Date: 4/6/21

Project Submittals:

Krigen Pharma
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1. Device/Equipment Cut Sheets
2. System Battery Calculations
3. Voltage Drop Calculations

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Crawford SPRINKLER CO. OF RALEIGH, INC

SALES • DESIGN • INSTALLATION • INSPECTIONS

ES-200X

Intelligent Addressable FACP with Communicator

FIRE•LITE ALARMS
by Honeywell

Addressable Fire Alarm Control Panels

General

The **ES-200X** is the latest intelligent addressable Fire Alarm Control Panel (FACP) from Fire•Lite Alarms and is a direct replacement for the MS-9200UDLS. 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 un-shielded.

ANN-100: Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is un-shielded. 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. Lite-Speed 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. Lite-Speed 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. Lite-Speed 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).

B200S: Programmable, addressable sounder base.

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 pigtails. 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

Electrical Specifications

AC Power: Operates in either 120 or 240 VAC, 50/60 Hz, 3.25 A, auto-sensing- no switch required. 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

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) 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.

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:** 7165-0075:500
- **FDNY:** COA #6261

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

ISO 9001
CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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

- **Universal full event sole & dual path cellular &/or IP commercial fire alarm reporting from any panel brand, virtually anywhere nationwide**

- **Code-compliant, replaces 2 POTs lines per FACP** saves thousands of dollars per year over the leased landlines

- **Supports 12V-24V control panels and FACPs** that communicate using Contact ID and 4/2 (such as on legacy panels), as primary or backup

- **Full data Reporting to any Central Station nationwide**, **via choice of LTE Networks, Verizon® or AT&T®. Communicate critical life and safety alarm reports on LTE (Long Term Evolution) 10+ year life, cyber-protected multi-billion dollar cellular network**, for maximum life safety & liability protection.

- **Proven to work even where other's won't - using Signal Boost™ & twin dual diversity antennas** - Max. signal acquisition & null avoidance (receives signals simultaneously on both antennas)

- **Easiest installation, powered by panel, NO extra power supply, NO extra conduit.** (Excludes Direct AC-Powered "-PS" models, with transformer option.) †

- **Dual Path Cellular/IP Models Save Time & Money** - Uniquely including 4 programmable EOLR zone inputs; 2 Form C Relay outputs (no extra supervision modules to buy or install); plus, 2 Telephone-style jacks for easy FACP-connection. Self-supervised on 4 wires.

- **Preactivated to ensure communications** - saves time and labor onsite

- **LED Status /Trouble Indicators** 3 Radio Status LED Indicators (visible from outside standard model housing) - Green, Signal Strength; Amber- Busy/Activation; Red-Trouble (4 additional LEDs, not visible, for network status & troubleshooting). Power LED indicator viewable on outer metal enclosure models.

- **Over-the-Air Upgradable Communicator Firmware.** Remote ability for critical/mandatory updates, without a truck-roll

- **Cost-saving models and plans for any code requirement.** Dramatic savings over monthly dedicated landline charges.

UL and NFPA 72 Fire Code-Compliant, the StarLink Series Wireless Commercial Fire Alarm Sole Path & Dual Path Communicators provide universal support for any brand 12V to 24V fire alarm control panel, reporting in Contact ID and 4/2. With broadest LTE coverage footprint, Verizon or AT&T, using proven StarLink circuitry , they are also available in locking metal models. All provide the most economical solution for easy, versatile installation. Also regional compliances, i.e., CSFM, NYCFD, LAFD and more.

Easy, Universal Installation at Every Application; Panel-Powered Technology™. StarLink Fire Communications are easily connected to any panel or Fire Alarm Control Panel (FACP) standardly operating between 12V and 24V. Flexible in any application, StarLink Fire also comes in standard, or models in metal housings, with code-compliant supervision, and choice of power options, Panel-Powered Technology™ (powered by the panel), or direct-connect 120VAC models. **Signal Boost circuitry & dual diversity antennae** for maximum signal acquisition & null avoidance, receiving signals simultaneously on both antennae.

Flexible Performance & Reporting Options. StarLink Fire provides full data reporting, in sole and dual path, as a primary or backup, to any central station of your choice, without requiring any special equipment on premises. Ultra-affordable plans are available to meet various codes and requirements, with supervisory check-ins from 200 seconds, to 5 minutes; and/or from 1 to 6 hours. The units are very easily activated, plans and options are selected, and 24/7 account management is provided all through www.napcocomnet.com.

Napco StarLink Universal Fire Alarm Communicators

- **Sole Path Cellular and Dual Path Cellular &/or IP Models**

- **Choice of LTE Networks,** Verizon or AT&T models

- **Choice of plans** (varies by model) - check-ins from 200 seconds to 5-minutes, and from 1 hour; up to 6 hours for dual path

- **Patented Signal Boost™ and Dual Diversity Antennae** for maximum signal acquisition & null avoidance, receiving signals simultaneously on both antennae

- **Money-saving Tradeup incentive credit** for security professionals, on new or retrofit fire systems, i.e., tradeup missing/retired POTs lines, old radios & networks or new installations

- **Bonus: Full High-Speed Napco Panel remote uploading/downloading**

- **COMPLIANCES:** NFPA 72 Editions: 2019, 2016, 2013, 2010, 2007; UL 864, 10th Ed., UL1610, UL985, UL1023, NYCFD; CSFM; LAFD

Code-compliant standard or metal models on choice of Verizon or AT&T LTE networks.

StarLink Fire®
COMMERCIAL FIRE CELLULAR & IP

Commercial Fire Alarm Cellular &/or IP
Fire Alarm LTE Communicators

connected by **verizon**   **AT&T**

Model Ordering & Specifications

	LTE Network	Cell	IP	WiFi Option**	Unique Onboard Labor/Cost-Saver Features	Electrical Input Patings	Inputs	Input Ratings	Outputs	Output Ratings	Other Power Supply (option)†
STANDARD MODELS (ABS) 5.38 x 7.88 x 1.88" (HWD)											
SOLE PATH											
SLE-LTEA-FIRE	AT&T	Yes	No	No		Panel-Powered Tech'y:†† Input Voltage/Input Current: 10V = 90mA; 12-25V = 71mA, 200mA peak during transmissions	IN1, IN2, IN3	IN1: 9-25VDC Max input current 2mA IN2,IN3: 9-25VDC Max input current 1.2mA	PGM1, PGM2, PGM3	Open Collector Outputs Max 3V when active, Max 25V when not active. Max current 24mA@ 25V	
SLE-LTEV-FIRE	Verizon	Yes	No	No							
DUAL PATH											
SLE-LTEAI-FIRE	AT&T	Yes	Yes	Yes	2 TelCo jacks for EZ FACP Connect; 4 Programmable EOLR zone inputs; 2 Form C Relay outputs (avoids reqt for supervision module)	Panel-Powered Tech'y:†† Input Voltage:10-25VDC: Input Current: 162mA to 100mA standby; 300mA peak during transmissions	IN1, IN2, IN3, IN4, IN5	IN1: 9-25VDC Max input current 2mA IN2,IN3,IN4,IN5: 9-25VDC Max input current 1.2mA	OUT1, OUT2, PGM3	OUT1,OUT2:Dry Contact, Form C Relay, 30V AC/DC, 500mA Max PGM3: Open Collector Outputs Max 3V when active, Max 25V when active. Max current 24mA@ 25V	
SLE-LTEVI-FIRE	Verizon	Yes	Yes	Yes							
MODELS IN METAL ENCLOSURE 9.63 x 11.75 x 3.38" (HWD)											
SOLE PATH											
SLE-LTEA-CFB	AT&T	Yes	No	No		Panel-Powered Tech'y:†† Input Voltage/Input Current: 10V = 90mA; 12-25V = 71mA, 200mA peak during transmissions	IN1, IN2, IN3	IN1: 9-25VDC Max input current 2mA IN2,IN3: 9-25VDC Max input current 1.2mA	PGM1, PGM2, PGM3	Open Collector Outputs Max 3V when active, Max 25V when not active. Max current 24mA@ 25V	
SLE-LTEV-CFB	Verizon	Yes	No	No							
SLE-LTEA-CFB-PS	AT&T	Yes	No	No		Direct AC-Powered: Input Voltage: 120VAC nominal Input Current: 150mA max; maximum charging current: 200mA	IN1, IN2, IN3	IN1: 9-25VDC Max input current 2mA IN2,IN3: 9-25VDC Max input current 1.2mA	PGM1, PGM2, PGM3	Open Collector Outputs Max 3V when active, Max 25V when not active. Maximum current 24mA@ 25V	Transformer (TRF12 16VAC, 20VA transformer)
SLE-LTEV-CFB-PS	Verizon	Yes	No	No							
DUAL PATH											
SLE-LTEAI-CFB	AT&T	Yes	Yes	Yes	2 TelCo jacks for EZ FACP Connect; 4 Programmable EOLR zone inputs; 2 Form C Relay outputs (avoids reqt for supervision module)	Panel-Powered Tech'y:†† Input Voltage:10-25VDC: Input Current: 162mA to 100mA standby; 300mA peak during transmissions	IN1, IN2, IN3, IN4, IN5	IN1: 9-25VDC Max input current 2mA IN2,IN3,IN4,IN5: 9-25VDC Max input current 1.2mA	OUT1, OUT2, PGM3	OUT1,OUT2:Dry Contact, Form C Relay, 30V AC/DC, 500mA Max PGM3: Open Collector Outputs Max 3V when active, Max 25V when active. Max current 24mA@ 25V	
SLE-LTEVI-CFB	Verizon	Yes	Yes	Yes							
SLE-LTEAI-CFBPS	AT&T	Yes	Yes	Yes	2 TelCo jacks for EZ FACP Connect; 4 Programmable EOLR zone inputs; 2 Form C Relay outputs (avoids reqt for supervision module)	Direct AC-Powered: Input Voltage: 120VAC nominal Input Current: 200mA max; maximum charging current: 200mA	IN1, IN2, IN3, IN4, IN5	IN1: 9-25VDC Max input current 2mA IN2,IN3,IN4,IN5: 9-25VDC Max input current 1.2mA	OUT1, OUT2, PGM3	OUT1,OUT2:Dry Contact, Form C Relay, 30V AC/DC, 500mA Max PGM3: Open Collector Outputs Max 3V when active, Max 25V when active. Max current 24mA@ 25V	Transformer (TRF12 16VAC, 20VA transformer)
SLE-LTEVI-CFBPS	Verizon	Yes	Yes	Yes							

ACCESSORIES:

SLE-WIFI-MODULE Optionally connects supported dual path models to Internet via WiFi, eliminating Ethernet cable connection. Requires 7AH batt'y. (**See details WI2191)

SLE-ANTEXT75 Optional extended range omni. antenna w/ 75' cable, premium low-loss cable & full mounting hardware & ground fault isolation mounting plate

SLE-ANTEXT50 As above, with 50' cable

SLE-ANTEXT30 As above, with 30' cable

TRF12 Optional Plug in AC Transformer, 16.5V / 20VA (use is subject to local code compliance)†

Free Commercial Fire LTE Tradeup Trifold Brochures / Mailers/Stuffers (A747)

FireLink™ Integrated Fire Alarm Control Panel w/ StarLink Fire LTE Built In

ESX 2018

FL-32FACP-LTEV Firewolf 8 Zone 24V Conventional Commercial Fire Alarm Control Panel with onboard StarLink Fire® Sole Path, Verizon LTE Cellular Alarm Communicator and integral menu-driven LCD annunciator, w/ 4amp, 24V power supply. Optionally expandable up to 32 points/zones via commercial addressable, wireless or conventional fire devices (2 onboard NACs providing up to 4A notification power). Locking, metal red enclosure,(surface or flush mount*) removable 16"x17" door w/14.25"x16" base. Houses 16Ah battery backup.

StarLink Fire®

333 Bayview Ave., Amityville, NY 11701 • 1-800-645-9445 • www.napcosecurity.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 SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Strobes and Horn Strobes listed for wall mounting only
- Horns listed for wall or ceiling use

Agency Listings

SIGNALING
UL LISTED
S5512
S4011

FM APPROVED
FM approved except for ALERT models 3057383, 3057072

7125-1653:0504
7135-1653:0503

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

General

L-Series standard horns, strobes, and horn strobes shall mount to a standard 2 x 4 x 1⁷/₈-inch back box, 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. L-Series compact products shall mount to a single-gang 2 × 4 × 1⁷/₈-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 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 4¹¹/₁₆ × 4¹¹/₁₆ × 2¹/₈-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]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range MDL3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6″L × 4.7″W × 1.91″D (143 mm L × 119 mm W × 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 × 4.7″W × 1.25″D (143 mm L × 119 mm W × 32 mm D)
Compact Horn Dimensions	5.25" L x 3.45" W x 1.25" D (133 mm L x 88 mm W x 32 mm D)

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

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

UL Max. Horn Current Draw (mA RMS)

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

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

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

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

Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

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

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

L-Series Dimensions

3.46"
88 mm

1.91"
48.5 mm

1.25"
32 mm

5.27"
133.9 mm

A0548-00

Compact Strobe, Horn Strobe

3.46"
88 mm

5.27"
133.9 mm

A0547-00

Compact Horn

1.25"
32 mm

3.57"
(9.1 cm)

1.55"
(3.9 cm)

5.38"
(13.7 cm)

A0557-00

**Compact Wall Surface Mount Back Box
SBBGRL, SBBGWL**

4.70"
(11.94 cm)

1.91"
(4.85 cm)

1.25"
(3.18 mm)

5.67"
(14.4 cm)

A0550-00

Strobe, Horn Strobe

4.7"
119 mm

5.67"
144 mm

1.25"
32 mm

A0549-00

Horn

4.82"
(12.24 cm)

1.85"
(4.69 cm)

5.78"
(14.68 cm)

A0554-01

**Wall Surface Mount Back Box
SBBRL/SBBWL**
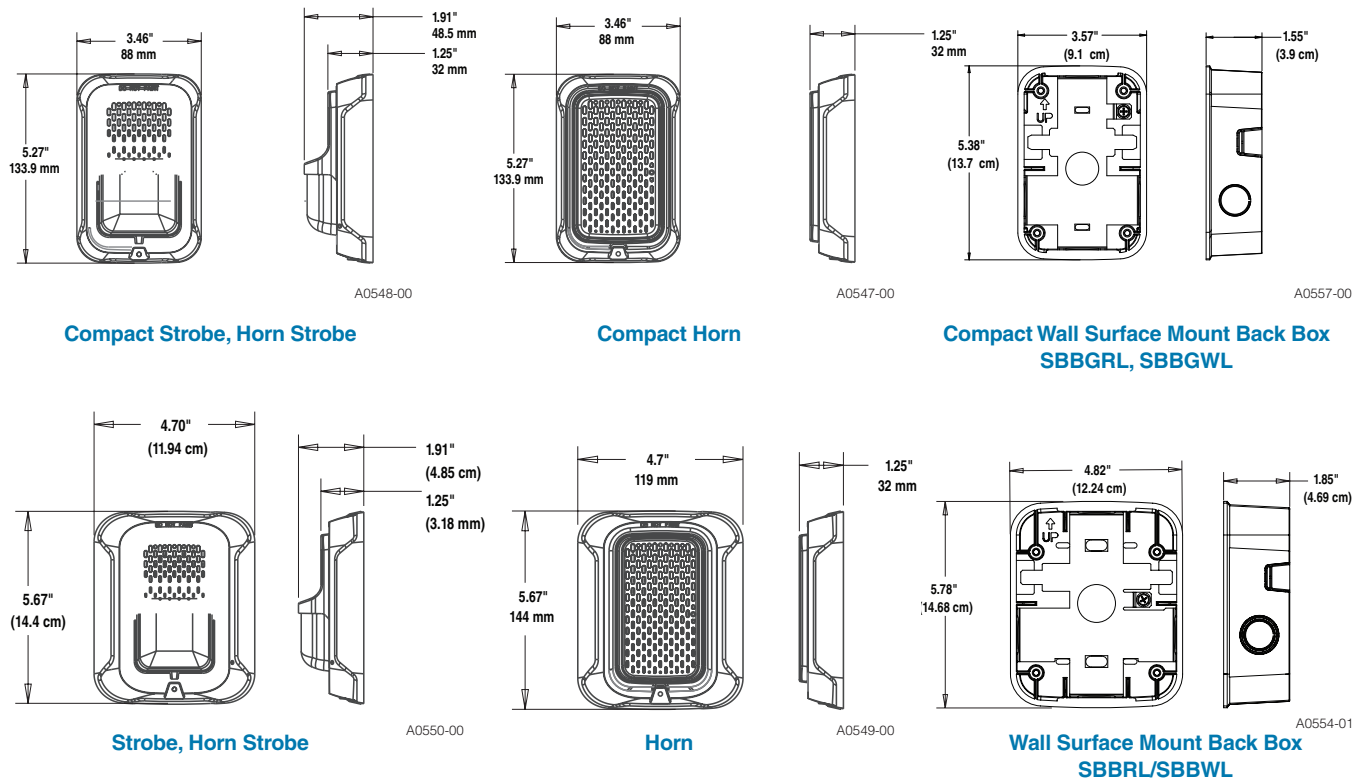
L-Series Ordering Information

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

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

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

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 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.

Agency Listings

SIGNALING
UL LISTED
S5512
S4011

FM APPROVED
FM approved except for ALERT models 3057383

7125-1653:0504
7135-1653:0503

L-Series 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 Range[2]	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 x 3.4" high (175 mm diameter x 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)

		8–17.5 Volts	16–33 Volts	
	Candela	DC	DC	FWR
Candela Range	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. Horn Current Draw (mA RMS)

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

UL Max. Current Draw (mA RMS), Ceiling Horn Strobe, Candela Range (15–177 cd)

	8–17.5 Volts		16–33 Volts						
DC Input	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-Temportal 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

	16–33 Volts								
FWR Input	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-Temportal 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 Strobe Output (dBA)

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

L-Series Dimensions

2.47" (62.7 mm)
1.37" (34.8 mm)
6.83" diam. (173 mm)

A0545-00

Ceiling-Mount Horn Strobes

6.92" diam. (175.77 mm)
2.5" (64 mm)
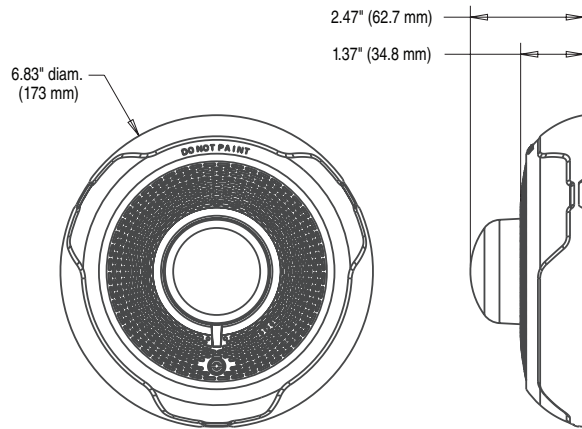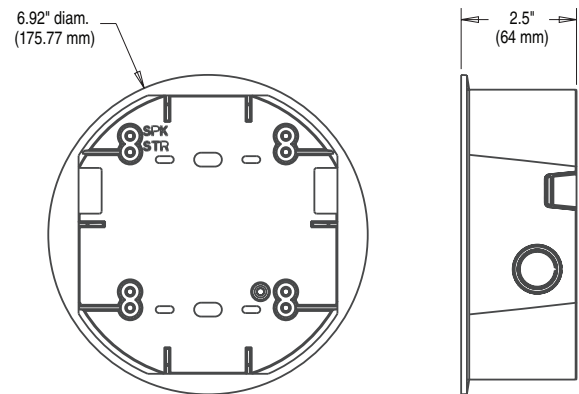
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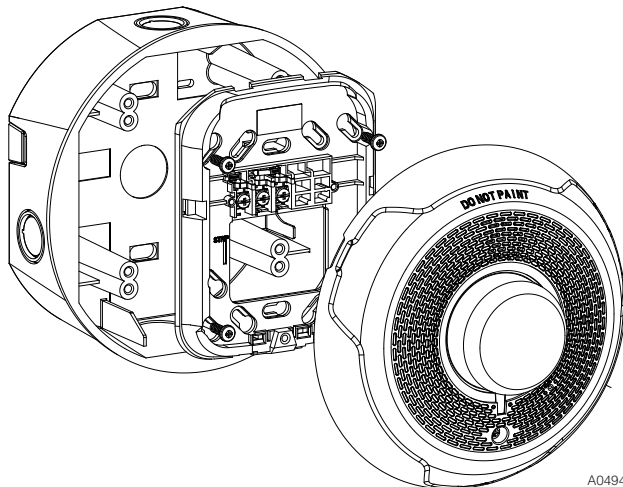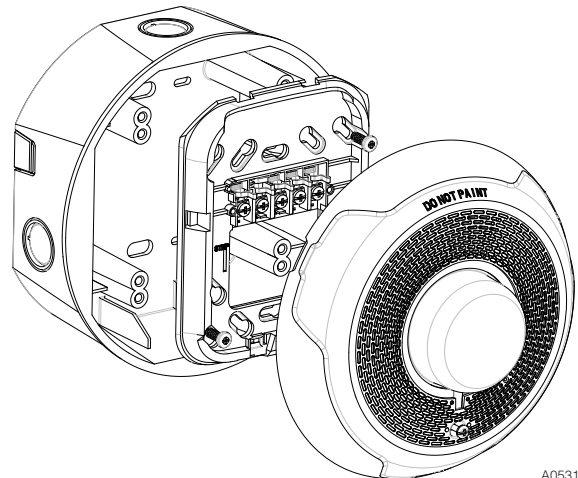
Ceiling Surface Mount Back Box

A0494-01

**2-Wire Ceiling Mount Horn Strobes
with Ceiling Surface Mount Back Box**

A0531-01

**4-Wire 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
PC4RL	4-Wire, Horn Strobe, Red
PC4WL	4-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

For a ceiling-listed horn-only device, see AVDS865 "Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications".

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

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

Features

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

Agency Listings

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

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

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

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

SpectrAlert Advance Outdoor Horn, Strobe, and Horn StrobeSpecifications

Architect/Engineer Specifications

General

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

Strobe

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

Horn Strobe Combination

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

Physical/Electrical Specifications

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

Notes:

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

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

UL Max. Horn Current Draw (mA RMS)

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

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

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

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

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

Candela Derating

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

Strobe Output (cd)

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

Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

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

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

SpectrAlert Advance Diagrams

119mm
4.7˝

64mm
2.5˝

142mm
5.6˝
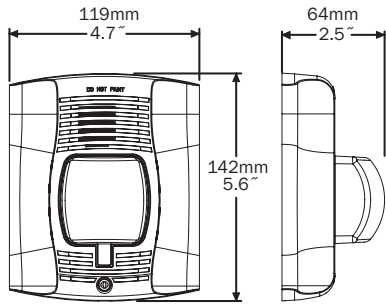
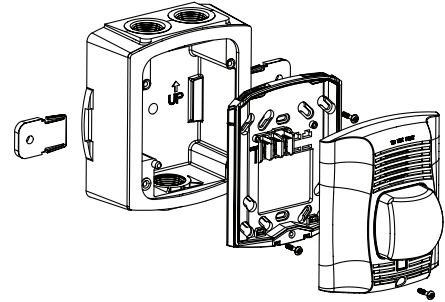**Wall-Mount Horn Strobes**
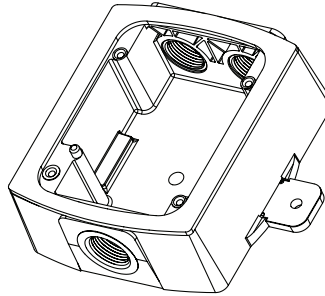
Wall Plastic Weatherproof Back Box

Wall-Mount Horn Strobe with Plastic Weatherproof Back Box

SpectrAlert Advance Ordering Information

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

Notes:

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

SD365 Series

Addressable Photoelectric Smoke Detectors

FIRE·LITE ALARMS
by Honeywell

The Fire•Lite® Alarms SD365(A), SD365R(A), and SD365HT(A) intelli-gent plug-in smoke detectors are designed for both performance and aesthetics, and are direct replacements for the SD355 Series. 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 SLC loop connection
• Unit uses base for wiring
• Compatible with LiteSpeed™ and CLIP protocol systems
• Stable communication technique with noise immunity

ADDRESSING:

• Addressable by device
• Rotary, decimal addressing
(Refer to the *Fire•Lite panel manuals* for device capacity.)

ARCHITECTURE:

• Sleek, low-profile, stylish design
• Unique single-source design to respond quickly and dependably to a broad range of fires
• Integral communications and built-in device-type identification
• Built-in tamper resistant feature
• Remote test feature from the panel
• Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1*(LiteSpeed systems only)*
• Built-in functional test switch activated by external magnet
• Removable cover and insect-resistant screen for simple field cleaning
• Expanded color options

OPERATION:

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

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

OPTIONS:

• Optional relay, isolator, and sounder bases

Installation

SD365 Series plug-in intelligent smoke detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount detector 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.*
When using relay or sounder bases, consult the I300(A) installation sheet I56-3626 for device limitations between isolator modules and isolator bases.

Construction

These detectors are constructed of fire-resistant plastic. The SD365 Series plug-in intelligent smoke detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each SD365 Series detector uses one of the panel's addresses (total limit is panel dependent) 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 SD365 Series offers features and performance that represent the latest in smoke detector technology.

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 Fire•Lite addressable fire alarm control panel. The results of the sensitivity test can be printed for record keeping.

Product Line Information

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

NOTE: "A" suffix indicates Canadian version.

SD365: White, low-profile intelligent photoelectric sensor, LiteSpeed only

SD365A: Same as SD365 but with ULC listing

SD365-IV: Ivory, low-profile intelligent photoelectric sensor

SD365A-IV: Same as SD365-IV but with ULC listing

SD365T: White, same as **SD365** but includes a built-in 135°F (57°C) fixed-temperature thermal device, LiteSpeed only

SD365TA: Same as SD365T but with ULC listing

SD365T-IV: Ivory, same as SD365T but includes a built-in 135°F (57°C) fixed-temperature thermal device

SD365TA-IV: Same as SD365T-IV but with ULC listing

SD365R: White, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW, LiteSpeed only

SD365RA: Same as SD365R but with ULC listing, for use with DNRA

SD365R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW

SD365RA-IV: Same as SD365R-IV but with ULC listing, for use with DNRA

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

SYSTEM SPECIFICATIONS

Sensitivity:

- UL Applications: 0.5% to 4.0% per foot obscuration.
- ULC Applications: 0.5% to 3.5% 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 DF-60983

Shipping weight: 3.4 oz. (95 g)

Operating temperature range:

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

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts

Relative humidity: 10% – 93% non-condensing

Thermal ratings: fixed-temperature set point 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C)

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

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

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

DETECTOR SPACING AND APPLICATIONS

Fire•Lite recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. A *System Smoke Detector Application Guide*, document A05-1003, is available at **www.systemsensor.com.**

Listings and Approvals

Listings and approvals below apply to the SD365 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: S1059
- FM Approved
- CSFM: 7272-0075:0502

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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: Mexico

Duct Smoke Detector Accessories

Expand the versatility of the InnovairFlex™ line of duct smoke detectors with System Sensor notification and test accessories.

Available Accessories

APA151	Piezo Annunciator
MHR	Mini-Horn, Red
MHW	Mini-Horn, White
RA100Z/RA100ZA	Remote Annunciator
RTS151	Remote Test Station
RTS151KEY	Remote Test Station with Key
RTS2	Multi-Signaling Accessory
AOS	Add-On Strobe
RTS2-AOS	Multi-Signaling Accessory

Duct smoke detector accessories add functionality to the duct smoke detection system by allowing quick, convenient inspections at eye level and effective audible and visible notification options. All System Sensor duct smoke detectors and accessories are UL listed.

The **APA151** piezo annunciator, which replaces the APA451 with a new, improved look, provides an audible alarm signal, a red LED to indicate alarm status, and a green LED to indicate power status. It is intended for use with System Sensor 4-wire conventional duct smoke detector applications without a system control panel, to comply with NFPA 90A.

The **MHR and MHW** SpectrAlert® Advance mini-horns feature temporal or continuous tones at high and low volume settings. Their small footprint allows mounting to single-gang back boxes for applications where a small device is desired.

The **RA100Z and RA100ZA** remote annunciators are designed for both conventional and intelligent applications. Their red LED provides visual indication of an alarm condition.

The **RTS151 and RTS151KEY** remote test stations are automatic fire detector accessories designed to test duct smoke detectors from a convenient location. For 4-wire detectors, the RTS151KEY test station features a multi-colored LED that alternates between steady green and red. For 2-wire detectors, the LED illuminates red for alarm.

The **RTS2 and RTS2-AOS** multi-signaling accessories are designed to work with InnovairFlex 4-wire conventional duct smoke detectors. These accessories include a key switch that can be used to select one of two connected sensors to be tested, reset, or both by a push button switch. They also enable sensitivity measurements using the SENS-RDR sensitivity reader (sold separately). The AOS (Add-On Strobe) is an optional accessory included with the RTS2-AOS model.

Agency Listings

UL LISTED
S2522

FM APPROVED
3034401

7300-1653:0212
7300-1653:0211
7135-1653:0196

CE
9080301

Specifications, Duct Smoke Detector Accessories

APA151 Piezo Annunciator

Voltage	Regulated 24 VDC
Operating Voltage	16 to 33 VDC
Maximum Alarm Current	30 mA
Temperature Range	0°C to 49°C (32°F to 120°F)
Relative Humidity	10 to 93% non-condensing
Wire Gauge	12 to 18 AWG
Dimensions	4.6″H × 2.9″W × .45″D

MHR/MHW SpectrAlert® Advance Mini-Horns

Voltage	Regulated 12 DC or FWR (Full Wave Rectified) or Regulated 24 VDC or FWR
Sounder Current Draw	22 mA RMS max. at 8 to 17.5 Volts DC 29 mA RMS max. at 16 to 33 Volts DC
Temperature Range	0°C to 49°C (32°F to 120°F)
Humidity Range	10 to 93% non-condensing
Nominal Sounder Frequency	3 kHz
Wire Gauge	12 to 18 AWG
Dimensions	4.6″H × 2.9″W × 0.45″D

RA100Z/RA100ZA Remote Annunciator

Voltage Range	Conventional System: 3.1 to 32 VDC Intelligent System: 18 to 32 VDC
Maximum Alarm Current	10 mA
Dimensions	4.6 ″H × 2.8″W × 1.3″D

RTS151 Remote Test Station

|	
Power Requirements	Alarm LED: 2.8 to 32 VDC, 12 mA max. Total Current: 105 mA max.
Test Switch	10 VA @ 32 VDC
Reset Switch	10 VA @ 32 VDC
Alarm Response Time	40 seconds max.
Temperature Range	−10°C to 60°C (14°F to 140°F)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 18 AWG
Dimensions	4.8″H x 2.90″W x 1.4″D

RTS151KEY Remote Test Station with Key

Power Requirements	Power LED (Green): 14 to 35 VDC, 12 mA max. Alarm LED (Red): 2.8 to 32 VDC, 12 mA max. Total Current: 105 mA max.
Alarm Response Time	40 seconds max.
Temperature Range	−10°C to 60°C (14°F to 140°F)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 18 AWG
Dimensions	4.6″H × 2.75″W × 1.8″D

RTS2 and RTS2-AOS Multi-signaling Accessory

Voltage	20 to 29 VDC
Power Requirements	Standby: 3.0 mA max. Trouble: 16.0 mA max. Alarm without strobe: 30 mA max. Alarm with strobe: 55 mA max.
Sounder	85 dBA at ten feet
Temperature Range	−10°C to 60°C (14°F to 140°F)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 22 AWG
Dimensions	4.8″W x 5.3″H x 1.6″D

For the very latest product specifications and listing information, please visit the System Sensor Web site at www.systemsensor.com.

RTS151 UL S4011
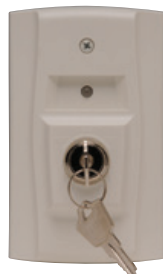
RTS151KEY UL S2522

APA151 UL S4011

RTS2-AOS UL S2522

RA100Z UL S2522

MHW UL S4011

MHR UL S4011

AOS

BG-12LX

Addressable Manual Pull Station

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 µA.
- **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

FLPullStation.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.

ISO 9001
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ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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.

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

Fire•Lite Alarms
by Honeywell

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
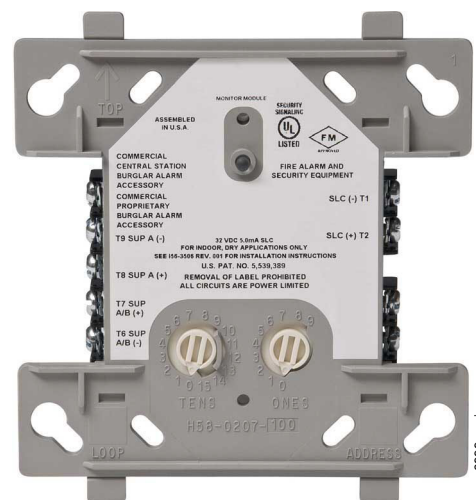
MMF-300(A) (Type H)

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 µA (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
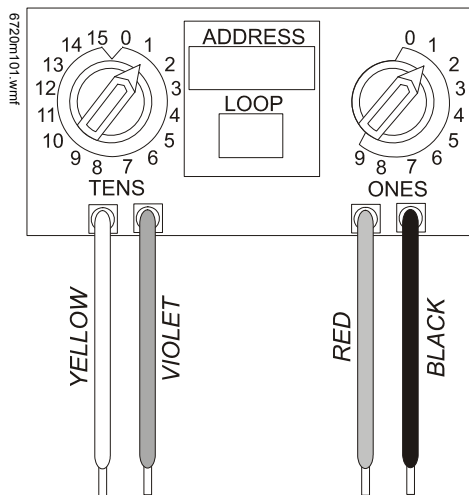
The MMF-301(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The MMF-301(A) is intended for use in intelligent, two-wire systems where the individual address of each module 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 µA, 1 communication every 5 seconds, 47k EOL; 600 µA Max. (Communicating, IDC Shorted).

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 450 µA.

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 µA, 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 µA (LED flashing).

Maximum IDC wiring resistance: 1,500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 µA

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.

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.

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.

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

CRF-300(A)

Relay Module

Fire·Lite Alarms
by Honeywell

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 µA direct poll (CLIP mode), 255 µA 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 I56-1190-005 and refer to the SLC Wiring Manual, document 51309.

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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

AceBOX
BY SPACE AGE ELECTRONICS
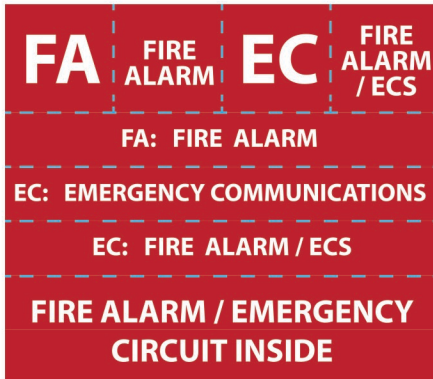
ELOCK-FA
CIRCUIT LOCKOUT KIT

- Circuit lockout tab
- Hex key
- Breaker, legend, and door labels

NFPA 2016 CODE COMPLIANCE

- 10.6.5.2 Circuit Identification and Accessibility.

- 10.6.5.2.1 The location of the branch circuit disconnecting means shall be permanently identified at the control unit.

- 10.6.5.2.2 System circuit disconnecting means shall be permanently identified as to its purpose in accordance with the following:

  (1) "FIRE ALARM" for fire alarm systems

  (2) "EMERGENCY COMMUNICATIONS" for emergency communications systems

  (3) "FIRE ALARM/ECS" for combination fire alarm and emergency communications systems

- 10.6.5.2.3 For fire alarm and/or signaling systems, the circuit disconnecting means shall have a red marking.

- 10.6.5.2.4 The red marking shall not damage the overcurrent protective devices or obscure the manufacturer's markings.

- 10.6.5.2.5 The circuit disconnecting means shall be accessible only to authorized personnel.

- 10.6.5.3 Mechanical Protection. The branch circuit(s) and connections shall be protected against physical damage.

- 10.6.5.4 Circuit Breaker Lock. Where a circuit breaker is the disconnecting means, a listed breaker locking device shall be installed.

FA FIRE ALARM | EC FIRE ALARM / ECS
FA: FIRE ALARM
EC: EMERGENCY COMMUNICATIONS
EC: FIRE ALARM / ECS
FIRE ALARM / EMERGENCY CIRCUIT INSIDE

POWER PS SONIC
TRUSTED BATTERY SOLUTIONS

General Purpose | Emergency Lighting | Medical | Fire & Security

MODEL PS-1270 F1
12 Volt 7.0 Amp. Hr.
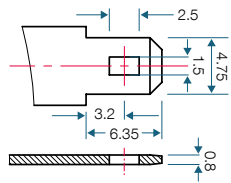www.power-sonic.com

PS-1270

12V 7.0 AH @ 20-hr.
12V 6.5 AH @ 10-hr.

Rechargeable Sealed Lead Acid Battery
PS – General Purpose Series

TERMINALS: (mm)

F1: Quick disconnect tabs, 0.187" x 0.032" – Mate with AMP. INC. FASTON "187" series

2.5 | 4.75 | 1.5 | 3.2 | 6.35 | 0.8

Torque – Not Applicable

OR

F2: Quick disconnect tabs, 0.250" x 0.032" – Mate with AMP. INC FASTON "250" series

2.5 | 6.35 | 1.5 | 3.4 | 7.95 | 0.8
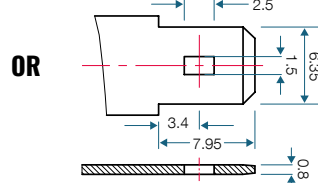
Torque – Not Applicable

DIMENSIONS: inch (mm)
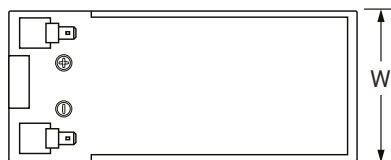
L: 5.95 (151)
W: 2.56 (65)
H: 3.70 (94)
HT: 3.86 (98)

Tolerances are +/- 0.04 in. (+/- 1mm) and +/- 0.08 in. (+/- 2mm) for height dimensions. All data subject to change without notice.

Sealed Rechargeable Battery
POWER PS SONIC
TRUSTED BATTERY SOLUTIONS
MODEL PS-1270 F1
12 Volt 7.0 Amp. Hr.

Rechargeable Sealed Lead-Acid Battery
DC power; constant voltage charge
Cycle use: 14.4 - 15.0V(20°C)
Standby use: 13.5 - 13.8V(20°C)
Initial current: 2.1A MAX
Warning:
Risk of fire, explosion, or burns.
Do not disassemble, heat above 60°C, or incinerate.
www.power-sonic.com

FEATURES

- Absorbent Glass Mat (AGM) technology for superior performance
- Valve regulated, maintenance free spill proof construction
- Power/volume ratio yielding excellent energy density
- Rugged vibration and impact resistant ABS case and cover
- Gas recombination technology
- 5 year design life

APPROVALS

- Approved for transport by air. D.O.T., I.A.T.A., F.A.A. and C.A.B. certified
- U.L. recognized
- ISO9001:2015 – Quality management systems

PERFORMANCE SPECIFICATIONS

Nominal Voltage	12 volts (6 cells)
Nominal Capacity	
20-hr. (350mA to 10.50 volts)	7.00 AH
10-hr. (650mA to 10.50 volts)	6.50 AH
5-hr. (1.2A to 10.20 volts)	6.00 AH
1-hr. (4.5A to 9.00 volts)	4.50 AH
Approximate Weight	4.80 lbs. (2.18 kg)
Internal Resistance (approx.)	23.0 milliohms
Max Short-Duration Discharge Current (10 Sec.)	70.0 amperes
Shelf Life (% of nominal capacity at 68°F (20°C)	
1 Month	97%
3 Month	91%
6 Month	83%
Operating Temperature Range	
Charge	5°F (-15°C) to 122°F (50°C)
Discharge	-4°F (-20°C) to 140°F (60°C)
Case	ABS Plastic
Power Sonic Chargers	PSC-12800A-C
	PSC-121000-PC

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Rev1 11/18

POWER PS SONIC
TRUSTED BATTERY SOLUTIONS

PS-1270
12V 7.0 AH @ 20-hr.
12V 6.5 AH @ 10-hr.

Rechargeable Sealed Lead Acid Battery
PS – General Purpose Series

SHELF LIFE & STORAGE
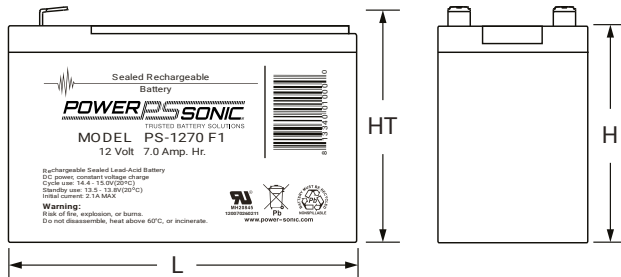

Charging is not necessary unless 100% of capacity is required.

Charging before use is necessary to help recover full capacity.
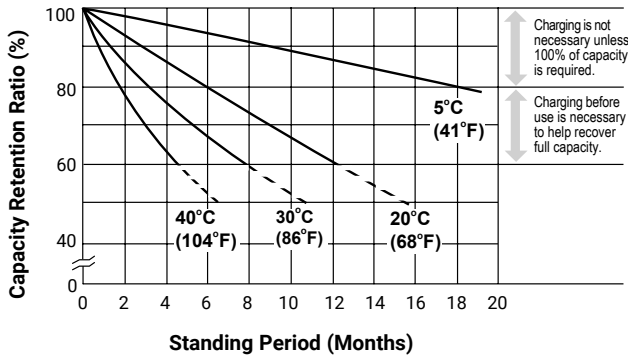
LIFE CHARACTERISTICS IN STAND-BY USE

CHARGING

Cycle Applications: Apply constant voltage charge at 2.35v/c – 2.45v/c (14.1 – 14.7v for 12v Monobloc) at 20°C. Initial charging current should be set at less than 0.25C Amps. Switch to float charge to avoid overcharging.

"Float" or "Stand-By" Service: Apply constant voltage charge of 2.25v/c – 2.30v/c (13.5 to 13.8 volts for 12v Monobloc at 20°C. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charged condition.

Temperature Compensation: Charging Voltage for both Cyclic and Standby applications should be regulated in relation to ambient temperature. As tempe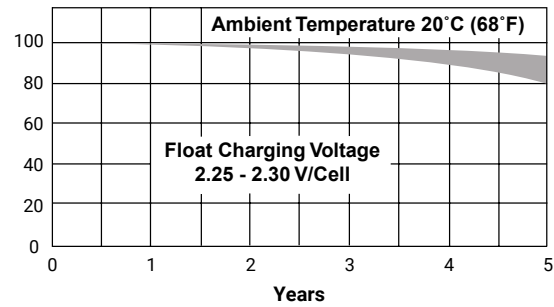rature rises charging voltage should be reduced to prevent overcharge and increased as temperature falls to avoid undercharge.

For further charging information including temperature compensation factors, see Power Sonic Technical Manual/ Power Sonic Charger specifications.

APPLICATIONS

- General purpose
- Emergency lighting
- Medical
- Fire and security

CHARGERS

Power Sonic offers a wide range of chargers suitable for batteries with a variety of capacities.

Please refer to our website for more information on our switch mode and transformer type chargers.

Please contact our technical department for advice if you have difficulty in locating a suitable charger.

FURTHER INFORMATION

Please refer to our website **www.power-sonic.com** for a complete range of useful downloads, such as product catalogs, material safety data sheets (MSDS), ISO certification, etc.

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Rev1 11/18

DTK-HW Series

Parallel Connected Surge Protective Device

DITEK's DTK-HW Series of surge protective devices are designed and manufactured to meet the standards of the life safety industry. These compact, parallel-mount SPD's are available for 120V, 240V and 120/240V systems; and are widely used to protect fire alarm panels and other dedicated branch circuit loads. Their small footprint enables installation in a variety of locations.

Product Features

- Approved for 20A circuit breakers
- NEMA 4X Weatherproof enclosure allows for use in harsh environments
- Diagnostic LED indicates ground presence, system power and SPD function
- Complies with ANSI/IEEE C62.41 and C62.45 Category B standards

Applications

- Fire Alarm Control Panels
- Equipment Panels
- Dedicated Branch Circuits
- Pumps, Motors and Lift Pump Stations

Accessories

- DIN Rail Mounting Kit – DTK-DRK

Dimensions

Technical Specifications

Part Number:	DTK-120HW	DTK-240HW	DTK-120/240HW
Service Voltage:	Single Φ (2W + G), 120VAC	Single Φ (2W + G), 240VAC	Split Φ (3W + G), 120/240VAC
MCOV:	150V	320V	150/320V
Protection Modes:	L-G, L-N, N-G	L-G, L-N, N-G	L-G, L-L, L-N, N-G
Voltage Protection Rating:	700V L-G 700V L-N 1,500V N-G	1,200V L-G, 1,200V L-N 2,000V N-G	700V L-G, L-N 1,500V L-L, 1,500V N-G
Surge Current Rating:	50,000A	50,000A	100,000A
SCCR:	10kA		
Nominal Discharge Current Rating (I_n):	10kA		

Mechanical Characteristics

Connection Method:	¾" NPT Parallel Wired
Housing:	NEMA 4X
Temperature Range:	-31°F - 176°F (-35°C - 80°C)
Maximum Humidity:	95% non-condensing
Dimensions:	3.5"L x 1.89"W x 3.4"H (88.9mm x 48.3mm x 86.4mm)
Weight:	0.55 lb. (0.25 kg)

Quality, Standards & Approval

Agency Approvals:	UL 1449 4th Edition, cUL
SPD Type:	Type 1 SPD
Warranty:	Ten Year Limited

MADE IN U.S.A.

System Power Requirements

S3 Addressable Control Panel

Protected Premises:	KRIGEN Pharma		Date: 3/30/2021
Address:	800 Edwards Brothers Drive		
City:	Lillington	State: NC	Zip: 27546

Prepared By:	Crawford Sprinkler Co.		Phone: 919-828-9346
Address:	2725 S. Saunders St		Email: gary@crawfordsprinkler.co
City:	Raleigh	State: NC	Zip: 27603

Secondary Load Requirements   **3.96** Amp Hours

Total Secondary Load from the calculation table below.

Current Draw		Time (hours)	Total (AH)
Secondary Standby Load	x	Required Standby Time	
0.131 A		24 hours	3.14
Secondary Alarm Load	x	Required Alarm Time (hours)	
1.877 A		0.084 hours	0.16
		Total Secondary Load	3.30
		Derating factor	x 1.20
		Secondary Load Requirements	**3.96 AH**

Battery Selection   **12.00** Amp Hours

Select batteries from the list

12 AH Battery (12 volt)

Battery Distribution Chart

Shows amp-hour distribution of your selections.

☐ Spare Battery Capacity

☐ Secondary Standby Load

☐ Secondary Alarm Load

Secondary Alarm Load 2%

Secondary Standby Load 31%

Spare Battery Capacity 67%
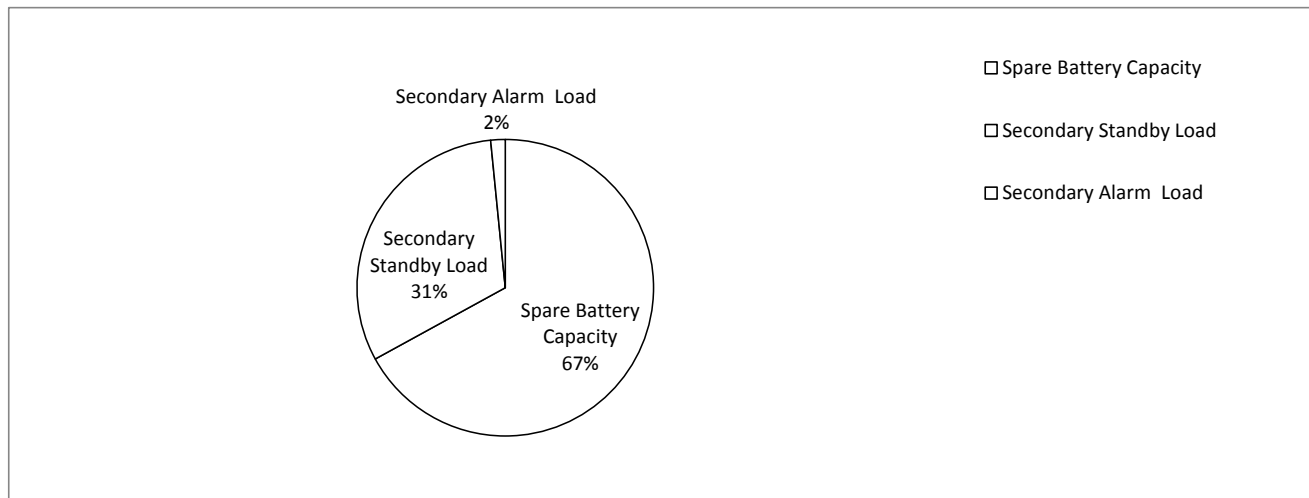
Spare Battery Capacity	8.04 Amp Hours
Secondary Standby Load	3.77 Amp Hours
Secondary Alarm Load	0.19 Amp Hours

System Current Draw
S3 Series Addressable Control Panel

		Total Standby	0.131 A		Total Alarm	1.877 A

Device	Qty		Standby Current Draw	Standby	Qty		Alarm Current Draw	Alarm
1. System Device								
SLP-E3 Smart Loop Panel Main Board	1	x	0.10000	0.10000	1	x	0.18000	0.18000
FLPS-7 - Power Supply	1	x	0.00000	0.00000	1	x	0.00000	0.00000
SLC-PM - SLC Expander (System Sensor)	1	x	0.01400	0.01400	1	x	0.01400	0.01400
SLC95-PM -SLC Expander (Apollo)	0	x	0.01600		0	x	0.01600	
2. SLP-E3 Outputs								
Resetable 24V Power	0	x	0.00000		0	x	0.00000	
Non-resetable 24V Power	0	x	0.00000		0	x	0.00000	
Munipical / Polarity Reversal	0	x	0.00000		0	x	0.00000	
3. S3 Optional Modules								
DACT-E3 - Digital Communicator	1	x	0.01800		1	x	0.01800	0.01800
RPT-E3-UTP - ARCNET Repeater	0	x	0.01600		0	x	0.01700	
FML-E3 - Fiber-Optic Multi-Mode Board	0	x	0.05300		0	x	0.05300	
FSL-E3 - Fiber-Optic Single Mode Board	0	x	0.07900		0	x	0.07900	
LCD-SLP - Remote LCD Annunciator	0	x	0.03000		0	x	0.06500	
LCD-E3 - LCD Display & Switch Control	0	x	0.02400		0	x	0.02800	
LCD-7100/RAN-7100 - Remote Serial Annunciator	0	x	0.12000		0	x	0.23000	
ASM-16 - Auxiliary Switch Sub-Assembly	0	x	0.01100		0	x	0.01100	
LED's On for ASM-16 (max 48)	0	x	0.00300		0	x	0.00300	
ANU-48 - Remote LED Driver Module	0	x	0.01100		0	x	0.01100	
LED's On for ANU-48 (max 48)	0	x	0.00300		0	x	0.00300	
4. Smoke Detectors/Modules								
ASD-PL3	1	x	0.00030	0.00030	1	x	0.00650	0.00650
ASD-PL3R	16	x	0.00030	0.00480	16	x	0.00650	0.10400
Smoke Detector/Module 3	0	x	0.00000		0	x	0.00000	
AMM-4F	7	x	0.00038	0.00266	7	x	0.00500	0.03500
AOM-2RF	16	x	0.00038	0.00608	16	x	0.00650	0.10400
MS-7AF	7	x	0.00030	0.00210	7	x	0.00300	0.02100
ATD-L3R	3	x	0.00030	0.00090	3	x	0.00650	0.01950
Smoke Detector/Module 8	0	x	0.00000		0	x	0.00000	
Smoke Detector/Module 9	0	x	0.00000		0	x	0.00000	
Smoke Detector/Module 10	0	x	0.00000		0	x	0.00000	
5. Notification Appliances								
P2WH185	2	x	0.00000	0.00000	2	x	0.30900	0.61800
P2RK15	1	x	0.00000	0.00000	1	x	0.09100	0.09100
P2W75	1	x	0.00000	0.00000	1	x	0.17600	0.17600
P2W15	2	x	0.00000	0.00000	2	x	0.09100	0.18200
PC2W75	1	x	0.00000	0.00000	1	x	0.17600	0.17600
SCW15	2	x	0.00000	0.00000	2	x	0.06600	0.13200
	0	x	0.00000		0	x	0.00000	
	0	x	0.00000		0	x	0.00000	
	0	x	0.00000		0	x	0.00000	
	0	x	0.00000		0	x	0.00000	
			Total Standby Load:	0.131 A			**Total Alarm Load:**	1.877 A

VOLTAGE DROP CALCULATIONS - POWER SUPPLY -FACP VD

Voltage Drop - NAC 1

Device	Current Draw (mA)	Distance (feet)	Voltage Drop	Voltage (At each)
Brand: Sys. Sensor L-Series				
Voltage: 20.4	Wire AWG: 16			
185 H - W	245	220	1.10	19.30
185 H - C	245	330	0.82	18.48
Total Voltage Drop:			1.92	
Total NAC Circuit Amps:			0.490	

Voltage Drop - NAC 2

Device	Current Draw (mA)	Distance (feet)	Voltage Drop	Voltage (At each)
Brand: Sys. Sensor L-Series				
Voltage: 20.4	Wire AWG: 16			
75 H - W	121	30	0.16	20.24
15 H - W	79	65	0.27	19.96
15 H - W	54	210	0.72	19.24
15 S - C	43	60	0.17	19.07
15 S - C	43	25	0.06	19.01
15 H - W	54	20	0.04	18.97
75 H - C	143	50	0.07	18.90
Total Voltage Drop:			1.50	
Total NAC Circuit Amps:			0.537	