

**Submittal for:
Fire Alarm System**

**Angier & Black River Fire Department
Angier, NC**

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**Angier & Black River Fire Department
Angier, NC**

**Fire Alarm System
Equipment List**

Quantity	Model	Description
1	ES-200X	Fire Alarm Control Panel
1	HF2V-COM	Fire Alarm Communicator
43	SD365	Photoelectric Smoke Detector w/Base
1	H365R	135F ROR Heat Detector w/Base
4	DNR	Duct Detector Enclosure
4	SD365R	Photoelectric Sensor for Duct Enclosure
2	CO1224T	Carbon Monoxide Detector w/Local Sounder
11	BG-12LX	Manual Pull Station
2	MMF-300	Monitor Module
2	MMF-301	Mini-Monitor Module
4	CRF-300	Relay Module
4	RA100Z	Remote Alarm Indicator
18	P2WL	Horn Strobe, Wall Mount, White
19	SWL	Strobe, Wall Mount, White
4	PC2WL	Horn Strobe, Ceiling Mount, White
6	P2WL-LF	Low Frequency Sounder Strobe, Wall Mount, White
1	E120V-GT	120 VAC Panel Surge Protector
2	BAT-12120	12 VDC, 12 AH Sealed Lead Acid Battery

ES-200X

Intelligent Addressable FACP with Communicator



Addressable Fire Alarm Control Panels

General

The **ES-200X** is the latest intelligent addressable Fire Alarm Control Panel (FACP) from Fire•Lite Alarms. The ES-200X comes with a pre-installed communicator and supports up to 198 addressable devices (99 detectors and 99 modules). With an extensive list of powerful features, the ES-200X programs just like Fire•Lite's other addressable products, yet fits into applications previously served only by conventional panels.

The pre-installed IPOTS-COM is a dual technology (POTS and IP) communicator. The POTS transmits system status (alarms, troubles, AC loss, etc.) to a Central Station via the public switched telephone network. The IP communicator's internet monitoring capability sends alarm signals over the Internet saving the monthly cost of two dedicated business telephone lines. Although not required, the secondary telephone line may be retained providing backup communication over the public switched telephone line. Optional cellular reporting is available using the CELL-MOD or CELL-CAB-FL.

Remote and local programming of the control panel is possible using the FS-Tools Upload/Download utility. Programming databases can be uploaded/downloaded via the panel's USB port (and USB cable) or via an ethernet connection using the IPOTS-COM communicator. The USB port also allows for the download or upload of the entire program, history file, walk-test data, current status and system voltages by means of a USB flash drive.

The power supply and all electronics are contained on a circuit board supported on a new quick install chassis and housed in a metal cabinet. Available accessories include local and remote upload/download software, remote annunciators, and reverse polarity/city box transmitter (4XTMF).

Features

- Listed to UL Standard 864, 10th edition
- Pre-installed IPOTS-COM Ethernet IP and POTS (Plain Old Telephone Service) Central Station Communicator over AlarmNet
- Optional CELL-MOD or CELL-CAB-FL GSM Central Station Communicator over AlarmNet®
- Automated activation of the ECC-50/100 Emergency Command Center
- ECC-FFT Firefighter Telephone option
- Compatible with SWIFT® wireless devices
- Auto-programming (learn mode) reduces installation time. Reports two devices set to the same address
- Four built-in, independently programmable Style Z (Class A) or Style Y (Class B) NAC circuits
- Selectable strobe synchronization for System Sensor, Wheelock, and Gentex devices
- Notification Appliance Circuit End of Line resistor matching
- Four programmable function keys for ease of maintenance
- Two programmable relays and one fixed trouble relay
- Built-in Programmer
- Integral 80-character LCD display with backlighting
- Real-time clock/calendar with automatic daylight savings control
- History file with 1,000 event capacity
- Addressable sounder base compatibility
- Multi-criteria detector (smoke, heat, CO) with programmable response
- Control module delay timer
- Automatic detector sensitivity testing (NFPA 72 compliant)
- Automatic device type-code verification
- Point trouble identification
- Waterflow selection per module point
- Alarm verification selection per detector point



- Maintenance alert warns when smoke detector dust accumulation is excessive
- One-person audible or silent walk test with walk-test log and printout
- System alarm verification selection per detector point
- PAS (Positive Alarm Sequence) and Pre-signal per point (NFPA 72 compliant)
- Up to 16 ANN-BUS annunciators- 8 per each ANN-Bus
- Remote Acknowledge, Alarm Silence, Reset and Drill via addressable modules or remote annunciator
- Upload/Download of program and data via USB with optional FS-Tools Programming Utility

SLC COMMUNICATION LOOP

- Supports LiteSpeed™ and CLIP protocols
- SLC operates up to 10,000 ft. (3,000 m) in LiteSpeed mode with twisted, unshielded wire
- Single addressable SLC loop which meets NFPA Class B and Class A requirements
- 198 addressable device capacity (99 addressable detectors and 99 modules)
- Compatible with Fire•Lite's addressable devices (refer to the *SLC Wiring Manual*)

NOTIFICATION APPLIANCE CIRCUITS (NACS)

- Four independently programmable output circuits. Circuits can be configured for the following outputs:
 - **Style Y** (Class B)
 - **Style Z** (Class A)
- Silence Inhibit and Autosilence timer options
- Continuous, March Time, Temporal, or California code for main circuit board NACs with two-stage capability
- Selectable strobe synchronization per NAC
- 2.5 A special application, 250mA regulated, total power for NACs

NOTE: Maximum or total 24VDC system power shared between all NAC circuits and the ANN-BUS is 2.7 A

PROGRAMMING AND SOFTWARE

- Autoprogramming (learn mode) reduces installation time
- Custom English labels (per point) may be manually entered or selected from an internal library file
- Two programmable Form-C relay outputs
- 99 software zones
- Continuous fire protection during online programming
- Program Check automatically catches common errors not linked to any zone or input point
- **OFFLINE PROGRAMMING:** Create the entire program in your office using FS-Tools, a Windows®-based software package, and upload/download system programming locally. Offline programming requires an ethernet connection. FS-Tools is available on www.firelite.com.

User interface

LED INDICATORS

- Fire Alarm (red)
- CO Alarm (red)
- AC Power (green)
- Supervisory (yellow)
- Trouble (yellow)
- Ground fault (yellow)
- Battery fault (yellow)
- Disabled (yellow)
- Maintenance (yellow)
- Communication (yellow)
- Alarm Silenced (yellow)
- F1-F4 Programmable Function Keys (yellow)

KEYPAD

- 16 key alpha-numeric pad
- Acknowledge
- Alarm Silence
- Drill (Manual Evacuate)
- Four (4) programmable function keys
- Reset (lamp test)

PRODUCT LINE INFORMATION

ES-200X: Addressable Fire Alarm Control Panel with one SLC loop. Includes main circuit board with display, pre-installed communicator, chassis with transformer, backbox with door, plastic bag containing screws, cables, key, etc. (For ES-200XC, refer to DF-60958.)

FS-Tools: Programming software for Windows®-based PC computer. Available for download at www.firelite.com.

CELL-CAB-FL/CELL-MOD: Optional GSM communicators.

IPOTS-COM: Dual technology (POTS and IP) communicator. (replacement board)

DP-ES-R: Optional dress panel for the ES-200X.

TR-CE: Optional trim ring for semi-flush mounting.

BB-2F: Optional cabinet for one or two modules.

BB-6F: Optional cabinet for up to six modules mounted on CHS-6 chassis.

BB-26: Battery backbox, holds up to two 25 AH batteries and CHG-75.

BB-55F: Battery box, houses two 55 AH batteries

CHS-6: Chassis, mounts up to six multi-modules in a BB-6F cabinet.

CHG-75: Battery charger for lead-acid batteries with a rating of 25 to 75 AH.

CHG-120F: Remote battery charging system for lead-acid batteries with a rating of 55 to 120 AH. Requires additional BB-55F for mounting.

BAT Series: Batteries, see data sheet DF-52397.

PRN Series: UL listed compatible event printer. Uses tractor-fed paper.

OPTIONAL MODULES

4XTMF Reverse Polarity Transmitter Module: Provides a supervised output for local energy municipal box transmitter, alarm and trouble. Includes a disable switch and disable trouble LED.

PWRMOD24 Power Expander Module: Optional power module. Increases alarm power output to 6 amps.

COMPATIBLE ANNUNCIATORS

ANN-80: Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded.

ANN-100: Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded. For use in FM applications only.

ANN-I/O: LED Driver Module provides connections to a user supplied graphic annunciator. (See DF-52430.)

ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble, and Supervisory. Ships with red enclosure. (See DF-60241.)

ANN-RLED: Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DF-60241.)

ANN-RLY: Relay Module provides 10 programmable Form-C relays. Can be mounted inside the cabinet. (See DF-52431.)

ANN-S/PG: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See DF-52429.)

ADDRESSABLE DEVICES

All feature a polling LED and rotary switches for addressing.

SD365: Addressable low-profile photoelectric smoke detector. LiteSpeed only.

SD365-IV: Addressable low-profile photoelectric smoke detector. Ivory. LiteSpeed and CLIP mode.

SD365T: Addressable low-profile photoelectric smoke detector with thermal sensor. LiteSpeed only.

SD365T-IV: Addressable low-profile photoelectric smoke detector with thermal sensor. Ivory. LiteSpeed and CLIP mode.

SD365R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. LiteSpeed only.

SD365R-IV: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. Ivory. LiteSpeed and CLIP mode.

H365: Low-profile 135°F fixed thermal sensor. LiteSpeed only.

H365-IV: Low-profile 135°F fixed thermal sensor. Ivory. LiteSpeed and CLIP mode.

H365R: Low-profile, intelligent, rate-of-rise thermal sensor. LiteSpeed only.

H365R-IV: Low-profile, intelligent, rate-of-rise thermal sensor. Ivory. LiteSpeed and CLIP mode.

H365HT: Low-profile intelligent 190°F/88°C fixed thermal sensor. LiteSpeed only.

H365HT-IV: Low-profile intelligent 190°F/88°C fixed thermal sensor. Ivory. LiteSpeed and CLIP mode.

Legacy Devices

CP355: Addressable low-profile ionization smoke detector.

SD355: Addressable low-profile photoelectric smoke detector.

SD355T: Addressable low-profile photoelectric smoke detector with thermal sensor.

SD355R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing.

SD355CO: Addressable, low-profile device that provides fire, heat, and carbon monoxide (CO) detection.

H355: Fast-response, low-profile heat detector.

H355R: Fast-response, low-profile heat detector with rate-of-rise option.

H355HT: Fast-response, low-profile heat detector that activates at 190°F/88°C.

AD355: Low-profile, intelligent, “Adapt” multi-sensor detector (B350LP base included).

B200SR: Addressable sounder base.

BEAM355: Intelligent beam smoke detector.

BEAM355S: Intelligent beam smoke detector with integral sensitivity test.

D355PL: InnovairFlex low-flow non-relay duct-detector housing; includes SD355R.

DNR: InnovairFlex low-flow non-relay duct-detector housing. (Order SD355R/SD365R separately.)

DNRW: InnovairFlex low-flow non-relay duct-detector housing, with NEMA-4 rating. Watertight. (Order SD355R/SD365R separately.)

Addressable Modules

MMF-300: Addressable Monitor Module for one zone of normally-open dry-contact initiating devices. Mounts in standard 4.0" (10.16 cm.) box. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Style B (Class B) or Style D (Class A) IDC.

MDF-300: Dual Monitor Module. Same as MMF-300 except it provides two Style B (Class B) only IDCs.

MMF-301: Miniature version of MMF-300. Excludes LED and Style D option. Connects with wire pigtailed. May mount in device backbox.

MMF-302: Similar to MMF-300. Addressable Monitor Module for one zone of conventional two-wire detectors. Requires resettable 24 VDC power. Refer to the *Device Compatibility Document* for listed compatible devices and quantity limitation.

CMF-300: Addressable Control Module for one Style Y/Z (Class B/A) zone of supervised polarized Notification Appliances. Mounts directly to a 4.0" (10.16 cm.) electrical box. NAC option requires external 24 VDC to power notification appliances.

CRF-300: Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch. Mounts directly to a 4.0" (10.16 cm.) box, surface mount using the SMB500.

BG-12LX: Addressable manual pull station with interface module mounted inside.

I300: This module isolates the SLC loop from short circuit conditions (required for Style 6 or 7 operation).

ISO-6: Six-fault isolator module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

SMB500: Used to mount all modules except the MMF-301 and M301.

MMF-300-10: Ten-input monitor module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

MMF-302-6: Six-zone interface module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

CMF-300-6: Six-circuit supervised control module. Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

CRF-300-6: Six-relay control module (Form-C relays). Mount one or two modules in a BB-2F cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-6F cabinet.

SWIFT Wireless Devices

W-GATE: LiteSpeed Wireless Gateway

W-SD355: LiteSpeed intelligent, wireless photo detector.

W-H355R: LiteSpeed intelligent wireless rate of rise (135°) heat detector.

W-SD355T: intelligent wireless photo/heat detector.

W-H355: LiteSpeed intelligent wireless fixed-temperature (135°) heat detector.

W-MMF: LiteSpeed Intelligent wireless monitor module.

W-CRF: LiteSpeed Intelligent wireless relay module.

W-BG12LX: LiteSpeed Intelligent wireless pull station.

WAV-RL, WAV-WL, WAV-CRL, WAV-CWL: LiteSpeed Intelligent AV bases.

W-USB: Wireless USB radio/antenna dongle that plugs into the USB port of a PC running SWIFT Tools.

SWIFT Tools: Programming and diagnostic utility for the Wireless Gateway and devices. Available for download from firelite.com.

NOTE: For more information on Compatible Addressable Devices for use with the ES-200X, see the following data sheets (document numbers): SD365 Series (DF-61010), H365 Series (DF-61011), AD355 (DF-52386), BG-12LX (DF-52013), CMF-300-6 (DF-52365), CRF-300-6 (DF-52374), CMF/CRF Series (DF-52130), CP355 (DF-52383), H355 Series (DF-52385), I300 (DF-52389), ISO-6 (DF-60485), MMF-300 Series/MDF-300 (DF-52121), MMF-300-10 (DF-52347), MMF-302-6 (DF-52356), SD355/SD355T (DF-52384), and SLC Wiring Manual (51309).

NOTE: Legacy 300 Series detection devices such as the CP300/CP350, SD300(T)/SD350(T) and older modules such as the M300, M301, M302, C304, and BG-10LX are not compatible with LiteSpeed polling. If the SLC contains one of these devices, polling must be set for standard CLIP protocol. Please consult factory for further information on previous 300 Series devices.

ADDRESSABLE DEVICE ACCESSORIES

End-of-Line Resistor Assembly (R-47K and R-3.9K): The 47k ohm assembly supervises the MMF-300, MDF-300, MMF-301, and CMF-300 module circuits. The 3.9k ohm assembly supervises the MMF-302 module circuit. These resistors are included with each module.

Power Supervision Relay: Supervises the power to 4-wire smoke detectors and notification appliances.

Wiring Requirements

While shielded wire is not required, it is recommended that all SLC wiring be twisted-pair to minimize the effects of electrical interference. Refer to the panel manual for wiring details.

SYSTEM SPECIFICATIONS

System Capacity

- Intelligent Signaling Line Circuits..... 1
- Addressable device capacity 198
- Programmable software zones 99
- Annunciators..... 16

Electrical Specifications

AC Power: 120/240 VAC, 50/60 Hz, 3.25 A. Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation. Nonpower-limited, supervised.

Battery: Two 12 V 18 AH lead-acid batteries. Battery Charger Capacity: 7-18 AH (ES-200X cabinet holds maximum of two 18 AH batteries.)

Communication Loop: Supervised and power-limited.

Notification Appliance Circuits: Terminal Block provides connections for four NACs, Style Y (Class B) or Style Z (Class A). Special Application power. Power-limited, supervised circuitry. Maximum signaling current per circuit: 2.5 amps special application, 250mA regulated. End-of-Line Resistor: 4.7k ohm, ½ watt (P/N 71252 UL listed) for Style Y (Class B) NAC; system capable of 1.9 kΩ - 22 kΩ ELR range. Refer to the *Fire•Lite Device Compatibility Document* for listed compatible devices.

Two Programmable Relays and One Fixed Trouble Relay: Contact rating: 2.0 A @ 30 VDC (resistive), 0.5 A @ 30 VAC (resistive). Form-C relays, non-power-limited, non-supervised.

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR-CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Shipping Specifications

Weight: 26.9 lbs. (12.20 kg.) **Dimensions:** 20.00" (50.80 cm.) high x 22.5" (57.15 cm.) wide x 8.5" (21.59 cm.) deep.

Temperature and Humidity Ranges

NFPA Standards

The ES-200X complies with the following NFPA 72 Fire Alarm Systems requirements:

- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires 4XTMF).
- **REMOTE STATION** (Automatic, Manual and Waterflow) (Where a DACT is not accepted, the alarm, trouble and supervisory relays may be connected to UL 864 listed transmitters. For reverse polarity signaling of alarm and trouble, 4XTMF is required.)
- **PROPRIETARY** (Automatic, Manual and Waterflow).
- **CENTRAL STATION** (Automatic, Manual and Waterflow, and Sprinkler Supervised).
- **OT, PSDN** (Other Technologies, Packet-switched Data Network)
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic)

Agency Listings and Approvals

The listings and approvals below apply to the basic ES-200X control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S624
- **FM approved**
- **CSFM:** 7165-0075:0500
- **FDNY:** COA #6261

NOTE: See DF-60958 for ULC-listed model.

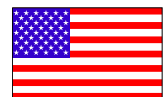
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This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com



Country of Origin: USA

HWF2-COM SERIES

LTE / IP Single or Dual Path Commercial Fire Communicators

The HWF2-COM Series LTE / IP fire communicators are single or dual path commercial fire alarm communicators that offer Contact ID reporting with any FACP (fire alarm control panel) with a built-in dialer.

Models include:

HWF2A-COM (AT&T LTE & IP)

HWF2V-COM (Verizon LTE & IP)

Both models connect directly to the primary or secondary communication ports of a fire panel's digital alarm communicator transmitter (DACT).

Three selectable reporting paths include: LTE cellular only, IP only, or IP primary with LTE cellular backup. All signals from the HWF2-COM Series are delivered to the AlarmNet® network control center which routes highly encrypted, cybersecured Ethernet data packets via a customer-provided Internet connection or LTE cellular network to the appropriate central station. The AlarmNet® network control center is fully redundant and monitored 24/7. Installation and programming are easy using the handheld 7720P Programming tool.



FEATURES AND BENEFITS

- LTE and IP connection tested every day
- Three selectable reporting paths: LTE cellular only, IP only, or IP Primary with LTE cellular backup
- Requires no change to the existing FACP configuration
- Connects directly to the primary and secondary telephone ports of a DACT
- Plan choices range from 5 minute, 60 minute, 6 hour, and 24 hour supervision intervals
- Operates over the following communication protocols: LTE, HSPA+(4G) HSPA (3G)
- Works over any type of customer provided Ethernet 10/100 based network
- connection (LAN or WAN), DSL modem or cable modem
- Data transmits over standard Contact ID protocol but is secured with the industry's advanced encryption standard (AES 256 bit)
- Supports both dynamic (DHCP) or public and private Static IP addressing
- Reliable connection: IP and cellular connection tested every day
- Built-in, standalone power supply module. Onboard charging circuit design accommodates battery backup. Includes primary power and battery supervision
- Diagnostic LEDs indicate signal strength and status
- Choice of LTE provider services
- QOS: Quality of Service diagnostics via AlarmNet conveys vital communicator information including signal strength, message path used, and when the message was received
- 7720P Handheld programmer for easy setup

Honeywell

The HWF2-COM LTE / IP fire communicators operate over the most modern and common cellular networks including LTE, 4G and 3G.

They connect to any customer provided Ethernet 10/100 base network connection (LAN or WAN), DSL or cable modem. Selectable reporting path feature allows the radios to be configured for a single or dual path, while providing appropriate supervision intervals based on NFPA 72 requirements. Selectable paths and supervision timing intervals include:

SELECTABLE PATH	DESCRIPTION	SUPERVISION TIMES
2010 Cell	Single path, cellular	5 Minutes
2010 IP	Single path, IP	5 Minutes
2010 IP & Cell	Dual path, IP and cellular	24 Hours
2013 Cell	Single path, cellular	60 Minutes
2013 IP	Single path, IP	60 Minutes
2013 IP & Cell	Dual path, IP and cellular	6 Hours

OPERATION

When an event occurs, the FACP goes off-hook to dial the central station. The HWF2-COM Series dialer capture module detects the off-hook condition and provides the fire panel with a dial tone. When the fire panel detects the dial tone, it begins dialing the central station.

After the dialing is completed, the dialer capture module returns a signal to the fire panel. The fire panel then sends the Contact ID reports to the dialer capture module, which in turn sends a signal after the report is successfully received from the fire panel. The dialer capture module sends the Contact ID reports to the HWF2-COM Series communications module. When all the reports are sent, the fire panel goes on-hook. The HWF2-COM Series communications module then transmits the messages to the central station either over the LTE network or the Internet (depending on configuration).

FIRE COMMUNICATOR / PANEL CAPABILITY

The HWF2-COM Series is compatible with fire alarm control panels that use the Contact ID communications format as described in the SIA DC-05 standard.

EASY TO PROGRAM

The HWF2-COM communicator can be pre-programmed using the 7720P programmer to enter all central station information. This is saved to the HWF2-COM communicator panel memory. When the HWF2-COM is installed at the site and connected to the Internet/ Intranet, it registers with the AlarmNet Receiver.

For most installations, the only required parameters are:

- Primary City ID (two digits), obtained from your monitoring station
- Primary Central Station ID (two digits), obtained from your monitoring station

- Primary Subscriber ID (four digits), obtained from your monitoring station
 - Communication Module MAC ID, and MAC CRC number located on the outside of the box and inside of the module
- All parameters are assigned by the monitoring station.

ALARMNET

AlarmNet communications technology provides a highly reliable alternative for the transmission of alarm signals. The network provides extensive coverage in the United States and Canada. The AlarmNet Network Control Center processes signals from powerful servers in multiple locations equipped with 24/7 infrastructure support. Redundant hardware servers, real-time backup databases, and generators with battery backup at all locations ensure continuity of service. Signals from AlarmNet are transmitted to central station receivers using multiple communication paths consisting of the Internet, LTE radio network, or toll free plain old telephone service (POTS). Visit AlarmNet.com to learn more.

INSTALLATION REQUIREMENTS, UL COMPLIANCE

To meet UL864/NFPA requirements, ensure the following:

- HWF2-COM Series must be installed in accordance with the National Fire Protection Association (NFPA) standards 70 and 72
- HWF2-COM Series must be mounted in the same room and within 20 feet of the fire panel.
- HWF2-COM Series and all equipment used for the IP connection (e.g., router, hub, modem, etc) must be UL-listed, powered from an unswitched branch circuit, and be provided with appropriate standby power.
- HWF2-COM Series must use the 7AH battery (not included) to provide 24 hour backup capability

HWF2-COM SERIES TECHNICAL SPECIFICATIONS

ELECTRICAL

Transformer:

- Primary: 120VAC, 60Hz, 0.5A
- Secondary: 18VDC, 50VA

Battery:

- One 12 V 7.0 AH lead-acid battery: (not supplied)
- Battery charging current: 1 Amp maximum
- Battery discharge current: Standby 230mA, Active 950mA

CABINET SPECIFICATIONS

- Dimensions: 14.875" H x 12.75" W x 3.0" D (37.8cm H x 32.4cm W x 7.6cm D)
- Color: Red

SHIPPING DIMENSIONS

- Weight: 5.3 lbs (6.94kg)
- Dimensions: 15.625" H x 13.79" W x 9.25" D (39.7cm H x 34.9cm W x 23.9cm D)

TEMPERATURE AND HUMIDITY RANGES

This system meets NFPA requirements for operation at 0 - 49°C/32-120°F and at a relative humidity 93%+- 2% RH (non-condensing at 32°C +- 2°C(90°F +-3°F). However the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 - 27°C/60-80°F.

PRODUCT LINE INFORMATION

HWF2V-COM: LTE Digital Cellular Fire Alarm Communicator and Internet Panel, Verizon LTE / IP

HWF2A-COM: LTE Digital Cellular Fire Alarm Communicator and Internet Panel, AT&T LTE / IP

Both models include:

- Red cabinet with key and lock
- Wall outlet box
- Dialer capture module
- LTE communications module
- Antenna and mounting adapter
- PowerBoost1 power supply
- LED display board
- Transformer
- Manual and required screws
- Cables, etc.

ANTENNA AND EXTERNAL HARDWARE

CELL-ANT3DB: 3dBA gain antenna
WA7626-CA: SMA to N adapter cable
7626-50HC: 50 ft. antenna cable, low loss

Note: The WA7626-CA adapter cable and 7626-50HC antenna cable are only required when installing the CELL-ANT3DB antenna remotely.

OTHER ACCESSORIES

7720P: HWF2V-COM, HWF2A-COM and IPGSM-4G handheld programmer

HPTCOVER: Plug-in transformer box for HWF2V-COM, HWF2A-COM, and IPGSM-4G communicators

BAT-1270: Battery 12 Volts, 7AH, sealed

AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to the HWF2-COM Series communicators. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult the factory for latest listings.

UL Listed: S789

CSFM: 7300-1645:0511

FDNY: Approved

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.

Country of origin: USA

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www.honeywellpower.com

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THE
FUTURE
IS
WHAT
WE
MAKE IT

Honeywell

SD365(A) Series

Addressable Photoelectric Detectors



Addressable Devices

General

The Fire-Lite SD365(A), SD365T(A), and SD365R(A) Series addressable plug-in photoelectric smoke detectors are designed for both performance and aesthetics. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards.

Exclusively for use with Fire-Lite's addressable fire alarm control panels, the SD365(A) Series point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for emergency personnel to quickly locate a fire during its early stages, potentially saving precious rescue time while also reducing property damage. Two LEDs on each sensor light to provide a local, visible sensor indication.

The SD365(A) Series also offers 135°F (57°C) fixed temperature thermal sensing on the SD365T(A) and a remote test capable detector on the SD365R(A) for use with DNR(A)/DNRW duct smoke detector housings.

Features

SLC LOOP

- Two-wire loop connection.
- Unit uses base for wiring.

ADDRESSING

- Addressable by device.
- Rotary, decimal addressing: *Please refer to the Fire-Lite panel manuals for device capacity.*

ARCHITECTURE

- New modern profile for improved aesthetics.
- Unique single-source design to respond quickly and dependably to a broad range of fires.
- Integral communications and built-in type identification.
- Built-in tamper-resistant feature.
- Removable cover and insect-resistant screen for simple field cleaning.

OPERATION

- Designed to meet UL 268 7th Edition.
- Factory preset at 1.5% nominal sensitivity for panel alarm threshold level.
- Visible LED "blinks" when the unit is addressed (communicating with the fire panel) and latches on in alarm.
- Low standby current.

MECHANICALS

- Sealed against back pressure.
- Mounts to: single-gang box, 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box, or 4.0" (10.16 cm) square electrical box (*with or without a mud ring - not included*).

OPTIONS

- Remote LED output connection, RA100Z.



SD365

Installation

SD365(A) series plug-in detectors use a detachable mounting base to simplify installation, service and maintenance.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see DF-60059.

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class B) wiring. SD365R(A) mounts in a D355PL(A) or DNR(A) /DNRW duct detector housing.*

Operation

Each SD365(A) Series detector uses one possible addresses on the Fire-lite Signaling Line Circuit (SLC). It responds to regular polls from the system and reports its type and status.

Detector Sensitivity Test

Each detector can have its sensitivity tested (required per NFPA 72, Chapter 14 on *Inspection, Testing and Maintenance*) when installed/connected to an ES-50X or ES-200X addressable fire alarm control panel. The results of the sensitivity test can be printed off the for record keeping.

Specification

Voltage range: 15 – 32 VDC (peak).

Standby current: 200 μ A @ 24 VDC.

Max current: 4.5 mA @ 24 VDC (latched "ON").

Air velocity: 4,000 ft./min. (20 m/sec.) maximum.

Sensitivity: UL Applications: 0.5% to 4.0% per foot obscuration

Size: 2.0" (5.3 cm) high; base determines diameter.

– B300-6: 6.1" (15.6 cm) diameter.

– B501: 4" (10.2 cm) diameter.

For a complete list of detector bases see DN-60981.

Shipping weight: 3.4 oz. (95 g).

Operating temperature range:

- SD365(A): 0°C to 50°C (32°F to 122°F);
- SD365T(A): 0°C to 38°C (32°F to 100°F).
- SD365R(A): installed in a DNR(A)/DNRW -20°C to 70°C (-4°F to 158°F).

Relative humidity: 10%-93%, non-condensing.

Listings

Listings and approvals below apply to the SD365 Series detectors. In some cases, certain detectors may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listed: S1059
- CSFM: 7272-0075-0502
- FM Approved

Product Line Information

NOTE: Detectors must be mounted to one of the Intelligent Bases listed below.

NOTE: "IV" suffix indicates LiteSpeed® and CLIP device.

NOTE: "A" suffix indicates Canadian version.

SD365(A): White, Addressable photoelectric detector; B300-6 base included. LiteSpeed only.

SD365(A)-IV: Ivory, Addressable photoelectric detector; B300-6 base included.

SD365T(A): White, Same as SD365 but with thermal element; B300-6 base included. LiteSpeed only.

SD365T(A)-IV: Ivory, Same as SD365 but with thermal element; B300-6 base included.

SD365R(A): White, Remote test capable addressable photoelectric detector for use with DNR(A)/DNRW. LiteSpeed only.

SD365R(A)-IV: Ivory, Remote test capable addressable photoelectric detector; for use with DNR(A)/DNRW.

INTELLIGENT BASES

NOTE: For details on intelligent bases, see DN-60981.

B300-6: White, 6" base, standard flanged low-profile mounting base. (CSFM: 7300-1653:0109 Pending)

B300-6-IV: Ivory, 6" base, standard flanged low-profile mounting base. (CSFM: 7300-1653:0109 Pending)

B300A-6: Same as B300-6, ULC listed.

B300A-6-IV: Ivory, 6" standard flanged low-profile mounting base, ULC listed.

B300-6-BP: Bulk pack of B300-6, package contains 10

B501-WHITE: White, 4" standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109 Pending)

B501-BL: Black, 4" standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109 Pending)

B501-IV: Ivory color, 4" standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109 Pending)

B501-WHITE-BP: Bulk pack of B501-WHITE contains 10.

B224RB-WH: White, relay base. (CSFM: 7300-1653:0216 Pending)

B224RB-IV: Ivory, relay base. (CSFM: 7300-1653:0216 Pending)

B224RBA-WH: White, relay base, ULC listing.

B224RBA-IV: Ivory, relay base, ULC listing.

B224BI-WH: White, *isolator* detector base. (CSFM: 7300-1653:0216 Pending)

B224BI-IV: Ivory *isolator* detector base. (CSFM: 7300-1653:0216 Pending)

B224BIA-WH: White, *isolator* detector base, ULC listing.

B224BIA-IV: Ivory *isolator* detector base, ULC listing.

B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. (CSFM: 7300-1653:0213 Pending)

B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. (CSFM: 7300-1653:0213 Pending)

B200SA-WH: Same as B200S-WH, ULC listing.

B200SA-IV: Same as B200S-IV, ULC listing.

B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications).

B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing).

B200S-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (CSFM: 7300-1653:0238 Pending)

B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (CSFM: 7300-1653:0238 Pending)

B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. (CSFM: 7300-1653:0213 Pending)

B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. (CSFM: 7300-1653:0213 Pending)

B200SRA-WH: Same as B200SR-WH with, ULC listing.

B200SRA-IV: Same as B200SR-IV in Ivory color, ULC listing.

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (CSFM: 7300-1653:0238 Pending)

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (CSFM: 7300-1653:0238 Pending)

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base.

TR300-IV: Ivory, replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

CK300: Color Kit (includes cover and trim ring), white, 10-pack.

CK300-IV: Color Kit (includes cover and trim ring), ivory, 10-pack.

CK300-BL: Color Kit (includes cover and trim ring), black, 10-pack.

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We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com

H365(A) Series

Addressable Thermal Detectors



Addressable Devices

General

The Fire-Lite H365(A), H365R(A), and H365HT(A) Series addressable plug-in thermal detectors are designed for both performance and aesthetics. A new modern, sleek, contemporary design and advanced thermal technologies make the H365(A) Series ideal for both system operation and building design.

Exclusively for use with Fire-Lite's addressable fire alarm control panels, the H365(A) Series point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for emergency personnel to quickly locate a fire during its early stages, potentially saving precious rescue time while also reducing property damage. Two LEDs on each sensor light to provide a local, visible sensor indication.

The H365(A) Series includes fixed temperature, rate-of-rise and high heat fixed temperature detectors that provide effective, intelligent property protection for a variety of applications.

Features

SLC LOOP:

- Two-wire SLC loop connection.
- Unit uses base for wiring.

ADDRESSING:

- Addressable by device.
- Rotary, decimal addressing. *Please refer to the Fire-Lite panel manuals for device capacity.*

ARCHITECTURE:

- Sleek, low-profile, stylish design.
- State-of-the-art thermistor technology for fast response.
- Integral communications and built-in device-type identification.
- Built-in tamper resistant feature.
- Built-in functional test switch activated by external magnet.

OPERATION:

- Fixed temperature model (H365(A)) factory preset to 135°F (57°C).
- Rate-of-rise model (H365R(A)), 15°F (8.3°C) per minute.
- High-temperature model (H365HT(A)) factory preset to 190°F (88°C).
- 360°-field viewing angle of the visual alarm indicators (two bicolor LEDs). LEDs blink red in Normal condition and turn on steady red in Alarm.
- Visible LEDs "blink" every time the unit is addressed.

MECHANICALS:

- Sealed against back pressure.
- SEMS screws for wiring of the separate base.
- Designed for direct-surface or electrical-box mounting.
- Plugs into separate base for ease of installation and maintenance.
- Separate base allows interchange of photoelectric, ionization and thermal sensors.

OTHER SYSTEM FEATURES:

- Remote test feature from the panel.
- Walk test with address display.
- Low standby current.



H365

Options:

- Remote LED output connection to optional RA100Z remote LED annunciator.

Installation

H365 Series plug-in intelligent thermal detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DF-60059*.

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring only.*

Applications

Use thermal detectors for protection of property.

Construction

These detectors are constructed of fire-resistant plastic. The H365 Series plug-in intelligent thermal detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each H365 Series detector uses one of 159 (panel dependent) possible addresses on the Fire-Lite Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The H365 Series offers features and performance that represent the latest in thermal detector technology.

Specifications

Size: 2.0" (5.3 cm) high; base determines diameter.

- **B300-6:** 6.1" (15.6 cm) diameter.
- **B501:** 4" (10.2 cm) diameter.

For a complete list of detector bases see DF-60983

Shipping weight: 3.4 oz. (95 g).

Operating temperature range: H365, H365R Series: –20°C to 38°C (–4°F to 100°F); H365H: –20°C to 66°C (–4°F to 150°F).

Detector spacing: UL approved for 50 ft. (15.24 m) center to center. FM approved for 25 x 25 ft. (7.62 x 7.62 m) spacing.

Relative humidity: 10% – 93% noncondensing.

Mounting: B300-6(A) flanged base, included.

See “Product Line Information: Intelligent Bases,” if using a different base.

Fixed-temperature setpoint: 135°F (57°C) for the H365 and H365R; 190°F (88°C) for the H365HT.

Rate-of-rise detection: responds to greater than 15°F (8.3°C) per minute.

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak.

Standby current (max. avg.): 200uA @ 24 VDC (one communication every 5 seconds with LED enabled).

Max current: 4.5 mA @ 24 VDC (“ON”).

Listings and Approvals

Listings and approvals below apply to the H365(A) Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listing: S2101
- FM Approved
- CSFM: 7272-0075-0501

Product Line Information

NOTE: “-IV” suffix indicates CLIP and LiteSpeed device.

NOTE: “A” suffix indicates Canadian version.

H365(A): White, low-profile intelligent 135°F fixed thermal sensor, B300-6 base included. LiteSpeed only.

H365(A)-IV: Ivory, low-profile intelligent 135°F fixed thermal sensor, B300-6 base included.

H365R(A): White, low-profile intelligent rate-of-rise thermal sensor, B300-6 base included. LiteSpeed only.

H365R(A)-IV: Ivory, low-profile intelligent rate-of-rise fixed thermal sensor, B300-6 base included.

H365HT(A): White, low-profile intelligent 190°F fixed thermal sensor, B300-6 base included. LiteSpeed only.

H365HT(A)-IV: Ivory, low-profile intelligent 190°F thermal sensor, B300-6 base included.

INTELLIGENT BASES

NOTE: For details on intelligent bases, see DF-60059.

B300-6: White, 6” base, standard flanged low-profile mounting base. (CSFM: 7300-1653:0109)

B300-6-IV: Ivory, 6” base, standard flanged low-profile mounting base. (CSFM: 7300-1653:0109)

B300A-6: Same as B300-6, ULC listed.

B300A-6-IV: Ivory, 6” standard flanged low-profile mounting base, ULC listed.

B300-6-BP: Bulk pack of B300-6, package contains 10

B501-WHITE: White, 4” standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109)

B501-BL: Black, 4” standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109)

B501-IV: Ivory color, 4” standard European flangeless mounting base. UL/ULC listed. (CSFM: 7300-1653:0109)

B501-WHITE-BP: Bulk pack of B501-WHITE contains 10.

B224RB-WH: White, relay base. (CSFM: 7300-1653:0216)

B224RB-IV: Ivory, relay base. (CSFM: 7300-1653:0216)

B224RBA-WH: White, relay base, ULC listing.

B224RBA-IV: Ivory, relay base, ULC listing.

B224BI-WH: White, *isolator* detector base. (CSFM: 7300-1653:0216)

B224BI-IV: Ivory *isolator* detector base. (CSFM: 7300-1653:0216)

B224BIA-WH: White, *isolator* detector base, ULC listing.

B224BIA-IV: Ivory *isolator* detector base, ULC listing.

B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. (CSFM: 7300-1653:0213)

B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. (CSFM: 7300-1653:0213)

B200SA-WH: Same as B200S-WH, ULC listing.

B200SA-IV: Same as B200S-IV, ULC listing.

B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications).

B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing).

B200S-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (CSFM: 7300-1653:0238)

B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (CSFM: 7300-1653:0238)

B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. (CSFM: 7300-1653:0213)

B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. (CSFM: 7300-1653:0213)

B200SRA-WH: Same as B200SR-WH with, ULC listing.

B200SRA-IV: Same as B200SR-IV in Ivory color, ULC listing.

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (CSFM: 7300-1653:0238)

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the

NFPA 72 sleeping space requirement. Intended for retrofit applications. (CSFM: 7300-1653:0238)

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base.

TR300-IV: Ivory, replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

CK300: Color Kit (includes cover and trim ring), white, 10-pack.

CK300-IV: Color Kit (includes cover and trim ring), ivory, 10-pack.

CK300-BL: Color Kit (includes cover and trim ring), black, 10-pack.

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For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com



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 3/4-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**)



Innovairflex™

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 3/4-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



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)	14.38 in (37 cm) Length; 5 in (12.7 cm) Width; 2.5 in (6.6 cm) Depth
(Square)	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.

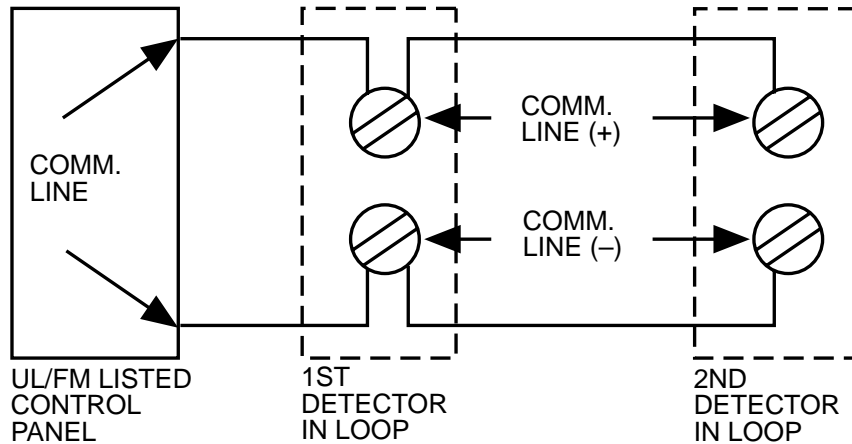
Installing the InnovairFlex Sampling Tube

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).

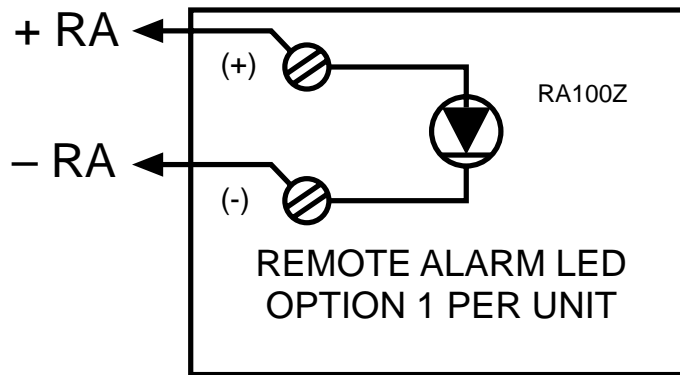


Wiring for Intelligent Non-Relay Duct Smoke Detector

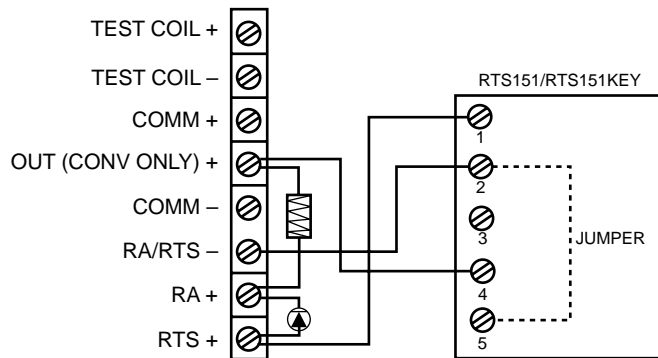
System wiring diagram for DNR:



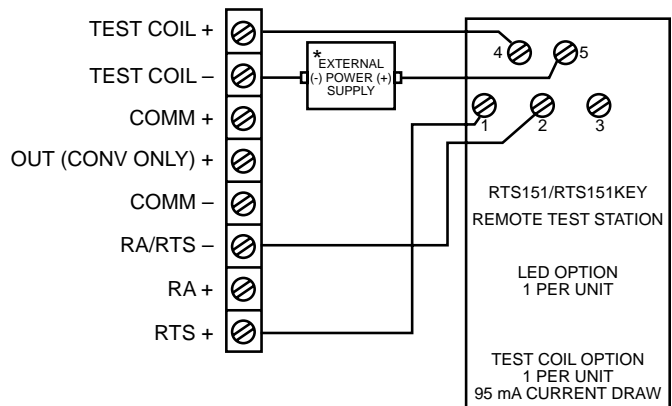
DNR to RA100Z:



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



DNR to RTS151/RTS151KEY with DCOIL Option*:



*Important Notes

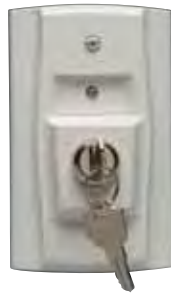
- The use of either the RTS151 or RTS151KEY requires the installation of an accessory coil, DCOIL, sold separately. Please refer to the DNR or DNRW installation manual for more information.
- The RTS151/RTS151KEY test coil circuit requires an external 24 VDC power supply which must be UL listed.

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
DST1	Metal sampling tube duct width up to 1ft (0.3m)
DST1.5	Metal sampling tube duct widths 1 ft to 2 ft (0.3 to 0.6 m)
DST3	Metal sampling tube duct widths 2 ft to 4 ft (0.6 to 1.2 m)
DST5	Metal sampling tube duct widths 4 ft to 8 ft (1.2 to 2.4 m)
DST10	Metal sampling tube duct widths 8 ft to 12 ft (2.4 to 3.7 m)
P48-21-00	End cap for metal sampling tubes
ETX	Metal exhaust tube duct width 1ft (0.3 m)
M02-04-00	Test magnet
RA100Z	Remote annunciator alarm LED
RTS151	Remote test station
RTS151KEY	Remote test station with key lock
DH4000E-1	Weatherproof enclosure



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A05-0422-005 • 9/10 • #2470



CO1224 Series Carbon Monoxide Detectors with RealTest® Technology

The System Sensor CO1224T, CO1224TR, and CO1224A (Canada) Carbon Monoxide (CO) Detectors use a highly accurate and reliable electrochemical sensing cell to provide early warning of dangerous CO levels.

Features

- A 10-year end-of-life timer
- RealTest® enables a functional test using canned CO
- A code-required trouble relay
- Wiring supervision with SEMS terminals
- 12/24 VDC
- A low current draw of 20 mA in standby and 40 mA in alarm
- Versatile mounting for wall and ceiling
- Accurate and reliable electrochemical sensing technology
- Optional CO-PLATE CO Detector Replacement Plate to upgrade previously installed competitor detectors to the CO1224T or CO1224A.
- CO1224T tested up to 12,000 feet above sea level



When dangerous amounts of CO are detected, the CO1224 Series CO detectors alert residents by sounding and flashing a temp 4 signal alarm. With 24/7 central station monitoring, residents are guaranteed protection whether they are away from home, sleeping, or already suffering from the effects of CO.

The CO1224 Series detectors are designed for system operation. These detectors are fully listed to UL 2075 (US models only) and CSA 6.19-01 (Canada model only) and offer a code-required trouble relay to send a sensor failure or end-of-life signal to the control panel and the central station. The CO1224 Series detectors also use SEMS-type terminal Philips head screws for quicker and more positive wiring connections and code-required wiring supervision. With a low current draw, these detectors enable more devices to be connected to the panel, limiting the need to purchase extra power supplies or more expensive panels. As 12/24 VDC detectors, the CO1224 Series detectors will operate on most industry security and fire alarm control panels.

With RealTest® technology, the CO gas sensing cell used in the CO1224 Series CO detectors can be tested using a CO gas agent, fully meeting the requirements of NFPA 720: 2009 (US models only). Simply put the detector into RealTest mode, spray a small amount of CO into the detector per the installation instructions, and within seconds the detector will alarm, indicating successful gas entry. (See the reverse page or the user manual for complete instructions.)

Agency Listings



Note: CO1224T & CO1224TR are in full compliance with UL 2075 and CO1224A is in full compliance with ULC CSA 6.19-01.

CO1224 Series Detectors Carbon Monoxide Detector Specifications

Architectural/Engineering Specifications

Carbon monoxide (CO) detector shall be a system-connected System Sensor model number CO1224T or CO1224TR listed to Underwriters Laboratories UL 2075 for Gas and Vapor Detectors and Sensors. The Canadian model CO1224A, is ULC listed to CSA 6.19-01, for residential carbon monoxide alarm devices. The detector shall be equipped with a sounder and a trouble relay. The detector's base shall be able to mount to a single-gang electrical box or direct (surface) mount to the wall or ceiling. Wiring connections shall be made by means of SEMS screws. The detector shall provide dual-color LED indication that blinks to indicate normal standby, alarm, or end-of-life. When the sensor supervision is in a trouble condition, the detector shall send a trouble signal to the panel. When the detector gives a trouble or end-of-life signal, the detector shall be replaced. The detector shall provide a means to test CO gas entry into the CO sensing cell. The detector shall provide this with a test mode that accepts CO gas from a test agent and alarms immediately upon sensing CO entry. For the CO1224T only, the detector shall perform in the detection of CO up to 12,000 feet above sea level and alarm within the time specified by ANSI/UL 2034 for CO concentrations of 70, 150 and 400 parts per million (ppm), as verified by a Nationally Recognized Test Laboratory.

Electrical Specifications

Operating Voltage	12/24 VDC
Audible Signal	85 dB in alarm
Standby Current	20 mA
Alarm Current	40 mA (75 mA test)
Alarm Contact Ratings	0.5 A @ 30 VDC
Trouble Contact Ratings	0.5 A @ 30 VDC

Physical Specifications

Size: CO1224T & CO1224A	Length: 5.1 in (130 mm), Width: 3.3 in (84 mm), Height: 1.3 in (33 mm)
Size: CO1224TR	Diameter: 6.0 in (152 mm), Height: 1.3 in (33 mm)
Approximate Weight	CO1224T & CO1224A: 7 oz (198 g); CO1224TR: 11 oz (312 g)
Operating Temperature Range	32°F to 104° F (0°C to 40° C)
Operating Humidity Range	22 to 90% RH
Input Terminals	14 to 22 AWG
Mounting	Single-gang back box; surface mount to wall or ceiling

Operation Modes

Operation Mode	Green LED	Red LED	Sounder
Normal (standby)	Blink 1 per minute	—	—
Alarm	—	Blink in temp 4 pattern	Sound in temp 4 pattern

RealTest® Feature: The System Sensor CO1224 Series CO Detectors enable evaluation of the functionality of the CO sensing cell using a canned CO test agent.

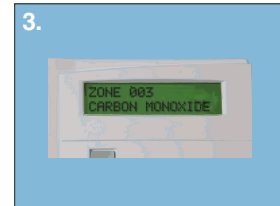
NOTE: Check with local codes and the AHJ to determine if a functional gas test is desired for an installation.



1. Push and hold the Test/Hush button for two seconds to enter RealTest mode. The green LED will flash once every second to indicate RealTest mode has started.



2. Spray canned CO agent into the detector.



3. Verify CO sensing at the control panel. The detector will automatically exit RealTest alarm mode after about 20-60 seconds.

Hush Feature: Pushing the Test/Hush button will silence the sounder for 5 minutes (except in RealTest mode).

Trouble Feature: When the detector is in a trouble condition, it will send a trouble signal to the panel.

End-of-Life Timer: After the detector's internal sensor has reached the end of its life, a trouble signal will be sent to the panel to indicate it is time to replace the detector. An electrochemical CO detector lifespan is about ten years. The detector must be replaced by the date marked on the inside of the product.

CO-PLATE: System Sensor also offers the CO-PLATE CO Detector Replacement Plate to cover the footprint (when necessary) of previously installed competitive carbon monoxide detectors that require replacement.



CO-PLATE

Ordering Information

Part No.	Description
CO1224T	12/24 volt, 6-wire system-monitored carbon monoxide detector with RealTest® Technology (US only)
CO1224TR	12/24 volt, 6-wire system-monitored round carbon monoxide detector with RealTest® Technology (US only)
CO1224A	12/24 volt, 6-wire system-monitored carbon monoxide detector with RealTest® Technology (Canada only)
CO-PLATE	CO detector replacement plate to cover the footprint of previously installed competitive detectors (US & Canada)



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Canada: 6581 Kitimat Rd, Unit 6
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C0DS88600 • 10/16

BG-12LX

Addressable Manual Pull Station



Addressable Devices

General

The Fire-Lite BG-12LX is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface (mounted inside) for Fire-Lite's addressable fire alarm control panels (FACPs). Because the BG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features

- Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and latches steady red when in alarm.
- Handle latches in down position and the word "ACTIVATED" appears to clearly indicate the station has been operated.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm² wire).
- Can be surface mounted (with SB-10 or SB-I/O) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
- Highly visible.
- Attractive shape and textured finish.
- Key reset.
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.

Construction

Shell, door, and handle are molded of durable polycarbonate material with a textured finish.

Specifications

- **Shipping Weight:** 9.6 oz. (272.15 g)
- **Normal operating voltage:** 24 VDC.
- **Maximum SLC loop voltage:** 28.0 VDC.
- **Maximum SLC standby current:** 375 μ A.
- **Maximum SLC alarm current:** 5 mA.
- **Temperature Range:** 32°F to 120°F (0°C to 49°C)
- **Relative Humidity:** 10% to 93% (noncondensing)
- **For use indoors in a dry location**

Installation

The BG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the BG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is



FL PullStation.jpg

usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

Operation

Pushing in, then pulling down on the handle causes it to latch in the down/activated position. Once latched, the word "ACTIVATED" (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle; closing the door automatically resets the switch.

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 – 159 with Breakaway Tab removed for MS-9600 Series, 1 – 99 and MS-9200UDLS, 1 – 50 for MS-9050UD).

Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored polycarbonate material with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed

within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of rotary decimal switches.

Product Line Information

BG-12LX: Dual-action addressable pull station. Includes key locking feature. (Listed for Canadian and non-Canadian applications.)

SB-10: Surface backbox; metal.

SB-I/O: Surface backbox; plastic.

BG12TR: Optional trim ring.

17003: Keys, set of two.

Agency Listings and Approvals

In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S711 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0075:0184.
- **FM Approved.**

Patented: U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

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Made in the U.S. A.

For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com

MMF-300(A) Series, MDF-300

Addressable Monitor Modules



Addressable Devices

General

Four different monitor modules are available for Fire•Lite's intelligent control panels to suit a variety of applications. Monitor modules are used to supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (MMF-302(A)).

MMF-300(A) is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

MMF-301(A) is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.65" (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the MMF-301(A) to be mounted in a single-gang box behind the device it monitors.

MMF-302(A) is a standard-sized module used to monitor and supervise compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

MDF-300(A) is a standard-sized dual monitor module used to monitor and supervise two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

LiteSpeed™ is a communication protocol developed by Fire•Lite Engineering that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other communication protocols.

MMF-300(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.
- LED flashes during normal operation and latches on steady to indicate alarm.

The MMF-300(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The MMF-300(A) can be used to replace M300(A) modules in existing systems.

MMF-300(A) APPLICATIONS

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special



MMF-300(A) (Type H)

supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

MMF-300(A) OPERATION

Each MMF-300(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

MMF-300(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.0 mA (LED on).

Average operating current: 375 μ A (LED flashing), 1 communication every 5 seconds, 47k EOL.

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

EOL resistance: 47K Ohms.

Temperature range: 32°F to 120°F (0°C to 49°C).

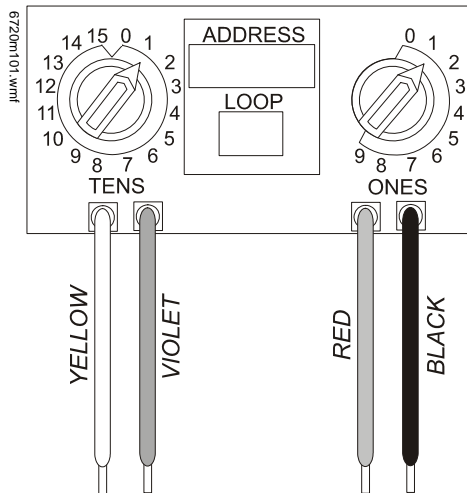
Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

MMF-301(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.

- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems



The MMF-301(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The MMF-301(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm devices. The MMF-301(A) can be used to replace M301(A) modules in existing systems.

MMF-301(A) APPLICATIONS

Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit/device is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the circuit.

MMF-301(A) OPERATION

Each MMF-301(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

MMF-301(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

Average operating current: 350 μ A, 1 communication every 5 seconds, 47k EOL; 600 μ A Max. (Communicating, IDC Shorted).

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 450 μ A.

EOL resistance: 47K Ohms.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.65" (1.651 cm) deep.

Wire length: 6" (15.24 cm) minimum.

MMF-302(A) Interface Module

- Supports compatible two-wire smoke detectors.

- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry entry of address: 01 – 159 on MS-9600 series panels, 01 – 99 on other compatible systems.
- LED flashes during normal operation.
- LED latches steady to indicate alarm on command from control panel.

The MMF-302(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The MMF-302(A) can be used to replace M302(A) modules in existing systems.

MMF-302 (A) APPLICATIONS

Use the MMF-302(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

MMF-302(A) OPERATION

Each MMF-302(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

MMF-302(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.1 mA (LED on).

Maximum IDC wiring resistance: 25 Ohms.

Average operating current: 270 μ A, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

EOL resistance: 3.9K Ohms.

External supply voltage (between Terminals T10 and T11):

- DC voltage: 24 volts power limited.
- Ripple voltage: 0.1 Vrms maximum.
- Current: 90 mA per module maximum.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

MDF-300(A) Dual Monitor Module

The MDF-300(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices. The module has a single panel-controlled LED.

NOTE: The MDF-300(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.

MDF-300(A) SPECIFICATIONS

Normal operating voltage range: 15 to 32 VDC.

Maximum current draw: 6.4 mA (LED on).

Average operating current: 750 μ A (LED flashing).

Maximum IDC wiring resistance: 1,500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 μ A

EOL resistance: 47K Ohms.

Temperature range: 32° to 120°F (0° to 49°C).

Humidity range: 10% to 93% (non-condensing).

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

MDF-300(A) AUTOMATIC ADDRESSING

The MDF-300(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the MDF-300(A) is set to address "26", then it will automatically assign itself to addresses "26" and "27".

NOTE: "Ones" addresses on the MDF-300(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.

CAUTION:

Avoid duplicating addresses on the system.

MDF-300(A): Monitor module, dual, two independent Class B circuits.

SMB500: Optional surface-mount backbox.

NOTE: See installation instructions and refer to the SLC Wiring Manual, PN 51309.

Architects'/Engineers' Specifications

Specifications of these devices and all FireLite products are available from FireLite.

Installation

MMF-300(A), MMF-302(A), and MDF-300(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The MMF-301(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S2424.
- **ULC:** S2424.
- **FM Approved.**
- **CSFM:** 7300-0075:0185.
- **MEA:** 72-01-E.

Product Line Information

NOTE: "A" suffix indicates ULC-listed model.

MMF-300(A): Monitor module.

MMF-301(A): Monitor module, miniature.

MMF-302(A): Monitor module, two-wire detectors.

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www.firelite.com

CRF-300(A)

Relay Module



Addressable Devices

General

The **CRF-300(A)** Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, door holders, dampers, control equipment, etc. Addressability allows the dry contact to be activated through panel programming, on a select basis.

LiteSpeed™ is a communication protocol developed by Fire•Lite Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs.

Features

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop.
- Integral LED “blinks” green each time a communication is received from the control panel and turns on in steady red when activated.
- High noise immunity (EMF/RFI).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address: 01– 159 for MS-9600(A) series panels, 01 – 99 on MS-9200UDLS(A) and MS-9050UD(A).

Applications

The CRF-300(A) may be programmed to operate dry contacts for door holders, Air Handling Unit shutdown, etc., and to reset four-wire smoke detector power.

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address setting.
- The CRF-300(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The CRF-300(A) provides two Form-C dry contacts that switch together.

Operation

Each CRF-300(A) uses one of the addresses on a SLC loop. It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay.

NOTE: Open/short supervision is suspended with the CRF-300.

Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a control module and a relay module.



CRF-300(A)

Specifications

Normal operating voltage: 15 to 32 VDC.

Maximum SLC current draw: 6.5 mA (LED on).

Average operating current: 230 μ A direct poll (CLIP mode), 255 μ A group poll (LiteSpeed mode) with LED flashing.

EOL resistance: not used.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 mm) deep box.

Relay Contact Ratings

Load Description	Application	Maximum Voltage	Current Rating
Resistive	Non-Coded	30 VDC	3.0 A
Resistive	Coded	30 VDC	2.0 A
Resistive	Non-Coded	110 VDC	0.9 A
Resistive	Non-Coded	125 VAC	0.9 A
Inductive (L/R=5ms)	Coded	30 VDC	0.5 A
Inductive (L/R=2ms)	Coded	30 VDC	1.0 A
Inductive (PF=0.35)	Non-Coded	125 VAC	0.5 A

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S2424
- **ULC:** S2424
- **FM approved**
- **CSFM:** 7300-0075:185
- **MEA:** 72-01-E

Product Line Information

CRF-300(A): Intelligent addressable relay module.

: Intelligent addressable relay module, ULC listed model.

SMB500: Optional surface-mount backbox.

NOTE: For installation instructions, see document 156-1190-005 and refer to the SLC Wiring Manual, document 51309.

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This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.



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For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105.
www.firelite.com



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 SpectAlert Advance devices
- Compatible with MDL3 sync module
- Listed for wall mounting only

Agency Listings



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 1 7/8-inch back box, 4 x 4 x 1 1/2-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 1 7/8-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 SpectraAlert 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 1/16 x 4 1/16 x 2 1/8-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 ^{1,2}
Operating Voltage Range	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 (133mm L x 88mm W x 32mm 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)				
Candela Range	Candela	8-17.5 Volts		
		DC	16-33 Volts 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)				
Sound Pattern	dB	8-17.5 Volts		
		DC	16-33 Volts 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

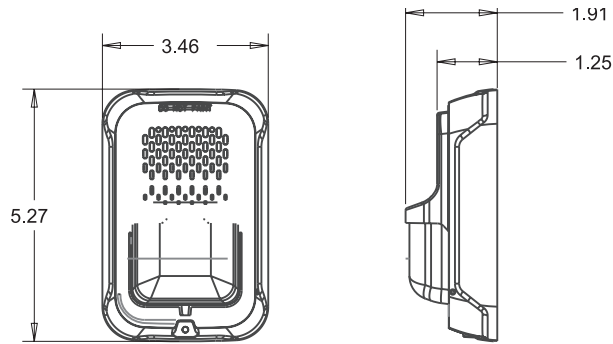
UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe, Candela Range (15-115 cd)										
DC Input	8-17.5 Volts		16-33 Volts							
	15cd	30cd	15cd	30cd	75cd	95cd	110cd	135cd	185cd	
Temporal High	98	158	54	74	121	142	162	196	245	
Temporal Low	93	154	44	65	111	133	157	184	235	
Non-Temporal High	106	166	73	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	
FWR Input	16-33 Volts									
	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

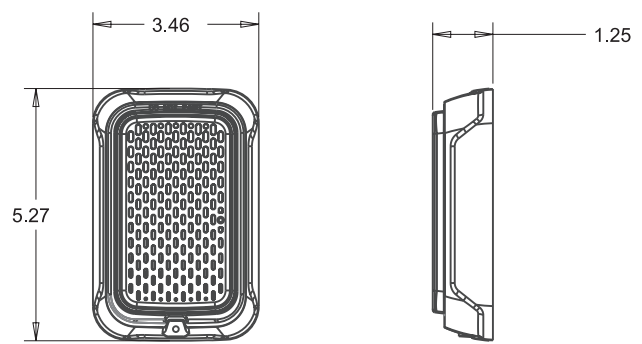
Horn and Horn Strobe Output (dBA)					
Switch Position	Sound Pattern	dB	8-17.5 Volts		FWR
			DC	16-33 Volts DC	
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	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 the 2-wire horn strobes.

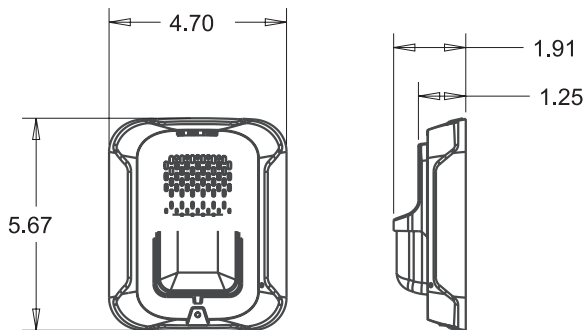
L-Series Dimensions



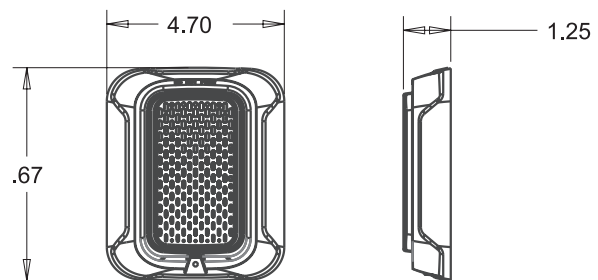
Compact Strobe / Horn Strobe



Compact Horn



Strobe / Horn Strobe



Horn

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, Compact 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
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



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 for current product information, including the latest version of this data sheet.
 AVDS86503 • 03/17



Indoor Selectable-Output Strobes and Horn Strobes for Ceiling 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

- 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 ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only

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, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

The entire L-Series product line of ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design 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, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to 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.

Agency Listings



S5512
S4011



FM approved except
for ALERT models
3057383



7125-1653:0504
7135-1653:0503

L-Series Specifications

Architect/Engineer Specifications

General

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 × 4 × 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 × 4 × 17/8-inch 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, 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. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

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 L-Series 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 × 4 11/16 × 2 1/8-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 VDC or regulated 24 DC/FWR ¹
Operating Voltage Range²	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range (MDL3)	8.5 to 17.5V (12 V nominal) or 16.5 to 33 V (24V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Ceiling-Mount Dimensions (including lens)	6.8" diameter × 2.5" high (173 mm diameter × 64 mm high)
Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCRL, SBBCWL)	6.9" diameter × 3.4" high (175 mm diameter × 86 mm 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.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.

UL Current Draw Data

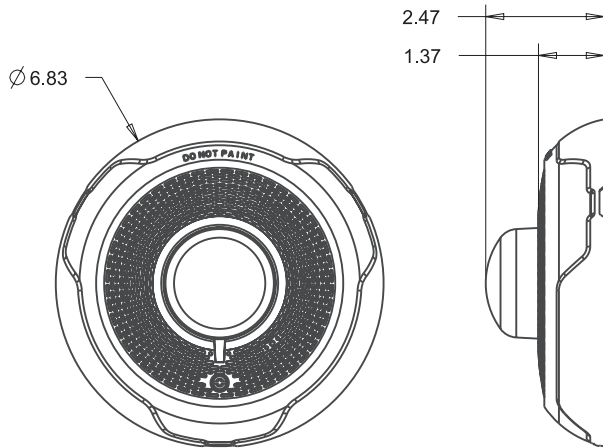
UL Max. Strobe Current Draw (mA RMS)			
Candela	8–17.5 Volts		16–33 Volts
	DC	DC	FWR
15	87	41	60
30	153	63	86
75	N/A	111	142
95	N/A	134	164
115	N/A	158	191
150	N/A	189	228
177	N/A	226	264

UL Max. Current Draw (mA RMS), 2-Wire Horn Strobe									
DC Input	8-17.5 Volts		16-33 Volts						
	15cd	30cd	15cd	30cd	75cd	95cd	115cd	150cd	177cd
Temporal High	103	167	71	90	143	165	187	217	254
Temporal Low	96	165	54	71	137	161	185	211	249
Non-Temporal High	106	173	71	90	141	165	187	230	273
Non-Temporal Low	95	166	54	71	124	161	170	216	258
3.1K Temporal High	111	164	69	94	147	163	184	229	257
3.1K Temporal Low	103	163	54	88	143	155	185	212	252
3.1K Non-Temporal High	111	172	69	94	144	164	202	229	271
3.1K Non-Temporal Low	103	169	54	88	131	155	187	217	259
FWR Input	16-33 Volts								
	15cd	30cd	75cd	95cd	115cd	150cd	177cd		
Temporal High	107	135	179	198	223	254	286		
Temporal Low	78	101	151	172	199	229	262		
Non-Temporal High	107	135	179	198	223	254	286		
Non-Temporal Low	78	101	151	172	199	229	262		
3.1K Temporal High	108	135	179	200	225	255	289		
3.1K Temporal Low	79	101	150	171	196	229	260		
3.1K Non-Temporal High	108	135	179	200	225	255	289		
3.1K Non-Temporal Low	79	101	150	171	196	229	260		

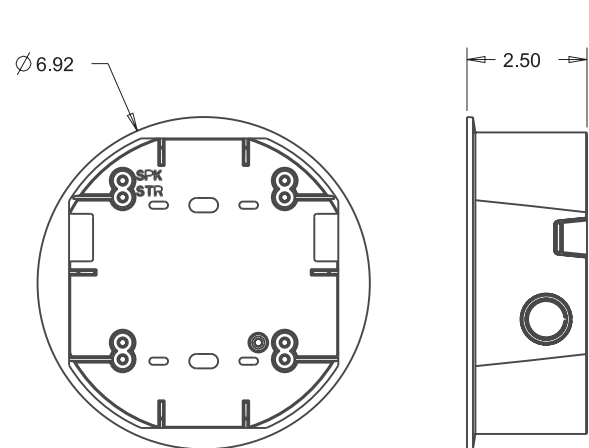
Horn Strobe Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)					
Switch Position	Sound Pattern	dB	8–17.5 Volts	16–33 Volts	FWR
			DC	DC	
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

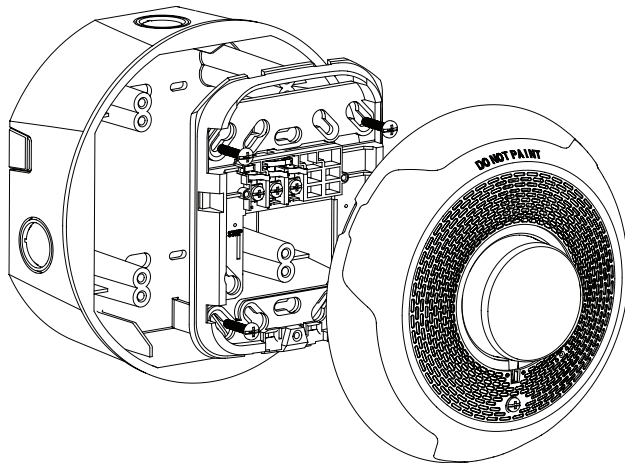
L-Series Dimensions



Ceiling-Mount Horn Strobes



Ceiling Surface Mount Back Box



Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box

L-Series Ordering Information

Model	Description
Ceiling Horn Strobes	
PC2RL	2-Wire, Horn Strobe, Red
PC2WL	2-Wire, Horn Strobe, White

Model	Description
Ceiling Strobes	
SCRL	Strobe, Red
SCWL	Strobe, White
SCWL-CLR-ALERT	Strobe, White, ALERT
Accessories	
TRC-2	Universal Ceiling Trim Ring Red
TRC-2W	Universal Ceiling Trim Ring White
SBBCRL	Ceiling Surface Mount Back Box, Red
SBBCWL	Ceiling Surface Mount Back Box, White



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 AVDS86801 • 03/17



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 \pm 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

Agency Listings



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 \pm 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 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.

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 2^{1/8}-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.

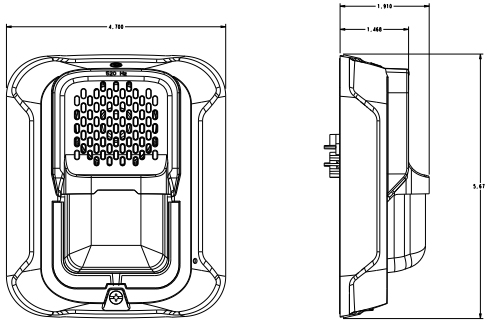
UL Current Draw and Sound Output Data

Low Frequency Wall Sounder Strobe Current Draw (mA) and Sound Output (dBA)																		
Pos Tone Volume Setting			Current Draw (mA)														Sound Output (dBA)	
			16-33 VDC							16-33 FWR							16-33 V	
			15cd	30cd	75cd	95cd	110cd	135cd	185cd	15cd	30cd	75cd	95cd	110cd	135cd	185cd	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

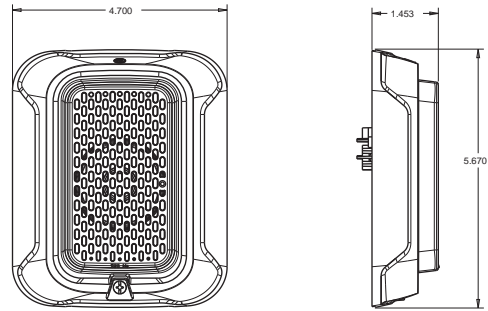
UL Max. Low Frequency Sounder Current Draw (mA RMS)						
Pos Tone Volume Setting			Current Draw (mA)		Sound Output (dBA) Reverberant	
			16-33 Volts		16-33 Volts	
			DC	FWR	DC	FWR
1	Temporal 3	High	108	150	80	80
2	Temporal 3	Low	78	76	76	76
3	Temporal 4	High	111	151	80	80
4	Temporal 4	Low	80	76	76	76
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.

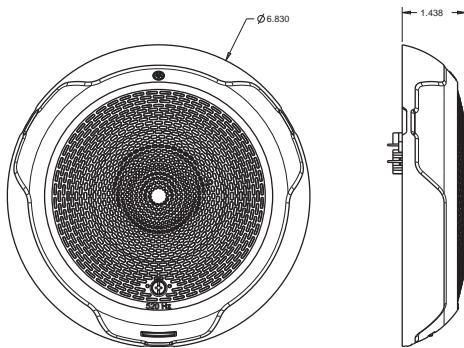
L-Series Dimensions



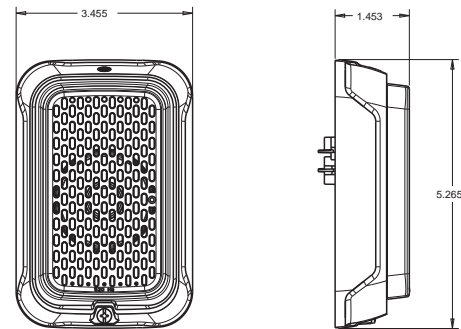
Wall LF Sounder Strobe



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® is a registered trademark and Sync•Circuit™ is a trademark of Honeywell International, Inc.



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Phone: 800-SENSOR2 • Fax: 630-377-6495

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AVDS910-01 • 10/1/2019



Features

- 120 VAC
- 10KA Short Circuit Current Rating
- ANSI/UL Listed 1449 4th Edition, Type 2
- CSA C22.2 No. 269.2-17 2nd edition, Type 2
- Acerbox ELOCK Circuit Lockout Kit included per NFPA 72 2013 10.6.5.2
- Surface or conduit mounting
- Diagnostic indicator light
- Self restoring
- 3 Wire device (18" length)

An ideal choice for your 120VAC applications, the E120V-GT maintains system integrity and protects against transients introduced into electrical lines via poor atmospheric and utility conditions as well as internally generated inductive loads.

Not only is the E-120V-GT robust enough to absorb a spike, but to also clamp long enough to trip the branch circuit breaker and still be functional for additional surges. Reduce downtime associated with power surges and lightning strikes, prevent interruption of recurring monthly revenue based systems, and eliminate non-billable service calls and expensive repairs by protecting your equipment with this invaluable device.

Applications

- Fire alarm control panels
- Mass notification systems
- Dedicated branch circuits
- Amplifiers, motors, pumps, and power boosters

Specifications

All 120 VAC equipment will have Transient Voltage Surge Suppression (TVSS) protection manufactured by Space Age Electronics, Inc., part number E120V-GT. The unit shall be ANSI/UL listed to standard 1449, 4th edition and will be labeled clearly with indelible ink. Can be attached via the 3/4" rigid coupling, or surface mounted via the 2 external mounting holes. The unit shall have thermal fuses to protect against fire in short circuit conditions and will have 18" long, 14 gauge wires (3x) with a green ground wire. The enclosure will be a non dielectric material UL94 QMFZ2/8 grade material providing UV protection. The unit shall provide visual indication (LED) that unit is protecting and functioning.



Performance Specifications

Short Circuit Current Rating (SCCR): 10kA
Enclosure Material: UL94 QMFZ2/8 (green)
VPR=700 (L-N) 700 (L-G) 600 (N-G) Capacitance: < 2,000 pf
Clamping Response Time: < 5 nanoseconds
Current: Non-Load Bearing
Max Operating Voltage (MCOV): 140VAC, 50/60 Hz
Design: Thermally Fused Hybrid
Operation Indicators: LED
Max Surge Current: 25kA
Energy Dissipation: 500J
Clamping Voltage: 230V RMS

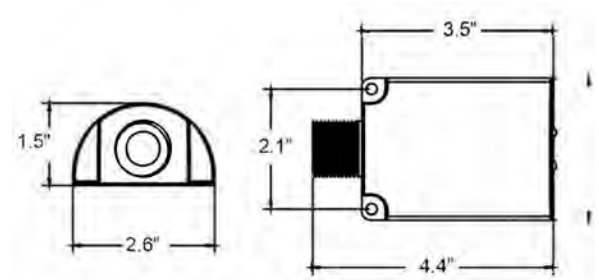
Operating Specifications

Service Voltage: 120VAC Single Phase
Circuits Protected: L-N L-G N-G
Connection Type: Hardwired
Installation Configuration: Parallel

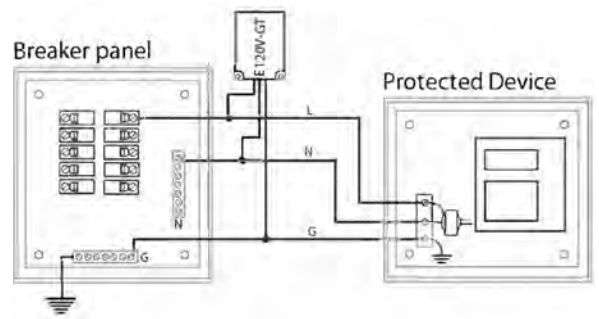
Compliance Specifications

UL Listed: 1449 4th Edition - VZCA
File Number: E319370 Vol. 1 Sec. 1

Dimensions



Wiring Diagram



Ordering Information

P/N# E120V-GT
120V Hybrid Surge Protection Device

P/N# ELOCK-FA
Acerbox ELOCK Circuit Lockout Kit

BAT Series Batteries

Sealed Lead-Acid



Power Supplies/Accessories

General

BAT Series Batteries are Power Sonic brand batteries. BAT Series (or Power Sonic brand) batteries are recommended for secondary power or backup power for all Fire•Lite fire alarm control equipment.

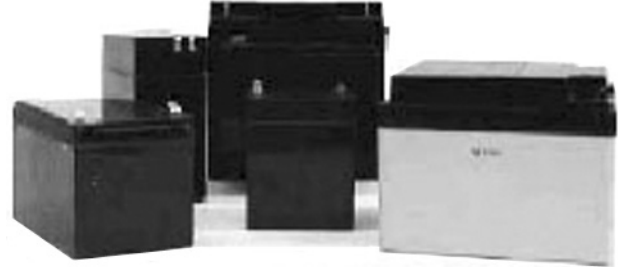
Features

- Provide secondary power for control panels.
- Sealed and maintenance-free.
- Overcharge protected.
- Easy handling with leakproof construction.
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene, depending on models).
- Long service life.
- Compact design.

Agency Listings and Approvals

The listings and approvals below apply to BAT Series Batteries. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Recognized Components:** MH20845 (*Power-Sonic*)



6933cov.jpg

Ordering Information

BAT-1250-BP: 10-unit bulk pack of BAT-1250 (12 V 5 AH)

BAT-1270-BP: 5-unit bulk pack of BAT-1270 (12 V 7 AH)

BAT-12120-BP: 4-unit bulk pack of BAT-12120 (12V 12 AH)

BAT-12180-BP: 2-unit bulk pack of BAT-12180 (12 V 18 AH)

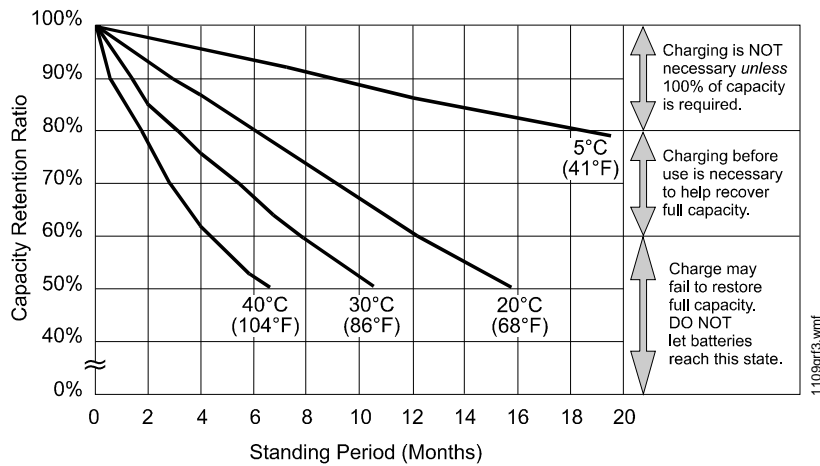
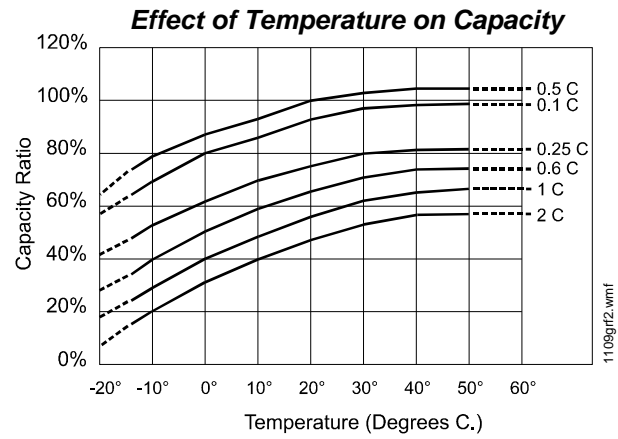
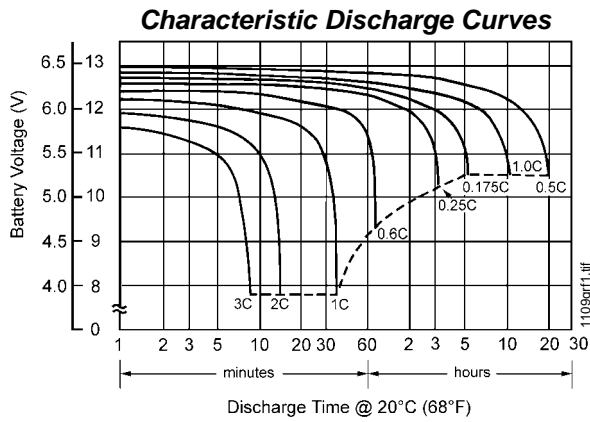
BAT-12260-BP: 2-unit bulk pack of BAT-12260 (12 V 26 AH)

BAT-12550: single battery (12 V 55 AH)

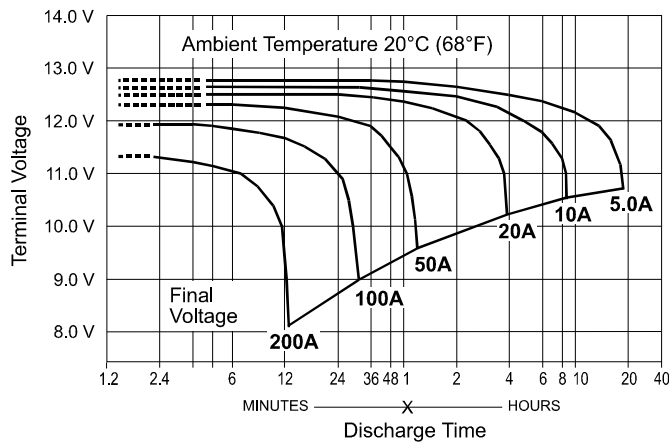
BAT-121000: single battery (12 V 100 AH)

Part Number Reference & Specifications

Part Number	Power Sonic Part Number	Battery Description			DIMENSIONS									
		Nominal Voltage V	Nominal Capacity @ 20 hr. rate A.H.		Width		Depth		Height		Height over terminal		Weight	
					in.	mm	in.	mm	in.	mm	in.	mm	lb.	kg.
BAT-1250	PS-1250	12	5	sealed	3.54	90	2.76	70	4.02	102	4.21	107	4.1	1.9
BAT-1270	PS-1270	12	7	sealed	5.95	151	2.56	65	3.7	94	3.86	98	4.8	2.18
BAT-12120	PS-12120	12	12	sealed	5.95	151	3.86	98	3.7	94	3.94	100	7.92	3.59
BAT-12180	PS-12180	12	18	sealed	7.13	181	2.99	76	6.57	167	6.57	167	12.6	5.8
BAT-12260	PS-12260	12	26	sealed	6.56	167	6.97	177	4.92	125	4.92	125	17	7.71
BAT-12550	PS-12250	12	55	sealed	9.04	230	6.54	138	8.2	208	8.98	228	36	16.33
BAT-121000	PS-121000	12	100	sealed	12	305	6.6	168	8.2	208	8.98	228	68	30.84



at left:
PS-121000
Shelf-Life
and Storage



at left:
PS-121000
Discharge
Characteristics

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This document is not intended to be used for installation purposes. We try to keep our product information up-to-date and accurate. We cannot cover all specific applications or anticipate all requirements. All specifications are subject to change without notice.



For more information, contact Fire•Lite Alarms. Phone: (800) 627-3473, FAX: (877) 699-4105. www.firelite.com