PROJECT NAME: Courtyard Marriott Lake City, FL

SPEC SECTION/SUBMITTTAL: 284620-1 Fire Alarm Submittal

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Orlando, FL 32817

CIVIL ENGINEER:
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2603 NW 13TH Street, Box 314
Gainesville, FL 32609

CONTRACTOR:
Gray Construction Services, Inc.
222 W Wade Street
Trenton, FL 32693

Gray Construction Services, Inc.

Reviewed By Vanden Fehmerling
Date: 03/18/2021

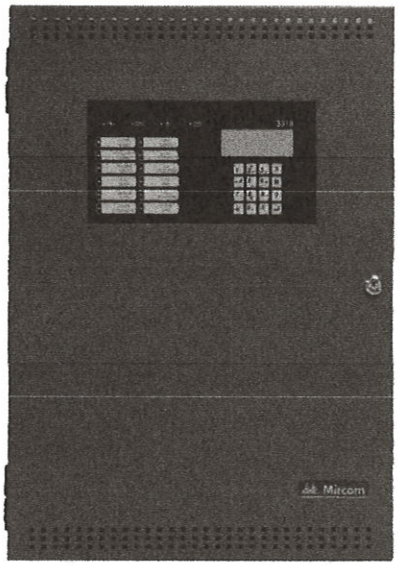
☑ Reviewed
☐ Reviewed As Noted
☐ Revise & Resubmit

REVIEW BY CONTRACTOR DOES NOT RELIEVE SUBCONTRACTOR AND/OR SUPPLIER OF RESPONSIBILITY TO FURNISH AND INSTALL MATERIAL IN STRICT ACCORDANCE WITH THE CONTRACT DOCUMENTS UNLESS SPECIFICALLY WAIVED HEREIN

Mircom

SINGLE LOOP INTELLIGENT FIRE ALARM CONTROL PANEL

FX-3318



FX-3318

Description

Mircom's FX-3318 Addressable Fire Alarm Control Panel is an intelligent addressable multi-zoned panel with exceptional value while not compromising the Mircom features needed to satisfy small to medium jobs.

The FX-3318 is shipped pre-assembled with all main components including: main board, power supply, transformer, and main display in a red enclosure.

A built-in dialer is included to communicate panel status to the remote central monitoring station using 2 dedicated phone lines. Both SIA and Contact ID are supported

Up to 7 annunciators can be added with enclosure options in red, white or NEW stainless steel.

It has one built in signaling line circuit (SLC). With Mircom's Advanced Protocol (AP) a superior group polling method as well as an interrupt feature, allows a faster response to an alarm. The AP or Advanced Protocol allows for greater system capacity with support for up to 318 devices in AP mode and offers legacy CLIP support of up to 198 devices.

FX-3318 has four Power Limited Class B (Style Y) or Class A (Style Z) NAC circuits.

• NAC circuits may be configured as silenceable signal, non-silenceable signal, silenceable strobes, non-silenceable strobes, or relay output. The audible signal may be Steady, Temporal Code, California Code, or March Time.Sync strobe protocols are supported from major manufacturers.

The built-in trim ring accommodates both retrofits and new installs reducing time with semi-flush or surface mountable options.

The panel is UL, 9th edition listed and has COA and CSFM listings.

Features

- One onboard SLC communication circuit
- Supports up to 318 intelligent devices in AP mode
- Legacy Clip support of up to 198 devices
- Built-in Dialer Module for remote monitoring
- 4 x 20 LCD with 80 characters
- Supports up to 7 annunciators
- Optional City Tie/Polarity Reversal module for central station monitoring & field installable
- Four Power Limited Class B (Style Y) or Class A (Style Z) NAC circuits (max 1.5 Amps each – 5.0 amps total).
- Auxiliary power is available in the form of 24V FWR unfiltered and unsupervised, 24VDC filtered and regulated, and resettable auxiliary power supply.
- Positive Alarm Sequence (PAS)- provides an alarm delay of up to 180 seconds if an alarm is acknowledge at the control panel within 15 seconds. This action provides the responding personnel time to investigate an alarm before evacuating a building.
- Supports sync strobe protocols from major manufacturers.
- Two-stage, alarm verification, waterflow retard and positive alarm sequence operations.
- Configurable Signal Silence Inhibit, Auto Signal Silence, and One-Man Walk Test.

9th edition
UL 864

7165-1477:503

NYC
Fire Dept.

COA# 6288

User Interfaces

Indication and Controls:

- 12 control buttons with associated LEDs
- 16 button Numeric Keypad with cursor buttons

LCD Display:
The display is a four line, 4 x 20 80 character back-lit alphanumeric LCD.

It displays information regarding the panel, its circuits, and devices. Report information provided by the LCD display includes:

- Alarm Log
- Event Log
- Current Levels
- Device Information
- Verification and Maintenance Reports

BATTERIES:
BAT-12V12A (12 AH) and BAT-12V18A (18 AH) will fit into the FX-3318 enclosure. To house BAT-12V26A (26 AH) batteries a BC-160/R Battery Cabinet is required. Use of alternative batteries may result in failure of the panel to meet agency and regulatory requirements and may result in shortened battery life. Batteries should be tested regularly and replaced at least every three years.

ADVANCED PROTOCOL AND CLIP DEVICES

- Maximum Loop Current = 350mA
- Maximum Loop Resistance = 40 ohms
- Maximum Loop Capacitance = 0.5uF
- Maximum number of isolators = 20

Agency Listings and Approvals:
UL-864 Rev 9, NFPA 70, 72, CSFM and COA

Compatible Receivers:

The FX-3318 is compatible with the following Digital Alarm Communicator Receivers:

DACR Receiver	Model Protocols
SurGard MLR2 Multi-Line Receiver (ULI approved)	SIA Format Protocol and SIA Contact ID
SurGard SLR Single-Line Receiver (ULI approved)	SIA Format Protocol and SIA Contact ID
Osborne-Hoffman Quickalert! II Receiver (ULI approved)	SIA Format Protocol and SIA Contact ID
Osborne-Hoffman OH-2000 Receiver (ULI approved)	SIA Format Protocol and SIA Contact ID
Silent Knight Model 9500 Receiver (ULI approved)	SIA Format Protocol and SIA Contact ID
Radionics Model D6500 Receiver (ULI approved)	SIA Format Protocol and SIA Contact ID
Radionics Model D6600 Receiver (ULI approved)	SIA Format Protocol and SIA Contact ID
DSC SurGard System III Receiver (ULI approved)*	SIA Contact ID
DSC SurGard System IV Receiver (ULI approved)*	SIA Contact ID

* Please refer to manual

System Specifications:

System Capacity	
Intelligent Signaling Line Circuits	1
Addressable device capacity	318
Programmable Software Zones	99
ACS Annunciators	32
ANN-Bus Devices	16

Electrical Specifications:

AC Power: 120 VAC, 60Hz /240 VAC, 50 Hz. Wire size: minimum 14 AWG (2.08mm^2) with 600v insulation. Fire alarm systems must be installed in compliance with local codes and standards and with the Authority Having Jurisdiction (AHJ).

Auxillary Power: Auxiliary power is available in the form of 24V FWR unfiltered and unsupervised, 24VDC filtered and regulated, and resettable auxiliary power supply.

Power Supply Rating: 29VAC 6A (secondary of transformer), 120 VAC 60Hz 1.6 Amp (maximum primary of transformer). 240 VAC 50 Hz 0.9 Amp (maximum primary of transformer). Total load not to exceed 5A @ 24VDC.

Battery Charger Capacity: 10AH – 24AH charging capability. Charging current 1.575A maximum. Protection 10A on-board slow micro fuse (not field replaceable). Stand-by current rating at full load 0.7A.

Communication Loop: Supervised and power-limited.

Notification Appliance Circuits: Refer to manual for all details.

Power Limited NAC circuits (max 1.5 Amps each - 5.0 Amps total) if no auxillary power is used.

Strobe/Horn circuits with multiple strobes/horns in one open area, needs to be synchronized.

Electrical Specifications cont'd:

TOTAL SIGNAL LOAD	MAXIMUM WIRING RUN TO LAST DEVICE (ELR)								MAX Loop Resistance
	18AWG		16AWG		14AWG		12AWG		
Amperes	ft	m	ft	m	ft	m	ft	m	Ohms
0.06	2350	416	3750	1143	6000	1929	8500	2591	30
0.12	1180	360	1850	567	3000	915	4250	1296	15
0.30	470	143	750	229	1200	366	1900	579	6
0.60	235	71	375	114	600	183	850	259	3
0.90	156	47	250	76	400	122	570	174	2
1.20	118	36	185	56	300	91	425	129	1.5
1.50	94	29	150	46	240	73	343	105	1.2

Addressable Loops & Device Wiring

Advanced protocol mode with one loop with 159 addressable sensors and 159 addressable modules per loop. CLIP mode with one loop with 99 addressable sensors and 99 addressable modules per loop. The addressable loop may be configured as Class A or Class B operation. Maximum loop resistance depends on number of devices and device type. Power Limited / 22VDC / 350mA alarm maximum / 0.5 µF Power Limited / 22VDC / 280mA normal standby maximum / 0.5 µF .

Cabinet Specifications	
Dimensions of Enclosure (minus built-in trim ring)	14.5" W x 4.25" D x 21" L
Complete Dimensions of Enclosures	16.7" W x 5.78" D x 23" L

Suitable for Flush or surface mounting with a built in trim ring.

Temperature and Humidity Ranges	
Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity	0 to 93% relative humidity (non-condensing)

Ordering Information

Model	Description
Panel	
FX-3318	Black backbox and red door enclosure. Comes complete with main board, power supply, transformer and main display
Annunciators	
RAM-3318-LCD	Remote Annunciator with 4-line LCD display
RAX-LCD-LITE	Remote Annunciator with 4-Line LCD display
SRM-312R	Smart Relay module with red enclosure. Can support up to 12 relays
RAM-1016TZDS	16 Point remote annunciator chassis with 16 trouble LED's.
RAM-1032TZDS	32 Point Remote Annunciator with 32 Trouble LED's
MGD-32	Graphic Annunciator
AGD-048	Graphic Annunciator Adder Driver board
Optional Adder Modules	
PR-300	Polarity reversal and city tie module
PCS-100	Power Supply interface board. Use for powering 3G4010 and 3G4010CF universal wireless alarm communicator.
Enclosures for Remote Annunciators	
BB-1001D	Annunciator Enclosure - Houses 1 module (White)
BB-1001DR	Annunciator Enclosure - Houses 1 module (Red)
BB-1001DS	Annunciator Enclosure - Houses 1 module (Stainless Steel)
BB-1002D	Annunciator Enclosure - Houses 2 modules (White)
BB-1002DR	Annunciator Enclosure - Houses 2 modules (Red)
BB-1002DS	Annunciator Enclosure - Houses 2 modules (Stainless Steel)
BB-1003D	Annunciator Enclosure - Houses 3 modules (White)
BB-1003DR	Annunciator Enclosure - Houses 3 modules (Red)
BB-1003DS	Annunciator Enclosure - Houses 3 modules (Stainless Steel)
Other	
MP-300	End of Line resistor plate. 3K9.
BC-160R	External Battery, red cabinet
BAT-12V12A	Battery 12AH
BAT-12V18A	Battery 18AH
BAT-12V26A	Battery 26AH
RT1	Common, remote trouble indicator, buzzer and LED

Note: *Please see manual for list of compatible devices

Mircom™

Canada
25 Interchange Way
Vaughan, Ontario L4K 5W3
Telephone: (905) 660-4655
Fax: (905) 660-4113

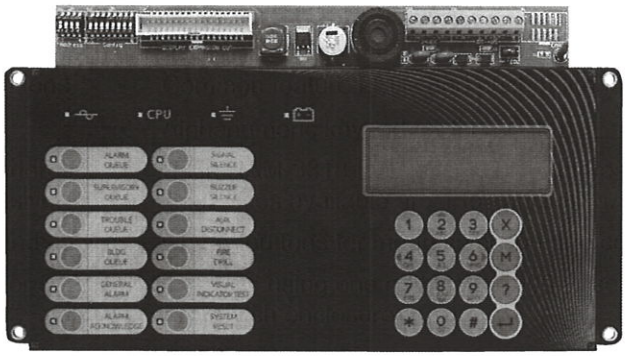
U.S.A.
4575 Witmer Industrial Estates
Niagara Falls, NY 14305
Toll Free: (888) 660-4655
Fax Toll Free: (888) 660-4113

Web page: http://www.mircom.com Email: mail@mircom.com

Mircom

REMOTE LCD ANNUNCIATOR

RAM-3318-LCD



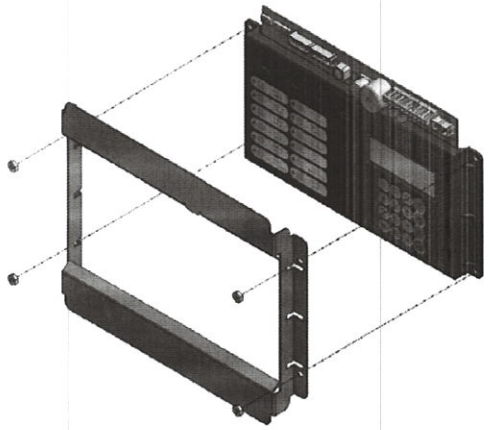
Features

- New durable membrane tactile switches
- 4 line, 20 character back-lit alphanumeric LCD display.
- Common feature LEDs and push buttons.
- Alphanumeric keypad for the LCD.
- Each RAM-3318-LCD has its own address. Addresses available are 1 to 7 inclusive.
- Cursor buttons for menu selection and control.
- Mounted using one of the BB-1000 or series semi-flush enclosures.

Description

The RAM-3318-LCD Remote Annunciator is used as a component of an FX-3318 Fire Alarm System. It provides an exact mimic of the FX-3318 display at a remote location.

The display is four lines, 20 characters back-lit alphanumeric LCD. It displays information regarding the panel, its circuits, and devices. An on-screen cursor is controlled by the cursor buttons for menu selection and control.



Some enclosures require the installation of the CH-1074B, included with the RAM-3318-LCD

Electrical Ratings

Power Limited Nominal Voltage: 24 VDC	
Current Consumption:	
Standby:	70 mA
Alarm:	100 mA

Ordering Information

Model	Description
RAM-3318-LCD	Remote LCD Annunciator

Canada
25 Interchange Way Vaughan, ON L4K 5W3
Telephone: (905) 660-4655 | Fax: (905) 660-4113

U.S.A.
4575 Witmer Industrial Estates Niagara Falls, NY 14305
Toll Free: (888) 660-4655 | Fax Toll Free: (888) 660-4113

www.mircom.com

Intertek

CATALOG NUMBER 5691
Rev. 1

StarLink™ COMMERCIAL FIRE

Commercial Fire Alarm Communicators: Sole & Dual Path Cellular &/or IP

- **Universal full event sole path cellular & dual path cellular &/or IP commercial fire alarm reporting from any panel brand, virtually anywhere**
- **For use as primary or backup communications on all 12V-24V control panels and FACPs** that communicate using Contact ID and 4/2 (such as on legacy panels)
- **Reports to any Central Station nationwide**, with your choice of cellular networks: Verizon Network Certified CDMA or GSM 3/4G on AT&T
- **Easy, flexible installation, activation & online account management**
- **Cost-saving models and plans for any code requirement.** Substantial savings over monthly dedicated landline charges. And, $100 saving incentive with any 2G Communicator upgrade (unlimited).

UL and NFPA 72 Fire Code-Compliant, the StarLink Series Wireless Commercial Fire Alarm Sole Path & Dual Path Communicators provide universal support for any brand 12V to 24V fire alarm control panel, reporting in Contact ID and 4/2. With broadest coverage footprint available in Verizon Network Certified ™ CDMA or GSM 3/4G models on the AT&T network, as well as mercantile models, all provide the most economical solution and for easy, versatile installation.

Safeguard Accounts & Reliability. For applications currently relying upon quickly-disappearing traditional phone lines, StarLink wireless communicators can be used for primary or backup communications, and will not only safeguard the fire alarm reporting transmissions for the future, but provide the end-user monthly savings for each costly FACP-dedicated landline they replace. And, for upgrading older wireless fire alarm communicators on 2G and other phased-out cellular networks, all StarLink Fire radios, offer a $100 tradeup incentive to help defray the cost of the hardware replacement to the advanced state-of-the-art StarLink model of choice.

Flexible Performance & Reporting Options. StarLink Fire provides full data reporting, in sole and dual path, as a primary or backup, to any central station of your choice, without requiring any special equipment on premises. Ultra-affordable plans are available to meet various codes and requirements, with supervisory check-ins from 200 seconds, to 5-minutes, to an hour. The units are very easily activated, plans and options are selected, and 24/7 account management is provided all through www.napcocomnet.com. And, StarLink Fire Communicators are easily connected to any panel or Fire Alarm Control Panel (FACP) standardly operating between 12V and 24V. Flexible in any application, StarLink Fire also comes in standard, or Mercantile Models in metal housings, with code-compliant supervision, with or without using conduit; and choice of power options, powered by the panel or using its own 120V Power Supply.

Code-compliant standard or mercantile metal models (right and left, respectively).

Napco StarLink3 Universal Fire Alarm Communicators

- **Sole Path Cellular and Dual Path** Cellular &/or IP Models
- **Choice of plans** (varies by model) - check-ins from 200 seconds, to 5-minutes to 1 hour, Verizon or AT&T
- **Patented Signal Boost™** signal amplification circuit and high-gain performance antenna for longer range and reliability nationwide
- **Money-saving 2G Tradeup incentive credit**
- **Bonus: Full High-Speed Napco Panel remote uploading/ downloading**
- **COMPLIANCES:** NFPA72 Editions: 2013, 2010, 2007; UL 864, 9th Ed., UL1610, UL985, UL1023, NYFD (as back-up); CSFM

NAPCO COMMERCIAL GRADE

verizon NETWORK CERTIFIED

StarLink Fire Specifications

STANDARD MODELS:

- Durable ABS plastic housing includes three keyhole slots for mounting (for commercial application, aligns with triple gang boxes.)
- Dimensions: 5-3/8"x 7-7/8"x 1-7/8" (HxWxD)
- Weight: 13.5 oz
- 3 LED Indicators - Green, Signal Strength; Amber- Busy/ Activation; Red-Trouble
- Patented Signal Boost™ signal amplification circuit and high-gain performance antenna
- Operating Environment: 0 to 49° C (32-120°F), up to 93% humidity (non-condensing)
- 12V - 24V Universal FACP Support, auto-current sensing. Support all brands communicating in Contact ID and 4/2
- Powered by Panel, Low current draw, 71mA standby, 200mA transmit

MERCANTILE MODELS (similar to above, with):

- Locking Metal Enclosure with Hinged door & 2 key-slots for wall mounting (LED indicators, inside).
- Dimensions: 9-5/8"x 11-3/4" x 3-3/8"D (HxWxD)
- Weight: 8 lbs (max., power supply models)
- **Electrical Ratings for 120VAC, 60Hz**
- **For Models with Power Supply:**
  - Input Voltage: 120VAC Nominal
  - Input Current: 400mA maximum
  - Maximum Charging Current: 200mA
- **Electrical Ratings for +12V**
- **For Models without Power Supply:**
  - Input Voltage: 11-15VDC (power-limited output from listed control panel)
  - Input Current: 71mA with peak RF transmission current of 200mA.
- **Electrical Ratings for the IN 1 Burg/Fire Input:**
  - Input Voltage: 9-15VDC
  - Maximum Input Current: Up to 2mA from FACP NAC circuit
- **Electrical Ratings for IN 2 and IN 3:**
  - Maximum Loop Voltage: 15VDC
  - Maximum Loop Current: 1.2mA
- **Electrical Ratings for 3 PGM Outputs:**
  - Open Collector Outputs: Maximum voltage 3V when active; 15V maximum when not active
  - Maximum PGM Sink Current: 50mA mount.
- Operating Environment 0 to 49° C (32-120°F), up to 93% humidity (non-condensing)
- 12V - 24V Universal FACP Support, auto-current sensing. Support all brands communicating in Contact ID and 4/2.

Ordering Information

COMMERCIAL FIRE SOLE PATH CELLULAR & DUAL PATH CELLULAR &/OR IP ("I" MODELS):*

SLE-CDMA-FIRE Standard ABS (Red) Fire Sole Path Alarm Communicator, Cellular CDMA, Verizon-Network Certified

SLE-CDMAI-FIRE as above, Dual Path Alarm Communicator, Cellular &/or IP (primary or backup, selectable)

SLECDMA-CFB-PS Commercial Fire Mercantile model in red metal housing, CDMA, Verizon-Network Certified. Direct 120VAC Powered (w/ provisions for backup battery/charger). Or, Optional TRF20 plug-in transformer may be used, where codes permit

SLECDMA-CFB Commercial Fire Mercantile model in red metal housing or CDMA, Verizon-Network Certified Powered directly from control panel

Note: Substitute prefix "SLE3/4G-" on any models above for AT&T 3/4G Network

ACCESSORIES:

SLE-DLEXT Optional, as above, for downloading, extends distance to Napco panel up to 100'

TRF20 Optional Plug in AC Transformer, 16.5V / 20VA (use is subject to local code compliance)

SLE-DLCBL Optional High-Speed Napco Panel Up/download cable

Also Available: StarLink Intrusion Radios in standard and mercantile versions

SLE-GSM-3/4G Standard Burglary Radio (Black), GSM 3/4G on AT&T Network powered by panel.

SLE-CDMA as above, but CDMA communications, Verizon-Network Certified.

SLECDMA-CB Commercial Burglary CDMA Radio, Verizon Certified, in white metal housing. Powered directly from control panel.

SLE3/4G-CB as above, but GSM 3/4G on AT&T Network.

SLE3/4G-CB-TF Commercial Burglary CDMA, Verizon Certified in white metal housing with power supply powered by plug-in 16.5V / 20VA transformer & provision for battery.

NAPCO SECURITY TECHNOLOGIES, INC.
333 Bayview Ave., Amityville, NY 11701 USA
1-800-645-9445 • Fax: 1-631-789-9292
www.napcosecurity.com

NETWORK CERTIFIED

COMPLIANCES: NFPA 72 Editions: 2013, 2010, 2007; UL 864, 9th Ed., UL1610, UL985, UL1023; **NYFD** (as back-up); **CSFM**

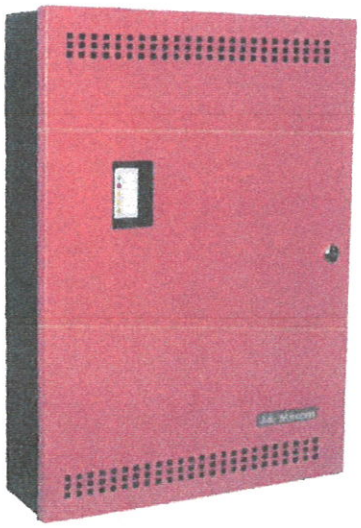
*StarLink Fire are also rated to support Intrusion/Burglary alarm reports where applicable. StarLink™ and Signal Boost are trademarks of NAPCO. Pats. Pending. Specifications subject to change.

* Verizon and Verizon Network Certified, UL, AT&T and other trademarks, are trademarks of their respective companies, and are unaffiliated with NAPCO

Mircom

INTELLIGENT NAC EXPANDER/POWER SUPPLY

INX-10A



INX-10A

Description

Mircom's INX-10A is an Intelligent NAC expander/ power supply that works with listed compatible Intelligent fire alarm control panels. Available in a 10 Amp configuration, the INX-10A can extend the power capabilities of existing notification appliance circuits as well as provide power for other ancillary devices. In addition, the INX-10A has the ability to operate with any UL/ULC Listed 24 VDC fire alarm control panel to provide Notification Appliance Circuit expansion.

The INX-10A is equipped with five individual Class B (Style Y) or Class A (Style Z) output circuits that can be independently configured for NAC operation or auxiliary power. The INX-10A provides the option of configuring all five circuits as an output to provide general purpose power. In addition output circuits four and five can be configured to provide auxiliary power for four-wire detectors or door holders.

Each output circuit is rated for 2.5 Amps. When configured for NAC operation the outputs can be set for Steady, Temporal Code, California Code or March Time. In addition the output circuits have field selectable built-in strobe and horn synchronization protocols to support Amseco, System Sensor, Wheelock and Gentex devices, eliminating the need for additional external synchronization modules.

Features

- 10 Amp output
- 120 / 240V operation
- Works with listed compatible Series Intelligent Fire Alarm Control Units
- Easily configured using DIP switches
- One isolated input from the host panel
- Five Class B (Style Y) or Class A (Style Z) synchronized output circuits
- DC regulated outputs
- Configurable AC Power fail delay
- Ground fault enable or disable
- Option available on configuration to enable or disable the battery charger on activation
- From 7 to 15 Address functions (Combination of inputs and outputs, depending on the application)
- Outputs individually controllable
- Separate Relay for Ground Fault and Common Trouble available on terminals
- Horn/Strobe synchronization protocols include Amseco, Gentex, System Sensor and Wheelock
- Two-wire horn/strobe Sync Mode allows audible notification appliances (horns) to be silenced while visual notification appliances (strobes) continue to operate
- Audible signals may be configured for Steady, Temporal Code, California Code and March Time
- Output circuits four and five can be configured to provide auxiliary power for four-wire detectors or door holders.
- Canadian two stage operation
- Output fault notification to fire alarm control panel
- Ability to sync outputs for multiple INX-10A units
- 2.5 Amp max. current per output
- 1.7 Amp auxiliary power output
- Built-in charger for sealed lead acid or gel type batteries
- Unit includes power supply, charger, red door, black backbox, transformer and battery leads
- Compatible with any UL/ULC listed 24VDC conventional fire alarm control panel to provide Notification Appliance Circuit expansion

S5434 S5434 7315-1477:0163

Modes of Operation

Intelligent NAC Expander (INX) Modes

The INX-10A features three modes of NAC Expander operation:

- INX Mode with Internal Sync
- INX Mode with External Sync
- INX Mode with Redundant Input

Input Mode with Internal Sync
In this mode all signal and sync strobe rates are produced in the INX-10A.

INX Mode with External Sync
When one of the Sync Inputs is activated, the INX-10A outputs follow the signal pattern of the Sync Input. The INX-10A must be configured as a slave to operate in this mode.

INX Mode with Redundant Input
The system continuously monitors the SLC loop. If there is no activity for a notable time, an SLC trouble is generated. While the SLC trouble is active, if either of the Sync Inputs are activated then all NAC outputs follow.

Power Supply Modes

In addition to the NAC expander modes, some or all of the NAC outputs on the INX-10A can be configured for the following power supply modes of operation:

- NAC Outputs as Power Supply Outputs
- NAC Outputs for Door Release
- NAC Outputs for 4-Wire Smoke Supply

NAC Outputs as Power Supply Outputs
This moce allows any NAC output to be configured as a power supply. The SLC and Sync inputs are ignored for the power supply outputs.

NAC Outputs for Door Release
This moce allows NAC circuits 4 and/or 5 to provide power for door holders.

NAC Outputs for 4-Wire Smoke Supply
This mode allows NAC circuits 4 and/or 5 to provide auxiliary power for 4-wire smoke detectors.

Specifications

Dimensions	
20"H x 14½"W x 4½"D	
AC Line Voltage	
120V 60Hz / 240V, 50Hz, 2 Amps / 1 Amp (primary)	
NAC Circuits	
24VDC regulated, Power Limited 10A Total, 2.5A maximum per circuit	
Battery	
24VDC, Gel-Cell/Sealed Lead-Acid	
Charging Capability	
Up to 40 AH batteries	
Current Consumption from INX-10(A) Power Supply	
Standby	200 mA
Alarm	350 mA
Current Consumption from Compatible FACP Intelligent Loop (SLC)	
4.5mA	

Common Indicators
Power On Addressable Line Activity/Alarm Common Trouble Battery Charger/Trouble CPU Fail
Trouble LEDs
Auxiliary Output Trouble Synchronized Output Trouble Ground Fault Trouble
Other LEDs
Addressable (SLC) Loop Indicators (3 LEDs) Synchronized Input Indicators (2 LEDs) Synchronized Output Indicators (2 LEDs) Trouble LED Indicator Alarm Relay Indicator
Controls
Acknowledge Button Configuration DIP Switches

Ordering Information

Model	Description
INX-10A	Intelligent NAC Expander, 10 Amps c/w backbox and red door
INX-10AC	Intelligent NAC Expander, 10 Amps Addressable Chassis Mounts into BB-5008 or BB-5014 enclosure

Mircom

Canada
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Vaughan, Ontario L4K 5W3
Telephone: (905) 660-4655
Fax: (905) 660-4113

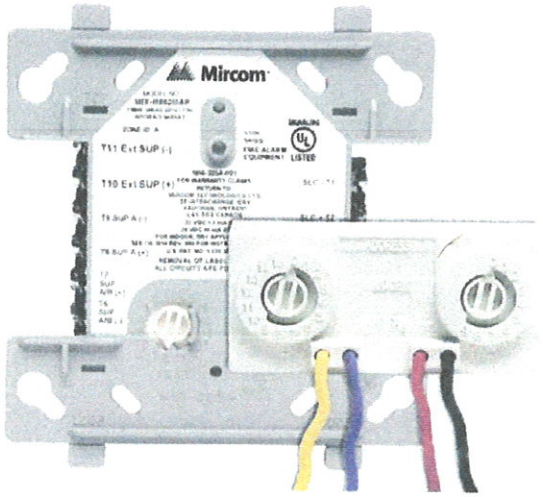
U.S.A.
4575 Witmer Industrial Estates
Niagara Falls, NY 14305
Toll Free: (888) 660-4655
Fax Toll Free: (888) 660-4113

Website: www.mircom.com

Email: mail@mircom.com

Mircom

ADVANCED PROTOCOL INTELLIGENT MONITOR MODULES MIX-M500AP SERIES



Features

- Designed to meet a wide range of applications
- SEMS screws for easy wiring
- Panel controlled status LED (except MIX-M501MAP)
- Rotary switches for direct-dial entry of address. Each unit can have address set for 01-159 for Advanced Protocol mode and 01-99 for CLIP mode (except MIX-M500X)
- Low standby current
- Mount in 4" square junction box

Description

Mircom's intelligent monitor modules are designed to meet a wide range of applications. The monitor modules provide an interface to contact devices, such as, manual stations, conventional smoke or heat detectors, waterflow switches, and more. The monitor modules are addressed with easy-to-use rotary code switches.

Mircom's Advanced Protocol (AP) devices use a high speed communication protocol that greatly increases the speed of communication between the intelligent devices. Mircom's Advanced Protocol uses a superior group polling method as well as an interrupt feature that provide for a faster response to an alarm condition. In addition, the Advanced Protocol allows for greater system capacity with support for up to 318 devices per SLC circuit. The AP devices are backwards compatible to operate in CLIP mode for legacy system applications.

MIX-M500MAP Monitor Module

Mircom's MIX-M500MAP monitor module is a standard-sized module that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices. The MIX-M500MAP is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary decade switches. It provides either a 2-wire or 4-wire fault tolerant initiating circuit for normally open contact fire alarm, supervisory, or security devices. The module has a panel controlled LED indicator.

MIX-M501MAP Mini Monitor Module

The MIX-M501MAP is a miniature monitor module that supervises a Style B (Class B) circuit of dry-contact input devices. The small size of the module allows it to fit inside devices or junction boxes behind devices. The MIX-M501MAP is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary decade switches. It provides a twowire initiating circuit for normally open contact fire alarm and security devices.

MIX-M502MAP Zone Interface Module

The MIX-M502MAP Zone Interface Module is a standard-sized module that monitors and supervises compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit. The module allows Mircom's intelligent panels to interface and monitor two-wire conventional smoke detectors. All two-wire detectors being monitored must be UL or ULC compatible with the module. The MIX-M502MAP is addressed through the communication line of an intelligent Mircom system. It transmits the status of one zone of two-wire detectors to the fire alarm control panel. Status conditions are reported as normal, open, or alarm. The interface module supervises the zone of detectors and the connection of the external power supply.

FM APPROVED

S5434 S5434 7300-1477:0167

CATALOG NUMBER 5950

M500X Isolator Module

The M500X Isolator Module is a standard-sized module that enables part of the communications loop to continue operating when a short circuit occurs on it. An LED indicator blinks in the normal condition and turns on during a short circuit condition.

The module will automatically restore the entire communications loop to the normal condition when the short circuit is removed

Specifications

MIX-M500MAP Monitor Module

Normal Operating Voltage	15 to 32 VDC
Max. Alarm Current (LED on)	5.0mA (LED on)
Average Operating Current	400 µA, 1 communication every 5 sec, 47k EOL
EOL Resistance	47K Ohms
Max. IDC wiring resistance	40 Ohms
Maximum IDC Voltage	11 Volts
Maximum IDC Current	400µA
Temperature Range	32˚F to 120˚F (0˚C to 49˚C)
Humidity	10% to 93% Non-condensing
Dimensions	4.5" H x 4" W x 1.25" D

MIX-M501MAP Mini Monitor Module

Nominal Operating Voltage	15-32 VDC
Max. Alarm Current	600 uA
Average Operating Current	400 µA, 1 communication every 5 seconds, 47k EOL
EOL Resistance	47K Ohms
Max. IDC Wiring Resistance	40 Ohms
Maximum IDC Voltage	11 Volts
Maximum IDC Current	400µA
Temperature Range	32°F to 120°F (0°C to 49°C)
Humidity	10% to 93% Non-condensing
Dimensions	1.3" H × 2.75" W × 0.65" D

MIX-M502MAP Zone Interface Module

Normal Operating Voltage	15 to 32 VDC
Maximum Alarm Current	5.1mA (LED on)
Average Operating Current	400µA, 1 communication and 1 LED flash every 5 seconds, 3.9k EOL
EOL Resistance	3.9K Ohms
Max. IDC wiring resistance	25 Ohms
IDC Supply Voltage	
Regulated DC Voltage	24 VDC power limited
Ripple Voltage	0.1 Volts RMS maximum
Current	90mA per module
Temperature Range	32˚F to 120˚F (0˚C to 49˚C)
Humidity	10% to 93% Non-condensing
Dimensions	4.5" H x 4" W x 1.25" D

M500X Isolator Module

Normal Operating Voltage	15 - 32 VDC
Stand-by Current	450 µA (not isolating)
Maximum Current Draw	17mA (device in isolation)
Temperature Range	32°F to 120°F (0°C to 49 °C)
Humidity	10 to 93% Non-condensing
Dimensions	4.5" H x 4" W x 1.25" D

Ordering Information

Model	Description
MIX-M500MAP	Monitor Module
MIX-M501MAP	Mini Monitor Module
MIX-M502MAP	Zone Interface Module
MIX-M500X	Isolator Module

Add suffix "A" for ULC listed model.

NOT TO BE USED FOR INSTALLATION PURPOSES.

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ISO 9001:2008 REGISTERED

CAT. 5950
Rev. 1

Mircom

ADVANCED PROTOCOL INTELLIGENT MANUAL STATION MS-710APU

Features

- Dual Action
- Key resettable
- Permanently attached Intelligent Addressable Module
- Rotary switches for direct-dial entry of address. Each unit can have address set for 01-159 for Advanced Protocol mode and 01-99 for CLIP mode
- High-gloss red enamel finish
- Plastic breakrod
- Meets ADA 5 lb. maximum manual-force
- Mounts on standard single gang box, Mircom's BB-700 surface metal backbox or BB-700WP weather proof backbox

Description

Mircom's MS-710APU Advanced Protocol Intelligent Manual Station is made of a high quality, die-cast metal and is available as a dual-action device with key resets and a permanently attached intelligent module. The intelligent manual station has a pair of rotary decimal switches which allows for two digit address setting. Pulling the handle initiates the operation of the intelligent module.

The manual station is available with CAT-30 keys and mounts on a standard single gang backbox, Mircom model BB-700 interior surface metal backbox, or BB-700WP weather proof backbox.

Mircom's Advanced Protocol (AP) devices use a high speed communication protocol that greatly increases the speed of communication between the intelligent devices. Mircom's Advanced Protocol uses a superior group polling method as well as an interrupt feature that provide for a faster response to an alarm condition. In addition, the Advanced Protocol allows for greater system capacity with support for up to 318 devices per SLC circuit. The AP devices are backwards compatible to operate in CLIP mode for legacy system applications.

Operation

The MS-710APU Dual Action Intelligent Manual Station is operated by pushing the bar labelled "PUSH BAR" and then pulling down the handle marked "PULL HANDLE". The MS-710APU is reset by opening the station with the key, placing the handle in the normal upright position and re-locking the station.

Specifications

The manual station shall be Mircom's MS-710APU. Operating instructions shall be in raised English lettering and the unit shall be constructed of high quality die-cast metal and finished in red enamel paint to provide quick identification. Pulling the handle shall initiate immediate operation of the intelligent addressable module. All manual fire alarm stations shall be installed as per the specific requirements outlined in the UL codes, as well as all other applicable national or local codes. Final acceptance is subject to the local authority having jurisdiction.

S7005 S7005

CATALOG NUMBER 5954

Specifications

Dimensions	4.93" H x 3.56" W x 2.9" D
Nominal Operating Voltage	15–32 VDC
Maximum Alarm Current @ 24V	600 µA
Average Operating Current @ 24V	400 µA

Surface Mount Backboxes

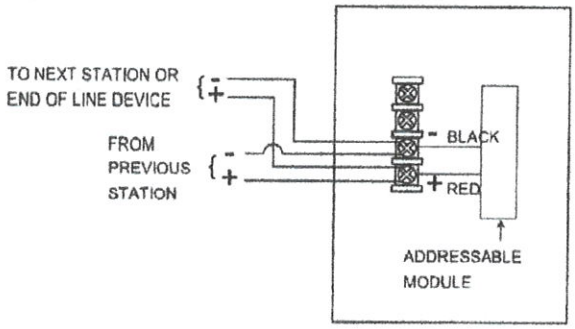
BB-700 Surface Mount Backbox

Dimensions:
5" H x 3.6" W x 2.0" D

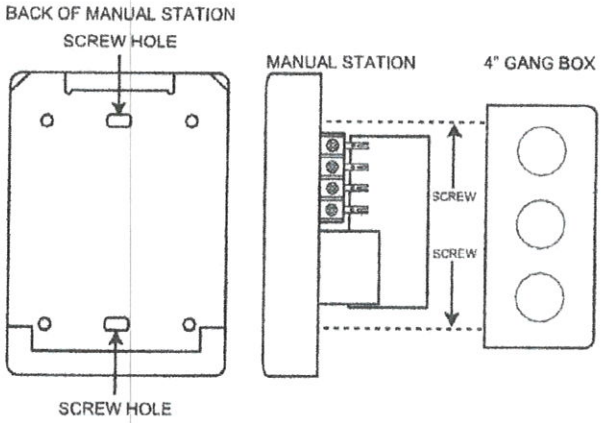
BB-700WP Weatherproof Surface Mount Backbox

Dimensions:
5" H x 3.6" W x 2.2" D

Wiring Diagram



Mounting Diagram



Ordering Information

Model	Description
MS-710APU	Advanced Protocol Intelligent Key Resettable Dual Action Manual Station
BB-700	Series 700 Interior Surface Mount Backbox, Red Finish
BB-700WP	Series 700 Weatherproof Surface Mount Backbox, Red Finish

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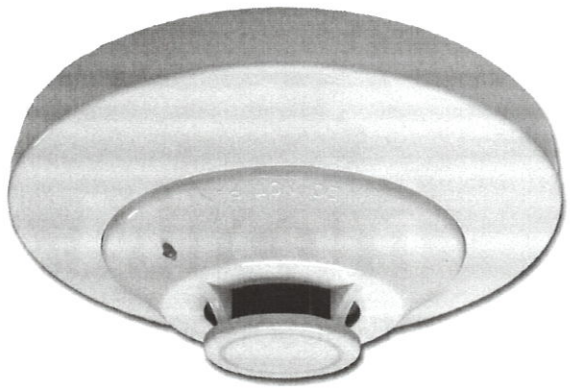
ADVANCED PROTOCOL INTELLIGENT THERMAL SENSORS MIX-5251AP/RAP/HAP



Model MIX-5251AP sensor mounted in a B210LP base

Features

- Sleek, low profile design
- Available as 135°F fixed temperature, 135°F fixed temperature with rate-of-rise detection and high temperature 190°F fixed temperature
- Dual LEDs indicate communications and activate steady when in alarm
- Low profile base provides easy interchangeability
- Low standby current
- Rotary switches for direct-dial entry of address. Each unit can have address set for 01-159 for Advanced Protocol mode and 01-99 for CLIP mode
- Superior EMI protection
- Sealed against dirt, insects, and back pressure

Description

Mircom's low profile intelligent plug-in thermal detectors with integral communications provide features that surpass conventional detectors. Point ID capability allows each detector's address to be set with decade address switches, providing exact detector locations. These intelligent sensors utilize a state-of-the-art thermistor sensing circuit for fast response and are designed to provide open area protection with 50 foot spacing capability.

Mircom's Advanced Protocol (AP) devices use a high speed communication protocol that greatly increases the speed of communication between the intelligent devices. Mircom's Advanced Protocol uses a superior group polling method as well as an interrupt feature that provide for a faster response to an alarm condition. In addition, the Advanced Protocol allows for greater system capacity with support for up to 318 devices per SLC circuit. The AP devices are backwards compatible to operate in CLIP mode for legacy system applications.

MIX-5251AP Intelligent Heat Detector, 135°F Fixed Temperature
The MIX-5251AP uses an innovative thermistor sensing circuit to produce 135°F fixed temperature detection in a low profile package. This thermal detector provides cost effective, intelligent property protection in a variety of applications.

MIX-5251RAP Intelligent Heat Detector, 135°F fixed temperature with Rate-of-Rise Detection
The MIX-5251RAP provides both 135°F fixed and rate-of-rise thermal detection. This thermal detector provides cost effective, intelligent property protection in a variety of applications.

MIX-5251HAP Intelligent High Temperature Heat Detector, 190°F Fixed Temperature
The MIX-5251HAP provides 190°F (88°C) fixed temperature detection for high temperature applications.

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S6299 S7498 7270-1477:0160

CATALOG NUMBER 5953

Specifications

Voltage Range
15 - 32 volts DC peak
Standby Current
300 uA @ 24 VDC (one communication every 5 sec. with LED enabled)
LED Current (max.)
6.5 mA @ 24 VDC (on)
Height
2.0 inches (51 mm)
Diameter
6.1 inches (155 mm) installed in B210LP Base 4.1 inches (104 mm) installed in B501 Base

Shipping Weight
4.8 oz. (137 g)
Operating Humidity Range
10% - 93% noncondensing
Thermal Ratings
Fixed Temperature Setpoint: 135°F (57°C) Rate of Rise Detection: 15°F/min. (8.3°C/min.) High Temperature: 190°F (88°C)
Operating Temperature Range
MIX-5251AP/MIX-5251RAP: -4°F to 100°F (-20°C to 38°C) MIX-5251HAP: -4°F to 150°F (-20°C to 66°C)

Ordering Information

Model	Description
Intelligent Heat Sensors	
MIX-5251AP	Intelligent Heat Detector, 135°F Fixed Temperature
MIX-5251RAP	Intelligent Heat Detector, 135°F Fixed Temperature with Rate-of-Rise Detection
MIX-5251HAP	Intelligent High Temperature Heat Detector, 190°F Fixed Temperature
Bases	
B501	Intelligent Flangeless Mounting Base
B210LP	Intelligent Flanged Mounting Base
B224RB	Intelligent Relay Base
B224BI	Intelligent Isolator Base
B200SR	Intelligent Standard Sounder Base (Compatible wih B501BH Series)
Accessories	
RA-100Z	Remote LED Annunciator

Add suffix "A" for ULC listed model.

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CAT. 5953
Rev. 1

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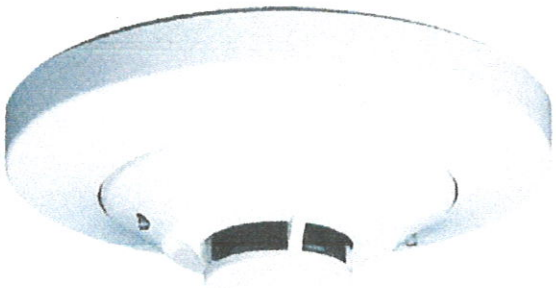
ADVANCED PROTOCOL INTELLIGENT SMOKE SENSORS

MIX-2251AP



Model MIX-2251AP sensor mounted in a B210LP base

Features

- Sleek, low profile design
- Photoelectric technology
- Available with additional fixed temperature detection
- Dual LEDs indicate communications and activate steady when in alarm
- Low profile base provides easy interchangeability
- Low standby current
- Rotary switches for direct-dial entry of address. Each unit can have address set for 01-159 for Advanced Protocol mode and 01-99 for CLIP mode
- Magnetic test feature
- Superior EMI protection

Description

Mircom's low profile intelligent plug-in smoke detectors with integral communications provide features that surpass conventional detectors. Sensitivity is continuously monitored and reported to the panel where the desired detector sensitivity can be programmed. Point ID capability allows each detector's address to be set with decade address switches, providing exact detector locations for selective maintenance when chamber contamination reaches an unacceptable level.

Mircom's Advanced Protocol (AP) devices use a high speed communication protocol that greatly increases the speed of communication between the intelligent devices. Mircom's Advanced Protocol uses a superior group polling method as well as an interrupt feature that provide for a faster response to an alarm condition. In addition, the Advanced Protocol allows for greater system capacity with support for up to 318 devices per SLC circuit. The AP devices are backwards compatible to operate in CLIP mode for legacy system applications.

MIX-2251AP Intelligent Photoelectric Smoke Sensor

The MIX-2251AP provides a unique optical sensing chamber that senses smoke produced by a wide range of combustion sources.

MIX-2251TAP Intelligent Photoelectric Smoke Sensor with 135°F Fixed Temperature Heat Detector

The MIX-2251TAP adds dual electronic thermistors to the MIX-2251AP to provide 135°F (57°C) fixed temperature thermal sensing.

MIX-2251TMAP Intelligent Acclimate™ Multicriteria Smoke Sensor

The MIX-2251TMAP is a photoelectric smoke detector with supplementary 135°F thermal. Also known as Acclimate™, it uses advanced on-board software to combine the signals from the photo and thermal elements. The MIX-2251TMAP is a true multicriteria detector capable of rejecting nuisance sources, but still responding quickly to real fires. Acclimate has the capability of adjusting its sensitivity according to the type of environment that it is installed in.and rate-of-rise thermal detection. These thermal detectors provide cost effective, intelligent property protection in a variety of applications.

FM APPROVED

UL S6295

ULC S6965

7271-1477:0159 (MIX-1251AP)
7272-1477:0161 (MIX-2251AP/TAP/TMAP)

CATALOG NUMBER 5952

Specifications

Voltage Range
15 to 32 VDC
Standby Current
300 uA @ 24 VDC (one communication every 5 sec. with LED blink enabled)
LED Current (max.)
6.5 mA @ 24 VDC (on)
Height
2.0 inches (51 mm)
Diameter
6.1 inches (155 mm) installed in B210LP Base 4.1 inches (104 mm) installed in B501 Base

Shipping Weight
5.2 oz. (147 g)
Operating Humidity Range
10% - 93% non-condensing
Operating Temperature Range
MIX-2251AP: 32°F to 120°F (0°C to 49°C) MIX-2251TAP/MIX-2251TMAP: 32°F to 100°F (0°C to 38°C)
UL Listed Velocity Range
Photo/Photo with Thermal: 0 - 4000 fpm (0 - 20 m/sec) (suitable for installation in ducts)

Ordering Information

Model	Description
Intelligent Smoke Sensors	
MIX-2251AP	Intelligent Photoelectric Smoke Sensor
MIX-2251TAP	Intelligent Photoelectric Sensor with 135°F Fixed Temperature Heat Detector
MIX-2251TMAP	Intelligent Acclimate™ Multicriteria Smoke Sensor
Bases	
B501	Intelligent Flangeless Mounting Base
B210LP	Intelligent Flanged Mounting Base
B224RB	Intelligent Relay Base
B224BI	Intelligent Isolator Base
B200SR	Intelligent Standard Sounder Base (Compatible wih B501BH Series)
Accessories	
RA-100Z	Remote LED Annunciator

Add suffix "A" for ULC listed model.

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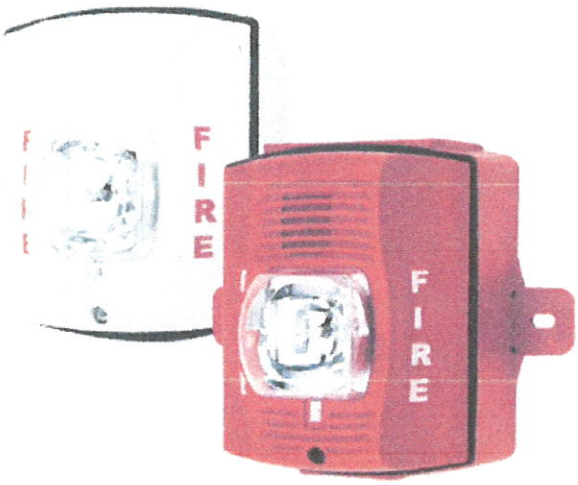
Outdoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications



SPECTRAlert ADVANCE from System Sensor

SpectrAlert® Advance outdoor audible visible products are rich with features that cut installation times and maximize profits.

Features

- Weatherproof per NEMA 4X, IP56
- Listed to UL 1638 (strobe) and UL 464 (horn)
- Compatible with System Sensor synchronization protocol and legacy SpectrAlert products
- Field-selectable candela settings: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Rotary switch for horn tone and three volume selections
- Horn rated at 88+ dBA at 16 volts
- Rated from –40°F to 151°F
- Universal mounting plate with an onboard shorting spring that tests wiring continuity before devices are installed
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Listed for ceiling or wall mounting

Agency Listings

SIGNALING UL LISTED
S4011 (chimes, horn strobes, horns)
S5593 (outdoor and alert strobes)

FM APPROVED
3023572

MEA approved
MEA462-05-E

7300-1653 187 (outdoor strobes)
7125-1653 188 (horn strobes, chime strobes)
7125-1653 189 (horns, chimes)

SpectrAlert Advance offers the broadest line of outdoor horns, strobes, and horn strobes in the industry. With white or red plastic housings, wall or ceiling mounting options, and plain or FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement, including indoor, outdoor, wet, and dry applications in temperatures from –40°F to 151°F.

Like the entire SpectrAlert Advance line, outdoor horns, strobes, and horn strobes for wall applications include a variety of features that increase application flexibility and simplify installation. First, field-selectable settings, including candela, automatic selection of 12- or 24-volt operation, horn tones, and three volume options enable installers to easily adapt devices to meet requirements.

Next, SpectrAlert Advance devices use a universal mounting plate for both wall and ceiling applications. This mounting plate includes an onboard shorting spring that ensures wiring continuity before devices are installed, so installers can verify proper wiring without mounting the devices and exposing them to potential construction damage. Once the plates are mounted, all SpectrAlert Advance devices utilize a plug-in design with a single captured screw to speed installation and virtually eliminate costly ground faults.

Outdoor devices ship with weatherproof plastic back boxes (metal back boxes are available separately) that accommodate in-and-out wiring for daisy chaining devices. Plastic back boxes feature removable side flanges and improved resistance to saltwater corrosion. Knock-outs located on the back eliminate the need to drill holes for screw-in mounting. Plastic and metal weatherproof back boxes come with ¾-inch top and bottom conduit entries and ¾-inch knock-outs at the back. A screw-in NPT plug with an O-ring gasket for a watertight seal is included with each back box.

SpectrAlert Advance Outdoor Horn, Strobe, and Horn StrobeSpecifications

Architect/Engineer Specifications

General

SpectrAlert Advance outdoor horns, strobes, and horn strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Outdoor SpectrAlert Advance products shall operate between –40 and 151 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

The strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The strobe shall be suitable for use in wet environments.

Horn Strobe Combination

The horn strobe shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have three audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options shall be set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn or horn strobe models shall operate on a coded or non-coded power supply. The horn strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The horn strobe shall be suitable for use in wet environments.

Physical/Electrical Specifications	
Operating Temperature	–40°F to 151°F (–40°C to 66°C)
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage with MLD3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6″L x 4.7″W x 2.5″D (142 mm L x 119 mm W x 64 mm D)
Horn Dimensions	5.6″L x 4.7″W x 1.3″D (142 mm L x 119 mm W x 33 mm D)
Wall-Mount Weatherproof Back Box Dimensions (SA-WBB)	5.7″L x 5.1″W x 2.0″D (145 mm L x 130 mm W x 51 mm D)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. 2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts		16–33 Volts	
	Candela	DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	NA	94	96
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

UL Max. Horn Current Draw (mA RMS)

		8–17.5 Volts		16–33 Volts	
Sound Pattern	dB	DC	FWR	DC	FWR
Temporal	High	57	55	69	75
Temporal	Medium	44	49	58	69
Temporal	Low	38	44	44	48
Non-Temporal	High	57	56	69	75
Non-Temporal	Medium	42	50	60	69
Non-Temporal	Low	41	44	50	50
Coded	High	57	55	69	75
Coded	Medium	44	51	56	69
Coded	Low	40	46	52	50

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Standard Candela Range (15–115 cd)

	8–17.5 Volts		16–33 Volts						
DC Input	15	15/75	15	15/75	30	75	95	110	115
Temporal High	137	147	79	90	107	176	194	212	218
Temporal Medium	132	144	69	80	97	157	182	201	210
Temporal Low	132	143	66	77	93	154	179	198	207
Non-Temporal High	141	152	91	100	116	176	201	221	229
Non-Temporal Medium	133	145	75	85	102	163	187	207	216
Non-Temporal Low	131	144	68	79	96	156	182	201	210
FWR Input									
Temporal High	136	155	88	97	112	168	190	210	218
Temporal Medium	129	152	78	88	103	160	184	202	206
Temporal Low	129	151	76	86	101	160	184	194	201
Non-Temporal High	142	161	103	112	126	181	203	221	229
Non-Temporal Medium	134	155	85	95	110	166	189	208	216
Non-Temporal Low	132	154	80	90	105	161	184	202	211

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, High Candela Range (135–185 cd)

	16–33 Volts					16–33 Volts			
DC Input	135	150	177	185	FWR Input	135	150	177	185
Temporal High	245	259	290	297	Temporal High	215	231	258	265
Temporal Medium	235	253	288	297	Temporal Medium	209	224	250	258
Temporal Low	232	251	282	292	Temporal Low	207	221	248	256
Non-Temporal High	255	270	303	309	Non-Temporal High	233	248	275	281
Non-Temporal Medium	242	259	293	299	Non-Temporal Medium	219	232	262	267
Non-Temporal Low	238	254	291	295	Non-Temporal Low	214	229	256	262

Candela Derating

For K series products used at low temperatures, listed candela ratings must be reduced in accordance with this table.

Strobe Output (cd)

Listed Candela	Candela rating at –40°F
15	Do not use below 32°F
15/75	
30	
75	44
95	70
110	110
115	115
135	135
150	150
177	177
185	185

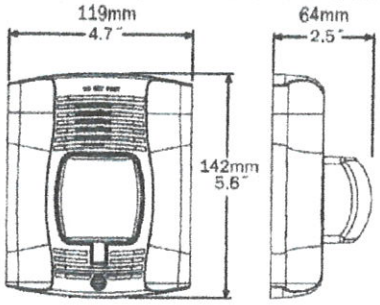
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

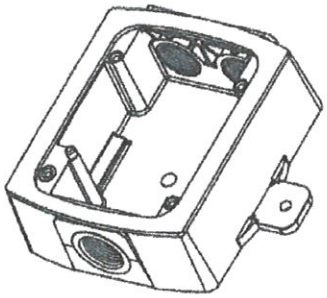
			8–17.5 Volts		16–33 Volts		24-Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7[1]	Coded	High	82	82	88	88	93	92	101	101
8[1]	Coded	Medium	78	78	85	85	90	90	97	98
9[1]	Coded	Low	75	75	81	81	88	85	96	92

[1]Settings 7, 8, and 9 are not available on 2-wire horn strobe.

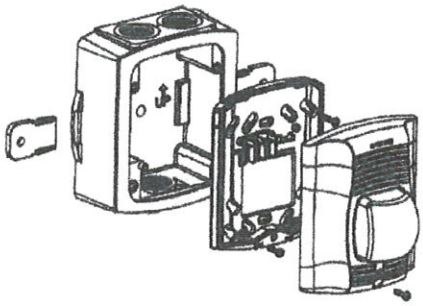
SpectrAlert Advance Diagrams



Wall-Mount Horn Strobes



Wall Plastic Weatherproof Back Box



Wall-Mount Horn Strobe with Plastic Weatherproof Back Box

SpectrAlert Advance Ordering Information

Model		Description
Red	**White**	
Wall Horn Strobes		
P2RK	P2WK	2-Wire Horn Strobe, Standard cd, Outdoor (includes plastic weatherproof back box)
P2RK-P	P2WK-P	2-Wire Horn Strobe, Standard cd, Outdoor, Plain (includes plastic weatherproof back box)
P2RK-R	P2WK-R	2-Wire Horn Strobe, Standard cd, Outdoor (does not include plastic weatherproof back box)
P2RHK	P2WHK	2-Wire Horn Strobe, High cd, Outdoor (includes plastic weatherproof back box)
P2RHK-P	P2WHK-P	2-Wire Horn Strobe, High cd, Outdoor, Plain (includes plastic weatherproof back box)
P2RHK-R	P2WHK-R	2-Wire Horn Strobe, High cd, Outdoor (does not include plastic weatherproof back box)
P4RK	P4WK	4-Wire Horn Strobe, Standard cd, Outdoor (includes plastic weatherproof back box)
P4RK-R	—	4-Wire Horn Strobe, Standard cd, Outdoor (does not include plastic weatherproof back box)
P2RHK-120	—	2-Wire Horn Strobe, High cd, Outdoor, 120 V (includes plastic weatherproof back box)
Wall Strobes		
SRK	SWK	Strobe, Standard cd, Outdoor (includes plastic weatherproof back box)
SRK-P	SWK-P	Strobe, Standard cd, Outdoor, Plain (includes plastic weatherproof back box)
SRK-R	SWK-R	Strobe, Standard cd, Outdoor (does not include plastic weatherproof back box)
SRHK	SWHK	Strobe, High cd, Outdoor (includes plastic weatherproof back box)
SRHK-P	SWHK-P	Strobe, High cd, Outdoor, Plain (includes plastic weatherproof back box)
SRHK-R	SWHK-R	Strobe, High cd, Outdoor (does not include plastic weatherproof back box)
Horns		
HRK	—	Horn, Red, Outdoor (includes plastic weatherproof back box)
HRK-R	—	Horn, Red, Outdoor (does not include plastic weatherproof back box)
Accessories		
SA-WBB	SA-WBBW	Metal Weatherproof Back Box
WTP	WTPW	Metal Weatherproof Outdoor Flush-mounting Plate

Notes:
All -P models have a plain housing (no "FIRE" marking on cover). All -R models require metal weatherproof outdoor flush mounting plate or a metal weatherproof outdoor back box (order separately). "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. **When replacing standard outdoor units both the device and back box must be replaced.**

SYSTEM SENSOR

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AVDS115-02 • 12/3/2019

Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

System Sensor L-Series audible visible notification products are rich with features guaranteed to cut installation times and maximize profits with lower current draw and modern aesthetics.

Features

- Updated Modern Aesthetics
- Small profile devices for Horns and Horn Strobes
- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Mounting plate for all standard and all compact wall units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Strobes and Horn Strobes listed for wall mounting only
- Horns listed for wall or ceiling use

Agency Listings

SIGNALING UL LISTED
35512
S4011

FM APPROVED
FM approved except for ALERT models 3057383, 3057072

7125-1853:0604
7135-1853:0603

The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, standard and compact devices, and plain, FIRE, and FUEGO-printed devices, System Sensor L-Series can meet virtually any application requirement.

The L-Series line of wall-mount horns, strobes, and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, the L-Series utilizes a universal mounting plate for all models with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

L-Series Specifications

Architect/Engineer Specifications

General

L-Series standard horns, strobes, and horn strobes shall mount to a standard 2 x 4 x 1⅞-inch back box, 4 x 4 x 1½-inch back box, 4-inch octagon back box, or double-gang back box. L-Series compact products shall mount to a single-gang 2 x 4 x 1⅞-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products for all standard models and a separate universal mounting plate shall be used for mounting wall compact models. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, and 185.

Strobe

The strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination

The horn strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize Strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 11/16 x 4 11/16 x 2⅛-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range MDL3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6"L x 4.7"W x 1.91"D (143 mm L x 119 mm W x 49 mm D)
Compact Wall-Mount Dimensions (including lens)	5.26" L x 3.46" W x 1.91" D (133 mm L x 88 mm W x 49 mm D)
Horn Dimensions	5.6"L x 4.7"W x 1.25"D (143 mm L x 119 mm W x 32 mm D)
Compact Horn Dimensions	5.25" L x 3.45" W x 1.25" D (133 mm L x 88 mm W x 32 mm D)

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.
2. Strobe products will operate at 12 V nominal only for 15 cd and 30 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
	Candela	DC	DC	FWR
Candela Range	15	88	43	60
	30	143	63	83
	75	N/A	107	136
	95	N/A	121	155
	110	N/A	148	179
	135	N/A	172	209
	185	N/A	222	257

UL Max. Horn Current Draw (mA RMS)

		8–17.5 Volts	16–33 Volts	
Sound Pattern	dB	DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

UL Max. Current Draw (mA RMS), Wall Horn Strobe, Candela Range (15–185 cd)

	8–17.5 Volts		16–33 Volts						
DC Input	15cd	30cd	15cd	30cd	75cd	95cd	110cd	135cd	185cd
Temporal High	98	158	54	74	121	142	162	196	245
Temporal Low	93	154	44	65	111	133	157	184	235
Non-Temporal High	106	166	73	94	139	160	182	211	262
Non-Temporal Low	93	156	51	71	119	139	162	190	239
3.1K Temporal High	93	156	53	73	119	140	164	190	242
3.1K Temporal Low	91	154	45	66	112	133	160	185	235
3.1K Non-Temporal High	99	162	69	90	135	157	175	208	261
3.1K Non-Temporal Low	93	156	52	72	119	138	162	192	242

	16–33 Volts						
FWR Input	15cd	30cd	75cd	95cd	110cd	135cd	185cd
Temporal High	83	107	156	177	198	234	287
Temporal Low	68	91	145	165	185	223	271
Non-Temporal High	111	135	185	207	230	264	316
Non-Temporal Low	79	104	157	175	197	235	283
3.1K Temporal High	81	105	155	177	196	234	284
3.1K Temporal Low	68	90	145	166	186	222	276
3.1K Non-Temporal High	104	131	177	204	230	264	326
3.1K Non-Temporal Low	77	102	156	177	199	234	291

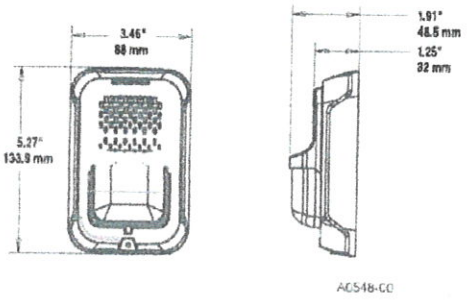
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

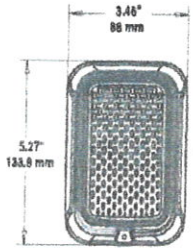
Switch Position	Sound Pattern	dB	8–17.5 Volts DC	16–33 Volts DC	16–33 Volts FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 KHz Non-Temporal	Low	77	83	83
9*	Coded	High	85	90	90
10*	3.1 KHz Coded	High	84	89	89

* Settings 9 and 10 are not available on 2-wire horn strobes. Temporal coding must be provided by the NAC. If the NAC voltage is held constant, the horn output remains constantly on.

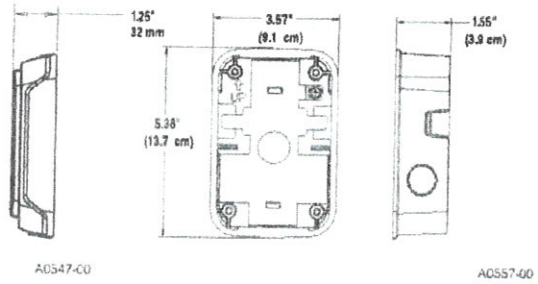
L-Series Dimensions



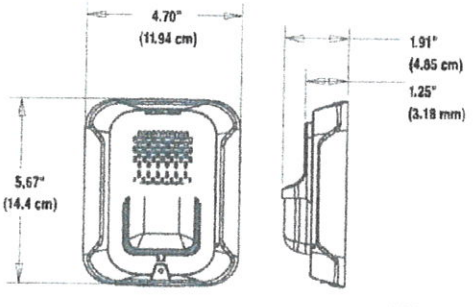
Compact Strobe, Horn Strobe



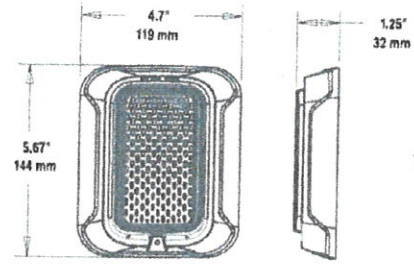
Compact Horn



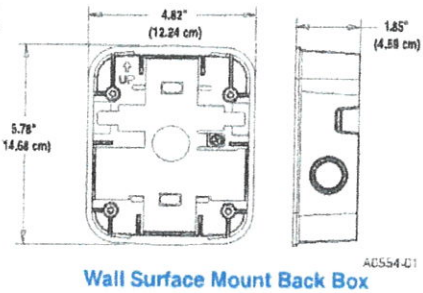
Compact Wall Surface Mount Back Box
SBBGRL, SBBGWL



Strobe, Horn Strobe



Horn



Wall Surface Mount Back Box
SBBRL/SBBWL

L-Series Ordering Information

Model	Description
Wall Horn Strobes	
P2RL	2-Wire, Horn Strobe, Red
P2WL	2-Wire, Horn Strobe, White
P2GRL	2-Wire, Compact Horn Strobe, Red
P2GWL	2-Wire, Comp 2 fils act Horn Strobe, White
P2RL-P	2-Wire, Horn Strobe, Red, Plain
P2WL-P	2-Wire, Horn Strobe, White, Plain
P2RL-SP	2-Wire, Horn Strobe, Red, FUEGO
P2WL-SP	2-Wire, Horn Strobe, White, FUEGO
P4RL	4-Wire, Horn Strobe, Red
P4WL	4-Wire, Horn Strobe, White
Wall Strobes	
SRL	Strobe, Red
SWL	Strobe, White
SGRL	Compact Strobe, Red
SGWL	Compact Strobe, White
SRL-P	Strobe, Red, Plain
SWL-P	Strobe, White, Plain
SRL-SP	Strobe, Red, FUEGO
SWL-CLR-ALERT	Strobe, White, ALERT

Model	Description
Horns*	
HRL*	Horn, Red
HWL*	Horn, White
HGRL*	Compact Horn, Red
HGWL*	Compact Horn, White
Accessories	
TR-2	Universal Wall Trim Ring Red
TR-2W	Universal Wall Trim Ring White
SBBRL	Wall Surface Mount Back Box, Red
SBBWL	Wall Surface Mount Back Box, White
SBBGRL	Compact Wall Surface Mount Back Box, Red
SBBGWL	Compact Wall Surface Mount Back Box, White

Notes:
All -P models have a plain housing (no "FIRE" marking on cover).
All -SP models have "FUEGO" marking on cover.
All -ALERT models have "ALERT" marking on cover.
*Horn-only models are listed for wall or ceiling use.

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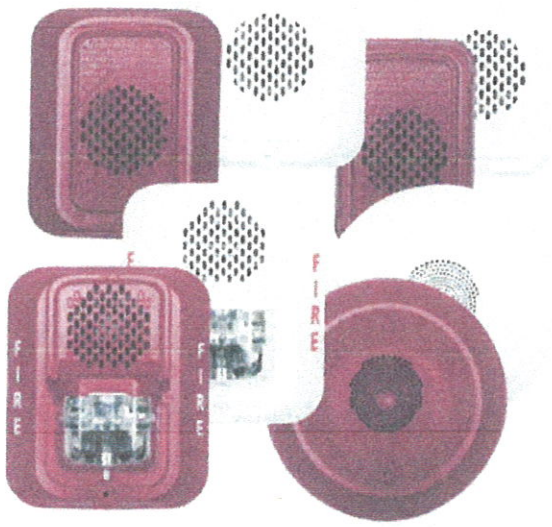
AVDS865-05 • 2/22/2018

Indoor Selectable-Output Low Frequency Sounders and Low Frequency Sounder Strobes

System Sensor L-Series audible visible notification products are rich with features guaranteed to maximize profits with lower current draw and modern aesthetics.



Features

- 520 Hz ± 10% square wave tone, NFPA compliance
- Full candela range plus High/Low tone options to optimize current draw for a wide variety of applications
- Compact, standard, and round ceiling options
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Rotary switch for High and Low, Temp3 and Temp4 settings
- Plug-in design with minimal intrusion into the back box
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices (Direct replacement for HW/R-LF and P2R/WH-LF)
- Compatible with MDL3 sync module
- Sounders listed for ceiling and wall mounting
- Sounder Strobe listed for wall mounting
- Updated modern aesthetics

The L-Series offers the most versatile and easy-to-use line of low frequency sounder and low frequency sounder strobes in the industry. With white and red plastic housings, listed for wall and ceiling mounting, L-Series Low Frequency can meet virtually any application requirement.

The low frequency sounder and low frequency sounder strobes were designed to address the NFPA 72 sleeping space requirements that require a low frequency notification appliance that operates within frequency range of 520 Hz ± 10% and is of a square wave tone. Like the entire L-Series product line they include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, L-Series uses a universal mounting plate with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, 24-volt operation, and a rotary switch for 520 Hz low frequency sounder tones.

Agency Listings

SIGNALING UL LISTED S4011

FM APPROVED FM452768

Horns only: 7135-1653:0515
Horn/Strobes: 7125-1653:0517

L-Series Specifications

Architect/Engineer Specifications

General

L-Series low frequency sounder and low frequency sounder strobes shall mount to a standard 4 x 4 x 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 x 4 x 1⅞-inch back box. A universal mounting plate shall be used for mounting products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit (0°C to 49°C) from a regulated DC or full-wave rectified unfiltered power supply. Low Frequency Sounder strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, 185. The field selectable tones will sound within the frequency range of 520 Hz ± 10% square wave tone and have a permanent marking on the housing that reads "low frequency sounder".

Low Frequency Sounder

The low frequency sounder shall be a System Sensor L-Series Model _____ listed to UL 464 and shall be approved for fire protective service. The low frequency sounder and the Sync•Circuit™ MDL3 Module accessory, if used, shall be powered from a notification appliance circuit output and shall operate on a nominal 24 volts (includes fire alarm panels with built-in sync). When used with the Sync•Circuit Module MDL3, 24-volt rated notification appliance circuit outputs shall operate between 16.5 to 33 volts. If the notification appliances are not UL 9th edition listed with the corresponding panel or power supply being used, then refer to the compatibility listing of the panel to determine maximum devices on a circuit. The low frequency sounder has an option to switch between temporal three or temporal four pattern, non-temporal (continuous) pattern and coded supply within the frequency range of 520Hz ± 10% square wave tone. The low frequency sounder shall operate on a coded or non-coded power supply with high and low volume settings.

Low Frequency Sounder Strobe Combination

The low frequency sounder strobe shall be a System Sensor L-Series Model _____ listed to UL 1971 and UL 464 and shall be approved for fire protective service. The low frequency sounder strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The sounder shall have an option to switch between a temporal three or temporal four pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The low frequency sounder on low frequency sounder strobe models shall operate on a non-coded power supply with high and low volume settings. The field selectable tones will sound within the frequency range of 520 Hz ± 10% square wave tone.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and low frequency sounder at temporal three. Also, while operating the strobes, the module shall silence the low frequency sounder on low frequency sounder strobe models over a single pair of wires. The module shall mount to a 4 11/16 x 4 11/16 x 2⅛-inch back box. The module shall also control two Class B circuits or one Class A circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Frequency Range	520 Hz ± 10%
Strobe Flash Rate	1 flash per second
Nominal Voltage Low Frequency Sounder	Regulated 24 DC/FWR[1]
Nominal Voltage Range Low Frequency Sounder Strobe	Regulated 24 VDC/FWR[1]
Operating Voltage Range	16 to 33 V (24 V nominal)
Operating Voltage Range MDL3 Sync Module	16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Dimensions	
Wall Sounder Strobe (including lens)	5.6" L x 4.7" W x 1.9" D (142 mm L x 119 mm W x 49 mm D)
Standard Wall Sounder	5.6" L x 4.7" W x 1.5" D (142 mm L x 119 mm W x 38 mm D)
Compact Wall Sounder	5.25" L x 3.46" W x 1.5" D (133mm L x 88mm W x 38mm D)
Ceiling Sounder	6.8" diameter x 1.4" high (173mm diameter x 36mm high)
Standard Wall Sounder with SBBRL/SBBWL Surface Mount Back Box	5.7" L x 4.8" W x 3.3" D (145 mm L x 120 mm W x 87 mm D)
Compact Wall Sounder with SBBGRL/SBBGWL Surface Mount Back Box	5.4" L x 3.6" W x 3.0" D (137 mmL x 91mm W x 76 mm D)
Low Frequency Ceiling Sounder with SBBCRL/SBBCWL Surface Mount Back Box	6.9" diameter x 3.9" high (175mm diameter x 99mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

UL Current Draw and Sound Output Data

Low Frequency Wall Sounder Strobe Current Draw (mA) and Sound Output (dBA)

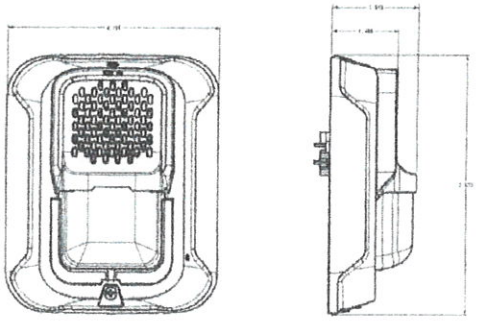
Pos	Tone	Volume Setting	Current Draw (mA) 16-33 VDC 15cd	30cd	75cd	95cd	110cd	135cd	185cd	Current Draw (mA) 16-33 FWR 15cd	30cd	75cd	95cd	110cd	135cd	185cd	Sound Output (dBA) 16-33 V DC	FWR
1	Temporal 3	High	98	115	158	173	182	212	266	136	153	188	206	228	258	304	80	80
2	Temporal 3	Low	98	102	141	162	173	202	255	150	150	176	194	216	242	280	76	76
3	Temporal 4	High	98	108	137	151	178	202	252	200	198	169	188	212	242	290	80	80
4	Temporal 4	Low	102	104	122	136	163	187	237	176	174	154	173	197	227	275	76	76
5	Continuous	High	141	158	198	216	234	264	305	190	207	249	268	289	321	368	80	80
6	Continuous	Low	120	128	179	196	215	244	285	165	182	226	244	266	297	342	76	76

UL Max. Low Frequency Sounder Current Draw (mA RMS)

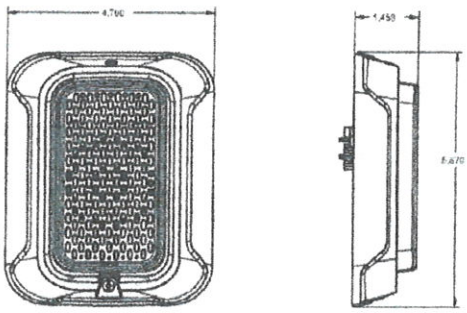
Pos	Tone	Volume Setting	Current Draw (mA) 16–33 Volts DC	FWR	Sound Output (dBA) Reverberant 16–33 Volts DC	FWR
1	Temporal 3	High	108	150	80	80
2	Temporal 3	Low	78	76	76	76
3	Temporal 4	High	111	151	80	80
4	Temporal 4	Low	80	76	76	76
5	Continuous	High	111	151	80	80
6	Continuous	Low	80	76	76	76
7	Coded	High	111	151	80	80
8	Coded	Low	80	76	76	76

*NOTE: For coded tones, temporal coding must be provided by the NAC. If the NAC voltage is held constant, the sounder output will remain constantly on. Coded ratings provided are for continuous voltage.

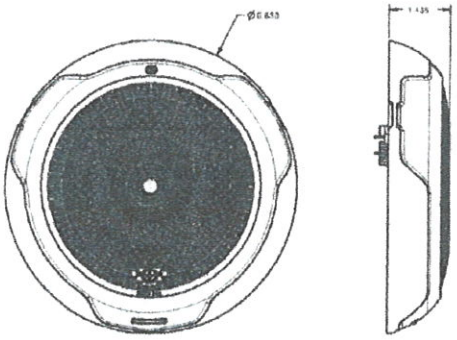
L-Series Dimensions



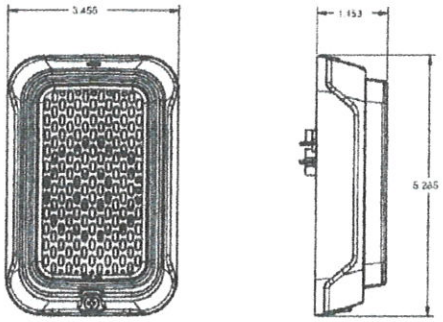
Wall LF Sounder Strobe



Wall LF Sounder



Ceiling LF Sounder



Compact Wall LF Sounder

Part No.		Description
Red	White	
Low Frequency Sounder Strobes		
P2RL-LF	P2WL-LF	LF Sounder Strobe, Wall
Low Frequency Sounders		
HRL-LF	HWL-LF	LF Sounder, Wall
HGRL-LF	HGWL-LF	Compact LF Sounder, Wall
HCRL-LF	HCWL-LF	LF Sounder, Ceiling
Accessories		
MDL3R	MDL3W	Sync•Circuit™ Module, UL-listed
SBBRL	SBBWL	Surface Mount Back Box, Wall
SBBCRL	SBBCWL	Surface Mount Back Box, Ceiling
SBBGRL	SBBGWL	Surface Mount Back Box, Wall, Compact

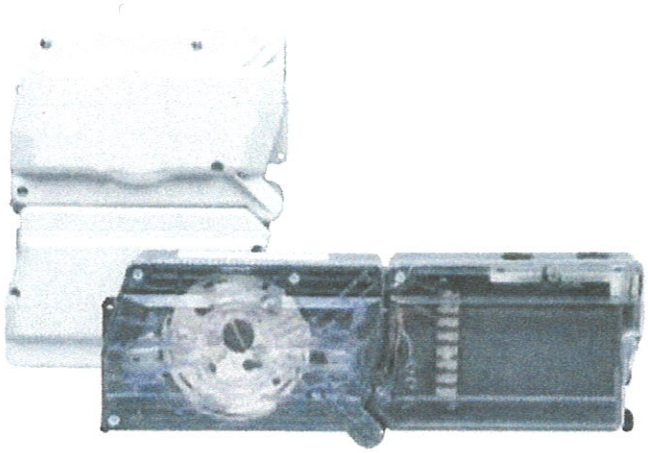
SYSTEM SENSOR

3825 Ohio Avenue • St. Charles, IL 60174
Phone: 800-SENSOR2 • Fax: 630-377-6495

AVDS910-01 • 10/1/2019

SYSTEM SENSOR

Intelligent Non-Relay Photoelectric Duct Smoke Detector



The InnovairFlex™ Series are the only duct smoke detectors flexible enough to fit configurations from square to rectangular and everything in between.

Features

- Photoelectric, integrated low-flow technology (detector head sold separately)
- Air velocity rating from 100 ft/min to 4,000 ft/min
- Adjusts to square and rectangular mounting configurations
- Broad ranges for operating temperature (–4°F to 158°F) and humidity (0% to 95% non-condensing)
- Patented tool-free, plug-in sampling tubes
- New cover tamper signal
- Increased wiring space with a new ¾-inch conduit knockout
- Housing has space for mounting a relay module
- Easily accessible code wheels on sensor head (sold separately)
- Clear cover for convenient visual inspection
- UL 268A listed
- Remote testing capability
- Requires com line power only
- NEMA Type 4 UL listed for non-hazardous indoor and outdoor applications (**DNRW only**)
- UV-resistant, UL-listed housing and cover material (**DNRW only**)

The **InnovairFlex Series DNR** and **DNRW** are intelligent (addressable) non-relay photoelectric duct smoke detectors. Like all InnovairFlex detectors, the DNR and DNRW both feature an adjustable housing design that fits square and rectangular installation footprints, mounts to both round and rectangular ductwork, and utilizes tool-free, plug-in sampling tubes for increased application flexibility and installation ease.

These units sense smoke in challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute, temperatures of –4°F to 158°F, and a humidity range of 0 to 95 percent (non-condensing). For even more extreme environments like rooftops, the DNRW's NEMA 4-rated watertight and UV-resistant housing protects against windblown dirt and dust, rain, and hose directed water, enabling it to be installed without a costly enclosure, saving time and money.

The InnovairFlex housing cover isolates the sensor head from the low-flow feature for simple maintenance, and a cover tamper feature initiates a trouble signal for a removed or improperly installed sensor cover. The housing also provides a ¾-inch conduit knockout and ample space to facilitate easy wiring and mounting of a relay module to meet specific application requirements. These detectors can be customized to meet local codes and specifications without additional wiring.

The InnovairFlex line is compatible with all previous Innovair models, including remote test accessories, for easy retrofits.

WARNING: Duct smoke detectors have specific limitations.

Agency Listings

UL LISTED 2911 · FM APPROVED 3029708 · 3240-1653:209/210 · MSFM approved 2125

InnovairFlex Duct Smoke Detector Specifications

Architectural/Engineering Specifications

The air duct smoke detector shall be a System Sensor InnovairFlex™ DNR Intelligent Non-Relay Photoelectric Duct Smoke Detector and DNRW Watertight NEMA 4 Duct Smoke Detector. The detector housing shall be UL listed per UL 268A specifically for use in air handling systems. The flexible housing of the duct smoke detector fits both square and rectangular footprints. The detector shall operate at air velocities of 100 ft/min to 4,000 ft/min (0.5 m/sec to 20.32 m/sec). The unit shall be capable of providing a trouble signal in the event that the sensor cover is removed or improperly installed. It shall be capable of local testing via magnetic switch or remote testing using the RTS151KEY remote test station. Terminal connections shall be of the strip and clamp method suitable for 12–18 AWG wiring.

Physical Specifications

Size: (Rectangular) **(Square)**	14.38 in (37 cm) Length; 5 in (12.7 cm) Width; 2.5 in (6.6 cm) Depth 7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width ; 2.5 in (6.35 cm) Depth
Weight:	1.6 lb (0.73 kg)
Environmental Rating:	NEMA 4 (DNRW only)
Operating Temperature Range:	–4°F to 158°F (–20°C to 70°C)
Storage Temperature Range:	–22°F to 158°F (–30°C to 70° C)
Operating Humidity Range:	0% to 95% relative humidity (non-condensing)
Air Duct Velocity:	100 to 4,000 ft/min (0.5 to 20.32 m/s)
DCOIL (if included):	17.5 – 26.4 VDC, 95 mA max

Electrical Ratings

Please see detector head installation manual for electrical specifications

Accessory Current Loads at 24 VDC

Device	Standby	Alarm
RA100Z	0 mA	12 mA Max.
RTS151/RTS151KEY	0 mA	12 mA Max.

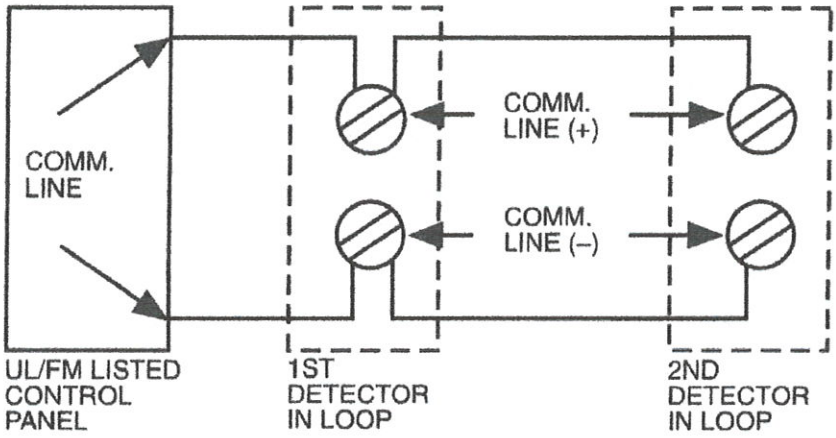
Installing the InnovairFlex Sampling Tube

The InnovairFlex sampling tube may be installed from the front or back of the detector. The tube locks securely into place and can be removed by releasing the front or rear locking tab (front locking tab shown below right).

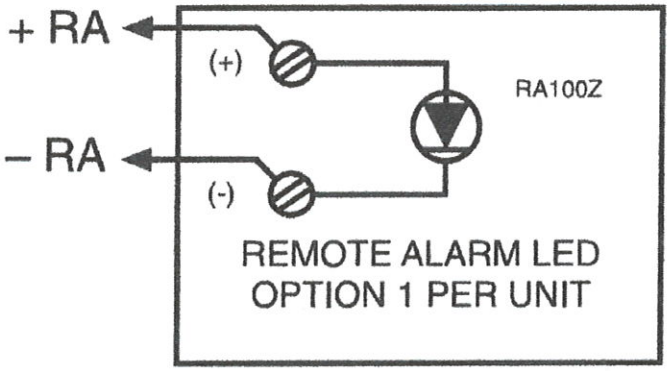
A05-0422-005

Wiring for Intelligent Non-Relay Duct Smoke Detector

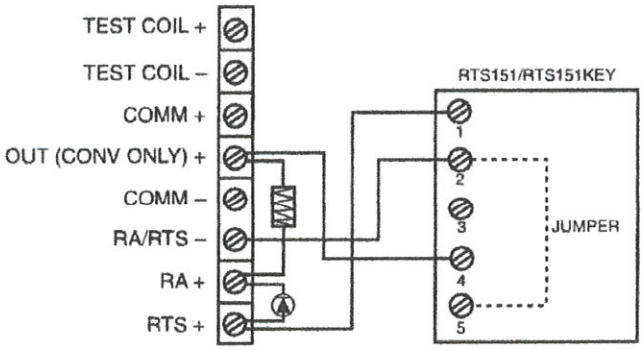
System wiring diagram for DNR:



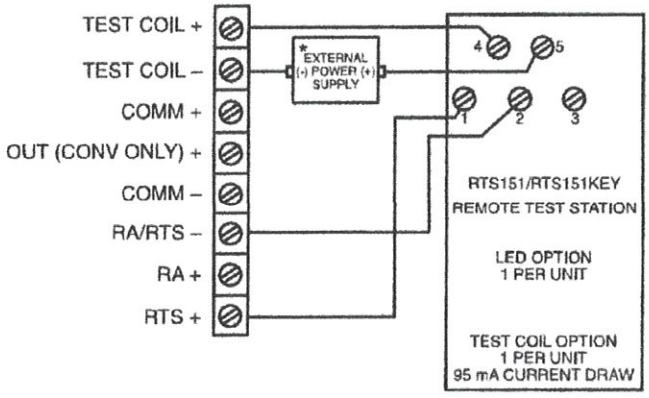
DNR to RA100Z:



DNR to RTS151/RTS151KEY
with "R" Remote Test Capable Detector Head Option:



DNR to RTS151/RTS151KEY with DCOIL Option*:

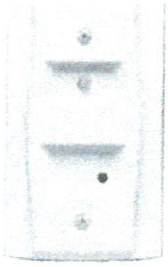


*Important Notes

- The use of either the RTS151 or RTS151KEY requires the installation of an accessory coil, DCOIL, sold separately. Please refer to the DNR or DNRW installation manual for more information.
- The RTS151/RTS151KEY test coil circuit requires an external 24 VDC power supply which must be UL listed.

Accessories

System Sensor provides system flexibility with a variety of accessories, including two remote test stations and different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detector accessories are UL listed.



RTS151 UL S2522

RTS151KEY UL S2522

RA100Z UL S2522

Ordering Information

Part No.	Description
DNR	Intelligent non-relay photoelectric low-flow duct smoke detector
DNRW	Watertight intelligent non-relay photoelectric low-flow duct smoke detector

Accessories

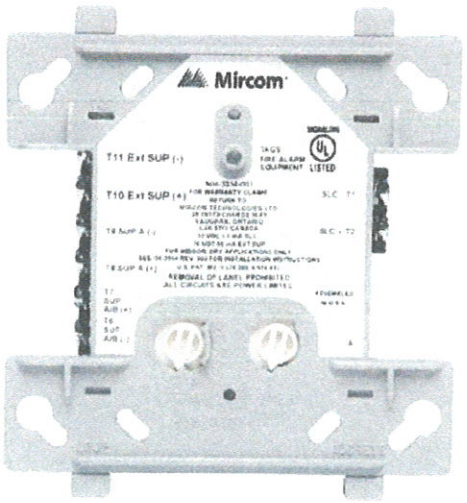
DCOIL	Remote test coil required with RTS451/RTS451KEY/RTS151/RTS151KEY	ETX	Metal exhaust tube duct width 1ft (0.3 m)
DST1	Metal sampling tube duct width up to 1ft (0.3m)	M02-04-00	Test magnet
DST1 5	Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)	RA100Z	Remote annunciator alarm LED
DST3	Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)	RTS151	Remote test station
DST5	Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)	RTS151KEY	Remote test station with key lock
DST10	Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)	DH400OE-1	Weatherproof enclosure
P48-21-00	End cap for metal sampling tubes		

SYSTEM SENSOR

3825 Ohio Avenue • St. Charles, IL 60174
Phone: 800-SENSOR2 • Fax: 630-377-6495

Mircom

ADVANCED PROTOCOL CONTROL MODULES MIX-M500SAP/MIX-M500RAP



Features

- Designed to meet a wide range of applications
- SEMS screws for easy wiring
- Panel controlled status LED
- Rotary switches for direct-dial entry of address. Each unit can have address set for 01-159 for Advanced Protocol mode and 01-99 for CLIP mode
- Low standby current
- Mount in 4" square junction box

Description

Mircom's intelligent control and relay modules are designed to meet a wide range of applications. The control modules can be used to supervise and activate Notification Appliances while the relay modules provide the system with dry contact outputs for activatey a variety of auxiliary devices. The control and relay modules are addressed with easy-to-use rotary code switches.

Mircom's Advanced Protocol (AP) devices use a high speed communication protocol that greatly increases the speed of communication between the intelligent devices. Mircom's Advanced Protocol uses a superior group polling method as well as an interrupt feature that provide for a faster response to an alarm condition. In addition, the Advanced Protocol allows for greater system capacity with support for up to 318 devices per SLC circuit. The AP devices are backwards compatible to operate in CLIP mode for legacy system applications.

MIX-M500RAP Relay Control Module

The MIX-M500RAP Relay Control Module contains two isolated sets of Form-C contacts, which operate as a DPDT switch to provide the system with outputs for activating a variety of auxiliary devices, such as fans, dampers, control equipment, etc. The module allows the control panel to switch these contacts on command. No supervision is provided for the relay contacts.

MIX-M500SAP Supervised Control Module

The MIX-M500SAP Supervised Control Module provides supervised monitoring of wiring to load devices that require an external power supply to operate, such as horns, strobes, or bells. It is capable of Styles Y and Z supervision. Upon command from the control panel, the MIX-M500SAP will disconnect the supervision and connect the external power supply across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned on. The external power supply is always relay isolated from the communication loop, so that a trouble condition on the power supply will never interfere with the rest of the system. Full analog measurement of the supervised wiring is transmitted back to the panel and can be used to detect impedance changes or other special test functions.

FM APPROVED UL S5434 ULC S5434 7300-1477:0167

CATALOG NUMBER 5951

Specifications

MIX-M500SAP Supervised Control Module

Normal Operating Voltage	15 to 32 VDC
Maximum Alarm Current	6.5mA (LED On)
Average Operating Current	400 µA max., 1 communication every 5 seconds 47k EOL resistor, 485 uA max.(Communicating, NAC shorted).
Maximum NAC Line Loss	4 VDC
External Supply Voltage	
Maximum (NAC)	Regulated 24VDC
Maximum (Speakers)	70.07 V RMS, 50 W
Max. NAC Current Ratings	For class B wiring system, the current rating is 3A; For class A wiring system, the current rating is 2A
Temperature Range	32˚F to 120˚F (0˚C to 49˚C)
Humidity	10% to 93% Non-condensing
Dimensions	4.5˝ H × 4˝ W × 1.25˝ D

MIX-M500RAP Relay Control Module

Normal Operating Voltage	15 to 32 VDC
Maximum Alarm Current	6.5mA (LED on)
Average Operating Current	300 µA, 1 communication every 5 seconds
EOL Resistance	Not used
Temperature Range	32˚F to 120˚F (0˚C to 49˚C)
Humidity	10% to 93% Non-condensing
Dimensions	4.5˝ H x 4˝ W x 1.25˝ D

Relay Contact Ratings

Current Rating	Maximum Voltage	Load Description	Application
3 A	30 VDC	Resistive	Non-coded
2 A	30 VDC	Resistive	Coded
0.46 A	30 VDC	(L/R= 20ms)	Non-coded
0.9 A	125 VDC	Resistive	Non-coded
0.5 A	125VAC	(PF=0.75)	Non-coded
0.3 A	125 VAC	(PF=0.35)	Non-coded
0.7 A	70.7 VAC	(PF=0.35)	Non-coded
0.2 A	25 VAC	(PF=0.35)	Non-coded

Ordering Information

Model	Description
MIX-M500RAP	Relay Control Module
MIX-M500SAP	Supervised Control Module

Add suffix "A" for ULC listed model.

NOT TO BE USED FOR INSTALLATION PURPOSES.

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Rev. 2