Lee's Summit Market Plaza
Lee's Summit, MO

Fire Alarm Product Data Submittal

Progressive Electronics, inc.
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Lee's Summit Market Plaza

Green Street- 2nd Street to 3rd Street

Lee's Summit, MO

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FSP-951	Notifier	Addressable photoelectric detector
DNR	Notifier	Duct detector housing
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GENERIC KNOX BOX	Knox	Knox box w/ tamper switch
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6220FL	Belden	16 awg, 2 cond, fplp oas
6120UL	Belden	14 awg, 2 cond, fplp

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NFW-100X Intelligent Addressable FACP with Communicator

General

The **FireWarden-100X (NFW-100X)** is the latest intelligent addressable Fire Alarm Control Panel (FACP) within the FireWarden Series and is a direct replacement for the FireWarden-100 (NFW-100). The NFW-100X comes with a pre-installed communicator and supports up to 198 addressable devices (99 detectors and 99 modules). With an extensive list of powerful features, the NFW-100X programs just like FireWarden-100 products, yet fits into applications previously served only by conventional panels.

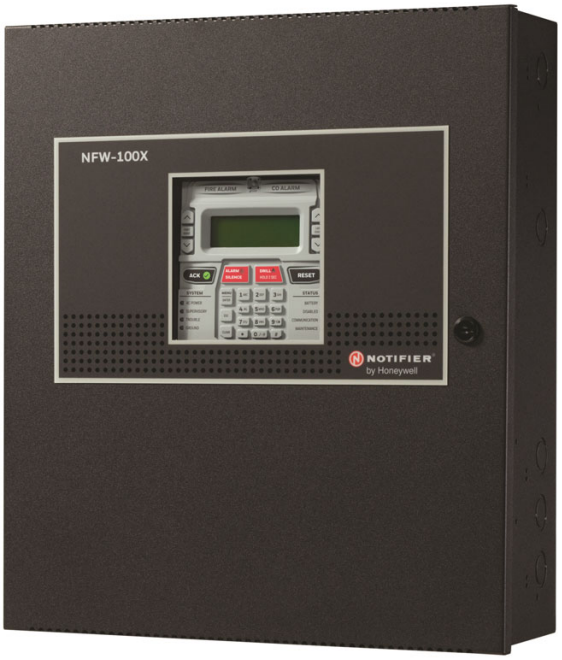
The pre-installed IPOTS-COM is a dual technology (POTS and IP) communicator. The POTS transmits system status (alarms, troubles, AC loss, etc.) to a Central Station via the public switched telephone network. The IP communicator's internet monitoring capability sends alarm signals over the Internet saving 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 over AlarmNet
- Optional CELL-MOD or CELL-CAB-N GSM Central Station Communicator over AlarmNet®
- Automated activation of the NFC-50/100 Emergency Command Center
- NFC-FFT Firefighter Telephone option
- Compatible with SWIFT® wireless devices
- Auto-programming (learn mode) reduces installation time. Reports two devices set to the same address
- Four built-in, independently programmable Style Z (Class A) or Style Y (Class B) NAC circuits
- Selectable strobe synchronization for System Sensor, Wheelock, and Gentex devices
- Notification Appliance Circuit End of Line resistor matching
- Four programmable function keys for ease of maintenance
- Two programmable relays and one fixed trouble relay
- Built-in Programmer
- Integral 80-character LCD display with backlighting
- Real-time clock/calendar with automatic daylight savings control
- History file with 1,000 event capacity
- Addressable sounder base compatibility
- Control module delay timer
- Automatic detector sensitivity testing (NFPA 72 compliant)
- Automatic device type-code verification
- Point trouble identification
- Waterflow selection per module point
- Alarm verification selection per detector point



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

SLC COMMUNICATION LOOP

- Supports 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
- 198 addressable device capacity (99 addressable detectors and 99 modules)
- Compatible with NOTIFIER FireWarden and ONYX Series addressable devices (refer to the *FireWarden SLC Wiring Manual*)

NOTIFICATION APPLIANCE CIRCUITS (NACS)

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

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

PROGRAMMING AND SOFTWARE

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

User interface

LED INDICATORS

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

KEYPAD

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

PRODUCT LINE INFORMATION

NFW-100X: Addressable Fire Alarm Control Panel with one SLC loop. Includes main circuit board with display 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-100X (red).

DP-ES-B: Optional dress panel for NFW-100X (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.

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

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

COMPATIBLE ANNUNCIATORS

N-ANN-80: Remote LCD annunciator mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded. (Basic model is black; order -W for white; see DN-7114.)

N-ANN-100R: 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

FSI-851: Addressable low-profile ionization smoke detector.

NI-100: Addressable low-profile ionization smoke detector.

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) IDC.

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 the 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-100X, 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-A100 (DN-6998), NMM-100/NMM-100P/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).*

System Capacity

- Intelligent Signaling Line Circuits.....1
- Addressable device capacity.....198
- Programmable software zones.....99
- 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-100X cabinet holds maximum of two 18 AH batteries.)

Communication Loop: Supervised and power-limited.

Notification Appliance Circuits: Terminal Block provides connections for four NACs, Style Y (Class B) or Style Z (Class A). Special Application power. Power-limited, supervised circuitry. Maximum signaling current per circuit: 2.5 amps special application, 250mA regulated. End-of-Line Resistor: 4.7k ohm, ½ watt (P/N 71252 UL listed) for Style Y (Class B) NAC; system capable of 1.9 kΩ - 22 kΩ ELR range. Refer to the *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°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Addressable Device Accessories

End-of-Line Resistor Assembly (R-47K and R-3.9K): The 47k ohm assembly supervises the NMM-100-10, NDM-100, NMM-100P, and NC-100 module circuits. The 3.9k ohm assembly supervises the 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.

NFPA Standards

The FireWarden-100X 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-100X 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:** 7165-0028:0505
- **FDNY:** COA #6268

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: USA

NOTIFIER
12 Clintonville Road
Northford, CT 06472
203.484.7161
www.notifier.com

NOTIFIER® by Honeywell

N-ANN-80

80-Character LCD Serial Annunciator

NOTIFIER® by Honeywell

Annunciators

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. 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 NOTIFIER FACPs with an ANN-BUS, such as the NFW-50.

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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 (noncondensing) 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.

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:** 7120-0028:240
- **MEA:** 442-06-E Vol. 2

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.*

After calculating the total worst case current draw, the following table specifies the maximum distance the modules can be located from the FACP on a single wire run. The table ensures 6.0 volts of line drop maximum. In general, the wire length is limited by resistance, but for heavier wire gauges, capacitance is the limiting factor.

These cases are marked in the chart with an asterisk (*). Maximum length can never be more than 6,000 feet (1,800 m), regardless of gauge used. See table below.

WIRE REQUIREMENTS: POWER CIRCUIT

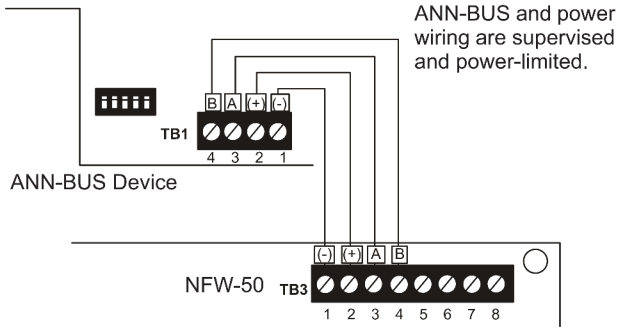
- 14 to 18 AWG (0.75 - 2.08 mm^2) wire for 24 VDC power circuit is acceptable.
- All connections are power-limited and supervised.
- A maximum of eight N-ANN-80 modules may be connected to this circuit.

Communication Pair Wiring Distance: FACP to Last ANN-BUS Module

Total Worst Case Current Draw (amps)	22 Gauge	18 Gauge	16 Gauge	14 Gauge
0.100	1,852 ft.	4,688 ft.	* 6,000 ft.	*6,000 ft.
0.200	926 ft.	2,344 ft.	3,731 ft.	5,906 ft.
0.300	617 ft.	1,563 ft.	2,488 ft.	3,937 ft.
0.400	463 ft.	1,172 ft.	1,866 ft.	2,953 ft.
0.500	370 ft.	938 ft.	1,493 ft.	2,362 ft.
0.600	309 ft.	781 ft.	1,244 ft.	1,969 ft.
0.700	265 ft.	670 ft.	1,066 ft.	1,687 ft.
0.800	231 ft.	586 ft.	933 ft.	1,476 ft.
0.900	206 ft.	521 ft.	829 ft.	1,312 ft.
1.000 (max.)	185 ft.	469 ft.	746 ft.	1,181 ft.

WIRING CONFIGURATION

The following figure illustrates the wiring between the FACP and ANN-BUS devices.



FACP Wiring to ANN-BUS Device

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.

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NFC-50/100(E) First Command Emergency Communication System

General

Notifier's First Command NFC-50/100 and NFC-50/100E are multi-purpose emergency voice evacuation panels for fire applications, mass notification applications, or both. The First Command delivers 50 or 100 watts of audio power for distribution to up to eight speaker circuits (i.e. zones). The NFC-50/100(E) comes standard with a single speaker circuit and a built-in 50 watt, 25V amplifier. A secondary 50 watt amplifier (NFC-BDA-25/70V) can be added for single speaker circuit backup or to increase system capacity to two speaker circuits and an additional 50 watts of audio power. An optional NFC-CE6 module added to the NFC-50/100(E) will upgrade the system to a maximum of eight speaker circuit outputs. All speaker output circuits can be wired in either Style Y (Class B) or Style Z (Class A) configuration. The NFC-50/100(E) has fourteen field programmable messages (up to 60 seconds each), built-in field configurable pre- and post-announce tone generators and a fully supervised Notification Appliance Circuit (NAC) with 2.0 amps of synchronized NAC power. The NFC-50/100(E) includes three built-in Form-C relay contacts, (AC power, trouble and MNS active) a NAC follower and 500mA special application power. A built-in power supply delivers operational power and an onboard battery charger supports charging up to 26AH batteries (NFC cabinet holds up to 18AH batteries).

For fire protection applications, the NFC-50/100(E) is an adjunct (slave) to any UL listed FACP, providing reverse polarity or contact closure; can be used as a stand-alone unit for non-fire applications. For seamless integration between fire and mass notification, the NFC-50/100(E) can be directly activated via serial communication between the NFW-100X, NFW2-100, NFS-320, or NFS2-640. Activation of the NFC-50/100(E) via other FACPs uses the eight on board Command Input Circuits (CMDs). Two of the eight CMD circuits (CMD 1 & CMD 2) can be individually field programmed for activation by an FACP Notification Appliance Circuit reverse polarity and all eight can be activated by a contact closure. In addition, the NFC-50/100(E) can be activated from a building's Private Branch Exchange (PBX) with the integral night ring feature.

All NFC-50/100(E) programming is done by using a simple, built-in programming utility accessed from any laptop. For added flexibility, the NFC-50/100(E) supports both 25V and 70V speaker output operation. By adding a 70V transformer conversion module (NFC-XRM-70V) or an additional 70 volt secondary amplifier (NFC-BDA-25/70V) the system supports 70 volt speaker devices.

The NFC-50/100(E) can expand in order to accommodate larger or more complex installations. To add more control and increase system capacity, any combination of up to eight external remote consoles (including the NFC-LOC, NFC-RPU, and NFC-RM) and up to eight distributed audio amplifiers (including the NFC-50DA(E), NFC-100DA(E) and NFC-125-DA(E) can be connected on the external data bus and audio riser data bus to create a fully integrated command center. A fully loaded system supports up to 1100 watts of total audio power and up to 24 speaker circuit outputs.

TYPICAL APPLICATIONS

- Schools
- Theaters
- Auditoriums
- Nursing Homes
- Military facilities
- Places of Worship
- Factories
- Restaurants
- Office Buildings

Features

- UL Listed to UL 2572 Communication (Control Units Mass Notification Systems) and UL 864 (emergency voice evacuation for fire)
- Modular design for system flexibility and easy expansion
- Removable terminal blocks
- 50 watts of 25V audio power (expandable to 100 watts) RMS
- 2 amp Notification Appliance Circuit (NAC) output, sync generator, or follower for System Sensor, Wheelock or Gentex protocols
- Optional 70Vtransformer available for the primary amplifier. (Note that speaker wiring continues to be supervised in standby, alarm and when background music is playing with this optional transformer installed)
- Eight Command Input Circuits to activate messages 1 to 8:
  - CMD1 and CMD2 are field selectable to be activated from 12 or 24 VDC Notification Appliance Circuits (reverse polarity) or contact closures
  - CMD3-CMD8 are activated by contact closures
- Speaker Circuits
  - Single Style Y (Class B) or Style Z (Class A) speaker Circuit
  - Two Style Y (Class B) or Style Z (Class A) speaker circuits (with optional NFC-BDA-25/70V Audio Amplifier installed)
  - Eight Style Y (Class B) or Style Z (Class A) speaker circuits (with optional NFC-BDA-25/70V and NFC-CE6 installed)
- 520Hz square wave tones available, which can be uploaded to the NFC-50/100 to meet NFPA Low Frequency requirements (*Refer to the Device Compatibility Document 15378 for listed compatible speakers.*)
- NFC-50/100(E) can be controlled by an FACP via the ANN/ACS (EIA-485) link of the NFW-100X and NFW2-100, and via the ACS (EIA-485) link of the NFS-320 or NFS2-640. The NFS-320 or NFS2-640 must be firmware version 20.0 or higher.

- Certified for seismic applications when used with the appropriate seismic mounting kit
- Integral supervised microphone
- Microphone time-out feature which reverts back to prerecorded message if emergency page exceeds the programmed time
- 14 recorded messages
- Field-selectable message and custom message recording capability using the local microphone, a USB port, or an external audio input
- External Audio Input can be used for background music
- Up to 60 second message duration for all messages
- Integral tone generators field selectable for multiple tone types
- Powered by integral AC power supply or batteries during AC fail
- Programmable delay of immediate, 2 hours or 6 hours reporting of AC Loss
- Piezo sounder for local trouble
- 100 event history log
- Three Form-C relays:
  - AC Power Loss Relay - TB1
  - System Trouble Relay - TB2
  - MNS Active - TB3
- 500mA (0.5A) Special Application (auxiliary power) output for addressable modules when interfaced with compatible addressable FACPs and End-of-Line power supervision relays
- System Status LEDs (*Refer to "Controls and Indicators" in product manual LS10001-001NF-E*.)
- Integral Dress Panel
- Optional TR-CE-B semi-flush trim ring
- Any combination of up to eight (8) external remote consoles:
  - Optional NFC-RM Remote Microphone (includes cabinet) *See DN-60778*.
  - Optional NFC-RPU Remote Page Unit (includes cabinet) *See DN-60775*.
  - Optional NFC-LOC Local operator console (includes cabinet) *See DN-60777*.
- Any combination of up to eight (8) distributed audio amplifiers:
- Optional NFC-50DA(E) distributed amplifier, 50 watts. *See DN-60776*.
- Optional NFC-125DA(E) distributed amplifier, 125 watts. *See DN-60776.*
- Optional NFC-50/100 distributed amplifier with backup capability, 50/100 watts. *See* DN-60776.

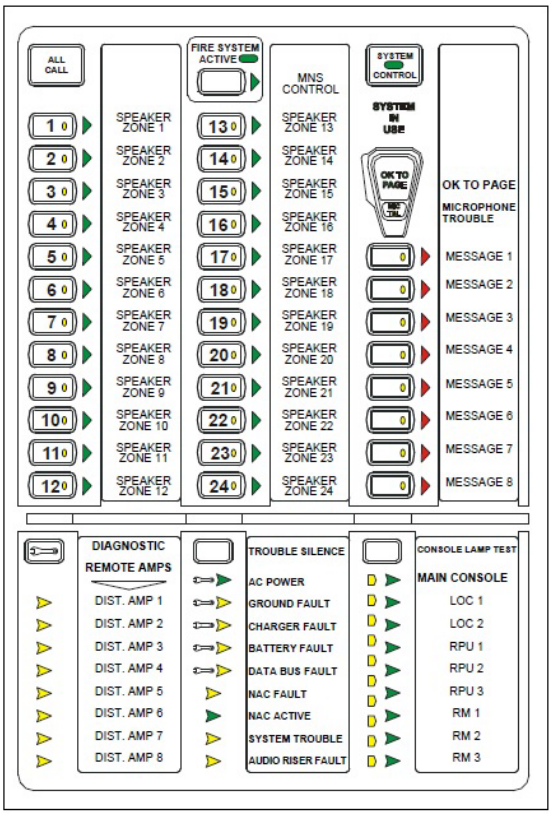
Optional Internal Expansion Modules

NFC-CE6: Circuit Expander Module provides connections for up to six Style Z (Class A) or Style Y (Class B) speaker circuits. Circuits are configured through the web-based programming utility.

NFC-BDA-25V: 25V, 50 watt audio amplifier module. Adding a second speaker circuit increases the total NFC-50/100 power output to 100 watts or can also be used as a backup amplifier.

NFC-BDA-70V: 70V, 50 watt audio amplifier module. Adding a second speaker circuit increases the total NFC-50/100 power output to 100 watts or can also be used as a backup amplifier.

NFC-XRM-70V: 70V Transformer Conversion Module. Converts the NFC-50/100(E) primary amplifier to a 70V output. This transformer mounts directly to the NFC-50/100(E) main control board by two metal brackets.



Control and Indicators

PUSH BUTTON CONTROLS

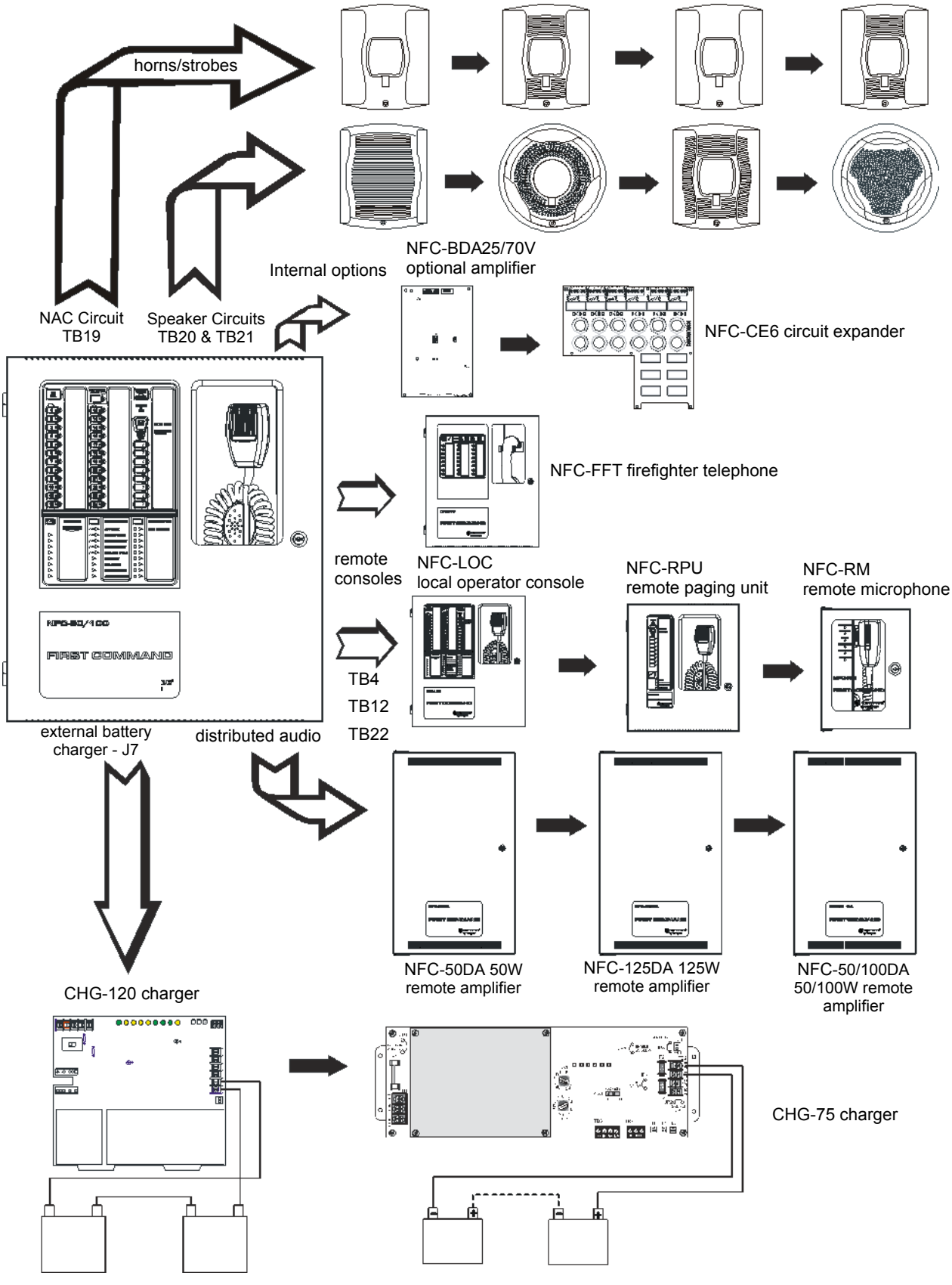
- All Call
- MNS Control
- System Control
- Speaker Select 1-24
- Message Select 1-14
- Diagnostic Select
- Trouble Silence
- Console Lamp Test

LED Status Indicators (visible with door closed)

- Fire System Active (green)
- MNS Control (green)
- System Control (green)
- System in Use (green)
- Speaker Zone 1-24 Active (green)
- Speaker Zone 1-24 Fault (yellow)
- OK to Page (green)
- Microphone Trouble (yellow)
- Message 1-8 Active (red)
- Message 1-8 Fault (yellow)
- Remote Amplifier 1-8 Fault (yellow)
- LOC/RPU/RM 1-8 Fault (yellow)
- LOC/RPU/RM 1-8 Active (green)
- Main Console Fault (yellow)
- AC Power (green)
- Ground Fault (yellow)
- Charger Fault (yellow)
- Battery Fault (yellow)
- Data Bus Fault (yellow)
- NAC Fault (yellow)
- NAC Active (green)
- System Trouble (yellow)
- Audio Riser Fault (yellow)

LED Indicators (visible with door and dress panel open)

- Speaker Volume Control Fault (yellow)
- Option Card Fault (yellow)
- Amplifier Over Current Fault (yellow)



NFC-50/100(E) First Command (Possible Configurations)

Product Line Information

NFC-50/100: (Primary Operating Console) 50 Watt, 25V single speaker zone emergency voice evacuation system, integral microphone, built in tone generator and 14 recordable messages.

NFC-50/100E: Export version (Primary Operating Console) 50 Watt, 25V single speaker zone emergency voice evacuation system, integral microphone, built in tone generator and 14 recordable messages. (240 VAC, 50Hz).

NFC-CE6: Speaker Circuit/Zone Expander Module.

NFC-BDA-25V: 25V, 50 watt audio amplifier module. Adding a second speaker circuit increases the total NFC-50/100 power output to 100 watts or can also be used as a backup amplifier.

NFC-BDA-70V: 70V, 50 watt audio amplifier module. Adding a second speaker circuit increases the total NFC-50/100 power output to 100 watts or can also be used as a backup amplifier.

NFC-XRM-70V: 70V Transformer Conversion Module. Converts the NFC-50/100(E) primary amplifier to a 70V output. This transformer mounts directly to the NFC-50/100(E) main control board by two metal brackets.

NFC-LOC: Local Operator Console (Complete user interface), *Please refer to the data sheet DN-60777 for more information.*

NFC-RPU: Remote Page Unit Hand held microphone, 14 message buttons. *Please refer to the data sheet DN-60775 for more information.*

NFC-RM: Remote Microphone only. *Please refer to the data sheet DN-60778 for more information.*

NFC-50DA: Distributed (Remote) Audio Amplifier, 50 watts. *Please refer to the data sheet DN-60776 for more information.*

NFC-50DAE: Export version. Distributed (Remote) Audio Amplifier, 50 watts. (240 VAC, 50Hz). *Please refer to the data sheet DN-60776 for more information.*

NFC-125DA: Distributed (Remote) Audio Amplifier, 125 watts. *Please refer to the data sheet DN-60776 for more information.*

NFC-125DAE: Export version. Distributed (Remote) Audio Amplifier, 125 watts. (240 VAC, 50Hz). *Please refer to the data sheet DN-60776 for more information.*

NFC-50/100DA: Distributed (Remote) Audio Amplifier with back up, 50 watts/100 watts at 25Vrms or 70Vrms. *Please refer to the data sheet DN-60776 for more information.*

NFC-50/100DAE: Export version. Distributed (Remote) Audio Amplifier with back up, 50 watts/100 watts (240 VAC, 50Hz). *Please refer to the data sheet DN-60776 for more information.*

NFC-BDA-BU: Expander card for ECC-50BDA remote amplifier for 100 watt primary / 50 watt back up operation.*Please refer to the data sheet DN-60776 for more information.*

NFC-CE4: Distributed Audio Speaker Circuit/Zone expander module.

NFC-FFT: Fire Fighter Telephone System. *Please refer to the data sheet DN-60779 for more information.*

NFC-RTZM: Remote Telephone Zone Module. *Allows for secure access to the* NFC via cell phone or remote telephone means; not UL listed.*Please refer to the data sheet DN-60818 for more information.*

SEISKIT-COMMENC: Seismic kit for the NFC-50/100. Includes battery bracket for two 12 AH or 18 AH batteries.

N-FPJ: Remote Phone Jack.

FHS-F: Fire Fighters Remote Handset.

FHSC-R: Fire Fighters Handset Cabinet Recessed.

FHSC-S: Fire Fighters Handset Cabinet Surface Mount

TR-CE-B: Optional Trim Ring.

THUMBLTCH: Optional Thumb Latch. (Non UL-Listed).

CHG-75: 25 to 75 ampere-hours (AH) External Battery Charger.

CHG-120: 25-120 ampere-hours (AH) External Battery Charger.

ECC-MICROPHONE: Replacement Microphone only.

BAT-1270: Battery,12 volt,7.0 AH (Two required).

BAT-12120: Battery,12 volt,12.0 AH (Two required).

BAT-12180: Battery,12 volt, 18.0 AH (Two required).

BAT-12260: Battery, 12 volt, 26.0 AH (Two required).

BB-26: Battery cabinet mounts up to two 26 AH batteries.

Wiring Requirements

See product manual, part number LS10001-001NF-E for detailed wiring requirements.

Total System Capacity: (NFC-50/100(E) only)

- Total Built-in Audio Power: 50 Watts.
- Total Expandable Audio Power: 100 Watts.
- Total Built-in Speaker Circuits: 2.
- Total Expandable Speaker Circuits: 8.
- Audio Message Max Time Duration: 60 seconds.
- External Audio Input: 1.

Total System Capacity: (Fully Loaded System)

- Total Distributed Audio Power: 1100 Watts.
- Total Speaker Circuits Per System: 24.
- Total Remote Consoles Supported: 8.
- Total Distributed Audio Amplifiers Supported: 8.

Electrical Specifications

PRIMARY (AC) POWER (TB15)

NFC-50/100: 120 VAC, 60 Hz, 3.5 amps.

NFC-50/100E: 240 VAC, 50 Hz, 2.0 amps.

Wire size: minimum #14 AWG (2.00mm2) with 600 V insulation.

SECONDARY POWER (BATTERY) CHARGING CIRCUIT (J7)

- Supports lead-acid batteries only.
- Float charge voltage at 27.3V
- Maximum charge current: 1.0 Amp
- Maximum battery charge capability: 2.8 Amps, 26AH (NFC cabinet holds max. 18AH battery).
- Minimum Battery size:12 Amp Hour.

AC LOSS RELAY CONTACT RATING (TB3)

- 2.0 amps @ 30 VDC (resistive), 0.5 amps @ 30 VAC (resistive).

FORM C - TROUBLE RELAY CONTACT RATING (TB2)

- 2.0 amps @ 30 VDC (resistive), 0.5 amp @ 30 VAC (resistive).

MNS ACTIVE RELAY CONTACT RATING (TB1)

- 2.0 amps @ 30 VDC (resistive), 0.5 amps @ 30 VAC (resistive).

NOTIFICATION APPLIANCE CIRCUIT (NAC) OUTPUT RATING (TB19)

- One (1) Style Y (Class B) or Style Z (Class A) circuit.
- Power-limited circuitry, (Class 2) supervised.
- Nominal operating voltage: 24 VDC.

- Maximum signaling current for special application power: 2.0A.
- Maximum signaling current for regulated power: 200mA.
- Maximum wiring impedance: 1Ω.
- Current limit: fuse-less, electronic, power-limited.
- End-Of-Line Resistor: 4.7 KΩ, ½ watt, (P/N 71252) required for Style Y (Class B) operation.

Refer to the Device Compatibility Document 15378 for listed compatible devices.

NAC FOLLOWER OUTPUT REMOTE SYNC (TB18)

- Connections for FACP NAC synchronization trigger signal.
- Output terminals: pass-through to other system components.
- Trigger input voltage: 9 to 32 VDC, 24 VDC rated.
- Input current draw in Alarm condition: 10 mA at rated voltage.

SPECIAL APPLICATION POWER (AUX. POWER) (TB17)

- 500 mA @ 24 VDC.
- Used for powering addressable modules and associated End-of-Line power supervision relays.

Power-limited circuitry. Refer to the Device Compatibility Document 15378 for a list of compatible devices.

SPEAKER VOLUME CONTROL OVERRIDE (TB23)

- Style Y (Class B) or Style Z (Class A) circuit.
- Special application power.
- Power-limited circuitry, supervised.
- Nominal operating voltage: 24 VDC.
- Maximum signaling current: 0.25 amps.
- Current limit: fuse-less, electronic, power-limited.
- End-Of-Line Resistor: 4.7 KΩ, ½ watt, (P/N 71252) required for Style Y (Class B) operation.

SPEAKER CIRCUITS

- Primary Speaker Circuit (TB20)
- Secondary Speaker Circuit (TB21) (with optional amplifier only).
  - Circuit can be wired Style Y (Class B) or Style Z (Class A).
  - Power-limited circuitry.
  - Normal Operating Voltage: 25 VRMS @ 2 amps max and maximum Load Impedance of 12.5Ω (70V @ 700 mA max. with maximum load Impedance of 100Ω operation possible by plugging optional NFC-XRM-70V conversion transformer into J12 of the main control board).
  - Output Power: 50 watts (10 watts when background music is employed).
  - Frequency Range: 400Hz - 4,000Hz.
  - Maximum total capacitance for each speaker circuit: 250 µF.
  - End-of-Line Resistor required for Style Y circuit: 15 KΩ, 1 watt (P/N: ELR-15K).

COMMAND INPUT CIRCUITS (ALARM POLARITIES SHOWN)

CMD1 - TB4 Terminals 3(+) & 4(-) are input terminals and Terminals 1(-) and 2(+) are output terminals which provide feed through of the NAC circuits to NAC devices down stream.

CMD2 - TB5 Terminals 3(+) & 4(-) are input terminals and Terminals 1(-) and 2(+) are output terminals which provide feed through of the NAC circuits to NAC devices downstream.

CMD3 - TB6 Terminals 1(+) & 2(-) are input terminals for contact closure only.

CMD4 - TB6 Terminals 3(+) & 4(-) are input terminals for contact closure only.

CMD5 - TB7 Terminals 1(+) & 2(-) are input terminals for contact closure only.

CMD6 - TB7 Terminals 3(+) & 4(-) are input terminals for contact closure only.

CMD7 - TB8 Terminals 1(+) & 2(-) are input terminals for contact closure only.

CMD8 - TB8 Terminals 3(+) & 4(-) are input terminals for contact closure only.

- Power-limited and supervised circuitry.
- Normal Operating Voltage Range: 10.5 VDC - 29 VDC; (Maximum Voltage: 29 VDC).
- NAC Reverse Polarity Current (requires End-of-Line Resistor from NAC): 1.6 mA maximum.
- Contact Closure Operation Current (requires 4.7KΩ, ½ watt End-of-Line Resistor P/N 27072): 6.6 mA maximum.
- Maximum Wiring Impedance CMD1 - CMD8 (Contact Closure Operation): 200Ω.

NOTE: *When the system is programmed for Mass Notification, CMD1and CMD2 will be programmed for Reverse Polarity only. See manual P/N LS10001-001NF-E for more details.*

MAXIMUM INPUT IMPEDANCE:

- CMD1 & CMD2 (Reverse Polarity Operation): 20KΩ.
- CMD1 - CMD8 (Contact Closure Operation): 4.75KΩ.

NIGHT RING INPUT - TB16, TERMINALS 1 (+) & 2 (-)

- Contact closure input.
- Isolated, non-supervised.
- Operation current: 3.8 mA, maximum.
- Maximum wiring impedance: 30KΩ.
- Minimum isolation withstand voltage: 1500 VRMS.

EXTERNAL OPERATOR INTERFACE POWER OUTPUT (TB24)

- Non-resettable power for external operator interface components.
- Power-limited circuitry, non-supervised.
- Nominal operating voltage: 24 VDC.
- Maximum output current: 0.80 amps.
- Current limit: fuse-less, electronic, power-limited circuit.

EXTERNAL DATA BUS (EIA-485) (TB12)

- Data connections for external operator interface components.
- Redundant transceiver circuitry for Class A operability.
- Power-limited circuitry, supervised.
- Maximum wiring impedance: 13.2Ω

FACP DATA BUS (EIA-485) (TB13)

- Dedicated connection to FACP serial bus.
- Output terminals: pass-through to other system components.
- Isolated, supervised.
- Minimum isolation withstand voltage: 1500 VRMS.
- Maximum wiring impedance: 40Ω (ANN-BUS), 26Ω (ACS-BUS).
- External Audio Riser (TB22).
- Style Y (Class B) or Style Z (Class A) audio connections to external operator interface components.
- Power-limited circuitry, supervised.
- Audio signal level: 3.85 V, maximum.
- Frequency range: 400 Hz - 4 KHz RMS.
- Frequency range (NFC-50/125DA): 800Hz - 2KHz RMS.

Electrical Specifications Display Board

EXTERNAL AUDIO INPUT (TB5)

- Input Impedance: 8.5KΩ nominal @1KHz
- Input Voltage: 700 mV rms maximum
- Input Current: 0.1 mA maximum @ 700 mV

NOTE: *Some laptops/personal computers only provide an audio output for headphones. It may be necessary to adjust the headphone output level for proper recording of voice messages.*

NFC-CE6 Circuit Expander Module Specifications

- Power-limited circuitry.
- Up to six (6) circuits on the NFC-CE6 can be wired as Style Y (Class B) or Style Z (Class A).
- Normal Operating Voltage for Speaker Circuits: 25 V@ 2.0 amps max. (Maximum Load Impedance of 12.5Ω).
- 70.0 V @ 700 mA max. with maximum Load Impedance of 100Ω operation possible for the primary circuit by plugging in an optional NFC-XRM-70V conversion transformer into J12 of the main control board. The same operation is possible for the optional 50W amplifier by selecting the NFC-BDA-70V model.
- Speaker circuit wiring is supervised during standby, background music, and alarm.
- Output Power: 50 watts total; Frequency Range: 400Hz - 4,000Hz.
- Maximum total capacitance: 250 µF. (Note that the total capacitance for the speaker outputs must not exceed the maximum of 250 µF.)
- End-of-Line Resistor required for Style Y (Class B) speaker circuit: 15 KΩ, 1 watt (P/N: ELR-15K) TB13 on the main control board: ACS/ANN (EIA-485) electrically isolated link to FACP provides programmed speaker control.

Cabinet Specifications

- Backbox: 19.0"(48.26 cm) high x 16.65"(42.29 cm) wide x 5.20"(13.23 cm) deep.
- Door: 19.26" (48.92 cm) high x 16.82"(42.73 cm) wide x 0.12"(0.30 cm) deep.
- Trim Ring (TR-CE-B): 22.00" (55.88 cm) high x 19.65" (49.91 cm) wide.

Shipping Specifications

Base Unit Weight: 27.85 lbs (12.63 kg).

Temperature and Humidity ranges

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

Agency Listings and Approvals

The listings and approvals below apply to the basic NFC-50/100(E) 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/ULC Listed: S635
- CSFM: 6911-0028:0265
- NYC Fire Dept. Certificate of Approval: #6163

Standards and Codes

The NFC-50/100(E) complies with the following UL Standards, NFPA 72, International Building Codes, and California Building Codes.

- UL 864
- UL 2572
- UFC 4-021-01
- IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000 (Seismic)
- CBC 2007 (Seismic)

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: USA

NOTIFIER
12 Clintonville Road
Northford, CT 06472
203.484.7161
www.notifier.com

NOTIFIER® by Honeywell

NBG-12LX

Addressable Manual Pull Station

NOTIFIER® by Honeywell

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 semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
- Highly visible.
- Attractive shape and textured finish.
- Key reset.
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- 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 on FlashScan® systems, 1 – 99 on CLIP systems).

Architectural/Engineering Specifications

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

4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

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

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:** CI313066760047.
- **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.

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NOTIFIER® by Honeywell

FSP-951 Series Addressable Photoelectric Smoke Detectors

The NOTIFIER® FSP-951 Series intelligent plug-in smoke detectors are designed for both performance and aesthetics, and are direct replacements for the FSP-851 Series. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards.

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.

Features

SLC LOOP:

- Two-wire SLC loop connection
- Unit uses base for wiring
- Compatible with FlashScan® and CLIP protocol systems
- Stable communication technique with noise immunity

ADDRESSING:

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

ARCHITECTURE:

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

OPERATION:

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

MECHANICALS:

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

OPTIONS:

- Optional relay, isolator, and sounder bases

Installation

FSP-951 Series plug-in intelligent smoke detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

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

Construction

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

Operation

Each FSP-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 FSP-951 Series offers features and performance that represent the latest in smoke detector technology.

Product Line Information

NOTE: *"-IV" suffix indicates CLIP and FlashScan 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 *(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 Applications: 0.5% to 3.5% per foot obscuration

Size: 2.0" (51mm) high; base determines diameter

  – **B300-6 series:** 6.1" (15.6 cm) diameter

  – **B501 series:** 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:

- FSP-951 Series: 32°F to 122°F (0°C to 50°C)
- FSP-951T Series: 32°F to 100°F(0°C to 38°C)
- FSP-951R Series installed in DNR/DNRA/DNRW, -4°F to 158°F (-20°C to 70°C)

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

Relative humidity: 10% – 93% non-condensing

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

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

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

Max current: 4.5 mA @ 24 VDC (“ON”)

DETECTOR SPACING AND APPLICATIONS

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. A *System Smoke Detector Application Guide*, document SPAG91, is available at **www.systemsensor.com.**

Listings and Approvals

Listings and approvals below apply to the FSP-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: S1115
- FM Approved
- CSFM: 7272-0028:0503

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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: Mexico

NOTIFIER® by Honeywell

NOTIFIER® by Honeywell

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°F – 158°F (-20°C – 70°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

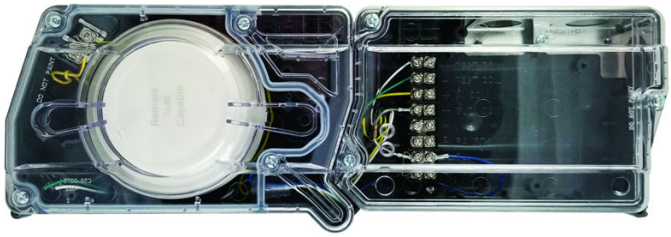
Weight: 1.6 lb (0.73 kg)

Operating Temperature Range: -4°F – 158°F (-20°C – 70°C)

Storage Temperature Range: -22°F – 158°F (-30°C – 70°C)

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

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 m)

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

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.

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Country of Origin: Mexico

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NOTIFIER® by Honeywell

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www.systemsensor.com

RTS151
Remote Test Station

SPECIFICATIONS

Dimensions:	4.8″ H × 2.90″ W × 1.4″ D
Weight:	.16 lbs.
Power Requirements	
Alarm LED:	2.8 – 32 VDC, 10 mA max.
Coil Current:	95 mA max.
Test Switch:	10 VA @ 32 VDC
Reset Switch:	10 VA @ 32 VDC
Alarm Response Time:	40 sec. max.
Temperature:	–10°C to 60°C (14°F to 140°F)
Humidity:	95% RH Non-condensing Max
Listing:	UL, FM, CE

NOTE: RTS151 replaces RTS451.
NOTICE: This manual shall be left with the owner/user of this equipment.
NOTE: A test coil is required only for use with D2/DNR/DH400/DH500 models. For D2 models order part #DCoil. For the DH400/500 models order part is #Coil.

GENERAL INFORMATION

System Sensor's RTS151 is an automatic fire detector accessory designed to test a remotely located detector. Consult detector installation instructions for additional information.

The National Fire Protection Association has published codes, standards, and recommended practices for the installation and use of the above product. It is recommended that the installer be familiar with these requirements, with local codes, and any special requirements of the local authority having jurisdiction.

RTS151 CONTENTS

1 RTS151 remote test station

1 screw pack (2 mounting screws)

1 M02-04 test magnet

WIRING OF RTS151

Consult the appropriate detector installation instructions for the applicable wiring diagram. The RTS151 mounts to a single gang box (2 1/2" minimum depth), or directly to the wall or ceiling.

See Figure 8 for wiring diagram of RTS151 with Duct Smoke Detectors.

In Canadian applications, the RTS151 is intended to be located in the same room as the smoke detector and within 60 feet of the unit.

OPERATION

Test Function

Place and hold the painted side of the magnet to the test location RTS151.

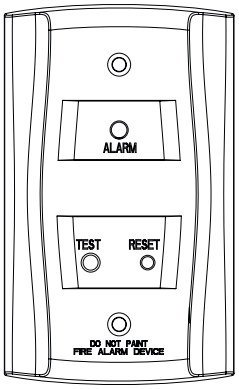
Alarm Indication

With the magnet in place some time will elapse (40 sec. maximum) depending on the detector type, before the alarm indicating LED will light.

Reset Function

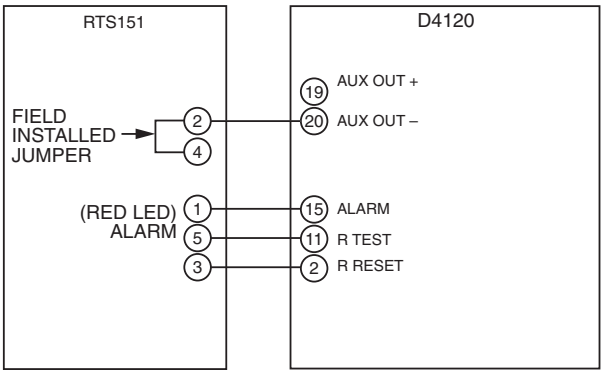
Gently insert a 1/8″ maximum diameter tool into the hole until it stops and LED turns off. The RTS151 is capable of resetting only certain System Sensor models of detectors. Refer to detector installation instructions for additional information.

FIGURE 1. RTS151 REMOTE TEST STATION:



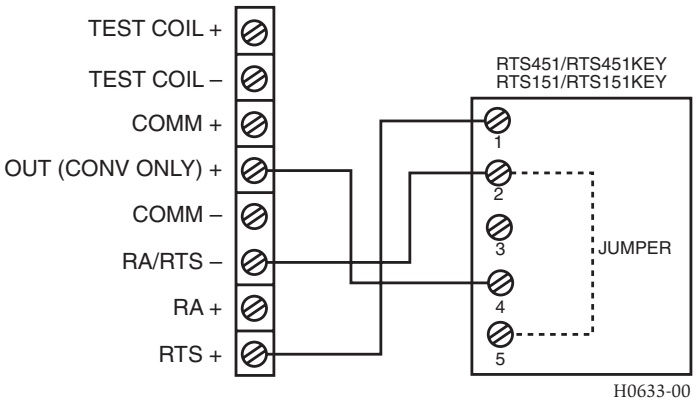
H0196-01

FIGURE 2. WIRING DIAGRAM FOR RTS151 TO D4120 4-WIRE DUCT SMOKE DETECTOR:



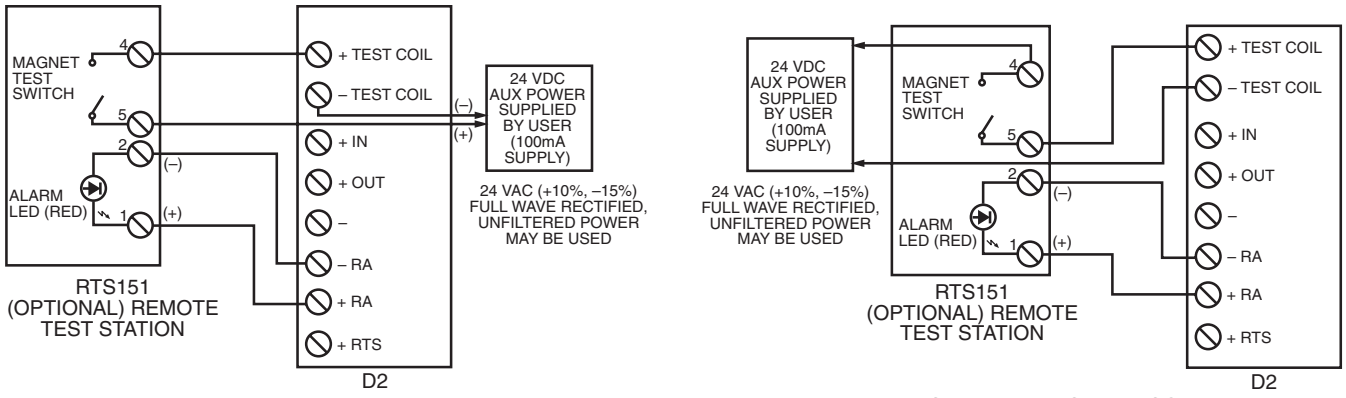
H0582-20

FIGURE 3. WIRING DIAGRAM FOR RTS151 TO DNR 2-WIRE DUCT SMOKE DETECTOR WITH REMOTE TEST CAPABLE HEAD:



H0633-00

FIGURE 4. WIRING DIAGRAM FOR RTS151 TO D2-2WIRE DUCT SMOKE DETECTOR:



NOTE: THE USE OF THE RTS151 REQUIRES THE INSTALLATION OF AN ACCESSORY COIL, DCOIL, SOLD SEPARATELY.

H0612-11

FIGURE 5. WIRING DIAGRAM FOR RTS151 TO DH100ACDC 4-WIRE DUCT SMOKE DETECTOR:

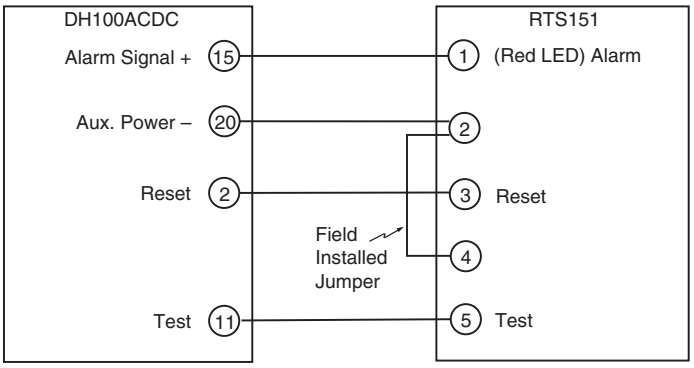


FIGURE 6. WIRING DIAGRAM FOR RTS151 TO DH100 2-WIRE DUCT SMOKE DETECTOR:

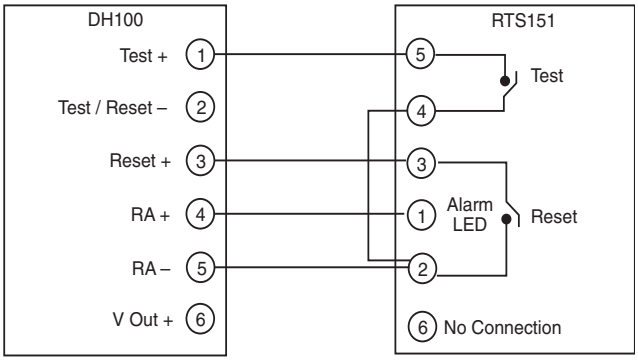


FIGURE 7. WIRING DIAGRAM FOR RTS151 TO DH400ACDC DUCT SMOKE DETECTOR:

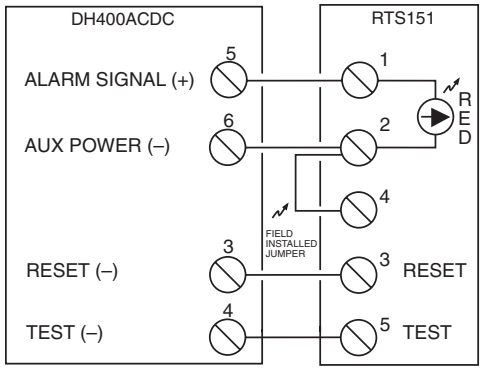
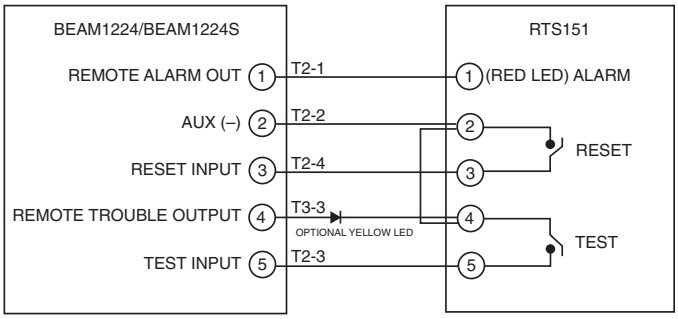


FIGURE 8. WIRING DIAGRAM FOR RTS151 TO BEAM1224/BEAM1224S SMOKE DETECTOR:



THREE-YEAR LIMITED WARRANTY

System Sensor warrants its enclosed product to be free from defects in materials and workmanship under normal use and service for a period of three years from date of manufacture. System Sensor makes no other express warranty for the enclosed product. No agent, representative, dealer, or employee of the Company has the authority to increase or alter the obligations or limitations of this Warranty. The Company's obligation of this Warranty shall be limited to the replacement of any part of the product which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture. After phoning System Sensor's toll free number 800-SENSOR2 (736-7672) for a Return Authorization number, send defective units postage prepaid to: Honeywell, 12220 Rojas Drive, Suite 700, El Paso TX 79936, USA. Please include a note describing the malfunction and suspected cause of failure. The Company shall not be obligated to replace units which are found to be defective because of damage, unreasonable use, modifications, or alterations occurring after the date of manufacture. In no case shall the Company be liable for any consequential or incidental damages for breach of this or any other Warranty, expressed or implied whatsoever, even if the loss or damage is caused by the Company's negligence or fault. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

I56-0469-015

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

SPECTRAlert ADVANCE from System Sensor

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

Features

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

Agency Listings

SIGNALING UL LISTED
S4011 (chimes, horn strobes, horns)
S3593 (outdoor and alert strobes)

FM APPROVED
3023572

MEA approved
MEA452-05-E

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

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

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

SpectrAlert Advance Outdoor Horn, Strobe, and Horn 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 9 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 17 and 33 volts. Outdoor SpectrAlert Advance products shall operate between –40 and 151 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

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

Horn Strobe Combination

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

Physical/Electrical Specifications

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

Notes:

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

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

UL Max. Horn Current Draw (mA RMS)

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

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

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

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

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

Candela Derating

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

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

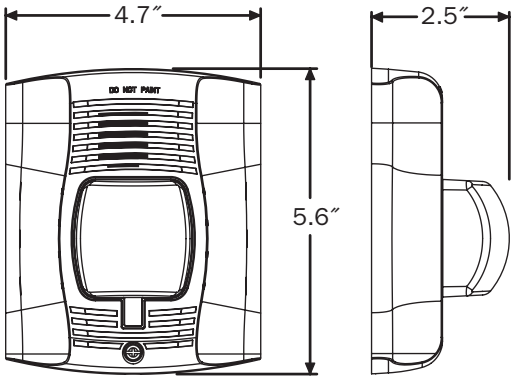
Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

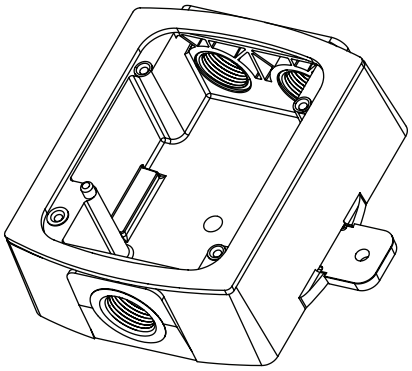
			8–17.5 Volts		16–33 Volts		24-Volt Nominal			
							Reverberant		Anechoic	
Switch Position	Sound Pattern	dB	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100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

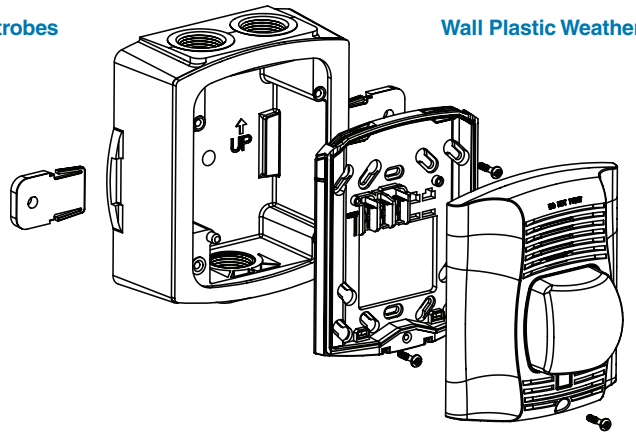
SpectrAlert Advance Diagrams



Wall-Mount Horn Strobes



Wall Plastic Weatherproof Back Box



Wall-Mount Horn Strobe with Plastic Weatherproof Back Box

SpectrAlert Advance Ordering Information

Model	Description
Wall Horn Strobes	
P2RK*†	2-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
P2RHK*†	2-Wire Horn Strobe, High cd, Red, Outdoor (includes plastic weatherproof back box)
P2WK*†	2-Wire Horn Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
P2WHK*†	2-Wire Horn Strobe, High cd, White, Outdoor (includes plastic weatherproof back box)
P4RK†	4-Wire Horn Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
P4WK	4-Wire Horn Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
P2RHK-120	2-Wire Horn Strobe, High cd, Red, Outdoor, 120 V (includes plastic weatherproof back box)
Wall Strobes	
SRK*†	Strobe, Standard cd, Red, Outdoor (includes plastic weatherproof back box)
SRHK*†	Strobe, High cd, Red, Outdoor (includes plastic weatherproof back box)
SWK*†	Strobe, Standard cd, White, Outdoor (includes plastic weatherproof back box)
SWHK*†	Strobe, High cd, White, Outdoor (includes plastic weatherproof back box)
Horns	
HRK†	Horn, Red, Outdoor (includes plastic weatherproof back box)
Accessories	
SA-WBB	Red, Metal Weatherproof Back Box
SA-WBBW	White, Metal Weatherproof Back Box

Notes:
* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2RK-P.
† Add "-R" to model number for weatherproof replacement device (no back box included), only for use with weatherproof outdoor flush mounting plate, WTP and WTPW.
"Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. **When replacing standard outdoor units both the device and back box must be replaced.**

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

AVDS01201 • 3/12

L-Series and L-Series with LED Indoor Selectable Horns, Strobes and Horn Strobes

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

Features

- LED technology provides lower current draw
- Digital Voltage Meter (DVM) diagnostic test points for Horn Strobes and Strobes
- Common aesthetics across the L-Series platform
- Standard and compact sizes
- Tamper-resistant construction
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Rotary switches for candela, tone and volume selections
- Mounting plate provides plug-in design for easier installation and shorting springs to check wiring continuity
- Electrically compatible with legacy SpectrAlert, SpectrAlert Advance and L-series devices
- Synchronization through use of UL approved power supplies that support System Sensor Sync protocol or System Sensor MDL3 Sync Module
- Horns, Strobes and Horn Strobes listed for wall or ceiling use

Agency Listings

SIGNALING c UL us LISTED	SIGNALING UL LISTED	ULC LISTED	FM APPROVED	
Horn Strobes and Strobes: S5512, S4011	Horns: S4011	Horns: S4011	3057072 FM23FPUS0195	7300-1653:0525 7135-1653:0503 7135-1653:0526

The System Sensor L-Series and L-Series with LED platform offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draw and modern aesthetics. LED lighting technology offers significantly lower current draw compared to older Xenon bulbs across a full candela range. This improves design flexibility for notification appliance circuits (NACs) while also reducing power supply requirements allowing for simpler and lower cost installations.

Flexible design options meet virtually any application requirement: wall or ceiling mount, standard or compact sizes, red or white color choices, bezel kits for alternate markings and languages, and LED color lenses for distinctive visual signaling. In addition, installers can easily adapt devices using field selectable candela, tone and volume settings using rotary switches.

The L-Series and L-Series with LED line is developed to simplify installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults. The universal mounting plate includes an onboard shorting spring, so installers can test wiring continuity before the device is installed.

In addition, the System Sensor L-Series with LED notification appliances offer a new diagnostic test point feature that allows you to measure device voltage with a digital voltage meter (DVM) without removing the appliance from the wall or ceiling. The DVM test points are discreetly located on the face of the notification appliance which enable faster troubleshooting and end of line (EOL) voltage checks while greatly reducing the risk of misplacing or damaging appliances during troubleshooting.

L-Series and L-Series with LED Specifications

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, LED Strobes and Horn Strobes	Regulated 24 VDC
Nominal Voltage, Horns	Regulated 12 VDC or regulated 24 DC/FWR
Operating Voltage Range, LED Strobes and Horn Strobes	16 to 33 V (24 V nominal)
Operating Voltage Range, Horns	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG

UL/ULC Current Draw Data, Horn Tones, and Sound Output Data

UL/ULC Maxmimum Strobe Current Draw (mA)

	Candela Rating	16–33 Volts	
		Wall	Ceiling
Candela Range	15	18	18
	30	22	22
	75	70	70
	95	75	75
	110	85	—
	115	—	90
	135	105	—
	150	—	110
	177	—	115
	185	120	—

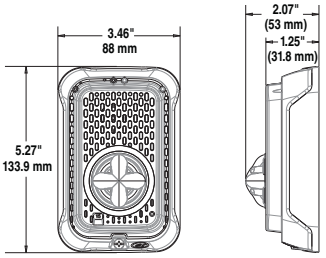
UL/ULC Maxmimum Horn Current Draw (mA RMS)

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

UL/ULC Maximum Horn Strobe Current Draw (mA) and Sound Output (dBA)

			Current Draw (mA RMS), Horn Strobe, Candela Range (15-185 cd)										Sound Output (dBA)
			16-33 Volts										16-33V
Switch Pos.	Sound Pattern	Volume Setting	15cd	30cd	75cd	95cd	110cd WALL	115cd CEILING	135cd WALL	150cd CEILING	177cd CEILING	185cd WALL	DC
1	Temporal 3	High	35	38	87	92	94	120	189	189	190	190	87
2	Temporal 3	Low	35	38	87	92	94	120	135	135	145	145	79
3	Non-Temporal	High	50	52	87	92	94	120	127	127	135	135	87
4	Non-Temporal	Low	35	38	87	92	94	120	125	125	130	130	79
5	3.1KHz Temporal 3	High	35	38	87	89	91	115	155	155	165	165	86
6	3.1KHz Temporal 3	Low	35	38	87	89	91	115	128	130	135	135	80
7	3.1KHz Non-Temporal	High	40	42	87	89	91	115	125	125	135	135	86
8	3.1KHz Non-Temporal	Low	35	38	87	89	91	115	120	120	130	130	80

L-Series with LED Dimensions: Wall-Mounted Equipment



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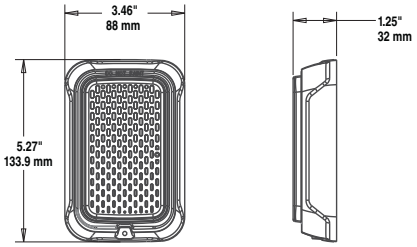
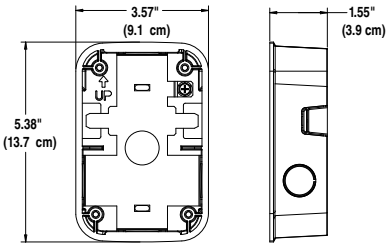
Compact Strobe, Horn Strobe for Wall



A0547-00

Compact Horn



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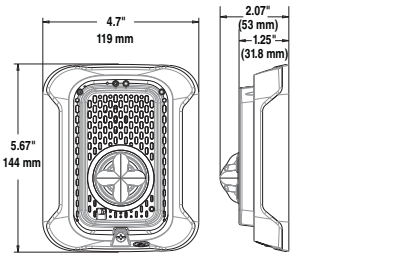
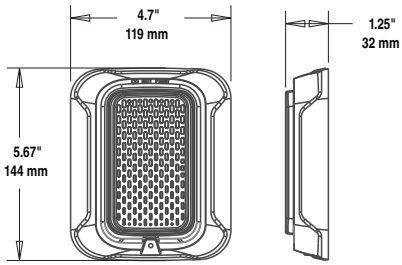
Compact Surface Mount Back Box for Walls (SBBGRL, SBBGWL)



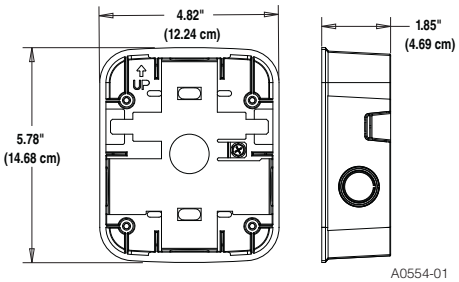
A0613-00

Strobes, Horn Strobes for Walls



A0549-00

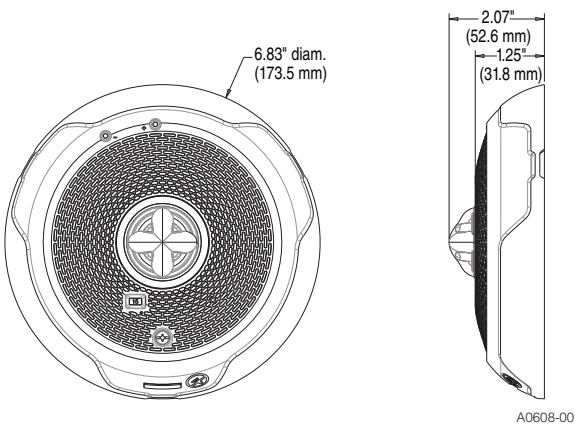
Horn



A0554-01

Surface Mount Back Box for Walls (SBBRL/SBBWL)

L-Series with LED Dimensions: Ceiling-Mounted Equipment



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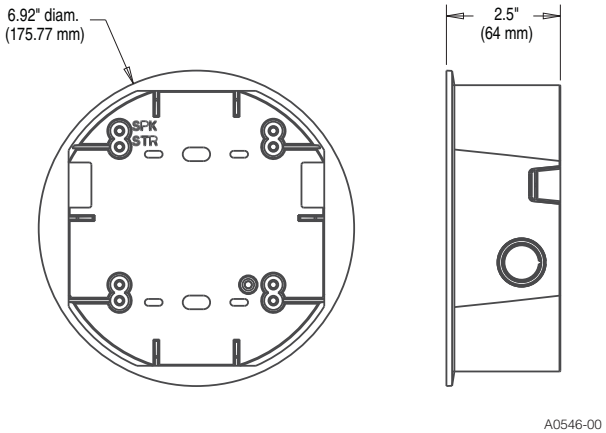
Strobes and Horn Strobes for Ceilings



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Surface Mount Back Box for Ceilings (SBBCRL, SBCWL)

L-Series with LED: Ordering Information

Model	Description
L-Series with LED Horn Strobes	
P2RLED	2-Wire, Horn Strobe, Wall, Red
P2RLED-B	2-Wire, Horn Strobe, Wall, Red, Bilingual
P2WLED	2-Wire, Horn Strobe, Wall, White
P2WLED-B	2-Wire, Horn Strobe, Wall, White, Bilingual
P2GRLED	2-Wire, Compact Horn Strobe, Wall, Red
P2GRLED-B	2-Wire, Compact Horn Strobe, Wall, Red, Bilingual
P2GWLED	2-Wire, Compact Horn Strobe, Wall, White
P2GWLED-B	2-Wire, Compact Horn Strobe, Wall, White, Bilingual
P2RLED-P	2-Wire, Horn Strobe, Wall, Red, Plain
P2WLED-P	2-Wire, Horn Strobe, Wall, White, Plain
P2RLED-SP	2-Wire, Horn Strobe, Wall, Red, FUEGO
P2WLED-SP	2-Wire, Horn Strobe, Wall, White, FUEGO
PC2RLED	2-Wire, Horn Strobe, Ceiling, Red
PC2RLED-B	2-Wire, Horn Strobe, Ceiling, Red, Bilingual
PC2WLED	2-Wire, Horn Strobe, Ceiling, White
PC2WLED-B	2-Wire, Horn Strobe, Ceiling, White, Bilingual
L-Series with LED Strobes	
SRLED	Strobe, Wall, Red
SRLED-B	Strobe, Wall, Red, Bilingual
SWLED	Strobe, Wall, White
SWLED-B	Strobe, Wall, White, Bilingual
SGRLED	Strobe, Compact, Wall, Red
SGRLED-B	Strobe, Compact, Wall, Red, Bilingual
SGWLED	Strobe, Compact, Wall, White
SGWLED-B	Strobe, Compact, Wall, White, Bilingual
SRLED-P	Strobe, Wall, Red, Plain
SWLED-P	Strobe, Wall, White, Plain
SRLED-SP	Strobe, Wall, Red, FUEGO
SWLED-CLR-ALERT	Strobe, Wall, White, ALERT
SWLED-ALERT	Strobe, Wall, White, ALERT, Amber Lens
SCRLED	Strobe, Ceiling, Red
SCRLED-B	Strobe, Ceiling, Red, Bilingual
SCRLED-P	Strobe, Ceiling, White, Plain
SCWLED	Strobe, Ceiling, White
SCWLED-B	Strobe, Ceiling, White, Bilingual
SCWLED-P	Strobe, Ceiling, White, Plain
SCWLED-CLR-ALERT	Strobe, Ceiling, White, ALERT
L-Series Horns	
HRL*	Horn, Red
HRLA*	Horn, Red, Plain, ULC
HWL*	Horn, White
HWLA*	Horn, White, Plain, ULC
HGRL*	Compact Horn, Red
HGRLA*	Compact Horn, Red, Plain, ULC
HGWL*	Compact Horn, White
HGWLA*	Compact Horn, White, Plain, ULC

Model	Description
LED Lenses	
LENS-A3	Lens LED Amber Wall/Ceiling
LENS-B3	Lens LED Blue Wall/Ceiling
LENS-G3	Lens LED Green Wall/Ceiling
LENS-R3	Lens LED Red Wall/Ceiling
Accessories	
TR-2	Universal Wall Trim Ring Red
TR-2W	Universal Wall Trim Ring White
SBBRL	Wall Surface Mount Back Box, Red
SBBWL	Wall Surface Mount Back Box, White
SBBGRL	Compact Wall Surface Mount Back Box, Red
SBBGWL	Compact Wall Surface Mount Back Box, White
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
Bezels†	
BZR	Wall Red Bezel Kit
BZW	Wall White Bezel Kit
BZGR	Compact Wall Red Bezel Kit
BZGW	Compact Wall White Bezel Kit
BZRC	Horn Strobe Ceiling Red Bezel Kit
BZWC	Horn Strobe Ceiling White Bezel Kit

Notes for L-Series With LED Horn Strobes and Strobes:

All -P models have a plain housing (no “FIRE” marking on cover).
All -SP models have “FUEGO” marking on cover.
All -ALERT models have “ALERT” marking on cover.
All -B models have “FIRE/FEU” marking on cover for use in Canadian applications.
Amber lenses are not for use in Canadian applications

Notes for L-Series Horns:

*Horn-only models are listed for wall or ceiling use.

Notes for Bezels:

†Each bezel pack ships in a package of 5.
Add one of the following extensions for print/language options: -F (FIRE), -AL (ALERT), -EV (EVAC), -AG (AGENT), -P (Plain), -FR (FEU), -PG (FOGO), -SP (FUEGO), -SPE (FUEGO/FIRE).

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

3333 Unity Drive, Mississauga, ON L5L 3S6 Canada
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www.systemsensor.ca

AVDS916-01 • 10/03/2023

Indoor Selectable-Output Speaker Strobes and Dual Voltage Evacuation Speakers for Ceiling Applications

NOTIFIER® by Honeywell

Audio/Visual Devices

General

The L-Series of speakers and speaker strobes reduce costly ground faults using a plug-in design and universal mounting plate. The installer can pre-wire mounting plates, dress the wires, and confirm wiring continuity before plugging in the speakers. In addition, a protective plastic cover prevents nicked wires by covering exposed speaker components.

These devices also enable faster installations by providing instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and 7 field-selectable candela settings for both wall and ceiling speaker strobes.

The low total harmonic distortion of the SP speaker offers high fidelity sound output while still offering high volume sound output for use in high ambient noise applications.

L-SERIES MAKES INSTALLATION EASY

- Attach a universal mounting plate to a 4" × 4" × $2^{1}/_{8}$" back box. Flush-mount applications do not require an extension ring.
- Connect the notification appliance circuit or speaker wiring to the terminals on the mounting plate.
- Attach the speaker or speaker strobe to the mounting plate by inserting the product tabs into the mounting plate grooves. Hinge the device into position to lock the product pins into the mounting plate terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

Features

- Plug-in design and protective cover reduce ground faults.
- Universal mounting plate with an onboard shorting spring tests wiring continuity before installation.
- No extension ring required.
- Field selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177.
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela.
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (¼, ½, 1 and 2 watts).
- Speakers offer high fidelity and high volume sound output.
- UL 464 (520 Hz) listed and complies with NFPA 72 requirements for low frequency with compatible fire alarm control panel.
- Compatible with System Sensor synchronization protocol.
- Electrical compatibility with existing SpectrAlert and SpectrAlert Advance products.
- Tamper-resistant construction.
- Updated modern aesthetics.

SPSCRL, SPSCWL

Architectural/Engineering Specifications

General. L-Series speaker and speaker strobes shall mount to a 4" × 4" × $2^{1}/_{8}$" back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, L-Series speaker strobes, 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°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Speaker strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, 177.

Speaker. The speaker shall be a System Sensor L-Series model dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. It should be listed to UL 1480 and shall be approved for fire protective service. The speaker shall have a frequency range of 400 to 4,000 Hz and shall have an operating temperature between 32°F and 120°F. The speaker shall have power taps and voltage that are selected by rotary switches.

Speaker Strobe Combination. The speaker strobe shall be a System Sensor L-Series model listed to UL1480 and UL 1971 and be approved for fire protective signaling systems. The speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4,000 Hz. The speaker shall have power taps that are selected by rotary switch. The strobe shall comply with the NFPA 72 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.

Synchronization Module. The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz. The module shall mount to a $4^{11}/_{16}$" × $4^{11}/_{16}$" × $2^{1}/_{8}$" 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 Specifications

- **Standard Operating Temperature:** 32°F to 120°F (0°C to 49°C).
- **Humidity Range:** 10 to 93% non-condensing.
- **Dimensions, Ceiling-Mount:**
  - **SPC Speaker:** Diameter 6.8 in, 173 mm. Depth: 1.0 in, 25 mm.
  - **SPC Speaker with Surface Mount Back Box:** Diameter: 6.9 in, 176 mm. Depth: 3.5 in, 89 mm.
  - **SPSC Speaker Strobe:** Diameter: 6.8 in, 173 mm. Depth: 2.8 in, 73 mm.
  - **SPSC Speaker Strobe with Surface Mount Back Box:** Diameter 6.9 in, 176 mm. Depth: 5.37 in, 136 mm.

Electrical/Operating Specifications

- **Nominal Voltage (speakers):** 25 Volts or 70.7 Volts (nominal).
- **Maximum Supervisory Voltage (speakers):** 50 VDC.
- **Strobe Flash Rate:** 1 flash per second.
- **Nominal Voltage (strobes):** Regulated 12 DC or regulated 24 DC/FWR (full wave rectified).
- **Operating Voltage Range (includes fire alarm panels with built in sync):** 8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal).
- **Operating Voltage with MDL3 Sync Module:** 8.5 V to 17.5 V (12 V nominal) or 16.5 V to 33 V (24 V nominal).
- **Frequency Range:** 400 to 4,000 Hz.
  520Hz capable with compatible fire alarm control panel.
- **Power:** ¼, ½, 1, 2 watts.

UL Current Draw Data

UL MAX. STROBE CURRENT DRAW (MA RMS)

Candela	8-17.5 Volts DC	16-33 Volts DC	16-33 Volts FWR
15	87	41	60
30	153	63	86
75	NA	111	142
95	NA	134	164
115	NA	158	191
150	NA	189	228
177	NA	226	264

CEILING-MOUNT SPEAKER SOUND OUTPUT

Setting	UL Reverberant (dBA @10 ft)	UL Anechoic (dBA @10 ft)
¼ W	79	79
½ W	82	82
1 W	85	85
2 W	88	88

CEILING-MOUNT SPEAKER STROBE SOUND OUTPUT

Setting	UL Reverberant (dBA @10 ft)	UL Anechoic (dBA @10 ft)
¼ W	77	77
½ W	80	80
1 W	83	83
2 W	86	86

Agency Listings and Approvals

The listings and approvals below apply to L-series devices. 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-Listed:**
  - S4048 Plain Speaker Strobes (Ceiling)
  - S4048 Spanish-labeled Speaker Strobes (Ceiling)
  - S4048 Speaker Strobe ALERT devices
- **UL/ULC-Listed:**
  - S4048 Speakers (Ceiling)
  - S4048 Speaker Strobes (Ceiling)
- **FM Approved** (All except ALERT models)
- **CSFM Listed:** 7320-1653:0505

Product Line Information

CEILING MOUNT SPEAKER STROBES

SPCWL(A), SPCRL(A). Speaker only (White, Red).

SPSCWL(A)(-E)(-F), SPSCRL(A)(-E)(-F). Speaker strobe (White, Red).

SPSCWL(A)-P. Plain speaker strobe (White).

SPSCWL-SP. Spanish-labeled "Fuego" speaker strobe (White) UL/ULC Listed.

SPSCWL-TE. English with trim ring.

SPSCWL-CLR-ALERT. Speaker Strobe, Ceiling, Clear Lens, ALERT (White).

ACCESSORIES

SBBCWL, SBBCRL. Universal Ceiling Surface Mount Back Box (White, Red).

TRC-2W, TRC-2. Universal Ceiling Trim Ring (White, Red).

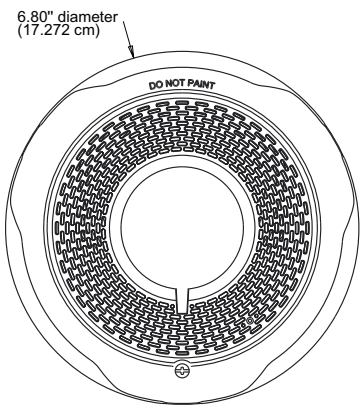
NOTE: *"A" suffix indicates ULC-Listed model. ULC-listed devices include required French labeling. See Agency Listings for listing details.*

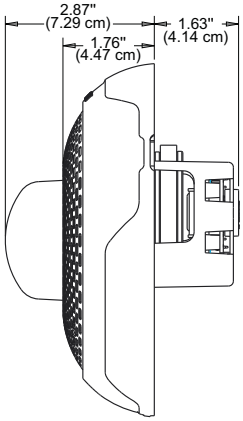
NOTE: *"A" suffix indicates ULC-listed models, ULC models have FIRE/FEU marking on cover.*

NOTE: *ULC-listed models add "-E" suffix for English only "FIRE" marking on cover.*

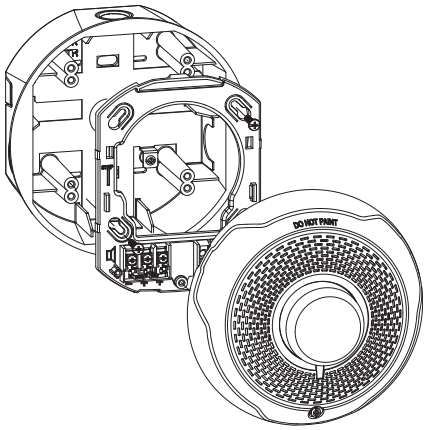
NOTE: *ULC-listed models add "-F" suffix for French only "FEU" marking on cover.*

Product Drawings





Speaker Strobe Dimensions



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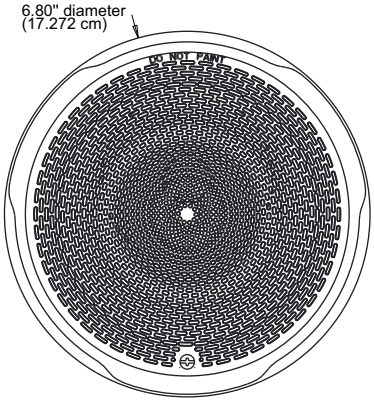
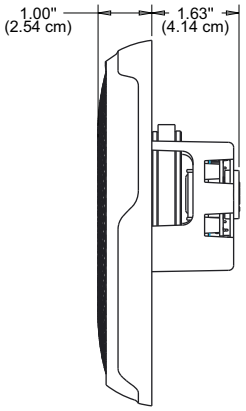
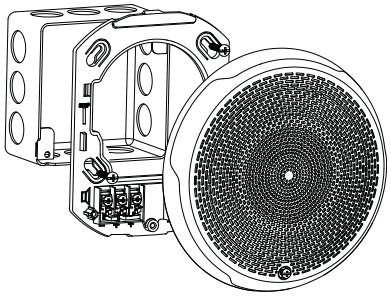
Speaker Strobe with SBBCRL/ SBBCWL Surface Mount Back Box



Speaker Dimensions





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Speaker with SBBCRL/SBBCWL Surface Mount Back Box

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

ELECTRONIC KNOXBOX® 3200

KnoxBox 3200, the number one high-security key lock box trusted by emergency responders and property owners, is now available with the electronic Knox eLock Core™. Store up to 10 keys to gain rapid access to commercial properties. Box openings are recorded and tracked in the cloud-based KnoxConnect™ Management System.

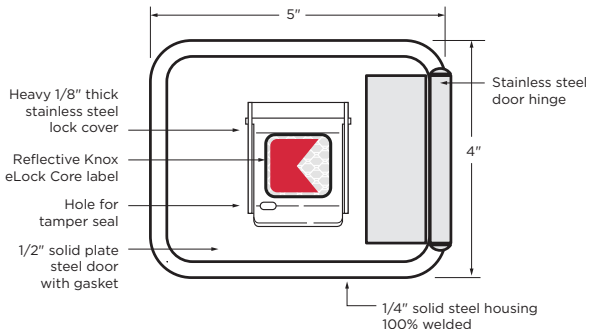
Available in 3 colors:

Black | Aluminum | Dark Bronze

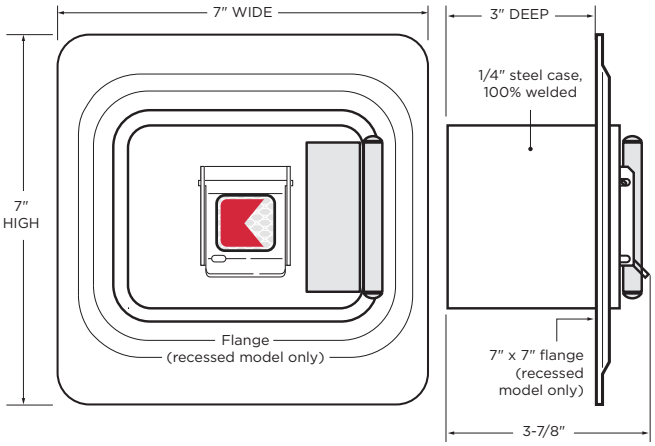
WEIGHT:
Surface Mount - 8 lbs.
Recessed Mount - 9 lbs.

DIMENSIONS:
Surface Mount Body - 4" H x 5" W x 3-7/8" D
Recessed Mount Flange - 7" H x 7" W

SURFACE MOUNT - FRONT VIEW



RECESS MOUNT - FRONT VIEW **SIDE VIEW**



FEATURES

- Stores maximum 10 keys. Access cards and small entry items may also fit in interior compartment but will reduce max key quantity.
- Knox eLock Core, powered by Knox eKey™
- Dust cover reflective label for Knox eLock System identification
- Enables tracking of box openings via cloud-based KnoxConnect™
- Built Knox-Rugged and secure: UL 1037, UL 1610, UL 1332
- Finished with Knox-Coat® to protect four times better than standard powder coat
- Weather-resistant door gasket
- Knox RainGuard™ provides weather protection
- Hinged door

BENEFITS

- No wiring or battery needed for power
- Captures box openings by date and time
- Allows rapid property access
- Reduces property damage
- Prevents forced entry into buildings
- Minimizes first responder injury
- Compliant to National Fire Code (NFPA, IFC, IBC)

OPTIONS

- Knox Tamper Alert connects to building's alarm system for extra security
- Mount types: Recessed and Surface
- 3 color options: Black, Aluminum, Dark Bronze

ACCESSORIES

- Multi-Purpose Switch for use on electrical doors, gates and other electrical equipment
- Recess Mounting Kit for new concrete or masonry construction
- Public Safety Labels
- Tag-Out Tamper Seals, Key Tags, and Key Rings

ORDERING SPECIFICATIONS

To insure procurement and delivery of the Electronic KnoxBox 3200, it is suggested that following specification paragraph is used:

KnoxBox surface/recessed mount with hinged door, with/without UL Listed Knox Tamper Alert. 1/4" plate steel housing, 1/2" thick steel door with interior gasket seal and stainless steel door hinge. Box is UL Listed. Lock has 1/8" thick stainless steel dust cover with tamper seal mounting capability, a rainguard to protect against certain weather conditions and a reflective Knox label indicating the Knox eLock System.

Exterior Dimensions: Surface Mount Body - 4" H x 5" W x 3-7/8" D
Recessed Mount Flange - 7" H x 7" W

Electronic Lock: Powered by Knox eKey. Communicates using industry standard encryption.

Finish: Knox-Coat proprietary finishing process

Color: Black, Dark Bronze or Aluminum

P/N: KnoxBox KLS-3200 (mfr's cat. ID)

Mfr's Name: KNOX COMPANY

SECURITY UL LISTED EQUIPMENT 2363 CE

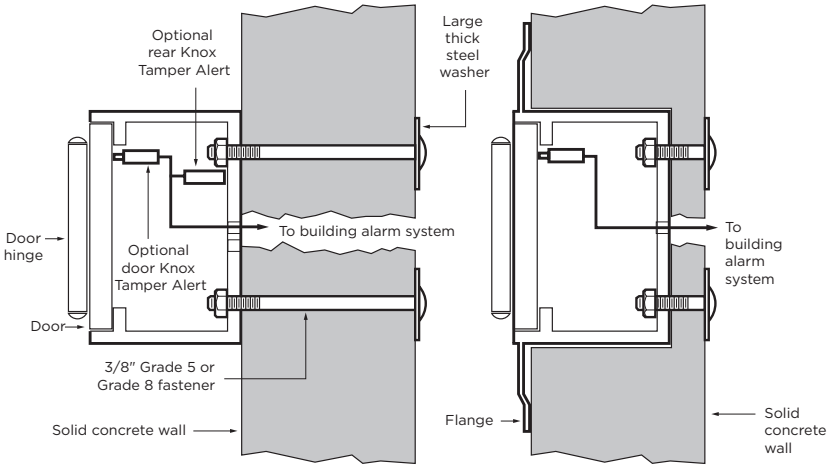
1601 W. DEER VALLEY RD. PHOENIX, AZ 85027 | T. 800-552-5669 | F. 623-687-2290 | INFO@KNOXBOX.COM | KNOXBOX.COM

ELECTRONIC KNOXBOX® 3200

GENERAL MOUNTING INSTRUCTIONS

Suggested minimum mounting height, 6 feet above ground.

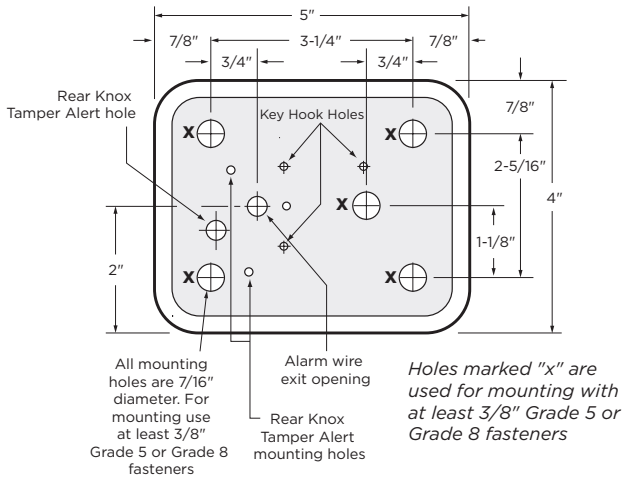
ATTENTION: KnoxBox is a very strong device that MUST be mounted properly to ensure maximum security and resist physical attack.



KnoxBox 3200 Hinged Door Surface Mount

KnoxBox 3200 Hinged Door Recess Mount

Inside View



Holes marked "x" are used for mounting with at least 3/8" Grade 5 or Grade 8 fasteners

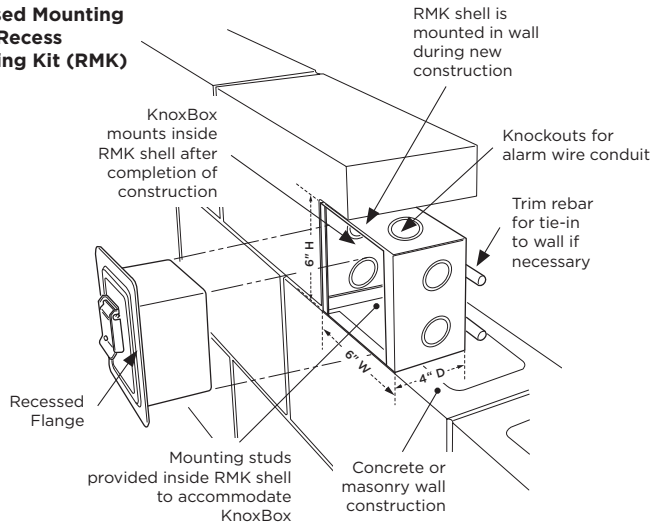
RECESS MOUNTING KIT AND INSTALLATION INSTRUCTIONS

The Recess Mounting Kit (RMK) includes shell housing and mounting hardware, which may only be used for recessed models to cast-in-place within new concrete or masonry construction. The KnoxBox is mounted into the shell housing after construction is completed.

RECESS MOUNTING KIT DIMENSIONS

Rough-in Dimensions:
6-1/2" H x 6-1/2" W x 5" D

Recessed Mounting Using Recess Mounting Kit (RMK)



IMPORTANT:

Care should be taken to ensure the front of the Recess Mounting Kit (RMK) shell housing, including the cover plate and screw heads, is flush with the wall. The RMK must be plumbed to ensure vertical alignment of the box.

ABOUT KNOX COMPANY

Over forty years ago, a unique concept in rapid access for emergency response was born. The KnoxBox®, a high-security key lock box, was designed to provide rapid access for emergency responders to reduce response times, minimize injuries and protect property from forced entry.

Today, one revolutionary lock box has grown into a complete system providing rapid access for public safety agencies, industries, military, and property owners across the world. The Knox Company is trusted by over 14,000 fire departments, law enforcement agencies, and governmental entities.

KNOX COMPANY
1601 W. DEER VALLEY RD
PHOENIX, AZ 85027

T. 800.552.5669
F. 623.687.2290

KNOXBOX.COM
INFO@KNOXBOX.COM

FMM-1(A), FMM-101(A), FZM-1(A) & FDM-1(A)

Monitor Modules with FlashScan®

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

Four different monitor modules are available for Notifier's intelligent control panels for a variety of applications. Monitor modules supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (FZM-1(A)).

FMM-1(A) is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

FMM-101(A) is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.5" (1.270 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the FMM-101(A) to be mounted in a single-gang box behind the device it monitors.

FZM-1(A) is a standard-sized module that monitors and supervises compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

FDM-1(A) is a standard-sized dual monitor module that monitors and supervises two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs.

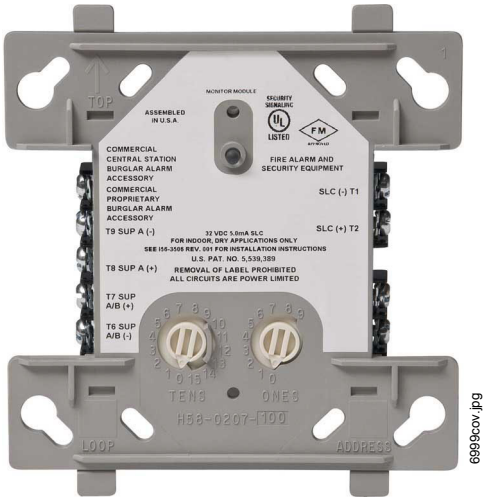
FMM-1(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.
- LED flashes green during normal operation (this is a programmable option) and latches on steady red to indicate alarm.

The FMM-1(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The FMM-1(A) can be used to replace MMX-1(A) modules in existing systems.

FMM-1(A) APPLICATIONS

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.



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FMM-1(A) (Type H)

FMM-1(A) OPERATION

Each FMM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

FMM-1(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.0 mA (LED on).

Average operating current: 350 µA (LED flashing), 1 communication every 5 seconds, 47k EOL.

Maximum IDC wiring resistance: 40 ohms.

EOL resistance: 47K ohms.

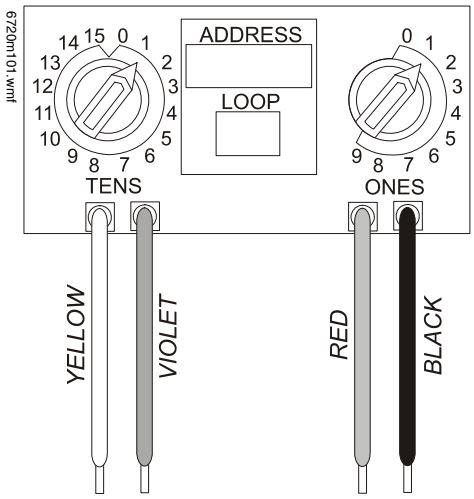
Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

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

FMM-101(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.



The FMM-101(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The FMM-101(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm and security devices. The FMM-101(A) can be used to replace MMX-101(A) modules in existing systems.

FMM-101(A) APPLICATIONS

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

FMM-101(A) OPERATION

Each FMM-101(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

FMM-101(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

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

Maximum IDC wiring resistance: 40 ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 400 µA.

EOL resistance: 47K ohms.

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

Humidity range: 10% to 93% noncondensing.

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

Wire length: 6" (15.24 cm) minimum.

FZM-1(A) Interface Module

- Supports compatible two-wire smoke detectors.
- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops, 01 – 99 on CLIP loops.
- LED flashes during normal operation; this is a programmable option.
- LED latches steady to indicate alarm on command from control panel.

The FZM-1(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The FZM-1(A) can be used to replace MMX-2(A) modules in existing systems.

FZM-1(A) APPLICATIONS

Use the FZM-1(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 ohms). Install ELR across terminals 8 and 9 for Style D application.

FZM-1(A) OPERATION

Each FZM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

FZM-1(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.1 mA (LED on).

Maximum IDC wiring resistance: 25 ohms.

Average operating current: 300 µA, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

EOL resistance: 3.9K ohms.

External supply voltage (between Terminals T3 and T4): DC voltage: 24 volts power limited. Ripple voltage: 0.1 Vrms maximum. Current: 90 mA per module maximum.

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

Humidity range: 10% to 93% noncondensing.

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

FDM1(A) Dual Monitor Module

The FDM-1(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices; or either normally open or normally closed security devices. The module has a single panel-controlled LED.

NOTE: *The FDM-1(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.*

FDM-1(A) SPECIFICATIONS

Normal operating voltage range: 15 to 32 VDC.

Maximum current draw: 6.4 mA (LED on).

Average operating current: 750 µA (LED flashing).

Maximum IDC wiring resistance: 1,500 ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 µA

EOL resistance: 47K ohms.

Maximum SLC Wiring resistance: 40 Ohms.

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

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

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 2.125" (5.398 cm) deep.

FDM-1(A) AUTOMATIC ADDRESSING

The FDM-1(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the FDM-1(A) is set to address "26", then it will automatically assign itself to addresses "26" and "27".

NOTE: *"Ones" addresses on the FDM-1(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.*

CAUTION:
Avoid duplicating addresses on the system.

Installation

FMM-1(A), FZM-1(A), and FDM-1(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The FMM-101(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

Agency Listings and Approvals

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

- **UL:** S635
- **ULC:** S635
- **FM Approved**
- **CSFM:** 7300-0028:0219
- **MEA:** 457-99-E
- **U.S. Coast Guard:**
  - 161.002/23/3 *(AFP-200: FMM-1/-101, FZM-1)*
  - 161.002/42/1 *(NFS-640: FMM-1/-101)*
- **Lloyd's Register:**
  - 03/60011/E1 *(FMM-1/-101, FZM-1)*
  - 94/60004/E2 *(AFP-200: except FDM-1)*
  - 02/60007 *(NFS-640: FDM-1)*
- **FDNY:** COA #6038 (NFS2-640, NFS-320), COA# 6058 (NFS2-3030)

Product Line Information

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

FMM-1(A): Monitor module.

FMM-101(A): Monitor module, miniature.

FZM-1(A): Monitor module, two-wire detectors.

FDM-1(A): Monitor module, dual, two independent Class B circuits.

SMB500: Optional surface-mount backbox.

NOTE: *See installation instructions and refer to the SLC Wiring Manual, PN 51253.*

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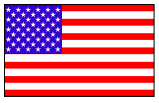
All specifications are subject to change without notice.



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For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

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

Control and Relay Modules

NOTIFIER® by Honeywell

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.

FCM-1(A)

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).
- 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 µA direct poll, 375 µA group poll with LED flashing, 485 µA 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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www.notifier.com

Detailed Specifications & Technical Data

METRIC MEASUREMENT VERSION

6322UL Multi-Conductor - Commercial Applications

For more Information please call

1-800-Belden1

General Description:

Fire Alarm Cable, Plenum-FPLP, 4-18 AWG solid bare copper conductors with Flamarrest® insulation, Flamarrest®jacket with ripcord

Usage (Overall)

Suitable Applications:	Fire Protection, Alarm, Signal, Monitor/Detection, Audio Circuits, Control Circuits, Initiating Circuits, Notification Circuits

Physical Characteristics (Overall)

Conductor

AWG:

# Conductors	AWG	Stranding	Conductor Material
4	18	Solid	BC - Bare Copper

Total Number of Conductors:	4

Insulation

Insulation Material:

Insulation Trade Name	Insulation Material	Wall Thickness (mm)
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	0.203

Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

Outer Jacket

Outer Jacket Material:

Outer Jacket Trade Name	Outer Jacket Material	Nom. Wall Thickness (mm)
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	0.381

Outer Jacket Ripcord:	Yes

Overall Cable

Overall Cabling Lay Length & Direction:

Length (mm)	Twists (twist/m)
82.549675	12.1397

Overall Cabling Color Code Chart:

Number	Color
1	Black
2	Red
3	Brown
4	Blue

Overall Nominal Diameter:	4.216 mm

Mechanical Characteristics (Overall)

Operating Temperature Range:	0°C To +75°C
UL Temperature Rating:	75°C
Bulk Cable Weight:	43.753 Kg/Km
Max. Recommended Pulling Tension:	348.739 N
Min. Bend Radius/Minor Axis:	41.275 mm

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	FPLP
NEC Articles:	760
EU Directive 2011/65/EU (ROHS II):	Yes

EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	04/01/2005
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Other Specification:	California State Fire Marshall

Flame Test

UL Flame Test:	NFPA 262

Plenum/Non-Plenum

Plenum (Y/N):	Yes
Non-Plenum Number:	5322UL

Electrical Characteristics (Overall)

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/m)
109.914

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
20.9984

Max. Operating Voltage - UL:

Voltage
300 V RMS

Max. Recommended Current:

Current
4 Amps per conductor @ 25°C

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
6322UL 002C500	500 FT	14.000 LB	RED		4 #18 FLRST FLRST
6322UL 002U1000	1,000 FT	29.000 LB	RED		4 #18 FLRST FLRST
6322UL 0021000	1,000 FT	30.000 LB	RED	C	4 #18 FLRST FLRST

Notes:
C = CRATE REEL PUT-UP.

Revision Number: 2 Revision Date: 03-13-2013

Detailed Specifications & Technical Data

METRIC MEASUREMENT VERSION

6320UL Multi-Conductor - Commercial Applications - 2 Conductors Cabled

For more Information please call

1-800-Belden1

General Description:

Fire Alarm Cable, Plenum-FPLP, 2-18 AWG solid bare copper conductors with Flamarrest® insulation, Flamarrest®jacket with ripcord

Usage (Overall)

Suitable Applications:	Fire Protection, Alarm, Signal, Monitor/Detection, Audio Circuits, Control Circuits, Initiating Circuits, Notification Circuits

Physical Characteristics (Overall)

Conductor

AWG:

# Conductors	AWG	Stranding	Conductor Material
2	18	Solid	BC - Bare Copper

Total Number of Conductors:	2

Insulation

Insulation Material:

Insulation Trade Name	Insulation Material	Wall Thickness (mm)
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	0.203

Outer Shield

Outer Shield Material:

Outer Shield Material
Unshielded

Outer Jacket

Outer Jacket Material:

Outer Jacket Trade Name	Outer Jacket Material	Nom. Wall Thickness (mm)
Flamarrest®	LS PVC - Low Smoke Polyvinyl Chloride	0.381

Outer Jacket Ripcord:	Yes

Overall Cable

Overall Cabling Lay Length & Direction:

Length (mm)	Twists (twist/m)
69.849725	14.4364

Overall Cabling Color Code Chart:

Number	Color
1	Black
2	Red

Overall Nominal Diameter:	3.658 mm

Mechanical Characteristics (Overall)

Operating Temperature Range:	0°C To +75°C
UL Temperature Rating:	75°C
Bulk Cable Weight:	23.811 Kg/Km
Max. Recommended Pulling Tension:	174.369 N
Min. Bend Radius/Minor Axis:	38.100 mm

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	FPLP
NEC Articles:	760
EU Directive 2011/65/EU (ROHS II):	Yes
EU CE Mark:	Yes

6320UL Multi-Conductor - Commercial Applications - 2 Conductors Cabled

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	04/01/2005
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes
Other Specification:	California State Fire Marshall

Flame Test

UL Flame Test:	NFPA 262

Plenum/Non-Plenum

Plenum (Y/N):	Yes
Non-Plenum Number:	5320UL

Electrical Characteristics (Overall)

Nom. Inductance:

Inductance (µH/m)
0.492

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/m)
101.711

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
20.9984

Max. Operating Voltage - UL:

Voltage
300 V RMS

Max. Recommended Current:

Current
5 Amps per conductor @ 25°C

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
6320UL D15C500	500 FT	7.500 LB	BLUE		2 #18 FLRST FLRST
6320UL D151000	1,000 FT	17.000 LB	BLUE	C	2 #18 FLRST FLRST
6320UL 002U1000	1,000 FT	17.000 LB	RED		2 #18 FLRST FLRST
6320UL 002U500	500 FT	9.000 LB	RED		2 #18 FLRST FLRST
6320UL 0021000	1,000 FT	17.000 LB	RED	C	2 #18 FLRST FLRST
6320UL 003U1000	1,000 FT	17.000 LB	ORANGE		2 #18 FLRST FLRST
6320UL 0031000	1,000 FT	17.000 LB	ORANGE		2 #18 FLRST FLRST
6320UL 004U1000	1,000 FT	17.000 LB	YELLOW		2 #18 FLRST FLRST
6320UL 0041000	1,000 FT	17.000 LB	YELLOW		2 #18 FLRST FLRST
6320UL 005U1000	1,000 FT	17.000 LB	GREEN, DARK		2 #18 FLRST FLRST
6320UL 0051000	1,000 FT	17.000 LB	GREEN, DARK		2 #18 FLRST FLRST
6320UL 007C500	500 FT	7.500 LB	VIOLET		2 #18 FLRST FLRST
6320UL 007U1000	1,000 FT	17.000 LB	VIOLET		2 #18 FLRST FLRST
6320UL 009C500	500 FT	7.500 LB	WHITE		2 #18 FLRST FLRST
6320UL 009U1000	1,000 FT	17.000 LB	WHITE		2 #18 FLRST FLRST
6320UL 0091000	1,000 FT	17.000 LB	WHITE		2 #18 FLRST FLRST
6320UL 010C500	500 FT	7.500 LB	BLACK		2 #18 FLRST FLRST
6320UL 010U1000	1,000 FT	17.000 LB	BLACK		2 #18 FLRST FLRST
6320UL 0101000	1,000 FT	17.000 LB	BLACK		2 #18 FLRST FLRST
6320UL 012U1000	1,000 FT	17.000 LB	PINK		2 #18 FLRST FLRST

Notes:
C = CRATE REEL PUT-UP.

6320UL Multi-Conductor - Commercial Applications - 2 Conductors Cabled

Revision Number: 2 Revision Date: 03-13-2013