

FIRE ALARM RISER DIAGRAM



E'RG 110" BLANK BRIGLE 4151F 4151F OCTABON F'RG PATE GRADES BG BOX BOX RNG BOX

A - C'ROX WITH SINGLE GANG WAG.

A - C'ROX WITH SINGLE GANG WAG.

C - C'ROX - A INC DEEP WITH SIGHT

D - C'ROX - A INC DEEP WITH SIGHT

E - C'ROX - A INC DEEP WATH SIGHT

E - C'ROX - A INC DEEP WATH SIGHT

E - C'ROX - A INC DEEP WATH SIGHT

F. C'ROX - A INC DEEP WATH SIGHT

F. C'ROX - A INC DEEP WATH SIGHT RE-

FIRE ALARM WIRE LEGEND							
EVENUE .	PRINCE WHILE TYPE AND DESCRIPTION						
A	182 PPL WIRE FOR DATA COMMUNICATION						
	14-2 FPL WIRE FOR HORNE AND STRONGS						
С	16 KING 2/C FPL FOR VOICE TRANSMISSION						
D	18 KIND 4°C FFL FOR ANNUACHTOR COMMUNICATION						
	132 AWS THEN FOR POWER						
	WHE SEE SHOWN IS FOR MIN ACCEPTANCE GAUGE.						

Same Case Same Same Same

FIRE ALARM WIRE LEGEND							
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D	18 KING 4/C FPL FOR ANNUACH TOX COMMUNICATION						
	132 AWS THEN FOR POWER						

HE FIRE ALARM SYSTEM SHALL CONSIST OF A FIRE DETECTION CONTROL AND IOTIFICATION SYSTEM.

THE FIRE ALARM EQUIPMENT SHALL BE "POWER LIMITED" THE FIRE ALARM CONTROL PANEL SHALL BE INTELLIGENT AND HAVE STANDBY BATTERY BACKUP AS PER NFPA 72, PROVIDING BATTERY POWER CAPACITY FOR THE ENTIRE SYSTEM TO OPERATE FOR 24 HOURS IN STANDBY MODE AND

ALL WIRING AND CONDUIT TO CONFORM TO NFPA 79, NATIONAL EL WIRE SHALL BE SOLID COPPER OR STRANDED COPPER WITH A MA 7 STRANDS FOR SIZES 16 AND 18AWG. STRANDED COPPER WITH A MAXIMUM OF 19 STRANDS.

MANUAL PULL STATIONS SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 72, NFPA 101, AND THE FLORIDA FIRE PREVENTION CODE.

CIRCUIT POLARITY MUST BE OBSERVED

. CONDUIT, IF REQUIRED, SHALL BE NO MORE THAN 40% FILL, PER NFPA 70, NATIONAL ELECTRICAL CODE.

. THE FIRE ALARM PANEL(S) SHALL NOT BE USED TO POWER ANY U EXTERNAL DEVICES.

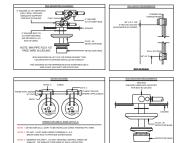
RELECTRICAL CODE. MINIMUM WIRE SIZE IS 14 AWG FOR GROUND CON INOTE: PANEL NEUTRAL OR CONDUIT GROUND IS NOT ACCEPTABLE.)

FIRE ALARM RISER CIRCUITS SHALL BE CLASS "B", STYLE "Y" & STYLE "4".

NOTIFIEM' by Horoywell	System Current Draw - NFW-50X								
Current Draw	Pleasy the Jane 17			2	_	house	ton.		798
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NOR IS	-	v 0.36000	6,00000		1 X 04100	1.473500	1	# C-30000	3,000
BORTS			E-00000	121		131000	1 î	w 0.00000	2,000
BOK 18			E-00000	121	E 15600	130100			2,000
				3			1.84		
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NAC Circuit Voltage Drop Calculations									
Circuit H	Circuit Name	Alm Current	Vire AVG/Type	Ohms Per K	Length (Ine way)	Actual Dhns	Volts 8 EDL	Drop %	Drop X
NAC-1	S1	0.550	14 AWG STR	2.52	120	0.60	20.07	1.63	YES
NAC-2	25	0.699	14 AWG	2.52	100	0.50	20.05	1.73	YES







GENS No 53600 STATE OF STATE 08/20/2022

FIRE ALARM SYSTEM CALCULATIONS SCALE: NOT TO SCALE

CULVERS 394 N.W. COMMONS LOOP LAKE CITY, FL. 32055

FLORIDA BRANCH 217 ALTAMONTE COMMERCE BLVD. ALTAMONTE SPRINGS, PL. 32714 AFA PROTECTIVE SYSTEMS, INC. NBULTING GROUP, I GALIGORIC F31828 14. SALBAGG, P.E. #530 3001 PERMAL DISCH F1509 DRIANGG, FL 33837

DWG #: - FA-1 REVISION:

1/8"=1'-0"

ECKED BY P.O.

SHEET FA-1 OF



NFW-50X Intelligent Addressable FACP with Communicator

General

The **FireWarden-50X (NFW-50X)** is the latest intelligent addressable fire alarm control panel (FACP) within the FireWarden Series and is a direct replacement for the FireWarden-50 (NFW-50). The NFW-50X comes with a pre-installed communicator and supports up to 50 addressable devices in any combination of detectors or modules. With an extensive list of powerful features, the NFW-50X programs just like FireWarden-100 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-N.

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 (4XTM).

Features

- · Listed to UL Standard 864, 10th edition
- Pre-installed IPOTS-COM Ethernet IP and POTS (Plain Old Telephone Service) Central Station Communicator
- Optional CELL-MOD or CELL-CAB-N GSM Central Station Communicator over AlarmNet®
- · Compatible with SWIFT® wireless devices
- Auto-programming (learn mode) reduces installation time.
 Reports two devices set to the same address
- Two independently programmable, built-in 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
- 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 walktest with walktest log & 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 FlashScan® and CLIP protocols
- SLC operates up to 10,000 ft. (3,000 m) in FlashScan mode with twisted, unshielded wire
- Single addressable SLC loop which meets NFPA Class B and Class A requirements
- 50 addressable device capacity (any combination of addressable detectors and modules)
- Compatible with NOTIFIER FireWarden & ONYX Series addressable devices (refer to the FireWarden SLC Wiring Manual)

NOTIFICATION APPLIANCE CIRCUITS (NACS)

- Two 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
- 50 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.notifier.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

NFW-50X: Addressable Fire Alarm Control Panel with one SLC loop. Includes main circuit board with display, pre-installed IPOTS-COM communicator, chassis with transformer, backbox with door, plastic bag containing screws, cables, key, etc.

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

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

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

DP-ES-R: Optional dress panel for the NFW-50XR (red).

DP-ES-B: Optional dress panel for NFW-50X (black).

TR-CE-B: Optional trim ring for semi-flush mounting. (Black. For red, order **TR-CE**.)

BB-XP: Optional cabinet for one or two modules.

BB-25: Optional cabinet for up to six modules mounted on CHS-6 chassis.

 $\textbf{BB-26:} \ \, \textbf{Battery backbox}, \, \textbf{holds up to two 25 AH batteries \& CHG-75}.$

NFS-LBB: Battery box, houses two 55 AH batteries

CHS-6: Chassis, mounts up to six multi-modules in a BB-25 cabinet. **CHG-75:** Battery charger for lead-acid batteries with a rating of 25 to 75 AH

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

NOTE: CHG-120 or CHG-75 required for batteries larger than 18AH.

BAT Series: Batteries, see data sheet DN-6933.

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

OPTIONAL MODULES

4XTM 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.

COMPATIBLE ANNUNCIATORS

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

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

order R for red.)

N-ANN-I/O: LED Driver Module provides connections to a user supplied graphic annunciator. (See DN-7105.)

N-ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble, and Supervisory. Ships with red enclosure. (See DN-60242.)

N-ANN-RLED: Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DN-60242.)

N-ANN-RLY: Relay Module provides 10 programmable Form-C relays. Can be mounted inside the cabinet. (See DN-7107.)

N-ANN-S/PG: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See DN-7103.)

ADDRESSABLE DEVICES

FSP-951: Addressable low-profile photoelectric smoke detector. FlashScan only.

FSP-951-IV: Addressable low-profile photoelectric smoke detector. Ivory. FlashScan and CLIP mode.

NP-200: Addressable low-profile photoelectric smoke detector. B300-6 base included, FlashScan only.

NP-200-IV: Addressable low-profile photoelectric smoke detector. Ivory, B300-6-IV base included. FlashScan and CLIP mode.

FSP-951T: Addressable low-profile photoelectric smoke detector with thermal sensor. FlashScan only.

FSP-951T-IV: Addressable low-profile photoelectric smoke detector with thermal sensor. Ivory. FlashScan and CLIP mode.

NP-200T: Addressable low-profile photoelectric smoke detector with thermal sensor. B300-6 base included. FlashScan only.

NP-200T-IV: Addressable low-profile photoelectric smoke detector with thermal sensor. Ivory, B300-6-IV base included. FlashScan and CLIP mode.

FSP-951R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. FlashScan only.

FSP-951R-IV: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. Ivory. FlashScan and CLIP mode.

NP-200R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. FlashScan only.

NP-200R-IV: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing. Ivory, FlashScan and CLIP mode.

FST-951: Low-profile 135°F fixed thermal sensor. FlashScan only.

FST-951-IV: Low-profile 135°F fixed thermal sensor. Ivory. FlashScan and CLIP mode.

NH-200: Low-profile 135°F fixed thermal sensor. B300-6 base included, FlashScan only.

NH-200-IV: Low-profile 135°F fixed thermal sensor. Ivory. B300-6-IV base included, FlashScan and CLIP mode.

FST-951R: Low-profile, intelligent, rate-of-rise thermal sensor. FlashScan only.

FST-951R-IV: Low-profile, intelligent, rate-of-rise thermal sensor. Ivory. FlashScan and CLIP mode.

NH-200R: Low-profile 135°F fixed thermal sensor. B300-6 base included, FlashScan only.

NH-200R-IV: Low-profile 135°F fixed thermal sensor. Ivory. B300-6-IV base included, FlashScan and CLIP mode.

FST-951H: Low-profile intelligent 190°F/88°C fixed thermal sensor. FlashScan only.

FST-951H-IV: Low-profile intelligent 190°F/88°C fixed thermal sensor. Ivory. FlashScan and CLIP mode.

NH-200H: Low-profile intelligent 190°F/88°C fixed thermal sensor. B300-6 base included, FlashScan only.

NH-200H-IV: Low-profile intelligent 190°F/88°C fixed thermal sensor. Ivory. B300-6-IV base included, FlashScan and CLIP mode.

Legacy Devices

FSP-851: Addressable low-profile photoelectric smoke detector.

NP-100: Addressable low-profile photoelectric smoke detector.

FSP-851T: Addressable low-profile photoelectric smoke detector with thermal sensor.

NP-100T: Addressable low-profile photoelectric smoke detector with thermal sensor.

FSP-851R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing.

NP-100R: Remote test capable addressable photoelectric smoke detector for use with DNR(W) duct detector housing.

FST-851: Fast-response, low-profile heat detector.

NH-100: Fast-response, low-profile heat detector.

FST-851R: Fast-response, low-profile heat detector with rate-of-rise option.

NH-100R: Fast-response, low-profile heat detector with rate-of-rise option.

FST-851H: Fast-response, low-profile heat detector that activates at 190°F/88°C.

NH-100H: Fast-response, low-profile heat detector that activates at 190°F/88°C.

FAPT-851: Addressable low-profile multi-sensor detector.

NP-A100: Addressable low-profile multi-sensor detector.

B200S: Programmable, addressable sounder base.

B200SR: Addressable sounder base.

DNR: InnovairFlex low-flow non-relay duct-detector housing. (Order FSP-851R, FSP-951R, or NP-100R separately.)

DNRW: InnovairFlex low-flow non-relay duct-detector housing, with NEMA-4 rating. Watertight. (Order FSP-851R, FSP-951R, or NP-100R separately.)

Addressable Modules

FMM-1: 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)

NMM-100: 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.

FDM-1: Dual Monitor Module. Same as NMM-100 except it provides two Style B (Class B) only IDCs.

NDM-100: Dual Monitor Module. Same as NMM-100 except it provides two Style B (Class B) only IDCs.

FMM-101: Miniature version of NMM-100. Excludes LED and Style D option. Connects with wire pigtails. May mount in device backbox.

NMM-100P: Miniature version of NMM-100. Excludes LED and Style D option. Connects with wire pigtails. May mount in device backbox.

FZM-1: Similar to NMM-100. 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.

NZM-100: Similar to NMM-100. 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.

FCM-1: 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.

NC-100: 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.

FRM-1: 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.

NC-100R: 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.

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

NOT-BG12LX: Addressable manual pull station with interface module mounted inside.

ISO-X: Fault Isolator Module.

N100-ISO: Fault Isolator Module.

ISO-6: Six-fault isolator module. Mount one or two modules in a BB-XP cabinet (optional). Mount up to six modules on a CHS-6 chassis in a CAB-3/CAB-4 series cabinet.

SMB500: Used to mount all modules except FMM-101/NMM-100P.

NMM-100-10: 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.

NZM-100-6: Six-zone interface module. Mount one or two modules in a BB-XP cabinet (optional). Mount up to six modules on a CHS-6 chassis in a CAB-3/CAB-4 series cabinet.

SWIFT Wireless Devices

FWSG: Wireless Gateway

FWD-200P: intelligent, wireless photo detector.

FWH-200ROR135: LiteSpeed intelligent wireless rate of rise (135°) heat detector.

FWD-200ACCLIMATE: Wireless Acclimate Detector

FWH-200FIX135: intelligent wireless fixed-temperature (135°) heat detector.

FW-MM: Intelligent wireless monitor module. **FW-RM**: Intelligent wireless relay module.

NBG-12LW: Intelligent wireless pull station.

WAV-RL, WAV-WL, WAV-CRL, WAV-CWL: 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 FireWarden-50X, see the following data sheets (document numbers): NP-200 Series (DN-60979), NH-200 Series (DN-60980), FSP-851 Series (DN-6935), FSP-951 Series (DN-60977), FST-851 Series (DN-6936), FST-951 Series (DN-60975), FAPT-851 (DN-6937), N100-ISO (DN-6994), NP-100 series (DN-6995), NH-100/NH-100R (DN-6997), DNR/InnovairFlex (DN-60424, DN-60429), NP-4100 (DN-6998), NMM-100/NDM-100/NZM-100 (DN-6999), NC-100 (DN-7000), NC-100R (DN-60383), NMM-100-10 (DN-6990), MM-1/FDM-1/FZM-1/FMM-101 (DN-6720), FCM-1/FRM-1 (DN-6724), NOT-BG12LX (DN-7001), NBG-12LX (DN-6726), and FireWarden SLC Manual (52304).

ADDRESSABLE DEVICE ACCESSORIES

End-of-Line Resistor Assembly (R-47K and R-3.9K): The 47k ohm assembly supervises the FMM-1/NMM-100-10, FDM-1/NDM-100, FMM-101/NMM-100P, and FCM-1/NC-100 module circuits. The 3.9k ohm assembly supervises the XP6-MA/NZM-100-6 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 Capacity

•	Intelligent Signaling Line Circuits	1
•	Addressable device capacity	50
•	Programmable software zones	50
•	Annunciators	16

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 (FireWarden-50X cabinet holds maximum of two 18 AH batteries.)

Communication Loop: Supervised and power-limited.

Notification Appliance Circuits: Terminal Block provides connections for two 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, $\frac{1}{2}$ watt (P/N 71252 UL listed) for Style Y (Class B) NAC; system capable of 1.9 k Ω - 22 k Ω ELR range. Refer to the *NOTIFIER 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/B):** 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 $0-49^{\circ}\text{C}/32-120^{\circ}\text{F}$ and at a relative humidity $93\% \pm 2\%$ RH (noncondensing) at $32^{\circ}\text{C} \pm 2^{\circ}\text{C}$ ($90^{\circ}\text{F} \pm 3^{\circ}\text{F}$). 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 $15-27^{\circ}\text{C}/60-80^{\circ}\text{F}$.

NFPA Standards

The FireWarden-50X complies with the following NFPA 72 Fire Alarm Systems requirements:

- LOCAL (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- AUXILIARY (Automatic, Manual and Waterflow) (requires 4XTM).
- 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, 4XTM 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 FireWarden-50X 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: S635

CSFM: 7165-0028:0505FDNY: COA #6268



This document is not intended to be used for installation purposes.

We try to keep our product information up-to-date and accurate.

We cannot cover all specific applications or anticipate all requirements.

All specifications are subject to change without notice.

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Country of Origin: USA





N-ANN-80 80-Character Serial LCD Annunciator

General

The N-ANN-80 annunciator is a compact, backlit, 80-character LCD fire annunciator that mimics the Fire Alarm Control Panel (FACP) display. It provides system status indicators for AC Power, Alarm, Trouble, Supervisory, and Alarm Silenced conditions. The N-ANN-80 and the FACP communicate over a two-wire serial interface employing the ANN-Bus communication format. Connected devices are powered, via two additional wires, by either the host FACP or a remote UL-listed, filtered power supply. The N-ANN-80 is black; for white order N-ANN-80-W.

The N-ANN-80 displays English-language text of system point information including device type, zone, independent point alarm, trouble or supervisory status, as well as any custom alpha labels programmed into the control panel. It includes control switches for remote control of critical system functions. (A keyswitch prevents unauthorized operation of the control switches.)

Up to eight N-ANN-80s may be connected to the ANN-Bus of each FACP. Minimal programming is required, which saves time during system commissioning. The N-ANN-80 is compatible with NOTI-FIER FACPs with an ANN-Bus, such as the NFW-50X.

Features

- · Listed to UL Standard 864. 9th Edition
- Backlit 80-character LCD display (20 characters x 4 lines)
- · Mimics all display information from the host panel
- Control switches for System Acknowledge, Signal Silence, Drill, and Reset
- Control switches can be independently enabled or disabled at the FACP
- Keyswitch enables/disables control switches and mechanically locks annunciator enclosure
- · Keyswitch can be enabled or disabled at the FACP
- · Enclosure supervised for tamper
- System status LEDs for AC Power, Alarm, Trouble, Supervisory, and Alarm Silence
- · Local sounder can be enabled or disabled at the FACP
- N-ANN-80 connects to the ANN-Bus terminal on the FACP and requires minimal panel programming
- Displays device type identifiers, individual point alarm, trouble, supervisory, zone, and custom alpha labels
- · Time-and date display field
- Surface mount directly to wall or to single, double, or 4" square electrical box
- Semi-flush mount to single, double, or 4" square electrical box.
 Use ANN-SB80KIT for angled view mounting
- Can be remotely located up to 6,000 feet (1,800 m) from the panel
- Backlight turns off during AC loss to conserve battery power but will turn back on if an alarm condition occurs
- May be powered by 24 VDC from the host FACP or by remote power supply (requires 24 VDC)
- Up to eight N-ANN-80s can be connected on the ANN-Bus

Controls and Indicators

- AC Power
- Alarm



- Trouble
- Supervisory
- Alarm Silenced

Specifications

- · Operating voltage range: 18 VDC to 28 VDC
- Current consumption @ 24 VDC nominal (filtered and non-resettable): 40 mA maximum
- Ambient temperature: 32°F to 120°F (0°C to 49°C)
- Relative humidity: 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F)
- 5.375" (13.65 cm.) high x 6.875" (17.46 cm.) wide x 1.375" (3.49 cm.) deep
- · For use indoors in a dry location
- All connections are power-limited and supervised

The ANN-Bus

POWERING THE DEVICES ON THE ANN-BUS FROM AUXILIARY POWER SUPPLY

The ANN-Bus can be powered by an auxiliary power supply when the maximum number of ANN-Bus devices exceeds the ANN-Bus power requirements. See the FACP manual for more information.

ANN-BUS DEVICE ADDRESSING

Each ANN-Bus device requires a unique address (ID Number) in order to communicate with the FACP. A maximum of 8 devices can be connected to the FACP ANN-Bus communication circuit. See the FACP manual for more information.

WIRE REQUIREMENTS: COMMUNICATIONS CIRCUIT

The N-ANN-80 connects to the FACP ANN-Bus communications circuit. To determine the type of wire and the maximum wiring distance that can be used with FACP ANN-Bus accessory modules, it is necessary to calculate the total worst case current draw for all modules on a single 4-conductor bus. The total worst case current draw is calculated by adding the individual worst case currents for each module.

NOTE: For total worst case current draw on a single ANN-Bus refer to appropriate FACP manual.

WIRE REQUIREMENTS: POWER CIRCUIT

- 14 to 18 AWG (0.75 2.08 mm²) wire for 24 VDC power circuit is acceptable.
- All connections are power-limited and supervised.
- · A maximum of eight N-ANN-80 modules may be connected to this circuit.

Ordering Options:

N-ANN-80: Black 80 character LCD Annunciator. N-ANN-80-W: White, 80 character LCD Annunciator.

ANN-SB80KIT-B: Black surface mount backbox with angled wedge. ANN-SB80KIT-W: White surface mount backbox with angled

wedge.

Agency Listings and Approvals

The listings and approvals below apply to the N-ANN-80. 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: S635 FM approved

• CSFM: 7120-0028:0240 • MEA: 442-06-E Vol. 2



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Country of Origin: USA



www.notifier.com

NBG-12LX

Addressable Manual Pull Station



Intelligent/Addressable Devices

General

The Notifier NBG-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 for any Notifier intelligent control panel except FireWarden series panels, and the NSP-25 panel. Because the NBG-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 semiflush mounted. Semi-flush mount to a standard singlegang, 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.
- Up to 99 NBG-12LX stations per loop on CLIP protocol loops.
- Up to 159 NBG-12LX stations per loop on FlashScan® protocol loops.
- Dual-color LED blinks green to indicate normal on FlashScan® systems.

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



The NBG-12LX
Addressable Manual Pull Station

Installation

The NBG-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 NBG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is 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 $(1-159 \text{ on FlashScan} \otimes \text{systems}, 1-99 \text{ on CLIP systems})$.

Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, with a keyoperated 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.

The loop poll LED shall be clearly visible through the front of the station. The LED shall flash while in the normal condition, and stay steadily illuminated when in alarm.

Product Line Information

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

NBG-12LXSP: Spanish/English labelled version.

NBG-12LXP: Portuguese labelled version.

SB-10: Surface backbox; metal. SB-I/O: Surface backbox; plastic. BG12TR: Optional trim ring. 17021: Keys, set of two.

NY-Plate: New York City trim plate.

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: S692 (listed for Canadian and non-Canadian applications).
- MEA: 67-02-E.
- CSFM: 7150-0028:0199.
- FDNY: COA #6085 (NFS2-640), COA #6098 (NFS2-3030).
- BSMI: Cl313066760047.
- · U.S. Coast Guard.
- · Lloyd's Register.
- · FM Approved.

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

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FSP-951 Series

Intelligent Plug-In Photoelectric Smoke Detectors



Intelligent/Addressable Devices

General

The NOTIFIER FSP-951 Series intelligent plug-in smoke detectors are designed for both performance and aesthetics. A new modern. sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards. The FSP-951 Series detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. Dual electronic thermistors add 135°F (57°C) fixed temperature thermal sensing on the FSP-951T. The FSP-951R is a remote test capable detector for use with DNR Series duct detector housings. FSP-951 series detectors are available for both FlashScan® and CLIP applications as designated.



- · New modern profile for improved aesthetics.
- · Designed to meet UL268 7th Edition.
- Stable communication technique with noise immunity.
- Low standby current.
- · Two-wire SLC connection.
- · Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- · Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm (FlashScan systems only).
- · Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1 (FlashScan systems only).
- · Built-in functional test switch activated by external magnet.
- · Built-in tamper-resistant feature.
- Sealed against back pressure.
- · Expanded color options.
- SEMS screws for wiring of the separate base.
- · Optional relay, isolator, and sounder bases.

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 DN-60981.

Shipping weight: 3.4oz (96.4g) **Operating Temperature range:**

- FSP-951, 0°C to 50°C (32°F to 122°F).
- FSP-951T, 0°C to 38°C (32°F to 100°F).



FSP-951 in B300-6 Base

 FSP-951R installed in a DNR/DNRW, -20°C to 70°C (-4°F to 158°F).

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

Relative Humidity: 10%-93% noncondensing.

Thermal Ratings: Fixed-temperature setpoint 135°F (57°C).

DETECTOR SPACING AND APPLICATIONS

NOTIFIER 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. *System Smoke Detector Application Guide*, document A05-1003, is available at systemsensor.com

ELECTRICAL SPECIFICATIONS

Voltage Range: 15-32 volts DC peak.

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

LED Current (max.): 4.5mA @ 24 VDC ("ON").

Installation

FSP-951 series plug-in detectors use a separate base to simplify installation, service, and maintenance.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60981*.

NOTE: 1) Because of 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. 2) When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Agency Listings and Approvals

These listings and approvals apply to the detectors specified in this document. In some cases, certain detectors 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: S911FM Approved

CSFM: 7272-0028:0503

Product Line Information

NOTE:

- Detectors must be mounted to one of the Intelligent Bases listed below.
- "A" suffix indicates ULC Listed model.
- "IV" suffix indicates FlashScan® and CLIP device.

FSP-951: White, low-profile intelligent photoelectric sensor, FlashScan only.

FSP-951A: Same as FSP-951 but with ULC listing.

FSP-951-IV: Ivory, low-profile intelligent photoelectric sensor.

FSP-951A-IV: Same as FSP-951-IV but with ULC listing.

FSP-951T: White, same as FSP-951 but includes a built-in 135°F (57°C) fixed-temperature thermal device. FlashScan only.

FSP-951TA: Same as FSP-951T but with ULC listing.

FSP-951T-IV: Ivory, same as FSP-951T but includes a built-in 135°F (57°C) fixed-temperature thermal device.

FSP-951TA-IV: Same as FSP-951T-IV but with ULC listing.

FSP-951R: White, low-profile intelligent photoelectric sensor, remote test capable. For use with DNR/DNRW. FlashScan only.

FSP-951RA: Same as FSP-951R but with ULC listing. For use with DNRA

FSP-951R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable. For use with DNR/DNRW.

FSP-951RA-IV: Same as FSP-951R-IV but with ULC listing. For use with DNRA.

INTELLIGENT BASES

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

B300-6: White, 6" base, standard flanged low-profile mounting base.

B300-6-IV: Ivory,6" base, standard flanged low-profile mounting base.

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.

B501-BL: Black, 4" standard European flangeless mounting base. UL/ULC listed.

B501-IV: Ivory color, 4" standard European flangeless mounting base. UL/ULC listed.

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

B224RB-WH: White, relay base. **B224RB-IV:** Ivory, relay base.

B224RBA-WH: White, relay base, ULC listing. **B224RBA-IV:** Ivory, relay base, ULC listing.

B224BI-WH: White, isolator detector base.

B224BI-IV: Ivory isolator detector base.

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.

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.

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 SO Series detector applications.

B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with SO 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.

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.

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

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

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.

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.

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(A)-6

M02-04-00: Test magnet.

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

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For more information, contact Notifier. Phone: (800) 627-3473, FAX: (203) 484-7118. www.notifier.com

FCM-1(A) & FRM-1(A) Series

Control and Relay Modules



Intelligent / Addressable Devices

General

FCM-1(A) Control Module: The FCM-1(A) Addressable Control Module provides Notifier intelligent fire alarm control panels a circuit for Notification Appliances (horns, strobes, speakers, etc.). Addressability allows the FCM-1(A) to be activated, either manually or through panel programming, on a select (zone or area of coverage) basis.

FRM-1(A) Relay Module: The FRM-1(A) Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, dampers, control equipment, etc. Addressability allows the dry contact to be activated, either manually or through panel programming, on a select basis.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER 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. The FCM-1(A) module requires power (for horns, strobes, etc.), or audio (for speakers).
- Integral LED "blinks" green each time a communication is received from the control panel and turns on in steady red when activated.
- LED blink may be deselected globally (affects all devices).
- High noise immunity (EMF/RFI).
- The FCM-1(A) may be used to switch 24-volt NAC power, audio (up to 70.7 Vrms).
- · Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address 01– 159 for FlashScan loops, 01 – 99 for CLIP mode loops.
- Speaker, and audible/visual applications may be wired for Class B or A (Style Y or Z).

Applications

The FCM-1(A) is used to switch 24 VDC audible/visual power, high-level audio (speakers). The FRM-1(A) may be programmed to operate dry contacts for applications such as door holders or Air Handling Unit shutdown, and to reset four-wire smoke detector power.

NOTE: Refer to the SLC Manual (PN 51253) for details regarding releasing applications with the FCM-1(A). Refer to the FCM-1-REL datasheet (DN-60390) for new FlashScan® releasing applications.

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address (01-159).



FCM-1(A)

- The FCM-1(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The FRM-1(A) provides two Form-C dry contacts that switch together.

Operation

Each FCM-1(A) or FRM-1(A) uses one of 159 possible module addresses on a SLC loop (99 on CLIP loops). 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. The FCM-1(A) supervises Class B (Style Y) or Class A (Style Z) notification or control circuits.

Upon code command from the panel, the FCM-1(A) will disconnect the supervision and connect the external power supply in the proper polarity across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned ON. The external power supply is always relay isolated from the communication loop so that a trouble condition on the external power supply will never interfere with the rest of the system.

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 module and a sensor address.

Specifications for FCM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 350 μ A direct poll, 375 μ A group poll with LED flashing, 485 μ A Max. (LED flashing, NAC shorted.)

Maximum NAC Line Loss: 4 VDC.

External supply voltage (between Terminals T10 and

T11): Maximum (NAC): Regulated 24 VDC; Maximum (Speakers): 70.7 V RMS, 50W.

Drain on external supply: 1.7 mA maximum using 24 VDC supply; 2.2 mA Maximum using 80 VRMS supply.

Max NAC Current Ratings: For class B wiring system, the current rating is 3A; For class A wiring system, the current rating is 2A.

Temperature range: 32°F to 120°F (0°C to 49°C). **Humidity range:** 10% to 93% non-condensing.

Dimensions: 4.5" (114.3 mm) high x 4" (101.6 mm) wide x 1.25" (31.75 mm) deep. Mounts to a 4" (101.6 mm) square x 2.125" (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Specifications for FRM-1(A)

Normal operating voltage: 15 to 32 VDC. Maximum current draw: 6.5 mA (LED on).

Average operating current: 230 µA direct poll; 255 µA group

poll.

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" (114.3 mm) high x 4" (101.6 mm) wide x 1.25" (31.75 mm) deep. Mounts to a 4" (101.6 mm) square x

2.125" (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

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: S635

• ULC: S3705 (A version only)

FM Approved

• CSFM: 7300-0028:0219

• MEA: 14-00-E

• FDNY: COA #6067, #6065

Contact Ratings for FRM-1(A)

Current Rating	Maximum Voltage	Load Description	Application		
3 A	30 VDC	Resistive	Non-Coded		
2 A	30 VDC	Resistive	Coded		
.9 A	110 VDC	Resistive	Non-Coded		
.9 A	125 VDC	Resistive	Non-Coded		
.5 A	30 VDC	Inductive (L/R=5ms)	Coded		
1 A	30 VDC	Inductive (L/R=2ms)	Coded		
.3 A	125 VAC	Inductive (PF=0.35)	Non-Coded		
1.5 A	25 VAC	Inductive (PF=0.35)	Non-Coded		
.7 A	70.7 VAC	Inductive (PF=0.35)	Non-Coded		
2 A	25 VAC	Inductive (PF=0.35)	Non-Coded		

NOTE: Maximum (Speakers): 70.7 V RMS, 50 W

Product Line Information

NOTE: "A" suffix indicates ULC Listed model.

FCM-1(A): Intelligent Addressable Control Module. **FRM-1(A):** Intelligent Addressable Relay Module.

A2143-20: Capacitor, required for Class A (Style Z) operation

of speakers.

SMB500: Optional Surface-Mount Backbox.

CB500: Control Module Barrier — required by UL for separating power-limited and non-power limited wiring in the same junction box as FCM-1(A).

NOTE: For installation instructions, see the following documents:

- FCM-1(A) Installation document I56-1169.
- FRM-1(A) Installation document I56-3502.
- Notifier SLC Wiring Manual, document 51253.

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Outdoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

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





Features

- · Weatherproof NEMA 4X, IP56 rated
- 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







MFA452-05-F

7300-1653:187 (outdoor strobes 7125-1653:188 (horn strobes, chime strobes) 7135-1653:189 (horns, chimes) **SpectrAlert Advance** offers the broadest line of outdoor horns, strobes, and horn strobes in the industry. With white or red plastic housings, wall or ceiling mounting options, and plain or FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement, including indoor, outdoor, wet, and dry applications in temperatures from -40° F to 151° F.

Like the entire SpectrAlert Advance line, outdoor strobes and horn strobes for ceiling 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. Plastic and metal weatherproof back boxes come with ¾-inch top and bottom conduit entries and ¾-inch knock-outs at the back. Three screw-in NPT plugs with O-ring gaskets for a watertight seal is included with each back box.

SpectrAlert Advance Outdoor Strobe, and Horn Strobe Specifications

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 1638 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 1638 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 strobe on a 2-wire model shall work on a non-coded power supply. The horn on 4-wire 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 listed 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 Range with MDL3 Sync Module	8.5 to 17.5V (12 V nominal) or 16.5 to 33V (24 V 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)
Strobe / Horn Strobe Dimensions	5.6 "L \times 4.7 "W \times 1.3 "D (142 mm L \times 119 mm W \times 33 mm D)
Strobe / Horn Strobe Dimensions with Back Box	5.6 "L \times 4.7 "W \times 1.3 "D (142 mm L \times 119 mm W \times 33 mm D)
Ceiling-Mount Weatherproof Back Box Dimensions	7.1" diameter \times 2.0" high (180 mm diameter \times 51 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. Products will operate at 12 V nominal only for 15 and 15/75 cd.

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)						
		8-17.5	Volts	16–33 \	/olts	
	Candela	DC	FWR	DC	FWR	
Standard	15	123	128	66	71	
Candela	15/75	142	148	77	81	
Range	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	135	NA	NA	228	207	
Candela	150	NA	NA	246	220	
Range	177	NA	NA	281	251	
	185	NA	NA	286	258	

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

UL Max. Current Draw (m	A RMS), 2-\	Wire Horn Str	obe, Stand	ard Candela	Range (15-	115 cd)			
	8-17.5 Volts		16–33 V	olts					
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 \	/olts				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.

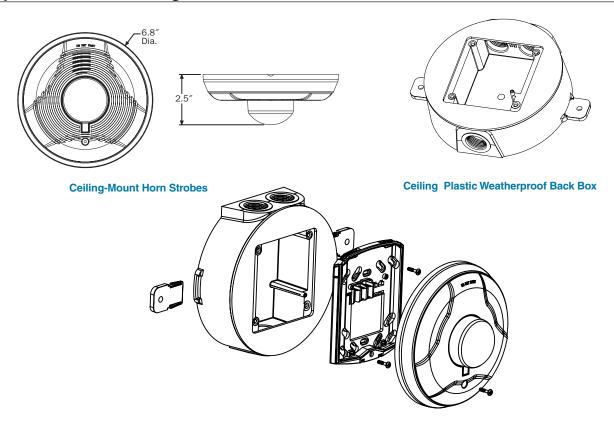
Candela rating at -40°F					
Do not use below 32°F					
					44
70					
110					
115					
135					
150					
177					
185					

Horn Tones and Sound Output Data

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



Ceiling-Mount Horn Strobe with Plastic Weatherproof Back Box

SpectrAlert Advance Ordering Information

Model	Description
Ceiling Horn Strobes	
PC2RK	2-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
PC2RHK	2-Wire Horn Strobe, High cd, Red, Outdoor (includes plastic weatherproof back box)
PC2WK	2-Wire, Horn Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
PC2WHK	2-Wire, Horn Strobe, High cd, White, Outdoor (includes plastic weatherproof back box)
Ceiling Strobes	
SCRK	Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
SCRHK	Strobe, High cd, Red, Outdoor (includes plastic weatherproof back box)
SCWK	Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
SCWHK	Strobe, High cd, White, Outdoor (includes plastic weatherproof back box)
Accessories	
SA-WBBC	Red, Metal Weatherproof Back Box
SA-WBBCW	White, Metal Weatherproof Back Box
MP120K	

Notes:

"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 outdoor units, both the device and back box must be replaced.





DNR(A) and DNRW Intelligent Photoelectric Duct Detectors

The Notifier DNR(A) intelligent non-relay photoelectric duct smoke detector and DNRW watertight non-relay photoelectric duct smoke detector feature a pivoting housing that fits both square and rectangular footprints capable of mounting to a round or rectangular duct.

The DNRW duct smoke detector, with its NEMA-4 rating, is listed as a watertight, UV resistant enclosure providing protection against falling dirt, rain, and windblown dust, splashing and hose directed water, allowing operators to use the detector in the most extreme environments.

These units sense smoke in the most challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute (0.5-20.32 m/s), temperatures of $-4^{\circ}\text{F} - 158^{\circ}\text{F}$ ($-20^{\circ}\text{C} - 70^{\circ}\text{C}$), and a humidity range of 0-95 percent (non-condensing.)

An improved cover design isolates the sensor head, which allows for ease of maintenance. A cover tamper feature indicates a trouble signal for a removed or improperly installed sensor cover. The housing provides a 3/4-inch conduit knockout and ample space to facilitate easy wiring and mounting of a relay module.

The Notifier DNR(A) duct smoke detectors can be customized to meet local codes and specifications without additional wiring and are compatible with all previous models, including remote test accessories.

Features

- · Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min 4,000 ft/min (0.5 m/s 20.32 m/s)
- · Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (-4°F 158°F, -20°C 70°C) and humidity (0% 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- · Cover tamper signal
- Increased wiring space with a newly added 3/4" conduit knockout
- Available space within housing to accommodate mounting of a relay module
- Easily accessible code wheels on sensor head (sold separately)
- · Clear cover for convenient visual inspection
- · Remote testing capability
- Requires com line power only
- Accommodates an addressable relay module, sold separately, (FRM-1) for applications requiring a Form-C relay

Specifications

Size: (Rectangle) 14.38 in (37 cm) Length; 5 in (12.7 cm) Width, 2.5 in (6.6 cm) Depth

Size: (Square) 7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth

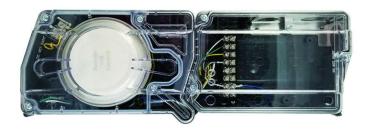
Weight: 1.6 lb (0.73 kg)

Operating Temperature Range: $-4^{\circ}F - 158^{\circ}F \ (-20^{\circ}C - 70^{\circ}C)$ Storage Temperature Range: $-22^{\circ}F - 158^{\circ}F \ (-30^{\circ}C - 70^{\circ}C)$

Operating Humidity Range: 0% – 95% relative humidity (non-condensing)

uchanig)

Air Duct Velocity: 100 - 4,000 ft/min (0.5 - 20.32 m/s)



Accessories

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

DNR(W) housings with a date code of 0013 or higher do not require external 24VDC for remote test applications when used with a remote-test-capable detector.

ACCESSORY CURRENT LOADS AT 24 VDC

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

Agency Listings and Approvals

Consult product manual for lists of compatible UL-Listed devices. 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: S635, S3705

ULC: S635

CSFM: 3240-1653:0209

FM approved

Product Line Information

NOTE: "A suffix indicates ULC listed model.

DNR(A): Intelligent non-relay photoelectric low flow smoke detector housing. Requires photoelectric smoke detector (sold separately).

DNRW: Watertight intelligent non-relay photoelectric low flow duct smoke detector housing. Requires photoelectric smoke detector (sold separately). NEMA-4 rated.

FSP-951R(A)-IV: Remote test capable addressable low-profile photoelectric smoke detector; ivory; supports CLIP and FlashScan® protocols

FSP-951R(A): Remote test capable addressable low-profile photoelectric smoke detector; white; supports FlashScan protocol only

FSP-951(A)-IV: Addressable low-profile photoelectric smoke detector; ivory; supports CLIP and FlashScan protocols

FSP-951R(A): Addressable low-profile photoelectric smoke detector; white; supports FlashScan protocol only

DCOIL: Remote test coil. Required for older DNR(W) duct detector housing

DUCTCOV: Retrofit DNR cover for manufactured prior to April 2014

DUCTCOVW: Retrofit DNRW cover for manufactured prior to April 2014

DST1(A): Metal sampling tube duct width up to 1 ft (0.3m)

DST1.5(A): Metal sampling tube duct widths up to 1 ft - 2 ft (0.3 -

 $0.6 \, m)$

DST3(A): Metal sampling tube duct widths up to 2 ft -4 ft (0.6 - 1.2)

DST5(A): Metal sampling tube duct widths up to 4 ft - 8 ft (1.2 - 2.4)

DST10(A): Metal sampling tube duct widths up to 8 ft - 12 ft (2.4 - 3.7 m)

DH400OE-1: Weatherproof enclosure

ETX: Metal exhaust tube duct, width 1 ft (0.3 m)

M02-04-00: Test magnet

P48-21-00: End cap for metal sampling tubes **RA100Z(A):** Remote annunciator alarm LED

RTS151(A): Remote test station

RTS151KEY(A): Remote test station with key lock

Important Notes

- DNR(W) duct detector housings with a date code of 0013 or higher do not require a DCOIL or auxiliary 24 VDC for remote test applications when used with a remote test capable detector.
- DNR(W) duct detector housings with a date code of 0012 or earlier require a DCOIL and auxiliary 24 VDC power for remote test applications.



This document is not intended to be used for installation purposes.

We try to keep our product information up-to-date and accurate.

We cannot cover all specific applications or anticipate all requirements.

All specifications are subject to change without notice.

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Country of Origin: Mexico





FST-951 Series Intelligent Addressable Heat Detectors

The NOTIFIER® FST-951 Series intelligent thermal detectors are designed for both performance and aesthetics, and are direct replacements for the FST-851 Series. A new modern, sleek, contemporary design and advanced thermal technologies make the FST-951 Series ideal for both system operation and building design. The point ID address, set using rotary decimal switches, provide specific detector locations.

The series includes a 135°F/57°C fixed-temperature, rate-of-rise, and a 190°F/88°C fixed high-temperature detectors. These thermal detectors provide effective, intelligent property protection in a variety of applications. Detectors are available for both FlashScan® and CLIP applications as designated.

Features

SLC LOOP:

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

ADDRESSING:

- Addressable by device
- Rotary, decimal addressing (Refer to the NOTIFIER panel manuals for device capacity.)

ARCHITECTURE:

- Designed to meet UL 268 7th Edition
- · Sleek, low-profile, stylish design
- · State-of-the-art thermistor technology for fast response
- · Integral communications and built-in device-type identification
- · Built-in tamper resistant feature
- Built-in functional test switch activated by external magnet

OPERATION:

- Fixed temperature model (FST-951) factory preset to 135°F (57°C)
- Rate-of-rise model (FST-951R),15°F (8.3°C) per minute
- High-temperature model FST-951H) factory preset to 190°F (88°C)
- 360°-field viewing angle of the two visual alarm indicators, LEDs blink red in Normal condition and turn on steady red in Alarm
- · LEDs blink every time the unit is polled

MECHANICALS:

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

OTHER SYSTEM FEATURES:

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

OPTIONS:

Remote LED output connection to optional RA100Z remote LED annunciator



Installation

FST-951 Series plug-in intelligent thermal 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 *DN-60054*.

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 ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Applications

Use thermal detectors for protection of property. For further information, refer to I56-6522, Applications Manual for System Smoke Detectors, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications.

Construction

These detectors are constructed of fire-resistant plastic. The FST-951 Series plug-in intelligent thermal detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each FST-951 Series detector uses one of the panel's addresses (total limit is panel dependent) on the NOTIFIER 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 FST-951 Series offers features and performance that represent the latest in thermal detector technology.

Product Line Information

NOTE: "-IV" suffix indicates CLIP and FlashScandevice.

FST-951: White, low-profile intelligent 135°F fixed thermal sensor, FlashScan only

FST-951A: Same as FST-951 but with ULC listing

FST-951-IV: Ivory, low-profile intelligent 135°F fixed thermal sensor,

FlashScan and CLIP

FST-951A-IV: Same as FST-951-IV but with ULC listing

FST-951R: White, low-profile intelligent rate-of-rise thermal sensor,

FlashScan only

FST-951RA: Same as FST-951 but with ULC listing

FST-951R-IV: Ivory, low-profile intelligent rate-of-rise fixed thermal

sensor, FlashScan and CLIP

FST-951RA-IV: Same as FST-951R-IV but with ULC listing

FST-951H: White, low-profile intelligent 190°F fixed thermal sensor,

FlashScan only

FST-951HA: Same as FST-951H but with ULC listing

FST-951H-IV: Ivory, low-profile intelligent 190°F thermal sensor,

FlashScan and CLIP

FST-951HA-IV Same as FST-951 but with ULC listing

INTELLIGENT BASES

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

B300-6: White, 6" base, standard flanged low-profile mounting base

(CSFM: 7300-1653:0109)

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

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

ULC is 0.5% to 3.5%

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

B300-6: 6.1" (15.6 cm) diameterB501: 4" (10.2 cm) diameter

For a complete list of detector bases see DN-60981

Shipping weight: 3.4 oz. (95 g) **Operating temperature range:**

• FST-951, FST-951R Series: -4°F to 100°F (-20°C to 38°C)

FST-951H Series: -4°F to 150°F (-20°C to 66°C)

Detector spacing: UL approved for 50 ft. (15.24 m) center-to-cen-

ter, FM approved for 25 x 25 ft. (7.62 x 7.62 m) spacing

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)

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

See "Product Line Information: Intelligent Bases," if using a dif-

ferent base.

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

Standby current (max. avg.): 200µA @ 24 VDC (one communica-

tion every 5 seconds with LED enabled)

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

Listings and Approvals

Listings and approvals below apply to the FST-951 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: S747

FM Approved

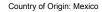
· CSFM: 7270-0028:0502



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

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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.



- 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





FM approved excep for ALERT models 3057383



7125-1653:050

L-Series Specifications

Architect/Engineer Specifications

General

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17/8-inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

Strobe

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

Horn Strobe Combination

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

Synchronization Module

The module shall be a System Sensor Sync Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize L-Series strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 4 11/16 × 4 11/16 × 2 1/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications	
Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 VDC or regulated 24 DC/FWR ¹
Operating Voltage 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	15	87	41	60	
Range	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	

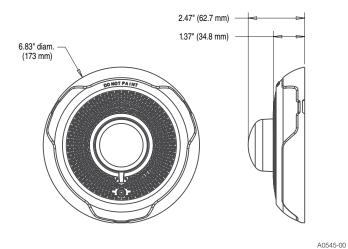
UL Max. Horn Current Draw (mA RMS)				
		8-17.5 Volts	16–33	Volts
Sound Pattern	dB	DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

	8–17.5 Vo	olts	16–33 Vo	olts					
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 Vo	olts		,	,				
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		

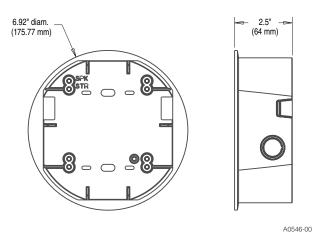
Horn Strobe Tones and Sound Output Data

Horn Stro	obe Output (dBA)				
			8-17.5	16–33	
Switch			Volts	Volts	
Position	Sound Pattern	dB	DC	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

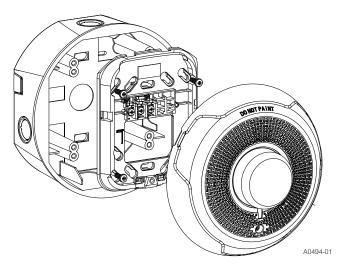
L-Series Dimensions



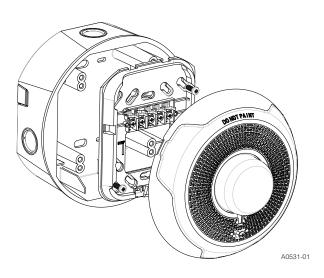
Ceiling-Mount Horn Strobes



Ceiling Surface Mount Back Box



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



4-Wire Ceiling Mount Horn Strobes with Ceiling Surface Mount Back Box

L-Series Ordering Information

	G
Model	Description
Ceiling Ho	orn 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".





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

- Universal full event sole & dual path cellular &/or IP commercial fire alarm reporting from any panel brand, virtually anywhere
- Code-compliant, replaces 2POTs lines per FACP saves thousands of dollars per year over the leased landlines
- Supports 12V-24 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 Verizon® LTE Network, "The Nations largest and most reliable LTE network. Rated #1 overall network, proven to deliver consistently fast speeds ad i more places than any other network" ‡
- 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
- Easiest installation, powered by panel, NO extra power supply, NO conduit, self supervised on 4 wires
- Over-the-Air Upgradeable Communicator Firmware.
 Remote ability for critical/mandatory updates, without a truck-roll
- Cost-saving models and plans for any code requirement.
 Substantial savings over monthly dedicated landline charges.
 And, \$100 saving incentive for system upgrades from old radios (all makes) and old POTs landlines, as well as new installations

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 Verizon LTE coverage footprint available, via most extensively deployed LTE CAT1, using proven StarLink circuitry, they are also available in mercantile 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 Mercantile 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, to an hour. The units are very easily activated, plans and options are selected, and 24/7 account management is provided all through www.napcocomnet.com.

Napco StarLink Universal Fire Alarm Communicators

- Sole Path Cellular and Dual Path Cellular &/or IP Models
- Choice of plans (varies by model) check-ins from 200 seconds, to 5-minutes to 1 hour, Verizon LTE Network
- Patented Signal Boost™and Dual Diversity Antennae for maximum signal acquisition & null avoidance, receiving signals simultaneously on both antennae
- · Money-saving Tradeup incentive credit
- Bonus: Full High-Speed Napco Panel remote uploading/ downloading
- COMPLIANCES: NFPA72 Editions: 2016, 2013, 2010, 2007; UL 864, 9th Ed., UL1610, UL985, UL1023, NYCFD; CSFM; LAFD







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



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

StarLink Fire Specifications

STANDARD MODELS:

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

MERCANTILE MODELS (similar to above, with):

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

Ordering Information

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

SLE-LTEVI-FIRE Dual Path Communicator, Cellular &/or IP, connected by Verizon LTE™, ABS. Low current draw, panel-powered technology™ (powered by control panel)

SLE-LTEV-FIRE as above, but sole path cellular model

SLELTEVI-CFB Commercial Fire Dual Path Mercantile model in red metal housing on LTE, Verizon LTE Network, powered directly from control panel

SLETEVI-CFB-PS Commercial Fire Dual Path Mercantile model in red metal housing, LTE, Verizon LTE Network. Direct 120VAC Powered (w/ provisions for backup battery/charger). Or, Optional TRF12 plug-in transformer may be used, where codes permit

ACCESSORIES:

Free Commercial Fire Tradeup Trifold Brochures / Mailers/Stuffers (A720) for new and existing fire accounts

SLE-ANTEXT75 Optional extended antenna with 75' cable (new conical shape)

SLE-ANTEXT50 As above, with 50' cable

SLE-ANTEXT30 As above, with 30' cable

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

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

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

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



Award Winning FL-FACP-LTEVS 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, mercantile red enclosure,(surface or flush mount*) removable 16"x17" door with 14.25"x16" base. Houses 16Ah battery





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