RESURGAM CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/06/13

Norris Inc
2257 West Broadway
South Portland, ME 04106
1-800-370-3473

313519R2
Equipment List :
Page: 1

E S BOULOS
45 BRADLEY DRIVE
WESTBROOK, ME 04092-

ESBOUL 207-464-3706 Fax:207-464-1833

Cumberland County Civic Center

Description

NOTIFIER-NFS2640, Notifier NFS 640 Version 2.0
NOTIFIER-CPU2-640, NFS2-640 CPU - 120 VAC
NOTIFIER-KDM-R2, Keyboard Display Module; For CPU2-640
NOTIFIER-DP-DISP2, Dress Plate used with CPU2-640
NOTIFIER-DP-1B, Dress panel blank; painted black.
NOTIFIER-BMP-1, Blank module dress plate
NOTIFIER-DR-D4, Door, lock & keys. Accepts 4 chassis, black.
NOTIFIER-SBB-D4, Backbox, 4 chassis, black.
ADI-IM-12550NB, 12V 55 AH Battery
NOTIFIER-NFS-LBB, NFS Large Battery Backbox, black.
NOTIFIER-UDACT-2, Universal Digital Alarm Communictator Transmitter-2
ADI-MO-804R2, MOD TO MOD 8C 2'RADIONICS CORD
ADI-MO-RJ31X, SFS MT 8C RJ31X UL (917UL)
DIGITAL VOICE, Digital Voice Assembly
NOTIFIER-CA-1, Chassis, DVC, One Row
NOTIFIER-DPA-1, Dress Plate, DVC, One Row
NOTIFIER-CMIC-1, Chassis with Paging Microphone with well
NOTIFIER-DVC-EM, Digital Voice Command, Extended Memory
NOTIFIER-DVC-KD, Digital Voice Command, Keypad
NOTIFIER-DVC-AO, Digital Voice Command, Analog Output
NOTIFIER-AA-120, 120 Watt Audio Amplifier @ 25 VRMS w/built-in tone generator
ADI-IM-12120, 12 VOLT 12 AH Battery
NOTIFIER-XP6-C, XP6 Transponder Control Module, 6 circuits Class A or B.
NOTIFIER-CHS-6, Chassis, mounts up to 6 XP-6 modules in a BB-25
NOTIFIER-EQDR-D4, Equipment Door assembly, vented, four tiers, black.
NOTIFIER-EQBB-D4, Equipment Backbox assembly, four tiers, black.
NOTIFIER-RM-1, Remote Mic
NOTIFIER-CAB-RM, Remote Mic Cabinet

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Description
NOTIFIER-FDU-80, 80 Character Display Ann.
NOTIFIER-PRN-6, 80 column desktop printer, 120 Vac.
SPECIAL-AES, AES Radio Masterbox--
AES-7788F, UL FIRE 8 ZONE RED CASE W/2.5 DB ANTENNA
ADI-EK-TRG1640, Transformer
ADI-IM-1270, 12V 7AH Battery
AES-7210-5-UM, 5dB Omni directional UHF Antenna
AES-13-0346, Cable Assembly; 18# RG-58 Used to connect RG-8 with N male to
AES-7230, Standard Coaxial Surge Protector, N female N female
NOTIFIER-R-10T, Relay, SPDT, Multivolt, Track mount
NOTIFIER-FRM-1, Address Relay Modwith FlashScan (master box)
NOTIFIER-FMM-101, Monitor Module FlashScan (master box)
NOTIFIER-NBG-12LX, Addressable NBG-12L Pull Station; with FlashScan.
NOTIFIER-FSP-851, Intelligent Addressable Photo detector; with FlashScan.
NOTIFIER-FST-851, Intelligent Address135 degree thermal detector with FlashScan.
NOTIFIER-FST-851R, Intelligent AddressRate-of-Rise Thermal detector FlashScan.
NOTIFIER-B210LPBP, Conventional Flanged Mounting Base; Pkg. of 10
NOTIFIER-B210LP, Conventional Flanged Mounting Base
NOTIFIER-DNR, InnovairFlex intelligent duct detector, non-relay, no head.
NOTIFIER-FSP-851R, Remote test capable Intelligent Photo detector with FlashScan
NOTIFIER-RTS151, Remote test station; with switch, alarm and power LED#s.
NOTIFIER-DST3, InnovairFlex sampling tube, steel, 3# with holes
NOTIFIER-FRM-1, Address Relay Modwith FlashScan (ducts)
NOTIFIER-FRM-1, Address Relay Modwith FlashScan (elevator)
NOTIFIER-FMM-101, Address Mini Mod; FlashScan (sprinkler tamper)
NOTIFIER-FSB-200S, Addressable Beam Detector with remote test feature
NOTIFIER-BEAMLRK, Projected Beam Smoke Detector Long Range Kit.
NOTIFIER-BEAMMMK, Projected Beam Smoke Detector Multi-Mount Kit.
NOTIFIER-RTS151, Remote test station; with switch (beam detectors)
NOTIFIER-FCPS-24S8, 8.0 amps, 120 VAC remote charger power supply.
ADI-IM-1270, 12V 7AH Battery

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Description
NOTIFIER-SR, Strobe, 12/24 Volt, Red, Multi-Candela 15,15/75,30,75,110,115 cd
NOTIFIER-SRK, Strobe, WP, 12/24 Volt, R, Multi-Candela+D1017 with BB
NOTIFIER-SPSRK, Wall, Outdoor, Red, Selectable Candela, Speaker/Strobe
NOTIFIER-SPSR, Wall, Red, Selectable Candela, Speaker/Strobe
NOTIFIER-SPSCR, Ceiling, Red, Selectable Candela, Speaker/Strobe
NOTIFIER-SPSCRH, Ceiling, Red, Selectable Candela, Speaker/Strobe; Hi Cd
SPAAGEELE-SSU00685, fire alarm record storage cabinet red
SPAAGEELE-IE0091, Notifier Lock
ADI-ED-48FINRG12, Strobe, Flashing Red, WP, 24VDC
ADI-ED-WBR, Wall Mounting Brackett
SPECIAL-KNOXR, Knox Box-- 4100 Series
SPECIAL-KNOXR-SURFACE, Surface Mount Knox Box
SPECIAL-KNOXR-LIFTCOVER, Lift Cover for Knox Box
SPECIAL-KNOXR-BLACK, Black Knox Box Color
NOTIFIER-OW-LITE-NW, ONYXWorks-Lite Graphical User Interface, wire
NOTIFIER-NWS-3, Web-based HTML server hardware
NOTIFIER-NCM-W, Network Communications Module for wire network.
Desktop Work Station With 27" LCD
Graphic Annunciator
NOTIFIER-XP10-M, XP10 Transponder Monitor Module, 10 circuits Class A or B.
NOTIFIER-CHS-6, Chassis, mounts up to 6 XP-6 modules in a BB-25
NOTIFIER-FRM-1, Address Relay Modwith FlashScan;
NOTIFIER-LDM-32, Lamp Driver Annunciator Control Module
NOTIFIER-LDM-E32, LP Driver Ann Expander mod.rcustom graphic ann. 32pts
NOTIFIER-FMM-101, Address Mini Mod; FlashScan; Supervises Class B circuit of dry

>NFS2-640

Intelligent Addressable Fire Alarm System

NOTIFI
by Honeyw

Intelligent Fire Alarm

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General

The NFS2-640 intelligent Fire Alarm Control Panel is part of the ONYX® Series of Fire Alarm Controls from NOTIFIER.

In stand-alone or network configurations, ONYX Series products meets virtually every application requirement.

Designed with modularity and for ease of system planning, the NFS2-640 can be configured with just a few devices for small building applications, or for a large campus or high-rise application. Simply add additional peripheral equipment to suit the application.

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.

NOTE: *Unless called out with a version-specific "E" at the end of the part number, "NFS2-640" refers to models NFS2-640 and NFS2-640E; similarly, "CPU2-640" refers to models CPU2-640 and CPU2-640E.*

7111pho2.jpg

NFS2-640

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- One, expandable to two, isolated intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7.
- Up to 159 detectors (any mix of ion, photo, thermal, or multi-sensor) and 159 modules (Addressable pull stations, normally open contact devices, two-wire smoke, notification, or relay) per SLC. 318 devices per loop/636 per FACP or network node.
- Standard 80-character display, 640-character large display (NCA-2, 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.
- 6.0 A switch mode power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensor, Wheelock, or Gentex strobe synchronization.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- 80-character remote annunciators (up to 32).
- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with tally.
- Presignal/Positive Alarm Sequence (PAS).
- Silence inhibit and Auto Silence timer options.
- March time/temporal/California two-stage coding/strobe synchronization.
- Field-programmable on panel or on PC, with VeriFire Tools program check, compare, simulate.
- Full QWERTY keypad.
- Battery charger supports 18 – 200 AH batteries.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Automatic time control functions, with holiday exceptions.
- Surface Mount Technology (SMT) electronics.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.
- Support for SCS Series smoke control system in HVAC mode.

NCA-2 AS PRIMARY DISPLAY

- Backlit, 640-character display.
- Supports SCS Series smoke control system in FSCS mode when SCS is connected to the ***NCA-2*** used as primary display.
- Supports DVC digital audio loop.
- Printer and CRT EIA-232 ports.
- EIA-485 annunciator and terminal mode ports.
- Alarm, Trouble, Supervisory, and Security relays.

FLASHSCAN® INTELLIGENT FEATURES

- Poll up to 318 devices 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).

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- Manual sensitivity adjustment — nine levels.
- Pre-alarm ONYX intelligent sensing — nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity windows:
  - **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).
- Degraded mode — in the unlikely event that the CPU2-640 microprocessor fails, FlashScan detectors revert to degraded operation and can activate the CPU2-640 NAC circuits and alarm relay. Each of the four built-in panel circuits includes a Disable/Enable switch for this feature.
- 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.

FSL-751 (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 tion systems at a fraction of the lifetime

FAPT-851 ACCLIMATE PLUS LOW-PROFILE INTELLIGENT MULTI-S

- Detector automatically adjusts sensiti operator intervention or programming. S with heat.
- Microprocessor-based technology; com thermal technology.
- FlashScan or CLIP ("classic") mode compatible.
- Low-temperature warning 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.

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.

Sample System Options

NFS2-640
"C" cabinet size shown

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RELEASING FEATURES

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).
- Low-pressure CO_2 listed.

VOICE AND TELEPHONE FEATURES

- Up to eight channels of digital audio.
- 35, 50 and, 75 watt digital amplifiers (DAA2/DAX series) (NCA-2 required as primary display).
- Solid-state digital message generation.
- Firefighter telephone option.
- 30- to 120-watt high-efficiency amplifiers (AA Series).
- Backup tone generator and amplifier option.

HIGH-EFFICIENCY OFFLINE SWITCHING 3.0 A POWER SUPPLY (6.0 A IN ALARM)

- 120 VAC (NFS2-640); 240 VAC (NFS2-640E).
- Displays battery current/voltage on panel (with display).

FlashScan, Exclusive World-Leading Detector Protocol

At the heart of the NFS2-640 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.

In addition to providing 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 NFS2-640 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

Intelligent sensing is a set of software algorithms that provides the NFS2-640 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the high-speed microcomputer used by the NFS2-640.

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, such as those 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 tions.

Self-Optimizing Pre-Alarm: Each detec "Self-Optimizing" pre-alarm. In this special "learns" its normal environment, measuri readings over a long period of time, and s level just above these normal peaks.

Cooperating Multi-Detector Sensing: A ONYX intelligent sensing is the ability of 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 routine. 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 (with KDM-R2) The NFS2-640, 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 NFS2-640 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 NFS2-640 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows®-based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-640 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.

Placement of Equipment in Chassis and Cabinet

The following guidelines outline the NFS2-640's flexible system design.

Rows: The first row of equipment in the cabinet mounts in the chassis shipped with the CPU. Mount the second, third, or fourth rows of equipment in a CHS-4 series chassis or, for Digital Voice Command products, in **CA-1** or **CA-2**. (For DVC and DAA2/DAX components see DVC Manual; for DVC-AO applications, see *AA Series Installation Manual*).Other options are available; see your panel's installation manual.

Wiring: When designing the cabinet layout, consider separation of power-limited and non-power-limited wiring as discussed in the *NFS2-640 Installation Manual.*

Positions: A chassis offers four basic side-by-side positions for components; the number of modules that can be mounted in each position depends on the chassis model and the size of the individual module. There are a variety of standoffs and hardware items available for different combinations and configurations of components.

It is critical that all mounting holes of the NFS2-640 are secured with a screw or standoff to ensure continuity of Earth Ground.

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Layers: The CPU's chassis accepts four layers of equipment, including the control panel. The **CPU2-640** fills three positions (left to right) in the first-installed layer (the back of the chassis); its integral power supply occupies the center two positions in the next two layers; the optional display occupies (the left) two positions at the front, flush with the door. Some equipment, such as the **NCA-2**, may be mounted in the dress panel directly in front of the control panel. The NCA-2 can be used as a primary display for the NFS2-640 (use NCA/640-2-KIT) by directly connecting their network ports (required in Canadian stand-alone applications); see NCA-2 data sheet for mounting options *(DN-7047)*.

Expansion: Installing an **LEM-320** Loop Expander Module adds a second SLC loop to the control panel. The LEM-320 is mounted onto the CPU2-640, occupying the middle-right, second (back) slot on the chassis.

Networking: If networking two or more control panels, each unit requires a Network Control Module or High-Speed Network Control Module. (HS-NCM can support two nodes; see "Networking Options" on page 4). These modules can be installed in any option board position (see manual), and additional option boards can be mounted in front of the network control modules.

KDM-R2 Controls and Indicators

Program Keypad: QWERTY type *(keyboard layout, see figure)*.

12 LED indicators: Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Signals Silenced; Points Disabled; Control Active; Abort; Pre-Discharge; Discharge.

Keypad Switch Controls: Acknowledge/Scroll Display; Signal Silence; Drill; System Reset; Lamp Test.

LCD Display: 80 characters (2 x 40) with long-life LED backlight.

Ordering Information

- "Configuration Guidelines" on page 4
- "Networking Options" on page 4
- "Auxiliary Power Supplies and Batteries" on page 4
- "Audio Options" on page 5
- "Compatible Devices, EIA-232 Ports" on page 5
- "Compatible Devices, EIA-485 Ports" on page 5
- "Compatible Intelligent Devices" on page 5
- "Enclosures, Chassis, and Dress Plates" on page 6
- "Other Options" on page 7

CONFIGURATION GUIDELINES

Stand-alone and network systems require a main display. On single-CPU systems (one CPU2-640/-640E), display options are the KDM-R2 or the NCA-2. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. Other options listed as follows;

KDM-R2: 80-character backlit LCD display with QWERTY programming and control keypad. Order two BMP-1 blank modules and DP-DISP2 mounting plate separately. *Requires top row of a cabinet. Required for each stand-alone 80-character display system. The KDM-R2 may mount in network nodes to display "local" node information as long as at least one NCA-2 or NCS/ONYXWorks network display is on the system to display network information.*

NCA-2: Network Control Annunciator, 640 characters. On single *CPU2-640/-640E* systems, the optional NCA-2 can be used as the Primary Display for the panel and connects directly to the *CPU2-640/-640E*. On netw more networked fire panel nodes), one ne NCA-2 or NCS/*ONYXWorks*) is required f network systems, the NCA-2 connects standard Network Control Module or H Control Module. Mounts in a row of FA annunciator positions. Mounting option DISP2, ADP-4B, or in an annunciator bo 2D. In CAB-4 top-row applications, a DP-D 1 blank modules are required for mou NFS2-640 applications employing the DVC-EM with DAL devices. *See DN-7047.*

CPU2-640: Central processing unit with integral 3.0 A (6.0 A in alarm) power supply for an NFS2-640 system. Includes CPU factory-mounted on a chassis; one Signaling Line Circuit expandable to two; installation, programming and operating manuals. *Order one per system or as necessary (up to 103 network nodes) on a network system.*

CPU2-640E: Same as CPU2-640 but requires 240 VAC, 1.5 A, (3.0 A in alarm).

NCA/640-2-KIT: Bracket installation kit required to mount NCA-2 to the CPU2-640/-640E's standard chassis.

DP-DISP2: Dress panel for top row in cabinet with CPU2-640/640E installed.

ADP2-640: Dress panel for middle rows with CPU2-640/640E.

BMP-1: Blank module for unused module positions.

BP2-4: Battery plate, required.

LEM-320: Loop Expander Module. Expands each NFS2-640 to two Signaling Line Circuits. *See DN-6881.*

NETWORKING OPTIONS

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, 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

ACPS-610: 6.0 A or 10 A addressable charging power supply. *See DN-60244.*

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.*

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

BAT Series: Batteries. NFS2-640 utilizes two 12 volt, 18 to 200 AH batteries. Mounts in NFS-LBB(R). *See DN-6933.*

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AUDIO OPTIONS

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

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. Capable of playing up to eight simultaneous messages when used with Digital Audio Loop (DAL) devices. *See DN-7045.*

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

DVC-AO: DVC Analog Output board provides four analog output circuits for use with AA Series amplifiers. Four-channel operation supported. *See DN-7045.*

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

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

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

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

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

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

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

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

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

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 for the NFS-640. 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.*

COMPATIBLE DEVICES, EIA-232 PORTS

PRN-6: 80-column printer. *See DN-6956.*

VS4095/5: Printer, 40-column, 24V. Mounted in external backbox. *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 b low; the Trouble LED is always yellow. *See*

AEM-24AT: Same LED and switch capab expands the ACM-24AT to 48, 72, or 96 pc

ACM-48A: ONYX Series ACS annunciator annunciation with Alarm or Active LED Alarm LEDs can be programmed (by powe tion) in groups of 24 to be red, green, or ye 96 points with one AEM-48A. *See DN-686*

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-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 LCD-80/-80TM (DN-3198).*

FDU-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 DN-6820.*

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 DN-60548.*

LDM: Lamp Driver Modules LDM-32, LDM-E32, and LDM-R32; remote custom graphic driver modules. *See DN-0551.*

SCS: Smoke control stations SCS-8, SCE-8, with lamp drivers SCS-8L, SCE-8L; 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 (single-address-style) or in CHS2-M2 position. *See DN-6860.*

UDACT: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-4867.*

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). Up to 256 programmable codes. Mounts in **BB-UZC** or other compatible chassis (purchased separately). *See DN-3404.*

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.*

BEAMMKR: 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.*

FSI-851: Low-profile FlashScan ionization detector. *See DN-6934.*

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

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FSP-851T: FSP-851 plus dual electronic thermistors that add 135°F (57°C) fixed-temperature thermal sensing. *See DN-6935.*

FSP-851R: FSP-851, remote-test capable. For use with DNR(W). *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-851R 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 addressable 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.*

FCM-1: FlashScan NAC control module. *See DN-6720..*

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

FRM-1: FlashScan relay module. *See DN-6720..*

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

ISO-X: Isolator module. *See DN-2243. 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: NFS2-640 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 v
power supplies, battery chargers and cc
cabinets are available in three sizes, "B" th
60229. .

CHS-4: Chassis for mounting up to four AF

CHS-4L: Low-profile four-position Chassis
amplifiers or one AMG-E and one AA-30.

DP-1B: Blank dress panel. Provides d
unused tiers; covers DAA2-series or AA-se

NFS-LBB: Battery Box (required for batteries larger than 26 AH).

NFS-LBBR: Same as above but red.

CHS-BH1: Battery chassis; holds two 12.0 AH batteries. Mounts one 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 NFS2-640 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).

CFFT-1: Chassis to mount firefighters telephone and one ACS annunciator in a CAB-4 row. Includes TELH-1 firefighters handset for the DVC, chassis, phone well and mounting hardware. Order DP-CFFT dress panel separately.

DP-CFFT: CFFT-1 dress panel. Requires BMP-1 if no ACS annunciator is installed.

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.*

*Use ADDR-B4/C4/D4 when CA-2 chassis is installed in top two rows with NCA-2 or BP-CA2. Use standard door when CA-2 is not installed in top two rows. Please see the DVC application guide for additional configuration information.

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

DPA-2B: Dress panel used with CA-2 chassis assembly.

VP-2B: Dress panel, required when CA-2 chassis is installed in the top two cabinet rows.

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.*

BP-CA2: Blank plate for CA-2 chassis.

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

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-640 and 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-2/2UD, 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-COM: Internet and Digital Cellular Fire Communicator Panel. Uses internet as primary with dual GSM technology as backup. Connects to the primary and secondary ports of a DACT. *See DN-60656.*

VeriFire-TCD:: VeriFire Tools programming software for the ONYX Series. Includes local panel connection cable. *See DN-6871.*

VeriFireUG-TCD: VeriFire Tools upgrade software.

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

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SYSTEM SPECIFICATIONS

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System Capacity

- Intelligent Signaling Line Circuits .....1 expandable to 2
- Intelligent detectors .....159 per loop
- Addressable monitor/control modules .....159 per loop
- Programmable software zones.....99
- Special programming zones.....14
- LCD annunciators per CPU2-640/-640E and NCA-2 *(observe power)*.....32
- ACS annunciators per CPU2-640/-640E.....32 addresses x 64 points
- ACS annunciators per NCA-2.....32 addresses x 64 or 96 points

NOTE: *The NCA-2 supports up to 96 annunciator address points per ACM-24AT/-48A.*

Specifications

- Primary input power:
  - CPU2-640 board: 120 VAC, 50/60 Hz, 5.0 A.
  - CPU2-640E board: 220/240 VAC, 50/60 Hz, 2.5 A.
- Total output 24 V power: 6.0 A in alarm.

NOTE: *The power supply has a total of 6.0 A. of available power. This is shared by all internal circuits.*

- Standard notification circuits (4): 1.5 A each.
- Resettable regulated 24V power: 1.25 A.
- Two non-resettable regulated 24V power outputs:
  - 1.25 A.
  - 0.50 A.
- Non-resettable 5V power: 0.15 A.
- Battery charger range: 18 AH – 200 AH. Use separate cabinet for batteries over 26 AH.
- Float rate: 27.6 V.

Cabinet Specifications

Systems can be installed in CAB-4 Series cabinets *(four sizes with various door options, see DN-6857)*. Requires BP2-4 Battery Plate.

Shipping Weight

- CPU2-640/-640: 14.3 lb (6.49 kg).
- CPU2-640/-640E: 14.55 lb (6.60 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 ±
useful life of the system's standby batterie
components may be adversely affected b
ture ranges and humidity. Therefore, it is
this system and its peripherals be installe
with a normal room temperature of 15 – 27

Agency Listings and Approvals

The listings and approvals below apply to the basic NFS2-640 control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **ULC Listed:** S635
- **FM Approved**
- **MEA:** 128-07-E
- **FDNY:** COA# 6067
- **CSFM:** 7165-0028:0243
- **City of Chicago**
- **City and County of Denver**
- **CCCF listed**

Standards

The NFS2-640 complies with the following UL Standards and NFPA 72, IBC, and CBC Fire Alarm Systems requirements:

- **UL 864, 9th Edition** (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 and Waterflow). *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.

>CAB-4 Series Cabinets

ONYX® Series Backboxes with Locking Doors

NOTIFI
by Honeyw

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Date: 09/06/13

General

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

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

NFS-640 in "B" sized CAB-4 cabinet

Ordering Information

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

MINI "AA" SIZE, ONE TIER:

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

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

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

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

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

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

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

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

ONE TIER, "A" SIZE:

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

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

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

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

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

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

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

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

BP-4: Battery panel for NFS-640 and NFS-3030. Used to cover battery and power supply when lower position is used in backbox.

BP2-4: Battery panel for NFS2-3030. Used to cover battery and power supply when lower position is used in backbox.

TWO TIERS, "B" SIZE:

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

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

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

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

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

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

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

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

BP-4: Battery panel for NFS-640 and NFS-3030. Used to cover battery and power supply when lower position is used in backbox.

BP2-4: Battery panel for NFS2-3030. Used to cover battery and power supply when lower position is used in backbox.

THREE TIERS, "C" SIZE:

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

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

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

DR-C4BR: Door assembly, solid door, three tiers, RED.

SBB-C4: Backbox assembly, three tiers, BLACK.

SBB-C4R: Backbox assembly, three tiers, RED.

TR-C4: Accessory semi-flush-mount trim ring, three tiers (opening 24.062" [61.118 cm] W x 37.187" [94.455 cm] H), BLACK.

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

BP-4: Battery panel for NFS-640 and NFS-3030. Used to cover battery and power supply when lower position is used in backbox.

BP2-4: Battery panel for NFS2-3030. Used to cover battery and power supply when lower position is used in backbox.

FOUR TIERS, "D" SIZE:

DR-D4: Door assembly, LEXAN window, four tiers, BLACK.

DR-D4R: Door assembly, LEXAN window, four tiers, RED.

DR-D4B: Door assembly, solid door, four tiers, BLACK.

DR-D4BR: Door assembly, solid door, four tiers, RED.

SBB-D4: Backbox assembly, four tiers, BLACK.

SBB-D4R: Backbox assembly, four tiers, RED.

TR-D4: Accessory semi-flush-mount trim ring, four tiers (opening 24.062" [61.118 cm] W x 45.812" [116.363 cm] H), BLACK.

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

BP-4: Battery panel for NFS-640 and NFS-3030. Used to cover battery and power supply when lower position is used in backbox.

BP2-4: Battery panel for NFS2-3030. Used
power supply when lower position is used ir

ACCESSORIES:

WC-2: Wire channel. Provides a pair of
route wiring between CHS chassis.

CB-1: Chassis bridge. Provides a bridge b
chassis.

DP-1B: Blank dress panel, covers one CAE

ADP-4B: Annunciator dress panel.

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Agency Listings and Approvals

These listings and approvals below apply to the CAB-4 Series Cabinets. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL** Listed: file S635 *(except AA size)*.
- **ULC** Listed: file CS118 *(except AA size)*.
- **MEA** approved: files 317-01-E, 345-02-E *(except AA size)*.
- **CSFM** approved *(except AA size)*: files 7165-0028:214 *(NFS-640)*, 7170-0028:216 *(NFS-640)*, 7165-0028:224 *(NFS-3030)*, 7170-0028:223 *(NFS-3030)*.
- **FM** approved *(except AA size)*.
- **U.S. Coast Guard** approved: 161.002/42/1 *(NFS-640)*.

Cabinet Dimensions and Features

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The BP-4 Battery Dress Panel covers the Main Power Supply and the batteries in the cabinet. Only one BP-4 or BP2-4 is required per cabinet unless an AA cabinet is used (no battery compartment).

"D" sized cabinet with solid door. Solid door option available on all sizes in black or red.

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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.

>BAT Series Batteries

Sealed Lead-Acid or Gell Cell

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General

BAT Series Batteries feature a new part-numbering/listing system — providing an improved method of delivery for NOTIFIER-approved sealed lead-acid batteries for all your fire alarm system needs. Multiple brands of batteries are now offered under generic part numbers, reducing backorder situations and permitting us to deliver these products in a more timely fashion. NOTIFIER has approved the multiple brands listed below as possible product shipped for a given part number. Please note that any incoming orders for "PS Series" batteries will be converted to the equivalent BAT Series part numbers.

6933cov.jpg

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**: files MH19884 *(B & B Battery),* MH20567 *(UPG, previously Jolt),* MH20845 *(Power-Sonic).*

Part Number Reference

CURRENT Part Number	BATTERY DESCRIPTION	ALTERNATES APPROVED: manufacturers and P/Ns shipped under BAT P/Ns
BAT-1250	12 V, 5 AH, sealed.	BP5-12 (B&B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).
BAT-1250	12 V, 5 AH, sealed.	BP5-12 (B&B Battery); PS-1250 (Power-Sonic); SA1250 (Jolt) to be replaced with UB1250 (UPG).
>BAT-1270	12 V, 7 AH, sealed.	BP7-12 (B&B Battery); PS-1270 (Power-Sonic); SA1272 (Jolt) to be replaced with UB1270 (UPG).
>BAT-12120	12 V, 12 AH, sealed.	BP12-12 (B&B Battery); PS-12120 (Power-Sonic); SA12120 (Jolt) to be replaced with UB12120 (UPG).
BAT-12180	12 V, 18 AH, sealed.	PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).
BAT-12180	12 V, 18 AH, sealed.	PS-12180 (Power-Sonic); SA12180 (Jolt) to be replaced with UB12180 (UPG).
BAT-12260	12 V, 26 AH, sealed.	BP26-12 (B&B Battery); PS-12260 (Power-Sonic); SA12260 (Jolt) to be replaced with UB12260 (UPG).
>BAT-12550	12 V, 55 AH, sealed.	PS-12550 (Power-Sonic); XSA12550 (Jolt) to be replaced with UB12550 (UPG).
BAT-12550	12 V, 55 AH, sealed.	PS-12550 (Power-Sonic); XSA12550 (Jolt) to be replaced with UB12550 (UPG).
BAT-121000	12 V, 100 AH, gell cell.	PS-121000 (Power-Sonic); XSA121000A (Jolt) to be replaced with UB121000 (UPG).

POWER-SONIC

Part Number Reference

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MODEL	Nominal Voltage V	Nominal Capacity @ 20 hr. rate A.H.	Discharge Current @20 hr. rate mA	DIMENSIONS									
				Width		Depth		Height		Height over terminal		W	
				in.	mm	in.	mm	in.	mm	in.	mm	lb.	
PS-1250	12	5	250	3.54	90	2.76	70	4.02	102	4.21	107	4.1	1.9
PS-1270	12	7	325	5.94	151	2.56	65	3.7	94	3.86	98	5.7	2.6
PS-12120	12	12	600	5.94	151	3.86	98	3.7	94	3.86	98	8.8	4
PS-12180	12	18	875	7.13	181	2.99	76	6.57	167	6.57	167	12.8	5.8
PS-12250	12	25	1300	6.89	175	6.54	166	4.92	125	4.92	125	18.7	8.5
PS-12550	12	55	3000	10.25	260	6.6	168	8.2	208	9.45	240	39.7	18
PS-121000	12	100	5000	12	305	6.6	168	8.2	208	9.45	240	65.7	29.8

Characteristic Discharge Curves

Effect of Temperature on Capacity

at left:
PS-121000
Shelf-Life
and Storage

at left:
PS-1210000
Discharge
Characteristics

Reviewed for Code Compliance
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Date: 09/06/13

B & B BATTERY

Model	V	Nominal Capacity (AH)				Weight		Terminal				Dimensions							
								Standard		Optional		L		W		H			
		20 hr	10 hr	5 hr	1 hr	kg	lbs	Type	Pos.	Type	Pos.	mm	in	mm	in	mm			
BP5-12	12	5.00	4.75	4.25	3.00	1.86	4.10	T1	3	T2		90	3.54	70	2.76	102			
BP7-12	12	7.00	6.65	5.95	4.20	2.60	5.73	T2	5	T1		151	5.94	65	2.56	93			
BP12-12	12	12.00	11.40	10.20	7.20	4.03	8.89	B1	5	T1		151	5.94	98	3.86	94	3.70	98	3.86
BP26-12	12	26.00	24.70	22.10	15.60	9.40	20.73	B1	7	T2.I1	9	175	6.89	166	6.54	125	4.92	125	4.92

Charging Procedure

Application	Charging method	Charging voltage at 20°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Maximum charging current (CA)	Charging time 0.1 CA, 20°C (h)		Temp (°C)
					100% discharge	50% discharge	
For standby power source	Constant voltage and constant current charging (with current restriction)	2.25 ~ 2.30	– 3	0.3	24	20	0 – 40°C (32 ~104°F)
For cycle service		2.40 ~ 2.50	– 4	0.3	16	10	
Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.							

Final Voltage	Discharge Time: for Model BP5-12								
	5 min	10 min	15 min	30 min	1 hr	3 hr	5 hr	10 hr	20 hr
	Battery Output Power (W): for Model BP5-12								
10.80 V	180.8	133.1	106.6	63.5	36.39	14.57	10.05	5.62	2.94
10.50 V	209.2	144.2	111.5	65.9	37.48	14.87	10.20	5.70	3.00
10.20 V	222.3	149.4	115.0	67.4	38.16	15.00	10.26	5.73	3.01
9.90 V	232.3	152.9	117.6	68.3	38.61	15.10	10.29	5.75	3.02
9.60 V	240.0	156.0	120.0	69.0	39.0	15.20	10.32	5.75	3.02

Constant Power Discharge Characteristics at 25°C/77°F
for BP5-12

Final Voltage	Discharge Time: for Model BP7-12								
	5 min	10 min	15 min	30 min	1 hr	3 hr	5 hr	10 hr	20 hr
	Battery Output Power (W): for Model BP7-12								
10.80 V	253.1	186.3	149.3	88.8	50.95	20.40	14.07	7.86	4.11
10.50 V	292.9	201.8	156.2	92.2	52.47	20.81	14.28	7.98	4.20
10.20 V	311.2	209.1	161.0	94.3	53.42	21.00	14.36	8.02	4.22
9.90 V	325.2	214.1	164.7	95.6	54.06	21.15	14.41	8.04	4.23
9.60 V	336.0	218.4	168.0	96.6	54.60	21.27	14.45	8.04	4.23

Constant Power Discharge Characteristics at 25°C/77°F
for BP7-12

Final Voltage	Discharge Time: for Model BP12-12								
	5 min	10 min	15 min	30 min	1 hr	3 hr	5 hr	10 hr	20 hr
	Battery Output Power (W): for Model BP12-12								
10.80 V	433.9	319.4	256.0	152.3	87.34	34.98	24.12	13.48	7.05
10.50 V	502.2	346.0	267.7	158.1	89.96	35.68	24.48	13.68	7.20
10.20 V	533.6	358.5	276.0	161.7	91.57	36.00	24.61	13.75	7.23
9.90 V	557.5	367.1	282.4	164.0	92.67	36.25	24.70	13.79	7.25
9.60 V	576.0	374.4	288.0	165.6	93.60	36.47	24.77	13.79	7.25

Constant Power Discharge Characteristics at 25°C/77°F
for BP12-12

Final Voltage	Discharge Time: for Model BP26-12								
	5 min	10 min	15 min	30 min	1 hr	3 hr	5 hr	10 hr	20 hr
	Battery Output Power (W): for Model BP26-12								
10.80 V	940.0	692.0	554.6	330.0	189.23	75.79	52.25	29.20	15.26
10.50 V	1088.0	749.7	580.0	342.5	194.91	77.30	53.04	29.64	15.60
10.20 V	1156.0	776.7	598.0	350.3	198.41	78.00	53.33	29.79	15.67
9.90 V	1208.0	795.3	611.8	355.2	200.79	78.54	53.52	29.88	15.71
9.60 V	1248.0	811.2	624.0	358.8	202.80	79.01	53.68	29.88	15.71

Constant Power Discharge Characteristics at 25°C/77°F
for BP26-12

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Date: 09/06/13

BP5-12 Battery Discharge Characteristics (25°C/77°F)

BP7-12 Battery Discharge Characteristics (25°C/77°F)

BP12-12 Battery Discharge Characteristics (25°C/77°F)

BP26-12 Battery Discharge Characteristics (25°C/77°F)

BP05-12

6933bp05.jpg

BP12-12

6933bp12.jpg

BP26-12

6933bp26.jpg

UPG BATTERY

UB1250 has the same specifications as previous Jolt SA1250; SA1272 to be replaced with UB1270 (specs/diagrams pending).

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UB1250 (previously SA1250) Diagrams

UB1250/SA1250 discharge current vs. time

UB1250/SA1250 discharge characteristics (25°C/77°F)

SA1272 Diagrams

SA1272 discharge current vs. time

SA1272 discharge characteristics (25°C/77°F)

UB1250, SA1250 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 5.0 AH.
- Dimensions: total height 107 mm (4.21"); container height 101 mm (3.98"); length 90 mm (3.54"); width 70 mm (2.76").
- Weight: approximately 1.83 kg (4.03 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 32 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr @ 0.25 A: 5.0 AH.
  5 hr @ 0.8 A: 4.0 AH.
  1 hr @ 3.0 A: 3.0 AH.
  1 C @ 5.0 A: 2.5 AH.
- Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 60 A (5 sec).
- Maximum charging current: 1.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

SA1272 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 7.2 AH.
- Dimensions: total height 100 mm (3.94"); container height 94 mm (3.70"); length 151 mm (5.95"); width 65 mm (2.56").
- Weight: approximately 2.66 kg (5.85 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 22 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr @ 0.36 A: 7.2 AH.
  5 hr @ 1.15 A: 5.76 AH.
  1 hr @ 4.32 A: 4.32 AH.
  1 C @ 7.2 A: 3.6 AH.
- Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 90 A (5 sec).
- Maximum charging current: 2.16 A.
- Self-discharge residual capacity (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

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Date: 09/06/13

UB12120 (was SA12120) Diagrams

UB12120/SA12120 discharge current vs. time

6933up05.tif

UB12120/SA12120 discharge characteristics (25°C/77°F)

6933up06.tif

UB12180 (was SA12180) D

UB12180/SA12180 discharge current v

6933up07.tif

UB12180/SA12180 discharge characteristics (25°C/77°F)

6933up08.tif

UB12120, SA12120 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 12.0 AH.
- Dimensions: total height 100 mm (3.94"); container height 94 mm (3.70"); length 151 mm (5.95"); width 98 mm (3.86").
- Weight: approximately 4.10 kg (9.04 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 14 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.6 A: 12.0 AH.
  - 5 hr @ 1.92 A: 9.6 AH.
  - 1 hr @ 7.2 A: 7.2 AH.
  - 1 C @ 12.0 A: 6.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.

Maximum discharge current: 120 A (5 sec).

Maximum charging current: 3.6 A.

Self-discharge residual capacity (25°C, 77°F):

After 3 months: ~ 90%.
After 6 months: ~ 82%.
After 12 months: ~ 70%.

UB12180, SA12180 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 18.0 AH.
- Dimensions: total height 167 mm (6.58"); container height 167 mm (6.58"); length 181 mm (7.13"); width 76 mm (2.29").
- Weight: approximately 6.06 kg (13.36 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 13 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 0.9 A: 18.0 AH.
  - 5 hr @ 2.88 A: 14.4 AH.
  - 1 hr @ 10.8 A: 10.8 AH.
  - 1 C @ 18.0 A: 9.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 5.4 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

UPG BATTERY

Same specifications as previous Jolt models; packaging and part numbers are the only changes.

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UB12260 (was SA12260) Diagrams

UB12260/SA12260 discharge current vs. time

UB12260/SA12260 discharge characteristics (25°C/77°F)

UB12550 (was SA12550) D

UB12550/SA12550 discharge current vs

UB12550/SA12550 discharge characteristics (25°C/77°F)

UB12260, SA12260 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 26.0 AH.
- Dimensions: total height 125 mm (4.92"); container height 125 mm (4.92"); length 166 mm (6.54"); width 175 mm (6.89").
- Weight: approximately 8.80 kg (19.40 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 10 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr @ 1.3 A: 26.0 AH.
  5 hr @ 4.16 A: 20.8 AH.
  1 hr @ 15.6 A: 15.6 AH.
  1 C @ 26.0 A: 13.0 AH.
- Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 300 A (5 sec).
- Maximum charging current: 7.8 A.
- Self-discharge residual capacity (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

UB12550, SA12550 Specifications

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 55.0 AH.
- Dimensions: total height 234.5 mm (9.23"); container height 216.5 mm (8.52"); length 229 mm (9.02"); width 138 mm (5.43").
- Weight: approximately 19.0 kg (41.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 8 m.
- Discharge capacity under different temperatures:
  40°C: ~ 102%
  25°C: ~ 100%
  0°C: ~ 85%
- Capacity 25°C/77°F:
  20 hr @ 2.75 A: 55.0 AH.
  5 hr @ 8.8 A: 44.0 AH.
  1 hr @ 33.0 A: 33.0 AH.
  1 C @ 55.0 A: 27.5 AH.
- Charging voltage (25°C, 77°F):
  Standby use: 13.65 V ± 0.15 V.
  Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 16.5 A.
- Self-discharge residual capacity (25°C, 77°F):
  After 3 months: ~ 90%.
  After 6 months: ~ 82%.
  After 12 months: ~ 70%.

UPG BATTERY

Same specifications as previous Jolt models;
packaging and part numbers are the only changes.

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UB121000 (XSA121000A) Diagrams

UB121000/XSA121000A discharge current vs. time

6933up13.tif

UB121000/XSA121000A discharge characteristics (25°C/77°F)

6933up14.tif

UPG Summary Diagrams

Summary discharge characteristics

6933up15.wmf

Summary discharge current vs. time curve (25°C/77°F)

6933up16.wmf

UB121000 (XSA121000A) Diagrams

- Nominal voltage: 12 V.
- Nominal capacity (20 hr): 100.0 AH.
- Dimensions: total height 221 mm (8.70"); container height 214 mm (8.43"); length 329 mm (12.95"); width 172 mm (6.77").
- Weight: approximately 34.00 kg (74.8 lbs).
- Container material: UL94HB ABS, UL94V-0 ABS.
- Internal resistance (25°C, 77°F): ~ 6.5 m.
- Discharge capacity under different temperatures:
  - 40°C: ~ 102%
  - 25°C: ~ 100%
  - 0°C: ~ 85%
- Capacity 25°C/77°F:
  - 20 hr @ 5.0 A: 100.0 AH.
  - 5 hr @ 16.0 A: 80.0 AH.
  - 1 hr @ 60.0 A: 60.0 AH.
  - 1 C @ 100.0 A: 50.0 AH.
- Charging voltage (25°C, 77°F):
  - Standby use: 13.65 V ± 0.15 V.
  - Cycle use: 14.7 V ± 0.3 V.
- Maximum discharge current: 600 A (5 sec).
- Maximum charging current: 30 A.
- Self-discharge residual capacity (25°C, 77°F):
  - After 3 months: ~ 90%.
  - After 6 months: ~ 82%.
  - After 12 months: ~ 70%.

6933ub1280.jpg

6933ub12260.jpg

UPG BATTERY

Same specifications as previous Jolt models;
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Charging Procedure: UPG Battery

Application	Charging method	Charging voltage at 25°C (V/cell)	Temperature compensation coefficient of charging voltage (mV/°C/cell)	Maximum charging current (CA)	Charging time 0.1 CA, 25°C (h)		Ten
					100% discharge	50% discharge	
For standby power source	Constant voltage and constant current charging (with current restriction)	2.25 ~ 2.30	– 3.3 (–1.8 mV/°F/cell)	0.3	T³ 24	T³ 20	0 – 40°C (32 – 104°F)
For cycle service		2.40 ~ 2.50	– 5 (–2.8 mV/°F/cell)	0.3	16 < T < 24	10 < T < 24	

Temperature compensation of charging voltage is not needed when using the batteries within 5°C to 35°C range.

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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING 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.

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Date: 09/06/13

> Notifier - NFS-LBB(R): Battery Backbox —

Holds up to two BAT-12550 55
AH batteries or one BAT-121000 100 AH battery.

Dimensions:
Box: 24.0" (61.0 cm) wide x 14.0" (35.6 cm) high x 7.75" (19. cm) deep.
Door: 24.125" (61.3 cm) wide x 14.25" (36.2 cm)
high x (door adds 0.063" [approx. 0.16 cm] to depth)

>NFS-LBB = Black

NFS-LBBR -= Red

>UDACT-2

Universal Digital Alarm Communicator Transmitter

NOTIFI by Honeyw

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Annunciator

Date: 09/06/13

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 UDACT-2. A check in the protocol column ir supports that protocol.

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Date: 09/06/13

Receiver	4+2 Standard 1800/2300		
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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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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Made in the U.S. A.

DVC Series

Digital Voice Command
DVC-EM, DVC-EMF, DVC-EMSF

NOTIFI
by Honeyw

Voice C

RESURGAM CITY OF PORTLAND, MAINE
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 09/06/13

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, 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. DVCs are available in versions supporting wire, multi-mode fiber, or single-mode fiber media. 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, DVC-EMF, and DVC-EMSF models.*

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

Features

- Listed to UL Standard 864, 9th edition.
- Programmable from NUP port using *VeriFire® Tools* with:
  - DVC-EM: 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.
  - DVC-EMF: Same as DVC-EM, except supports multi-mode fiber-optic media.
  - DVC-EMSF: Same as DVC-EM, except supports single-mode fiber-optic media.
- 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.
- 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 option.
- 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.
- Auxiliary input for 12 V_{p-p} analog low-level audio sources. Includes user audio level adjustment feature.
- Auxilary 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 when normal digital 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 firefight-

ers' 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 RXA, TXA, RXB, and TXB (J100, J101, J102, and J103)**: ST® style, supervised. Multi-mode fiber-optic cable: 50/125 or 62.5125 micrometers. Single-mode fiber-optic cable: 9/125 micrometers. Attenuation of cabling between two nodes (fiber-optic circuits are point-to-point) must not exceed the following maximum attenuations: 4.2 dB for multi-mode with 50/125 micrometer cable @ 850 nm. 8.0 dB for multi-mode with 62.5/125 micrometer cable @ 850 nm. 5.0 dB for single-mode with 9/125 micrometer cable @ 1300 nm.
- **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, DVC-E
DVC-EMSF comply with the following stan

- NFPA 72 2002 National Fire Alarm Cod
- Underwriters Laboratories Standard UL
- Underwriters Laboratories of Canada (
  Standard of Control Units for Fire Alarm

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Listings and Approvals

The listings and approvals below apply to theDVC, DVC-EM, DVC-EMF, and DVC-EMSF 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: file S635.
- **ULC** Listed: file S635.

The DVC is approved by the following agencies except for use with a DAA2 or DAX Series amplifier, or DS-FM Series fiber conversion module:

- **FM Approved.**
- **CSFM** approved: file 7165-0028:224 (NFS2-3030); 7165-0028:243 (NFS2-640).
- **FDNY:** COA#6026 (NFS2-3030): COA#6025 (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.*

DVC-EMF: 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 multi-mode fiber-optic ports, requires DAA-5025F, or DAA-5070F, or DAA-7525F.*

DVC-EMSF: 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 single-mode fiber-optic ports, requires DAA-5025SF, DAA-5070SF, or DAA-7525F.*

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 data sheet 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 data sheet 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 data sheet 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.

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 conversi
and DAA2 Series amplifiers.

DAA Series Digital Audio Amplifiers: I
amplifiers are compatible with DVC syste
For specific information on DAA-50 series
DN-7046. For information on DAA-7525 S
60257.

- **DAA-5025**: 50W, 25Vrms Digital Audio
with DAA-PS power supply board, shipp
chassis. Supports twisted-pair wire media. See DN-7046. *(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. See DN-7046. *(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. *See DN-60257. (For multi-mode fiber-optic media order DAA-7525F. For single-mode fiber-optic media order DAA-7525SF.)*

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AA Series

Audio Amplifiers

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Description

The AA series audio amplifiers provide traditional high level audio technology for use with Notifier's integrated voice evacuation systems. The AA Series is compatible with classic audio systems such as the AMG-1 as well as the DVC (Digital Voice Command Series) when used with the DVC-AO analog audio option.

Three models are available: the AA-30 (30 watts @ 25 Vrms), the AA-120 (120 watts @ 25 Vrms) and the AA-100 (100 watts @ 70.7 Vrms). All use power-switching technology to reduce production of heat and permit mounting in either 19" (48.26 cm) racks or in standard Notifier cabinets (wall mount). All include power supply, battery switch-over control, amplifier supervision, and backup amplifier switch-over control.

Features of the AA-30

- Provides up to 30 watts of 25 Vrms audio power.
- Low-power standby mode for low battery drain.
- Includes grouped or one-to-one backup amplifier switching bus.
- Battery input and brownout switch-over control.
- High-efficiency switched regulation.
- Plug-in terminal strips and cable connectors for ease of installation.
- 10-position level adjustment and indicator LEDs.
- High-fidelity sound quality.
- Class A output wire supervision option.
- Power-limited per UL requirements and NFPA as dictated by NEC Article 760.
- Mounts in a standard CAB-3/CAB-4, or EQ Cabinet Series enclosure.
- 240 VAC version option (AA-30E).

Features of the AA-120/AA-100

- AA-120 provides up to 120 watts of 25 Vrms audio power.
- AA-100 provides dual outputs of up to 100 watts of 70.7 Vrms audio power (combined outputs not to exceed 100 watts).
- Low-power standby mode for low battery drain.
- Includes grouped or one-to-one backup amplifier switching bus.
- Battery input and brownout switch-over control.
- High-efficiency switched regulation.
- Plug-in terminal strips and cable connectors for ease of installation.
- 10-position level adjust and indicator LEDs.
- Separate mounting chassis is not required (integral chassis for mounting in a CAB-3/CAB-4 Series or EQ Cabinet Series enclosure).
- Includes a built-in automatic backup tone generator (slow whoop or high/low).
- Power-limited per UL requirements and NFPA as dictated by NEC Article 760.
- 240 VAC option (AA-100E/AA-120E)

Indicators and Controls

- Level Adjustment ..... 10 position switch.
- Normal Level ..... Green LED.
- Incorrect Level ..... Yellow LED.

AA-30 Audio Amplifier

AA-100/AA-120 Audio Amplifier

- Amplifier Trouble ..... Yellow LED.
- Speaker Trouble ..... Yellow LED.
- Brown Out/AC Failure ..... Yellow LED.
- Battery Supervision ..... Yellow LED.
- AC Overload Protection ..... Circuit Breaker.
- Battery Overload Protection ..... Fuse.

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 Listed:** S624
- **ULC Listed:** CS118/CS733/CBP696 Vol. VII
- **MEA:** 17-96-E; 289-91-E; 290-91-E (AA-120); 317-01-E 232-06-E; 317-01-E; 345-02-E
- **CSFM:** 7170-0028:153; 7170-0028:154;7170-0028:216; 7170-0028:223; 7170-0028:182
- **BSA:** 578-81-SA (AA-30)
- **FM Approved**

- City of Chicago
- City of Denver

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Wiring Connections

Signal	Wires	In/Out	Terminals	Conne
AC Power	3	In + Out	Yes (Fixed)	Nc
Battery	2	In = Out	Yes (Fixed)	Nc
Audio Input	2 + Shield	In + Out	Yes (Plug)	Yes (Dual)
Audio Output	2 + Shield	Out	Yes (Plug)	Yes
Audio Return (for integral supervision)	2 + Shield	In	Yes (Plug)	Yes
Backup Amp	2 + Shield	In + Out	Yes (Plug)	Yes (Dual)
Trouble Bus	2	In + Out	Yes (Plug) Output Only	Yes (Dual)

Specifications

	AA-30	AA-120/AA-100
Rated Output	30 watts RMS	120 watts RMS (AA-120) 100 watts RMS (AA-100)
Output Voltage	25 VRMS	25 VRMS (AA-120) 70.7 VRMS (AA-100)
Total Harmonic Distortion at 1 KHz	0.5%	4.0%
Frequency Response (+3, -1 dB)	220 - 22,000 Hz	170 - 7,500 Hz
Supply Voltage	120 V, 60 Hz (AA-30E: 220/240 V, 50Hz)	120 V, 60 Hz (AA-100E/AA-120E: 220/240 V, 50 Hz)
120 VAC Power Consumption	Standby: 208 mA Alarm: 0.9 A	Standby: 306 mA Alarm: 1.85 A
220/240 V Power Consumption	Standby: 120 mA Alarm: 0.5 A	Standby: 160 mA Alarm: 0.925 A
24 VDC (Battery) Power Consumption	Standby: 21 mA Alarm: 3.4 A	Standby: 51 mA Alarm: 7.3 A (AA-120); 6.5 A (AA-100)
Dimensions		
Height	7.0 in. (17.78 cm)	7.0 in (17.78 cm)
Width	8.5 in (21.59 cm)	19.0 in. (48.26 cm)
Depth	4.3 in. (10.92 cm)	4.5 in. (11.43 cm)
Weight	6.0 lbs. (13.22 kg)	16.0 lbs. (35.27 kg)

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>XP6-C

Six Circuit Supervised Control Module and SYNC-1 Accessory Card

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by Honeyw

Intelligent Addre

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General

NOTIFIER's **XP6-C six-circuit supervised control module** provides intelligent alarm systems with supervised monitoring of wiring to load devices that require an external power supply to operate, such as horns, strobes, or bells. Each module is intended for switching applications involving AC DC or audio, which require wiring supervision. Upon command from the control panel, the XP6-C will disconnect the supervision and connect the external power supply across the load device.

The first module is addressed from 01 to 154 while the remaining modules are automatically assigned to the next five higher addresses. Each XP6-C module has terminals for connection to an external supply circuit for powering devices on its notification appliance circuit (NAC). One or multiple power supplies or amplifiers may be used.

NOTE: *Provisions are included for disabling a maximum of three unused addresses.*

Each XP6-C module features a short-circuit-protection monitor to protect the external power supply against short-circuit conditions on the NAC. When an alarm condition occurs, the relay which connects the external supply to the NAC will not be allowed to close if a short-circuit condition currently exists on the NAC. Additionally, an algorithm is incorporated to find shorts when the module is active. The XP6-C module will close all circuits that are not shorted to find the NAC with the problem.

Each XP6-C module has panel-controlled green LED indicators. The panel can cause the LEDs to blink, latch on, or latch off.

The **SYNC-1 accessory card** provides the XP6-C with additional functionality with compatible System Sensor SpectrAlert® and SpectrAlert Advance® audio/visual devices.

Features

- Six addressable Style B (Class B) or three addressable Style D (Class A) outputs that function as notification appliance/speaker/telephone circuits.
- Removable 12 AWG (3.31 mm²) to 18 AWG (0.821 mm²) plug-in terminal blocks.
- Status indicators for each point.
- Unused addresses may be disabled(up to 3).
- Rotary address switches.
- FlashScan® or CLIP operation.
- Optional SYNC-1 accessory card for SpectrAlert and SpectrAlert Advance devices.
- Mount one or two modules in a BB-XP cabinet (optional).
- Mount up to six modules on a CHS-6 chassis in a CAB-3 Series, CAB-4 Series, EQ Series, or BB-25 cabinet (optional).
- Mounting hardware included.

Specifications

Standby current: 2.25 mA (SLC current draw with all addresses used; if some addresses are disabled, the standby current decreases).

Alarm current: 35 mA (assumes all six NACS have been switched once and all six LEDs solid ON).

Temperature range: 32°F to 120°F (0°C to 49°C) for UL applications; –10°C to +55°C for EN54 applications.

Humidity: 10% to 85% noncondensing for UL applications; 10% to 93% noncondensing for EN54 applications.

Dimensions: 6.8" (172.72 mm) high x 5.8" (147.32 mm) wide x 1.25" (31.75 mm) deep.

Shipping weight: 1.1 lb. (0.499 kg) including packaging.

Mounting options: CHS-6 chassis, BB-25 cabinet, BB-XP cabinet, CAB-3/CAB-4 series backboxes and doors, or EQ Series cabinet.

Wire gauge: 12 AWG (3.31 mm²) to 18 AWG (0.821 mm²), grounded.

XP6-C is shipped in Class B position; remove shunt for Class A operation.

Maximum SLC wiring resistance: 40 or 50 ohms, panel dependent.

Maximum NAC wiring resistance: 40 ohms.

Power rating per circuit: 63 W @ 70.7 VAC (UL applications only); 50 W @ 25 VAC.

Current ratings:

- 3.0 A @ 30 VDC maximum, resistive, non-coded.
- 2.0 A @ 30 VDC maximum, resistive, coded.
- 1.0 A @ 30 VDC maximum, inductive (L/R = 2 ms), coded.
- 0.5 A @ 30 VDC maximum, inductive (L/R = 5 ms), coded.
- 0.9 A @ 70.7 VAC maximum (UL only), resistive, non-coded.
- 0.7 A @ 70.7 VAC maximum (UL only), inductive (PF = 0.35), non-coded.

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Compatible devices: See the documentation for your panel, and the NOTIFER Device Compatibility document. Contact NOTIFER. See also list of devices compatible with SYNC-1 below.

SYNC-1 Accessory Card

The SYNC-1 accessory card is designed to operate with the XP6-C. It works with the SpectrAlert and the SpectrAlert Advance series of horns, strobes, and horn/strobes to provide a means of synchronizing the temporal-coded horns; synchronizing the one-second flash timing of the strobe; and silencing the horns of the horn/strobe combination over a two-wire circuit while leaving the strobes active. Each SYNC-1 accessory card is capable of synchronizing six Class B circuits or three Class A circuits.

Maximum load on a loop: 3 A.

Operating temperature: 32°F to 120°F (0°C to 49°C).

Wire size: 12 to 18 AWG (3.31 to 0.821 mm²).

Operating voltage range: 11 to 30 VDC FWR, filtered or unfiltered. Refer to notification appliance installation instructions for number of notification appliances and wire size.

Compatible A/V devices: The SYNC-1 Accessory Card is compatible with all System Sensor SpectrAlert and SpectrAlert Advance Audio Visual Devices that have synchronization capability. Other manufacturers may be supported as well. Please refer to the latest Device Compatibility Document, PN 15378.

NOTE: **SpectrAlert and SpectrAlert Advance products utilizing SYNC-1 module below.*

Product Line Information

XP6-C: Six-circuit supervised control module.

XP6-CA: Same as above with ULC Listing.

SYNC-1: Optional accessory card for sync patible System Sensor SpectrAlert horns, strobes.

BB-XP: Optional cabinet for one or two ***sions, DOOR:*** 9.234" (23.454 cm) wide (including hinges), x 12.218" (31.0337 c (1.7068 cm) deep; ***BACKBOX:*** 9.0" (22.8 [23.495 cm] including hinges), x 12.0" (30.4 (6.985 cm); ***CHASSIS (installed):*** 7.150' overall x 7.312" (18.5725 cm) high interi (5.4762 cm) deep overall.

BB-25: Optional cabinet for up to six modules mounted on CHS-6 chassis *(below)*. ***Dimensions, DOOR:*** 24.0" (60.96 cm) wide x 12.632" (32.0852 cm) high, x 1.25" (3.175 cm) deep, hinged at bottom; ***BACKBOX:*** 24.0" (60.96 cm) wide x 12.550" (31.877 cm) high x 5.218" (13.2537 cm) deep.

CHS-6: Chassis, mounts up to six modules in a CAB-3 Series (see DN-3549), CAB-4 Series (see DN-6857) cabinet, or EQ Series cabinet.

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:** S3705 (S3705 SYNC-1)
- **ULC Listed:** S635/CS118 (XP6-CA)
- **MEA Listed:** 43-02-E / 226-03-E (SYNC-1)
- **FM Approved** (Local Protective Signaling)
- **CSFM:** 7300-0028:219 7300-1653:100 (SYNC-1)
- **Maryland State Fire Marshal:** Permit # 2106 (XP6-C)

Module setup: Before installing the accessory card on the XP6-C module, add the shunt to the board where indicated if any horns are required to sound in temporal pattern.
Parts included with SYNC-1: Two shunts, four screws, and two standoffs. See installation instructions for details on mounting and wiring the accessory card and module.

Figure 1 Mounting the SYNC-1 accessory card to the XP6-C module

Wiring Diagrams

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NOTE: *EOL relay coil connections must be made using EOL relay connector assemblies on T10 – T16 in event that all NACs on the PCB have dedicated supplies.*

Figure 2 Example of Class B, Style Y NAC configuration with a single supply dedicated to a single NAC

Figure 3 Example of Class B, Style Y NAC configuration with a single supply shared by two NACs

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Figure 4 Example of Class A, Style Z NAC configuration with a single supply dedicated to a single NAC

Figure 5 Example of Class A, Style Z NAC configuration with a single supply shared by 2 NACs

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Figure 6 Example of Class B, Style Y audio NAC configuration

Figure 7 Example of Class A, Style Z audio NAC configuration

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NOTE: *Supply is shared by NACs +0 and +1 (on PCB #1) as well as +3, +4, and +5 (on PCB # 2). Refer to Figure 2 through Figure 5 for typical NAC wiring. Make certain that the lip on the long power supply jumper engages the retaining tab on T10 or T16 as shown in detail view A-A.*

Figure 8 Example of multiple boards sharing the same external power supply

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>EQ Cabinet

ONYX® Series Equipment Backboxes with Ventilated Locking Doors

NOTIFI
by Honeyw

Peri

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Date: 09/06/13

General

EQ Series cabinets provide an effective solution for applications that require distributed components such as power supplies, amplifiers, and multiple I/O modules. The EQ Series provides superior ventilation for devices such as amplifiers and field power supplies, ample room for wire or fiber-optic media between each row, and a space efficient package that allows for the consolidation of multiple system components in a single enclosure.

Equipment cabinets use a perforated blank door for enhanced ventilation, and do not support the mounting of backbox mounted dress plates. Therefore these cabinets are not appropriate for equipment that would be normally accessed by a system operator such as control equipment, annuniciators, or remote microphones.

EQ cabinets share the same external dimensions as the familiar CAB-4 Series cabinets. EQ Series cabinets differ in that they do not include a separate battery row. See illustrations below for examples of EQ cabinet row spacing.

Specifications

- Equipment cabinets are fabricated from 16-gauge steel. The cabinet assembly consists of two basic parts: a backbox and a locking door. Cabinets are available in black.
- The key-locked door is provided with a pin-type hinge, two keys and the necessary hardware to mount the door to the backbox.
- The backbox has been engineered to provide ease-of-entry for the installer. Knockouts are positioned at numerous points to aid the installer in bringing a conduit into the enclosure with a minimum of hardship.
- Right- or left-hand hinges, selectable in the field. Door opens 180°.
- Cabinets are arranged in 3 standard sizes, B (two tiers) through D (four tiers). See Ordering Information.
- Trim ring options are available for semi-flush mounting.

Equipment Compatible for Use in EQ Series Cabinets

- DAA2 Series Amplifiers
- DAX Series Amplifiers
- DS-DB Digital Series Distribution Board
- DS-AMP Digital Series Amplifier
- DAA-50 Series Amplifiers
- DAA-75 Series Amplifiers
- AA-30 Audio Amplifiers
- AA-100 Audio Amplifiers
- AA-120 Audio Amplifiers
- ACPS-610 Power Supply
- AMPS-24 Power Supply
- HPPF8/8CM Power Supply
- HPPF12/12CM Power Supply
- XP6-C Modules
- XP6-MA Modules

- XP6-R Modules
- XP10-MA Modules

Agency Listings and Approvals

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

- **UL Listed:** S635.
- **ULC Listed:** S635.
- **CSFM:** 7165-0028:0243 (NFS2-640), 7165-0028:0224 (NFS2-3030).
- **FDNY:** COA#6067 (NFS2-640), COA#6065 (NFS2-3030), COA#6073.

Ordering Information

A complete cabinet assembly consists of: a door, a backbox, and an optional semi-flush trim ring. For each cabinet required, order one "EQDR" door and one "EQBB" backbox.

The optional trim ring is an attractive "picture frame"-style black metal ring.

TWO TIERS, "B" SIZE:

EQDR-B4: Door assembly, vented door, two tiers, BLACK.

EQBB-B4: Backbox assembly, two tiers, BLACK.

TR-B4: Semi-flush-mount trim ring, two tiers.

THREE TIERS, "C" SIZE:

EQDR-C4: Door assembly, vented door, three tiers, BLACK.

EQBB-C4: Backbox assembly, three tiers, BLACK.

TR-C4: Semi-flush-mount trim ring, three tiers.

FOUR TIERS, "D" SIZE:

EQDR-D4: Door assembly, vented door, four tiers, BLACK.

EQBB-D4: Backbox assembly, four tiers, B

TR-D4: Semi-flush-mount trim ring, four tie

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CABINET DRAWINGS AND FEATURES

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EQDR-C4 **EQBB-C4 Box**

EQDR-B4 **EQBB-B4 Box**

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Mounting Hole

Side View of Backbox (EQBB-D4)

Top View of Backbox

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RM-1 Series

Remote Microphone and Cabinets
RM-1, RM-1SA, CAB-RM, CAB-RMR

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by Honeyw

Emergency Vo

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Date: 09/06/13

GENERAL

The **RM-1 Series Remote Microphone** provides a cost-effective microphone interface for paging to selected speaker zones. The Power and Trouble LEDs provide easy-to-understand visual indications of its status. Various mounting options are available. The microphone assembly can be mounted in a small, compact enclosure or located in a comprehensive paging command center.

The RM-1 Series remote microphone can be utilized with the **DVC Digital Voice Command Center** and **DAA2** amplifiers, or to expand a legacy installation.

FEATURES

- Automatic gain control circuit.
- Supervised microphone.
- Form-C trouble contacts.
- Form-C contacts activated when microphone is in use.
- Power On LED.
- Trouble LED.
- Pluggable terminal blocks.
- Low-level audio (LLA) IN and THRU screws.

CAB-3/CAB-4 SERIES INSTALLATION

The RM-1 can mount to the back of an ADP-4B dress panel inside a CAB-3 or CAB-4 Series cabinet. It can be mounted in any of the four positions on the dress panel, with the following exception:

- ***Do NOT mount*** the RM-1 in front of a CHS-4L chassis.

See page 2 for illustrations of mounted units.

SPECIFICATIONS

Power requirements: 20 mA primary, non-fire alarm current; 66 mA when microphone is activated; 20 mA secondary, non-fire alarm current.

Operating voltage: 17 to 26.4 volts.

PRODUCT LINE INFORMATION

RM-1: Remote microphone assembly for mounting on an ADP-4B dress panel.

RM-1SA: Remote microphone assembly for mounting in a CAB-RM(R), for remote applications.

CAB-RM: Stand-alone cabinet, black.

CAB-RMR: Stand-alone cabinet, red.

AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the RM-1 Series Remote Microphone. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** CS118/CS733 Vol. 12

- **MEA:** 327-94-E Vol.III
- **CSFM:** 7165-0028:0224 (NFS-3030/NFS2-3030)
- **FM:** Approved (RM-1, RM-1SA)
- **FDNY:** #6058 (NFS2-3030)

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RM-1 MOUNTING & CABINET DIMENSIONS

AT RIGHT: RM-1SA (right) and in CAB-RM or CAB-RMR.

BELOW: RM-1 (left) and on ADP-4B dress panel.

CAB-RM/CAB-RMR

DIMENSIONS inches (mm)

DEPTH WITHOUT DOOR

HEIGHT/WIDTH WITHOUT DOOR

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FDU-80

80 Character Liquid Crystal Display

NOTIFI
by Honeyw

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Date: 09/06/13

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.

6820fdu8.jpg

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.

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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PRN-6

Printer

NOTIFI
by Honeyw

Peri

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Date: 09/06/13

General

The PRN-6 printer is used with Notifier fire alarm control panels (FACPs) with printer capability to provide a written record of system events and status changes. In NOTI•FIRE•NET™ applications, PRN-6 can be used with the NCA-2, NCA, Onyxworks and NCS.

Features

- Provides a hard copy printout of all system events and status changes.
- Time stamps printed on the record of each event and status change with the current time-of-day and date.
- Uses standard 9" x 11" tractor-feed fan-fold paper.
- Provides 80 columns of data at 10 characters per inch.
- Provides printed records of system configuration and addressable device parameters.
- Nine-pin print head.
- Very quiet (approximately 53 dBA).

Applications

Printed transaction records reduce the man-hours required to install and maintain a system. A printed record of all system events (alarms, troubles, etc.) and status changes can be especially valuable in the event of a disputed incident.

Construction and Operation

The printer is housed in its own separate enclosure and is suitable for placement on a desk top, counter, or table.

Installation

The PRN-6 should be placed in a secure area to prevent theft of the printer and/or printed records.

The PRN-6 must not be located further than 50 ft/15.24 m (actual cable length) from the control panel.

Consult the control panel installation manual for the proper method and PIN numbers used to complete the electrical connection to the control panel.

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NOTE: *If printer operation is required during failure of primary power, use of a separate UL-listed Uninterruptable Power Supply (UPS) system is recommended.*

Printer Specifications

Printer Method: Serial printing with 9-pin matrix print head.

Printing Speed (copy draft)310 cps at 10 cpi.

Character Density10 cpi standard (12, 15, 17.1, and 20 cpi available via front panel).

Graphic Resolution (VxH)144 x 240 dpi.

Ribbon Life (approx.)4 million characters (DPQ).

Acoustic Noise Level53 dBA (approx.).

Dimensions19"(48.26 cm)W x 7.9"(20.08cm)H x 9.7 (24.64cm)D.

Weight17.6 pounds (7.9 kg).

Power Supply120 VAC (only).

Power Consumption50 watts (operating).

Operating Environment Temperature50°F to 104°F (10°C to 40°C).

Operating Environment Humidity20% to 80% (non-condensing).

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:** 08-04-E
- **FM Approved**
- **CSFM:** 7300-0028:197

Product Line Information

PRN-6: 9-pin dot-matrix printer, 120 VAC power.

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>7788F/7744F Series

Wireless Fire Alarm Communicators for AES-*IntelliNet*

AES CORPORATION | For

RESURGAM CITY OF PORTLAND, MAINE
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Inspections Division
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Date: 09/06/13

>Model 7788F

UL LISTED

Advanced Wireless Alarm Monitoring

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

Supervised Operation

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

Full Data Reporting from Alarm Panel Digital Dialer

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

Features – All r

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

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

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

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

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

7788F/7744F Series

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Technical Specifications

7788F/7744F Series Subscribers

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

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

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

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

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

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

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

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

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

Reset Button
- Located on main circuit board.

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

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

Relative Humidity
- 0 to 85% RHC, Non Condensing

AES-7794 IntelliPro Fire

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

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

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

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

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

AES|IntelliNet CORPORATION | For Alarm Monitoring

How to Order

Date: 09/06/13

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

Optional Accessories

7041E	Subscriber Handheld Programmer
7794	IntelliPro Fire Full Data Module

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

AC Transformers & 12 VDC Plug In Power Suppl

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ELK-TRG1640 & TRG2440

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

Specifications

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

ELK-P1216

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

12 Volts D.C.
Plug-In Power Supply
Slimline Design
RoHS Compliant

Features

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

Specifications

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

ELK PRODUCTS

Antenna & Accessory Selection Guide

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

More Antennas & Accessories

AES IntelliNet

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Antenna & Accessory Selection Guide, *continued*

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

NEW!

10' Cable
RG58 Low Loss
BNC male to N male
7050 to Antenna
7220-10-N

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

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

Bandpass Cavity Filter

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

AES IntelliNet

7-antenna2.p65; zd01c; 12/01

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RESURGAM

Multi-Voltage Conventional Relays

NOTIF by Honeyw

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 09/06/13

General

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

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

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

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

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

Specifications

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

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

Multi-Voltage Conventional Relays

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

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

PR-1(A)

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

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

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

EOLR-1(A)

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

Agency Listings and Appro

In some cases, certain modules may not approval agencies, or listing may be in p tory for latest listing status.

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

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PRODUCT LINE INFORMATION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Control and Relay Modules

NOTIFI
by Honeyw

Intelligent / Addres

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Date: 09/06/13

General

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

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

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

FCM-1(A)

Features

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

Applications

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

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

Construction

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

Operation

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

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

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

Specifications for FCM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

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

Maximum NAC Line Loss: 4 VDC.

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

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

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

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

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

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

Accessories: SMB500 Electrical Box; CB500 Barrier

Specifications for FRM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

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

EOL resistance: not used.

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

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

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

Accessories: SMB500 Electrical Box; CB500 Barrier

Agency Listings and Approvals

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

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

Contact Ratings for FRM-1(

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

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

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Product Line Information

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

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

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

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

SMB500: Optional Surface-Mount Backbox.

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

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

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

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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.

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

Monitor Modules with FlashScan®

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Intelligent/Addres

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General

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

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

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

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

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

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

FMM-1(A) Monitor Module

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

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

FMM-1(A) APPLICATIONS

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

FMM-1(A) (Type H)

FMM-1(A) OPERATION

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

FMM-1(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.0 mA (LED on).

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

Maximum IDC wiring resistance: 40 ohms.

EOL resistance: 47K ohms.

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

Humidity range: 10% to 93% noncondensing.

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

FMM-101(A) Mini Monitor Module

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

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

FMM-101(A) APPLICATIONS

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

FMM-101(A) OPERATION

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

FMM-101(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

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

Maximum IDC wiring resistance: 40 ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 400 µA.

EOL resistance: 47K ohms.

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

Humidity range: 10% to 93% noncondensing.

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

Wire length: 6" (15.24 cm) minimum.

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FZM-1(A) Interface Module

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

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

FZM-1(A) APPLICATIONS

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

FZM-1(A) OPERATION

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

FZM-1(A) SPECIFICATIONS

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.1 mA (LED on).

Maximum IDC wiring resistance: 25 ohms.

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

EOL resistance: 3.9K ohms.

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

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

Humidity range: 10% to 93% noncondensing.

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

FDM1(A) Dual Monitor Module

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

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

FDM-1(A) SPECIFICATIONS

Normal operating voltage range: 15 to 32 VDC.

Maximum current draw: 6.4 mA (LED on).

Average operating current: 750 µA (LED flashing).

Maximum IDC wiring resistance: 1,500 ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 µA

EOL resistance: 47K ohms.

Maximum SLC Wiring resistance: 40 Ohms.

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

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

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

FDM-1(A) AUTOMATIC ADDRESSING

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

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

CAUTION:
Avoid duplicating addresses on the system.

Installation

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

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

Agency Listings and Approvals

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

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

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 09/06/13

Product Line Information

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

FMM-1(A): Monitor module.

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

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

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

SMB500: Optional surface-mount backbox.

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

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 09/06/13

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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

NBG-12LX

Addressable Manual Pull Station

NOTIFI
by Honeyw

Intelligent/Addres

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 09/06/13

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 loop current:** 375 µA.
- **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.

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 Appro

In some cases, certain modules or applicat
listed by certain approval agencies, or listin
cess. Consult factory for latest listing status

- **UL / CUL Listed:** S692 (listed for Canac dian applications)
- **MEA:** 67-02-E
- **CSFM:** 7150-0028:0199
- **FDNY:** COA #6038 (NFS2-640), COA #
- **BSMI:** CI313066760047
- **U.S. Coast Guard:** 161.002/23/3 (AFP-200); 161.002/27/3 (AM-2020/AFP-1010; 161.002/42/1 (NFS-640)
- **Lloyd's Register:** 02/6007 (NFS-640); 94/60004 (E2) (AFP-200); 03/60011 (E1); 07/60007 (NFS2-3030)
- **FM** Approved

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

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>FSP-851, FSP-851T, & FSP-851R

Intelligent Plug-In Photoelectric

NOTIFI
by Honeywe

Intelligent/Addres

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 09/06/13

General

Notifier 851 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 decade address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. The FSP-851 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. The FSP-851R is a remote test capable detector for use with DNR(W) duct detector housings. FSP-851 series detectors are compatible with all ONYX series Notifier intelligent Fire Alarm Control Panels (FACP).

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.

FSP-851 with B710LP base

FSP-851T with B710LP base

Features

- Sleek, low-profile design.
- Addressable-analog communication.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- FlashScan (NFS-320, NFS-640, NFS2-640, NFS-3030, NFS2-3030) and classic CLIP systems (AFP-100, AFP-200, AFP-300, AFP-400, NFS-640, AM2020/AFP1010, NFS-3030) compatible.
- 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 Bayblend®, 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

Size: 2.1" (5.3cm) high x 4.1" (10.4cm) diameter installed in B501 base, 6.1" (15.5cm) diameter installed in B710LPbase.

Shipping Weight: 5.2oz. (147g).

Operating Temperature: FSP-851, 0°C to 49°C (32°F to 120°F); FSP-851T, 0°C to 38°C (32°F to 100°F). Low temperature signal for FSP-851T at 45°F +/- 10°F (7.22°C +/- 5.54°C). FSP-851R installed in a DNR(W), -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 @ 24VDC ('ON').

BASES AVAILABLE

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

B710LP(A): 6.1" (15.5cm) diameter.

B501(A): 4.1" (10.4cm) diameter.

B200SR(A): Intelligent sounder base, configurable for temp-3 or steady sound.

B224RB(A) Relay Base: *Screw Terminals*, up to 14AWG (2.0mm^2); *Relay Type*, Form-C; *Rating*, 2.0A @ 30VDC resistive, 0.3A @ 110VDC inductive, 1.0A @ 30VDC inductive; *Dimensions*, 6.2" (15.748cm) x 1.2" (3.048cm) x 1.2" (3.048cm).

B224BI(A) Isolator Base: *Dimensions*, 6.2" (15.748cm) x 1.2" (3.048cm) x 1.2" (3.048cm); *Maximum*, 25 devices between isolator bases.

Installation

FSP-851 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 on an electrical backbox which is at least 1.5" (3.81cm) deep. Suitable mounting base boxes include:

- 4.0" (10.16cm) square box.
- 3.5" (8.89cm) or 4.0" (10.16cm) octagonal box.
- Single-gang box (except relay or isolator base).
- With B200SR base, use an appropriate junction box.
- With B224RB or B224BI base, use a 3.5" (8.89cm) octagonal box, or a 4.0" (10.16cm) octagonal or square box.

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 data sheet DN-2243 (ISO-X) 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-851TA)
- **MEA Listed:** 225-02-E
- **FM Approved**
- **CSFM:** 7272-0028:206
- **Maryland State Fire Marshal:** Permit # 2122
- **BSMI:** CI313066760036
- **CCCF:** Certif. # 2004081801000017 (FSP-851T)
  Certif. # 2004081801000016 (FSP-851)
- **Lloyd's Register:** 03/60011

Product Line Information

NOTE: *"A or "CDN" 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 (57°C) fixed-temperature thermal device.

FSP-851TA: Same as FSP-851T but with U

FSP-851R: Low-profile intelligent photoele remote test capable. For use with DNRW.

FSP-851RA: Same as FSP-851R but with

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Date: 09/06/13

BASES

B710LP: Standard U.S. low-profile base.

B710LPBP: Standard U.S. low-profile base, pkg. of 10.

B710LPA: Standard U.S. low-profile base, ULC listing.

B501BP: Standard European flangeless base, pkg. of 10.

B501A: Standard European flangeless base, ULC listing.

B200SR(A): Intelligent sounder base, configurable for temp-3 or steady sound.

B224RB(A): Intelligent relay base.

B224BI(A): Intelligent isolator base. Isolates SLC from loop shorts.

ACCESSORIES

F110: Retrofit replacement flange for older style bases. Converts older high profile base for use with FlashScan detectors.

RA100Z(A): Remote LED annunciator. 3-32VDC. Fits U.S. single-gang electrical box. *Supported by* B710LP(A) *and* B501(A) *bases only.*

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

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

SMB600: Surface mounting kit for use with B710LP(A).

BCK-200B: Black detector covers, box of 10. For use with FSP-851 only.

WCK-200B: White detector covers, box of 10. For use with FSP-851 only.

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescope stick.

XR2B: Detector removal tool. Allows installation and/or removal of FlashScan Series detector heads from base in high ceiling installations.

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

XP-4: Extension pole for XR2B. Comes in three 5-ft. sections.

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>FST-851 Series

Intelligent Thermal (Heat) Detectors with FlashScan®

NOTIFI
by Honeyw

Intelligent / Addre

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Inspections Division
Approved with Conditions

Date: 09/06/13

General

Notifier FST-851 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 decade address switches, providing exact detector locations. FST-851 Series thermal detectors use an innovative thermistor sensing circuit to produce 135°F/57°C fixed-temperature (FST-851) and rate-of-rise thermal detection (FST-851R) in a low-profile package. FST-851H 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 Series detectors are compatible with all Notifier intelligent Fire Alarm Control Panels, except FireWarden series panels. .

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), 15°F (8.3°C) per minute.
- Factory preset at 135°F (57°C); high-temperature model at 190°F (88°C).
- Addressable by device.
- Compatible with FlashScan® and CLIP protocol systems.
- Direct dial entry of address 01-159 for FlashScan® loops, 01-99 CLIP mode loops.
- 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 Bayblend®, designed to commercial standards, and offers an attractive appearance.

FST-851 Series in B710LP base

- 94-5V plastic flammability rating.
- Remote LED output connection to optional RA400Z remote LED annunciator.
- Optional sounder, relay, and isolator bases.
- Optional recessed (RMK400) or surface (SMK400E) base mounting kits.

Specifications

Size: 2.1" (5.3 cm) high x 4.1" (10.4 cm) diameter installed in B501 base, 6.1" (15.5 cm) diameter installed in B710LP base.

Shipping weight: 4.8 oz. (137 g).

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

Altitude rating: 10,000 feet.

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").

BASES AVAILABLE:

B710LP: 6.1" (15.5 cm) diameter.

B501: 4.1" (10.4 cm) diameter.

B501BH-2 or B501BHT-2: Sounder base assembly.

B224RB 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. Dimensions: 6.2" (15.748 cm) x 1.2" (3.048 cm).

B224BI Isolator Base: Dimensions: 6.2" (15.748 cm) x 1.2" (15.748 cm). Maximum: 25 devices between isolator bases. See Note 2 under Installation.

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 pro-

vides detailed information on detector spacing, placement, zoning, wiring, and special applications.

Installation

The FST Series plug-in intelligent thermal detector uses a separate base to simplify installation, service, and maintenance. Installation instructions are shipped with each detector.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. Suitable boxes include:

- 4.0" (10.16 cm) square box.
- 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box.
- Single-gang box (except relay or isolator base).
- With B501BH-2 or B501BHT-2 base, use a 4.0" (10.16 cm) square box.
- With B224RB or B224BI base, use a 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box, or a 4.0" (10.16 cm) square box.

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 data sheet DN-2243 (ISO-X) 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:** S747
- **ULC Listed:** S6978**MEA Listed:** 383-02-E
- **FM Approved**
- **CSFM:** 7270-0028:196
- **BSMI:** CI313066760025
- **CCCF:** Certif. # 2004081801000018
- **U.S. Coast Guard:** 161.002/23/3 (AFP-200); 161.002/27/3 (AFP1010/AM2020); 161.002/42/1 (NFS-640)
- **Lloyd's Register:** 03/60011

Product Line Information

"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.

BASES:

B710LP: Standard U.S. low-profile base

B710LPBP: Standard U.S. low-profile base, pkg. of 10.

B710LP: Standard U.S. low-profile base.

B710LP(A): Standard U.S. low-profile base.

B501BP: Standard European flangeless base, pkg. of 10.

B501: Standard European flangeless base

B501(A): Standard European flangeless b

BH501BH-2: Sounder base, includes **B501**

BH501BHT-2: Same as B501BH-2, but includ

BH501BHA: Sounder base, includes **B501**

BH501BHTA: Same as BH501BHA, but incluc

B224BI(A): Intelligent isolator base. Isola
shorts.

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Inspections Division
Approved with Conditions

Date: 09/06/13

ACCESSORIES:

F110: Retrofit replacement flange for older style high profile bases. Converts bases for use with FlashScan® detectors.

RA400Z(A): Remote LED annunciator. 3 – 32 VDC. Fits U.S. single-gang electrical box. Supported by B710LPBP(A) and B501(A) bases only.

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

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

SMB600: Surface mounting kit for use with B710LPBP(A).

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

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescope stick.

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

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

XP-4: Extension pole for XR2B. Comes in three 5-ft. sections.

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Intelligent Bases

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

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Addres

Date: 09/06/13

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 heads, and FSL-751.

XP-4: Extension pole for XR2/B *(5 to 15 ft/*

T55-127-010: Detector removal head.

BCK-200B: Black detector kit, package photo and ion detectors).

WCK-200B: White detector kit, package photo and ion detectors).

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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.

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Made in the U.S. A.

InnovairFlex

Intelligent Non-Relay Photoelectric Duct Smoke Detector

NOTIFI by Honeywe

Intel

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Inspections Division
Approved with Conditions

Date: 09/06/13

General

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

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

These units sense smoke in the most challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute, temperatures of -4 degrees F to 158 degrees F, and a humidity range of 0 to 95 percent (non-condensing.)

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

The Notifier InnovairFlex duct smoke detector can be customized to meet local codes and specifications without additional wiring. The new InnovairFlex product line is compatible with all previous Innovair models, including remote test accessories.

Features

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

Specifications

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

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

Weight: 1.6 lb (0.73 kg)

Operating Temperature Range: -4 degrees F to 158 degrees F (-20 degrees C to 70 degrees C)

Storage Temperature Range: -22 degrees F to 158 degrees F (-30 degrees C to 70 degrees C)

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

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

Accessories

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

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

ACCESSORY CURRENT LOADS AT 24 VDC

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

Agency Listings and Approvals

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

- UL Listed: S911
- ULC Listed: S911
- CFSM Listed: 3242-1653:209

Product Line Information

NOTE: *"A or "CDN" suffix indicates ULC listed model.*

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

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

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

FSP-851R: Remote test capable addressable low-profile photoelectric smoke detector.

NP-100: Addressable low-profile photoelectric smoke detector for FireWarden series panels.

NP-100R: Remote test capable addressable low-profile photoelectric smoke detector for FireWarden series panels.

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

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

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

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

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

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

DH400OE-1: Weatherproof enclosure

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

M02-04-00: Test magnet

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

RA100Z(A): Remote annunciator alarm LED

RTS151(A): Remote test station

RTS151KEY(A): Remote test station with key lock

Important Note

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

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>Duct Smoke Detector Accessories

for Notifier/System Sensor Products

NOTIFI
by Honeyw

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Date: 09/06/13

General

Duct smoke detector accessories add functionality to the duct smoke system by allowing quick, convenient inspections at eye level and effective audible and visual notification options. All System Sensor duct smoke detectors and accessories are UL listed.

60535cov.wmf

Specifications

APA151 PIEZO ANNUNCIATOR

The **APA151** piezo annunciator, which replaces the APA451 with a new, improved look, provides an audible alarm signal, a red LED to indicate alarm status, and a green LED to indicate power status. It is intended for use with System Sensor 4-wire conventional duct smoke detector applications without a system control panel, to comply with NFPA 90A.

APA151.wmf

APA151 Piezo Annunciator	
Voltage	Regulated 24 VDC
Operating Voltage	16 to 33 VDC
Maximum Alarm Current	30 mA
Temperature Range	32°F to 120°F (0°C to 49°C)
Relative Humidity	10 to 93%, non-condensing
Wire Gauge	12 to 18 AWG
Dimensions	4.6" H x 2.9" W x .45" D

MHR/MHW MINI-HORNS

The **MHR** and **MHW** SpectrAlert® Advance mini-horns feature temporal or continuous tones at high and low volume settings. Their small footprint allows mounting to single-gang back boxes for applications where a small device is desired.

MHR.wmf, MHW.wmf

MHR/MHW SpectrAlert Advance Mini-Horns	
Voltage	Regulated 12 DC or FWR (Full Wave Rectified) or Regulated 24 VDC or FWR
Operating Voltage	8 to 33 VDC (9 to 33 VDC with Sync-Circuit™ Module)
Sounder Current Draw	22 mA RMS max. at 8 to 17.5 Volts DC 17 mA RMS max. at 8 to 17.5 Volts FWR 29 mA RMS max. at 16 to 33 Volts DC 25 mA RMS max. at 16 to 33 Volts FWR
Temperature Range	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Nominal Sounder Frequency	3 kHz
Wire Gauge	12 to 18 AWG
Dimensions	4.6"H x 2.9"W x 0.45"D

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RA100Z/RA100ZA REMOTE ANNUNCIATORS

The **RA100Z** and **RA100ZA** remote annunciators are designed for both conventional and intelligent applications. Their red LED provides visual indication of an alarm condition.

RA100Z.wmf

RA100Z/RA100ZA Remote Annunciator	
Voltage Range	Conventional System: 3.1 to 32 VDC Intelligent System: 18 to 32 VDC
Maximum Alarm Current	10 mA
Dimensions	4.6"H x 2.8"W x 1.3"D

RTS151/RTS151KEY REMOTE TEST STATIONS

The **RTS151** and **RTS151KEY** remote test stations are automatic fire detector accessories designed to test duct smoke detectors from a convenient location. For 4-wire detectors, the **RTS151KEY** test station features a multi-colored LED that alternates between steady green and red. For 2-wire detectors, the LED illuminates red for alarm.

RTS151.wmf, RTS151KEY.wmf

RTS151 Remote Test Station	
Power Requirements	Alarm LED 2.8 to 32 VDC, 10 mA max. Total Current: 95 mA max.
Test Switch	10 VA @ 32 VDC
Reset Switch	10 VA @ 32 VDC
Alarm Response Time	40 seconds max.
Temperature Range	14°F to 140°F (-10°C to 60°C)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 18 AWG
Dimensions	4.8"H x 2.9W x 1.4"D

RTS151KEY Remote Test Statio	
Power Requirements	Power LED VDC, 12 m Alarm LED VDC, 12 m
Alarm Response Time	40 seconds
Temperature Range	14°F to 140
Relative Humidity	95% non-c
Wire Gauge	14 to 18 AWG
Dimensions	4.6"H x 2.75W x 1.8"D

RTS2/RTS-AOS MULTI-SIGNALLING ACCESSORIES

The **RTS2** and **RTS2-AOS** multi-signaling accessories are designed to work with InnovairFlex 4-wire conventional duct smoke detectors. These accessories include a key switch that can be used to select one of two connected sensors to be tested, reset, or both by a push button switch. They also enable sensitivity measurements using the SENS-RDR sensitivity reader (sold separately). The **AOS** (Add-On Strobe) is an optional accessory included with the **RTS2-AOS** model.

RTS-AOS.wmf, AOS.wmf

RTS2 and RTS-AOS Multi-signaling Accessory	
Voltage	20 to 29 VDC
Power Requirements	Standby: 3.0 mA max. Trouble: 16.0 mA max. Alarm without Strobe: 30 mA max. Alarm with Strobe: 55 mA max.
Sounder	85 dBA at 10 ft.
Temperature Range	14°F to 140°F (-10°C to 60°C)
Relative Humidity	95% non-condensing
Wire Gauge	14 to 22 AWG
Dimensions	4.8"W x 5.3"H x 1.6"D

Product Line Information

APA151: Piezo Annunciator
MHR: Mini-Horn, Red
MHW: Mini-Horn, White
RA100Z/RA100ZA: Remote Annunciator
RTS151: Remote Test Station
RTS151KEY: Remote Test Station with Key
RTS2: Multi-signaling Accessory
AOS: Add-On Strobe
RTS2-AOS: Multi-Signaling Accessory

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 Appro

The listings and approvals below apply to th
some cases, certain modules may not b
approval agencies, or listing may be in proc
for latest listing status.

- **UL: S4011**
- **FM Approved**
- **CSFM: 7135-1653:196**

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Made in the U.S. A.

FSB-200(A) and FSB-200S(A)

Single-Ended, Reflector-Type Addressable Beam Smoke Detector

NOTIFI
by Honeyw

Intelligent/Addres

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Approved with Conditions

Date: 09/06/13

GENERAL

The Notifier FSB-200 and FSB-200S are intelligent, addressable reflected beam smoke detectors for protecting open areas with high and sloping ceilings, and wide-open areas, where spot-type smoke detectors are difficult to install and maintain. Ideal applications are atriums, cathedral ceilings, aircraft hangars, warehouses, sporting arenas, concert halls, and enclosed parking facilities. They are compatible with the NFS-3030, NFS2-3030, NFS-640, NFS2-640, and NFS-320 in FlashScan® or CLIP mode, as well as legacy addressable panels. Installation of the single-ended reflective design is much quicker than a dual-ended projected beam detector. Alignment is easily accomplished with an optical sight and a two-digit signal strength meter incorporated into the beam detector. Listed for operation from −22°F to 131°F, the FSB-200 and FSB-200S are usable in open area applications where temperature extremes exceed the design limits of other types of smoke detection.

The FSB-200 and FSB-200S are a transmitter/receiver unit and a reflector. When smoke enters the area between the unit and the reflector it causes a reduction in the signal strength. When the smoke level (signal strength) reaches the predetermined threshold, an alarm is activated. The detectors have four standard sensitivity selections as well as two Acclimate® settings. When either Acclimate® setting is selected, the detector's advanced software algorithms automatically adjust to the optimum sensitivity for the specific environment.

The FSB-200S has an integral sensitivity test feature of a filter attached to a servomotor inside the detector optics. Activation of the RTS151 or RTS151KEY remote test stations moves the filter into the pathway of the light beam, testing the detector's sensitivity. This sensitivity test feature allows the user to quickly and easily meet the annual maintenance and test requirements of NFPA 72, without physical access to the detector. The servomotor must be powered by +24 VDC, not SLC power.

FEATURES

- Listed to UL 268, ULC CAN/ULC S529.
- Transmitter/receiver built into same unit.
- Six user-selectable sensitivity levels.
- 16' to 328' (use BEAMLRK beyond 230') protection range.
- Removable plug-in terminal blocks.
- Digital display — no special tools required.
- Built-in automatic gain control compensates for signal deterioration from dust buildup.
- Optional remote test station.
- Optional long-range kit (BEAMLRK) for applications in excess of 230' (70 m).
- Optional multi-mount kit (BEAMMMK) providing ceiling or wall mount capability with increased angular adjustment.
- Optional heater kits (BEAMHK and BEAMHKR) for prevention of condensation (not intended to increase or reduce the specified operating temperature).

6975reflect.jpg

FSB-200 with Reflective Plate

6975beammk.jpg

FSB-200 with BEAMMMK

SPECIFICATIONS

OPERATIONAL SPECIFICATIONS

Protection Range: 16 to 230 feet (5 to 70 m), 230 to 328 feet (70 to 100 m) using optional BEAMLRK kit.

Adjustment Angle: ±10° horizontal and vertical. Note that the optics move independently of the unit.

Sensitivity (6 levels):

NOTE: *Sensitivity settings are a feature of specific control panels.*

- Level 1 — 25%.
- Level 2 — 30%.
- Level 3 — 40%.
- Level 4 — 50%.
- Acclimate® Level 5 — 30% to 50%.
- Acclimate® Level 6 — 40% to 50%.

Fault Condition (trouble):

- 96% or more obscuration blockage.
- In alignment mode.
- Improper initial alignment.
- Self-compensation limit reached.

Alignment Aid:

- Optical gunsight.
- Integral signal strength indication.
- Two-digit display.

Indicators:

- Alarm — local red LED and remote alarm.
- Trouble — local yellow LED and remote trouble.
- Normal — local flashing green LED.

Test/reset features:

- Integral sensitivity test filter (FSB-200S only, requires external power supply).
- Sensitivity filter (incremental scale on reflector).
- Local alarm test switch.
- Local alarm reset switch.
- Remote test and reset switch (compatible with RTS151 and RTS151KEY test stations).

Smoke Detector Spacing: On smooth ceilings, 30 – 60 feet (9.1 to 18.3 m) between projected beams and not more than one-half that spacing between a projected beam and a sidewall. Other spacing may be used depending on ceiling height, airflow characteristics, and response requirements. See NFPA 72.

ENVIRONMENTAL SPECIFICATIONS

Temperature: –22°F to 131°F (–30°C to 55°C).

Humidity: 10 – 93% RH noncondensing.

ELECTRICAL SPECIFICATIONS

- **Voltage:** 15 to 32 VDC.
- **Average Standby Current (24 VDC):** 2 mA maximum (LED flashing, SLC @ 24 V).
- **Alarm Current (LED on):** 8.5 mA maximum.
- **Trouble Current (LED on):** 4.5 mA maximum.
- **Alignment Current:** 20 mA maximum.
- **External Supply (FSB-200S only):**
  Voltage — 15 to 32 VDC
  Current — 0.5 A maximum.
- **Remote Output (Alarm):**
  Voltage - 15 to 32 VDC (Output voltage same as device input voltage)
  Current - 15 mA maximum, 6 mA minimum (Output current is limited by 2.2K ohm resistor)
- **Heater Kit BEAMHK:** *Voltage* - 15 to 32 V; *Current* - 92 mA maximum @ 32 V (heater only); *Power Consumption* - nominal 1.6 W @ 24 V, maximum 3.0 W @ 32 V.
- **Reflector Heater Kit BEAMHKR**: *Voltage* - 15 to 32 V; *Current* - 450 mA maximum @ 32 V (per reflector); *Power Consumption (per reflector)* - nominal 7.7 W @ 24 V, maximum 15.0 W @ 32 V.

MECHANICAL SPECIFICATI

Shipping Weight: 3.7 lbs (1.68 kg)

Detector Dimensions: 10.0" H x 7.5" W x
191 mm W x 84 mm D).

Reflector Dimensions for 16' to 2 Applications: 7.9" x 9.1" (200 x 230 mm).

Reflector Dimensions for Applications 15.7" x 18.1" (400 x 460 mm).

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SENSITIVITY SELECTION

The detector has six sensitivity selections (sensitivity settings are a feature of specific control panels). Each of these selections is only acceptable over a specific distance separation between the detector and the reflector per UL 268. The chart below determines which selections are acceptable for your installed distance. The sensitivity of the detector can be set only when the housing is removed and the detector is not in the fine adjustment step of the alignment mode, indicated by the illumination of the dual digital display. To set the sensitivity, depress the sensitivity button one time. See Switch Locations diagram. Once the switch is pressed, the digital display will illuminate and read the current sensitivity setting in percent obscuration. To change the sensitivity, continue to depress the sensitivity switch until the desired setting is achieved. The digital display will turn off automatically if no further switch presses occur.

Sensitivity Setting	Percent Obscuration	Display Reading	Acceptable DISTANCE between Detector and Reflector (ft)	Acceptable DISTANCE between Detector and Reflector (m)
Level 1	25%	25	16.4 to 120	5.0 to 36.6
Level 2	30%	30	25 to 150	7.6 to 45.7
Level 3	40%	40	60 to 220	18.3 to 67
Level 4	50%	50	80 to 328	24.4 to 100
Acclimate ® Level 1	30% to 50%	A1	80 to 150	24.4 to 45.7
Acclimate ® Level 2	40% to 50%	A2	80 to 200	24.4 to 67

In addition to the four standard sensitivity selections, the detector has two Acclimate® settings. When either Acclimate® setting is chosen the detector will automatically adjust its sensitivity using advanced software algorithms to select the optimum sensitivity for the environment. The sensitivity will be continuously adjusted within the ranges specified in the chart above.

Total obscuration can be converted to percent per foot, assuming uniform smoke density for the entire length of the beam. The chart below converts total obscuration percent per foot for all acceptable sensitivity settings.

Table 1: Total Obscuration

Wiring Diagram

Wiring Diagram with RTS151/KEY

Housing Screw Locations

Switch Locations

Alignment and Adjustment Locations

PARTS LIST

Item	Quantity
Transmitter/Receiver Unit	1
Paintable Trim Ring	1
Reflector	1
Plug-In Terminal Blocks	3
Isolator Shunts	2
Instruction Manual	1
Orange Sticky Paper	1

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AGENCY LISTINGS AND APPROVALS

These listings and approvals apply to the devices 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:** S2522 (FSB-200, FSB-200S)
- **ULC Listed:** S2522 (FSB-200A, FSB-200SA)
- **CSFM:** 7260-0028:228
- **MEA:** 95-04-E
- **Maryland State Fire Marshal:** Permit # 2167
- **FM Approved**

PRODUCT LINE INFORMATI

FSB-200: Intelligent beam smoke detector

FSB-200A: Same as FSB-200 with ULC L

FSB-200S: Intelligent beam smoke detect sitivity test.

FSB-200SA: Same as FSB-200S with ULC

BEAMLRK: Long range accessory kit (re tions in excess of 230 ft/70 m).

BEAMMMK: Multi-mount kit (provides ceiling or wall mount capability with increased angular adjustment).

BEAMSMK: Surface-mount kit.

RTS151: Remote test station.

RTS151A: Same RTS151 with ULC listing.

RTS151KEY: Remote test station with key lock.

RTS151KEYA: Same as the RTS151KEY with ULC listing.

BEAMHK: Heating kit for use with the transmitter/receiver unit of FSB-200S. For prevention of condensation.

BEAMHKR: Heating kit for use with the reflector on FSB-200S. For prevention of condensation

6500-MMK: Heavy-duty multi-mount kit for installations prone to vibration or where there is difficulty mounting the set angle. When installed with the transmitter/receiver unit, the 6500-SMK must be used as well.

6500-SMK: Surface-mount kit (required when using 6500-MMK to mount transmitter/receiver).

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Approved with Conditions

Date: 09/06/13

BEAMMMK
(ceiling or wall mount kit sold separately)

RTS151

RTS151KEY

BEAMHK

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ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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

Made in the U.S. A.

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

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

NOTIFI
by Honeywe

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Inspections Division
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General

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

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

6927photo1.jpg

Features

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

Specifications

Primary (AC) Power:

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

Control Input Circuit:

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

Trouble Contact Rating: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

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

Secondary Power (Battery) Charging Circuit:

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

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

Applications

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

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

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

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

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

Sync Follower/Generator Note

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

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

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

Standards and Codes

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

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

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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, S674
- **ULC Listed:** S635 (FCPS-24S6C & FCPS-24S8C)
- **CSFM Approved:** 7315-0028:225
- **MEA:** 299-02-E
- **FM Approved**

Ordering Information

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

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

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

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

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

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

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

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

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

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

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

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

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

SPECTRALERT ADVANCE from System Sensor

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

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Field-selectable candela settings on wall units: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and three volume selections
- Universal mounting plate for wall units
- Mounting plate shorting spring checks wiring continuity before device installation
- Electrically Compatible with legacy SpectrAlert devices
- Compatible with MDL-sync module
- Listed for ceiling or wall mounting

The SpectrAlert Advance series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry. With white and red plastic housings, wall and ceiling mounting options, and plain and FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement.

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

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

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

Agency Listings

SIGNALING UL LISTED
S4011 (chimes, horn strobes, horns)
S5512 (strobes)

FM APPROVED
3023572

MEA approved
MEA452-05-E

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SpectrAlert Advance Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance horns, strobes, and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagc double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 17/8-inch back box. A universal mou be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mc Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-c appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-ra appliance circuit outputs shall operate between 8 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

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

Horn Strobe Combination

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

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a 411/16 × 411/16 × 21/8-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical/Electrical Specifications

Standard Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Strobe Flash Rate	1 flash per second
Nominal Voltage	Regulated 12 DC/FWR or regulated 24 DC/FWR[1]
Operating Voltage Range[2]	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Input Terminal Wire Gauge	12 to 18 AWG
Wall-Mount Dimensions (including lens)	5.6″L × 4.7″W × 2.5″D (142 mm L × 119 mm W × 64 mm D)
Horn Dimensions	5.6″L × 4.7″W × 1.3″D (142 mm L × 119 mm W × 33 mm D)
Wall-Mount Back Box Skirt Dimensions (BBS-2, BBSW-2)	5.9″L × 5.0″W × 2.2″D (151 mm L × 128 mm W × 56 mm D)
Wall-Mount Trim Ring Dimensions (sold as a 5 pack) (TR-HS, TRW-HS)	5.7″L × 4.8″W × 0.35″D (145 mm L × 122 mm W × 9 mm D)

Notes:

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

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UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

UL Max. Horn Current Draw (mA RMS)

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

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

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

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

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

Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

Switch Position	Sound Pattern	dB	8–17.5 Volts DC	8–17.5 Volts FWR	16–33 Volts DC	16–33 Volts FWR	24-Volt Nominal Reverberant DC	24-Volt Nominal Reverberant FWR	24-Volt Nominal Anechoic DC	24-Volt Nominal Anechoic FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

†Settings 7, 8, and 9 are not available on 2-wire horn strobes.

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SpectrAlert Advance Dimensions

Wall-mount horn strobes

Wall back box skirt

SpectrAlert Advance Ordering Information

Model	Description
Wall Horn Strobes	
P2R*†	2-Wire Horn Strobe, Standard cd‡, Red
P2RH*	2-Wire Horn Strobe, High cd, Red
P2W*	2-Wire Horn Strobe, Standard cd, White
P2WH*	2-Wire Horn Strobe, High cd, White
P4R*	4-Wire Horn Strobe, Standard cd, Red
P4RH	4-Wire Horn Strobe, High cd, Red
P4W	4-Wire Horn Strobe, Standard cd, White
Wall Strobes	
SR*†	Strobe, Standard cd, Red
SRH*†	Strobe, High cd, Red
SW*	Strobe, Standard cd, White
SWH*	Strobe, High cd, White

Model	Description
Horns	
HR	Horn, Red
HW	Horn, White
Accessories	
BBS-2	Back Box Skirt, Wall, Red
BBSW-2	Back Box Skirt, Wall, White
TR-HS	Trim Ring, Wall, Red
TRW-HS	Trim Ring, Wall White

Notes:

* Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., P2R-P.

† Add "-SP" to model number for "FUEGO" marking on cover, e.g., P2R-SP.

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

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

SPECTRALERT ADVANCE from System Sensor

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

Features

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

Agency Listings

SIGNALING UL LISTED
S3593 (outdoor and alert strobes)

FM APPROVED
3023572

MEA approved
MEA452-05-E

SpectrAlert Advance offers the broadest line of outdoor horns, strobes, and horn strobes in the industry. With white or red plastic housings, wall or ceiling mounting options, and plain or FIRE-printed devices, SpectrAlert Advance can meet virtually any application requirement, including indoor, outdoor, wet, and dry applications in temperatures from –40°F to 151°F.

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

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

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

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SpectrAlert Advance Outdoor Horn, Strobe, and Horn Strobe Specifications

Architect/Engineer Specifications

General

SpectrAlert Advance outdoor horns, strobes, and horn strobes shall mount to a weatherproof back box. A universal mount be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mc Also, SpectrAlert Advance products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-c appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-ra appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall c and 33 volts. Outdoor SpectrAlert Advance products shall operate between −40 and 151 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185.

Strobe

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

Horn Strobe Combination

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

Physical/Electrical Specifications

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

Notes:

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

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 09/06/13

UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)

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

UL Max. Horn Current Draw (mA RMS)

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

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

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

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

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

Candela Derating

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

Strobe Output (cd)

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

Horn Tones and Sound Output Data

Horn and Horn Strobe Output (dBA)

Switch Position	Sound Pattern	dB	8–17.5 Volts DC	8–17.5 Volts FWR	16–33 Volts DC	16–33 Volts FWR	24-Volt Nominal Reverberant DC	24-Volt Nominal Reverberant FWR	24-Volt Nominal Anechoic DC	24-Volt Nominal Anechoic FWR
1	Temporal	High	78	78	84	84	88	88	99	98
2	Temporal	Medium	74	74	80	80	86	86	96	96
3	Temporal	Low	71	73	76	76	83	80	94	89
4	Non-Temporal	High	82	82	88	88	93	92	100	100
5	Non-Temporal	Medium	78	78	85	85	90	90	98	98
6	Non-Temporal	Low	75	75	81	81	88	84	96	92
7†	Coded	High	82	82	88	88	93	92	101	101
8†	Coded	Medium	78	78	85	85	90	90	97	98
9†	Coded	Low	75	75	81	81	88	85	96	92

†Settings 7, 8, and 9 are not available on 2-wire horn strobe.

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SpectrAlert Advance Diagrams

Wall-Mount Horn Strobes

Wall Plastic Weatherproof Back Box

Wall-Mount Horn Strobe with Plastic Weatherproof Back Box

SpectrAlert Advance Ordering Information

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

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

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Date: 09/06/13

Outdoor, Selectable-Output Speaker Strobes and Dual-Voltage Evacuation Speakers for Wall Applications

SPECTRALERT ADVANCE from System Sensor

SpectrAlert® Advance outdoor, selectable-output speaker strobes and dual-voltage evacuation speakers meet virtually any outdoor application requirement.

Features

- Weatherproof per NEMA 4X, IP56
- Rated from -40°F to 151°F
- Plug-in design reduces ground faults
- Universal mounting plate with onboard shorting spring that tests wiring continuity before devices are installed
- Field-selectable candela settings: 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, and 185
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Rotary switch for speaker voltage (25 and 70.7 Vrms) and power settings (1/4, 1/2, 1 and 2 watts)
- Compatible with System Sensor synchronization protocol and legacy SpectrAlert products
- Tamper-resistant construction
- Listed for ceiling or wall mounting

Agency Listings

SIGNALING UL LISTED 7S80 | 7320-1653 201 | MEA approved 12-08-E

SpectrAlert Advance offers the broadest line of outdoor speakers and speaker strobes in the industry. From metal and plastic outdoor back boxes, to white and red plastic housings, to wall and ceiling mounting options, SpectrAlert Advance can meet virtually any application requirement.

Wall-mount outdoor speakers and speaker strobes can be used indoors or outdoors in wet or dry applications, and can provide reliable operation from –40°F to 151°F. These speakers provide a broad frequency response range, low harmonic distortion and maintain a high sound pressure level at all tap settings to provide accurate and intelligible broadcast of evacuation messages.

Like the entire SpectrAlert Advance line, wall-mount outdoor speakers and speaker strobes include a variety of features that increase application flexibility and simplify installation. First, field-selectable settings, including candela, speaker voltage and power settings, and automatic selection of 12- or 24-volt operation enable installers to easily adapt devices to meet requirements.

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

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

SpectrAlert® Advance Outdoor Speaker and Speaker Strobe Specifications

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 09/06/13

Architectural/Engineering Specifications

General

SpectrAlert Advance outdoor speakers and speaker strobes shall mount to a weatherproof back box. A universal mountin used for mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the ur plate. Also, SpectrAlert Advance speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powerec notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Modul notification appliance circuit outputs shall operate between 9 and 17.5 volts; 24-volt-rated notification appliance circuit oul between 17 and 33 volts. Outdoor SpectrAlert Advance products shall operate between –40°F and 151°F from a regulated DC, or full-wave rectified, unfiltered power supply.

Speaker

Speaker shall be a System Sensor SpectrAlert Advance Model _____ dual-voltage transformer speaker capable of operating at 25.0 or 70.7 nominal Vrms. Speaker shall be listed to Underwriters Laboratories Standard S4048 for outdoor fire protective signaling systems. Speaker shall have a frequency range of 400 to 4,000 Hz and shall have an operating temperature from –40°F to 150.8°F. Speaker shall have power taps and wattage settings that are selected by rotary switches. The speaker must be installed with its weatherproof back box in order to remain outdoor approved per UL listing S4048. The speaker shall be suitable for use in air handling spaces and wet environments.

Speaker Strobe Combination

The speaker strobe shall be a System Sensor Model _____ listed to UL 1638 and UL 1480 and be approved for fire protective signaling systems. Speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms and shall have a frequency range of 400 to 4,000 Hz. Speaker shall have power taps that are selected by rotary switch. The strobe shall consist of a xenon flash tube with associated lens/reflector system and operate on either 12 or 24 volts. The strobe shall also feature selectable candela output, providing options for 15 or 15/75 candela when operating on 12 volts and 15, 15/75, 30, 75, 110, 115, 135, 150, 177 or 185 candela when operating on 24 volts. The strobe shall comply with the Americans with Disabilities Act requirement for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The speaker strobe must be installed with its weatherproof back box in order to remain outdoor approved per UL. The speaker strobe shall be suitable for use in wet environments.

Physical Specifications	
Operating Temperature	–40°F to 151°F (–40°C to 66°C)
Dimensions, Wall-Mount	
SPS Speaker Strobe	6.0″L × 5.0″W × 4.7″D (including lens and speaker)
SP Speaker	6.0″L × 5.0″W × 2.9″D
Dimensions, Wall-Mount Weatherproof Back Box	6.5″L × 5.5″H × 2.9″D
Electrical/Operating Specifications	
Nominal Voltage (speakers)	25 V or 70.7 V (nominal)
Maximum Supervisory Voltage (speakers)	50 VDC
Strobe Flash Rate	1 flash per second
Nominal Voltage (strobes)	Regulated 12 VDC/FWR or regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage with MDL Sync Module	9 to 17.5 V (12 V nominal) or 17 to 33 V (24 V nominal)
Frequency Range	400 to 4,000 Hz
Power	¼, ½, 1, 2 watts

UL Current Draw Data

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

Sound Output				
UL Reverberant (dBA @ 10 ft.)	2W	1W	½ W	¼ W
Outdoor Speaker	90	87	84	81
Outdoor Speaker/Strobe	89	86	83	80

Candela Deratir

For K series products us
temperatures, listed can
reduced in accordance

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

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Approved with Conditions

Date: 09/06/13

Dimensions

Wall-Mount Outdoor Speaker

Wall-Mount Outdoor Speaker Strobe

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Inspections Division
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Surface Mounting

Wall-Mount Speaker Strobe with Plastic Weatherproof Back Box

Wall-Mount Speaker with Plastic Weatherproof Back Box

Wall-Mount Speaker Strobe with Metal Weatherproof Back Box

Wall-Mount Speaker with Metal Weatherproof Back Box

Ordering Information for SpectrAlert® Advance Outdoor Speakers and Speaker Strobes

Wall Mount		
White	**Red**	**Description**
SPWK*	SPRK*	Outdoor Speaker (includes plastic weatherproof back box)
SPSWK*†	SPSRK*†	Outdoor Speaker Strobe, Standard cd (includes plastic weatherproof back box)
SPSWK-CLR-ALERT	—	Outdoor Speaker Strobe, Standard cd, Clear Lens, ALERT Printed (includes plastic weatherproof back box)
—	SPSRHK	Outdoor Speaker Strobe, High cd (135,150,177,185) (includes plastic weatherproof back box)
Accessories		
White	**Red**	**Description**
MWBBW	MWBB	Wall, Metal Weatherproof Back Box

Notes:
*Add "-R" to model number for weatherproof replacement device (no back box included), e.g., SPWK-R.
†Add "-P" to model number for plain housing (no "FIRE" marking on cover), e.g., SPSWK-P.

"Standard cd" refers to strobes that include 15, 15/75, 30, 75, 95, 110, and 115 candela settings. "High cd" refers to strobes that include 135, 150, 177, and 185 candela settings. **When replacing standard outdoor units, both the device and back box must be replaced.**

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AVDS01301 • 03/12

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Date: 09/06/13

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

The SpectrAlert® Advance selectable output speaker strobes and dual-voltage evacuation speakers can reduce ground faults and enable faster installation.

SPECTRALERT ADVANCE from System Sensor

Features

- Plug-in design and protective cover reduce ground faults
- Universal mounting plate with an onboard shorting spring tests wiring continuity before installation
- No extension ring required
- Field selectable candela settings:
  Standard: 15, 15/75, 30, 75, 95, 110, 115
  High: 135, 150, 177, 185
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (¼, ½, 1 and 2 watts)
- SP speakers offer high fidelity sound output
- SPV speakers offer high volume sound output
- Compatible with System Sensor synchronization protocol
- Electrical compatibility with existing SpectrAlert products
- Optional tamper resistant Torx head screw included
- Listed for ceiling or wall mounting

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

These devices also enable faster installations by providing instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and 11 field-selectable candela settings for both wall and ceiling speaker strobes.

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

SpectrAlert Advance makes installation easy

- Attach a universal mounting plate to a 4 × 4 × 2⅛ inch back box . Flush-mount applications do not require an extension ring.
- Connect the notification appliance circuit or speaker wiring to the terminals on the mounting plate.
- Attach the speaker or speaker strobe to the mounting plate by inserting the product tabs into the mounting plate grooves. Rotate the device into position to lock the product pins into the mounting plate terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

Agency Listings

SIGNALING UL LISTED S4048 | 7322-1653 231 | FM APPROVED | MEA approved 10-08-E

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Approved with Conditions

Date: 09/06/13

SpectrAlert Advance Speaker and Speaker Strobe Specifications

Architectural/Engineering Specifications

General

SpectrAlert Advance speaker and speaker strobes shall mount to a 4 × 4 × 2⅛-inch back box. A universal mounting plat mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal r SpectrAlert Advance speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powered from a nor appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt ra appliance circuit outputs shall operate between nine and 17.5 volts; 24-volt rated notification appliance circuit outputs sha 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Speaker strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

Speaker

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

Speaker Strobe combination

The speaker strobe shall be a System Sensor SpectrAlert Advance model _____ listed to UL1480 and UL 1971 and be approved for fire protective signaling systems. The speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4,000 Hz. The speaker shall have power taps that are selected by rotary switch. The strobe shall comply with the NFPA 72 requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL listed to UL 464 and shall be approved for fire protective service. The module shall synchronize
SpectrAlert strobes at 1 Hz. The module shall mount to a 4 11⁄16 × 4 11⁄16 × 2⅛-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical Specifications	
Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Dimensions, Wall-Mount	
SPS Speaker Strobe	6.0 in L × 5.0 in W × 4.7 in D (including lens and speaker)
SPSV Speaker Strobe	6.0 in L × 5.0 in W × 4.9 in D (including lens and speaker)
SP Speaker	6.0 in L × 5.0 in W × 2.8 in D
SPSV Speaker	6.0 in L × 5.0 in W × 2.9 in D
Electrical/Operating Specifications	
Nominal Voltage (speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (speakers)	50 VDC
Strobe Flash Rate	1 flash per second
Nominal Voltage (strobes)	Regulated 12 VDC/FWR or regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal) or 16 to 33V (24 V nominal)
Operating Voltage with MDL Sync Module	9 to 17.5 V (12 V nominal) or 17 to 33V (24 V nominal)
Frequency Range	400 to 4000 Hz
Power	¼, ½, 1, 2 watts

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UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)					
		8 to 17.5 Volts		16 to 33 Volts	
	Candela	DC	FWR	DC	F
Standard Candela Range	15	123	128	66	7
	15/75	142	148	77	8
	30	NA	NA	94	9
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

Sound Output				
UL Reverberant (dBA @ 10 ft.)	2W	1W	½ W	¼ W
Wall-Mount SP Series	86	83	80	77
Wall-Mount SPV Series	90	87	84	81
Wall-Mount SPS Series	85	82	79	76
Wall-Mount SPSV Series	89	86	83	80

Dimensions

Wall-Mount SP Speaker

Wall-Mount SPS Speaker Strobe

AVDS00801

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Date: 09/06/13

Surface Mounting

Wall-Mount Speaker Strobe with SPBBS Back

Ordering Information for SpectrAlert® Advance Speakers and Speaker Strobes

Wall Mount		
White	**Red**	**Description**
SPW	SPR	Speaker only
SPWV	SPRV	Speaker only, High dB
SPSW*	SPSR*	Speaker Strobe, Standard cd
SPSW-ALERT	—	Speaker Strobe, Standard cd, Amber Lens
SPSW-CLR-ALERT	—	Speaker Strobe, Standard cd, Clear Lens
SPSWH*	SPSRH*	Speaker Strobe, High cd
SPSWV*	SPSRV*	Speaker Strobe, Standard cd, High dB
Accessories		
White	**Red**	**Description**
RFPW	RFP	7 in × 9.5 in Retrofit Plate
SPBBSW	SPBBS	Wall Mount Back Box Skirt
TRW	TR	Wall Mount Trim Ring

Notes:

* Add -P to model number for plain housing (no "FIRE" marking on the cover) e.g. SPSW-P

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

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

SpectrAlert® Advance selectable-output speaker strobes and dual-voltage evacuation speakers can reduce ground faults and enable faster installation.

Features

- Plug-in design and protective cover reduce ground faults
- Universal mounting plate with an onboard shorting spring tests wiring continuity before installation
- No extension ring required
- Field selectable candela settings:
  Standard: 15, 15/75, 30, 75, 95, 110, 115
  High: 135, 150, 177, 185
- Automatic selection of 12- or 24-volt operation at 15 and 15/75 candela
- Rotary switch simplifies field selection of speaker voltage (25 and 70.7 Vrms) and power settings (¼, ½, 1 and 2 watts)
- SP speakers offer high fidelity sound output
- SPV speakers offer high volume sound output
- Compatible with System Sensor synchronization protocol
- Electrical compatibility with existing SpectrAlert products
- Optional tamper resistant Torx head screw included
- Listed for ceiling or wall mounting

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

These devices also enable faster installations by providing instant feedback to ensure that wiring is properly connected, rotary switches to select voltage and power settings, and 11 field-selectable candela settings for both wall and ceiling speaker strobes.

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

SpectrAlert Advance makes installation easy

- Attach a universal mounting plate to a 4 × 4 × 2⅛ inch back box . Flush-mount applications do not require an extension ring.
- Connect the notification appliance circuit or speaker wiring to the terminals on the mounting plate.
- Attach the speaker or speaker strobe to the mounting plate by inserting the product tabs into the mounting plate grooves. Rotate the device into position to lock the product pins into the mounting plate terminals. The device will temporarily hold in place with a catch until it is secured with a captured mounting screw.

Agency Listings

SIGNALING UL LISTED S4048 | 7320-1653:201 | FM APPROVED | MEA approved 10-08-E

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SpectrAlert Advance Speaker and Speaker Strobe Specifications

Architectural/Engineering Specifications

General

SpectrAlert Advance speaker and speaker strobes shall mount to a 4 × 4 × 2⅛-inch back box. A universal mounting plat mounting ceiling and wall products. The notification appliance circuit and amplifier wiring shall terminate at the universal r SpectrAlert Advance speaker strobes, when used with the Sync•Circuit™ Module accessory, shall be powered from a nor appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt ra appliance circuit outputs shall operate between nine and 17.5 volts; 24-volt rated notification appliance circuit outputs sha 17 and 33 volts. Indoor SpectrAlert Advance products shall operate between 32°F and 120°F from a regulated DC, or full-wave rectified, unfiltered power supply. Speaker strobes shall have field-selectable candela settings including 15, 15/75, 30, 75, 95, 110, 115, 135, 150, 177, 185.

Speaker

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

Speaker Strobe combination

The speaker strobe shall be a System Sensor SpectrAlert Advance model _____ listed to UL1480 and UL 1971 and be approved for fire protective signaling systems. The speaker shall be capable of operating at 25.0 or 70.7 nominal Vrms selected via rotary switch, and shall have a frequency range of 400 to 4,000 Hz. The speaker shall have power taps that are selected by rotary switch. The strobe shall comply with the NFPA 72 requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Synchronization Module

The module shall be a System Sensor Sync•Circuit model MDL listed to UL 464 and shall be approved for fire protective service. The module shall synchronize
SpectrAlert strobes at 1 Hz. The module shall mount to a 4 11/16 × 4 11/16 × 2⅛-inch back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

Physical Specifications	
Operating Temperature	32°F to 120°F (0°C to 49°C)
Humidity Range	10 to 93% non-condensing
Dimensions, Ceiling-Mount	
SPS Speaker Strobe	6.8 in Dia. × 4.7 in D (including lens and speaker)
SPSV Speaker Strobe	6.8 in Dia. × 4.8 in D (including lens and speaker)
SP Speaker	6.8 in Dia. × 2.8 in D
SPV Speaker	6.8 in Dia. × 2.9 in D
Electrical/Operating Specifications	
Nominal Voltage (speakers)	25 Volts or 70.7 Volts (nominal)
Maximum Supervisory Voltage (speakers)	50 VDC
Strobe Flash Rate	1 flash per second
Nominal Voltage (strobes)	Regulated 12 V DC/FWR or regulated 24 DC/FWR
Operating Voltage Range (includes fire alarm panels with built in sync)	8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal)
Operating Voltage with MDL Sync Module	9 to 17.5 V (12 V nominal) or 17 to 33 V (24 V nominal)
Frequency Range	400 to 4,000 Hz
Power	¼, ½, 1, 2 watts

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UL Current Draw Data

UL Max. Strobe Current Draw (mA RMS)					
		8 to 17.5 Volts		16 to 33 Volts	
	Candela	DC	FWR	DC	F
Standard Candela Range	15	123	128	66	7
	15/75	142	148	77	8
	30	NA	NA	94	9
	75	NA	NA	158	153
	95	NA	NA	181	176
	110	NA	NA	202	195
	115	NA	NA	210	205
High Candela Range	135	NA	NA	228	207
	150	NA	NA	246	220
	177	NA	NA	281	251
	185	NA	NA	286	258

Sound Output				
UL Reverberant (dBA @ 10 ft.)	2W	1W	½ W	¼ W
Ceiling-Mount SPC Series	86	83	80	77
Ceiling-Mount SPCV Series	90	87	84	81
Ceiling-Mount SPSC Series	85	82	79	76
Ceiling-Mount SPSCV Series	89	86	83	80

Dimensions

Ceiling-Mount SPV Speaker

Ceiling-Mount SP Speaker

Ceiling-Mount SPS Speaker Strobe

AVDS00701

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Surface Mounting

Ceiling-Mount Speaker with SPBBSCW Back Box

Ordering Information for SpectrAlert® Advance Speakers and Speaker Strobes

Ceiling Mount		
White	**Red**	**Description**
SPCW	SPCR	Speaker only
SPCWV	SPCRV	Speaker only, High dB
SPSCW*	SPSCR	Speaker Strobe, Standard cd
SPSCWH*	SPSCRH	Speaker Strobe, High cd
SPSCWV*	SPSCRV	Speaker Strobe, Standard cd, High dB
SPSCWVH	SPSCRVH	Speaker Strobe, High cd, High dB
SPSCW-CLR-ALERT	—	Speaker Strobe, Standard cd, Clear Lens
Accessories		
White	**Red**	**Description**
RFPW	RFP	7 in x 9.5 in Retrofit Plate
SPBBSCW	SPBBSC	Ceiling Mount Back Box Skirt
TRCW	TRC	Ceiling Mount Trim Ring

Notes:

* Add -P to model number for plain housing (no "FIRE" marking on the cover) e.g. SPSCW-P

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

SYSTEM SENSOR

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Product specifications subject to change without notice. Visit systemsensor.com for current product information, including the latest version of this data sheet.
AVDS00701 • 3/12

NO EXCUSES!

FA

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

Fire Alarm Documents
Records / Programs / Software

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

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

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

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

Standard Features:

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

NEMA

NFPA

Made In U.S.A.

ISO 9001 REGISTERED COMPANY

ADA

BOX

No Excuses, Just Solutions!

SPACE AGE ELECTRONICS, INC.

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Specifications:

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

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

Notes Sticker inside FAD Door

Ordering Information:

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

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

No Excuses, Just Solutions!

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AdaptaBeacon® Flash Incandescent Lights

PLC Compatible NEMA Type 4X

>48FIN Series

FEATURES

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

AGENCY APPROVALS

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

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

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

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

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TECHNICAL INFORMATION

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

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

*Bulb manufacturer's lumen rating.

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

SIGNAL INPUT LOAD CHARACTERISTICS*

Cat. No.	Operating Voltage	Maximum Peak Current (mA)	Continuous On Current (mA)	Surge (inrush/duration) Amp/milliseconds
48FIN( )-G1-20WH	24V DC	25	800	2.2/100
48FIN( )-N5-25WH	120V AC 60 Hz	25	200	1.3/8

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

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AdaptaBeacon® Accessories

FEATURES

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

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

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

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

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

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TECHNICAL INFORMATION

Cat. No. CBR

Cat. No. WBR

Cat. No. 92-GRD

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

D-04

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Edwards Signaling & Security Systems®

KNOX®
Serving Fire Departments Since 1975

>Knox-Vault® 410(
SINGLE LC

High Security Commercial Key Vault

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

Features and Benefits

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

Options

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

4100 Surface Mount

4100 Recessed Mount

Ordering Specifications

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

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

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

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Knox-Vault® 410
MOUNT

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Suggested minimum mounting height
6 feet above ground

INSIDE VIEW

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

Knox® Rapid Entry System
The Knox Company manufacturers a complete line of high security products including Knox-Box key boxes, key vaults, cabinets, key switches, padlocks, locking FDC caps, plugs and electronic master key security systems. For more information or technical assistance, please call Customer Service at 1-800-552-5669.

Recessed I

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

Installation In Cast Concrete

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

RMK Exterior Dimensions

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

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

Recessed Mounting Using Recessed Mounting Kit (RMK)

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ONYXWorks® Lite

Integrated Facilities Monitoring Network

NOTIFI
by Honeyw

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General

ONYXWorks® Lite is the next generation in life safety and building systems integration for monitoring fire over a proprietary network. The ONYXWorks Lite system is designed to provide clear and precise annunciation of life safety and other building system events. The preciseness of that annunciation enables the responding personnel to identify the location of a life safety event quickly and accurately. The status of the emergency equipment or fire safety functions that might affect the safety of the occupants is also easily identifiable.

The ONYXWorks Lite software is a high-performance color graphic system capable of displaying all network events and points. The workstation uses Microsoft® Windows® XP, providing an easy-to-use graphical user interface. The operator is presented with a consistent look and operation for all monitored equipment. The ONYXWorks Lite software has the ability to monitor up to four Notifier Fire Alarm Control Panels and is an ideal addition to the NOTI•FIRE•NET™ network when network monitoring and control are required.

Features

GENERAL

- Supported NOTIFIER Equipment (4 nodes maximum):
  - NFS-320
  - NFS2-640
  - NFS2-3030
  - Notifier 8th edition Fire Alarm Control Panels
  - Notifier legacy panels.
- Operates under Microsoft Windows XP Professional SP2 (Service Pack 2).
- Supports the following additional languages:
  - Korean
  - Portuguese
  - French
  - Spanish
  - Chinese (Traditional and Simplified)

NOTE: *ONYXWorks Lite is not listed with UL, FM or CNTC.*

USER INTERFACE

- All off-normal events displayed simultaneously with text and corresponding graphic screens.
- Automatic screen navigation (selectable for each device) that locates and zooms to the device related to an alarm or event, based on the priority of the event.
- Dynamically generated floor plan overview.
- Floor plans can be zoomed in and out and devices can be placed at different zoom levels.
- Full linked multimedia (text, audio, video, and bitmaps) to any device and event status, all definable by the administrator.
- Intuitive navigational tree and icons for easy access to building floorplans

OWLite.wmf

EVENT NOTIFICATION AND RESPONSE

- Real-time event printing of system-wide events.
- Control of fire panels (extent of control determined by panel model).
- Operator log with response tracking.
- History Manager records operator, event, and response (with time and date stamp) to disk.
- Up to 6 states can be visually represented for each input device: Normal, Trouble, Fire Alarm, Pre-Alarm (detectors), Disabled and Security.

SYSTEM SETUP

- Graphic Editing mode allows on-site programming of floor plan screens, device icons, functional and navigational buttons.
- Text Mode operation is also available.
- Import converted vector (.WMF) drawing files, bitmaps (.BMP), JPEG and .GIF files from existing CAD floor plan drawings.
- Graphics printing for floor plans and reports.
- Customizable device icon and colors to visually represent each event type.
- User defined icons can be added to the workstation (.PNG, .BMP, .WMF, .JPG, and .GIF formats)
- Spreadsheet editor available for faster programming when running VeriFire Tools.

SECURE ACCESS

- System Administrator-definable security, monitoring, and control profiles allow for extremely flexible definition of operator accounts.
- Operator Login/Logout/Change Password feature allows only authorized personnel to access the system.
- Logs in history any operator changes in the workstation.

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SYSTEM MAINTENANCE

- Backup capability for all system data – screen, member, and history databases.
- Obtain software version numbers for network panels.
- Upload/Download databases to NOTIFIER panels (ONYX Series and AFP1010/AM2020) and perform panel upgrades (ONYX Series only) over the network.
- Individual Enable/Disable or Group Enable/Disable points and zones on a NOTI•FIRE•NET network.

NOTI•FIRE•NET Monitoring

An ONYXWorks Lite system is an ideal component of a Fire Command Center for real-time fire system status and system control options. ONYXWorks Lite interfaces directly to a NOTI•FIRE•NET fire system using an NFN Gateway. The NFN Gateway is an intelligent interface used by the ONYXWorks Lite system that facilitates monitoring and control of up to four nodes of NOTIFIER fire panels. The NFN Gateway is available in two versions: PC-based gateway wire and fiber versions.

Minimum ONYXWorks Lite equipment options/requirements are available on the NFN Gateway data sheet.

Local Monitoring

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Specialized Client Applications

- ONYXWorks Lite Workstation
- History Manager

ONYXWorks Lite Workstation Software

History Manager

Received Time	Network	Node Alias	Point Alias	Point Type	Status
9/4/2008 2:04:15	PC Gateway	Node N010	L01D001	Smoke Detec	Trouble
9/4/2008 2:03:48	PC Gateway	Node N010	L01D001	Smoke Detec	Trouble
9/4/2008 2:02:33	Network	Network	11004	Device Type	Advise
9/4/2008 2:02:32	Network	101.101.101.1	GATEWAY	Gateway	Fault Condition Resolved
9/4/2008 2:02:32	Network	101.101.101.1	GATEWAY	Gateway	Fault Condition
9/4/2008 2:02:32	Network	Software	Software	Device Type	
9/4/2008 2:02:27	Network	101.101.101.1	DATA	Workstation	Advise
9/4/2008 2:01:03	PC Gateway	Node N010	T448	Control Panel	Trouble
9/4/2008 2:01:00	PC Gateway	Node N010	L01D001	Smoke Detec	Trouble
9/4/2008 2:00:28	PC Gateway	Node N010	T448	Control Panel	Trouble
9/4/2008 2:00:27	PC Gateway	Node N010	F-Zn0001	Zone	Zone On
9/4/2008 2:00:27	PC Gateway	Node N010	T448	Control Panel	Trouble
9/4/2008 2:00:26	PC Gateway	Node N010	L01D001	Smoke Detec	Trouble
9/4/2008 2:00:26	PC Gateway	Node N010	T448	Control Panel	Trouble Restored
9/4/2008 2:00:26	PC Gateway	Node N010	L01D001	Smoke Detec	Trouble Restored
9/4/2008 2:00:26	PC Gateway	Node N010	F-Zn0001	Zone	Zone Off
9/4/2008 2:00:26	PC Gateway	Node N010	PANEL	Control Panel	ACKed Reset
9/4/2008 2:00:22	PC Gateway	Node N010	T448	Control Panel	Trouble
9/4/2008 2:00:07	PC Gateway	Node N010	F-Zn0001	Zone	Zone On
9/4/2008 2:00:07	PC Gateway	Node N010	L01D001	Smoke Detec	Trouble
9/4/2008 2:00:07	PC Gateway	Node N010	L01D001	Smoke Detec	Trouble Restored
9/4/2008 2:00:07	PC Gateway	Node N010	F-Zn0001	Zone	Zone Off
9/4/2008 2:00:07	PC Gateway	Node N010	PANEL	Control Panel	ACKed Reset
9/4/2008 1:58:32	PC Gateway	Node N010	T448	Control Panel	Trouble Restored
9/4/2008 1:56:54	PC Gateway	Node N010	F-Zn0001	Zone	Zone On
9/4/2008 1:56:54	PC Gateway	Node N010	T448	Control Panel	Trouble
9/4/2008 1:56:54	PC Gateway	Node N010	L01D001	Smoke Detec	Trouble

Product Line Information

Required Hardware (user provided): PC with Intel® Pentium IV - 2.0 GHz, 1GB RAM, 80 GB hard disk, DVD-ROM/CD-RW, sound, mouse, powered speaker option, keyboard, Ethernet card, PCI slot, RS-232 serial COM port, Windows XP Professional with Service Pack 2.

OW-LITE-NW: ONYXWorks Lite software, user manuals (on CD), configured USB Hardlock software key, and NFN-GW-PC-W (interface board for wire network)

OW-LITE-NF: ONYXWorks Lite software, user manuals (on CD), configured USB Hardlock software key, and NFN-GW-PC-F (interface board for fiber network)

Additional Ordering Information:

PRN-6: UL approved printer

NCM-W/F: see data sheet DN-6861

NAM-232PCB: see data sheet DN-5331

NOTI-FIRE-NET: see data sheet DN-6971

NFN-GW-PC-W: NFN Gateway PC card with wire (included with OW-LITE-NW).

NFN-GW-PC-F: NFN Gateway PC card with fiber (included with OW-LITE-NF).

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Approved with Conditions
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ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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Made in the U.S. A.

NCM-W, NCM-F

ONYX® Series
Network Communications Modules

NOTIFI
by Honeyw

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General

The **Network Communications Module** (**NCM**) provides NOTIFIER Intelligent Fire Alarm Control Panels, and **NCA** and **NCA-2** Network Control Annunciators with a means to connect to **NOTI•FIRE•NET™**. Two types of NCM are available: **NCM-W** for connecting nodes with twisted-pair wire, and **NCM-F** for connecting nodes with fiber-optic cable.

NOTE: *Do not mix NCM and High Speed (HS) NCM on the same system.*

NCM-W Features

- Supports twisted-pair wire medium.
- NFPA Style 4 (Class B) operation or NFPA Style 7 (Class A) operation.
- Two programmable data thresholds.
- Transformer coupling provides electrical isolation between nodes.
- Pluggable terminal wiring with strain relief.
- Pluggable service connector (feeds signal directly through) in the event that power must be removed from a node.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET™**.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

NCM-W Interconnections: When wiring consecutive NCM-W boards, wiring may enter or exit at Port A or Port B. NCM-W port-to-port wiring is not polarity sensitive; use of Port A or Port B is arbitrary. An NCM-W may be connected to any of the following devices: **MIB-W**, **MIB-WF**, **NAM-232W**, **NCM-W** (in another panel), **NCS-W** network connection, **RPT-W**, **RPT-WF**.

NCM-W Switch Functions: The NCM-W provides two sets of switches to simplify network setup. Enable ***ground fault detection*** by setting "ON" switch SW103 (Channel A); switch SW101 (Channel B). Activate ***on-board end-of-line resistors*** by setting "ON" switch SW100 (Channel A); switch 102 (Channel B). ***NOTE:*** *Correct configuration is dependent on network design; refer to the* **NOTI•FIRE•NET™** *manual.*

For further information and diagrams, refer to the *NCM Installation Document*, 51533.

NCM-F Features

- Supports fiber-optic medium.
- NFPA Style 4 (Class B) or Style 7 (Class A) operation.
- Data is immune to all environmental noise.
- Optical isolation prevents ground loops.
- **NOTI•FIRE•NET™** fiber-optic medium.
- Fiber type: 62.5/125 micrometers (multimode); or 50/125 micrometers (multimode).

NCM-W

- Maximum attenuation is 8 dB with 62.5/125 µm fiber and 4.2 dB with 50/125 µm fiber.
- Wavelength (1): 820 nanometers (use standard 850 nm fiber).
- Connectors: ST® style.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET™**.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

NCM-F Interconnections: When wiring consecutive nodes/repeaters, fiber cable must exit one board on Transmit (TX) and enter the next node/repeater on Receive (RX). The fiber-optic pair (RX, TX) from Port A of one node/repeater may be connected to either Port A or Port B of another node/repeater. An NCM-F may be connected to any of the following devices: **MIB-F**, **MIB-WF**, **NAM-232F**, another **NCM-F**, **NCS-F** network connection, **RPT-F**, **RPT-WF**.

Common Specifications

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).

Power supply: 24 VDC @ 110 mA.

Mixing Wire and Fiber on the Same Network

In some networks, it may be necessary to mix twisted-pair wire and fiber-optic cable. There are two solutions:

- ***In any network***, an RPT-WF may be used as an interface between wire and fiber.
- ***In a network that uses an AFP1010 or AM2020***, a MIB-WF may be used as the interface between wire and fiber.

Mounting

Both NCM-W and NCM-F can be installed in any standard chassis such as the CHS-4L, CHS-M2, CHS-M3 or CHS-4N *(see panel sheets)*. Additionally, the NCM-W can be door-mounted on the ADP-4B dress panel on a single-space blank plate (BMP-1) for mounting in an CAB-4 Series cabinet.

Agency Listings and Appr

The following listings and approvals ap
some cases, certain modules or applicatic
by certain approval agencies, or listing
Consult factory for latest listing status.

- **UL Listed:** S635
- **ULC Listed:** S635
- **CSFM:** 7165-0028:0214, 7165-(0028:0243
- **FM approved**
- **MEA** approved
- **FDNY:** COA#6061, COA#6065

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Product Line Information

NCM-W: Network Communications Module, twisted-pair wire interface.

NCM-F: Network Communications Module, fiber-optic cable interface.

Diagnostic LED Indicators

A HI *(green)*: Illuminates to indicate the NCM-W Port A is set for high threshold *(NCM-W only)*. **B HI** *(green)*: Illuminates to indicate the NCM-W Port B is set for high threshold *(NCM-W only)*. **RCD A** *(green)*: Illuminates when the NCM is receiving data from **NOTI•FIRE•NET™** on Port A. **RCD B** *(green)*: Illuminates when the NCM is receiving data from **NOTI•FIRE•NET™** on Port B. **STATA** *(yellow)*: Illuminates when the NCM has not received valid data from **NOTI•FIRE•NET™** on Port A for at least 16 seconds. **STATB** *(yellow)*: Illuminates when the NCM has not received valid data from **NOTI•FIRE•NET™** on Port B for at least 16 seconds. **RECON** *(yellow)*: Illuminates when a reconfiguration on **NOTI•FIRE•NET™** is in progress. **PULSE** *(green)*: Illuminates when the NCM is transmitting **NOTI•FIRE•NET™** is in progress. **RESET** *(yellow)*: Illuminates when the microcontroller fails. **POWER** *(green)*: Illuminates when +5 VDC is available.

NCM-W *(detail)*

NCM-F (detail)

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XP10-M(A)

Ten-Input Monitor Module

NOTIFI
by Honeyw

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Date: 09/06/13

General

The **XP10-M ten-input monitor module** is an interface between a control panel and normally open contact devices in intelligent alarm systems such as pull stations, security contacts, or flow switches.

The first address on the XP10-M is set from 01 to 150 and the remaining modules are automatically assigned to the next nine higher addresses. Provisions are included for disabling a maximum of two unused addresses.

The supervised state (normal, open, or short) of the monitored device is sent back to the panel. A common SLC input is used for all modules, and the initiating device loops share a common supervisory supply and ground — otherwise each monitor operates independently from the others.

Each XP10-M module has panel-controlled green LED indicators. The panel can cause the LEDs to blink, latch on, or latch off.

NOTE: *Unless otherwise specified, the term XP10-M is used in this data sheet to refer to both the XP10-M and the XP10-MA (ULC-listed version).*

bgf.tp1xc3269

Features

- Listed to UL Standard 864, 9th edition.
- Ten addressable Class B or five addressable Class A initiating device circuits.
- Removable 12 AWG (3.31 mm²) to 18 AWG (0.821 mm²) plug-in terminal blocks.
- Status indicators for each point.
- Unused addresses may be disabled.
- Rotary address switches.
- Class A or Class B operation.
- FlashScan® or CLIP operation.
- Flexible mounting options.
- Mounting hardware included.

Specifications

Standby current: 3.5 mA (SLC current draw with all addresses used; if some addresses are disabled, the standby current decreases).

Alarm current: 55 mA (assumes all ten LEDs solid ON).

Temperature range: 32°F to 120°F (0°C to 49°C) for UL applications; –10°C to +55°C for EN54 applications.

Humidity: 10% to 85% noncondensing for UL applications; 10% to 93% noncondensing for EN54 applications.

Dimensions: 6.8" (172.72 mm) high x 5.8" (147.32 mm) wide x 1.25" (31.75 mm) deep.

Shipping weight: 0.76 lb. (0.345 kg) including packaging.

Mounting options:

- CHS-6 chassis: Up to 6 modules.
- BB-25 cabinet: Up to 6 modules.
- BB-XP cabinet: One or two modules.
- CAB-4 Series cabinet: See *DN-6857.*
- EQ Cabinet Series: See *DN-60229.*

Wire gauge: 12 AWG (3.31 mm²) to 18 AWG (0.821 mm²).

Power-limited circuits must employ type FPL, FPLR, or FPLP cable as required by Article 760 of the NEC.

XP10-M is shipped in Class B position; remove shunt for Class A operation.

Maximum SLC wiring resistance: 40 or 50 ohms, panel dependent.

Maximum IDC wiring resistance: 1500 ohms.

Maximum IDC voltage: 10.2 VDC.

Maximum IDC current: 240 µA.

Agency Listings and Approvals

The listings and approvals below apply to the XP10-M(A) Ten-Input Monitor Module. 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 (XP10-MA)
- **CSFM** approved: 7300-0028:219
- **FM approved**
- **MEA approved:** 43-02-E
- **Maryland State Fire Marshal** approved: Permit #2106

Product Line Information

XP10-M: Ten-input monitor module.

XP10-MA: Same as above with ULC Listing.

BB-XP: Optional cabinet for one or two modules. ***Dimensions, DOOR:*** 9.234" (23.454 cm) wide (9.484" [24.089 cm] including hinges), x 12.218" (31.0337 cm) high, x 0.672" (1.7068 cm) deep; ***BACKBOX:*** 9.0" (22.860 cm) wide (9.25" [23.495 cm] including hinges), x 12.0" (30.480 cm) high x 2.75" (6.985 cm); ***CHASSIS (installed):*** 7.150" (18.161 cm) wide overall x 7.312" (18.5725 cm) high interior overall x 2.156" (5.4762 cm) deep overall.

BB-25: Optional cabinet for up to six modules mounted on CHS-6 chassis *(below)*. ***Dimensions, DOOR:*** 24.0" (60.96 cm) wide x 12.632" (32.0852 cm) high, x 1.25" (3.175 cm) deep, hinged at bottom; ***BACKBOX:*** 24.0" (60.96 cm) wide x 12.550" (31.877 cm) high x 5.218" (13.2537 cm) deep.

CHS-6: Chassis, mounts up to six modules in a CAB-4 Series *(see DN-6857)* cabinet, EQ Cabinet Series *(see DN-60229)*, or BB-25.

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>LDM

Lamp Driver Modules

NOTIFI
by Honeyw

Annunciator C

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General

The **LDM Series** lamp driver modules, when combined with a custom graphic display, provide annunciation and control for Notifier's intelligent fire alarm control panels. These modules use a serial communications interface, and may be located up to 6,000 feet from the panel.

Features

- ALARM/CIRCUIT ON and TROUBLE lamp/LED per-point option, or more dense alarm-only option (field selectable).
- Control switch option for remote control per point.
- Lamps/LEDs may be programmed to display status of indicating circuits or control relays as well as system status conditions.
- System trouble lamp/LED signal.
- On-line/power LED indicator.
- Alarm and trouble resound with flash of new conditions.
- Local sounder for both alarm/circuit-on and trouble conditions with silence/acknowledge switch connection.
- Serial EIA-485 interface for reduced installation costs.
- May be powered by 24 VDC from the panel or by remote power supplies.
- Efficient switch-power converter reduces power consumption.
- Microprocessor-controlled electronics, fully supervised.
- Plug-in terminal blocks for ease of installation and service.
- Trouble monitor option for remote power supplies.

Construction

Two basic models are available; the LDM-32 control module and the LDM-E32 expander module. Each may be selected to provide 32 alarm indications; or 16 alarm, 16 trouble, and 16 control points.

Applications

The LDM-32/LDM-E32 with a custom graphic array may be used to indicate point status and, in some versions, to control the state of output points.

In addition, the LDM-R32 module may be used to provide 32 dry-contact relays for electrical isolation when connecting the system to other equipment.

>LDM-32

Installation

The LDM-32 and LDM-E32 modules mount on four standoffs inside the custom annunciator graphic box. Alternately, the modules may be installed in a CHS-4L chassis. The module size is approximately 4.4" (11.2cm) x 7.1" (18cm).

Communications between the LDM Series annunciators and the host Fire Alarm Control Panel are made through a two-wire EIA-485 multi-drop loop, and a two-wire regulated 24 VDC power loop. Up to 32 LDM systems may be connected to a single control panel.

All field-wiring terminations use removable, compression-type terminal blocks for ease of installation, wiring, and circuit testing.

Operation

LDM Series modules, when used with a custom graphic annunciator, provide the Notifier's intelligent fire alarm control panels with up to 32 unique or redundant annunciators, each with a capacity of 64 points for a total capacity of **2048 points**.

Local or remote power supplies and serial communications allow the custom annunciators to be located anywhere on the protected premises.

AM2020/AFP1010 system alarm and/or trouble conditions may be annunciated on a per-point basis, or in a grouped-zone configuration.

AFP300/400 system panel points, intelligent addressable devices and software zones can be annunciated/controlled in a grouped fashion (see programming manual for details).

Control of system operational controls, such as Signal Silence, System Reset, and local annunciation controls (such as Local

Acknowledge), and Lamp Test may be accomplished through special key- or push-switches.

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 Listed:** 291-61-E Vol. 4 (System 500, LDM-R32); 289-91-E Vol. V (AM2020/AFP1010); 104-93-E (AFP-200); 17-96-E (AFP-300/400); 447-99-E (AFC-600)
- **CSFM:** 7120-0028:0156, 7165-0028:0224 (NFS-3030, NFS2-3030); 7170-0028:0223 (NFS-3030, NFS2-3030)
- **BSA:** 578-81-SA (System 5000, System 500 except LDM-R32)
- **FM Approved**
- **City of Chicago** approved: Class 1, Class 2
- **City of Denver** approved
- **FDNY** COA #6085 (NFS2-640); 6065 (NFS2-3030)

Product Line Information

LDM-32: Lamp Driver Module with 32 alarm lamp-driver transistors (sink to power common on alarm). May be selected (dip switch) for 16 alarm/circuit on, 16 trouble, and 16 switch inputs if desired. Also includes system-trouble lamp driver and lamp-test/local-acknowledge switch input. Integral piezo sounder sounds for each new alarm or trou with the Local Acknowledge switch, or perı with a dip switch selection. Flash of new a selectable through dip switches. 16 switch for panel SILENCE, RESET, or remote rele tions are included.

LDM-E32: Lamp Driver Module with 32 al alarm, 16 trouble, and 16 switch inputs. O allowed per LDM-32 in alarm-only mode. modules are allowed per LDM-32 in alarm/ ribbon cable to connect to LDM-32/LDM-E32.

LDM-R32: Lamp Driver Module which connects to any LDM-32 or LDM-E32 to convert transistor outputs to 32 Form-A dry contacts (1.0 A @ 30 VDC). Provides 32 output terminal screw connections and a single common terminal screw. Includes ribbon cables to connect to the LDM-32/LDM-E32. Use for electrical isolation when interfacing the system to other equipment.

LDM-CBL24, LDM-CBL48: Ribbon cable sets to provide either a 24" (60.96cm) or 48" (121.96cm) connection between LDM-32/LDM-E32 and LEDs or lamps on a custom graphic panel. Includes all cables necessary for one LDM-32 or LDM-E32. Cables have connector on one end only (split, strip, and connect other end to graphic annunciator).

Architectural/Engineering Specifications

For specifications on LDM Graphic Annunciator Lamp Driver Modules, contact NOTIFIER.

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LDM-E32

LDM-CBL48
LDM-CBL24

LDM-R32

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