

**SOUND
ELECTRONICS**

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SYSTEM SUBMITTAL FIRE ALARM SYSTEM EQUIPMENT

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FSP-951 Series

Intelligent Plug-In Photoelectric Smoke Detectors



Intelligent/Addressable Devices

General

The NOTIFIER FSP-951 Series intelligent plug-in smoke detectors are designed for both performance and aesthetics. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards. The FSP-951 Series detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. Dual electronic thermistors add 135°F (57°C) fixed temperature thermal sensing on the FSP-951T. The FSP-951R is a remote test capable detector for use with DNR Series duct detector housings. FSP-951 series detectors are available for both FlashScan® and CLIP applications as designated.

Features

- New modern profile for improved aesthetics.
- Designed to meet UL268 7th Edition.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm (*FlashScan systems only*).
- Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1 (*FlashScan systems only*)).
- Built-in functional test switch activated by external magnet.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Expanded color options.
- SEMS screws for wiring of the separate base.
- Optional relay, isolator, and sounder bases.

Specifications

Sensitivity:

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

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

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

For a complete list of detector bases see DN-60981.

Shipping weight: 3.4oz (96.4g)

Operating Temperature range:

- FSP-951, 0°C to 50°C (32°F to 122°F).
- FSP-951T, 0°C to 38°C (32°F to 100°F).



FSP-951 in B300-6 Base

- FSP-951R installed in a DNR/DNRW, -20°C to 70°C (-4°F to 158°F).

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

Relative Humidity: 10%-93% noncondensing.

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

DETECTOR SPACING AND APPLICATIONS

NOTIFIER recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). 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.): 200µA @ 24VDC (one communication every five seconds with LED enabled).

LED Current (max.): 4.5mA @ 24 VDC ("ON").

Installation

FSP-951 series plug-in detectors use a separate base to simplify installation, service, and maintenance.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see DN-60981.

NOTE: 1) Because of inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring. 2) When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Agency Listings and Approvals

These listings and approvals apply to the detectors specified in this document. In some cases, certain detectors or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listed: S911
- FM Approved
- CSFM: 7272-0028:0503

Product Line Information

NOTE:

- Detectors must be mounted to one of the Intelligent Bases listed below.
- "A" suffix indicates ULC Listed model.
- "IV" suffix indicates FlashScan® and CLIP device.

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

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

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

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

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

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

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

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

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

FSP-951RA: Same as FSP-951R but with ULC listing. For use with DNRA.

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

FSP-951RA-IV: Same as FSP-951R-IV but with ULC listing. For use with DNRA.

INTELLIGENT BASES

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

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

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

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

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

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

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

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

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

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

B224RB-WH: White, relay base.

B224RB-IV: Ivory, relay base.

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

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

B224BI-WH: White, *isolator* detector base.

B224BI-IV: Ivory *isolator* detector base.

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

B224BIA-IV: Ivory *isolator* detector base, ULC listing.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

MOUNTING KITS AND ACCESSORIES

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

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

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

M02-04-00: Test magnet.

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

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

For more information, contact Notifier. Phone: (800) 627-3473, FAX: (203) 484-7118.
www.notifier.com

Indoor Selectable-Output Strobes and Horn Strobes for Ceiling Applications



Audio/Visual Devices

General

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

The System Sensor L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, wall and ceiling mounting options, System Sensor L-Series can meet virtually any application requirement.

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

To further simplify installation, the L-Series utilizes a universal mounting plate so installers can mount them to a wide array of back boxes. With an onboard shorting spring, installers can test wiring continuity before the device is installed.

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

Features

- Plug-in design with minimal intrusion into the back box
- Tamper-resistant construction
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela
- Field-selectable candela settings on ceiling units: 15, 30, 75, 95, 115, 150, and 177
- Horn rated at 88+ dBA at 16 volts
- Rotary switch for horn tone and two volume selections
- Universal mounting plate for ceiling units
- Mounting plate shorting spring feature checks wiring continuity before device installation
- Electrically compatible with legacy SpectrAlert and SpectrAlert Advance devices
- Compatible with MDL3 sync module
- Listed for ceiling mounting only



SCRL

PC2WL

Architect/Engineer Specifications

GENERAL

L-Series ceiling-mount strobes and horn strobes shall mount to a standard 4 × 4 × 1½-inch back box, 4-inch octagon back box, or double-gang back box. Two-wire products shall also mount to a single-gang 2 × 4 × 1⅞ inch back box. A universal mounting plate shall be used for mounting ceiling and wall products. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated notification appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unfiltered power supply. Ceiling strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 115, 150, and 177.

STROBE

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

HORN STROBE COMBINATION

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

SYNCHRONIZATION MODULE

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

PHYSICAL/ELECTRICAL SPECIFICATIONS

- **Standard Operating Temperature:** 32°F to 120°F (0°C to 49°C)
- **Humidity Range:** 10 to 93% non-condensing
- **Strobe Flash Rate:** 1 flash per second
- **Nominal Voltage:** Regulated 12VDC or regulated 24DC/FWR¹
- **Operating Voltage Range²:** 8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
- **Operating Voltage Range with MLD3:** 8.5 to 17.5V (12V nominal) or 16.5 to 33V (24V nominal)
- **Input terminal wire gauge:** 12 to 18 AWG
- **Ceiling-Mount Dimensions (including lens):** 6.8" diameter 2.5" high (173 mm diameter 64 mm high)
- **Ceiling-Mount Surface Mount Back Box Skirt Dimensions (SBBCR, SBBCW):** 6.9" diameter x 3.4" high (175 mm diameter x 86 mm high)

Notes:

1. Full Wave Rectified (FWR) voltage is a non-filtered, time varying power source that is used on some power supply and panel outputs.
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 and 30 cd.

UL Current Draw Data

UL MAX. STROBE CURRENT DRAW (MA RMS)

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

*This data represents coding at 3 chimes per second. Actual current draw will vary depending upon coding selected.

UL MAX. CHIME/STROBE CURRENT DRAW (MA RMS), 2-WIRE HORN STROBE

The 3.1k is the sound of the mini-horns. The EM (which stands for Electro-mechanical) is the sound of the SpectrAlert Advance line which uses an algorithm that hops frequencies between 2Hz and 4Hz.

Candela	8 VDC		16 VDC						
	15	30	15	30	75	95	115	150	177
Temporal High	103	167	71	90	143	165	187	217	254
Temporal Low	96	165	54	71	137	161	185	211	249
Non-Temporal High	106	173	71	90	141	165	187	230	273
Non-Temporal Low	95	166	54	71	124	161	170	216	258
3.1K Temporal High	111	164	69	94	147	163	184	229	257
3.1K Temporal Low	103	163	54	88	143	155	185	212	252
3.1K Non-Temporal High	111	172	69	94	144	164	202	229	271
3.1K Non-Temporal Low	103	169	54	88	131	155	187	217	259

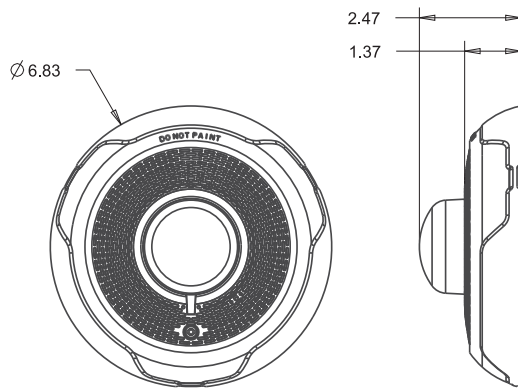
Candela	16VFWR							
	15	30	75	95	115	150	177	
Temporal High	107	135	179	198	223	254	286	
Temporal Low	78	101	151	172	199	229	262	
Non-Temporal High	107	135	179	198	223	254	286	
Non-Temporal Low	78	101	151	172	199	229	262	
3.1K Temporal High	108	135	179	200	225	255	289	
3.1K Temporal Low	79	101	150	171	196	229	260	
3.1K Non-Temporal High	108	135	179	200	225	255	289	
3.1K Non-Temporal Low	79	101	150	171	196	229	260	

Horn Strobe Tones and Sound Output Data

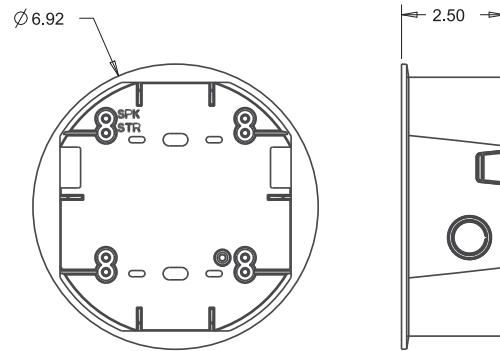
HORN AND HORN STROBE OUTPUT (DBA)

Switch Position	Sound Pattern	dB	8-17.5 Volts	16-33 Volts	
			DC	DC	FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7	3.1 KHz Non-Temporal	High	84	89	89
8	3.1 KHz Non-Temporal	Low	77	83	83

Product Drawings: L-Series Dimensions



Horn Strobes (Ceiling)



Surface Mount Back Box (Ceiling)

oly_cel_horn_strobe_datasheet_08152016_OL.eps

Agency Listings and Approvals

The listings and approvals below apply to L-series devices. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC-Listed**
 - S4011 Ceiling horn strobes
 - S5512 Ceiling strobes
 - S5512 Strobe-only ALERT devices
- **FM Approved** (All except ALERT models)
- **CSFM Listed:** 7135-1653:0503 (Ceiling Horns and Ceiling Horn Strobes), 7125-1653:0504 (Ceiling Strobes)

Product Line Information

CEILING HORN STROBES

→ **PC2WL(A) (-E)(-F), PC2RL(A) (-E)(-F).** 2-Wire, Horn Strobe (White, Red).

CEILING STROBES

→ **SCWL(A) (-E)(-F), SCRL(A) (-E)(-F).** Strobe (White, Red).

SCWL-CLR-ALERT. Strobe, ALERT (White).

ACCESSORIES

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

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

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

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

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

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

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

Battery Calculations

Costco Puyallup Locker Room T.I.

Standby Conditions

$$7 \quad \text{FSP-951} \quad \text{Smoke Detectors} \quad 0.00025 \quad \text{Amps} \quad = \quad 0.00175 \quad \text{Amps}$$

$$24 \text{ Hours of stanby} \quad 24 \text{ Hours} \quad \times \quad 0.00175 \quad = \quad 0.0420 \quad \text{Amps}$$

Alarm Conditions

$$4 \quad \text{SWL} \quad \text{Strobe Only} \quad 0.041 \quad \text{Amps} \quad = \quad 0.164 \quad \text{Amps}$$

$$2 \quad \text{PC2WL} \quad \text{Horn/Strobes} \quad 0.09 \quad \text{Amps} \quad = \quad 0.18 \quad \text{Amps}$$

$$0.084 \quad \text{Hours} \quad \times \quad 0.344 \quad = \quad 0.0289 \quad \text{Amps}$$

Total Additional Battery Requirements

$$\begin{array}{rcl} \text{Standby} & + & \text{Alarm} \\ 0.0420 & + & 0.0289 \\ & = & 0.0709 \quad \text{Amp Hours of Additional Power} \end{array}$$

The addition of .0709 amp hours has no impact on the existing batteries.