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UCLA
Public Health Seismic Upgrade
UCLA Campus
Los Angeles, CA 90095

Fire Alarm System Submittal
PCSI Job# 2012395

FIRE ALARM SYSTEM

MFG.	MODEL#	DESCRIPTION	CSFM#
[CONTROL PANELS]			
NOTIFIER	NFS2-3030	Fire Alarm Control Panel	7165-0028:0224
NOTIFIER	DAA2-5070	Digital Audio Amplifier (50w, 70.7vrms)	7165-0028:0224
NOTIFIER	DVC-EM	Digital Audio Processor	7170-0028:0223
NOTIFIER	DVC-KD	Digital Voice Keypad	7170-0028:0223
NOTIFIER	DVC-AO	Digital Voice Analog Output	7170-0028:0223
NOTIFIER	CMIC-1	Digital Voice Microphone	7170-0028:0223
[AUXILIARY POWER SUPPLIES]			
NOTIFIER	FCPS-24S8	8.0 Amp Sync. Aux. Power Supply	7315-0028:0225
[BATTERIES]			
NOTIFIER	BAT Series	Batteries	N/A
[DIALER PANELS]			
NOTIFIER	UDACT-2	Universal Alarm Communicator	(see panel CSFM)
[ANNUNCIATORS]			
NOTIFIER	FDU-80	Annunciator	7120-0028:0209
[DETECTORS]			

NOTIFIER	FSP-851	Low-Profile Intelligent Smoke Det.	7272-0028:0206
NOTIFIER	FST-851	Intelligent Thermal (Heat) Detector	7270-0028:0196
NOTIFIER	B210LP	Flanged Mounting Base	7300-1653:0109

[MANUAL PULL STATIONS]

NOTIFIER	NBG-12LX	Address Manual Pull Station	7150-0028:0199

[SIGNALING DEVICES]

WHEELOCK	E70-24MCW	Multi-Candela Wall Speaker/Strobe	7125-0785:0152
WHEELOCK	STW	Multi-Candela Strobe-White	7125-0785:0168

NFS2-3030

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

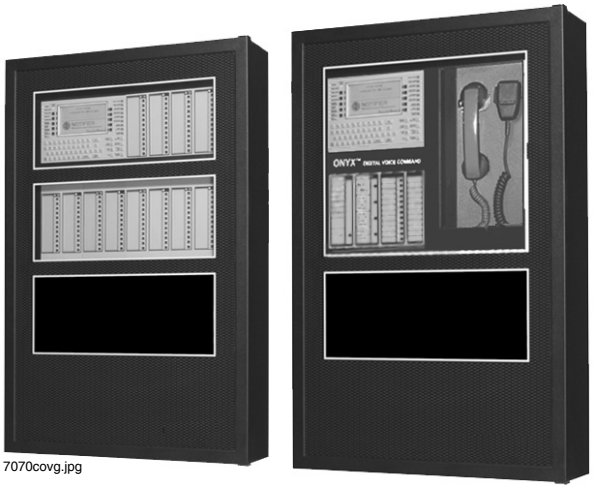
Intelligent Fire Alarm Control Panels

General

The NFS2-3030 is an intelligent Fire Alarm Control Panel 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; firefighters telephone; LED, LCD, or PC-based graphic annunciators; fire or integration networking; advanced detection products for challenging environments, and many additional options.



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NFS2-3030s, DVC audio option at right

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- One to ten isolated intelligent Signaling Line Circuits (SLC) Style 4, 6 or 7.
- 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, laser photo, thermal, or multi-sensor detectors; modules can be addressable pull stations, normally open contact devices, two-wire smoke, notification, or relay modules.
- Large 640-character LCD backlit display (16 lines x 40 characters) or display-less (a node on a network).
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC is used in network paging.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online/offline program option.
- Application code is saved in Flash memory.
- With built-in Degraded Mode operation, the system is capable of general alarm if a fire alarm condition is present even if the 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 tally.
- 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 or 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 x 40) with long-life LED backlight.

FLASHSCAN™ INTELLIGENT FEATURES

- Poll up to 318 devices on each loop in less than two seconds.
- Activate 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 — nine levels.
- Pre-alarm ONYX intelligent sensing — nine levels.
- Sensitivity levels:
  - **Ion –** 0.5 to 2.5%/foot obscuration.
  - **Photo –** 0.5 to 2.35%/foot obscuration.
  - **Laser (VIEW®) –** 0.02 to 2.0%/foot obscuration.
  - **Acclimate Plus™ –** 0.5 to 4.0%/foot obscuration.
  - **IntelliQuad** – 1.0 to 4.0%/foot obscuration.
  - **IntelliQuad™ PLUS –** 1.0 to 4.0%/foot 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.

FSL-751 VIEW® (VERY INTELLIGENT EARLY WARNING) SMOKE DETECTION TECHNOLOGY

- Revolutionary spot laser design.
- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- No moving parts to fail or filters to change.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

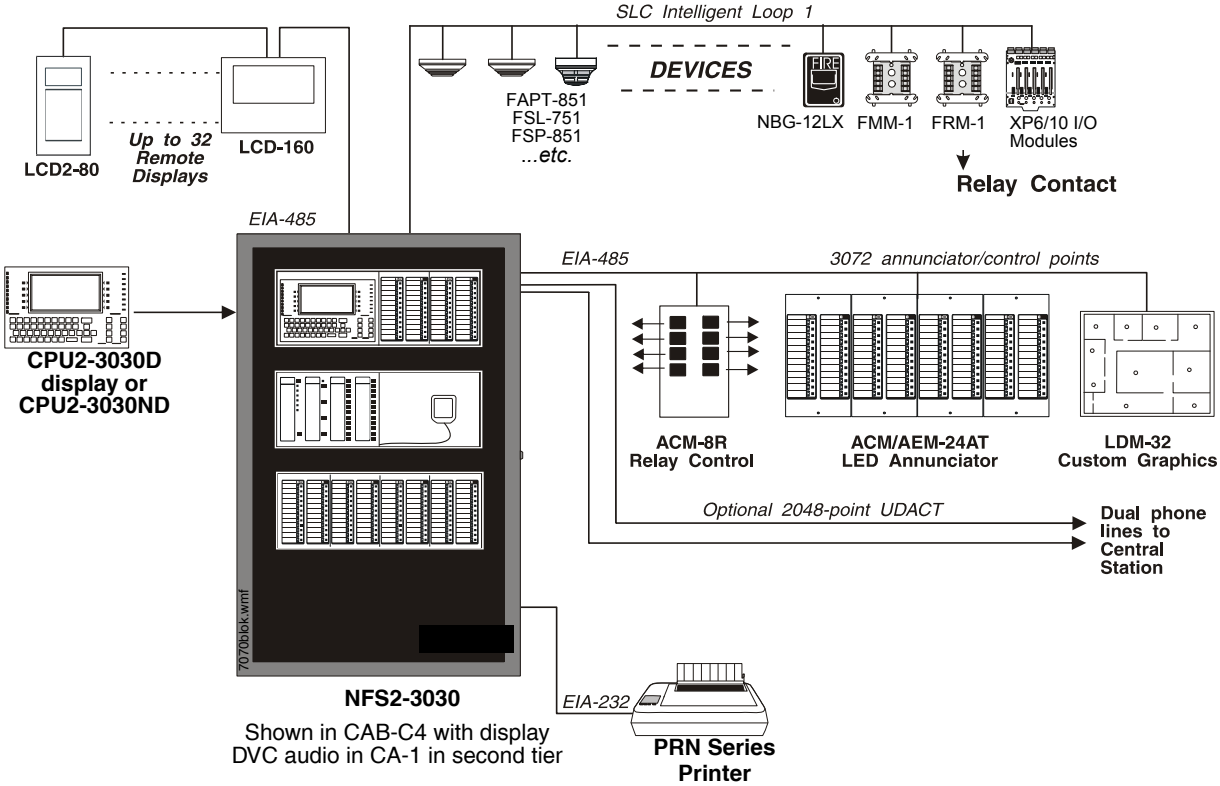
FAPT-851 ACCLIMATE PLUS™ LOW-PROFILE INTELLIGENT MULTI-SENSOR

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature signal at 40°F ± 5°F (4.44°C ± 2.77°C).

FSC-851 INTELLIQUAD ADVANCED MULTI-CRITERIA DETECTOR

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.
- Six sensitivity levels.

Sample System Options



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

FCO-851 INTELLIQUAD™ PLUS
ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR

- Detects all four major elements of a fire.
- 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.
- Six sensitivity levels.

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).

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® 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 new 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. This timesaving feature is a special software route. 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

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-CPU systems (one NFS2-3030D), the display option is the CPU2-3030D. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. Options listed as follows.

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.

CPU2-3030ND: CPU2-3030 without display.

LCM-320: Loop Control Module. Adds SLCs to 3030; 3030 supports up to 5 LCM-320s and 5 LEM-320s. *See DN-6881.*

LEM-320: Loop Expander Module. Expands each LCM used on the 3030. *See DN-6881.*

SAMPLE SYSTEM: *Four-loop NFS2-3030 with display:* CPU2-3030*D, 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 Control Module or High-Speed Network Control 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. *See DN-6858.*

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

HS-NCM-W/MF/SF/WMF/WSF/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), 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-listed graphics PC workstation, ONYXWorks GUI software, and computer hardware. *See DN-7048 for specific part numbers.*

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

AUXILIARY POWER SUPPLIES AND BATTERIES

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 four addresses on an SLC, depending on configuration. Primary input power for panel. *See DN-6883.*

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 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 while retaining digital audio distribuition capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. *See DN-60565.*

DVC-KD: 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, DS-DB distribution board, and DAX/DAA2 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 when mounted in the CA-2 chassis. *See DN-7045.*

CMIC-1: Microphone us gved 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.*

FTM-1: Firephone Control 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.*

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

AA-120/AA-100: Audio Amplifier provides up to 120 watts of 25 Vrms audio power. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (consumes one row). Switch-mode power. Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. Order the AA-100 for 70.7 Vrms systems and 100 watts of power. *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-6: 80-column printer. *See DN-6956.*

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. Supports Canadian requirements. *See DN-6940*

LCD-80: ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-3198.*

LCD2-80: Terminal 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: Universal Digital Alarm Communicator Transmitter, 636 channel *See DN-4867*.

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

BEAMHK: Heating kit for transmitter/receiver unit of FSB-200(S) below. *See DN-6985.*

BEAMHKR: Heating kit for use with the reflector of FSB-200(S) below. *See DN-6985.*

BEAMLRK: Long-range accessory kit, FSB-200(S) below. *See DN-6985.*

BEAMMRK: Multi-mount kit, FSB-200(S) below. *See DN-6985.*

BEAMSMK: Surface-mount kit, FSB-200(S) below. *See DN-6985.*

FSB-200: Intelligent beam smoke detector. *See DN-6985.*

FSB-200S: Intelligent beam smoke detector with integral sensitivity test. *See DN-6985.*

FSC-851: FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

FCO-851: FlashScan IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector. *See DN-60689.*

FSI-851: Low-profile FlashScan ionization detector. *See DN-6985.*

FSP-851: Low-profile FlashScan photoelectric detector. *See DN-6935.*

FSP-851R: Low-profile intelligent photoelectric sensor, remote test capable. For use with DNR(W). *See DN-6935.*

FSP-851T: Low-profile FlashScan photoelectric detector with 135°F (57°C) thermal. *See DN-6935.*

FST-851: FlashScan thermal detector 135°F (57°C). *See DN-6936.*

FST-851R: FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

FST-851H: FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

FAPT-851: FlashScan Acclimate Plus™ low-profile multi-sensor detector. *See DN-6937.*

FSL-751: FlashScan VIEW® laser photo detector. *See DN-6886.*

DNR: InnovairFlex low-flow non-relay duct-detector housing (order FSP-851 separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

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

B224RB: Low-profile relay base. *See DN-60054.*

B224BI: Isolator base for low-profile detectors. *See DN-60054.*

B210LP: Low-profile base. Standard U.S. style. Replaces B710LP. *See DN-60054.*

B501: European-style, 4" (10.16 cm) base. *See DN-60054.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. *See DN-60054.*

B200SR: Sounder base, Temporal 3 or Continuous tone. *See DN-60054.*

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

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

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

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

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

FCM-1: FlashScan NAC control module. *See DN-6724.*

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

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

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

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

ISO-X: Isolator module. *See DN-2243.*

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

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

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

XP10-M: 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 seperately; 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.*

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

CA-2: Chassis for CPU when DVC is used with firefighter's telephone. Mounts in the top two rows of a CAB-4 series enclosure.

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-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 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 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.*

DPA-1: Dress panel, used with the CA-1 chassis when configured with a DVC, 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-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.

BB-100: Backbox for batteries and power supplies. The BB-100 is used to mount 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 the AMPS-24(E) power supply when AMPS-24(E) is used as a charger for 200 AH batteries. Holds up to four 100 AH batteries and power supply. 30" (76.20 cm) wide x 36" (91.44 cm) high x 7.5" (19.05 cm) deep; depth includes door.

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.

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 mounted in CAB-4 Series Enclosures. Includes battery bracket for two batteries up to 26 AH.

SEISKIT-320/B26: Seismic mounting kit. Required for seismic-certified applications with BB-26. Includes battery bracket for two 26 AH batteries.

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

SEISKIT-PS/2/4: Seismic mounting kit for the FCPS-24S6/S8 and CAB-PS1. Includes battery bracket for two 7 AH or 12 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-adaptor 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.

IPGSM-DP: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. Replaces IPGSM-COM. *See DH-60695.*

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 SPECIFICATIONS

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-24/-48.*

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.

  NOTE: *For details of DC output values, see manual 51907.*
- **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:** S635.
- **MEA:** 232-06-E.
- **FDNY:** COA#6114.
- **CSFM:** 7165-0028:0224 (Commercial).
- **FM Approved.**
- **FM6320 Approved.** Class 6320 for Gas Detection.
- **City of Chicago.**
- **City of Denver.**
- **PSB Corporation.**
- **CCCF listed.**
- **Fire Services Department (Hong Kong).**

Standards

The NFS2-3030 complies with the following UL Standards and NFPA 72, IBC, and CBC Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **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 2000, IBC 2003, IBC 2006, IBC2009** (Seismic).
- **CBC 2007** (Seismic).

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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

4.1.2 Calculation for Main Supply Current

AMPS-24 *Terminal Blocks:*	Quantities TB1 (MAIN 24)*	TB3 (AUX 24)	Calculation Column 1 Primary, Non-Fire Alarm Current (amps) X [current draw]=	Total on: TB1 (MAIN 24)	TB3 (AUX 24)	Calculation Column 2 Primary, Fire Alarm Current (amps) X [current draw]=	Total on: TB1 (MAIN 24)	TB3 (AUX 24)	Calculation Column 3 Secondary, Non-Fire Alarm Current (amps) X [current draw]=	Total on: TB1 (MAIN 24)	TB3 (AUX 24)
CPU-3030, CPU2-3030	1	N/A	x [0.120]=	0.12	0	x [0.120]=	0.12	0	x [0.120]=	0.12	0
Keyboard/Display Option	1	N/A	x [0.220]=	0.22	0	x [0.220]=	0.22	0	x [0.220]=	0	0
LCM-320 (refer to Doc. 51330,52544)	[ ]	N/A	x [0.130]=		0	x [0.130]=		0	x [0.130]=		0
LEM-320 (refer to Doc. 51330,52544)	[ ]	N/A	x [0.100]=		0	x [0.100]=		0	x [0.100]=		0
SLC Loop†	[ ]	N/A	x [0.200]=		0	x [0.200]=		0	x [0.200]=		0
NCA, NCA-2 (Backlight ON)	[ ]	[ ]	x [0.400]=			x [0.400]=			x [0.400]=		
NCA, NCA-2 (Backlight OFF)	[ ]	[ ]	x [0.200]=			x [0.200]=			x [0.200]=		
NCM-W, NCM-F	[ ]	[ ]	x [0.110]=			x [0.110]=			x [0.110]=		
HS-NCM-W/MF/SF/MFSF/WMF/WSF	[ ]	[ ]	x [0.400]=			x [0.400]=			x [0.400]=		
DPI-232‡	[ ]	[ ]	x [ ]			x [ ]=			x [ ]=		
DVC components (Refer to DVC manual)	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
DS-DB (Refer to the DS-DB manual)	[ ]	[ ]	x [ ]=			x [ ]			x [ ]=		
ICM-4RK, CRM-4RK	[ ]	N/A	x [0.007]=		0	x [0.072]=		0	x [0.007]=		0
ICE-4	[ ]	N/A	x [0.001]=		0	x [0.065]=		0	x [0.001]=		0
CRE-4	[ ]	N/A	N/A		0	x [0.065]=		0	N/A		0
DCM-4RK	[ ]	N/A	x [0.008]=		0	x [0.080]=		0	x [0.008]=		0
VCE-4	[ ]	N/A	x [0.001]=		0	x [0.040]=		0	x [0.001]=		0
VCM-4RK	[ ]	N/A	x [0.007]=		0	x [0.040]=		0	x [0.007]=		0
IZM-8RK	[ ]	N/A	x [0.047]=		0	x [0.047]=		0	x [0.047]=		0
IZE-A	[ ]	N/A	x [0.004]=		0	x [0.003]=		0	x [0.004]=		0
ARM-4 Auxiliary Relay	[ ]	[ ]				x [0.146]=					
FSD-751RPL (Duct Detector)	[ ]	[ ]	x [0.025]=			x [0.087]=			x [0.025]=		
ACM-24AT	[ ]	[ ]	x [0.016]=			x [0.070]=			x [0.016]=		
ACM-48A	[ ]	[ ]	x [0.016]=			x [0.070]=			x [0.016]=		
AEM-24AT	[ ]	[ ]	x [0.002]=			x [0.056]=			x [0.002]=		
AEM-48A	[ ]	[ ]	x [0.002]=			x [0.056]=			x [0.002]=		
Maximum number of LEDs illuminated on these annunciators during non-fire conditions:	[ ]	[ ]	x [0.0054]=						x [0.0054]=		
AFM-16AT, AFM-32A	[ ]	[ ]	x [0.040]=			x [0.056]=			x [0.040]=		
ACM-16AT, ACM-32A	[ ]	[ ]	x [0.040]=			x [0.056]=			x [0.040]=		
AEM-16AT, AEM-32A	[ ]	[ ]	x [0.002]=			x [0.018]=			x [0.002]=		
TM-4	[ ]	[ ]	x [0.110]=			x [0.175]=			x [0.110]=		
SCS-8 (refer to Doc. 15712)	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
AFM-16A	[ ]	[ ]	x [0.025]=			x [0.065]=			x [0.025]=		
LCD-80	[ ]	[ ]	x [0.100]=			x [0.100]=			x [0.050]=		
ACM-8R (refer to Doc. 15342)	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
LDM (refer to Doc. 15885)	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
UZC-256	[ ]	[ ]	x [0.035]=			x [0.085]=			x [0.035]=		
AMG-1, AMG-E, ATG-2	[ ]	[ ]	x [0.060]=			x [0.060]=			x [0.060]=		
FFT-7, FFT-7S	[ ]	[ ]	x [0.060]=			x [0.120]=			x [0.060]=		
RM-1	[ ]	[ ]	x [0.020]=			x [0.020]=			x [0.020]=		
FZM-1, MMX-2	[ ]	[ ]	x [0.0094]=			x [0.090]=			x [0.0094]=		
XPIQ (Refer to Doc. 51013)	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
RPT-W, RPT-WF, RPT-F	[ ]	[ ]	x [0.017]=			x [0.017]=			x [0.017]=		
RPT-485W, RPT-485WF	[ ]	[ ]	x [0.049]=			x [0.049]=			x [0.049]=		
RFX	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
UDACT Communicator	[ ]	[ ]	x [0.040]=			x [0.100]=			x [0.040]=		
VEC-25/50	[ ]	N/A	x [0.215]=			x [1.215]=			x [0.215]=		
with optional FC-AAM25	[ ]	N/A	x [0.245]=			x [2.215]=			x [0.245]=		
Four-Wire Smoke Detectors	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
Power Supervision Relay (EOLR-1)	[ ]	[ ]	x [0.020]=			x [0.020]=			x [0.020]=		
Compatible Devices not listed above**	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
	[ ]	[ ]	x [ ]=			x [ ]=			x [ ]=		
Main Output (MAIN 24, TB1) Sub-totals ††			Primary, non-alarm:			Primary, alarm:			Secondary, non-alarm:		
AUX Output (AUX 24, TB3) Sub-totals ††			Primary, non-alarm:			Primary, alarm:			Secondary, non-alarm:		
AMPS-24									[ ] x [0.13]=		
Accessories Output (TB2 on CPS-24). Enter 0.5 A in all white boxes if TB2 is in use. Leave blank if not in use.											
Local Energy Municipal Box						[ ]x [ ]=					
Sum each column for totals			Primary, non-alarm:			Primary, alarm:			Secondary, non-alarm:		

Table 4.1 System Draw Current Calculations

* Devices powered by the Main Output (MAIN 24, TB1) draw current through the fire panel's connection to the power supply.
† Value represents an SLC's maximum current draw. Refer to device datasheets for individual current draws. Total device current cannot exceed 200mA.
‡ Current consumption of the DPI-232 is dependent upon the baud rate selection (via slide switch on the DPI-232). See DPI-232 manual for details.
** Refer to manual and/or Device Compatibility Document.
†† Refer to Table 1.1, "Output Current for Each Configuration," on page 8 to determine the maximum current for your configuration.

DAA2 Series

Digital Audio Amplifiers

NOTIFIER® by Honeywell

Voice Control Systems

General

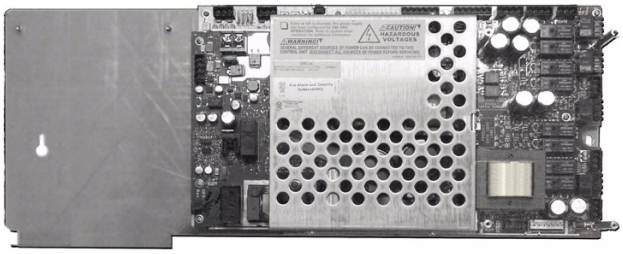
The DAA2 Series Amplifiers are multi-featured amplifiers with digital audio functionality. Each DAA2 is capable of accessing and processing one of up to eight audio channels on the DVC audio loop, amplifying the signal, and distributing it via four Class B or two Class A outputs. A DAA2 is capable of mounting an optional BDA Digital amplifier, which can be used to provide one-to-one amplifier backup, or to support two-channel operation.

The DAA2 has two wire digital audio ports to connect to wire DAL (digital audio loop) segments. Either or both ports may be converted to fiber using fiber option modules.

Up to 32 devices, such as DAA2 amplifiers, can be connected to the DAL on one DVC Digital Voice Command unit. DAA2 amplifiers may be mixed with DAX and DAA series amplifiers on the same DAL.

An optional Firefighter telephone riser on the DAA2 supports local and network FFT communications. A DAA2 also supports use of an RM-1 remote microphone.

DAA2 amplifiers can store backup alarm and trouble messages, and provide an adjustable background music input.



Features

- Listed to UL Standard 864, 9th edition.
- 50 W total output power at 25 V_{RMS} (all DAA2-5025 models) or 70 V_{RMS} (all DAA2-5070 models).
- 75 W total output power at 25 V_{RMS} (all DAA2-7525 models).
- Supports two Class A high-level audio outputs; or four Class B outputs.
- An optional BDA will provide either one-to-one amplifier backup or two-channel operation.
- Supports one-to-many amplifier backup applications using the same model DAA2.
- Firefighter telephone riser supports 7 active firefighter telephones. Release 3.0 and higher supports optional configurations: direct connection for up to 7 firefighter telephones, or connection to multiple FTM-1 modules.
- Remote microphone paging option with RM-1.
- Audio output activation via network control-by-event equations resident within the DVC.
- Two wire digital audio ports that can be converted to fiber using fiber option modules. Support Style 4 or 7 configurations.
- Auxiliary input for 1 V_{RMS}, to be used for background music input, an interface with a telephone paging source, or other compatible audio sources. Audio levels can be adjusted by end user. Optional supervision through programming.
- Isolated alarm bus input, to be used for backup activation of alarm messages when normal digital communication is lost.
- Programmable through ***VeriFire® Tools***.
- Up to 106 seconds of backup digital message storage for use in the event of communication loss (from the ***VeriFire® Tools*** message library, or created by the installer).
- Battery charger disable provides battery sharing option for up to four DAA2s.
- Disconnect of deeply-discharged battery (low battery disconnect).

Installation

The DAA2 arrives from the factory already installed on its chassis. The DAA2 mounts in one row of any EQ or CAB-4 Series cabinet: The CAB-4 row can be covered using a DP-1B dress panel, ordered separately.

One or two fiber option modules will plug directly onto a DAA2 for simple installation. A BDA backup amplifier mounts directly onto a DAA2.

Specifications

CPS-24 POWER SUPPLY BOARD

AC power (TB1): 120 VAC, 60 Hz input;
- DAA2-5025 - 4.68A max.
- DAA2-5070 - 4.69A max.
- DAA2-7525 - 4.68A max.

"E" versions, 220-240 VAC, 50/60 Hz input:
- DAA2-5025E - 2.68A max.
- DAA2-5070E - 2.68A max.
- DAA2-7525E - 2.68A max.

Recommended wiring: 12 to 14 AWG (1.6 mm O.D.) with 600 VAC insulation.

Secondary Power 5V and 24V AUX Outputs (TB2):
24 V AUX: Power-limited, 24V @ 0.5A, utilizes wire sizes 12-18 AWG (3.31 mm^2 - 2.08 mm^2.
5 V: Future Use.

Battery Connections: Supplied cable connections to batteries.

Battery Charger: Current-limited sealed lead acid battery charger which charges two 12 volt batteries in series, up to 200 AH.

	Charge Batteries Less Than 26 AH	Charge 26 AH to < 50 AH Batteries	Charge 50 AH to 200 AH Batteries
DAA2-5025 DAA2-5070	Yes	Yes	Yes
DAA2-7525	Yes	Yes	No
DAA2-5025 or DAA-5070 w/BDA in Group 2 of ***VeriFire® Tools***.	No	No	No

Battery Charging Capabilities

DAA2 BOARDS

Digital Audio Ports, wire media, A and B (TB2, TB3): Maximum distance per segment is 1900 feet (579.12 m) on Belden 5320UJ (18AWG, TP) FPL cable: 18 AWG (0.821 mm^2) twisted-pair, unshielded, power-limited. For approved cable types, see wiring documentation, P/N 52916ADD: C *Approved Wire Cables for Digital Audio Loops*.

Digital Audio Ports, fiber media, fiber option modules: Digital audio loop connectors support single- and multi-mode fiber with the use of fiber option modules. Refer to the Fiber Option Module datasheet for fiber specifications.

Alarm Bus: Power-limited, supervised by source. Recommended wiring: 14-18 AWG twisted-pair. Requires 16VDC minimum @ 20mA across the terminals to activate. Nominal 24VDC.

Remote Microphone Interface: RMI power: +24VDC, power-limited @ 100mA. Supervised. Recommended wiring: 14-18 AWG twisted-pair, Max. 14 AWG. Nominal AC signal strength 2.5V_{RMS}, 3V_{RMS} Max. Maximum distance between remote microphone and DAA2: 100 ft (304.8 m).

FFT Riser: Power-limited output, supervised. Class A or Class B operation. Class B 2-wire connections require a 3.9k ohm 1/2 watt resistor (P/N R-3.9K). Max. wiring resistance (including individual telephone zone to last handset) permitted is 50 ohms, 10,000 ft (3048 m) max. wiring distance at 14 AWG to last handset.

Auxiliary Input: Signal strength from low-level analog audio input (such as background music or telephone paging): 1V_{p-p} max. Optional supervision through programming. Recommended wiring: 14-18 AWG, twisted-pair. Auxiliary input source must be within 25 ft. (7.6 m) of the DAA2, and within the same room.

Speaker circuits: Power-limited outputs (exception: a DAA2-5070 speaker circuit used with any Canadian Room Isolator module is non-power limited. Speaker circuit 1 (TB10) can not be used.). Supervision determined by programming. DAA2-5025/70, Each circuit rated up to 50 watts*. DAA2-7525, each circuit rated up to 75 watts*. Recommended wiring: 12-18 AWG twisted-pair (shielded recommended). Class B or Class A: Class B requires 20k end-of-line resistors (included, P/N ELR-20K). Class A requires 10k end-of-line resistors (included, P/N R-10K) on the return.
*total wattage may vary per configuration.

Backup: High-level audio input: 25V_{RMS} (DAA2-5025 and DAA2-7525). 70 V_{RMS} (DAA2-5070). Recommended wiring: 14-18 AWG. Not supervised when inactive. Supervised by backup source when active. Must be in same room or enclosure.

Standards and Codes

The DAA2 Series Digital Audio Amplifiers comply with the following standards:

- NFPA 72 2007 National Fire Alarm Code
- Underwriter Laboratories Standard UL 864
- Underwriter Laboratories of Canada (ULC) ULC-S527-99 Standard of Control Units for Fire Alarm Systems.
- Part 15 Class A conducted and radiated emissions as required by the FCC.

Listings and Approvals

These listings and approvals apply to the basic DAA2 Series Digital Audio Amplifiers. In some cases, certain modules may not be listed by certain agencies, or listing may be in process. Consult factory for latest listing status.

- UL Listed: file S635
- ULC Listed: file S635

Product Line Information

50 WATT DAA2 AMPLIFIERS

Shipped mounted to the chassis.

DAA2-5025: 120 VAC Digital Audio Amplifier (50 W, 25 V_{RMS}).

DAA2-5070: 120 VAC Digital Audio Amplifier (50 W, 70 V_{RMS}).

DAA2-5025E: 220-240 VAC Digital Audio Amplifier (50 W, 25 V_{RMS}).

DAA2-5070E: 220-240 VAC Digital Audio Amplifier (50 W, 70 V_{RMS}).

75 WATT DAA2 AMPLIFIERS

Shipped mounted to the chassis.

DAA2-7525: 120 VAC Digital Audio Amplifier (75 W, 25 V_{RMS}).

DAA2-7525E: 220-240 VAC Digital Audio Amplifier (75 W, 25 V_{RMS}).

BDA BACKUP DIGITAL AMPLIFIERS

BDA-25V: Backup Digital Amplifier (25 V_{RMS}), switch settings for 75, 50, and 35 W operation. Provides a second audio channel when programmed as a primary amplifier.

BDA-70V: Backup Digital Amplifier (70 V_{RMS}), switch settings for 50 and 35 W operation. Provides a second audio channel when programmed as a primary amplifier.

FIBER OPTION MODULES

DS-FM: Fiber option module for multi-mode fiber. Converts a wire DAP (digital audio port) to a multi-mode fiber port.

DS-SFM: Fiber option module for single-mode fiber. Converts a wire DAP (digital audio port) to a single-mode fiber port.

DS-RFM: Fiber option module for multi-mode fiber. Used exclusively for compatibility with multi-mode fiber DVC or DAA.

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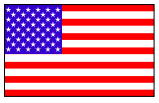

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www.notifier.com

DVC Series

Digital Voice Command
DVC-EM

NOTIFIER® by Honeywell

Voice Control Systems

General

The DVC is the heart of an integrated, full-featured Audio Command Center. The DVC Digital Voice Command combines the capabilities of a powerful digital audio processor, an event-driven audio message generator, and a router. Designed for use with Digital Audio Loop (DAL) devices such as DAA2, DAX and DAA series digital amplifiers as well as the DS-DB, each DVC supports a dedicated audio network with up to eight channels of audio, five channels of firefighter telephone communications, and control and supervision for up to 32 DAL devices. The DVC has two wire digital audio ports to connect to wire DAL segments. Either or both ports may be converted to multi-mode fiber or single-mode fiber using fiber option modules. Larger audio systems incorporating hundreds of amplifiers can be created by networking additional DVC units via **NOTI•FIRE•NET™**.

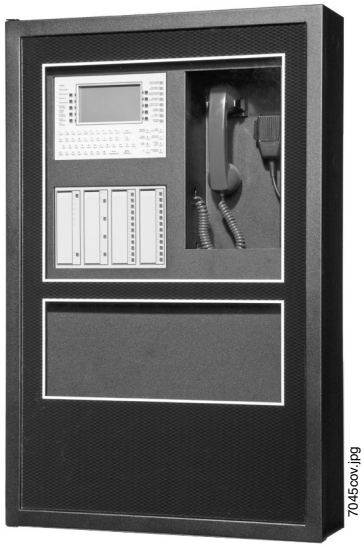
The DVC may be networked with ONYX® Series panels via **NOTI•FIRE•NET** with an NCA-2, or with an NFS2-3030 (running in network monitor mode). A DVC can be connected directly with a single NFS2-640 or NFS2-3030 Fire Alarm Control Panel (FACP) to create a standalone integrated audio solution as well. Refer to the DVC manual for details.

When used as an Audio Command Center with Emergency Paging capability, the optional DVC-KD Keypad Display is required.

NOTE: *Unless otherwise noted, the term "DVC" refers to the DVC-EM.*

Features

- Programmable from NUP port using *VeriFire® Tools*.
- Up to 32 minutes of standard quality or 4 minutes of high quality digital audio storage of user-selected/created messages and tones. Supports twisted-pair wire media. Supports single- and multi-mode fiber-optic media when used with fiber option modules.
- 4-channel analog audio supported with optional DVC-AO
- Up to 1000 audio sequences.
- Message prioritization.
- Equations support flexible programming for distribution of messages.
- Electrically isolated digital audio ports for direct connection with up to 32 Digital Audio Loop (DAL) devices. Style 4 or 7 configurations supported.
- Optional DS-RFM, DS-FM, and DS-SFM fiber modules may be used to convert one or both Digital Audio Ports for operation with single-mode or multi-mode fiber.
- DCC (Display and Control Center) capabilities when used with optional DVC-KD.
- Firefighters' Telephone Communications to local FFT riser on DVC, 32 local DAL device FFT risers, and FFT communication to additional command stations via **NOTI•FIRE•NET**.
- Local paging microphone option.
- Remote microphone options.
- Broad All-Call functionality when used with DVC-KD (DVC-Keyboard Display): All Call, Page Active Evac Areas, Page Active Alert Areas, Page Inactive Areas.



DVC
Shown using CA-2 mounting option, SBB-C4, and ADDR-C4 door.

- Auxiliary input for 12 V_{p-p} analog low-level audio sources. Includes user audio level adjustment feature.
- Auxiliary input accepts external audio sources such as telephone paging or background music. High impedance input accepts 600 ohm, line level, 1.0 VRMS, or 1.41 V_{p-p} low level audio. Selectable AGC, user control of audio level, and audio supervision are supported.
- Associated NCA-2, or NFS2-3030 (programmed for network monitor mode) supports **NOTI•FIRE•NET** applications.
- Multiple audio command centers supported via **NOTI•FIRE•NET**.
- Distribution of one channel of standard-level paging audio on **NOTI•FIRE•NET**.
- Three standalone, non-network mode options:
  - NFS2-3030 (NUP to NUP) digital and analog.
  - NFS2-640 (NUP to NUP) analog audio only.
  - NFS2-640 with NCA-2 (NUP to NUP to NUP) digital and analog.
- Push-to-talk relay, or logic argument.
- Isolated alarm bus input, to be used for backup activation of alarm messages in the event network communication is lost.

Installation Options

The DVC provides flexible configurations based on one-row or two-row chassis options that mount into size "B", "C", or "D" CAB-4 Series cabinets.

The CA-2 supports a DVC, paging microphone, optional FFT telephone, and mounting location for an NCA-2 or NFS2-3030D CPU. The ADDR audio door series can be used when a CA-2 is mounted in the top two rows. The CA-1 supports a

DVC and an optional microphone in a single row. For firefighters' telephone applications with a CA-1, the CFFT-1 can be mounted in the row below the CA-1.

NOTE: *For NFS2-640/DVC applications using DAL devices, an NCA-2 is required to annunciate DAL device events. Refer to the DVC System Audio Product Application Guide (part number M-AG-DVC) for more details on DVC applications).*

Specifications

- **24 VDC power (TB1)**: 24 VDC, 1.0 A, non-resettable, power-limited by the source. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Digital audio ports, wire media, A and B (TB2, TB3)**: Maximum distance per segment is 1900 feet (579.12 m) on Belden 5320UJ (18 AWG, TP) FPL cable: 18 AWG (0.821 mm²) twisted-pair, foil-shielded, power-limited. Consult wiring documentation provided in document P/N 52916ADD:C *Addendum to DVC and DAA Manuals*.
- **Digital audio ports, single- and multi-mode fiber-optic media**:
  - **DS-FM and DS-SFM fiber option module (no direct DAA connection)**: Maximum attenuation is 6.5dB for multimode with 50/125 micrometer cable @ 1310 nm; 10dB for multi-mode with 62.5/125 micrometer cable @ 1310 nm; 30dB for single-mode with 9/125 micrometer cable @ 1310 nm.
  - **DS-SFM: attenuation for single-mode fiber DAA connection***

    Maximum attenuation:

    – 17dB for single-mode with 9/125 micrometer cable at 1310 nm going **from** the DS-SFM **to** the fiber DAA.

    – 4dB for single-mode with 9/125 micrometer cable going **from** the fiber DAA **to** the DS-SFM. Minimum attenuation: 12dB going **from** the DS-SFM **to** the fiber DAA.

    Minimum *attenuation*:

    – 2 dB going from the DS-SFM to the fiber DAA.
  - **DS-RFM: attenuation for multi-mode fiber DAA connection***

    Attenuation going **from** the fiber DAA **to** the DS-RFM:

    – 2dB maximum for multi-mode with 50/125 micrometer cable @ 850 nm for the DS-RFM.

    – 4dB maximum for multi-mode with 62/5/125 micrometer cable @ 850 nm for the DS-RFM.

    Attenuation going **from** the fiber DS-RFM **to** the fiber DAA:

    – 12dB minimum, 16dB for both cable types.

    (If the length of the fiber run results in an attenuation of less than 12dB, a suitable attenuator must be used.)

    * ST® Style connection required at DAA end.
- **Auxiliary input A (AUX A, TB4)**: Signal strength from low-level analog audio input: maximum 1.0 VRMS, or 1.41 V_{p-p}. Optional supervision is selectable through programming. Recommended wiring: 18 AWG (0.821 mm²) twisted-pair; max. 14 AWG (2.08 mm²). Auxiliary input must be in the same room as the DVC.
- **Auxiliary input B (AUX B, TB14)**: Signal strength from low-level analog audio input: 12 V_{p-p} nominal, 15 V_{p-p} maximum. Optional supervision is selected through programming. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Remote microphone interface (TB9)**: Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair. Power-limited. Maximum distance between remote microphone and DVC: 1000 feet (300 m).
- **Push-to-talk interface (TB10)**: Dry contact. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Alarm bus (TB12)**: Power-limited by source. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **FFT riser (TB13)**: Power-limited output. Class A (Style Z) or Class B (Style Y) operation. Style Y two-wire connections require a 3.9K ohm, 1/2 watt resistor (P/N K-3.9K). Maximum wiring resistance (including individual telephone zone to last handset) permitted is 50 ohms, 10,000 feet (3048 m) maximum wiring distance at 12 AWG (3.31 mm²) to last handset.
- **Optional DVC-AO analog audio output circuits (TB5, TB6, TB7, and TB8)**: Supervised, power-limited outputs. Signal strength: +12 V_{p-p} nominal, +15 V_{p-p} maximum. Recommended wiring: 18 AWG (0.821 mm²) twisted-pair; max. 14 AWG (2.08 mm²). Maximum impedance: 66 ohms.

Standards and Codes

The Digital Voice Command DVC and DVC-EM comply with the following standards:

- NFPA 72 2002 National Fire Alarm Code.
- Underwriters Laboratories Standard UL 864, 9th edition.
- Underwriters Laboratories of Canada (ULC) ULC-S527-99 Standard of Control Units for Fire Alarm Systems.

Listings and Approvals

The listings and approvals below apply to the DVC and DVC-EM Digital Voice Command. 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.
- **ULC Listed**: S635.
- **FM Approved.**
- **CSFM**: 7165-0028:0224 (NFS2-3030); 7165-0028:0243 (NFS2-640).
- **FDNY:** COA#6065 (NFS2-3030): COA#6085 (NFS2-640).
- **City of Chicago** approved: High Rise, Class 1, Class 2 (NFS2-3030, NFS2-640, NCA-2).
- **City of Denver** approved (NFS2-3030).
- **PSB Corporation** approved *(Singapore) (NFS2-3030)*.

Product Line Information

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. Supports twisted-pair wire media. Options: DS Fiber modules.

DVC-KD: Keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons.

DVC-AO: Optional DVC Analog Output board provides four analog output circuits for use with AA or XPIQ Series amplifiers. Four-channel operation supported.

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

CMIC-1: Optional microphone and microphone well assembly used with the CA-1 chassis.

CFFT-1: The CFFT-1 Chassis for Firefighters' Telephone mounts in the row directly under a DVC that is mounted in a CA-1 single row chassis. The CFFT-1 includes one FFT handset. The DP-CFFT Dress Plate (separately ordered, required) has one open position for mounting an ACS annunciator or a BMP-1 Blank Module Plate.

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC 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 a microphone. DPA-2B dress plate is required *(below)*; the VP-2B Vent Plate is also required for top row configurations. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 *(below)*.

DPA-2B: Dress plate required for CA-2 chassis assembly.

VP-2B: Vent plate required for cabinet configurations where the DPA-2B is used for the top two row position.

TELH-1: Firefighters' Telephone Handset for use with the DVC when mounted in the CA-2 chassis. Order separately.

ADDR-B4: Two-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. 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-6857.*

ADDR-C4: Three-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. 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-6857.*

ADDR-D4: Four-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. 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-6857.*

DPA-1: Dress panel, can be used with the CA-1 chassis when configured with a DVC, DVC-KD, and CMIC-1.

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.

ACT-4: Audio-coupling transformer. Used to electronically isolate DVC-AO analog risers.

ACT-25, ACT-70: Audio-coupling transformers for 25V and 70V high-level audio. Used to isolate and convert high-level audio to low-level, supporting applications with large numbers of analog amplifiers.

DAX-3525(E)/DAX-3570(E): 35W, 25 or 70.7VRMS. Digital audio amplifiers with charging power supply and 2 Class B or 1 Class A output, shipped mounted on chassis. Options: BDA-25/70 backup amplifier, DS Fiber modules.

DAX-5025(E)/DAX-5070(E): 50W, 25 or 70.7VRMS. Digital audio amplifiers with power supply and 2 Class B or 1 Class A output, shipped mounted on chassis. Options: BDA-25/70 backup amplifier, DS Fiber modules.

DAA2-5025(E)/DAA2-5070(E): 50W, 25 or 70.7VRMS. Digital audio amplifiers with charging power supply and 4 Class B or 2 Class A outputs, shipped mounted on chassis. RM-1 port, FFT port, Aux audio port. Supports optional BDA for backup amplifier or 2-channel operation, and DS Fiber modules.

DAA2-7525(E): 75W, 25VRMS. Digital audio amplifiers with power supply and 4 Class B or 2 Class A outputs, shipped mounted on chassis. RM-1 port, FFT port, Aux audio port. Supports optional BDA for backup amplifier or 2-channel operation, and DS Fiber modules.

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

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-BDA: Digital Series Backup Digital Amplifier, 25 or 70VRMS, can be configured to act as a one-to-one backup for DS-AMP/E amplifiers. Can also be programmed to provide a second audio channel for a DS-AMP. *See DN-60663.*

BDA-25, BDA-70: Backup Digital Amplifier, 25 or 70.7VRMS, can be configured to act as a one-to-one backup for DAX and DAA2 series amplifiers. For DAA2 Series only, supports alternative second channel operation.

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

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

- **DAA-5025**: 50W, 25Vrms Digital Audio Amplifier assembly with DAA-PS power supply board, shipped mounted to its chassis. Supports twisted-pair wire media. *(For multi-mode fiber-optic media order DAA-5025F. For single-mode fiber-optic media order DAA-5025SF.)*
- **DAA-5070:** 50W, 70.7Vrms Digital Audio Amplifier assembly with DAA-PS power supply board, shipped mounted to its chassis. Supports twisted-pair wire media. *(For multi-mode fiber-optic media order DAA-5070F. For single-mode fiber-optic media order DAA-5070SF.)*
- **DAA-7525:** 75W, 25Vrms Digital Audio Amplifier assembly with DAA-PS power supply board. Shipped mounted to its chassis (no battery charger on DAA-7525 power supply board). Supports twisted-pair wire media. *(For multi-mode fiber-optic media order DAA-7525F. For single-mode fiber-optic media order DAA-7525SF.)*

SEISKIT-CAB: Seismic kit for CAB-4 series cabinets. Includes battery bracket for two 26AH Power Sonic batteries and TELH-1 telephone handset strap. See document 53829.

SEISKIT-DAA: Seismic kit for DAA, DAA2 and DAX series amplifiers, required when using CHS-BH1 chassis. Includes battery bracket for two 12AH Power Sonic batteries. See document 53851.

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AFAWS Series

Emergency Telephone Stations and Telephone Accessories

NOTIFIER® by Honeywell

Voice Control Systems

General

These Emergency Telephone Stations provide a reliable means of communication for firefighters and other personnel.

Features

- Heavy-duty construction.
- Keylock or thumb-latch.
- Push-to-talk switch on telephone handset.
- Doors fit either recessed or surface enclosures.
- Red baked-enamel finish.
- Armored cable or standard telephone coiled cord.
- Available with or without a “break-glass” door feature.
- Master station connection LED indicator.

Applications

Stations feature a locked door design, with either a break-glass or non-break-glass feature. When a locked door is not required, an optional thumb catch allows for fast, safe entry into the housing.

The telephone handsets are available with either standard coiled cord or a durable security-type armored cable.

The hook configuration consists of two Form-C switches which permits a variety of wiring uses. The handset rests on a handsome chrome cradle which actuates the switch mechanism.

Installation

Either recessed or surface enclosures may be used with these Emergency Telephone Stations. If a recessed enclosure is used, the telephone assembly must be a model designed for recessed enclosures. The same is true of surface enclosures.

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:** S635
- **ULC:** CS118/CS733
- **CSFM:** 7300-0028:0193
- **MEA:** 82-98-E (AFAWS-TELA)
- **City of Chicago** approved**:** Class 1, Class 2
- **City of Denver** approved

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6135lock.jpg

6135lach.jpg

Solid doors on surface-mount models with Keylock (left) and Latch (Right) closures.

AFAWS Product Line Information

The front door, backbox, and telephone assembly for AFAWS Series telephone stations must be ordered separately.

HANDSET AND HOOKSWITCH ASSEMBLIES

AFAWS-TELC: Telephone with Coiled Cord Assembly

AFAWS-TELA: Telephone, Armored Cord Assembly

TELEPHONE STATION ENCLOSURES

AFAWS-BX: Backbox
15" (381.0mm)H x 8-3/8" (212.85mm)W x 3-3/8" (85.73mm)D

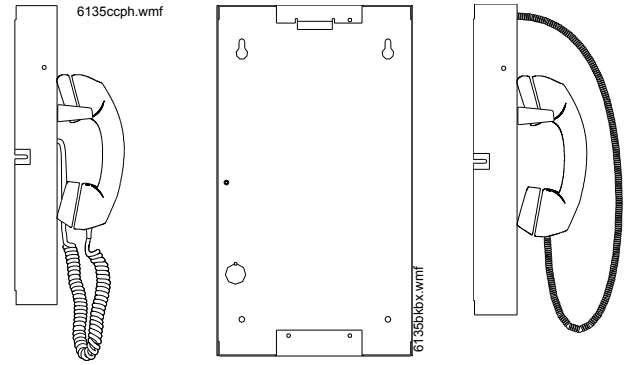
AFAWS-LS: Latch Door for Surface-Mount
15-3/16' (385.60mm)H x 8-9/16" (217.45mm)W

AFAWS-LR: Latch Door for Recessed-Mount
16-3/16" (411.00mm)H x 9-9/16" (242.85mm)W

AFAWS-KS: Keylock Door for Surface-Mount
15-3/16' (385.60mm)H x 8-9/16" (217.45mm)W

AFAWS-KR: Keylock Door for Recessed-Mount
16-3/16" (411.00mm)H x 9-9/16" (242.85mm)W

BRKG-B: Breakglass Insert
Includes a tempered glass plate, a hammer attached to a chain, and a screw to attach the hammer to the trim ring.



AFAWS-TELC **AFAWS-BX** **AFAWS-TELA**

PORTABLE FIREMAN'S TELEPHONE HANDSET

FHS: Fireman's Handset.

This handset comes with a coiled cord. The attached plug fits Fireman's Phone Jack, model FPJ, allowing firefighters to make direct communication with a central control area

TELEPHONE RECEPTACLES

FPJ: Fireman's Phone Jack

Receptacle is semi-flush mounted with a single-gang box (box is not furnished with receptacle). The receptacle has a single phone jack mounted on an attractive, single-gang, stainless steel plate. Color-coded wires, 6 inches long, are prewired to the jack to enable fast and accurate wiring to the system.

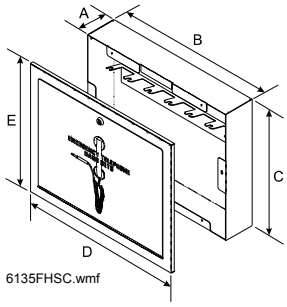
EMERGENCY TELEPHONE CABINETS

FHSC-R: Storage Cabinet for 6 FHS Fireman's handsets; recessed mounting.

FHSC-S: Storage Cabinet for 6 FHS Fireman's handsets; surface mounted.

CABINET DIMENSIONS

Dimensions Pictured Below	FHSC-R Recessed Mount	FHSC-S Surface Mount
Dimension "**A**"	3.25" (82.6mm)	3.25" (82.6mm)
Dimension "**B**"	17" (432mm)	17" (432mm)
Dimension "**C**"	13.375 (340mm)	13.375 (340mm)
Dimension "**D**"	18.312 (465mm)	17.312 (440mm)
Dimension "**E**"	14.625 (371mm)	13.625 (346mm)



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BAT Series Batteries

Sealed Lead-Acid

NOTIFIER® by Honeywell

Power Supplies

General

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

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Features

- Provide secondary power for control panels.
- Sealed and maintenance-free.
- Overcharge protected.
- Easy handling with leakproof construction.
- Ruggedly constructed, high-impact case (ABS, polystyrene, or polypropylene, depending on models).
- Long service life.
- Compact design.

Agency Listings and Approvals

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

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

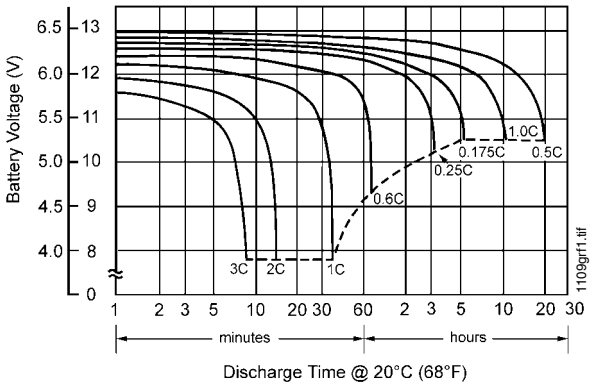
Ordering Information

BAT-1250-BP: 10-unit bulk pack of BAT-1250 (12 V 5 AH)
BAT-1270-BP: 5-unit bulk pack of BAT-1270 (12 V 7 AH)
BAT-12120-BP: 4-unit bulk pack of BAT-12120 (12V 12 AH)
BAT-12180-BP: 2-unit bulk pack of BAT-12180 (12 V 18 AH)
BAT-12260-BP: 2-unit bulk pack of BAT-12260 (12 V 26 AH)
BAT-12550: single battery (12 V 55 AH)
BAT-121000: single battery (12 V 100 AH)

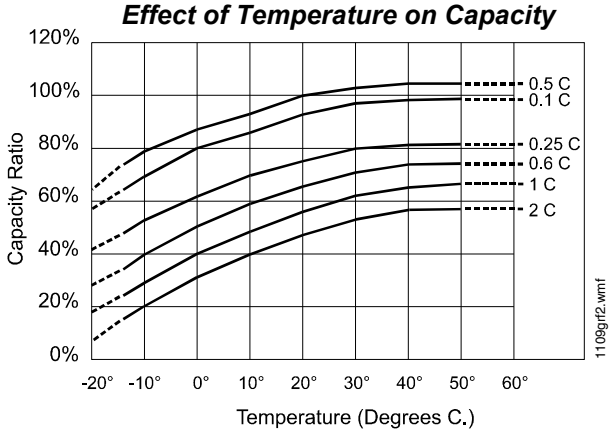
Part Number Reference & Specifications

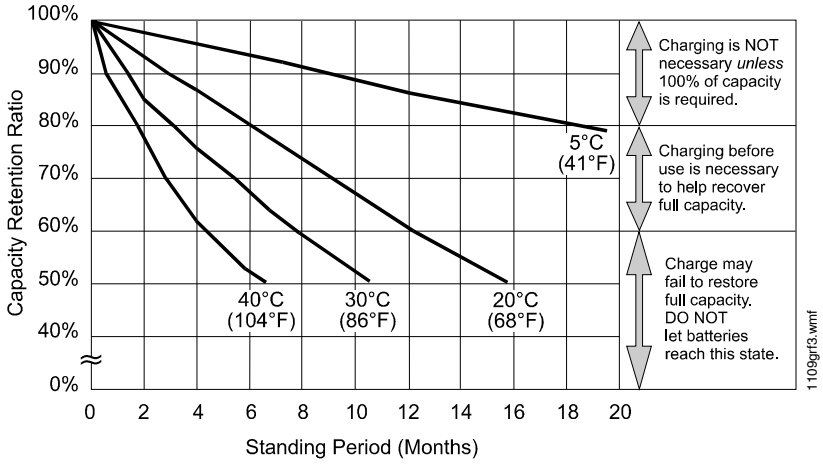
Part Number	Power Sonic Part Number	Battery Description			DIMENSIONS									
		Nominal Voltage V	Nominal Capacity @ 20 hr. rate A.H.		Width		Depth		Height		Height over terminal		Weight	
					in.	mm	in.	mm	in.	mm	in.	mm	lb.	kg.
BAT-1250	PS-1250	12	5	sealed	3.54	90	2.76	70	4.02	102	4.21	107	4.1	1.9
BAT-1270	PS-1270	12	7	sealed	5.95	151	2.56	65	3.7	94	3.86	98	4.8	2.18
BAT-12120	PS-12120	12	12	sealed	5.95	151	3.86	98	3.7	94	3.94	100	7.92	3.59
BAT-12180	PS-12180	12	18	sealed	7.13	181	2.99	76	6.57	167	6.57	167	12.6	5.8
BAT-12260	PS-12260	12	26	sealed	6.56	167	6.97	177	4.92	125	4.92	125	17	7.71
BAT-12550	PS-12250	12	55	sealed	9.04	230	654	138	8.2	208	8.98	228	36	16.33
BAT-121000	PS-121000	12	100	sealed	12	305	6.6	168	8.2	208	8.98	228	68	30.84

Characteristic Discharge Curves



Effect of Temperature on Capacity





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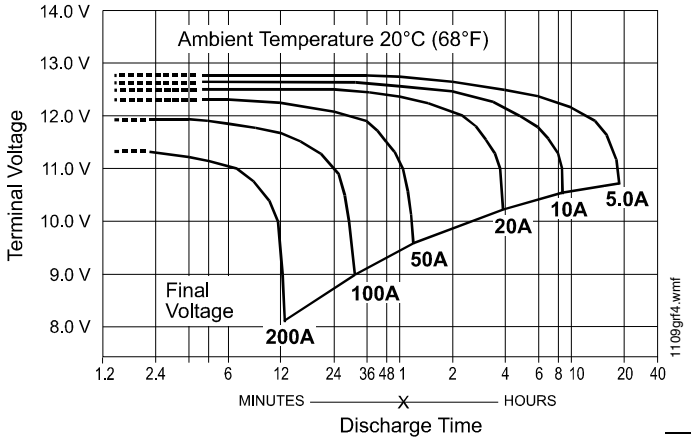
PS-121000
Shelf-Life
and Storage



at left:
PS-121000
Discharge
Characteristics

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QUALITY SYSTEMS

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

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

Made in the U.S. A.

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.

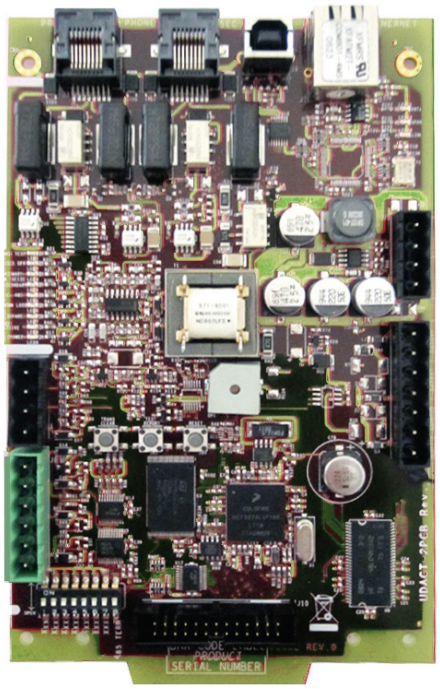
The UDACT-2 is capable of transmitting the status of software zones (Alarm and Trouble), System Trouble, Panel Off-Normal, Supervisory, Bell Trouble, Low Battery, and AC Fail. The UDACT-2 is capable of transmitting all of the zone and point status associated with each panel.

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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FDU-80

80 Character Liquid Crystal Display

NOTIFIER® by Honeywell

General

The FDU-80 is a compact, cost-effective, 80 character, backlit LCD Fire Annunciator for use with the NOTIFIER FireWarden-100-2, NFS-640, NFS2-640, and NFS-320 Fire Alarm Control Panels (FACPs). The FDU-80 mimics the display of the control panel and displays complete system point status information. Up to 32 FDU-80s may be connected onto the EIA-485 Terminal Mode port of each control panel. The FDU-80 requires no programming, which saves time during system commissioning.

Features

- 80-character Liquid Crystal Display.
- Mimics all display information from the host panel.
- Control switches for System Acknowledge, Signal Silence, Drill and Reset with enable key.
- System status LEDs for Power, Alarm, Trouble, Supervisory, and Alarm Silenced.
- No programming necessary — FDU-80 connects to the terminal mode port.
- Displays device type identifiers, individual point alarm, trouble or supervisory, zone and custom alpha labels.
- Time and date display field.
- Aesthetically pleasing design.
- May be powered by 24 VDC from the host FACP or by remote power supplies (requires 24 VDC).
- Up to 32 FDU-80 annunciators per FACP.
- Plug-in terminal blocks for ease of installation and service.
- Can be remotely located up to 6,000 feet (1828.8 m) from host control panel.
- Local piezo sounder with alarm and trouble resound.
- Semi-flush-mounts to 2.188"/5.556 cm (minimum) deep, three-gang electrical box (NOTIFIER P/N 10103) or three-gangable electrical switchbox.
- Surface-mounts to NOTIFIER SBB-3 surface backbox.

Operation

The FDU-80 annunciator provides the FACP with point annunciation with full display text on an 80-character LCD display. The FDU-80 also provides an array of LEDs to indicate system status, and also includes control switches for remote control of critical system functions.

The FDU-80 provides the FACP with up to 32 remote serially connected annunciators. All field-wiring terminations on the FDU-80 use removable, compression-type terminal blocks for ease of wiring and circuit testing.

Communication between the FACP and the annunciators is accomplished over an EIA-485 serial interface, which greatly reduces wire and installation cost over traditional systems.

Installation

The FDU-80 can be semi-flush mounted to a 2.188”/5.556 cm (minimum) deep, three-gang electrical box or three-gangable electrical switchboxes. Alternately, an SBB-3 surface backbox is available for surface-mount applications.

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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:** CS100
- **MEA Listed:** 245-00-E
- **CSFM:** 7120-0028:209
- **FM Approved**

Ordering Information

FDU-80: 80 character, backlit, LCD Fire Annunciator with control switches for remote control of system functions, and key-switch lock.

10103: Three-gang electrical box, minimum 2.188" (5.556 cm) deep, for semi-flush-mount applications.

SBB-3: Three-gang surface backbox for surface-mount applications.

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www.notifier.com

Made in the U.S. A.

FSP-851(A) Series

Intelligent Plug-In Photoelectric Smoke Detectors with FlashScan®

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

Notifier FSP-851(A) Series intelligent plug-in smoke detectors with integral communication provide features that surpass conventional detectors. 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. The FSP-851(A) photoelectric detector's unique optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources. Dual electronic thermistors add 135°F (57°C) fixed-temperature thermal sensing on the FSP-851T(A). The FSP-851R(A) is a remote test capable detector for use with DNR(A)/DNRW duct detector housings. FSP-851(A) series detectors are compatible with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).

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 in the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Sleek, low-profile design.
- Addressable-analog communication.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm *(FlashScan systems only)*.
- Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1*(FlashScan systems only)*.
- Built-in functional test switch activated by external magnet.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Constructed of off-white fire-resistant plastic, designed to commercial standards, and offers an attractive appearance.
- 94-5V plastic flammability rating.
- SEMS screws for wiring of the separate base.
- Optional relay, isolator, and sounder bases.

Specifications

Sensitivity: 0.5% to 2.35% per foot obscuration

Size: 2.1" (5.3 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200S(A):** 6.875" (17.46 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.
- **B224BI(A):** 6.2" (15.748 cm) diameter.

B210-2951.jpg

FSP-851(A) in B210LP(A) Base

Shipping Weight: 5.2oz. (147g).

Operating Temperature range: FSP-851(A), 0°C to 49°C (32°F to 120°F). FSP-851T(A), 0°C to 38°C (32°F to 100°F). Low temperature signal for FSP-851T(A) at 45°F +/- 10°F (7.22°C +/- 5.54°C). FSP-851R(A) installed in a DNR(A)/DNRW, -20°C to 70°C (-4°F to 158°F).

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

Relative Humidity: 10%-93% noncondensing.

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

DETECTOR SPACING AND APPLICATIONS

Notifier recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.144m) for ceiling heights 10 feet (3.148m) and higher. For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. *System Smoke Detector Application Guide*, document A05-1003, is available at systemsensor.com

ELECTRICAL SPECIFICATIONS

Voltage Range: 15-32 volts DC peak.

Standby Current (max. avg.): 300µA @ 24VDC (one communication every five seconds with LED enabled).

LED Current (max.): 6.5mA @ 24 VDC ("ON").

Installation

FSP-851(A) plug-in detectors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug in and remove detectors without using a ladder.

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

NOTE: *1) Because of inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring. 2) When using relay or sounder bases, consult the ISO-X(A) installation*

sheet I56-1380 for device limitations between isolator modules and isolator bases.

Agency Listings and Approvals

These listings and approvals apply to the 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:** S1115.
- **ULC Listed:** S1115 (FSP-851A, FSP-851RA, FSP-851TA).
- **MEA Listed:** 225-02-E .
- **FM Approved.**
- **CSFM:** 7272-0028:0206 .
- **Maryland State Fire Marshal:** Permit # 2122 **.**
- **BSMI:** CI313066760036.
- **CCCF:** Certif. # 2004081801000017 (FSP-851T)
  Certif. # 2004081801000016 (FSP-851).
- **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)).

Product Line Information

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

FSP-851: Low-profile intelligent photoelectric sensor. Must be mounted to one of the bases listed below.

FSP-851A: Same as FSP-851 but with ULC listing.

FSP-851T: Same as FSP-851 but includes a built-in 135°F (57°C) fixed-temperature thermal device.

FSP-851TA: Same as FSP-851T but with ULC listing.

FSP-851R: Low-profile intelligent photoelectric sensor, remote test capable. For use with DNRA/DNRW.

FSP-851RA: Same as FSP-851R but with ULC listing. For use with DNRA.

INTELLIGENT BASES

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

***NOTE:** For details on intelligent bases, see DN-60054.*

B210LP(A): Standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Standard European flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200S(A): Intelligent, programmable 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.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Plug-in System Sensor **relay** base. Screw terminals: up to 14 AWG (2.0 mm²). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Plug-in System Sensor ***isolator*** detector base. Maximum 25 devices between isolator bases .

ACCESSORIES

F110: Retrofit flange to convert B210LP(A) to match the B710LP(A) profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110; package contains 15.

F210: 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 B210LP(A) bases only.

SMB600: Surface mounting kit

M02-04-00: Test magnet.

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

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

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

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

BCK-200B: Black detector covers for use with FSP-851(A) only; box of 10.

WCK-200B: White detector covers for use with FSP-851(A) only; box of 10.

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www.notifier.com

FST-851(A) Series

Intelligent Thermal (Heat) Detectors with FlashScan®

NOTIFIER® by Honeywell

Intelligent / Addressable Devices

General

Notifier FST-851(A) Series intelligent plug-in thermal detectors with integral communication has features that surpass conventional detectors. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector locations. FST-851(A) Series thermal detectors use an innovative thermistor sensing circuit to produce 135°F/57°C fixed-temperature (FST-851/A) and rate-of-rise thermal detection (FST-851R/A) in a low-profile package. FST-851H(A) provides fixed high-temperature detection at 190°F/88°C. These thermal detectors provide effective, intelligent property protection in a variety of applications. FST-851(A) Series detectors are compatible with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).

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 and certain NOTIFIER systems. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Sleek, low-profile, stylish design.
- State-of-the-art thermistor technology for fast response.
- Rate-of-rise model (FST-851R/A), 15°F (8.3°C) per minute.
- Factory preset fixed temperature at 135°F (57°C); high-temperature model fixed at 190°F (88°C).
- Addressable by device.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Two-wire SLC connection.
- Visible LEDs "blink" every time the unit is addressed.
- 360°-field viewing angle of the visual alarm indicators (two bi-color LEDs). LEDs blink green in Normal condition and turn on steady red in Alarm.
- Integral communications and built-in device-type identification.
- Remote test feature from the panel.
- Built-in functional test switch activated by external magnet.
- Walk test with address display (an address of 121 will blink the detector LED 12-(pause)-1).
- Low standby current.
- Backward-compatible.
- Built-in tamper-resistant feature.
- Designed for direct-surface or electrical-box mounting.
- Sealed against back pressure.
- Plugs into separate base for ease of installation and maintenance. Separate base allows interchange of photoelectric, ionization and thermal sensors.
- SEMS screws for wiring of the separate base.
- Constructed of off-white fire-resistant plastic, designed to commercial standards, and offers an attractive appearance.

B210-2251.jpg

FST-851(A) in B210LP(A) Base

- 94-5V plastic flammability rating.
- Remote LED output connection to optional RA100Z(A) remote LED annunciator.
- Optional sounder, relay, and isolator bases.
- Optional flanced surface mounting kit.

Specifications

Size: 2.1" (5.3 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200S(A):** 6.875" (17.46 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.
- **B224BI(A):** 6.2" (15.748 cm) diameter.

Shipping weight: 4.8 oz. (137 g).

Operating temperature range: FST-851(A) Series, FST-851R(A): –20°C to 38°C (–4°F to 100°F); FST-851H(A): –20°C to 66°C (–4°F to 150°F).

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% noncondensing.

Thermal ratings: fixed-temperature setpoint 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.): 300 µA @ 24 VDC (one communication every 5 seconds with LED enabled).

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

Applications

Use thermal detectors for protection of property. For further information, go to systemsensor.com for manual I56-407-00, Applications Manual for System Smoke Detectors, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications.

Installation

The FST Series plug-in intelligent thermal detectors use a separate base to simplify installation, service, and maintenance. Installation instructions are shipped with each detector. A special tool allows maintenance personnel to plug in and remove detectors without using a ladder

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

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

Agency Listings and Approvals

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- **UL Listed:** S747.
- **ULC Listed:** S6978.
- **MEA Listed:** 383-02-E.
- **FM Approved.**
- **CSFM:** 7270-0028:0196.
- **BSMI:** CI313066760025.
- **CCCF:** Certif. # 2004081801000018.
- **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)).

Product Line Information

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

FST-851: Intelligent thermal detector. Must be mounted to one of the bases listed below.

FST-851A: Same as FST-851 but with ULC Listing.

FST-851R: Intelligent thermal detector with rate-of-rise feature.

FST-851RA: Same as FST-851R but with ULC Listing.

FST-851H: Intelligent high-temperature thermal detector.

FST-851HA: Same as FST-851H but with ULC Listing.

INTELLIGENT BASES

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

NOTE: *For details about intelligent bases and their mounting, see DN-60054.*

B210LP(A): Standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Standard European flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200S(A): Addressable Intelligent, programmable 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.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Intelligent relay base. Screw terminals: up to 14 AWG (2.0 mm²). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Intelligent isolator base. Isolates SLC from loop shorts. Maximum: 25 devices between isolator bases; see Note 2 under Installation.

ACCESSORIES

F110: Retrofit flange to convert B210LP(A) to match the B710LP(A) profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110; package contains 15.

F210: Replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Fits U.S. single-gang electrical box. Supported by B210LP(A) and B501(A) bases only.

SMB600: Surface mounting kit, flanged.

M02-04-00: Test magnet.

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

XR2B: Detector removal tool. Allows installation and/or removal of FlashScan® Series detector heads from base in high ceiling installations. Includes T55-127-010.

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

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

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

Intelligent Bases

B501(A), B200S(A), B200SR(A), B210LP(A), B2241BI(A), B224RB(A), Mounting Kits, and Accessories

NOTIFIER® by Honeywell

Addressable Devices

General

Intelligent FlashScan® and CLIP mounting bases and kits provide a variety of ways to install NOTIFIER detectors in any application. Intelligent detectors can be mounted in either flanged or flangeless bases depending on junction box selection *(see Junction Box Selection Guide)*. Across this product line, detectors plug in easily to the base with SEMS screws; and models employ various 12 to 24 AWG wire ranges.

Relay, isolator, and sounder bases can be used to meet local code requirements. Relay bases provide one Form-C contact relay for control of auxiliary functions such as door closure and elevator recall. Isolator bases allow loops to continue to operate under fault conditions and automatically restore when the fault is removed. Sounder bases are available in temporal and non-temporal pattern versions depending on whether the signal is to be used for evacuation purposes.

Flangeless Mounting Base B501(A)

Flanged Mounting Base B210LP(A)

Sounder Base B200S(A), B200SR(A)

Relay Base B224RB(A)

Specifications

Diameter:

- B501: 4.1" (104 mm).
- B224BI, B224RB, B210LP: 6.1" (155 mm).
- B200S/SR: 6.875" (17.46 cm).

Wire gauge:

- B224BI, B224RB: 14 to 24 AWG.
- B210LP, B501, B200S/SR: 12 to 24 AWG.

Temperature range:

- B224BI, B224RB, B200S/SR: 32°F to 120°F (0°C to 49°C).
- 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 (noncondensing) 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 B200S/SR:

External supply voltage: 16 to 33 VDC (VFWR)

Standby current: 500 µA maximum.

Alarm current:

- B200S: 25 mA maximum at high-volume setting; 15 mA maximum at low-volume setting.
- B200SR: 35 mA maximum.

SLC operating voltage: 15 to 32 VDC.

SLC standby current: 300 µA.

Sound output: measured in a UL reverberant room at 10 feet, 24 Volts (continuous tone).

- B200S, high-volume: Greater than 85 dBA minimum.
- B200S, low-volume: Greater than 75 dBA minimum.
- B200SR: Greater than 85 dBA minimum.

FOR B224RB, B224BI:

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

Standby ratings: <500 µA maximum @ 24 VDC.

Set time (B224RB only): short delay 55 to 90 msec; long delay 6 to 9 seconds.

Reset time (B224RB only): 20 msec maximum.

Relay characteristics (B224RB 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

B501: Flangeless mounting base.

B501A: Flangeless mounting base, ULC Listed.

B501BP: Bulk pack of B501 (10).

B210LP: Flanged mounting base.

B210LPA: Flanged mounting base, ULC listed

B210LPBP: Bulk pack of B210LP (10).

B200S: 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.

B200SA: Same as B200S with ULC-listing.

B200SR: Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone.

B200SRA: Same as B200SR with ULC-listing.

B224RB: Relay base.

B224RBA: Relay base, ULC Listed.

B224BI: Isolator base.

B224BIA: Isolator base, ULC Listed.

MOUNTING KITS AND ACCESSORIES

SMB600: Surface mounting kit, flanged.

F110: Retrofit flange for converting high-profile bases to low-profile.

F110BP: Bulk pack of F110 (10).

F210: Accessory flange ring for B210LP(A) base (new design). 6-inch diameter.

F210BP: Bulk pack of F210 (10).

RA100Z: Remote LED annunciator.

RA100ZA: Remote LED annunciator, ULC Listed.

M02-04-00: Detector test magnet.

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

XR2B: Detector removal tool for current heads *(T55-127-010 included)*.

XR2: Detector Remove Tool for use with low profile detector heads, and FSL-751.

XP-4: Extension pole for XR2/B *(5 to 15 ft/1.524 to 4.572 m)*.

T55-127-010: Detector removal head.

BCK-200B: Black detector kit, package of 10 (for use with photo and ion detectors).

WCK-200B: White detector kit, package of 10 (for use with photo and ion detectors).

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 Listed:** S911
- **ULC Listed:** S911
- **FM Approved**
- **MEA:** 22-95-E, 205-94-E Vol. 2; 257-06-E
- **CSFM:** 7300-1653:0126, 7135-1653:0213, 7300-0028:0173, 7300-1653:0109

Junction Box Selection Guide

Base Models	Single 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	Yes	Yes	Yes	Yes	Yes	No	No	No	No
B501	No	Yes	No	No	Yes	Yes	Yes	Yes	No
B210LP	Yes	Yes	Yes	Yes	Yes	No	No	No	No
B224RB	No	Yes	Yes	Yes	No	No	Yes	Yes	Yes
B224BI	No	Yes	Yes	Yes	No	No	No	Yes	Yes

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

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

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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COOPER Notification

Series E70 Speakers and Speaker Strobes

SERIES E70 STROBE

SERIES E90 STROBE

SERIES E90 SPEAKER

SERIES E70 SPEAKER

Description

The Wheelock Series E Low Profile Speakers and Speaker Strobes are designed for high efficiency sound output, with dual voltage (25/70 VRMS) capability and field selectable taps from 1/8 to 2 watts. The low profile design incorporates a speaker mounting plate for faster and easier installation. Each model has a built-in level adjustment feature and an aesthetic two (2) screw grille cover.

The Series E Speaker Strobe models incorporate the Low Current draw Series RSS Strobes.

Strobe options for wall mount models include 1575 or Wheelock patented MCW multi-candela strobe with field selectable candela settings of 15/30/75/110cd or the high intensity MCWH strobe with field selectable 135/185cd.

Ceiling mount models are available in Wheelock patented MCC multi-candela ceiling strobe with field selectable intensities of 15/30/75/95cd or the high intensity MCCH strobe with field selectable 115/177cd.

Series E Speakers and Speaker Strobes provide high audio output with clear audibility and are designed to meet the critical needs of the life safety industry for effective emergency voice communications, tone signaling and visible signaling to alert the hearing impaired.

The strobe portion of all Series E Speaker Strobes may be synchronized when used in conjunction with the Wheelock SM, DSM Sync Modules, Wheelock Power Supplies or other manufacturers panels incorporating the Wheelock Patented Sync Protocol. Wheelock synchronized strobes offer an easy way to comply with ADA recommendations concerning photosensitive epilepsy.

Series E Speaker Strobes are UL Listed for indoor use under Standard 1971 (Signaling Devices for the Hearing-Impaired) and Standard 1480 (Speaker Appliances), and use a Xenon flashtube with solid state circuitry enclosed in a rugged Lexan® lens to provide maximum reliability for effective visual signaling. All inputs are supervised and employ IN/OUT wiring terminals for fast installation using #12 to #18 AWG wiring.

Color options for the Series E Speakers and Speaker Strobes are red, white and nickel plated.

Features

- Approvals include: UL Standard 1971, UL Standard 1480, New York City (MEA), California State Fire Marshal (CSFM), Factory Mutual (FM) and Chicago (BFP) See approvals by model in Specifications and Ordering Information
- ADA/NFPA/ANSI compliant
- Complies with OSHA 29 Part 1910.165
- **Wall mount models are available with Field Selectable Candela Settings of 15/30/75/110cd or 135/185cd (Multi-Candela models), or 1575cd (Single Candela model)**
- **Ceiling mount models are available with field selectable candela settings of 15/30/75/95cd or 115/177cd (Multi-candela models)**
- Strobes produce 1 flash per second over the regulated voltage range
- 24 VDC with wide UL “Regulated Voltage”

  using filtered DC or unfiltered VRMS input voltage
- Synchronize using the Wheelock Sync Modules or panels with built-in Wheelock Patented Sync Protocol
- Field selectable taps for 25 or 70 VRMS operation from 1/8 watt up to 2 watts
- High efficiency design for maximum output at minimum wattage across a frequency range of 400 to 4000 HZ
- Fast installation with IN/OUT screw terminals using #12 to #18 AWG wires

S5391 151-92-E 7125-0785:152 7320-0785:134 (Speaker)

NOTE: All CAUTIONS and WARNINGS are identified by the symbol ⚠. All warnings are printed in bold capital letters.

⚠ WARNING: PLEASE READ THESE SPECIFICATIONS AND ASSOCIATED INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT. VISIT WWW.COOPERWHEELOCK.COM OR CONTACT COOPER WHEELOCK FOR THE CURRENT INSTALLATION INSTRUCTIONS. FAILURE TO COMPLY WITH ANY OF THESE INSTRUCTIONS, CAUTIONS OR WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

General Notes:

- Strobes are designed to flash at 1 flash per second minimum over their "Regulated Voltage Range". Note that NFPA-72 specifies a flash rate of 1 to 2 flashes per second and ADA Guidelines specify a flash rate of 1 to 3 flashes per second.
- All candela ratings represent minimum effective Strobe intensity based on UL Standard 1971.
- Series NS Strobe products are listed under UL Standard 1971 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%).
- Series NH horns are listed under UL Standard 464 for audible signal appliances (Indoor use only).
- **"Regulated Voltage Range" is the newest terminology used by UL to identify the voltage range. Prior to this change UL used the terminology "Listed Voltage Range".**

Table 1: UL Max Current*

E70/E90 Speaker Strobes	E70 Strobe Current - Wall Mount							E90 Strobe Current - Ceiling Mount					
	241575W	24MCW				24MCWH		24MCC				24MCCH	
	1575cd	15cd	30cd	75cd	110cd	135cd	185cd	15cd	30cd	75cd	95cd	115cd	177cd
16-33 VDC	0.090	0.060	0.092	0.165	0.220	0.300	0.420	0.065	0.105	0.189	0.249	0.300	0.420

Table 2: E70/E90 UL Reverberant dBA @ 10 Feet**

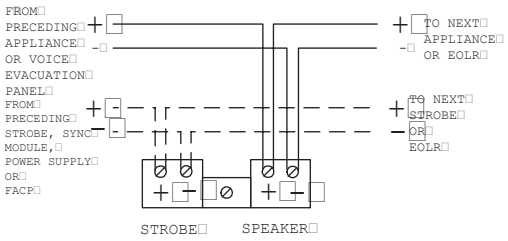
watts	1/8	1/4	1/2	1	2
E Speaker	77	81	83	86	89
E Speaker Strobe	76	80	82	85	88

**dBA ratings are based on testing under UL Standard 1480.

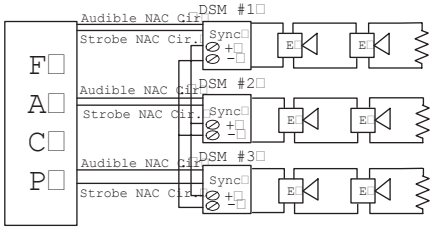
* UL max current rating is the maximum RMS current within the listed voltage range (16-33v for 24v units). For strobes the UL max current is usually at the minimum listed voltage (16v for 24v units). For audibles the max current is usually at the maximum listed voltage (33v for 24v units). For unfiltered FWR ratings, see installation instructions.

Wiring Diagrams#

SERIES E SPEAKER & STROBE OPERATE INDEPENDENTLY (NON-SYNC OR SYNC)



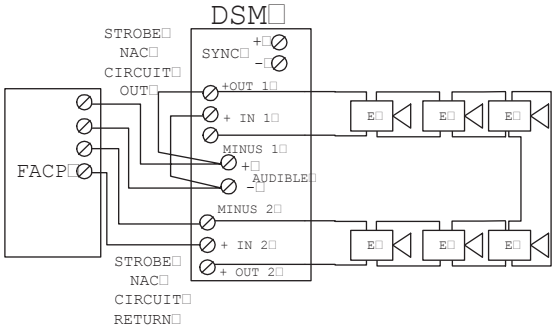
SERIES E SPEAKER STROBES SYNCHRONIZED WITH MULTIPLE DSM MODULES



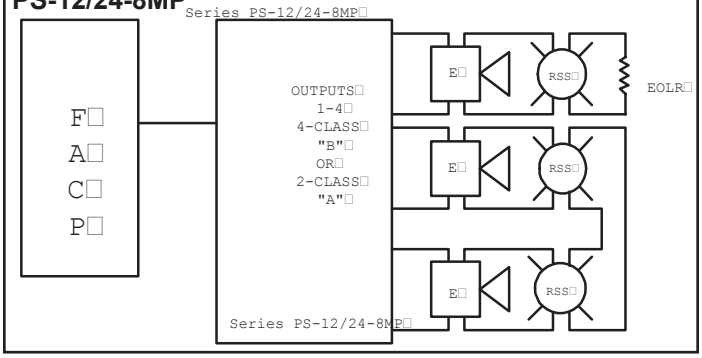
Note: Figure shows interconnection to strobe through sync module. Speaker portion requires 2 separate conductors to FACP.

DSM Interconnecting wiring shown. Maximum of twenty (20)

SERIES E SPEAKER STROBE APPLIANCES SYNCHRONIZED WITH DSM MODULE SINGLE CLASS "A"



SERIES E SPEAKER STROBE APPLIANCES & RSS STROBES SYNCHRONIZED WITH PS-12/24-8CP and PS-12/24-8MP



For wiring information on the PS-24-8MC power supply, please refer to Data Sheet #S8900.

For detail using SM or DSM Sync Module refer to Data Sheet S3000 or Installation Instructions P83123 for SM and P83177 for DSM. For wiring information on the power supplies refer to Installation Instructions P84662.

Specifications and Ordering Information

Model	Order Code	Wall Mount	Ceiling Mount	Strobe Sync w/ SM, DSM or PS-24-8MC	Strobe Candela	Model Color RED	Model Color White	Model Color Nickel	Mounting Options	Agency Approvals				
										UL	MEA	CSFM	FM	BFP
E70-24MCW-FR	9022	X	-	X	15/30/75/110	X	-	-	L,O,P,Q,R,U,Y	X	X	X	X	X
E70-24MCW-FW	9023	X	-	X	15/30/75/110	-	X	-	L,O,P,Q,R,U,Y	X	X	X	X	X
E70-24MCW-FN	3099	X	-	X	15/30/75/110	-	-	X	Q,U	X	X	X	X	X
E70-241575W-FR	7871	X	-	X	15 (75 on Axis)	X	-	-	L,O,P,Q,R,U,Y	X	X	X	X	X
E70-241575W-FW	7876	X	-	X	15 (75 on Axis)	-	X	-	L,O,P,Q,R,U,Y	X	X	X	X	X
E70-241575W-FN	3100	X	-	X	15 (75 on Axis)	-	-	X	L,O,P,Q,R,U,Y	X	X	X	X	X
E70-R	7866	X	X	-	-	X	-	-	Q,U	X	X	X	X	X
E70-W	7868	X	X	-	-	-	X	-	Q,U	X	X	X	X	X
E70-N	3108	X	X	-	-	-	-	X	Q,U	X	X	X	X	X
E70-24MCC-FW	0102		X	X	115/177	-	X	-	Q,U,V	X	X	X	X	X
E70-24MCWH-FR	3470	X	-	X	135/185	X	-	-	L,O,P,Q,R,U,Y	X	X	X	X	*
E70-24MCWH-FW	3474	X	-	X	135/185	-	X	-	L,O,P,Q,R,U,Y	X	X	X	X	*
E70-24MCWH-FN	0059	X	-	X	135/185	-	-	X	Q,U	X	X	X	X	*
E90-24MCC-FW	3166	-	X	X	15/30/75/95	-	X	-	Q,U,V	X	X	X	X	*
E90-24MCC-FR	3165	-	X	X	15/30/75/95	X	-	-	Q,U,V	X	X	X	X	*
E90-24MCC-FN	3185	-	X	X	15/30/75/95	-	-	X	Q,U,V	X	X	X	X	*
E90-W	7869	X	X	-	-	-	X	-	Q,U,V	X	X	X	X	X
E90-R	7867	X	X	-	-	X	-	-	Q,U,V	X	X	X	X	X
E90-N	3109	X	X	-	-	-	-	X	Q,U,V	X	X	X	X	X
E90-24MCCH-FW	3471	-	X	X	115/177	-	X	-	Q,U,V	X	X	X	X	*
E90-24MCCH-FR	3481	-	X	X	115/177	X	-	-	Q,U,V	X	X	X	X	*
E90-24MCCH-FN	0062	-	X	X	115/177	-	-	X	Q,U,V	X	X	X	X	*

Also comes in NW (no writting). Models available with no writting, may be subject to minimum quantity order.

*PENDING

Architects and Engineers Specifications

The speaker appliances shall be Wheelock Series E Speakers and the speaker strobe appliances shall be Wheelock Series E Speaker Strobes or approved equals. The speakers shall be UL Listed under Standard 1480 for Fire Protective Service and speakers equipped with strobes shall be listed under UL Standard 1971 for Emergency Devices for the Hearing-Impaired. In addition, the strobes shall be certified to meet the requirements of FCC Part 15, Class B.

All speakers shall be designed for a field selectable input of either 25 or 70 VRMS, with selectable power taps from 1/8 watt to 2 watts. All models shall have listed sound output of up to 87 dB at 10 feet and a listed frequency response of 400 to 4000 Hz. The speaker shall also incorporate a sealed back construction. All inputs shall employ terminals that accept #12 to #18 AWG wire sizes. The strobe portion of the appliance shall produce a flash rate of one (1) flash per second over the Regulated Voltage Range and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens. The strobe shall be of low current design. Where Multi-Candela Speaker Strobes are specified, the strobe intensity shall have field selectable settings and shall be rated per UL Standard 1971 at 15/30/75/110cd or 135/185cd for wall mount and 15/30/75/95cd or 115/177cd for ceiling mount. The selector switch for selecting the candela shall be tamper resistant. The 1575 candela strobe shall be specified when 15 candela UL Standard 1971 Listing with 75 candela on-axis is required (e.g. ADA compliance).

When synchronization is required, the strobe portion of the appliance shall be compatible with Wheelock SM, DSM sync modules, Wheelock Power Supplies or other manufacturers panels incorporating the Wheelock Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync module or Power Supply fails to operate, (i.e., contacts remain closed), the strobe shall revert to a non-synchronized flash rate.

The speaker and speaker strobe appliances shall be designed for indoor surface or flush mounting. The speaker and speaker strobe shall incorporate a speaker mounting plate with a grille cover which is secured with two screws for a level, aesthetic finish and shall mount to standard electrical hardware requiring no additional trimplate or adapter.

The finish of the Series E speakers and strobe speakers shall be white, red, or nickel plate.

All speaker and speaker strobe appliances shall be backward compatible.

NEMA Member

WE ENCOURAGE AND SUPPORT NICET CERTIFICATION
3 YEAR WARRANTY

S1610 E70/E90 07/10

NJ Location
273 Branchport Ave.
Long Branch, NJ 07740
P: 800-631-2148
F: 732-222-8707
www.coopernotification.com

FL Location
7565 Commerce Ct.
Sarasota, FL 34243
P: 941-487-2300
F: 941-487-2389

VA Location
P: 877-459-7726
F: 703-294-6560

Wheelock® Exceder™ Series

COOPER Notification

EXCEDER™

Finally, Design and Safety Meet...

Description:

The Wheelock® Exceder™ Series of notification appliances feature a sleek modern design that will please building owners with reduced total cost of ownership. Installers will benefit from its comprehensive feature list, including the most candela options in one appliance, low current draw, no tools needed for setting changes, voltage test points, 12/24 VDC operation, universal mounting base and multiple mounting options for both new and retrofit construction.

The Wheelock® Exceder™ Series incorporates high reliability and high efficiency optics to minimize current draw allowing for a greater number of appliances on the notification appliance circuit. All strobe models feature an industry first of 8 candela settings on a single appliance. Models with an audible feature 3 sound settings (90, 95, 99 dB). All switches to change settings, can be set without the use of a tool and are located behind the appliance to prevent tampering. Wall models feature voltage test points to take readings with a voltage meter for troubleshooting and AHJ inspection.

The Wheelock® Exceder™ Series of wall and ceiling notification appliances feature a Universal Mounting Base (UMB) designed to simplify the installation and testing of horns, strobes, and combination horn strobes. The separate universal mounting base can be pre-wired to allow full testing of circuit wiring before the appliance is installed and the surface is finished. It comes complete with a Contact Cover for protection against dirt, dust, paint and damage to the contacts. The Contact Cover also acts as a shunting device to allow pre-wire testing for common wiring issues. The Contact Cover is polarized to prevent it from being installed incorrectly and prevents the appliance from being installed while it is on the UMB. When the Contact Cover is removed the circuit will show an open until the appliance is installed. The UMB allows for consistent installation and easy replacement of appliances if required. Wall models provide an optional locking screw for extra secure installation, while the ceiling models provide a captivated screw to prevent the screw from falling during installation.

- Save up to 48% in current draw*

- Up to 9 models now in 1 appliance

- Save up to 14% cost of installation**

- Sleek Modern Aesthetics
- Finger Slide Switches
- Voltage Test Points
- Multiple Voltages
- 3 Audible Settings
  90, 95, 99 dB
- 8 Candela Settings ***
  Wall - 15/1575/30/75/95/110/135/185
  Ceiling - 15/30/60/75/95/115/150/177
- Universal Mounting Base ***
  Ceiling and Wall
  Mounts to 5 Backbox Types
- Environmentally Friendly
  Low Current Draw

Compatibility and Requirements

- Synchronize using the Wheelock® Sync Modules or panels with built-in Wheelock® Patented Sync Protocol
- Compatible with UL “Regulated Voltage” using filtered VDC or unfiltered VRMS input voltage
- Strobes produce 1 flash per second over the “Regulated Voltage” range

* Compared to competitive models
** Compared to previous models
*** Patented

NOTE: All CAUTIONS and WARNINGS are identified by the symbol ⚠. All warnings are printed in bold capital letters.

⚠ WARNING: PLEASE READ THESE SPECIFICATIONS AND ASSOCIATED INSTALLATION INSTRUCTIONS CAREFULLY BEFORE USING, SPECIFYING OR APPLYING THIS PRODUCT. VISIT WWW.COOPERNOTIFICATION.COM OR CONTACT COOPER NOTIFICATION FOR THE CURRENT INSTALLATION INSTRUCTIONS. FAILURE TO COMPLY WITH ANY OF THESE INSTRUCTIONS, CAUTIONS OR WARNINGS COULD RESULT IN IMPROPER APPLICATION, INSTALLATION AND/OR OPERATION OF THESE PRODUCTS IN AN EMERGENCY SITUATION, WHICH COULD RESULT IN PROPERTY DAMAGE, AND SERIOUS INJURY OR DEATH TO YOU AND/OR OTHERS.

General Notes:

General Notes:

- Strobes are designed to flash at 1 flash per second minimum over their "Regulated Voltage Range".
- All candela ratings represent minimum effective strobe intensity based on UL Standard 1971.
- Series Exceder Strobe products are Listed under UL Standards 1971 and 464 for indoor use with a temperature range of 32°F to 120°F (0°C to 49°C) and maximum humidity of 93% (± 2%) UL 464 (85% UL 1971).
- Series Exceder horns are under UL Standard 464 for audible signal appliances (Indoor use only).

Low Current Draw = Fewer Power Supplies

Strobe Ratings per UL Standard 1971

		UL Max Current*												
		24 VDC / 24 FWR											12 VDC	
Model	Regulated Voltage Range VDC	15	15/75	30	60	75	95	110	115	135	150	177	185	15	15/75
ST	8.0-33.0	0.057	0.070	0.085		0.135	0.163	0.182		0.205			0.253	0.110	0.140
STC	8.0-33.0	0.061		0.085	0.103	0.135	0.163		0.182		0.205	0.253		0.110	

Horn Strobe Ratings per UL 1971 & UL 464 at 24 VDC

		UL Max Current* at 99 dBA												
		24 VDC											12 VDC	
Model	Regulated Voltage Range VDC	15	15/75	30	60	75	95	110	115	135	150	177	185	15	15/75
HS	8.0-33.0	0.082	0.095	0.102		0.148	0.176	0.197		0.242			0.282	0.125	0.159
HSC	8.0-33.0	0.082		0.102	0.141	0.148	0.176		0.197		0.242	0.282		0.125	
		UL Max Current* at 95 dBA												
		24 VDC											12 VDC	
Model	Regulated Voltage Range VDC	15	15/75	30	60	75	95	110	115	135	150	177	185	15	15/75
HS	8.0-33.0	0.073	0.083	0.087		0.139	0.163	0.186		0.230			0.272	0.122	0.153
HSC	8.0-33.0	0.073		0.087	0.128	0.139	0.163		0.186		0.230	0.272		0.122	
		UL Max Current* at 90 dBA												
		24 VDC											12 VDC	
Model	Regulated Voltage Range VDC	15	15/75	30	60	75	95	110	115	135	150	177	185	15	15/75
HS	8.0-33.0	0.065	0.075	0.084		0.136	0.157	0.184		0.226			0.267	0.120	0.148
HSC	8.0-33.0	0.065		0.084	0.120	0.136	0.157		0.184		0.226	0.267		0.120	

Horn Ratings per UL 464

Model	Regulated Voltage Range VDC	99 dB	95 dB	90 dB
HN	16-33.0	0.064	0.044	0.022
HNC	16-33.0	0.084	0.044	0.022
HN	8.0-17.5	0.047	0.026	0.017
HNC	8.0-17.5	0.047	0.026	0.017

* UL max current rating is the maximum RMS current within the listed voltage range (16-33 VDC for 24 VDC units). For strobes the UL max current is usually at the minimum listed voltage (16 VDC for 24 VDC units). For audibles the max current is usually at the maximum listed voltage (33 VDC for 24 VDC units). For unfiltered ratings, see installation instructions.

Specification & Ordering Information

Easy to remember model codes

8 candelas on 1 device

1 gang, 2 gang, 4" sq, 3.5" octal & 4" octal boxes

Model	Strobe Candela	Sync w/ SM, DSM or PS-6 & PS-8	12/24 VDC*	Mounting Options
Horn Strobes				
HSR	15/1575/30/75/95/110/135/185	X	X	UMB**
HSW	15/1575/30/75/95/110/135/185	X	X	UMB**
HSRC	15/30/60/75/95/115/150/177	X	X	UMB**
HSWC	15/30/60/75/95/115/150/177	X	X	UMB**
Strobes				
STR	15/1575/30/75/95/110/135/185	X	X	UMB**
STW	15/1575/30/75/95/110/135/185	X	X	UMB**
STRC	15/30/60/75/95/115/150/177	X	X	UMB**
STWC	15/30/60/75/95/115/150/177	X	X	UMB**
Horn				
HNR		X	X	UMB**
HNW		X	X	UMB**
HNRC		X	X	UMB**
HNWC		X	X	UMB**

*12 VDC models feature 15 & 15/75 settings

**UMB = Universal Mounting Base

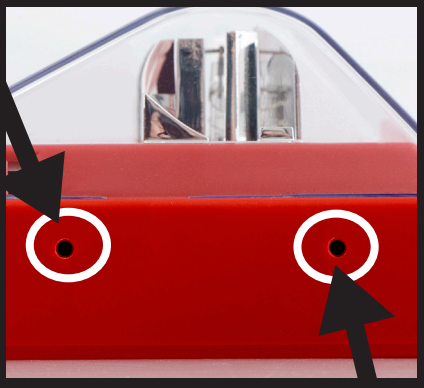
Model Legend

HN = Horn
ST = Strobe
HS = Horn Strobe
C = Ceiling Mount
W = White
R = Red

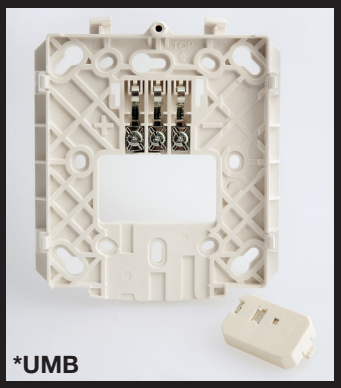
Example 1: STRC = Strobe, Red, Ceiling Mount
Example 2: HSR = Horn Strobe, Red, Wall Mount
Example 3: HSW = Horn Strobe, White, Wall Mount

Example: HSR

Example: HSWC


Voltage test points for quick troubleshooting and easy spot checking (wall models only)

8 candela settings


*UMB



Contact Cover

Common base for wall and ceiling with 5 mounting options

NOTE: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Cooper Wheelock Inc., dba Cooper Notification standard terms and conditions.

Architects and Engineers Specifications

The notification appliances shall be Wheelock® Exceder™ Series HS Audible Strobe appliances, Series ST Visual Strobe appliances and Series HN Audible appliances or approved equals. The Series HS and ST Strobes shall be listed for UL Standard 1971 (Emergency Devices for the Hearing-Impaired) for Indoor Fire Protection Service. The Series HS and HN Audibles shall be UL Listed under Standard 464 (Fire Protective Signaling). All Series shall meet the requirements of FCC Part 15 Class B. All inputs shall be compatible with standard reverse polarity supervision of circuit wiring by a Fire Alarm Control Panel (FACP) with the ability to operate from 8 to 33 VDC. Indoor wall models shall incorporate voltage test points for easy voltage inspection.

The Series HS Audible Strobe and ST Strobe appliances shall produce a flash rate of one (1) flash per second over the Regulated Voltage Range and shall incorporate a Xenon flashtube enclosed in a rugged Lexan® lens. The Series shall be of low current design. Where Multi-Candela appliances are specified, the strobe intensity shall have 8 field selectable settings at 15, 15/75, 30, 75, 95, 110, 135, 185 candela for wall mount and 15, 30, 60, 75, 95, 115, 150, 177 candela for ceiling mount. The selector switch for selecting the candela shall be tamper resistant. The 15/75 candela strobe shall be specified when 15 candela UL Standard 1971 Listing with 75 candela on-axis is required (e.g. ADA compliance). Appliances with candela settings shall show the candela selection in a visible location at all times when installed.

The audible shall have a minimum of three (3) field selectable settings for dBA levels and shall have a choice of continuous or temporal (Code 3) audible outputs.

The Series HS Audible Strobe, ST Strobe and Series HN Audible shall incorporate a patented Universal Mounting Base that shall allow mounting to a single-gang, double-gang, 4-inch square, 3.5-inch octal, 4-inch octal or 100mm European type back boxes. Two wire appliance wiring shall be capable of directly connecting to the mounting base. Continuity checking of the entire NAC circuit prior to attaching any notification appliances shall be allowed. Product shall come with Contact Cover to protect contact springs. Removal of an appliance shall result in a supervision fault condition by the Fire Alarm Control Panel (FACP). The mounting base shall be the same base among all horn, strobe, horn strobe, wall and ceiling models. All notification appliances shall be backwards compatible.

The Series HS and ST wall models shall have a low profile measuring 5.24" H x 4.58" W x 2.19" D. Series HN wall shall measure 5.24" H x 4.58" W x 1.6" D. The Series HSC and STC shall been round and have a low profile with a diameter of 6.68" x 2.63" D. Series HNC ceiling shall have a diameter of 6.68" x 1.50" D.

When synchronization is required, the appliance shall be compatible with Wheelock®'s SM, DSM Sync Modules, Wheelock® Power Supplies or other manufacturer's panels with built-in Wheelock® Patented Sync Protocol. The strobes shall not drift out of synchronization at any time during operation. If the sync protocol fails to operate, the strobe shall revert to a non-synchronized flash-rate and still maintain (1) flash per second over its Regulated Voltage Range. The appliance shall also be designed so that the audible signal may be silenced while maintaining strobe activation when used with Wheelock® synchronization protocol.

Wall Appliances – UL Standard 1971, UL Standard 464, California State Fire Marshal (CSFM), ULC, FM
Ceiling Appliances – UL Standard 1971, UL Standard 464, California State Fire Marshal (CSFM), ULC, FM

NEMA Member

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3 YEAR WARRANTY

Exceder - Spec Sheet 10/10

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273 Branchport Ave.
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F: 941-487-2389

VA Location
4401 Wilson Boulevard, Suite 220
Arlington, VA 22203
P: 877-459-7726
F: 703-294-6560

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7165-0028:0224

CATEGORY: 7165 -- FIRE ALARM CONTROL UNIT (COMMERCIAL)

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Model NFS-3030, NFS-3030E, NFS2-3030, NFS2-3030E fire alarm control units. Local, auxiliary, remote station (PPU), proprietary (PPU), central station (PPU), automatic, manual, waterflow and sprinkler supervisory services. Suitable for use as a releasing service, Emergency Voice/Alarm Communication System and Process/Energy Management Equipment. Refer to listee's data sheet for detailed product description and operational considerations. System components:

AA-30/-100/-120; Amplifiers
ACM-8R/-16AT/-24AT/-32A/-48A; Annunciator Control Modules
ACPS-610; Addressable/Charger Power Supply
ACPS-2406; Addressable Charger/Power Supply
ACT-1/-2/-4/-25/-70; Audio Coupling Transformer
ADDR-B4/-B4R/-C4/-C4R/-D4/-D4R; Doors
AEM-16AT/-24AT/-32A/-48A; Annunciator Expander Modules
AFM-16A/-16AT/-32A; Annunciator Fixed Modules
AKS-1B; Annunciator Key Switch
AMG-1/-E; Audio Message Generator
AMPS-24, CPS-24; Addressable Main Power Supply
APS-6R, APS2-6R; Auxiliary Power Supply
ARM-4; Auxiliary Relay Module
BDA-25V/-70V; Backup Digital Audio Amplifiers
BGRA-SCS, BGRB-SCS, CEF-SCS, RSA-SCS, RSB-SCS, RSC-SCS, RSD-SCS, RSE-SCS; Smoke Control Station
BB-17/-25/-100/-200; Battery Box
BMP-1; Blank Module
BP-4; Battery Panel
BP2-4; Dress Panel
CA-1/-2; Chassis
CAB-3/4 Series, EQ Series; Enclosures
*CAB-RP, CAB-RPR; Cabinets
CHG-120; Battery Charger
CHS-4L/-4MB/-4N/-6/-M3/-PS/-BH1; Chassis
CMIC-1, CMIC-RP*; Microphone Assembly
CPU2-3030D/CPU2-3030ND; CPU Board

*Rev. 05-08-12 gt

Date Issued: **July 01, 2012** *Listing Expires* **June 30, 2013**

Authorized By: ***JASON DEWITT**, Deputy State Fire Marshal*

Fire Engineering Division

CRE-4; Control Relay Expander
CRM-4RK; Control Relay Module
CRT-2; Display Terminal
DAA-5025/-5070; Digital Audio Amplifiers
DAA-5025F/DAA-5025SF; Digital Audio Amplifiers, Fiber Mode
DAA-5070F/DAA-5070SF; Digital Audio Amplifiers, Fiber Mode
DAA2-5025/-5070/-7525; Digital Audio Amplifiers
DAA-7525, DAA-7525F, DAA-7525SF Series; Digital Audio Amplifiers
DAA-PS; Power Supply
DAX-3525/-3570/-5025/-5070; Digital Audio Amplifiers
DCM-4RK; Dual Channel Module
DP-1B; Blank Panel
DP-DISP; Display Dress Panel
DR-A4, DR-A4B, DR-A4BR, DR-A4R; Door Assembly
DR-AA4, DR-AA4B, DR-AA4BR, DR-AA4R; Door Assembly
DR-B3F; Door Assembly
DR-B4, DR-B4B, DR-B4BR, DR-B4R; Door Assembly
DR-C4, DR-C4B, DR-C4BR, DR-C4R; Door Assembly
DR-D4, DR-D4B, DR-D4BR, DR-D4R; Door Assembly
DS-AMP/E; Digital Series Audio Amplifier
DS-BDA; Digital Series Backup Amplifier
DS-DB; Digital Series Distribution Board
DS-FM, DS-RFM, DS-SFM; Digital Series Fiber Module
DPDW-1B, DPSW-1B, XPDP; Dress Panels
VP-2B, DPA-1/-1A4/-2; Dress Panels
DPI-232; Direct Panel Interface
DVC-AO; Digital Voice Command
DVC-EM; Extended Memory
DVC-EMF/DVC-EMSF; Digital Voice Command/Ext Memory
DVC-KD; Keypad Board
*DVC-RPU; Remote Paging Unit
EQBB-B4, EQBB-C4, EQBB-D4; Backbox Assembly
EQDR-B4, EQDR-C4, EQDR-D4; Door Assembly
FCM-1-REL; Releasing Control Module
FCPS-24S6/S8; Field Charger/Power Supply
FFT-7/-7S; Fire Fighter's Telephones
FIRSTVISION-LCD; Interactive Firefighters' Display
FIRSTVISION-ENC; FirstVision Backbox Enclosure and Door
FMM-4-20; Analog Input Module
FHS; Fireman's Handset
FCM-1; Addressable control module
FDM-1; Dual monitor module
FDRM-1*; Dual Relay/Monitor Module
FMM-1; Monitor module
FMM-101; Miniature monitor module

*Rev. 05-08-12 gt

Date Issued: **July 01, 2012** *Listing Expires* **June 30, 2013**

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Fire Engineering Division

FRM-1; Addressable relay module
FTM-1; Firephone Control Module
FPJ; Fireman's Phone Jack
FZM-1; Two-wire detector monitor module
HS-NCM-W/-MF/SF/-WMF/-WSF/-MFSF; High Speed Network Control Modules
ICE-4; Indicating Control Expander
ICM-4RK; Indicating Circuit Module
IPDACT-2/-2UD/IPENC; IP Digital Alarm Communicator
ISO-X; Isolator Module
IZE-A; Initiating Zone Expander
IZM-8RK; Initiating Zone Module
LCD-80, -160; Liquid Crystal Display Module
LCD2-80; Liquid Crystal Display
LCM-320; Loop Control Module
LDM-32/-E32/-R32; Lamp Driver Module
LEM-320; Loop Expander Module
MP-1B; Blank Panel
MPS-24B; Power Supply Module
NBG-12; Series Addressable Manual Pull Station
NBG-12LX; Manual pull station, addressable. See DN-6726
NCA/NCA-2; Network Control Annunciator
NCM-W/-F; Network Control Module
NCS4-W-ONYX, NCS4-F-ONYX; Network Control Station, Wire/Fiber
NCS5-W-ONYX, NCS5-F-ONYX; Network Control Station, Wire/Fiber
ONYXWorks-EW/-NW/NF/-HNW/-HNMF/-HNSF/-TS/-EW-TS/-NF-TS/-HW-TS/-HNMFT/-HNS FT/- HNWT; Graphics PC workstation for NOTI-FIRE-NET Wire/Fiber/with Touch-screen monitors
N-ELR; End of Line Resistors
NFS-LBB/-LBBR; Battery Box
PRN-6; Printer
R-120/-2.2K/-27K/-470/-47K; End of Line Resistors
RA-400/-400Z; Remote Annunciators
RKS-S; Remote Security Keyswitch
RM-1/-1SA; Remote Microphone
RPJ-1; Remote Paging Jack
RPT-W/-F/-485W/-485WF; Repeater
SBB-A3F; Backbox Assembly
SBB-A4, SBB-A4R, SBB-AA4, SBB-AA4R; Backbox Assembly
SBB-B4, SBB-B4R-L8, SBB-C4, SBB-C4R; Backbox Assembly
SBB-D4, SBB-D4R; Backbox Assembly
SCS-8; Smoke Control Station
SCS-8L; Smoke Control Lamp Driver Station
SCE-8; Smoke Control Expander
SCE-8L; Smoke Control Expander Lamp
STS-1; Security Tamper Switch

*Rev. 05-08-12 gt

Date Issued: **July 01, 2012** *Listing Expires* **June 30, 2013**

Authorized By: ***JASON DEWITT**, Deputy State Fire Marshal*

Fire Engineering Division

TM-4; Transmitter Module
TR-A4/-B3N/-B4/-C4/-D3N/-D4; Trim Ring
UDACT, UDACT-2; Universal DACT
UZC-256/BB--UZC; Universal Zone Coder/Backbox
VCE-4; Voice Control Expander
VCM-4RK; Voice Control Module
VS4095/5; Keltron Remote Printer
XP5-C/-M; Transponder
XPC-8; Transponder Control Module
XPIQ; Transponder Quad Intelligent Audio Module
XPM-8/-8L; Transponder Monitor Modules
XPP-1; Transponder Processor
XPR-8; Transponder Relay Module

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as fire alarm control units suitable for high rise applications for use with separately listed compatible initiating and indicating devices. This control unit can generate the temporal code pattern fire alarm signal as required per NFPA 72, 2002 Edition. Refer to listee's Installation Instructions Manual for details.
This control unit meets the requirements of UL Standard 864, 9th Edition.

NOTE: 1. For Fire Alarm Verification feature (delay of fire alarm signal), the maximum Retard/Reset/Restart period shall not exceed 30 seconds.

2. Combined with Listing No. 7170-0028:223

*Rev. 05-08-12 gt

Date Issued: **July 01, 2012** *Listing Expires* **June 30, 2013**

Authorized By: ***JASON DEWITT**, Deputy State Fire Marshal*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7315-0028:0225

CATEGORY: 7315 -- POWER UNITS

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models FCPS-24S6 and FCPS-24S8 are power limited power supply/battery chargers used for supervision and expanded power driving capability of up to four Notification Appliance Circuits (FACP Fire Circuits, Signaling Devices) or resettable/non resettable outputs. Model ZNAC-4 Class A converter. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 120 VAC, 24 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical rating and UL label.

APPROVAL: Listed as a Power Supply/Battery Charger for use with separately listed compatible fire alarm control units.

XLF: 7315-0075:0206

1-24-03KK

Date Issued: **July 01, 2012** *Listing Expires* **June 30, 2013**

Authorized By: ***JASON DEWITT**, Deputy State Fire Marshal*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7120-0028:0209

CATEGORY: 7120 -- ANNUNCIATORS

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models FDU-80 and *FDU-80G remote fire annunciators. Units are compact 80-character, backlit LCD fire annunciators. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING:

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes & ordinances and in manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product number, electrical rating and UL label.

APPROVAL: Listed as annunciators for use separately listed compatible fire alarm control units. Refer to manufacturer's installation manual for details.

NOTE:

*Rev. 10-03-06 jw

Date Issued: **July 01, 2012** *Listing Expires* **June 30, 2013**

Authorized By: ***JASON DEWITT**, Deputy State Fire Marshal*

Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7272-0028:0206

CATEGORY: 7272 -- SMOKE DETECTOR-SYSTEM TYPE-PHOTOELECTRIC

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models FSP-751, HPX-751, FSP-751T, FSH-751, FAPT-751, FAPT-851, FSP-851, FSP-851R* and FSP-851T photoelectric type smoke detectors. Models FSP-751T and FSP-851T employ a 135°F supplement integral heat sensor which only assists in a fire situation. This thermal circuitry is NOT approved for use in lieu of a required heat detector. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: 24 VDC

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes & ordinances and in manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product number, electrical rating and UL label.

APPROVAL: Listed as photoelectric type smoke detector for use with listee's separately listed compatible base and fire alarm control units. Models FSP-751, FSP-751T, FAPT-751, FAPT-851, FSP-851, FSP-851R*, FSP-851T are suitable for open areas and inside duct installation with air velocities between 0-4000 fpm. Model HPX-751 is suitable for open areas with air velocities between 0-300 fpm. Model FSH-751 is suitable for open areas with air velocity between 0-4000 fpm.

NOTE: Combined with 7272-0028:208

The photoelectric type detectors are generally more effective at detecting slow, smoldering fires that smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding. The ionization type detectors are generally more effective at detecting fast, flaming fires that consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a waste container or a grease fire in the kitchen.

*Rev. 01-07-2009 fm

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Fire Engineering Division

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM

LISTING SERVICE

LISTING No. 7270-0028:0196

CATEGORY: 7270 -- HEAT DETECTOR

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models FST-751, *-851, *-851R, *-851H (fixed temperature) and FST-751R (fixed temperature with Rate-of-Rise) electronic heat detectors. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: *Models FST-751, -751R, -851, and -851R = 135°F fixed temperature
*Model FST-851H = 190°F fixed temperature

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, electrical ratings, and UL label.

APPROVAL: Listed as heat detectors for use with Models B501 or B710LP base (CSFM Listing No. 7300-0028:173) and separately listed compatable fire alarm control units. Refer to listee's Installation Instructions Manual for details.

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LISTING SERVICE

LISTING No. 7300-1653:0109

CATEGORY: 7300 -- FIRE ALARM CONTROL UNIT ACCESSORIES/MISC. DEVICES

LISTEE: System Sensor, Unincorporated Div of Honeywell Int'l Inc.3825 Ohio Ave, St. Charles, IL 60174
Contact: Trish Linhart (630) 377-6580 Fax (630) 377-7245
Email: trish.linhart@systemsensor.com

DESIGN: Models B401, B401B, B401R, B401BR, B401BR-750, B401R-750, B402B, B404B, B404BT, B406B, B501, B501B, 14506587-002, B501BH, B501BHT, B401BH, B110LP, B110RLP, B110RLP750, B112LP, B114LP, B114LPBT, B116LP and B210LP detector bases. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, product designation and UL label.

APPROVAL: Listed as detector bases for use with separately listed compatible detectors.

NOTE: Formerly 7300-1209:128

06-17-05

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LISTING SERVICE

LISTING No. 7150-0028:0199

CATEGORY: 7150 -- FIRE ALARM PULL BOXES

LISTEE: NotifierOne Fire-Lite Place, Northford, CT 06472-1653
Contact: Vladimir Kireyev (203) 484-6277 Fax (203) 484-7309
Email: vladimir.kireyev@honeywell.com

DESIGN: Models NBG-12, NBG-12S, NBG-12LR, NBG-12LRA, NBG-12LAO, NBG-12LAOB, NBG-12-LO, NBG-12LOB, NBG-12W, NBG-12LW, NBG-12NC, NBG-12WP, NBG-12LWP, NBG-12L, NBG-12LX, NBG-12LA, NBG-12PS, NBG-12LSP, NBG-12LPS, NBG-12LPSP, NBG-12SP, NOT-BG12LX, NBG-12LXSP, NBG-12LXBL* and NBG-12LXP* fire alarm pull boxes. All units except Model NBG-12S are dual action pull stations. Models NBG-12LR and NBG-12LRA are intended for agent releasing device. Refer to listee's data sheet for detailed product description and operational considerations.

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.

MARKING: Listee's name, model number, rating, and UL label.

APPROVAL: Listed as fire alarm pull boxes for use with separately listed compatible fire alarm control units. Models NBG-12WP, NBG-12LW, NBG-12W, NBG-12LWP, NBG-12LAO, NBG-12LO, NBG-12LAOB and NBG-12LOB are intended for outdoor use when installed with Models WBB, SB-I/O, or WP-10 back box. Refer to listee's Installation Instruction Manual for details.
*These manual pull boxes meet the requirements of UL Standard 38, 1999 Edition and California amendments which the controls and operating mechanisms required to be operable at no more than 5lbs. force with one hand and shall not require tight grasping, pinching, or twisting of the wrist.

*Rev. 04-08-10 bh

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LISTING SERVICE

LISTING No. 7125-0785:0152

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: Cooper Wheelock Inc.7246 16th St. E., Ste. 105, Sarasota, FL 34243
Contact: Tom Conover (941) 487-2336
Email: thomas.conover@cooperindustries.com

DESIGN: Models *ET70-241575W, ET70-24MCW, ET70-24MCC, ET70-24MCWH, ET70-24MCCH, *ET80-241575W, ET80-24MCW, ET80-24MCWH, *ET90-241575W, ET90-24MCW, ET90-24MCC, ET90-24MCWH, ET90-24MCCH, E70-24MCW, E70-24MCC, E70-24MCWH, E70-24MCCH, E90-24MCW, E90-24MCC, E90-24MCWH, and E90-24MCCH multi-candela speaker/strobes. Models E60-R, E60-W, E60-24MCC-FW, E60-24MCCH-FR, E60-24MCCH-FW, E60EXT-R and E60-EXT-W multi-candela speaker/strobes. May be followed by suffixes to designate lens lettering and plate color. *Lens color may be Clear, Red (R), Blue (B), Green (G), or Amber (A). EXT is an extender ring that mounts behind the speaker. Intended for indoor use only. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING:

Electrical:	16-33 VDC, 25/70 VRMS
Flash rate:	60 flashes/min
Candela:	MCW =15cd,30cd,75cd or 110cd
	MCC =15cd,30cd,75cd or 95cd
	MCWH = 135cd,185cd
	MCCH = 115cd,177cd
	*1575 = 15 cd/75cd on axis

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances, and in a manner acceptable to the authority having jurisdiction. Models followed by W or WH are wall mounts; C or CH are ceiling mounts. All models are for indoor use.

MARKING: Listee's name, model number, electrical and candela rating, and UL label.

APPROVAL: Listed as strobe speakers suitable for the hearing impaired when used in conjunction with separately listed electrically compatible fire alarm control units. For synchronization strobes, Models SM-12/24 or DSM-12/24 synchronized control modules (CSFM Listing No. 7300-0785:132) must be used. Refer to manufacturer's Installation Manual for details.

NOTE: These units do not generate a temporal pattern signal. If the distinctive three- pulse Temporal Pattern Fire Alarm Evacuation signal (for total evacuation) in accordance with NFPA 72, 2002 Edition is required, the appliance must be used with a fire alarm control unit that can generate the temporal pattern signal.

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LISTING SERVICE

LISTING No. 7125-0785:0168

CATEGORY: 7125 -- FIRE ALARM DEVICES FOR THE HEARING IMPAIRED

LISTEE: Cooper Wheelock Inc.7246 16th St. E., Ste. 105, Sarasota, FL 34243
Contact: Tom Conover (941) 487-2336
Email: thomas.conover@cooperindustries.com

DESIGN: Exceder Series: Models ST strobe, HS horn strobe and HN horn. Model ST is a synchronous and non-synchronous strobe light. Model HS a visual/audible appliance and Model HN is an audible signal appliance. All units followed by R (red) or W (white). Additionally, a 'C' may be added for ceiling models and/or a '-NR' may be added for non-resettable models. For non -NR models and optional 'S' for silver fascia may be added*. Refer to listee's data sheet for additional detailed product description and operational considerations.

RATING: Electrical: 12 VDC/24VDC/FWR
Candela (wall)*: 15, 15/75, 30, 75, 95, 110, 135 & 185
Candela (ceiling)*: 15, 30, 60, 75, 95, 115, 150, & 177

INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction. All models are for indoor use and for wall mount only or ceiling mount only*

MARKING: Listee's name, model number, electrical/candela rating, and UL label.

APPROVAL: Listed as horn for fire alarm signaling and strobe, horn/strobe for the hearing impaired when used with separately listed electrically compatible fire alarm control units. Refer to listee's Installation Instructions Manual for details.

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