

## FSP-851 Intelligent Photoelectric Smoke Detector

### Features

- Sleek low profile design
- Analog-addressable communication
- Stable communication technique with noise immunity
- Low standby current
- Rotary 01 to 159\* address switches
- Optional remote, single-gang LED accessory (RA400Z)
- Dual LED design provides 360° viewing angle
- Visible bicolor LEDs blink green every time the detector is addressed; illuminate steady red on alarm
- Walk test with address display (an address of 91 will blink the detector LED: 9-(pause)-1) (FlashScan® systems only)
- Built-in functional test switch activated by external magnet
- Optional relay, isolator, or sounder bases
- Listed to UL 268
- FlashScan® communication protocol

### Applications

The FSP-851 is an analog, addressable, low-profile smoke detector designed for the AUTOPULSE® IQ-301, IQ-396X, and IQ-636X Fire Alarm Control Units.

The addressability of the FSP-851 detector enables the control unit to provide firefighters with a pinpoint description of where the fire is located. The control unit is capable of not only knowing the detector's location but also exactly how much smoke is in the chamber of the detector. The detector may be set for different sensitivity settings appropriate to the environment of its location.

Analog devices continually send obscuration values to the AUTOPULSE control unit. These values may be gathered so as to allow the control unit to determine if a detector has accumulated an excessive amount of dirt or dust. A "maintenance" required indication allows the installer to clean the smoke detector before an unwanted false alarm occurs.

### Description

The FSP-851 Intelligent Photoelectric Sensor's unique optical sensing chamber is designed with superior signal to noise ratio. The optical chamber is engineered to sense the presence of smoke produced by a wide range of combustion sources. The FSP-851 can be used to replace the SDX-751 or FSP-751 in existing systems.

- ▶ FlashScan (U.S. Patent 5,539,389) is a communication protocol 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'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.

### Technical Information

Operating Temperature: . . . . . 32 °F to 120 °F (0 °C to 49 °C)  
 UL Listed Velocity Range: . . . 0 – 4000 fpm (0 – 20.32 m/sec)  
 Relative Humidity: . . . . . 10% to 93% noncondensing  
 Voltage Range: . . . . . 15 – 32 volts DC peak  
 Standby Current: . . 250  $\mu$ A @ 24 VDC (w/o communication);  
 360  $\mu$ A @ 24 VDC (one communication every 5 seconds with LED enabled)

LED Current (max.): . . . . . 6.5 mA @ 24 VDC (ON)  
 Diameter: . . . . . 4.1 in. (104 mm)  
 Height: . . . . . 1.69 in. (43 mm)

#### Bases Available:

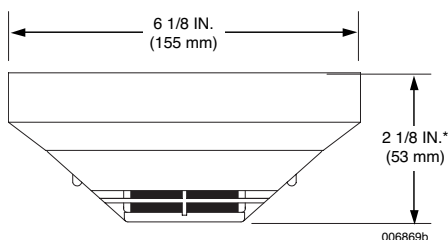
- B710LP: . . . . . 6.1 in. (155 mm) diameter
- B501: . . . . . 4.1 in. (104 mm) diameter
- B501BH: . . . . . Sounder base with B501base
- B224RB: . . . . . 6.2 in. dia. x 1.2 in. high (157 mm x 30 mm)  
 Relay type: . . . . . Form-C  
 Rating: . . . . . 2.0 A @ 30 VDC resistive  
 0.3 A @ 110 VDC inductive  
 1.0 A @ 30 VDC inductive
- Screw terminals: . . . . . Up to 14 AWG (2.00 mm<sup>2</sup>)
- B224BI: . . . . . 6.2 in. dia. x 1.2 in. high (157 mm x 30 mm)  
 Maximum: . . . . . 25 devices between isolator bases



FSP-851 with B710LP Base

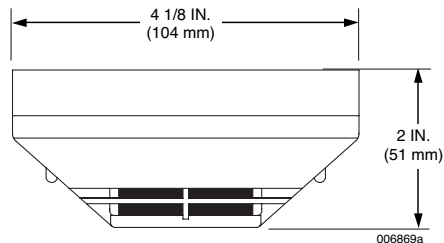
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FSP-851 DETECTOR WITH B710LP, B224RB OR B224BI BASE

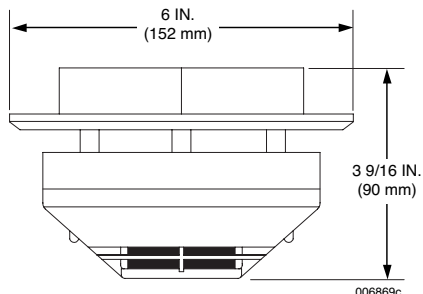


\* ADD 1/4 IN. (6 mm) TO HEIGHT FOR B224RB AND B224BI BASES.

FSP-851 DETECTOR WITH B501 BASE



FSP-851 DETECTOR WITH B501BH BASE



Mounting Guidelines

The FSP-851 plug-in detectors use a separate base to simplify installation, service, and maintenance.

Mount base on a box which is at least 1.5 in. (38.1 mm) deep. Suitable mounting base boxes include:

- B501BH 4 in. square box
- B224RB or B224BI 3 1/2 in. square box
- Remaining bases 4 in. square box
- 3 1/2 in. or 4 in. octagonal box
- Single-gang box (except relay or isolator bases)

Listings and Approvals\*

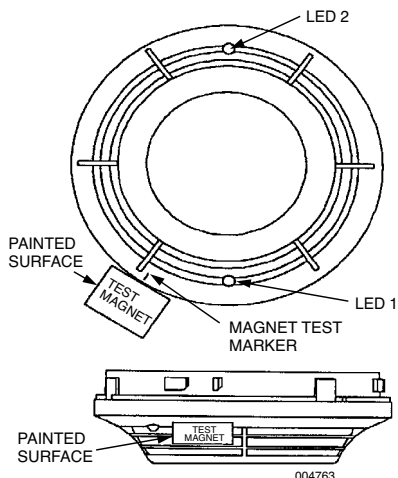
- UL..... S1115
- ULC..... CS915
- Factory Mutual (FM)..... Approved
- California State Fire Marshal (CSFM)..... 7272-0028:206
- ME A (NYC)..... 225-02-E
- Maryland State Fire Marshal..... Permit #2122
- UL Listed for In-Duct Applications

\* Listings and Approvals are under NOTIFIER.

Ordering Information

Part No.	Description	Shipping Weight	
		lb.	(kg)
432288	FSP-851 Intelligent Photoelectric Smoke Detector	1	(0.45)
423944	B710LP Standard U.S. Low-Profile Base	1	(0.45)
417487	B501 European Flangeless Base	1	(0.45)
417488	B501BH Sounder Base (B501 Base with 24 VDC, 85 dBA internal horn)	2	(0.9)
423945	B224RB Intelligent Relay Base	1	(0.45)
426125	B224BI Intelligent Isolator Base	1	(0.45)
428138	F110 Retrofit Replacement Flange (converts BX-501 base for use with FlashScan detectors)	1	(0.45)
417671	RA400Z Remote LED Annunciator	2	(0.9)
417675	M02-04-01 Test Magnet	0.5	(0.2)
433873	M02-09-00 Test Magnet with Telescoping 2 ft. (.6 m) Long Handle	1.5	(0.7)

TEST MAGNET POSITIONING



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WIRING

