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ADT Commercial

FIRE ALARM & VOICE EVACUATION SYSTEM

Pierce College S.T.E.M. Bldg.

Fire Alarm System & Voice Evacuation Data Submittal

1601 39TH AVENUE SE
PUYALLUP, WA 98374

Date: 07/26/2024

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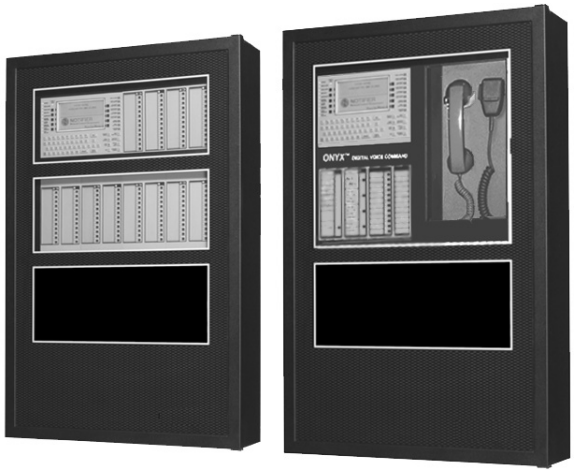
NFS2-3030 Intelligent Addressable Fire Alarm Control Panel

General

The NFS2-3030 is an intelligent Fire Alarm Control Panel (FACP) designed for medium- to large-scale facilities. Fire emergency detection and evacuation are extremely critical to life safety, and the NFS2-3030 is ideally suited for these applications. The NFS2-3030 is part of the ONYX® Series of products from NOTIFIER. The NFS2-3030 is ideal for virtually any application because it features a modular design that is configured per project requirements. With one to ten Signaling Line Circuits (SLCs), the NFS2-3030 supports up to 3,180 intelligent addressable devices.

Information is critical to fire evacuation personnel, and the NFS2-3030's large 640-character Liquid Crystal Display (LCD) presents vital information to operators concerning a fire situation, fire progression, and evacuation details.

A host of other options are available, including single- or multi-channel voice; firefighter's telephone; LED, LCD, or PC-based graphic annunciators; networking; advanced detection products for challenging environments; wireless fire protection; and many additional options.



NFS2-3030 (left) and
NFS2-3030 with DVC audio option (right)

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when a marine-listed version is used with marine-listed compatible equipment. *See DN-60688.*
- Complies with UL 2572 Mass Notification Systems (NFS2-3030 version 20 or higher).
- One to ten isolated intelligent Signaling Line Circuits (SLC) Class A, B, or X.
- Wireless fire protection using SWIFT Smart Wireless Integrated Fire Technology. *See DN-60820.*
- Up to 159 detectors and 159 modules per SLC; 318 devices per loop/3,180 per FACP or network node.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Large 16 line, 640 character LCD backlit display or use displayless as a network node.
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCD, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCD, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online/offline program option.
- With built-in Degraded Mode operation, the system is capable of general alarm if a fire alarm condition is present even if the central processing unit (CPU) fails.
- Weekly Occupancy Schedules allow changing sensitivity by time of day and day of week.
- EIA-485 annunciators, including custom graphics.
- History file with 4000-event capacity in nonvolatile memory, plus separate 1000-event alarm-only file.
- Advanced history filters allow sorting by event, time, date, or address.
- Alarm Verification selection per point, with automatic counter.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- Positive Alarm Sequence (PAS) Presignal.
- Silence Inhibit and Auto Silence timer options.
- Field-programmable on panel or on PC, with VeriFire Tools program, also check, compare.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Up to 1000 powerful Boolean logic equations.
- Supports SCS Series smoke control system in both HVAC and FSCS modes.
- FM6320 approved Gas Detection System with FMM-4-20 module and any FM listed gas detector.
- EIA-232 printer port.
- EIA-485 annunciator port.

640-Character Display Features

- Backlit, 640-character display.
- Program keypad: full QWERTY keypad.
- Up to nine users, each with a password and selectable access levels.
- **11 LED indicators:** Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Other Event; Signals Silenced; Point Disabled; CPU Failure; Controls Active.
- **Membrane Switch Controls:** Acknowledge; Signal Silence; Drill; System Reset; Lamp Test.

- **LCD Display:** 640 characters (16 lines x 40 characters) with long-life LED backlight.

SWIFT WIRELESS

- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

RELEASING FEATURES

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).

VOICE AND TELEPHONE FEATURES

- Up to eight channels of digital audio.
- 35 watt, 50 watt, 75 watt, and 100/125 watt digital amplifiers (DAA2/DAX series and DS series).
- Solid state message generation.
- Hard-wired voice control module options.
- Firefighter telephone option.
- 30- to 120-watt analog amplifiers (AA Series).
- Backup tone generator and amplifier option.

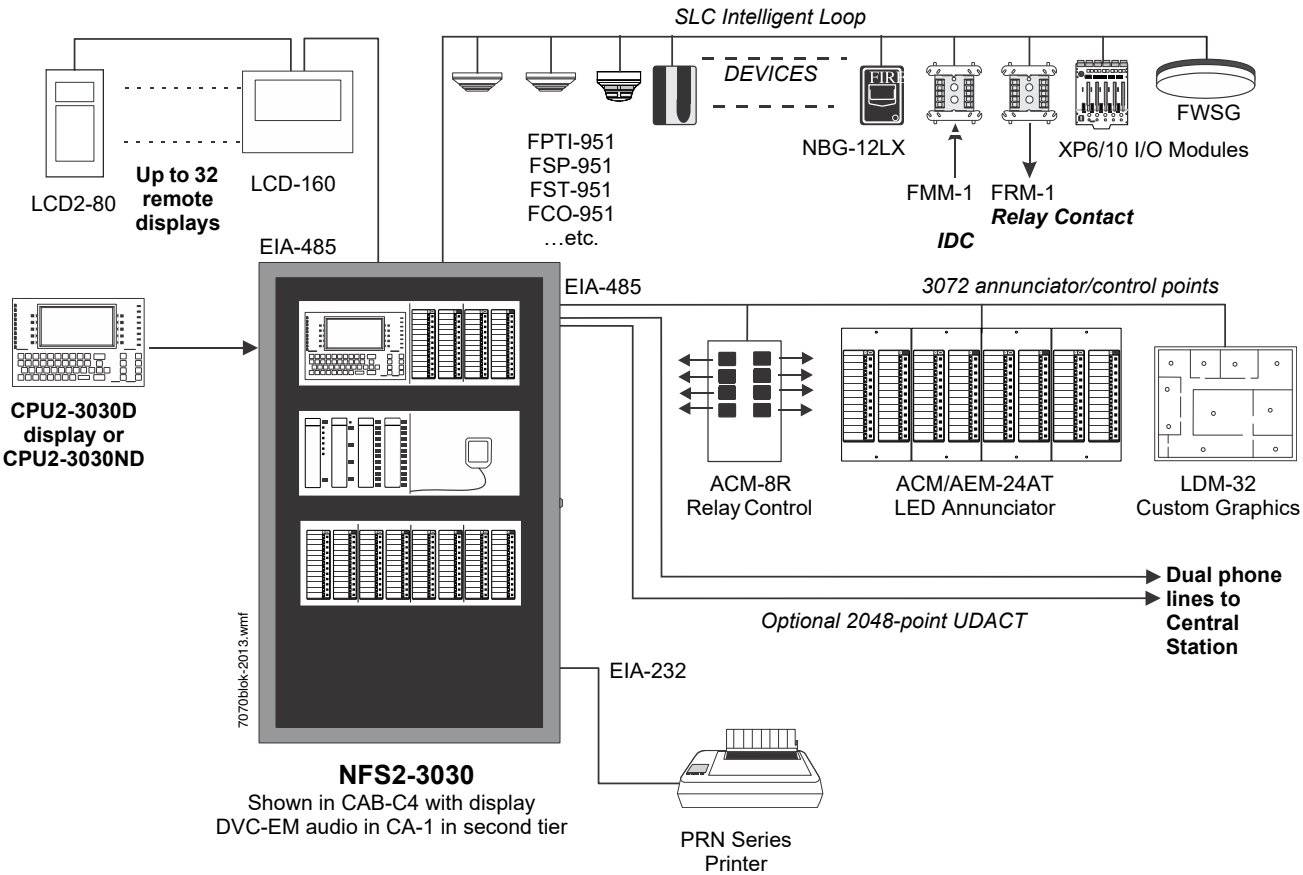
FLASHSCAN® INTELLIGENT FEATURES

- Polls up to 318 devices on each loop in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Sensitivity levels:
  - **– Photo –** 0.5 to 2.35%/foot obscuration.
  - **– High-Sensitivity Photoelectric (VIEW®) –** Open Air Protection (0.5% - 2.0%/ft. obscuration), Special Applications (0.02%-0.5%/ft. obscuration**)**
  - **– Multi-Criteria Detector** – Open Air Protection (2.52-3.89%/ft. obscuration), Special Applications (1.13-2.52%/ft. obscuration)
- Drift compensation (U.S. Patent 5,764,142).
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.
- Programmable activation of sounder/relay bases during alarm or pre-alarm.
- Read Status displays the level of detector cleanliness.

FSV-951 SERIES VIEW® (VERY INTELLIGENT EARLY WARNING) HIGH-SENSITIVITY SMOKE DETECTOR

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals.
- Addressable operation pinpoints the fire location.
- Ivory models (-IV) support CLIP mode as well as FlashScan.
- ULC listed models available; “A” models are ULC Listed.
- -R is retrofit, backwards compatible for use with older panels.

Sample System Options



NOTE: *CPU2-3030 firmware version 14.0 (and higher) can support LCD-160 on the RDP port, or LCD2-80 in terminal mode, but not both at the same time.*

FCO-951(A)/-IV Advanced Multi-Criteria Fire/CO Detector

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- 135°F (57.2°C) fixed-temperature heat detector.
- Transmits an alarm signal due to heat.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4 (CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.
- ULC listed models available; "A" models are ULC Listed.

FPTI-951(A) Intelligent Multi-Criteria Detector

- Combined Photoelectric Thermal and Infrared Sensor
- UL 268 7th Edition and UL 521 Listed; Canadian models CAN/ULC S529 and CAN/ULC S530
- Microprocessor-based technology; combination photo, thermal, and infrared technology.

FPC-951(A) Photoelectric/CO Sensor

- Combined photoelectric and carbon monoxide sensor

FSCO-951(A) Intelligent CO Sensor

- Carbon monoxide sensor

FS-OSI-RI(A) Addressable intelligent single-ended beam smoke detector

- Intelligent addressable reflector-type linear optical beam smoke detector
- Fast, easy, and intuitive beam alignment indicated by directional LED arrows
- Long range coverage of 16-328 ft (5-100 m) is standard; no separate long-range kit required

FMM-4-20 Gas Detection Module

- Interface to industry-standard linear scale 4-20 mA sensors.
- Five programmable thresholds.
- FM Approved, Class 6320 (Stationary Gas Sensors/Detectors).

Intelligent VESDA® Detectors

- Intelligent aspiration smoke detectors connect directly to the SLC loop of compatible ONYX® Series panels:
  - VEA-040-A00-NTF, VEA-040-A10-NTF
  - VEP-A00-P-NTF, VEP-A10-P-NTF, VEP-A00-1P-NTF
  - VEU-A00-NTF, VEU-A10-NTF
- Models offer LED display, LCD display, or both
- Coverage options for spaces up to 69,965 square feet

FlashScan® Exclusive World-Leading Detector Protocol

At the heart of the NFS2-3030 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

As well as giving quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS2-3030 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan® detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

ONYX Intelligent Sensing

ONYX Intelligent Sensing is a set of software algorithms that provide the NFS2-3030 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the very high-speed microcomputer used by the NFS2-3030.

Drift Compensation and Smoothing. Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, usually caused by electrical interference.

Maintenance Warnings. When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust. Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm. Each detector may be set for "Self-Optimizing" pre-alarm. In this special mode, the detector "learns" its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing. A patented feature of ONYX Intelligent Sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit. The NFS2-3030, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS2-3030 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS2-3030 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows® based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-3030 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Product Line Information

Configuration Guidelines

Stand-alone and network systems require a main display. On single-FACP systems (one NFS2-3030D), the display option is the CPU2-3030D. On network systems (two or more networked fire panel nodes), at least one NCD, NCA-2, NCS, or ONYXWorks annunciation device is required. Options listed as follows.

Main System Components

CPU2-3030D: NFS2-3030 Primary Display. CPU2-3030D ships with keypad/display installed; includes 640-character backlit LCD display, QWERTY programming and control keypad. CPU2-3030 is a central processing unit and requires an AMPS-24(E) power supply. For English ULC applications, use CPU2-3030DC. Non-English versions are available: CPU2-3030D-FR, CPU2-3030D-HE, CPU2-3030D-KO, CPU2-3030D-PO, CPU2-3030D-SC, CPU2-3030D-SP, CPU2-3030D-TC, and CPU2-3030D-TH. For English Marine applications order CPU2-3030D-M; for non-English Marine applications order CPU2-3030D-M and the appropriate KP-KIT-XX. (See DN-60688.)

CPU2-3030ND: CPU2-3030 without display. Non-English versions are available: CPU2-3030ND-FR, CPU2-3030ND-HE, CPU2-3030ND-KO, CPU2-3030ND-PO, CPU2-3030ND-SC, CPU2-3030ND-SP, CPU2-3030ND-TC.

AMPS-24(E): One required for each NFS2-3030. Addressable power supply and battery charger with two 24 VDC outputs. Addressable by any FlashScan® or CLIP mode FACP. Charges 7 to 200 AH batteries. Occupies up to five addresses on an SLC, depending on configuration. Primary input power for panel. *See DN-6883.*

LCM-320: Loop Control Module. Provides one SLC. NFS2-3030 supports up to five LCM-320s and five LEM-320 expanders for a total of ten SLCs. *See DN-6881.*

LEM-320: Loop Expander Module. Expands an LCM-320. *See DN-6881.*

SAMPLE SYSTEM: *Four-loop NFS2-3030 with display: CPU2-3030D, DP-DISP, two BMP-1s, CHS-M3, two LCM-320s, two LEM-320s, AMPS-24, SBB-A4, DR-A4, BP2-4, BB-100, batteries.*

Networking Options

NCA-2: Network Control Annunciator, 640 characters. An alternate primary display for CPU2-3030 can be provided by the NCA-2, NCS, or ONYXWorks. Using NCA-2 as primary display enables non-English languages. On network systems (two or more networked fire panel nodes), one network display (either NCA-2, NCS, or ONYXWorks) is required for every system. On network systems, the NCA-2 connects (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP, ADP-4B, or in an annunciator box, such as the ABS-2D. In CAB-4 top-row applications, a DP-DISP and two BMP-1 blank modules are required for mounting. Non-English versions are available: NCA-2-FR, NCA-2-HE, NCA-2-KO, NCA-2-PO, NCA-2-SC, NCA-2-SP, NCA-2-TC, NCA-2-TH. For English ULC applications, order NCA-2C; for marine applications, order NCA-2-M; for non-English marine applications order NCA-2-M and appropriate KP-KIT-XX. *See DN-7047.*

NCD: Network control display, with a high-definition 10" touch screen. As part of a standalone NFS2-3030 system, the NCD can serve as Primary Display for the panel, to provide control and status capabilities on displayless nodes. On network systems, the NCD connects to (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounting options include the ABS-TD for standalone applications. In the CAB-4 series the NCD can be mounted in the top row with a DP-GDIS1 or lower rows using a DP-GDIS2. *See DN-60974.*

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861.*

HS-NCM-W(-2), HS-NCM-MF, HS-NCM-SF, HS-NCM-WMF(-2), HS-NCM-WSF(-2), HS-NCM-MFSF: High-speed Network Communications Modules that can connect to two nodes. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971.*

ONYXWorks: UL/ULC-listed graphics PC workstation, ONYXWorks GUI software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. (Replaces NFN-GW-EM.) *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. *See DN-5952.*

ACPS-610: 6.0 A or 10.0 A addressable charging power supply. *See DN-60244.*

FCPS-24S6/-24S8: Remote 6 A and 8 A power supplies with battery charger. *See DN-6927.*

BAT Series: Batteries. AMPS-24 uses two 12 volt, 7 to 200 AH batteries. *See DN-6933.*

Audio Options

NOTE: *See "Enclosures, Chassis, and Dress Plates" on page 6 for mounting hardware.*

DVC-EM: Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. *See DN-7045.*

DVC-RPU: Digital Voice Command Remote Paging Unit for use with DVC-EM. Includes the keypad/display. *See DN-60726.*

DS-DB: Digital Series Distribution Board, provides bulk amplification capabilities to the DVC-EM while retaining digital audio distribution capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. *See DN-60565.*

DVC-KD: DVC-EM keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons. *See DN-7045.*

DS-AMP/E: 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. *See DN-60663.*

DS-RFM, DS-FM, DS-SFM: Fiber conversion modules for DVC-EM, DS-DB distribution board, and DAA2/DAX Series amplifiers. *See DN-60633.*

DAA2-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-7525(E): 75W, 25 Vrms digital audio amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAX-3525(E): 35W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-3570(E): 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

TELH-1: Firefighter's Telephone Handset for use with the DVC-EM when mounted in the CA-2 chassis. *See DN-7045.*

CMIC-1: Microphone used with DVC/DVC-EM. Included with CA-2 chassis assembly. *See DN-7045.*

RM-1/RM-1SA: Remote microphone assemblies, mount on ADP-4 (RM-1) dress panel or CAB-RM/-RMR (RM-1SA) stand-alone cabinets. *See DN-6728.*

AA-30: Audio Amplifier, 30 watts, 25 Vrms. Includes amplifier and audio input supervision, backup input, and automatic switchover, power supply, cables. *See DN-3224.*

AA-120/AA-100: Audio Amplifier. AA-120 is 120 watts, 25 Vrms. AA-100 is 100 watts, 70.7 Vrms. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (consumes one row). Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. *See DN-3224.*

DAA Series Digital Audio Amplifiers: Legacy DAA Series amplifiers are compatible with DVC systems running SR4.0. For specific information on DAA-50 series amplifiers, refer to DN-7046. For information on DAA-7525 Series, refer to DN-60257.

Compatible Devices, EIA-232 Ports

PRN-7: 80-column printer. *See DN-60897*

VS4095/5: Printer, 40-column, 24 V. Order from Keltron, Inc. *See DN-3260.*

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals. *See DN-6870.*

Compatible Devices, EIA-485 Ports

ACM-24AT: ONYX® Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT; expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862.*

ACM-48A: ONYX® Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

AEM-48A: Same LED capabilities as ACM-48A; expands the ACM-48A to 96 points. *See DN-6862.*

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See DN-3558.*

LCD-160: Liquid Crystal Display annunciator, 160-character backlit. Can store character sets for multiple languages. LCD-160C is used for ULC applications. *See DN-6940.*

LCD2-80: Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See LCD2-80 (DN-60548).*

SCS Series: Smoke control station; eight (expandable to 16) circuits. *See DN-4818.*

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit. Mounts in panel module position (as in single-address mode applications) or in CHS-M3 position. *See DN-6860.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-60686.*

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs *(requires optional programming kit)*. Mounts on a CHS-4 series chassis within NFS2-3030.

Compatible Intelligent Devices

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

FWSG Wireless SWIFT Gateway: Addressable gateway supports wireless SLC devices. Not appropriate for ULC applications. *See DN-60820.*

FCO-951/-IV FlashScan, Addressable intelligent multi-criteria smoke sensors, photo, carbon monoxide, fixed temperature heat detector and infra-red (IR). ULC: FCO-951A/-IV

FPC-951. FlashScan, Combined photoelectric and carbon monoxide sensor. ULC: FPC-951A.

FSCO-951. FlashScan, Addressable carbon monoxide sensor. ULC: FSCO-951A.

FPTI-951, FPTI-951-IV: Addressable intelligent multi-criteria photoelectric, thermal and IR sensors. ULC: FPTI-951A, FPTI-951A-IV.

FS-OSI-RI: Addressable intelligent single-ended beam smoke detector. ULC: FS-OSI-RIA. .

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

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

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

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

FSP-951R: White, low-profile intelligent photoelectric sensor, remote test capable. For use with DNR/DNRW. FlashScan only. ULC: FSP-95RA

FSP-951R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable. FlashScan only. ULC: FSP-95RA-IV, for use with DNRA.

FST-951: White, low-profile intelligent 135°F fixed thermal sensor, FlashScan only. Must be mounted to one of the bases listed below. ULC: FST-951A. *See DN-60975.*

FST-951-IV: Ivory, low-profile intelligent 135°F fixed thermal sensor, FlashScan and CLIP. Must be mounted to one of the bases listed below. ULC: FST-951A-IV.

FST-951R: White, low-profile intelligent rate-of-rise thermal sensor, FlashScan only. Must be mounted to one of the bases listed below. ULC: FST-951A

FSP-951R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable. FlashScan only. ULC: FSP-95RA-IV, for use with DNRA.

FST-951H: White, low-profile intelligent 190°F fixed thermal sensor, FlashScan only. Must be mounted to one of the bases listed below. ULC: FST-951HA.

FST-951H-IV: Ivory, low-profile intelligent 190°F thermal sensor, FlashScan and CLIP. Must be mounted to one of the bases listed below. ULC: FST-951HA-IV.

FSV-951, FSV-951R: White, intelligent high-sensitivity photoelectric smoke detector. ULC: FSV-951A, FSV-951RA

FSV-951-IV, FSV-951R-IV Ivory, intelligent high-sensitivity photoelectric smoke detector. ULC: FSV-951A-IV, FSV-951RA-IV.

VEP-A00-P-NTF: Intelligent aspiration smoke detector with LED display, 4 pipes, covers up to 21,520 square feet. UL/ULC. *See DN-61029.* UL/ULC Listed.

VEP-A10-P-NTF: Intelligent aspiration smoke detector with LED and LCD display, 4 pipes, covers up to 21,520 square feet. UL/ULC. *See DN-61029.* UL/ULC Listed.

VEP-A00-1P-NTF: Intelligent aspiration smoke detector with LED display, single pipe, covers up to 10,760 square feet. UL/ULC. *See DN-61029.* UL/ULC Listed.

VEU-A00-NTF: Intelligent aspiration smoke detector with LED display, 4 pipes, covers up to 69,965 square feet. UL/ULC. *See DN-61034.* UL/ULC Listed.

VEU-A10-NTF: Intelligent aspiration smoke detector with LED and LCD display, 4 pipes, covers up to 69,965 square feet. UL/ULC. *See DN-61034.* UL/ULC Listed.

VEA-040-A00-NTF: Intelligent aspiration with LED display, 40 point-addressable detection points. Covers 36,000 square feet. UL/ULC. *See DN-61036.* UL/ULC Listed.

VEA-040-A10-NTF: Intelligent aspiration with LED and LCD display, 40 point-addressable detection points. Covers 36,000 square feet. UL/ULC. *See DN-61036.* UL/ULC Listed.

DNR: InnovairFlex low-flow non-relay duct-detector housing. ULC: DNRA. (Order FSP-951R(A) separately.) See DN-60429.

DNRW: Same as above with NEMA-4 rating, watertight. *See* DN-60429.

B224RB-WH: White, low-profile relay base. *See DN-60054.* ULC: B224RBA-WH.

B224RB-IV: Ivory, plug-in System Sensor relay base. ULC: B224RBA-IV.

B224BI-WH: White, isolator base for low-profile detectors. *See DN-60054.* ULC: B224BIA-WH.

B224BI-IV: Ivory isolator detector base. ULC: B224BIA-IV.

B300-6: White, standard flanged low-profile mounting base. (For 10-pack order B300-6-BP.) ULC: B300A-6.

B300-6-IV: Ivory, standard flanged low-profile mounting base. ULC: B300A-6-IV.

B501-WHITE: European-style, 4" (10.16 cm) base. *See DN-60054.* (For 10-pack order B501-WHITE-BP.) UL/ULC listed.

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

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

B200S-WH: White, intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with synchronization protocol. See DN-60054. ULC: B200SA-WH.

B200S-IV: Ivory intelligent, programmable sounder base. ULC: B200SA-IV.

B200SCOA-WH: White intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO detectors. Based on B200SA. ULC listed.

B200SCOA-IV: Ivory intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO detectors. Based on B200SA. ULC listed.

B200S-LF-WH: White, low-frequency version of B200S. See DN-60054.

B200S-LF-IV: Ivory, low-frequency version of B200S.

B200SR-WH: White intelligent programmable sounder base, Temporal 3 or Continuous tone. For retrofit installations replacing B501BH series bases. *See DN-60054.* ULC: B200SRA-WH.

B200SR-IV: Ivory intelligent programmable sounder base, Temporal 3 or Continuous tone. For retrofit installations replacing B501BH series bases. ULC: B200SRA-IV.

B200SR-LF-WH: White, low-frequency version of B200SR. *See DN-60054.*

B200SR-LF-IV: Ivory, low-frequency version of B200SR.

FMM-1(A): FlashScan monitor module. *See DN-6720.*

FDM-1(A): FlashScan dual monitor module. *See DN-6720.*

FZM-1(A): FlashScan two-wire detector monitor module. *See DN-6720.*

FMM-101(A): FlashScan miniature monitor module. *See DN-6720.*

FMM-4-20: FlashScan 4-20 mA protocol monitor module. *See DN-60411.*

FTM-1(A): Firephone Telephone Module connects a remote firefighter telephone to a centralized telephone console. Reports status to panel. Wiring to jacks and handsets is supervised. *See DN-6989.*

FCM-1(A): FlashScan control module. *See DN-6724.*

FCM-1-REL(A): FlashScan releasing control module. *See DN-60390.*

FRM-1(A): FlashScan relay module. *See DN-6724.*

FDRM-1(A): FlashScan dual monitor/dual relay module. *See DN-60709.*

NBG-12LX: Manual pull station, addressable. *See DN-6726.*

N-MPS series: Manual pull stations, addressable and conventional. ULC-listed; for use in Canada only. *See DN-5497 and DN-60629.*
ISO-X(A): Isolator module. *See DN-2243.*

ISO-6(A): Six fault isolator module. *See DN-60844.*

XP6-C(A): FlashScan six-circuit supervised control module. *See DN-6924.*

XP6-MA(A): FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

XP6-R(A): FlashScan six-relay (Form-C) control module. *See DN-6926.*

XP10-M(A): FlashScan ten-input monitor module. *See DN-6923.*

Enclosures, Chassis, and Dress Plates

CAB-4 Series Enclosure: NFS2-3030 mounts in a standard CAB-4 Series enclosure (available in four sizes, "A" through "D"). Backbox and door ordered separately; requires BP2-4 battery plate. A trim ring option is available for semi-flush mounting. *See DN-6857.*

EQ Series Cabinets: EQ series cabinets will house amplifiers, power supplies, battery chargers and control modules. EQ cabinets are available in three sizes, "B" through "D". *See DN-60229.*

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Order CPU2-3030D-M; for non-English marine applications order CPU2-3030D and appropriate KP-KIT-XX. Also order **BB-MB** for systems using 100 AH batteries. For a full list of required and optional equipment, see DN-60688.

CHS-M3: Mounting chassis for CPU2-3030. One required for each CPU2-3030D/3030ND.

DP-DISP: Dress panel for top row in cabinet with CPU2-3030D installed.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier. *See DN-7046.*

CHS-BH1: Battery chassis; holds two 12.0 AH batteries. Mounts on the left side of DAA2 chassis. *See DN-7046.*

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC-EM and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional). *See DN-7045.*

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC-EM mounted on a half-chassis and one NFS2-3030 or NCA-2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2 assembly includes CMIC-1 microphone. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 (below).

ADDR-B4*: Two-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. *See DN-7045, DN-6857.*

ADDR-C4*: Three-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. *See DN-7045, DN-6857.*

ADDR-D4*: Four-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. *See DN-7045, DN-6857.*

***** Note: Use ADDR-B4/C4/D4 when CA-2 chassis is installed in top two rows with NCA-2 or BP-CA2. Use standard door when CA-2 is not installed in top two rows. For additional configuration information, see the DVC application guide on http://esd.notifier.com.

DPA-1: Dress panel, used with the CA-1 chassis when configured with a DVC-EM, DVC-KD, and CMIC-1. *See DN-7045.*

DPA-2: Dress Panel used with the CA-2 chassis assembly.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates. *See DN-7045.*

ADP-4B: Annunciator dress plate. Mounts in rows 2, 3 or 4 of a CAB-4 series enclosure. Used with ACS series annunciators.

BMP-1: Blank module for unused module positions.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier.

BP2-4: Battery plate, required.

CHS-4L: Low-profile four-position Chassis. Mounts two AA-30 amplifiers.

CHS-4N: Chassis for mounting up to four APS-6Rs.

CHS-6: Chassis used with the XP6 and XP10 Multi-Modules. Mounts up to six modules in any CAB-4 series row.

NFS-LBB: Battery Box. The NFS-LBB is used to mount up to two 55 AH batteries. Dimensions: Box: 24" (610 mm) wide x 14" (356 mm) high x 7.75" (197 mm) deep. Door: 24.125" (613 mm) wide x 14.25" (362 mm) high; door adds 0.0625" (approx. 1.6 mm) to depth.

BACKBOXES

NOTE: "C" suffix indicates ULC-Listed model.

ABF-1B(C) Annunciator Flush Box

ABF-1DB(C) Annunciator Flush Box with Door. UL/ULC Listed.

ABF-2B Annunciator Flush Box

ABF-2DB(C) Annunciator Flush Box with Door

ABF-4B Annunciator Flush Box

ABS-1TB(C) Annunciator Surface Box

ABS-1B(C) Annunciator Surface Box

ABS-2B Annunciator Surface Box

ABS-2D(C) Annunciator Surface Box

ABS-4D(C) Annunciator Surface Box

BB-100: Backbox for batteries and power supplies. The BB-100 mounts up to two 100 AH batteries and power supply, if needed. 30" (76.20 cm) wide x 25" (63.50 cm) high x 7.5" (19.05 cm) deep; depth includes door.

BB-200: Backbox for batteries and power supplies. Holds up to four 100 AH batteries (200 AH capacity) and power supply. 30" (76.20 cm) wide x 36" (91.44 cm) high x 7.5" (19.05 cm) deep; depth includes door.

BB-UZC: Backbox for housing the UZC-256 for applications where the UZC will not fit in panel enclosure. Black; for red, order BB-UZC-R. *See DN-3404*.

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-3030 and other equipment in CAB-4 Series Enclosures. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

OTHER OPTIONS

411: Slave digital alarm communicator. *See DN-6619.*

411UDAC: Digital alarm communicator. *See DN-6746.*

IPDACT-2, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See DN-60408.*

IPCHSKIT: IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto the panel chassis or CHS-4 series chassis. Use IPENC for external mounting applications.

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

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red; for black, order IPENC-B.

HWF2V-COM: LTE Digital Cellular Fire Alarm Communicator and Internet Panel, Verizon LTE / IP. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. *See DH-62010.* (For Canadian applications order IPGSM-4GC. *See DH-60771*.)

HWF2A-COM: LTE Digital Cellular Fire Alarm Communicator and Internet Panel, AT&T LTE / IP. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. (For Canadian applications order IPGSM-4GC. *See DH-60771*.)

NOTE: *For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

System Capacity

- Intelligent Signaling Line Circuits..... 1 expandable to 10
- Intelligent detectors .....159 per loop
- Addressable monitor/control modules .....159 per loop
- Programmable software zones.....over 2000
- ACS annunciators
  per CPU2-3030..... 32 address x 64 or 96 points
  NOTE: *The CPU2-3030 can support up to 96 annunciator address points per ACM-24AT/-48A.*

Electrical Specifications

Primary Input Power:

– AMPS-24: 110-120 VAC, 50/60 Hz, 4.5 A maximum.

– AMPS-24E: 240 VAC, 50/60 Hz, 2.25 A maximum.

DC Output:

– Main 24 VDC: Up to 5.0 A

– Aux 24 VDC: Up to 5.0 A

– 5 VDC: Up to 0.15 A.

Current draw (Standby/Alarm):

– CPU2-3030D board: 0.340 A.

– CPU2-3030ND board: 0.120 A.

– LCM-320: 0.130 A.

– LEM-320: 0.100 A.

– AMPS-24(E)*: 0.13 A.
(Draws power from secondary power source only.)

NOTE: *See AMPS-24(E) Manual 51907 for a complete current draw calculation sheet and details of input and output values.*

Battery charger range: 7 AH – 200 AH. Use separate cabinet for batteries over 26 AH.

Float Rate: 27.6 V.

Shipping Weight

- CPU2-3030D: 5.95 lb (2.70 kg).
- CPU2-3030ND: 2.90 lb (1.32 kg).

Temperature and Humidity Ranges

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

Agency Listings and Approvals

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.
- **ULC Listed:** S527-11.
- **MEA:** 232-06-E.
- **Fire Dept. of New York:** COA#6211.
- **CSFM:** 7165-0028:0224 (Commercial).
- **FM Approved.**
- **FM6320 Approved.** Class 6320 for Gas Detection.
- **City of Chicago.**
- **City of Denver.**
- **Singapore Productivity and Standards Board (PSB).**
- CCCF listed.
- **Fire Services Department (Hong Kong).**

Marine Applications: Marine approved systems must be configured using components itemized in this document. (See Main System Components, in “Product Line Information.) Specific connections and requirements for those components are described in the installation document, PN 54756. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/55/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/600013 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

NOTE: *For information on marine applications, see DN-60688.*

Standards

The NFS2-3030 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **UL 2572** (Mass Notification Systems). (NFS2-3030 version 20 or higher)
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual, Waterflow and Sprinkler Supervisory). *Not applicable for FM.*
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).

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.

Country of Origin: USA

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

NOTIFIER® by Honeywell

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

General

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

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

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

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

TYPICAL APPLICATIONS

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

Features

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

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

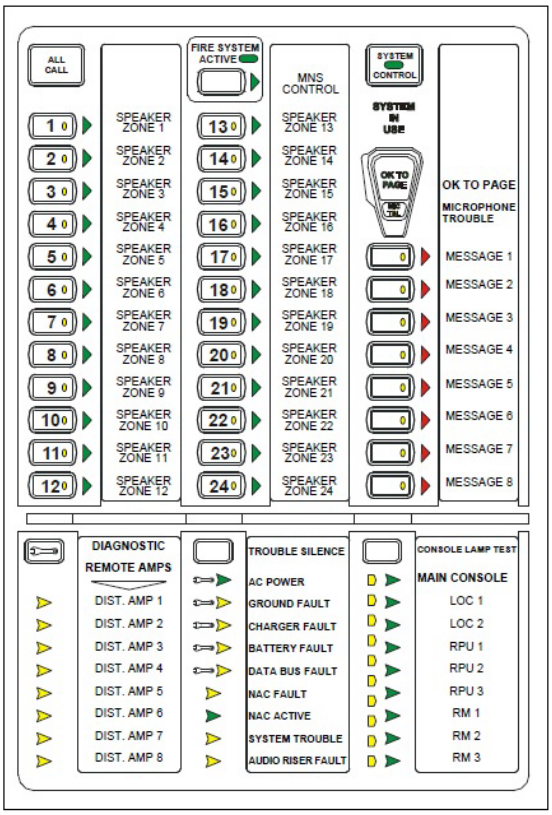
Optional Internal Expansion Modules

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

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

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

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



Control and Indicators

PUSH BUTTON CONTROLS

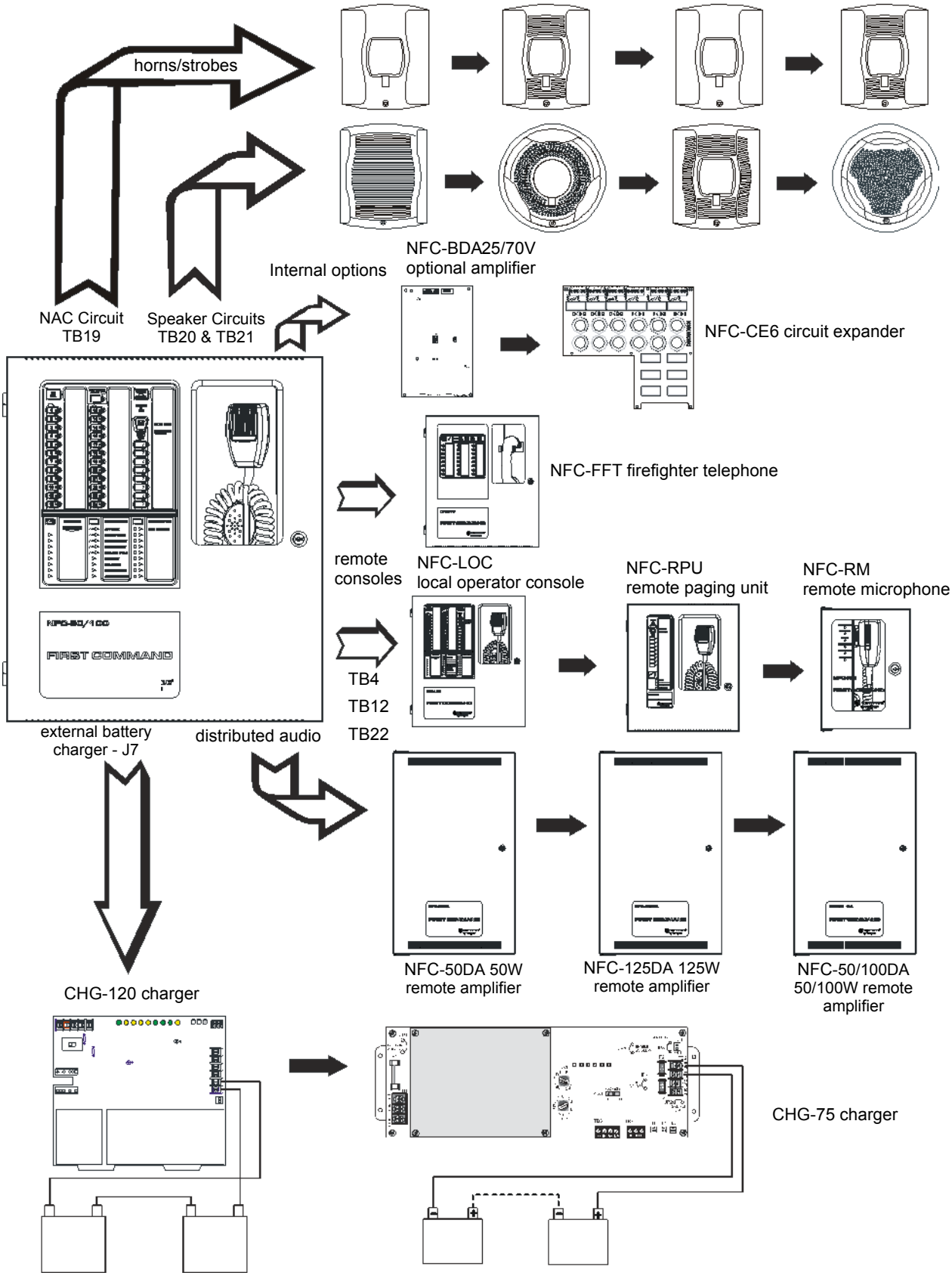
- All Call
- MNS Control
- System Control
- Speaker Select 1-24
- Message Select 1-14
- Diagnostic Select
- Trouble Silence
- Console Lamp Test

LED Status Indicators (visible with door closed)

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

LED Indicators (visible with door and dress panel open)

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



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

Product Line Information

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

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

NFC-CE6: Speaker Circuit/Zone Expander Module.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

N-FPJ: Remote Phone Jack.

FHS-F: Fire Fighters Remote Handset.

FHSC-R: Fire Fighters Handset Cabinet Recessed.

FHSC-S: Fire Fighters Handset Cabinet Surface Mount

TR-CE-B: Optional Trim Ring.

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

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

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

ECC-MICROPHONE: Replacement Microphone only.

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

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

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

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

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

Wiring Requirements

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

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

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

Total System Capacity: (Fully Loaded System)

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

Electrical Specifications

PRIMARY (AC) POWER (TB15)

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

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

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

SECONDARY POWER (BATTERY) CHARGING CIRCUIT (J7)

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

AC LOSS RELAY CONTACT RATING (TB3)

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

FORM C - TROUBLE RELAY CONTACT RATING (TB2)

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

MNS ACTIVE RELAY CONTACT RATING (TB1)

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

NOTIFICATION APPLIANCE CIRCUIT (NAC) OUTPUT RATING (TB19)

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

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

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

NAC FOLLOWER OUTPUT REMOTE SYNC (TB18)

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

SPECIAL APPLICATION POWER (AUX. POWER) (TB17)

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

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

SPEAKER VOLUME CONTROL OVERRIDE (TB23)

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

SPEAKER CIRCUITS

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

COMMAND INPUT CIRCUITS (ALARM POLARITIES SHOWN)

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

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

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

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

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

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

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

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

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

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

MAXIMUM INPUT IMPEDANCE:

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

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

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

EXTERNAL OPERATOR INTERFACE POWER OUTPUT (TB24)

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

EXTERNAL DATA BUS (EIA-485) (TB12)

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

FACP DATA BUS (EIA-485) (TB13)

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

Electrical Specifications Display Board

EXTERNAL AUDIO INPUT (TB5)

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

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

NFC-CE6 Circuit Expander Module Specifications

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

Cabinet Specifications

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

Shipping Specifications

Base Unit Weight: 27.85 lbs (12.63 kg).

Temperature and Humidity ranges

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

Agency Listings and Approvals

The listings and approvals below apply to the basic NFC-50/100(E) control panel. In some cases, certain modules may not be listed by certain approval agencies or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listed: S635
- CSFM: 6911-0028:0265
- NYC Fire Dept. Certificate of Approval: #6163

Standards and Codes

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

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

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: USA

NOTIFIER
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NOTIFIER® by Honeywell

LCD-160

Liquid Crystal Display

NOTIFIER® by Honeywell

Annunciator Control Systems

General

The LCD-160 is a 640-character Liquid Crystal Display (LCD) annunciator and remote control for the NOTIFIER NFS-3030/ NFS2-3030 Fire Alarm Control Panel (FACP). The LCD-160 will mimic the top portion (160 characters) of the NFS-3030/ NFS2-3030's 640-character display. This provides the event and preprogrammed custom messages as displayed on the main panel. The full screen contains soft key functions, and can display other panel information.

LCD-160 Features

- 640-character Liquid Crystal Display with backlit control.
- On-board input, output, and status indicators to support diagnostics.
- Software upgrades and foreign-languages character sets via serial port from a panel or other device using the Remote Data Port (RDP) interface. Upgrades do not require the replacement of any programmable devices.
- Rubberized keypad.
- Input for AKS-1B key switch.
- Fits in two ACS annunciator module locations.
- Display and Control Center (DCC) participation/indication.

RDP Interface

Any communication between the control panel and any RDP device, such as the LCD-160, occurs over an RDP interface.

- RDP interface communication is supervised by the FACP and the LCD-160.
- RDP bus can drive up to 32 RDP devices. The FACP must be at one end of the bus; the last RDP device on the circuit must have an enabled end-of-line resistor.
- Each LCD-160 on the bus requires a non-resettable 24 VDC power connection. The power circuit is inherently supervised and a loss of power registers as a communication failure at the control panel.
- The LCD-160 can be powered by a regulated remote power supply listed for fire-protective signaling use. If the 24 VDC power comes from a non-power-limited source, it must remain separate from the power-limited RDP bus.

Specifications

Input supply voltage (TB2): Regulated, filtered 24 VDC via non-resettable power supply interface listed for fire-protective signaling use. Sources can be: panels with integrated power supplies, main power supplies (AMPS-24, etc.), auxiliary power supplies (APS2-6R, etc.); or a compatible accessories output. If RDP devices are to be powered by separate power supplies, a common reference connection must be established.

Data communications port (TB1): Power-limited RDP interface.

Current draw: ***Standby current:*** 0.300 A with backlight on, 0.075 A with backlight off. ***Alarm current:*** 0.325 A with backlight on, all LEDs active.

RDP BUS WIRING SPECIFICATIONS

Wiring distance: 4000 feet (1219.2 m) at 18 AWG (0.78 mm²) between the panel and the last device on the RDP bus (subject to system's power restrictions).

Wiring size: 18 to 12 AWG (0.78 to 3.1 mm²) twisted-pair cable, with characteristic impedance of 120 ohms ± 20%.

Wire resistance: Limit total wire resistance to 100 ohms on the RDP bus, and 10 ohms on the RDP device power circuit. Unloaded resistance between RDP connectors must be greater than 1K ohm. A remote power supply is required if total power wiring resistance exceeds 10 ohms.

***NOTE: 1) DO NOT RUN CABLE** adjacent to, or in the same conduit as: 120 VAC service; "noisy" electrical circuits that are powering mechanical bells or horns; audio circuits above 25 Vrms; motor control circuits; SCR power circuits; or non-power-limited circuits. 2) Refer to LCD-160 Manual, document no. 51850, if RDP devices are to be mounted in **SEPARATE CABINETS** or powered by **REMOTE POWER SUPPLIES**.*

PHYSICAL SPECIFICATIONS

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

Shipping weight: 2.50 lb. (1.134 kg)

LCD-160 Interface and Indicators

The liquid crystal display is 40 characters wide and 16 lines deep, and displays all programming screens and other information. The keypad is functional only when an entry is requested by the system. Enter or change fields and issue commands on the display by using the two types of keys on the keypad: fixed function and soft keys.

Fixed function keys are the ten keys labeled on the front of the LCD-160, operating at all times on all screens unless otherwise noted. With both an active command center and DCC enabled at the panel, Acknowledge, Signal Silence, System Reset, and Drill require permission before they can be processed.

Acknowledge: Press to respond to any event or trouble signal. If enabled, silences the LCD-160 piezo sounder. Sends an acknowledge message to the panel.

Signal Silence: Press to send a system silence command to the panel, with the particular silencing action information stored at the FACP. Verification screen appears on networked displays.

System Reset: Press to send a system reset command to the panel, with the particular reset action information stored at the FACP. Verification screen appears on networked displays.

Drill: Press (hold for two seconds) to activate all silenceable fire output circuits.

Lamp Test: Press to test the LED indicators and the piezo, or display firmware version numbers.

Fire Alarm: Scroll/display a list of associated events.

Security: Scroll/display a list of associated events.

Supervisory: Scroll/display a list of associated events.

Trouble: Scroll/display a list of associated events.

Other Event: Scroll between prealarm and disabled events.

For complete information on key functions and effects on different panels, refer to the ***LCD-160 Manual*** and panel manuals.

Soft keys are the six keys to the right and left of the display. Use them to select commands that appear on the display for each different screen. Refer to the screens in the ***LCD-160 Manual*** for descriptions of the applicable soft keys.

STATUS LED INDICATORS

Power ***(green)*** illuminates when AC power is within normal operating limits.

Fire Alarm ***(red)*** illuminates when at least one fire alarm event exists. It will flash if any of these events are unacknowledged.

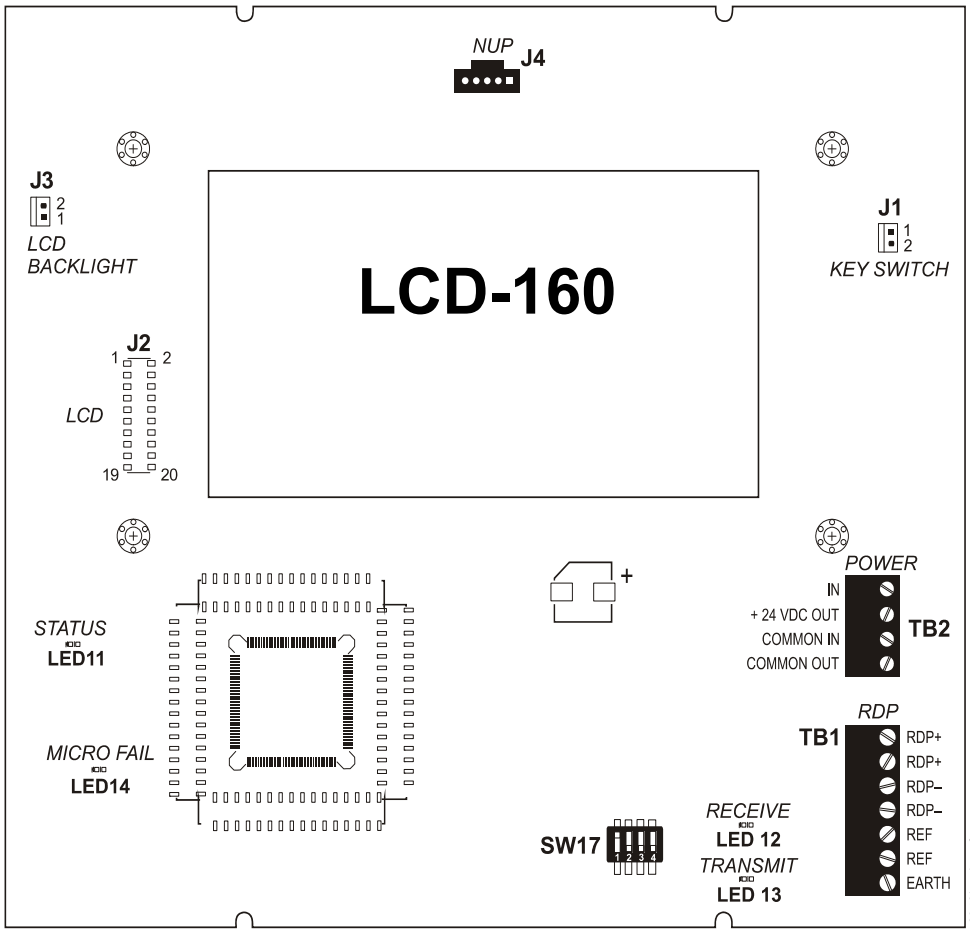
Pre-Alarm ***(red)*** illuminates when at least one pre-alarm event exists. It will flash if any of these events are unacknowledged.

Security ***(blue)*** illuminates when at least one security event exists. It will flash if any of these events are unacknowledged.

Supervisory ***(yellow)*** illuminates when at least one supervisory event exists. It will flash if any of these events are unacknowledged.

System Trouble ***(yellow)*** illuminates when at least one trouble event exists. It will flash if any of these events are unacknowledged.

Other Event ***(yellow)*** (future release).



Signals Silenced ***(yellow)*** illuminates if notification appliances have been silenced. It flashes if some, but not all, of the NACs have been silenced.

Point Disabled ***(yellow)*** illuminates when at least one device has been disabled. It will flash until all disabled points have been acknowledged.

Controls Active ***(green)*** illuminates when the LCD-160 assumes control of the node as a primary display.

DIAGNOSTIC LED INDICATORS

Status, LED11 ***(green)***, blinks when the LCD-160 is on. Visible to the installer/troubleshooter only.

Receive, LED12 ***(green)***, blinks when data is received from the panel. Visible to the installer/troubleshooter only.

Transmit, LED13 ***(green)***, blinks when data is transmitted to the panel. Visible to the installer/troubleshooter only.

Microfail, LED14 ***(yellow)***, illuminates if the microcontroller fails. Visible to the installer/troubleshooter only.

Event Handling and the Display and Control Center

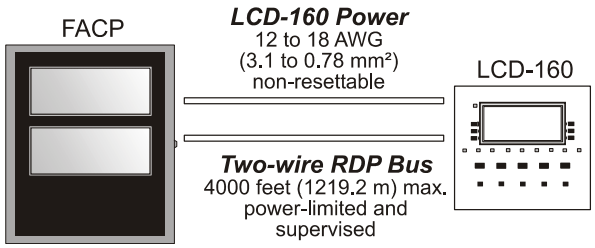
UL and ULC require that when multiple command and control centers are installed, only one operator at any location can be in control at any given time for functions such as acknowledge, silence, and reset. This is called the Display and Control Center (DCC). DCC operation provides a mechanism to pass network control to alternate network control centers. This protocol allows for a "request for control" from another networked panel, which will be accepted or rejected from the current DCC. A 15-second time-out allowance provides for an automatic passing of control in the event there is no response from the original DCC. If the NFS-3030/NFS2-3030 panel associated with an LCD-160 has been programmed to participate in DCC, all remote displays with Local Control ON will automatically participate.

Agency Listings and Approvals

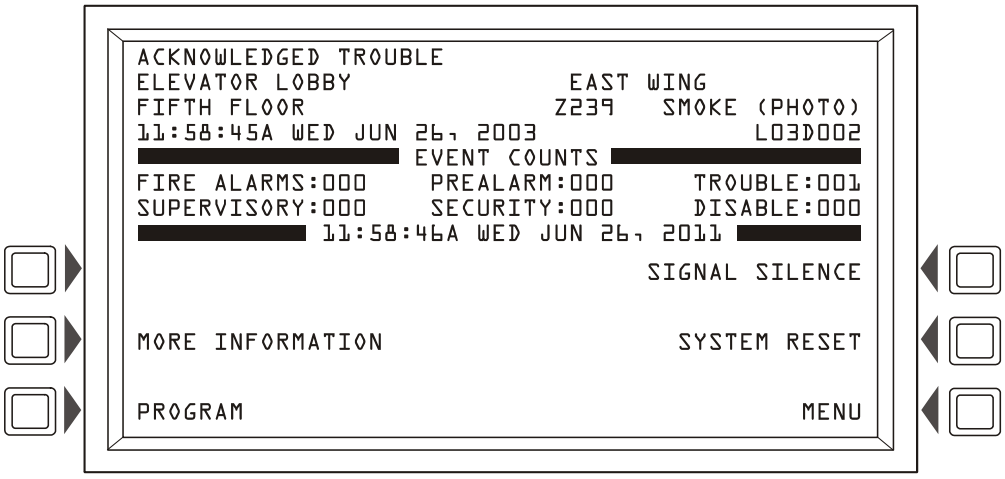
These listings and approvals apply to the LCD-160. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** S527-11.
- **MEA:** 8-04-E (annunciator only)
- **FDNY:** COA#6211 (with NFS2-3030)
- **CSFM:** 7120-0028:0227, 7165-0028:0224
- **FM Approved**

RDP Bus Wire Runs



Sample Screen: Point Event Display



Product Line Information

LCD-160: 640-character Liquid Crystal Display annunciator. LCD-160C for ULC applications.

Backboxes

"C" suffix indicates ULC-Listed model.

The following backboxes can be surface- or semi-flush-mounted to provide an enclosure for remote mounting. Use with 1/2" (1.27 cm) conduit in the provided knockouts.

ABS-2D(C) (black) and ABS-2DR (red): Surface- or semi-flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's hinged dress plate. The ABS-2D and ABS-2DR do NOT support the installation of the AKS-1B key-switch. Not for use in Canadian applications. Optional trim ring **TR-ABS2D** for semi-flush mounting. ***Dimensions, box:*** 12.0" (30.480 cm) H x 12.0" (30.480 cm) W x 3.797" (9.644 cm) D (NOTE: The black ABS-2D is slightly deeper). ***Dimensions, door:*** 12.0" (30.480 cm) H x 12.0" (30.480 cm) W x 1.250" (3.175 cm) D.

ABS-4D(C) (black) and ABS-4DR (red): Surface- or semi-flush enclosure for remote mounting. Mounts an LCD-160 and two annunciators directly to the enclosure's hinged dress plate. The ABS-4D and ABS-4DR do NOT support the installation of the AKS-1B key-switch. ***Dimensions, box:*** 11.97" (30.40 cm) H x 19.87" (50.47 cm) W x 3.5" (8.89 cm) D. ***Dimensions, door:*** 11.97" (30.40 cm) H x 19.87" (50.47 cm) W x 1.250" (3.175 cm) D.

ABF-2B: Black flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's dress plate. Not for use in Canadian applications. Includes a painted black metal trim plate [11" (27.94 cm) high x 10.625" (26.99 cm) wide] and adhesive-backed annunciator label. 9.938" (25.24 cm) high x 9.188" (23.34 cm) wide x 3.75" (9.525 cm) deep.

ABF-2DB(C): Black flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's dress plate. Does not support the installation of AKS-1B. Box dimensions: 9.938" (25.24 cm) high x 9.188" (23.24 cm) wide x 3.75" (9.525 cm) deep.Door dimensions: 11" (29.94 cm) high x 10.375" (26.35 cm) wide x 0.75" (1.9 cm) deep.

ABF-4B: Black flush enclosure for remote mounting of one LCD-160 and two annunciator modules directly to the enclosure's dress plate. Knockouts are provided for use with 1/2" (1.27 cm) conduit. Includes a painted black metal trim plate [11" (27.94 cm) high x 19.375" (49.21 cm) wide] and an annunciator label. 9.938" (25.24 cm) high x 17.75" (45.09 cm) wide x 2.5" (6.35 cm) deep.

ABF-1DB(C): Semi-flush box with alternative smoked-glass door, any keylock.

ABF-1B(C): Annunciator flush box, 9.938" (25.24 cm) high, 4.625" (11.75 cm) wide, and 2.5" (6.35 cm) deep. Order AKS-1B key switch and APJ-1B phone jack if desired. Can also be mounted in ABF-2B or ABF-4B annunciator backboxes.

ABS-1TB(C): Deep surface backbox (mounts one LCD2-80).

ABS-1B(C): The Annunciator Surface Box-1B (black) provides for the remote mounting of one annunciator module in a surface-mount enclosure. Knockouts are provided for use with 1/2" (1.27 cm) conduit. The annunciator mounts directly to the ABS-1B/C without a dress plate. 8.5" (21.59 cm) high x 4.5" (11.43 cm) wide x 2" (5.08 cm) deep. ***NOTE:*** *The ABS-1B will not support the installation of the AKS-1B Annunciator Key Switch.*

CAB-4 Series cabinets: Surface- or semi-flush-mounted, in sizes to accommodate one to four rows of equipment plus batteries (up to two 26 AH batteries). Four sizes are available. Doors are ordered separately, and feature reversible hinges to mount doors on the left or right side. Doors also open a full 180°. Keylocks are included. For dimensions and further information, see datasheet DN-6857.

ACCESSORIES

DP-DISP: Dress Panel Display for cabinet mounting of an LCD-160. LCD-160 mounts directly to the dress panel, which hinge-mounts to the top tier of a CAB-4 Series backbox.

ADP-4B: Annunciator Dress Panel-4B (black) for cabinet mounting of an LCD-160. LCD-160 mounts directly to the dress panel, which hinge-mounts to the tier of a CAB-4 Series backbox.

TR-ABS2D: Optional trim ring for semi-flush mounting ABS-2D(R).

VP-2B: Vented Dress Panel for use with the ADP-4B dress panel installed in the top tier of a NOTIFIER cabinet. It covers the gap between the dress panel and top of the cabinet.

AKS-1B: Annunciator Key Switch provides access security for the control switches on the LCD-160. Key-switch kit includes key, hardware, and an annunciator label.

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.

Country of Origin: USA

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

NFC-RM

Notifier FirstCommand Remote Microphone

NOTIFIER® by Honeywell

Emergency Voice Evacuation

General

Notifier's FirstCommand NFC-RM is an optional Remote Microphone that is compatible with the NFC-50/100(E) Emergency Voice Evacuation for fire protection applications. It is part of a family of external remote consoles that allows for extending the operator interface to remote locations within a building. It is housed in a cabinet with a keyed lock to limit access to qualified personnel.

The NFC-RM remote microphone allows for ALL CALL paging to be broadcast over the speaker circuits when depressing the microphone's push-to talk switch. The RM requires an external data bus connection, an external audio riser connection, and an external operator interface power connection (24 Volts DC) from the NFC-50/100 main console.

Typical Applications

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

Features

- External remote console that provides ALL CALL paging broadcasts over the speaker zones of the NFC-50/100(E) primary operating console.
- Modular design for maximum system flexibility and easy expansion.
- Supports both Class A (Style Z) and Class B (Style Y) wiring.
- A maximum of eight NFC-RMs can be connected to an NFC-50/100(E) primary operating console.
- Built-in microphone with push-to-talk feature that can be used for ALL CALL paging.
- Sturdy cabinet design with a keyed lock to prevent unauthorized access. Optional thumb lock is available.
- Simple and straightforward user interface.

Electrical Specifications

Primary Power Requirements:

Voltage 24VDC non-resettable power from the NFC-50/100(E). External Operator Interface Power **(**Non-supervised).

See NFC-50/100(E) Product Manual P/N LS10001-001NF-E for standby and alarm current requirements as well as battery calculations.

Wiring Requirements

See Product Installation Document PN: LS10029-000FL-E for detailed wiring requirements.

Agency Listings and Approvals

The listings and approvals below apply to the NFC-RM Remote Microphone. 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

CSFM: 6912-0028:0268

FDNY: COA #6163

Standards and Codes

The NFC-RM complies with NFPA 101 Life Safety Code and with the following UL Standards and with NFPA 72 Fire Alarm system requirements.

UL 864.

Temperature and Humidity ranges

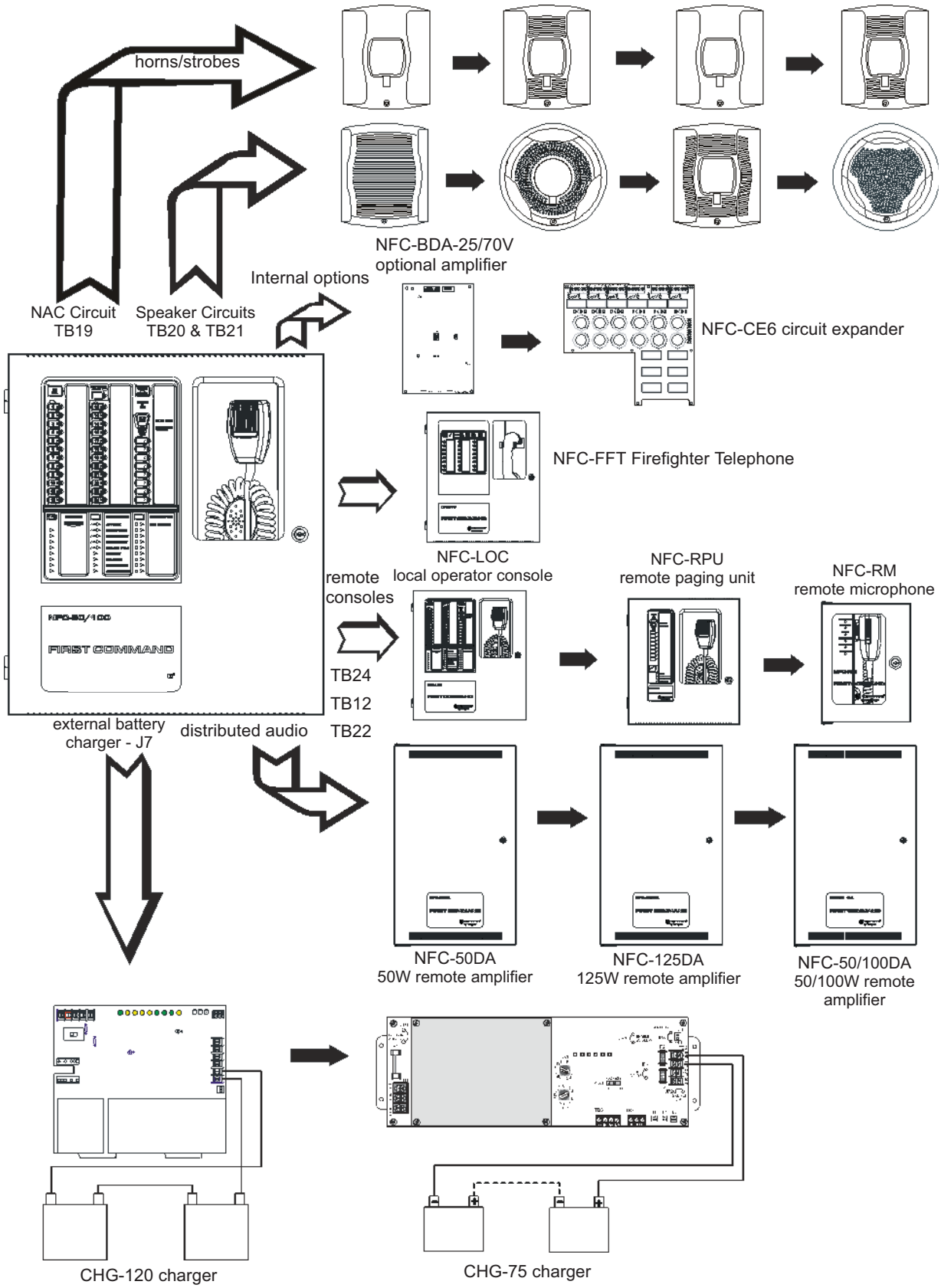
This system meets NFPA requirements for operation at 0-49º C/32-120º F and at a relative humidity 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and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

Cabinet Specifications

8.3" (21.082 cm) high x 6.080" (15.44 cm) wide x 4.337" (11.02 cm) deep (Door attached and closed).

Shipping Specifications

Weight: 4 lbs (1.81 kg).



NFC-50/100(E) FirstCommand (Possible Configurations)

Control and Indicators

PUSH BUTTON CONTROLS

- Microphone
- Push to talk switch

LED STATUS INDICATORS (VISIBLE WITH DOOR CLOSED)

- System in Use (green)
- OK to Page (green)
- AC Power (green)
- Data Trouble (yellow)
- Audio Trouble (Yellow)
- Microphone Trouble (yellow)

Product Line Information (Ordering Information)

NFC-RM: Remote Microphone only.

NFC-50/100: (Primary operating Console) 50 Watt, 25VRMS single speaker zone emergency voice evacuation system, Integral microphone, built in tone generator and 14 recordable messages. *Please refer to the data sheet DN-60772 for more information.*

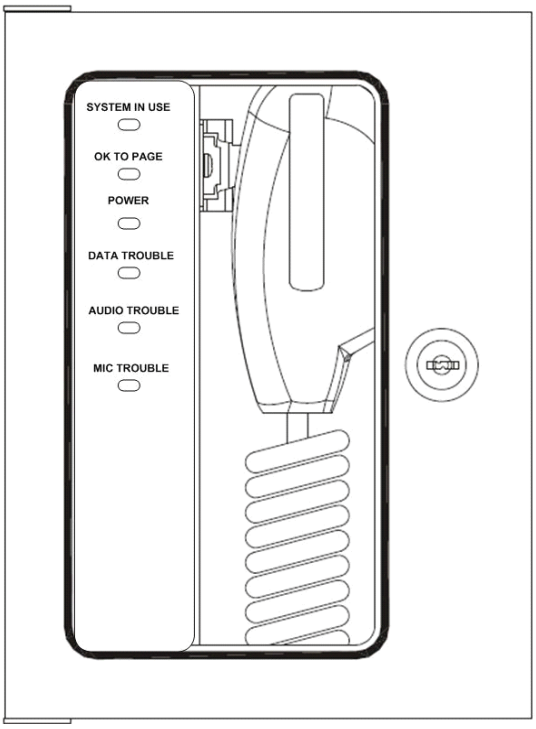
NFC-50/100E: Export version (Primary operating Console) 50 Watt, 25VRMS single speaker zone emergency voice evacuation system, Integral microphone, built in tone generator and 14 recordable messages, 240 VAC, 50Hz. *Please refer to the data sheet DN-60772 for more information.*

N-FPJ: Remote Phone Jack.

ECC-MICROPHONE: Replacement Microphone Only.

CHG-75: 25 to 75 ampere-hours (AH) external battery charger**.**

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



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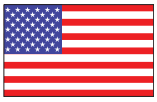


Assembled in the USA

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

NOTIFIER® by Honeywell

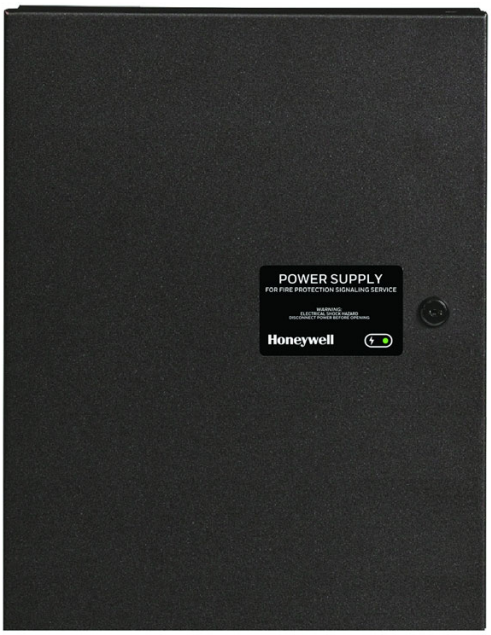
HPF-PS6/HPF-PS10 Series 6/10 Amp, 24 Volt Power Supplies

General

The HPF-PS Series is a remote power supply line from Honeywell and is a direct replacement for the PSE and FCPS Series. The HPF-PS6(B)(E) is a 6 amp and the HPF-PS10(B)(E) is a 10 amp, remote power supply with battery charger that may be connected to any 12 or 24 volt fire alarm control panel (FACP) or used as a stand-alone power supply. The HPF-PS Series provides 24 VDC power for NACs (notification appliance circuits) configured as either Class B or Class A (requires the ZNAC-PS option card) with multiple sync protocol options. The HPF-PS Series also provides auxiliary power, constant or resettable, suited for detectors, annunciators, door holders, and other fire alarm system peripherals. The HPF-PS Series cabinet can hold two 7 AH or 18 AH batteries and can charge up to 33 AH batteries in a separate cabinet. The HPF-PS6E and HPF-PS10E are models rated for 240V operation.

Features

- Up to five (6 amp model) or seven (10 amp model) independently-configurable, power-limited output circuits for:
  - Class B and/or Class A NACs
  - Class B and/or Class A resettable or non-resettable 24V auxiliary power
  - door holder power
- Converts from Class B to Class A wiring without losing any outputs using the ZNAC-PS converter card (sold separately)
- Optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated power
- Configurable for ANSI® Temporal 3 or Temporal 4 coded output
- UL-Listed NAC synchronization using System Sensor®, Wheelock®, Gentex®, or AMSECO® appliances
- Synchronization can be triggered from FACP NAC/remote sync outputs, cascaded power supply, or a control module, single or multi, which may be housed within the power supply cabinet
- Ability to cascade up to four power supplies
- Two (6 amp model) or three (10 amp model) fully-isolated input/control circuits which can be programmed to any output
- Two Form C normally-closed trouble relays for AC Trouble and General Trouble, Ground Fault relay available on Canadian models only
- 6 or 10 amp full load output, respectively, with 3 A maximum/circuit
- Individual NAC power and trouble LEDs for diagnostic efficiency
- Trouble history modes for diagnostic support
- Wide range end-of-line supervision value (normal: 2K-27K ohms)
- Selectable earth fault detection (enable or disable)
- AC trouble report delay timer
- Completely configurable via onboard DIP switches, no extra software required
- Self-contained in compact, locking cabinet constructed of heavy gauge steel with a corrosion-resistant powder coat chip and scratch-resistant finish
- Cabinet designed with ten double knockouts and a removable door for ease of installation and wiring
- Includes integral battery charger capable of charging up to 33 AH batteries
- Cabinet can house two 7 AH or 18 AH batteries



- Battery charger may be disabled via DIP switch for applications requiring larger batteries and external battery charger
- Removable terminal blocks accommodate up to 12 AWG ($3.1mm^2$) wire
- Works with any UL 864 FACP which utilizes an industry-standard reverse-polarity notification circuit
- Optional devices include addressable control, monitor, and relay modules and power-supervision relay (EOLR-1)

Standards and Codes

The HPF-PS Series comply with the following standards:

- **NFPA 72** National Fire Alarm Code
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode), 10th Edition
- **UL 1481** Power Supplies for Fire Alarm Systems
- **IBC 2009** (when using SEISKIT-MULTI-1)
- **CBC 2007** (when using SEISKIT-MULTI-1)

Agency Listings and Approvals

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:** S24562 (HPF-PS/E Series), S635, S674 (PSE Series, discontinued)
- **ULC Listed:** S24562 (HPF-PS Series), S635 (PSE-6C/PSE-10C discontinued)
- **CSFM Approved:** 7315-1637:0505 (HPF-PS Series), 7315-0028:0513 (PSE Series, discontinued)
- **FDNY COA:** 2022-TMCOAP-002231-AMND (HPF-PS Series), 2021-TMCOAP-001761-CERT (PSE Series, discontinued)
- **FM Approved**

Primary (AC) Power:

- **HPF-PS6(B):** 120 VAC, 50/60 Hz, 5.0A maximum
- **HPF-PS10(B):** 120VAC, 50/60 Hz, 6.2 A maximum
- **HPF-PS6E:** 240 VAC, 50/60 Hz, 2.7A maximum
- **HPF-PS10E:** 240 VAC, 50/60 Hz, 3.5A maximum
- **Wire Size:** #12-14 AWG with 600 V insulation

Command 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: 4 A at 24 VDC

Output Circuits:

- 24 VDC filtered, regulated
- HPF-PS6(B): TB8-TB9 – 1A Regulated, 3A special applications; TB10-TB12 – 0.3A Regulated, 3A special applications
- HPF-PS10(B): TB8-TB11 – 1.5A Regulated, 3A special applications; TB12-TB14 – 0.3A Regulated, 3A special applications
- 6.0 A (HPF-PS6) or 10.0 A (HPF-PS10) maximum total continuous current for all outputs

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 (inside cabinet)
- Maximum battery charging capacity: 33 AH (external cabinet)

Physical:

- **Dimensions:** 20.0”H x 14.5”W x 3.5”D (cm: 50.8H x 36.83W x 8.9D)
- **Weight:** with two 7Ah batteries is 24 pounds (10.9 kg), with two 18 AH batteries is 39 pounds (17.7 kg)

Ordering Information

HPF-PS6: 6.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure, red

HPF-PS6B: 6.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure, black

HPF-PS6E: 6.0 A, 240 VAC remote charger power supply in a lockable, metal enclosure, red

HPF-PS10: 10.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure, red

HPF-PS10B: 10.0 A, 120 VAC remote charger power supply in a lockable, metal enclosure, black

HPF-PS10E: 10.0 A, 240 VAC remote charger power supply in a lockable, metal enclosure, red

ZNAC-PS: Optional Class A output converter module

50152254-001: Hardware kit for Canadian applications

17045: Alternate NOTIFIER lock set

FCM-1: Addressable Control Module for one Class B or Class A zone of supervised, polarized Notification Appliances. Notification Appliance Circuit option requires external 24 VDC to power notification appliances.

FRM-1: Addressable relay module containing two isolated sets of Form-C contacts, which operate as a DPDT switch

FMM-1: Addressable Monitor Module for one zone of normally open dry-contact initiating devices. Includes plastic cover plate and end-of-line resistor. Module may be configured for either a Class B or Class A IDC.

FDM-1: Dual Monitor Module. Same as FMM-1 except it provides two inputs for Class B wiring only

FDRM-1: Provides two monitored inputs and two Form-C relays. Functions in Class B wiring only.

XP6-C: Six-circuit supervised control module

XP6-R: Six Form-C relay control module

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

BAT-1270-BP: Battery, 12 volt, 7.0 AH, 5-pack (two required, see BAT Series data sheet DN-6933).

BAT-12180-BP: Battery, 12 volt, 18AH, 2-pack

BAT-12330: Battery, 12 volt, 33AH

SEISKIT-MULTI-1: Seismic kit for the HPF-PS Series. Includes bracket and hardware for two 7AH or two 18AH batteries.

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: USA

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

NOTIFIER® by Honeywell

LCM-320 and LEM-320

Loop Control and Expander Modules

NOTIFIER® by Honeywell

Intelligent Fire Alarm Control Panels

General

The LCM-320 Loop Control Module and the LEM-320 Loop Expander Module provide NOTIFIER's ONYX® Series of Fire Alarm Control Panels (FACPs) with Signaling Line Circuits (SLCs). The ONYX® Series NFS-640/NFS2-640 supports one LEM-320; the NFS-3030/NFS2-3030 supports up to five LCM-320s and five LEM-320s. The LEM-320 module is used to expand the NFS-640/NFS2-640 to a second loop, and to expand each LCM-320 used on the NFS-3030/NFS2-3030 — each NFS-3030/NFS2-3030 LCM-320 supports an expansion LEM-320.

Features

- Up to 12,500 feet (3,810 m) on a Class B (Style 4) SLC loop (twisted-unshielded).
- Built-in degraded mode increases survivability.
- Very simple installation — plug-in style.
- Permits multiple loops in small enclosure.

Specifications

Voltage: 24 VDC nominal, 27.6 VDC maximum.

Maximum loop length: The maximum wiring distance of an SLC using 12 AWG (3.1 mm²) twisted-pair wire is 12,500 feet (3810 m) per channel. For a twisted-unshielded pair, 12 AWG (3.1 mm²) to 18 AWG (0.78 mm²):

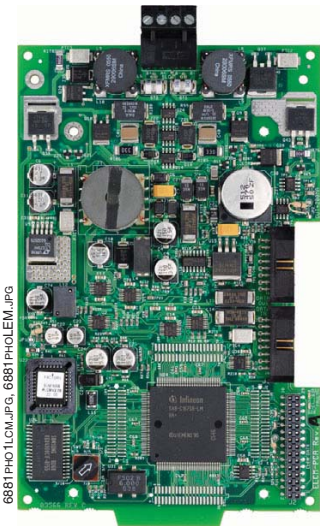
- Distance with 12 AWG: 12,500 ft (3,810 m).
- Distance with 14 AWG: 8,000 ft (2,438 m).
- Distance with 16 AWG: 4,875 ft (1,486 m).
- Distance with 18 AWG: 3,225 ft (983 m).
- 50 ohms maximum per length of Style 6 & 7 loops.
- 50 ohms maximum per branch for Style 4 loop.

Maximum current: for LCM-320: 130 mA; **for LEM-320:** 100 mA; **for single SLC loop:** 400 mA maximum.

NOTE: *Maximum short circuit — loop will shut down until short-circuit condition is corrected.*

Maximum resistance: 50 ohms (supervised and power-limited).

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



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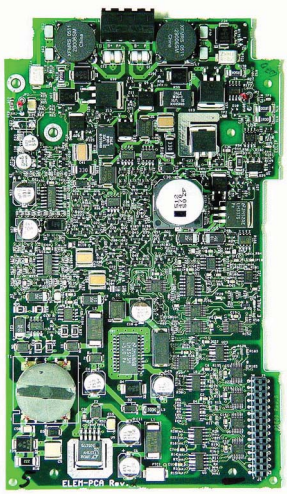
Loop Control Module



Loop Expander Module

Product Line Information

LCM-320: Loop Control Module. Adds SLCs to NFS-3030/NFS2-3030; NFS-3030/NFS2-3030 supports up to five LCM-320s and five LEM-320s.

LEM-320: Loop Expander Module. Expands each LCM used on the NFS-3030/NFS2-3030; expands NFS-640/NFS2-640 to two loops.

Agency Listings and Approvals

The listings and approvals below apply to the basic LCM-320 and LEM-320. 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/CS118
- **FM Approved**
- **CSFM:** 7165-0028:224, 7170-0028:223 (LCM/LEM-320 with NFS-3030/NFS2-3030). 7165-0028:214, 7170-0028:216 (LEM-320 with NFS-640). 7165-0028:243, 7170-0028:244 (LEM-320 with NFS2-640).
- **FDNY:** COA#6025 (LEM-320 with NFS2-640)
- FDNY: COA#6026 (LCM-320/LEM-320 with NFS2-3030)
- **City of Denver**
- **Hong Kong**

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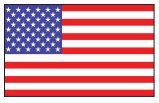


Made in the U.S. A.

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

AMPS-24/E

Power Supply

for the NFS-3030, NFS2-3030 and NCA-2

NOTIFIER® by Honeywell

CatalogSection

General

NOTIFIER's AMPS-24/E is an addressable power supply and battery charger with up to three 24 VDC outputs. It operates in either FlashScan® or CLIP (Classic Loop Interface Protocol) mode with the NFS-3030/NFS2-3030 Fire Alarm Control Panel (FACP). It can also be used as the primary power supply for the NCA-2 Network Control Annunciator.

Features

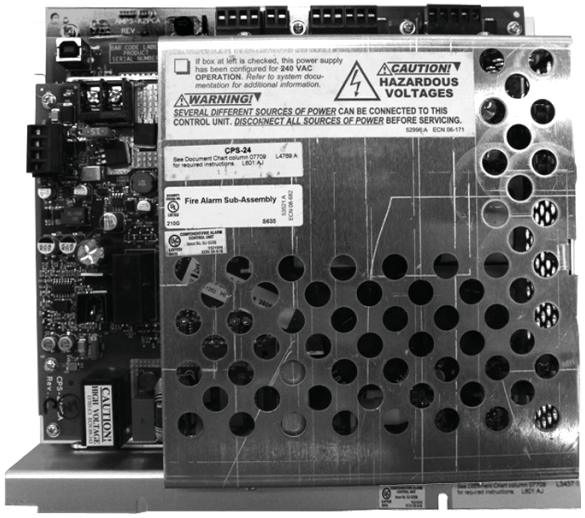
- Addressable by NFS-3030/NFS2-3030 FACP.
- Selectable charging current charges 7 AH to 200 AH batteries.
- Isolated Signaling Line Circuit (SLC) interface.
- Trouble bus input for use with normally-open dry contacts or open-collector circuit.
- USB Type B connector for programming installation parameters.
- Brownout detection.
- Battery/battery charger supervision.
- Secondary Power Auxiliary Outputs: 24V @ 0.5A and 5V @ 0.15A.
- AC loss detection and AC loss delay reporting.
- Mounts in a CAB-4 Series enclosure, EQ Cabinet Series enclosure, BB-25, BB-100, or BB-200 Battery Backbox.

Specifications

- Primary (AC) power:
  AMPS24: 110-120 VAC 50/60 Hz input, 5 A maximum;
  AMPS24E: 220-240 VAC 50/60 Hz input, 2.5 A maximum.
- MAIN 24V Output - filtered power-limited power. Refer to table for configuration/current information.

Charger Setting/ Battery Size	Main 24V (TB 1 on Main Control Unit) Max. Current	*Total AUX 24V (TB3 on Main Control Unit with TB2 on CPS-24) Max. Current
1A/7-26AH Batteries	5A	3A
2A/12-60AH Batteries	5A	3A
5A/55-200AH Configuration 1 Configuration 2	5A 3A	0A 1A
Disabled	5A	5A
* Maximum current for all AUX 24 volt outputs. Note that TB2 on CPS-24 is limited to 0.5A.		

- AUX 24V - provides filtered power-limited power for additional components. Refer to table above for configuration/current information.
- Secondary power (battery) charging circuit: Current-limited, sealed lead-acid battery charger which will charge 7 to 200 AH batteries.
  Selectable charging current: 1.0 A, 2.0 A or 5.0 A.
- Secondary power auxiliary outputs.
- Wire sizes: 10 AWG (5.26 mm²) to 22 AWG (0.326 mm²).
- Battery fuse (F2): 15 A, fast-acting.
- Shipping Weight: 4.25 lb



Agency Listings and Approvals

These listings and approvals apply to the AMPS-24/E power supply. 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:** CS118
- **City of Chicago**
- **City of Denver**
- **MEA:** 345-02-E
- **CSFM:** 7165-0028:224
- **FM:** Approved
- **FDNY:** #6026

Product Line Information

AMPS-24: Addressable power supply/battery charger

AMPS-24E: Same as AMPS-24: 220-240VAC operation

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www.notifier.com

Made in the U.S. A.

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

Control and Relay Modules

NOTIFIER® by Honeywell

Intelligent / Addressable Devices

General

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

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

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

FCM-1(A)

Features

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop. The FCM-1(A) module requires power (for horns, strobes, etc.), or audio (for speakers).
- Integral LED “blinks” green each time a communication is received from the control panel and turns on in steady red when activated.
- LED blink may be deselected globally (affects all devices).
- High noise immunity (EMF/RFI).
- The FCM-1(A) may be used to switch 24-volt NAC power, audio (up to 70.7 Vrms).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address 01– 159 for FlashScan loops, 01 – 99 for CLIP mode loops.
- Speaker, and audible/visual applications may be wired for Class B or A (Style Y or Z).

Applications

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

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

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address (01-159).
- The FCM-1(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The FRM-1(A) provides two Form-C dry contacts that switch together.

Operation

Each FCM-1(A) or FRM-1(A) uses one of 159 possible module addresses on a SLC loop (99 on CLIP loops). It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay. The FCM-1(A) supervises Class B (Style Y) or Class A (Style Z) notification or control circuits.

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

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

Specifications for FCM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

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

Maximum NAC Line Loss: 4 VDC.

External supply voltage (between Terminals T10 and T11): Maximum (NAC): Regulated 24 VDC; Maximum (Speakers): 70.7 V RMS, 50W.

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

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

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

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

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

Accessories: SMB500 Electrical Box; CB500 Barrier

Specifications for FRM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

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

EOL resistance: not used.

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

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

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

Accessories: SMB500 Electrical Box; CB500 Barrier

Agency Listings and Approvals

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

- **UL:** S635
- **ULC:** S3705 (A version only)
- **FM Approved**
- **CSFM:** 7300-0028:0219
- **MEA:** 14-00-E
- **FDNY:** COA #6067, #6065

Contact Ratings for FRM-1(A)

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

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

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

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

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

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

SMB500: Optional Surface-Mount Backbox.

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

NOTE: *For installation instructions, see the following documents:*

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

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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

Made in the U.S. A.

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

DNR(A) and DNRW Intelligent Photoelectric Duct Detectors

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

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

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

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

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

Features

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

Specifications

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

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

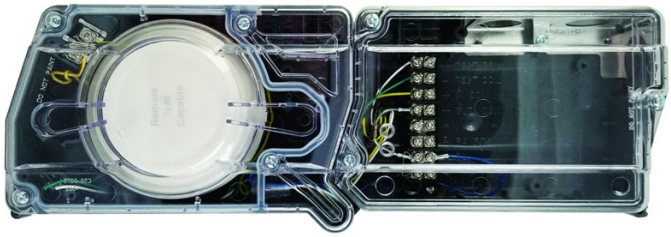
Weight: 1.6 lb (0.73 kg)

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

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

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

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



Accessories

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

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

ACCESSORY CURRENT LOADS AT 24 VDC

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

Agency Listings and Approvals

Consult product manual for lists of compatible UL-Listed devices. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635, S3705
- **ULC:** S635
- **CSFM:** 3240-1653:0209
- **FM approved**

Product Line Information

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

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

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

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

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

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

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

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

DUCTCOV: Retrofit DNR cover for manufactured prior to April 2014

DUCTCOVW: Retrofit DNRW cover for manufactured prior to April 2014

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

DST1.5(A): Metal sampling tube duct widths up to 1 ft – 2 ft (0.3 – 0.6 m)

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

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

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

DH400OE-1: Weatherproof enclosure

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

M02-04-00: Test magnet

P48-21-00: End cap for metal sampling tubes

RA100Z(A): Remote annunciator alarm LED

RTS151(A): Remote test station

RTS151KEY(A): Remote test station with key lock

Important Notes

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

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: Mexico

NOTIFIER
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NOTIFIER® by Honeywell

FSP-951 Series Addressable Photoelectric Smoke Detectors

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

The FSP-951 Series detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. Dual electronic thermistors add 135°F (57°C) fixed temperature thermal sensing on the FSP-951T. The FSP-951R is a remote test capable detector for use with DNR Series duct detector housings. FSP-951 series detectors are available for both FlashScan® and CLIP applications as designated.

Features

SLC LOOP:

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

ADDRESSING:

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

ARCHITECTURE:

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

OPERATION:

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

MECHANICALS:

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

OPTIONS:

- Optional relay, isolator, and sounder bases

Installation

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

Mount detector base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054.*

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Class "B" wiring only.*
When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Construction

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

Operation

Each FSP-951 Series detector uses one of the panel's addresses (total limit is panel dependent) on the NOTIFIER Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The FSP-951 Series offers features and performance that represent the latest in smoke detector technology.

Product Line Information

NOTE: *"-IV" suffix indicates CLIP and FlashScan device.*

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

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

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

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

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

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

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

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

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

FSP-951RA: Same as FSP-951R but with ULC listing, for use with DNRA

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

FSP-951RA-IV: Same as FSP-951R-IV but with ULC listing, for use with DNRA

INTELLIGENT BASES

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

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

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

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

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

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

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

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

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

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

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

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

B224RBA-WH: White, relay base, ULC listing

B224RBA-IV: Ivory, relay base, ULC listing

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

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

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

B224BIA-IV: Ivory isolator detector base, ULC listing

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MOUNTING KITS AND ACCESSORIES

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

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

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

M02-04-00: Test magnet

M02-09-00: Test magnet with telescoping handle

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

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

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

Sensitivity:

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

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

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

  – **B501 series:** 4" (10.2 cm) diameter

For a complete list of detector bases see DN-60981

Shipping weight: 3.4 oz. (95 g)

Operating temperature range:

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

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

Relative humidity: 10% – 93% non-condensing

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

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

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

Max current: 4.5 mA @ 24 VDC (“ON”)

DETECTOR SPACING AND APPLICATIONS

NOTIFIER recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. A *System Smoke Detector Application Guide*, document SPAG91, is available at **www.systemsensor.com.**

Listings and Approvals

Listings and approvals below apply to the FSP-951 Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listing: S1115
- FM Approved
- CSFM: 7272-0028:0503

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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: Mexico

NOTIFIER® by Honeywell

NOTIFIER® by Honeywell

FST-951 Series Intelligent Addressable Heat Detectors

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

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

Features

SLC LOOP:

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

ADDRESSING:

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

ARCHITECTURE:

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

OPERATION:

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

MECHANICALS:

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

OTHER SYSTEM FEATURES:

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

OPTIONS:

- Remote LED output connection to optional RA100Z remote LED annunciator

Installation

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

Mount detector base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054*.

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring only.*
When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Applications

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

Construction

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

Operation

Each FST-951 Series detector uses one of the panel's addresses (total limit is panel dependent) on the NOTIFIER Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The FST-951 Series offers features and performance that represent the latest in thermal detector technology.

Product Line Information

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

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

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

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

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

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

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

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

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

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

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

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

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

INTELLIGENT BASES

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

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

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

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

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

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

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

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

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

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

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

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

B224RBA-WH: White, relay base, ULC listing

B224RBA-IV: Ivory, relay base, ULC listing

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

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

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

B224BIA-IV: Ivory isolator detector base, ULC listing

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MOUNTING KITS AND ACCESSORIES

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

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

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

M02-04-00: Test magnet

M02-09-00: Test magnet with telescoping handle

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

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

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

Sensitivity: UL Applications: 0.5% to 4.0% per foot obscuration. ULC is 0.5% to 3.5%

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

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

For a complete list of detector bases see DN-60981

Shipping weight: 3.4 oz. (95 g)

Operating temperature range:

- FST-951, FST-951R Series: –4°F to 100°F (–20°C to 38°C)
- FST-951H Series: –4°F to 150°F (–20°C to 66°C)

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

Relative humidity: 10% – 93% non-condensing

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

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

See **"Product Line Information: Intelligent Bases,"** if using a different base.

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

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

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

Listings and Approvals

Listings and approvals below apply to the FST-951 Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listing: S747
- FM Approved
- CSFM: 7270-0028:0502

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: Mexico

NOTIFIER
12 Clintonville Road
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NOTIFIER® by Honeywell

NOTIFIER® by Honeywell

Intelligent Bases Standard, Relay, Isolator, Sounder, and Low-Frequency Sounder Bases

General

To meet local code and application requirements, NOTIFIER® offers standard 4" and 6" bases, as well as, specialty base designs including relay, isolator, sounder and low frequency sounder options for the new 900 Series of addressable detectors as well as previous generations.

The standard 4" and 6" bases offer a plug-in detector base intended for use in intelligent systems, with screw terminals identified with a (+ and –). The 4" base offers a compact design while the 6" base provides compatibility with a wider range of junction boxes.

The specialty bases support application driven requirements. These bases employ a separate mounting plate that installs on various junction box sizes to eliminate unsightly surface-mount boxes. The mounting plate enables pre-wiring of all connections to speed and simplify installation.

Relay bases provide one form-C contact relay for control of auxiliary functions, such as door closure and elevator recall. The relay can operate in two different modes (short and long delay). The activation time for the short delay is 60-100 milliseconds, while the activation time for the long delay is 6-10 seconds. A shunt with pin headers, located on the base PC board, is used to set the delay timing.

Isolator bases allow the Signaling Line Circuit (SLC) loop to operate under fault conditions created from a short circuit preventing an entire communication loop from being disabled. The base isolates the section of the loop containing the short circuit from the remainder of the circuit and automatically restores when the fault is corrected.

Sounder and low frequency sounder bases are designed for new and existing dwelling unit applications. They offer maximum flexibility in installation, configuration, and operation to meet or exceed UL 268 and UL 464 requirements. The low frequency sounder bases are designed to meet the NFPA 72 sleeping space requirement to produce a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent. Studies show that a lower frequency, centered around 520 Hz, is the most ideal to wake sleeping occupants, even those with mild to severe hearing loss.

The B200SR sounder and -LF sounder bases (B200SR-WH/B200SR-IV/B200SR-LF-WH/B200SR-LF-IV) are fully compatible with existing B501BH Series sounder base installations. The device enables users to select one of two B501-supported tones (ANSI Temporal 3 or Continuous) through a jumper.

The B200S sounder and -LF sounder bases (B200S-WH/B200S-IV/B200S-LF-WH/B200S-LF-IV) adopt the same address as the detector, but use a unique device type on the loop. The Fire Alarm Control Panel (FACP) can use that address to command an individual sounder — or a group of sounders — to activate. The command set from the FACP can be tailored to multiple event-driven tone outputs allowing selection of volume (75 or 85 dBA), tone (ANSI Temporal 3, ANSI Temporal 4, or March Time) and group. In addition, some FACPs will enable custom tone patterns. The B200S series sounder bases recognize the System Sensor synchronization protocol. This enables them to be used as a component of the general evacuation signal — along with other System Sensor AV appliances — when connected to a power supply or FACP output capable of generating the System Sensor synchronization pulses.

B300-6 Standard
6” Base (White)

B200S-WH
Sounder Base (White)

B501-WHITE Flangeless
4” Base (White)

B501-BL Flangeless
4” Base (Black)

Specifications

NOTE: *Specifications applies to all model variants “A”, “-BL”, “-LF”, “-IV”, -WH, -WHITE. See Product Line Information for detailed model description.*

Diameter

- B501-WHITE: 4" (10.16 cm) diameter.
- B300-6: 6.1" (15.49 cm) diameter.
- B224BI, B224RB: 6.2" (15.748 cm) diameter.
- B200S, B200SR, B200SCOA: 6.875" (17.46 cm) diameter.

Wire gauge:

- B224BI, B224RB: 14 to 24 AWG.
- B300-6, B210LP, B501, B200S, B200SR, B200SCOA: 12 to 24 AWG

Temperature range:

- B224BI, B224RB, B200S, B200SR, B200SCOA: 32°F to 120°F (0°C to 49°C).
- B300-6, B210LP, B501: -4°F to 150°F (-20°C to 66°C).

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

System temperature and humidity ranges: This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (non-condensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. 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 all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

Electrical Ratings

FOR B300-6 SERIES BASES:

Operating voltage: 15 to 32 VDC

Standby current: 170 µA maximum

FOR B501 SERIES BASES:

Operating voltage: 15 to 32 VDC

Standby current: 150 µA maximum

FOR B200 SERIES BASES:

External supply voltage: 16 to 33 VDC (FWR)

Standby current:

500 µA maximum.

Alarm current:

- B200S(A)(-IV)(-WH)
  - – 35 mA maximum at high-volume setting
  - – 15 mA maximum at low-volume setting
- B200S-LF(-IV)(-WH) High-volume setting:
  - – 70 mA maximum @ 33.0 VDC
  - – 90 mA maximum @ 24.0 VDC
  - – 140 mA maximum @16.0 VDC
- B200S-LF(-IV)(-WH) Low-volume setting:
  - – 15 mA maximum @ 33.0 VDC
  - – 20 mA maximum @ 24.0 VDC
  - – 25 mA maximum @ 16.0 VDC
- B200SR(A)(-IV)(-WH)
  - – 35 mA maximum
- B200SR-LF(-IV)(-WH)
  - – 65 mA maximum @ 33.0 VDC
  - – 90 mA maximum @ 24.0 VDC
  - – 125 mA maximum @16.0 VDC
- B200SCOA(-IV)(-WH)
  - – 40mA Max (DC)
  - – 70mA Max (FWR)

SLC operating voltage: 15 to 32 VDC

SLC standby current: See applicable sensor specification.

Sound output:

- B200S(A)(-LF)(-IV)(-WH), high-volume*: Greater than 85 dBA minimum.
- B200S(A)(-LF)(-IV)(-WH), low-volume*: Greater than 75 dBA minimum.
- B200SR(A)(-LF)(-IV)(-WH)*: Greater than 85 dBA minimum.
- B200SCOA(-IV)(-WH), high-volume**: Greater than 87 dBA minimum.
- B200SCOA(-IV)(-WH), low-volume**: Greater than 85 dBA minimum

**Measured in a UL reverberant room at 10 feet, 24 Volts (continuous tone)*
***Measured in a ULC anechoic room at 10 feet, 24 Volts continuous tone)*

FOR B224BI, B224RB (A) (-IV) (-WH):

Operating voltage: 15 to 32 VDC (powered by SLC)

Standby ratings: <450 µA maximum @ 24 VDC

Set time (B224RB(A)(-IV)(-WH) only): short delay 60-100 milliseconds; long delay 6-10 seconds

Reset time (B224RB(A)(-IV)(-WH) only): 20 milliseconds maximum

Relay characteristics (B224RB(A)(-IV)(-WH) only): two-coil latching relay; one Form-C contact; ratings (UL/CSA): 0.9 A @ 125 VAC, 0.9 A @ 110 VDC, and 3.0 A @ 30 VDC

Product Line Information

INTELLIGENT BASES

NOTE: *"A" suffix indicates ULC Listed model.*

NOTE: *"-IV" suffix indicates Ivory color model.*

NOTE: *"-BL" suffix indicates Black color model.*

NOTE: *"-WH" and "-WHITE" suffix indicates White color model.*

B210LP: Flanged mounted base.

B210LPA: Same as B210LP; ULC listed.

B210LPBP: Bulk pack of B210LP, contains 10.

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

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

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

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

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

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

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

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

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

B224RB-WH: White, relay base.

B224RB-IV: Ivory, relay base.

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

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

B224BI-WH: White, isolator detector base.

B224BI-IV: Ivory isolator detector base.

B224BIA-WH: White, isolator detector base, ULC listed.

B224BIA-IV: Ivory isolator detector base, ULC listed.

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

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

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

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

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

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

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

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

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

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

B200SRA-WH: Same as B200SR-WH, ULC listed.

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

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

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

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A), B300(A)-6 bases.

TR300-IV: Ivory, replacement flange for B210LP(A), B300(A)-6-IV bases.

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

M02-04-00: Test magnet.

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

CK300: White, detector color kit. Pack of 10.

CK300-IR: White, detector color kit for use with FPTI and FCO Series detectors. Pack of 10.

CK300-IV: Ivory, detector color kit. Pack of 10.

CK300-IR-IV: Ivory, detector color kit for use with FPTI and FCO Series detectors. Pack of 10.

CK300-BL: Black, detector color kit. Pack of 10.

CK300-IR-BL: Black, detector color kit for use with FPTI and FCO Series detectors. Pack of 10.

Agency Listings and Approvals

The listings and approvals below apply to intelligent bases as noted. 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**: S1115
- **FM Approved**
- **CSFM**: 7300-1653:0109, 7300-1653:0126, 7300-1653:0213, 7300-1653:0236

Junction Box Selection Guide

Base Models	Single Gang	Double Gang	3.5" Oct.	4.0" Oct.	4.0" Sq.	4.0" Sq. with 3.0" mud ring	50 mm	60 mm	70 mm	75 mm
B200S, B200SR, B200SCOA	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
B501	No	No	Yes	No	No	Yes	Yes	Yes	Yes	No
B210LP, B300-6	Yes	No	Yes	Yes	Yes	Yes	No	No	No	No
B224BI, B224RB	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No

NOTE: *Box depth contingent on base and wire size.*
Refer to National Electric Code or applicable local codes for appropriate recommendations.

NOTE: *Applies to all model variants "A", "-BL", "-LF", "-IV", "-WH", and "-WHITE". See Product Line Information for detailed model description.*

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Country of Origin: Mexico

NOTIFIER
12 Clintonville Road
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NOTIFIER® by Honeywell

NBG-12LX

Addressable Manual Pull Station

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

The Notifier NBG-12LX is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface for any Notifier intelligent control panel except FireWarden series panels, and the NSP-25 panel. Because the NBG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features

- Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and latches steady red when in alarm.
- Handle latches in down position and the word “ACTIVATED” appears to clearly indicate the station has been operated.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm² wire).
- Can be surface mounted (with SB-10 or SB-I/O) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
- Highly visible.
- Attractive shape and textured finish.
- Key reset.
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Up to 99 NBG-12LX stations per loop on CLIP protocol loops.
- Up to 159 NBG-12LX stations per loop on FlashScan® protocol loops.
- Dual-color LED blinks green to indicate normal on FlashScan® systems.

Construction

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

Specifications

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

The NBG-12LX
Addressable Manual Pull Station

Installation

The NBG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the NBG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

Operation

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

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 – 159 on FlashScan® systems, 1 – 99 on CLIP systems).

Architectural/Engineering Specifications

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

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

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

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

Product Line Information

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

NBG-12LXSP: Spanish/English labelled version.

NBG-12LXP: Portuguese labelled version.

SB-10: Surface backbox; metal.

SB-I/O: Surface backbox; plastic.

BG12TR: Optional trim ring.

17021: Keys, set of two.

NY-Plate: New York City trim plate.

Agency Listings and Approvals

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

- **UL/ULC Listed:** S692 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0028:0199.
- **FDNY:** COA #6085 (NFS2-640), COA #6098 (NFS2-3030).
- **BSMI:** CI313066760047.
- **U.S. Coast Guard.**
- **Lloyd's Register.**
- **FM Approved.**

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

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ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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

Made in the U.S. A.

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

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

Monitor Modules with FlashScan®

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

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

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

FMM-101(A) is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.65" (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the FMM-101(A) to be mounted in a single-gang box behind the device it monitors.

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

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

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

FMM-1(A) Monitor Module

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

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

FMM-1(A) Applications

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

FMM-1(A) (Type H)

FMM-1(A) Operation

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

FMM-1(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.0 mA (LED on).

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

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

EOL resistance: 47K Ohms.

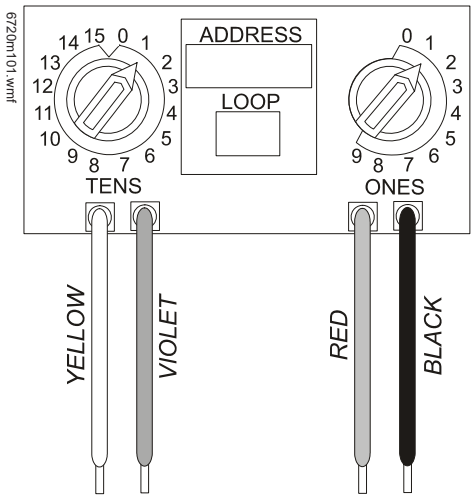
Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

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

FMM-101(A) Mini Monitor Module

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



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

FMM-101(A) Applications

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

FMM-101(A) Operation

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

FMM-101(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

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

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 450 µA.

EOL resistance: 47K Ohms.

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

Humidity range: 10% to 93% noncondensing.

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

Wire length: 6" (15.24 cm) minimum.

FZM-1(A) Interface Module

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

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

FZM-1(A) Applications

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

FZM-1(A) Operation

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

FZM-1(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.1 mA (LED on).

Maximum IDC wiring resistance: 25 Ohms.

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

EOL resistance: 3.9K Ohms.

External supply voltage (between Terminals T10 and T11):

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

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

Humidity range: 10% to 93% noncondensing.

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

FDM-1(A) Dual Monitor Module

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

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

FDM-1(A) Specifications

Normal operating voltage range: 15 to 32 VDC.

Maximum current draw: 6.4 mA (LED on).

Average operating current: 750 µA (LED flashing).

Maximum IDC wiring resistance: 1,500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 µA

EOL resistance: 47K Ohms.

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

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

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

FDM-1(A) Automatic Addressing

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

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

CAUTION:
Avoid duplicating addresses on the system.

Installation

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

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

Agency Listings and Approvals

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

- **UL:** S635.
- **ULC:** S635.
- **FM Approved.**
- **CSFM:** 7300-0028:0219, 7165-0028:0224, 7165-0028:0243.
- **MEA:** 457-99-E.
- **U.S. Coast Guard:** 161.002/50/0 (NFS2-640, NFS2-320, NFS2-3030).
- **Lloyd’s Register:** 11/600013 (NFS2-640, NFS2-320, NFS2-3030).
- **Fire Dept. of New York:** COA #6121 (NFS2-640, NFS-320), COA# 6114 (NFS2-3030).

Product Line Information

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

FMM-1(A): Monitor module.

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

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

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

SMB500: Optional surface-mount backbox.

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

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

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

CAB-4 Series Cabinets

ONYX® Series Backboxes with Locking Doors

NOTIFIER® by Honeywell

Peripheral Devices

General

All cabinets for NOTIFIER fire alarm control panels are fabricated from 16-gauge steel. The cabinet assembly consists of two basic parts: a backbox and a locking door. Cabinets are available in either black or red, with or without windows. The window model provides a tasteful combination to accent the decor of the finest lobby setting.

- The ***key-locked door*** is provided with a pin-type hinge, two keys and the necessary hardware to mount the door to the backbox.
- The ***backbox*** has been engineered to provide ease-of-entry for the installer. ***Knockouts*** are positioned at numerous points to aid the installer in bringing a conduit into the enclosure with a minimum of hardship.
- ***Right- or left-hand hinges***, selectable in the field. Door opens 180°.
- Cabinets are arranged in ***four standard sizes***, A (one tier) through D (four tiers), plus a ***mini cabinet*** (AA, one tier without a battery compartment). See *Ordering Information*.
- A ***trim ring option*** is available for semi-flush mounting.
- ***Chassis bridge*** available for assembling multiple CHS-4 chassis external to the backbox.
- Certified for seismic applications when used with the appropriate **seismic mounting kit**.

NFS2-3030 and DVC in "C" sized CAB-4 cabinet

Ordering Information

A complete cabinet assembly consists of: a door, a backbox, an optional battery plate, and an optional semi-flush trim ring. For each cabinet required, order one "DR" door and one "SBB" backbox. The BP2-4 battery plate is required for each cabinet assembly that mounts batteries and/or a power supply in the lower position of the cabinet. The optional trim ring is an attractive "picture frame"-style black metal ring.

MINI "AA" SIZE, ONE TIER

DR-AA4: Door assembly, window, one tier (no battery compartment), BLACK, 9.8 lbs.

DR-AA4R: Door assembly, window, one tier (no battery compartment), RED, 9.8 lbs.

DR-AA4B: Door assembly, solid door, one tier (no battery compartment), BLACK.

DR-AA4BR: Door assembly, solid door, one tier (no battery compartment), RED.

SBB-AA4: Backbox assembly, one tier (no battery compartment), BLACK, 16.65 lbs.

SBB-AA4R: Backbox assembly, one tier (no battery compartment), RED, 16.65 lbs.

TR-AA4: Accessory semi-flush-mount trim ring, one tier (no battery compartment).

NOTE: *Black trim rings are used with red or black cabinets.*

ONE TIER, "A" SIZE

DR-A4: Door assembly, window, one tier, BLACK, 14.20 lbs.

DR-A4R: Door assembly, window, one tier, RED, 14.20 lbs.

DR-A4B: Door assembly, solid door, one tier, BLACK, 14.30 lbs.

DR-A4BR: Door assembly, solid door, one tier, RED, 15 lbs.

SBB-A4: Backbox assembly, one tier, BLACK, 21 lbs.

SBB-A4R: Backbox assembly, one tier, RED, 21 lbs.

TR-A4: Accessory semi-flush-mount trim ring, one tier (opening 24.062" [61.118 cm] W x 20.062" [50.958 cm] H), BLACK, 2.5 lbs.

NOTE: *Black trim rings are used with red or black cabinets.*

BP2-4: Battery plate. Used to cover battery and power supply when lower position is used in backbox, 3.10 lbs.

TWO TIERS, "B" SIZE

DR-B4: Door assembly, window, two tiers, BLACK, 17.45 lbs.

DR-B4R: Door assembly, window, two tiers, RED, 17.45 lbs.

ADDR-B4: Two-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. BLACK.

ADDR-B4R: Two-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. RED.

DR-B4B: Door assembly, solid door, two tiers, BLACK, 18.80 lbs.

DR-B4BR: Door assembly, solid door, two tiers, RED, 18.80 lbs.

SBB-B4: Backbox assembly, two tiers, BLACK, 26.88 lbs.

SBB-B4R: Backbox assembly, two tiers, RED, 26.88 lbs.

TR-B4: Accessory semi-flush-mount trim ring, two tiers (opening 24.062" [61.118 cm] W x 28.562" [72.548 cm] H), BLACK, 3 lbs.

NOTE: *Black trim rings are used with red or black cabinets.*

BP2-4: Battery plate. Used to cover battery and power supply when lower position is used in backbox, 3.10 lbs.

THREE TIERS, "C" SIZE

DR-C4: Door assembly, window, three tiers, BLACK, 20.75 lbs.

DR-C4R: Door assembly, window, three tiers, RED, 20.75 lbs.

ADDR-C4: Three-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. BLACK.

ADDR-C4R: Three-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. RED.

DR-C4B: Door assembly, solid door, three tiers, BLACK, 23.45 lbs.

DR-C4BR: Door assembly, solid door, three tiers, RED, 23.45 lbs.

SBB-C4: Backbox assembly, three tiers, BLACK, 32.60 lbs.

SBB-C4R: Backbox assembly, three tiers, RED, 32.60 lbs.

TR-C4: Accessory semi-flush-mount trim ring, three tiers (opening 24.062" [61.118 cm] W x 37.187" [94.455 cm] H), BLACK, 3.50 lbs.

NOTE: *Black trim rings are used with red or black cabinets.*

BP2-4: Battery plate. Used to cover battery and power supply when lower position is used in backbox, 3.10 lbs.

FOUR TIERS, "D" SIZE

DR-D4: Door assembly, window, four tiers, BLACK, 23.95 lbs.

DR-D4R: Door assembly, window, four tiers, RED, 23.95 lbs.

ADDR-D4: Four-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. BLACK.

ADDR-D4R: Four-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. RED.

DR-D4B: Door assembly, solid door, four tiers, BLACK, 28.40 lbs.

DR-D4BR: Door assembly, solid door, four tiers, RED, 28.40 lbs.

SBB-D4: Backbox assembly, four tiers, BLACK, 40 lbs.

SBB-D4R: Backbox assembly, four tiers, RED, 40 lbs.

TR-D4: Accessory semi-flush-mount trim ring, four tiers (opening 24.062" [61.118 cm] W x 45.812" [116.363 cm] H), BLACK, 3.80 lbs.

NOTE: *Black trim rings are used with red or black cabinets.*

BP2-4: Battery plate. Used to cover battery and power supply when lower position is used in backbox, 3.10 lbs.

ACCESSORIES

ADP-4B: Annunciator dress panel.

CAB-BM: For use with "B" sized cabinets in Marine applications. See DN-60688 for more information.

CB-1: Chassis bridge. Provides a bridge between CHS Series chassis.

DP-1B: Blank dress panel, covers one CAB-4 tier, BLACK.

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-3030, NFS2-640, and NFS-320SYS. Includes battery bracket for two 26 AH batteries.

VP-2B: Ventilator panel.

WC-2: Wire channel. Provides a pair of wire trays to neatly route wiring between CHS chassis.

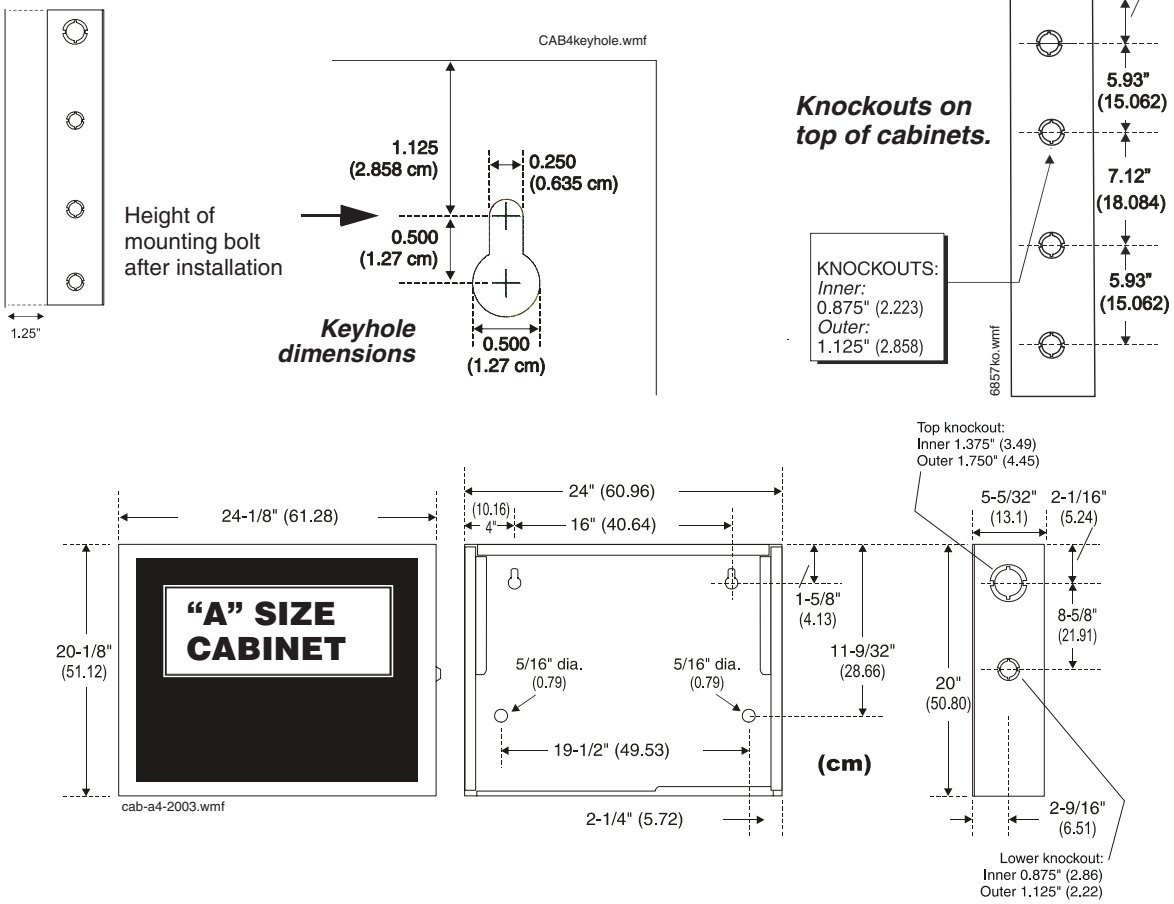
Agency Listings and Approvals

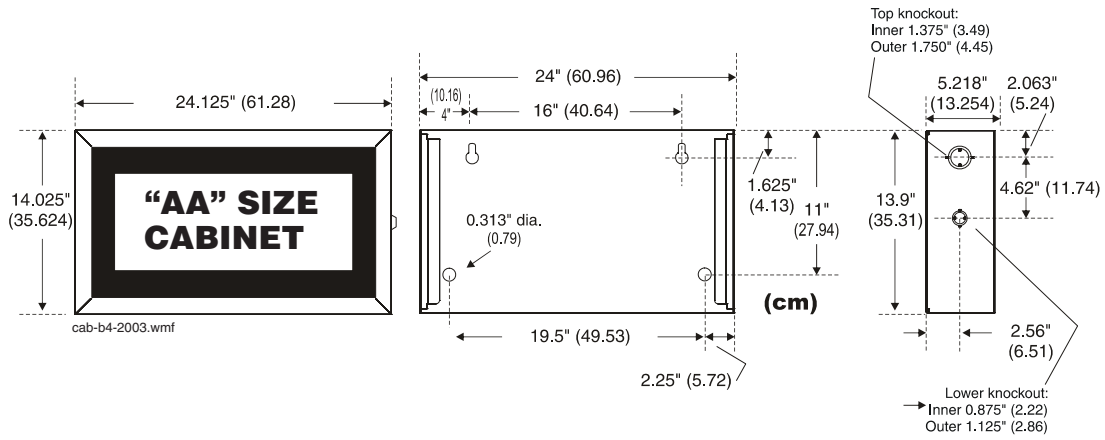
These listings and approvals below apply to the CAB-4 Series Cabinets. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

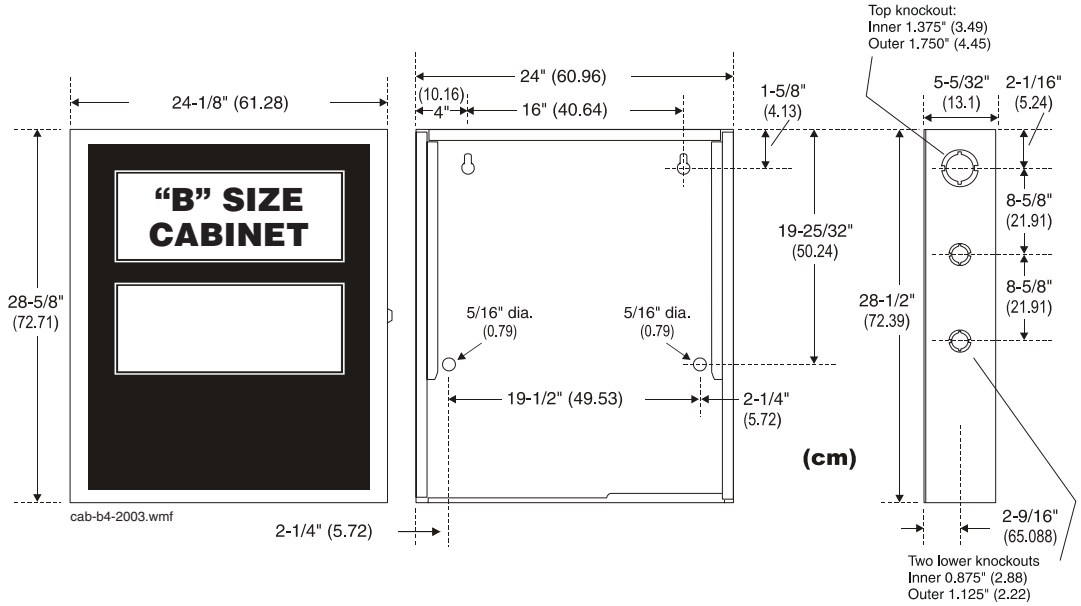
- **UL** Listed: S635
- **ULC** Listed: S635
- **MEA**: 317-01-E, 345-02-E
- **CSFM**: 7165-0028:0243 *(NFS2-640)*, 7165-0028:0224 *(NFS2-3030)*
- **FM** approved
- **FDNY:** COA# 6085, COA# 6098

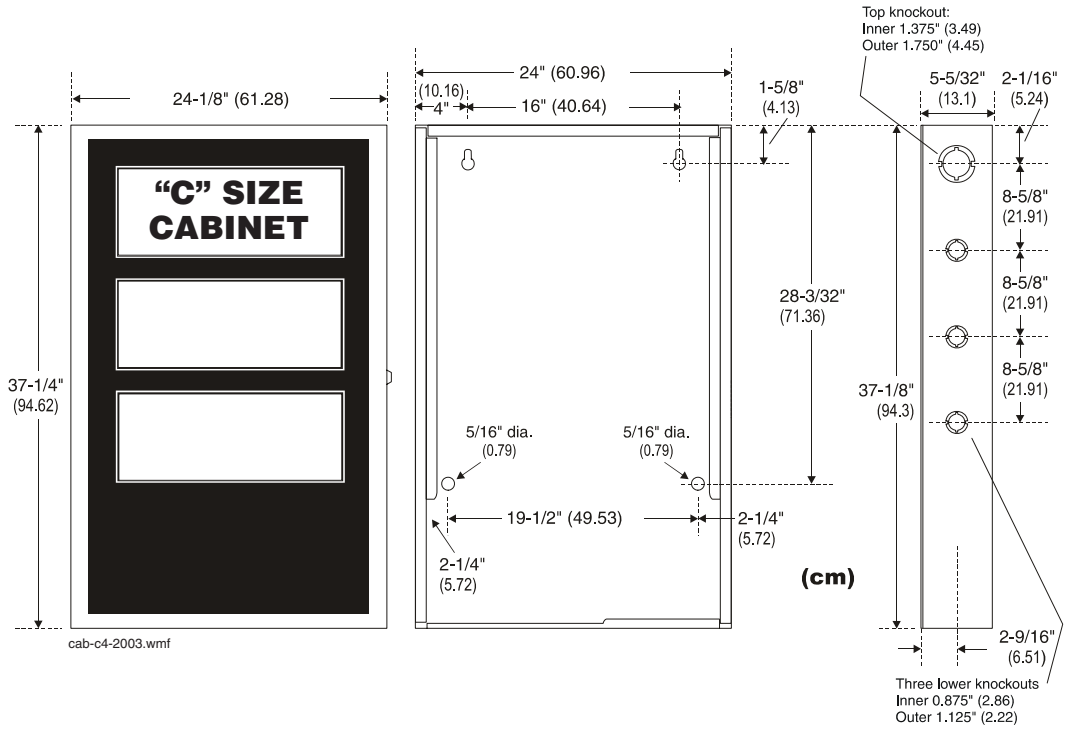
CAB-4 Series cabinets with SEISKIT-CAB comply with seismic requirements of **IBC 2000, IBC 2003, IBC 2006, IBC2009**, and **CBC 2007**.

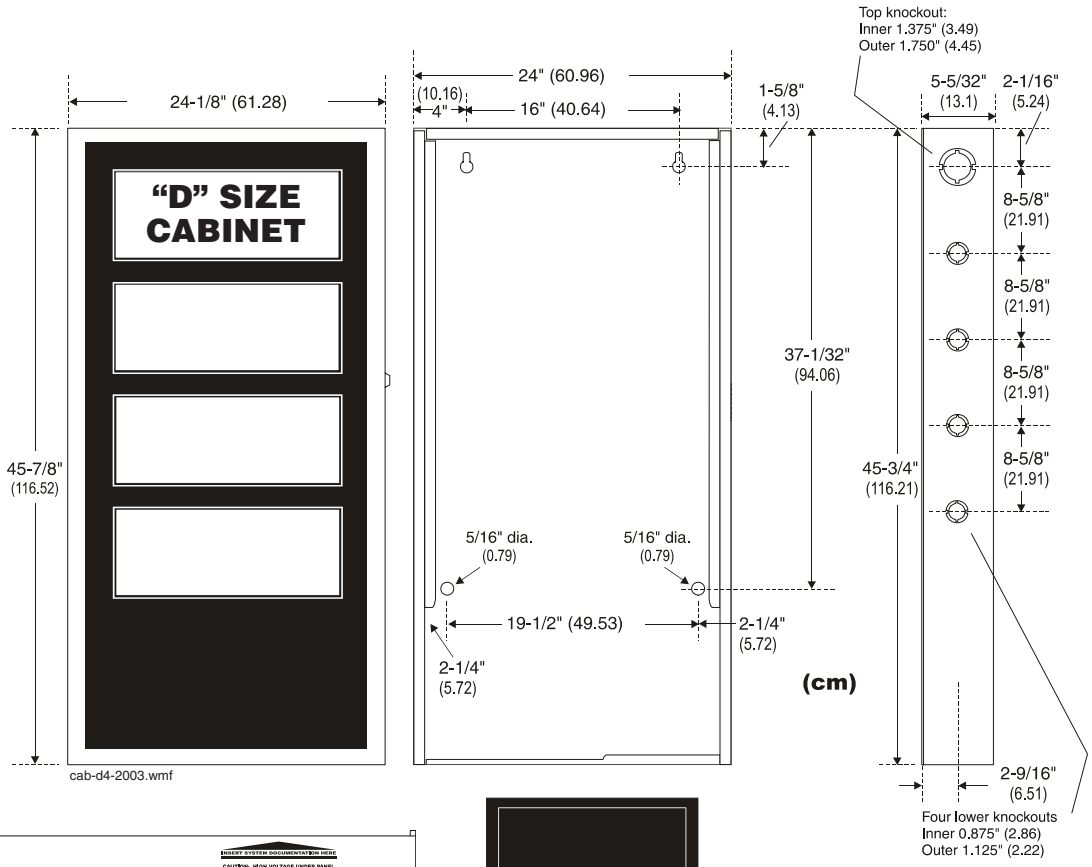
Cabinet Dimensions and Features

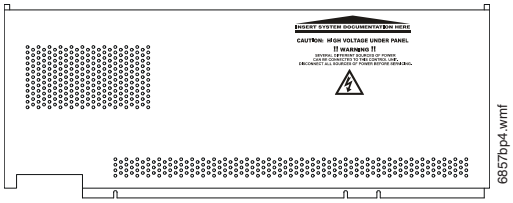



24.125" (61.28)
14.025" (35.624)
"AA" SIZE CABINET
cab-b4-2003.wmf
24" (60.96)
(10.16) 4"
16" (40.64)
0.313" dia. (0.79)
1.625" (4.13)
11" (27.94)
19.5" (49.53)
2.25" (5.72)
(cm)
Top knockout:
Inner 1.375" (3.49)
Outer 1.750" (4.45)
5.218" (13.254)
2.063" (5.24)
4.62" (11.74)
13.9" (35.31)
2.56" (6.51)
Lower knockout:
Inner 0.875" (2.22)
Outer 1.125" (2.86)


24-1/8" (61.28)
28-5/8" (72.71)
"B" SIZE CABINET
cab-b4-2003.wmf
24" (60.96)
(10.16) 4"
16" (40.64)
1-5/8" (4.13)
19-25/32" (50.24)
5/16" dia. (0.79)
5/16" dia. (0.79)
19-1/2" (49.53)
2-1/4" (5.72)
2-1/4" (5.72)
(cm)
Top knockout:
Inner 1.375" (3.49)
Outer 1.750" (4.45)
5-5/32" (13.1)
2-1/16" (5.24)
8-5/8" (21.91)
8-5/8" (21.91)
28-1/2" (72.39)
2-9/16" (65.088)
Two lower knockouts
Inner 0.875" (2.88)
Outer 1.125" (2.22)


24-1/8" (61.28)
37-1/4" (94.62)
"C" SIZE CABINET
cab-c4-2003.wmf
24" (60.96)
(10.16) 4"
16" (40.64)
1-5/8" (4.13)
28-3/32" (71.36)
5/16" dia. (0.79)
5/16" dia. (0.79)
19-1/2" (49.53)
2-1/4" (5.72)
2-1/4" (5.72)
(cm)
Top knockout:
Inner 1.375" (3.49)
Outer 1.750" (4.45)
5-5/32" (13.1)
2-1/16" (5.24)
8-5/8" (21.91)
8-5/8" (21.91)
8-5/8" (21.91)
37-1/8" (94.3)
2-9/16" (6.51)
Three lower knockouts
Inner 0.875" (2.86)
Outer 1.125" (2.22)





The* BP2-*4 Battery Plate covers the Main Power Supply and the batteries in the cabinet. Only one* BP2-4 *is required per cabinet unless an AA cabinet is used (no battery compartment).

"D" sized cabinet with solid door. Solid door option available on all sizes in black or red.

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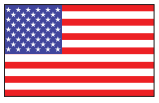

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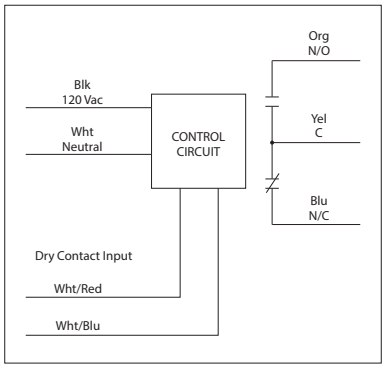
Functional Devices, Inc. | 101 Commerce Drive, Sharpsville, IN 46068
Email: sales@functionaldevices.com | **Website:** www.functionaldevices.com
Toll Free: (800) 888-5538 | **Office:** (765) 883-5538 | **Fax:** (765) 883-7505

DRY CONTACT INPUT RELAYS

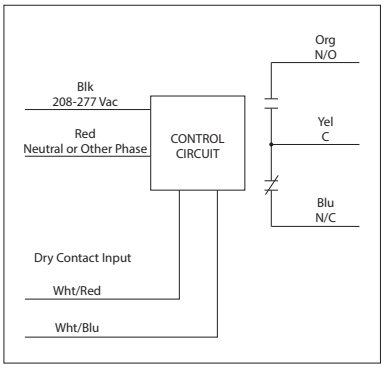
RIB01BDC

Dry Contact Relay, 20 Amp SPDT, Class 2 Dry Contact Input, 120 Vac Power Input, NEMA 1 Housing



RIB02BDC

Dry Contact Relay, 20 Amp SPDT, Class 2 Dry Contact Input, 208-277 Vac Power Input, NEMA 1 Housing



SPECIFICATIONS

 # Relays & Contact Type: One (1) SPDT Continuous Duty Coil
Expected Relay Life: 10 million cycles minimum mechanical
Operating Temperature: -30 to 140° F
Humidity Range: 5 to 95% (noncondensing)
Operate Time: 1.8 Seconds
Relay Status: LED On = Activated
Dimensions: 2.39"H x 3.31"W x 1.81"D with 0.50" NPT nipple
Housing Detail: See **Housing B** in housing guide for dimensions
Origin: Made of US and non-US parts
Wires: 16˝, 600V Rated
Approvals: UL Listed, UL916, C-UL, CE, RoHS
Housing Rating: UL Accepted for Use in Plenum, NEMA 1
Gold Flash: No
Override Switch: No

Contact Ratings:
20 Amp Resistive @ 277 Vac
1110 VA Pilot Duty @ 277 Vac
770 VA Pilot Duty @ 120 Vac
20 Amp Ballast @ 277 Vac
16 Amp Electronic Ballast @ 277 Vac (N/O)
10 Amp Tungsten @ 120 Vac (N/O)
240 Watt Tungsten @ 120 Vac (N/C)
2 HP @ 277 Vac
1 HP @ 120 Vac

Power Input:
42 mA @ 120 Vac (RIB01BDC)
62 mA @ 208-277 Vac (RIB02BDC)

Notes:
- Dry Contact Input Operation:
  Close White/Red wire to White/Blue wire to activate relay. If more than one dry contact RIB® shares a single dry contact input, White/Blue must be common.

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

NOTIFIER® by Honeywell

Audio/Visual Devices

General

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

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

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

L-SERIES MAKES INSTALLATION EASY

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

Features

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

SPSCRL, SPSCWL

Architectural/Engineering Specifications

General. L-Series speaker and speaker strobes shall mount to a 4" × 4" × $2^{1}/_{8}$" back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, L-Series speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Speaker strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, 177.

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

Speaker Strobe Combination. The speaker strobe shall be a System Sensor L-Series model listed to UL1480 and UL 1971 and be approved for fire protective signaling systems. The speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4,000 Hz. The speaker shall have power taps that are selected by rotary switch. The strobe shall comply with the NFPA 72 requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Synchronization Module. The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz. The module shall mount to a $4^{11}/_{16}$" × $4^{11}/_{16}$" × $2^{1}/_{8}$" back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining

two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical Specifications

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

Electrical/Operating Specifications

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

UL Current Draw Data

UL MAX. STROBE CURRENT DRAW (MA RMS)

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

CEILING-MOUNT SPEAKER SOUND OUTPUT

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

CEILING-MOUNT SPEAKER STROBE SOUND OUTPUT

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

Agency Listings and Approvals

The listings and approvals below apply to L-series devices. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL-Listed:**
  - S4048 Plain Speaker Strobes (Ceiling)
  - S4048 Spanish-labeled Speaker Strobes (Ceiling)
  - S4048 Speaker Strobe ALERT devices
- **UL/ULC-Listed:**
  - S4048 Speakers (Ceiling)
  - S4048 Speaker Strobes (Ceiling)
- **FM Approved** (All except ALERT models)
- **CSFM Listed:** 7320-1653:0505

Product Line Information

CEILING MOUNT SPEAKER STROBES

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

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

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

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

SPSCWL-TE. English with trim ring.

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

ACCESSORIES

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

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

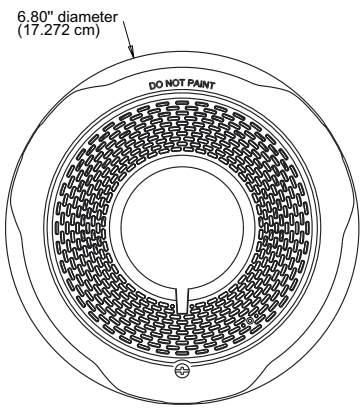
NOTE: *"A" suffix indicates ULC-Listed model. ULC-listed devices include required French labeling. See Agency Listings for listing details.*

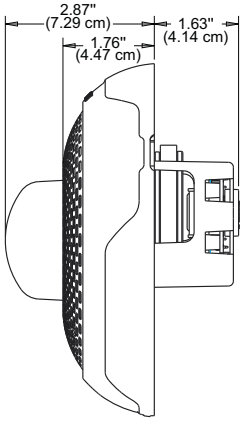
NOTE: *"A" suffix indicates ULC-listed models, ULC models have FIRE/FEU marking on cover.*

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

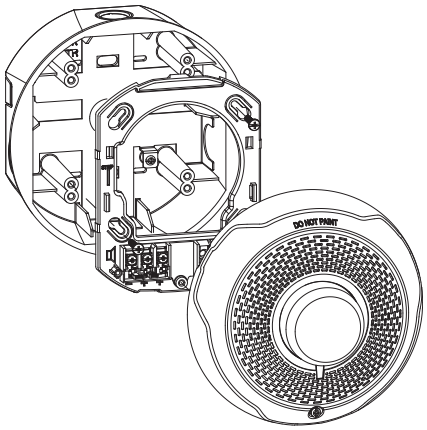
NOTE: *ULC-listed models add "-F" suffix for French only "FEU" marking on cover.*

Product Drawings





Speaker Strobe Dimensions



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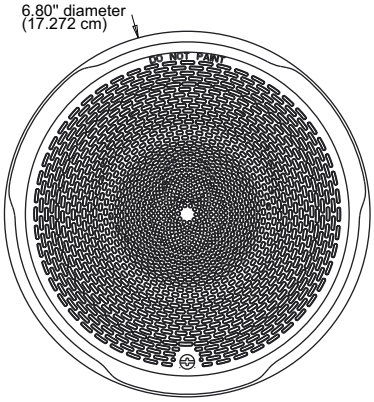
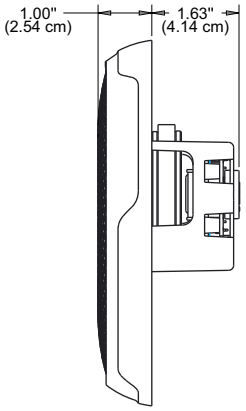
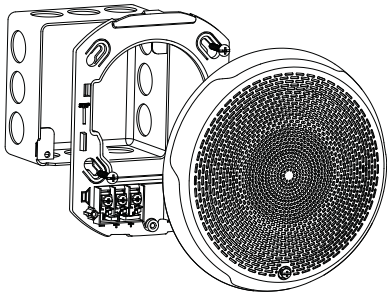
Speaker Strobe with SBBCRL/ SBBCWL Surface Mount Back Box



Speaker Dimensions





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Speaker with SBBCRL/SBBCWL Surface Mount Back Box

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www.notifier.com

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

NOTIFIER® by Honeywell

Audio/Visual Devices

General

System Sensor L-Series selectable output speaker strobes and dual-voltage evacuation speakers can reduce ground faults and enable faster installation with lower current draw and modern aesthetics.

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

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

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

System Sensor L-Series makes installation easy.

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

Features

- Plug-in design and protective cover reduce ground faults.
- Universal mounting plate with an onboard shorting spring tests wiring continuity before installation.
- No extension ring required.
- Field selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, 185.
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela.
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (¼, ½, 1 and 2 watts).
- Speakers offer high fidelity and high volume sound output.
- UL 464 (520 Hz) listed and complies with NFPA 72 requirements for low frequency with compatible fire alarm control panel.
- Compatible with System Sensor synchronization protocol.
- Electrical compatibility with existing SpectrAlert and SpectrAlert Advance products.
- Tamper-resistant construction.
- Updated modern aesthetics.

SPSWL

SPSRL

Architectural/Engineering Specifications

General

L-Series speaker and speaker strobes shall mount to a 4 × 4 × $2^{1}/_{8}$ inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, L-Series speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Wall-mount speaker strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, 185.

Speaker

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

Speaker Strobe combination

The speaker strobe shall be a System Sensor L-Series model _____ listed to UL1480 and UL 1971 and be approved for fire protective signaling systems. The speaker shall be

capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4,000 Hz. The speaker shall have power taps that are selected by rotary switch. The strobe shall comply with the NFPA 72 requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz. The module shall mount to a $4^{11}/_{16} \times 4^{11}/_{16} \times 2^{1}/_{8}$ inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

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

Dimensions, Wall-Mount

- SP Speaker: 6.5 in x 5 in x 2.3 in. (165 mm x 127 mm x 58 mm)
- SP Speaker with Surface Mount Back Box: 6.6 in x 5.1 in x 3.2 in (168 mm x 130 mm x 82 mm)
- SPS Speaker/Strobe (including lens and speaker): 6.5 in x 5.0 in x 2.3 in (165 mm x 127 mm x 58 mm)
- SPS Speaker/Strobe (including lens and speaker) with Surface Mount Back Box: 6.6 in x 5.1 in x 4.55 in. (168 mm x 130 mm x 116 mm)

Electrical/Operating Specifications:

- **Nominal Voltage (speakers):** 25 or 70.7 (nominal)
- **Maximum Supervisory Voltage (speakers):** 50 VDC
- **Strobe Flash Rate:** 1 flash per second
- **Nominal Voltage (strobes):** Regulated 12 VDC or regulated 24 DC/FWR
- **Operating Voltage Range (includes fire alarm panels with built in sync):** 8 to 17.5 V (12 V nominal) or 16 to 33V (24 V nominal)
- **Operating Voltage with MDL3 Sync Module:** 8.5 to 17.5 V (12 V nominal) or 16.5 to 33V (24 V nominal)
- **Frequency Range:** 400 to 4000 Hz.
  520Hz capable with compatible fire alarm control panel.
- **Power:** ¼, ½, 1, 2 watts

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

Sound Output Speaker Strobe

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

Sound Output Speaker

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

Agency Listings and Approvals

The listings and approvals below apply to L-series devices. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL-Listed:**
  - S4048 Plain Speaker Strobes (Wall)
  - S4048 Spanish-labeled Speaker Strobes (Wall)
  - S4048 Speaker Strobe ALERT devices.
- **UL/ULC-Listed:**
  - S4048 Speakers (Wall)
  - S4048 Speaker Strobes (Wall)
- **FM Approved** (All except ALERT models)
- **CSFM Listed:** 7320-1653:0505

Product Line Information

Note: "A" suffix indicates ULC-listed models. ULC-listed devices include required French labeling. See Agency Listings for listing details.

Wall Mount

SPWL(A), SPRL(A). Speaker only (White, Red).

SPSWL(A), SPSRL(A). Speaker Strobe (White, Red).

SPSWL-P(A), SPSRL-P(A). Plain Speaker Strobe (White, Red).

SPSWL-ALERT. Speaker Strobe, Amber Lens, ALERT (White).

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

SPSRL-SP. Speaker Strobe, Fuego (White).

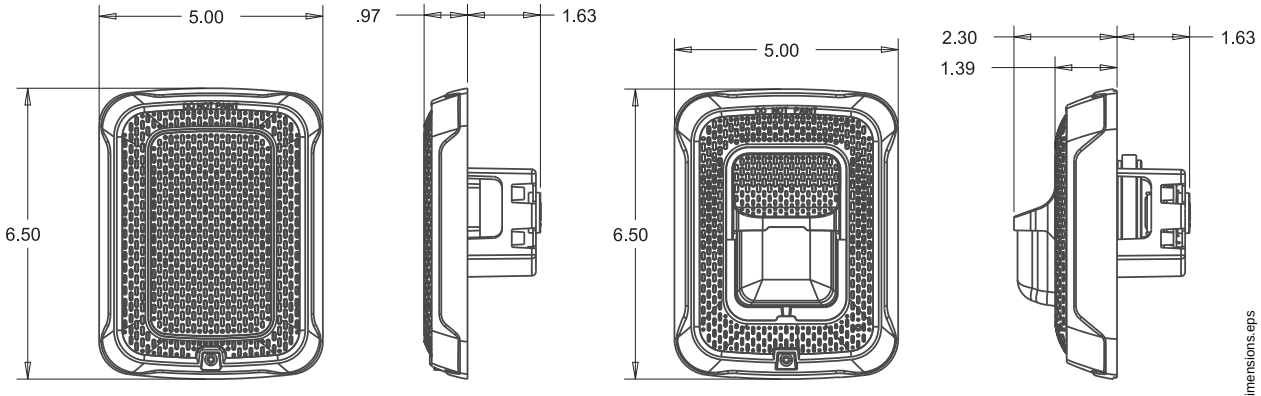
ACCESSORIES

RFPW, RFP. 7 in × 9.5 in Retrofit Plate (White, Red).

SBBSPW, SBBSPR. Surface Mount Back Box for Speakers and Speaker Strobes (White, Red).

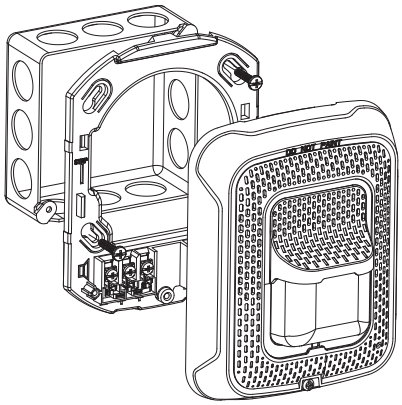
TRW, TR. Wall Mount Trim Ring (White, Red).

Product Drawings: Dimensions and Surface Mounting



Wall-Mount Speaker

Wall-Mount Speaker Strobe



Wall-Mount Speaker Strobe with SBBSPRL Surface Mount Back

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SSM Series

Alarm Bells

NOTIFIER® by Honeywell

Audio/Visual Appliances

General

System Sensor's SSM Series alarm bells are low-current, high-decibel notification appliances for use in fire and burglary systems or other signaling applications. They come pre-wired to reduce installation time, and also incorporate a polarized electrical design for use with supervision circuitry.

With reliable performance, SSM Series alarm bells provide loud, resonant tones. They operate on 24 VDC and are motor-driven.

SSM Series alarm bells offer simplified installation. For indoor use, SSM Series alarm bells mount to a standard 4" (10.16 cm) square electrical box. For outdoor applications, a WBB weatherproof backbox is used.

6910pho1.jpg

Features

- Approved for indoor or outdoor (with WBB backbox) use.
- Low current draw.
- High dB output.
- Three sizes available: 6" (15.24 cm), 8" (20.32 cm), and 10" (25.40 cm) diameter.
- 24 VDC models; polarized for use with supervision circuitry.
- Bells mount directly to standard 4" (10.16 cm) square electrical box.

Specifications

Regulated voltage: 24 VDC.

Operating voltage range: 116 to 33 VDC.

Maximum Current: DC 31.1 mA/FWR - 53.5 mA.

Operating temperature range: –31°F (–35°C) to +150°F (+66°C).

Termination: provided with two sets of leads for in/out wiring.

Service use: Fire Alarm, General Signaling, Burglar Alarm.

Engineering and Architectural Specifications

Model shall be a SSM Series alarm bell. Bells shall have underdome strikers and operating mechanisms. Gongs on said bell shall be no smaller than nominal 6" (15.24 cm), 8" (20.32 cm), or 10" (25.40 cm) (specify size) with an operating voltage of 24 VDC. Bells shall be suitable for surface or semi-flush mounting. Outdoor surface-mounted installations shall be weatherproof (using optional WBB weatherproof backbox); otherwise, bells shall mount to a standard 4" (10.16 cm) square electrical box having a minimum projection of 2.5" (6.35 cm). Bells shall be located as shown on the installation drawings or as determined by the Authority Having Jurisdiction. Bells shall be Listed for indoor/outdoor use by Underwriters Laboratories, ULC (Canada), and the California State Fire Marshal, and approved by Factory Mutual and MEA.

Agency Listings and Approvals

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:** S4011
- **ULC Listed:** CS549
- **MEA Listed:** 331-01-E
- **FM Approved**
- **CSFM:** 7135-1653:125

Ordering Information

SSM24-6: 6" (15.24 cm) bell, 24 VDC, polarized, 82 dBA.

SSM24-8: 8" (20.32 cm) bell, 24 VDC, polarized, 80 dBA.

SSM24-8A: Canadian model of 8" bell above.

SSM24-10: 10" (25.40 cm) bell, 24 VDC, polarized, 81 dBA.

WBB: Weatherproof backbox.

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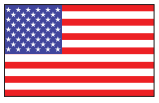


Made in the U.S. A.

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

Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications

NOTIFIER® by Honeywell

Audio/Visual Devices

General

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

The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

The entire L-Series product line of ceiling-mount strobes and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature a plug-in design with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

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

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only

SCRL

PC2WL

Architect/Engineer Specifications

GENERAL

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × $1^{7}/_{8}$ inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

STROBE

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

HORN STROBE COMBINATION

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

SYNCHRONIZATION MODULE

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

PHYSICAL/ELECTRICAL SPECIFICATIONS

- **Standard Operating Temperature:** 32°F to 120°F (0°C to 49°C)
- **Humidity Range:** 10 to 93% non-condensing
- **Strobe Flash Rate:** 1 flash per second
- **Nominal Voltage:** Regulated 12VDC or regulated 24DC/FWR[1]
- **Operating Voltage Range[2]:** 8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
- **Operating Voltage Range with MLD3:** 8.5 to 17.5V (12V nominal) or 16.5 to 33V (24V nominal)
- **Input terminal wire gauge:** 12 to 18 AWG
- **Ceiling-Mount Dimensions (including lens):** 6.8" diameter 2.5" high (173 mm diameter 64 mm high)
- **Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCR, SBBCW):** 6.9" diameter x 3.4" high (175 mm diameter x 86 mm high)

Notes:

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

UL Current Draw Data

UL MAX. STROBE CURRENT DRAW (MA RMS)

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

*This data represents coding at 3 chimes per second. Actual current draw will vary depending upon coding selected.

UL Max. Chime/Strobe Current Draw (mA RMS), 2-Wire Horn Strobe

The 3.1k is the sound of the mini-horns. The EM (which stands for Electro-mechanical) is the sound of the SpectrAlert Advance line which uses an algorithm that hops frequencies between 2Hz and 4Hz.

	8 VDC		16 VDC						
Candela	**15**	**30**	**15**	**30**	**75**	**95**	**115**	**150**	**177**
Temporal High	103	167	71	90	143	165	187	217	254
Temporal Low	96	165	54	71	137	161	185	211	249
Non-Temporal High	106	173	71	90	141	165	187	230	273
Non-Temporal Low	95	166	54	71	124	161	170	216	258
3.1K Temporal High	111	164	69	94	147	163	184	229	257
3.1K Temporal Low	103	163	54	88	143	155	185	212	252
3.1K Non-Temporal High	111	172	69	94	144	164	202	229	271
3.1K Non-Temporal Low	103	169	54	88	131	155	187	217	259

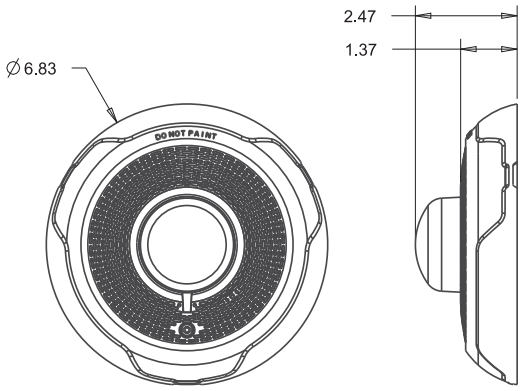
	16VFWR						
Candela	**15**	**30**	**75**	**95**	**115**	**150**	**177**
Temporal High	107	135	179	198	223	254	286
Temporal Low	78	101	151	172	199	229	262
Non-Temporal High	107	135	179	198	223	254	286
Non-Temporal Low	78	101	151	172	199	229	262
3.1K Temporal High	108	135	179	200	225	255	289
3.1K Temporal Low	79	101	150	171	196	229	260
3.1K Non-Temporal High	108	135	179	200	225	255	289
3.1K Non-Temporal Low	79	101	150	171	196	229	260

Horn Strobe Tones and Sound Output Data

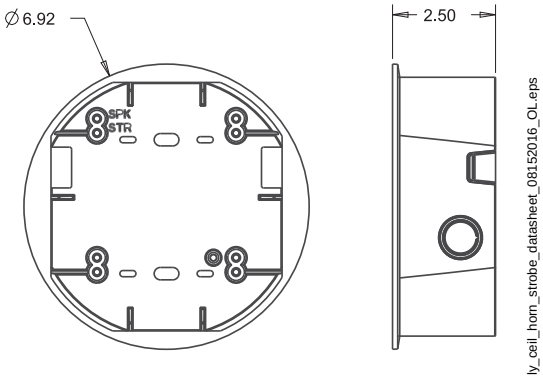
Horn and Horn Strobe Output (dBA)

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

Product Drawings: L-Series Dimensions



Horn Strobes (Ceiling)



Surface Mount Back Box (Ceiling)

oly_ceil_horn_strobe_datasheet_081520l6_OL.eps

Agency Listings and Approvals

The listings and approvals below apply to L-series devices. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC-Listed**
  - S4011 Ceiling horn strobes
  - S5512 Ceiling strobes
  - S5512 Strobe-only ALERT devices
- **FM Approved** (All except ALERT models)
- **CSFM Listed:** 7135-1653:0503 (Ceiling Horns and Ceiling Horn Strobes), 7125-1653:0504 (Ceiling Strobes)

Product Line Information

CEILING HORN STROBES

PC2WL(A) (-E)(-F), PC2RL(A) (-E)(-F). 2-Wire, Horn Strobe (White, Red).

CEILING STROBES

SCWL(A) (-E)(-F), SCRL(A) (-E)(-F). Strobe (White, Red).

SCWL-CLR-ALERT. Strobe, ALERT (White).

ACCESSORIES

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

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

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

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

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

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

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www.notifier.com

UDACT-2

Universal Digital Alarm Communicator Transmitter

NOTIFIER® by Honeywell

Annunciator Control System

General

The Universal Digital Alarm Communicator Transmitter (UDACT-2) is designed for use on Notifier Fire Alarm Control Panels and on the NCA-2 Network Control Annunciator. When used in conjunction with the NCA-2 network control annunciator, the UDACT-2 can report the status of all control panels on NOTI•FIRE•NET™. The UDACT-2 transmits system status to UL listed Central Station Receivers via the public switched telephone network. The UDACT-2 can be installed in the panel cabinet or remotely in a separate enclosure.

NOTE: *The UDACT-2 can also be used with legacy panels. Please refer to the UDACT-2 manual for more information.*

The UDACT-2 upload/download programming and firmware updates are accomplished with VeriFire Tools. Refer to the Programming Section for further details.

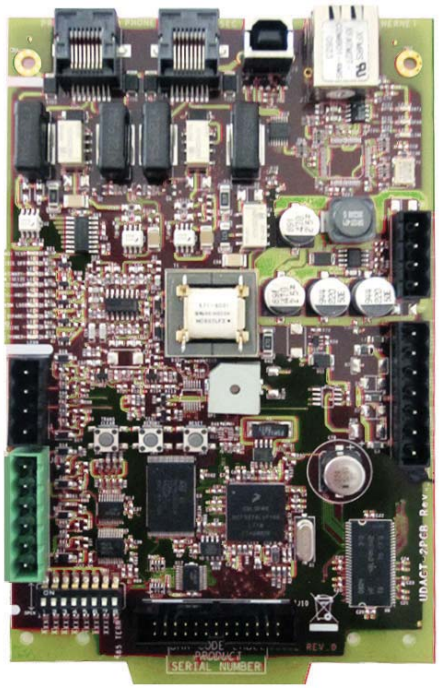
The UDACT-2 is capable of transmitting the status of software zones (Alarm and Trouble), System Trouble, Panel Off-Normal, Supervisory, Bell Trouble, Low Battery, and AC Fail. The UDACT-2 is capable of transmitting all of the zone and point status associated with each panel.

When the UDACT-2 is used with the NFS-3030, NFS2-3030, and NCA-2 it is capable of reporting up to 2,040 points. Reporting may be in the form of points or zones (refer to the UDACT-2 manual for specific reporting parameters). Points transmitted may be programmed for a variety of types, including fire, waterflow, supervisory, etc.

NOTE: *Descriptions regarding point capacity, listed above, are for receivers which receive in Ademco Contact ID format. See chart on page 2 for compatible receivers.*

Features

- Programmable with VeriFire Tools version 6.60 or higher, allowing the UDACT-2 programming to be uploaded/downloaded and saved.
- Maximum of 14 point trouble messages transmitted per hour.
- Dual phone lines with line voltage detect.
- Compact in size: 6.75" x 4.25" (17.145 x 10.795 cm).
- USB port for upload/download programming.
- Manual Test Report function.
- Manual Transmission Clear function.
- Mounts in a separate enclosure (ABS-8RB or UBS-1B/R).
- Communicates vital system status including:
  - Independent zone fire alarm.
  - Independent zone non-fire alarm.
  - Independent zone trouble.
  - Independent zone supervisory.
  - AC (mains) Power Loss (programmable).
  - Low Battery and Earth Fault.
  - System Off-Normal.
  - 12 or 24 hour test signal.
  - Abnormal Test Signal per new UL requirements.
  - EIA-485 Communication Bus Failure.
- Annunciation of UDACT-2 Troubles including: loss of phone lines, communication failure with either Central Station, total communications failure.
- Individual LEDs for: Power, EIA-485 Loss, Manual Test, Kissoff, Comm Fail, Primary Line Seize, Secondary Line Seize and Modem Communications.



UDACT-2

- Open Collector relay driver for Total Communications Failure or UDACT-2 trouble.
- Real-time clock.
- Extensive transient protection.
- EIA-485 interface to host panel.

Programming

The UDACT-2 programming is created and downloaded using VeriFire Tools. This enables the unit to be programmed prior to installation, be easily modified, and saved either online or offline. A printed report with point or zone information can be generated from VeriFire Tools for an ONYX Series panel or network annunciator. The point report consists of the central station point address, ACS point, ACS point function, panel label, panel point, type code, custom and extended label, alarm verification, walktest participation, presignal, and PAS information. The zone report consists of a grid with the central station point address, ACS point address, source, ACS point function, custom label and panel label. This report may be sent to the Central Station for their records. VeriFire Tools also supports upgrading the UDACT-2 operating firmware.

Communication Formats

- Ademco Contact ID
- 4+2 Standard
- SIA

NOTE: *Ademco Contact ID must be used for independent zone reporting.*

Type Mode Feature

Ademco Contact ID format - only Use Type Mode to identify reports to Central Station as:

- Fire Alarm
- Supervisory
- Pull Station
- Heat Detector
- Waterflow
- Duct Detector
- Flame Sensor
- Smoke Zone
- Burglary
- 24 hour Non-Burglary
- High Temperature
- Low Temperature
- Low Water Pressure
- Low Water Level
- Pump Failure

Electrical Specifications

Standby current: 40 mA.

Current while communicating: 75 mA.

Maximum current *while communicating and with open collector output activated***:** 100 mA.

Voltage: Regulated 24 volts. Range: 21.2 to 28.2 volts.

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
- FM Approved
- CSFM: 7165-0028:0243 (NFS2-640/320), 7165-0028:0224 (NFS2-3030)
- FDNY: COA#6085, COA#6098

Ordering Information

UDACT-2: Universal Digital Alarm Communicator Transmitter. Includes operating and programming instructions, and mounting hardware.

MCBL-7: DACT phone cord, 7 ft (2.13 m) long (two required).

ABS-8RB: Metal enclosure for externally mounting UDACT-2 up to 6,000 ft./1828.8 m from host FACP. 9.94" H x 4.63" W x 2.50" D (cm: 25.248 H x 11.760 W x 6.350 D).

UBS-1B: Metal enclosure with solid door, Black.

UBS-1BR: Metal enclosure with solid door, Red.

R-10E: SPDT Form-C relay. Contacts rated for 10 A @ 115 VAC. Connects to open collector relay driver.

R-20E: DPDT Two Form-C relays. Contacts rated for 10A @ 115 VAC. Connects to open collector relay driver.

FBD-1: Ferrite bead kit. Use for remote mounting only.

UL Listed Receivers

The chart below shows UL listed receivers compatible with the UDACT-2. A check in the protocol column indicates the receiver supports that protocol.

Receiver	4+2 Standard 1800/2300	Ademco Contact ID	SIA
Ademco 685 (1)	✔	✔	
Ademco MX8000 (2)	✔	✔	✔
Silent Knight 9500 (3)	✔	✔	✔
Silent Knight 9800 (4)	✔	✔	✔
FBI CP220FB (5)	✔	✔	✔
Osborne Hoffman 2000E (6)		✔	✔
Radionics 6600 (7)		✔	✔
SurGard MLR2 (8)	✔	✔	
SurGard System III (9)		✔	✔
SurGard MLR-2000 (10)		✔	

(1) With 685-8 Line Card with Rev 4.4d software

(2) With 124060V206B and 124063 Line Card Rev B

(3) With version V2.4 Receiver & 126047 Line Card Rev G

(4) With 124077V2.00 Receiver &126047 Line Card Rev M

(5) With software V3.9

(6) With V.7301 Receiver S/W

(7) With 01.01.03 Receiver S/W & Line Card 01.01.03

(8) With software V1.86

(9) With sotware V1.72

(10) With DSP4016 and V1.6 Line Card

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www.notifier.com

SpectrAlert® Advance

Outdoor Selectable Output Speaker Strobes and Dual Voltage Evacuation Speakers

NOTIFIER® by Honeywell

Audio/Visual Devices

General

The SpectrAlert Advance series offers the broadest line of outdoor speakers and speaker strobes in the industry. From metal and plastic outdoor back boxes, to white and red plastic housings, to wall and ceiling mounting options, virtually every application is covered. SpectrAlert Advance outdoor speakers and speaker strobes offer reliable operation over the entire temperature range of -40°F to 151°F. They may be used indoors or outdoors in wet or dry applications. In addition, these speakers provide a broad frequency response range and low harmonic distortion to provide an accurate and intelligible broadcast of evacuation messages. High sound pressure level at all tap settings ensures that messages are clearly heard.

The plug-in design allows the installer to pre-wire mounting plates and dress the wires before plugging in the speakers to help reduce ground faults. This design also allows faster installations with instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and field selectable candela settings for wall and ceiling speaker strobes.

The new weatherproof back boxes have plastic and metal versions. They are now designed to accommodate in-and-out wiring for daisy chaining outdoor devices. The plastic weatherproof back boxes shipped with the product feature removable side flanges and improved resistance to salt water corrosion. The screw hole knockouts located on the back of the weatherproof back box eliminate the need to drill holes for screw-in mounting. Both weatherproof back boxes are available with 3/4 inch top and bottom conduit entries and 3/4 inch knock-outs at the back. Included with each back box is a screw-in NPT plug with an O-ring gasket for a watertight seal. Metal back boxes are available separately.

Features

- Plug-in design
- Electrical compatibility with existing SpectrAlert products
- Shorting spring on mounting plate tests continuity before installation
- Rotary switch simplifies field selection of speaker voltage and power settings
- Universal mounting plate for wall- and ceiling-mount units
- Weatherproof per NEMA 4x, IP56
- Compatible with System Sensor synchronization protocol
- Automatic selection of 12 or 24-volt operation at 15 and 15/75 candela
- Field selectable candela settings on wall and ceiling units
- Ceiling and wall mount application

Agency Listings and Approvals

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

- **UL/ULC Listed:** S4048
- **MEA:** 10-08-E
- **CSFM:** 7320-1653:201

60323phot1.jpg

Specifications

PHYSICAL SPECIFICATIONS

Operating Temperature: -40°F to 151°F (-40°C to 66°C)

DIMENSIONS

Dimensions, Wall-Mount:

- SPS Speaker Strobe: 6.0”L x 5.0”W x 4.7”D (including lens and speaker)
- SP Speaker: 6.0”L x 5.0”W x 2.9”D

Dimensions, Ceiling-Mount:

- SPS Speaker Strobe: 6.8” in Diameter x 4.7”D (including lens and speaker)
- SP Speaker: 6.8” in Diameter x 2.9”D

Dimensions, Wall-Mount Weatherproof Backbox

- 6.5”L x 5.5”H x 2.9”D

Dimensions, Ceiling-Mount Weatherproof Backbox

- 7.2”Dia x 29”H

ELECTRICAL/OPERATING SPECIFICATIONS

Nominal Voltage (speakers): 25 Volts or 70.7 Volts (nominal)

Maximum Supervisory Voltage (speakers): 50VDC

Strobe Flash Rate: 1 flash per second

Nominal Voltage (Strobes): Regulated 12VDC/FWR or 24VDC/FWR

Operating Voltage Range (includes fire panels with built-in sync): 8 to 17.5V (12V nominal) or 16 to 33V (24 nominal)

Operating Voltage with MDL Sync Module:

9 to 17.5V (12V nominal) or 17 to 33V (24V nominal)

Frequency Range: 400 to 4000Hz

Power: ¼, ½, 1, 2 watts

Sound Output				
UL Reverberant (dBA @ 10ft)	2W	1W	½W	¼W
Outdoor Speaker	90	87	84	81
Outdoor Speaker/Speaker Strobe	89	86	83	80

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

Candela Derating

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

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

Architectural/Engineering Specifications

GENERAL

SpectrAlert Advance outdoor speaker and speaker strobes shall mount to a weatherproof back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal mounting plate. Also, SpectrAlert Advance speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt rated notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt rated notification appliance circuit outputs shall operate between 17 and 33 volts. Outdoor SpectrAlert Advance products shall operate between –40°F and 151°F from a regulated DC, or full-wave rectified, unfiltered power supply.

SPEAKER

The Speaker shall be a System Sensor SpectrAlert Advance Model _____ dual voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. It shall be listed to UL/ULC Standard S4048 for outdoor fire protective signaling systems. It shall have a frequency range of 400 to 4000 Hz and shall have an operating temperature from –40°F to 150.8°F. It shall have power taps and wattage settings which are selected by rotary switches. The speaker must be installed with its weatherproof backbox in order to remain outdoor approved per UL/ULC listing S4048. The speaker shall be suitable for use in air handling spaces, as well as wet environments.

SPEAKER STROBE COMBINATION

The Speaker Strobe shall be a System Sensor Model _____ listed to UL/ULC 1638 and UL/ULC 1480 and be approved for fire protective signaling systems. It shall be capable of operating at 25.0 or 70.7 nominal Vrms, and shall have a frequency range of 400 to 4000 Hz. It shall have power taps that are selected by rotary switch. The strobe shall consist of a xenon flash tube with associated lens/reflector system and operate on either 12V or 24V. The strobe shall also feature selectable candela output, providing options for 15 or 15/75 candela when operating on 12V and 15, 15/75, 30, 75, 110, 115, 135, 150, 177 or 185 when operating on 24V. The strobe shall comply with the Americans with Disabilities Act requirement for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The speaker strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL/ULC. The speaker strobe shall be suitable for use in wet environments.

Product Line Information

NOTE: *"A" suffix indicates ULC-Listed model.*
NOTE: *All outdoor models ("K(A)" suffix), include weatherproof backbox.*
NOTE: *Add "R" to outdoor models for weatherproof replacement device (no backbox included).*

SPWK(A): Wall mount outdoor speaker; white.

SPRK(A): Wall mount outdoor speaker; red.

SPSWK: Wall mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 75, 95, 110, 115); white.

SPSRK: Wall mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 75, 95, 110, 115); red.

SPCWK: Ceiling mount outdoor speaker; white.

SPSCWK: Ceiling mount outdoor speaker strobe, selectable candela (15, 15/75, 30, 50, 75, 95, 110, 115); white.

SPSCWHK: Ceiling mount outdoor speaker strobe, selectable candela, high cd (135, 150, 177, 185); white.

ACCESSORIES

MWBB(A): Wall, metal weatherproof backbox; red.

MWBBW(A): Wall, metal weatherproof backbox; white.

MWBBCW(A): Ceiling, metal weatherproof backbox; white.

WTP-SP: Flush mount weatherproof plate for use with speakers/speaker strobes, red.

WTP-SPW: Flush mount weatherproof plate for use with speakers/speaker strobes, white.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
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ISO-X(A)

Fault Isolator Module

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

The Notifier ISO-X(A) Fault Isolator Module is used with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs) to protect the system against wire-to-wire short circuits on the SLC loops.

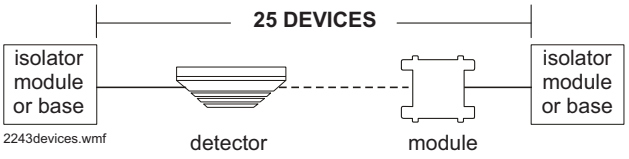
Features

- Powered by SLC loop directly, no external power required.
- Base mounts on standard junction boxes (4.0"/10.16 cm square by 2.125"/5.398 cm deep).
- Integral LED blinks to indicate normal condition. Illuminates steady when short circuit condition is detected.
- High noise (EMF/RFI) immunity.
- Wide viewing angle of LED.
- SEMS screws with clamping plates for ease of wiring.
- Opens SLC loop automatically on detection of short, preventing the short from causing failure of the entire loop.
- Automatically resets on correction of short.
- Supports Style 4, 6, or 7 wiring.

Applications

The Fault Isolator Modules should be spaced between groups of sensors in a loop to protect the rest of the loop. Use to isolate short circuit problems within a section of a loop so that other sections can continue to operate normally. The ISO-X(A) supports a maximum of 25 devices in-between isolators, except when using relay bases or legacy IPX multisensors.

NOTE: *ON LOADS PER RELAY BASE AND* LEGACY *MULTISENSOR DETECTORS/ISOLATORS/ISOLATOR BASES:* the maximum number of addressable devices between isolators (or B224BI isolator bases) is 25 devices.



B224RB relay bases and legacy IPX-751 multisensor detectors draw more current than all other intelligent devices. When calculating the 25-device maximum: B224RB.

- B224RB represents 2.5 devices.
- IPX-751 in a standard base represents 12 devices.
- IPX-751 in a relay base represents 14.5 devices.
- All other addressable devices represent 1 device.

See examples on page 2.

NOTE: *ON MAXIMUM NUMBER OF DEVICES:* See the SLC Manual (PN 51253) for information on loss of addresses due to current limitations. Each module or base added reduces the capacity of address positions in an SLC. All SLC field devices must have been purchased after February 1995 to meet the aforementioned requirements. If the SLC field devices were purchased prior to February 1995, each ISO-X(A) used reduces the capacity of an SLC by two address positions. Requirements differ as applied to relay bases (see note above).

ISO-X_left_rgb.jpg

ISO-X(A)

Construction

The face plate is made of off-white plastic. Includes yellow LED indicator that pulses when normal and illuminates steady when a short is detected.

Operation

Automatically opens circuit when the line voltage drops below four volts. Fault Isolator Modules should be spaced between groups of addressable devices (maximum 25, see notes on page 1) in a loop to protect the rest of the loop. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the groups of sensors between them. The remaining units on the loop continue to fully operate.

In Style 4 loops, the ISO-X(A) is generally used at each T-tap branch, to limit the effect of short circuits on a branch to the devices on that branch. The LED indicator is on continuously during a short circuit condition.

The ISO-X(A) Fault Isolator Module automatically restores the shorted portion of the communications loop to normal condition when the short circuit condition is removed.

Installation

- Mount on a standard junction box (4.0"/10.16 cm square) which is at least 2.125"/5.398 cm deep.
- Terminal screws are provided for “in and out” wiring.
- Installation instructions are provided with each module.
- Surface-mount box is available as an option.

Specifications

Normal operating voltage: 15 – 32 VDC (peak).

Standby current: 450 µA (not isolating) .

Maximum current draw: 17 mA (device in isolation, LED latched in alarm).

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

Relative humidity: 10% to 93% (non-condensing).

Weight: 5 oz. (150 grams).

Dimensions: 4.5"H x 4.5"W x 0.25" D (11.43 cm H x 11.43 cm W x 0.635 cm D).

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 (UOXX); BP6480 (AMCX, APOU).
- **ULC:** S635 (OUOXXC, ISO-XA).
- **FM Approved.**
- **CSFM:** 7165-0028:0214; 7165-0028:0224; 7165-0028:0243.
- **MEA:** 17-96-E; 104-93-E Vol. VI; 290-91-E Vol. V; 317-01-E; 447-99-E.
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **BSA:** 578-81-SA.

Architectual/Engineering Specifications

Fault Isolator Modules shall be provided to automatically isolate wire-to-wire short circuits on an SLC loop. The Fault Isolator Module shall limit the number of modules or detectors that may be rendered inoperative by a short circuit fault on the SLC Loop. If a wire-to-wire short occurs, the Fault Isolator Module shall automatically open-circuit (disconnect) the SLC loop. When the short circuit condition is corrected, the Fault Isolator Module shall automatically reconnect the isolated section of the SLC loop. The Fault Isolator Module shall not require any address-setting, and its operations shall be totally automatic. It shall not be necessary to replace or reset an Fault Isolator Module after its normal operation. The Fault Isolator Module shall mount in a standard 4.0" (10.16 cm) deep electrical box, in a surface-mounted backbox, or in the Fire Alarm Control Panel. It shall provide a single LED which shall flash to indicate that the Isolator is operational and shall illuminate steadily to indicate that a short circuit condition has been detected and isolated.

Product Line Information

***NOTE:** "A" suffix indicates ULC Listed model.*

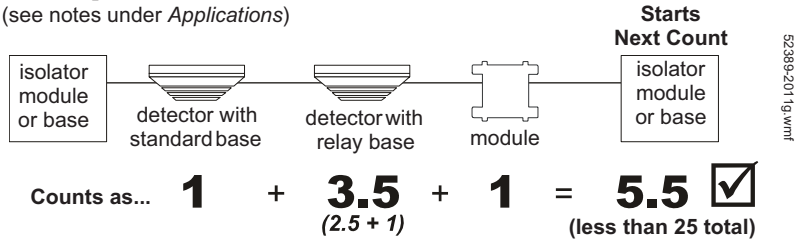
ISO-X: Isolator Module.

ISO-XA: Isolator Module. Canadian (ULC) version.

SMB500: Surface Mount Backbox

Examples of Device Counts

(see notes under *Applications*)



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DTK-LVLP Series
Low Voltage Surge Protectors

DITEK's DTK-LVLP Series of low voltage surge protectors provide robust protection in a compact, hardwired package. Models are available to protect multiple low voltage pairs, and are suitable for both AC and DC circuits.

DTK-2LVLPLV

DTK-4LVLPLV

Product Features

- Protect up to (2) or (4) pairs to match your specific configuration needs
- Series connection, parallel function adds no resistance to loop circuits
- Five voltage levels available to protect various low voltage applications

Applications

- OSDP & Wiegand Circuits
- NAC, SLC, PIV and IDC Circuits
- 4-20mA Current Loops
- Low Voltage Power Circuits
- Automation Control Circuits

Accessories

- DIN RAIL Mounting Kit, p/n DTK-DRK

Technical Specifications	
Protection Modes:	Differential Mode (L-L) Common Mode (L-G)
Surge Current Rating:	5,000A
Max. Continuous Current:	5 Amps

Mechanical Specifications	
Connection Method:	Hardwired terminals: 30-12 AWG
Housing:	ABS
Operating Temperature:	-40°F - 158°F (-40°C - 70°C)
Maximum Humidity:	95% non-condensing
Dimensions:	3.30" L x 1.55" W x 1.10" H (83mm x 39mm x 28mm)
Weight:	2.4 oz (68 g)

Quality Standards & Approvals	
Certifications:	UL497B
Warranty:	10 Year Limited Warranty

Part Number Example (2-Pairs, 24V):

DTK-2LVLPLV

Part Number Selection Guide					
Voltage Code:	D	X	LV	OPX	RUV
Service Voltage:	5V	12V	24V	48V	130V
Pairs Available:	2, 4	2, 4	2, 4	2, 4	2, 4
MCOV:	6V	18V	33V	64V	140V
Clamping Voltage:	8V	22V	39V	76V	155V