

## FSI-851 Intelligent Ionization Smoke Detector

### Features

- Sleek low profile design
- Analog-addressable communication
- Stable communication techniques 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, and 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 FSI-851 is an analog, addressable, low-profile smoke detector designed for the AUTOPULSE IQ-301 and IQ-396X Fire Alarm Control Unit.

The addressability of the FSI-851 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 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 FSI-851 Intelligent Ionization Sensor incorporates a unique single-source chamber design to respond quickly and dependably to a broad range of fires. The FSI-851 can be used to replace the CPX-751 or FSI-751, in existing systems.

FlashScan (U.S. Patent 5,539,389) is a new 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 – 1200 fpm (0 – 365.76 m/min)  
 Relative Humidity: . . . . . 10% to 93% noncondensing  
 Voltage Range: . . . . . 15 – 32 volts DC peak  
 Standby current: . . 200 µA @ 24 VDC (w/o communication);  
 300 µA @ 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>)
- B224BL: . . . . . 6.2 in. dia. x 1.2 in. high (157 mm x 30 mm)  
 Maximum: . . . . . 25 devices between isolator bases

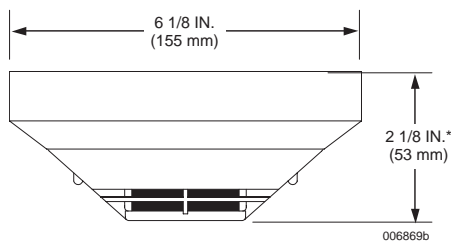


FSI-851 with B710LP Base

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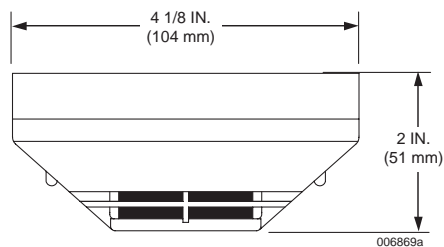
\* 01-99 with AUTOPULSE IQ-301 and IQ-396X

**FSI-851 DETECTOR WITH B710LP, B224RB OR B224BI BASE**

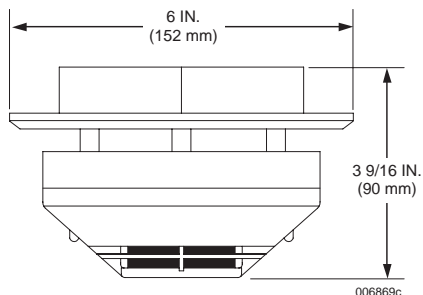


\* ADD 1/4 IN. (6 mm) TO HEIGHT FOR B224RB AND B224BI BASES.

**FSI-851 DETECTOR WITH B501 BASE**



**FSI-851 DETECTOR WITH B501BH BASE**



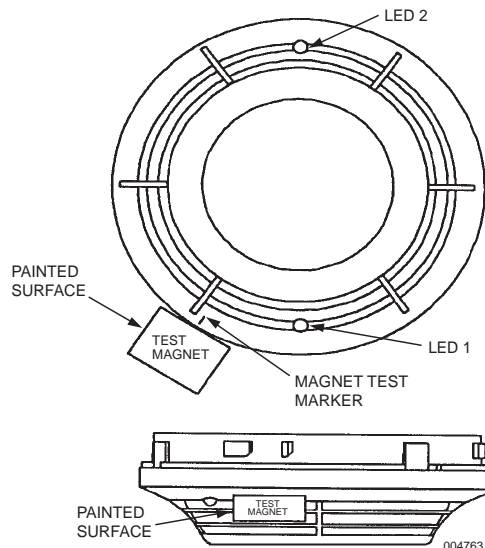
**Mounting Guidelines**

The FSI-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 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)

**TEST MAGNET POSITIONING**



**Listings and Approvals\***

- UL ..... S1115
- ▶ ULC ..... CS915
- Factory Mutual (FM) ..... Approved
- California State Fire Marshal (CSFM) ..... 7271-0028:201
- MEA ..... 321-02-E

\* Listings and Approvals are under NOTIFIER Division of Pittway Corporation

**Ordering Information**

Part No.	Description	Shipping Weight	
		lb.	(kg)
432287	FSI-851 Intelligent Ionization 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)

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**WIRING**

