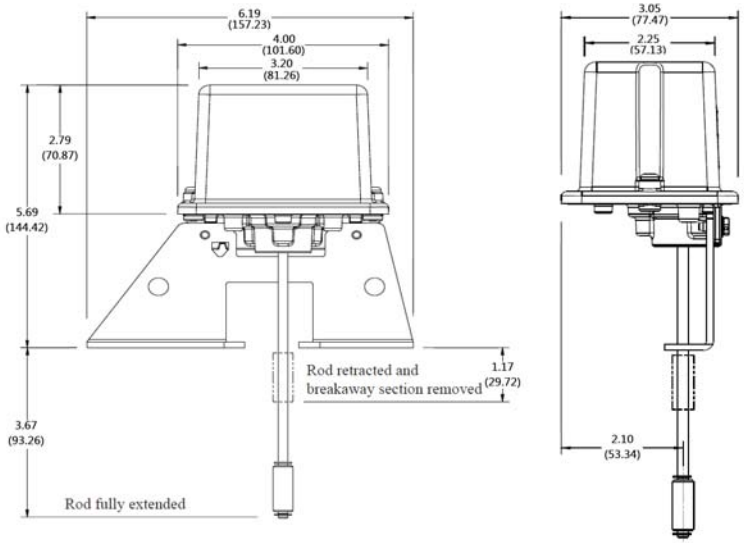
Wiring Diagram



Detail Drawing

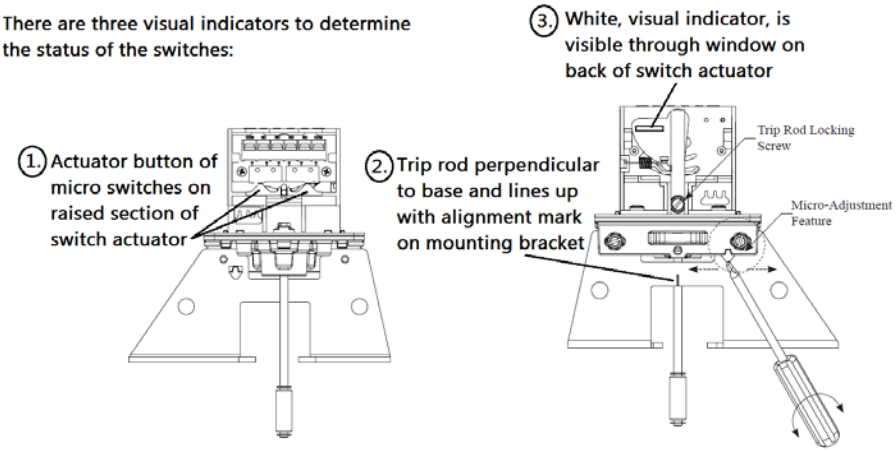


Dimensions



Visual Indicators

There are three visual indicators to determine the status of the switches:



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Detect Manage Record

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

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.

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 feet
Wiring	14–22 AWG
Operating Temperature	32 to 104°F (0 to 40°C)
Relative Humidity	22–90%
Dimensions	Rectangular: 5.1" L x 3.3" W x 1.25" D Circular: 1.25" D x 6" dia.
Weight	725-602-00, 7 oz; 725-602-01, 11 oz
Detector Life Span	~6 years from date of manufacture

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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

Conventional Detection Devices

Alarm Thresholds

Parts per Million	Detector Response Time
30, +/–3	No alarm within 30 days
70, +/–3	60–240 minutes
150, +/–3	10–50 minutes
400, +/–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

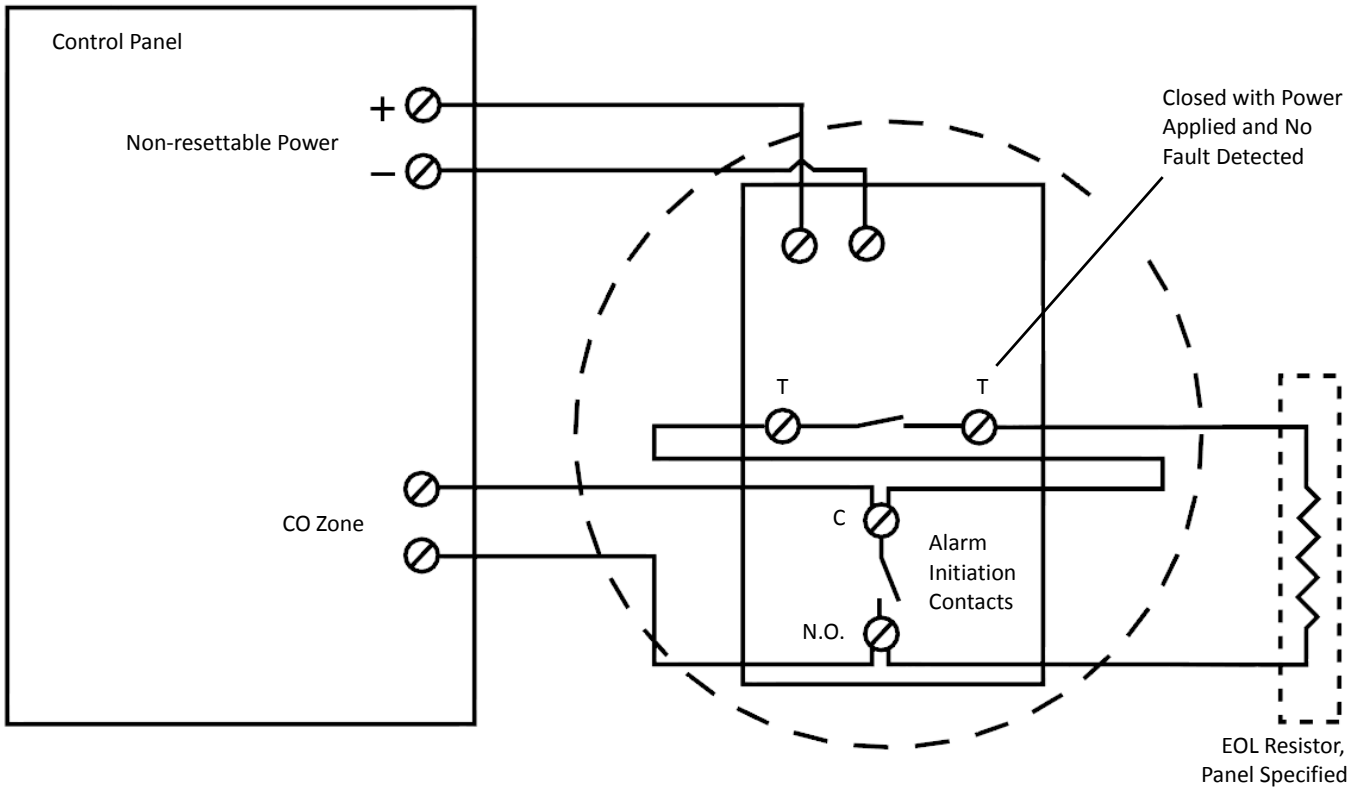
Ordering Information

Part Number	Description
725-602-00	Conventional carbon monoxide detector, 12/24 VDC, rectangular, 4-wire
725-602-01	Conventional carbon monoxide detector, 12/24 VDC, circular, 4-wire

Associated Parts

Part Number	Description
588-076-00	Co-plate (replacement plate) mounting accessory for P/N 725-602-00

Wiring Diagram



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Detect Manage Record

Conventional Detection Device

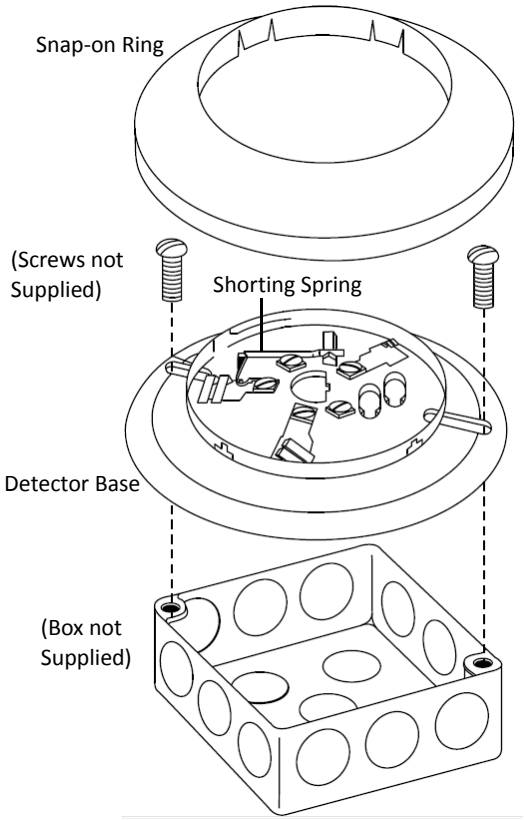
Detector Base, Plug-in, 2-wire

729-097-00

Description

This plug-in base is used with ionization and photoelectronic 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	Diameter: 6.2 in. (157 mm) Height: 0.95 in. (24 mm)
Weight	0.3 lb (136.1g)
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing

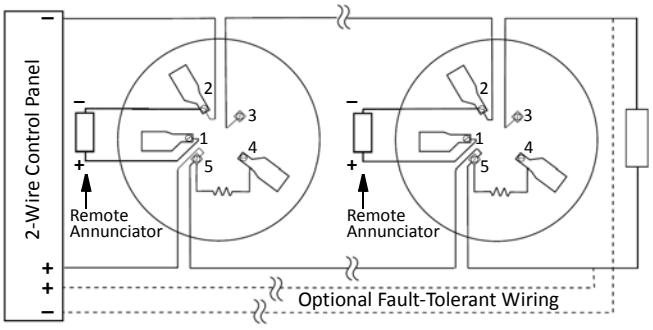
Base and Detector

Start-up Time	34.0 seconds max.
System Voltage	24 VDC, 4V peak-to-peak max. ripple
Standby Ratings	Base: 17 VDC min., 32 VDC max. Detector: 120 µA max.
Wiring	Up to 12 AWG, twisted pair, in separate grounded conduit
Alarm Ratings	10.5 VDC at 10 mA min. 32 VDC at 62 mA max.
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

Monaco Enterprises, Inc.
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

Detect Manage Record

Conventional Detection Device

Detector Base, Plug-in, 2-Wire

729-150-00

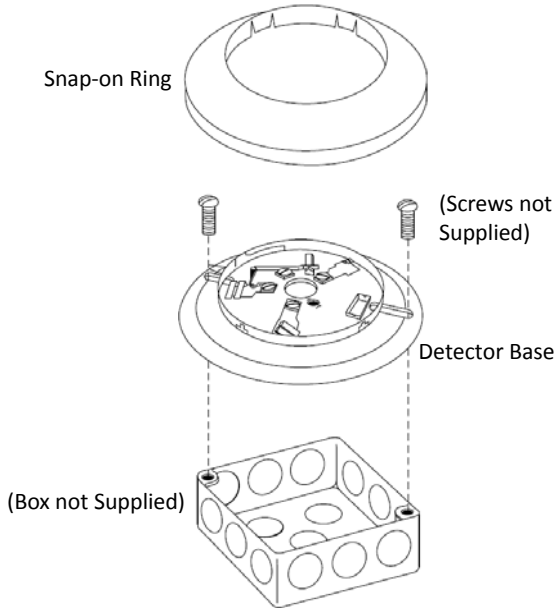
Description

This plug-in base is used with ionization and photoelectronic detector heads. The base is intended for two-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	Diameter: 6.2 in. (157 mm) Height: 0.95 in. (24 mm)
Weight	0.3 lb (136.1g)
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing

Base and Detector

Start-up Time	34.0 seconds max.
System Voltage	24 VDC, 4V peak-to-peak max. ripple
Standby Ratings	Base: 20 VDC min., 29 VDC max. Detector: 120 µA max.
Wiring	18 AWG min., signal line Up to 12 AWG, base clamping plate
Alarm Ratings	10 mA, min. 100 mA, max.
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

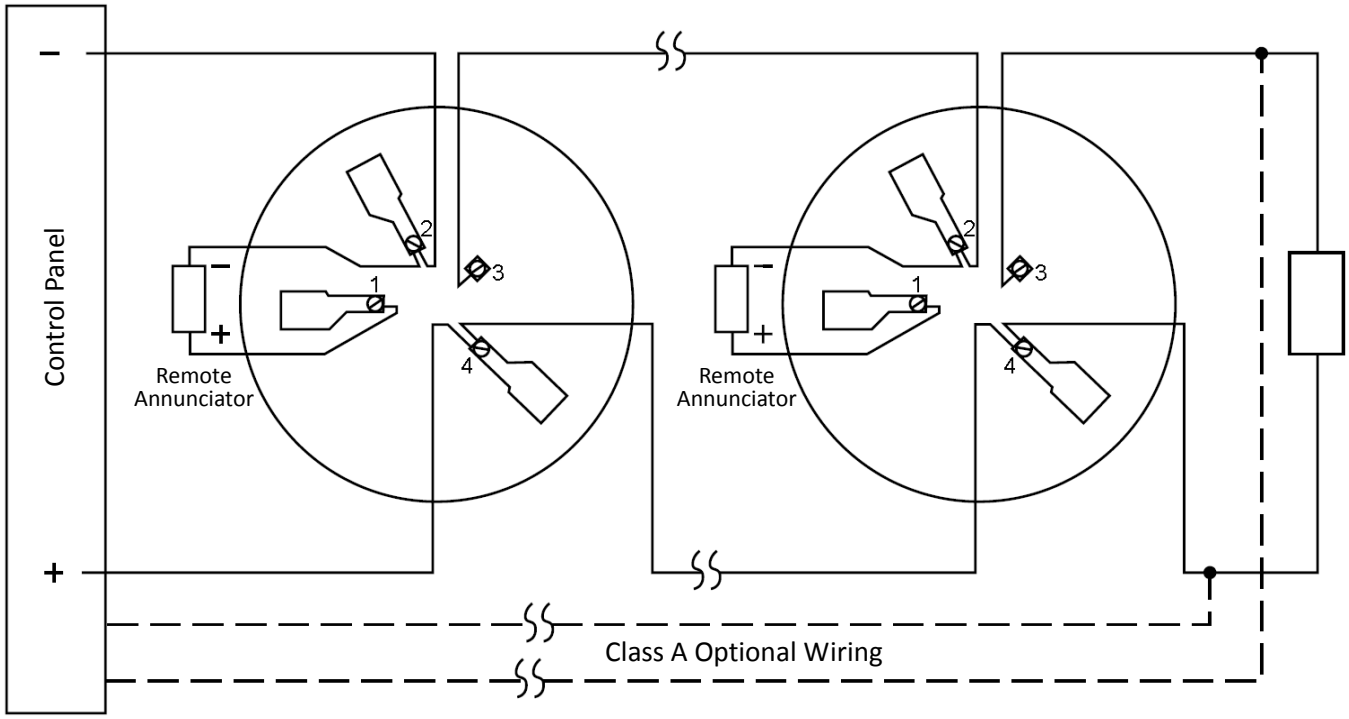
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Detect Manage Record

Conventional Detection Device

Wiring Diagram

Typical two-wire detector system.



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Detect
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Conventional Detection Devices

Detector Base, Plug-in, 4-Wire

729-151-00

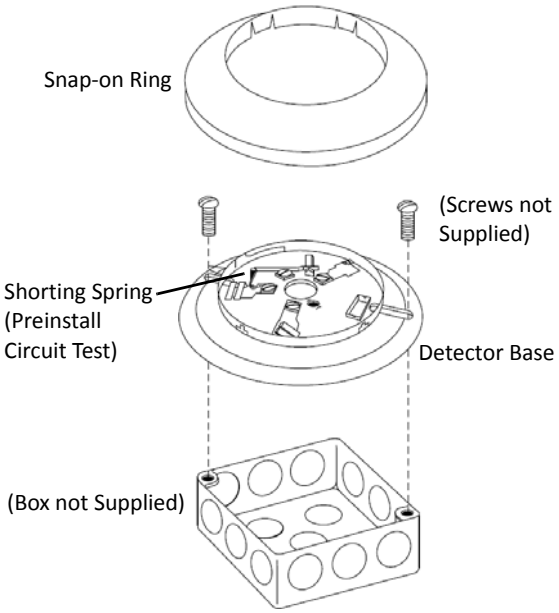
Description

This plug-in base, used with ionization and photoelectronic detector heads, is for four-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

Base mounts directly to 3.5 in. octagon boxes, and 4 in. square boxes with or without plaster rings. Minimum depth for both is 1.5 in.



Specifications

Base

Dimensions	Diameter: 6.2 in. (157 mm) Height: 0.95 in. (24 mm)
Weight	0.3 lb (136.1g)
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing

Base and Detector

Start-up Time	34.0 seconds max.
System Voltage	24 VDC, 4V peak-to-peak max. ripple
Standby Ratings	Base: 20 VDC min., 29 VDC max. Detector: 120 µA max.
Wiring	18 AWG min., signal line Up to 12 AWG, base clamping plate
Alarm Ratings	17 mA, min. 36 mA, max.
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

Detector Base

Part Number	Description
729-151-00	Conventional detector base, plug-in, 24 VDC, 4-wire, Form A and C contacts

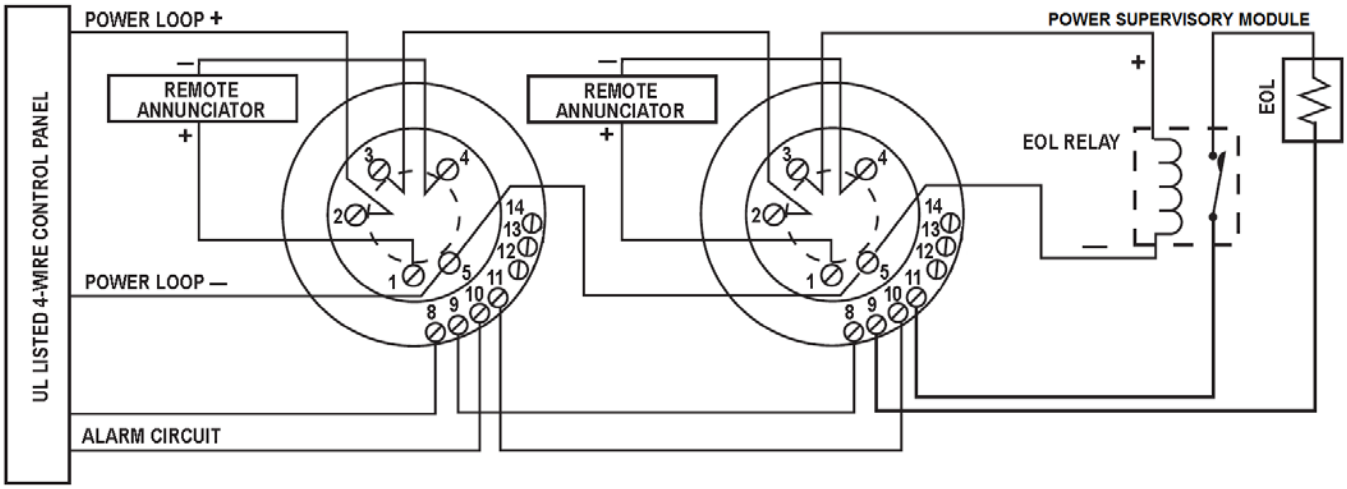
Associated Parts

Part Number	Description
790-012-00	Module, power supervisory, end-of-line

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Detect Manage Record

Typical Wiring Diagram



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Detect Manage Record

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 or beam smoke detector. The unit can reset certain detectors (per the detector's documentation).



- The single LED lights red for 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.

Specifications

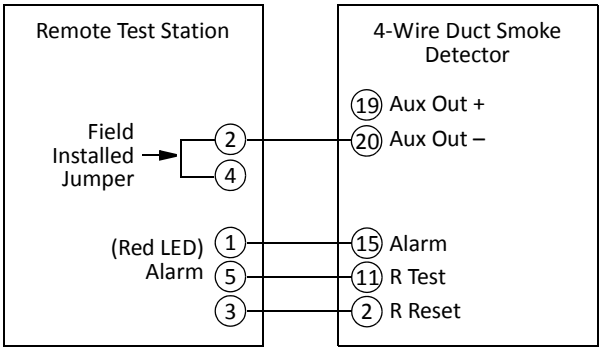
Electrical	Alarm LED: 2.8–32 VDC, 12 mA max. Coil current: 95 mA max. Switch: 10 VA at 32 VDC Max. Current: 105 mA
LED Indicator	Normal = off Alarm = red
Alarm Response	40 seconds max.
Wire Gauge	14–18 AWG
Operating Temperature	14 to 140°F (–10 to 60°C)
Relative Humidity	0–95% noncondensing
Physical Specifications	4.6" H x 2.75" W x 1.8" D
Weight	0.16 lb
Gang Box Mounting	2 1/2 in. depth minimum

Ordering Information

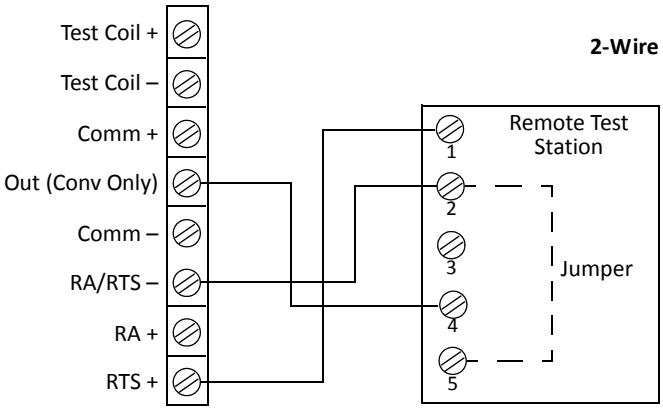
Part Number	Description
729-108-00	Remote test station with LED for duct or beam smoke detector

Wiring (Examples Only)

4-Wire



2-Wire



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Detect Manage Record

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 or beam smoke detector. The unit can also reset certain detector models (per the detector's documentation).



- The single LED lights green for power/normal, red for test/alarm (four-wire) or red only (two-wire).
- The key operates the test and reset functions.

Specifications

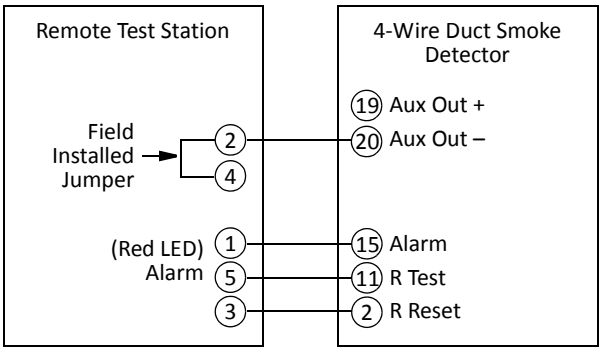
Electrical	LED Green: 14–35 VDC, 12 mA max. Red: 2.8–32 VDC, 12 mA max. Switch: 10 VA at 32 VDC Max. Current: 105 mA
LED Indicator	Normal = off Alarm = red
Alarm Response	40 seconds max.
Wire Gauge	14–18 AWG
Operating Temperature	14 to 140°F (–10 to 60°C)
Relative Humidity	0–95% noncondensing
Physical Specifications	4.6" H x 2.75" W x 1.8" D
Weight	0.24 lb
Mounting	■ Single gang box, 2 1/2 in. depth min. ■ Directly to wall or ceiling

Ordering Information

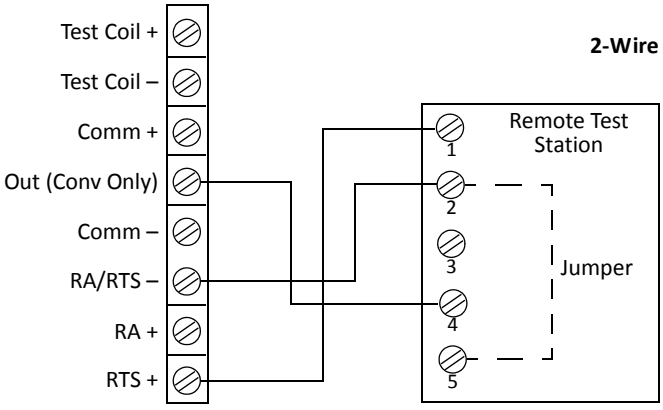
Part Number	Description
729-138-00	Remote test station with LED and key for duct or beam smoke detector

Wiring (Examples Only)

4-Wire



2-Wire



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Detect Manage Record

Conventional Detection Devices

Module, Test and Maintenance
729-192-00

Description

This module allows a control panel to receive a “need for maintenance” signal from up to 12 two-wire conventional smoke detectors, P/Ns 723-340-00 and 723-340-01, per zone. Two-wire smoke detectors can be used on any compatible four-wire control panel; the module provides Class A wiring on the detector loop.



A walktest function puts all detectors on the loop into walktest mode for easy verification of detector loop wiring.

Relays

- **Form C Zone** Initiates “out of sensitivity” and “freeze trouble”
- **First Form A Zone** Alarm relay
- **Second Form A Zone** Loop fault relay

LEDs

- **Green** Blinks during power-on, reset, and normal
- **Yellow** Blinks during walktest, on steady for a loop wiring fault
- **Red** Blinks during smoke maintenance, on steady for a smoke alarm

Specifications

Electrical

Resettable Power Supply	8.5 to 35 VDC, power limited
Standby Current	60 mA, max.
Alarm Current	185 mA
Contact Rating	100 mA at 36 VDC resistive, 25Ω
Wiring	14–22 AWG
Loop Resistance	50Ω max.

Two-wire Compatibility Requirements

Loop Class	Class B, Class A
Loop Voltage	12.6 to 14.52 VDC
Reset Voltage	0.3 VDC
Loop Resistance	50Ω max.
Alarm Current	43.5 mA max.
Normal Load Current	1.2 mA max.
EOL Device	3.9 kΩ (+/– 5%)
Detectors per Zone	12

General

Operating Temperature	32 to 122°F (0 to 50°C)
Relative Humidity	5–95%, noncondensing
Dimensions	6.04" sq. x 1.16" D
Weight	0.6 lb
Mounting	4 11/16" J box or inside dedicated enclosure

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Detect Manage Record

Conventional Detection Devices

Ordering Information

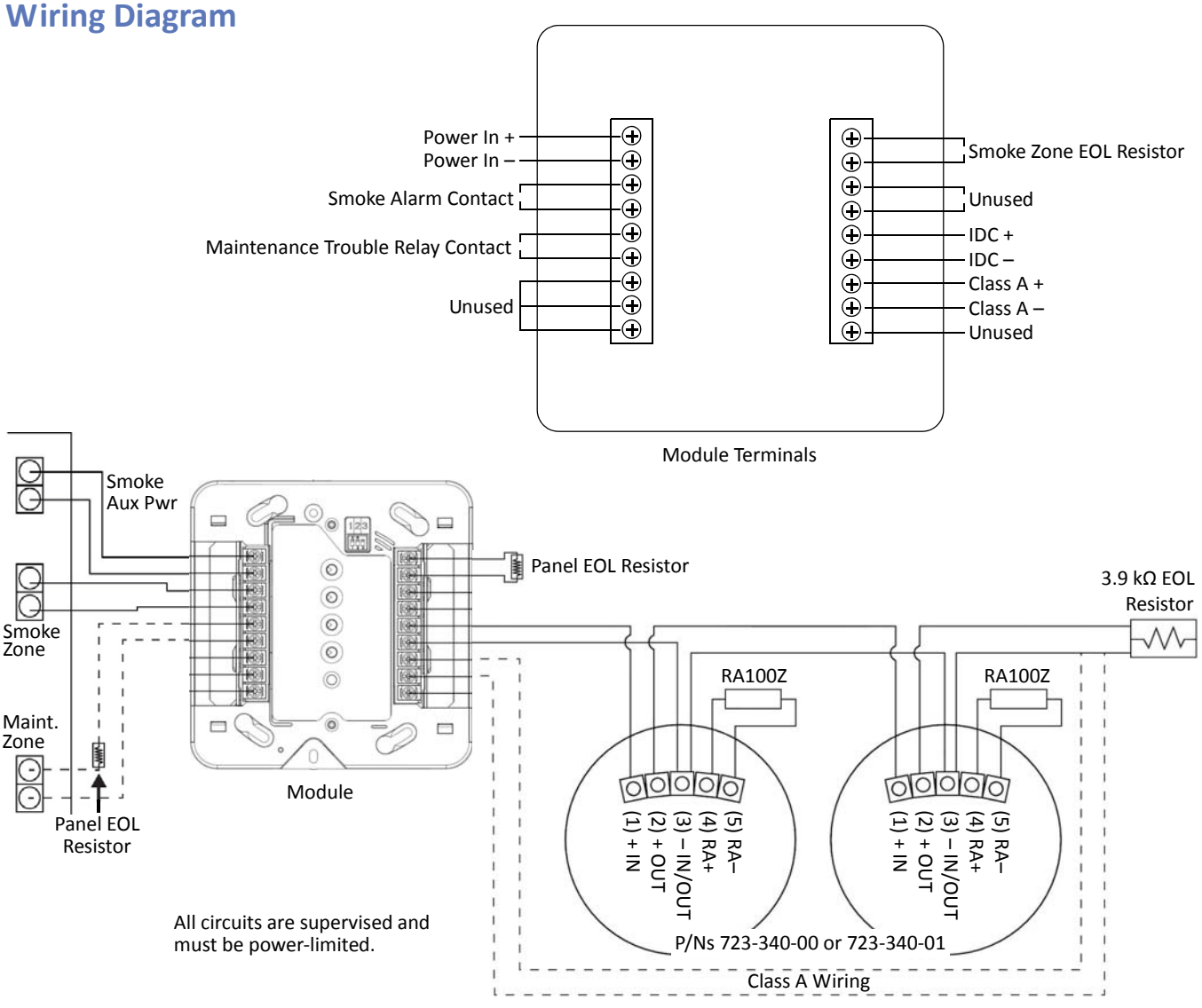
Test and Maintenance Module

Part Number	Description
729-192-00	Conventional test and maintenance module for P/Ns 723-340-00 and 723-340-01

Associated Parts

Part Number	Description
723-340-00	Conventional photoelectric smoke detector, plug-in, 2-wire
723-340-01	Conventional photoelectric smoke detector, plug-in, 2-wire, fixed-temperature 135°F, freeze detection
729-091-00	Remote LED annunciator

Wiring Diagram



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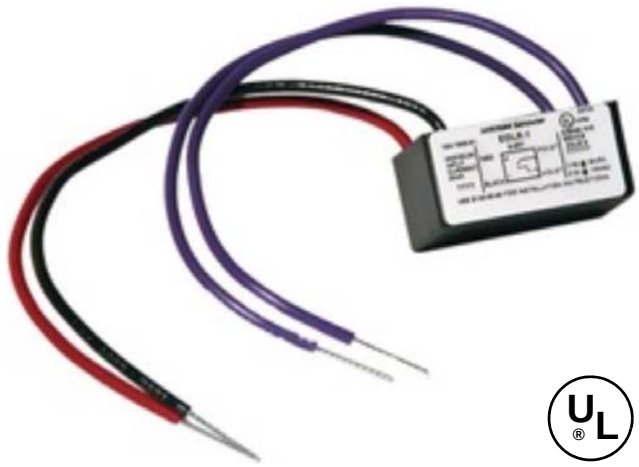
Conventional Detection Devices

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" min.
Dimensions	0.91" H x 1.65" W x 1.22" D (23 mm H x 42 mm W x 31 mm D)

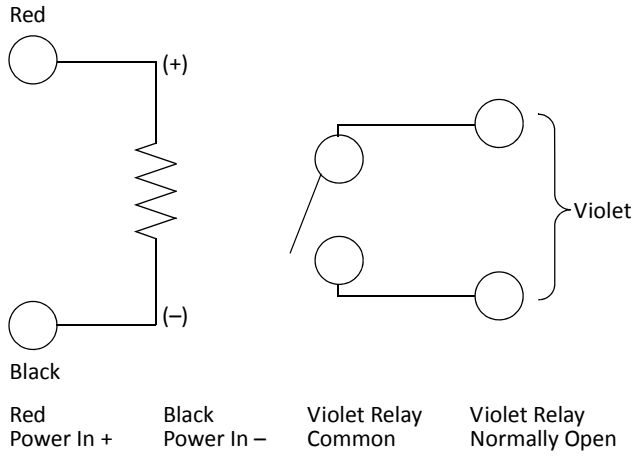
Mounting Options

- 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, 9–40 VDC

Wiring Diagram



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Conventional Detection Devices

End-of-line Power Supervision Relay Module

790-013-01

Description

This end-of-line supervisory module is nonpolarized and has both 47 kΩ end-of-line (EOL) resistor or normally closed (NC) contacts when power is applied.



The 47 kΩ end-of-line resistor contacts are used with Monaco addressable monitor modules that require a 47 kΩ end-of-line resistor while the (NC) contacts can be used with any value end-of-line resistor. The end-of-line supervisory module is used to monitor 24 VDC auxiliary power for non-loop-powered devices such as 4-wire smoke detectors.

This module is good for applications in which you need to reverse voltage to a device to turn on an internal built-in sounder. The module will remain energized for both polarities so that no false power-supervision trouble is annunciated. If power is lost, a power supervision trouble will be annunciated.

This small module easily fits into junction boxes behind pull station or smoke detectors.

Specifications

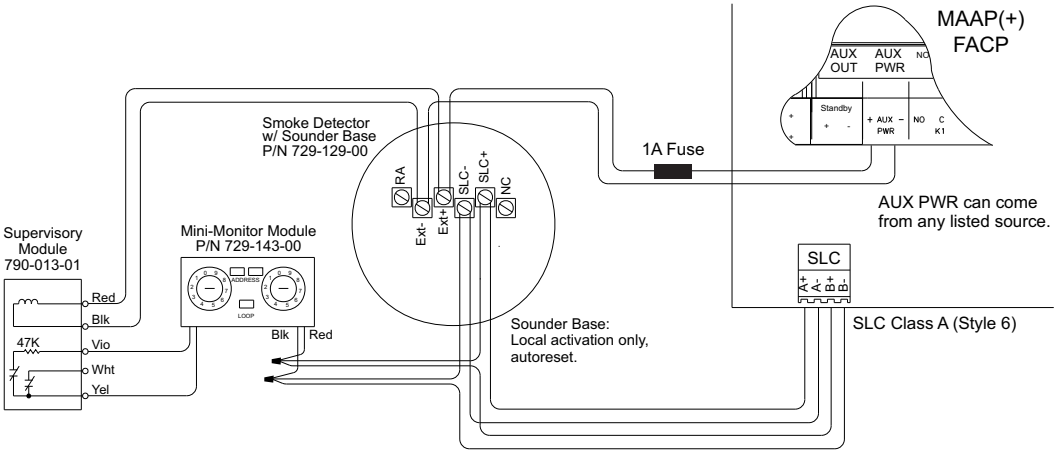
Operating Voltage	20–30 VDC
Current	10 mA nominal
Operating Temperature	–22°F to 140°F (–30°C to 60°C)
Contact Ratings	**N.O.:** (white and yellow wires) 30 VDC, 1A **47 kΩ:** (violet and yellow wires) 47 kΩ, 1W for direct connection to Monaco addressable monitor modules
Size	1" W x 1½" H x ¼" D

Ordering Information

Part Number	Description
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

Wiring Diagrams

Simple auxillary power supervison sounder base individual activiation

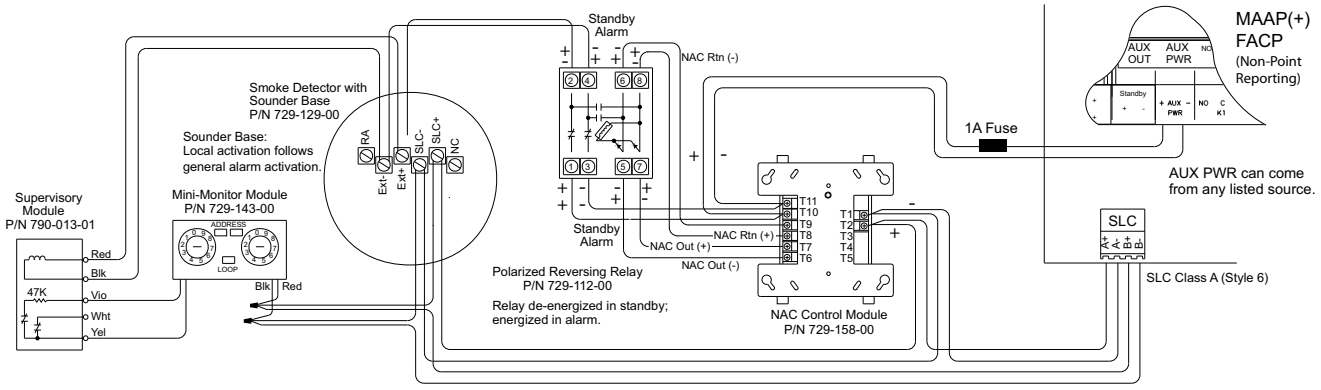


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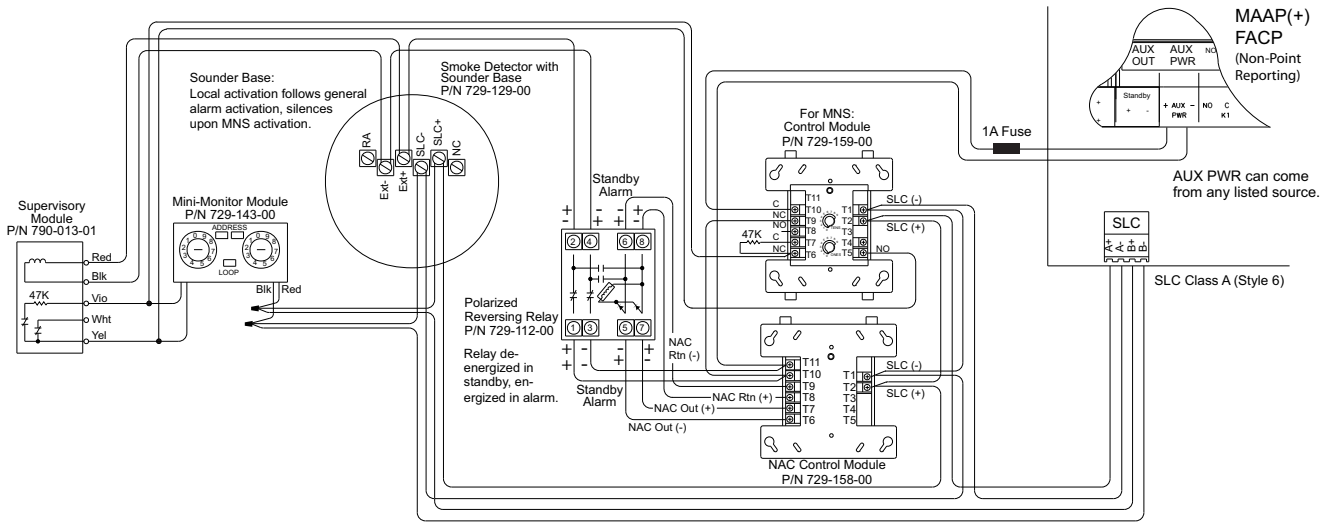
Detect Manage Record

Conventional Detection Devices

Aux power supervision sounder base individual activation and general alarm activation



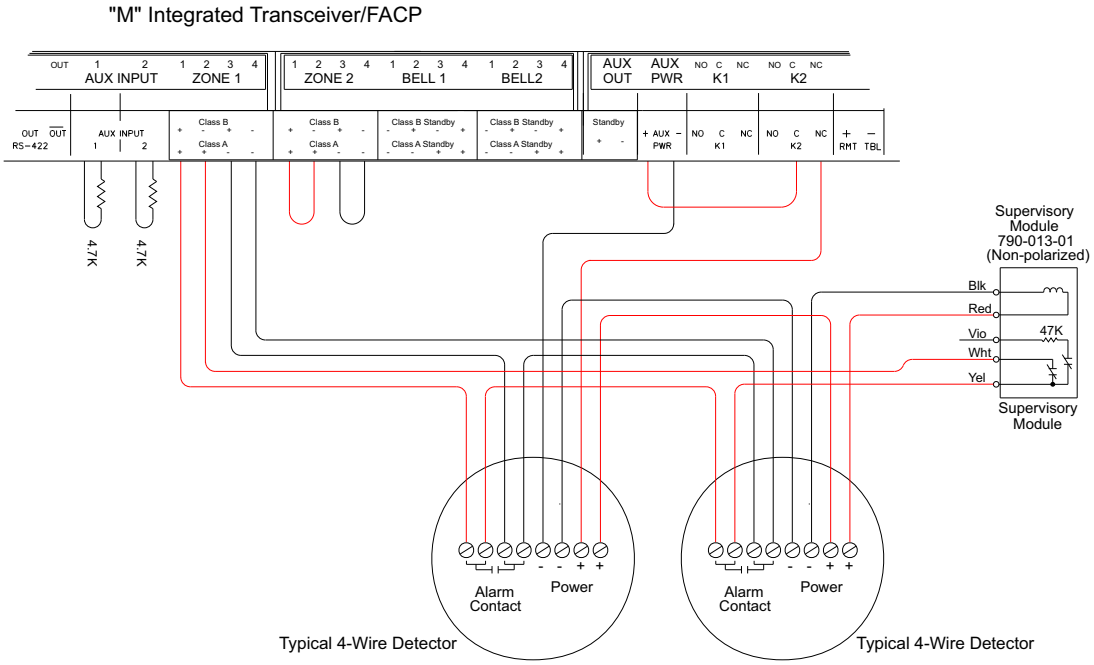
Aux power supervision sounder base individual activation and general alarm activation with MNS silenceable



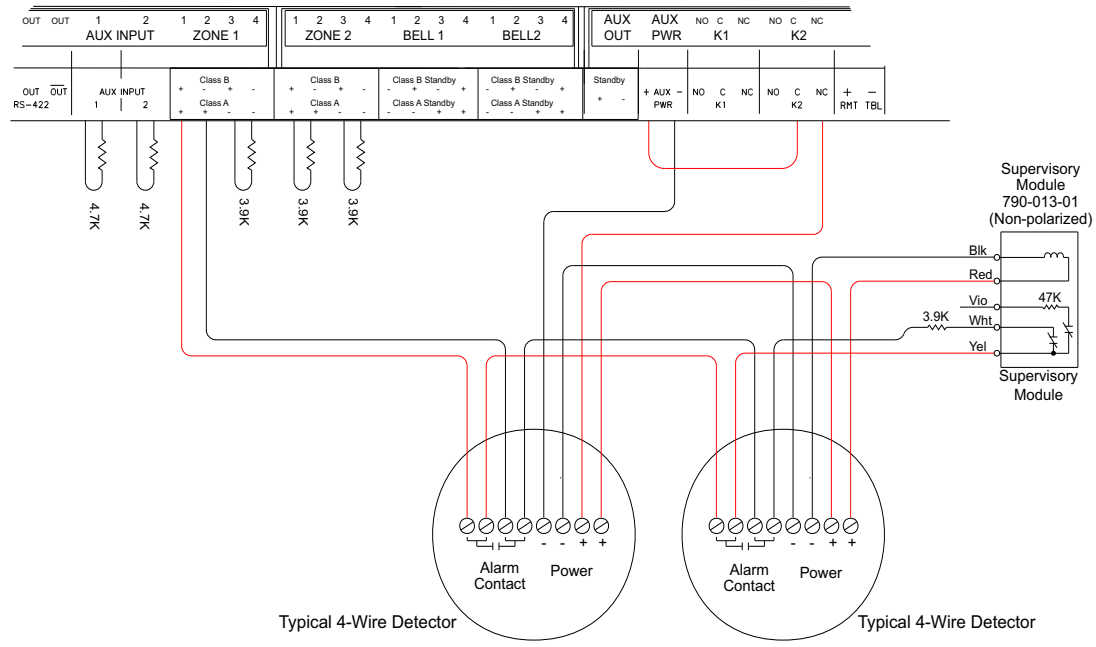
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Power supervision of 4-wire detector Class A with Aux input IDC as supervision



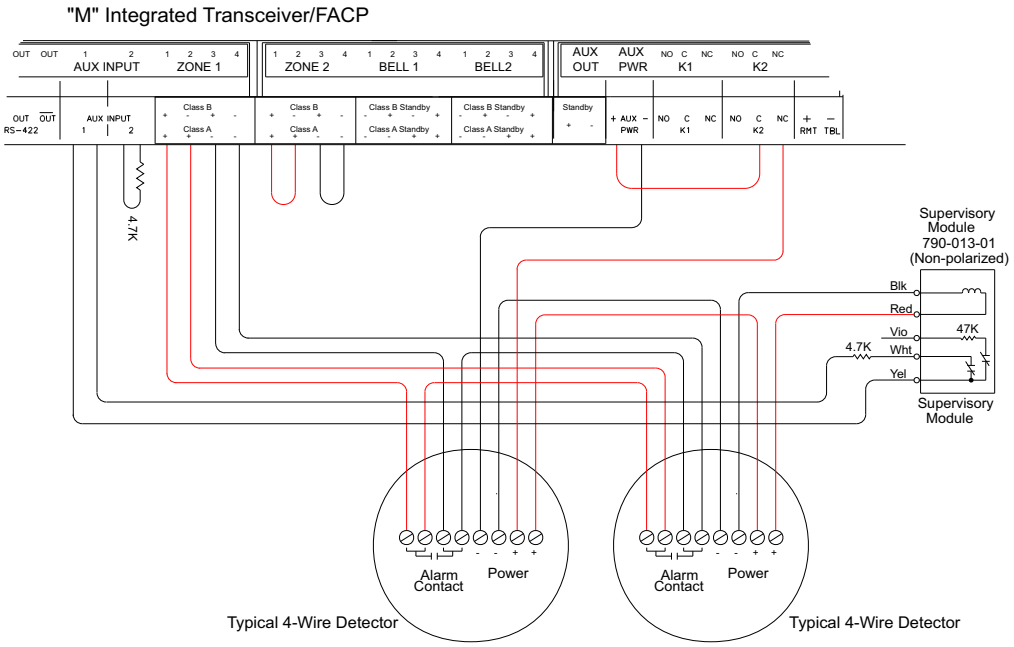
Power supervision of 4-wire detector to Class B on board zone IDC



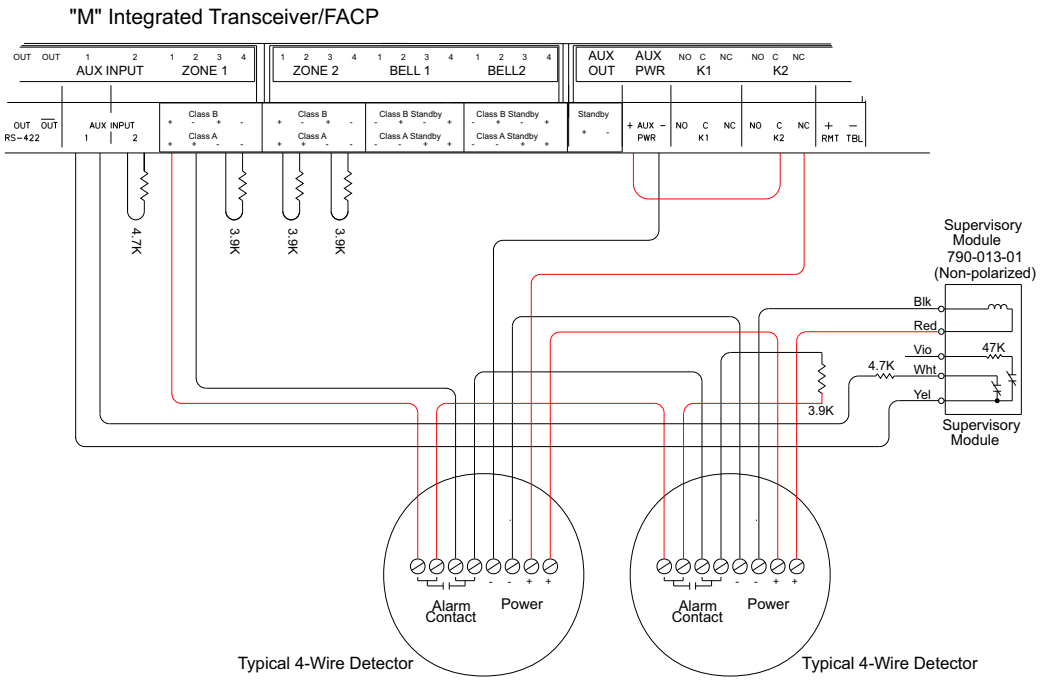
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Detect Manage Record

Power supervision of 4-wire detector to Class A on-board zone IDC



Power supervision of 4-wire detector Class B with aux input IDC as supervision



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Detect Manage Record

Notification Appliance Devices Catalog Section 11

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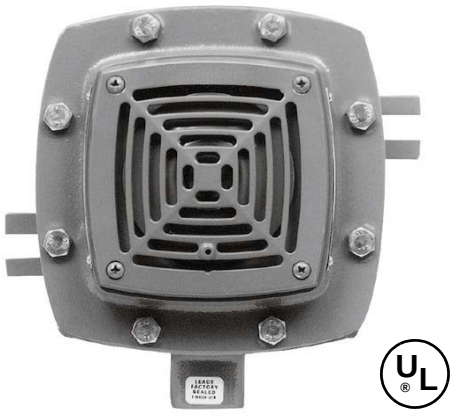
Detect Manage Record

Notification Appliance Devices

Explosion-proof Horn
585-032-01

Description

The Monaco explosion-proof horn is a diode-polarized, vibrating type for indoor applications in hazardous locations. It is ideally suited for use in such applications as mining, granaries, flour mills, tankers, refineries, and laboratories.



NOTE Explosion-proof Horn Kit (P/N 585-032-01) includes one transient protector (P/N 210-544-00).

For Class A Circuits, transient protectors are needed between the FACP and first device (explosion-proof horn) and also between the last device and FACP. If the NAC circuit only has one device an additional transient protector should be purchased separately and installed (for one transient protector before the device and one transient protector after the device). If two or more devices are on the same NAC circuit, no additional transient protectors need to be purchased.

For Class B Circuits, only one transient protector is needed per NAC circuit between the FACP and the first device on the circuit.

For Class A and Class B circuits, the transient protector should be located at least 10 feet away (physically, not just wire length) from the fire alarm panel or booster power supply. The circuit should only have explosion proof horns and transient protector(s). Do not mix explosion proof horns with other devices on the same circuit as the electromagnetic noise generated by the explosion proof horn can cause erroneous operation on the other devices.

Features

- UL Listed for
  Class 1 and 2 (Groups B, C, D);
  Class II, Division 1 and 2 (Groups E, F, G); and
  Class III locations
- Heavy-duty vibrating horn
- Corrosion resistant heat flowed epoxy finish
- Compact low-sillouette design
- Low power consumption with high sound output
- Polarized for DC supervision of alarm lines
- Mounts to any solid surface using two bolts
- Power connection wires embedded in sealing compound
- NEMA 4X rated

Specifications

Operating Voltage	24 VDC
AC Voltage Frequency	50/60 Hz
Input Current	16 mA
Volt Ampere	3.8
dBA rating @ 1m/10 ft.	107 / 97 dBA
DC Coil Res Ohms	20.0
Operating Temperatures	Above 25°F (-3.9°C)
Mounting	Wall mounting bracket provided Housing tapped on one side for 3/4" conduit for field wiring
Dimensions	6 1/2" H x 7 3/8" W x 4 3/16" D
Weight	7.10 lb
Shipping Weight	8.38 lb
Standards Compliance	UL E14660

Ordering Information

Part Number	Description
585-032-01	Explosion-proof Horn Kit, vibrating, 24 VDC Includes one Transient Protector P/N 210-544-00

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Detect Manage Record

Associated Parts

Part Number	Description
210-544-00	Transient Protector for explosion-proof device

Application Notes

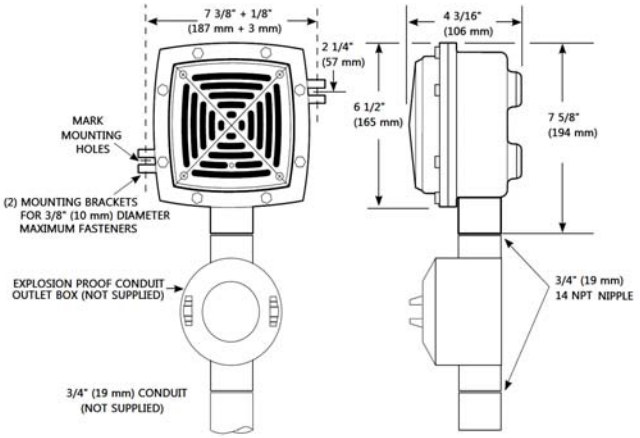
Signals selected for hazardous locations should be UL Listed and marked for at least the Hazardous Location Classifications dictated by the application. The signal should be 10 dB higher than the ambient noise level and as different from the background noise as possible.

The National Electric Code has created three classes of hazardous locations: Class I Hazardous Gases; Class II Hazardous Dusts; Class III Hazardous Fibers.

Functioning electromechancial 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

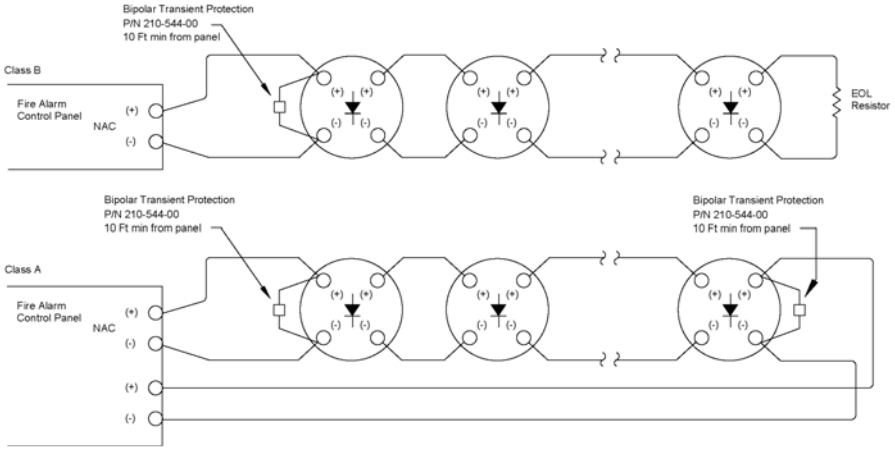
Horn Dimensions



Wiring Diagram

Class B Circuit requires one transient protector at beginning of circuit.

Class A Circuit requires one transient protector at beginning of circuit and one transient protector at end of circuit.



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Detect
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Notification Appliance Devices

Outdoor Horn, Red, Wall-Mount, Type I

585-067-01



Specifications

Nominal Voltage	Regulated 12 VDC Regulated 24 VDC
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Mounting	Universal Mounting Plate mounts to Weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40° to 151°F (-40° to 66°C)
Relative Humidity	10–93% noncondensing
Horn Dimensions	5.6" L x 4.7" W x 1.3" D (142 mm x 119 mm x 33 mm)
Wall-Mount Weatherproof Backbox	5.7" L x 5.1" W x 2.0" D (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 backbox included

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Detect Manage Record

Notification Appliance Devices

Wall-Mount Horn Tones Current Draw (mA) and Sound Output(dBA)

Sound Pattern	Volume Settings	Horn Tones Maximum Current Draw 16-33 Volts DC	Horn Tones dBA 16-33 Volts DC	Horn Sound Output (dBA @ 10 ft) 24 Volt Nominal Reverberant	Anechoic
Temporal	High	69	84	88	99
Temporal	Medium	58	80	86	96
Temporal	Low	44	76	81	94
Non-Temporal	High	69	88	93	100
Non-Temporal	Medium	60	85	90	98
Non-Temporal	Low	50	81	86	96
Coded	High	69	88	93	101
Coded	Medium	56	85	90	97
Coded	Low	52	81	85	96

Ordering Information

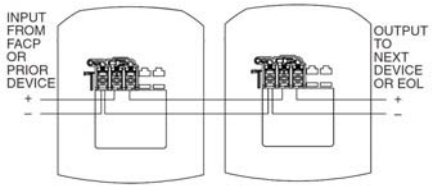
Part Number	Description
585-067-01	Horn, Red, Type I, Wall-Mount, Outdoor, 12 V or 24 V, No lettering. Includes weatherproof backbox

Associated Parts

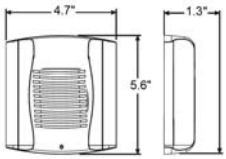
Part Number	Description
589-005-00	White decals, wall-mount: AGENT, EVAC, ALERT, or FIRE. **NOTE** Order 2 per device
588-059-50	Trim ring, wall-mount, red
588-038-00	Back box, outdoor weatherproof, surface wall-mount, red. Required for NEMA 4X
367-047-00	Sync module, Type I

Drawings

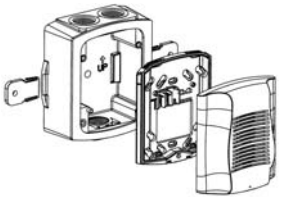
Wiring Diagram



Wall-Mount Horn



Weatherproof Backbox for Mounting Horn



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Detect Manage Record

Notification Appliance Devices

Indoor Mini-Horn, Wall-Mount, Type I

585-081-00



Specifications

Nominal Voltage	Regulated 12 VDC/FWR or regulated 24 VDC/FWR
Voltage Range	8–33 VDC With sync module: 8.5–33 VDC
Wire Gauge	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F to 120°F (0°C to 49°C)
Relative Humidity	10–93%, noncondensing
Dimensions	4.6" L × 2.9" W × 0.45" D (117 mm x 74 mm x 11.5 mm)
Weight	2.67 oz
Mounting	2 1/2" deep single gang backbox
Standards Compliance:	Listed to UL 464
UL	S4011
FM	Approved
CSFM	7135-1653-0196

Horn Current Draw and Sound Output

Pos	Horn Tones		Currrent 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

Features

- Red housing no lettering
- High and low volume settings
- Temporal or non temporal tones
- Synchronization with sync module (P/N 367-047-00)

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Detect Manage Record

Notification Appliance Devices

Ordering Information

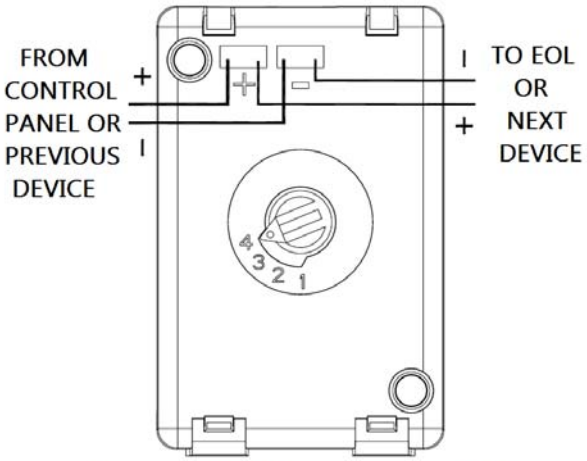
Mini-horn

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 17.5 V (12V nominal),or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V Nominal)
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in., or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall Mount Dimensions Horn	5.6" L 4.7" W x 1.25" D (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, and Sound Output

Pos	Horn Tones	Volume	Maximum Current Draw 16-33 VDC	Sound Output Reverberant (dBA @ 10 ft) 16-33 VDC
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
585-100-00	Horn, Red, Type I, Wall Mount, Indoor, 12 V or 24 V, No Lettering

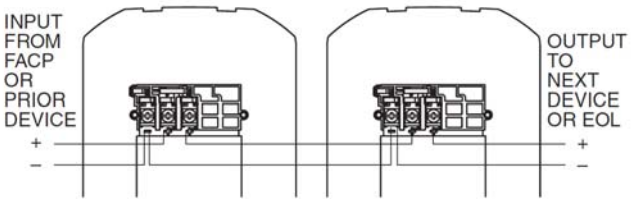
Associated Parts

Part Number	Description
589-042-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Agent lettering, order one per device
589-043-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Alert lettering, order one per device
589-044-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Evac lettering, order one per device
589-045-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Fire lettering, order one per device
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-090-00	Backbox, Wall Surface Mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D

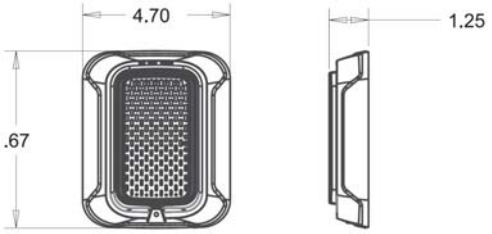
Part Number	Description
367-047-00	Sync module, Type I

Drawings

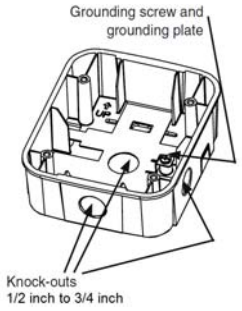
Wiring Diagram



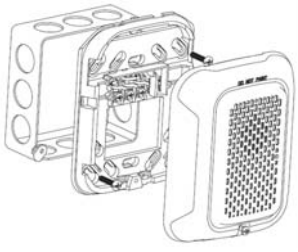
Wall-Mount Horn



Backbox, 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 17.5 V (12V nominal),or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V Nominal)
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in., or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall Mount Dimensions Horn	5.6" L 4.7" W x 1.25" D (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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Detect Manage Record

Notification Appliance Devices

Horn Tones, Current Draw, and Sound Output

Pos	Horn Tones	Volume	Maximum Current Draw 16-33 VDC	Sound Output Reverberant (dBA @ 10 ft) 16-33 VDC
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
585-104-00	Horn, White, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering

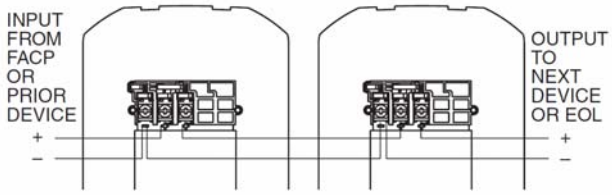
Associated Parts

Part Number	Description
589-037-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Agent lettering, order one per device
589-038-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Alert lettering, order one per device
589-039-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Evac lettering, order one per device
589-040-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Fire lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D

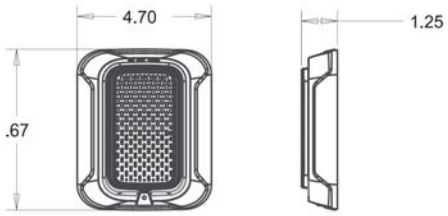
Part Number	Description
367-047-00	Sync module, Type I

Drawings

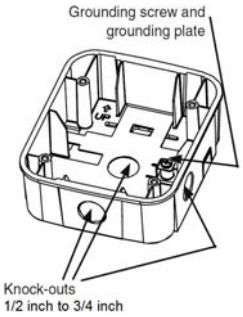
Wiring Diagram



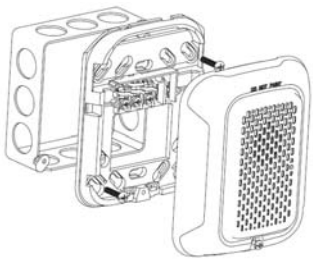
Wall-Mount Horn



Backbox, Surface Mount



Junction Box for Flush Mounting



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Detect Manage Record

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

Enclosure	NEMA Type 3R and Type 4X Red
Operating Voltage Range	16 to 33 VDC
Operating Current	0.505 A @ 24 VDC (regulated) 0.520 A @ 24 VFWR (regulated)
Operating Temperature	UL: -31 to 150°F (-35 to 66°C) ULC: -40 to 150°F (-40 to 66°)
Flash Rate	65 times per minute
Lens Color	Clear
Strobe Type	Zenon, clear/nominal white flash
Candela Rating	Ceiling: 125 CD (without guard 86 CD (with guard) Wall: 60 CD (without guard) 51 CD (with guard)

Ordering Information

Part Number	Description
367-033-00	Explosion-proof Strobe Light with clear lens, for hazardous locations, 125 CD ceiling rating, 60 CD wall rating, 24 VDC operation (mounting brackets required).

Associated Parts

Part Number	Description
369-014-00	Pendant Mounting Bracket (3/4" conduit entry)
369-017-00	Stanchion Mounting Bracket

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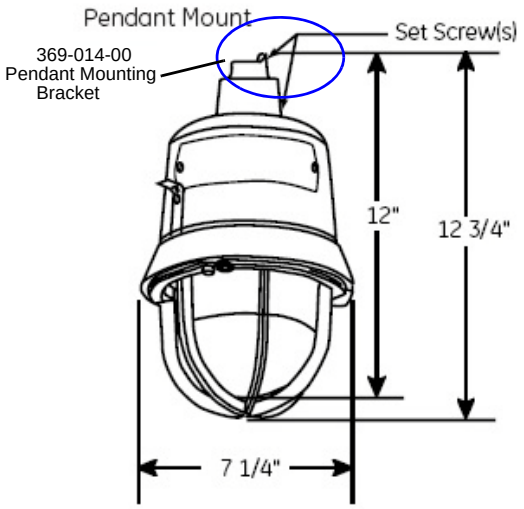
Detect Manage Record

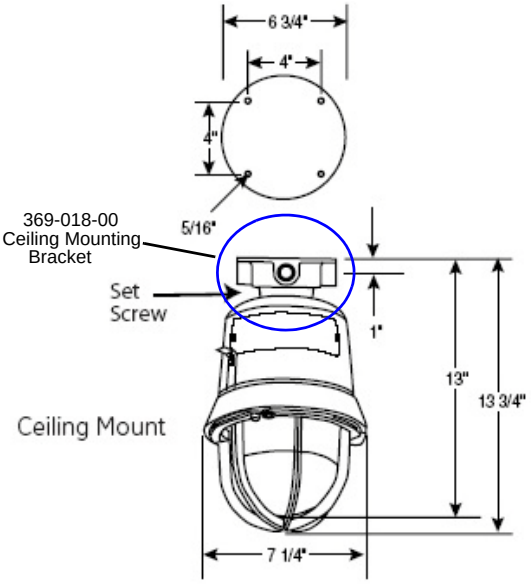
Notification Appliance Devices

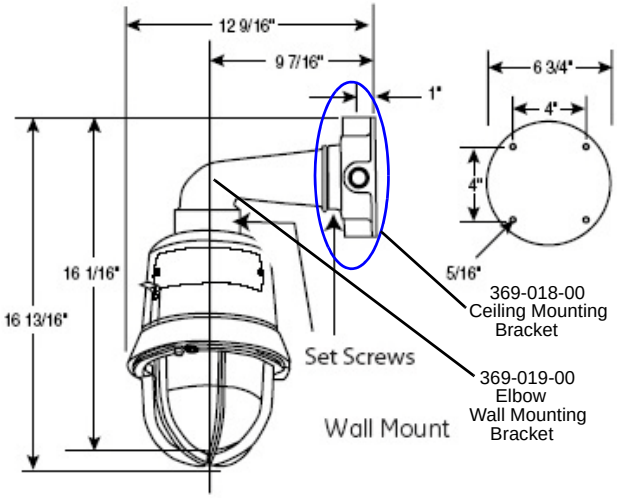
Part Number	Description
369-018-00	Ceiling Mounting Bracket
369-019-00	Wall Mount 90-degree elbow (must be used with 369-018-00 Ceiling Mount Bracket)

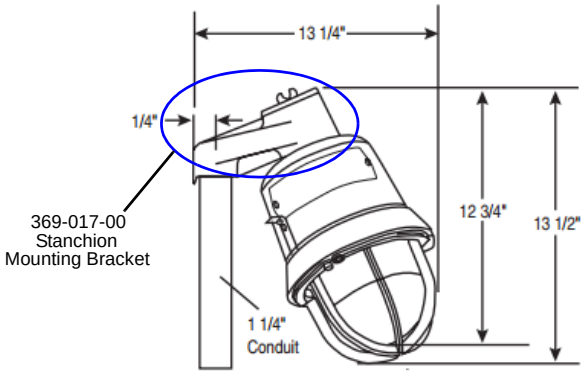
Drawings

Dimensions/Mounting Options









Stanchion Mount

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Notification Appliance Devices

Outdoor Strobe, Wall-Mount, Red, Type II

367-050-00



Specifications

Flash Rate	1 flash per second
Operating Voltage	24 VDC with new UL "Regulated" voltage range: 16 to 33 VDC
Maximum Current	0.138A DC–RMs (amps)
Strobe Candela	180 cd at 77°F 75 cd at –31°F
Input Terminals	12–18 AWG
Operating Temperature	–40 to 150°F (–40 to 66°C)
Maximum Humidity	95%, noncondensing
Dimensions	4.80" H x 4.80" W x 3.05" D

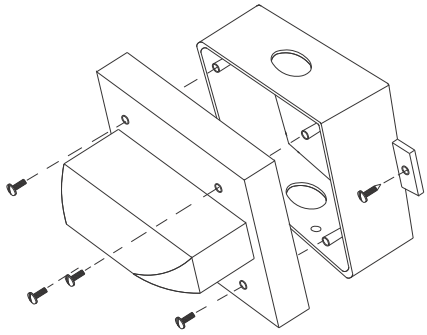
Features

- 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 weather-proof, surface-mounted backbox.

Weatherproof Surface Mount



Ordering Information

Strobe

Part Number	Description
367-050-00	Outdoor strobe, 24 VDC, 2-wire, weatherproof, extended temperature range –31°F to 150°F, wall-mount, red, clear lens, FIRE lettering, 75 candela

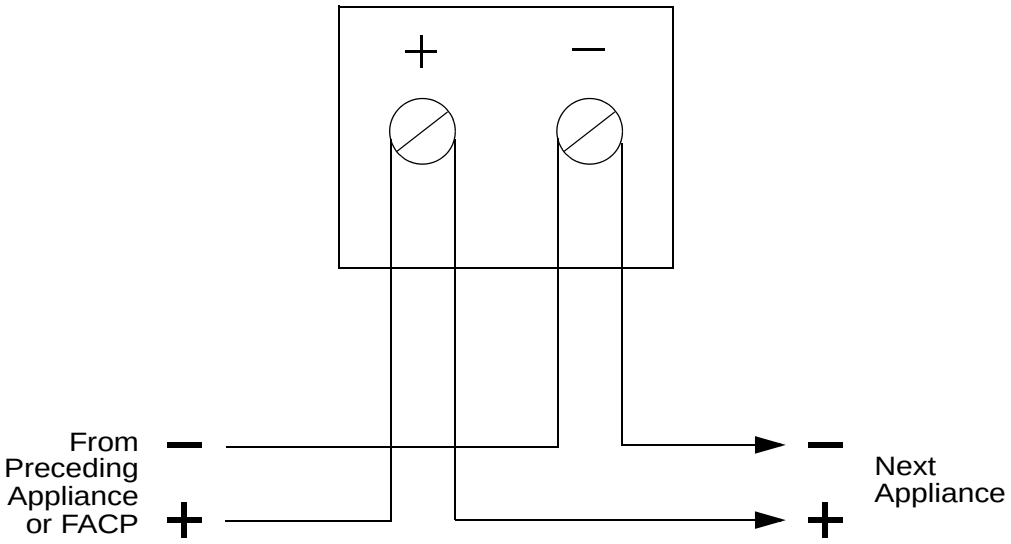
Associated Parts

Part Number	Description
367-036-00	Sync module, Type II
588-026-00	Weatherproof back box, surface-mount
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
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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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

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 inch single gang electrical box Outdoor - weatherproof (NEMA 3R rated) backbox with weatherproof rated condouit fitting on all backbox knockouts
Input Wiring	12-18 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	4.80" H x 4.80" W x 0.602" 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 reliablity
- Low current draw
- Rated for 75 candela at -31°F (-35°C)
- Weatherproof
- NEMA 3R rating

Specifications

Voltage	Regulated 24 VDC/FWR
Operating Voltage Range	16-33 (24 V nominal)
Strobe Candela	75 cd at -31°F (-35°C) 180 cd 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, 75 candela. Requires weatherproof backbox 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, 4 Class B or 2 Class A, use with Type II strobes **NOTE** 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.

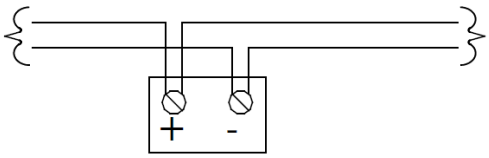
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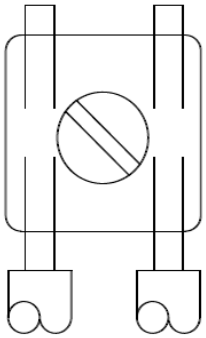
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Notification Appliance Devices

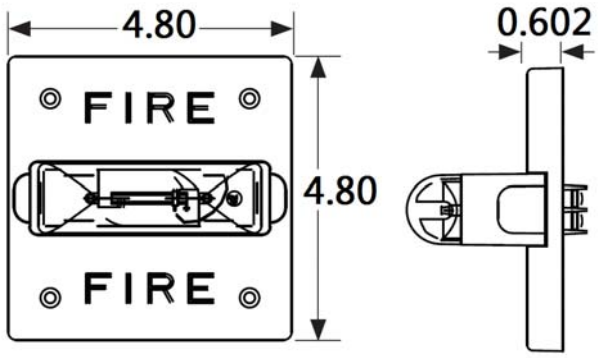
Diagrams

Wiring Diagram

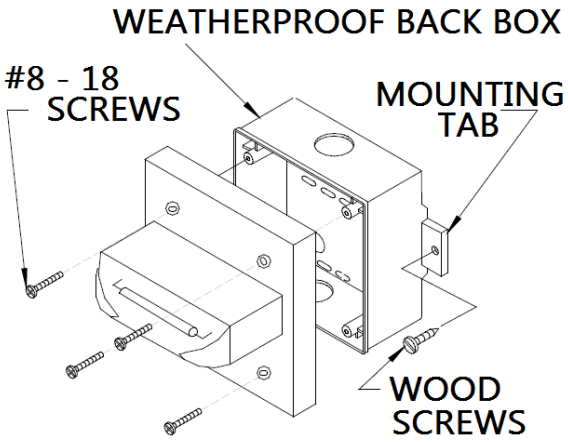
STROBES	FROM PRECEDING APPLIANCE, FACP OR SYNC MODULE  TO NEXT SIGNAL OR END OF LINE RESISTOR (EOLR)



Dimensions



Mounting Diagram



MAXIMUM NUMBER OF CONDUCTORS

AWG#18	AWG#16	AWG#14	AWG#12
4	4	4	4

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Detect Manage Record

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

Voltage	24 VDC filtered/FWR unfiltered
Voltage Range	16–33 VDC
Candela	Standard: 15, 30, 75, 110 cd
Flash Rate	1 flash per second
Wiring	12 to 18 AWG
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	93%, noncondensing
Dimensions	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, 110 cd

Associated Parts

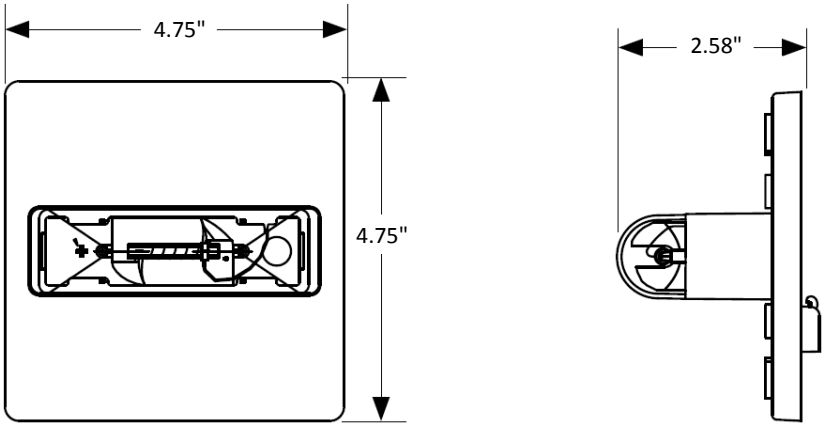
Part Number	Description
367-036-00	Sync module, Type II
404-119-00	NAC power extender, 115 VAC 60 Hz, 12/24 VDC, 8A, 4 Class B or 2 Class A, use with Type II strobes

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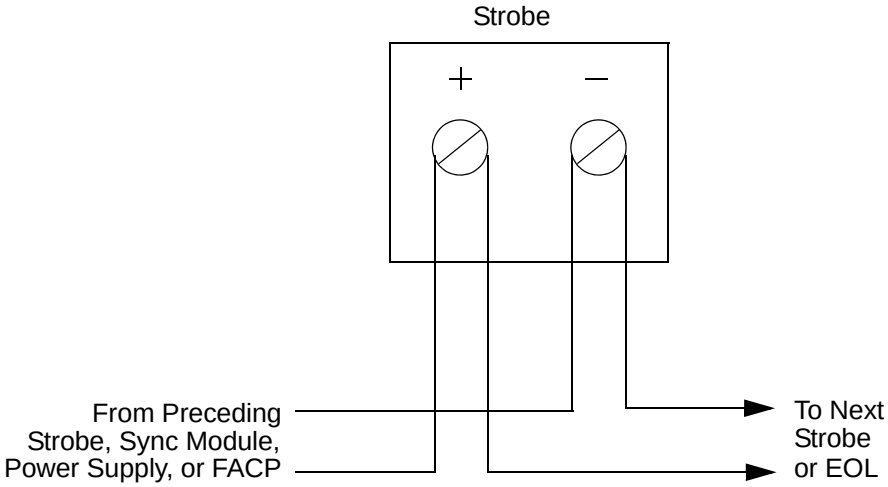
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Drawings

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	16.0-33.0 V
Candela	15, 30, 75, 95 CD
Input Terminals	12 AWG to 18 AWG
Operating Temperature Range	32° to 120° F (0°- 49° C)
Maximum Humidity	93% ± 28
Dimension	7.38" diameter

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

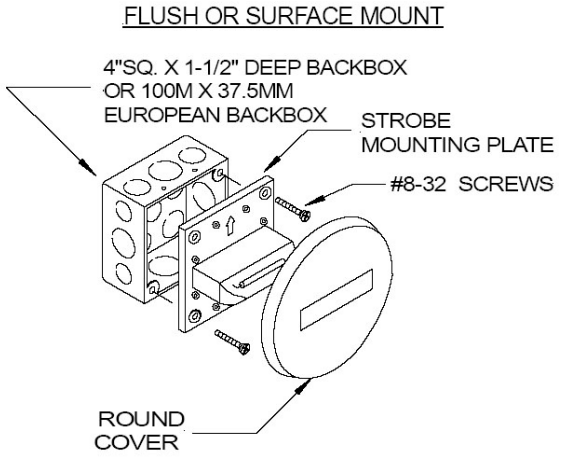
Associated Parts

Part Number	Description
367-036-00	Sync module, Type II
404-119-00	NAC power extender, 115 VAC 60 Hz, 12/24 VDC, 8A, 4 Class B or 2 Class A, use with Type II strobes

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Detect Manage Record

Mounting Diagram



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).



(Amber Lens Shown)

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

Voltage	24 VDC and FWR unfiltered
Voltage Range	16–33 VDC
Candela	Standard: 15, 30, 75, 95 cd
Flash Rate	1 flash per second
Input Terminals	12 to 18 AWG
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	93%, noncondensing
Dimensions	4.8" H × 4.8" W (12.065 cm × 12.065 cm)

Current Draw

	16–33 VDC
Candela	**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, 95 cd
367-060-00	Indoor strobe, 24 VDC, 2-wire, square ceiling-mount, white, no lettering, green lens, standard candela: 15, 30, 75, 95 cd
367-064-00	Indoor strobe, 24 VDC, 2-wire, square ceiling-mount, white, no lettering, blue lens, standard candela: 15, 30, 75, 95cd

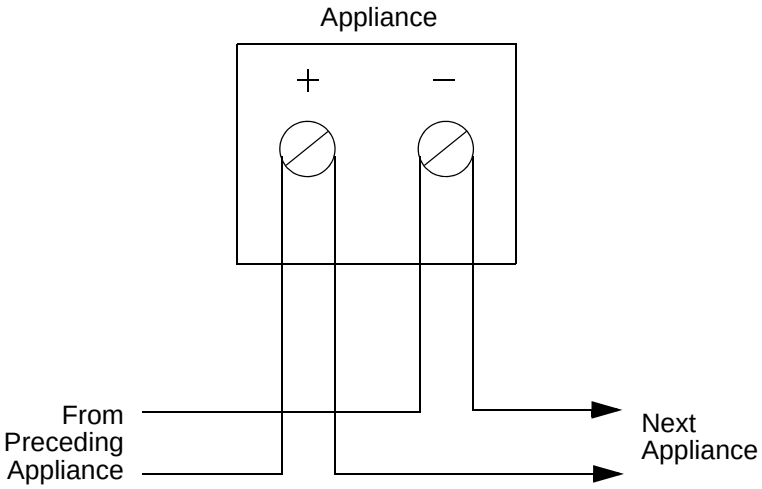
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Associated Parts

Part Number	Description
367-036-00	Sync module, Type II
404-119-00	NAC power extender, 115 VAC 60 Hz, 12/24 VDC, 8A, 4 Class B or 2 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).



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

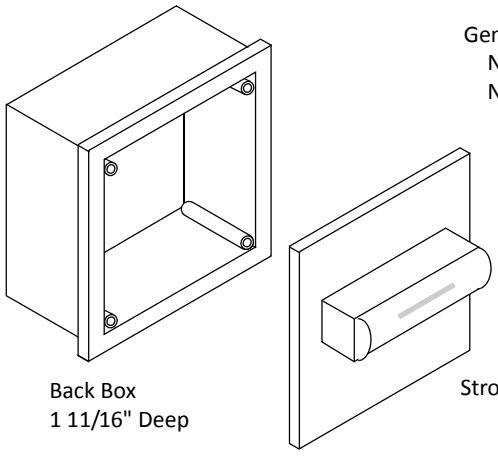
Flash Rate	1 flash per second
Voltage	24 VDC and FWR unfiltered
Voltage Range	20–31 VDC
Candela	75 at –31°F
Input Terminals	12 to 18 AWG
Operating Temperature	–31 to 150°F (–35 to 66°C)
Relative Humidity	95%, noncondensing
Strobe Dimensions	4.75" square (12.065 cm square), 2.58" deep (6.55 cm)

Current Draw

	Regulated Voltage Range		
	20 VDC	**24 VDC**	**31 VDC**
Candela	**Average Current (mA)**		
75 at –31°F	138	94	67

Mounting

Must mount to weatherproof back box P/N 588-026-01.



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Notification Appliance Devices

Ordering Information

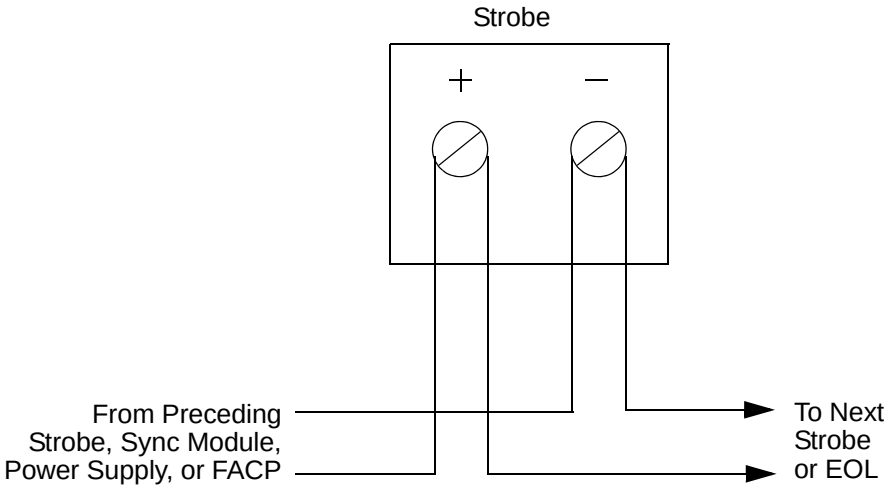
Strobe

Part Number	Description
367-061-00	Outdoor weatherproof strobe, 24 VDC, 2-wire, wall-mount, white, no lettering, clear lens, 75 candela, needs back box P/N 588-026-01

Associated Parts

Part Number	Description
588-026-01	Back box, weatherproof, white (required)
367-036-00	Sync module, Type II
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

Wiring Diagram



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Detect Manage Record

Notification Appliance Devices

Outdoor Strobe, Red, Wall-Mount, Type I

367-066-00



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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- 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 backbox included

Specifications

Nominal Voltage	Regulated 12 VDC/FWR Regulated 24 DC/FWR
Operating Voltage Range (Includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15, 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 and 185
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40 to 151°F (-40 to 66°C)
Relative Humidity	10–93% noncondensing
Dimensions Wall-Mount (including lens)	5.6" L x 4.7" W x 2.5" D (142 mm x 119 mm x 64 mm)
Wall-Mount Weatherproof Backbox	5.7" L x 5.1" W x 2.0" D (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)							High Candela range			
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd	135cd	150cd	177cd	185cd
66	77	94	158	181	202	210	228	246	281	286

Ordering Information

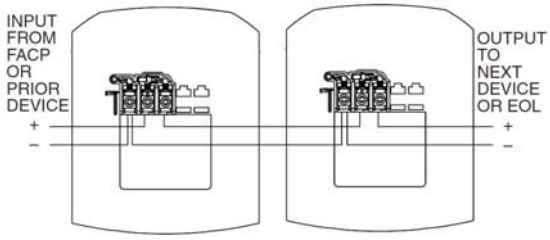
Part Number	Description
367-066-00	Strobe, Red, Type I, Wall Mount, Outdoor, 12 V or 24 V, White Fire lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185 Candela. Includes weatherproof backbox

Associated Parts

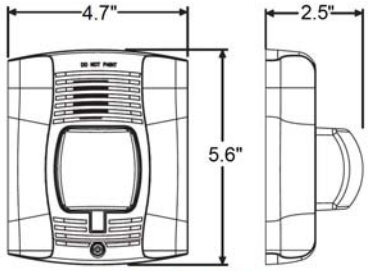
Part Number	Description
588-059-50	Trim ring, wall-mount, red
588-038-00	Back box, outdoor weatherproof, surface wall-mount, red. Required for NEMA 4X
367-047-00	Sync module, Type I

Drawings

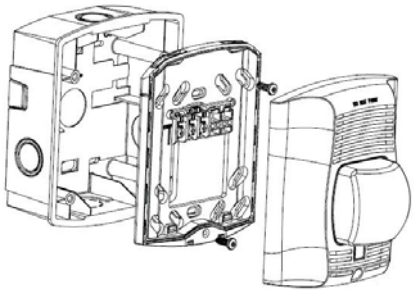
Wiring Diagram



Outdoor Wall-Mount Strobe



Weatherproof Backbox for Mounting Strobe



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Detect Manage Record

Notification Appliance Devices

Outdoor Strobe, White, Wall-Mount, Type I

367-066-01



Features

- White housing with No lettering and Clear lens
- Plug-in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- 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 backbox included

Specifications

Nominal Voltage	Regulated 12 VDC/FWR Regulated 24 DC/FWR
Operating Voltage Range (Includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15, 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 and 185
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40 to 151°F (-40 to 66°C)
Relative Humidity	10–93% noncondensing
Dimensions Wall-Mount (including lens)	5.6" L x 4.7" W x 2.5" D (142 mm x 119 mm x 64 mm)
Wall-Mount Weatherproof Backbox	5.7" L x 5.1" W x 2.0" D (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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Detect Manage Record

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)							High Candela range			
15cd	15/75cd	30cd	75cd	95cd	110cd	115cd	135cd	150cd	177cd	185cd
66	77	94	158	181	202	210	228	246	281	286

Ordering Information

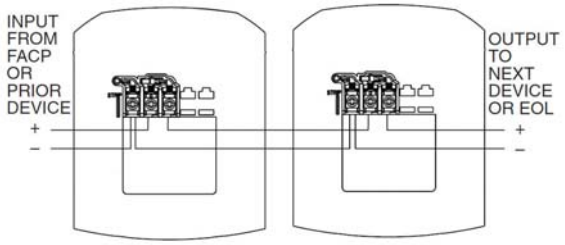
Part Number	Description
367-066-01	Strobe, White, Type I, Wall Mount, Outdoor, 12 V or 24 V, No lettering, Clear lens 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185 Candela. Includes plastic weatherproof backbox

Associated Parts

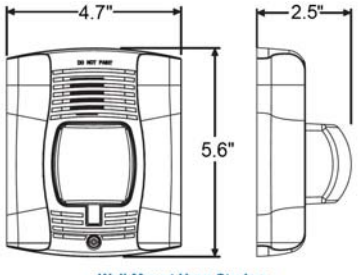
Part Number	Description
589-003-00	Red decals, wall-mount: AGENT, EVAC, ALERT, or FIRE. **NOTE** Order 2 per device
369-023-00	Strobe attachment, amber lens for wall-mount device. Used for indoor and outdoor application
369-025-01	Blue lens option for wall-mount device
369-026-01	Red lens option for wall-mount device
369-027-01	Green lens option for wall-mount device
588-059-00	Trim ring, wall-mount, white
588-077-00	Back box, outdoor weatherproof, surface wall-mount, white, 2" deep. Required for NEMA 4X.
367-047-00	Sync module, Type I

Drawings

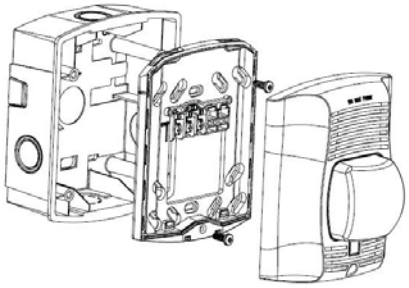
Wiring Diagram



Outdoor Wall-Mount Strobe



Weatherproof Backbox for Mounting Strobe



Monaco Enterprises, Inc.
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

Detect Manage Record

Notification Appliance Devices

Outdoor Strobe, White, Wall-Mount, Type I

367-066-02



- Weatherproof NEMA 4X, IP56
- Weatherproof backbox included

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, 115
- 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 DC/FWR
Operating Voltage Range (Includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15, 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, 115
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40° to 151°F (-40° to 66°C)
Relative Humidity	10–93% noncondensing
Dimensions Wall-Mount (including lens)	5.6" L x 4.7" W x 2.5" D (142 mm x 119 mm x 64 mm)
Wall-Mount Weatherproof Backbox	5.7" L x 5.1" W x 2.0" D (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						
15 cd	**15/75 cd**	**30 cd**	**75 cd**	**95 cd**	**110 cd**	**115 cd**
66	77	94	158	181	202	210

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Detect Manage Record

Notification Appliance Devices

Ordering Information

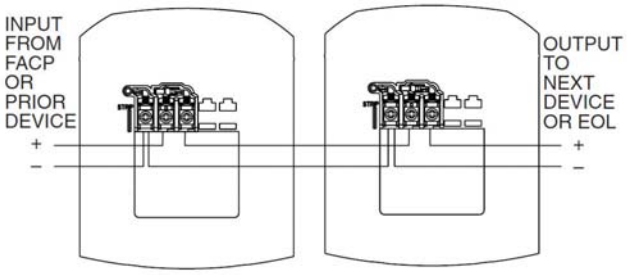
Part Number	Description
367-066-02	Strobe, White, Type I, Wall Mount, Outdoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, 115 Candela. NEMA 4X rating. Includes plastic weatherproof backbox

Associated Parts

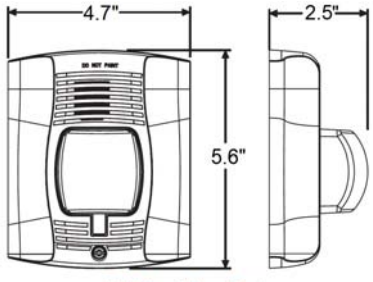
Part Number	Description
588-059-00	Trim ring, wall-mount, white
588-077-00	Back box, outdoor weatherproof, surface wall-mount, white, 2" deep. Required for NEMA 4X
367-047-00	Sync module, Type I

Drawings

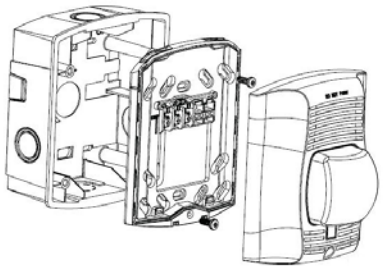
Wiring Diagram



Outdoor Wall-Mount Strobe



Weatherproof Backbox for Mounting Strobe



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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

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 setings:
  24V: 15, 30, 75, and 110 cd

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)
Candela Settings	15, 30, 75, and 110
Strobe Flash Rate	1 flash per second over regulated voltage range
Mounting to backbox with Strobe Mounting Plate	Flush-mount to single-gang, Flush or surface mount to double-gang, 4" (1000 mm) European, or Shallow surface (P/N 588-021-00)
Input Wiring	12 to 18 AWG NOTE Required wire gauge based on voltage drop
Operating Temperature	32°F (0°C) to 120°F (49°C)
Relative Humidity	85%
Dimensions	4.75" W x 4.75" H x 2.58" D
Standards Compliance	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, 110 candela

Associated Parts

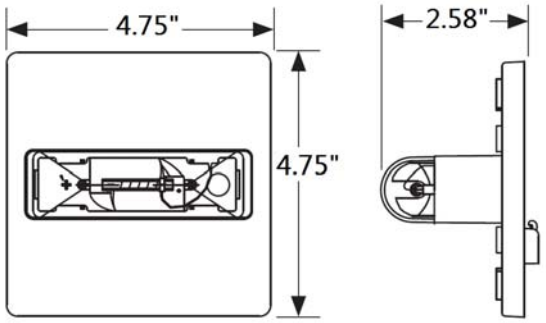
Part Number	Description
367-036-00	Sync module, Type II
588-021-00	Back box, square, surface mount, red
404-119-00	NAC power extender, 115 VAC 60 Hz, 12/24 VDC, 8A, 4 Class B or 2 Class A, use with Type II strobes NOTE P/N 404-119-00 requires two 12V/8Ah batteries (P/N 400-704-00) for 24-hour battery 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	30 cd	75 cd	110 cd
	derated for Amber Lens:			
Voltage	**11 cd**	**22 cd**	**56 cd**	**82 cd**
16-33 VDC	0.060	0.092	0.165	0.220

Drawings

Dimensions

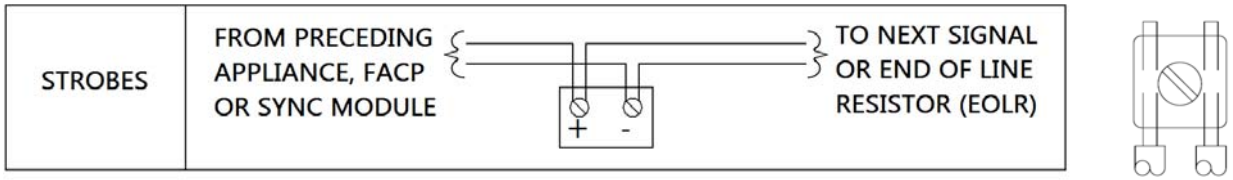


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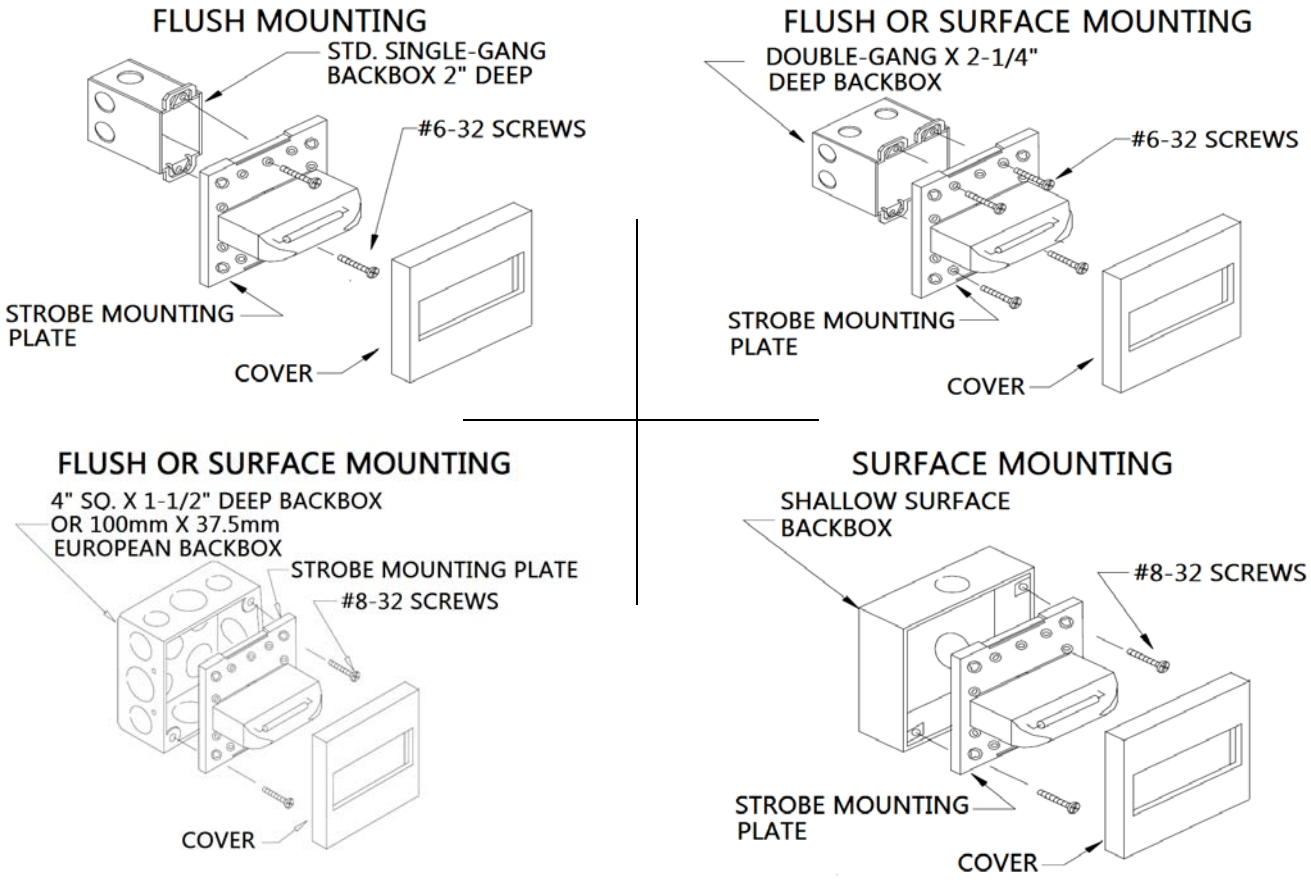
Detect Manage Record

Notification Appliance Devices

Wiring Diagram



Mounting



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Detect Manage Record

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 reliablity
- Low current draw
- Field selectable candela settings:
  24 V: 15/30/75/95 cd
- Tamper Resistant selector switch
- In/out screw terminals for fast installation

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 (24 V nominal)
Candela Settings	15, 30, 75, 95
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 (0°C) to 120°F (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) backbox
Dimensions	4.75" W x 4.75" H x 2.58" 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, 95 candela

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 **NOTE** 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			
15 cd	**30 cd**	**75 cd**	**95 cd**
0.65	0.105	0.189	0.249

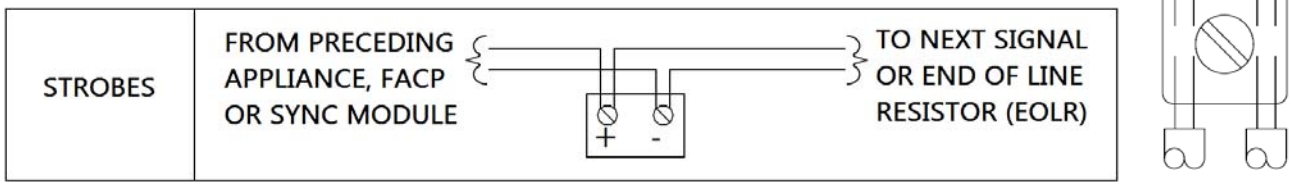
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Detect Manage Record

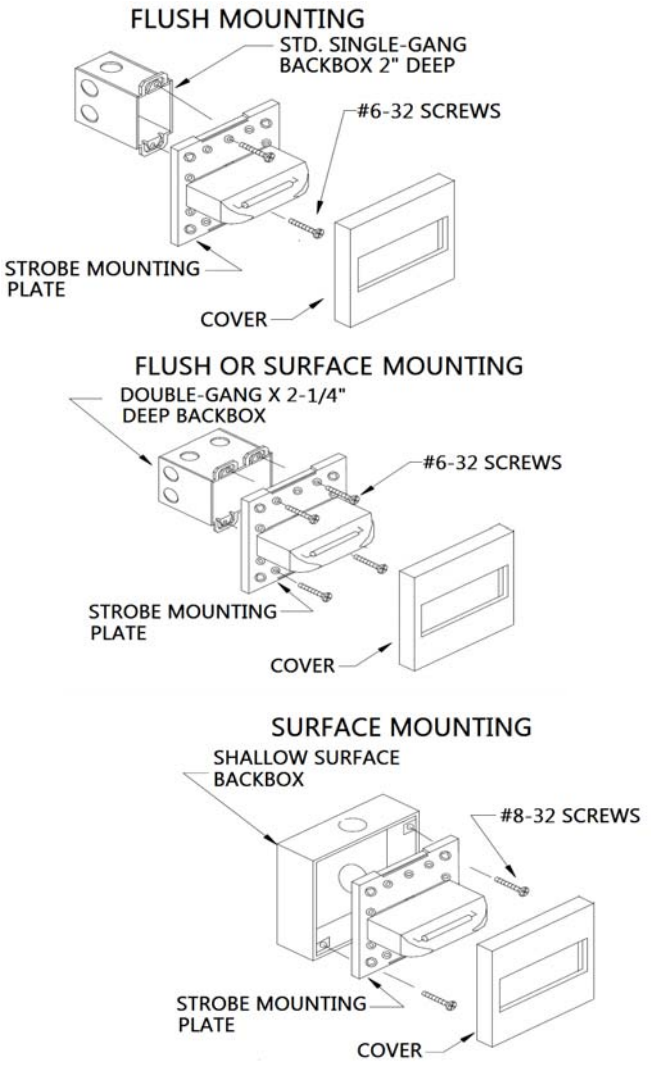
Notification Appliance Devices

Diagrams

Wiring Diagram

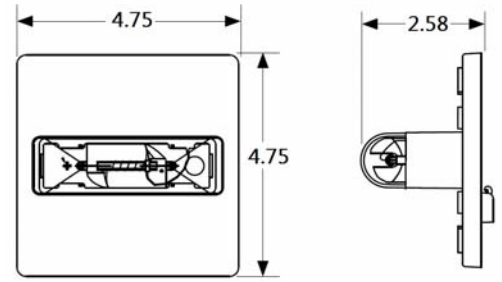


Mounting

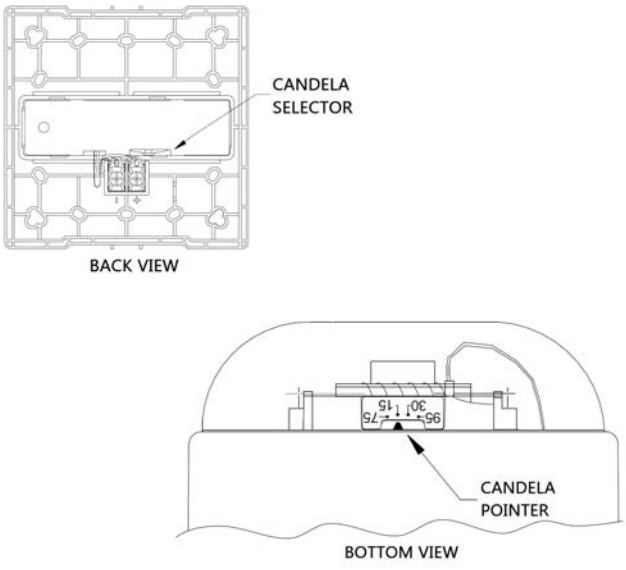


NOTE Maximum number of conductors is 4 for AWG#12 - AWG#18

Dimensions



Candela



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Detect Manage Record

Notification Appliance Devices

Strobe, Hazardous Locations, 285 Candela, Explosion Proof
367-088-00



UL 1971 on-axis output	15 cd
Mounting	Standard 1 x 3/4" NPT pipe mount
Input Wiring	8 x 14 AWG **NOTE** Required wire gauge based on voltage drop
Certified Temperature	-67°F (-55°C) to 158°F (70°C)
Weight	2.2 lbs (1kg)
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, 285 candela, 24 VDC, Class 1, Div 2, Groups A, B, C, & D, Class 2, Div 2, Groups F and G, Explosion-Proof

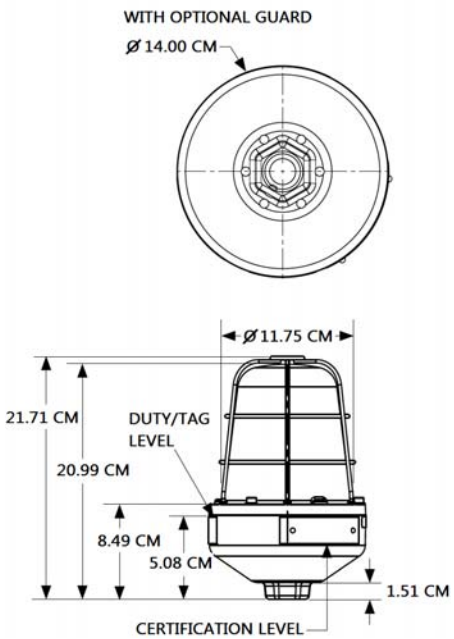
Features

- Indoor/outdoor strobe with glass reinforced polyester (GRP) housing
- U.V. 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, & 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 285 candela per flash

Dimensions



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Detect Manage Record

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 (0°C) to 120°F (49°C)
Relative Humidity	85%
Dimensions	4.75" W x 4.75" H x 2.58" 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

Features

- Indoor Strobe, white square housing with no lettering and Amber lens
- Synchronized or non-synchronized strobe signal
- Polarized inputs
- Xenon flashtube in a polycarbonate lens for maximum visibility and reliablity
- Field selectable high intensity candela settings: 24 V: 115/177cd

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)
Candela Settings	115 and 177
Strobe Flash Rate	1 flash per second over regulated voltage range
Mounting	Flush mount single-gang, Flush or surface mount double-gang, 4" square (European) Surface mount shallow surface (P/N 588-021-00) backbox

Ordering Information

Part Number	Description
367-089-00	Strobe, Square, White, Type II, Ceiling Mount, Indoor, 24 VDC, no lettering, Amber lens, 115, 177 candela

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, 4 Class B or 2 Class A, use with Type II strobes **NOTE** 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

	Maximum DC, RMS Current Draw 115 cd | 177 cd with derated Amber lens:	
Voltage	**86.25 cd**	**132.25 cd**
16 - 33 VDC	0.300	0.420

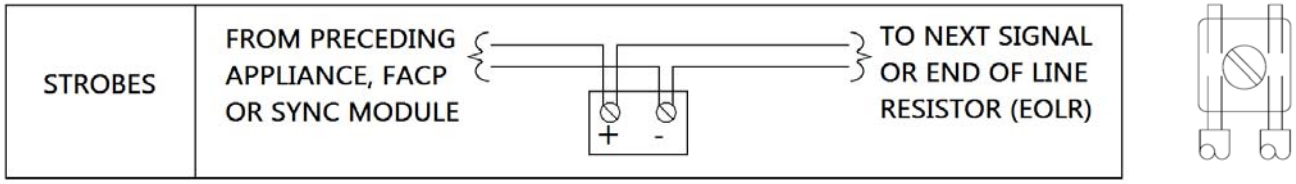
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Detect Manage Record

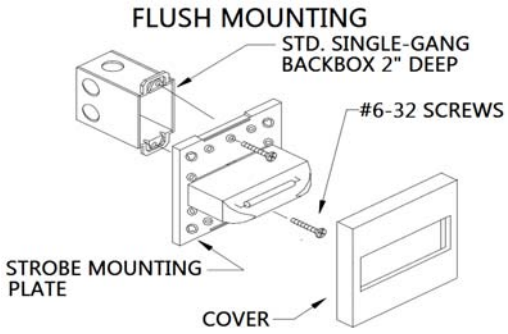
Notification Appliance Devices

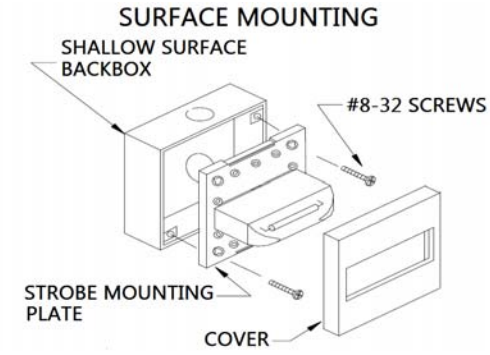
Diagrams

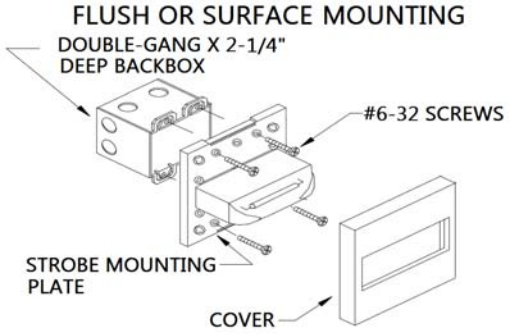
Wiring Diagram

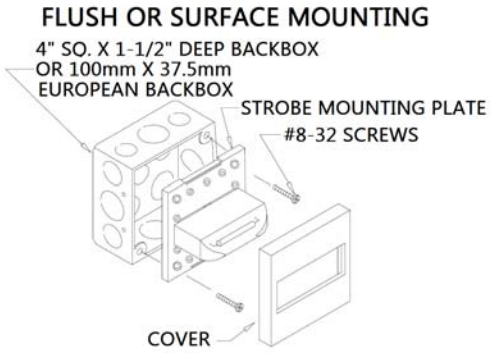


Mounting



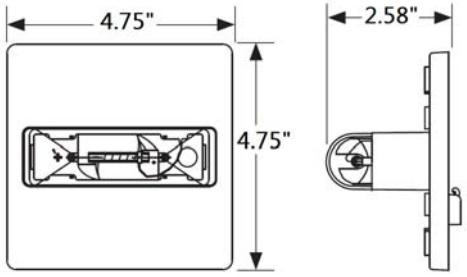




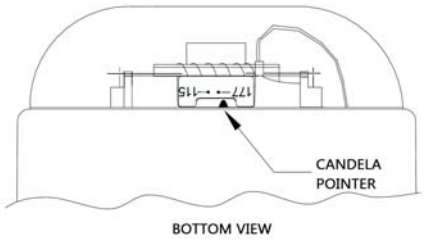


NOTE Maximum number of conductors is 4 for AWG#12 - AWG#18

Dimensions



Candela



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Detect Manage Record

Notification Appliance Devices

Indoor Strobe, Multi-Candela, Ceiling Mount, Red, Type II
367-090-00



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 reliablity
- Low current draw
- Field selectable candela settings: 24 V: 15/30/75/95 cd
- Tamper Resistant selector switch
- In/out screw terminals for fast installation

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 (24 V nominal)
Candela Settings	15 / 30 / 75 / 95
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) backbox
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temp.	32°F (0°C) to 120°F (49°C)
Relative Humidity	93% ±2%
Dimensions	4.75" W x 4.75" H x 2.58" D
Weight	0.40 lbs (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, 95 candela

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 **NOTE** 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			
15 cd	**30 cd**	**75 cd**	**95 cd**
0.65	0.105	0.189	0.249

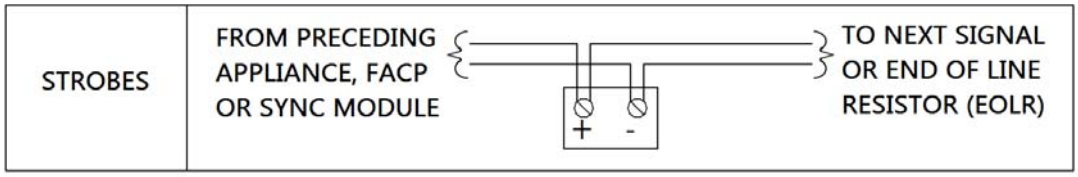
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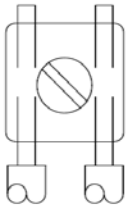
Detect Manage Record

Notification Appliance Devices

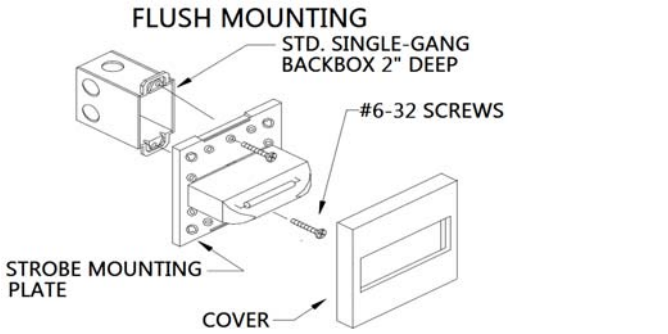
Diagrams

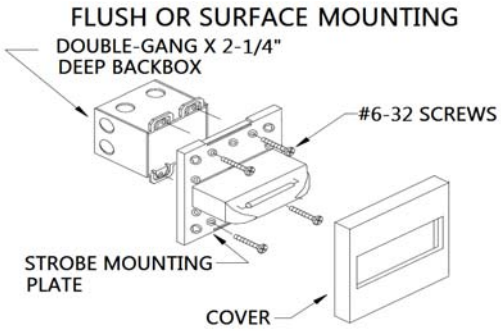
Wiring Diagram

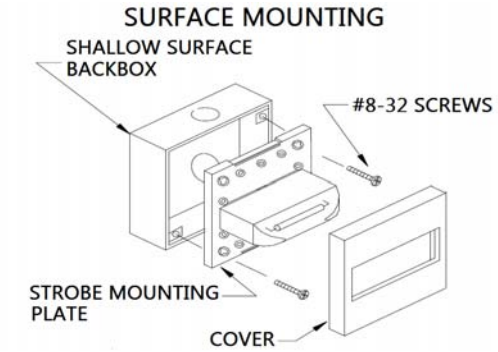




Mounting

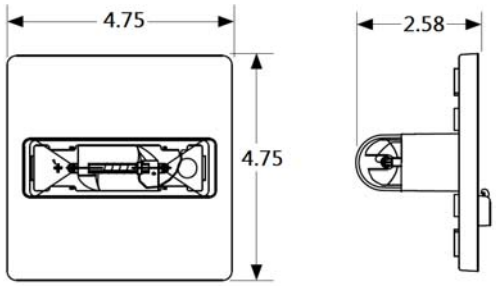




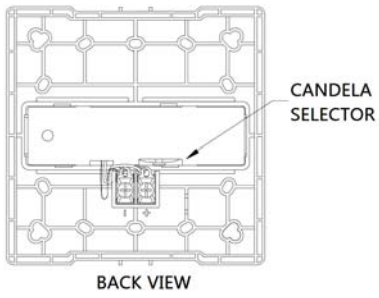


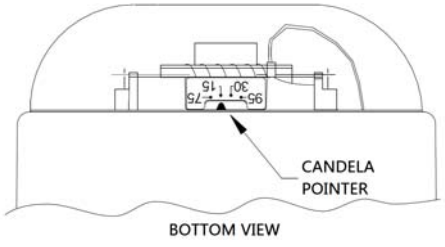
NOTE Maximum number of conductors is 4 for AWG#12 - AWG#18

Dimensions



Candela





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Detect Manage Record

Notification Appliance Devices

Indoor Strobe Ceiling-Mount, White, Type II

367-091-00



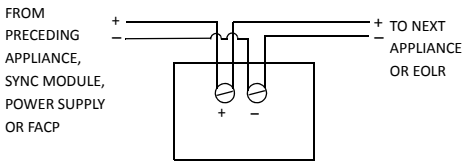
Specifications

Flash Rate	1 flash per second
Operating Voltage	24 VDC with new UL "Regulated" voltage range: 16 to 33 VDC
Maximum Current	16-33 DC–RMS (amps) 115 cd @0.300A 177 cd @ 0.420A
Strobe Candela	115, 177
Input Terminals	12–18 AWG
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	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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Detect Manage Record

Notification Appliance Devices

Indoor Strobe, Wall-Mount, Red, Type II

367-092-00



Features

- Low current draw
- Compliance: UL listed 1971, UL 464, California State Fire Marshall (CSFM), and ULC
- 8 candela settings, 3 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 inch square
  - 3.5 inch octagonal
  - 4 inch octagonal

Specifications

Nominal Voltage	Regulated 12/24 VDC
Strobe Flash Rate	1 per second
Operating Temperature	32° to 120° F (0° to 49° C)
Maximum Humidity	93% (± 2%)
Dimensions	5.24" H x 4.58" W x 2.19" D
Mounting	Universal mounting base: 1-gang, 2-gang, 4 inch square, 3.5 inch octagonal, 4 inch octagonal

Ordering Information

Strobe

Part Number	Description
367-092-00	Indoor Strobe: ■ 12/24 VDC ■ 2-wire ■ wall-mount ■ red, ■ white FIRE lettering ■ Multi-candela: 15, 15/75, 30, 75, 95, 110, 135, 185 ■ Includes universal mounting base ■ Adjustable dB speaker; 90, 95, 99 dB

Associated Parts

Part Number	Description
367-036-00	Sync module, Type II

Current draw (mA)

Candela	12 V		24 V	
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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Detect Manage Record

Notification Appliance Devices

Indoor Strobe, Red, Wall-Mount, Type I

367-097-00



Features

- Red housing with white Fire lettering and Clear lens
- Plug in design with minimal intrusion into the backbox
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- Mounting plate shorting spring checks wiring continuity before device installation

Specifications

Nominal Voltage	Regulated 12 VDC Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type 1 Sync Module	8.5 to 17.5 V (12V nominal) or 16.5 to 33 V (24 V nominal)
Candela Settings	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 with on-board shorting spring 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temp.	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971
UL Listed	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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Detect Manage Record

Notification Appliance Devices

Ordering Information

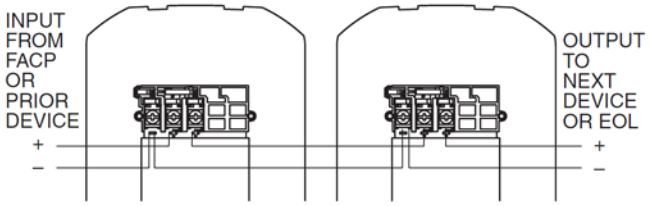
Part Number	Description
367-097-00	Strobe, Red, Type 1, Wall Mount, Indoor, 12 V or 24 V, White Fire Lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela.

Associated Parts

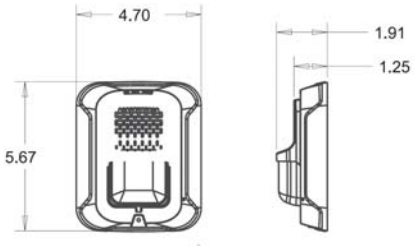
Part Number	Description
589-046-00	Bezel, Red, Type 1, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, No lettering, order one per device.
588-098-00	Trim Ring, Red, Type 1, Wall Mount, Universal, 8.2" H X 6.3" W x .4" D.
588-090-00	Backbox, Wall Surface Mount, Red, Type 1, Strobe, Horn Strobe; Chime Strobe; Chime; Horn 4.82" W X 5.78" H X 1.85" D.
367-047-00	Sync module Type 1.

Drawings

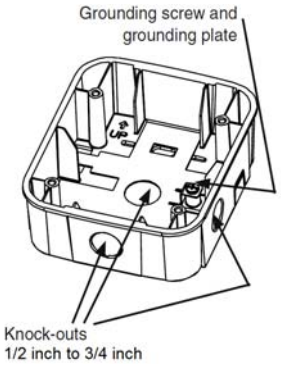
Wiring Diagram



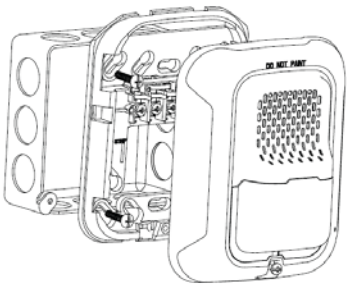
Strobe



Backbox, Surface Mount



J 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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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

Nominal Voltage	Regulated 12 VDC Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 17 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.9" D (143 mm x 119 mm x 49 mm)
Standards Compliance	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	107	134	148	172	222

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Detect Manage Record

Notification Appliance Devices

Ordering Information

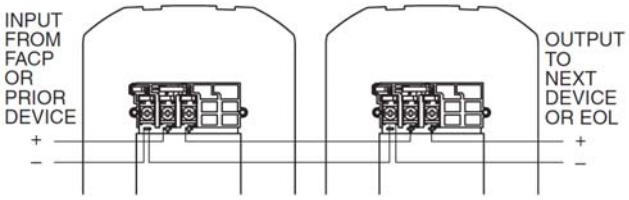
Part Number	Description
367-098-00	Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, Red Alert Lettering, Amber Lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

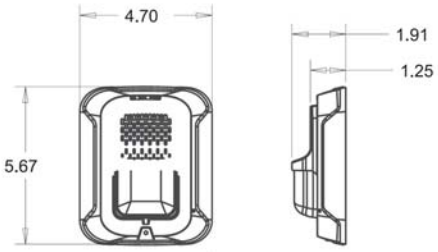
Part Number	Description
589-041-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, No lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

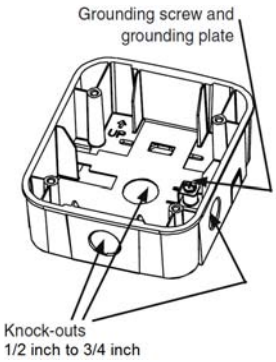
Wiring Drawing



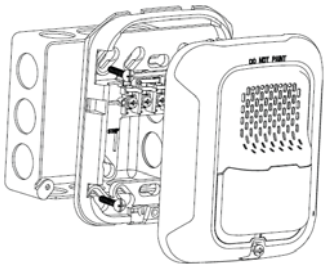
Wall-Mount Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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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 backbox
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971
UL Listed	S5512 S4011
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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Detect Manage Record

Notification Appliance Devices

Ordering Information

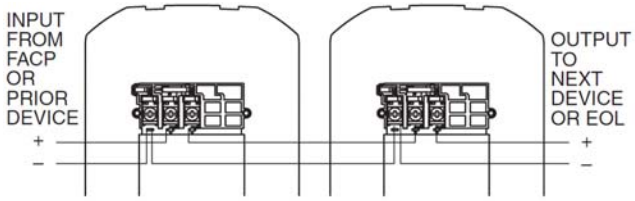
Part Number	Description
367-099-00	Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, Red Alert Lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

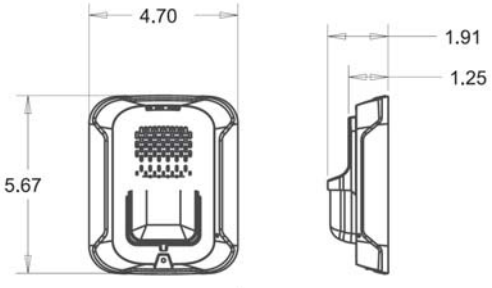
Part Number	Description
589-041-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, No lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

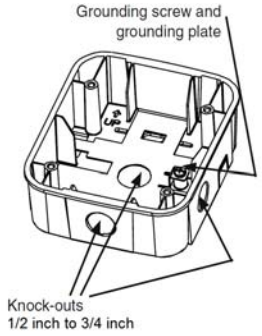
Wiring Drawing



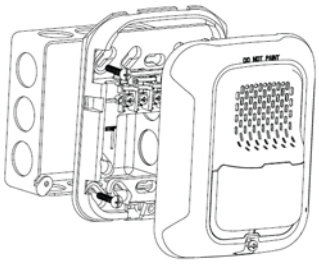
Wall-Mount Strobe



Backbox, 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 backbox
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971
UL Listed	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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Detect Manage Record

Notification Appliance Devices

Ordering Information

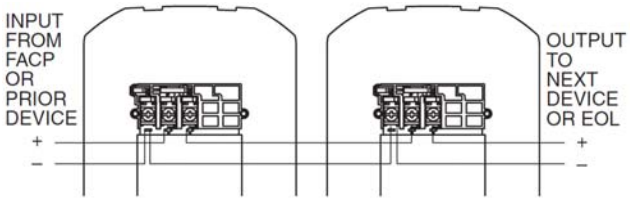
Part Number	Description
367-100-00	Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

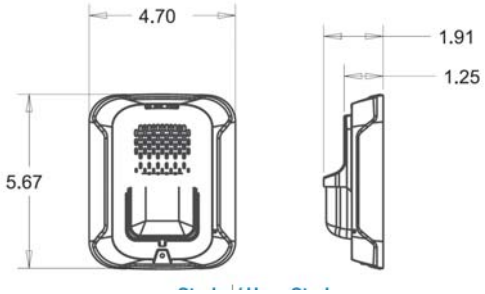
Part Number	Description
589-041-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, No lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

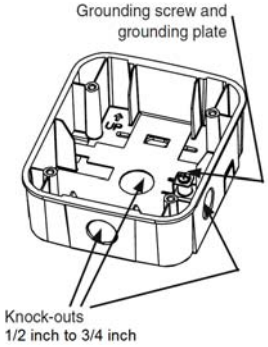
Wiring Diagram



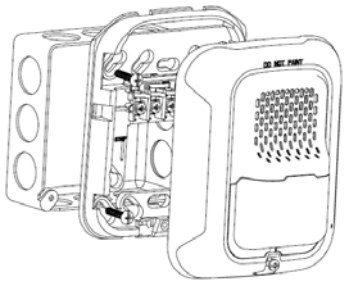
Wall-Mount Strobe



Backbox, 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
Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect
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Notification Appliance Devices

Indoor Strobe, White, Wall-Mount, Type I

367-101-00



Features

- White housing with No lettering and Clear lens
- Plug in design with minimal intrusion into the backbox
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971
UL Listed	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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Detect Manage Record

Notification Appliance Devices

Ordering Information

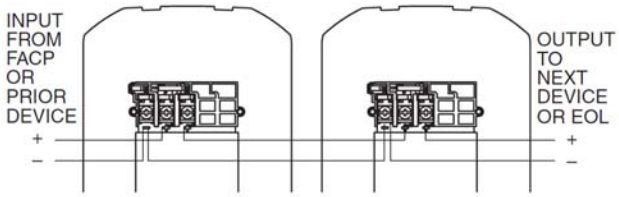
Part Number	Description
367-101-00	Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, No Lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela.

Associated Parts

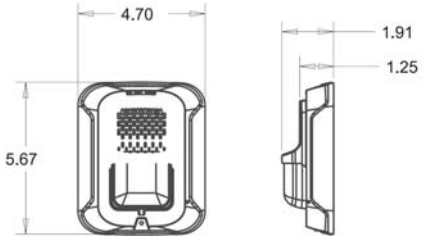
Part Number	Description
589-037-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Agent lettering, order one per device
589-038-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Alert lettering, order one per device
589-039-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Evac lettering, order one per device
589-040-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Fire lettering, order one per device
365-012-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-014-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-099-00	Trim Ring, White, Type I Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

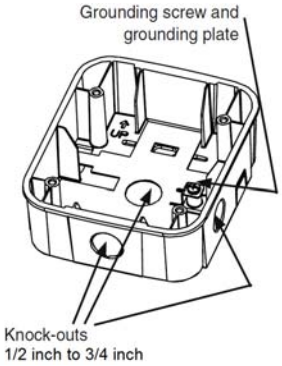
Wiring Diagram



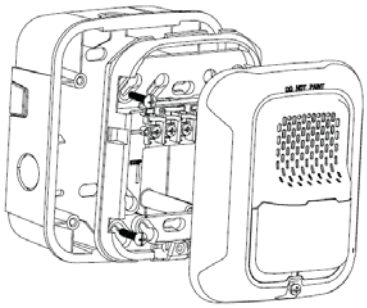
Wall-Mount Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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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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Detect
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Notification Appliance Devices

Indoor Strobe, Red, Ceiling-Mount, Type I

367-102-00



Specifications

Nominal Voltage	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions *Ceiling-Mount with lens*	6.8" diameter x 2.5" depth (173 mm x 64 mm)
Surface Mount Backbox Skirt	6.9" diameter x 3.4" depth (175 mm x 86 mm)
Standards Compliance	Listed to UL 1971
UL Listed	S5512 S4011
FM Approved	3057383
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** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, 177
- 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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Detect Manage Record

Notification Appliance Devices

Ordering Information

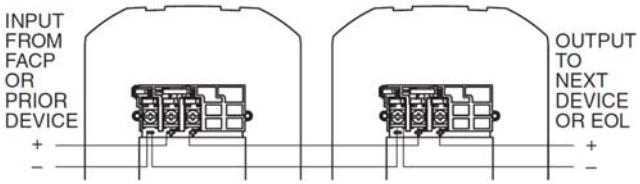
Part Number	Description
367-102-00	Strobe, Red, Type I, Ceiling Mount, Indoor, 12 V or 24 V, White Fire lettering, Clear lens, 15, 30, 75, 95, 115, 150, 177 Candela

Associated Parts

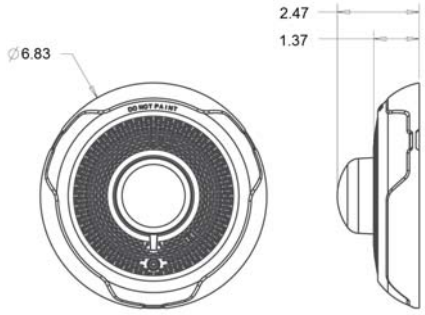
Part Number	Description
589-007-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Agent lettering, order one per device
589-009-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Alert lettering, order one per device
589-010-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Evac lettering, order one per device
589-012-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, No lettering, order one per device
365-013-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-017-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-018-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-019-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-096-00	Trim Ring, Red, Type I, Ceiling Mount, Universal, 8.5" OD X .4"D
588-097-00	Backbox, Ceiling Surface Mount, Red, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD X 2.5" D
367-047-00	Sync module, Type I

Drawings

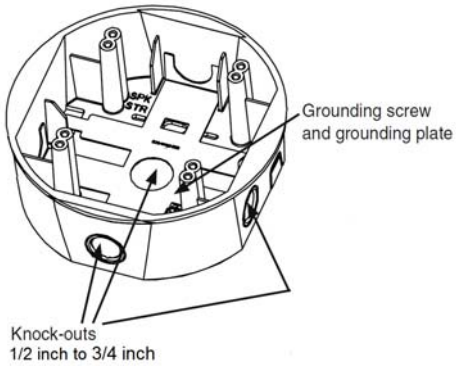
Wiring Diagram



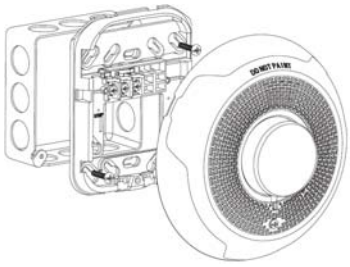
Ceiling-Mount Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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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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Detect
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Notification Appliance Devices

Indoor Strobe, White, Ceiling-Mount, Type I

367-103-00



Specifications

Nominal Voltage	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5V (12V nominal, or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions with lens	6.8"diameter x 2.5" depth (173 mm x 64 mm)
Surface Mount Backbox Skirt	6.9" diameter x 3.4" depth (175 mm x 86 mm)
Standards Compliance	Listed to UL 1971
UL Listed	S5512 S4011
FM Approved	3057383
State of California	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 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, 177
- 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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Detect Manage Record

Notification Appliance Devices

Ordering Information

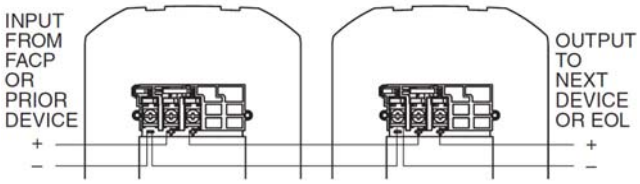
Part Number	Description
367-103-00	Strobe, White, Type I, Ceiling Mount, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 95, 115, 150, 177 Candela

Associated Parts

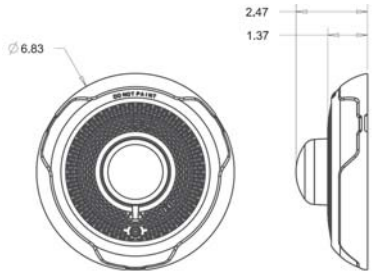
Part Number	Description
589-008-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, No lettering, order one per device
589-013-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Agent lettering, order one per device
589-014-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Alert lettering, order one per device
589-015-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Evac lettering, order one per device
365-013-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-017-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-018-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-019-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-095-00	Trim ring, White, Type I, Ceiling Mount, Universal, 8.5" OD x .4" D
588-094-00	Backbox, Ceiling Surface Mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD X 2.5" D
367-047-00	Sync module, Type I

Drawings

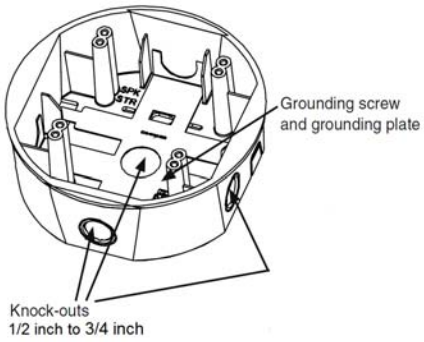
Wiring Diagram



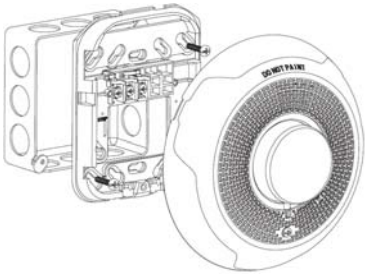
Ceiling-Mount Strobe



Backbox, 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 No lettering and Clear lens
- Plug in design with minimal intrusion into the backbox
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971
UL Listed	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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Detect Manage Record

Notification Appliance Devices

Ordering Information

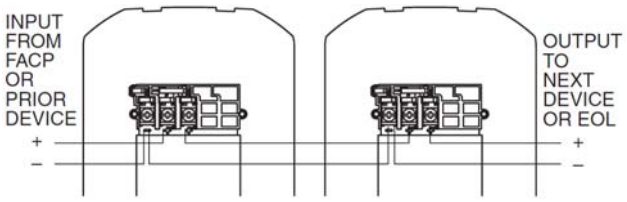
Part Number	Description
367-104-00	Strobe, Red, Wall-Mount, Type I, Indoor, 12 V or 24 V, No lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

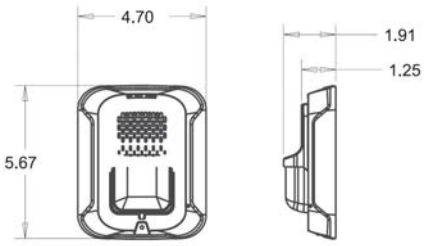
Part Number	Description
589-042-00	Bezel, Red, Wall-Mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Agent lettering, order one per device
589-043-00	Bezel, Red, Wall-Mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Alert lettering, order one per device
589-044-00	Bezel, Red, Wall-Mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Evac lettering, order one per device
589-045-00	Bezel, Red, Wall-Mount, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Fire lettering, order one per device
365-012-00	Lens, Type I, Wall-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-014-00	Lens, Type I, Wall-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-098-00	Trim Ring, Red, Wall-Mount, Type I, Universal, 8.2" H X 6.3" W X .4" D
588-090-00	Back Box, Wall Surface Mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

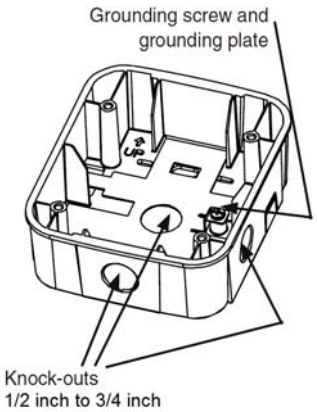
Wiring Diagram



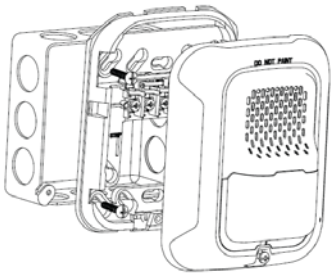
Wall-Mount Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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Detect
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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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling strobes:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, 177
- 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 Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type 1 Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling Mount Dimensions with lens	6.8" diameter x 2.5" depth (173 mm x 64 mm)
Surface Mount Backbox Skirt	6.9" diameter x 3.4" depth (175 mm x 86 mm)
Standards Compliance	Listed to UL 1971
UL Listed	S5512 S4011
State of California	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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Detect Manage Record

Notification Appliance Devices

Ordering Information

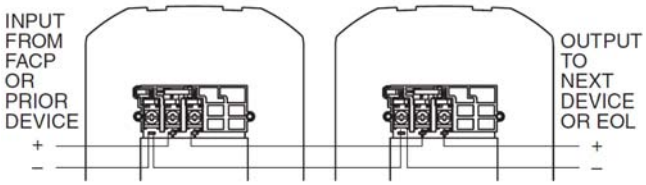
Part Number	Description
367-105-00	Strobe, White, Type I, Ceiling Mount, Indoor, 12 V or 24 V, Red Alert lettering, Clear lens, 15, 30, 75, 95, 115, 150, 177 Candela

Associated Parts

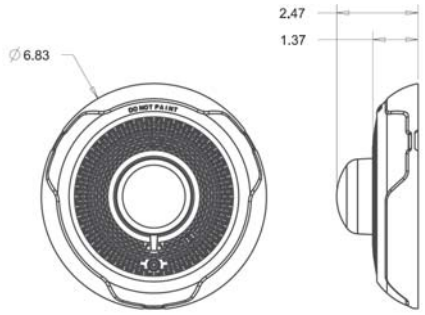
Part Number	Description
589-008-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, No lettering, order one per device
589-013-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Agent lettering, order one per device
589-014-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Alert lettering, order one per device
589-015-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Evac lettering, order one per device
589-016-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Fire lettering, order one per device
365-013-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of lens
365-017-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of lens
365-018-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of lens
365-019-00	Lens,Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of lens
588-095-00	Trim Ring, White, Type I, Ceiling Mount, Universal, 8.5" OD X .4 D
588-094-00	Backbox, Ceiling Surface Mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD X 2.5" D
367-047-00	Sync module, Type I

Drawings

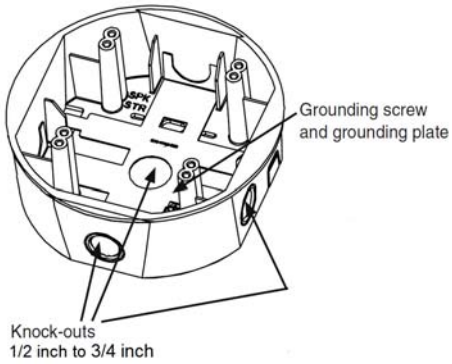
Wiring Diagram



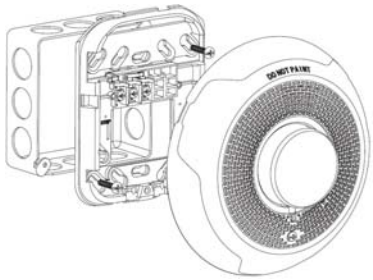
Ceiling-Mount Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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Notification Appliance Devices

Indoor Horn Strobe, Multitone, Wall-Mount, Type II

585-018-00



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	15 cd
Wiring	12–18 AWG
Operating Temperature	32 to 120°F (0 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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Detect Manage Record

Notification Appliance Devices

Ordering Information

Horn Strobe

Part Number	Description
585-018-00	Indoor horn strobe, 8-tone, 120 VAC, 4-wire, wall-mount, red, clear lens, 15 candela

Associated Parts

Part Number	Description
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*
*__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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Detect Manage Record

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	75 cd
Strobe Current (180 cd), RMS	Nominal 24 VDC: 0.094A UL max.: 0.138A
dBa Range	75–94
Input Terminals	12–18 AWG
Operating Temperature	–31 to 150°F (–35 to 66°C)
Relative Humidity	95%, noncondensing

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 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

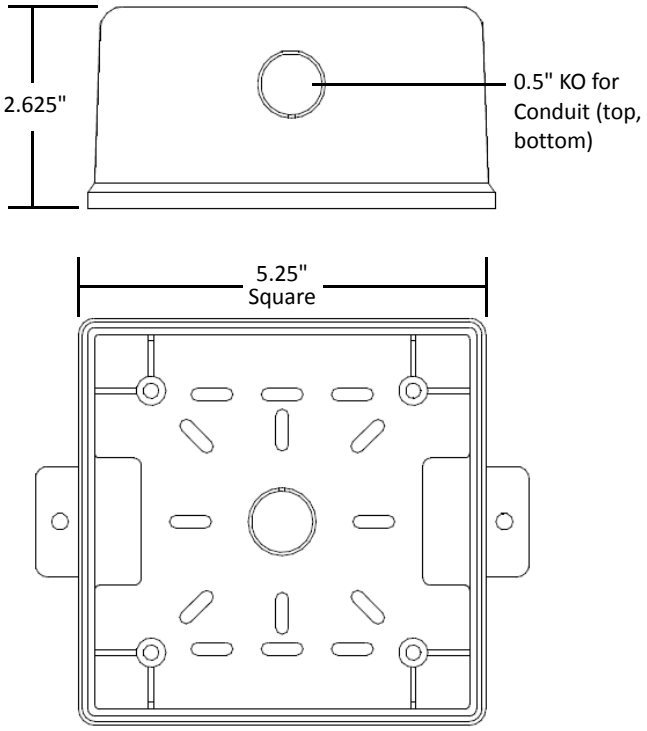
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Detect Manage Record

Notification Appliance Devices

Mounting

Back Box P/N 588-014-00



Ordering Information

Horn Strobe

Part Number	Description
585-059-00	Outdoor horn strobe, 8-tone, 24 VDC, 4-wire, weatherproof, surface wall-mount, red, clear lens, 180 candela

Associated Parts

Part Number	Description
588-014-00	Back box, indoor/outdoor, surface-mount, red, use with P/N 585-059-00
367-036-00	Sync module, Type II
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*
***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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Detect Manage Record

Notification Appliance Devices

Indoor Horn Strobe, Multitone, Wall-Mount, Red, Type II

585-060-00, 585-065-00



FM APPROVED

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
- Synchronizable strobe

Specifications

Flash Rate	1 per second
Input Voltage	Nominal 24 VDC
Rated Candela	15/75 cd on axis
Average Strobe Current	0.090A
Input Terminals	12–18 AWG
Operating Temperature	32° to 120°F (0° to 49°C)
Relative Humidity	93% ±2%, noncondensing

Audible Current, dBa Rating (8 tones)

	RMS Current (Amp) 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

Mounting Options

- Horn strobe mounts to 4 in. square or double-gang J box
- Flush- or surface-mounting
- No trim plate required for flush-mounting

Ordering Information

Indoor Horn Strobes

Part Number	Description
585-060-00	Indoor horn strobe, 8-tone, 24 VDC, 4-wire, wall-mount, red, clear lens, 15/75 candela
585-065-00	Indoor horn strobe, 8-tone, 24 VDC, 4-wire, wall-mount, red, clear lens, 15, 30, 75, 110 candela

See "Associated Parts" on the next page.

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Detect Manage Record

Associated Parts

Part Number	Description
367-036-00	Sync module, Type II
588-005-00	Back box, surface, 4" × 4" × 1.5", red
588-014-00	Back box, indoor/outdoor, surface-mount, red, use with P/N 585-060-00 or 585-065-00
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*
***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, 4-Wire, Red, Wall-Mount, Type I

585-068-00



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 24 volt operation
  NOTE 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, and 115
- 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 backbox included

Specifications

Nominal Voltage	Regulated 12 VDC Regulated 24 VDC
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type 1 Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, and 115
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to Weatherproof backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40°F to 151°F (-40°C to 66°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 2.5" D (142 mm x 119 mm x 64 mm)
Wall-Mount Weatherproof Backbox	5.7" L x 5.1" W x 2.0" D (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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Detect Manage Record

Notification Appliance Devices

Outdoor Wall-Mount Strobe Current Draw (mA)

Maximum Current Draw 16-33 VDC Standard Candela Range (normal temperature) (do not use below 32°F)							derate candela for low temperature (-40°F)			
15 cd	15/75 cd	30 cd	75 cd	95 cd	110 cd	115 cd	75 cd	95 cd	110 cd	115 cd
66	77	94	158	181	202	210	44	70	110	115

Wall-Mount Horn Current Draw (mA), Horn Tones and Sound Output

Sound Pattern	Volume Settings	Horn Current Draw 16-33 Volts DC	Horn Tones (dBA at 10 ft) 16-33 Volts DC	Sound Output (dBA at 10 ft) 24 Volt Nominal	
				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

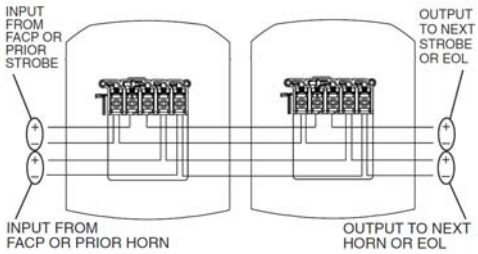
Part Number	Description
585-068-00	Horn Strobe, Red, Type I, Wall Mount, 4-Wire, Outdoor, 12 V or 24 V, White Fire lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, and 115 Candela. Weatherproof per NEMA 4X, IP56. Includes weatherproof backbox.

Associated Parts

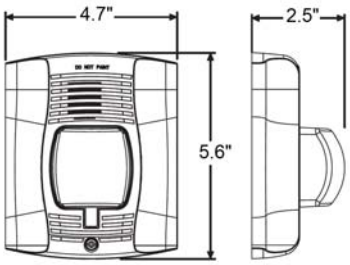
Part Number	Description
589-005-00	White decals, wall-mount: AGENT, EVAC, ALERT, or FIRE. **NOTE** Order 2 per device.
369-023-00	Strobe attachment, amber lens for wall-mount device. Used for indoor and outdoor applications.
369-025-01	Blue lens option for wall-mount device
369-026-01	Red lens option for wall-mount device
369-027-01	Green lens for wall-mount device
588-059-50	Trim ring, wall-mount, red.
588-038-00	Back box, outdoor weatherproof, surface wall-mount, red, Required for NEMA 4X.
367-047-00	Sync module Type I

Drawings

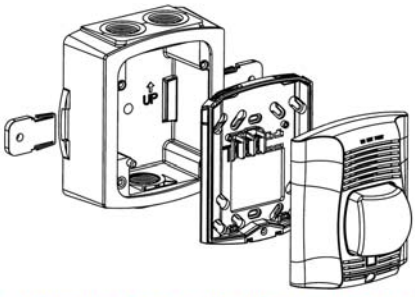
Wiring Diagram



Outdoor Wall-Mount Horn Strobe



Weatherproof Backbox for Mounting Horn Strobe



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Detect Manage Record

Notification Appliance Devices

Outdoor Horn Strobe, Red, Wall-Mount, Type I

585-069-00



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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, and 115
- 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 backbox included

Specifications

Nominal Voltage	Regulated 12 VDC Regulated 24 VDC
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, and 115,
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to Weatherproof backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40°F to 151°F (-40°C to 66°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 2.5" D (142 mm x 119 mm x 64 mm)
Wall-Mount Weatherproof Backbox	5.7" L x 5.1" W x 2.0" D (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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Wall-Mount Horn Strobe Candela Current Draw (mA)

DC Input	Maximum Current Draw 16-33 Volts Standard Candela (do not use below 32°F) 15	15/75	30	75	95	110	115
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	22	229
Non-Temporal Medium	75	85	102	163	187	207	216
Non-Temporal Low	68	79	96	156	182	201	210

Wall-Mount Horn Tones and Sound Output

Sound Pattern	Volume Setting	Horn Tones (dBA at 10 ft) 16-33 Volts DC	Sound Output (dBA at 10 ft) 24 Volt 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

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Notification Appliance Devices

Ordering Information

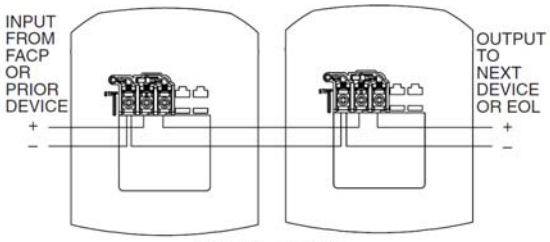
Part Number	Description
585-069-00	Horn Strobe, Red, Type I, Wall Mount, 2-Wire, Outdoor, 12 V or 24 V, White Fire lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, and 115 Candela. Includes weatherproof backbox

Associated Parts

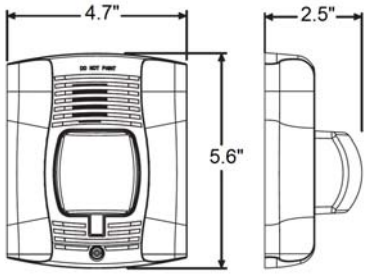
Part Number	Description
588-059-50	Trim ring, wall-mount, red
588-038-00	Back box, outdoor weatherproof, surface wall-mount, red, Required for NEMA 4X
367-047-00	Sync module, Type I

Drawings

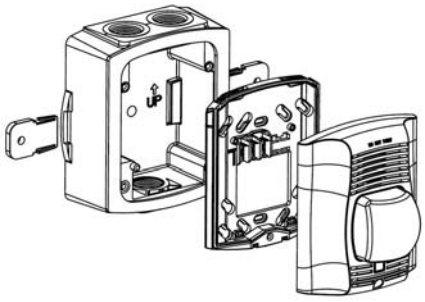
Wiring Diagram



Outdoor Wall-Mount Horn Strobe



Weatherproof Backbox for Mounting Horn Strobe



Monaco Enterprises, Inc.
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

Detect
Manage
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Notification Appliance Devices

Outdoor Horn Strobe, White, Wall-Mount, Type I

585-097-00



Specifications

Nominal Voltage	Regulated 24 VDC
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
High Candela	24 VDC: 135, 150, 177, and 185
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to Weatherproof backbox
Input WIring	12–18 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 requirements
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 2.5" D (142 mm x 119 mm x 64 mm)
Wall-Mount Weatherproof Backbox	5.7" L x 5.1" W x 2.0" D (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

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 185
- 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 backbox included

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Detect Manage Record

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 16-33 Volts High Candela Range				Horn Tones (dBA at 10 ft) 16-33 Volts	Sound Output (dBA at 10 ft) 24 Volt 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

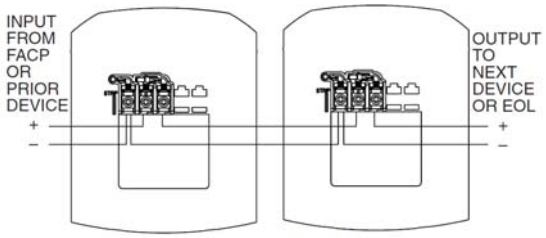
Part Number	Description
585-097-00	Horn Strobe, White, Type I, Wall Mount, Outdoor, Weatherproof, 12 V or 24 V, red Fire lettering, Clear lens, 135, 150, 177, and 185 High Candela. NEMA 4X rating. Includes Weatherproof backbox

Associated Parts

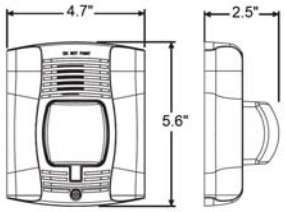
Part Number	Description
588-059-00	Trim ring, wall-mount, white
588-077-00	Backbox, outdoor weatherproof, surface wall-mount, white, 2" deep. Required for NEMA 4X
367-047-00	Sync module, Type I

Drawings

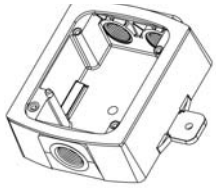
Wiring Diagram



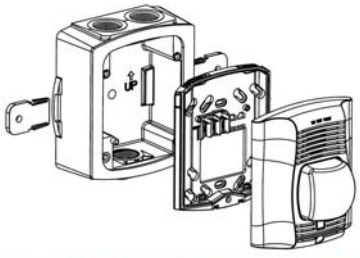
Outdoor Wall-Mount Horn Strobe



Weatherproof Backbox, Surface Mount



Weatherproof Backbox for Mounting Outdoor Horn Strobe



Monaco Enterprises, Inc.
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

Detect Manage Record

Notification Appliance Devices

Outdoor Horn Strobe, Red, Wall-Mount, Type I

585-097-01



Specifications

Nominal Voltage	Regulated 24 VDC
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
High Candela	24 VDC: 135, 150, 177, and 185
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to Weatherproof backbox
Input WIring	12–18 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 requirements
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 2.5" D (142 mm x 119 mm x 64 mm)
Wall-Mount Weatherproof Backbox	5.7" L x 5.1" W x 2.0" D (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

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 185
- 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 backbox included

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Detect Manage Record

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 16-33 Volts High Candela Range				Horn Tones (dBA at 10 ft) 16-33 Volts	Sound Output (dBA at 10 ft) 24 Volt 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

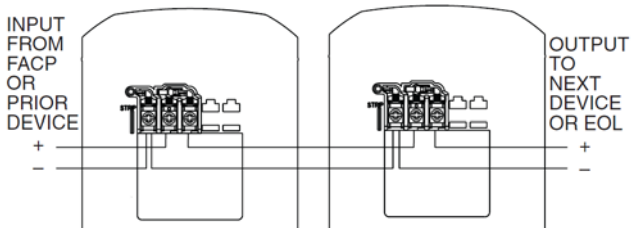
Part Number	Description
585-097-01	Horn Strobe, Red, Type I, Wall Mount, Outdoor, Weatherproof, 12 V or 24 V, White Fire lettering, Clear lens, 135, 150, 177, and 185 High Candela. NEMA 4X rating. Includes weatherproof backbox

Associated Parts

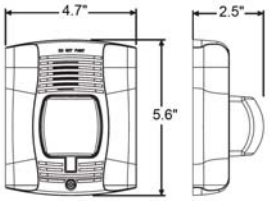
Part Number	Description
588-059-50	Trim ring, wall-mount, red
588-038-00	Back box, outdoor weatherproof, surface wall-mount, red, Required for NEMA 4X
367-047-00	Sync module, Type I

Drawings

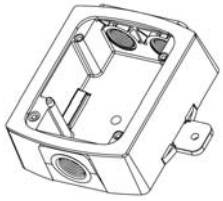
Wiring Diagram



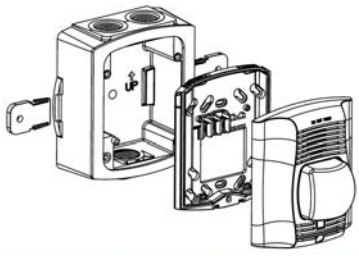
Outdoor Wall-Mount Horn Strobe



Weatherproof Backbox, Surface Mount



Weatherproof Backbox for Mounting Outdoor Horn Strobe



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 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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383 3057072
State of California	7125-1653:0504 7135-1653:0503

Monaco Enterprises, Inc.
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Detect
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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

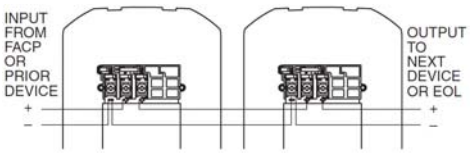
Part Number	Description
585-098-00	Horn Strobe, Red, Type I, Wall Mount, 2-Wire, Indoor, 12 V or 24 V, White Fire Lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

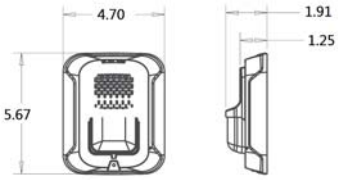
Part Number	Description
589-046-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, No lettering, order one per device
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-090-00	Backbox, Wall Surface Mount, Red, Type 1, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

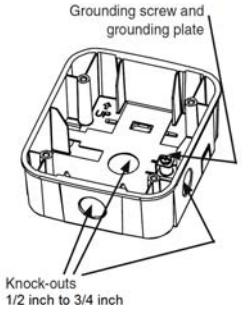
Wiring Diagram



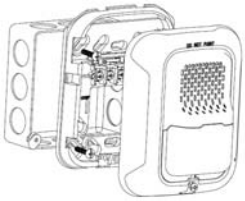
Wall-Mount Horn Strobe



Backbox, 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
Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

Notification Appliance Devices

Indoor Horn Strobe, Red, Ceiling-Mount, Type I

585-099-00



Specifications

Nominal Voltage	Regulated 12 VDC or Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93%, noncondensing
Ceiling-Mount Dimensions with lens	6.8" diameter x 2.5" depth (173 mm x 64 mm)
Ceiling-Mount Surface Mount Backbox Skirt (P/N 588-097-00)	6.92" diameter x 3.4" depth (173 mm x 86 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383
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** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, 177
- 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.
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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)
			15cd	30cd	75cd	95cd	115cd	150cd	177cd	16-33 VDC
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
585-099-00	Horn Strobe, Red, Type I, Ceiling Mount, 2-Wire, Indoor, 12 V or 24 V, White Fire lettering, Clear lens, 15, 30, 75, 95, 115, 150, 177 Candela.

Associated Parts

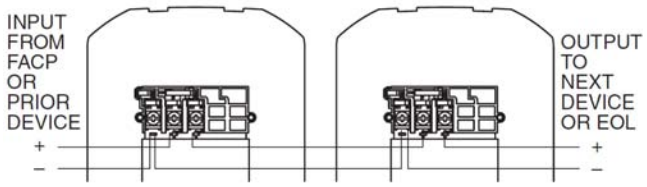
Part Number	Description
589-007-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Agent lettering, order one per device
589-009-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Alert lettering, order one per device
589-010-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Evac lettering, order one per device
589-012-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, No lettering, order one per device.
365-013-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens.
365-017-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens.
365-018-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens.
365-019-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens.
588-096-00	Trim Ring, Red, Type I, Ceiling Mount, Universal, 8.5" OD x .4" D.
588-097-00	Backbox, Ceiling Surface Mount, Red, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD x 2.5" D.
367-047-00	Sync module, Type I

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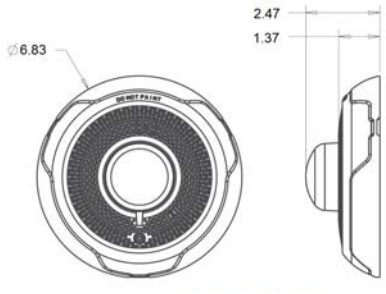
Detect Manage Record

Drawings

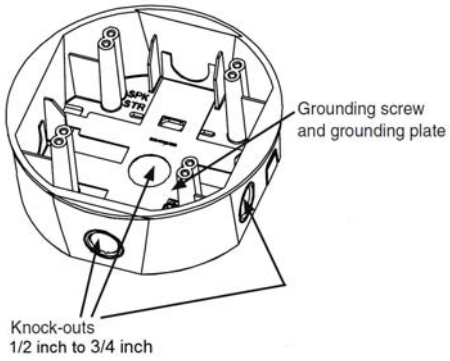
Wiring Diagram



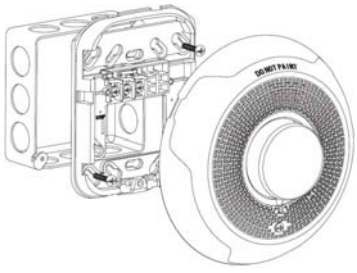
Ceiling-Mount Horn Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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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

Indoor Horn Strobe, Red, Wall-Mount, Type I

585-101-00



Features

- Red housing with No lettering and Clear lens
- Plug in design for simplified installation and troubleshooting
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation.
  NOTE 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383 3057072
State of California	7125-1653:0504 7135-1653:0503

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Detect
Manage
Record

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

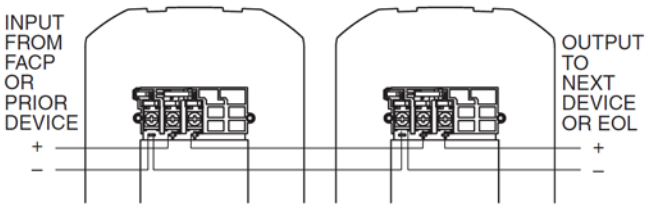
Part Number	Description
585-101-00	Horn Strobe, Red, Type I, Wall Mount, 2-Wire, Indoor, 12 V or 24 V, No Lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

Part Number	Description
589-042-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Agent lettering, order one per device
589-043-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Alert lettering, order one per device
589-044-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Evac lettering, order one per device
589-045-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Fire lettering, order one per device
365-012-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-014-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-090-00	Backbox, Wall Surface Mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

Wiring Diagram

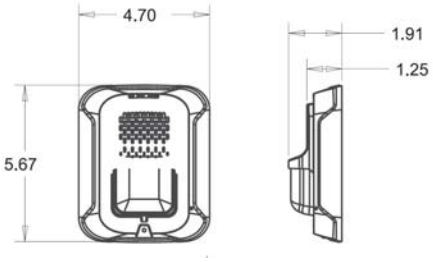


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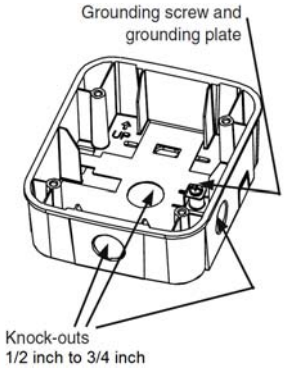
Detect Manage Record

Notification Appliance Devices

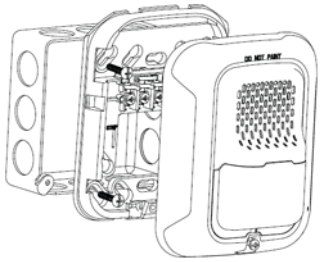
Wall-Mount Horn Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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Detect
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Notification Appliance Devices

Indoor Horn Strobe, White, Wall-Mount, Type I

585-102-00



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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383 3057072
State of California	7125-1653:0504 7135-1653:0503

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Detect Manage Record

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

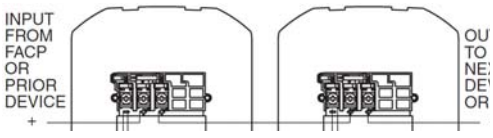
Part Number	Description
585-102-00	Horn Strobe, White, Type I, Wall Mount, 2-Wire, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

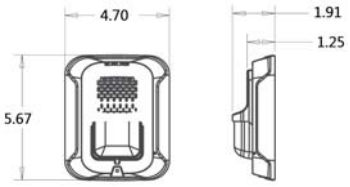
Part Number	Description
589-041-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, No lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

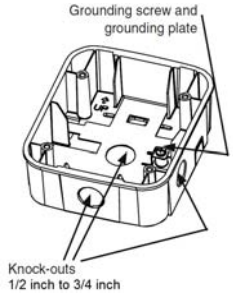
Wiring Diagram



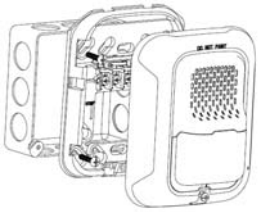
Wall-Mount Horn Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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Detect
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Notification Appliance Devices

Indoor Horn Strobe, White, Wall-Mount, Type I

585-103-00



Features

- White housing with No lettering and Clear lens
- Plug in design with minimal intrusion into the backbox
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383 3057072
State of California	7125-1653:0504 7135-1653:0503

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Detect Manage Record

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

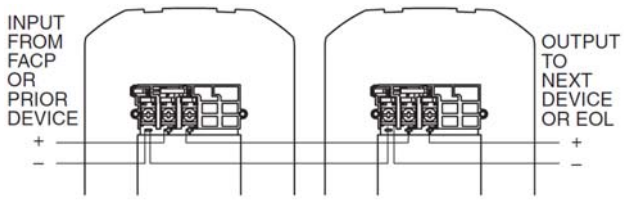
Part Number	Description
585-103-00	Horn Strobe, White, Type I, Wall Mount, 2-Wire, Indoor, 12 V or 24 V, No lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

Part Number	Description
589-037-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Agent lettering, order one per device
589-038-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Alert lettering, order one per device
589-039-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Evac lettering, order one per device
589-040-00	Bezel, White, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Fire lettering, order one per device
365-012-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-014-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

Wiring Diagram

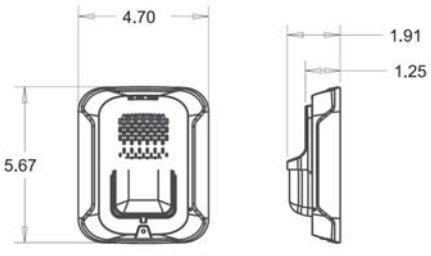


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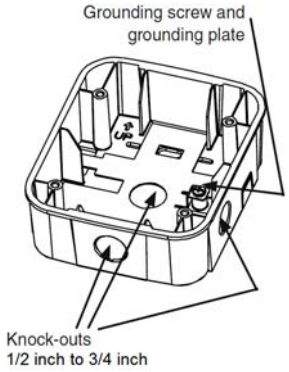
Detect
Manage
Record

Notification Appliance Devices

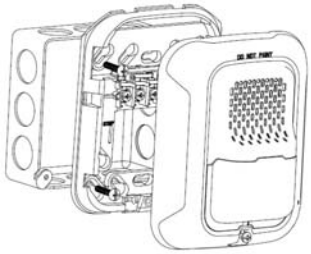
Wall-Mount Horn Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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Detect
Manage
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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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, 177
- 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 or Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type 1 Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93%, noncondensing
Ceiling-Mount Dimensions with lens	6.8" diameter x 2.5" depth (173 mm x 64 mm)
Ceiling-Mount Surface Mount Backbox Skirt (P/N 588-097-00)	6.92" diameter x 3.4" depth (173 mm x 86 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383
State of California	7125-1653:0504 7135-1653:0503

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Detect
Manage
Record

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)
			15cd	30cd	75cd	95cd	115cd	150cd	177cd	16-33 VDC
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
585-105-00	Horn Strobe, White, Type 1, Ceiling Mount, 2-Wire, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 95, 115, 150, 177 Candela.

Associated Parts

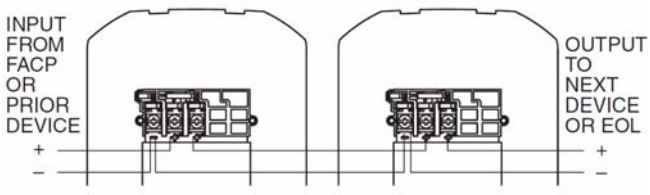
Part Number	Description
589-008-00	Bezel, White, Type 1, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, No lettering, order one per device.
589-013-00	Bezel, White, Type 1, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Agent lettering, order one per device.
589-014-00	Bezel, White, Type 1, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Alert lettering, order one per device.
589-015-00	Bezel, White, Type 1, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Evac lettering, order one per device.
365-013-00	Lens, Type 1, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens.
365-017-00	Lens, Type 1, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens.
365-018-00	Lens, Type 1, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens.
365-019-00	Lens, Type 1, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens.
588-095-00	Trim ring, White, Type 1, Ceiling Mount, Universal, 8.5" OD x .4" D.
588-094-00	Backbox, Ceiling Surface Mount, White, Type 1, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD X 2.5" D.
367-047-00	Sync module Type 1.

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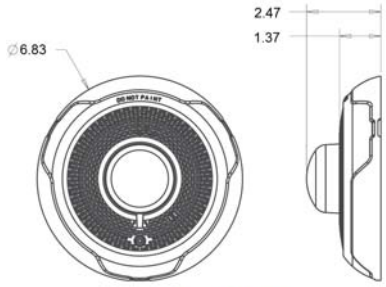
Detect Manage Record

Drawings

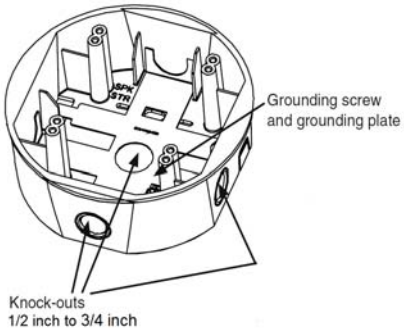
Wiring Diagram



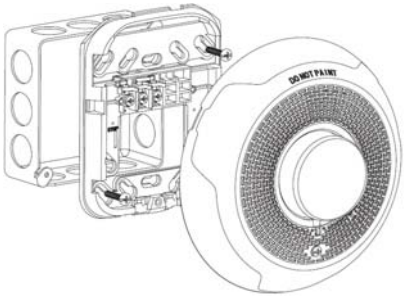
Ceiling-Mount Horn Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



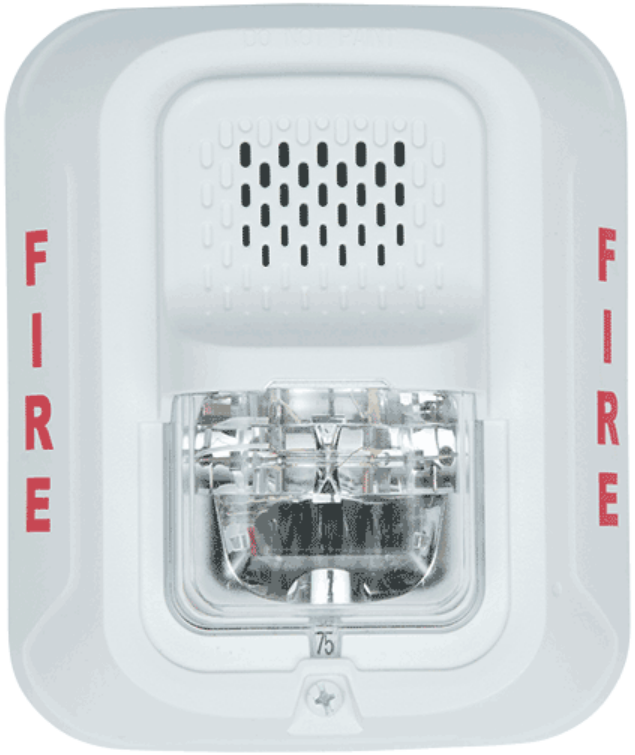
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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect
Manage
Record

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 24 volt operation
  NOTE 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, and 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Standard 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 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32° to 120°F (0° to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (142 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	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)

Tone	Volume Setting	Maxmum Current Draw 16-33 VDC							Sound Output Reverberant (dBA at 10 ft) 16-33V
		15 cd	30 cd	75 cd	95 cd	110 cd	135 cd	185 cd	
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
585-106-00	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 185 Candela, Horn 88+ dBA

Associated Parts

Part Number	Description
589-037-00	Bezel, White, Type I, Wall-Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Agent lettering, order one per device
589-038-00	Bezel, White, Type I, Wall-Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Alert lettering, order one per device
589-039-00	Bezel, White, Type I, Wall-Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Evac lettering, order one per device
589-041-00	Bezel, White, Type I, Wall-Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, No lettering, order one per device
365-012-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-014-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync Module, Type I

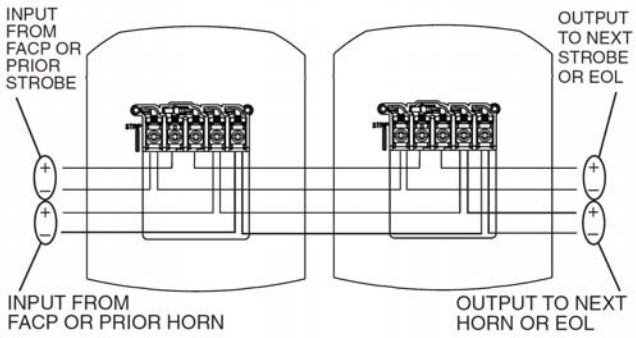
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Detect Manage Record

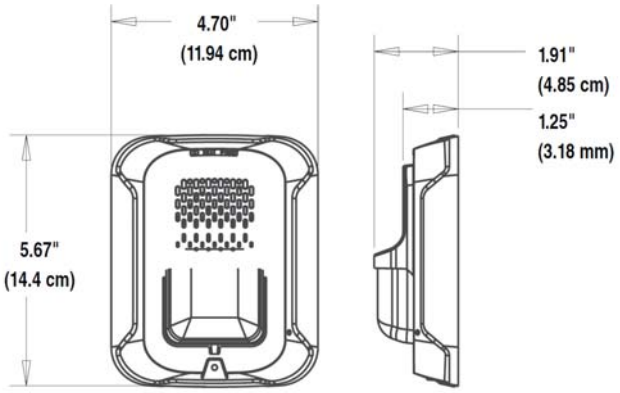
Notification Appliance Devices

Diagrams

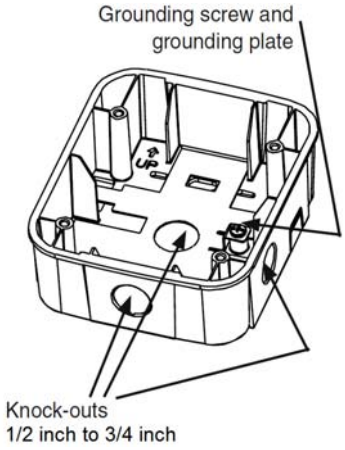
Wiring Diagram



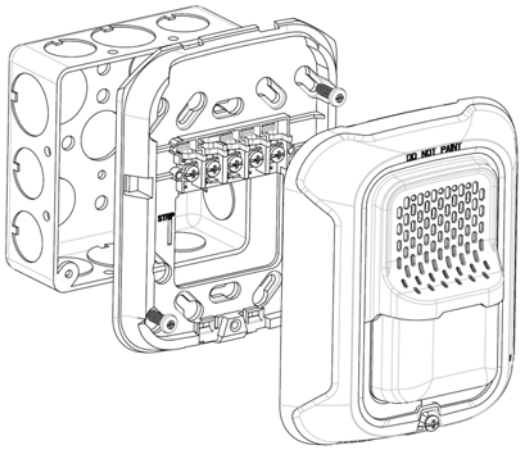
Wall-Mount Horn Strobe



Backbox, Wall-Mount Surface Mount



Junction Box, Wall-Mount Flush Mount



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Detect Manage Record

Notification Appliance Devices

Indoor Horn Strobe, 4-Wire, Red, Wall-Mount, Type I

585-107-00



Features

- Red housing with white Fire lettering and Clear lens
- Plug-in design for simplified installation and troubleshooting.
- Tamper-resistant construction
- Automatic selection of 12 or 24 volt operation
  NOTE 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, and 185
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 110, 135, and 185
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input Wlring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383 3057072
State of California	7125-1653:0504 7135-1653:0503

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Detect Manage Record

Notification Appliance Devices

Wall-Mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Tone	Volume Setting	Maxmum Current Draw 16-33 VDC							Sound Output Reverberant (dBA at 10 ft) 16-33V
		15 cd	30 cd	75 cd	95 cd	110 cd	135 cd	185 cd	
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
585-107-00	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 185 Candela, Horn 88+ dBA

Associated Parts

Part Number	Description
589-042-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Agent lettering, order one per device
589-043-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Alert lettering, order one per device
589-044-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Evac lettering, order one per device
589-046-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, No lettering, order one per device
365-012-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens

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Detect Manage Record

Notification Appliance Devices

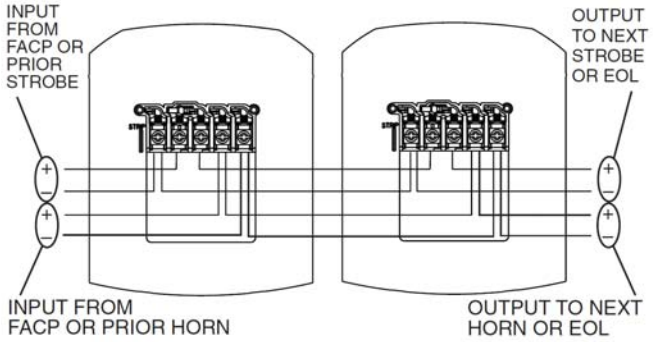
Part Number	Description
365-014-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-090-00	Backbox, Wall Surface Mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module Type I

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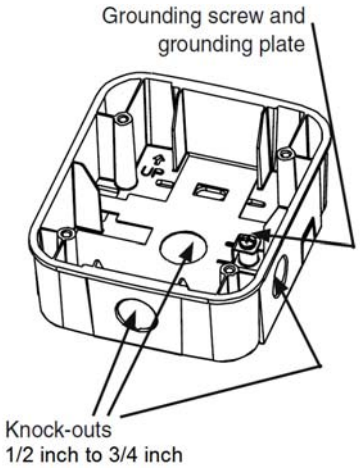
Detect
Manage
Record

Drawings

Wiring Diagram



Backbox, Wall-Mount Surface Mount

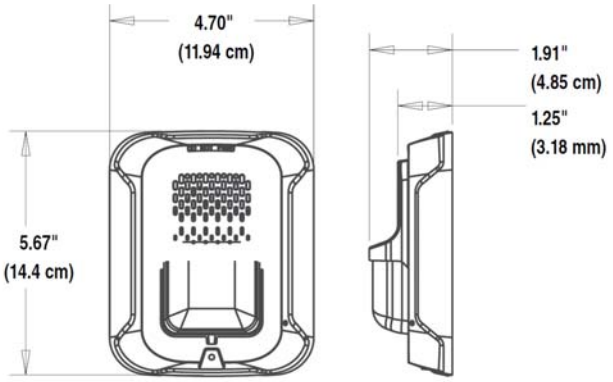


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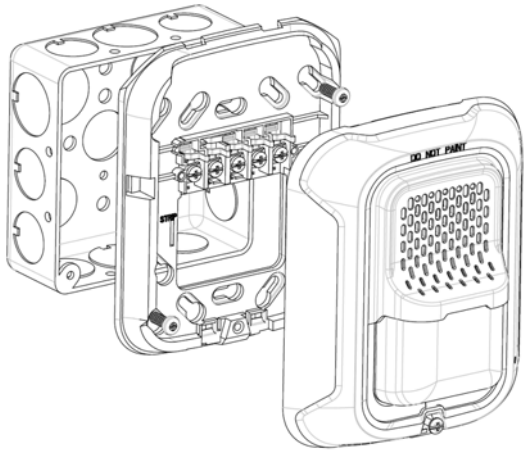
Detect Manage Record

Notification Appliance Devices

Wall-Mount Horn Strobe



Junction Box, Wall-Mount Flush Mount



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Detect
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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 24 volt operation
  NOTE 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, and 177
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32° to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions with lens	6.8" L x 2.5" D (173 mm x 64 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383
State of California	7125-1653:0504 7135-1653:0503

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Detect
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Record

Notification Appliance Devices

Ceiling-Mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Tone	Volume Setting	Maxmum Current Draw 16-33 VDC							Sound Output Reverberant (dBA at 10 ft) 16-33 VDC
		15 cd	30 cd	75 cd	95 cd	115 cd	150 cd	177 cd	
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
585-108-00	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, 177 Candela, Horn 88+ dBA

Associated Parts

Part Number	Description
589-008-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, No lettering, order one per device
589-013-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Agent lettering, order one per device
589-014-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Alert lettering, order one per device
589-015-00	Bezel, White, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, Red Evac lettering, order one per device
365-013-00	Lens, Type I, Ceiling-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-017-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of lens
365-018-00	Lens,Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of lens
365-019-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of lens
588-095-00	Trim Ring, White, Type I, Ceiling Mount, Universal, 8.5" OD x .4"D
588-094-00	Backbox, Ceiling Surface Mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD X 2.5" D
367-047-00	Sync module, Type I

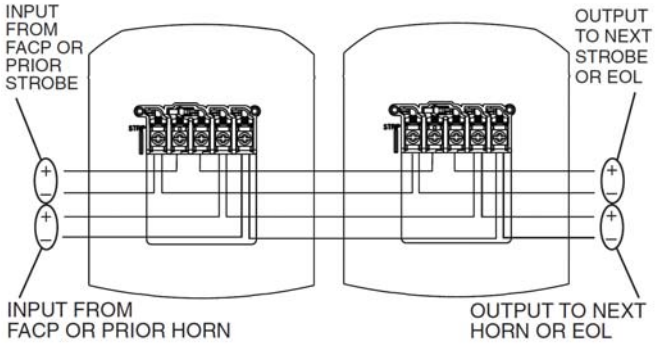
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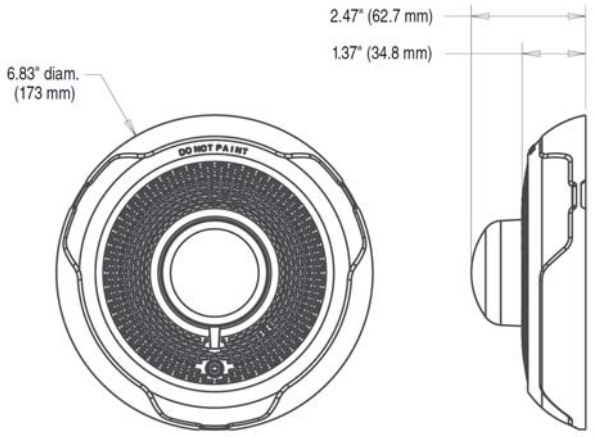
Notification Appliance Devices

Drawings

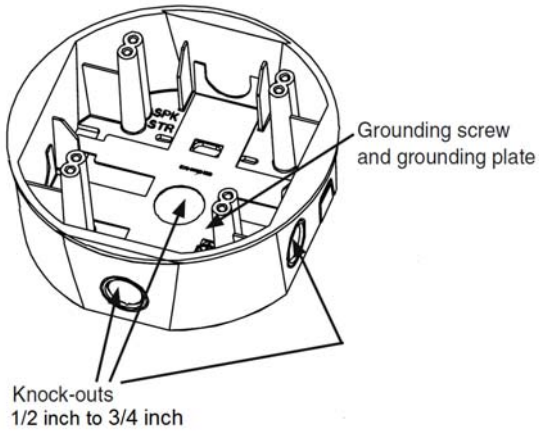
Wiring Diagram



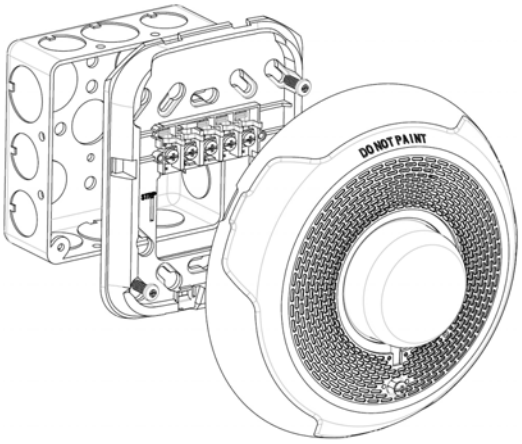
Ceiling-Mount Horn Strobe



Backbox, Ceiling-Mount Surface Mount



Junction Box, Ceiling-Mount Flush Mount



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Detect Manage Record

Notification Appliance Devices

Indoor Horn Strobe, 4-Wire, Red, Ceiling-Mount, Type I

585-109-00



UL FM 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 24 volt operation
  NOTE 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, and 177
- 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 Regulated 24 VDC
Operating Voltage Range	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. octagon backbox, or Double-gang backbox
Input WIring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32° to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions with lens	6.8" L x 2.5" D (173 mm x 64 mm)
Standards Compliance	Listed to UL 1971 and UL 464
UL Listed	S4011
FM Approved	3057383
State of California	7125-1653:0504 7135-1653:0503

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Detect Manage Record

Notification Appliance Devices

Ceiling-Mount Horn Strobe Current Draw (mA) and Sound Output - Reverberant (dBA)

Tone	Volume Setting	Maxmum Current Draw 16-33 VDC							Sound Output Reverberant (dBA at 10 ft) 16-33 VDC
		15 cd	30 cd	75 cd	95 cd	115 cd	150 cd	177 cd	
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
585-109-00	Horn Strobe, Red, Type I, Ceiling Mount, 4-Wire, Indoor, 12 V or 24 V, White Fire lettering, Clear Lens, 15, 30, 75, 95, 115, 150, and 177 Candela, Horn 88+ dBA

Associated Parts

Part Number	Description
589-007-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Agent lettering, order one per device.
589-009-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Alert lettering, order one per device
589-010-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, White Evac lettering, order one per device.
589-012-00	Bezel, Red, Type I, Ceiling Mount, Strobe; Horn Strobe; Chime Strobe, No lettering, order one per device

Part Number	Description
365-013-00	Lens, Type I, Ceiling-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-017-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of lens
365-018-00	Lens,Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of lens
365-019-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of lens
588-096-00	Trim Ring, Red, Type I, Ceiling Mount, Universal, 8.5" OD x .4"D
588-097-00	Back Box, Ceiling Surface Mount, Red, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD x 2.5"D
367-047-00	Sync module, Type I

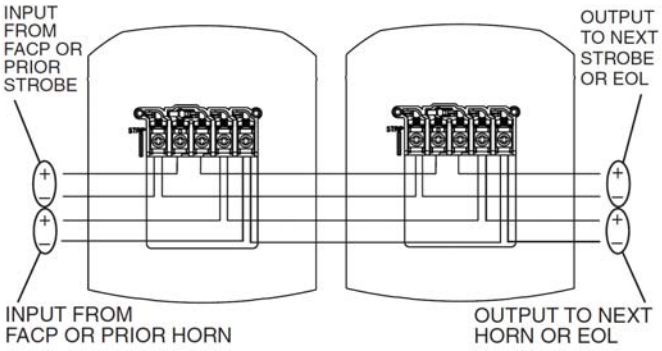
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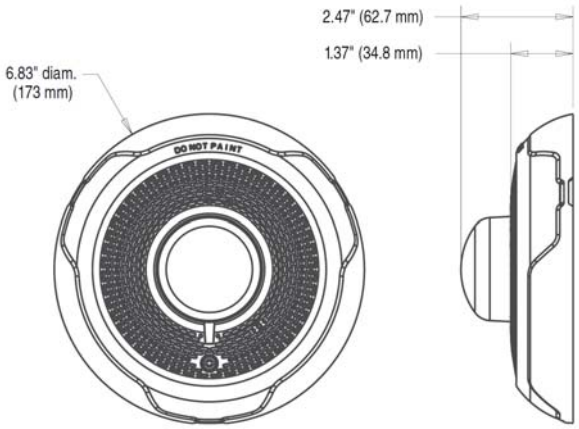
Notification Appliance Devices

Drawings

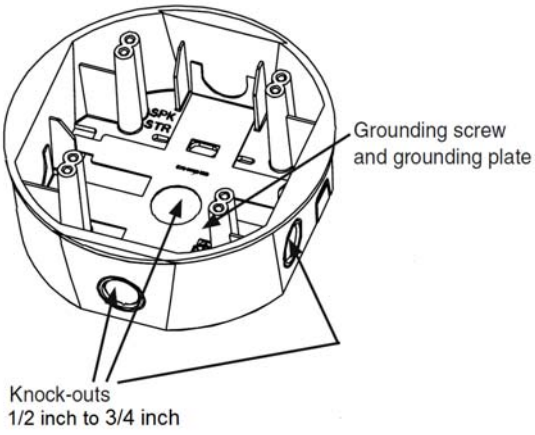
Wiring Diagram



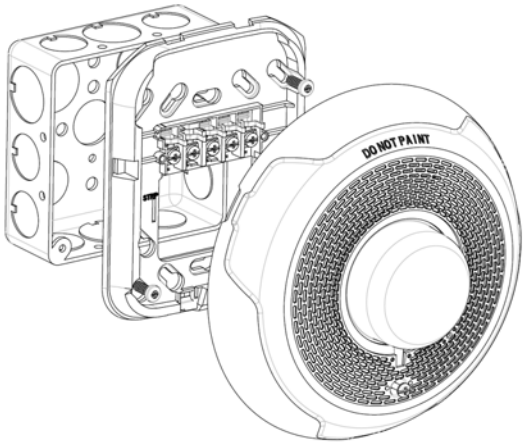
Ceiling-Mount Horn Strobe



Backbox, Ceiling-Mount Surface Mount



Junction Box, Ceiling-Mount Flush Mount



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Detect Manage Record

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 .48 to 15 watts at 25 VRMS **OR** .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

Voltage Line	25V or 70V
Power Handling	15 Watt continuous
Frequency Response	400 - 14000 Hz anechoic 400 - 4000 Hz (at full rated output)
Sensitivity	102 dB @ 15 Watts @ 10 ft (3 m) peak: 120 dB @ 15W, 3 ft (1 m)
Dispersion Angle	70 degrees
Impedance (Ohms)	Field selectable 7-position switch: 5000, 2500, 1300, 666, 333, 89, 45
Power Taps	with 3 dB incremental rating: 25 volts 0.48, 0.94, 1.8, 7.5, 15 watts 70 volts: 0.9, 1.8, 3.8, 7.5, 15 watts
Material	Horns: red, aluminum Enclosure: red, NEMA 1 steel
Mounting	Enclosure mounts to ceiling or wall with four pre-drilled holes and conduit knockouts, comes with mounting bracket and single locking pin
Temperature Range	150°F to -31°F (66°C to -35°C)
Humidity	95% RH max
Enclosure Dimensions	10" W x 10" L x 6" D (254 mm x 254 mm x 152 mm)
Horn Dimensions	7.87" W x 8.75" H x 9.32" D (200 mm x 222 mm x 237 mm)
Horn Weight	4.5 lbs (2.0 kgs)
Standards Compliance	
System complies with UL	1480
NFPA	72 and 101
OSHA	1910.165
Horns UL Listed to	S2652

Ordering Information

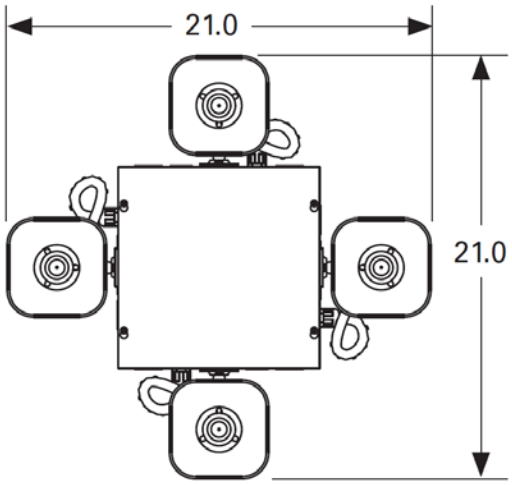
Part Number	Description
124-050-00	Cluster Speakers, 4-Horn Speaker System, Indoor, 25 or 70 VRMS, NEMA 1 red enclosure

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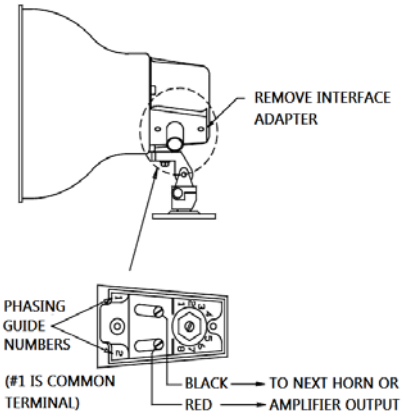
Detect Manage Record

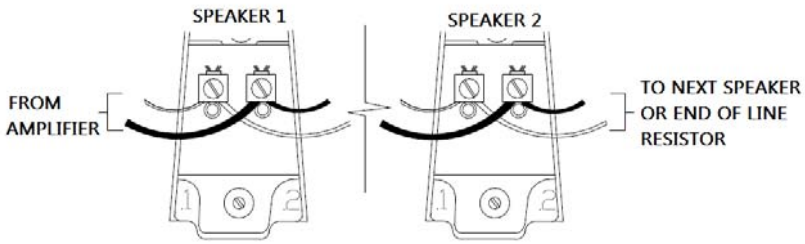
Drawings

Dimensions - front view



Wiring Diagrams





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Detect Manage Record

Notification Appliance Devices

Outdoor Speaker, White, Wall-Mount, Type I

124-072-00



MEA approved

Specifications

Nominal Voltage	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage	50 VDC
Speaker Frequency Range	400 to 4,000 Hz
Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to Weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40 to 151°F (-40 to 66°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions Speaker	6.0" L x 5.0" W x 2.9" D (152 mm x 127 x 74 mm)
Wall-Mount Weatherproof Backbox	6.5" L x 5.5" W x 2.9" D (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 backbox 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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Detect Manage Record

Notification Appliance Devices

Ordering Information

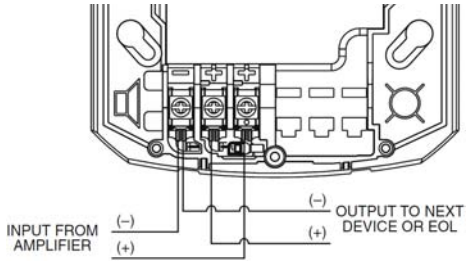
Part Number	Description
124-072-00	Speaker, White, Type 1, Wall-Mount, Outdoor, 12 V or 24 V, No lettering, 1/4, 1/2, 1, 2 watts. Incudes plastic weatherproof backbox.

Associated Parts

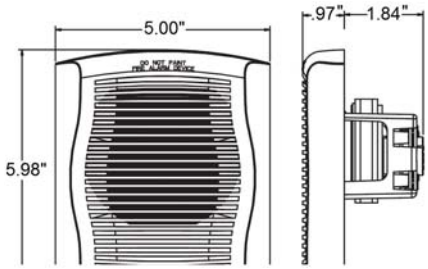
Part Number	Description
589-003-00	Red decals, wall-mount, use 2 per device: AGENT, EVAC, ALERT, or FIRE
588-059-00	Trim ring, wall-mount, white
588-077-00	Back box, outdoor weatherproof, surface wall-mount, white, 2" deep. Required for NEMA 4X

Drawings

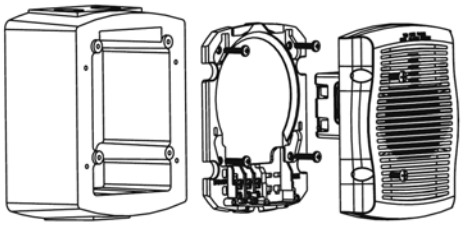
Wiring Diagram



Wall-Mount Speaker



Weatherproof Backbox for Mounting Speaker



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Detect Manage Record

Notification Appliance Devices

Outdoor Speaker, Red, Wall-Mount, Type I

124-072-50



MEA approved

Specifications

Nominal Voltage	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage	50 VDC
Speaker Frequency Range	400 to 4,000 Hz
Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to Weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40 to 151°F (-40 to 66°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions Speaker	6.0" L x 5.0" W x 2.9" D (152 mm x 127 x 74 mm)
Wall-Mount Weatherproof Backbox	6.5" L x 5.5" W x 2.9" D (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

- 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 backbox included

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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Detect Manage Record

Notification Appliance Devices

Ordering Information

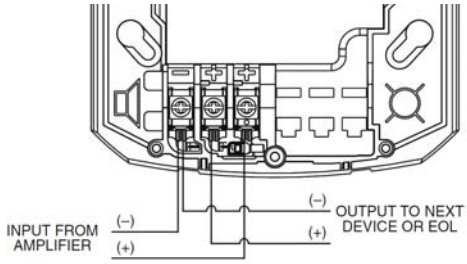
Part Number	Description
124-072-50	Speaker, Red, Type I, Wall-Mount, Outdoor, 12 V or 24 V, No lettering, 1/4, 1/2, 1, 2 watts. Incudes plastic weatherproof backbox

Associated Parts

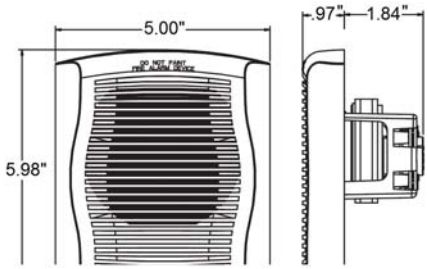
Part Number	Description
589-005-00	White decals, wall-mount, use 2 per device: AGENT, EVAC, ALERT, or FIRE
588-059-50	Trim ring, wall-mount, red
588-038-00	Back box, outdoor weatherproof, surface wall-mount, red, Required for NEMA 4X

Drawings

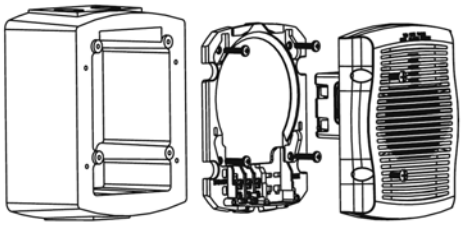
Wiring Diagram



Wall-Mount Speaker



Weatherproof Backbox for Mounting Speaker



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker, White, Wall-Mount, Type I

124-091-00



Specifications

Nominal Voltage	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage	50 VDC
Speaker Frequency Range	400 to 4,000 Hz
Power	1/4, 1/2, 1, 2 watts
*Mounting**	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox *Flush mount applications do not require an extension ring
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions Speaker	6.5" L x 5" W x .97" D (165 mm x 127 x 23 mm)
with Surface Mount Backbox	6.6" L x 5.1" W x 3.2" 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

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

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Detect Manage Record

Notification Appliance Devices

Ordering Information

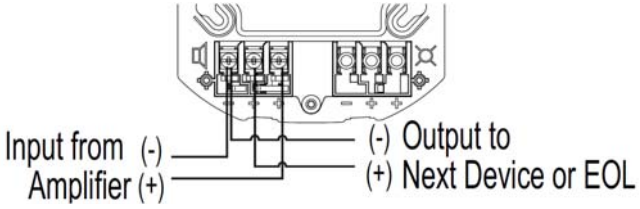
Part Number	Description
124-091-00	Speaker, White, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

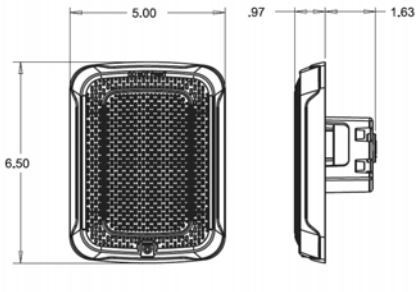
Part Number	Description
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-093-00	Backbox, Wall Surface Mount, White, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D

Drawings

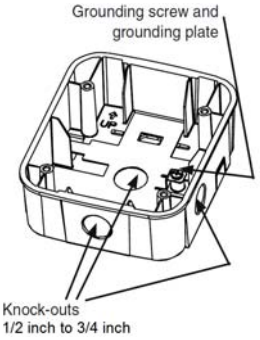
Wiring Diagram



Wall-Mount Speaker



Backbox, Surface Mount



Junction Box for Flush Mounting use 4"x 4" x 2-1/8"



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker, Red, Wall-Mount, Type I

124-092-00



Specifications

Nominal Voltage	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage	50 VDC
Speaker Frequency Range	400 to 4,000 Hz
Power	1/4, 1/2, 1, 2 watts
*Mounting**	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox *Flush mount applications do not require an extension ring
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions Speaker	6.5" L x 5" W x .97" D (165 mm x 127 x 23 mm)
with Surface Mount Backbox	6.6" L x 5.1" W x 3.2" 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

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

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Detect Manage Record

Notification Appliance Devices

Ordering Information

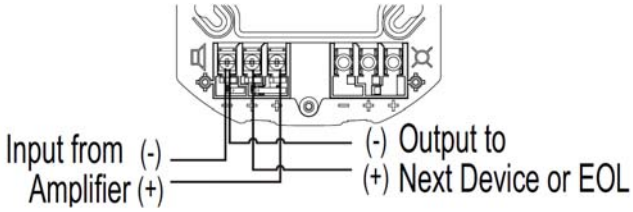
Part Number	Description
124-092-00	Speaker, Red, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

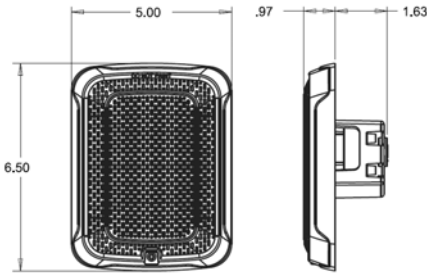
Part Number	Description
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-092-00	Backbox, Wall Surface Mount, Red, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D

Drawings

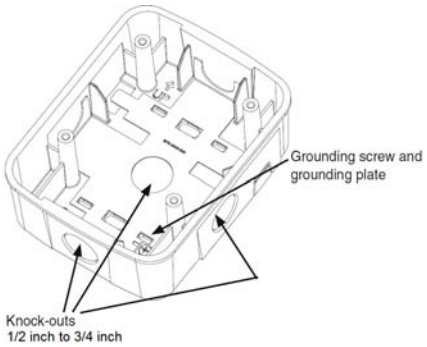
Wiring Diagram



Wall-Mount Speaker



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker, Red, Ceiling-Mount, Type I

124-093-00



Specifications

Nominal Voltage	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage	50 VDC
Speaker Frequency Range	400 to 4,000 Hz
Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions Speaker	6.8" diameter x 1.0" depth (173 mm x 25 mm)
with Surface Mount Backbox	6.9" diameter x 3.5" depth (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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Detect Manage Record

Notification Appliance Devices

Ordering Information

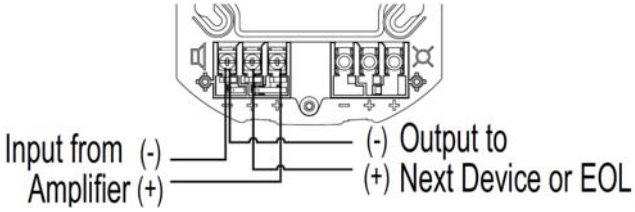
Part Number	Description
124-093-00	Speaker, Red, Type I, Ceiling Mount, Indoor, 6.8 in., No lettering, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

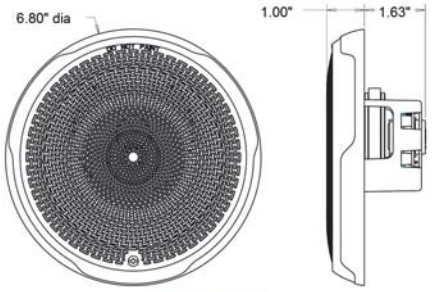
Part Number	Description
588-096-00	Trim Ring, Red, Type I, Ceiling Mount, Universal, 8.5" OD X .4"D
588-097-00	Backbox, Ceiling Surface Mount, Red, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe,6.9" OD X 2.5" D

Drawings

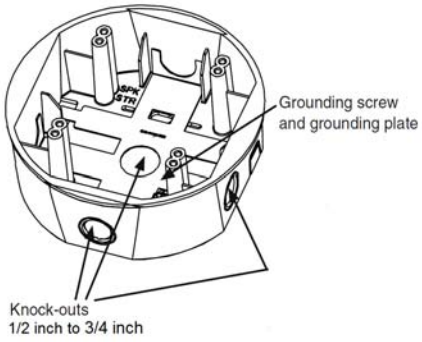
Wiring Diagram



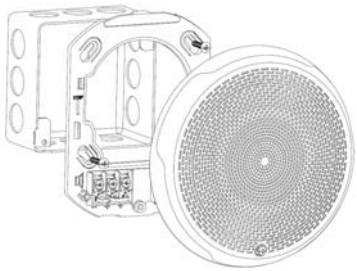
Ceiling-Mount Speaker



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Notification Appliance Devices

Indoor Speaker, White, Ceiling-Mount, Type I

124-094-00



Specifications

Nominal Voltage	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage	50 VDC
Speaker Frequency Range	400 to 4,000 Hz
Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions Speaker	6.8" diameter x 1.0" depth (173 mm x 25 mm)
with Surface Mount Backbox	6.9" diameter x 3.5" depth (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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Detect Manage Record

Notification Appliance Devices

Ordering Information

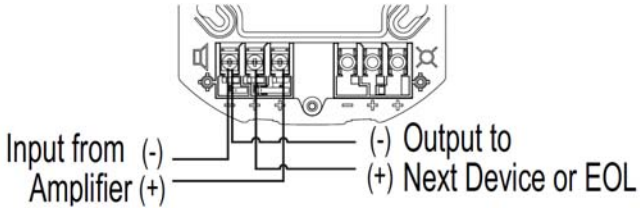
Part Number	Description
124-094-00	Speaker, White, Type I, Ceiling Mount, Indoor, 6.8 in, No lettering, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

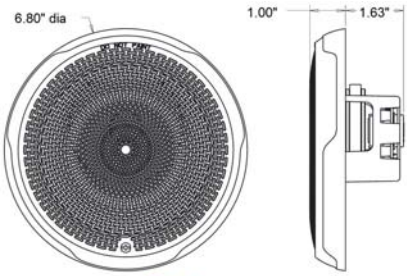
Part Number	Description
588-095-00	Trim ring, White, Type I, Ceiling Mount, Universal, 8.5" OD x .4" D
588-094-00	Backbox, Ceiling Surface Mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD X 2.5" D

Drawings

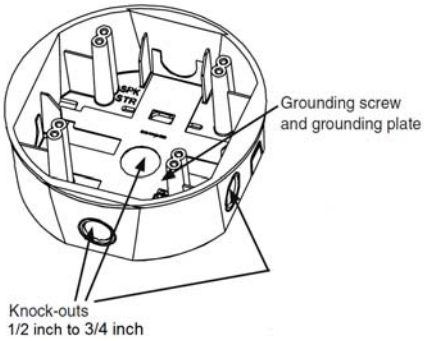
Wiring Diagram



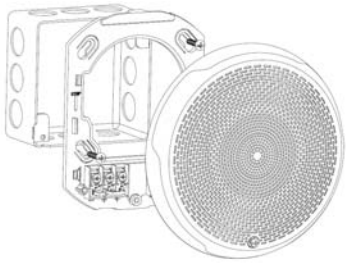
Ceiling-Mount Speaker



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Notification Appliance Devices

Indoor Speaker, White, Ceiling-Mount, Type I

124-095-00



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

Specifications

Nominal Voltage	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage	50 VDC
Frequency Range	400 to 4,000 Hz (Fire Alarm), 200 Hz - 15 KHz (General Signaling)
Power	1/8, 1/4, 1/2, 1, 2, 4 and 8 watts
Mounting	Surface mount with included back can, or Flush mount with optional tile support bracket, P/N 588-100-00
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions Speaker with Grill	12.8" diameter x 2.7" depth (325.1 mm x 68.6 mm)
Speaker with Back Can	12.8" diameter x 4.2" depth (325 mm x 106.7 mm)
Tile Support Bracket Dimensions (P/N 588-100-00)	23.75" L x 4.125" W (603.3 mm x 104.8 mm) opening diameter: 10.75" (273.1 mm)
Standards Compliance	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
UL Listed	S4048
State of California	7320-1653:0500

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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

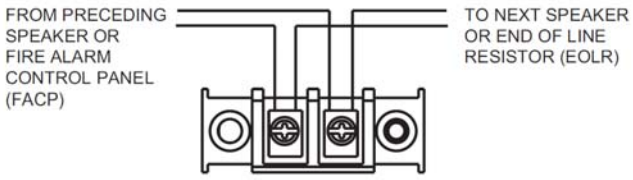
Part Number	Description
124-095-00	Speaker, White, Type I, Ceiling Mount, Indoor, 8 in., No lettering, 25/70.7V, 1/8, 1/4, 1/2, 1, 2, 4, and 8 Watts

Associated Parts

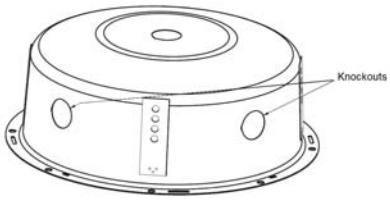
Part Number	Description
588-100-00	Tile support bracket for 8 in., 1/8, 1/4, 1/2, 1, 2, 4 and 8 Watt Speaker. For use on MEI P/N 124-095-00

Drawings

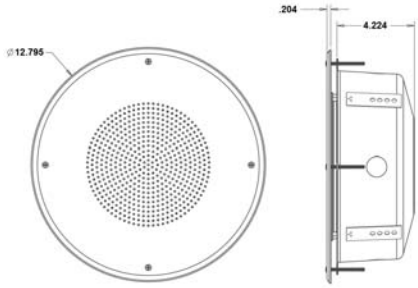
Wiring Diagram



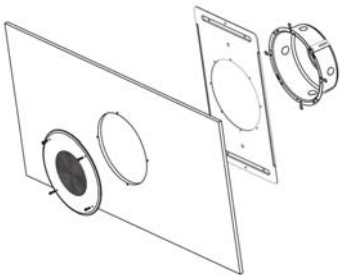
Back Can



Ceiling-Mount Speaker



Ceiling-Mount Speaker with Back Can



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Detect Manage Record

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	16-33 VDC
Candela	Indoor: 15, 30, 75, 110 CD Weatherproof: 180 CD
Input Terminal	12 AWG to 18 AWG
Operating Temperature Range	32° to 120° F (0° to 49° C)
Dimensions	5.13" x 5.13" (13.03 cm x 13.03 cm)
Speaker Frequency Range	400 to 4,000 Hz
Nominal Speaker Input Voltage	25.0 or 70.07 VRMS
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, 110
580-058-00	Weatherproof speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, no lettering, clear lens, candela: 180
580-063-00	Indoor speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, no lettering, clear lens, multi-candela: 15, 30, 75, 110
580-065-00	Indoor speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, no lettering, amber lens, multi-candela: 15, 30, 75, 95
580-075-00	Weatherproof speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, no lettering, amber lens, candela: 180

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Detect Manage Record

Part Number	Description
580-078-00	Weatherproof speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, red ALERT lettering, clear lens, Candela: 180
580-081-00	Indoor speaker strobe, 24 VDC, standard dB speaker, wall-mount, white, red ALERT lettering, clear lens, multi-candela: 15, 30, 75, 110

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, 4 Class B or 2 Class A, use with Type II strobes.
588-013-01	Backbox, indoor, surface-mount, white.
588-028-00	Backbox, surface mount, weatherproof, white.

Mounting Options

- Fits standard 4 inch x 4 inch x 2 1/8 inch back box with extension ring
- See Associated Parts for back box P/N's.

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Notification Appliance Devices

Indoor Speaker Strobe, Ceiling Mount, White, Type II

580-064-00



Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)
Strobe Candela Settings	15, 30, 75 and 95
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	400-4000 Hz
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F (0°C) to 120°F (49°C)
Relative Humidity	85%
Mounting	Ceiling mount to standard 4 inch electrical box with extension ring
Dimensions	7.27" Diameter x 5.24" Deep
Standards Compliance	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, no lettering and Amber lens
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24 V: 15/30/75/95
- Speaker input voltage: of 25/70 VRMS and field selectable taps: 1/8, 1/4, 1/2, 1 and 2 watts
- Replaceable speaker grill
- In/out screw terminals for fast installation
- Integrated mounting plate included

Ordering Information

Part Number	Description
580-064-00	Speaker Strobe, Round, White, Type II, Ceiling Mount, Indoor, 24 VDC, no lettering, Amber lens, 15, 30, 75, 95 candela, Frequency Range 400-4000Hz, 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" speakers
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Amber Strobe Current Draw

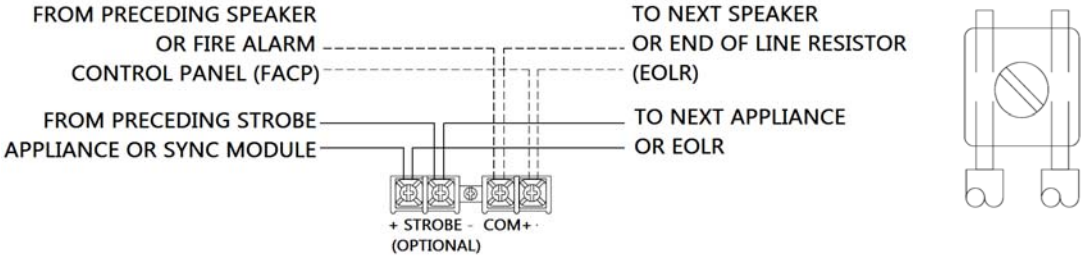
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw) 15 cd | 30 cd | 75 cd | 95 cd with derated Amber lens:			
	11.25 cd	22.50 cd	56.25 cd	71.25 cd
16-33V	0.65	0.105	0.189	0.249

Speaker Output

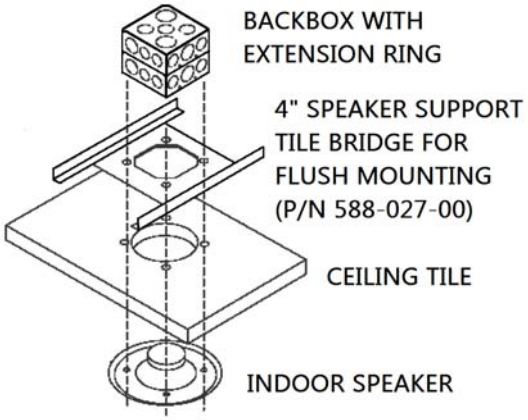
Voltage (VRMS)	Reverberant dBA at 10-feet (per UL 1480 rated watts)				
	1/8 w	1/4 w	1/2 w	1 w	2 w
25/70	75	78	81	84	87

Diagrams

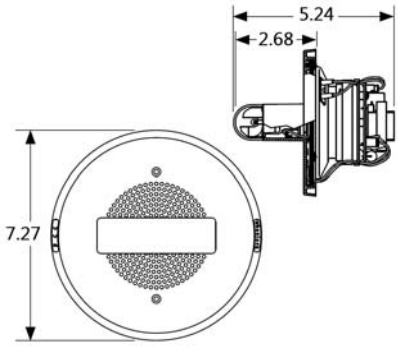
Wiring Diagram



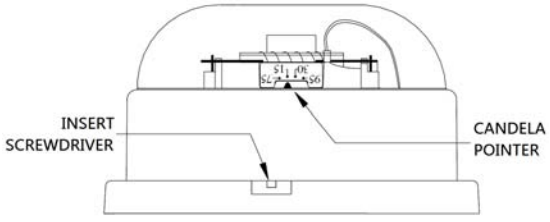
Mounting



Dimensions



Candela



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Notification Appliance Devices

Indoor Speaker Strobe, MC, Wall Mount, White, Type II

580-068-00



Strobe Candela	15, 30, 75, and 110
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	400-4000 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" x 2-1/8" electrical box or surface mount: 4" square backbox
Dimensions	6.74" H x 5" W x 2.58" D
Weight	1.6 lbs (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, no lettering and Amber lens
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24V: 15/30/75/110 cd
- Speaker input voltage: of 25/70 VRMS and field selectable taps: 1/8, 1/4, 1/2, 1, and 2 watts
- Replaceable speaker grill
- Integrated speaker mounting plate
- In/out screw terminals for fast installation
- No extension ring required

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (regulated)

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, 110, 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, 4 Class B or 2 Class A, use with Type II strobes **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Amber Strobe Current Draw

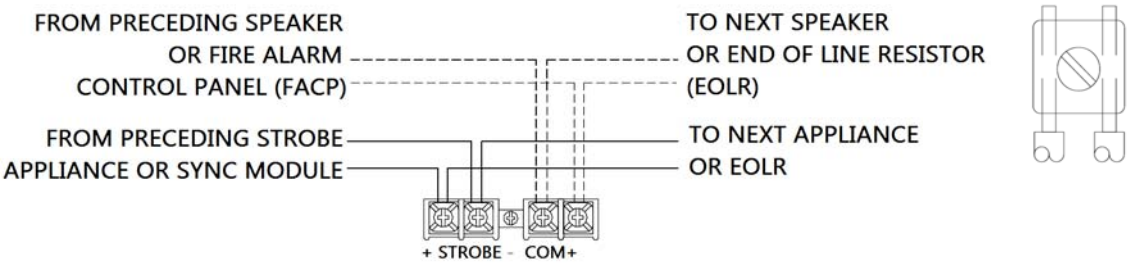
	UL Current Ratings (Amps) Maximum RMS Current			
	15 cd | 30 cd | 75 cd | 110 cd with derated Amber lens:			
Voltage	**11.25 cd**	**22.50 cd**	**56.25 cd**	**82.50 cd**
16-33 VDC	0.60	0.092	0.165	0.220

Speaker Output

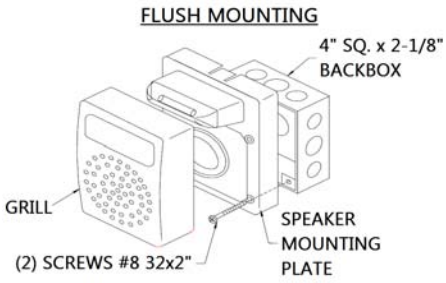
Voltage (VRMS)	**Reverberant dBA at 10-feet (Rated Watts)**				
	1/8 w	**1/4 w**	**1/2 w**	**1 w**	**2 w**
25/70	77	79.5	82.5	85.0	88.0

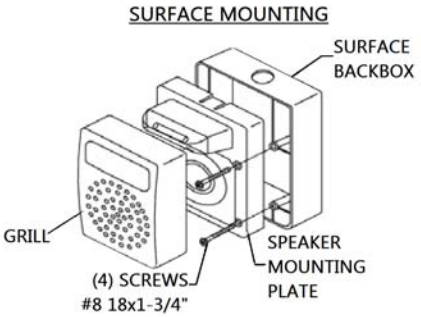
Diagrams

Wiring Diagram

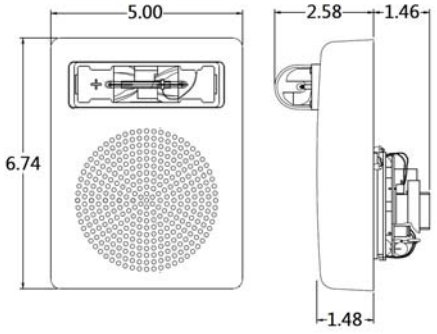


Mounting

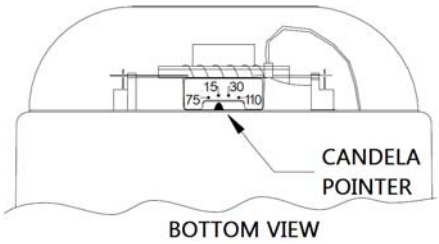




Dimensions



Candela



NOTE Maximum number conductors for 12 to 18 AWG is 8

NOTE: PRE-SET AT 15 CD

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Detect
Manage
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Notification Appliance Devices

Indoor Speaker Strobe, Ceiling Mount, White, Type II

580-069-00



Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)
Strobe Candela Settings	15, 30, 75 and 95
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	400-4000 Hz
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F (0°C) to 120°F (49°C)
Relative Humidity	85%
Mounting	Standard 4 in. electrical box or Surface mount backbox
Dimensions	Square: 5.13" H x 5.13" W x 5.24" D Round: 7.27" Diameter x 5.24" Deep
Standards Compliance	Listed UL 1638 general signaling
UL	S2652
CSFM	7125-0785:0152

Features

- Indoor Speaker Strobe with white housing, no lettering and Blue lens
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24 V: 15/30/75/95
- Speaker input voltage: of 25/70 VRMS and field selectable taps: 1/8, 1/4, 1/2, 1 and 2 watts
- Replaceable speaker grill
- In/out screw terminals for fast installation

Ordering Information

Part Number	Description
580-069-00	Speaker Strobe, Square, White, Type II, Ceiling-Mount, Indoor, 24 VDC, no lettering, Blue lens, multi-candela: 15, 30, 75, 95, 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
588-013-01	Indoor back box, surface-mount, white
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Blue Strobe Current Draw

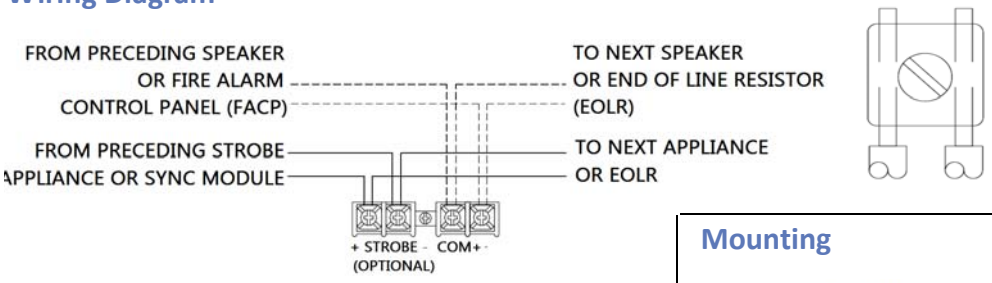
Voltage	UL Maximum Current Ratings (Amps) Maximum RMS Current 15 cd | 30 cd | 75 cd | 95 cd with derated Blue lens: 4.5 cd	9 cd	22.5 cd	28.5cd
16-33V	0.065	0.105	0.189	0.249

Speaker Output

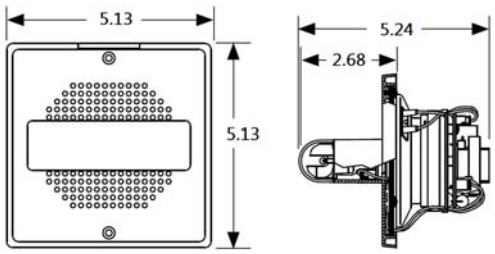
Voltage (VRMS)	Reverberant dBA at 10-feet (per UL 1480 rated watts) 1/8 w	1/4 w	1/2 w	1 w	2 w
25/70	75	78	81	84	87

Diagrams

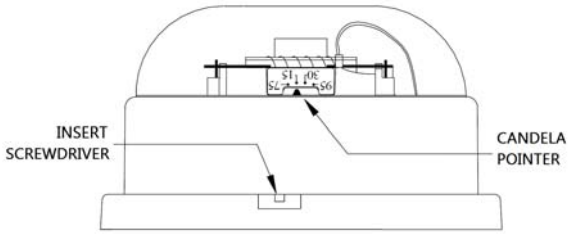
Wiring Diagram



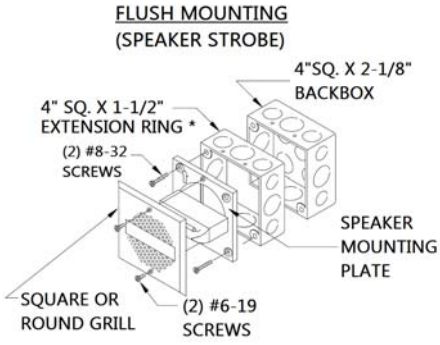
Dimensions

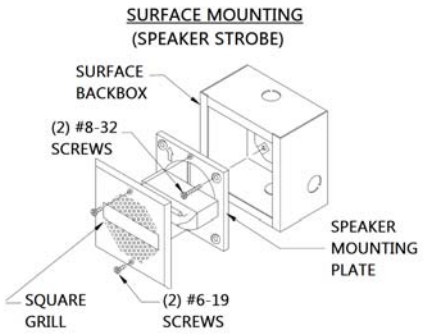


Candela



Mounting





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



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: 24 V: 15/30/75/95 cd
- Selectable switch settings for six different sound output levels operating with audio input levels of 0.5 and 25 V RMS
- Compatible with reverse polarity supervision circuits
- Integrated speaker mounting plate

Specifications

Voltage	Regulated 24 VDC
Power Input Voltage	16-33 VDC (regulated)
Current Consumption	120mA RMS maximum
Appliance Input Level	0.5 V RMS or 25V RMS (Switch selectable)
Appliance Input Impedance	0.5-V Settings: Greater than 400 Ohms, or equivalent to less than 1/1000 W load 25-V Settings: Greater than 20k Ohms, or equivalent to less than 1/32 W load
Strobe Candela Settings	15, 30, 75 and 95
Strobe Flash Rate	1 flash per second over regulated voltage range
Frequency Range	400-4000 Hz
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Mounting	Mounts to 4" square deep backbox with an extension ring
Dimensions	7.27" Diameter x 5.24" Deep
Standards Compliance	Listed to UL 1480, UL 1971

Ordering Information

Part Number	Description
580-070-00	Speaker Strobe, Self-Amplified, Supervised, Round, White, Type II, Ceiling Mount, Indoor, 24 VDC, Fire lettering, Clear lens, multi-candela: 15, 30, 75 and 95, Speaker Input 0.5 and 25 VRM 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" speakers
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

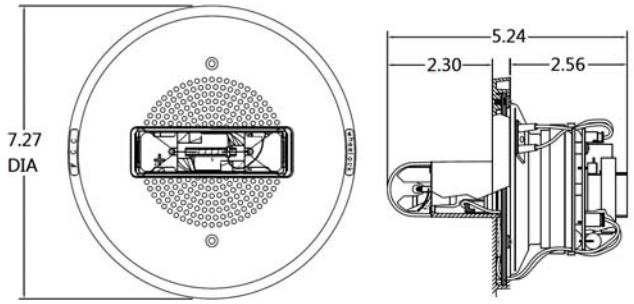
Voltage	UL Maximum Current Ratings (Amps) Maximum RMS Current			
	15 cd	30 cd	75 cd	95 cd
16-33V	0.065	0.105	0.189	0.249

Speaker Output

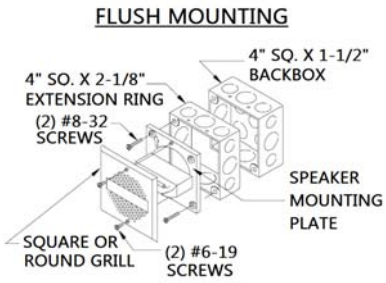
VRMS	Rated Reverberant dBA at 10 ft (per UL 1480) Sound Level					
	6	5	4	3	2	1
0.5 and 25	84	81	77	74	71	68

Diagrams

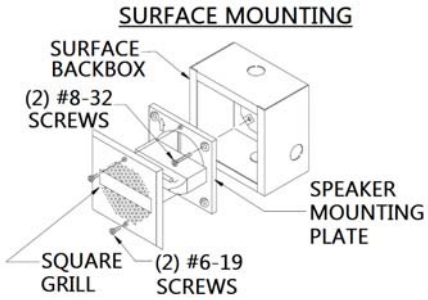
Dimensions



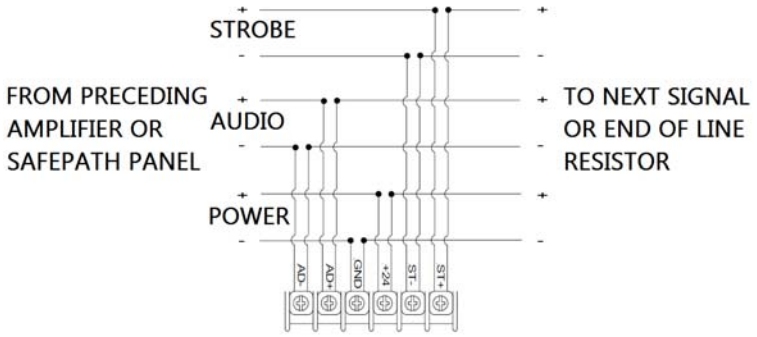
Mounting



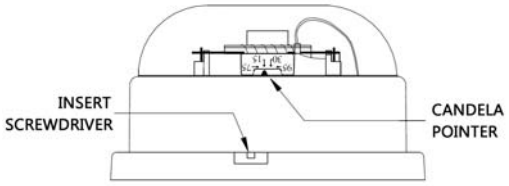
NOTE Max number of conductors is 8 for AWG#12 - AWG#18



Wiring Diagram

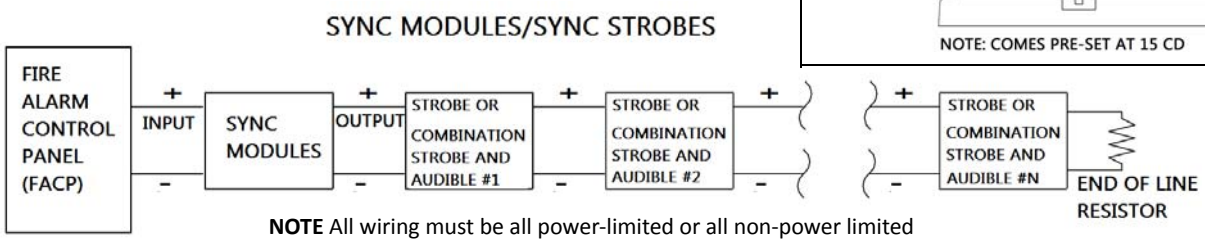


Candela



NOTE: COMES PRE-SET AT 15 CD

Connection Diagram



NOTE All wiring must be all power-limited or all non-power limited

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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, Ceiling Mount, White, Type II

580-073-00



Speaker Input	25/70 VRMS
Speaker Selections	1/8, 1/4, 1/2, 1, and 2 watts
Frequency Range	400-4000 Hz
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F (0°C) to 120°F (49°C)
Relative Humidity	85%
Mounting	Ceiling mount to 4 in. square backbox
Dimensions	7.38" Diameter x 3.02" Deep
Weight	1.7 lbs (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: 24 V: 15/30/75/95
- Speaker input voltage: of 25/70 VRMS and field selectable taps: 1/8, 1/4, 1/2, 1, and 2 watts
- Replaceable speaker grill
- In/out screw terminals for fast installation
- Integrated mounting plate included

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)
Strobe Candela Settings	15, 30, 75 and 95
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 95 candela, Frequency Range 400-4000Hz, 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" speakers
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

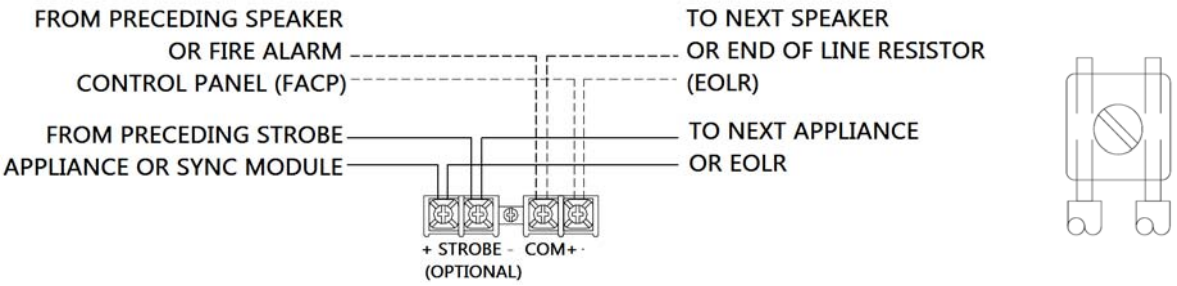
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15 cd	30 cd	75 cd	95 cd
16-33V	0.65	0.105	0.189	0.249

Speaker Output

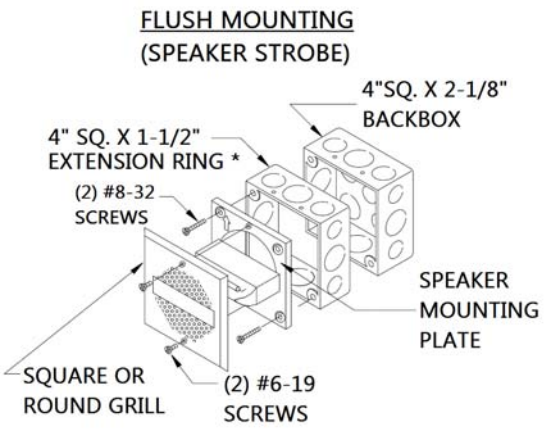
Voltage (VRMS)	Reverberant dBA at 10-feet (rated watts)				
	1/8 w	1/4 w	1/2 w	1 w	2 w
25/70	77	79.5	82.5	85	88

Diagrams

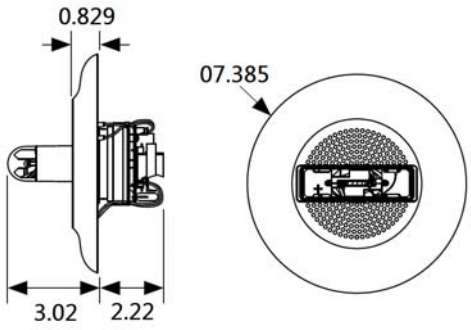
Wiring Diagram



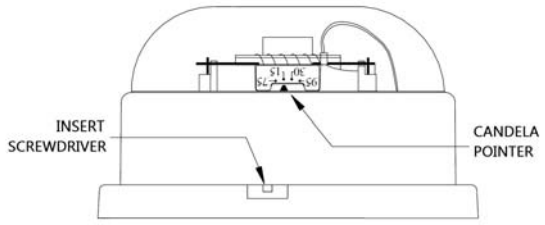
Mounting



Dimensions



Candela



NOTE Max number of conductors for 12 to 18 AWG is 8

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Notification Appliance Devices

Indoor Speaker Strobe, 8 Inch, Ceiling Mount, White, Type II

580-074-00



Strobe Flash Rate	1 flash per second over regulated voltage range
Speaker impedance	8 ohms
Speaker	25/70 VRMS 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
Frequency Range	400-4000 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 inch backbox with optional 8 inch support bridge
Dimensions	12.81" Diameter x 3.52" Deep
Weight	3.12 lbs (1.42 kg)
Standards Compliance	Listed to UL 1480, UL 1638, UL 1971 CAN/ULC-S526, CAN/ULC-S541
CSFM	7320-0785:0164

Features

- Indoor Speaker Strobe, 8 inch, white housing, no lettering and Amber lens
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24 V: 15/30/75/95 cd
- 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 inch grill
- In/out screw terminals for fast installation

Specifications

Voltage	Regulated 24 VDC
Operating Voltage	16-33 VDC (filtered or FWR input voltage)
Strobe Candela Settings	15, 30, 75 and 95 cd

Ordering Information

Part Number	Description
580-074-00	Speaker Strobe, 8 inch, Round, White, Type II, Ceiling Mount, Indoor, 24 VDC, no lettering, Amber lens, multi-candela: 15, 30, 75, 95, 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	Indoor 8" ceiling speaker back box (required)
129-048-00	Indoor 8" speaker support tile bridge
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Amber Strobe Current Draw

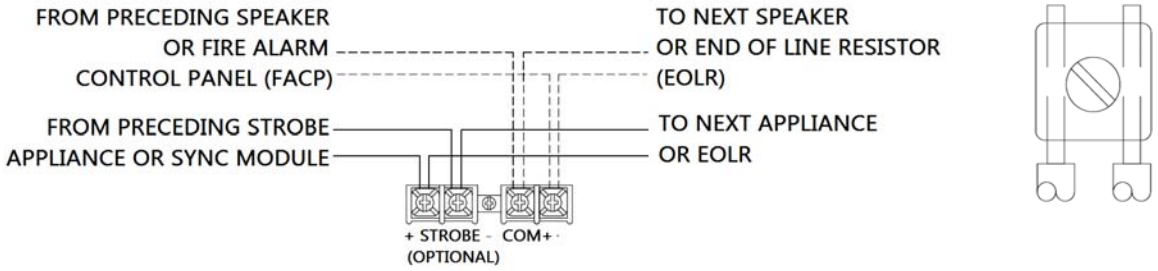
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw) 15 cd | 30 cd | 75 cd | 95 cd with derated Amber lens:			
	11.25 cd	22.50 cd	56.25 cd	72.12 cd
16-33V	0.065	0.105	0.189	0.249

Speaker Output

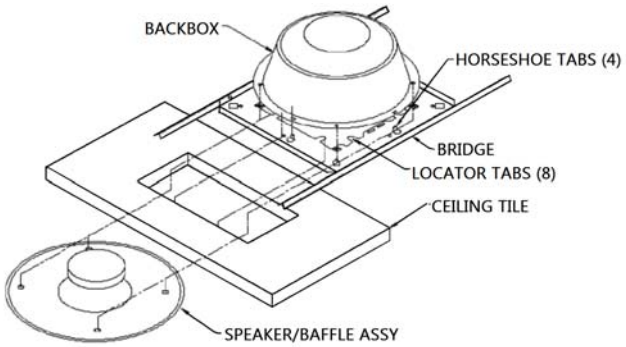
Voltage (VRMS)	Reverberant dBA at 10-feet						
	1/8 w	1/4 w	1/2 w	1 w	2 w	4 w	8 w
25/70	75	78	81	84	87	90	93

Diagrams

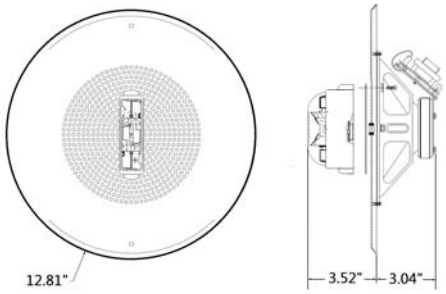
Wiring Diagram



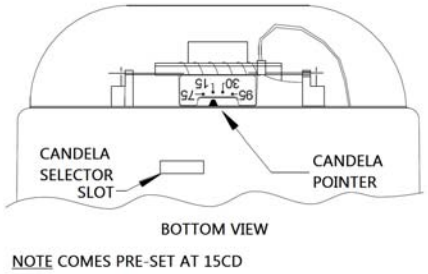
Mounting



Dimensions



Candela



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, 8 Inch, 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 15000 Hz 400 Hz to 4000 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 inch backbox with optional 8 inch support bridge
Dimensions	12.81" Diameter x 3.52" Deep
Weight	3.12 lbs (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 inch, 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: 24 V: 15/30/75/95
- 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 inch grill
- In/out screw terminals for fast installation

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered DC or unfiltered VRMS input voltage)
Strobe Candela Settings	15, 30, 75 and 95
Strobe Flash Rate	1 flash per second over regulated voltage range

Ordering Information

Part Number	Description
580-074-01	Speaker Strobe, 8 inch, Round, White, Type II, Ceiling Mount, Indoor, 24 VDC, Fire lettering, Clear lens, multi-candela: 15, 30, 75, 95, 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	Indoor 8" ceiling speaker back box (required)
129-048-00	Indoor 8" speaker support tile bridge
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

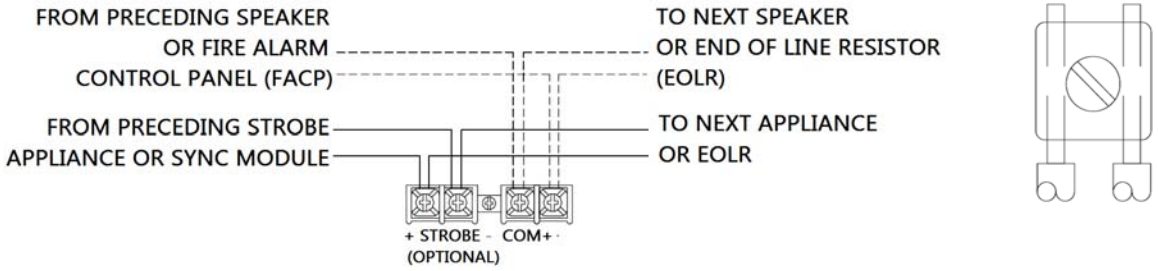
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15 cd	30 cd	75 cd	95 cd
16-33V	0.65	0.105	0.189	0.249

Speaker Output

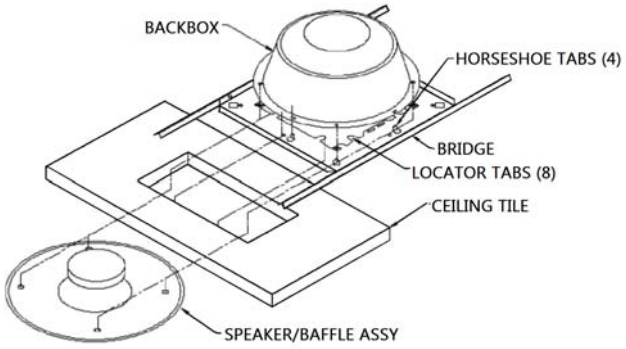
Voltage (VRMS)	Reverberant dBA at 10-feet						
	1/8 w	1/4 w	1/2 w	1 w	2 w	4 w	8 w
25/70	75	78	81	84	87	90	93

Diagrams

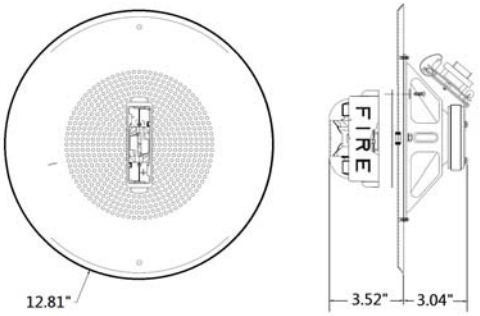
Wiring Diagram



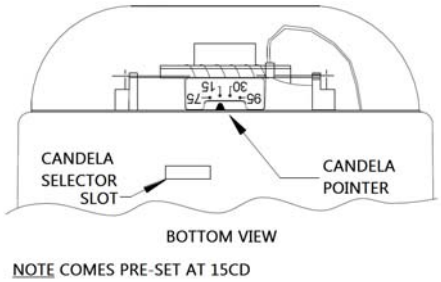
Mounting



Dimensions



Candela



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Detect
Manage
Record

Notification Appliance Devices

Outdoor Speaker Strobe, 180 cd, Wall Mount, White, Type II

580-075-00



Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)
Strobe Candela	180 cd (UL 1638 at 77°F)
Strobe Flash Rate	1 flash per second over regulated voltage range
Speaker Selections	1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
Frequency Range	400-4000 Hz
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	95%
Mounting	Surface mount weatherproof backbox
Dimensions	Square: 5.120" H x 5.120" W x 5.368" D
Standards Compliance	Listed UL 1638 and UL 1971
CSFM	7125-0785:0146

Features

- Outdoor Speaker Strobe, square with white housing, no lettering and Amber lens
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Strobe inputs polarized
- Xenon flashtube in a polycarbonate lens
- Strobe setting: 180 candela, 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 grill
- 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, 180 candela, 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	Backbox, weatherproof, surface-mount, white
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

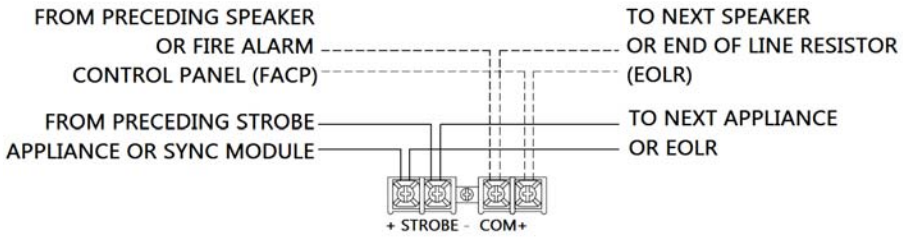
	Candela Ratings			Strobe Only Max. Current Draw
	UL 1971	UL 1638 @ 77°F	UL 1638 @ -40°F	
Candela	30 cd	180 cd	115 cd	0.138
	derate for Amber lens:			
	22.5 cd	135 cd	86.25 cd	

Speaker Output

Voltage (VRMS)	Reverberant dBA at 10-feet (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

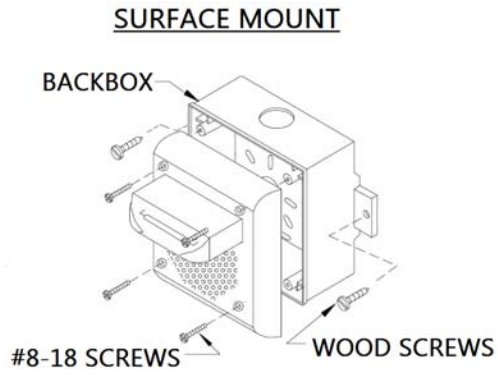
Diagrams

Wiring Diagram

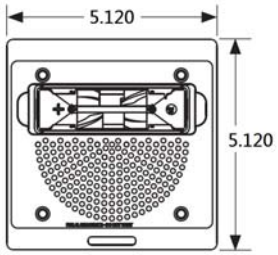


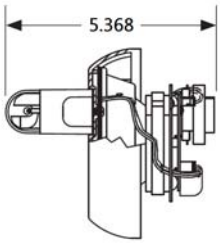


Mounting



Dimensions





NOTE Maximum number conductors for 12 to 18 AWG is 8

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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, Self-Amp, Wall Mount, Type II

580-076-00



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: 24 V: 15/30/75/110 cd
- Selectable switch settings for six different sound output levels operating with audio input levels of 0.5 and 25 V RMS
- 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	16-33 VDC (regulated)
Current Consumption	120mA RMS maximum
Appliance Input Level	0.5 V RMS or 25V RMS (Switch selectable)
Appliance Input Impedance	0.5-V Settings: Greater than 400 Ohms, or equivalent to less than 1/1000 W load 25-V Settings: Greater than 20kOhms, or equivalent to less than 1/32 W load
Strobe Candela Settings	15, 30, 75 and 110
Strobe Flash Rate	1 flash per second over regulated voltage range
Frequency Range	400-4000 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	Mounts to 4 in. square deep backbox with an extension ring
Dimensions	5.13" H x 5.44" W x 5.13"L
Standards Compliance	Listed to UL 1480 and UL 1971
UL	S5391

Ordering Information

Part Number	Description
580-076-00	Speaker Strobe, Self-Amplified, Supervised, Square, White, Type II, Wall Mount, Indoor, 24 VDC, red Fire lettering, Clear lens, multi-candela: 15, 30, 75 and 110, Speaker Input 0.5 and 25 VRM 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
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

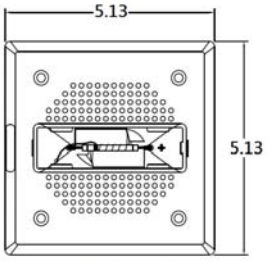
Voltage	UL Maximum Current Ratings (Amps) Maximum RMS Current			
	15 cd	30 cd	75 cd	110 cd
16-33V	0.060	0.092	0.165	0.220

Speaker Output

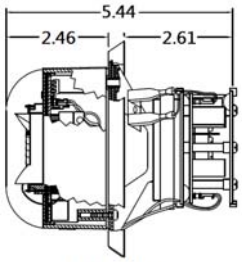
VRMS	Rated Reverberant dBA at 10 ft (per UL 1480) Sound Level					
	6	5	4	3	2	1
0.5 and 25	82	81	76	74	70	68

Diagrams

Dimensions

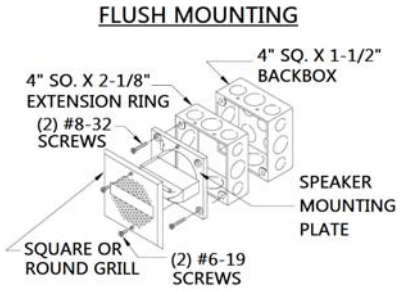


FRONT VIEW

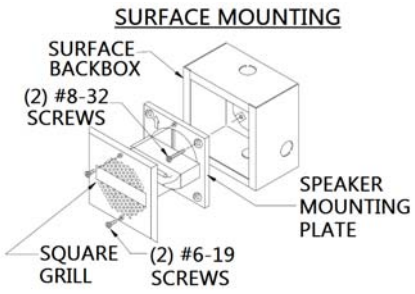


SIDE VIEW

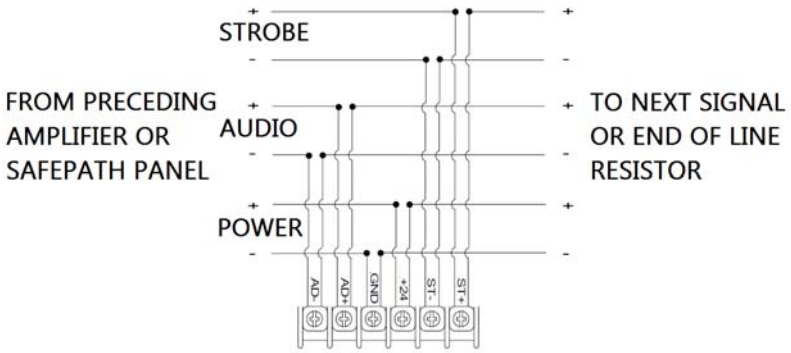
Mounting



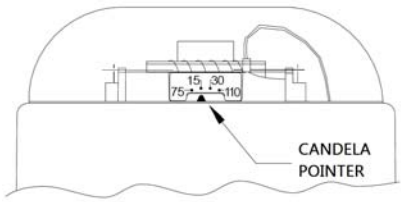
NOTE Max number of conductors is 8 for AWG#12 - AWG#18



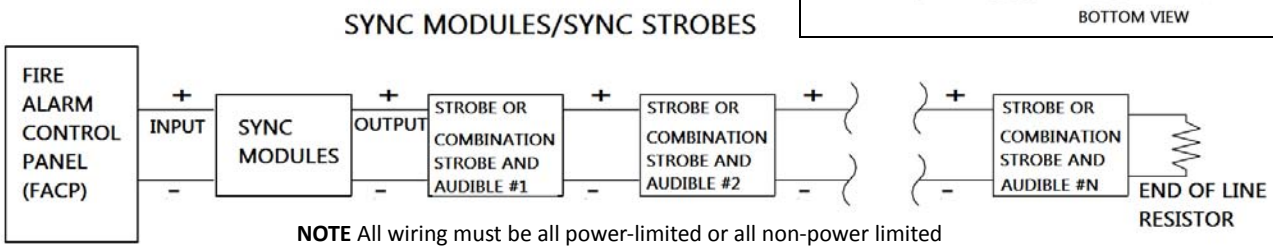
Wiring Diagram



Candela



Connection Diagram



NOTE All wiring must be all power-limited or all non-power limited

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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, White, Ceiling Mount, Type II

580-077-00



FM APPROVED

Features

- Indoor Speaker Strobe with white housing, no lettering and Amber lens
- Synchronized or non-synchronized strobe signal
- Low profile design
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24 V: 15/30/75/95
- Speaker input voltage: of 25/70 VRMS and field selectable taps: 1/8, 1/4, 1/2, 1, and 2 watts
- Replaceable speaker grill
- In/out screw terminals for fast installation
- Integrated mounting plate included

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)
Strobe Candela Settings	15, 30, 75 and 95
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	400-4000 Hz
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F (0°C) to 120°F (49°C)
Relative Humidity	85%
Mounting	Ceiling mount to 4 in. square backbox
Dimensions	7.38" Diameter x 3.02" Deep
Weight	1.7 lbs (0.77 kg)
Standards Compliance	Listed UL 1480, UL 1638 and UL 1971
FM	Approved
CSFM	7125-0785-0152

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 95 candela, Frequency Range 400-4000Hz, 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" speakers
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

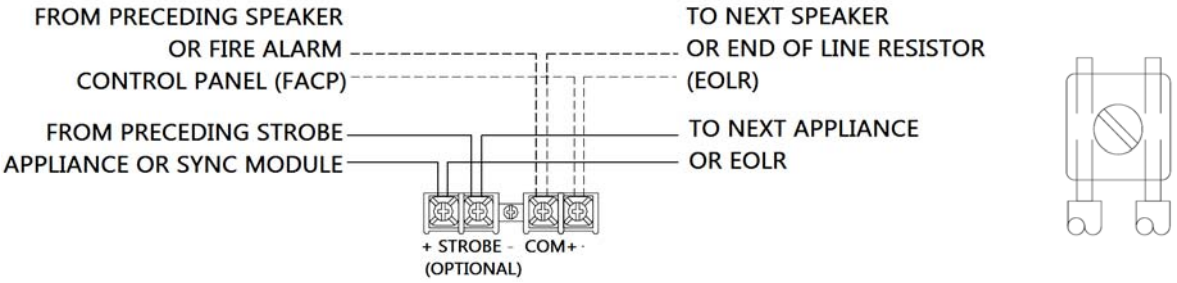
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw) 15 cd | 30 cd | 75 cd | 95 cd derae for Amber lens:			
	11.25 cd	22.5 cd	56.25 cd	71.25 cd
16-33V	0.065	0.105	0.189	0.249

Speaker Output

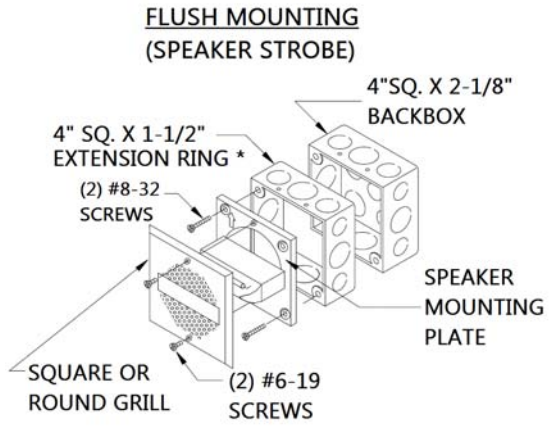
Voltage (VRMS)	Reverberant dBA at 10-feet (rated watts)				
	1/8 w	1/4 w	1/2 w	1 w	2 w
25/70	77	79.5	82.5	85	88

Diagrams

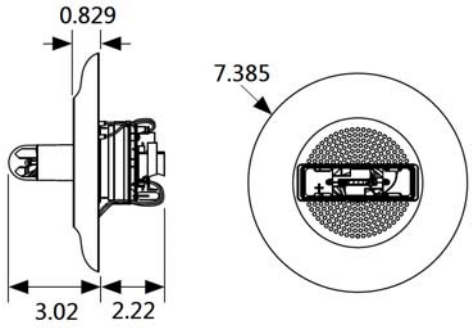
Wiring Diagram



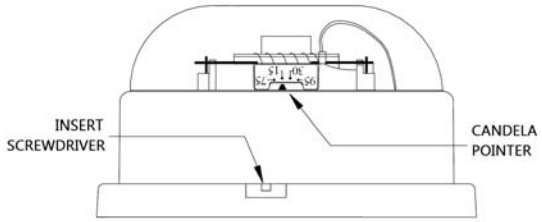
Mounting



Dimensions



Candela



NOTE Max number of conductors for 12 to 18 AWG is 8

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Detect Manage Record

Notification Appliance Devices

Outdoor Speaker Strobe, 180 cd, Wall Mount, White, Type II

580-078-00



Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)
Strobe Candela	180 cd (UL 1638 at 77°F)
Strobe Flash Rate	1 flash per second over regulated voltage range
Speaker Selections	1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
Frequency Range	400-4000 Hz
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40°F to 150°F (-40°C to 66°C)
Relative Humidity	95%
Mounting	Surface mount weatherproof backbox
Dimensions	Square: 5.120" H x 5.120" W x 5.368" D
Standards Compliance	Listed UL 1638, UL 1480 and UL 1971
UL	S5391, S2652
FM	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: 180 candela, 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 grill
- In/out screw terminals for fast installation
- Weatherproof

Ordering Information

Part Number	Description
580-078-00	Speaker Strobe, Square, White, Type II, Wall-Mount, outdoor, 24 VDC, red Alert lettering, Clear lens, 180 candela, Speaker input 25/70 VRMS, taps 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts, weatherproof Requires weatherproof backbox.

Associated Parts

Part Number	Description
367-036-00	Sync module, Type II
588-028-00	Backbox, weatherproof, surface-mount, white
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

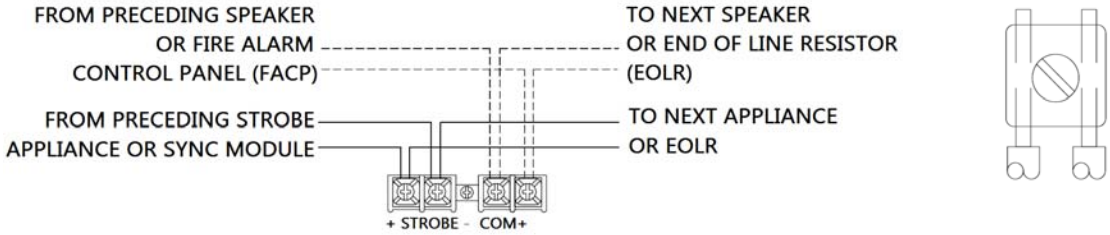
	Candela Ratings			Strobe Only Max. Current Draw
	UL 1971	UL 1638 @ 77°F	UL 1638 @ -40°F	
Candela	30 cd	180 cd	115 cd	0.138

Speaker Output

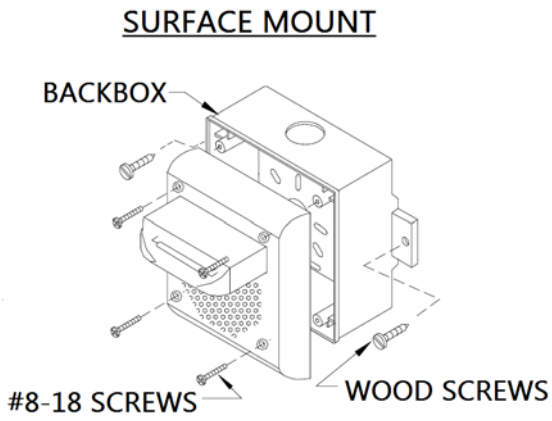
Voltage (VRMS)	Reverberant dBA at 10-feet (Rated Watts)						
	1/8 w	1/4 w	1/2 w	1 w	2 w	4 w	8 w
25/70	77	80	83	86	88	91	93

Diagrams

Wiring Diagram

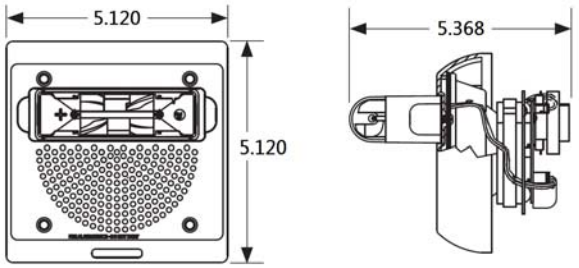


Mounting



NOTE Maximum number conductors for 12 to 18 AWG is 8

Dimensions



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, Self-Amp, MC, Ceiling Mount, Type II

580-079-00



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: 24 V: 15/30/75/95 cd
- Selectable switch settings for six different sound output levels operating with audio input levels of 0.5 and 25 V RMS
- 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	16-33 VDC (regulated)
Current Consumption	120mA RMS maximum
Appliance Input Level	0.5 V RMS or 25V RMS (Switch selectable)
Appliance Input Impedance	0.5-V Settings: Greater than 400 Ohms, or equivalent to less than 1/1000 W load 25-V Settings: Greater than 20kOhms, or equivalent to less than 1/32 W load
Strobe Candela Settings	15, 30, 75 and 95
Strobe Flash Rate	1 flash per second over regulated voltage range
Frequency Range	400-4000 Hz
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Mounting	Mounts to 4 in. square deep backbox with an extension ring
Dimensions	7.27" Diameter x 5.24" Deep
Standards Compliance	Listed to UL 1480 and UL 1971

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 95, Speaker Input 0.5 and 25 VRM 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" speakers
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

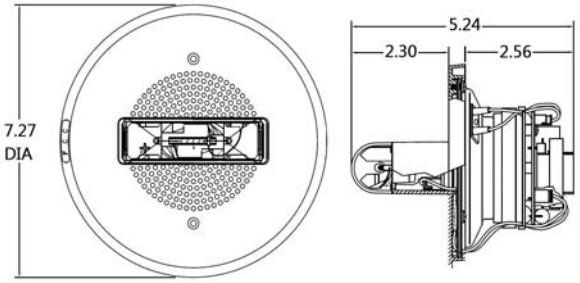
Voltage	UL Maximum Current Ratings (Amps) Maximum RMS Current			
	15 cd	30 cd	75 cd	95 cd
16-33V	0.065	0.105	0.189	0.249

Speaker Output

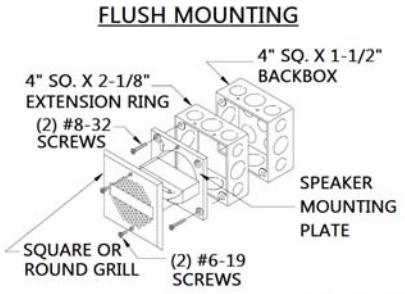
VRMS	Rated Reverberant dBA at 10 ft (per UL 1480) Sound Level					
	6	5	4	3	2	1
0.5 and 25	84	81	77	74	71	68

Diagrams

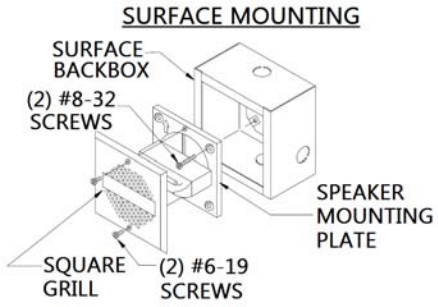
Dimensions



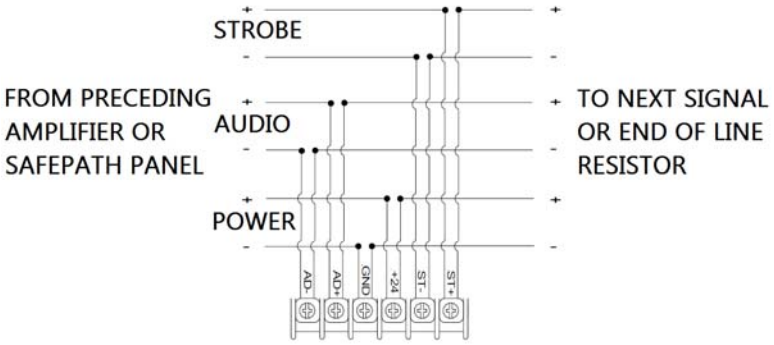
Mounting



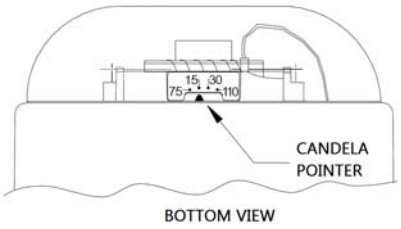
NOTE Max number of conductors is 8 for AWG#12 - AWG#18



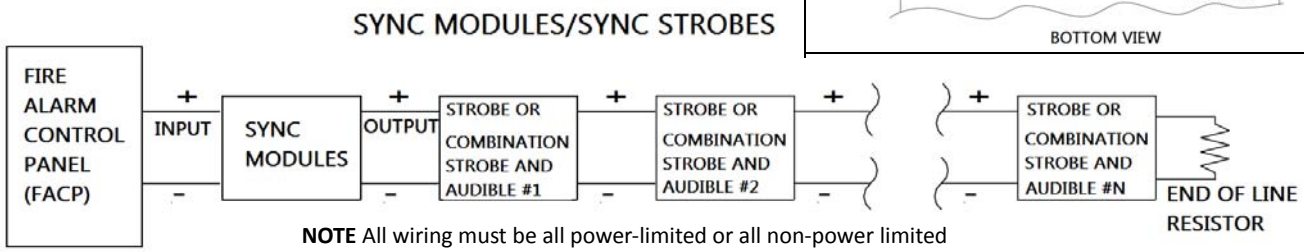
Wiring Diagram



Candela



Connection Diagram



NOTE All wiring must be all power-limited or all non-power limited

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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, Ceiling Mount, White, Type II, 580-080-00



Strobe Candela Settings	15, 30, 75 and 95
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	400-4000 Hz
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F (0°C) to 120°F (49°C)
Relative Humidity	85%
Mounting	Ceiling mount to 4 in. square backbox
Dimensions	7.27" Diameter x 2.68" Deep
Weight	1.6 lbs (0.73 kg)
Standards Compliance	Listed UL 1638 and UL 1971
UL	S5391
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: 24 V: 15/30/75/95
- Speaker input voltage: of 25/70 VRMS and field selectable taps: 1/8, 1/4, 1/2, 1 and 2 watts
- Replaceable speaker grill
- In/out screw terminals for fast installation
- Integrated mounting plate included

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)

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, 95 candela, Frequency Range 400-4000Hz, 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" speakers
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

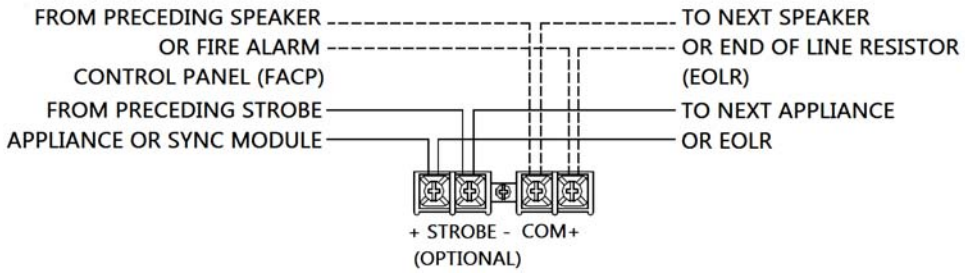
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15 cd	30 cd	75 cd	95 cd
16-33V	0.065	0.105	0.189	0.249

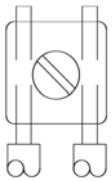
Speaker Output

Voltage (VRMS)	Reverberant dBA at 10-feet (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

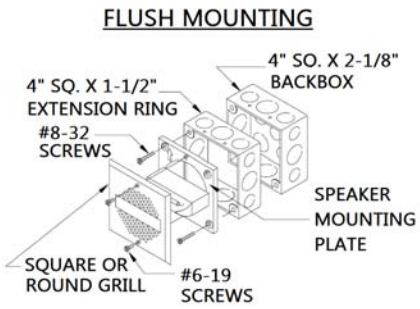
Diagrams

Wiring Diagram

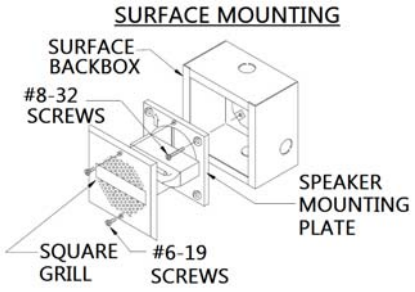




Mounting

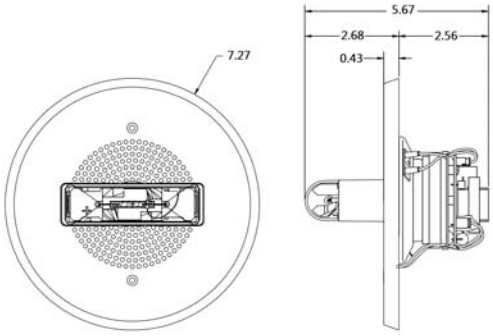


NOTE Max number of conductors for Flush Mount and Surface Mount is 8 for AWG#12 thru AWG#18

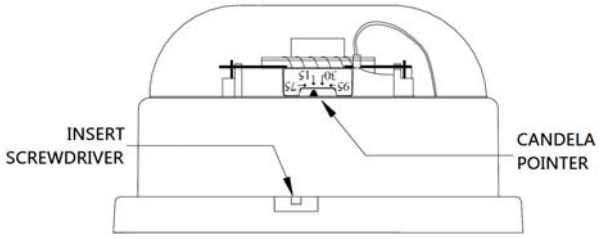


NOTE Backbox is compatible with wire-mold and conduit. Mounting holes are for single-gang, double-gang, 4" square, 3-1/2" and 4" octagon or round backbox.

Dimensions



Candela



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, Wall Mount, White, Type II, 580-081-00



Strobe Candela Settings	15, 30, 75 and 110
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	400-4000 Hz
Listed Sound Output	83 dB at 10 feet
Input Wiring	12 to 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F (0°C) to 120°F (49°C)
Relative Humidity	85%
Mounting	Mounts to 4 in. square deep backbox with an extension ring
Dimensions	5.13" W x 5.13" H x 2.56" D
Weight	1.8 lbs (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: 24 V: 15/30/75/110
- Speaker input voltage: of 25/70 VRMS and field selectable taps: 1/8, 1/4, 1/2, 1 and 2 watts
- Replaceable speaker grill
- In/out screw terminals for fast installation
- Integrated mounting plate included

Specifications

Voltage	Regulated 24 VDC/VRMS
Operating Voltage Range	16-33 VDC (filtered or FWR voltage)

Ordering Information

Part Number	Description
580-081-00	Speaker Strobe, Square, White, Type II, Wall Mount, Indoor, 24 VDC, red Alert letter, Clear lens, 15, 30, 75, 110 candela, Frequency Range 400-4000Hz, 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
588-013-01	Indoor back box, surface-mount, white
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

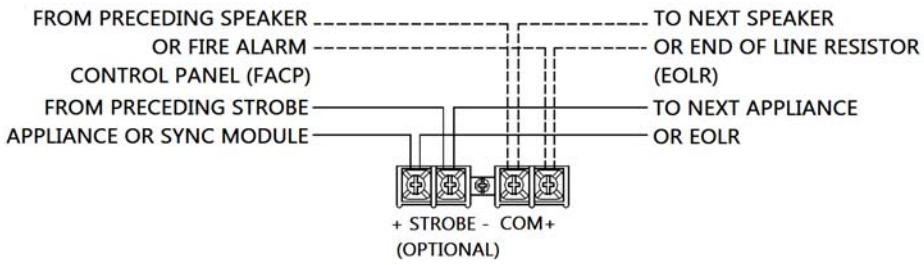
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)			
	15 cd	30 cd	75 cd	110 cd
16-33V	0.06	0.092	0.165	0.22

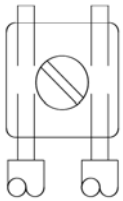
Speaker Output

Voltage (VRMS)	Reverberant dBA at 10-feet (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

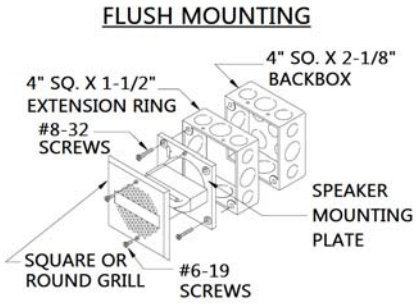
Diagrams

Wiring Diagram

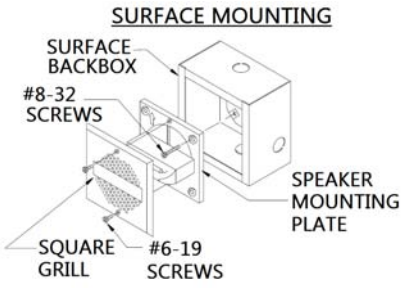




Mounting

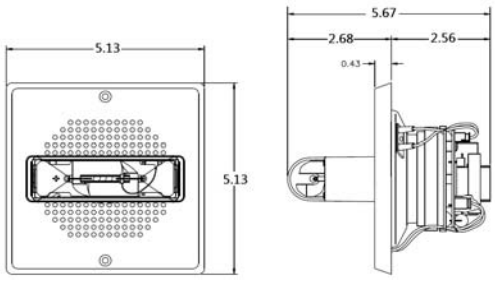


NOTE Max number of conductors for Flush Mount and Surface Mount is 8 for AWG#12 thru AWG#18

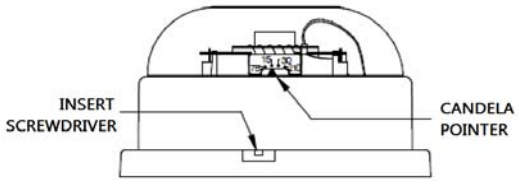


NOTE Backbox is compatible with wire-mold and conduit. Mounting holes are for single-gang, double-gang, 4" square, 3-1/2" and 4" octagon or round backbox.

Dimensions



Candela



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, Wall Mount, White, Type II, 580-082-00



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: 24 V: 15/30/75/110 cd
- Selectable switch settings for six different sound output levels operating with audio input levels of 0.5 and 25 V RMS
- Compatible with reverse polarity supervision circuits
- In/out screw terminals for fast installation

Specifications

Voltage	Regulated 24 VDC
Power Input Voltage	16-33 VDC (regulated)
Current Consumption	120mA RMS maximum
Appliance Input Level	0.5 V RMS or 25V RMS (Switch selectable)
Appliance Input Impedance	0.5-V Settings: Greater than 400 Ohms, or equivalent to less than 1/1000 W load 25-V Settings: Greater than 20k Ohms, or equivalent to less than 1/32 W load
Strobe Candela Settings	15, 30, 75 and 110
Strobe Flash Rate	1 flash per second over regulated voltage range
Frequency Range	400-4000 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	Mounts to 4 in. square deep backbox with an extension ring
Dimensions	5.13" H x 5.44" W x 5.13"L
Standards Compliance	Listed UL 1480 and UL 1971

Ordering Information

Part Number	Description
580-082-00	Speaker Strobe, Self-Amplified, Supervised, Square, White, Type II, Wall Mount, Indoor, 24 VDC, Alert lettering, Clear lens, multi-candela: 15, 30, 75 and 110, Speaker Input 0.5 and 25 VRM 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
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

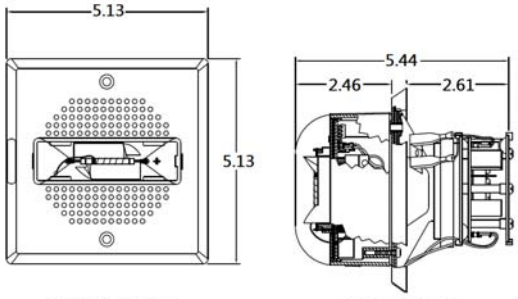
	UL Current Ratings (Amps) Maximum RMS Current			
Voltage	**15 cd**	**30 cd**	**75 cd**	**110 cd**
16-33 VDC	0.060	0.092	0.165	0.220

Speaker Output

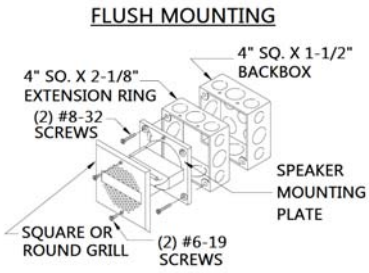
	Rated Reverberant dBA at 10 ft (per UL 1480) Sound Level					
VRMS	**6**	**5**	**4**	**3**	**2**	**1**
0.5 and 25	82	81	76	74	70	68

Diagrams

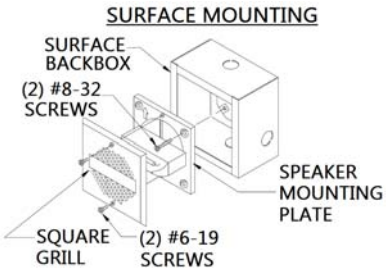
Dimensions



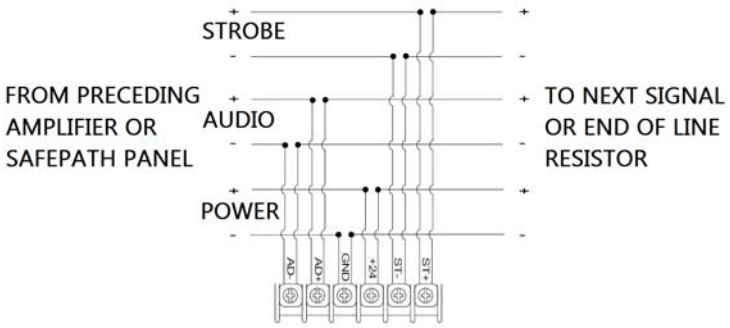
Mounting



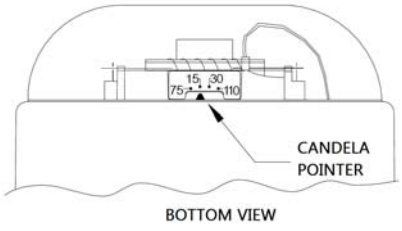
NOTE Max number of conductors is 8 for AWG#12 - AWG#18



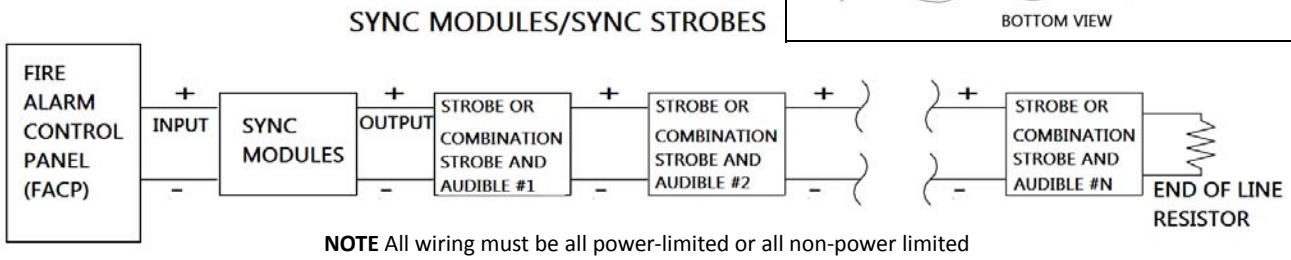
Wiring Diagram



Candela



Connection Diagram



NOTE All wiring must be all power-limited or all non-power limited

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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, 8 Inch, Ceiling Mount, White, Type II

580-083-00



Features

- Indoor Speaker Strobe, 8 inch, white housing, Alert lettering and Amber lens
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24 V: 15/30/75/95 cd
- 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 inch grill
- In/out screw terminals for fast installation

Specifications

Voltage	Regulated 24 VDC
Operating Voltage	16-33 VDC (filtered or FWR input voltage)
Strobe Candela Settings	15, 30, 75 and 95 cd
Strobe Flash Rate	1 flash per second over regulated voltage range
Speaker impedance	8 ohms
Speaker	25/70 VRMS 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
Frequency Range	400-4000 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 inch backbox with optional 8 inch support bridge
Dimensions	12.81" Diameter x 3.52" Deep
Weight	3.12 lbs (1.42 kg)
Standards Compliance	Listed to UL 1480, UL 1638, UL 1971 CAN/ULC-S526, CAN/ULC-S541

Ordering Information

Part Number	Description
580-083-00	Speaker Strobe, 8 inch, Round, White, Type II, Ceiling Mount, Indoor, 24 VDC, red Alert lettering, Amber lens, multi-candela: 15, 30, 75, 95, 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	Indoor 8" ceiling speaker back box (required)
129-048-00	Indoor 8" speaker support tile bridge
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Amber Strobe Current Draw

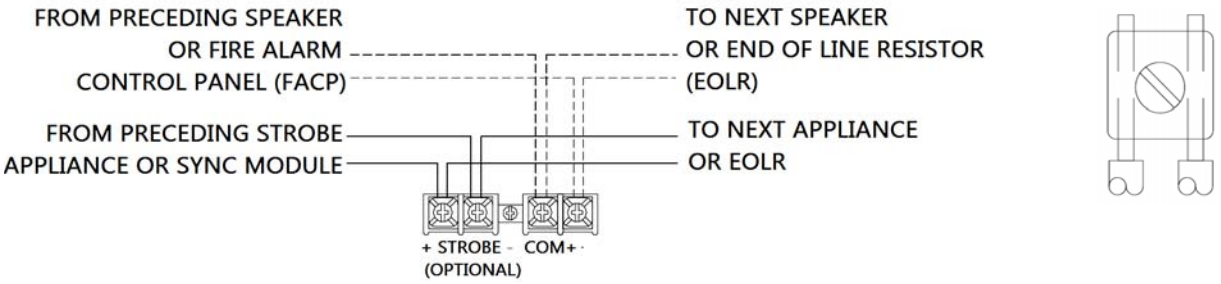
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw) 15 cd | 30 cd | 75 cd | 95 cd derated for Amber lens:			
	11.25 cd	22.50 cd	56.25 cd	71.25 cd
16-33V	0.065	0.105	0.189	0.249

Speaker Output

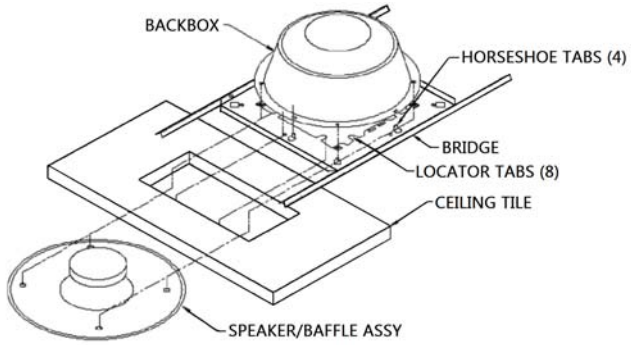
Voltage (VRMS)	Reverberant dBA at 10-feet						
	1/8 w	1/4 w	1/2 w	1 w	2 w	4 w	8 w
25/70	75	78	81	84	87	90	93

Diagrams

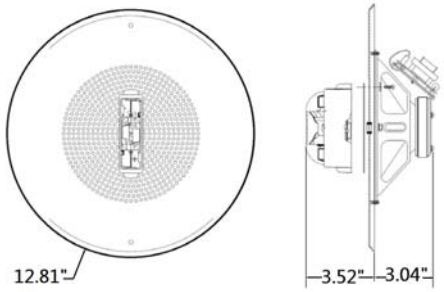
Wiring Diagram



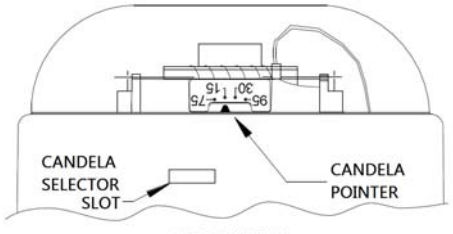
Mounting



Dimensions



Candela



NOTE COMES PRE-SET AT 15CD

Monaco Enterprises, Inc.
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

Detect Manage Record

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- 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 NEMA 4X, IP56
- Weatherproof backbox included

Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC/FWR Regulated 24 DC/FWR
Operating Voltage Range (Includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15, 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 and 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40° to 151°F (-40° to 66°C)
Relative Humidity	Meets NEMA 4X, IP56 rating requirements
Dimensions Wall-Mount (including lens and speaker)	6.0" L x 5.0" W x 4.7" D (152 mm x 127 mm x 119 mm)
Wall-Mount Weatherproof Backbox	6.5" L x 5.5" W x 2.9" D (165 mm x 140 mm x 74 mm)
Standards Compliance	Listed to UL 1638 and UL 1480
UL Listed	75S0 S4048 (Speaker)
MEA Approved	10-08-E
State of California	7320-1653:201

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Detect Manage Record

Notification Appliance Devices

Wall-Mount Strobe Current Draw (mA)

Maximum Current Draw 16 - 33 VDC										
15cd	**15/75cd**	**30cd**	**75cd**	**95cd**	**110cd**	**115cd**	**135cd**	**150cd**	**177cd**	**185cd**
66	**77**	**94**	**158**	**181**	**202**	**210**	**228**	**246**	**281**	**286**

adjust cd for low temps (32° and -40°:
Do not use 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

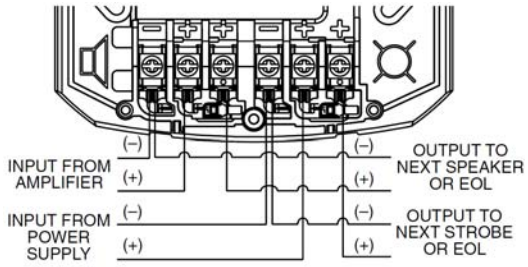
Part Number	**Description**
580-087-00	Speaker Strobe, White, Type I, Wall Mount, Outdoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185 Candela, 25/70.7 V, 1/4, 1/2, 1, 2 Watts. NEMA 4-X Rating. Includes plastic weatherproof backbox

Associated Parts

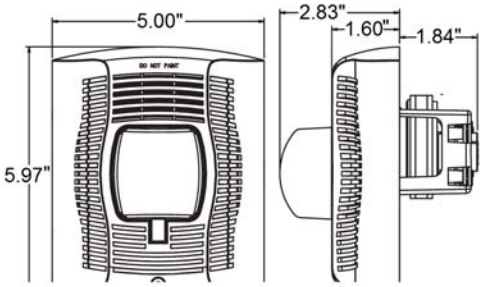
Part Number	**Description**
588-059-00	Trim ring, wall-mount, white
588-056-00	Back box, metal option, wall-mount, white, weatherproof, 6.5" L x 5.5" W x 2.9" D
367-047-00	Sync module, Type I

Drawings

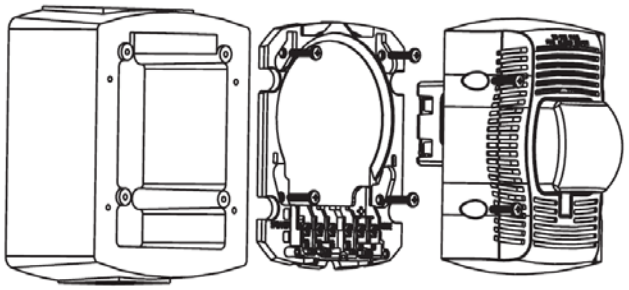
Wiring Diagram



Outdoor Wall-Mount Speaker Strobe



Weatherproof Backbox for Mounting Outdoor Wall-Mount Speaker Strobe



Monaco Enterprises, Inc.
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

Detect Manage Record

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 24 volt operation.
  NOTE 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- 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 NEMA 4X, IP56
- Weatherproof backbox included

Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC/FWR Regulated 24 DC/FWR
Operating Voltage Range (Includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15, 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 and 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40° to 151°F (-40° to 66°C)
Relative Humidity	Meets NEMA 4X, IP56 rating requirements
Dimensions Wall-Mount (including lens and speaker)	6.0" L x 5.0" W x 4.7" D (152 mm x 127 mm x 119 mm)
Wall-Mount Weatherproof Backbox	6.5" L x 5.5" W x 2.9" D (165 mm x 140 mm x 74 mm)
Standards Compliance	Listed to UL 1638 and UL 1480
UL Listed	75S0 S4048 (Speaker)
MEA Approved	10-08-E
State of California	7320-1653:201

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Detect Manage Record

Notification Appliance Devices

Wall-Mount Strobe Current Draw (mA)

Maximum Current Draw 16 - 33 VDC										
15cd	**15/75cd**	**30cd**	**75cd**	**95cd**	**110cd**	**115cd**	**135cd**	**150cd**	**177cd**	**185cd**
66	**77**	**94**	**158**	**181**	**202**	**210**	**228**	**246**	**281**	**286**

adjust cd for low temps (32° and -40°:
Do not use 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

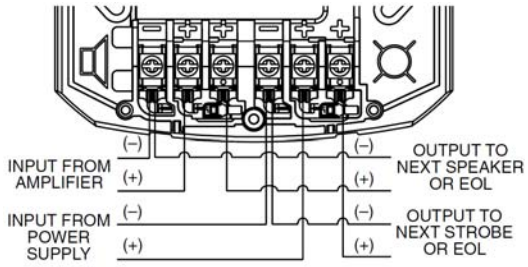
Part Number	**Description**
580-088-00	Speaker Strobe, Red, Type I, Wall Mount, Outdoor, 12 V or 24 V, White Fire lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185 Candela, 25/70.7 V, 1/4, 1/2, 1, 2 Watts. NEMA 4-X Rating. Includes plastic weatherproof backbox

Associated Parts

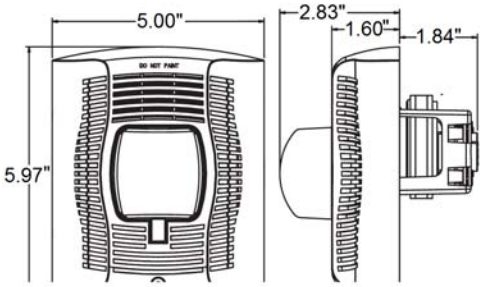
Part Number	**Description**
588-059-50	Trim ring, wall-mount, red
588-056-01	Backbox, metal option, wall-mount, red, weatherproof, 6.5" L x 5.5" W x 2.9" D
367-047-00	Sync module Type I

Drawings

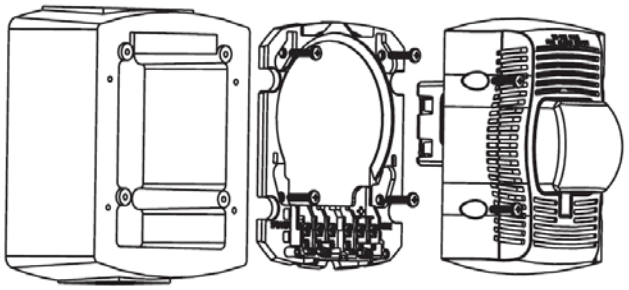
Wiring Diagram



Outdoor Wall-Mount Speaker Strobe



Weatherproof Backbox for Mounting Outdoor Wall-Mount Speaker Strobe



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, 8 Inch, Ceiling Mount, White, Type II

580-098-00



Features

- Indoor Speaker Strobe, 8 inch, white housing, Fire lettering and Amber lens
- Synchronized or non-synchronized strobe signal
- Low profile speaker strobe
- Xenon flashtube in a polycarbonate lens
- Field selectable multi-candela settings: 24 V: 115/177 cd
- 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 inch grill
- In/out screw terminals for fast installation

Specifications

Voltage	Regulated 24 VDC
Operating Voltage	16-33 VDC (filtered or FWR input voltage)
Strobe Candela Settings	115/177 cd
Strobe Flash Rate	1 flash per second over regulated voltage range
Speaker impedance	8 ohms
Speaker	25/70 VRMS 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
Frequency Range	400-4000 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 inch backbox with optional 8 inch support bridge
Dimensions	12.81" Diameter x 3.52" Deep
Weight	3.12 lbs (1.42 kg)
Standards Compliance	Listed to UL 1480, UL 1638, UL 1971 CAN/ULC-S526, CAN/ULC-S541

Ordering Information

Part Number	Description
580-098-00	Speaker Strobe, 8 inch, Round, White, Type II, Ceiling Mount, Indoor, 24 VDC, Fire lettering, Amber 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	Indoor 8" ceiling speaker back box (required)
129-048-00	Indoor 8" speaker support tile bridge
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Amber Strobe Current Draw

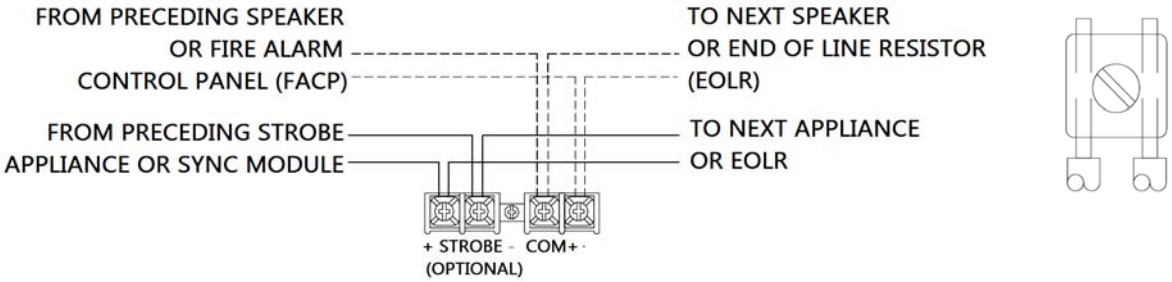
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw) 115 cd 177 cd with amber lens: 86.25 cd	132.25 cd
16-33V	0.300	0.420

Speaker Output

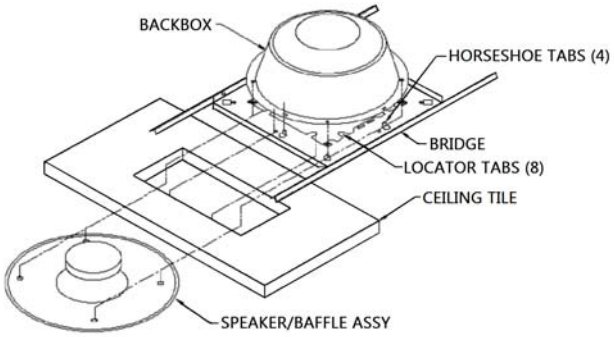
Voltage (VRMS)	Reverberant dBA at 10-feet 1/8 w	1/4 w	1/2 w	1 w	2 w	4 w	8 w
25/70	75	78	81	84	87	90	93

Diagrams

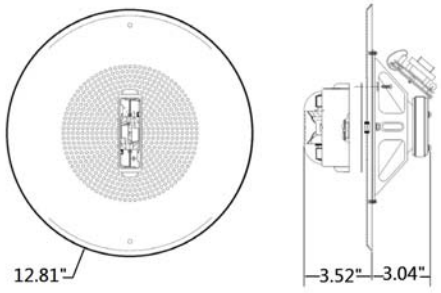
Wiring Diagram



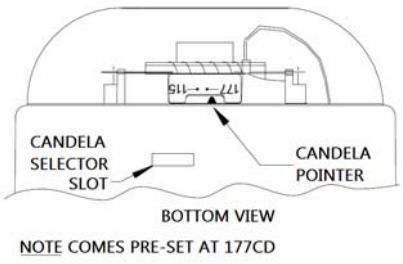
Mounting



Dimensions



Candela



Monaco Enterprises, Inc.
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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, 8 Inch, Ceiling Mount, White, Type II

580-099-00



Strobe Flash Rate	1 flash per second over regulated voltage range
Speaker impedance	8 ohms
Speaker	25/70 VRMS 1/8, 1/4, 1/2, 1, 2, 4, and 8 watts
Frequency Range	400-4000 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 inch backbox with optional 8 inch support bridge
Dimensions	12.81" Diameter x 3.52" Deep
Weight	3.12 lbs (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 inch, 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:
  24 V: 115/177 cd
- 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 inch grill
- In/out screw terminals for fast installation

Specifications

Voltage	Regulated 24 VDC
Operating Voltage	16-33 VDC (filtered or FWR input voltage)
Strobe Candela Settings	115/177 cd

Ordering Information

Part Number	Description
580-099-00	Speaker Strobe, 8 inch, 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	Indoor 8" ceiling speaker back box (required)
129-048-00	Indoor 8" speaker support tile bridge
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 **NOTE** 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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Detect Manage Record

Notification Appliance Devices

Strobe Current Draw

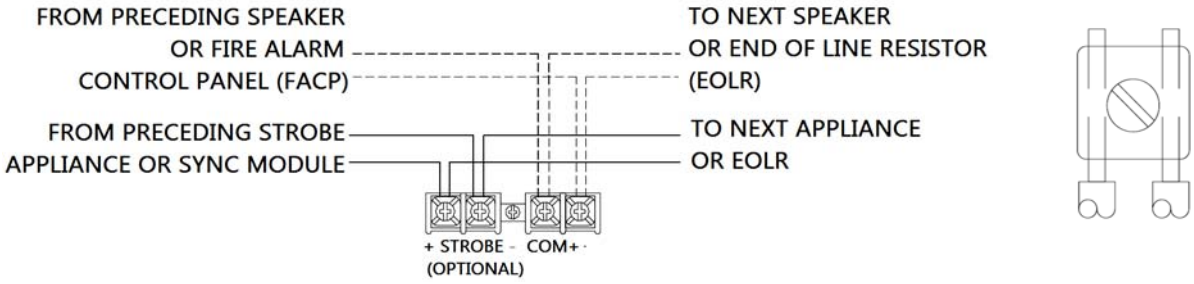
Voltage	UL Maximum Current Ratings (Maximum RMS Current Draw)	
	115 cd	177 cd
16-33V	0.300	0.420

Speaker Output

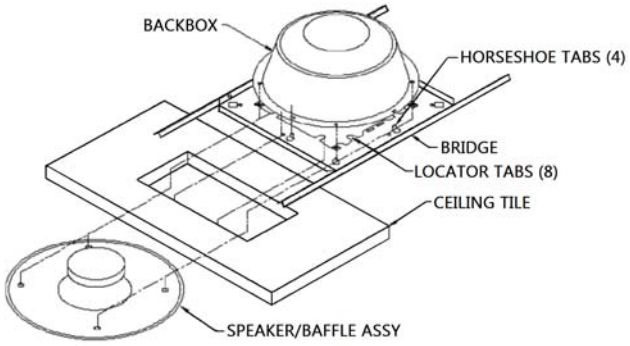
Voltage (VRMS)	Reverberant dBA at 10-feet						
	1/8 w	1/4 w	1/2 w	1 w	2 w	4 w	8 w
25/70	75	78	81	84	87	90	93

Diagrams

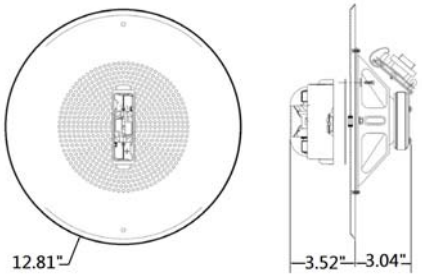
Wiring Diagram



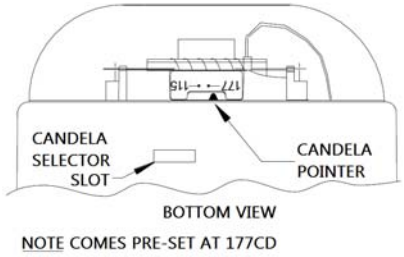
Mounting



Dimensions



Candela



Monaco Enterprises, Inc.
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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, Ceiling-Mount, White, Type II

580-100-00

Description

This speaker-strobe has a high-efficiency speaker that provides maximum output at minimum power.



Generic Example, Lens is Amber

1480, 1971

Six sound output levels are switch-selectable. A sealed back construction provides protection and improved audibility.

The strobe component has four switch-selectable (tamper resistant) light output intensities, with synchronized (sync module connection) or nonsynchronized (direct Monaco control panel connection) operation. The strobe uses a xenon solid-state flashtube enclosed in a Lexan® amber lens.

All inputs are polarized for compatibility with standard reverse-polarity supervision of circuit wiring via the Monaco control panel. Appliance input is switch-selectable.

Specifications

Input Voltage 16 to 33 VDC, regulated

Appliance Input 0.5 or 25 VRMS

Input Impedance 0.5V: >400Ω (less than 1 mW load)
25V: >20 kΩ (less than 31.25 mW load)

Speaker Efficiency 1W

Frequency Range 400 to 4000 Hz

Mounting Ceiling; 4" square deep back box with extension ring (tight fit; also see "Associated Parts")

Speaker

Sound Level	Speaker Current (RMS)	Sound Output (dB)
6	<120 mA	84
5	<97 mA	81
4	<80 mA	77
3	<68 mA	74
2	<60 mA	71
1	<54 mA	68

Strobe

Rated average current (RMS) per candela (cd) setting.

Voltage	15 cd	30 cd	75 cd	95 cd
24 VDC	0.045	0.070	0.119	0.159
24 VRMS	0.085	0.125	0.200	0.255

Ordering Information

Part Number	Description
580-100-00	Indoor speaker strobe, 24 VDC, self-amplifying, ceiling-mount, white, "ALERT" lettering, amber lens

Associated Parts

Part Number	Description
588-053-00	Back box, indoor, flush-mount, metal, 5 in. square
588-052-00	Extender ring, indoor, flush-mount, metal, 5" x 4"

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Detect Manage Record

Notification Appliance Devices

Outdoor Speaker Strobe, White, Ceiling-Mount, Type I

580-104-00



Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 24 DC/FWR
Operating Voltage Range (Includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	9 to 17.5 V (12 V nominal), or 17 to 33 V (24 V nominal)
Candela	24 VDC: 135, 150, 177 and 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40° to 151°F (-40° to 66°C)
Relative Humidity	Meets NEMA 4X, IP56 rating requirements
Dimensions Ceiling-Mount (including lens and speaker)	6.8" diameter x 4.7" depth (173 mm x 119 mm)
Weatherproof Backbox	7.2" diameter x 2.9" depth (182 mm x 74 mm)
Standards Compliance	Listed to UL 1638 and UL 1480
UL Listed	S4048
MEA Approved	10-08-E
State of California	7320-1653:201

Features

- White housing with no lettering and Clear lens
- Plug-in design reduces ground faults
- Tamper-resistant construction
- Field selectable high candela settings: 24 V: 135, 150, 177, and 185
- 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 NEMA 4X, IP56
- Weatherproof backbox included

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 **Web** www.monaco-inc.com

Detect Manage Record

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

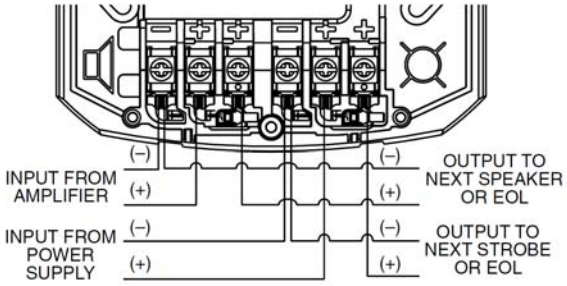
Part Number	Description
580-104-00	Speaker Strobe, White, Type I, Ceiling Mount, Outdoor, 12 V or 24 V, No lettering, Clear lens, 135, 150, 177 and 185 High Candela, 25/70.7 V, 1/4, 1/2, 1, 2 Watts. NEMA 4X rating. Includes plastic weatherproof backbox

Associated Parts

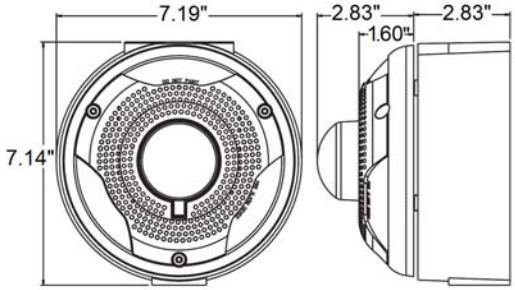
Part Number	Description
589-004-00	Red decals, ceiling-mount: AGENT, EVAC, ALERT, or FIRE **NOTE** Order 3 per device
369-022-00	Strobe attachment, amber lens option for ceiling-mount device
369-025-00	Blue lens option for ceiling-mount device
369-026-00	Red lens option for ceiling-mount device
369-027-00	Green lens option for ceiling-mount device
588-060-00	Trim ring, ceiling-mount, white
367-047-00	Sync module, Type I

Drawings

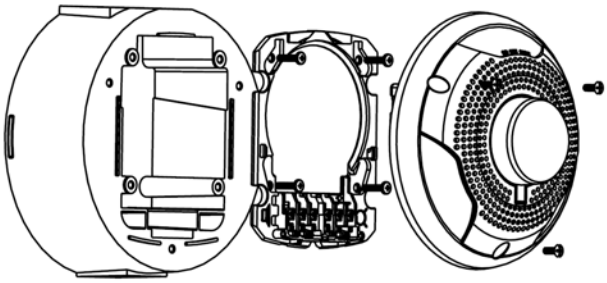
Wiring Diagram



Outdoor Ceiling-Mount Speaker Strobe



Weatherproof Backbox for Mounting Outdoor Ceiling-Mount Speaker Strobe



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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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Detect Manage Record

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- 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 backbox included

Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC/FWR Regulated 24 DC/FWR
Operating Voltage Range (Includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15, 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 and 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40 to 151°F (-40 to 66°C)
Relative Humidity	10–93% noncondensing
Dimensions Wall-Mount (including lens and speaker)	6.0" L x 5.0" W x 4.7" D (152 mm x 127 mm x 119 mm)
Wall-Mount Weatherproof Backbox	6.5" L x 5.5" W x 2.9" D (165 mm x 140 mm x 74 mm)
Standards Compliance	Listed to UL 1638 and UL 1480
UL Listed	75S0
MEA Approved	10-08-E
State of California	7320-1653:201

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Detect Manage Record

Notification Appliance Devices

Wall-Mount Strobe Current Draw (mA)

Maximum Current Draw 16 - 33 VDC										
15cd	**15/75cd**	**30cd**	**75cd**	**95cd**	**110cd**	**115cd**	**135cd**	**150cd**	**177cd**	**185cd**
66	77	94	158	181	202	210	228	246	281	286

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

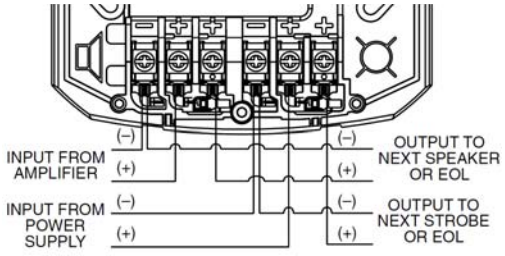
Part Number	**Description**
580-105-00	Speaker Strobe, White, Type I, Wall Mount, Outdoor, 12 V or 24 V, Red Alert lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 and 185 Candela, 25/70.7 V, 1/4, 1/2, 1, 2 Watts. Includes plastic weatherproof backbox

Associated Parts

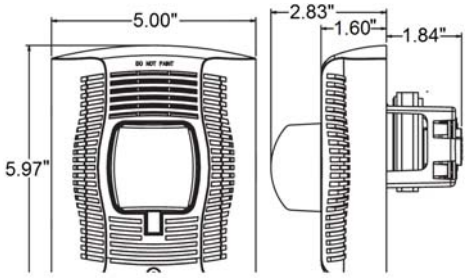
Part Number	**Description**
369-023-00	Strobe attachment, amber lens for wall-mount device. Used for indoor and outdoor application
588-059-00	Trim ring, wall-mount, white
588-056-00	Back box, metal option, wall-mount, white
367-047-00	Sync module, Type I

Drawings

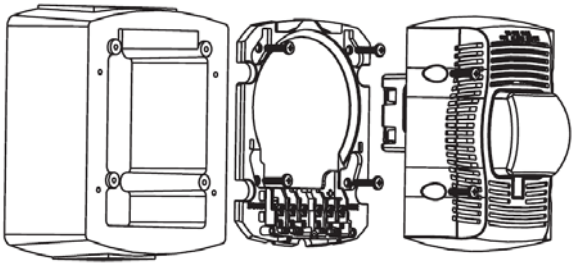
Wiring Diagram



Outdoor Wall-Mount Speaker Strobe



Weatherproof Backbox for Mounting Outdoor Wall-Mount Speaker Strobe



Monaco Enterprises, Inc.
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

Detect Manage Record

Notification Appliance Devices

Outdoor Speaker Strobe, White, Ceiling-Mount, Type I

580-106-00



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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 15/75 candela settings
- Field selectable candela settings on ceiling strobes:
  12 V: 15, 15/75
  24 V: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- 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 NEMA 4X, IP56
- Weatherproof backbox included

Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC/FWR Regulated 24 DC/FWR
Operating Voltage Range (Includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	9 to 17.5 V (12 V nominal), or 17 to 33 V (24 V nominal)
Candela	12 VDC: 15, 15/75 24 VDC: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 and 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to weatherproof backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	-40° to 151°F (-40° to 66°C)
Relative Humidity	10–93% noncondensing
Dimensions Ceiling-Mount (including lens and speaker)	6.8" diameter x 4.7" depth (173 mm x 119 mm)
Weatherproof Backbox	7.2" diameter x 2.9" depth (182 mm x 74 mm)
Standards Compliance	Listed to UL 1638 and UL 1480
UL Listed	75S0
MEA Approved	10-08-E
State of California	7320-1653:201

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Detect Manage Record

Notification Appliance Devices

Ceiling-Mount Strobe Current Draw (mA)

Maximum Current Draw 16 - 33 VDC										
15cd	**15/75cd**	**30cd**	**75cd**	**95cd**	**110cd**	**115cd**	**135cd**	**150cd**	**177cd**	**185cd**
66	77	94	158	181	202	210	228	246	281	286

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

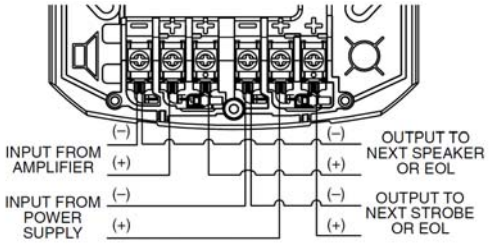
Part Number	**Description**
580-106-00	Speaker Strobe, White, Type I, Ceiling Mount, Outdoor, 12 V or 24 V, Red Alert lettering, Clear lens, 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177 and 185 Candela, 25/70.7 V, 1/4, 1/2, 1, 2 Watts. Includes plastic weatherproof backbox.

Associated Parts

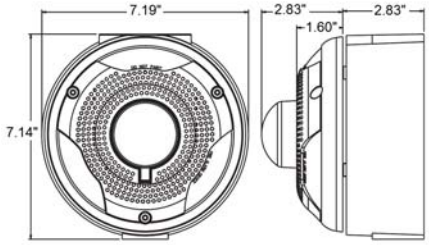
Part Number	**Description**
589-004-00	Red decals, ceiling-mount: AGENT, EVAC, ALERT, or FIRE **NOTE** Order 3 per device
369-022-00	Strobe attachment, amber lens option for ceiling-mount device
369-025-00	Blue lens option for ceiling-mount device
369-026-00	Red lens option for ceiling-mount device
369-027-00	Green lens option for ceiling-mount device
588-060-00	Trim ring, ceiling-mount, white
367-047-00	Sync module, Type I

Drawings

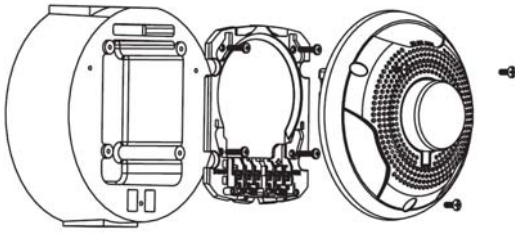
Wiring Diagram



Ceiling-Mount Speaker Strobe



Weatherproof Backbox for Mounting Outdoor Ceiling-Mount Speaker Strobe



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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

Detect Manage Record

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 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 110, 135, 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
*Mounting**	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox *Flush mount applications do not require an extension ring.
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens and speaker	6.5" L x 5.0" W x 2.3" D (165 mm x 127 mm x 58 mm)
with Surface Mount Backbox	6.6" L x 5.1" W x 4.5" D (168 mm x 130 mm x 116 mm)
Standards Compliance	Listed to UL 1480 and UL 1971
UL Listed	S4048
FM Approved	3057493
State of California	7320-1653:0505

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Detect Manage Record

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

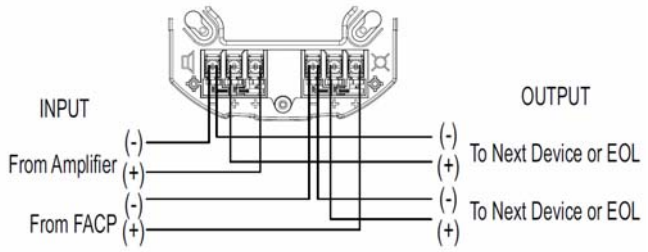
Part Number	Description
580-107-00	Speaker Strobe, Red, Type I, Wall Mount, Indoor, 12 V or 24 V, White Fire lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

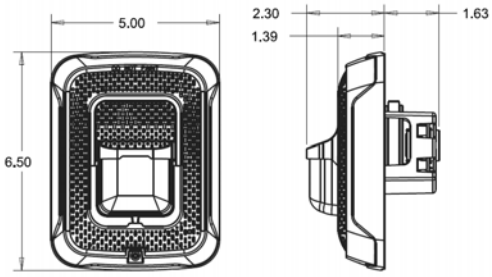
Part Number	Description
589-021-00	Bezel, Red, Type I, Wall Mount, Speaker Strobe, No lettering, order one per device
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-092-00	Backbox, Wall Surface Mount, Red, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D
367-047-00	Sync module, Type I

Drawings

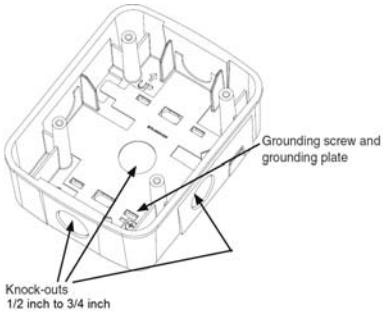
Wiring Diagram



Wall-Mount Speaker Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Detect Manage Record

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 110, 135, 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
*Mounting**	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox *Flush Mount applications do not require an extension ring.
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens and speaker	6.5" L x 5.0" W x 2.3" D (165 mm x 127 mm x 58 mm)
with Surface Mount Backbox	6.6" L x 5.1" W x 4.5" D (168 mm x 130 mm x 116 mm)
Standards Compliance	Listed to UL 1480 and UL 1971
UL Listed	S4048
FM Approved	3057493
State of California	7320-1653:0505

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Detect Manage Record

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

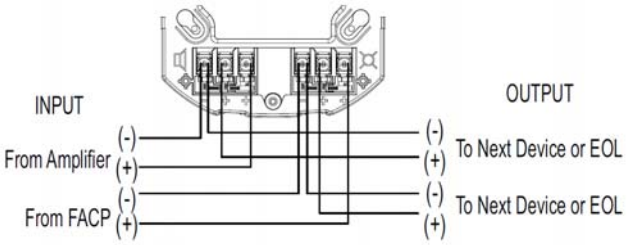
Part Number	**Description**
580-108-00	Speaker Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

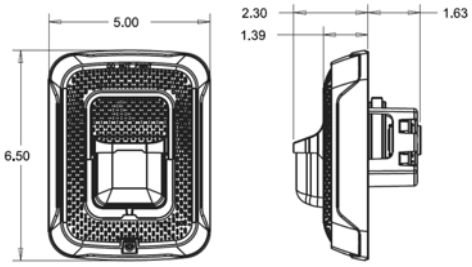
Part Number	**Description**
589-026-00	Bezel, White, Type I, Wall Mount, Speaker Strobe, No lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-093-00	Backbox, Wall Surface Mount, White, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D
367-047-00	Sync module, Type I

Drawings

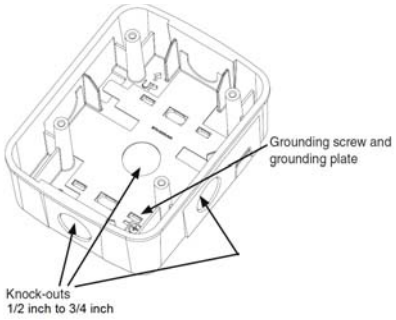
Wiring Diagram



Wall-Mount Speaker Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



Monaco Enterprises, Inc.
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

Detect Manage Record

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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° to 120°F (indoor devices)

Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 110, 135, 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens and speaker	6.5" L x 5.0" W x 2.3" D (165 mm x 127 mm x 58 mm)
with surface mount Backbox	6.6" L x 5.1" W x 4.5" D (168 mm x 130 mm x 116 mm)
Standards Compliance	Speaker Listed to ANSI/UL 1480 Strobe Listed to ANSI/UL 1638
UL Listed	S4048
State of California	7320-1653:0505

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Detect
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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

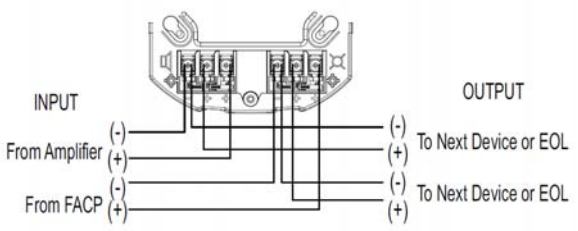
Part Number	Description
580-110-00	Speaker Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, Red Alert lettering, Amber lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

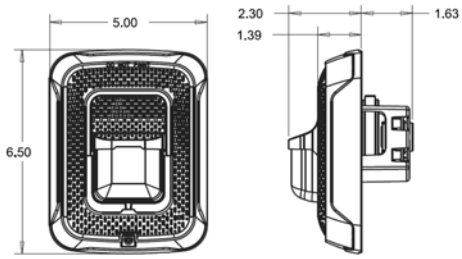
Part Number	Description
589-026-00	Bezel, White, Type I, Wall Mount, Speaker Strobe, No lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-093-00	Backbox, Wall Surface Mount, White, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D
367-047-00	Sync module, Type I

Drawings

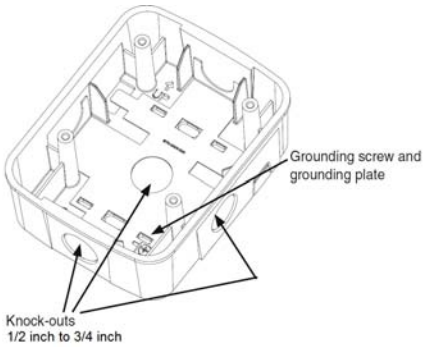
Wiring Diagram



Wall-Mount Speaker Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Detect Manage Record

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, 185
- 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 (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 110, 135, 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
*Mounting**	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox *Flush Mount applications do not require an extension ring.
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Wall-Mount Dimensions with lens and speaker	6.5" L x 5.0" W x 2.3" D (165 mm x 127 mm x 58 mm)
with Surface Mount Backbox	6.6" L x 5.1" W x 4.5" D (168 mm x 130 mm x 116 mm)
Standards Compliance	Listed to UL 1480 and UL 1971
UL Listed	S4048
State of California	7320-1653:0505

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Detect Manage Record

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

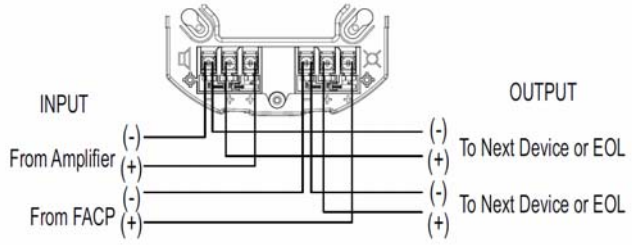
Part Number	Description
580-111-00	Speaker Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, Red Alert lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

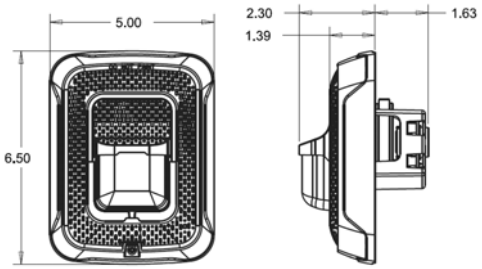
Part Number	Description
589-026-00	Bezel, White, Type I, Wall Mount, Speaker Strobe, No lettering, order one per device
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-093-00	Backbox, Wall Surface Mount, White, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D
367-047-00	Sync module, Type I

Drawings

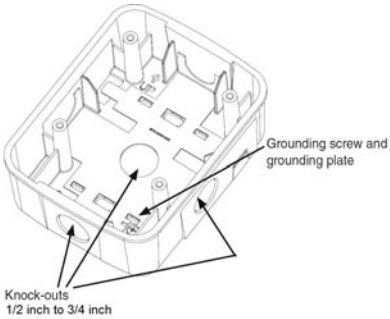
Wiring Diagram



Wall-Mount Speaker Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, White, Ceiling-Mount, Type I

580-112-00



Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12V nominal), or 17 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox
Input Wiring	12 - 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions with lens and speaker	6.8" diameter x 2.8" depth (173 mm x 73 mm)
with Surface Mount Backbox	6.9" diameter x 5.37" depth (176 mm x 136 mm)
Standards Compliance	Listed to 1480 and UL 1971
UL Listed	S4048
State of California	7320-1653:0505

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, and 177
- 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° to 120°F (indoor devices)

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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Detect Manage Record

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

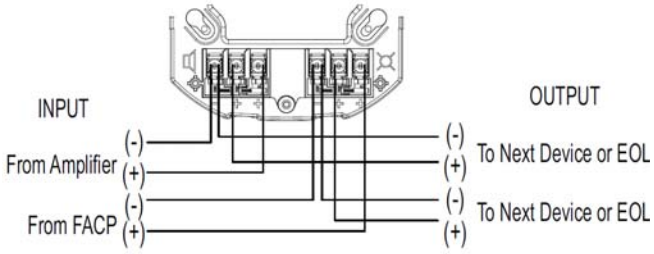
Part Number	Description
580-112-00	Speaker Strobe, White, Type I, Ceiling Mount, Indoor, 12 V or 24 V, Red Alert lettering, Clear Lens, 15, 30, 75, 95, 115, 150, 177 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts.

Associated Parts

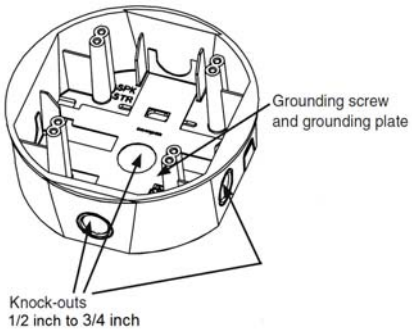
Part Number	Description
589-034-00	Bezel, White, Type I, Ceiling Mount, Speaker Strobe, No lettering, order one per device
365-013-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-017-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-018-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-019-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-095-00	Trim ring, White, Type I, Ceiling Mount, Universal, 8.5" OD x .4" D
588-094-00	Backbox, Ceiling Surface Mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD X 2.5" D
367-047-00	Sync module, Type I

Drawings

Wiring Diagram



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Detect
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Notification Appliance Devices

Indoor Speaker Strobe, White, Ceiling-Mount, Type I

580-113-00



Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12V nominal), or 17 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 115, 150, 177
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox
Wiring Input	12 - 18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Ceiling-Mount Dimensions with lens and speaker	6.8" diameter x 2.8" depth (173 mm x 73 mm)
with Surface Mount Back Box	6.9" diameter x 5.37" depth (176 mm x 136 mm)
Standards Compliance	Listed to UL 1480 and UL 1971
UL Listed	S4048
FM Approved	3057493
State of California	7320-1653:0505

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on ceiling units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 115, 150, and 177
- 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° to 120°F (indoor devices)

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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Detect Manage Record

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

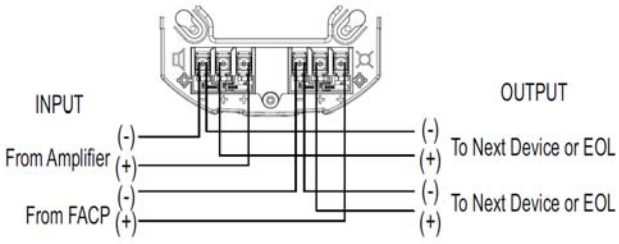
Part Number	Description
580-113-00	Speaker Strobe, White, Type I, Ceiling Mount, Indoor, 12 V or 24 V, No lettering, Clear Lens, 15, 30, 75, 95, 115, 150, 177 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

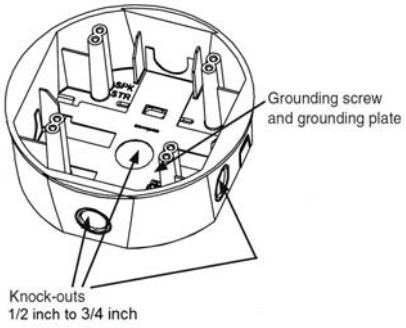
Part Number	Description
589-027-00	Bezel, White, Type I, Ceiling Mount, Speaker Strobe, Red Evac lettering, order one per device
589-031-00	Bezel, White, Type I, Ceiling Mount, Speaker Strobe, Red Agent lettering, order one per device
589-032-00	Bezel, White, Type I, Ceiling Mount, Speaker Strobe, Red Alert lettering, order one per device
589-033-00	Bezel, White, Type I, Ceiling Mount, Speaker Strobe, Red Fire lettering, order one per device
365-013-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-017-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-018-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-019-00	Lens, Type I, Ceiling Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-095-00	Trim ring, White, Type I, Ceiling Mount, Universal, 8.5" OD x .4" D
588-094-00	Backbox, Ceiling Surface Mount, White, Type I, Strobe; Speaker; Speaker Strobe; Horn Strobe; Chime Strobe, 6.9" OD X 2.5" D
367-047-00	Sync module, Type I

Drawings

Wiring Diagram



Backbox, Ceiling Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Detect
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Notification Appliance Devices

Indoor Speaker Strobe, White, Wall-Mount, Type I

580-114-00



Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12V nominal), or 17 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 110, 135, 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Dimensions Wall-Mount with lens and speaker	6.5" L x 5.0" W x 2.3" D (165 mm x 127 mm x 58 mm)
Standards Compliance	Listed to UL 1480 and UL 1971
UL Listed	S4048
FM Approved	3057493
State of California	7320-1653:0505

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, and 185
- 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° to 120°F (indoor devices)

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

Wall-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

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Detect Manage Record

Notification Appliance Devices

Ordering Information

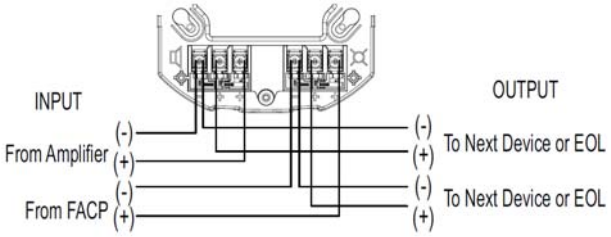
Part Number	Description
580-114-00	Speaker Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts

Associated Parts

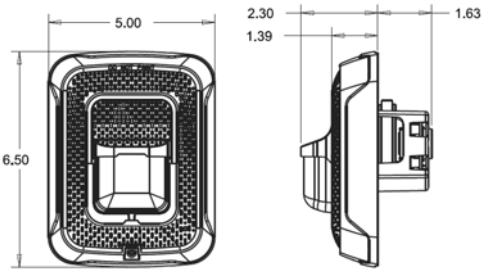
Part Number	Description
589-022-00	Bezel, White, Type I, Wall Mount, Speaker Strobe, Red Agent lettering, order one per device
589-023-00	Bezel, White, Type I, Wall Mount, Speaker Strobe, Red Alert lettering, order one per device
589-024-00	Bezel, White, Type I, Wall Mount, Speaker Strobe, Red Evac lettering, order one per device
589-025-00	Bezel, White, Type I, Wall Mount, Speaker Strobe, Red Fire lettering, order one per device
365-012-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-014-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-099-00	Trim Ring, White, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-093-00	Backbox, Wall Surface Mount, White, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D
367-047-00	Sync module, Type I

Drawings

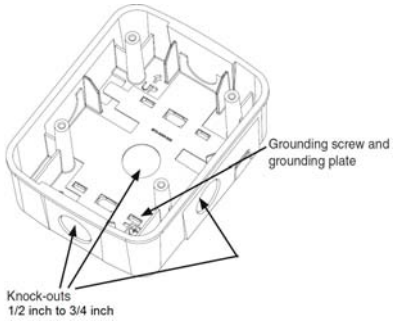
Wiring Diagram



Wall-Mount Speaker Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 2-1/8"



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Detect Manage Record

Notification Appliance Devices

Indoor Speaker Strobe, Red, Wall-Mount, Type I

580-115-00



Specifications

Nominal Voltage (Speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (Speakers)	50 VDC
Nominal Voltage (Strobes)	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12V nominal), or 17 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15 and 30 24 VDC: 15, 30, 75, 95, 110, 135, 185
Strobe Flash Rate	1 flash per second
Speaker Frequency Range	400 to 4,000 Hz
Speaker Power	1/4, 1/2, 1, 2 watts
Mounting	Universal Mounting Plate mounts to 4 x 4 x 2-1/8 in. backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Dimensions Wall-Mount with lens and speaker	6.5" L x 5.0" W x 2.3" D (165 mm x 127 mm x 58 mm)
Standards Compliance	Listed to UL 1480 and UL 1971
UL Listed	S4048
FM Approved	3057493
State of California	7320-1653:0505

Features

- Red 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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, and 185
- 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° to 120°F (indoor devices)

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

Wall-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

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Detect Manage Record

Notification Appliance Devices

Ordering Information

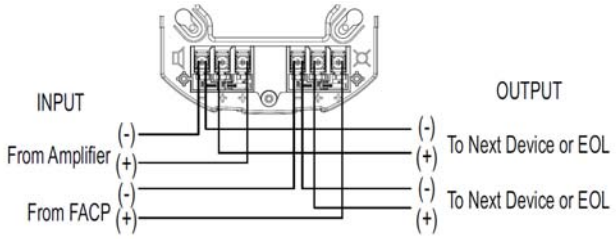
Part Number	Description
580-115-00	Speaker Strobe, Red, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts.

Associated Parts

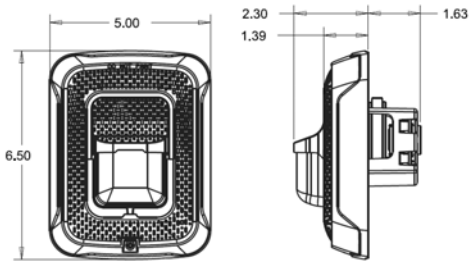
Part Number	Description
589-017-00	Bezel, Red, Type I, Wall Mount, Speaker Strobe, White Agent lettering, order one per device
589-018-00	Bezel, Red, Type I, Wall Mount, Speaker Strobe, White Alert lettering, order one per device
589-019-00	Bezel, Red, Type I, Wall Mount, Speaker Strobe, White Evac lettering, order one per device
589-020-00	Bezel, Red, Type I, Wall Mount, Speaker Strobe, White Fire lettering, order one per device
365-012-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-014-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-092-00	Backbox, Wall Surface Mount, Red, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D
367-047-00	Sync module, Type I

Drawings

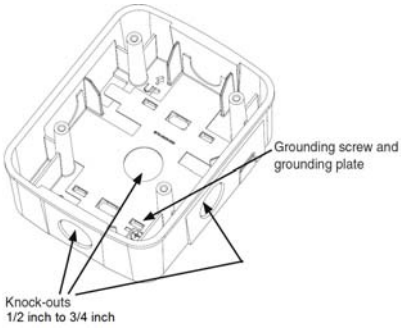
Wiring Diagram



Wall-Mount Speaker Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting use 4" x 4" x 8-1/2"



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Detect Manage Record

Notification Appliance Devices

Motorized Vibrating Alarm Bell

581-422-00, 581-473-00



10" Bell (P/N 581-473-00) shown

Specifications

Shell Size	6" Bell: P/N 581-422-00 10" Bell: P/N 581-473-00
Input Voltage	24 VDC
Input Current	6" Bell: 0.06A (UL max.) 10" Bell: DC 31.1mA/FWR 53.5mA
Sound Output	6" Bell: 87 dBA at 10 ft 10" Bell: 81 dBA at 10 ft Sound output measured at Underwriter Laboratories as specified in UL464
Environmental	6" Bell: -40° to 150°F (-40° to 66°C) 10" Bell: -31° to 140°F (-35° to 60°C)
Mounting Options	
Indoor Surface	Use 4" x 4" x 1.5" Backbox (P/N 588-005-00) also use for concealed conduit (or can use P/N 588-006-00), and for semi-flush mounting with P/N 588-008-00
Outdoor	Use Weatherproof Backbox (P/N 588-000-01)
Standards Compliance	
UL Listed	S4011
ULC	CS549
FM Approved	3005255
State of California	7135-1653.0217

Features

- 24 VDC, 6 in. or 10 in. shell sizes, red housing
- Pre-wired for simplified installation
- Mounting options for surface, semiflush, 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

Ordering Information

Part Number	Description
581-422-00	Motorized 6" bell, 0.06A at 24 VDC
581-473-00	Motorized 10" 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, surface/semi-flush mount, red
588-006-00	Adapter plate, red
588-008-00	Adapter plate, semiflush, red

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Detect Manage Record

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 Gasses
- 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", 24 VDC
581-451-00	Vibrating alarm bell, explosion-proof, 8", 24 VDC

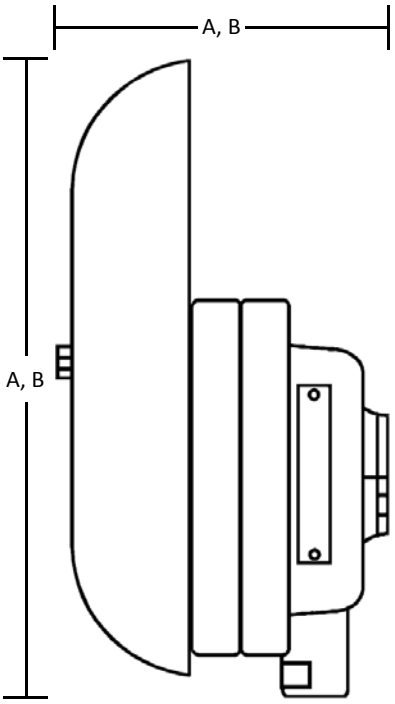
Associated Parts

Part Number	Description
210-544-00	Transient protector for explosion-proof devices, required

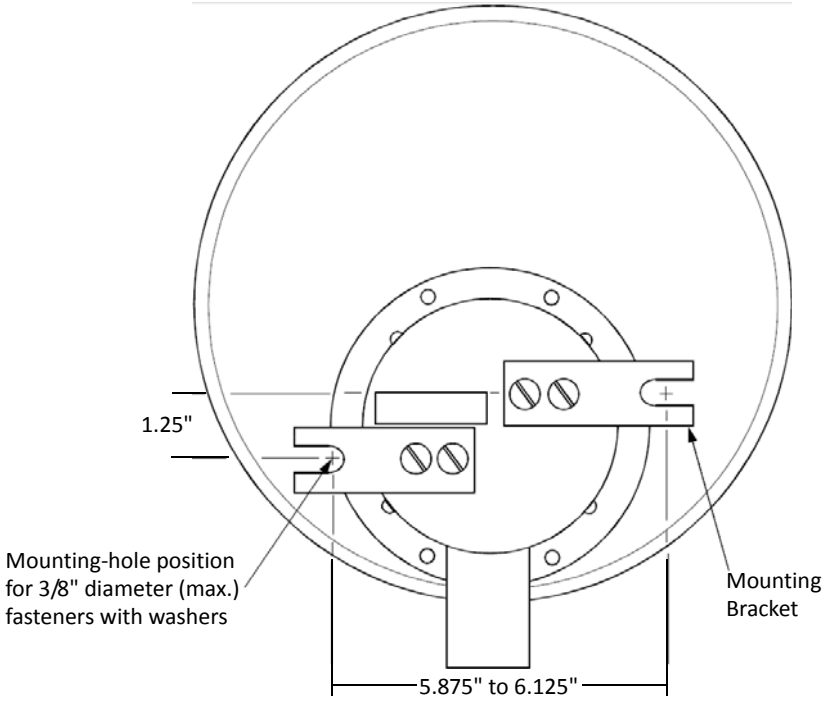
Monaco Enterprises, Inc.
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Detect Manage Record

Drawings



A (P/N 581-423-00): 7" High, 5" Deep
8 (P/N 581-451-00): 9" High, 5.125" Deep



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Detect
Manage
Record

Notification Appliance Devices

Indoor Chime, Red, Wall-Mount, Type I

587-009-00



Specifications

Nominal Voltage	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V nominal)
Mounting	Universal Mounting Plate mounts to 4 x 4 x 1-1/2 in. backbox, or 4 in. Octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Dimensions Wall-Mount Chime	5.6" L x 4.7" W x 1.25" D (143 mm x 119 mm x 32 mm)
Standards Compliance	Listed to UL 464
UL Listed	S4011
FM Approved	3057383 3057072
State of California	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 for tone and volume selections
- Five selectable tones with high and low volume settings

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Detect Manage Record

Notification Appliance Devices

Chime Current Draw (mA), Sound Output (dBA)

Sound Pattern	Volume	Maximum Current Draw 16-33 V DC	Sound Output (dBA) 16-33 V DC
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

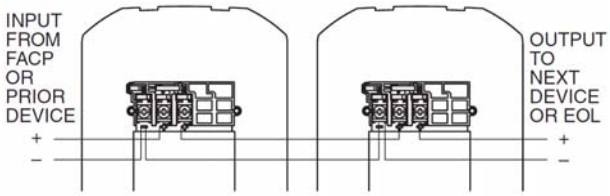
Part Number	Description
587-009-00	Chime, Red, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering.

Associated Parts

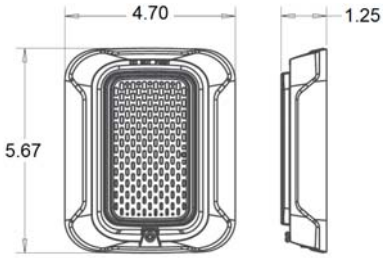
Part Number	Description
589-042-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Agent lettering, order one per device.
589-043-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Alert lettering, order one per device.
589-044-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Evac lettering, order one per device
589-045-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Fire lettering, order one per device.
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D.
588-090-00	Backbox, Wall Surface Mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D.
367-047-00	Sync module, Type I

Drawings

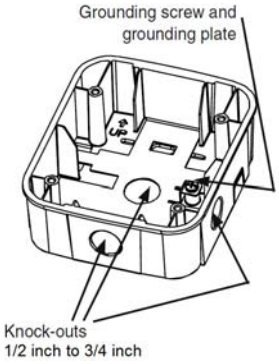
Wiring Diagram



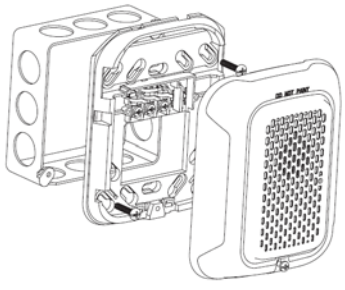
Wall-Mount Chime



Backbox, Surface Mount



Junction Box for Flush Mounting



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Detect Manage Record

Notification Appliance Devices

Indoor Chime Strobe, Red, Wall-Mount, Type I

587-008-00



Features

- Red housing with No lettering and Clear lens
- Plug-in design with minimal intrusion into the backbox
- Tamper resistant construction
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela settings
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, and 185
- 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

Nominal Voltage	Regulated 12 VDC Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12 V nominal), or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal), or 16.5 to 33 V (24 V 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 x 4 x 1-1/2 in. backbox, or 4 in. Octagon backbox, or Double-gang backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32 to 120°F (0 to 49°C)
Relative Humidity	10–93% noncondensing
Dimensions Wall-Mount Chime Strobe with lens	5.6" L x 4.7" W x 1.91" D (143 mm x 119 mm x 49 mm)
Standards Compliance	Listed to UL 1638 and UL 464
UL Listed	S4011
FM Approved	3057383 3057072
State of California	7135-1653:0503

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Detect
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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

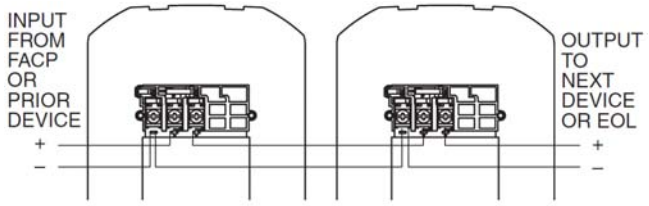
Part Number	Description
587-008-00	Chime Strobe, Red, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela

Associated Parts

Part Number	Description
589-042-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Agent lettering, order one per device
589-043-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Alert lettering, order one per device
589-044-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Evac lettering, order one per device
589-045-00	Bezel, Red, Type I, Wall Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, White Fire lettering, order one per device
365-012-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Amber, order one per device to **change** color of clear lens
365-014-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green, order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red, order one per device to **change** color of clear lens
588-098-00	Trim Ring, Red, Type I, Wall Mount, Universal, 8.2" H X 6.3" W X .4" D
588-090-00	Backbox, Wall Surface Mount, Red, Type I, Strobe, Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
367-047-00	Sync module, Type I

Drawings

Wiring Diagram

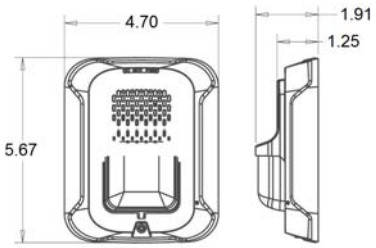


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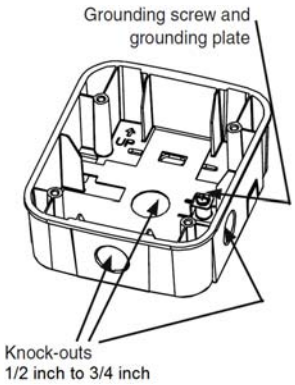
Detect
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Notification Appliance Devices

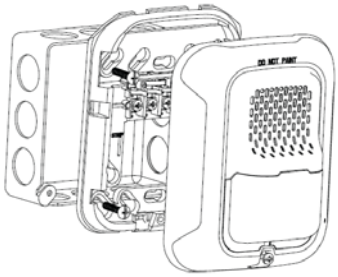
Wall-Mount Chime Strobe



Backbox, Surface Mount



Junction Box for Flush Mounting



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Detect
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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 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 multiple sync modules for synchronous horn and strobe operation on multiple NAC circuits (40 maximum).

Features

- Allows multiple modules for additional circuits
- Low operating current draw

Mounting Options

The module mounts to a 4 11/16 in. x 2 1/8 in. deep back box.

Specifications

Nominal Voltage	12 or 24 VDC
Average Current	0.020A at 12 VDC, 0.035A at 24 VDC
Load Current	3A per NAC circuit, 12 or 24 VDC
Wiring	12–18 AWG

Current Requirements (Amps)

UL Voltage	Rated Average Current		Rated Peak Current		Rated Inrush Current	
	In1/In2	Audible	In1/In2	Audible	In1/In2	Audible
24.0 VDC	0.035	0.008	0.080	0.008	0.342	0.030
33.0 VDC	0.045	0.010	0.090	0.010	0.470	0.040

Ordering Information

Type II Sync Module

Part Number	Description
367-036-00	Type II Sync Module

Associated Parts

Part Number	Description
367-049-00	Multi-candela strobe plate

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

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.



Features

- Synchronizes strobes at 1 Hz
- Synchronizes one Class A or two Class B circuits
- Allows slave module operation for additional circuits

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: 8–17.5V) 24 VDC/FWR (range: 16–33V) With Strobes: 12 VDC/FWR (range: 8.5–17.5V) 24 VDC/FWR (range: 16.5–33V)
Maximum Load	3A per loop
Operating Temperature	32 to 120°F (0 to 49°C)
Dimensions	5 1/4" square (13.335 cm x 13.335 cm)

Current Draw (mA)

	Average		Peak		Inrush		NAC Slave Input	
Voltage	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

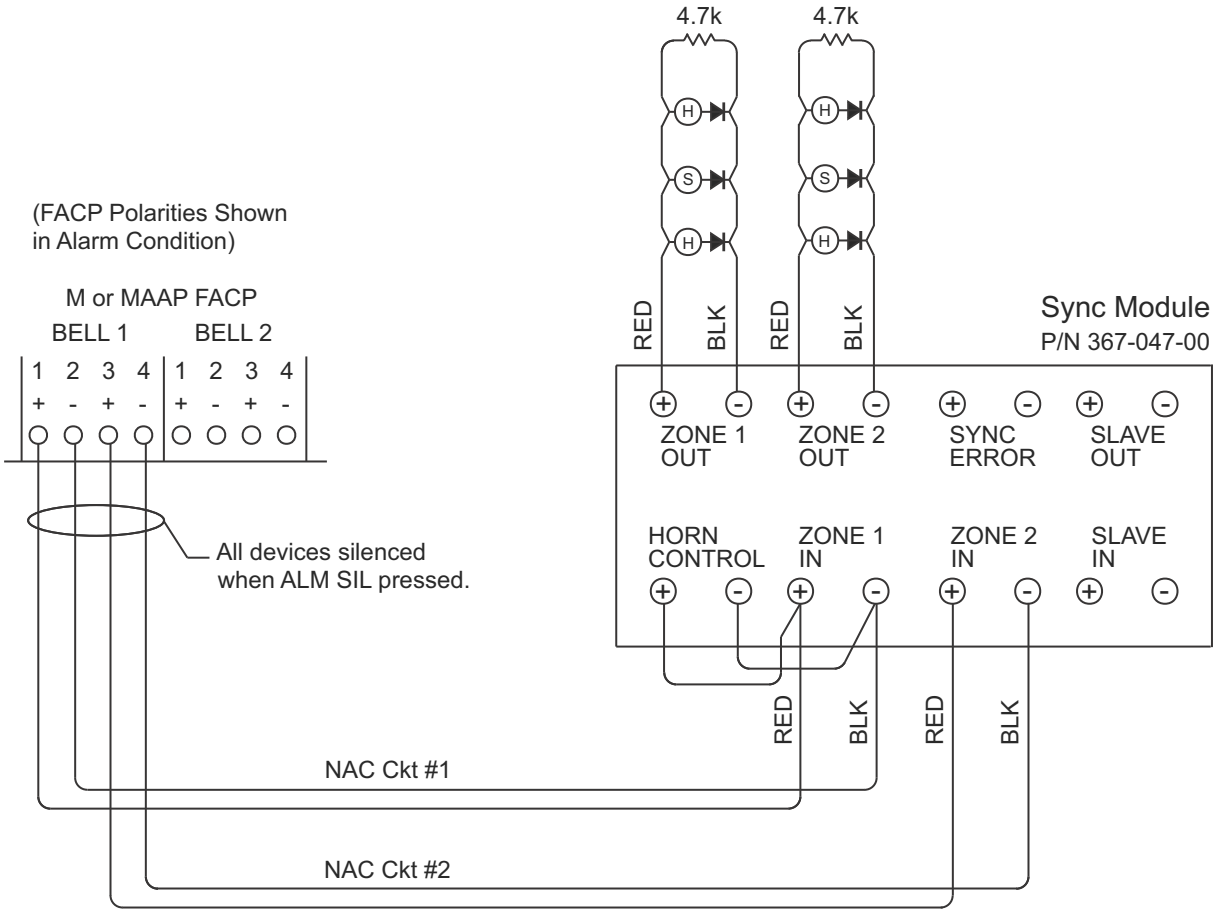
Part Number	Description
367-047-00	Sync module, Type I

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Wiring Diagrams

Class B

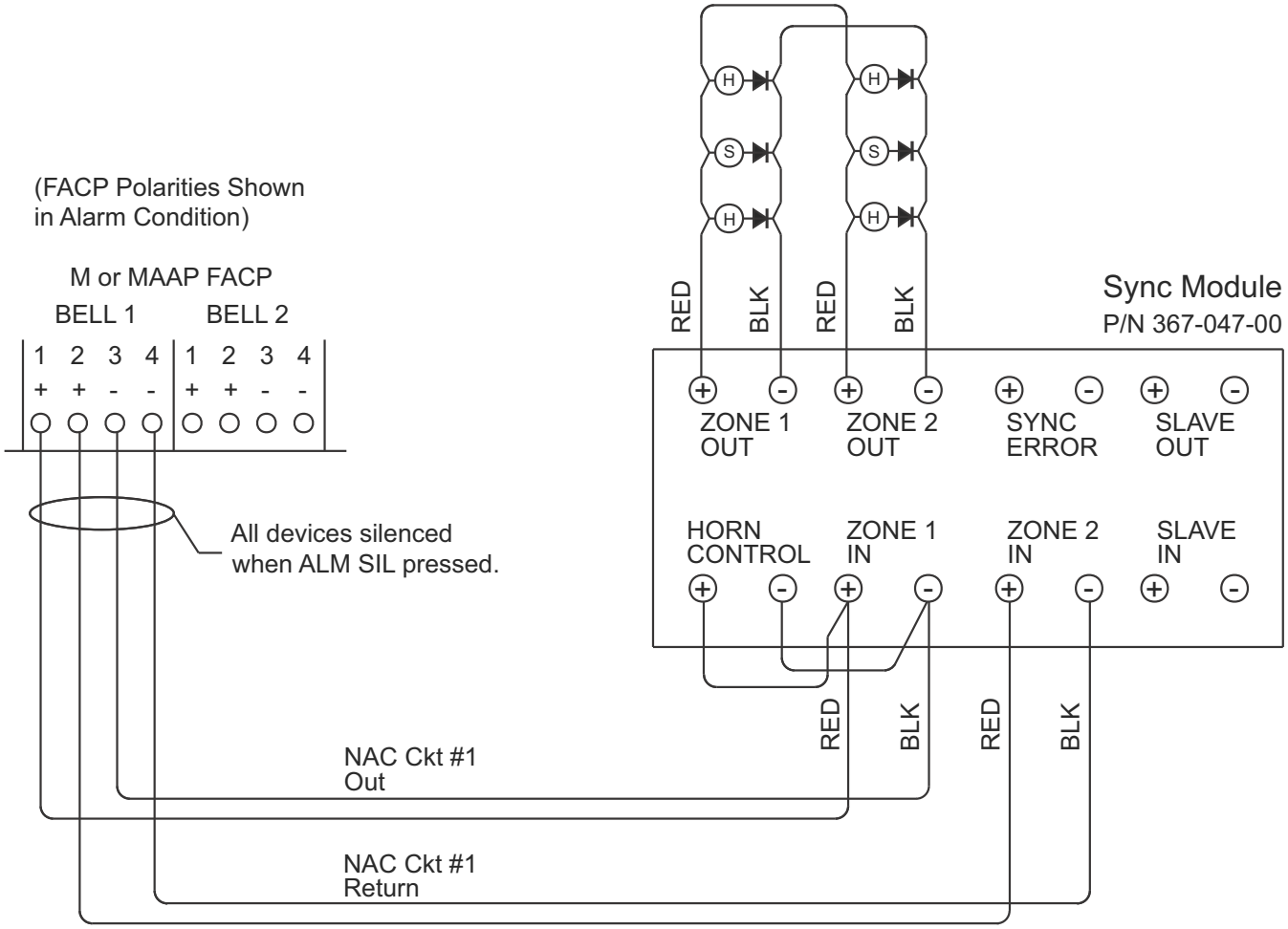


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Notification Appliance Devices

Class A



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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, multi-tone, or speakers.



Features

- UL, MEA, CSFM, FM, BFP, ULC 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, or 110.

Specifications

Flash Rate	1 flash per second
Voltage	24 VDC and FWR unfilitered
Voltage Range	16.0-33.0 V
Candela	15, 30, 75, 110
Input Terminals	12 AWG to 18 AWG
Operating Temperature Range	32° to 120° F (0° - 49° C)
Maximum Humidity	93% ± 2%

Strobe Current Ratings

UL maximum current ratings (maximum RMS current draw) at voltage range 16–33 VDC.

Candela (cd)			
15	**30**	**75**	**110**
0.060A	0.092A	0.165A	0.220A

Ordering Information

Indoor Strobe Plates

Part Number	Description
367-049-00	Indoor strobe plate, 24 VDC, wall-mount, red, clear lens, FIRE lettering, multi-candela: 15, 30, 75, 110

Associated Parts

Part Number	Description
367-036-00	Sync Module, Type II
588-005-00	Back box, surface mount, 4" H x 4" W x 1.5 " D, red
404-119-00	NAC power extender
NOTE: P/N 404-119-00 requires two 12 V / 7.7 Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12 V / 12 Ah batteries (P/N 400-713-00) for 72-hour battery backup	

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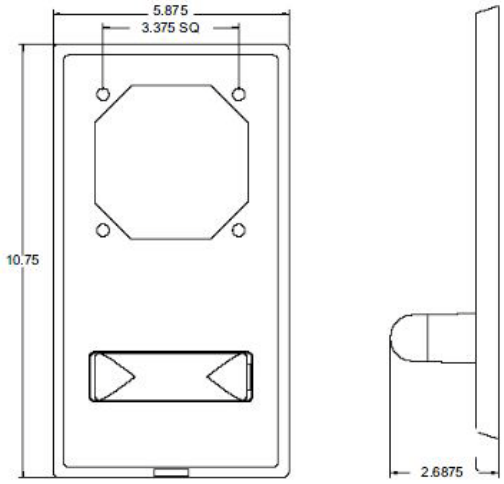
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Mounting

Flush mounting

Use one of the following backboxes for flush mounting:

- 4-inch-square x 1.5 inch deep box
- 4-inch-square x 2.125 inch deep box



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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, multi-tone, or speakers.



P/N 367-049-02
Amber lens with
no lettering shown

Specifications

Flash Rate	1 flash per second
Voltage	24 VDC and FWR unfiltered
Regulated Voltage Range	16.0-33.0 V
Candela	15, 30, 75, 110 (wall mount) 15, 30, 75, 95 (wall/ceiling mount)
Input Terminals	12 AWG to 18 AWG
Operating Temperature Range	32° to 120° F (0° - 49° C)
Maximum Humidity	93% ± 2%

Strobe Current Ratings

UL maximum current ratings (maximum RMS current draw) at voltage range 16–33 VDC.

P/N 367-049-01

Wall Mount Candela (cd)			
15	**30**	**75**	**110**
0.060A	0.092A	0.165A	0.220A

P/N 367-049-02

Wall/Ceiling Candela (cd)			
15	**30**	**75**	**95**
0.065A	0.105A	0.189A	0.249A

Features

- UL, MEA, CSFM, FM, BFP, ULC 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, 110 (for wall mount option) or 15, 30, 75, 95 (for wall/ceiling mount option).

Ordering Information

Indoor Strobe Plates

Part Number	Description
367-049-01	Indoor strobe plate, 24 VDC, wall-mount, white, clear lens, FIRE lettering, multi-candela: 15, 30, 75, 110
367-049-02	Indoor strobe plate, 24 VDC, wall/ceiling mount white, amber lens, no lettering, multi-candela: 15, 30, 75, 95

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Associated Parts

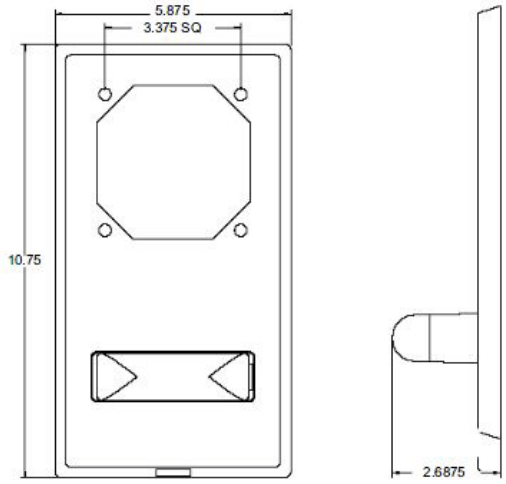
Part Number	Description
367-036-00	Sync Module, Type II
588-005-00	Back box, surface mount, 4" H x 4" W x 1.5 " D, red
404-119-00	NAC power extender, 115 VAC 60 Hz, 12/24 VDC, 8A, 4 Class B or 2 Class A, use with Type II strobes
NOTE P/N 404-119-00 requires two 12 V /8 Ah batteries (P/N 400-704-00) for 24-hour battery backup OR two 12 V / 12 Ah batteries (P/N 400-713-00) for 72-hour battery backup.	

Mounting

Flush mounting

Use one of the following backboxes for flush mounting:

- 4-inch-square x 1.5 inch deep box
- 4-inch-square x 2.125 inch deep box



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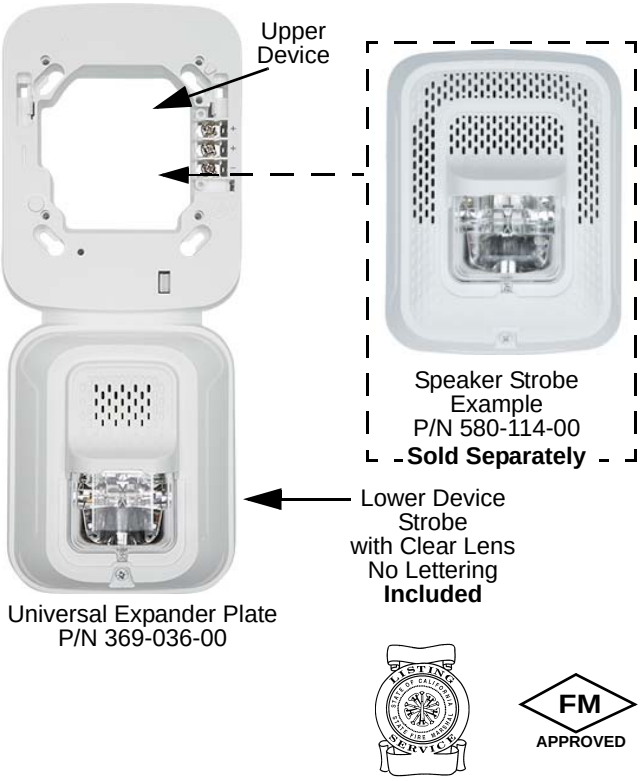
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Notification Appliance Devices

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.



Features

- White Expander Plate housing. Clear lens Strobe with no lettering included.
- Optional tamper-resistant Torx head screw (included)
- Automatic selection of 12 or 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, and 185
- 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

Nominal Voltage (strobes)	Regulated 12 VDC/FWR, Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15, 30 24 VDC: 15, 30, 75, 95, 110, 135, 185
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting plate mounts to a 4" x 4" x 2-1/8" or deeper backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F to 120°F (0°C to 49°C)
Relative Humidity	10–93% non-condensing
Expander Plate Dimensions with strobe	13.05" L x 5.39" W x 2.41" D (331.5 mm x 136.9 mm x 61.2 mm)
Backbox Skirt Dimensions	13.75" L x 6.10" W x 2.5" D (349.3 mm x 154.9 mm x 63.5mm)
Standards Compliance	
UL	File No. S5512 Investigated to ANSI/UL1638 and ANSI/UL1971 (Clear Lens Strobe)
State of California	7300-1653:0511
FM Approved	Class of Work: 3150

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Notification Appliance Devices

Expander Plate Strobe Current Draw (mA)

Maximum Current Draw 16-33 VDC						
15 cd	**30 cd**	**75 cd**	**95 cd**	**110 cd**	**135 cd**	**185 cd**
43	63	107	121	148	172	222

Ordering Information

Part Number	Description
369-036-00	Universal Expander Plate, White, Type I, Wall Mount, Indoor, 12 V or 24 V, Clear Lens Strobe with no lettering; 15, 30, 75, 95, 110, 135 and 185 Candela; Compatible with Speaker, Strobe, Speaker Strobe, Horn or Horn Strobe - mounts to upper device

Associated Parts

Part Number	Description
Speakers	
124-091-00	Speaker, White, Type 1, Wall Mount, Indoor, 12 V or 24 V, No lettering, 25/70.7V, 1/4, 1/2, 1, 2 Watts
124-092-00	Speaker, Red, Type 1, Wall Mount, Indoor, 12 V or 24 V, No lettering, 25/70.7V, 1/4, 1/2, 1, 2 Watts
Strobes	
367-099-00	Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, Red Alert lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela
367-100-00	Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, Red Fire lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela
367-101-00	Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela
Speaker Strobes	
580-111-00	Speaker Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, Red Alert lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts
580-108-00	Speaker Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts
580-114-00	Speaker Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, No lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts
Horns	
585-100-00	Horn, Red, Type I, Wall-Mount, Indoor, 12 V or 24 V, No Lettering
585-104-00	Horn, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, No lettering
Horn Strobes	
585-102-00	Horn Strobe, White, Type I, Wall-Mount, 2-Wire, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela
585-103-00	Horn Strobe, White, Type I, Wall-Mount, 2-Wire, Indoor, 12 V or 24 V, No lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela
Bezels	
589-038-00	Bezel, White, Type I, Wall-Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Alert lettering, order one per device.
589-039-00	Bezel, White, Type I, Wall-Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Evac lettering, order one per device.
589-040-00	Bezel, White, Type I, Wall-Mount, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, Red Fire lettering, order one per device.
Expander Plate Lens Kits	
365-014-00	Lens, Type I, Wall-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red order one per device to **change** color of lens
Other	
588-093-00	Backbox, Wall Surface Mount, White, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D

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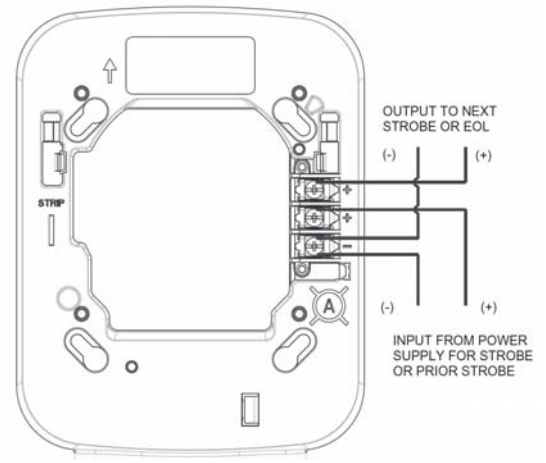
Notification Appliance Devices

Part Number	Description
588-101-00	Universal Expander Plate Backbox Skirt, White, Surface Wall Mount, Type I. (2.5" deep). Requires backbox.

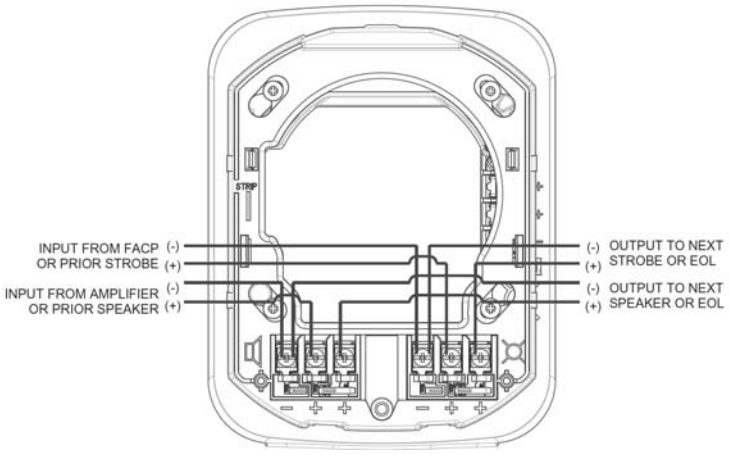
Part Number	Description
367-047-00	Sync module Type I

Diagrams

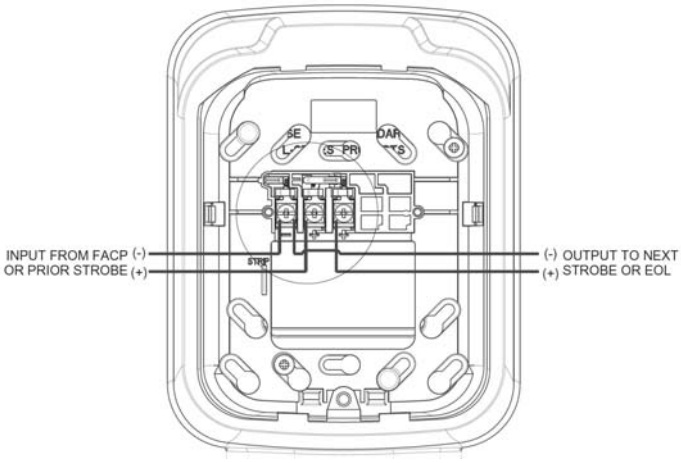
Wiring Diagrams



Connect Universal Expander Plate's Lower Strobe

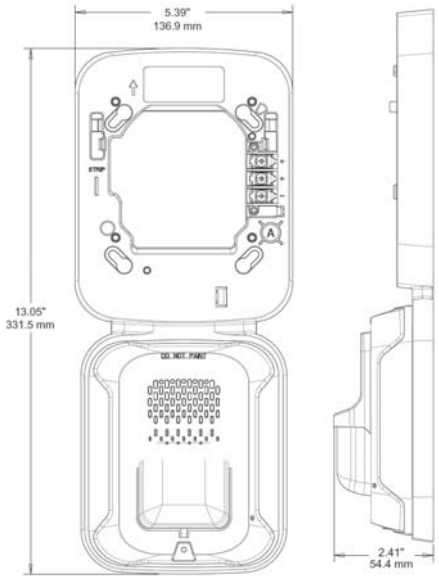


Connect Speaker Strobe to Upper Device



Connect Horn Strobe to Upper Device

Expander Plate Dimensions



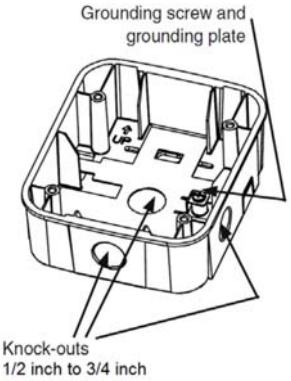
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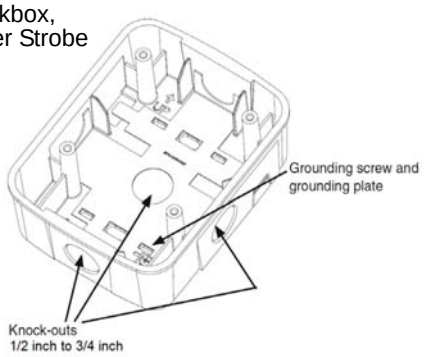
Notification Appliance Devices

Backbox, Wall Mount

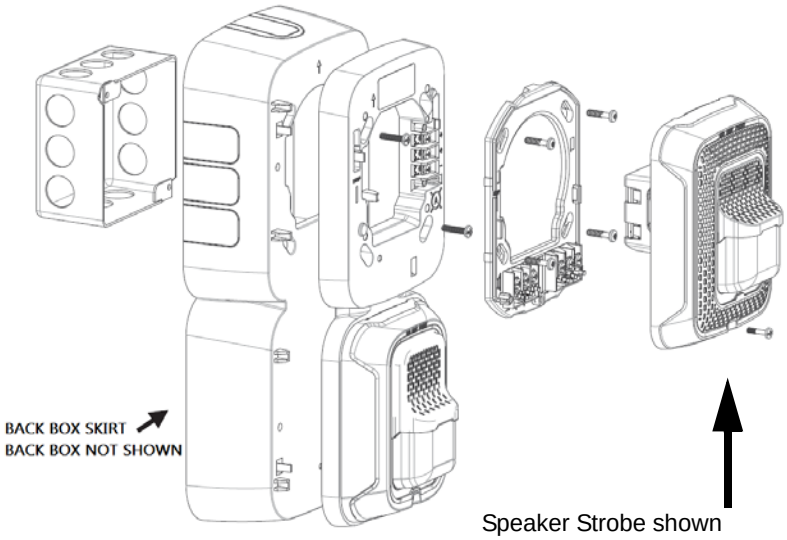
Backbox,
Horn Strobe



Backbox,
Speaker Strobe

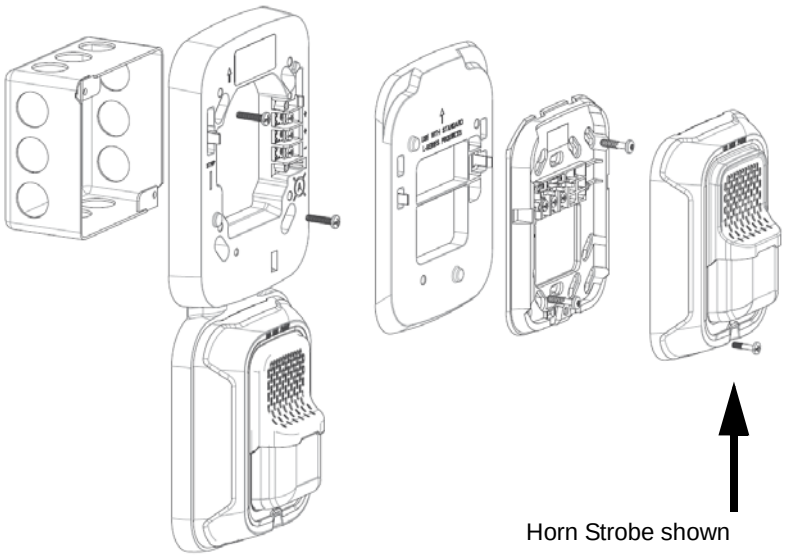


Surface, Wall Mount



Speaker Strobe shown

Junction Box, Flush Mount



Horn Strobe shown

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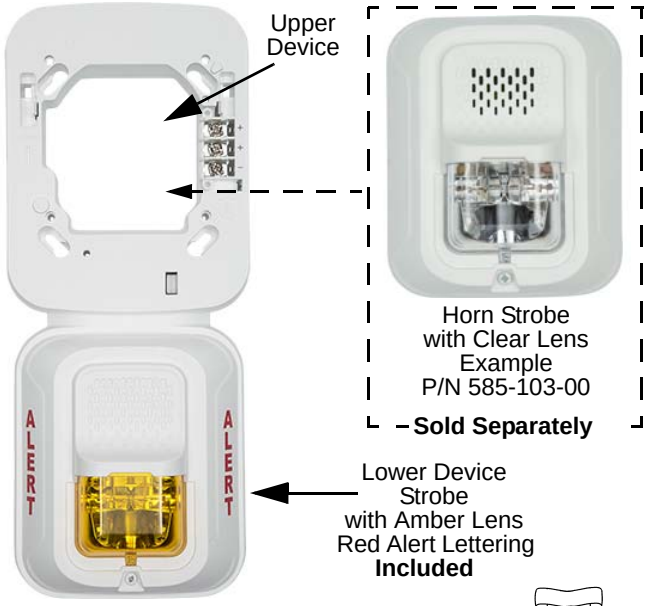
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Notification Appliance Devices

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 24 volt operation. **NOTE** 12 volt operation only supports 15 and 30 candela
- Field selectable candela settings on wall units:
  12 V: 15, 30
  24 V: 15, 30, 75, 95, 110, 135, and 185
- 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

Nominal Voltage (strobes)	Regulated 12 VDC/FWR, Regulated 24 DC/FWR
Operating Voltage Range	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range with Type I Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Candela	12 VDC: 15, 30 24 VDC: 15, 30, 75, 95, 110, 135, 185
Strobe Flash Rate	1 flash per second
Mounting	Universal Mounting plate mounts to a 4" x 4" x 2-1/8" or deeper backbox
Input Wiring	12–18 AWG **NOTE** Required wire gauge based on voltage drop
Operating Temperature	32°F to 120°F (0°C to 49°C)
Relative Humidity	10–93% noncondensing
Expander Plate Dimensions with speaker strobe	13.05" L x 5.39" W x 2.41" D (331.5 mm x 136.9 mm x 61.2 mm)
Backbox Skirt Dimensions	13.75" L x 6.10" W x 2.5" D (349.3 mm x 154.9 mm x 63.5mm)
Standards Compliance	
UL	File No. S5512 Investigated to ANSI/UL1638
State of California	7300-1653:0511

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Detect Manage Record

Notification Appliance Devices

Expander Plate Strobe Current Draw (mA)

Maximum Current Draw 16-33 VDC						
15 cd	**30 cd**	**75 cd**	**95 cd**	**110 cd**	**135 cd**	**185 cd**
43	63	107	121	148	172	222

Ordering Information

Part Number	Description
369-037-00	Universal Expander Plate, White, Type I, Wall Mount, Indoor, 12 V or 24 V, Amber Lens Strobe with Red Alert lettering; 15, 30, 75, 95, 110, 135 and 185 Candela; Compatible with Speaker, Strobe, Speaker Strobe, Horn or Horn Strobe - mounts to upper device

Associated Parts

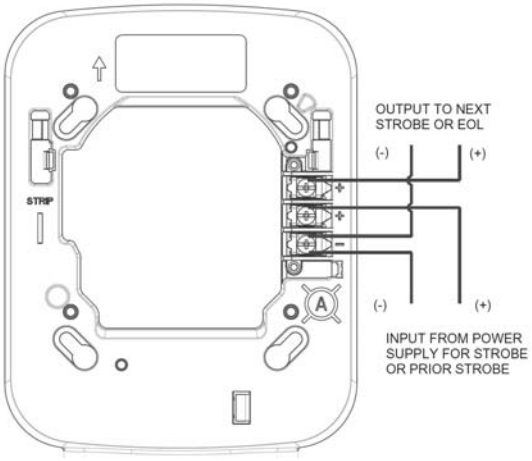
Part Number	Description
Speakers	
124-091-00	Speaker, White, Type 1, Wall Mount, Indoor, 12 V or 24 V, No lettering, 25/70.7V, 1/4, 1/2, 1, 2 Watts.
124-092-00	Speaker, Red, Type 1, Wall Mount, Indoor, 12 V or 24 V, No lettering, 25/70.7V, 1/4, 1/2, 1, 2 Watts.
Strobes	
367-099-00	Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, Red Alert lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela
367-100-00	Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, Red Fire lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela
367-101-00	Strobe, White, Type I, Wall Mount, Indoor, 12 V or 24 V, No lettering, Clear Lens, 15, 30, 75, 95, 110, 135, 185 Candela
Speaker Strobes	
580-111-00	Speaker Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, Red Alert lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts
580-108-00	Speaker Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts
580-114-00	Speaker Strobe, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, No lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela, 25/70.7V, 1/4, 1/2, 1, 2 Watts
Horns	
585-100-00	Horn, Red, Type I, Wall-Mount, Indoor, 12 V or 24 V, No Lettering
585-104-00	Horn, White, Type I, Wall-Mount, Indoor, 12 V or 24 V, No lettering
Horn Strobes	
585-102-00	Horn Strobe, White, Type I, Wall-Mount, 2-Wire, Indoor, 12 V or 24 V, Red Fire lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela
585-103-00	Horn Strobe, White, Type I, Wall-Mount, 2-Wire, Indoor, 12 V or 24 V, No lettering, Clear lens, 15, 30, 75, 95, 110, 135, 185 Candela
Expander Plate Lens Kits	
365-014-00	Lens, Type I, Wall-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Blue, order one per device to **change** color of clear lens
365-015-00	Lens, Type I, Wall-Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Green order one per device to **change** color of clear lens
365-016-00	Lens, Type I, Wall Mount, Strobe; Speaker Strobe; Horn Strobe; Chime Strobe, Red order one per device to **change** color of lens
Other	
588-093-00	Backbox, Wall Surface Mount, White, Type I, Speaker; Speaker Strobe, 5.12" W X 6.62" H X 2.25" D
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W X 5.78" H X 1.85" D
588-101-00	Universal Expander Plate Backbox Skirt, White, Surface Wall Mount, Type I. (2.5" deep). Requires backbox.
367-047-00	Sync module Type I

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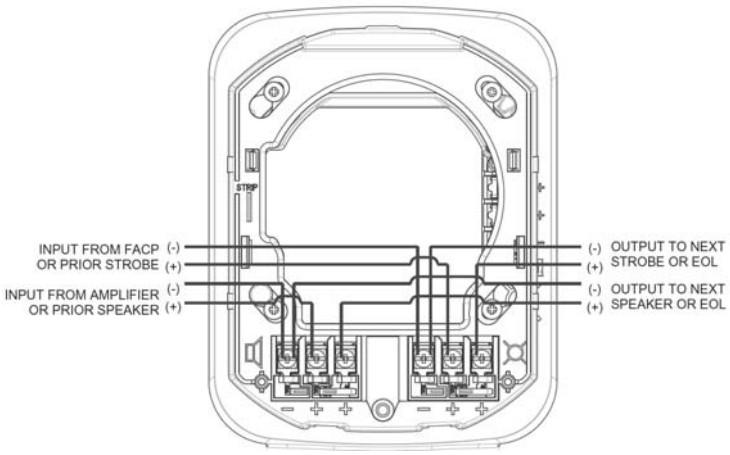
Notification Appliance Devices

Diagrams

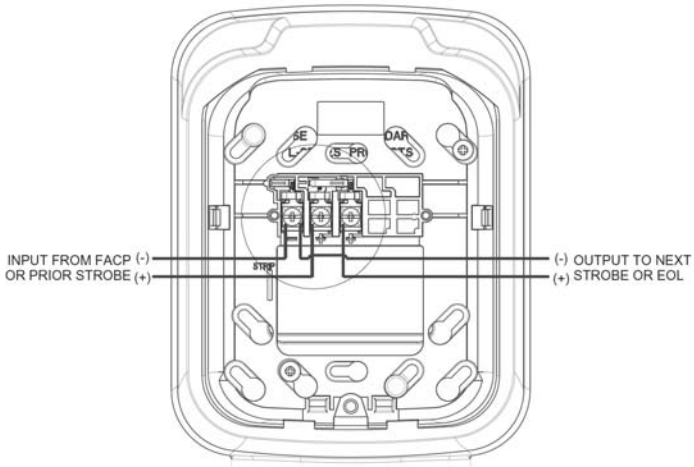


Connect Universal Expander Plate's Lower Strobe

Wiring Diagrams

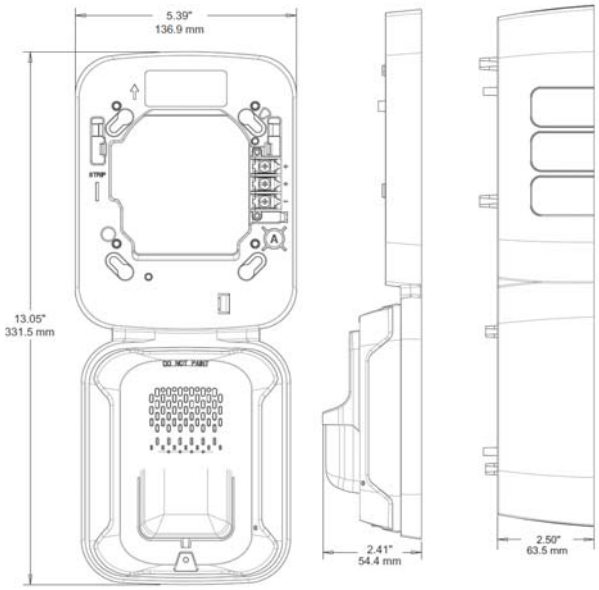


Connect Speaker Strobe to Upper Device



Connect Horn Strobe to Upper Device

Expander Plate Dimensions



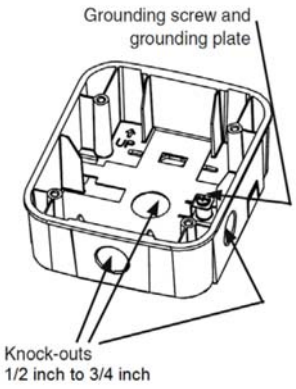
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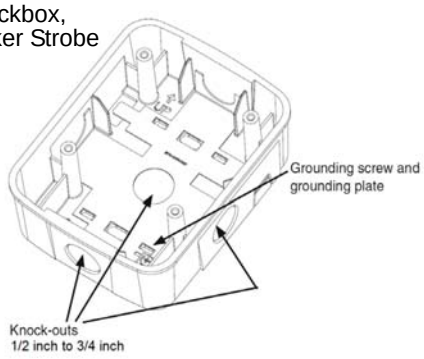
Notification Appliance Devices

Backbox, Wall Mount

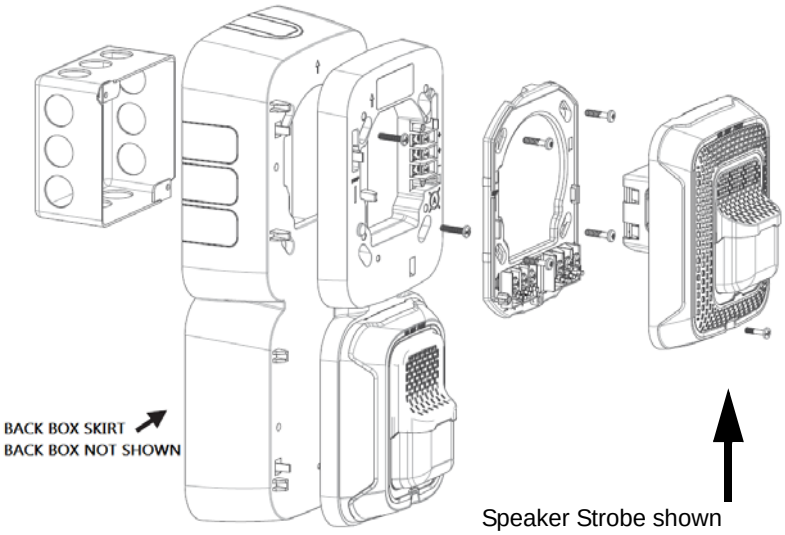
Backbox,
Horn Strobe



Backbox,
Speaker Strobe

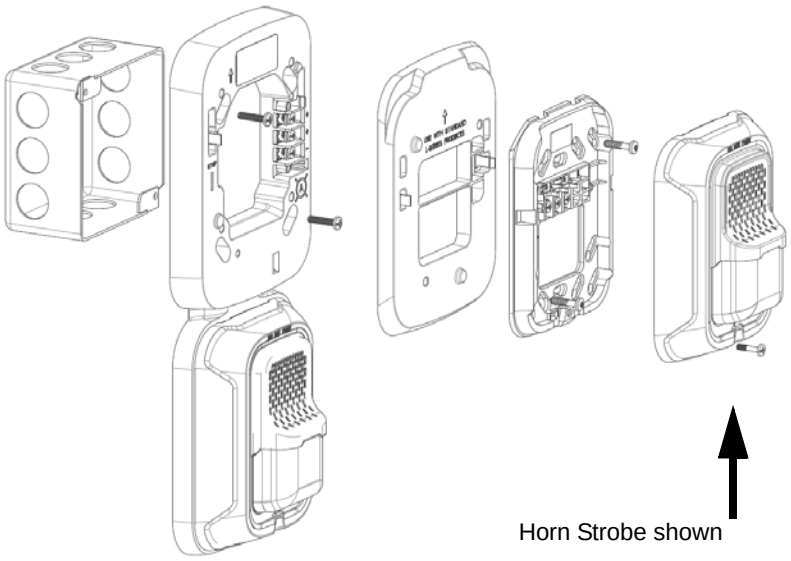


Surface, Wall Mount



Speaker Strobe shown

Junction Box, Flush Mount



Horn Strobe shown

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Detect
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Notification Appliance Devices

Universal Expander Plate Backbox Skirt
588-101-00



Expander Plate Backbox Skirt

Shown with Universal Expander Plate P/N 369-037-00 and Speaker Strobe P/N 580-108-00

Features

- White housing, no lettering
- Compatible with Universal Expander Plate for Strobes, Speaker Strobes, and Horn Strobes
- Snap on Assembly

Specifications

Mounting	4" x 4" x 2-1/8" Backbox
Backbox Skirt Dimensions	13.75" L x 6.10" W x 2.5" D (349.3 mm x 154.9 mm x 63.5mm)

Ordering Information

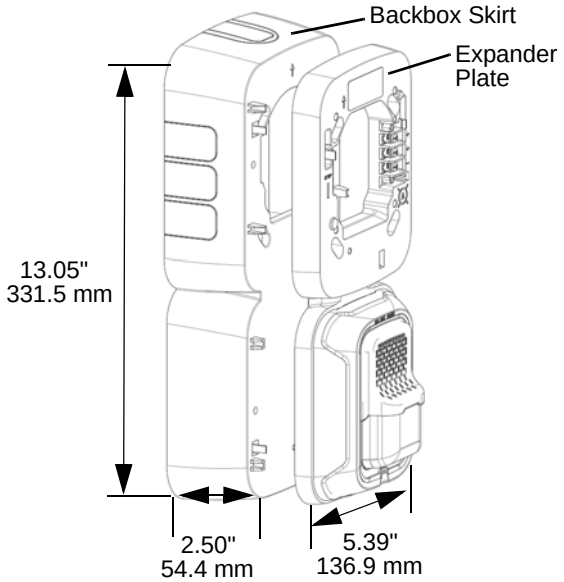
Part Number	Description
588-101-00	Backbox skirt for use with strobe, speaker strobe, horn strobe expander plate, indoor, surface wall-mount, white, Type I, 2.5" deep. Requires backbox.

Associated Parts

Part Number	Description
588-093-00	Backbox, Wall Surface Mount, White, Type 1, Speaker; Speaker Strobe, 5.12" W x 6.62" H x 2.25" D **NOTE** Wall Mount Speaker Strobes using this backbox and expander plate (P/N 369-031-00) require backbox skirt (P/N 588-084-00).
588-091-00	Backbox, Wall Surface Mount, White, Type I, Strobe; Horn Strobe; Chime Strobe; Chime; Horn, 4.82" W x 5.78" H x 1.85" D **NOTE** Available for use with Dual Strobe Expander Plate

Drawings

Dimensions



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Security Devices Catalog Section 12

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Generic Accessories Catalog Section
13

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Supplemental Equipment Catalog Section
14

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Detect
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Supplemental Equipment

Cabinet, Fire Alarm Terminal, 32 point

081-243-00



Mounting	Wall-Mount
Knockout Clusters	1/2", 3/4", 1", 1 1/2" and 2" EMT on top, bottom and left side
Terminal Strips	Dual 16 point barrier terminal strips 20 Amp 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

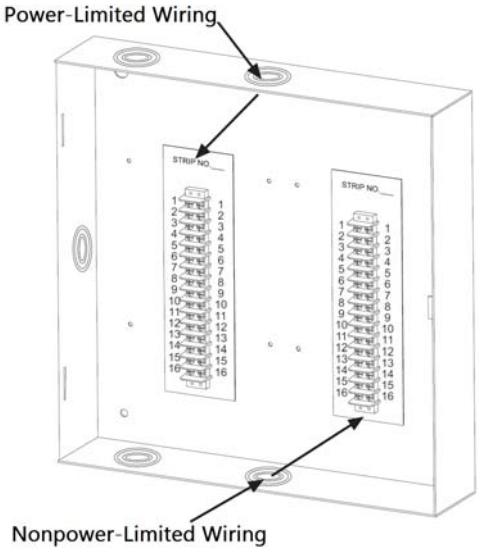
Features

- Red enclosure with white lettering
- Lift-away hinged front cover
- 2 inch lettering displays FIRE ALARM TERMINAL CABINET
- Barrier terminal strips
- Terminal strip and field ID labels

Specifications

Dimensions	14" W x 3 1/4" D x 14" H
Enclosure	16 gauge cold rolled steel Red powder coat finish
Front Cover	Removable, hinged 30 CAT keyed lock

Wiring Diagram



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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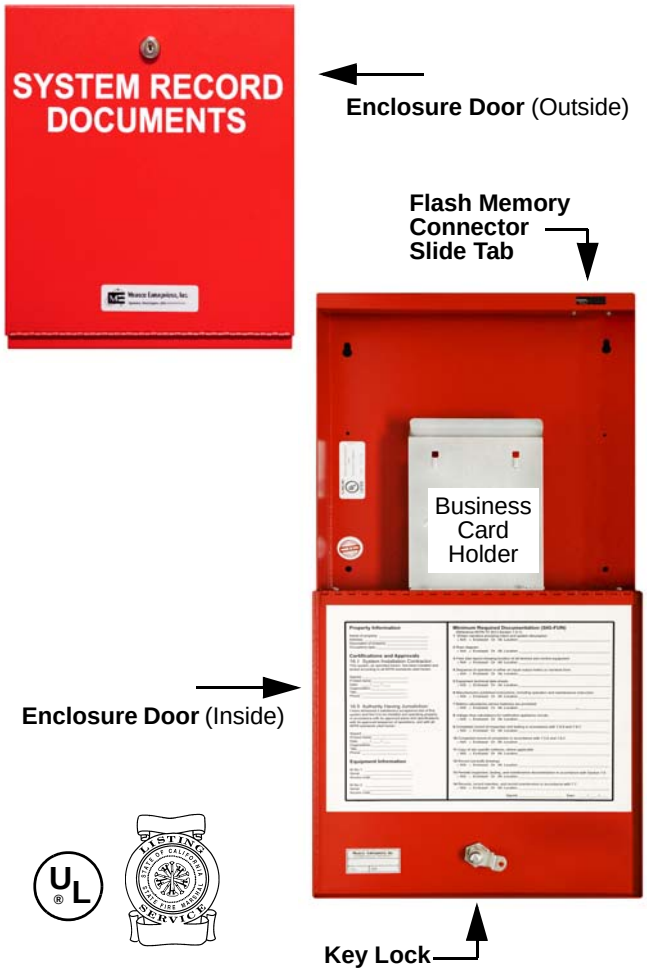
Supplemental Equipment

Cabinet, Record Document Storage

081-261-00

Description

The Record Document Storge Cabinet provides for storage of important system documents near the system control unit.



This cabinet has an 8 gigabyte 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" x 11" 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" stainless steel piano
Dimensions	12" H x 13" L x 2 1/4" D
Mounting	4 mounting holes in backbox - 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
081-261-00	Cabinet, Record Document Storage with digital storage. Uses 3/4" barrel lock key (CAT30). **NOTE**: Keylock can be replaced with Monaco equipment panel key, order P/N 097-500-00.

Associated Parts

Part Number	Description
097-500-00	Keylock assembly (C415A) to key MNS panel, same as Monaco equipment.

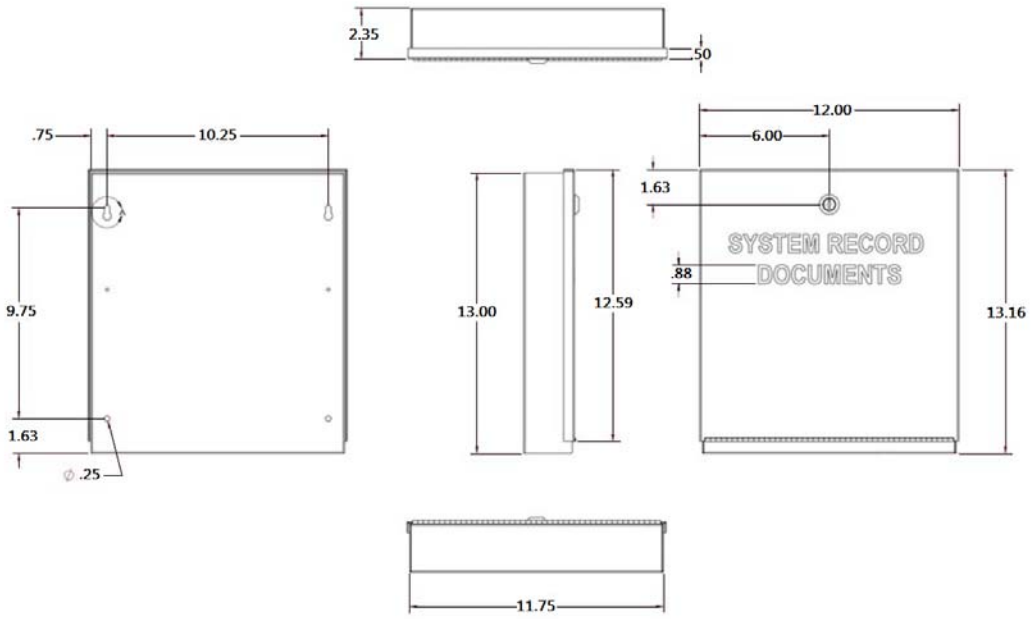
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Supplemental Equipment

Dimensions

Dimensions in inches



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Detect
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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 (≤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

Max. Input Volts	≤ 30 VDC
Max. Sustained Output Current	≤ 0.6A DC
Max. Instantaneous Output Current	≤ 2.5A DC
Max. Temperature Rise	≤ 60°C at 0.6A DC

Ordering Information

Part Number	Description
176-257-00	Current In-rush limiter, ≤ 2.5A DC

Associated Parts

Part Number	Description
501-123-00	Fuse, slow-blow, 1A, 250V, 1/4" x 1 1/4"

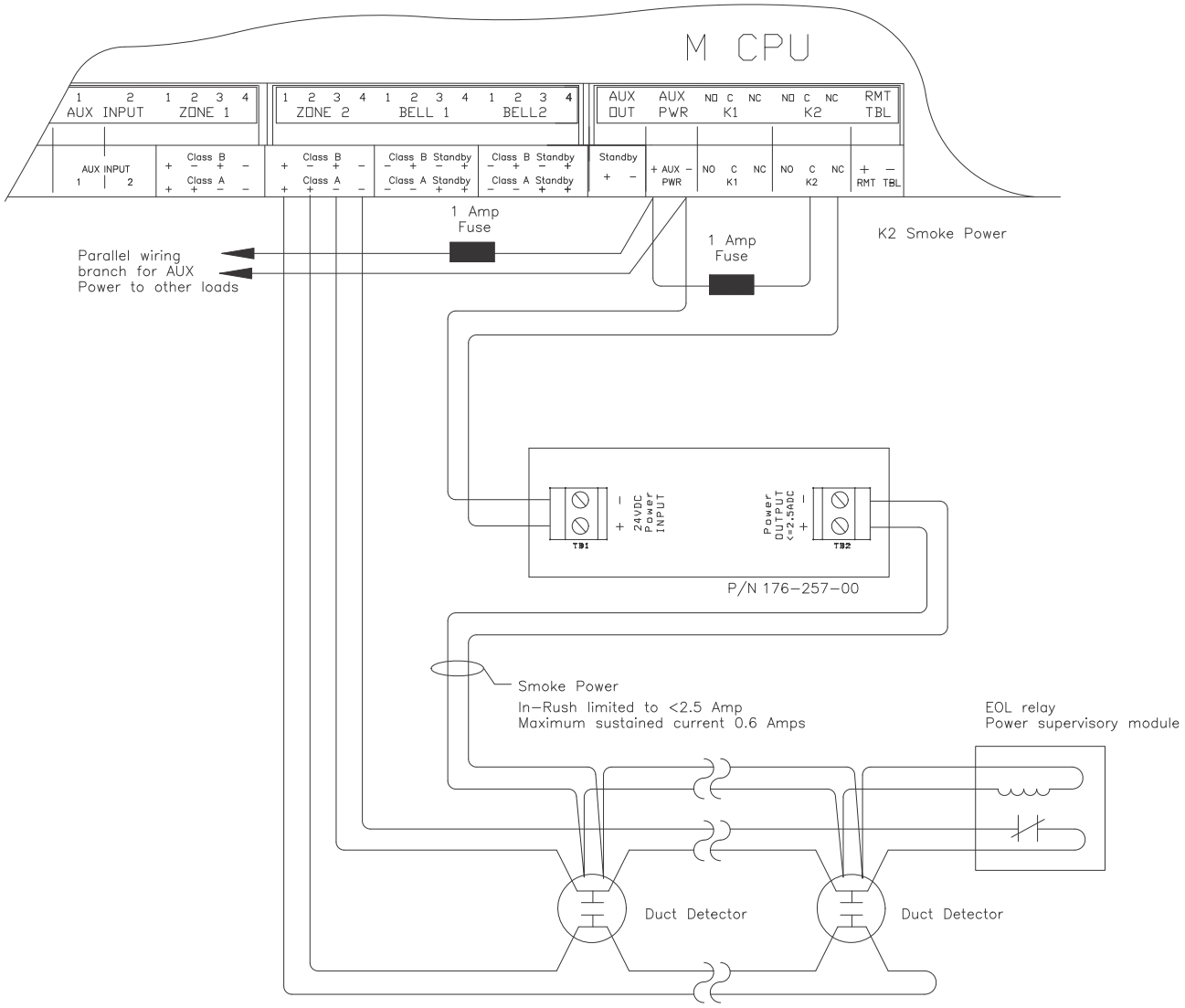
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Detect Manage Record

Supplemental Equipment

Wiring Diagram

Class A Configuration

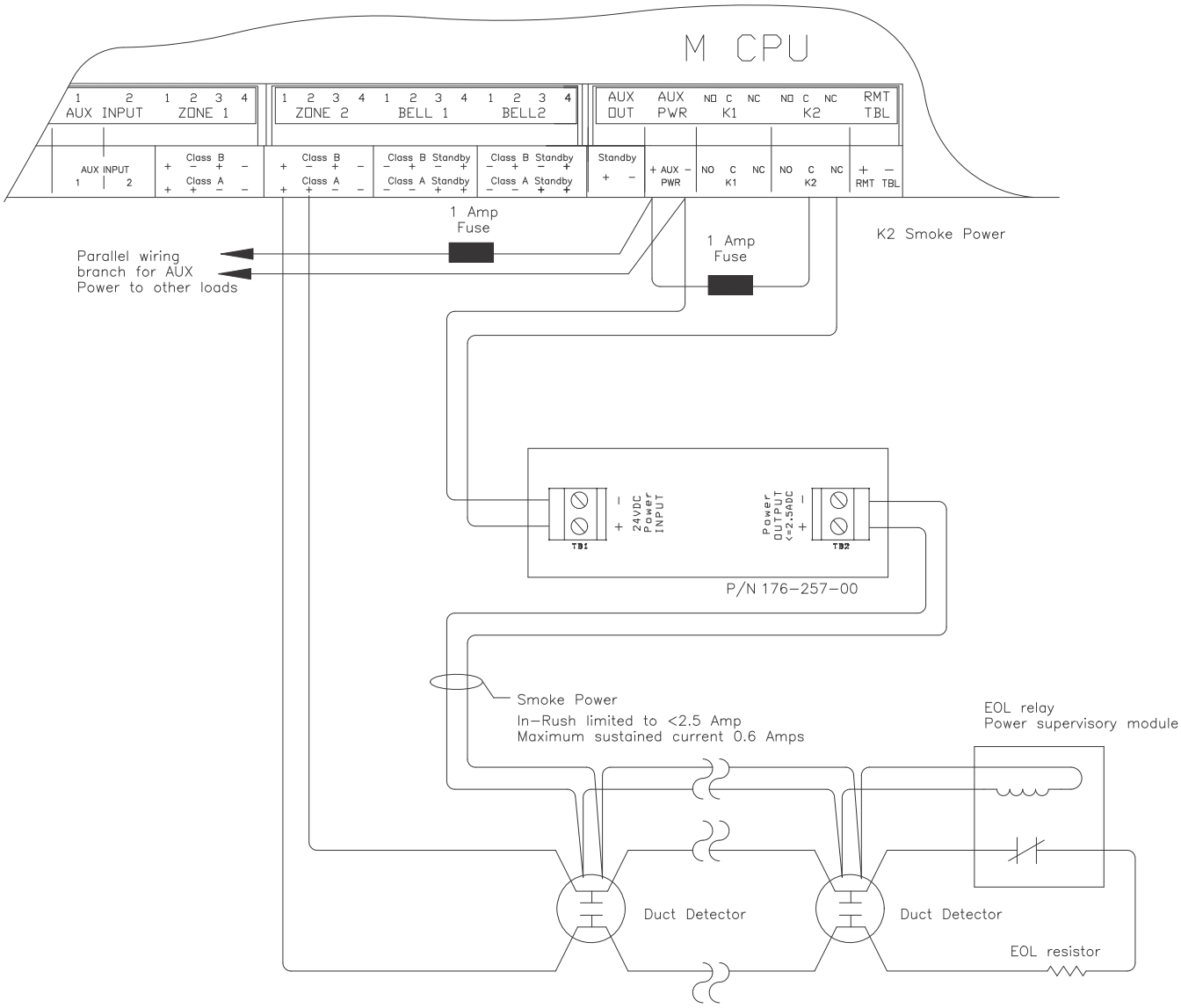


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Detect Manage Record

Supplemental Equipment

Class B Configuration



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Detect Manage Record

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 LED's 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, 0.5 Amps, normally open
- No in-field electrical or optical adjustments required
- Automatic resettable solid-state current limiters
- Transmission distances up to 2.5 miles

Specifications

Input/Output Channels	8
Contact Relay Rating	200 VDC, 0.5 Amp, 12 Watts, Normally Open
Response Time	25 msec maximum
Number of Fibers	1
Wavelength	850nm
Power	12 VDC @ 150 mA
Current Protection	Automatic Resettable Solid-State Current Limiters
Dimensions	7.0 in. x 4.9 in. x 2.0 in. (17.8 cm x 12.5 cm x 5.0 cm)
Shipping Weight	< 2 lbs/0.9 kg
Operating Temperature	-40°F to 165.2°F -40°C to +74°C
Storage Temperature	-40°F to 185°F -40°C to + 85°C
Relative Humidity	0 to 95% (non-condensing)
Transmission Distance	Up to 2.5 miles (4 km)

Ordering Information

Part Number	Description
197-700-00	Contact Mapping Transmitter, 850 nm, Multimode (62.5/125 µm) fiber optic transmitter, 8 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 µm) fiber optic receiver, 8 individual point-to-point, form A (normally open, short active) relay outputs

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Detect Manage Record

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)	100–240 VAC, 50/60 Hz
Power Output	■ Steady state: 20W ■ Max. peak: 96W
Firewall Throughput	Up to 150 Mbps
VPN Throughput	Up to 100 Mbps
Concurrent Sessions	10,000
IPsec VPN Peers	10
New Connections	4000 per second
Acoustic Noise	0 dBa max.
Memory	512 Mb
System Flash	128 Mb min.
Operating Temperature	32 to 104°F (0 to 40°C)
Relative Humidity	5–95%, noncondensing
Dimensions	1.75" H x 7.89" W x 6.87" D (4.45 x 20.04 x 17.45 cm)
Weight	4 lb (1.8 kg)
Compliance and Certifications	Safety: UL 60950 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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Detect Manage Record

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 2 or 4 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)
- 8 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: 100–240 VAC, 50/60 Hz

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Detect Manage Record

Supplemental Equipment

Power Consumption	20.9 watts, max.
Heat Dissipation	71.3 BTU per hour
Ventilation	Fanless
Environmental	
Operating Temperature	32 to 104°F (0 to 40°C)
Relative Humidity	5%–95%, noncondensing
Physical Specifications	
Dimensions	11.0" W x 7.1" D x 1.7" H (280 mm W x 180 mm D x 43 mm H) 1.0U rack height
Weight	3.3 lb (1.5 kg)

Ordering Information

Part Number	Description
200-459-01	Ethernet switch, managed, 8-port gigabit L2 switch with 2 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

Monitor	Size: 17" Resolution: 1280 x 1024 Tilt-angle Range: 120 degrees
Power Input	100–240 VAC, 50/60 Hz
Power Consumption	30W
In-rush Current	30A, max.
Operating Temperature	32 to 104°F (0 to 40°C)
Relative Humidity	20–90% noncondensing
Dimensions	19" W x 21.9" D x 1.75" H (48.3 cm x 60.7 cm x 4.4 cm) Handle adds 1.5" (3.8 cm) to depth when monitor is closed.
Weight	26 lb (12 kg)

Ordering Information

Part Number	Description
200-464-03	KVM drawer, integrated 8-port KVM switch, USB, 17" monitor, high-density connectors
200-470-04	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 1000 feet 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	12.5W
Audio	Two 3.5mm jacks
Video	One HD15 F Res: 1920 x 1200 less than 500 ft. Res: 1600 x 1200 at 1000 ft. max.
Operating Temperature	32 to 104°F (0 to 40°C)
Dimensions	200-476-01: 2.9" W x 1.0" H x 6.4" D 200-476-02: Local: 4.7" W x 2.0" H x 3.0" D Remote: 6.4" W x 2.0" H x 3.0" D
USB Specs:	4 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" 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/865W, 230 V, 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, 10 A/250 VAC, plug Type F, 8.2 ft. cable length
626-098-00	AC Power Cord, United Kingdom 1363A Plug, black, C13 (male) connector, 10 A/250 VAC, plug Type G, 6ft. cable length
626-099-00	Type L Cord Jumper, black, C14 (female) to C13 (male), 10 A/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 acticating, 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 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 2 keys per lock
- 11 criss-cross blae tumbler
- Bright Chrome finish

Specifications

Switch

Finish	Bright chrome
Dimensions	2.8" W x 4.5" H x 2" D
Switch Rating	4 amp @ 115 VAC / 28 VDC
Positions	2 positions, rotates 180° clockwise
Keys	2 keys per lock, 11 criss-cross blade tumblers

Backbox

Matterial	Aluminum
Dimensions	2 3/4" W x 4.5" H x 2" D
Color	Gray

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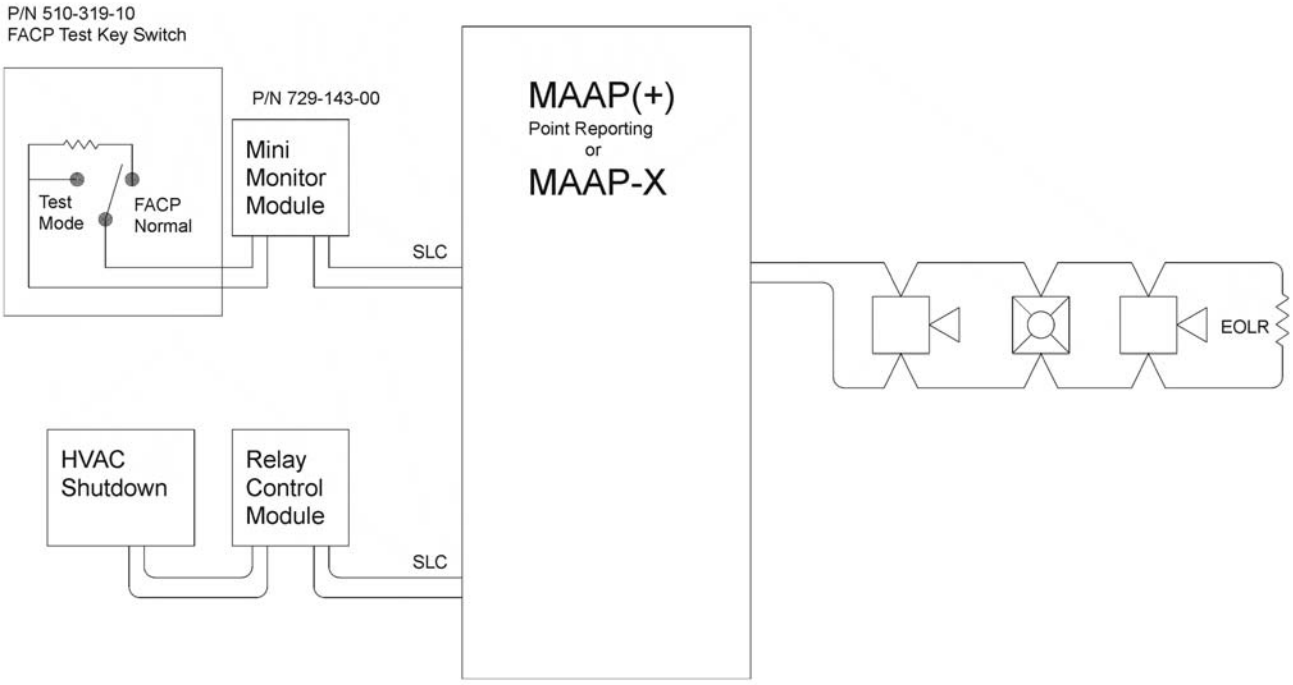
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Supplemental Equipment

Ordering Information

Part Number	Description
510-319-10	Key Switch Assembly, FACP Suspend on Test, normally open, Form A, dry contacts

Assembly Drawing



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Supplemental Equipment

USB Serial Adapter, 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 adapter can be used with all RS-232 serial devices. Works well with Monaco panels and Planner software.



Features

- High-Speed USB-to-Serial Adapter
- 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 feet
- LED data activity indicator
- No external power supply needed

Specifications

Serial Port	DB9
USB Port	Type A
Windows Compatible	Windows® 2000, XP, Vista, 7, 8, 8.1, 10 Server 2008 R2, Server 2012, Server 2012 R2, Server 2016
Macintosh Compatible	Mac OS X 10.6, 10.7, 10.8, 10.9, 10.10, 10.11, 10.12, 10.13, 10.14
Cable	3 foot, detachable
Color	Black
Dimensions	1.0" H x 1.6" W x 3.1"D (2.54 cm x 4.06 cm x 7.87 cm)
Weight	2 oz
TAA	Compliant

Ordering Information

Part Number	Description
649-118-00	USB to 9 pin RS-232 serial adapter (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 to 250°F (–40 to 121°C) Button electronics: –40 to 120°F (–40 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	■ 6 amps @ 600 VAC ■ 1 amp @ 250 VAC ■ Single-pole, double throw (SPDT)

Cover Specifications

Material	Polycarbonate
Tempearture Rating	-40 to 250° F (-40 to 121° C)

Ordering Information

HVAC Shutdown Kit

Part Number	Description
708-032-01	HVAC shutdown kit. Includes shutdown button and cover.

Associated Parts

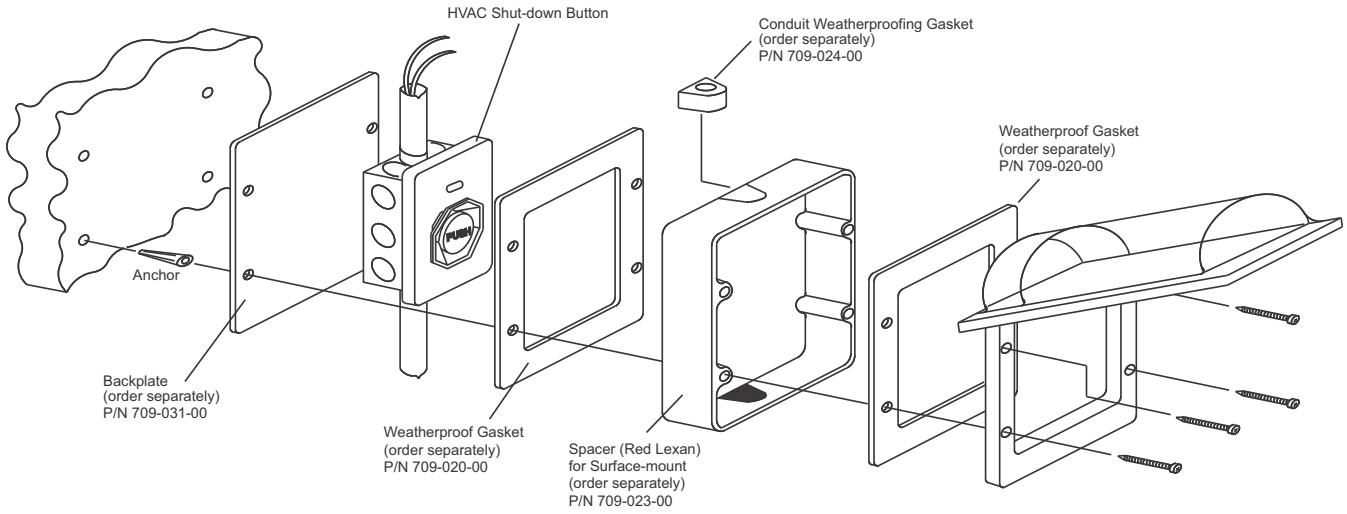
Part Number	Description
709-020-00	Weatherproofing gasket. Order two if using spacer
709-023-00	Spacer, for surface-mount
709-024-00	Spacer conduit knockout gasket
709-031-00	Backplate, for proper sealing

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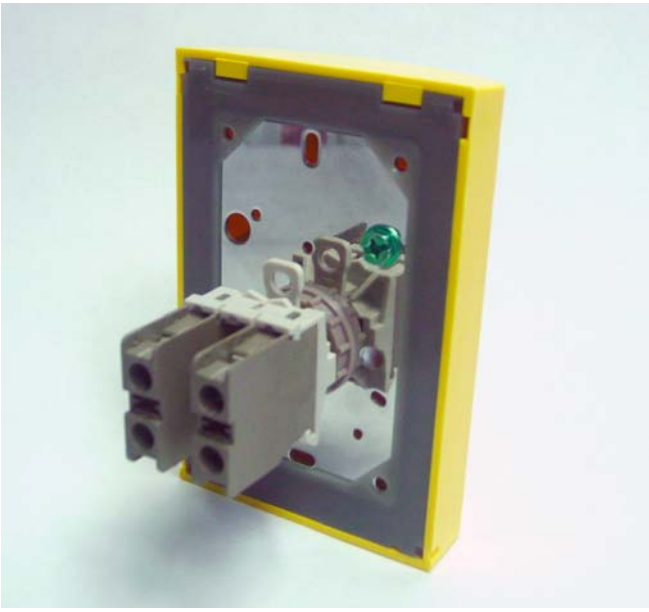
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Supplemental Equipment

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-lighted text messages: "Announcement" and "Evacuate".



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
- UL Listed under Standard 48
- Meets IP-65 rating; Sealed against dust and protected from water splashes and low-pressure water jets.
- Two messages can be activated: "Announcement" messages or "Evacuate" messages.
- Messages can be activated simultaneously or independently
- Messages can be set to steady on or flashing, and can be set independently of one-another.
- Compatible with reverse-polarity supervision circuits.

Specifications

Physical Dimension	Display: 14.25" L x 6.5" H x 0.75" D Backbox: 14.5" L x 8" H x 2" D
Wiring	#14 to #22 AWG
Current Draw	70 mA per circuit
Operating Voltage	24 VDC

Ordering Information

Part Number	Description
710-057-00	Emergency Message Display; backbox with 1/2 in. knockouts included.

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Supplemental Equipment

Annunciator, red LED, Remote
729-091-00



Specifications

Voltage Range	Conventional: 3.1 to 32 VDC Intelligent: 18 to 32 VDC
Max. Alarm Current	10 mA
Operating Temperature	14°F (-10°C) to 140°F (60°C)
Dimensions	4.6" H x 2.8" W x 1.3" D
Mounting	Single gang electrical outlet box
Standards Compliance:	
UL	Listed S2522
FM	Approved
State of California	7300-1653:0212
CE	9080301

Ordering Information

Annunciator

Part Number	Description
729-091-00	Remote, red LED, Annunciator. Fits standard single-gang electrical box (not included)

Features

- Polarized for both Conventional and Addressable Intelligent applications
- Conventional application red LED indicates alarm condition

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Supplemental Equipment

Remote LED Annunciator

729-10x-xx, 729-14x-01, 729-204-01

Description

Monaco's remote annunciators are point back-lighted using high intensity LEDs rated at 100,000 hour life/ LEDs are rated at a typical luminous intensity of 160 millicandelas for red and 90 millicandelas for yellow, and are visible through a viewing hole in the legend label in direct sunlight. All zone information is user typed on the zone legend via a standard typewriter and accommodates 20 eight-point characters. The annunicators are available with and without trouble indicator and silence switch.



P/N 729-105-00



P/N 729-106-01

LEDs are available in two colors, red for alarm and yellow for trouble. Legends are inserted behind the plastic faceplate for protection from the elements or vandalism.

The annunciators are provided completely assembled, ready for installation in standard surface or flush electrical boxes.

For Monaco M-series FACPs, an Auxiliary Output Card (AOC) is required for every eight LEDs in an annunciator. An expansion backplane is required for an M-series FACP to operate an AOC.

Features

- High-intensity red and yellow LEDs for greater visibility
- LEDs rated at 100,000 hour life
- Opaque, masked, user typed, plastic legend strips
- Anodized aluminum faceplate is rugged, attractive, and moisture and corrosion resistant
- Annunciators are completely assembled and ready to install quickly in standard gang electrical boxes

Ordering Information

Remote LED Annunciators

Part Number	Description
These annunciators may be used with Monaco's Vulcan and M Series Control Panels	
729-106-01	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
729-107-01	Alarm only directory annunciator with positive common. Also used with Monaco's Vulcan and M-Series Control Panels: 15 zone, 24 VDC, requires 3-gang box
729-147-01	Alarm and trouble indicator directory annunciator with positive common and reset switch - may be used with Monaco's Vulcan and M- Series Control Panels: 5 zone, 24 VDC, requires 2-gang box
729-148-01	Alarm and trouble indicator directory annunciator with positive common and reset switch - may be used with Monaco's Vulcan and M- Series Control Panels: 10 zone, 24 VDC, requires 3-gang box
729-149-01	Alarm and trouble indicator directory annunciator with positive common and reset switch - may be used with Monaco's Vulcan and M- Series Control Panels: 15 zone, 24 VDC, requires 5-gang box
729-204-01	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

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Supplemental Equipment

Part Number	Description
729-105-01	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.
These annunciators may be used with Monaco's C-100 Series Control Panels	
729-105-00	Alarm only directory annunciator with negative common - may be used with Monaco's C-100 Series Control Panels: 5 zone, 24 VDC, requires 1-gang box.
729-106-00	Alarm only directory annunciator with negative common - may be used with Monaco's C-100 Series Control Panels: 10 zone, 24 VDC, requires 2-gang box.
729-107-00	Alarm only directory annunciator with negative common - may be used with Monaco's C-100 Series Control Panels: 15 zone, 24 VDC, requires 3-gang box.

Associated Parts

Part Number	Description
176-185-00	M FACP Expansion Backplane. Capacity for up to 7 expansion cards (ZEC, AOC, UIC).
176-187-00	Auxiliary Output Card (AOC), drives 8 LED's per card. Expansion backplane required for M FACP

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Supplemental Equipment

Enclosures with Batteries

081-155-00, 081-156-00, 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 back-up are available in different Ah capacities. Select the appropriate P/N with the Ah capacity that is close to but higher than, the back-up 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 12VDC

AH size Ah size varies. (See P/N in Ordering Information for Ah sizes)

Ordering Information

Enclosure with batteries

Part Number	Description
081-155-00	Batteries with enclosure: Two 12V/18 Ah batteries in an 18" H x 12" W x 6" D red, NEMA 1 battery enclosure with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACPs. Provides 24VDC 18 Ah
081-156-00	Batteries with enclosure: Two 12V/26 Ah batteries in an 18" H x 12" W x 6" D red, NEMA 1 battery enclosure with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACPs. Provides 24VDC 26 Ah
081-177-00	Batteries with enclosure: Two 12V/40 Ah batteries in a 20" H x 16" W x 8" D red, NEMA 1 enclosure with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACPs. Provides 24VDC 40 Ah
081-182-00	Batteries with enclosure: Two 12V/75 Ah batteries in a 12" H x 24" W x 8" D red, NEMA 1 enclosure with wire harness for use with M-2 conventional, MAAP+, MAAP-X, and Vulcan 1 FACPs. Provides 24VDC 75 Ah
081-172-00	Batteries with enclosure: Four 12V/18 Ah batteries in a 20" H x 16" W x 6" D red, NEMA 3R battery enclosure with wire harness and tamper switch for use with BT-X 12VDC panels. Provides 12VDC 72Ah

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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 in some cases as the primary power source in the case of Monaco's solar powered equipment. Batteries are available in 12 VDC and in several capacities ranging from 1.2 Ah to 100 Ah.

P/N 400-701-00



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

Voltage 12VDC

Ah size Ah size varies. (See P/N in Ordering Information for Ah sizes.)

Ordering Information

Batteries

Part Number	Description
400-703-00	Battery, SLA, rechargeable, 12V/1.4 Ah, quick connect, 3.78"L x 1.69"W x 2.28"H, 1.20 lb.
400-720-00	Battery, SLA, rechargeable, 12V/3.3 Ah, quick connect, 5.24"L x 2.64"W x 2.60"H, 2.90 lb.
400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95"L x 2.56"W x 3.90"H, 3.50 lb.
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86" W x 3.86"H, 7.92 lb.
400-719-00	Battery, SLA, rechargeable, 12V/14 Ah, quick connect, 4.25"L x 2.80"W x 5.51"H, 10.6 lb.
400-712-00	Battery, SLA, rechargeable, 12V/18 Ah, quick connect, 7.13"L x 3.03"W x 6.59"H, 12.60 lb.
400-701-00	Battery, SLA, rechargeable, 12V/26 Ah, quick connect, 6.56"L x 6.97"W x 4.92"H, 17 lb.
400-714-00	Battery, SLA, rechargeable, 12V/40 Ah, nut and bolt, 7.76"L x 6.50"W x 6.69"H, 29.10 lb.
400-716-00	Battery, SLA, rechargeable, 12V/75 Ah, universal terminal, 10.25"L x 6.60"W x 8.98"H, 50.60 lb.
400-717-00	Battery, SLA, rechargeable, 12V/100 Ah, universal terminal, 12"L x 6.60"W x 8.98"H, 68 lb.
400-718-00	Battery, SLA, rechargeable, 12V/100 Ah, universal terminal, 12.01"L x 6.61"W x 9.06"H, 65.34b.

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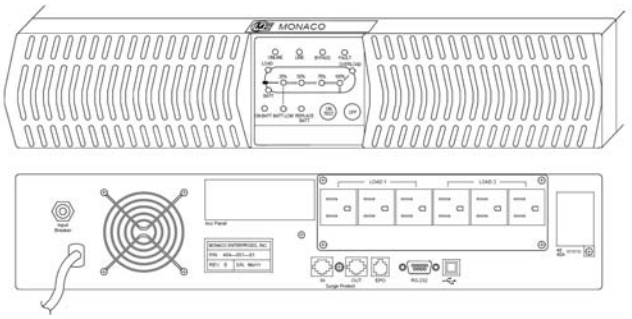
Supplemental Equipment

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 inch 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	15 A, 120 VAC
UPS to CPS Cable	484, 6 feet
Manual	UPS and Reserve Power Supply Charger I-O-M 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 ± 6 Hz autosensing
Power Factor Correction	Equal to or greater than 97% at full load
Battery Type	VRLA, sealed, non-spillable
Battery Dynamic Response	± 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 lbs
Operating Temperature	32°F (0°C) to 104°F (40°C)
Humidity	95% non-condensing
Unit Dimensions	3.5" H x 17.3" L x 17.0" D
Weight	43.12 lb

Ordering Information

Part Number	Description
404-064-01	Uninterruptible Power Supply Kit, 1200W, 120 VAC, 50/60 Hz, 20 minute backup

Monaco Enterprises, Inc.
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

Detect Manage Record

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 12- or 24-volt Fire Alarm Control Panel (FACP) or may be used as a stand-alone.

Features

- Fully supervised power supply, battery, and NACs for added reliability
- Cascadable up to 10 power supplies with strobe timing maintained
- Four Class B NACs
- Built-in strobe synchronization
- 4-amp continuous output in standalone mode
- Safety compliance: NFPA 72, UL 864, UL 1481

Specifications

Power Input	120 VAC, 60 Hz, 3.2A max
Wire Size	14 AWG minimum with 600 V insulation
Trigger Input Voltage	9.0 to 32 VDC
Trigger Current	2.0 mA (16-32 V)
Trouble Contact Rating	5.0 A at 24 VDC
Auxiliary Power Output	500 mA max
Output Circuits	■ +24 VDC filter, regulated ■ 3.0 A maximum for any one circuit ■ 4.0 A maximum total continuous current for all outputs (stand-alone mode) ■ 6.0 A maximum total short-term current for all outputs (NAC expander mode)
Secondary Power Charging Circuit (battery)	■ Supports lead-acid batteries only ■ Float charge voltage: 27.6 VDC ■ Maximum current charge: 250 mA ■ Maximum battery capacity: 7 AH
Enclosure Size	15" H x 14.5" W x 2.75 " D

Ordering Information

Part Number	Description
404-073-00	NAC power extender, 120 VAC, 60 Hz, 24 VDC, 4 Class B NACs, 4A max combined total, 0.5A auxiliary output

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Detect Manage Record

Supplemental Equipment

UPS 120 VAC, 60 Hz, 800W

404-111-10, 404-111-11

Description

The 230 VAC, 1000,VA 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 conidtions.

Features

- Battery backup and AC power protection
- Switches to 1kCA/800W 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 (400W) and four minutes at full load (800W)
- Provides safe unattended shutdown and saves files during prolonged power failures

Specifications

Output Power	800 W, 1000 VA
Nominal Output Voltage	120 VAC
Output Frequency	60 Hz
Dimensions	6.2" H x 23.5" W x 22.5" D
Weight	36 lb
Operating Temperature	5° - 122° F (-15° - 50° C)
Operating Humidity	0 to 95% (non-condensing)

Ordering Information

Part Number	Description
404-111-10	1KVA rack mount, uniterrruptible power, 1KVA, 800W, 120 VAC in/out 60 Hz, 1U rack mount with rail
404-111-11	1KVA rack mount kit, uniterruptible power, 1KVA, 800W, 120VAC in/out 60 Hz, 1U rack mount

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Detect Manage Record

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, 420W
Voltage, Frequency (Utility)	120 VAC, 60 Hz
Voltage, Frequency (Battery)	115 VAC +/– 8%, 60 Hz
Waveform Type	Stepped approximation to sine wave

Surge Protection

AC Power Surge	All outlets
Data Line Surge	Network: 1000 Base-T Ethernet (gigabit) Coaxial: CATV, SATV, modem, A/V

Physical

Dimensions	7.5" H x 3.6" W x 12.2" 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, 400W

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Detect Manage Record

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.



FM APPROVED

MEA approved

Features

- Indoor Power Supply/Battery Charger non-power limited output
- 24 VDC output at 8 Amp supply current in non-alarm condition and at 10 Amp supply current during alarm for Fire Alarm Applications
- 24 VDC output at 10 Amp 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

Input Voltage	115 VAC 60 Hz, 4.2A
Output Voltage	24 VDC
Supply Current	24 VDC @ 8A continuous, 10A during alarm for Fire Alarm Applications 24 VDC @ 10A for Access Control Applications
Battery Charger	3.6 A maximum charge current
BTU/Hr (approx.)	24 VDC: 123 BTU/Hr
Supervision	AC Failure - Form "C" contacts Low Battery - Form "C" contacts Battery Presence - Form "C" contacts
LED Indicators	Input voltage present and DC output powered
Temperature	Operating: 0°C to 49°C (32°F to 120°F) Storage: -20°C to 70°C (-4°F to 158°F)
Relative Humidity	85% +/-5%
Enclosure	Red, NEMA 1
Enclosure Dimensions	15.5" H x 12" W x 4.5" D (394 mm x 305 mm x 114 mm)
Weight	9.25 lbs (4.2 kg)
Standards Compliance	
UL Listed	URTZ.S4707 UL 1481 (Fire Protective Signaling Systems)
CSFM	7315-1335:0100
MEA	168-92-E Vol 12
FM	Approved Class of Work: 3010 Fire Alarm Systems

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Supplemental Equipment

Ordering Information

Part Number	Description
404-098-00	Power Supply/Battery Charger, 24 VDC @ 8A continuous, 10A during alarm, 115 VAC 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
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86" W x 3.86"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 intoa single fused 24 VDC output at 10 Amp supply current. Comes in a red enclosure with Cam lock. Enclosure will accommodate two 12V/12 Ah batteries.



FM APPROVED

MEA approved

Features

- Indoor Power Supply/Battery Charger regulating output
- 24 VDC output at 8 Amp supply current with 10 Amp 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

Input Voltage	230 VAC 50/60 Hz, 2.5A
Output Voltage	24 VDC
Supply Current	24 VDC @ 8A continuous, 10A during alarm for Fire Alarm Applications 24 VDC @ 10A for Access Control Applications
Battery Charger	3.6 A maximum charge current
BTU/Hr (approx.)	24 VDC: 123 BTU/Hr
Supervision	AC Failure - Form "C" contacts Low Battery - Form "C" contacts
LED Indicators	Input voltage present and DC output powered
Temperature	Operating: 0°C to 49°C (32°F to 120°F) Storage: -20°C to 70°C (-4°F to 158°F)
Relative Humidity	85% +/-5%
Enclosure	Red, NEMA 1
Enclosure Dimensions	15.5" H x 12" W x 4.5" D (394 mm x 305 mm x 114 mm)
Weight	9.25 lbs (4.2 kg)
Standards Compliance	
UL Listed	URTZ.S4707 UL 1481 (Fire Protective Signaling Systems)
CSFM	7315-1335:0100
MEA	168-92-E Vol 12
FM	Approved Class of Work: 3010 Fire Alarm Systems

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Supplemental Equipment

Ordering Information

Part Number	Description
404-098-10	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
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86" W x 3.86"H, 7.92 lb

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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:
  - 4 Class B, Style W, Y—or,
  - 4 Class A, Style Z—or,
  - A combination of 2 Class A, Style Z and 2 Class B, Style W, Y
  - Two 24 VDC, 1 Amp Aux power outputs
    - Aux 1 automatically disconnects when AC lost
    - Aux 2 has battery backup during AC fail
  - 2.5 Amp max per NAC output, 1 Amp max Aux 2 power output, 8 Amps 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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Detect Manage Record

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:
  - Aux One 1A max. primary AC power only, disconnect on secondary battery power
  - Aux Two 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 8 amps

EOL Resistor 2.2 kΩ

Gnd Fault Test Imped. 1000 ohms, max.

Weight 16.9 lb without batteries

Dimensions 18" H x 14.5" W x 4.5"D

Stand-by Specifications

Batteries	Stand-by Time	Alarm Output Current	Aux 2 Output
24 VDC / 7.7 Ah (use two (2) 12 VDC batteries in series)	24 Hours	8 amp / 5 minutes	—
24 VDC / 12 Ah (use two (2) 12 VDC batteries in series)	24 Hours	8 amp / 5 minutes	50mA
24 VDC / 36 Ah (use two (2) 12 VDC batteries in series)	24 Hours	8 amp / 5 minutes	1 amp

NOTE Unit is equipped with two (2) 1 amp 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 8 amp total alarm current.
Example: AUX1 = 1 amp, AUX2 = 1 amp, outputs up to 7 amps.

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, 4 Class B or 4 Class A NACs. Aux 1 - 1 Amp AC power only, no battery backup. Aux 2 - 1 Amp with battery backup.*
404-126-01*	NAC Power Extender, 220 VAC, 50/60 Hz, 24 VDC, 8A, 4 Class B or 4 Class A NACs, two 1 Amp auxiliary outputs.
***Batteries ordered separately**	

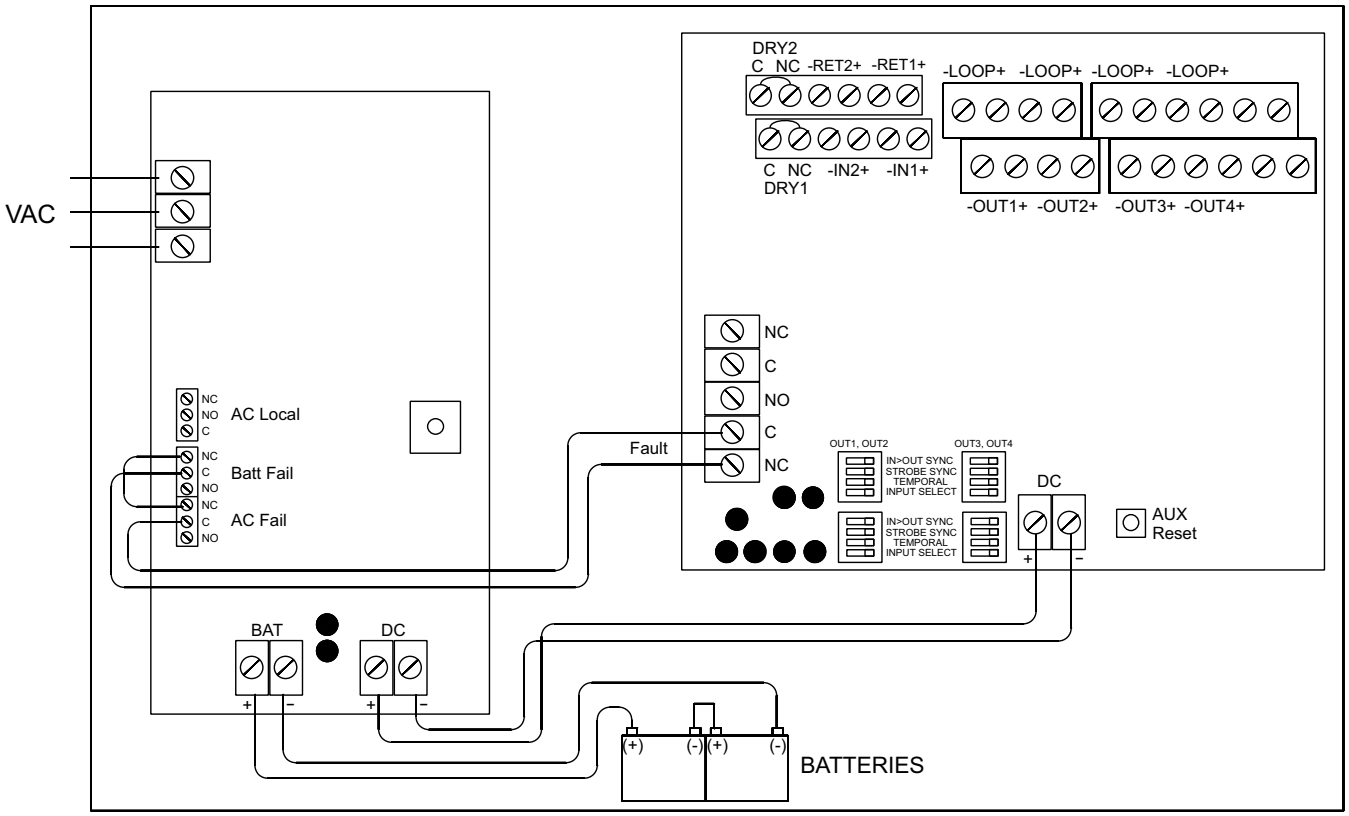
Associated Parts

Part Number	Description
400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95" L x 2.56" W x 3.90" H, 3.50 lb
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94"L x 3.86" W x 3.86"H, 7.92 lb
NOTE 2 each required, Ah based on backup requirements.	

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Wiring Example



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Detect Manage Record

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	2.2k (2200 ohm)
Gnd Fault Test Imped.	1000 ohms, max.
Weight	9.6 lbs without batteries
Dimensions	15.5" H x 12.0" W x 4.5"D

Ordering Information

NAC Power Extender

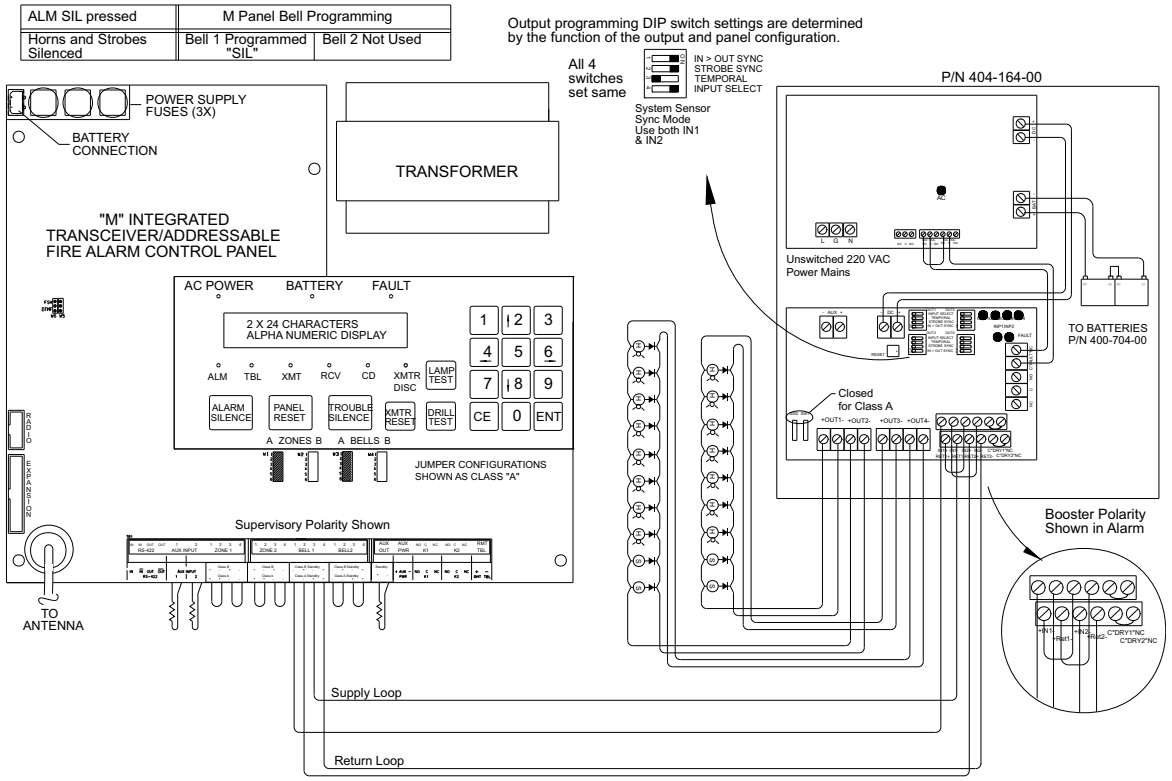
Part Number	Description
404-164-00	NAC power extender, 220 VAC, 50/60 Hz, 24 VDC, 6.5A, 4 Class B or 2 Class A NACs (2.5A each), 1A AUX power

Associated Parts

Part Number	Description
400-704-00	Battery, SLA, rechargeable, 12V/8 Ah, quick connect, 5.95" L x 2.56" W x 3.90" H, 3.50 lb
400-713-00	Battery, SLA, rechargeable, 12V/12 Ah, quick connect, 5.94" L x 3.86" W x 3.86" 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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Detect Manage Record

Supplemental Equipment

Relay, SPDT, 120-277 VAC, 10 Amp

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

Power Input	50 mA @ 240 VAC Max.
Contact Ratings	10 Amp General Use @ 277 VAC 10 Amp Resistive @ 30 VDC (NO) 7 Amp Resistive @ 30 VDC (NC) 470 VA Pilot Duty @ 125 VAC 770 VA Pilot Duty @ 250 VAC
Wiring	16" 600 V rated
Dimensions	1.70" H x 2.80" W x 1.50" D (43.18 mm x 71.12 mm x 38.1 mm) with .50" (12.7 mm) NPT nipple
Shipping Weight	0.314 lb (0.142 kg)
Temperature	-30°F to 140°F (34.4°C to 60°C)
Relative Humidity	5% to 95% non-condensing
Standards Compliance	
UL	E68805 Management Equipment UL Listed UL916
CSFM	7300-1555:0100

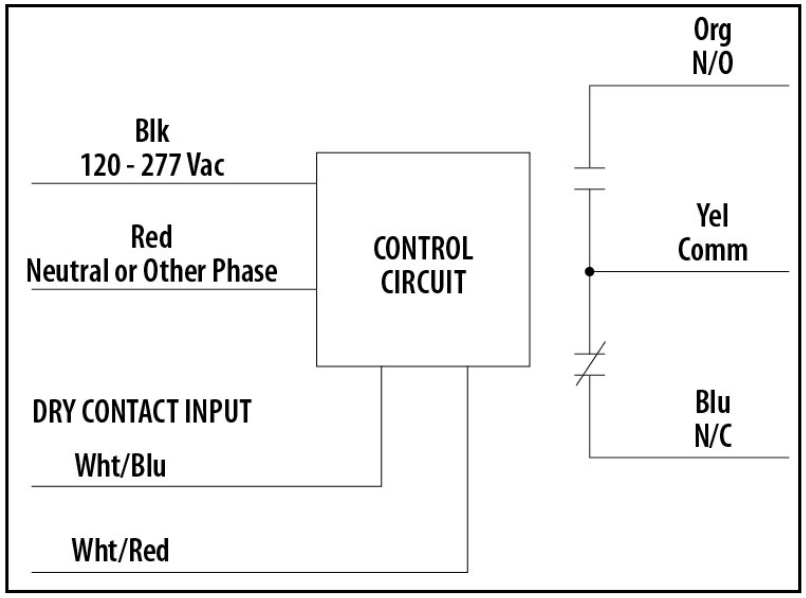
Ordering Information

Part Number	Description
451-700-00	Relay, SPDT, 120-277 VAC, 10 Amp, Dry Contact, Class 2, LED, grey enclosure
451-700-01	Relay, SPDT, 120-277 VAC, 10 Amp, Dry Contact, Class 2, LED, red enclosure

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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, 7 Amp

453-100-00

Description

This SPDT track mounted relay offers 7 Amp contact at 24 VDC or 10 Amp 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

Voltage	24 VDC or 24 VAC @ 15 mA
Contact Ratings	Resistive load: 7A @ 24 VDC, 10A @ 120 VAC
Contacts	Dry form "C" SPDT
Wiring	Solid or Stranded #14 to #22 AWG Terminals
Track mounting	3.5" wide, low profile snap track with mounting screws
Track Mount Dimensions	3.5" H x 2.00" W x 1.375" D (89 mm x 51 mm x 35 mm)
Ambient Temperature	32°F to 120°F (0°C to 49°C)
Relative Humidity	85% @ 32°F non-condensing, non-freezing
Standards Compliance	
UL	UL Listed UL864 (10th edition) UL Recognized Component #S3403 UOXX2.S3403

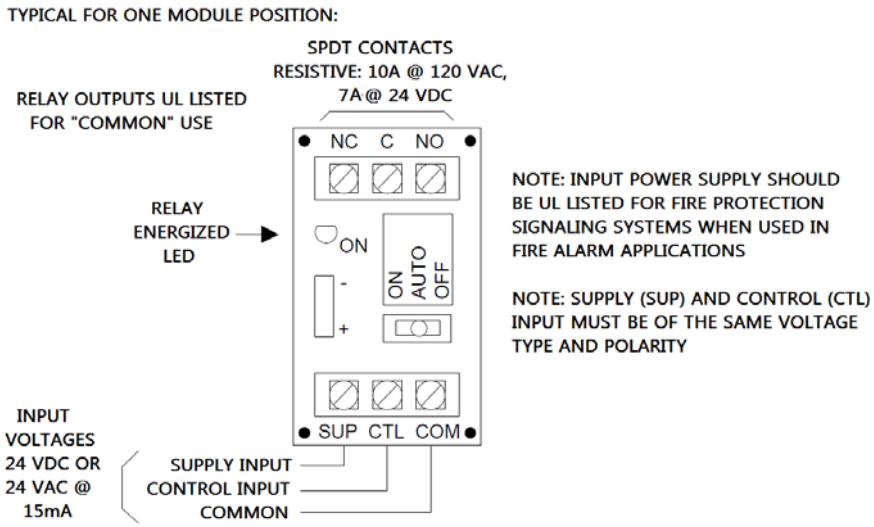
Ordering Information

Part Number	Description
453-100-00	Relay, SPDT, 24 VDC, 7 Amp contacts, override, LED, track mount (track included)

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Detect Manage Record

Wiring Diagram



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Supplemental Equipment

Relay, SPDT, 24 VDC, 7 Amp
453-102-00, 453-103-00

Description

These SPDT Multi-Voltage Control Relays offer 7 Amp and 10 Amp 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 (Resistive)	7 A @ 30 VDC 10 A @ 125 VAC 7 A @ 250 VAC
Wiring	Solid or stranded: #14 to #22 AWG terminals
Mounting	Track Mount 3.5" wide, low profile, plastic snap track provided with mounting screws
Dimensions	3.25" H x 2.125" W x 1.50" 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 (Resistive)	7 A @ 30 VDC 10 A @ 125 VAC 7 A @ 250 VAC
Wiring	Solid or stranded: #14 to #22 AWG terminals
Enclosure	Grey, ABS-94V-0 Plastic
Mounting	Backbox 18 gage CRS, plated with 1/2" conduit knockouts top and bottom
Dimensions	5.125" H x 3.125" W x 2.50" 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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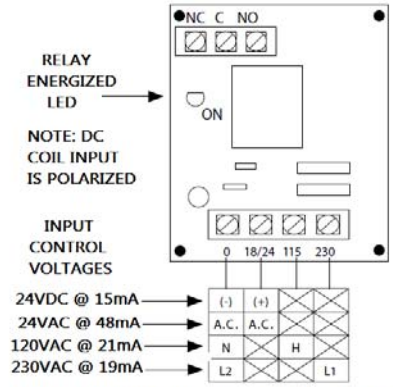
Supplemental Equipment

Ordering Information

Part Number	Description
453-102-00	Relay, SPDT, 24 VDC, 7 Amp contacts, polarized, LED, 3.5" track mount (included)
453-103-00	Relay, SPDT, 24 VDC, 7 Amp contacts, polarized, LED, enclosure

Wiring Diagram

SPDT CONTACT
RESISTIVE: 7A @ 30VDC, 10A @ 125VAC, 7A @250VAC



NOTE: INPUT POWER SUPPLY SHOULD BE UL LISTED FOR FIRE PROTECTION SIGNALING SYSTEMS WHEN USED IN FIRE ALARM APPLICATIONS

NOTE: THE INPUT CURRENT SHALL NOT EXCEED THE MARKED RATING OF THE PRODUCT

RELAY OUTPUTS UL LISTED FOR "COMMON" USE

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Detect Manage Record

Supplemental Equipment

Relay, DPDT, 24 VDC, 7 Amp
453-104-00, 453-105-00

Description

These DPDT Multi-Voltage Control Relays offer 7 Amp and 10 Amp 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 (Resistive)	7 A @ 30 VDC 10 A @ 125 VAC 7 A @ 250 VAC
Wiring	Solid or stranded: #14 to #22 AWG terminals
Mounting	Track Mount 3.5" wide, low profile, plastic snap track provided with mounting screws
Dimensions	3.25" H x 2.125" W x 1.50" 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 453-105-00:

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 (Resistive)	7 A @ 30 VDC 10 A @ 125 VAC 7 A @ 250 VAC
Wiring	Solid or stranded: #14 to #22 AWG terminals
Enclosure	Grey, ABS-94V-0 Plastic
Mounting	Backbox 18 gage CRS, plated with 1/2" conduit knockouts top and bottom
Dimensions	5.125" H x 3.125" W x 2.50" 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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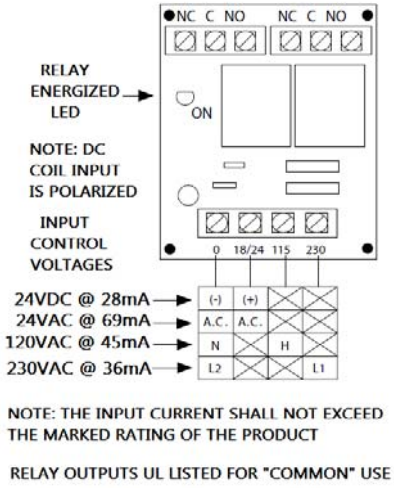
Supplemental Equipment

Ordering Information

Part Number	Description
453-104-00	Relay, DPDT, 24 VDC, 7 Amp contacts, polarized, LED, 3.5" track mounted
453-105-00	Relay, DPDT, 24 VDC, 7 Amp contacts, polarized, LED, enclosure

Wiring Diagram

DPDT CONTACTS
RESISTIVE: 7A @ 30VDC, 10A @ 125VAC, 7A @ 250VAC



NOTE: INPUT POWER SUPPLY SHOULD BE UL LISTED FOR FIRE PROTECTION SIGNALING SYSTEMS WHEN USED IN FIRE ALARM APPLICATIONS

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, 10 Amp

453-106-00, 453-106-01

Description

This SPDT enclosed Fire Alarm Relay is 10 Amp, 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

Coil Voltage Input	24 VDC/VAC, 50/60 Hz Drop out = 3.8 VDC / 3 VAC Pull In = 20 VDC / 20 VAC
Coil Current	18 mA @ 24 VDC 31 mA @ 24 VAC
Contact Ratings	10 Amp Resistive @ 30 VDC (NO) 7 Amp Resistive @ 30 VDC (NC)
Wiring	16" 600 V rated
Dimensions	1.70" H x 2.80" W x 1.50" D (43.18 mm x 71.12 mm x 38.1 mm) with .50" (12.7 mm) NPT nipple
Shipping Weight	0.291 lb (0.132 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

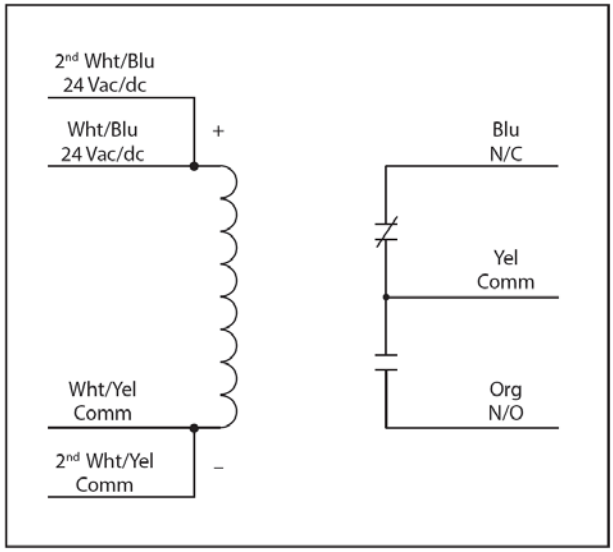
Ordering Information

Part Number	Description
453-106-00	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, coil, 10 Amp contacts, polarized, LED, grey enclosure
453-106-01	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, coil, 10 Amp contacts, polarized, LED, red enclosure

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Wiring Diagram



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Supplemental Equipment

Relay, SPDT, 24 VDC/VAC, 10 Amp

453-107-00, 453-107-01

Description

This SPDT enclosed Fire Alarm Relay is 10 Amp, polarized with 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 A/C voltage (non-polarized) if desired.



P/N 453-107-00 shown

Features

- SPDT Relay
- Single Relay Module
- Expected relay life of 10 million cycles minimum-mechanical
- 6 ms operate time
- LED illuminates when active
- Override Switch
- UL Accepted for Use in Plenum, NEMA 1

Specifications

Coil Voltage Input	24 VDC/VAC, 50/60 Hz Drop out = 3.8 VDC/ 3 VAC Pull In = 20 VDC / 20 VAC
Coil Current	18 mA @ 24 VDC 31 mA @ 24 VAC
Contact Ratings	10 Amp Resistive @ 30 VDC (NO) 7 Amp Resistive @ 30 VDC (NC)
Wiring	16" 600 V rated
Dimensions	1.70" H x 2.80" W x 1.50" D (43.18 mm x 71.12 mm x 38.1 mm) with .50" (12.7 mm) NPT nipple
Shipping Weight	0.291 lb (0.132 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

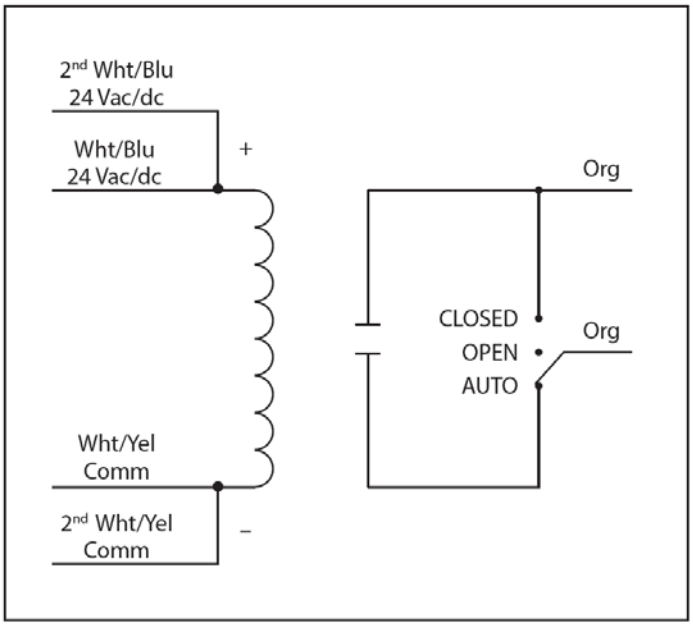
Ordering Information

Part Number	Description
453-107-00	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, coil, 10 Amp contacts, polarized, override, LED, grey enclosure
453-107-01	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, coil, 10 Amp contacts, polarized, override, LED, red enclosure

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Wiring Diagram



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Supplemental Equipment

Relay, DPDT, 24 VDC/VAC, 10 Amp

453-110-00, 453-110-01

Description

This enclosed DPDT Pilot Relay is rated 10 Amp with 24 VDC/VAC, 120 VAC Coil.



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

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 @ 24 VDC 32 mA @ 24 VAC 31 mA @ 120 VAC
Contact Ratings	10 Amp Resistive @ 30 VDC B300 Pilot Duty: 120 VAC 30 A Make 3 A Break (360 VA) 240 VAC 15 A Make 1.5 A Break (360 VA) 24 VAC 30 A Make 5 A Break (120 VA) 5 A max
Wiring	16" 600V rated
Dimensions	1.70" H x 2.80" W x 1.50" D (43.18 mm x 71.12 mm x 38.1 mm) with .50" (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

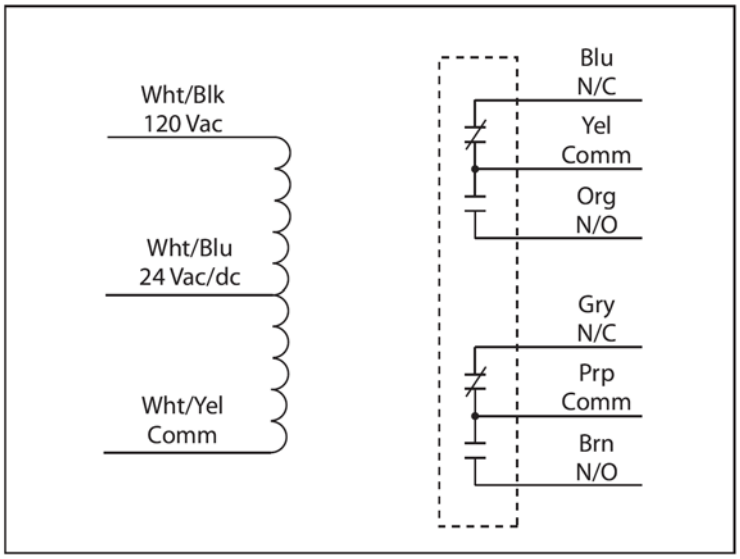
Ordering Information

Part Number	Description
453-110-00	Relay, DPDT, 24 VDC/VAC, 50/60 Hz, coil, 10 Amp contacts, LED, grey enclosure
453-110-01	Relay, DPDT, 24 VDC/VAC, 50/60 Hz, coil, 10 Amp contacts, LED, red, enclosure

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Supplemental Equipment

Relay, SPDT, 10-30 VDC, 10 Amp Input

453-111-00, 453-111-01

Description

This enclosed SPDT Pilot Relay is rated 10 Amp with 10-30 VDC/VAC, 120 VAC Coil.



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

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 @ 24 VDC 46 mA @ 24 VAC 28 mA @ 120 VAC
Contact Ratings	10 Amp Resistive @ 28 VDC 600 Watt Tungsten @ 120 VAC (NO) 240 Watt Tungsten @ 120 VAC (NC)
Wiring	16" 600 V rated
Dimensions	1.70" H x 2.80" W x 1.50" D (43.18 mm x 71.12 mm x 38.1 mm) with .50" (12.7 mm) NPT nipple
Shipping Weight	0.3 lbs (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

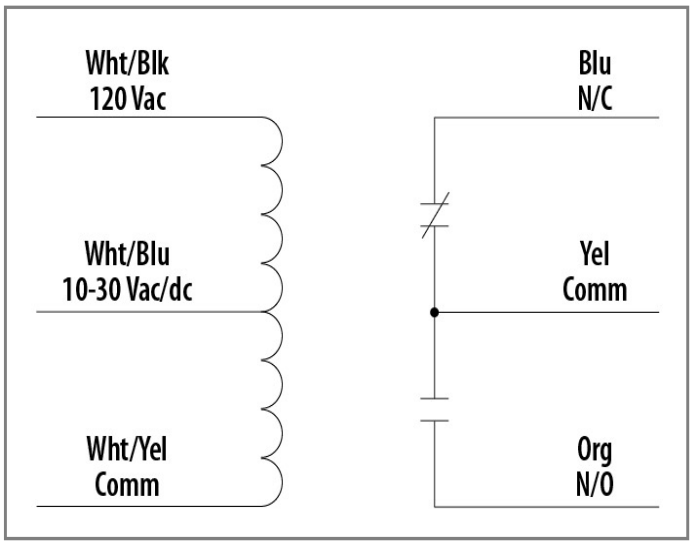
Ordering Information

Part Number	Description
453-111-00	Relay, SPDT, 10-30 VDC, 10 Amp contacts, LED, grey enclosure
453-111-01	Relay, SPDT, 10-30 VDC, 10 Amp contacts, LED, red enclosure

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Wiring Diagram



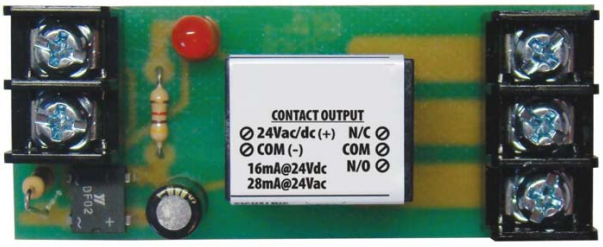
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Supplemental Equipment

Relay, SPDT, 24 VDC/VAC, 7 and 10 Amp
453-114-00

Description

The SPDT, 24 VDC/VAC, Fire Alarm Relay is track mounted and polarized and offers 10 Amp at 30 VDC (normally open) and 7 Amp at 30 VDC (normally closed) 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 A/C voltage (non-polarized) if desired.



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

Specifications

Coil Voltage Input	24 VDC/VAC; 50/60 Hz Drop Out = 2.5 VDC / 2 VAC Pull In = 11 VDC / 9 VAC
Coil Current	18 mA @ 24 VDC 31 mA @ 24 VAC
Contact Ratings	10 Amp Resistive @ 30 VDC (NO) 7 Amp Resistive @ 30 VDC (NC) 470 VA Pilot Duty @ 125 VAC 770 VA Pilot Duty @ 250 VAC
Track Mounting	Screw mount 2.75" wide track to any flat surface
Dimensions	1.10" H x 2.75" W x 1.75" D (27.94 mm x 69.85 mm x 44.45 mm) with .50" (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	UL Listed UL916, UL864, C-UL
CSFM	7300-1555:0100

Ordering Information

Part Number	Description
453-114-00	Relay, SPDT, 24 VDC/VAC, 50/60 Hz, 10 Amp contacts, polarized, LED, 2.75" track mount

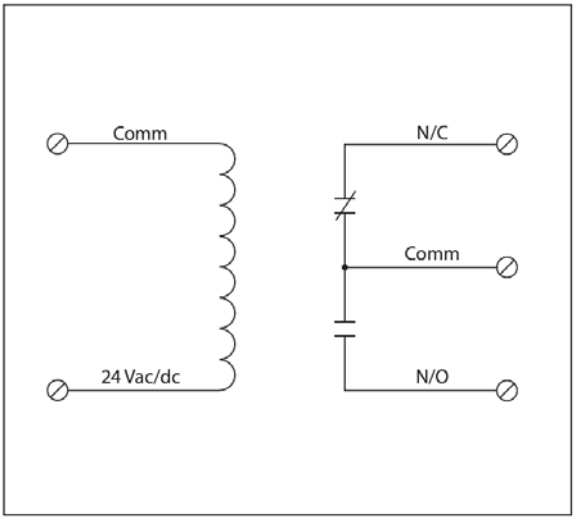
Associated Parts

Part Number	Description
082-431-00	Mounting Track for Relay, 2 inch length, 2.75 inch width, PVC flame rated 94-5V, mounting holes 2.0 inch center to center. For use with P/N 453-114-00.
082-431-01	Mounting Track for Relay, 12 inch length, 2.75 inch width, PVC flame rated 94-5V, mounting holes 2.0 inch center to center. For use with P/N 453-114-00.

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Wiring Diagram



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Supplemental Equipment

Relay, Time Delay, SPDT, 10 Amp
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	10 Amp General Use @ 277 VAC 10 Amp Resistive @ 30 VDC (N/O) 7 Amp Resistive @ 30 VDC (N/C) 1/2 HP @ 125 VAC 1 HP @ 250 VAC 1/4 HP @ 277 VAC C300 Pilot Duty
Input Current	66 mA @ 24 VAC 38 mA @ 24 VDC 40 mA @ 120-277 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-20 minutes Adjustment: 4 position DIP switch for range selection and single turn potentiometer for timing adjustment within range Tolerance: Switches 1 & 2: ±10% Switches 3 & 4: ±5% Repeatability: ±1% Temperature: ±1% Voltage: ±1% Recycle Time: 750 ms maximum
LED	Relay Status: Red LED On = Activated Time Delay: Pink LED Flashing = Timing
Wire Length	16", 600V rated
Enclosure	Gray, Plenum, NEMA 1
Operating Temperature	-30°F to 140°F (-34°C to 60°C)
Humidity	5% to 95% non-condensing
Dimensions	4" H x 4" W x 1.8" D with .5" 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

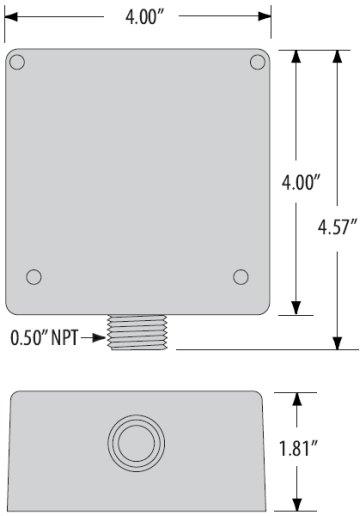
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Detect Manage Record

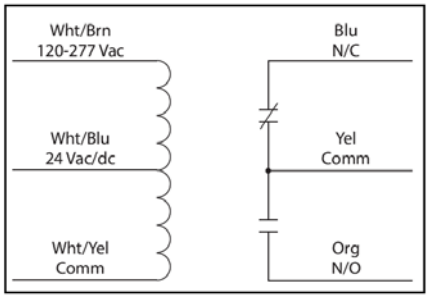
Supplemental Equipment

Diagrams

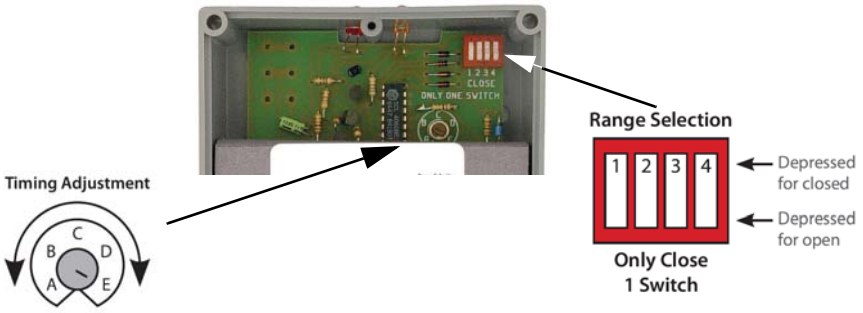
Dimensions



Wiring



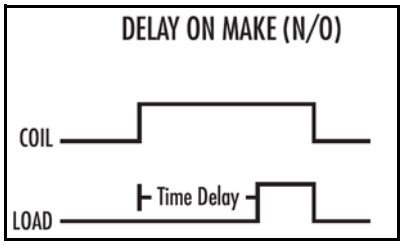
Timing Adjustment, Range Selection and Timing Table

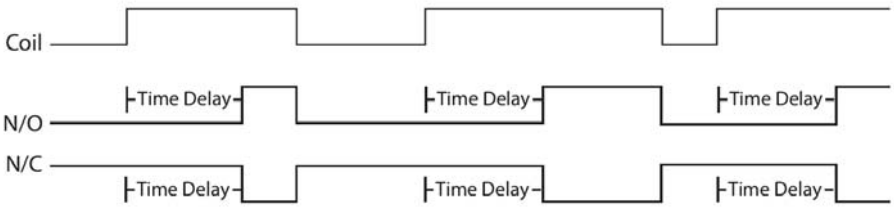


TIMING TABLE

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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Detect Manage Record

Supplemental Equipment

Relay, Reverse Polarity Module, 20-30 VDC, 1 Amp
729-112-00

Description

This Reverse Polarity Relay Module is designed for tandem signaling of audible devices within Smoke Detectors and Carbon Monixide Detectors having integral audible devices.



Features

- 24 VDC Reverse Polarity Relay Module
- Detectors with integral audible devices activate simultaneously
- 2 and 4 wire modules
- Mounts to Control Panel

Specifications

Voltage	20-30 VDC
Current	21 mA @ 24 VDC
Contacts	1A @ 30 VDC resistive
Circuits	Single
Dimensions	2.9" H x 2.1" W x 1" D (7.3 cm x 5.3 cm x 2.5 cm)
Weight	0.02 lbs

Standards Compliance:

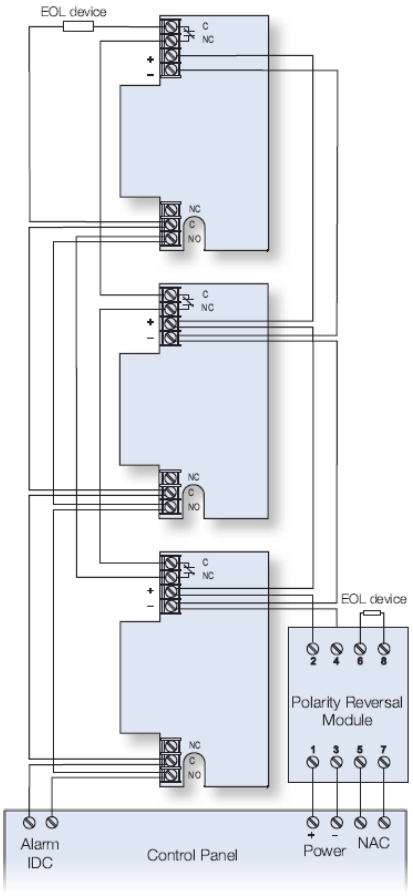
UL Listed	UL 864
CSFM	7300-1657-0267

Ordering Information

Part Number	Description
729-112-00	Relay, Reverse Polarity Module, 20-30 VDC, 1 Amp contacts

Wiring Diagram

Multiple devices, single zone



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Detect Manage Record

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 15 Amp 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)
- 2 NEMA 5-15R surge-protected outlets
- 1410 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

Nominal Input Voltage	120 VAC
Frequency Compatibility	50/60 Hz
Output	1800 Watts
Circuit Breaker (amps)	15 A
Input Plug Type	NEMA 5-15P
EMI/RFI Noise Filter	40-80 dB
Clamping Voltage	140 Volts - RMS
AC Suppression Response Time	NM = 0 ns. CM = < 1 ns
AC Suppression Surge Current Rating	48,000 A
Protection Mode	Full normal: H-N Common mode: N-G/H-G
Housing	Black, metal
Mounting	Direct plug-in format with retaining bracket supports wall mounting directly to standard AC wall socket
Dimensions	4" H x 2.5" W x 2.5" D (10.16 cm x 6.35 cm x 6.35 cm)
Weight	0.8 lbs (0.36 kg)
Standards Compliance	
UL	Tested to UL 1449 3rd Edition Safety Standards
IEEE	587 Catagory A and B Surge Suppression Specifications
ANSI	C62.41

Ordering Information

Part Number	Description
210-505-00	Surge Protector Kit, 15 A/120 VAC, Plug In, 4" H x 2.5" W x 2.5" D

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Detect Manage Record

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, 4 Line Surge Protection Device (SPD)
- Silicon Avalanche Suppressor Diode (SASD) protection
- Screw Terminal Connectors
- 4X Wall Mounting Tabs

Specifications

Voltage	12 VDC (P/N 210-508-00) 27 VDC (P/N 210-511-00) 52 VDC (P/N 210-512-00)
Surge Current Rating	200 A @ 10/1000 µs (P/N 210-508-00) 134 A @ 10/1000 µs (P/N 210-511-00) 67 A @ 100/1000 µs (P/N 210-512-00)
Protection Mode	L-G
Data Rate	1.5 Mb/s
Response Time	5 ns
Ports	1
Mounting	Wall-mount
Grounding	6-32 Stud, 14 AWG max.
Operating Temperature	-40°F to 185°F (-40°C to 85°C)
Dimensions	2.2" H x 3.16" W x 1.44" D (55.88 mm x 80.26 mm x 36.58 mm)
Weight	0.15 lbs (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

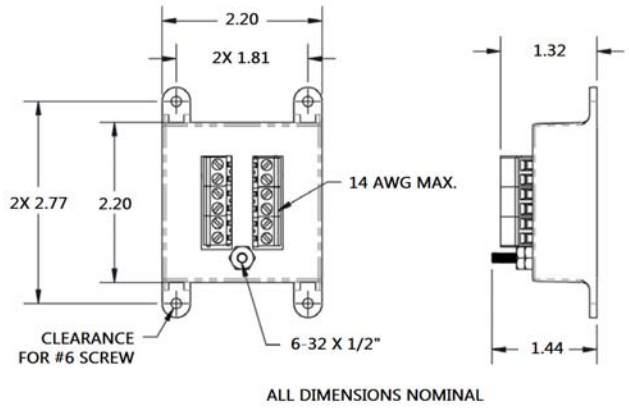
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Detect
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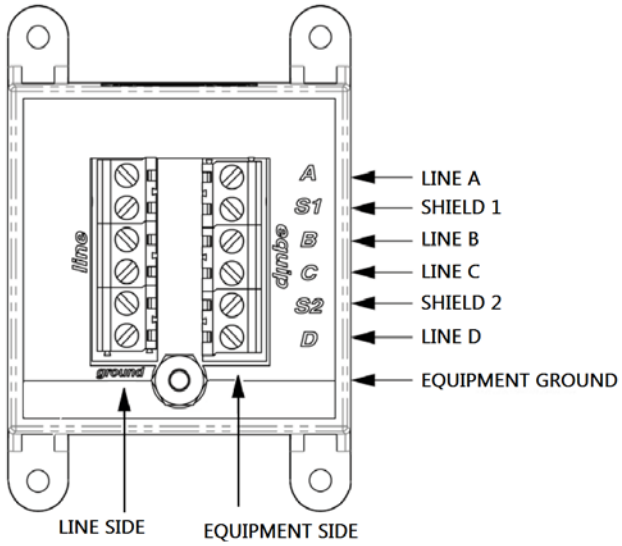
Supplemental Equipment

Diagrams

Dimensions



Wiring Diagram



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Detect
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Record

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.



P/N 210-509-00



P/N 210-510-00

Features

- Indoor, Surge Protection Device (SPD)
- 100% Silicon Avalanche Suppressor Diode (SASD) protection
- Suppression Status Lamp
- Hardwired

Specifications

210-509-00

Electrical Configuration	120 VAC 60 Hz single-phase, 15 A Fused 6 inch, 14 AWG - Line and Load bi-directional protection
Maximum Continuous Operating Voltage (MCOV)	L-N 138 VAC
Nominal Discharge Current Rating (In)	0.7 kA
Response Time	5 nanoseconds
Protection Mode	L-N/G
Housing Material & Plating	Noryl N190X
Mounting	Panel mount
Operating Temperature	-22°F to 149°F (-30°C to 65°C)
Humidity	90% non-condensing
Dimensions	6.5" H x 3" W x 2.7" D (165.1 mm x 76.2 mm x 68.58 mm)
Weight	0.7 lbs (317.51 g)

P/N 210-510-00

Electrical Configuration	120 VAC 60 Hz single-phase, 15 A Pigtail, color-coded leads
Maximum Continuous Operating Voltage (MCOV)	L-N 138 VAC
Nominal Discharge Current Rating (In)	0.7 kA
Voltage Protection Level	8/20 µs L-N 330 @ 500 A Vpk
Protection Mode	L-N/G
Housing Material & Plating	Noryl N190X
Mounting	Panel or Wall Mount
Operating Temperature	-40°F to 158°F (-40°C to 70°C)
Humidity	90% non-condensing
Dimensions	2.2" H x 2.2" W x 0.88" D (55.88 mm x 55.88 mm x 22.35 mm)
Weight	0.2 lbs (90.72 g)

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Supplemental Equipment

Ordering Information

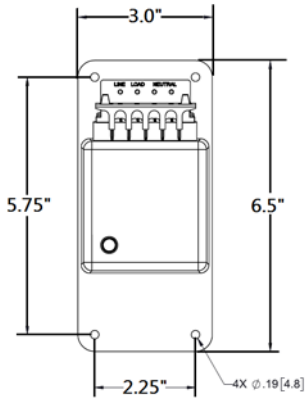
Part Number	Description
210-509-00	Surge Protector Kit, Transient, 120 VAC 60 Hz Single Phase, 15 A, Terminal Block, 6.5" H x 3" W x 2.7" D

Part Number	Description
210-510-00	Surge Protector Kit, Transient, 120 VAC 60 Hz Single Phase, 15 A Fused, Pigtail, 2.2" H x 2.2" W x 0.88" D

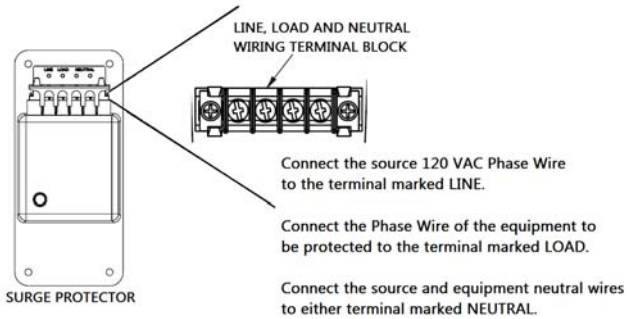
Diagrams

P/N 210-509-00

Dimensions

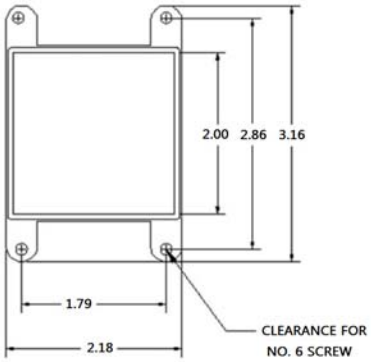


Wiring Diagram

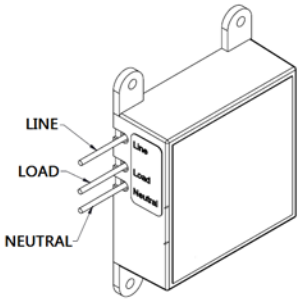


P/N 210-510-00

Dimensions



Wiring Diagram



Connect the source 120 VAC Phase Wire to the lead marked LINE (Black).

Connect the 120 VAC Phase Wire of the equipment to be protected to the lead marked LOAD (Red).

Connect the source and equipment neutral wires to the lead marked NEUTRAL (White).

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Detect Manage Record

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

Voltage	24 VDC
Application	RS-422
Protected Pins	[1,2], [3,6], [4,5], [7,8]
Surge Current Rating	67 A @ 10/1000 µs
Voltage Protection Level	48 Vpk @ 67 A @ 10/1000 µs
Protection Mode	L-L
Connectors	3 six-inch Wired Leads
Ports	1
Mounting	4X Wall Mounting tabs
Operating Temperature	-22°F to 149°F (-30°C to 65°C)
Dimensions	2.2" H x 3.16" W x 0.88" D (55.88 mm x 80.26 mm x 22.35 mm)
Weight	0.15 lbs (68.04 g)
Standards Compliance:	Listed to UL 497B
UL	E220064

Ordering Information

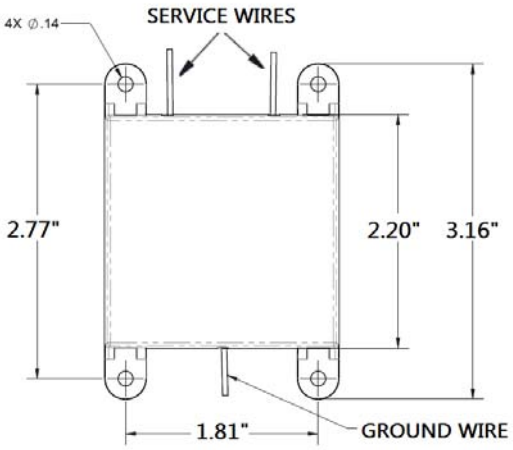
Part Number	Description
210-514-00	Surge Protector, initiating/indicating circuit, 24 VDC, CATV Repeaters/Amplifier data protocols

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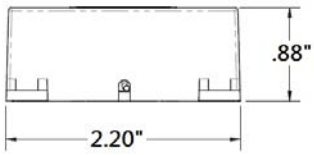
Detect Manage Record

Diagrams

Dimensions

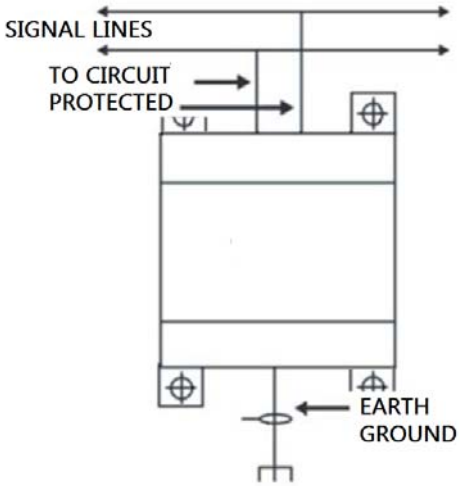


FRONT VIEW



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



P/N 210-254-00



P/N 210-555-00



P/N 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" Parallel Wired
Temperature Range	-31°F to 176°F (-35°C to -80°C)
Maximum Humidity	95% non-condensing
Dimensions	3.5" L x 1.89" W x 3.4" 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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Detect Manage Record

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 reliabilty 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

Service Voltage	5V
Leakage Current	5 µA
Surge Current Rating	100 A @ 10/1000 *µs*
Voltage Protection Level	7.5V @ 100 A 10/1000 *µs*
Protection Mode	L-G
Impedance (data)	33 Ohms per line (peak)
Response Time	5 ns
Connectors	Screw Terminal
Ports	8
Mounting	Wall Mount
Grounding	6 - 32 Stud, Terminal Ring #22 - #16 AWG
Operating Temperature	-22°F to 149°F (-30°C to 65°C)
Dimensions	2.2" H x 3.16" W x 1.43" D (55.88 mm x 80.26 mm x 36.32 mm)
Weight	0.18 lbs (81.65 g)

Ordering Information

Part Number	Description
210-526-00	Surge Protector, 4-wire Leased Line, 5V

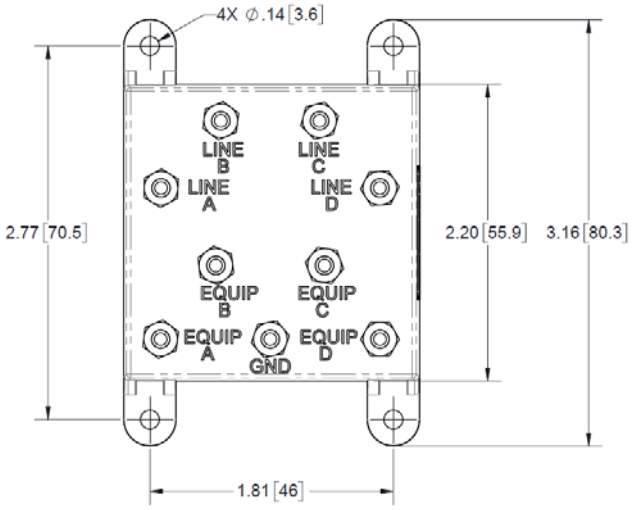
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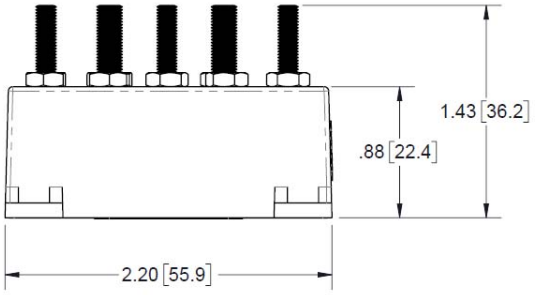
Detect Manage Record

Supplemental Equipment

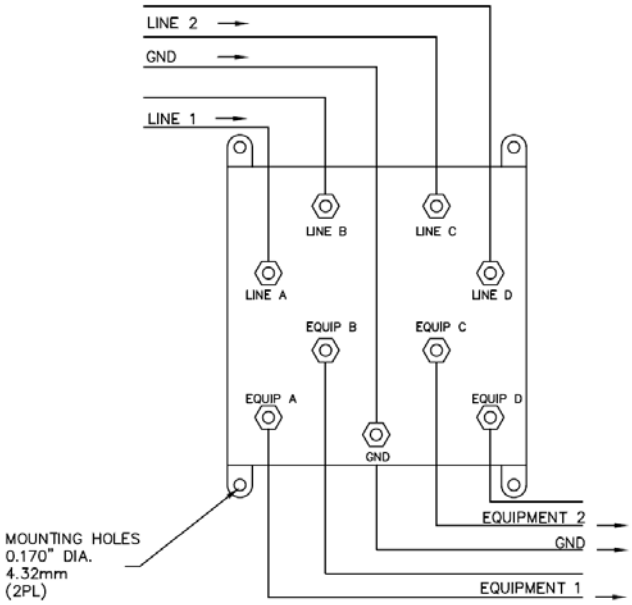
Diagrams

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 to + 140°F (–40 to +60°C)
Storage Temperature	–40 to +185°F (–40 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 Powerl Line Max Common Mode Current	16A
Dimensions	5.1" H x 3.5" W x 1.6" 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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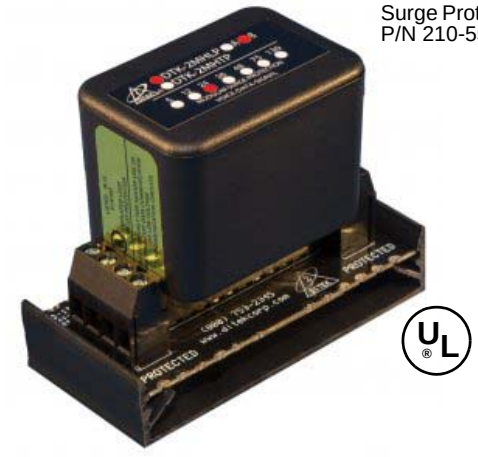
Supplemental Equipment

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	5 Amps
Surge Current Rating	20 kA
Data Rate	200 kbps (5 V) to 2 Mbps (130 V)
Service Voltage	12 V (P/N 210-550-xx) 24 V (P/N 210-551-xx) 75 V (P/N 210-549-xx)
MCOV	18 V (P/N 210-550-xx) 33 V (P/N 210-551-xx) 90 V (P/N 210-549-xx)
Clamping Voltage	21.6 V (P/N 210-550-xx) 39 V (P/N 210-551-xx) 108 V (P/N 210-549-xx)
Protection Modes	Line-Ground
Base Connection	10 AWG max screw terminals
Housing	ABS
Operating Temperature	-40° to 158°F (-40° to 70°C)
Maximum Humidity	95% noncondensing

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Supplemental Equipment

Dimensions and Weight:

Module	2.1" L x 1.4" W x 1.9" H (53 mm x 36 mm x 48 mm) weight 1.2 oz (34g)
Module with Base	3.25" L x 1.5" W x 2.6" H (83 mm x 38 mm x 66 mm) weight 2.8 oz (79g)

Standards Compliance:

UL Listed	UL497B

Ordering Information

Part Number	Description
210-550-00	Surge Protector Module and Base, 12 VDC, protects 2 circuit pairs, plug-in base
210-550-01	Surge Protector Module, 12 VDC, without base, protects 2 circuit pairs (replacement module for P/N 210-550-00)
210-551-00	Surge Protector Module and Base, 24 VDC, protects 2 circuit pairs, plug-in base
210-551-01	Surge Protector Module, 24VDC, without base, protects 2 circuit pairs (replacement module for P/N 210-551-00)
210-549-00	Surge Protector Module and Base, 75 VDC, protects 2 circuit pairs, plug-in base
210-549-01	Surge Protector Module, 75 VDC, without base, protects 2 circuit pairs (replacement module for P/N 210-549-00)

Associated Parts

Part Number	Description
210-546-00	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
210-546-05	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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Supplemental Equipment

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.



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 settng of 40/55°F

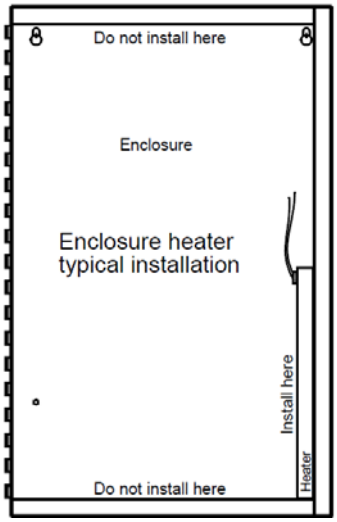
Specifications

Volts	120 VAC
Watts	50 (P/N 532-001-00) 100 (P/N 532-002-00)
Wire Wound Elements	Rated at 5 in^2 (0.78 W/cm^2)
Max. Watt Densities	80 W/in^2 (125 W/cm^2)
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	40/55°F
Ambient Temperature	80°F (62°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

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 Catalog Section
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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 adapter/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 Ω
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 inches wide × 4.5 inches high × 1.25 inches deep
Weight	6.17 oz.
Operating Temperature	0° to 140° F (-20° to 60° C)
Antenna	BNC Type - 50 Ω Impedance

Ordering Information

Part Number	Description
196-100-00	Programmable Scanner, 300 channel, LB/HB, UHF and VHF.

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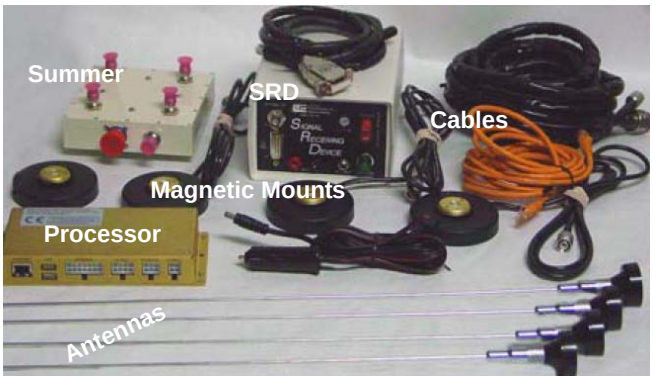
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Test Equipment

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

Voltage Range	11- 14 VDC
Power	6.5 W @ 12 VDC (processor and antennas)
Interfaces	2 USB Host Ethernet (RJ45) Receiver Audio and RSSI 3.5 mm Speaker Output
Frequency Range	125 - 1000 MHz
Accuracy	1 degree rms (8 element antenna) 2.5 degree rms (4 element antenna)
Resolution	0.1 degree
Sampling Rate	2 samples per second (adjustable)
Sensitivity	-123 dBm (FM receiver dependent)
Averaging	Adjustable from 1 to 20 samples
RF Pulse Detection	80 ms minimum
Commutation Frequency	Adjustable (250, 500, 1000, 2000 Hz)
Antennas	136-500M 1/4 wave whip with magnetic base
Summer	Mounts on top of vehicle Operates with four 1/4 wave magnetic mount antennas
Laptop (not included)	Runs Series 7000 (MPT) UI software Connects to Processor
Temperature Range	Processor: 32°F to 158°F (0°C to 70°C) Antenna: -40°F to 185°F (-40°C to 85°C)
Standards Compliance	
Per EN	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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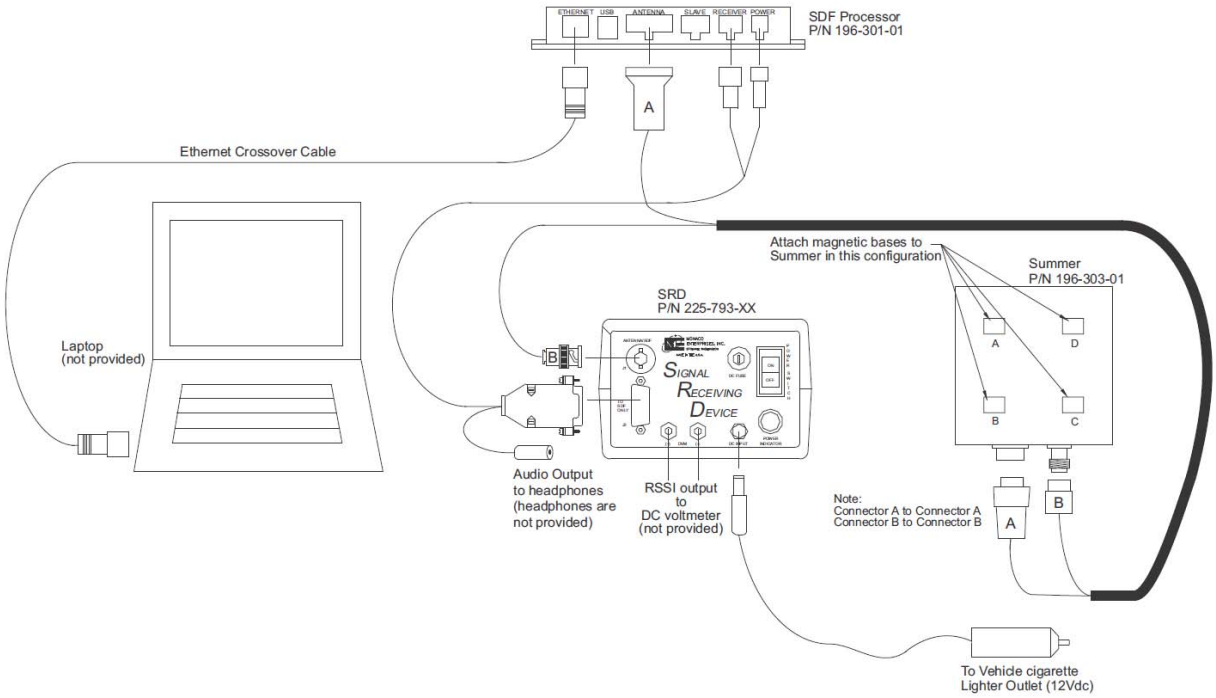
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Test Equipment

Associated Parts

Part Number	Description
225-793-xx	Signal Receiving Device (SRD), includes adapter 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

Specifications

Fuse	Slow Blow, 1 A/250 V
Battery	Internal - connected to 12 VDC vehicle power outlet (through cigarette lighter or use of an adapter power cable [included])
Antenna Whip	1/4 wave, omnidirectional (to be cut for 136-174 MHz (VHF) or 406-470 MHz (UHF) Antenna height 22", power rating 200 W
Magnetic Base	Mounting: 5/16" x 24" THDS roof mount, 3.5" x 3" with a pull strength of 50 lbs and includes 12' of coax

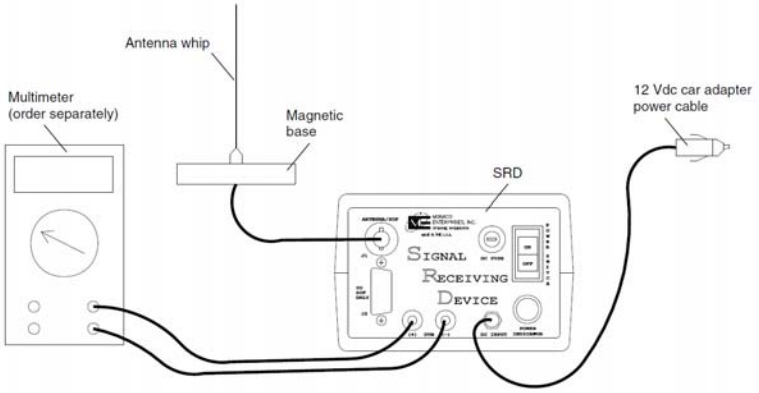
Ordering Information

Part Number	Description
225-793-xx	Signal Receiving Device (SRD), includes adapter 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" x 1 1/4"
400-703-00	Battery, SLA, rechargeable, 12V/1.4 Ah, quick connect, 3.78"L x 1.69"W x 2.28"H, 1.20 lb

Wiring Diagram



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Test Equipment

Wattmeter Kit, 25-1000 MHz, 5-500 Watt, Fixed Element RF

290-050-01



Features

- Fixed 25-1000 MHz, 5-500 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, 800-1000 MHz
Frequency range	25 - 1000 MHz
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, ± 7% of full scale (with correction factor) 100-512 MHz, ± 6% of full scale 512-1000 MHz, ± 7% of full scale
Connectors	QC Type (Female N normally supplied)
Finish	Light Gray, powder coat
Dimensions	6 7/8" H x 5 1/8" W x 3 5/8" D (175 mm x 130 mm x 92 mm) Includes connectors
Weight	4 lbs (1.8 kg) with N Connectors

Ordering Information

Part Number	Description
290-050-01	RF Power Wattmeter with 50 ohm RF load resistor, coaxial interconnect cable, UHF/BNC Connector Adapters, 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, 25-1000 MHz, and case
626-071-00	Adapter, 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 µs
- Two level backlight
- IP30 rating

Specifications

Voltage AC/DC	1000 V RMS - maximum between any terminal and earth ground
Current AC/DC	10 A
Resistance	50 MΩ
Frequency	200 kHz
Capacitance	10,000 µF
Temperature	1994°F (1090°C)
Conductance	60 ns
Fuse Protection	.44A, 1000 V IR 10 kA 11 A, 1000 V IR 17 kA
Battery Type	9 V zinc, NEDA 1604 or IEC 6F22
Battery Life	400 hours typical with alkaline (and backlight off)
Vibration	Per MIL-PRF-28800 Class 2 instrument
Shock	1 meter drop (per IEC 61010-1:2001)
Digital Display	6000 counts, updates 4/sec has 19,999 counts in high-res mode
Analog Bargraph Display	33 segments, updates 40/sec, frequency: 19,999 counts, updates 3/sec at >10 Hz
Operating Temperature	-4°F to 131°F (-20°C to 55°C)
Storage Temperature	-40°F to 140°F (-40°C to 60°C)
Altitude	Operating: 2000 m, Storage: 10,000 m
Relative Humidity	0% to 90% 32°F to 95°F (0°C to 35°C) 0% to 70% 95 to 131°F (35°F to 55°C)
Dimensions	1.25"H x 3.41"W x 7.35"L (3.1 cm x 8.6 cm x 18.6 cm)
Dimensions with Holster and Flex Stand	2.06" H x 3.86"W x 7.93" L (5.2 cm x 9.8 cm x 20.1 cm)
Weight	12.5 oz (.35 kg)
Weight with Holster and Flex Stand	22.0 oz (.62 kg)
Standards Compliance:	
UL listed	UL61010-1
ANSI/ISA	S82.01-204
CSA	22.2 No. 1010.1:2004 to 1000 V Overvoltage Category III
IEC	Digital Multimeter Specifications 5 664 to 600 Overvoltage Category IV
IEC	61010-1: Pollution Degree 2 61010-2-033: CAT IV 600 V / CAT III 1000 V
Electromagnetic Compatibility (EMC):	
International	IEC 61326-1: Portable Electromagnetic Environment: IEC 61326-2-2 CISPR 11: Group 1 ,Class A
Korea (KCC)	Class A equipment
USA (FCC)	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

Primary Power	100-240 VAC 50/60 Hz power Li-ion battery
Display	16 x 140 pixels, high contrast dual vacuum fluorescent graphical displays
Power Meter	Displays power from +23 dBm to +50 dBm, ±.5 dB (200 mW - 100 W)
Dummy Load	100W 30 dB feed through attenuator with sample port on rear, 25% duty cycle full power
Attenuator Output	-30 dB sample port from load for external equipment
Audio Generator	.1 H to 3 kHz test tones CTS and DPL encode tones
Frequency Range	Receives: 100 kHz to 1.0 GHz in 10 Hz steps Generates: 100 kHz to 1.0 GHz in 1 Hz steps Frequency Counter: 100 kHz to 1.0 GHz Audio Counter: 60 Hz 30 3000 Hz
FM	Bandwidth: 0.1 Hz to 75 kHz Modulation: ± 75 kHz max. in 0.1 Hz to 0.1 kHz, 10 Hz steps to 10 kHz, 100 Hz steps to 75 kHz
AM	Bandwidth: 10 Hz - 10 kHz Modulation: 0 - 75% in 1% steps to -100 dBm, 0-50% to -140 dBm
SINAD Meter	Displays reading from -30 dB to 0 dB of SINAD
Self-Calibrating RSSI Meter	80 dB of range on receiver side -40 dBm to -102 dBm
Memories	100 sequences of 100 registers plus system memories
Dimensions	6" H x 11.94" W x 14.75" D (152 mm x 303 mm x 375 mm)
Weight	14 lbs (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



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	5-16 VDC
Load Current	30 mA during static test, 3.5 Amps max, during dynamic test
Dynamic Load Current	1.0 to 3.5 Amps, dependent on Ah
Dynamic Load Time Interval	120 to 270 seconds, dependent on battery voltage and Ah selection (all intervals ±1%)
Static Indicator Transition Voltages	6V: <6.05 too low to test 6.05-6.75 normal charged battery 6.75-7.10 normal charging voltage >7.10 overcharging, open battery 12V: <12.10 too low to test 12.10-13.50 normal charged battery 13.50-14.20 normal charging voltage >14.20 overcharging, open battery All transitions have 50 mV hysteresis
Input Terminals	Standard Banana Jacks, color coded
Test Leads	■ 48 inch, 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" H x 3.75" W x 4.75" L (51 mm x 95 mm x 121 mm)
Weight	1 lb (.45 kg) includes test leads
Shipping Weight	2 lb (.9 kg)

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 **NOTE** 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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P.O. Box 14129, Spokane Valley, WA 99214-0129; 14820 E. Sprague Ave., Spokane Valley, WA 99216-2149
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Detect Manage Record

Test Equipment

Dual Mode Battery Analyzer
297-301-00



Features

- Tests 6 and 12 volt 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 from Battery	5-15 VDC Auto-select for 6V or 12V
Testing Range	4 to 110 Amphour, 12V 4 to 60 Amphour, 6 V
Load Current	200 mA during static test, 30 Amps max, during dynamic test Actual load is approximately 1/2 Ah rating
Dynamic Load Time Interval	60 to 120 seconds Approximately 50 to 100 seconds for Amphour determination
Test Leads	■ 48 inch, 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 Amphours, prompts, battery temperature and data
Operating Temperature	32°F to 140°F (0°C to 60°C)
Relative Humidity	90%
Battery Temperature Input	Non-contact infared thermometer for reading Keypad entry for temperature
Dimensions	5" H x 11.5" W x 11" 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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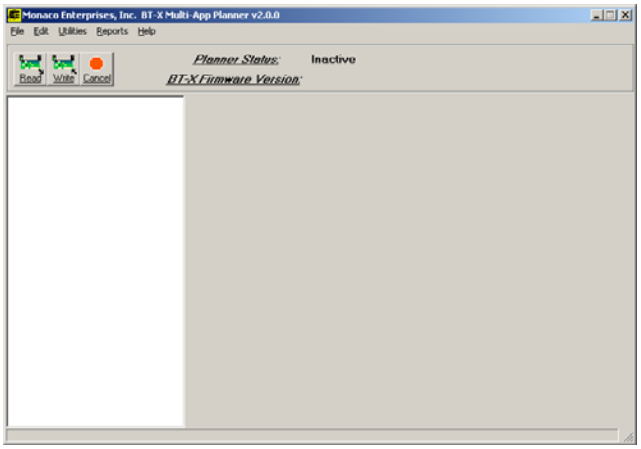
Test Equipment

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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Detect Manage Record

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. The unit also allows "dividing the system" in troubleshooting, 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: 50Ω
Operating Temperature	–22 to 140°F (–30 to 60°C)
Relative Humidity	0–90%, noncondensing

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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Cable Catalog Section
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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	1715 ft
1.0 A	340 ft	525 ft	870 ft	1380 ft

Ordering Information

Part Number	Description
621-020-00	Cable, FPLR: ■ 2-conductor, 18 AWG ■ PVC insulation, red PVC jacket ■ Cable diameter: 0.158" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 6.52Ω/1000 ft
621-022-00	Cable, FPLR: ■ 2-conductor, 14 AWG ■ PVC insulation, red PVC jacket, zip cord ■ Cable diameter: 0.206" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 2.57Ω/1000 ft
621-040-00*	Cable, FPLR: ■ 4-conductor, 18 AWG ■ Red PVC jacket, zip cord ■ Cable diameter: 0.184" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 6.4Ω/1000 ft
621-060-00	Cable, FPLR: ■ 6-conductor, 18 AWG ■ Polypropylene insulation, PVC jacket; zip cord ■ Cable diameter: 0.208 ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 6.4Ω/1000 ft
621-062-00	Cable, FPLR: ■ 4-conductor, 14 AWG ■ Red PVC jacket, zip cord ■ Cable diameter: 0.24" ■ Temperature rating: –4 to +167°F (–20 to +75°C) ■ Nominal DC resistance, 68°F: 2.57Ω/1000 ft
621-063-00*	Cable, FPLP: ■ 2-conductor, 18 AWG ■ Low-smoke PVC insulation and red PVC jacket ■ Cable diameter: 0.158" ■ Temperature rating: 32 to +167°F (0 to +75°C) ■ Nominal DC resistance, 68°F: 6.52Ω/1000 ft
621-064-00	Cable, FPLP: ■ 4-conductor, 18 AWG ■ Low-smoke PVC insulation and jacket; zip cord ■ Cable diameter: 0.184" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 6.4Ω/1000 ft

NOTES

1. All cables are unshielded solid copper.
2. Monaco ships all cable on 1,000-foot spools.

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Detect Manage Record

Cable

Part Number	Description
621-065-00	Cable, FPLP: ■ 6-conductor, 18 AWG ■ Low-smoke PVC insulation and jacket; zip cord ■ Cable diameter: 0.211" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 6.4Ω/1000 ft
621-066-00	Cable, FPLP: ■ 2-conductor, 14 AWG ■ Low-smoke PVC insulation and red PVC jacket ■ Cable diameter: 0.206" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 2.6Ω/1000 ft
621-067-00	Cable, FPLP: ■ 4-conductor, 14 AWG ■ Low-smoke PVC insulation and jacket; zip cord ■ Cable diameter: 0.242" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 2.43Ω/1000 ft
621-068-00*	Cable, FPLR: ■ 2-conductor, 12 AWG ■ Polypropylene insulation, red PVC jacket ■ Cable diameter: 0.244" ■ Temperature rating: –4 to 140°F (–20 to 60°C) ■ Nominal DC resistance, 68°F: 1.53Ω/1000 ft
621-069-00*	Cable, FPLR: ■ 2-conductor, 14 AWG ■ Red PVC jacket ■ Cable diameter:0.210" ■ Temperature rating: –4 to 140°F (–20 to 60°C) ■ Nominal DC resistance, 68°F: 2.57Ω/1000 ft

Part Number	Description
621-070-00*	Cable, FPLR: ■ 2-conductor, 16 AWG ■ Red PVC jacket ■ Cable diameter:0.178" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 4.10Ω/1000 ft
621-071-00*	Cable, FPLR: ■ 2-conductor, 18 AWG ■ Low-smoke PVC insulation and red PVC jacket ■ Cable diameter: 0.158" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 6.52Ω/1000 ft
621-072-00*	Cable, FPLP: ■ 2-conductor, 16 AWG ■ PVC insulation and jacket ■ Cable diameter: 0.178" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance, 68°F: 4.1Ω/1000 ft
621-073-00*	Cable, FPLP: ■ 2-conductor, 12 AWG ■ PVC insulation and jacket ■ Cable diameter: 0.239" ■ Temperature rating: 32 to 167°F (0 to 75°C) ■ Nominal DC resistance 68°F: 1.8Ω/1000 ft
*Suitable for SLC wiring	

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Detect
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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, gray 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"
Minimum Bend Radius	2.5"
DC Resistance (68°F)	18 AWG: 15.5Ω per 1000 ft 22 AWG: 6.8Ω per 1000 ft
Recommended Current	18 AWG: 2.5A per conductor at 77°F 22 AWG: 5.6A per conductor at 77°F
Operating Temperature	–4 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	1000 ft
Minimum Bend Radius	Plenum: 2.25 in. Non-plenum: 2.5 in.

Capacitance:

Conductor to Conductor	Plenum: 12pF/ft Non-plenum: 12.8pF/ft
Conductor to Shield	Plenum: 22 pF/ft Non-plenum: 23 pF/ft

Maximum Recommended Current:

Plenum	4 Amps per conductor at 25°C Ambient
Non-plenum	2.1 Amps per conductor at 25° Ambient (10°C temperature rise)
Voltage Rating	300 V RMS (CM)
Impedance	120 Ohms
DC Resistance	24 Ω/1000 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 ■ 2 conductors ■ 24 AWG twisted pair with drain and shield ■ FFEP ■ Low Smoke PVC outer jacket ■ Cable Diameter: 0.204 in. ■ Temperature range: 0°C to 75°C ■ Impedance: 120 Ohms
621-084-00	RS485 cable - Non-plenum Rated ■ 2 conductors ■ 24 AWG twisted pair with drain and shield ■ PE ■ PVC outer jacket ■ Cable diameter: 0.232 in. ■ Temperature range: -30°C to 80°C ■ Impedance: 120 Ohms

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Detect Manage Record

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 Gpps.

Features

- RoHS compliant
- Increases network efficiency and uptime

Specifications

Category	5E
Diameter	0.200" (5.08 mm)
Conductor Size	24 AWG
Conductor Type	Solid
Shileded	Unshielded twisted pair
Jacket Color	Yellow

Ordering Information

NOTES

1. Monaco ships all cable on 1,000-foot spools.

Part Number	Description
624-026-00	CAT5E cable ■ 4-conductor, 24 AWG ■ PVC insulation, yellow PVC jacket ■ Cable diameter: 0.187" ■ Temperature rating: -14° to 167° F (-10° to 75° C) ■ Nominal DC resistance: 9.38Ω/328 ft (100m) ■ Length: 1000 ft ■ Riser

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Detect Manage Record

Cable

Cable, CAT6 Plenum and Non-Plenum

624-03x-00, 624-04x-00



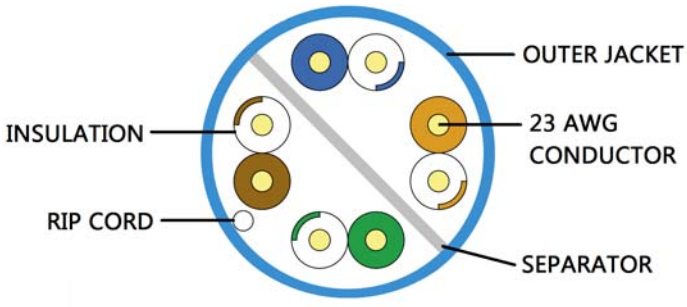
Features

- 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

Application	1000 BASE-T (Gigabit Ethernet), 100 BASE-TX, 10 BASE-T
Conductors	23 AWG, solid bare annealed copper
Shield	U/UTP Unshielded Twisted Pair
Conductor Pair Count	4 Pair
Pair Color Coding	■ Pair 1: Blue-White/Blue ■ Pair 2: Orange-White/Orange ■ Pair 3: Green-White/Green ■ Pair 4: Brown-White/Brown
Jacket	Plenum: Low Smoke, Flame-Retardant PVC Non-Plenum: Flame-Retardant PVC
Insulation	Plenum: Fluoropolymer/Dual-Layer Polyolefin Non-Plenum: Polyolefin
Length	1000 ft
Cable Type	GenSPEED® 6 CAT6
Maximum Pull Force	Plenum and Non-Plenum: 32 lbs
Nominal Cable Diameter	Plenum: 0.205 in (5.207 mm) Non-Plenum: 0.220 (5.588 mm)
Minimum Bend Radius	Plenum and Non-Plenum: 1.0 in.
Cable Weight	Plenum: 25 lbs/1000 ft Non-Plenum: 24 lbs/1000 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: 1000 BASE-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 foot spools

Plenum Cables

Part Number	Description
624-044-00	CAT6 Cable - Plenum Rated, Green Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms
624-045-00	CAT6 Cable - Plenum Rated, Purple Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms
624-046-00	CAT6 Cable - Plenum Rated, Yellow Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms
624-047-00	CAT6 Cable - Plenum Rated, White Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms
624-049-00	CAT6 Cable - Plenum Rated, Blue Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms

Non-Plenum (Riser) Cables

Part Number	Description
624-034-00	CAT6 Cable - Non-Plenum Rated, Green Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms
624-035-00	CAT6 Cable - Non-Plenum Rated, Purple Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms
624-036-00	CAT6 Cable - Non-Plenum Rated, Yellow Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms
624-037-00	CAT6 Cable - Non-Plenum Rated, White Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms
624-039-00	CAT6 Cable - Non-Plenum Rated, Blue Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms

Associated Part

Part Number	Description
624-050-00	CAT6A Cable - OSP Broadband, Black Jacket ■ 10BASE-T through 10GBASE-T Ethernet ■ 23 AWG solid annealed copper ■ U/FTP - Unshielded/Foiled Twisted Pair ■ Jacket: OSP-grade Polyethelyne ■ Nominal Cable Diameter: 0.39 in (9.906 mm) ■ Impedance: 100 ± 15 Ohms

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Detect Manage Record

Cable

Cable, CAT6A OSP Broadband
624-050-00



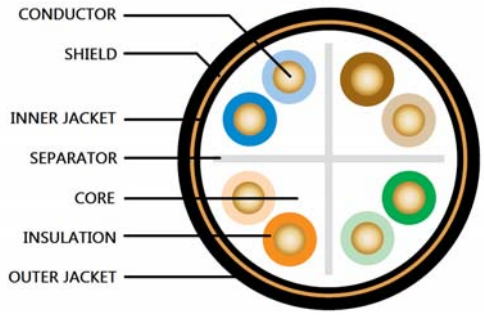
Features

- 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	4 pair
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	1000 ft
Cable Type	OSP Broadband, CAT6A
Maximum Pull Force	25 lbs (110 N)
Nominal Cable Diameter	0.39 in. (9.906 mm)
Cable Weight	72 lbs/1000 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

Cross Section



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Cable

Ordering Information

NOTE Monaco ships all cable on 1,000 foot spools

Part Number	Description
624-050-00	CAT6A Cable - OSP Broadband, Black Jacket ■ 10BASE-T through 10GBASE-T Ethernet ■ 23 AWG solid annealed copper ■ U/FTP - Unshielded/Foiled Twisted Pair ■ Jacket: OSP-grade Polyethelyne ■ Nominal Cable Diameter: 0.39 in (9.906 mm) ■ Impedance: 100 ± 15 Ohms

Associated Parts

Plenum Cables

Part Number	Description
624-044-00	CAT6 Cable - Plenum Rated, Green Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms
624-045-00	CAT6 Cable - Plenum Rated, Purple Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms
624-046-00	CAT6 Cable - Plenum Rated, Yellow Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms
624-047-00	CAT6 Cable - Plenum Rated, White Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms
624-049-00	CAT6 Cable - Plenum Rated, Blue Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Low Smoke, Flame-Retardant PVC ■ Nominal Cable Diameter: 0.205 in (5.207 mm) ■ Impedance: 100 ± 15 Ohms

Non-Plenum (Riser) Cables

Part Number	Description
624-034-00	CAT6 Cable - Non-Plenum Rated, Green Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms
624-035-00	CAT6 Cable - Non-Plenum Rated, Purple Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms
624-036-00	CAT6 Cable - Non-Plenum Rated, Yellow Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms
624-037-00	CAT6 Cable - Non-Plenum Rated, White Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms
624-039-00	CAT6 Cable - Non-Plenum Rated, Blue Jacket ■ 1000 BASE-T, 100 BASE-TX, 10 BASE-T ■ 23 AWG solid bare annealed copper ■ U/UTP Unshielded Twisted Pair ■ Jacket: Flame-Retardant PVC ■ Nominal Cable Diameter: 0.220 in (5.588 mm) ■ Impedance: 100 ± 15 Ohms

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Antenna Systems Catalog Section
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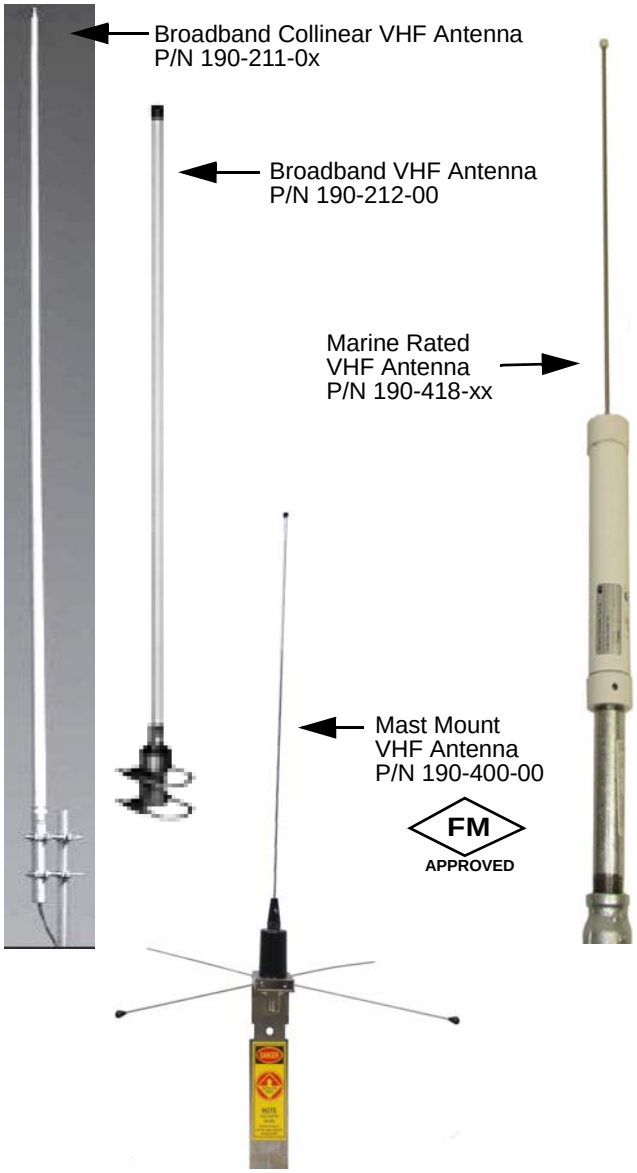
Antenna Systems

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 gasses, ultraviolet radiation, icing, salt spray, acid rain, and wind blown 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 and 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.

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Antenna Systems

Specifications

*P/N 190-211-0x**

Description	VHF, Omnidirectional Broadband Collinear Antenna
Material	Heavy Duty Fiberglass
Frequency Range	138-175-MHz, 8 bands
Connector	Recessed, Type N Female
Polarization	Vertical
Power Rating	500 W
Gain	6 dBd
Impedance	50 Ω
VSWR	1.5:1 or less
Beam Width	20 degrees
Lighnting Protection	DC ground
Dimensions	P/N 190-211-01 & P/N 190-211-02: 256 inch x 2.75 inch Other Antennas: 244 inch x 2.75 inch
Weight	43 lbs (antenna and clamps)
Wind Rating	With 0.5" ice: 150/125 mph Bending moment at top clamp: P/N 190-211-01 & P/N 190-211-02: 1090 ft lb; other antennas: 1010 ft lb

**"0x" indicates frequency*

P/N 190-212-00

Description	VHF Omnidirectional Fixed, Weather Resistant Antenna
Material	Fiberglass, radome color
Frequency Range	118-174 MHz
Connector	Bottom location, Type N Female
Polarization	Vertical
Power Rating	100 W
Gain	0 dBd
Impedance	50 Ω
VSWR	1.5:1 or less
Beam Width	80.0 degrees
Lightning Protection	Direct ground
Dimensions	0.4 ft x 0.03 ft x 0.5 ft
Weight	1.6 lbs (without mounting hardware)
Wind Rating	Rated Windspeed: 125 mph (200 km/h) Max Wind Loading Area 0.3 ft^2 Bending moment 1" 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 Range	136-174 MHz
Connector	PL-259 female
Polarization	Vertical
Gain	3 dBd, 5/8 wave ground plane
Impedance	50 Ω nominal
VSWR	1:5 to 1 maximum
Wind Rating	100 mph
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 Range	122-300 MHz
Connector	PL-259 female
Power Rating	100 W max.
Gain	0 dBd
Impedance	50 Ω nominal
VSWR	1.5:1
Overall Height	54.5"
Weight	~2.5 lb
Wind Rating	100 mph

**"xx" indicates frequency*

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Ordering Information

Antenna

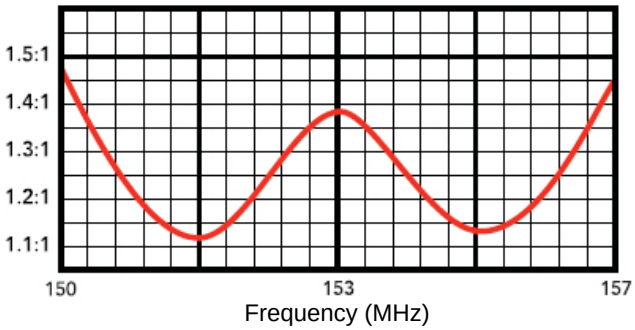
Part Number	Description
190-211-01	VHF antenna, omnidirectional, 6 dBd gain, fiberglass, 138–144 MHz. Includes mounting clamps and removable N-male jumper.
190-211-02	VHF antenna, omnidirectional, 6 dBd gain, fiberglass, 144–151 MHz. Includes mounting clamps and removable N-male jumper.
190-211-03	VHF antenna, omnidirectional, 6 dBd gain, fiberglass, 150–157 MHz. Includes mounting clamps and removable N-male jumper.
190-211-04	VHF antenna, omnidirectional, 6 dBd gain, fiberglass, 156–164 MHz. Includes mounting clamps and removable N-male jumper.
190-211-05	VHF antenna, omnidirectional, 6 dBd gain, fiberglass, 158–166 MHz. Includes mounting clamps and removable N-male jumper.
190-211-06	VHF antenna, omnidirectional, 6 dBd gain, fiberglass, 161–168 MHz. Includes mounting clamps and removable N-male jumper.
190-211-07	VHF antenna, omnidirectional, 6 dBd gain, fiberglass, 167–172.5 MHz. Includes mounting clamps and removable N-male jumper.
190-211-08	VHF antenna, omnidirectional, 6 dBd gain, fiberglass, 171–175 MHz. Includes mounting clamps and removable N-male jumper.
190-212-00	VHF antenna, omnidirectional, 0 dBd, fiberglass, 118-174 MHz, N female, weather resistant. Must specify frequency.
190-400-00	BSA-1 VHF Omnidirectional antenna, 136–174 MHz , 3 dBd, PL-259 female connector, mounting hardware, ground clamp, coaxial cable seal. Customer must cut to frequency.
190-418-xx	VHF antenna kit, omnidirectional, marine rated, PL-259 female connector, 122 MHz–300 MHz, 0 dBd. Specify frequency (-xx) when ordering.

Associated Parts

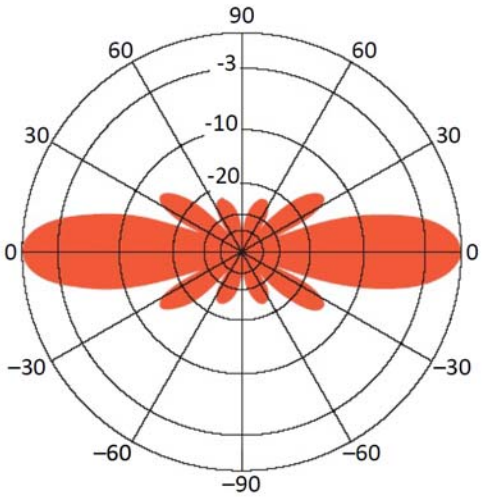
Part Number	Description
199-001-00	Spare 54" antenna whip for P/N 190-400-00. Customer must cut antenna whip to frequency.
199-002-00	Spare VHF coil for P/N 190-400-00.
643-554-00	Adapter PL-259 Female to N male
164-004-03	Coaxial seal, 10" long
199-057-00	Antenna mounting kit, low profile, marine rated, 4 ft gold stanchion and clamp set

Broadband Collinear Antennas, P/N 190-211-0x:

Typical VSWR Response



Vertical Plane Radiation Pattern

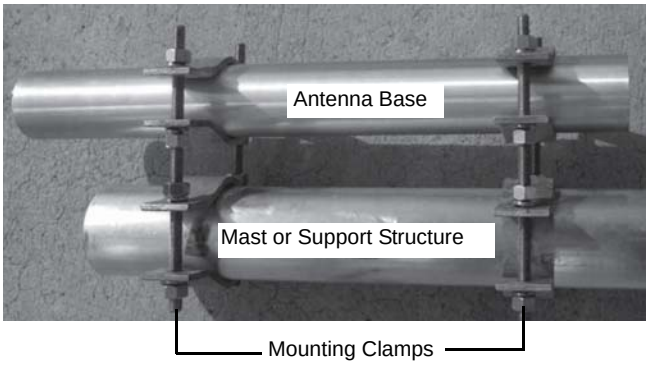


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Antenna Systems

Mounting clamps



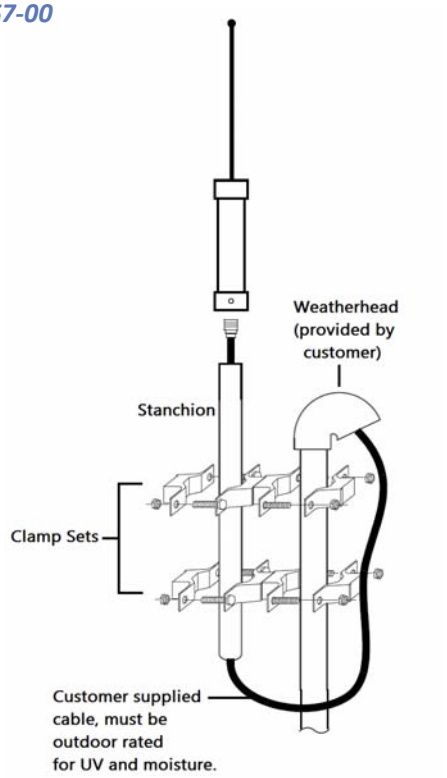
Antennas include a dual-clamp set for mounting to a 1.5-in. to 3.5-in. (OD) support pipe and a 24-in. removable N male jumper. Stand-off and top mounts are also available.

Requires a lightning surge protector for additional surge protection.

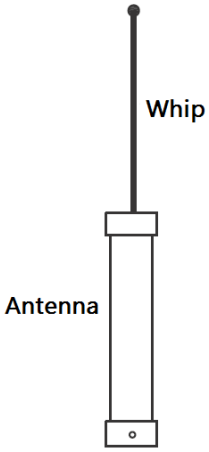
Antenna Components

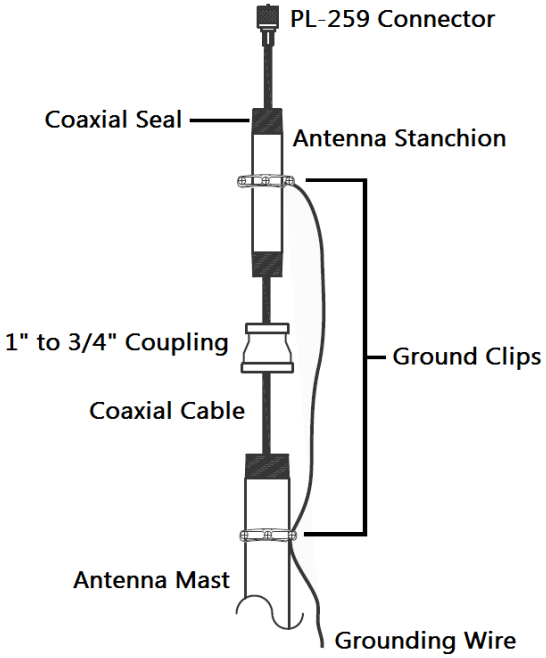
Optional Mounting Components

P/N 199-057-00



Standard Components





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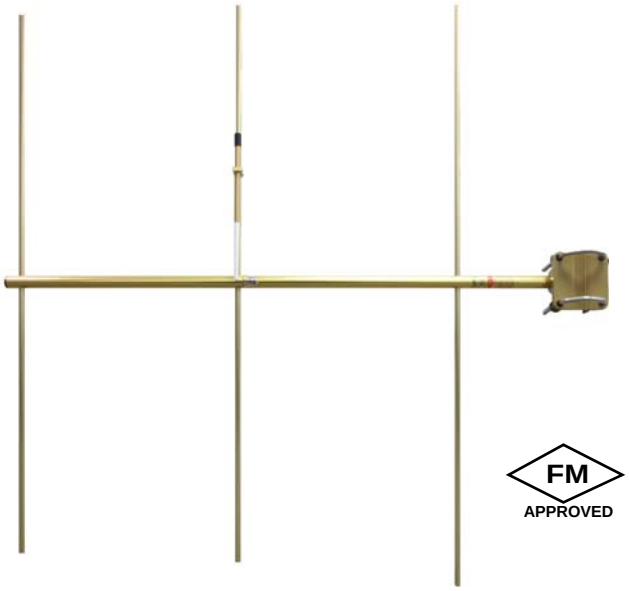
Antenna Systems

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 adapter, and weather seal. Includes aluminum mounting kit with stainless steel hardware.

Specifications

*P/N 190-401-xx**	VHF, Yagi Directional BSA-1
Material	Aluminum
Frequency Range	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
Connector	N female (RF adapter for PL-259 female included)
Polarization	Vertical
Power	300 W Max.
Gain	7.1 dBd
Front to Back Ratio	17 dB
RF Impedance	50Ω nominal
VSWR at Resonance	<2:1 typical
Rated Wind Velocity	150 mph
Rated Wind Velocity (with 1/2" radial ice)	80 mph
Horizontal Beam Width	78 degrees
Vertical Beam Width	74 degrees
Tuning	See cutting chart
Standards Compliance	FM Approval BSA-2 directional antenna is optional for use in the VHF range

"xx" indicates frequency

Ordering Information

Part Number	Description
190-401-10	BSA-2, VHF 3-element Yagi directional antenna, 136–142 MHz, N Female connector with PL-259 female adaptor, mounting hardware, coaxial cable seal. Customer must cut to frequency.
190-401-11	BSA-2, VHF 3-element Yagi directional antenna, 142–150 MHz, N Female connector with PL-259 female adaptor, mounting hardware, coaxial cable seal. Customer must cut to frequency.
190-401-12	BSA-2, VHF 3-element Yagi directional antenna, 150–158 MHz, N Female connector with PL-259 female adaptor, mounting hardware, coaxial cable seal. Customer must cut to frequency.
190-401-13	BSA-2, VHF 3-element Yagi directional antenna, 158–166 MHz, N Female connector with PL-259 female adaptor, mounting hardware, coaxial cable seal. Customer must cut to frequency.
190-401-14	BSA-2, VHF 3-element Yagi directional antenna, 166–174 MHz, N Female connector with PL-259 female adaptor, mounting hardware, coaxial cable seal. Customer must cut to frequency.

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Associated Parts

Part Number	Description
643-554-00	Adapter PL-259 Female to N male
164-004-03	Coaxial seal, 10" long

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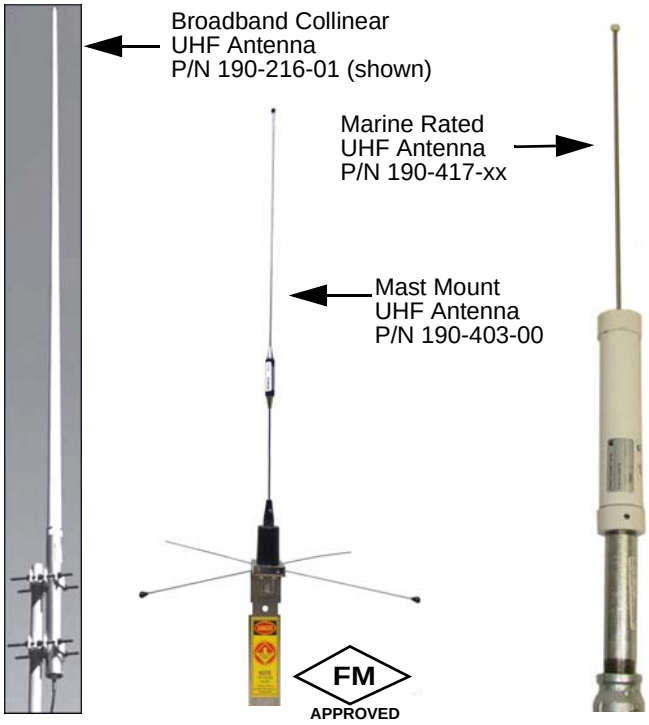
Antenna Systems

UHF Antenna, Omnidirectional

190-216-xx, 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.



Broadband Collinear Antennas P/N 190-216-xx

These antennas are built to withstand corrosive gasses, ultraviolet radiation, icing, salt spray, acid rain, and wind-blown 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 range.

Marine Rated Antennas P/N 190-417-xx

The marine rated antennas have a larger 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**

Description	UHF, Omnidirectional Broadband Collinear Antenna
Material	Heavy Duty Fiberglass
Frequency	P/N 190-216-01: 405-440 MHZ P/N 190-216-02: 445-480 MHz
Connector	Recessed Type N Female
Power Rating	500 W
Gain	6 dBd
Impedance	50 Ω
VSWR	1.5:1 or less
Beam Width	18 degrees
Lightning Protection	DC ground
Dimensions	P/N 190-216-01: 101" x 2 3/8" (256.54 cm x 6.03 cm) P/N 190-216-02: 94" x 2 3/8" (238.76 cm x 6.03 cm)
Weight	P/N 190-216-01: 22 lb P/N 190-216-02: 21 lb
Wind Rating	P/N 190-216-01: 185 mph without ice, 155 mph with 0.5" ice P/N 190-216-02: 150 mph without ice, 125 mph with 0.5" ice

* "xx" indicates the frequency

NOTE: See "Performance Graphs" on page 3

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Antenna Systems

*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 Customer must cut to frequency
Connector	PL-259 female
Polarization	Vertical
Gain	3.4 dBd, 5/8 wave ground plane
Impedance	50Ω nominal
VSWR	1.5 to 1 maximum
Wind Rating	100 mph
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
Material	Stainless Steel
Frequency	406–420 MHz, 420–430 MHz, 450–470 MHz Customer must cut to frequency
Connector Type	BNC male
Polarization	Vertical
Gain	3.4 dBd, 5/8 wave ground plane
Impedance	50 Ω nominal
VSWR at Resonance	1.5 to 1 maximum
Wind Resistance	100 mph

***** "xx" indicates the frequency.

*P/N 190-417-xx**

Description	UHF, Omnidirectional Marine Rated Antenna
Material	Anodized Aluminum/Stainless Steel
Frequency Range	300 MHz - 3 GHz
Connector	PL-259 Female
Power Rating	100 W max.
Gain	0 dB
Impedance	50 Ω
VSWR	1.15:1
Height	25"
Weight	~2.5 lb
Wind Rating	100 mph

***** "xx" indicates frequency

Ordering Information

Part Number	Description
190-216-01	UHF antenna, omnidirectional, 6 dBd gain, fiberglass, 405–440 MHz continuous. See NOTE.
190-216-02	UHF antenna, omnidirectional, 6 dBd gain, fiberglass, 445–480 MHz continuous. See NOTE.
190-403-01	BSA-3 UHF omnidirectional antenna, 406–420 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial seal. Customer must cut to frequency.
190-403-02	BSA-3 UHF omnidirectional antenna, 420–440 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial seal. Customer must cut to frequency.
190-403-04	BSA-3 UHF omnidirectional antenna, 450–470 MHz, PL-259 female connector, mounting hardware, ground clamp, coaxial seal. Customer must cut to frequency.
190-409-01	BSA-8 UHF omnidirectional antenna, 406–420 MHz, magnetic-mount, portable, BNC male connector. Customer must cut to frequency.
190-409-02	BSA-8 UHF omnidirectional antenna, 420–430 MHz, magnetic-mount, portable, BNC male connector. Customer must cut to frequency.
190-409-04	BSA-8 UHF omnidirectional, 450–470 MHz, magnetic-mount, portable, BNC male connector. Customer must cut to frequency.
190-417-xx*	UHF antenna kit, omnidirectional, marine rated, PL-259 female connector, 300 MHz–3 GHz. *Specify frequency when ordering.
NOTE Each antenna includes a dual clamp set (for mounting to a 1.5–3.5" outside diameter support pipe), and a 24" removable RG-213 N-male jumper.	

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Associated Parts

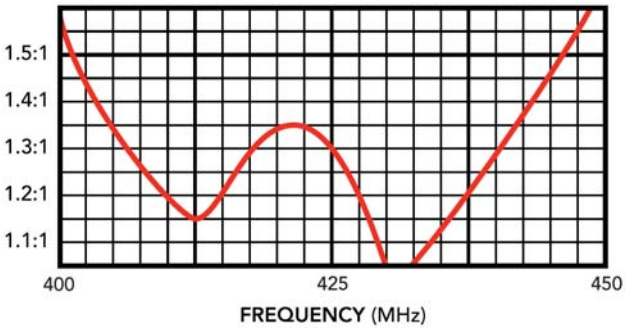
Part Number	Description
190-414-00	Spare BSA-3 UHF omnidirectional antenna whip and nose cone. Only for replacing P/N 190-403-01 antenna whips. Upgrades antenna whip Type I and Type II to current Type III design. Customer must cut to frequency.

Part Number	Description
643-554-00	Adapter PL-259 Female to N male
164-004-03	Coaxial seal, 10" long
199-057-00	Antenna mounting kit, low profile, marine rated, 4 ft gold stanchion and clamp set

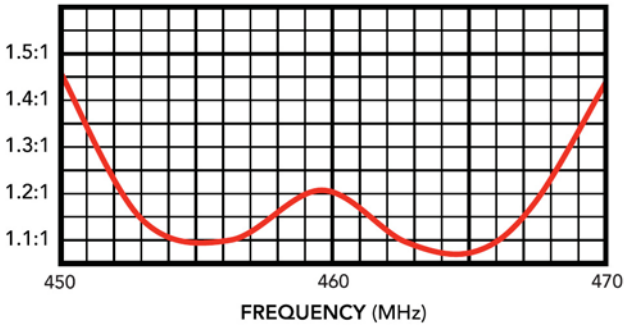
Performance Graphs

VSWR vs Frequency: Typical Radiation Pattern

P/N 216-01

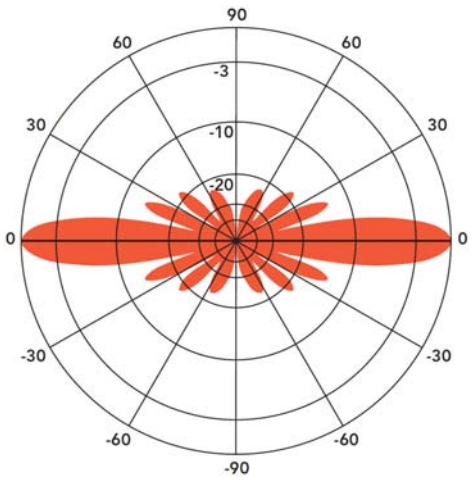


P/N 216-02

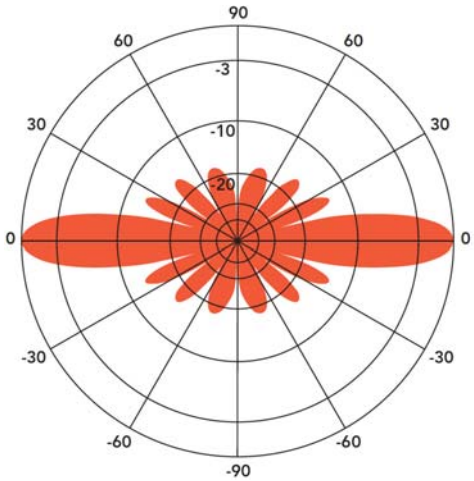


Vertical Radiation Pattern for Vertical Polarization

P/N 216-01



P/N 216-02

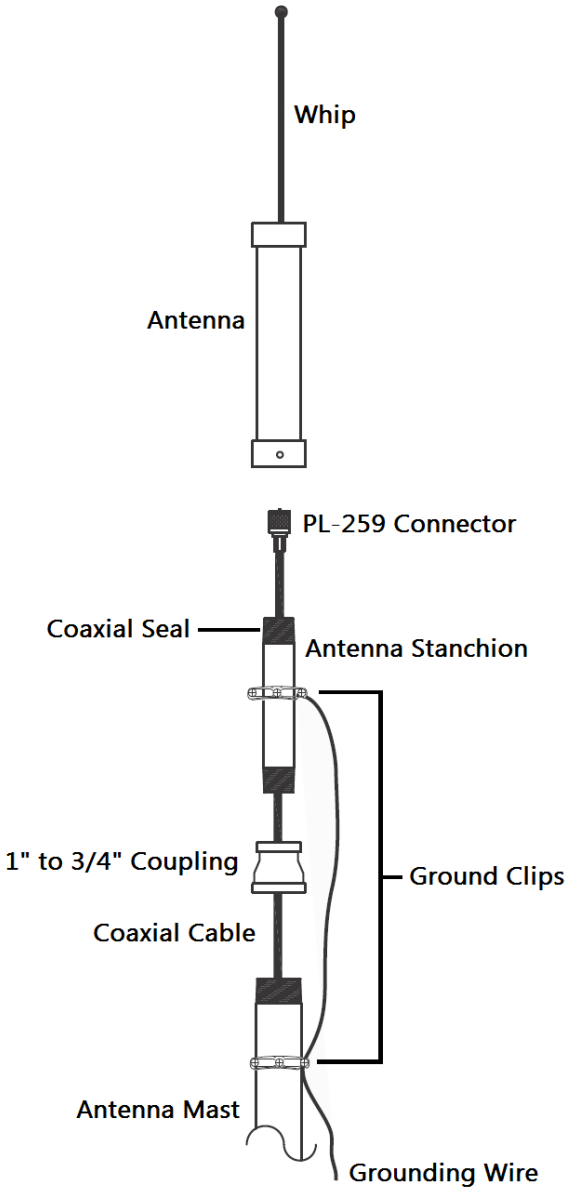


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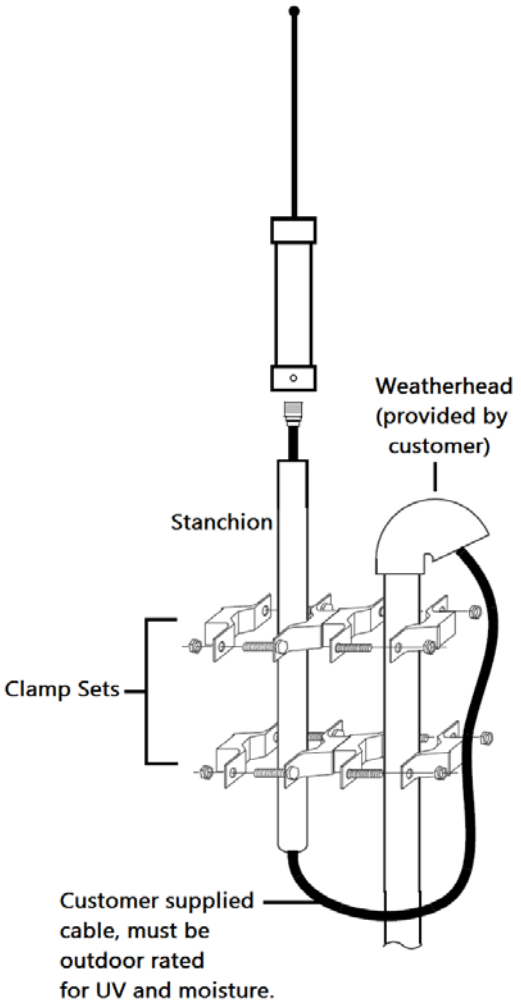
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Antenna Components

Standard Components



Optional Mounting Components (P/N 199-057-00)



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Detect Manage Record

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.



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Specifications

*P/N 190-410-xx**	UHF, Yagi Directional BSA-9
Material	Aluminum
Mounting	Mast Mounting Antenna comes pre-drilled for included U-bolt mounting hardware which allows the antenna to be mounted to a 1-2" antenna mast.
Frequency	P/N 190-410-01: 406–430 MHz P/N 190-410-02: 450–470 MHz P/N 190-410-03: 420–440 MHz
Connector	PL-259 female
Polarization	Vertical
Gain	9.2 dBd
Impedance	50 Ω 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
190-410-01	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.
190-410-02	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.
190-410-03	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 Systems

Antenna Mounting Hardware

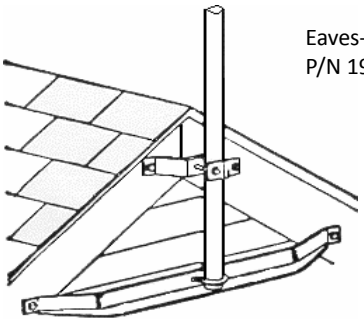
199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01

Description

Mounting methods depend on antenna location and desired height.



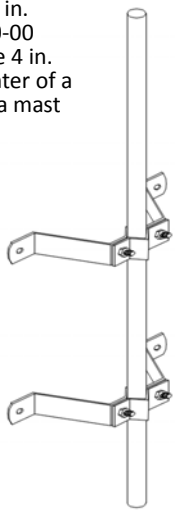
Tripod Mount
P/N 199-008-00



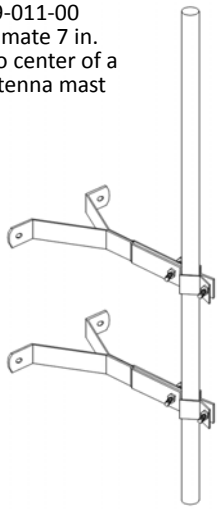
Eaves-Mount Pair
P/N 199-012-00

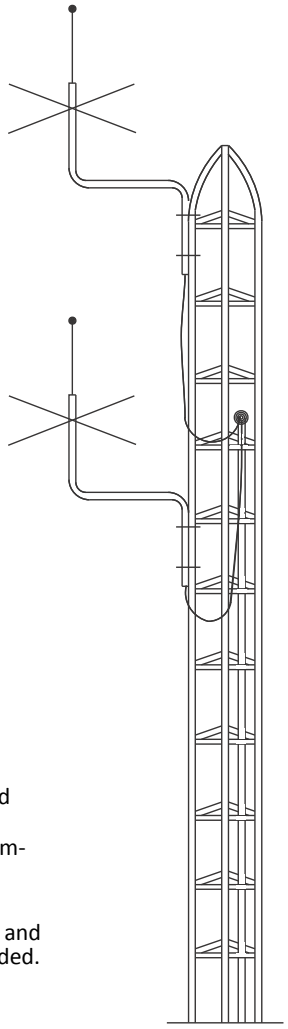
Wall-Mount Pairs:

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, weatherhead, and antennas shown but not included.

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Ordering Information

Part Number	Description
199-008-00	Tripod mount, 3 ft, heavy duty, use with up to 1.75 in. dia. mast
199-010-00	Wall-mount 4 in. U-bracket pair, lag bolts, approximate 4 in. offset to center of a 1 in. antenna mast
199-011-00	Wall-mount 7 in. Y-bracket pair, lag bolts, approximate 7 in. offset to center of a 1 in. antenna mast
199-012-00	Eaves-mount pair, adjustable 45-60 in. heavy-duty, lag bolts, use with up to 1.5-in. dia. mast
199-014-01	Antenna tower kit: 42-ft , 3 tower sections, top section with 1.25 in. × 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
199-013-00	Accessory pad kit for tripod mount, three 2 in. × 0.25 in. pitch pads, six lag bolts
199-020-00	Tower section, 10 ft optional addition for P/N 199-014-01
199-021-00	Adjustable house bracket, 12 in., for tower section (P/N 199-020-00)
199-022-00	Tower hinged base for flat roof or ground foundation, towers must be bracketed or guyed, use with P/N 199-014-01
199-023-00	Tower nonhinged base, use with P/N 199-014-01
199-024-00	Adjustable bracket, 20–24 in., for connecting tower to building, use with P/N 199-014-01
199-025-00	Adjustable bracket, 24–33 in., for connecting tower to building, use with P/N 199-014-01
199-031-00	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

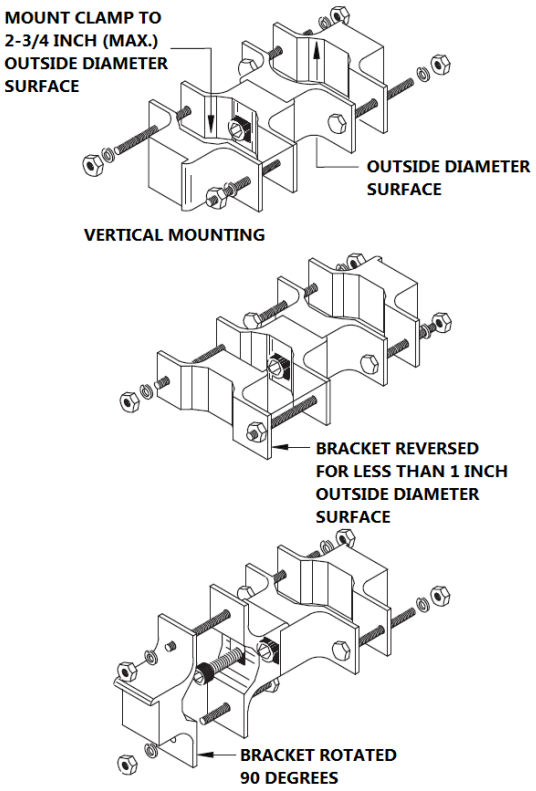
Specifications

Clamp Material	Gold irridite aluminum alloy
Conductor Material	Bare Copper
Conductor Type	Solid
Dialectric Material	FEP-Fluorinated Ethylene Propylene
Impedance	50 Ohm
Compatible Diameter	1" to 2.8" (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



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Detect Manage Record

Antenna Systems

Coaxial Cable, 50Ω, Mini RG-8X

620-023-00, 625-100-0x, 626-000-0x

Description

Miniature 50Ω 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	50Ω
Nominal Inductance	0.065 µH/ft
Nominal Capacitance	24.8 pF/ft
Nominal Attenuation (Loss/dB per 100')	100 MHz: 3.1 200 MHz: 4.5
Bend Radius	2.5 in. minimum
Outside Diameter	0.242 in.
Maximum Power Rating	200 MHz: 190W 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, 50Ω mini RG-8X, bulk (no connectors), specify length in feet

Preassembled Type 1 Coaxial Cable

50Ω 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, 50Ω mini RG-8X, preassembled Type 1, 5 ft
626-000-06	Coaxial cable, 50Ω mini RG-8X, preassembled Type 1, 15 ft
626-000-05	Coaxial cable, 50Ω mini RG-8X, preassembled Type 1, 20 ft
626-000-02	Coaxial cable, 50Ω mini RG-8X, preassembled Type 1, 40 ft
626-000-01	Coaxial cable, 50Ω mini RG-8X, preassembled Type 1, 60 ft
626-000-03	Coaxial cable, 50Ω mini RG-8X, preassembled Type 1, 80 ft
626-000-04	Coaxial cable, 50Ω mini RG-8X, preassembled Type 1, 100 ft

Preassembled Type 2 Coaxial Cable

50Ω RG-8X miniature coaxial with a PL-259 male connector on each end.

Part Number	Description
625-100-05	Coaxial cable, 50Ω mini RG-8X, preassembled Type 2, 2 ft
625-100-06	Coaxial cable, 50Ω mini RG-8X, preassembled Type 2, 15 ft
625-100-00	Coaxial cable, 50Ω mini RG-8X, preassembled Type 2, 20 ft

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Part Number	Description
625-100-01	Coaxial cable, 50Ω mini RG-8X, preassembled Type 2, 40 ft
625-100-02	Coaxial cable, 50Ω mini RG-8X, preassembled Type 2, 60 ft
625-100-03	Coaxial cable, 50Ω mini RG-8X, preassembled Type 2, 80 ft
625-100-04	Coaxial cable, 50Ω 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).

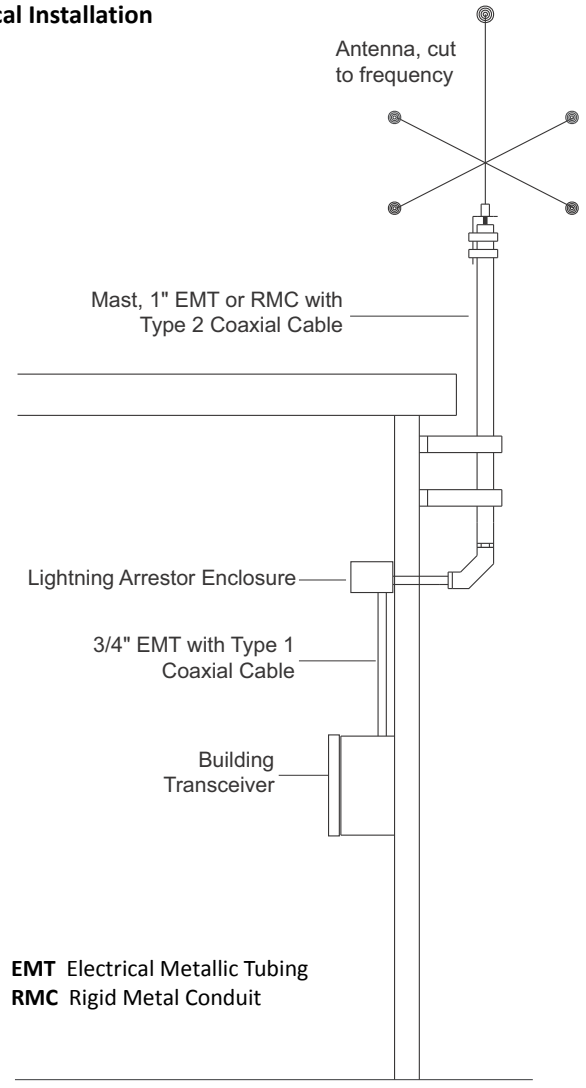
Application considerations:

- 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 12–18 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 feet. 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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Detect Manage Record

Antenna Systems

Coaxial Cable, 50Ω, 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	50Ω
Nominal Inductance	0.59 µH/ft
Nominal Capacitance	24.6 pF/ft
Minimum Bend Radius	4"
Outside Diameter	0.405"
Power	600W max.
AWG Stranding	10 AWG, solid bare copper
Dielectric	Semi-solid polyethylene
Outer Shield Jacket	PVC
UL Operating Temperature	–40 to 176°F (–40 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, 50Ω, 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" 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).

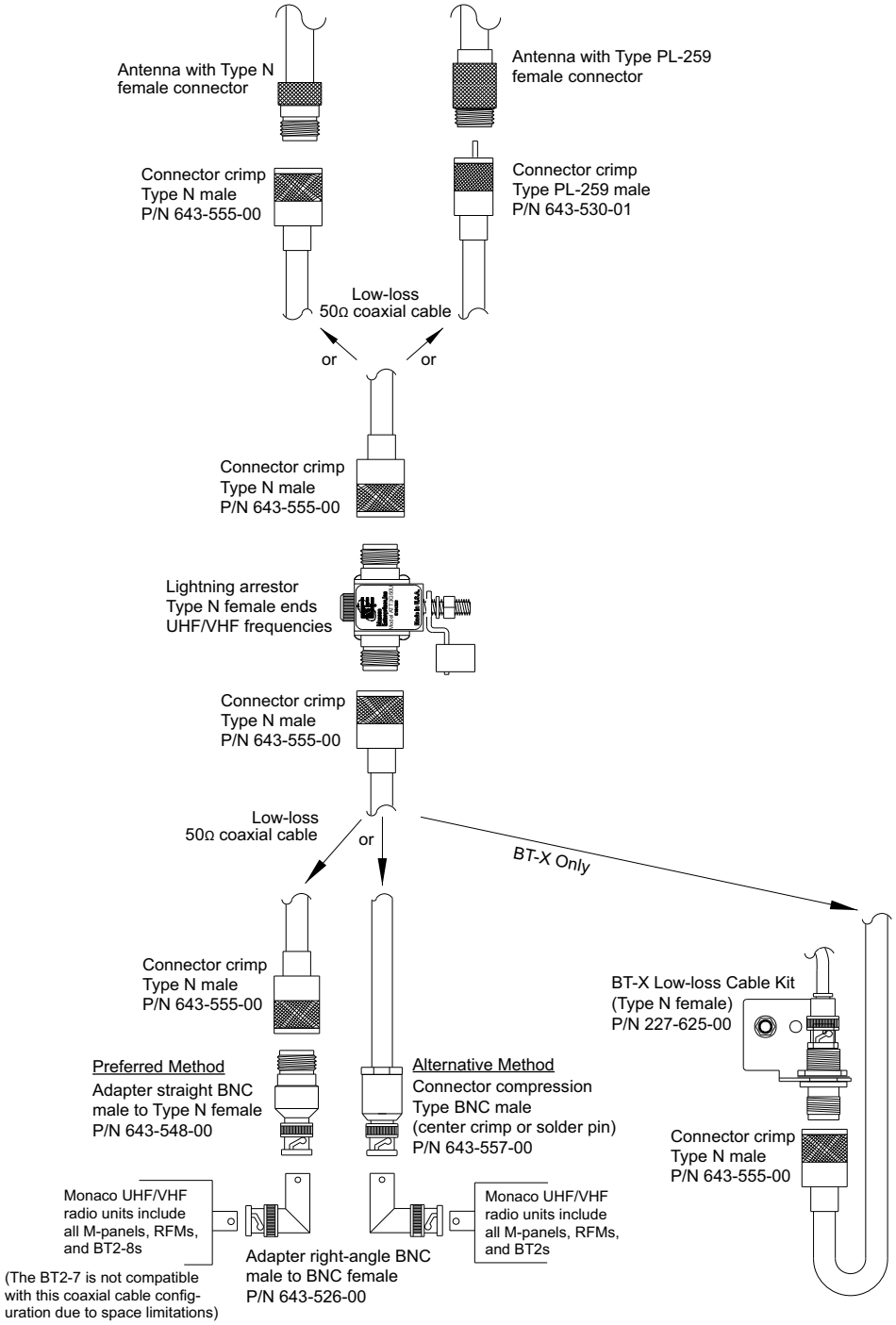
Run coaxial cable in its own conduit (should be 3/4 in. rigid metallic). This conduit should enter the lightning arrestor enclosure at the point of building penetration. If this is not possible, the lightning arrestor enclosure should be as near as possible to the conduit penetration. Provide a drip 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.”

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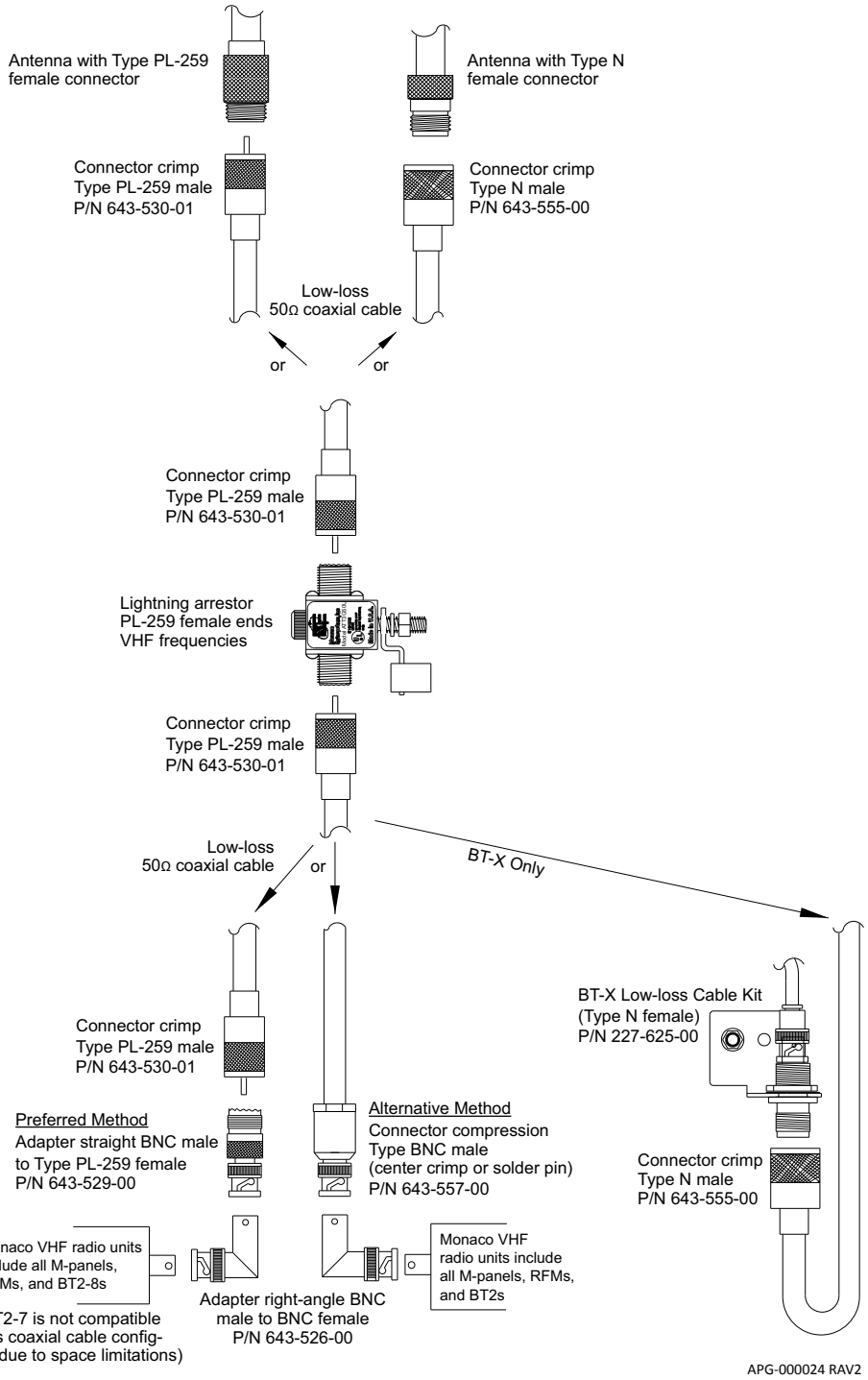
Application Drawing, UHF



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Application Drawing, VHF



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Detect Manage Record

Antenna Systems

Coaxial Cable, 50Ω, 1/4 in. Heliax, Superflex
620-029-00

Description

Heliax coaxial cable is 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

Nominal Impedance	50Ω, +/– 1Ω
Nominal Inductance	0.061 µH/ft (0.2 µH/m)
Nominal Capacitance	24.2 pF/ft (79.4 pF/m)
Bend Radius	1.0" (25.4 mm)
Outside Diameter	0.29" (7.366 mm)
Power	6.4 kW, peak
Inner Conductor	Copper-clad aluminum wire
Dielectric	Foam PE
Outer Shield Jacket	PE
Operating Temperature	–67 to 185°F (–55 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

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
620-029-00	Coaxial cable, 50Ω, 1/4" Heliax, Superflex; specify foot-length **Note** Cable order is non-cancellable and non-refundable.

Connectors and Adaptors

Part Number	Description
643-526-00	Adaptor, right-angle BNC male to BNC female
643-545-00	Connector, compression Type N male
643-546-00	Connector, compression Type BNC male
643-547-00	Connector, solder Type PL-259
643-548-00	Adaptor, straight BNC male to Type N female
643-569-00	Adaptor, straight N female to PL-259 male

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

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Part Number	Description
198-005-00	Lightning arrestor replacement arc-plug cartridge for PL-259 (P/N 198-004-00) and N type (P/N 198-008-00) lightning arrestors in kit P/Ns: 198-006-00, 198-006-01, 198-007-01, 198-007-03
198-006-01	Lightning arrestor kit with P/N 198-008-00, two 10" strips coaxial seal, and terminal lug
198-007-03	Lightning arrestor kit P/N 198-006-01 plus 8" x 8" x 6" NEMA 3R enclosure (P/N 081-076-01)
302-101-00	Cutting tool for 1/4" and 1/2" FSJ series Heliax
302-102-00	5-pack replacement blades for 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), 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 NOTE on the preceding page for the exception. Conduit should enter a transceiver enclosure either through the side or the bottom.

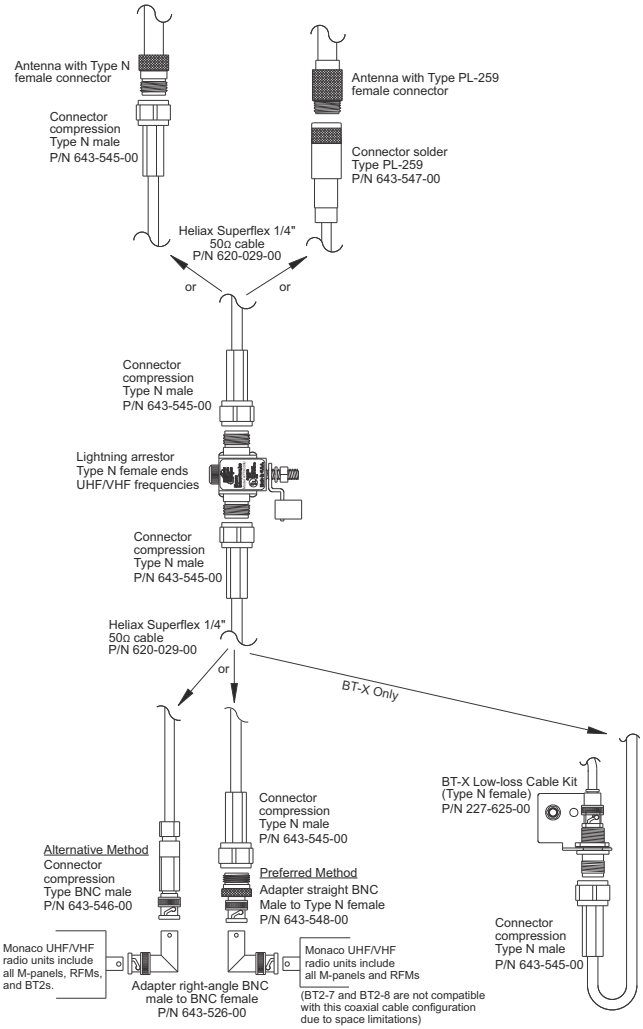
The 1⁄4 in. superflex Heliax cable should be long enough to reach its connection from the lightning arrestor with a 1-ft service loop; the total cable run from transceiver to antenna can be no more than 90 ft (UHF) or 180 ft (VHF). Follow the bend radius specification. Excess cable in an arrestor enclosure 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



APG 19

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Detect Manage Record

Antenna Systems

Coaxial Cable, 50Ω, 1/2-in. Heliax, Superflex
620-030-00

Description

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

Nominal Impedance	50Ω, +/–1Ω
Nominal Inductance	0.063 µH/ft (0.207 µH/m)
Nominal Capacitance	25.2 pF/ft (82.7 pF/m)
Bend Radius	1.25 in. (31.75 mm)
Outside Diameter	0.5 in. (13.2 mm)
Power	15.6 kW, max.
Inner Conductor	Copper-clad aluminum wire
Dielectric	Foam PE
Outer Shield Jacket	PE
UL Temperature Rating	–67 to 185°F (–55 to 85°C)

Attenuation (Nominal)

Frequency (MHz)	Attenuation (dB/100 ft)
100 (VHF)	1.04
150 (VHF)	1.28
200 (VHF)	1.50
400 (UHF)	2.17
450 (UHF)	2.31
700 (UHF)	2.95

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, 50Ω, 1/2" Heliax, Superflex; specify foot-length **Note** Cable order is non-cancellable and non-refundable.

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
198-005-00	Lightning arrestor replacement arc-plug cartridge for PL-259 (P/N 198-004-00) and N type (P/N 198-008-00) lightning arrestors in kit P/Ns: 198-006-00, 198-006-01, 198-007-01, 198-007-03
198-006-01	Lightning arrestor kit with P/N 198-008-00, two 10" strips coaxial seal, and terminal lug
198-007-03	Lightning arrestor kit P/N 198-006-01 plus 8" x 8" x 6" NEMA 3R enclosure (P/N 081-076-01)
302-101-00	Cutting tool for 1/4" and 1/2" FSJ series Heliax
302-102-00	5-pack replacement blades for 302-101-00

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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.

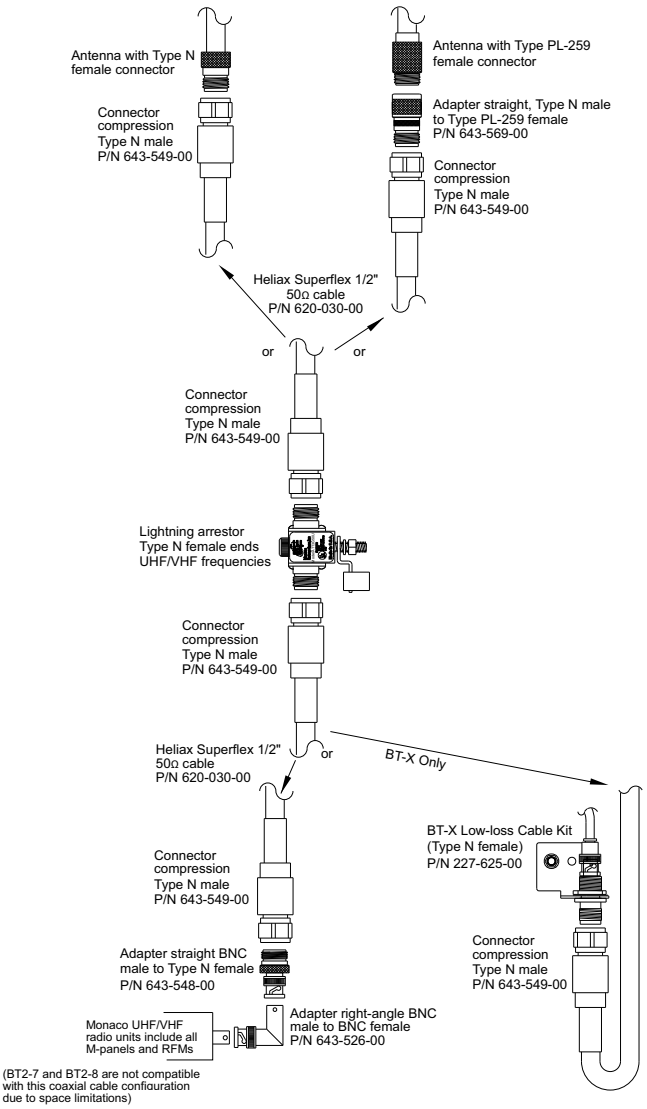
Minimum 3/4 in. conduit allows clearance for connectors—**see the NOTE on the preceding page for the exception**. Conduit should enter a transceiver enclosure either through the side or the bottom.

The 1/2 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 110 ft (UHF) or 220 ft (VHF), with a minimum bend radius of 1.25 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



APG-20

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Detect Manage Record

Antenna Systems

Coaxial Cable, 50Ω, 1/2" Heliax, LDF
620-031-00



Features

- 1/2 inch coaxial wireless cable
- Heliax, low density foam
- Designed for repeated bends

Specifications

Impedance	50Ω, +/– 1Ω
Inductance	0.058 µH/ft (0.190 µH/m)
Capacitance	23.1 pF/ft. (75.8 pF/m)
DC Resistance	
inner conductor	1.480 Ω/km
outer conductor	2.690 Ω/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-inch 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 inch rigid metal conduit is too small for N-type connectors. (However, PL-259 and BNC type connectors will fit inside 3/4 inch rigid conduit.)

Cable

Part Number	Description
620-031-00	1/2" Heliax, Low-density foam, 50 ohm. **IMPORTANT!** Cable is special order—non-cancellable and non-returnable!

Adaptors and Connectors

Part Number	Description
643-572-00	Connector 1/2" heliax male positive stop
643-526-00	Adapter right-angle BNC male to BNC female
643-548-00	Adaptor straight BNC male to Type N female
643-569-00	Adaptor, straight N female to PL-259 male

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Detect Manage Record

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" strip coaxial seal, mounting bracket, terminal lug with hardware and 8" x 8" x 6" 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" 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)
629-003-00	Cable termination kit, N male connector for 1/2" 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.

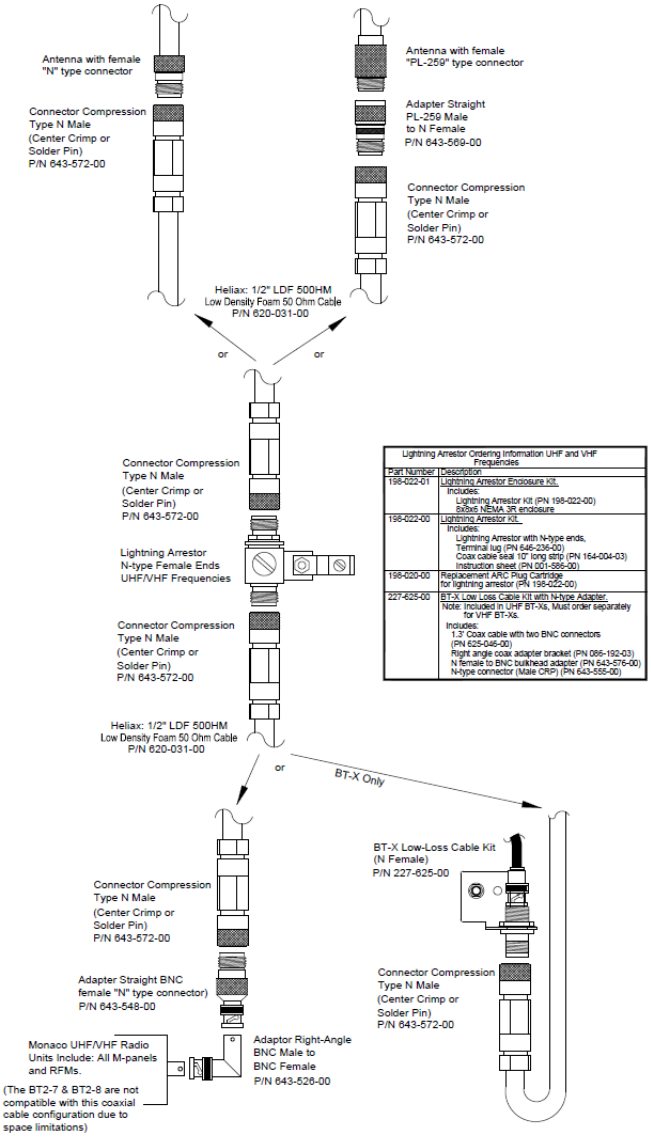
The 1/2 inch LDF Heliax cable should be long enough to reach its connection from the lightning arrestor with a 1-ft service loop; the total cable run from transceiver to antenna can be no more than 225 ft (UHF) or 300 ft (VHF), with a minimum single bend radius of 2.00 in., multiple bend radius of 5.00 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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Detect Manage Record

Antenna Systems

Coaxial Cable, 50Ω, 5/8" Heliax, LDF
620-032-00



Features

- 5/8 inch coaxial wireless cable
- Heliax, low density foam
- Designed for repeated bends

Specifications

Impedance	50Ω, +/– 1Ω
Inductance	0.057 µH/ft (0.187 µH/m)
Capacitance	23.2 pF/ft. (76.1 pF/m)
dc Resistance	
inner conductor	0.220 Ω/kft (0.722 Ω/km)
outer conductor	0.420 Ω/kft (1.378 Ω/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-inch 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 inch rigid metal conduit is too small for N-type connectors. (However, PL-259 and BNC type connectors will fit inside 3/4 inch rigid conduit.)

Cable

Part Number	Description
620-032-00	Coaxial cable, 50Ω, 5/8" Heliax, Low-density foam **IMPORTANT!** Cable is special order—non-cancellable and non-returnable!

Adaptors and Connectors

Part Number	Description
643-573-00	Connector compression Type N male 5/8" Heliax connector (center crimp or solder pin)
643-526-00	Adapter right-angle BNC male to BNC female
643-548-00	Adaptor straight BNC male to Type N female
643-569-00	Adaptor, straight N female to PL-259 male

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Detect Manage Record

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" strip coaxial seal, mounting bracket, terminal lug with hardware and 8" x 8" x 6" 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" 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" 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 NOTE on the preceding page for the exception. Conduit should enter a transceiver enclosure either through the side or the bottom.

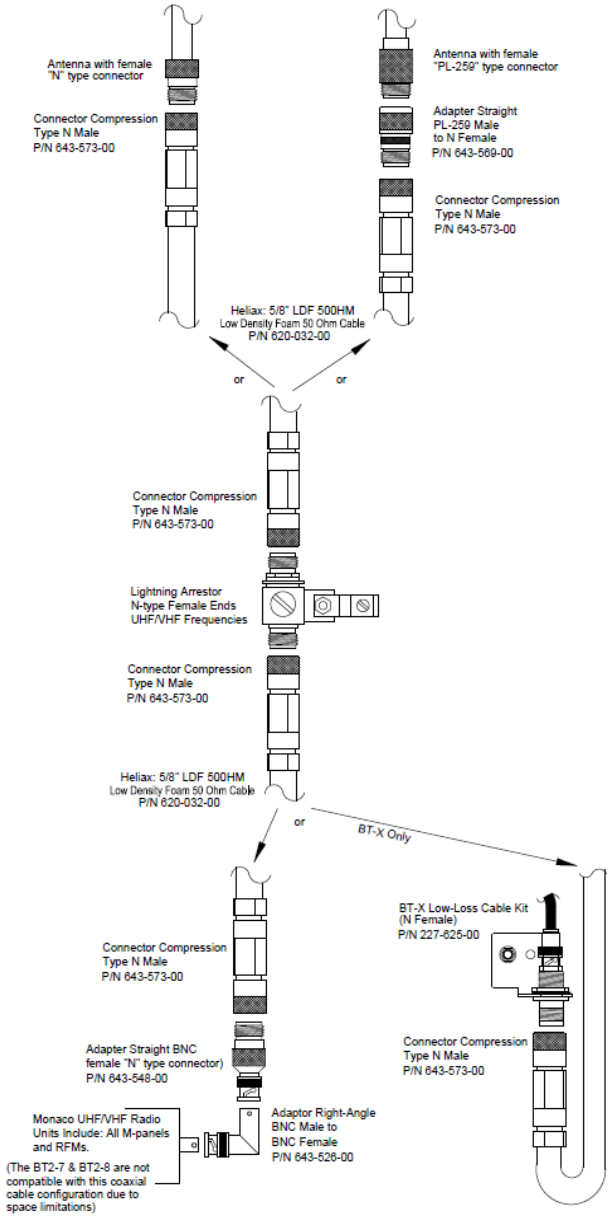
The 5/8 inch LDF Heliax cable should be long enough to reach its connection from the lightning arrestor with a 1-ft service loop; the total cable run from transceiver to antenna can be no more than 110 ft (UHF) or 220 ft (VHF), with a minimum single bend radius of 3.00, multiple bend radius of 8.00 in. 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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Detect Manage Record

Antenna Systems

Coaxial Cable, 50Ω, 7/8" Heliax, Foam
620-033-00



Features

- 7/8 inch, coaxial wireless cable
- Heliax, foam
- Designed for repeated bends

Specifications

Impedance	50Ω, +/– 1Ω
Inductance	0.056 µH/ft (0.184 µH/m)
Capacitance	22 pF/ft. (73 pF/m)
dc Resistance:	
inner conductor	0.410 Ω/kft. (1.435 Ω/km)
outer conductor	0.340 Ω/kft. (1.116 Ω/km)
Material:	
inner conductor	Cooper tube
outer conductor	Corrugated Copper
Jacket	Black, PE
Dielectric	Foam PE
Cable:	
Outside Diameter	7/8 in
Weight	0.30 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	91.0 kW
UL Temperature Rating	–67 to 158°F (–55 to 70°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-inch 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 inch rigid metal conduit is too small for N-type connectors.

Cable

Part Number	Description
620-033-00	Coaxial cable, 50Ω, 7/8" Heliax, foam **IMPORTANT!** Cable is special order—non-cancellable and non-returnable!

Connectors and Adaptors

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" strip coaxial seal, mounting bracket, terminal lug with hardware and 8" x 8" x 6" 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" 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" Heliax
227-625-00	BT-X Low-loss Cable Kit, Type N female **NOTE** 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.

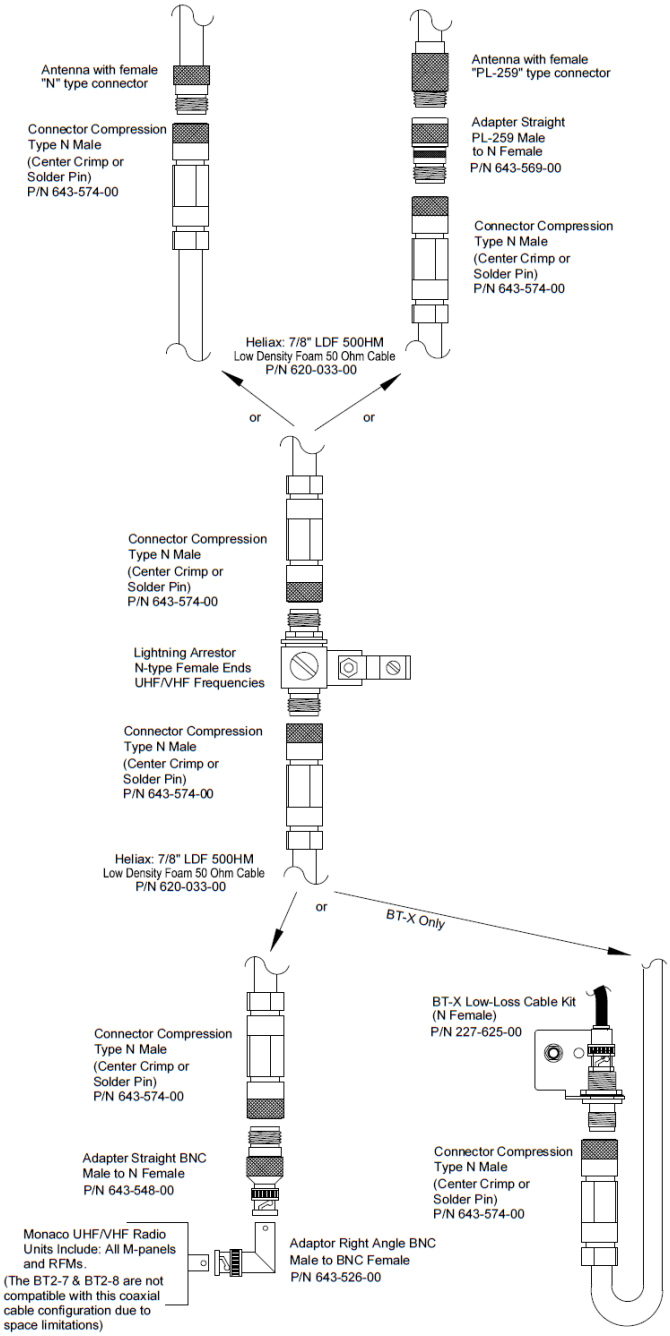
The 7/8 inch Heliax cable total cable run from transceiver to antenna can be no more than 400 ft (UHF) or 550 ft (VHF), with a minimum single bend radius of 5 in, multiple bend radius of 10 in.

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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Detect Manage Record

Antenna Systems

Ground Rod and Clamp, Copper, for Lightning

661-000-00, 661-001-00





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" L x 1 1.16" W x 1-15/16" H
Thread Size	3/8 - 16 UNC - 2A

Ordering Information

Part Number	Description
661-000-00	Ground rod, 0.75" x 10', copper-weld, UL rated
661-001-00	Ground rod clamp, 0.75", copper-weld, UL rated

Specifications

Ground Rod

Material	Copper bonded steel
Tensile Strength	80,000 psi min
Rod Type	Pointed
Dimensions	Diameter: 0.681" actual, 3.4" nominal Length: 10.0"
Plating Thickness	10 mil
Weight	12.6 lb

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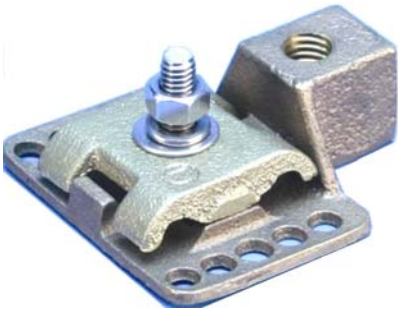
Antenna Systems

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" Height: 15"
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"
Mounting	Horizontal or vertical
Dimensions	3.07" W x 2.9" D x 1" H
Weight	0.835 lb

Ordering Information

Part Number	Description
661-002-00	Air terminal, copper, threaded base, 15" x 1/2"
661-004-00	Mounting base, copper, for air terminal 1/2"

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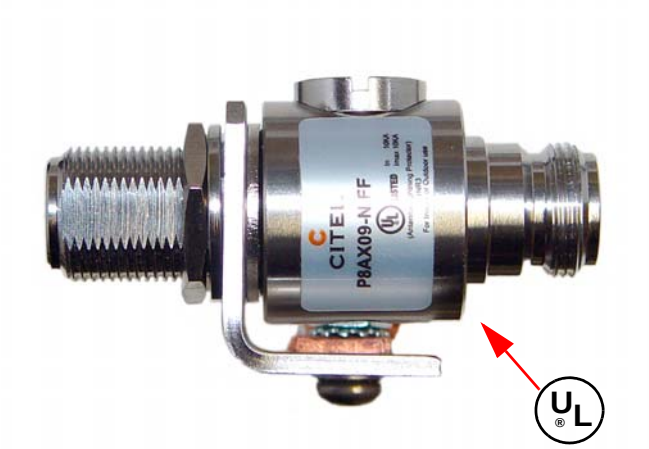
Antenna Systems

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, which consists 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

Insertion Loss	< 0.2 dB
Frequency Range	**PL-259 arrestor in kit P/Ns 198-021-xx:** 0–500 MHz, VHF **N arrestor in kit P/Ns 198-022-xx:** 0–3000 MHz, VHF and UHF
Connector	Arrestor is bi-directional and can be installed in either direction 50Ω; connector style depends on arrestor
Unit Impedance	50Ω
VSWR	<1.2:1
Nominal discharge current	5 kA (8/20µs test x 10 - C2 category)
Maximum discharge current	20 kA (max withstand @ 8/20µs)
Protection Level	<800 V
Standards Compliance	IEC61643-21 / EN61643-21 / UL497C / UL497E
Arrestor *P8AX09-N/FF* *P8AX09-U/FF*	UL Listed: E349646 E349646

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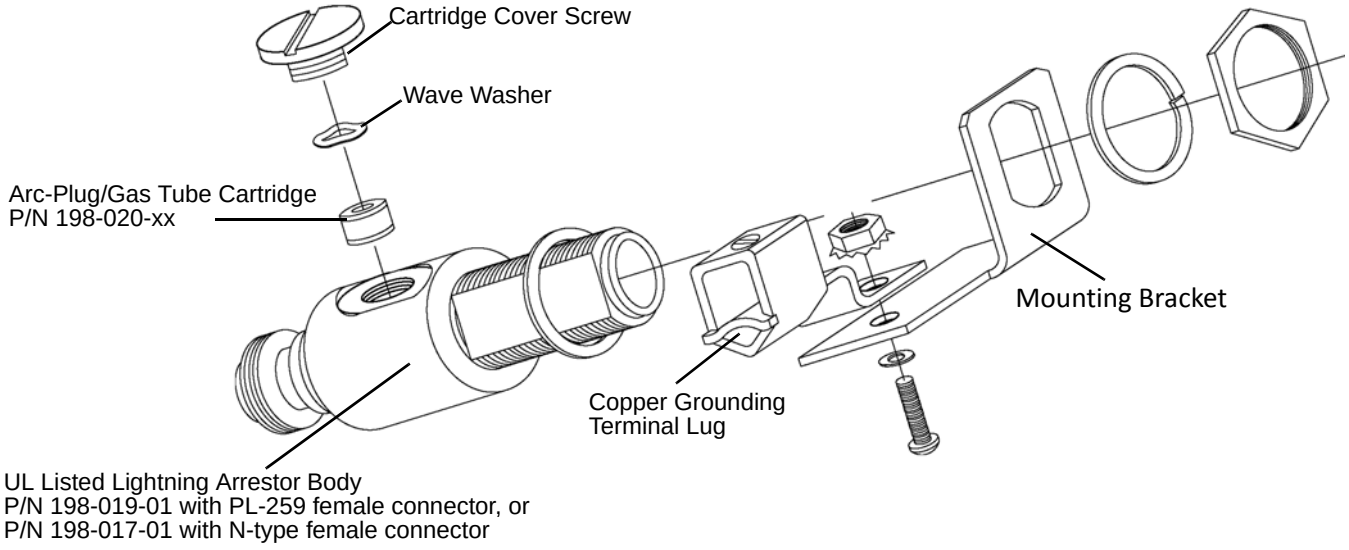
Ordering Information

Lightning Arrestors

Part Number	Description
198-021-00	Lightning Arrestor Kit with PL-259 VHF UL Listed Arrestor, with two 10" strip coaxial seal, mounting bracket, and terminal lug with hardware.
198-021-01	Lightning Arrestor Kit with PL-259 VHF UL Listed Arrestor, with two 10" strip coaxial seal, mounting bracket, terminal lug with hardware and 8" x 8" x 6" 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" strip coaxial seal, mounting bracket, and terminal lug with hardware.
198-022-01	Lightning Arrestor Kit with N-Type UHF/VHF UL Listed Arrestor, with two 10" strip coaxial seal, mounting bracket, terminal lug with hardware and 8" x 8" x 6" NEMA 3R encosure (P/N 081-076-01).

Associated Parts

Part Number	Description
198-019-01	Lightning Arrestor with PL-259 female connectors. Replacement part only for P/N 198-021-00
198-017-01	Lightning Arrestor with N-type female connectors. Replacement part only for P/N 198-022-00
198-020-00	Lightning Arrestor replacement arc-plug/gas tube cartridge for arrestors
081-076-01	Lightning Arrestor enclosure, NEMA 3R rain-tight, 8" x 8" x 6", UL rated
081-225-00	Lightning Arrestor enclosure, NEMA 3R rain-tight, 12" x 12" x 6", UL rated
661-000-00*	Ground rod, 0.75" x 10’ copper-weld, UL rated
661-001-00*	Ground rod clamp, 0.75" copper-weld, UL rated
164-004-00	Coaxial seal, package of four 12-ft rolls
164-004-03	Coaxial seal, 10" long
*Drop-ship is the only available shipping method.	

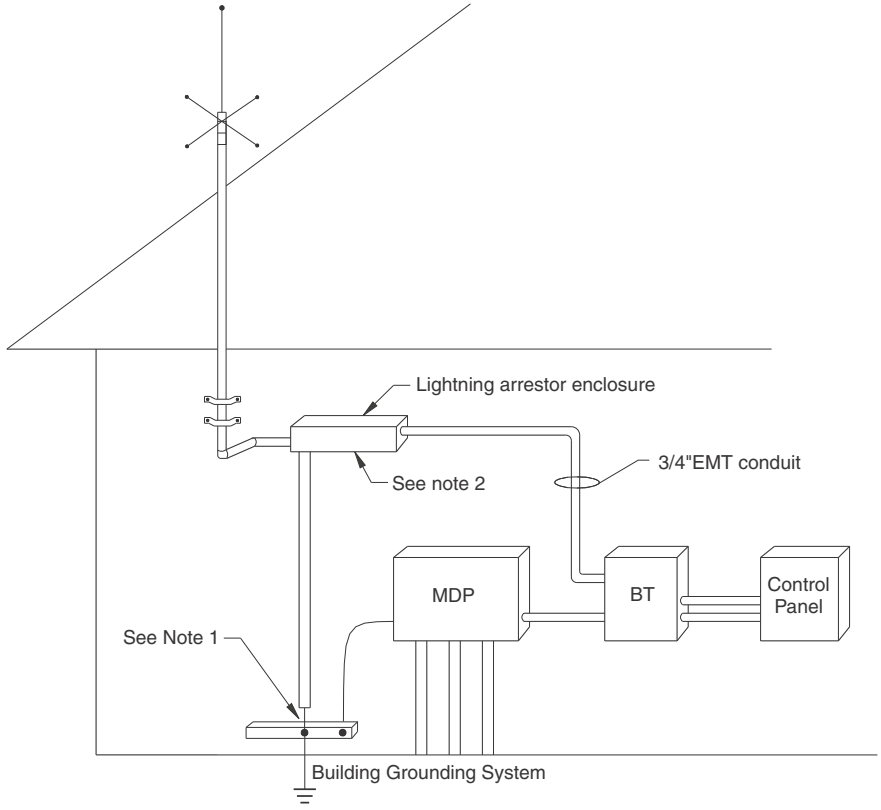


Monaco Enterprises, Inc.
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Phone (509) 926-6277 **Fax** (509) 924-4980 **E-mail** service@monaco-inc.com **Web** www.monaco-inc.com

Detect Manage Record

Installation Diagram

Typical Lightning Arrestor Kit installation where building grounding system is accessible and adequate.



Notes

1. Lightning Arrrestor Kit to be connected to main building ground per NFPA 70 (NEC) Article 810-21.
2. Bond all conduit together and to ground system with grounding bushings. 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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Detect Manage Record

Index by Product Part Number

LEGEND:

This Part (Part Number and Description) Example: 070-006-00, Paper 9.5” x 11”
is on That Cutsheet (Description and Part Number) MAAP Printer, 205-032-00

210-524-00, Surge Protector, 120 VAC
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710-072-01, MAAP-X LOC/RDU touchscreen surface mount
MAAP-X LOC/RDU, 710-072-01 710-072-02
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<$no page 2
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070-013-00, Paper, 8.5"x11"
MAAP Printer, 205-032-00
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085-214-0x, Rack Blank Panels
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Univ Expander Plate, 369-037-00
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124-093-00, Indoor Speaker, Red, Ceiling-Mount, Type I, no letter
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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
199-010-00, Wall Mount, 4 in. U bracket pair
199-011-00, Wall Mount, 7 in.Y bracket pair
199-012-00, Eaves mount, adjustable 45-60 in. heavy duty
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

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 Nonhinged
Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01
199-024-00, Adjustable Bracket, 20-24 in.
Antenna Mount Hardware, 199-008-00, 199-010-00, 199-011-00, 199-012-00, 199-014-01
199-025-00, Adjustable Bracket, 24-33 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
2000-471-11, Ethernet Switch Assy, 24 Port
RFM-X Ethernet Network, 227-317-N1
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
RFM-X Ethernet Network, 227-317-N1
200-444-01 Fiber Transceiver Module, 1550 nm
RFM-X Ethernet Network, 227-317-N1 2
200-444-01, Fiber Module, Optical Transceiver Hot Plug
200-444-01, Fiber Transceiver Module, 1550 nm
Ethernet Switch, 24 port, 200-471-11
RFM-X Ethernet Network Assy, 4X, 227-325-N1
200-444-02, Fiber Module, Hot Plug
Switch Assembly, 12 Port, 200-485-01
Switch Assembly, 24 Port 200-480-01
200-444-02, Fiber Module, Transceiver, Hot Plug for DODIN Switch
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, 8 port integrated KVM switch
KVMA Extender Kit, 200-476-01, 200-476-02
200-464-03, KVM drawer, integrated 8-port KVM switch
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

200-477-00, KVMA 2U Rack Mount
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
204-004-00, Device Server
204-004-00, RS-232 to100Base-T single port server
RFM-XHR Modem, 227-317-xx
204-016-01, RFM-XR 100Base-T dual port server
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx
205-032-00, MAAP Printer, Desktop
M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx
MAAP-X Upgrade, 227-912-xx
205-032-00, MAAP Printer, Desktop
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 7
205-050-00, Printer, Wall-Mount
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
D21 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, 227-647-00
BT2-3 to BT-X Conv Kit, 227-646-00
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
207-607-00, BT-X, BT-X Planner Kit
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
MAAP-X Upgrade, 227-912-xx
207-625-00, MAAP-X Planner Kit
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 7
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 Convent Plan Kit, 207-813-00
207-830-00, D21 License, Fire Client
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-831-00, D21 License, Security Client

D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-832-00, D21 License, Fire and Security Client
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-833-00, D21 License, Fire Client w/Maps
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-834-00, D21 License, Security Mgmnt Client w/Maps
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-835-00, D21 License, Fire and Security Client w/Maps
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-842-00, D21 License, Mass Notification Client
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-843-00, D21 License, Mass Notification System
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-849-00, D21 License, MNS Mass Notif Sys (Maps)
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-860-01, D21 License, Automatic Vehicle Location
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-862-00, D21 License, Mobile Client
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-863-00, D21 Fire Client Upgrade
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-864-00, D21 Security Client Upgrade
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-878-00, D21 License, Server
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-878-01, D21 License, Option Key
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-880-00, D21 License, Mobile Data Display
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-882-00, D21 License, E911 Interface Comm
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-886-00, Remote Interface Driver License
D21 Tone Alert Panel, 227-095-00
207-905-00, Server Text to Speech Support Kit
D21 Tone Alert Panel, 227-095-00
207-913-00, D21 Mobile Law Enforcement Client Kit
D21 Mobile Tablet, 227-099-30
207-940-00, D21 License, D21 Command Decision Display Tools
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
207-940-01, D21 License, Map Tools
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
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, D21 EM Fire Software Kit
D21 Mobile Tablet, 227-099-30
207-981-10, Software Kit
D21 Mobile Laptop WIN10, 227-098-00
209-057-00, D21 Rack Mount Kit
D21 View Generator, 227-062-30

209-070-00, Ribbon
MAAP Printer, 205-032-00
210-449-00, Surge Protector Module and Base, 75 VDC
210-449-01, Surge Protector Module no base, 75 VDC
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, 15 A
210-510-00, Surge Protector Kit, Transient, 120 VAC, Single-Phase, 15 A Fused
210-510-00, Surge Suppressor, 4 wire, leased line, 5V
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, 210-555-00, 210-556-00, Surge Protectors, 120 VAC, 240 VAC, and 120/240 VAC
210-540-00, Surge Suppressor
210-544-00, Transient Protector
Alarm Bell, 581-423-00, 581-451-00
Horn Kit, 585-032-01
210-546-00, Surge Protector Mount Base, track, for 4 modules
Surge Protector Module and Base, 210-549-xx, 210-550-xx, 210-551-xx
210-546-01, Surge Protector Mount Base, track, for 5 modules
Surge Protector Module and Base, 210-549-xx, 210-550-xx, 210-551-xx
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
225-163-00, Monaco Planner Suite/Programmer
BT2 to BT-X Conversion Kit, 227-647-00
BT2-3 to BT-X Conv Kit, 227-646-00
BT-XF, 227-60x-xx
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-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
225-163-00, Monaco Planner/Suite Programmer
BT-XS Security, 227-6xx-xx
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 Convent Plan Kit, 207-813-00
227-010-10, D21 Comm Tower
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-010-12, D21 Comm Rackmount (4U)
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-010-13, D21 Comm Rackmount (2U)

D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-010-14, D21 Comm Rack (14U) Server
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx, D21 Incident and Emergency Management System
227-011-10, D21G (Graphics) Comm Tower
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-011-12, D21G Comm Rackmount (4U)
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-011-13, D21G Comm Rackmount (2U)
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-012-10, D21M (Maps) Comm Tower
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-012-12, D21M Comm Rackmount (4U)
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-012-13, D21M Comm Rackmount (2U)
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-020-10, D21 Alarm/Dispatch Tower
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-020-13, D21 Alarm/Dispatch Rack (4U)
D21 Incident and EM Mgmnt, 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, D21 General Purpose Input-Output, 32 DPDT, 10 A outputs
227-045-01, D21 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, D21 View Generator
D21 Remote Display Controller, 227-063-01
227-062-30, D-21 View Generator, WIN 10
227-063-01, D21 Remote Display Controller
227--095-00, D21 Tone Alert Panel
227-095-10, Tone Alert Panel Upgrade
D21 Tone Alert Panel, 227-095-00
227-098-00, D21 EM Mobile Client Laptop WIN10
227-099-30, D-21 EM Mobile Client Tablet, WIN 10
227-245-xx, BT2-8 BuildingTransceiver, narrowband, 16 zones, NEMA 1
227-246-xx, BT2-8Building Transceiver, narrowband, 16 zones, NEMA 3R
227-247-xx, BT2-8 Building Transceiver, narrowband, 32 zones, NEMA 1

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-xx, BT2-8 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
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-XH Hard-wire Modem
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
227-317-xx, RFM-XHR Radio Frequency Modem w hardwire option
227-323-00, RFM-XH Hardwire Modem
227-323-00, RFM-XHR Hard-wire Modem
D21 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 Enc
227-327-00, RFM Rack Mount Kit, Single 2U with on/off switch
227-327-00, RFM Rack Mount, Single 2U with on/off switch
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, 227-358-xx, 227-359-xx, RFM-XR Repeaters
227-329-xx, RFM-XR single repeater, NEMA 4X
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx
227-333-NR, 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
227-371-01, M-1 to M-2 Conv FACP Convers Kit for MNS Op
227-371-02, M-1 to M-2 Conv FACP Convers Kit for MNS Op w M-2 CPU for FSK Comm
227-371-02, M-2 to M-2 FACP Convers Kit
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN
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
227-55x-MN 227-56x-MN 227-570-MN, M-2 Conventional FACP, Mass Notification
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-XM2 Interface Convers Kits 227-371-01, 227-371-02, 227-372-02, 227-372-03, 227-623-MN, 227-811-MN
227-574-00, MAAP Serial Interface Kit
BT-XF, 227-60x-xx
BT-XS Security, 227-6xx-xx
MAAP-X Planner, 207-625-00
MAP+ Planner, 207-617-00
227-575-xx, M-2 Narrowband Upgrade Kit, Type 2
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx
227-587-xx, M-2 Conv NEMA 4X, narrowband
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx
227-5xx-xx, M-2 Conventional FACP with Integrated Radio Transceiver

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-EN, BT-XFH, 4-28 zones, no radio, single wide, audio board, European
BT-XF, 227-60x-xx
227-605-xx, BT-XFH, 4-28 zones, no radio, single wide, audio board
BT-XF, 227-60x-xx
227-606-xx, BT-XFH, 4-60 zones, no radio, double wide, audio board
BT-XF, 227-60x-xx
227-607-xx, BT-XFH, 4-28 zones, no radio, single wide, NEMA 3R audio board
BT-XF, 227-60x-xx
227-60x-xx, BT-XF, BT-XFH, BT-XFH EN
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 Notification Communicator, radio, hardwire capable, double wide
NEMA 1
227-622-xx, BT-XM In-Bldg Mass Notification Communicator, radio, hardwire capable, NEMA 3R
227-623-MN, BT-XM to BT-XM2 Convers Kit
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN
227-623-xx, BT-XM In-Bldg Mass Notification Communicator, radio, hardwire capable, single wide
NEMA 1
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
BT2-3 to BT-X Conv Kit, 227-646-00
Coaxial Cable, 620-026-00
Coaxial Cable, 620-031-00
Coaxial Cable, 620-032-00
Coaxial Cable, 620-033-00
227-625-00, BT-X LowLoss Cable Kit
BT2 to BT-X Conversion Kit, 227-647-00
227-625-00,BT-X Low Loss Cable Kit
Coaxial Cable, 620-029-00
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
227-630-xx, BT-X electronics package
BT-XS Security, 227-6xx-xx
227-630-xx, BT-X Electronics Pkg
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx
227-634-CE, BT-X WAC/ASC CE
227-634-xx, BT-X WAC/ASC
Wide Area Cotnroller for American Signal Mass Notification Speaker Station
Wide-Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00
227-646-00, 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 Gray Enclosure
227-671-xx, 227-634-xx, 227-661-xx, 124-080-00, Wide-Area Mass Notification Speaker Station, 1600 Watt
227-671-xx, BT-X WAC/ASC Mass Notification Speaker station with integral BT-X Wide Area Controller
227-6xx-xx, BT-XS Security Communicator
227-811-MN, MAAP(+) Electronics Pkg
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
227-912-00, MAAP-X Upgrade Package
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 7
227-912-xx, MAAP-X Upgrade Package
227-955-EN Hardwire Only MAAP-X FAC MNS Evac, surface mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6
227-955-NR Standalone-No Radio MAAP-X FAC MNS Evac, surface mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 7
227-955-xx, Integrated Radio MAAP-X FAC MNS Evac, surface mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6
227-955-xx, MAAP-X FAC MNS surface mount
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 6
227-956-NR, Standalone-No Radio MAAP-X FAC MNS Evac, surface mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 7
227-956-xx, Integrated Radio MAAP-X FAC MNS Evac, surface mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6
227-957-xx, Integrated Radio MAAP-X FAC MNS Evac, surface mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6
227-95x-xx, 227-96x-xx, 227-95x-EN, 227-96x-EN, Addressable MAAP-X Addressable Fire Alarm
MNS Voice Evacuation Panel
227-965-EN, Hardwire Only MAAP-X FAC MNS Evac, flush mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6
227-965-NR, Standalone-No Radio MAAP-X FAC MNS Evac, flush mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 7
227-965-xx, Integrated Radio MAAP-X FAC MNS Evac, flush mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6
227-965-xx, MAAP-X FAC MNS flush mount
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 7
227-966-NR, Standalone-No Radio MAAP-X FAC MNS Evac, flush mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 7
227-966-xx, Integrated Radio MAAP-X FAC MNS Evac, flush mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6
227-968-xx, Integrated Radio MAAP-X FAC MNS Evac, surface mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6

227-969-xx, Integrated Radio MAAP-X FAC MNS Evac, surface mount
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 6
290-050-01, Wattmeter Kit, 25-1000 MHz, 5-500 Watt, Fixed Element RF
290-701-01, Analog/Digital Multimeter
290-790-01, Multimeter
SRD, 225-793-xx
297-002-00, RF Communications Service Monitor Kit
297-300-00, Dynamic 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
299-016-01, D21 Weather Station Kit
D21 Incident and EM Mgmnt, 227-010-xx, 227-011-xx, 227-012-xx, 227-020-xx
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
302-104-00, Replacement Blade
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
Coaxial Cable, 620-026-00
303-000-00, Coax Cable Took Kit
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
303-000-00, Coax Cable Tool Kit
Coaxial Cable, 620-026-00
326-M00-01, MNS Standard Message SD Card
MAAP-X Upgrade, 227-912-xx
326-M00-01, MNS Standard Message SD Card
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 8
326-M01-01, MNS Custom Message Set
MAAP-X Upgrade, 227-912-xx
326-M01-01, MNS Custom Message Set
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 8
326-M10-01, MNS Custom Message Set Field Install Kit
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 8
365-012-00, Lens Amber
Indoor Horn Strobe, 585-107-00
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 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, 4-wire, 585-108-00
Indoor Horn Strobe, 585-099-00
Indoor Horn Strobe, 585-105-00
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 Horn Strobe, 585-107-00
365-014-00, Lens, Blue
Indoor Chime Strobe, 587-008-00
Indoor Horn Strobe, 585-101-00
Indoor Horn Strobe, 585-103-00
Indoor 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
365-014-00, Lens,Blue
Indoor Horn Strobe, 585-106-00
365-015-00, Lens Green
Indoor Horn Strobe, 585-107-00
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 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 Horn Strobe, 585-107-00
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 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, 4 Wire, 585-109-00

Indoor Horn Strobe, 4-wire, 585-108-00
Indoor Horn Strobe, 585-099-00
Indoor Horn Strobe, 585-105-00
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, 4 Wire, 585-109-00
Indoor Horn Strobe, 4-wire, 585-108-00
Indoor Horn Strobe, 585-099-00
Indoor Horn Strobe, 585-105-00
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

365-019-00, Lens, Red
Indoor Horn Strobe, 4 Wire, 585-109-00
Indoor Horn Strobe, 4-wire, 585-108-00
Indoor Horn Strobe, 585-099-00
Indoor Horn Strobe, 585-105-00
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

367-013-00, Lens, Amber
Indoor Horn Strobe, 4 Wire, 585-109-00

367-014-00, Pendant Mounting Bracket
Strobe Light, 367-033-00

367-033-00, Explosion-Proof Strobe Light, clear lens

367-036-00 Sync module, Type II
Indoor Speaker Strobe, 580-068-00

367-036-00, Sync module Type II
Indoor Speaker Strobe, 580-099-00

367-036-00, Sync Module, Type II
Indoor Strobe, Type II, 367-058-00

367-036-00, Sync module, Type II
Indoor Horn Strobe, 4-Wire, 585-060-00, 585-065-00
Indoor Speaker Strobe, 580-05x-xx 580-06x-00 580-07x-00 580-081
Indoor Speaker Strobe, 580-064-00
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, 580-076-00
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, 580-082-00
Indoor Speaker Strobe, 580-083-00
Indoor Speaker Strobe, 580-098-00
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/Outoor 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
367-046-00, Sync module, Type I
Indoor Horn Strobe, 585-098-00
367-047-00, Sync module Type I
Univ Expander Plate, 369-036-00
Univ Expander Plate, 369-037-00
367-047-00, Sync module, Type I
Indoor Chime Strobe, 587-008-00
Indoor Chime, 587-009-00
Indoor Horn Strobe, 4 Wire, 585-109-00
Indoor Horn Strobe, 4-wire, 585-108-00
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, 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, 367-100-00
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, 585-069-00
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

367-047-00, Sync module, Type It
Outdoor Horn Strobe, 585-068-00

367-049-00, Indoor Strobe Plate
Sync module, Type II, 367-036-00

367-049-00, Indoor Strobe Plate, Red, Wall-Mount, Type II, fire letter, clear lens
367-049-01, Indoor Strobe Plate, White, Wall-Mount, Type II, fire letter, clear lens
367-049-02, Indoor Strobe Plate, White, Wall-Mount, Type II, no letter, amber lens
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, Weatherproof, 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
367-075-00, Indoor Strobe, Sq, White, Wall Mount, Type II, Black Alert letter, Amber lens
367-085-00, Indoor Strobe, Sq, 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, Sq, Hi Cand, White, Ceiling-Mount, Type II, no letter, amber lens
367-090-00, Indoor Strobe, sq, Red, Ceiling-Mount, Type II, Fire letter, clear lens
367-091-00, Indoor Strobe, White, Ceiling-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, alert ltr, clr lens
Univ Expander Plate, 369-036-00
Univ Expander Plate, 369-037-00
367-099-00, Indoor Strobe, White, Wall-Mount, Type I, alert letter, clear lens
367-100-00, Indoor Strobe, White, Wall, fire ltr, clr 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
367-101-00, Indoor Strobe, White, Wall, no ltr, clr 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
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
3677-092-00, Indoor Strobe, Red, Wall-Mount, Type II, fire letter, clear lens
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
369-023-00, Strobe attachment, amber lens
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, indoor, no ltr, clear lens
369-037-00, Universal Expander Plate, Indoor, alert ltr, amber lens
371-372-02, M-2 to M-2 FACP Convers Kit for MNS Op
371-372-03, MAAP(+) Convers Kit for MNS Op
400-701-00, Battery SLA 12V/26 Ah quick connect
M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx
400-701-00, Battery, SLA 12V/26 Ah quick connect

400-703-00, Battery, SLA 12V/1.4 Ah quick connect
SRD, 225-793-xx
400-704-00, Battery
D21 Tone Alert Panel, 227-095-00
400-704-00, Battery, SLA 12V/8 Ah quick connect
MAAP-X Text Display 24VDC, 710-075-01
NAC Power Extender 6.5A, 404-164-00
400-704-00, Battery,SLA 12V 8 Ah
NAC Power Extender, 404-126-00 404-126-01
400-712-00, Battery
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 8
400-712-00, Battery SLA 12V/18 Ah quick connect
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
400-712-00, Battery SLA 12V/18 quick connect
RFM-XR Repeaters, 227-329-xx 227-358-xx 227-359-xx
400-712-00, Battery, SLA 12V/18 Ah quick connect
MAAP-X Upgrade, 227-912-xx
400-713-00, Battery
Audio Booster Panels, 703-16x-00 703-20x-00
BT-XF Pull Station, Single Action, 227-665-xx
400-713-00, Battery, SLA 12V 12 Ah
NAC Power Extender, 404-126-00 404-126-01
400-713-00, Battery, SLA 12V/12 Ah quick connect
BT2-8 Building Transceiver, 227-245-xx, 227-246-xx, 227-247-xx, 227-271-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
NAC Power Extender 6.5A, 404-164-00
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
400-713-00, Battery, SLA 12V/12Ah quick connect
BT-XF, 227-60x-xx
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
400-719-00, Battery, SLA 12V/14 quick connect
403-018-01, 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
403-099-20, 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, 60 Hz, 24 VDC, 4A
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
404-098-00, Power Supply/Battery Charger, 24 VDC @ 8A continuous, 10A during alarm,115 VAC 60 Hz, red enc
MAAP-X Text Display 24VDC, 710-075-01
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 continuous, 10 A during alarm, 230 VAC 50/60 Hz, red enc
MAAP-X Text Display 24VDC, 710-075-01
404-098-10, Power Supply/Battery Charger, 24 VDC @ 8A continuous, 10A during alarm, 230 VAC 50/60 Hz, red enclosure
404-099-10, UPS, Network Devices, 2000 VA, 1800W, 120 VAC, Tower, Rack Mount
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 400W
404-119-00, NAC Power Extender
Indoor Horn Strobe, 4-Wire, 585-060-00, 585-065-00
Indoor Horn Strobe, 585-018-00
Indoor Speaker Strobe, 580-05x-xx 580-06x-00 580-07x-00 580-081
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, 580-076-00
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, 580-082-00
Indoor Speaker Strobe, 580-098-00
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/Outoor 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
404-119-00, Synce module Type II
Indoor Speaker Strobe, 580-099-00
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 @ 6A, 115 VAC 50 Hz, 230 VAC 50/60 Hz, grey enc
MAAP-X Text Display 24VDC, 710-075-01
404-164-00, NAC Power Extender, 220 VAC, 50/60 Hz, 24 VDC, 6.5A
404-173-01, UPS Kit
Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00
409-005-00, AC Adaptor Plug
KVMA Extender Kit, 200-476-01, 200-476-02
451-700-00, Relay, SPDT, 120-277 VAC, 10 Amp contacts, grey enclosure
451-700-01, Relay, SPDT, 120-277 VAC, 10 Amp contacts, red enclosure
451-700-01, SPDT Relay
Addr1 Relay Control Module, 729-159-00
Addr1 Smoke Detector, 723-370-00, 723-371-00
453-100-00, Relay, SPDT, 24 VDC, 7 Amp contacts, track mount
453-102-00, Relay, SPDT, 24 VDC, 7 Amp contacts, track mount
453-103-00, Relay, SPDT, 24 VDC, 7 Amp contacts, enclosure
453-104-00, DPDT, 24 VDC, 7 Amp contacts, track mount
453-105-00, DPDT, 24 VDC, 7 Amp contacts, enclosure
453-106-00, Relay, SPDT, 24 VDC/VAC, 10 Amp contacts, grey enclosure
453-106-01, Relay, SPDT, 24 VDC/VAC, 10 Amp contacts, red enclosure
453-107-00, Relay, SPDT, 24 VDC/VAC, 10 Amp contacts, grey enclosure
453-107-01, Relay, SPDT, 24 VDC/VAC, 10 Amp contacts, red enclosure
453-110-00, Relay, DPDT, 24 VDC/VAC 10 Amp contacts, grey enclosure
453-110-01, Relay, DPDT, 24 VDC/VAC, 10 Amp contacts, red enclosure
453-111-00, Relay, SPDT, 10-30 VDC, 10 Amp contacts, grey enclosure
453-111-01, Relay, SPDT, 10-30 VDC, 10 Amp contacts, red enclosure
453-114-00, Relay, SPDT, 24 VDC/VAC, 10 Amp contacts, track mount
457-117-00, Relay, Time Delay, SPDT, 10 Amp
500-023-00, Fuse, fast-blow, 1A
Printer, 205-050-00
501-123-00, Fuse, slow blow
SRD, 225-793-xx
501-123-00, Fuse, slow-blow
Current In-rush Limiter, 176-257-00
506-011-00, In-line fuse holder
Printer, 205-050-00
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
M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx

513-411-00, M-2 Tamper Switch
GPIO, 227-045-01 227-056-00
M-2 Conv FACP w Integrated Radio Transceiver, 227-5xx-xx
513-411-00, M-2 Tamper Switch Kit
M2 FACP, 227-55x-MN 227-56x-MN 227-570-MN
513-411-01, MAAP-X Tamper Switch Kit
MAAP-X Upgrade, 227-912-xx
513-411-01, MAAP-X Tamper Switch Kit
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 8
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
514-000-00 514-000-01, Conventional Outside Screw & Yoke Valve Supervisory/Tamper Switch
514-000-00, Gate Valve Switch 1 SPDT
Conv Supervisory/Tamper Switch, 514-000-00, 514-000-01
514-000-01, Gate Valve Switch 2 SPDT
Conv Supervisory/Tamper Switch, 514-000-00, 514-000-01
514-001-00, Conventinal 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
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
580-05x-xx, 580-06x-00, 580-07x-00, 580-081-00 Indoor Speaker Strobe, Wall Mount, White, Type II
580-063-00, Indoor Speaker Strobe, no letter, clear lens
Indoor Speaker Strobe, 580-05x-xx 580-06x-00 580-07x-00 580-081
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-00 580-081no letter, amber lens
580-068-00, Indoor Speaker Strobe
580-069-00, Indoor Speaker Strobe, Sq, White, Ceiling-Mount, Type II, no lettering, blue lens
580-070-00, Indoor Speaker Strobe
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, Indoor Speaker Strobe, weatherproof, no letter, amber lens
Indoor Speaker Strobe, 580-05x-xx 580-06x-00 580-07x-00 580-081
580-075-00, Outdoor Speaker Strobe, White, Wall-Mount, 180 cd, Type II, no lettering, amber lens
580-076-00, Indoor Speaker Strobe, Self Amplified, White, Wall Mount, Type II, fire letter, clear lens
580-077-00, Indoor Speaker Strobe, White, Ceiling Mount, Type II, no letters, amber lens
580-078-00 Outdoor Speaker Strobe, White, Wall Mount, 180 Candela, Type II, Weatherproof, alert letters, clear lens
580-078-00, Indoor Speaker Strobe, weatherproof, alert letter, clear lens
Indoor Speaker Strobe, 580-05x-xx 580-06x-00 580-07x-00 580-081
580-079-00, Indoor Speaker Strobe, Self Amplified, 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, alert letter, clear lens
Indoor Speaker Strobe, 580-05x-xx 580-06x-00 580-07x-00 580-081
580-081-00, Indoor Speaker Strobe, White, Wall Mount, Type II, alert letter, clear lens
580-082-00, Indoor Speaker Strobe, White, Self-Amplified, Wall Mount, Type II, alert letter, clear lens
580-083-00, Indoor Speaker Strobe, 8 inch, White, Ceiling-Mount, Type II, alert letter, amber lens
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
580-098-00, Indoor Speaker Strobe, 8 inch, White, Ceiling Mount, Type II, fire letter, amber lens
580-099-00, Indoor Speaker strobe
580-100-00, Indoor Speaker Strobe, White, Ceiling-Mount, Type II, alert letter, amber 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, fire ltr, clr lens
Univ Expander Plate, 369-036-00
Univ Expander Plate, 369-037-00
580-108-00, Indoor Speaker Strobe, White, Wall-Mount, Type I, fire letter, clear lens
580-110-00, Indoor Speaker Strobe, White, Wall-Mount, Type I, alert letter, amber lens
580-111-00, Indoor Speaker Strobe, White, Wall, alert ltr, clr lens
Univ Expander Plate, 369-036-00
Univ Expander Plate, 369-037-00
580-111-00, Indoor Speaker Strobe, White, Wall-Mount, Type I, alert letter, clear lens
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, no ltr, clr lens
Univ Expander Plate, 369-037-00
580-114-00, Indoor Speaker Strobe, White, Wall-Mount, Type I, no letter, clear lens
580-114-00, Speaker Strobe, White, Wall, no ltr, clr lens
Univ Expander Plate, 369-036-00
580-115-00, Indoor Speaker Strobe, Red, Wall-Mount, Type I, no letter, clear lens
581-422-00, Motorized 6" Vibrating Alarm Bell
581-423-00, Vibrating Alarm Bell, Explosion Proof, 6"
581-451-00, Vibrating Alarm Bell, Explosion Proof, 8"
581-473-00, Motorized 10" Vibrating Alarm Bell
585-014-00, Back Box, surface mount
Indoor Horn Strobe, 4-Wire, 585-060-00, 585-065-00
585-018-00, Indoor Horn Strobe, Multitone, Red, Wall-Mount, Type II, fire letter, clear lens
585-032-01, Horn Kit, Explosion Proof
585-059-00, Outdoor Horn Strobe, Red, Wall-Mount, Type II, multitone, clear lens
585-060-00, Indoor Horn Strobe, 4-Wire, 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
585-069-00, 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, 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, no letter
Univ Expander Plate, 369-036-00
Univ Expander Plate, 369-037-00
585-100-00, Indoor Horn, Red, Wall-Mount, Type I, no letter
585-101-00, Indoor Horn Strobe, Red, Wall-Mount, Type I, no letter, clear lens
585-102-00, Indoor Horn Strobe, White, Wall, fire ltr, clr lens
Univ Expander Plate, 369-036-00
Univ Expander Plate, 369-037-00
585-102-00, Indoor Horn Strobe, White, Wall-Mount, Type I, fire letter, clear lens
585-103-00, Horn Strobe, White, Wall, no ltr, clr lens
Univ Expander Plate, 369-036-00
585-103-00, Indoor Horn Strobe, White, Wall, no ltr, clr lens
Univ Expander Plate, 369-037-00
585-103-00, Indoor Horn Strobe, White, Wall-Mount, Type I, no letter, clear lens
585-104-00, Indoor Horn, White, Wall, no letter
Univ Expander Plate, 369-036-00
Univ Expander Plate, 369-037-00
585-104-00, Indoor Horn, White, Wall-Mount, Type I, no letter
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
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, 585-060-00, 585-065-00
Indoor Strobe Plate 367-049-01, 367-049-02
Indoor Strobe Plate, 367-049-00
588-006-00, Adapter Plate
Alarm Bell, 581-422,00, 581-473-00
588-008,00, Adapter Plate, semi flush
Alarm Bell, 581-422,00, 581-473-00
588-013-00, Back Box, surface mount
Indoor Speaker Strobe, 580-05x-xx 580-06x-00 580-07x-00 580-081
588-013-01, Back Box, Surface mount
Indoor Speaker Strobe, 580-070-00
588-013-01, Back Box, surface mount
Indoor Speaker Strobe, 580-069-00
Indoor Speaker Strobe, 580-076-00
Indoor Speaker Strobe, 580-080-00
Indoor Speaker Strobe, 580-081-00
Indoor Speaker Strobe, 580-082-00
588-013-01, Back box, surface mount
Indoor Speaker Strobe, 580-079-00
588-014-00, Back Box, surface mount
Outdoor Horn Strobe, 585-059-00

588-021-00, Back Box, surface mount
Indoor Strobe, 367-085-00
Indoor Strobe, 367-089-00
Indoor Strobe, 367-090-00
588-021-00, Black Box, surface mount
Indoor Strobe, 367-075-00 1
588-026-00, Back Box, surface mount
Outdoor Strobe, 367-050-00
588-026-01, Back Box, surface mount
Outdoor Strobe, 367-061-00
588-026-01, BackBox, surface mount
Indoor/Outoor Strobe, 367-050-10
588-027-00, 4" speaker suport tile bridge
Indoor Speaker Strobe, 580-070-00
588-027-00, 4" speaker support tile bridge
Indoor Speaker Strobe, 580-064-00
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
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
585-067-01, Outdoor Horn
Outdoor Horn Strobe, 585-068-00
Outdoor Horn Strobe, 585-069-00
Outdoor Horn Strobe, 585-097-01
Outdoor Speaker, 124-072-50
Outdoor Strobe, 367-066-00
588-052-00, Square Extender Ring
Indoor Speaker Strobe, 580-100-00
588-053-00, Back Box, flush mount
Indoor Speaker Strobe, 588-100-00
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, Red
585-067-01, Outdoor Horn
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, 367-066-02
Speaker, 124-072-00
588-059-00, Trim Ring,White

Outdoor Strobe, 367-066-01
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 Speaker Strobe, 580-088-00
Outdoor Speaker, 124-072-50
Outdoor Strobe, 367-066-00
588-060-00, Trim Ring, White
Indoor Speaker Strobe, 580-104-00
Outdoor Speaker Strobe, 580-106-00
588-076-00, Replacement Plate 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
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
588-083-00, Backbox, weatherproof
Conv Pull Station, 708-015-01, 708-015-03
588-090-00, Back Box, surface mount
Indoor Chime Strobe, 587-008-00
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
588-090-00, Back box, surface mount
Indoor Chime, 587-009-00
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, 367-100-00
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, 124-091-00

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
- 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, 4-wire, 585-108-00
- Indoor Horn Strobe, 585-105-00
- 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, 4-wire, 585-108-00
- Indoor Horn Strobe, 585-105-00
- 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, 4 Wire, 585-109-00
- Indoor Horn Strobe, 585-099-00
- Indoor Speaker, 124-093-00
- Indoor Strobe, 367-102-00

588-097-00, Back Box, surface mount
- Indoor Horn Strobe, 4 Wire, 585-109-00
- Indoor Horn Strobe, 585-099-00
- 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, Red
- Indoor Horn Strobe, 585-103-00

588-099-00, Trim Ring, White
- Indoor Horn Strobe, 585-102-00
- 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, 367-100-00
Indoor Strobe, 367-101-00
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
588-101-00, Univ Expander Plate Backbox Skirt, White, Wall
588-102-00, Back Box, surface mount
Conv Pull Station, 708-026-01
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 Speaker, 124-072-50
589-005-00, Decals, White
Outdoor Horn Strobe, 585-068-00
Outdoor Horn, 585-067-01
589-007-00, Bezel, red, agent letter
Indoor Horn Strobe, 4 Wire, 585-109-00
Indoor Horn Strobe, 585-099-00
Indoor Strobe, 367-102-00
589-008-00, Bezel, white, no letter
Indoor Horn Strobe, 4-wire, 585-108-00
Indoor Horn Strobe, 585-105-00
Indoor Strobe, 367-103-00
589-008-00, Bezel, white, no lettering
Indoor Strobe, 367-105-00
589-009-00, Bezel, red, alert
Indoor Horn Strobe, 585-099-00
589-009-00, Bezel, red, alert letter
Indoor Horn Strobe, 4 Wire, 585-109-00
Indoor Strobe, 367-102-00
589-010-00, Bezel, red, evac letter
Indoor Horn Strobe, 4 Wire, 585-109-00
Indoor Horn Strobe, 585-099-00
Indoor Strobe, 367-102-00
589-012-00, Bezel, red, no letter
Indoor Horn Strobe, 585-099-00
Indoor Strobe, 367-102-00
589-013-00, Bezel, white, agent letter

Indoor Horn Strobe, 4-wire, 585-108-00
Indoor Horn Strobe, 585-105-00
Indoor Strobe, 367-103-00
Indoor Strobe, 367-105-00

589-013-00, Bezel, white, evac letter
Indoor Horn Strobe, 4-wire, 585-108-00

589-014-00, Bezel, white, alert letter
Indoor Horn Strobe, 4-wire, 585-108-00
Indoor Horn Strobe, 585-105-00
Indoor Strobe, 367-103-00
Indoor Strobe, 367-105-00

589-015-00, Bezel, white, evac letter
Indoor Horn Strobe, 585-105-00
Indoor 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

589-019-00, Bezel, red, no letter
Indoor Horn Strobe, 4 Wire, 585-109-00

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

620-023-00, 625-100-0x, 626-000-0x, Coaxial Cable, 50 Ohm, Mini-RG-8X

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 Heliax Superflex

620-030-00, Coaxial Cable, 50 Ohm, 1/2 inch, Heliax Superflex

620-031-00, Coaxial Cable, 50 Ohm, 1/2 in. Heliax, LDF

620-032-00, Coaxial Cable, 50 Ohm, 5/8 in. Heliax, LDF

620-033-00, Coaxial Cable, 50 Ohm, 7/8 in. Heliax, 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
Remote Display Unit, 710-070-01,710-070-02

621-025-00, 22 AWG twisted pair with drain and shield
MAAP-X LOC/RDU, 710-072-01 710-072-02

621-025-00, 22 AWG, twisted pair with drain and shield
MAAP-X LOC Keypad, 710-072-51 710-072-52

621-026-00, Cable for audio, control, communications, instrumentation

621-02x-00 621-040-00 621-06x-00 621-07x-00, Cable, Fire Alarm

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, 621-084-00, Cable, RS-485, Plenum and Non-plenum
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
Tri-color Annunciator 710-073-00, 710-073-01, 369-035-00
624-015-00, Cable for D21 Weather Station
D21 Incident and EM Mgmnt, 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
624-03x-00 624-04x-00, Cable, Plenum and Non-Plenum
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
624-123-01, RFM-X RS-232/power 100Base-T server cable
RFM-XHR Modem, 227-317-xx
625-091-00, Monaco Addressable Planner Cable
Printer, 205-050-00
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
625-123-01, RFM-X RS-232/power 100Base-T server cable
RFM-XH Modem, 227-323-00
625-214-00, King-Fisher Interface Cable and Bracket
RFM King-Fisher Assembly, 227-333-NR
626-071-00, Adapter 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
626-100-01, Coax Cable, Type I, preassembled, 60 ft
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
626-100-02, Coax Cable, Type I, preassembled, 40 ft
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
626-100-03, Coax Cable, Type I, preassembled, 80 ft
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
626-100-04, Coax Cable, Type I, preassembled, 100 ft
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
626-100-05, Coax Cable, Type I, preassembled, 20 ft
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
626-100-06, Coax Cable, Type I, preassembled, 15 ft
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
626-100-07, Coax Cable, Type I, preassembled, 5 ft
Coaxial Cable, 50 Ohm, Mini RG-8X, 620-023-00, 625-100-0x, 626-000-0x
626-266-00, BT-X 24" Cable

BT2 to BT-X Conversion Kit, 227-647-00
629-003-00, Cable Termination Kit, N male connector for 1/2" Heliax
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, 620-031-00
Coaxial Cable, 620-032-00
643-526-00, Adaptor, Right-Angle BNC male to BNC female
Coaxial Cable, 620-030-00
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
643-544-00, Adapter, PL-259 Female to N male
VHF Yagi directional Antenna, 1990-401-xx
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, Adapter, 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
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
649-085-02, Adapter, RJ45 DTE to DB-25 male DCE
Printer, 205-050-00
649-118-00, USB to RS-232 serial port adapter
M+ Point Report Addr FACP, 227-85x-xx, 227-86x-xx
MAAP-X Planner, 207-625-00
MAP+ Planner, 207-617-00
649-118-00, USB to serial adapter
BT-X Planner Kit 207-607-00
649-118-00, USB to Serial Port Adapter
BT-XM In-Bldg Mass Notification Communicator, 227-621-xx 227-622-xx, 227-623-xx
649-118-00, USB to serial port adapter
M Convent Plan Kit, 207-813-00
649-118-00, USB to Serial Port Adapter, High Speed
661-000-00 Ground Rod
661-000-00, Ground Rod
Lightning Arrestors and Kits, 198-021-xx, 198-022-xx
661-001-00 Clamp
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, 700-027-xx, 700-028-xx, Vulcan I Fire Alarm Control Panel
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
703-163-00, Audio Splitter
Audio Booster Panels, 703-16x-00 703-20x-00
703-164-00, Audio Booster 160W, 115 VAC
Audio Booster Panels, 703-16x-00 703-20x-00
703-165-00, Audio Booster 320W, 115 VAC

Audio Booster Panels, 703-16x-00 703-20x-00
703-166-00, Volume Control
Audio Booster Panels, 703-16x-00 703-20x-00
703-167-00, Audio Booster 80W, 115 VAC
Audio Booster Panels, 703-16x-00 703-20x-00
703-192-00, Speaker Splitter Mounting Bracket
Audio Booster Panels, 703-16x-00 703-20x-00
703-206-00, Audio Booster 160W, 220 VAC
Audio Booster Panels, 703-16x-00 703-20x-00
703-207-00, Audio/Strobe Booster 80W, 220 VAC
Audio Booster Panels, 703-16x-00 703-20x-00
703-208-00, Audio Booster 320W, 220 VAC
Audio Booster Panels, 703-16x-00 703-20x-00
708-015-01, 708-015-03, Conventional Manual Fire Alarm Pull Station, Dual or Single Action, SPST, Weatherproof
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, Conv 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, Annunciator, Text

MAAP-X Upgrade, 227-912-xx
710-054-01, Annunciator, Text
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 8
710-054-01, Remote Text Annunciator
710-057-00, Emergency Message Display
710-059-10, MAAP-X to Text Display Interface
MAAP-X Text Display 24VDC, 710-075-01
710-059-11, Expansion Kit
MAAP-X Text Display 24VDC, 710-075-01
710-070-01,Remote Display Unit, surface mount
710-070-02,Remote Display Unit, flush mount
710-072-00 710-072-52, MAAP-X LOC Keypad
710-072-01 710-072-02, Local Operating Console/Remote Display Unit
710-072-01, MAAP-X LOC/RDU Touch Screen
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 8
710-072-01, MAAP-X LOC/RDU Touch Screen, surface mount
MAAP-X Upgrade, 227-912-xx
710-072-02, MAAP-X LOC/RDU Touch Screen
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 8
710-072-02, MAAP-X LOC/RDU Touch Screen, flush mount
MAAP-X Upgrade, 227-912-xx
710-072-02, MAAP-X LOC/RDU touchscreen flush mount
MAAP-X LOC/RDU, 710-072-01 710-072-02
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, 710-073-01, 369-035-00, D-21 Station Alerting System Tri-color Annunciator
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, 24VDC, 2 line, multi-color
MAAP-X Upgrade, 227-912-xx
710-075-01, MAAP-X Text Display, 24VDC, 2 lines, multi-color
Addr MAAP-X FAC MNS, 227-95x-xx, 227-96x-xx 8
710-075-01, MAAP-X Text Display, 24VDC, 2-Line, Multi-Color
721-107-00, Conventional Heat Detector, 194F Fixed Temp/Rate Comp
721-108-00, Conventional Heat Detector, 194F Fixed Temperature_Rate Compensation, weatherproof
721-109-00, Conventional Heat Detector, 135 Fixed Temperature_Rate Compensation, Explosion Proof
721-110,-00, Conventional Heat Detector, 194 Fixed Temperature_Rate Compensation, Explosion Proof
721-117-00, Conventional Heat Detector, 135 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
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)
721-129-00, Conventional Heat Detector, 135F Fixed Temperature/Rate-of-Rise, explosion proof
721-130-00, Conventional Heat Detector, 135F Fixed_Rate of Rise
721-131-00, Conventional Heat Detector, 135F Fixed Temperature_Rate of Rise, waterproof

721-132-00, Conventional Heat Detector, 194F Fixed Temperature_Rate Compensation, 4 wire, weatherproof
721-133-00, Conventional Heat Detector, 135F Fixed Temperature/Rate Compensation, 4 wire, weatherproof
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
721-409-00, Conventional Heat Detector, 200F Fixed Temperature/Rate-of-Rise, explosion proof
721-410-00, Conventional Heat Detector, 200F Fixed Temperature_Rate of Rise
721-411-00, Conventional Heat Detector, 200F Fixed Temperature_Rate of Rise
722-121-00, Addressable Intelligent Heat Detector, Electronic 135F
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
722-406-00, Addressable Intelligent Heat Detector, 190F Fixed High Temp
722-408-00, Conventional Heat Detector, 194F Fixed Temperature
722-409-00, Conventional Heat Detector, 2-wire mechanical dual circuit 194F Fixed Temp
722-411-00, Conventional Heat Detector, 200F Fixed Temperature
723-002-00, Conventional Smoke Detector, duct, 2/4 Wire, Photoelectric
723-002-00, Replacement, 2/4 wire low profile 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 Module, 729-192-00
Conv Smoke Detector, 723-340-xx 723-508-xx
723-340-01, Conv Smoke Detector, 2 wire,135 fixed temp
Conv Module, 729-192-00
723-340-01, Conv Smoke Detector, photoelectric, 2 wire, 135 fixed temp
Conv Smoke Detector, 723-340-xx 723-508-xx
723-340-xx 723-508-xx, Conventional Smoke Detector, Photoelectric, 2/4 wire, plug in
723-353-00, Intelligent photoelectric Smoke Detector
723-357-02, Conventional Smoke Detector, photoelectric, 4 wire, isolated 135F thermal heat
723-361-00, Intelligent photoelectric Smoke Detector, 135F Fixed Temp
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, Addressable Intelligent Duct Smoke Detector
723-371-00, Addressable Intelligent Duct Smoke Detector
723-372-00, Conventional Duct Smoke Detector, Photoelectric, plug in
723-372-00, Duct Smoke Detector, photoelectric plug in
Conv Duct Smoke Detect, 723-368-00
723-372-00, Replacement Head
Conv Duct Smoke Detect, 723-367-00
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, 135 fixed temp
Conv Smoke Detector, 723-340-xx 723-508-xx
723-600-00, Intelligent photoelectric Smoke Detector, Remote Test
723-600-00, Intelligent photoelectric smoke detector, remote test
Addr1 Smoke Detector, 723-370-00, 723-371-00

725-001-00, 725-002-00, Addressable Intelligent Reflected Beam Smoke Detector
725-001-00, Reflected Beam Smoke Detector
Addr1 Smoke Detector, 725-001-00, 725-002-00
725-002-00, Reflected Beam Smoke Detector
Addr1 Smoke Detector, 725-001-00, 725-002-00
725-312-00 725-313-00, Conventional Reflected Beam Smoke Detector
725-312-00, Reflected Beam Smoke Detector
Conv Smoke Detector, 725-312-00 725-313-00
725-313-00, Reflected Beam Smoke Detector w integ sensitivity
Conv Smoke Detector, 725-312-00 725-313-00
725-601-00, Carbon Monoxide Detector, circular
Conv Carbon Monoxide Detector, 725-602-00 725-602--01
725-602-00, 725-602-01, Conventional Carbon Monoxide Detector
725-602-00, Carbon Monoxide Detector, rectangular
Conv Carbon Monoxide Detector, 725-602-00 725-602--011
729-020-00, Adapter plate
Conv Heat Detector, 721-107-00
Conv Heat Detector, 721-108-00
Conv Heat Detector, 721-117-00
Conv Heat Detector, 721-125-00
Conv Heat Detector, 721-405-00
729-091-00, Annunciator, LED
Addr Heat Detector, 722-406-00
Addr1 Heat Detect, 722-121-00
Addr1 Heat Detector, 721-124-00
Addr1 Smoke Detector, 723-370-00, 723-371-00
Conv Duct Smoke Detect, 723-367-00
Conv Duct Smoke Detect, 723-369-00
Conv Duct Smoke Detector, 723-372-00
Conv Heat Detector, 721-122-00
Conv Module, 729-192-00
Conv Smoke Detector, 723-002-00
Conv Smoke Detector, 723-003-00
Conv Smoke Detector, 723-340-xx 723-508-xx
Smoke Detector, 723-353-00, 723-361-00, 723-600-00
729-091-00, Remote LED Annunciator
729-097-00, Conventional Detector Base, plug-in, 2-wire
729-097-00, Detector Base, plug-in, 2 Wire
Conv Smoke Detector, 723-002-00
729-097-00, Detector Base, plug-in, 2 wire
Conv Smoke Detector, 723-003-00
729-097-00, Detector Base, plug-in, 2-wire
Conv Heat Detector, 721-122-00
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
729-105-00, Alarm Only Directory Annunciator, negative common
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
729-105-01, Alarm Only Directory Annunciator, positive common

Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
Vulcan I FACP 700-026-00, 700-027-xx, 700-028-xx
729-106-00, Alarm Only Directory Annunciator, negative common
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
729-106-01, Alarm Only Directory Annunciator, negative common
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
729-106-01, Alarm Only Directory Annunciator, positive common
Vulcan I FACP 700-026-00, 700-027-xx, 700-028-xx
729-107-00, Alarm Only Directory Annunciator, negative common
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
729-107-01, Alarm Only Directory Annunciator, positive common
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
Vulcan I FACP 700-026-00, 700-027-xx, 700-028-xx
729-108-00, Conventional Remote Test Station
729-108-00, Remot Test Station
Conv Smoke Detector, 725-312-00 725-313-00
729-108-00, Remote Test Station
Addr1 Smoke Detector, 723-370-00, 723-371-00
Addr1 Smoke Detector, 725-001-00, 725-002-00
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
729-10x-xx, 729-14x-01, 729-204-01, Remote LED Annunciator
729-112-00, Reverse Polarity Module, 20-30 VDC, 1 Amp contacts
729-125-00, Detector Base, plug-in, 2 Wire
Conv Smoke Detector, 723-002-00
729-125-00, Detector Base, plug-in, 2 wire
Conv Smoke Detector, 723-003-00
729-125-00, Detector Base, plug-in, 2-wire
Conv Heat Detector, 721-122-00
729-127-00, Addressable Intelligent Detector Base, plug-in, 4-1"
729-127-00, Detector Base, plug-in 4.1"
Smoke Detector, 723-353-00, 723-361-00, 723-600-00
729-127-00, Detector Base, plug-in, 4.1"
Addr1 Heat Detector, 721-124-00
Addr1 Heat Detector, 722-406-00
Conv Duct Smoke Detector, 723-372-00
729-127-00, Detector Base, plug-in, 4-1"
Addr1 Heat Detect, 722-121-00
729-129-00, Addressable Intelligent Detector Base, plug-in, sounder
729-129-00, Detector Base, plug-in sounder
Smoke Detector, 723-353-00, 723-361-00, 723-600-00
729-129-00, Detector Base, plug-in, sounder

Addr1 Heat Detect, 722-121-00

Addr1 Heat Detector, 721-124-00
Addr1 Heat Detector, 722-406-00
729-129-01, Addressable Intelligent Detector Base, plug-in, sounder, low frequency
729-129-01, Detector Base, plug-in sounder low freq 520 Hz
Smoke Detector, 723-353-00, 723-361-00, 723-600-00

729-132-00, Addressable Intelligent Detector Base, plug-in, 6.1"
729-132-00, Detector Base, plug-in 6.1"
Smoke Detector, 723-353-00, 723-361-00, 723-600-00
729-132-00, Detector Base, plug-in, 6.1"
Addr1 Heat Detect, 722-121-00
Addr1 Heat Detector, 721-124-00
Addr1 Heat Detector, 722-406-00
Conv Duct Smoke Detector, 723-372-00
729-133-00, Addressable Intelligent Detector Base, plug-in, isolator
729-133-00, Detector Base, plug-in isolator
Smoke Detector, 723-353-00, 723-361-00, 723-600-00
729-133-00, Detector Base, plug-in, isolator
Addr1 Heat Detect, 722-121-00
Addr1 Heat Detector, 721-124-00
Addr1 Heat Detector, 722-406-00
729-134-00, Addressable Intelligent, detector relay base
729-134-00, Detector Base, plug-in relay
Smoke Detector, 723-353-00, 723-361-00, 723-600-00
729-134-00, Detector Base, plug-in, relay
Addr1 Heat Detector, 721-124-00
729-138-00, Conventional Remote Test Station with key
729-138-00, Remote Test Station and key
Addr1 Smoke Detector, 723-370-00, 723-371-00
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, 725-312-00 725-313-00
729-138-00, Remote Test Station with key
Addr1 Smoke Detector, 725-001-00, 725-002-00
729-140-00, Addressable Intelligent Module, Fault Isolator
729-142-00, Addressable Intelligent Module, Monitor
729-142-00, Intelligent monitor module
Conv Waterflow Switch, 514-001-00
729-143-00 Monitor, mini-module
Conv Pull station, 708-015-01, 708-015-03
729-143-00, Addressable Intelligent Module, Mini-Monitor
729-143-00, Intelligent mini-monitor module
Conv Waterflow Switch, 514-001-00
729-143-00, Module, mini-module
Conv Pull Station, 708-026-01
729-143-00, Module, Mini-Monitor
Addr1 Detector Base, 729-129-00, 729-129-01
729-143-00, Module, mini-monitor
Conv Pull Station, 708-022-00
Conv Pull Station, 708-025-01
Conv Pull Station, 708-025-03
Conv Pull Station, 708-031-00
729-143-00, Monitor, mini monitor
MAAP-X LOC Keypad, 710-072-51 710-072-52
729-143-00, Monitor, mini-module

Conv Supervisory/Tamper Switch, 514-000-00, 514-000-01
729-144-00, Addressable Intelligent Module, Zone Interface
729-147-01, Alarm and Trouble Indicator Directory Annunciator, positive common and reset switch
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
729-148-01, Alarm and Trouble Indicator Directory Annunciator, positive common and reset switch
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
729-149-01, Alarm and Trouble Indicator Directory Annunciator, positive common and reset switch
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
729-150-00, Conventional Detector Base, 2-wire, plug in, 12/24 VDC
729-150-00, Detector Base, plug-in, 2 Wire
Conv Smoke Detector, 723-002-00
729-150-00, Detector Base, plug-in, 2 wire
Conv Smoke Detector, 723-003-00
729-150-00, Detector Base, plug-in, 2-wire
Conv Heat Detector, 721-122-00
729-151-00, Conventional Detector Base, 4 wire, plug-in Form A and C Contacts
729-151-00, Detector Base, plug-in, 4 Wire
Conv Smoke Detector, 723-002-000
729-151-00, Detector Base, plug-in, 4 wire
Conv Smoke Detector, 723-003-00
729-151-00, Detector Base, plug-in, 4-wire
Conv Heat Detector, 721-122-00
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
Addr1 Heat Detect, 722-121-00
Addr1 Heat Detector, 721-124-00
Addr1 Heat Detector, 722-406-00
Addr1 Smoke Detector, 723-370-00, 723-371-00
Conv Duct Smoke Detect, 723-368-00
Smoke Detector, 723-353-00, 723-361-00, 723-600-00
729-156-00,Test magnet
Conv Duct Smoke Detect, 723-367-00
729-158-00, Addressable Intelligent Module, Supervised NAC Control
729-159-00, Addressable Intelligent Module, Relay Control
729-159-00, Module, Relay Control
Addr1 Interface Module, 729-164-00
Addr1 Module 729-144-00
Addr1 Smoke Detector, 723-370-00, 723-371-00
729-160-00, Two Module Cabinet
Addr1 Interface Module, 729-164-00
Addr1 Module, Six Relay Control, 729-165-00
Addr1 Monitor Module, 729-162-00
729-161-00, Six Module Cabinet
Addr1 Interface Module, 729-164-00
Addr1 Module, Six Relay Control, 729-165-00
Addr1 Monitor Module, 729-162-00
729-162-00, Addressable Intelligent Module, Ten Input Monitor

729-164-00, Addressable Intelligent Module, Six Zone Interface
729-165-00, Addressable Intelligent Module, Six Relay Control
729-166-00, Six Module Mounting Bracket
Addr1 Interface Module, 729-164-00
Addr1 Module, Six Relay Control, 729-165-00
Addr1 Monitor Module, 729-162-00
729-182-00, Addressable Intelligent Module, Dual Input Monitor Module
729-187-00, Multi-Mount Kit
Conv Smoke Detector, 725-312-00 725-303-00
729-187-00, Multi-mounting Kit
Addr1 Smoke Detector, 725-001-00, 725-002-00
729-188-00, Long-Range Kit
Addr1 Smoke Detector, 725-001-00, 725-002-00
Conv Smoke Detector, 725-312-00 725-303-00
729-189-00, Surface-Mount Kit
Addr1 Smoke Detector, 725-001-00, 725-002-00
Conv Smoke Detector, 725-312-00 725-303-00
729-192-00, Conventional Module, Test and Maintenance
729-193-00, Hub Cover, square 1/2"
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
Remote LED Annunciator, 729-10x-xx, 729-14x-01, 729-204-01
Vulcan I FACP 700-026-00, 700-027-xx, 700-028-xx
729-205-00, Sampling Tube, 1-2 ft
Addr1 Smoke Detector, 723-370-00, 723-371-00
729-205-00, Sampling Tube, 1–2 ft
Conv Duct Smoke Detect, 723-368-00
Conv Duct Smoke Detect, 723-369-00
729-205-00, Sampling Tube,1-2 ft
Conv Duct Smoke Detect, 723-367-00
729-205-01, Sampling Tube, 2-4 ft
Addr1 Smoke Detector, 723-370-00, 723-371-00
Conv Duct Smoke Detect, 723-367-00
729-205-01, Sampling Tube, 2–4 ft
Conv Duct Smoke Detect, 723-368-00
Conv Duct Smoke Detect, 723-369-00
729-205-02, Sampling Tube, 4-8 ft
Addr1 Smoke Detector, 723-370-00, 723-371-00
Conv Duct Smoke Detect, 723-367-00
729-205-02, Sampling Tube, 4–8 ft
Conv Duct Smoke Detect, 723-368-00
Conv Duct Smoke Detect, 723-369-00
729-205-03, Sampling Tube, 8-12 ft
Addr1 Smoke Detector, 723-370-00, 723-371-00
Conv Duct Smoke Detect, 723-367-00
729-205-03, Sampling Tube, 8–12 ft
Conv Duct Smoke Detect, 723-368-00
Conv Duct Smoke Detect, 723-369-00
729-206-00, Remote Test Coil
Conv Duct Smoke Detect, 723-369-00

729-208-00, Addressable Intelligent Module, Six Fault Isolator
753-357-01, Conventional Smoke Detector, photoelectric, 4 wire, isolated 135F thermal heat
790-012-00, End of Line Power Supervision Relay Module, polarized
790-012-00, End-of-line power supervision Relay Module
Addr1 NAC Control Module
790-012-00, EOL Power Supervision Relay Module
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
Conv Smoke Detector, 723-357-02
Conv Smoke Detector, 753-357-01
790-013-01, EOL Power Supervision Relay Module, non-polarized
Conv Smoke Detector, 723-002-00
Conv Smoke Detector, 723-003-00
790-013-01,End-of-line power supervision RelayModule
Addr1 Detector Base, 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
790-026-00, 4 Zone Expander Alarm/ Trouble Interface Kit
Vulcan I FACP 700-026-00, 700-027-xx, 700-028-xx
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
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

D

Dual Mode Battery Analyzer

N

NAC Power Extender
Indoor Speaker Strobe, 580-083-00

W

Wide Area Controller for American Signal Mass Notification Speaker Station, Europe
Wide-Area Mass Notification Speaker Station, 227-671-xx, 227-634-xx, 227-661-xx, 124-080-00