FireWarden-100-2(E) Rev 3

Intelligent Addressable FACP

NOTIF by Honey

Addressable Fire Al

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Inspections Division
Approved with Conditions

Date: 01/12/15

General

The Notifier FireWarden-100-2 Rev 3 (NFW2-100) with Version 5.0 firmware is a combination FACP (Fire Alarm Control Panel) and DACT (Digital Alarm Communicator/Transmitter) all on one circuit board. This compact intelligent addressable control panel has an extensive list of powerful features.

The SLC (Signaling Line Circuit) of the FireWarden-100-2 Rev 3 operates using a Rapid Group Polling communication protocol technology that polls multiple devices simultaneously for a quicker device response time.This patented technology allows a fully-loaded panel with up to 198 devices to report an incident and activate the notification circuits in under 10 seconds. With this improved polling, devices can be wired on standard twisted, unshielded wire up to a distance of 10,000 feet.

The 's quick-remove chassis protects the electronics during construction. The backbox can be installed allowing field wiring to be pulled. When construction is completed, the electronics can be quickly installed with just two bolts.

New features for Rev 3 with Version 5.0 firmware include removable terminal blocks, improved transient protection, additional secondary ANN-BUS, and increased power for the resettable and remote sync outputs.

Available accessories include ANN-BUS devices as well as ACS LED, graphic and LCD annunciators, and reverse polarity/city box transmitter.

The integral DACT transmits system status (alarms, supervisories, troubles, AC loss, etc.) to a Central Station via the public switched telephone network. It also allows remote and local programming of the control panel using the PS-Tools Upload/Download utility. In addition, the control panel may be programmed or interrogated off-site via the public switched telephone network. Any personal computer with Windows® XP or greater, a compatible modem, and PS-Tools—the Upload/Download software kit—may serve as a Service Terminal. This allows download of the entire program or upload of the entire program, history file, walktest data, current status and system voltages. The panel can also be programmed through the FACP's keypad or via a standard PS-2 computer keyboard, which can be plugged directly into the printed circuit board. This permits easy typing of address labels and other programming information.

Version 5.0 firmware supports the following: Primary and Secondary ANN-bus devices, NP-A100, USB port, NAC circuit diagnostics, a new report has been added to the walk-test that lists untested devices, new device types added: audio telephone type code for NFV-25/50ZST, Photo Supervisory and auto-resettable Drill (non-latching).

The FireWatch Series internet monitoring modules IPDACT-2 and IPDACT-2UD permit monitoring of 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.

NOTE: *Unless otherwise specified, the term "FireWarden-100-2" is used in this document to refer to both the FireWarden-100-2 and the FireWarden-100-2E FACPs (Fire Alarm Control Panels). Likewise, "NFW2-100" refers to NFW2-100E as well.*

Features

- Listed to UL standard 864, 9th edition.
- On-board DACT.

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- Remote site or local USB port upload/download, using PS-Tools.
- Four (4) Style Y (Class B) NAC circuits, which can be converted to four (4) Style Z (Class A) circuits with optional ZNAC-92 converter module. (Up to 6.0 amps total NAC power when using optional XRM-24B.)
- Selectable strobe synchronization for System Sensor, Wheelock, and Gentex devices.
- Remote Acknowledge, Silence, Reset and Drill via addressable monitor modules or FDU-80, N-ANN-80 or Legacy ACS Annunciators.
- ANN-BUS for connection to following optional modules (cannot be used if ACS annunciators are used):
  - N-ANN-80(-W) Remote LCD Annunciator
  - N-ANN-I/O LED Driver
  - N-ANN-S/PG Printer Module
  - N-ANN-RLY Relay Module
  - N-ANN-LED Annunciator Module
  - N-ANN-RLED Annunciator Module alarms only
  - ROME Relay Option Module Enclosure
- ACS & Terminal-mode Annunciators:
  - ACS Annunciators: Up to 32 Legacy ACM Series annunciators (ACM-16AT or ACM-32 series). Cannot be used if ANN-BUS devices are used.
  - Terminal-mode Annunciators: Up to 32 Legacy FDU-80 annunciators.
- EIA-232 printer/PC interface (variable baud rate) on main circuit board, for use with optional UL-listed printer PRN-6.
- Integral 80-character LCD display with backlighting.
- Real-time clock/calendar with automatic daylight savings control.
- Detector sensitivity test capability (NFPA 72 compliant).

- History file with 1,000-event capacity.
- Maintenance alert warns when smoke detector dust accumulation is excessive.
- Automatic device type-code verification.
- One person audible or silent walk test with walk-test log and printout.
- Point trouble identification.
- Waterflow (nonsilenceable) selection per monitor point.
- System alarm verification selection per detector point.
- PAS (Positive Alarm Sequence) and presignal delay per point (NFPA 72 compliant).

NOTE: *Only detectors may participate in PAS.*

SLC LOOP:

- SLC can be configured for NFPA Style 4, 6, or 7 operation.
- SLC supports up to 198 addressable devices per loop (99 detectors and 99 monitor, control, or relay modules).
- SLC loop maximum length 10,000 ft. (3,000 m.). *See installation manual for wire tables.*

NOTIFICATION APPLIANCE CIRCUITS (NACS):

- Four onboard NACs with additional NAC capability using output control modules (NC-100). The four Class B NACs can be converted to four Class A NACs with optional ZNAC-92 converter module.
- Silence Inhibit and Auto Silence 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 amps maximum per each NAC circuit.

NOTE: *Maximum 24VDC system power output is shared among all NAC circuits and 24VDC special-application auxiliary power outputs. Total available output is 3.0 amps. Using the optional XRM-24B transformer increases 24VDC output to 6.0 amps.*

PROGRAMMING AND SOFTWARE:

- Autoprogram (learn mode) reduces installation time.
- Custom English labels (per point) may be manually entered or selected from an internal library file.
- Three Form-C relay outputs (two programmable).
- 99 software zones.
- Continuous fire protection during online programming at the front panel.
- Program Check automatically catches common errors not linked to any zone or input point.
- **OFFLINE PROGRAMMING:** Create the entire program in your office using a Windows®-based software package (NFW2-100 requires PS-Tools Programming software, available on www.magni-fire.com). Upload/download system programming locally to the NFW2-100 Rev 3 in less than one minute.
- USB upload/download programming with standard Male-A to Male-B cable.

User Interface

LED INDICATORS

- AC Power (green)
- Fire Alarm (red)
- Supervisory (yellow)
- Alarm Silenced (yellow)
- System Trouble (yellow)
- Maintenance/Presignal (yellow)
- Disabled (yellow)
- Battery Fault (yellow)
- Ground Fault (yellow)

KEYPAD CONTROLS

- Acknowledge/Step
- Alarm Silence
- Drill
- System Reset (lamp test)
- 16-key alpha-numeric pad (similar
- 4 cursor keys
- Enter

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Product Line Information

NFW2-100: FireWarden-100-2 Rev 3 198-point addressable Fire Alarm Control Panel, one SLC loop. Includes 80-character LCD display, single printed circuit board mounted on chassis, and cabinet. 120 VAC operation.

NFW2-100R: Same as **NFW2-100**, except in a red backbox.

NFW2-100E: Same as **NFW2-100**, except with 240 VAC operation.

4XTM Reverse Polarity Transmitter Module: Provides supervised output for local energy municipal box transmitter, alarm, and trouble.

ZNAC-92: Optional converter module which converts four (4) Style Y (Class B) NAC circuits to four (4) Style Z (Class A) circuits.

PS Tools: Programming software for Windows®-based PC computer (cable not included), available on www.firelite.com.

DP-9692B: Optional dress panel for FireWarden-100-2 Rev 3.

TR-CE-B: Optional trim Ring for semi-flush mounting.

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

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

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.

XRM-24B(E): Optional transformer. Increases system power output to 6.0 amps. Use XRM-24BE with FireWarden-100-2E Rev 3.

PRT/PK-CABLE: Cable printer/personal computer interface cable; required for printer or for local upload/download programming and updating panel firmware.

PRN-6: UL listed compatible event printer. Uses tractor-fed paper.

IPDACT-2/2UD, IPDACT Internet Monitoring Module: Mounts in bottom of enclosure with optional mounting kit (PN IPBRKT). Connects to primary and secondary DACT telephone output ports for internet communications over customer provided ethernet internet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *(See data sheet DN-60408 for more information.)*

IPBRKT: Mounting kit for IPDACT-2/2UD in common enclosure.

IPSPLT: Y-adaptor option allows connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

COMPATIBLE ANNUNCIATORS

N-ANN-80(-W): LCD Annunciator is a remote LCD annunciator that mimics the information displayed on the FACP LCD display. Recommended wire type is un-shielded. (Basic model is black; order -W version for white; s*ee DN-7114.)*

N-ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble and Supervisory. Ships with red or black 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, which can be mounted inside the cabinet, provides 10 programmable Form-C relays. *(See DN-7107.)*

ROME-B: Relay Option Module Enclosure (order ROME-B for black or ROME for red). Provides one **N-ANN-RLY** Relay Module already installed. The ROME Series provides mounting space for one additional Relay Module or one addressable Multi-module. *(See Installation Sheet PN 53530.)*

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

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

ACM-8R: Relay module provides 8 Form-C 5.0 amp relays.

ACM Annunciator Series: LED-type fire annunciators capable of providing up to 99 software zones of annunciation. Available in increments of 16 or 32 points to meet a variety of applications.

LDM Graphic Series: Lamp Driver Module series for use with custom graphic annunciators.

FDU-80 (Liquid Crystal Display) point annunciator: 80-character, backlit LCD-type fire annunciators capable of displaying English-language text.

NOTE: *For more information on Compatible Annunciators for use with the FireWarden-100-2 Rev 3, see the following data sheets (document numbers) ACM-8R (DN-3558), ACS/ACM Series (DN-0524), LDM Series (DN-0551), FDU-80 (DN-6820).*

COMPATIBLE ADDRESSABLE DEVICES

All feature a polling LED and rotary switches for addressing.

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

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

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

NP-100R: Addressable remote test capable detector for use with DNR(W) duct smoke detector housings.

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

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

NH-100H: Fixed high-temperature detector that activates at 190F/88C.

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

DNR: Innovair Flex low-flow non-relay duct-detector housing. Order NP-100R separately.

DNRW: Innovair Flex low-flow non-relay duct-detector housing, with NEMA-4 rating. Watertight. (Order NP-100R separately.)

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.

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

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

NZM-100: Similar to NMM-100, but may monitor up to 20 conventional two-wire detectors. Requires resettable 24 VDC power. Consult factory for compatible smoke detectors.

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. Notification Appliance Circuit option requires extern fication appliances.

NC-100R: Addressable relay module sets of Form-C contacts, which oper Mounts directly to a 4.0" (10.16 cm.) b the SMB500.

NOT-BG12LX: Addressable manual p module mounted inside.

N100-ISO: Fault Isolator Module. This loop from short circuit conditions (requi ation).

SMB500: Used to mount all modules except the NMM-100P.

NMM-100-10: Ten-input monitor module. Mount one or two modules in a BB-XP cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-25.

NZM-100-6: Six-zone interface module for compatible conventional two-wire detectors. Mount one or two modules in a BB-XP cabinet (optional). Mount up to six modules on a CHS-6 chassis in a BB-25.

NOTE: *For more information on Compatible Addressable Devices for use with the FireWarden-100-2 Rev 3, see the following data sheets (document numbers): N100-ISO (DN-6994), NP-100 series (DN-6995), NI-100 (DN-6996), NH-100 series (DN-6997), ND-100 series (DN-7006), NP-A100 (DN-6998), NMM-100/NMM-100P/ NDM-100/NZM-100 (DN-6999), NC-100/NC-100R (DN-7000), NOT-BG12LX (DN-7001), NMM-100-10 (DN-6990), and NZM-100-6 (DN-60150).*

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. Wire size should be no smaller than 18 AWG (0.78 mm²) and no larger than 12 AWG (3.1 mm²). The wire size depends on the length of the SLC circuit. Refer to the panel manual for wiring details.

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SYSTEM SPECIFICATIONS

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System Capacity

- Intelligent Signalling Line Circuits 1
- Addressable device capacity 198
- Programmable software zones 99
- ACS Annunciators 32
- ANN-bus devices 16

Electrical Specifications

AC Power: FireWarden-100-2 Rev 3: 120 VAC, 60 Hz, 3.0 amps. FireWarden-100-2 Rev 3(E): 240 VAC, 5 0 Hz, 1.5 amps. Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation.

Battery charger capacity: 7 AH - 18 AH batteries. Up to two 18 Ah batteries can be housed in the FACP cabinet. Larger batteries require an external battery charger such as the CHG-75 or CHG-120, and a separate battery cabinet such as the BB-26 or NFS-LBB.

Communication Loop: Supervised and power-limited.

Notification Appliance Circuits: Each terminal block provides connections for two Style Y (Class B) for a total of four Style Y (Class B) or with an optional ZNAC-92 module converts to four Style Z (Class A) NACs. Maximum signaling current per circuit: 2.5 amps. End-of-Line Resistor: 4.7K ohm, 1/2 watt (P/N 71252 UL listed) for Style Y (Class B) NAC. Refer to panel documentation and *Notifier Device Compatibility Document* for listed compatible devices.

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

Special Application Non-resettable Power (24 VDC Nominal): Jumper selectable (JP4) for conversion to resettable power output. Up to 1.0 amp total DC current available from each output. Power-limited.

Special Application Resettable Power (24 VDC nominal): Jumper selectable (JP6) for conversion to non-resettable power. Up to 1.0 amp total DC current available. Refer to the *Notifier Device Compatibility Document* for listed compatible devices.

Remote Sync Output: Remote power supply synchronization output. Nominal special application power: 24 VDC. Maximum current: 300 mA. End-of-Line Resistor: 4.7K ohm. Output linked to NAC 1 control. Supervised and power-limited.

Telephone Interface: Unless used with Teldat VISORALARM, requires dedicated business telephone number with a minimum of 5 volts DC (off-hook voltage). Obtain dedicated phone line directly from your local phone company. Do not use shared phone lines or PBX (digital) type phone line extensions.

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.12" (.30 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.20" (13.34 cm.) d
B): 22.00" (55.88 cm.) high x 19.65" (49

Shipping Specifications

Weight: 26.9 lbs. (12.20 kg.) **Dimensi**
high x 22.5" (57.15 cm.) wide x 8.5" (21.

Temperature and Humidity Ranges

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

NFPA Standards

The FireWarden-100-2 Rev 3 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, Waterflow and Sprinkler Supervisory) (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, Waterflow and Sprinkler Supervisory).
- **CENTRAL STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **OT, PSDN** (Other Technologies, Packet-switched Data Network)

Agency Listings and Approvals

The listings and approvals below apply to the basic FireWarden-100-2 Rev 3 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 Listed:** S635
- **FM approved**
- **CSFM:** 7165-0028:0235
- **MEA:** 120-06-E, Volume 2

For ULC-listed version, see DN-60600.

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Made in the U.S. A.

BAT Series Batteries

Sealed Lead-Acid

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General

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

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Features

- Provide secondary power for control panels.
- Sealed and maintenance-free.
- Overcharge protected.
- Easy handling with leak-proof construction.
- Ruggedly constructed, high-impact case (ABS).
- Long service life.
- Compact design.

Agency Listings and Approvals

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

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

Ordering Information

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

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

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

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

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

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

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

Part Number Reference & Specifications

Part Number	Power-Sonic Part Number	Battery Description			DIMENSIONS									
		Nominal Voltage V	Nominal Capacity @ 20 hr. rate A.H.		Width		Depth		Height		Height over terminal		Weight	
					in.	mm	in.	mm	in.	mm	in.	mm	lb.	kg.
BAT-1250	PS-1250	12	5	sealed	3.54	90	2.76	70	3.98	101	4.21	107	3.50	1.59
BAT-1270	PS-1270	12	7	sealed	5.95	151	2.56	65	3.7	94	3.86	98	4.8	2.18
BAT-12120	PS-12120	12	12	sealed	5.95	151	3.86	98	3.7	94	3.94	100	7.92	3.59
BAT-12180	PS-12180	12	18	sealed	7.13	181	3.00	76	6.59	167	6.59	167	12.6	5.72
BAT-12260	PS-12260	12	26	sealed	6.5	167	6.97	177	4.92	125	4.92	125	17	7.71
BAT-12550	PS-12550	12	55	sealed	9.04	230	5.45	138	8.15	207	8.98	228	36	16.33
BAT-121000	PS-121000	12	100	sealed	12	305	6.6	168	8.15	207	8.98	228	68	30.84

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Discharge Characteristic Curves at 20°C (68°F)

Effect of Temperature

PS-121000 Shelf-Life and Storage

PS-121000 Discharge Characteristics

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4XTM

TRANSMITTER MODULE (4XTM-NOTIFIER)

The Transmitter Module provides a supervised output for local energy municipal box transmitter (for NFPA 72 Auxiliary Fire Alarm System) and alarm and trouble reverse polarity circuits (for NFPA 72 Remote Station Fire Alarm System). Also included is a DISABLE switch and disable trouble LED

N-ANN-80

80-Character LCD Serial Annunciator

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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.

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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 cu
table specifies the maximum distanc
located from the FACP on a single wire
6.0 volts of line drop maximum. In gener
ited by resistance, but for heavier wire
the limiting factor.

These cases are marked in the chart w
mum length can never be more than
regardless of gauge used. See table be

WIRE REQUIREMENTS: POWER C

- 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.

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Made in the U.S. A.

NOT-BG12LX

Addressable Manual Pull Station

NOTIF by Honeyw

Intelligent/Ad

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 01/12/15

General

The Notifier NOT-BG12LX 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 FireWarden series intelligent control panels, and the NSP-25 panel. Because the NOT-BG12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features

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

Construction

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

Specifications

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

Installation

The NOT-BG12LX 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 NOT-BG12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used.

The NOT-BG12LX
Addressable Manual Pull Station

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 – 99 on NFW2-100/NFW2-100C, 1 – 50 for NFW-50/NFW-50C).

Architectural/Engineering Specifications

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

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

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

Product Line Information

NOT-BG12LX: Dual-action addressable pull station. Includes key locking feature. (Listed for Canadian and non-Canadian applications.)

SB-10: Surface backbox; metal.

SB-I/O: Surface backbox; plastic.

BG12TR: Optional trim ring.

17021: Keys, set of two.

Agency Listings and Approvals

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

- **UL/ULC Listed:** S692 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E Vol. IV.
- **CSFM: 7150-0028:0199.**
- **FM Approved.**

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

RESURGAM CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 01/12/15

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Made in the U.S. A.

NP-100(A), NP-100T(A), NP-100R(A)

Addressable Photoelectric Detectors for the FireWarden Series

NOTIFIER by Honeywell

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 01/12/15

General

The **NP-100** and **NP-100T** addressable, low-profile plug-in photoelectric detectors use a state-of-the-art photoelectric sensing chamber with communications to provide open area protection and are used exclusively with NOTIFIER's **FireWarden Series** (FireWarden-100-2 and FireWarden-50) Addressable Fire Alarm Control Panels (FACPs). The NP-100T adds thermal sensors that will alarm at a fixed temperature of 135°F (57°C). Since these detectors are addressable, they will help emergency personnel quickly locate a fire during its early stages, potentially saving precious rescue time while also reducing property damage. Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (P/N **RA100Z(A)**). The **NP-100R** is a remote test capable detector for use with DNR(W) duct smoke detector housings.

Features

SLC loop:

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

Addressing:

- Addressable by device.
- Direct Decade entry of address: 01 – 99 with FireWarden-100-2, and 01 – 50 with FireWarden-50.

Architecture:

- Unique single-source, dual-chamber design to respond quickly and dependably to a broad range of fires.
- Sleek, low-profile design.
- Integral communications and built-in type identification.
- Built-in tamper-resistant feature.
- Removable cover and insect-resistant screen for simple field cleaning.

Operation:

- Withstands air velocities up to 4,000 feet-per-minute (20 m/sec.) without triggering a false alarm.
- Factory preset at 1.5% nominal sensitivity for panel alarm threshold level.
- Visible LED "blinks" when the unit is addressed (communicating with the fire panel) and latches on in alarm.

Mechanicals:

- Sealed against back pressure.
- Direct surface mounting or electrical box mounting.
- Mounts to: single-gang box, 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box, or 4.0" (10.16 cm) square electrical box *(using a plaster ring — included).*

Other system features:

- Fully coated circuit boards and superior RF/transient protection.
- 94-V0 plastic flammability rating.
- Low standby current.

Options:

- Remote LED output connection (P/N RA100Z).

NP-100 with B710LP base

NP-100T with B710LP base

Applications

Use photoelectric detectors in life-safety applications to provide a broad range of fire-sensing capability, especially where smoldering fires are anticipated. Ionization detectors are often better than photoelectric detectors at sensing fast, flaming fires.

Construction

These detectors are constructed of off-white LEXAN®. NP-100(T) plug-in, low-profile smoke detectors are designed to commercial standards and offer an attractive appearance.

Installation

NP-100(T) plug-in detectors use a detachable mounting base to simplify installation, service and maintenance. Mount base on box which is at least 1.5 inches (3.81 cm) deep. Suitable boxes include:

- 4.0" (10.16 cm) square box with plaster ring.
- 4.0" (10.16 cm) octagonal box.
- 3.5" (8.89 cm) octagonal box.
- Single-gang box.

NOTE: *Because of the inherent supervision provided by the SLC loop,* ***end-of-line resistors*** *are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class B) wiring. NP-100R mounts in a DNR(W) duct detector housing.*

Operation

Each NP-100/T/R uses one of 99 possible addresses on the FireWarden-100-2 and one of 50 possible addresses on the FireWarden-50 Signaling Line Circuit (SLC). It responds to regular polls from the system and reports its type and status.

The NP-100/T/R addressable photoelectric sensor's unique unipolar chamber responds quickly and uniformly to a broad range of smoke conditions and can withstand wind gusts up to 4,000 feet-per-minute (20 m/sec.) without sending an alarm level signal. Because of its unipolar chamber, the NP-100/T/R is approximately two times more responsive than most photoelectric sensors. This makes it a more stable detector.

Detector Sensitivity Test

Each detector can have its sensitivity tested (required per NFPA 72, Chapter 14 on *Inspection, Testing and Maintenance*) when installed/connected to a FireWarden-100-2 or FireWarden-50 addressable fire alarm control panel. The results of the sensitivity test can be printed off the FireWarden-100-2 or FireWarden-50 for record keeping.

Specification

Voltage range: 15 – 32 VDC (peak).

Standby current: 300 µA @ 24 VDC.

LED current: 6.5 mA @ 24 VDC (latched "ON").

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

Diameter: 6.1" (15.5 cm) installed in B710LP base.

Height: 2.1" (5.33 cm) installed in B710LP base.

Weight: 3.6 oz. (102 g).

Operating temperature range: ***for NP-100:*** 0°C to 49°C (32°F to 120°F); ***for NP-100T:*** 0°C to 38°C (32°F to 100°F). ***NP-100R:*** installed in a DNR(W) -20°C to 70°C (-4°F to 158°F).

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

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

Listings

Listings and approvals below apply to the NP-100 and NP-100T 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 Listed, file S1115.
- CSFM approved: file 7272-0028:231.
- MEA approved: file 243-02-E Vol. 2.
- Maryland State Fire Marshal: permit 2173.
- FM approved.

Product Line Informatio

NP-100: Adressable photoelectric d included.

NP-100A: Sames as NP-100 with ULC included).

NP-100T: Same as NP-100 but v B710LP base included.

NP-100TA: Same as NP-100T (B710LPAbase included).

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

B710LP: Plug-in detector base. Dimensions: 6.1" (15.5 cm). Mounting: 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, 3.5" (8.89 cm) octagonal box, or single-gang box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B224RB: Plug-in System Sensor ***relay*** detector base. ***Diameter:*** 6.2" (15.75 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, or 3.5" (8.89 cm) octagonal box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B224BI: Plug-in System Sensor ***isolator*** detector base. Maximum 25 devices between isolator bases *(see DN-6994)*. ***Diameter:*** 6.2" (15.75 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, or 3.5" (8.89 cm) octagonal box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B200SR: Sounder base capable of producing temporal-3 or steady sound output.

ACCESSORIES:

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. *For use with B501 and B710LP bases only.*

SMK400E: Surface mounting kit provides for entry of surface wiring conduit. *For use with B501 base only.*

RMK400: Recessed mounting kit. *For use with B501 base only.*

M02-04-00: Test magnet.

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

XR2B: Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

T55-127-010: Detector removal tool without pole.

BCK-200B: Black detector covers, box of 10 .

WCK-200B: White detector covers, box of 10 .

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Inspections Division
Approved with Conditions

Date: 01/12/15

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NH-100 Series

Intelligent Addressable Thermal Detectors for FireWarden Series

NOTIF by Honey

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 01/12/15

General

The **NOTIFIER NH-100 Series** thermal detectors are addressable sensors that use a state-of-the-art thermistor sensing circuit for fast response. These sensors provide open-area protection and are intended for use with the **FireWarden Series** (FireWarden-100-2 and FireWarden-50) addressable Fire Alarm Control Panels (FACPs).

The **NH-100** and **NH-100R** sensors provide fixed temperature alarm detection at 135°F (57°C). The **NH-100R** sensor also responds to rate-of-rise conditions of greater than 15°F (8.3°C) per minute. The **NH-100H** is a fixed high-temperature detector that activates at 190°F (88°C). These thermal detectors provide addressable property protection in a variety of applications.

Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (**RA400Z**).

NH-100 with B710LP base

Features

SLC loop:

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

Addressing:

- Addressable by device.
- Direct Decade entry of address: 01 – 99 with FireWarden-100-2, 01 – 50 with FireWarden-50.

Architecture:

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

Operation:

- Factory preset at 135°F (57°C) for the NH-100 and NH-100R; 190°F (88°C) for the NH-100H.
- Rate-of-rise triggers at 15°F (8.3°C) per minute for the NH-100R.
- 360°-field viewing angle of the visual alarm indicators (two bicolor LEDs). LEDs blink green in Normal condition and turn on steady red in Alarm.
- Visible LEDs “blink” every time the unit is addressed.

Mechanicals:

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

Other system features:

- Remote test feature from the panel.
- Walk test with address display.
- Low standby current.
- 94-5V plastic flammability rating.

Options:

- Remote LED output connection to optional RA400Z remote LED annunciator.
- Recessed (**RMK400**) or surface (**SMK400E**) base mounting kits.

Installation

NH-100 Series plug-in intelligent thermal detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount base (all base types) on box that is at least 1.5" (3.81 cm) deep. Suitable boxes include:

- 4.0" (10.16 cm) square box.
- 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box.
- Single-gang box (except relay or isolator base).

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

Applications

Use thermal detectors for protection of property.

Construction

These detectors are constructed of off-white Bayblend®. The NH-100 Series plug-in intelligent thermal detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each NH-100 Series detector uses one of 99 (FireWarden-100-2) or 50 (FireWarden-50) possible addresses on a control panel SLC loop. 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 NH-100 Series offers features and performance that represent the latest in thermal detector technology.

Spefications

Diameter: 6.1" (15.5 cm) installed in B710LP.

Height: 2.1" (5.33 cm).

Weight: 4.8 oz. (137 g).

Installation temperature:

- NH-100, NH-100R: –4°F to 100°F (–20°C to 38°C).
- NH-100H: –4°F to 150°F (–20°C to 66°C).

Humidity range: 10% to 93% relative humidity (noncondensing).

Voltage range: 15 to 32 VDC peak.

Standby current: 300 µA @ 24 VDC (one communication every five seconds with LED blink enabled).

LED current: 6.5 mA @ 24 VDC.

Mounting: B710LP flanged base, included.

Fixed-temperature setpoint: 135°F (57°C) for the NH-100 and NH-100R; 190°F (88°C) for the NH-100H.

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

Altitude rating: 10,000 feet.

Listings and Approvals

Listings and approvals below apply to the NH-100 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 Listed, file S747.
- CSFM approved: file 7270-0028:234.
- MEA approved: file 387-02-E Vol. II.
- FM approved.

Product Line Information

NH-100: Intelligent thermal sensor; 135° F (57° C) B710LP base included.

NH-100R: Same as NH-100 with *rate-of-rise* feature; B710LP base included.

NH-100H: Intelligent fixed high-temperature thermal detector; 190° F (88° C) B710LP base included.

B710LP: Plug-in detector base (included). ***Dimensions:*** 6.1" (15.5 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, 3.5" (8.89 cm) octagonal box, or single-gang box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B224RB: Plug-in System Sensor ***relay*** detector base. ***Diameter:*** 6.2" (15.75 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (10.16 cm) octagonal box, or 3.5" (8.89 cm) octagonal box. All mounting boxes have a minimum depth of 1.5" (3.81 cm).

B224BI: Plug-in System Sensor ***isolator*** detector base. Maximum 25 devices between isolator bases *(see DN-6994)*. ***Diameter:*** 6.2" (15.75 cm). ***Mounting:*** 4.0" (10.16 cm) square box with or without plaster ring, 4.0" (1 or 3.5" (8.89 cm) octagonal box. All minimum depth of 1.5" (3.81 cm).

B501BH-2: Plug-in System Sensor s ***Diameter:*** 6.0" (15.24 cm). ***Mounting:*** box with or without plaster ring. Moun mum depth of 1.5" (3.81 cm).

B501BHT-2: Plug-in System Sensor base.

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Inspections Division
Approved with Conditions

Date: 01/12/15

ACCESSORIES:

RA400Z: Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501 and B710LP bases only.

SMK400E: Surface mounting kit provides for entry of surface wiring conduit. For use with B501 base only.

RMK400: Recessed mounting kit. For use with B501 base only.

M02-04-00: Test magnet.

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

XR2B: Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

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Made in the U.S. A.

NC-100R(A)

Relay Module for FireWarden Series Panels

NOTIFIER by Honeywell

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 01/12/15

General

The **NC-100R(A)** Addressable Relay Module provides NOTIFIER's **FireWarden Series** intelligent control panels with two isolated sets of Form-C dry-contact outputs for activating a variety of auxiliary devices, such as fans, dampers, door holders, control equipment, etc. Addressability allows the dry contact to be activated, either manually or through panel programming, on a select basis.

NC-100R(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.
- Integral LED "blinks" green each time a communication is received from the control panel and turns on in steady when activated.
- High noise immunity (EMF/RFI).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct Decade entry of address: 01 – 99 with the FireWarden-100-2(C) and 01 – 50 with the FireWarden-50(C).

Applications

The NC-100R(A) may be programmed to operate dry contacts for door holders, Air Handling Unit shutdown, etc., and to reset four-wire smoke detector power.

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address setting.
- The NC-100R(A) provides two Form-C dry contacts that switch together.

Operation

Each NC-100R(A) uses one of the addresses on a SLC loop. It responds to regular polls from the control panel and reports its type and status. The LED blinks with each poll received. On command, it activates its internal relay.

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.

Specifications

Normal operating voltage: 15 to 32 VDC.

Maximum SLC current draw: 6.5 mA (LED).

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

EOL resistance: not used.

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

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

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

Relay Contact Ratings

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

Agency Listings and Approvals

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

- **UL/ULC Listed:** S635.
- **CSFM approved:** file 7300-0028:230.
- **FM approved.**
- **MEA approved:** file 72-01-E, Vol. 2.

Product Line Information

NC-100R: Intelligent addressable relay module.

NC-100RA: Intelligent addressable relay module, ULC listed model.

SMB500: Optional surface-mount backbox.

NOTE: *For installation instructions, see document I56-2593-001 and refer to the SLC Wiring Manual, document 52304.*

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

Made in the U.S. A.

FCPS-24S6(C/E) & FCPS-24S8(C/E)

6- & 8-Amp 24-Volt Remote Power Supplies

NOTIF by Honey

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 01/12/15

General

The FCPS-24S6E (6-amp) and FCPS-24S8E (8-amp) are remote power supplies with battery charger. The FCPS-24S6/-24S8 may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may be used as stand-alone supplies. Primary applications include notification appliance (bell) circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS-24S6/-24S8 provides regulated and filtered 24 VDC power to four notification appliance circuits configured as either four Class B (Style Y) or Class A (Style Z, with ZNAC-4 option module). Alternately, the four outputs may be configured as all non-resettable, all resettable or two non-resettable and two resettable. The FCPS-24S6/-24S8 also contains a battery charger capable of charging up to 18 AH batteries. FCPS-24S6C & FCPS-24S8C are ULC-listed.

NOTE: *Unless otherwise specified, the terms FCPS-24S6 and FCPS-24S8 used in this document refers to the standard FCPS-24S6 and FCPS-24S8, FCPS-24S6C and FCPS-24S8C, the FCPS-24S6E and FCPS-24S8E*

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Features

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex "Commander^2" appliances.
- Operates as a "sync-follower" or as a "sync-generator" (default). *See note on page 2.*
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently "ON" (stand-alone mode).
- Four Class B (Style Y) or four Class A (Style Z, with ZNAC-4 module) NACs.
- 6-amp (FCPS-24S6) or 8-amp (FCPS-24S8) full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp (FCPS-24S6) or 6-amp (FCPS-24S8) continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (EOLR-1).
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two.
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate 2-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated bell power).
- Requires input trigger voltage of 9 - 32 VDC.
- Self-contained in compact, locking cabinet - 15"H x 14.5"W x 2.75"D (cm: 38.1H x 36.83W x 6.985D).
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm^2) wire.

Specifications

Primary (AC) Power:

- FCPS-24S6C/-24S8C: 120 VAC, 60 Hz, 3.2A maximum.
- FCPS-24S6E/-24S8E: 240 VAC, 50 Hz, 1.6A maximum.
- Wire Size: minimum #14 AWG (2.0mm^2) with 600 V insulation.

Control Input Circuit:

- **Trigger Input Voltage:** 9 to 32 VDC.
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V).

Trouble Contact Rating: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

- +24 VDC filtered, regulated.
- 3.0 A maximum for any one circuit.
- Total continuous current for all outputs (stand-alone mode):
  - FCPS-24S6: 4.0 A maximum.
  - FCPS-24S8: 6.0 A maximum.
- Total short-term current for all outputs (NAC expander mode):
  - FCPS-24S6: 6.0 A maximum.
  - FCPS-24S8: 8.0 A maximum.

Secondary Power (Battery) Charging Circuit:

- Supports lead-acid batteries only.
- Float-charge voltage: 27.6 VDC.

- Maximum current charge: 1.5 A.
- Maximum battery capacity: 18 AH.

Applications

Example 1: Expand notification appliance power an additional 6.0 A (FCPS-24S6) or 8.0 A (FCPS-24S8). Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

Example 2: Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 A (FCPS-24S6) or up to 6.0 A (FCPS-24S8). Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

Example 3: Use addressable control modules to activate the FCPS instead of activating it through the FACP notification appliance circuits. This typically allows for mounting the FCPS at greater distances* away from the FACP while expanding system architecture in various applications.

For example, an addressable control module is used to activate the FCPS, and an addressable monitor module is used to sense FCPS trouble conditions. Local auxiliary power output from the FCPS provides power to the addressable control module.

***NOTE:** Addressable FACPs are capable of locating control and monitor modules at distances of up to 12,500 feet (3,810 meters).*

Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24S6/-24S8 can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24S6/-24S8 is configured (via DIP switch settings) as a "sync follower," the FCPS's NAC outputs track the strobe synchronization pulses present at the FCPS's sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24S6/-24S8 are configured (via DIP switch settings) as a "sync generator," the FCPS's sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS's NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

Standards and Codes

The FCPS-24S6 and FCPS-24S8 co
standards:

- **NFPA 72** National Fire Alarm Code.
- **UL 864** Standard for Control Units
(NAC expander mode).
- **UL 1481** Power Supplies for Fire Al

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Agency Listings and App

These listings and approvals apply to the modules specified in this document. 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:** S635, S674
- **ULC Listed:** S635 (FCPS-24S6C & FCPS-24S8C)
- **CSFM Approved:** 7315-0028:225
- **MEA:** 299-02-E
- **FM Approved**

Ordering Information

FCPS-24S6: 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S6C: Same as above, ULC-listed.

FCPS-24S6R: Same as FCPS-24S6 with red enclosure.

FCPS-24S6E: 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8: 8.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8C Same as above, ULC-listed.

FCPS-24S8R: Same as FCPS-24S8 with red enclosure.

FCPS-24S8E: 8.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

ZNAC-4: Class A (Style Y) NAC option module.

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power.

BAT-1270: Battery, 12-volt, 7.0 AH (two required, see BAT Series data sheet DN-6933).

PS-1270: Battery, 12-volt, 7.0 AH (two required, see PS Series data sheet DN-1109)

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SpectrAlert® Advance

Selectable Output Notification Appliances

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General

System Sensor® SpectrAlert® Advance selectable-output horns, strobes and horn/strobes are rich with features guaranteed to cut installation times and maximize profits. The SpectrAlert Advance series of notification appliances is designed to simplify your installations, with features such as: plug-in designs, instant feedback messages to ensure correct installation of individual devices, and eleven field-selectable candela settings for wall and ceiling strobes and horn/strobes.

More specifically, when installing Advance products, first attach a universal mounting plate to a four-inch square, four-inch octagon, or double-gang junction box. The two-wire mounting plate attaches to a single-gang junction box.

Then, connect the notification appliance circuit wiring to the SEMS terminals on the mounting plate.

Finally, attach the horn, strobe, or horn/strobe to the mounting plate by inserting the product's tabs in the mounting plate's grooves. The device will rotate into position, locking the product's pins into the mounting plate's terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

SpectrAlert Advance products allow you to choose:

- 12 or 24 volts.
- 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, or 185 candela by way of a rear-mounted slide switch and front viewing window.
- Horn tones and volume by way of a rotary switch.
- The SpectrAlert Advance series includes outdoor notification appliances. Outdoor strobes and horn/strobes (two-wire and four-wire) are available for wall or ceiling. Outdoor horns are available for wall only. All System Sensor outdoor products are rated between –40°F and 151°F (–40°C and 66°C) in wet or dry applications.

Models available:

- Indoor wall-mount: horn, strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Indoor ceiling-mount: strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Outdoor wall-mount: horn, strobe, 2-wire horn/strobe, 4-wire horn/strobe.
- Outdoor ceiling-mount: strobe, 2-wire horn/strobe, 4-wire horn/strobe.

Features

- Plug-in design.
- Same mounting plate for wall- and ceiling-mount units.
- Shorting spring on mounting plate for continuity check before installation.
- Captive mounting screw.
- Tamper-resistance capability.
- Field-selectable candela settings on wall and ceiling units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.
- Automatic selection of 12 or 24 volt operation at 15 and 15/75 candela.
- Outdoor wall and ceiling products.

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Indoor Ceiling Horn/Strobe

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Outdoor Ceiling Strobe

7087pho3.jpg

Indoor Wall Horn/Strobe

7087pho2.jpg

Indoor Ceiling Strobe

7087pho5.jpg

Indoor Wall Horn

7087pho6.jpg

Outdoor Wall Strobe

- Outdoor products rated from –40°F and 151°F (–40°C and 66°C).
- Outdoor products rainproof per UL50 (NEMA 3R) and weatherproof per NEMA 4X, IP56
- Minimal intrusion into the backbox.
- Horn rated at 88+ dbA at 16 volts.
- Rotary switch for tone selection.
- Three horn volume settings.
- Electrically compatible with existing SpectrAlert products.

Engineering Specifications

SpectrAlert Advance horns, strobes, and horn/strobes shall mount to a standard 4.0" x 4.0" x 1.5" (10.16 x 10.16 x 3.81 cm) backbox, 4.0" (10.16 cm) octagonal backbox, or a double-gang backbox. Two-wire products shall also mount to a single-gang 2.0" x 4.0" x 1.875" (5.08 x 10.16 x 4.763 cm) backbox. 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. Indoor SpectrAlert Advance products shall operate between 32°F and 120°F (0°C and 49°C) 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, 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.

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 3 pattern and a Non-Temporal (continuous) pattern. These options are set by a multiple position switch. On four-wire products, the strobe shall be powered independently of the sounder. The horn on horn/strobe models shall operate on a coded or non-coded power supply.

OUTDOOR PRODUCTS

SpectrAlert Advance outdoor horns, strobes and horn/strobes shall be listed for outdoor use by UL and shall operate between –40°F and 151°F (–40°C and 66°C). The products shall be listed for use with a System Sensor outdoor/weatherproof backbox with half-inch and three-fourths-inch conduit entries.

SYNCHRONIZATION MODULE

The module shall be a System Sensor Sync•Circuit MDL3R or MDL3W listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at Temporal 3. Also, while operating the strobes, the module shall silence the horns on horn/strobe models over a single pair of wires. The module shall mount to a 4.688" x 4.688" x 2.125" (11.906 x 11.906 x 5.398 cm) backbox. 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.

Operating Specifications

- **Standard operating temperature:** 49°C).
- **K Series operating temperature:** to 66°C).
- **Humidity range:** 10% to 93% r products).
- **Strobe flash rate:** 1 flash per secor
- **Nominal voltage:** regulated 12 VD VDC/FWR. ***NOTE:*** *Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.*
- **Operating voltage range:** 8 V to 17.5 V (12 V nominal); or 16 V to 33 V (24 V nominal). ***NOTE:*** *P, S, PC, and SC products will operate at 12 V nominal only for 15 cd and 15/75 cd.*
- **Input terminal wire gauge:** 12 to 18 AWG (3.31 to 0.821 mm²).
- **Ceiling-mount dimensions (including lens):** 6.8" diameter x 2.5" deep (17.3 cm diameter x 6.4 cm deep).
- **Wall-mount dimensions (including lens):** 5.6" H x 4.7" W x 2.5" D (14.2 cm H x 11.9 cm W x 6.4 cm D).
- **Horn dimensions:** 5.6" H x 4.7" W x 1.3" D (14.2 cm H x 11.9 cm W x 3.3 cm D).

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Agency Listings and Approvals

The listings and approvals below apply to SpectrAlert Advance Selectable Output Notification 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 Listed: S4011** (HR__, HW__, P2__, P4__, PC2__, PC4__ models); **S5512** (models SCR, SCRH, SCW, SCWH, SR, SRH, SW, SWH); **S3593** (SCRHK, SCRK, SRHK, SRK).
- **ULC Listed: S4011** (HRA, HRKA); **S5512** (typically "A" models, with exception of outdoor strobes). *See Canadian data sheet for listings and specifications.*
- **FM approved**
- **MEA**: **452-05-E**
- **CSFM: 7125-1653:0186** (SCR, SCRH, SCW, SCWH, SR, SRH, SW, SWH); **7300-1653:0188** (P2_, P4_, PC2_, PC4_ modules); **7135-1653:0189** (HR, HRK, HW); **7300-1653:0187** (SCRHK, SCRK, SRHK, SRK).

Strobe Current Draw, UL Maximum (mA RMS)

Candela		8 – 17.5 V		16 – 33 V	
		DC	FWR	DC	FWR
Standard Candela Range	15	123	128	66	71
	15/75	142	148	77	81
	30	NA	N/A	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

Horn Current Draw, UL Maximum (mA RMS)

Sound Pattern	dB	8 – 17.5 V		16 – 33 V	
		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

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Horn and Horn/Strobe Rotary Switch Setting

Setting	Repetition Rate	dB Level
1	Temporal horn	High
2	Temporal horn	Medium
3	Temporal horn	Low
4	Normal horn	High
5	Normal horn	Medium
6	Normal horn	Low
7*	Externally coded	High
8*	Externally coded	Medium
9*	Externally coded	Low

***NOTE:** Settings 7, 8, and 9 are not available on 2-wire horn/strobe.*

Horn and Horn/Strobe Output

Switch Position	Sound Pattern	dB	8 – 17.			
			DC			
1	Temporal	High	78	7		
2	Temporal	Medium	74	7		
3	Temporal	Low	71	7		
4	Non-temporal	High	82	82	[illegible]	[illegible]
5	Non-temporal	Medium	78	78	85	85
6	Non-temporal	Low	75	75	81	81
7*	Coded	High	82	82	88	88
8*	Coded	Medium	78	78	85	85
9*	Coded	Low	75	75	81	81

***NOTE:** Settings 7, 8, and 9 are not available on 2-wire horn/strobe.*

Two-Wire Horn/Strobe, *STANDARD* Candela Range (15 – 115 cd), UL Maximum Current Draw (mA RMS)

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

Two-Wire Horn/Strobe, *HIGH* Candela Range (135 – 185 cd), UL Maximum Current Draw (mA RMS)

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

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Ordering Information

Model	Description	Model	Descrip
WALL HORN/STROBES		***CEILING HORN/STROBES***	
P2R	2-wire horn/strobe, standard cd, red.	**PC2R**	2-wire horn/strobe, standa
P2RH	2-wire horn/strobe, high cd, red.	**PC2RH**	2-wire horn/strobe, high c
P2RK	2-wire horn/strobe, standard cd, red, outdoor.	**PC2RK**	2-wire horn/strobe, standa
P2RHK	2-wire horn/strobe, high cd, red, outdoor.	**PC2RHK**	2-wire horn/strobe, high c
P2W	2-wire horn/strobe, standard cd, white.	**PC2W**	2-wire horn/strobe, standard cd, white.
P2WH	2-wire horn/strobe, high cd, white.	**PC2WH**	2-wire horn/strobe, high cd, white.
P4R	4-wire horn/strobe, standard cd, red.	**PC4R**	4-wire horn/strobe, standard cd, red.
P4RH	4-wire horn/strobe, high cd, red.	**PC4RH**	4-wire horn/strobe, high cd, red.
P4RK	4-wire horn/strobe, standard cd, red, outdoor.	**PC4RK**	4-wire horn/strobe, standard cd, red, outdoor.
P4RHK	4-wire horn/strobe, high cd, red, outdoor.	**PC4RHK**	4-wire horn/strobe, high cd, red, outdoor.
P4W	4-wire horn/strobe, standard cd, white.	**PC4W**	4-wire horn/strobe, standard cd, white.
P4WH	4-wire horn/strobe, high cd, white.	**PC4WH**	4-wire horn/strobe, high cd, white.
WALL STROBES		***CEILING STROBES***	
SR	Strobe, standard cd, red.	**SCR**	Strobe, standard cd, red.
SRH	Strobe, high cd, red.	**SCRH**	Strobe, high cd, red.
SRK	Strobe, standard cd, red, outdoor.	**SCRK**	Strobe, standard cd, red, outdoor.
SRHK	Strobe, high cd, red, outdoor.	**SCRHK**	Strobe, high cd, red, outdoor.
SW	Strobe, standard cd, white.	**SCW**	Strobe, standard cd, white.
SWH	Strobe, high cd, white.	**SCWH**	Strobe, high cd, white.
ACCESSORIES		***HORNS***	
BBS-2A	Backbox skirt, wall, red.	**HR**	Horn, red.
BBSW-2A	Backbox skirt, wall, white.	**HRK**	Horn, red, outdoor.
BBSC-2A	Backbox skirt, ceiling, red.	**HW**	Horn, white.
BBSCW-2A	Backbox skirt, ceiling, white.	***ACCESSORIES, continued***	
SA-WBB	Weatherproof backbox, wall.	**TR-HS**	Trim Ring, wall, red, package of 5
SA-WBBC	Weatherproof backbox, ceiling.	**TRW-HS**	Trim Ring, wall, white, package of 5
WTP	Weatherproof, flush mount plate, red	**TRC-HS**	Trim Ring, ceiling, red, package of 5
WTPW	Weatherproof, flush mount plate, white	**TRCW-HS**	Trim Ring, ceiling, white, package of 5

NOTE: *"High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. "Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings.*

NOTE: *For strobes and horn/strobes, add suffix "F" for French or "B" for Bilingual.*

NOTE: *All outdoor models ("K(A)" suffix) include a plastic weatherproof backbox.*

NOTE: *Add "-R" to models for weatherproof replacement device (no back box included). Only for use with weatherproof outdoor flush mounting plate, WTP and WTPW.*

NOTE: *Add "P" to model for plain housing. (No "FIRE" marking on cover.)*

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Date: 01/12/15

Selectable-Output Low Frequency Sounder and Low Frequency Sounder Strobes for Wall Applications

SpectrAlert® Advance audible visible notification products are rich with features guaranteed to cut installation times and maximize profits.

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Field-selectable candela settings on wall units: 135, 150, 177, and 185
- Rotary switch for low frequency sounder tone
- Universal mounting plate for wall units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert devices
- Compatible with MDL3 sync module
- Listed for ceiling or wall mounting

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

Like the entire SpectrAlert Advance product line, wall-mount low frequency sounder, and low frequency sounder strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

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

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

Agency Listings

SIGNALING UL LISTED
S4011 (sounder)
S5512 (strobes)

FM APPROVED
3047563

MEA approved
MEA452-05-E

7135-1653:0223
7125-1653:0224

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SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance low frequency sounder and low frequency sounder strobes shall mount to a standard 4 × 4 × 1 octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17⁄8-inch mounting plate shall be used for mounting products. The notification appliance circuit wiring shall terminate at the uni Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a r appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-v 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 SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Low Frequency Sounder strobes shall have field-selectable candela settings including 135, 150, 177, and 185.

Low Frequency Sounder

The low frequency sounder shall be a System Sensor SpectrAlert Advance Model _____ listed to UL 464 and shall be approved for fire protective service. The low frequency sounder and the Sync•Circuit™ MDL3 Module accessory, if used, shall be powered from a notification appliance circuit output and shall operate on a nominal 12 or 24 volts (includes fire alarm panels with built in sync). When used with the Sync•Circuit Module MDL3, 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 to 33 volts. If the notification appliances are not UL 9th edition listed with the corresponding panel or power supply being used, then refer to the compatibility listing of the panel to determine maximum devices on a circuit. The low frequency sounder has an option to switch between temporal three pattern, non-temporal (continuous) pattern and coded supply. The low frequency sounder shall operate on a coded or non-coded power supply.

Low Frequency Sounder Strobe Combination

The low frequency sounder 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 low frequency sounder strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The sounder shall have an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The low frequency sounder on low frequency sounder strobe models shall operate on a non-coded power supply.

Synchronization Module

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

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage Low Frequency Sounder	Regulated 12 DC/FWR or regulated 24 DC/FWR[1]
Nominal Voltage Range Low Frequency Sounder Strobe	Regulated 24 VDC/FWR[1]
Operating Voltage Range	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage Range MDL3 Sync Module	8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	6.4 inches L x 4.7 inches W x 2.5 inches D (162 mm L x 119 mm W x 64 mm D)
Sounder Dimensions	5.6 inches L × 4.7 inches W × 1.3 inches D (142 mm L × 119 mm W × 33 mm D)
Low Frequency Sounder/Strobe with Surface Mount Back Box Dimensions (SBBR, SBBW)	6.4 inches L x 4.7 inches W x 4.3 inches D (162 mm L x 120 mm W x 108 mm D)
Low Frequency Sounder with Surface Mount Back Box Dimensions (SBBR, SBBW)	5.7 inches L x 4.8 inches W x 3 inches D (145 mm L x 120 mm W x 76 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.

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UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

		8–17.5 Volts		16–33 Volts	
Sound Pattern	dB	DC	FWR	DC	FWR
Temporal	High	191	262	138	166
Continuous	High	292	384	138	208
Coded	High	292	388	153	205

UL Max. Current Draw (mA RMS), 2-Wire Low Frequency Sounder 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	277	292	325	344	Temporal	296	309	343	351
Continuous	337	362	387	417	Continuous	393	395	432	433

Low Frequency Sounder Tones and Sound Output Data

Low Frequency Sounder and Low Frequency Sounder Strobe Output (dBA)

		8–17.5 Volts		16–33 Volts		24-Volt Nominal			
						Reverberant		Anechoic	
Switch Position	Sound Pattern	DC	FWR	DC	FWR	DC	FWR	DC	FWR
1	Temporal	76	76	76	76	76	76	86	86
2	Continuous	80	80	80	80	80	80	90	90
3†	Coded	80	80	80	80	80	80	90	90

† Sounder ratings provided are for continuous voltage as provided by the NAC

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SpectrAlert Advance Dimensions

Wall-mount low frequency sounder strobes

Wall-mount low frequency sounder

SpectrAlert Advance Ordering Information

Model	Description
Wall Low Frequency Sounder Strobes	
P2RH-LF	2-Wire Low Frequency Sounder Strobe, High cd, Red
P2WH-LF	2-Wire Low Frequency Sounder Strobe, High cd, White
Low Frequency Sounders	
HR-LF	Low Frequency Sounder, Red
HW-LF	Low Frequency Sounder, White
Accessories	
BBS-2	Back Box Skirt, Wall, Red
BBSW-2	Back Box Skirt, Wall, White
SBBR	Surface Mount Back Box, Wall, Red
SBBW	Surface Mount Back Box, Wall, White
TR-HS	Trim Ring, Wall, Red
TRW-HS	Trim Ring, Wall White

Notes:
"High cd" refers to strobes that include 135, 150, 177, and 185 candela settings.

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

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Product specifications subject to change without notice. Visit systemsensor.com for current product information, including the latest version of this data sheet.

AVDS16402 • 1/14

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WPBB-R Weatherproof Back Box

The WPBB-R Weatherproof Back Box is used to surface mount the ASWP Series Weatherproof Horn-strobes for outdoor or severe environment applications.

Certifications and Approvals

Region	Certification	
USA	UL	UCST: Audible Signal Appliances, General Siganal (UL464), ULSZ: Audible Signal Appliances (UL464)

Ordering Information

WPBB-R Weatherproof Back Box Used to surface mount the ASWP Series Weatherproof Horn-strobes for outdoor or severe environment applications	**WPBB-R**

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AdaptaBeacon® Flas Incandescent Lights

PLC Compatible NEMA Type 4X

48FIN Series

FEATURES

- Weatherproof
- 25W Halogen lamp in 120V AC Model; 20W Halogen lamp in 24V AC and 24V DC Models
- Snap-on high impact polycarbonate/ABS base
- Shatter resistant polycarbonate lens

AGENCY APPROVALS

- UL 1638 Listed
- UL Listed NEMA Type 4X enclosure
- cUL Listed

The Edwards 48 Series AdaptaBeacon flashing lights incorporate a unique double fresnel lens that has been optically engineered to maximize brilliance. This is accomplished with a series of complementing fresnels that cause the dome to "fill" when the light is operating. Beam distance is also increased with fresnel lenses. The incandescent lights are available in six colors: red, amber, blue, green, magenta, and clear.

Designed for indoor or outdoor installation. May be direct or 1/2" (13mm) conduit mounted. For weatherproof installation, units must be mounted vertically with the lens facing up. Use Cat. No. GSK-KIT gasket kit for weatherproof surface installation of AC models. May be corner mounted indoors using the Cat. No. CBR, corner mount bracket, or wall mounted indoors using the Cat. No. WBR, wall mount bracket. See Adaptabeacon Accessories, page 3-118.

Edwards flashing lights are particularly effective in high noise level areas, especially where ear protection must be worn and audible signals may not be heard or understood. They can advise personnel in manufacturing and process areas when an operation is starting or stopping. Often used to signal malfunctions in equipment, such as assembly line jams. Can warn personnel that they are entering a restricted area or an area of high danger. May be used where a smaller light output is desired or where many multiple smaller flashing lights are specified. The gasketed NEMA 4X enclosure ensures installation acceptability in most industrial and commercial locations.

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TECHNICAL INFORMATION

Use Cat. No. GSK-KIT gasket kit for weatherproof surface mount installation on AC units

Cat. No.	Lens Color	Replacement Lens	Lamp Ratings	Replacement Flasher	Electrical Ratings	Replacement Lamp
48FINR-N5-25WH 48FINA-N5-25WH 48FINB-N5-25WH 48FING-N5-25WH 48FINM-N5-25WH 48FINC-N5-25WH	Red Amber Blue Green Magenta Clear	96-LR 96-LA 96-LB 96-LG 96-LM 96-LC	25 watts 175 Lumens* 2198 candlepower 25,000 hr.**	P-041917-0026	120V 50/60 Hz 0.20 Amps	50LMP-25WH or Ind. Trade No. 25T8DC
48FINR-G5-20WH 48FINA-G5-20WH 48FINB-G5-20WH 48FING-G5-20WH 48FINM-G5-20WH 48FINC-G5-20WH	Red Amber Blue Green Magenta Clear	96-LR 96-LA 96-LB 96-LG 96-LM 96-LR	20 Watts 226 Lumens* 2839 candlepower 25,000 hr.**	P-041917-0029	24V 50/60 Hz 0.80 Amps	50LMP-20WH or Ind. Trade No. 1692
48FINR-E1 48FINA-E1 48FINB-E1 48FING-E1 48FINM-E1 48FINC-E1	Red Amber Blue Green Magenta Clear	96-LR 96-LA 96-LB 96-LG 96-LM 96-LC	13 watts 189 Lumens* 2374 candlepower 1,520 hr.**	P-041917-0028	12V DC 1.0 Amps	Ind. Trade No. 94
48FINR-G1-20WH 48FINA-G1-20WH 48FINB-G1-20WH 48FING-G1-20WH 48FINM-G1-20WH 48FINC-G1-20WH	Red Amber Blue Green Magenta Clear	96-LR 96-LA 96-LB 96-LG 96-LM 96-LC	20 watts 226 Lumens* 2839 candlepower 25,000 hr.**	P-041917-0029	24V DC 0.80 Amps	50LMP-20WH or Ind. Trade No. 1692

*Bulb manufacturer's lumen rating.

**Projected lamp life based on manufacturer's calculated lamp life at 65 fpm and 50% duty cycle.

SIGNAL INPUT LOAD CHARACTERISTICS*

Cat. No.	Operating Voltage	Max. off state leakage current (mA)	Continuous on Current (mA)	Surge (inrush/duration) Amps/milliseconds
48FIN( )-G1-20WH	24V DC	25	800	2.2/100
48FIN( )-N5-25WH	120V AC 60 Hz	25	200	1.3/8

*This device is PLC compatible and may be operated by PLCs with output characteristics that match the input load requirements of this signal.

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AdaptaBeacon® Accessories

FEATURES

- Adds versatility and protection to many AdaptaBeaons
- Easy to install/attach
- Mounting brackets for use with any beacon which has either 3/4" or 1/2" conduit opening.

The Edwards Mounting Brackets for walls or corners simply the installation of Edwards AdaptaBeacons. They may be used for mounting beacons that have either a 3/4" (19 mm) or 1/2" (12 mm) conduit opening. Backplates are made of stainless steel and bracket arms are cold rolled steel.

The Corner Mount Bracket, Cat. No. CBR, can be used with surface installed 1/2" (12 mm) or 3/4" (19 mm) conduit mounting.

The Wall Mount Bracket, Cat. No. WBR, can be used with either surface installed 1/2" (12 mm) or 3/4" (19 mm) conduit or concealed wiring. The Wall Mount Bracket mounts to a 4" (102 mm) square or 4" (102 mm) octagon electrical box or a 4" (102 mm) outdoor box.

The Catalog Number 92-GRD Protective Lens Guard is an easily installed guard that provides protection against lens breakage.

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TECHNICAL INFORMATION

Cat. No. CBR

Cat. No. WBR

Cat. No. 92-GRD

Cat. Series	Can be used with: WBR	CBR	92-GRD
48 Series	X	X	
49 Series	X	X	
50 Series	X	X	X
50SIN Series	X	X	X
51 Series	X	X	X
51SIN Series	X	X	X
52 Series	X	X	
53 Series	X	X	
53D Series	X	X	
58 Series	X	X	
90 Series	X	X	
91B Series	X	X	
92 Series	X	X	X
93 Series	X	X	
93DF Series	X	X	
95 Series	X	X	X
96B Series	X	X	X
97 Series	X	X	
97DF Series	X	X	
98B Series	X	X	
101 Series	X	X	

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NO EXCUSES!

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NFPA 72 section 10.18.2.1.2.8 If the documents are located in a separate enclosure or cabinet, the separate enclosure or cabinet shall be prominently labeled FIRE ALARM DOCUMENTS.

Fire Alarm Documents
Records / Programs / Software

The FAD is the perfect fit to meet the demanding code requirements today. SAE's number one goal is to manufacture code compliant solutions and this product allows you to do just that. NFPA 72 section 6.2.2.1 states, "A record of installed software and firmware version numbers shall be maintained at the location of the fire alarm control unit."

This durable 16 gauge steel enclosure with a solid piano hinge and key lock will keep all of your code required documents in one safe place. With a 2GB USB flash drive it stores your fire alarm software safe and secure eliminating the occurrences of the software not being on site when technicians arrive to service the system. Along with your fire alarm software you can store your test & inspection documents, service records, manuals & AS built drawings for the system. Using a standard USB B connector it allows you to plug in with any standard SB printer cable to upload or download information.

The FAD is designed to hold critical manuals and documents with a durable steel sleeve. It has designated hooks to organize key rings and hold important business cards for easy access and reference. Inside the cover it has a organized note table that allows for documentation for passwords and other critical system information. The steel sleeve can be easily removed to hold a 1.5" three ring binder.

The innovation of a single gang cutout inside the box to implement the infinity line products with conduit knockout access enables you to provide other system functions for test and inspection. A drill switch or a shut off switch for testing are just a few examples. See the complete line of Infinity products for single gang electrical product solutions.

Standard Features:

- Installed with a 2 gig digital flash drive with USB B connector
- 2 Key ring hooks to hold system keys
- Business card holder for key contacts
- Overall Dimensions are 12" x 13" tall and 2 ¼ deep
- 16 gauge steel box and cover for security
- durable powercoat baked on finish other colors available
- standard ¾"cat 30 key lock other lock assemblies available
- Solid stainless steel piano hinge
- permanently screened white ink 1" high "Fire Alarm Documents"
- Legend sheet for passwords and system information

NFPA Made In U.S.A.

ISO 9001 REGISTERED COMPANY

ADA

ACEBOX

No Excuses, Just Solutions!

SPACE AGE ELECTRONICS, INC.

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Specifications:

The Fire Alarm Document Box (FAD) shall be constructed of 18 gauge cold rolled steel, i powder coat epoxy finish. The cover shall be permanently screened with 1" high lettering DOCUMENTS" with indelible ink. The access door shall be locked with a ¾" barrel lock a a solid width 12" stainless steel piano hinge. The enclosure will supply 4 mounting holes.

Inside the enclosure a removable steel sleeve that will accommodate standard 8 ½ x 11 manuals and loose document records that will be protected within the enclosure. A legend sheet permanently attached to the door for system passwords and critical information and inspection notes. The FAD will have permanently and securely mounted inside a minimum of 2GB's digital flash memory drive with a standard USB B connector for uploading and downloading information. The drive shall not be accessible without tools to any person whom gains access to the records. The enclosure shall also provide 2 key ring holders with a location to mount standard business type cards for key contact personell.

Notes Sticker inside FAD Door

Ordering Information:

Part #	Description
SSU00685	Fire Alarm Storage Cabinet RED
SSU00673	Custom screening with your Logo

Check out our Infinity line eFAD single gang 2 Gig digital storage solutions (IAMEFAD)

No Excuses, Just Solutions!

This document is subject to change without notice, see doc # ED0479 for legal disclaimer

7788F/7744F Series

Wireless Fire Alarm Communicators for AES-*IntelliNet*

AES CORPORATION

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Model 7788F

LISTED

Features – A

- UL Listed c cations.
- Meets NFPA 72 requirements
- Direct reporting to AES receiver across IntelliNet wireless mesh network
- Each Subscriber acts as transmitter/receiver/repeater
- Simple and fast activation on network
- On board status LEDs for easy set up
- 8 programmable zone inputs – 7788F
- 4 programmable zone inputs and 4 reverse polarity inputs – 7744F
- Easy programming via AES handheld programmer or PC
- Rugged metal housing ideal for any commercial fire alarm application

Models 7788F/7744F-ULP with IntelliPro Fire also includes

- IntelliPro Fire transmits full alarm data from virtually any fire alarm panel digital communicator
- Alarm format support for Contact ID, Pulse, or Bosch Modem IIe or Modem IIIa2
- Easy installation in AES subscriber
- Operates in applications with or without a phone line

Advanced Wireless Alarm Monitoring

The AES-*IntelliNet* mesh radio network offers unmatched reliability and speed in delivering wireless alarm signals to a central station without third party fees or reliance on networks owned by companies outside the security and fire alarm industry. AES-7788F/7744F Series Smart Subscriber Transceivers provide the wireless communication link between the fire alarm panel and the central station receiver. The 7788F/7744F Series is ideal for most commercial fire alarm applications. Each 7788F/7744F Series Subscriber is housed in a full sized, red, locked, steel cabinet and supports a range of alarm panel inputs including EOL fire, EOL supervised, and direct voltage from the panel (non-fire applications).

Supervised Operation

AES Smart Subscribers offer fully supervised operation that includes monitoring of operating power (both primary AC power and battery backup) and the connection to the radio network. Each Subscriber “checks in” with the AES central station receiver at least once every 24 hours. The supervision check in time can be set for as often as once per minute and, because the central station owns the wireless network, there is no additional cost for air time to transmit supervisory signals.

Full Data Reporting from Alarm Panel Digital Dialer

Models 7788F-ULP and 7744F-ULP come equipped with an IntelliPro Fire Full Data Module (AES-7794) which enables reporting of full alarm data captured from the fire alarm panel’s digital communicator. IntelliPro Fire supports most alarm communication formats including Contact ID, Pulse, as well as Bosch Modem IIe and Modem IIIa2.

Wireless mesh networking is an innovative technology adopted by many industries with applications that need to communicate data over a large geographic area with a high level of reliability at a low total cost of ownership.

The advanced design and 2-way communications capability provides easy installation, expansion, and management when compared to alternative communication methods, both wired and wireless.

7788F/7744F Series

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Technical Specifications

7788F/7744F Series Subscribers

Dimensions
- 13.25"H x 8.5"W x 4.3"D (34cm H x 21.5cm W x 11cm D)

Weight
- Approx. 7 pounds (3.2 kilograms), excludes battery.

Radio Frequency
- Standard Frequency Range: 450-470MHz (others available)
- Output Power - 2 Watts (others available)

Antenna
- Included 2.5 db tamper resistant antenna mounts on enclosure
- Multiple remote antenna options available

Power Input
- 16.5VAC, 40VA (transformer not included)

Backup Battery
- Will charge 12V battery up to 7.5 AH. Requires 12VDC 7.5 AH battery for UL 864.

Alarm Signal Inputs (subscriber)
- 7788F – 8 individually programmable zones
- 7744F - 4 individually programmable zones and 4 reverse polarity inputs

UL Standards
- UL 864 Edition 9 – Standard for Control Units and Accessories for Fire Alarm Systems
- UL 365 – Standard for Police Station Connected Burglar Alarm Units and Systems
- UL 1681 – Standard for Central Station Burglar Alarm Units

Antenna Cut / Communication Trouble Output
- Form C relay; fail secure; rated for 24 VDC 1A resistive

Reset Button
- Located on main circuit board.

Operating Temperature
- 0° to 50° C (32° to 122°F)

Storage Temperature
- -10° to 60° C (14° to 140°F)

Relative Humidity
- 0 to 85% RHC, Non Condensing

AES-7794 IntelliPro Fire

Input / Output Connections
- RJ11 connection to AES subscriber for module data and power
- RJ11 connector for Handheld Programmer/PC programming
- RJ31X Telco connections - T and R both in and out via terminal strip and RJ45
- Alarm Panel digital communicator T and R both in and out via terminal strip and RJ45
- Trouble output: Form C relay detects if Subscriber is off the network

Alarm Formats
- Support for Contact ID and Pulse formats as well as Modem IIe and Modem IIIa2 converted to CID

Size
- 2.8 x 5.0 inches (7.1cm x 12.7cm)

Power Requirements
- 12 VDC nominal - primary and backup power provided by the AES 7788F/7744F or other Subscriber

AES-IntelliNet™ is the industry leader in delivering high quality wireless mesh networks to the fire and security industry in commercial, corporate, government, and educational applications with its broad line of products and advanced network management tools. Users of AES-IntelliNet networks have gained significant revenue, communications, and cost advantages while meeting the high standards of reliability required for the fire and security industry. AES-IntelliNet alarm monitoring systems are deployed at hundreds of thousands of locations in over 150 countries.

AES IntelliNet CORPORATION For Alarm Monitoring

How to Orde

Date: 01/12/15

Model	De
7744F	4 Zone Fire Alarm Subscriber with 4 reverse polarity inputs
7744F-ULP	7744F Fire Alarm Subscriber with IntelliPro Fire full data module
7788F	8 Zone Fire Alarm Subscriber
7788F-ULP	7788F Fire Alarm Subscriber with IntelliPro Fire full data module

Optional Accessories

7041E	Subscriber Handheld Programmer
7794	IntelliPro Fire Full Data Module

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7788F-7744F/9/7/11R3

AC Transformers & 12 VDC Plug In Power Supp

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ELK-TRG1640 & TRG2440

- Auto-Resetting (PTC) Fused Secondary
- Green Power On LED
- Grounding Prong & Terminal
- Electrical outlet mounting tab
- UL Listed
- Lifetime Limited Warranty
- Wire Strain Relief

Specifications

- Input Voltage: 120 VAC, 60 Hz, .43A
- Output Voltage: TRG1640 = 16.5 Volts A.C.
  TRG2440 = 24 Volts A.C.
- Output Power: TRG1640 = 45 VA
  TRG2440 = 40 VA
- Size: 4.14"H x 2.74"W x 2.2"D
  (105mm x 70mm x 56mm)
- Color: White

ELK-P1216

The ELK-P1216 is a general purpose 12 Volts D.C. Switching Plug-In Power Supply. It is ideal for alarm, access control, and CCTV applications requiring up to 1.5 Amps. The power pack plugs into 100 to 120 Volts A.C., and supplies regulated 12 Volts D.C. to a standard 2.1mm power plug.

12 Volts D.C.
Plug-In Power Supply

Slimline Design

RoHS Compliant

Features

- Switching Power Supply
- Regulated 12 Volts D.C. Output
- Six foot cord and standard
- 2.1mm x 5.5mm x 9mm plug (center is positive)
- UL Listed
- Efficiency Level: V
- Lifetime Limited Warranty

Specifications

- DC Output Voltage: 12 Volts D.C.
- Current Rating: 1.5 Amps
- AC Input Voltage Range: 100-120 @ 47~63 Hz
- Size: 1.75"H x 1.375"W x 2.75"D

ELK PRODUCTS

Antenna & Accessory Selection Guide

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Description	Casetop Flex	Standard	Stealth	Hi Gain
Freq Range	460-470	460-470	460-470	460-470
Gain	2.5db	3db	3db	5db
Power Capability	5W	50W	50W	50W
Mast/Whip Length	10"	18"	18"	36"
Mast/Whip Material	Black Vinyl Clad/Flex	Stainless Steel	Vinyl Clad	Stainless Steel
Mount Style	Mounts on case	Universal Mount	Easy Hang Mount	Universal Mount
Ground Radials Included	No (case is gnd plane)	Yes	Yes	Yes
Connector Type	TNC	N	TNC	N
Recommended Cable	cable included	7220-10-N or -25	10' cable included	7220-10-N or -25-N
Application	Indoor	In/Outdoor	Indoor	In/Outdoor
Bandwidth	±5 MHz	±5 MHz	±5 MHz	±5 MHz
Vertical Beam Width	38°	35°	35°	18°
Horizontal Beam Width	Omnidirectional	Omnidirectional	Omnidirectional	Omnidirectional
Order Number	**7210-3-UR/C**	**7210-3-UM**	**7211**	**7210-5-UM**

Antenna & Accessory Selection Guide, *continued*

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Description	Rugged Hi Gain	Higher Gain	Central Station
Freq Range	460-470	460-470	460-470
Gain	6db	7+db	9db
Power Capability	150W	200W	200W
Mast/Whip Length (approx)	48"	72"	96"
Mast/Whip Material	Fiberglass	Fiberglass	Fiberglass
Mount Style	Mast Mount	Mast Mount	Mast Mount
Ground Radials Included	Yes	Yes	Yes
Connector Type	N	N	N
Recommended Cable	7220-10-N / -25-N	7220-10-N / -25-N	7220-10-N / -25-N
Application	In/Outdoor	In/Outdoor	In/Outdoor
Bandwidth	±5 MHz	±5 MHz	±5 MHz
Vertical Beam Width	14°	12°	7°
Horizontal Beam Width	Omnidirectional	Omnidirectional	Omnidirectional
Order Number	**7210-6-UC**	**7210-7-US**	**7210-9-UC**

NEW!

10' Cab
RG58 Lo
BNC ma
7050 to
7220-10-N

25' Cable
RG58 Low Loss
BNC male to N male
7050 to Antenna
7220-25-N

Lightning Protector
N female to N female Coax Inline
A MUST for systems with outdoor antennas
7230

Bandpass Cavity Filter

Enhances radio performance by filtering out unwanted RF energy. Custom tuned to specified frequency. N female to N female. Call for details.

Monitor Modules

NMM-100(A), NMM-100P(A), NZM-100(A), and NDM-100(A) for FireWarden Series Panels

NOTIF by Honeywell

Intelligent Ad

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General

Four different monitor modules are available for Notifier's Fire-Warden Series 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 (NZM-100(A)).

NMM-100(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.

NMM-100P(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 NMM-100P(A) to often be mounted in a single-gang box behind the device it monitors.

NZM-100(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.

NDM-100(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.

NMM-100(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 Decade entry of address: 01 – 99 on FireWarden-100-2, 01 – 50 on FireWarden-50.
- LED flashes during normal operation and latches on steady to indicate alarm.

The NMM-100(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.

NMM-100(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.

NMM-100(A) (Type H)

NMM-100(A) OPERATION

Each NMM-100(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).

NMM-100(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.

NMM-100P(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 Decade entry of address: 01 – 99 on FireWarden-100-2, 01 – 50 on FireWarden-50.

The NMM-100P(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 NMM-100P(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. NMM-100P(A)

NMM-100P(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.

NMM-100P(A) OPERATION

Each NMM-100P(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).

NMM-100P(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.

NZM-100(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 Decade entry of address:, 0 100-2, 01 – 50 on FireWarden-50.
- LED flashes during normal operatio
- LED latches steady to indicate al control panel.

The NZM-100(A) Interface Module is ir gent, addressable systems, where th each module is selected using built-i module allows intelligent panels to int wire conventional smoke detectors. It t mal, 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.

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NZM-100(A) APPLICATIONS

Use the NZM-100(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.

NZM-100(A) OPERATION

Each NZM-100(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).

NZM-100(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.

NDM-100(A) Dual Monitor Module

The NDM-100(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices. The module has a single panel-controlled LED.

NOTE: *The NDM-100(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.*

NDM-100(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.

NDM-100(A) AUTOMATIC ADDRESSING

The NDM-100(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the NDM-100(A) is set to address “26”, then it will automatically assign itself to addresses “26” and “27”.

NOTE: *“Ones” addresses on the NDM-100(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

NMM-100(A), NZM-100(A), and NDM-100(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 NMM-100P(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:** 7300-0028:230 (NMM-100, NMM-100P, NZM-100); 7300-0028:237 (NDM-100)
- **MEA:** 72-01-E Vol. 2 (NMM-100, NMM-100P, NZM-100); 227-03-E Vol. 3 (NDM-100)

Product Line Information

NOTE: *“A” or suffix indicates ULC-listed model.*

NMM-100(A): Monitor module.

NMM-100P(A): Monitor module, miniature.

NZM-100(A): Monitor module, two-wire detectors.

NDM-100(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 52304.*

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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.

Multi-Voltage Conventional Relays

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Date: 01/12/15

General

System Sensor's multi-voltage conventional relays are used for high-current switching applications such as fan and damper assembly control, door control, air handling unit controls, and other types of system interfacing.

The R-10T(A)/20T(A) and R-14T(A)/R-24T(A) models are multi-voltage relays with terminal strip field wiring connections, mounting track and hardware. The R-10T(A) is a single FORM-C (SPDT) relay with a red activation LED, and the R-14T(A) is a 4-gang 1 FORM-C (SPDT) relay with 4 red activation LEDs. The R-20T(A) is a single 2 FORM-C (DPDT) relay with red activation LED, and the R-24T(A) is a 4-gang 2 FORM-C (DPDT) relay with 4 red activation LEDs.

The R-10E(A)/R-20E(A) and R-14E(A)/R-24E(A) are similar to the T series track mount relays, but they are mounted into a steel enclosure. The enclosure has a removable front cover that provides easy access and a LED viewing hole on the top of the cover.

PR-1(A)/PR-2(A)/PR-3(A) are epoxy encapsulated multi-voltage relays. They are single pole double throw relays that use a red LED as a visible indication of relay coil energization. PR-3 is identical to PR-2 except it has an extra pair of wires for redundant power input.

Model EOLR-1(A) is an epoxy encapsulated single pole single throw, normally open relay that can be used as an end of line device in fire alarm systems, e.g. to supervise power supplies.

Specifications

R-10T(A)/R-14T(A)/R-20T(A)/ R-24(A)T

Operating Voltage Range:	18-35 VDC, 18-35 VAC, 115 VAC, 230 VAC.
Operating Current:	23 mA @ 24 VDC , 59 mA @ 24 VAC,150 mA @ 120 VAC, 180 mA @ 240 VAC [R-10T(A)/ R-14T(A)].
	40 mA DC max. @ 24 VDC, 24 VAC, 92 mA @ 24 VAC, 220 mA @ 120 VAC, 260 mA @ 240 VAC [R-20T(A)/R-24T(A)]
Humidity Range:	10% to 93% (non-condensing).
Dimensions:	R-10T(A)/ R-20T(A): 2.5"L x 3.35"W x 1.2"H.
	R-14T(A)/R-24T(A): 10"L x 3.35"W x 1.2"H.
Operating Temperature:	-40° F to 158° F (-40°C to 70°C)
Contact Ratings:	24 VDC: 7A with L/R = 5 mS.
	120 VAC: 10 A.
	120 VAC: 1/6 HP.
	230 VAC: 7 A.

Multi-Voltage Conventional Relays

R-10E(A)/ R-14E(A)/R-20E(A)/ R-24E(A)

Operating Voltage Range:	18-35 VDC,. 18-35 VAC, 115 VAC, 230 VAC.
Operating Current:	23 mA DC max. @ 24 V, 59 mA @ 24 VAC, 150mA @ 120 VAC, 180 mA @ 240 VAC [R-10E(A)/ R-14E(A)].
	-40 mA DC max. @ 24 VDC, 24 VAC, 115 VAC, 230 VAC (R-20E/R-24E).
Humidity Range:	10% to 93% (non-condensing).
Dimensions:	R-10E(A)/R-20E(A): 5.1"L x 3.75"W x 2.5"H.
	R-14E(A)/R-24E(A): 11"L x 5.3"W x 2.5"H.
Operating Temperature:	-40° F to 158° F (-40° C to 70° C).
Contact Ratings:	24 VDC: 7 A with L/R = 5mS.
	120 VAC: 10 A.
	120 VAC: 1/6 HP.
	230 VAC: 7 A.

PR-1(A)

Operating Voltage Range:	18-35 VDC, 18-35 VAC, 120 VAC.
Operating Current:	15 mA DC max. @ 24 VDC, 24 VAC,120VAC.
Humidity Range:	10% to 93% RH.
Dimensions:	0.87" H x 2.01" W x 1.42" D.
Operating Temperature:	-40° F to 158° F (-40° C to 70° C).
Contact Ratings:	24 VDC: 7 A with LR = 5 mS.
	120 VAC: 7 A max. (0.35 PF).
	250 VAC: 10 A resistive.
	30 VDC: 10 A resistive.
Wire Length:	8" minimum.

PR-2(A)/PR-3(A)

Operating Voltage Range:	10 to 40 VDC.
Operating Current:	30 mA DC max.
Humidity Range:	10% to 93% RH.
Dimensions:	0.91” H x 1.65” W x 1.22” D.
Operating Temperature:	-40° F to 158° F (-40° C to 70° C).
Contact Ratings:	120 VAC: 10 A (resistive load). 120 VAC: 7 A max. (0.35 PF). 250 VAC: 10 A max. (resistive load). 30 VDC: 10 A max. (resistive load).
Wire Length:	8” minimum.

EOLR-1(A)

Operating Voltage Range:	9 to 40 VDC.
Operating Current:	20 mA DC max.
Humidity Range:	10% to 93% RH.
Operating Temperature:	-22° F to 140° F (-30° C to 60° C).
Contact Ratings:	120 VAC: 0.5 A max. (resistive load). 30 VDC: 3 A max. (resistive load).
Wire Length:	8” minimum.

Agency Listings and App

In some cases, certain modules may
approval agencies, or listing may be i
tory for latest listing status.

- UL/ULC Listed: S3705
- ULC Listed: CS669
- MEA: 419-04-E
- CSFM: 7300-1653:173

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PRODUCT LINE INFORMATION

NOTE: *“A” suffix indicates ULC listed model.*

PR-1(A): Epoxy encapsulated single pull double throw (SPDT) relay. It also uses a red LED as a visible indication of relay coil energization with pigtails.

PR-2(A): Epoxy encapsulated single pull double throw (SPDT) activated by 10 to 40 VDC. It uses a red LED as a visible indication of relay coil energization with pigtails.

PR-3(A): Epxoy encapsulated single pull double throw (SPDT) activated by 10 to 40 VDC. It contains an additional black and red wire for redundant power input with pigtails.

EOLR(A): Epoxy encapsulated single pull single throw (SPST) normally open relay that is activated by 9 to 40 VDC. This relay can be used as an end of line device in fire alarm systems, e.g., to supervise power supplies.

R-10T(A): Single (SPDT) relay with a red activation LED.

R-14T(A): 4-gang (SPDT) relay with 4 red activation LEDs.

R-20T(A): Single (DPDT) relay with a red activation LED.

R-24T(A): 4-gang (DPDT) relay with 4 red activation LEDs.

R-10E(A): Single (SPDT) relay with a red activation LED.

R-14E(A): 4-gang (SPDT) relay with 4 red activation LEDs.

R-20E(A): Single (DPDT) relay with a red activation LED.

R-24E(A): 4-gang (DPDT) relay with 4 red activation LEDs.

GI-TSW-01 tamper box with shunt

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Burglar Alarm Products MISCELLANEOUS CONTACT TAMPER BOX WITH SHUNT WITH 1 FOOT LEAD WIRES

KNOX®
Serving Fire Departments Since 1975

Knox-Vault® 41(
SINGLE

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High Security Commercial Key Vault

A new Knox-Box that's for those applications where a 3200 Series is too small yet the 4400 Series too large. The high security 4100 Series has a hinged-door allowing for the convenient single-handed operation. The 4100 Series Knox-Vault protects and stores building keys, access cards and the Knox FDC Keywrench allowing departments to keep a keywrench on site.

Features and Benefits

- Holds up to 24 keys in the large interior compartment
- Ensures high security with UL listed Medeco lock(s)
- Includes Knox-Coat® that is four times better than standard powder coat
- Resists moist conditions with a weather resistant silicone door gasket
- Colors: Black, Dark Bronze or Aluminum
- Weight: Surface mount - 17 lbs.
  Recessed mount - 19 lbs.

Options

- Alarm Tamper Switches (U/L listed)
- Recessed Mounting Kit (RMK) for recessed models only
- Dual lock configuration
- Access card holder
- Keywrench holder

4100 Surface Mount

4100 Recessed Mount

Ordering Specifications

To ensure procurement and delivery of the 4100 Series Knox-Vault, it is suggested that the following specification paragraph be used:

KNOX-VAULT surface/recessed mount, with/without UL Listed tamper switches. 1/4" plate steel housing, 1/2" thick solid steel door with interior silicone gasket seal. Lock UL listed. Lock has 1/8" thick stainless steel dust cover with tamper seal mounting capability. Vault has anti-theft re-locking mechanism with drill resistant hard-plate lock protector.

Exterior Dimensions:	Surface mount – 6"H x 6"W x 4 1/2"D
	Recessed mount – 8 1/2"H x 8 1/2"W x 4 1/2"D
Lock:	UL Listed. Double-action rotating tumblers and hardened steel pins accessed by a proprietary coded biased cut key.
Finish:	Knox-Coat® proprietary finishing process
	Finish Color - Black, Dark Bronze or Aluminum
P/N:	4100 Series Knox-Vault (mfr's cat. ID)
Mfr's Name:	**KNOX COMPANY**

KNOX®
Serving Fire Departments Since 1975

Knox-Vault® 41
MOU

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Suggested minimum mounting height
6 feet above ground

Series 4100 Surface Mount **Series 4100 Recessed Mount**

INSIDE VIEW

Attention: KNOX-BOX® key box is a very strong device that MUST be mounted properly to ensure maximum security and resist physical attack.

Recesse

The 4100 Recesse
for recessed moc
housing and mou
place in new concrete or masonry construction. After construction is completed, the Knox-Vault mounts inside the recessed shell housing. The RMK may only be used in new concrete or masonry construction.

Installation In Cast Concrete

The optional Recessed Mounting Kit is for use in new concrete or masonry construction only. The kit includes a shell housing and mounting hardware to be cast-in-place. The KNOX-VAULT is mounted into the shell housing after construction is completed.

RMK Exterior Dimensions

6 5/8" H x 7 1/4" W x 5 1/4" D

IMPORTANT: Care should be taken to insure that the front of the RMK shell housing, including the cover plate and screw heads, is flush with the finish wall. The RMK must be plumbed to insure vertical alignment of the vault.

Recessed Mounting Using Recessed Mounting Kit (RMK)

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