PSA

Analog Photoelectric Smoke Detector

P/N 99238

Features

- Low profile, less than 2 inches with the base
- Wide selectable sensitivity range of 1.05 to 3.82%/foot
- Sensor communicates sensitivity to control panel
- UL listed smoke calibration and sensitivity
- Optional locking tab to prevent unwanted removal
- Simple and accurate address setting without mechanical switches
- LEDs for 360° Viewing
- For JFS-A Series control panels or JFS-IP Series control panels using Nohmi protocol

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Description

The PSA Photoelectric Smoke Sensor is a listed Analog/Addressable smoke sensor compatible with the JFS-A Series addressable control panels and JFS-IP Series control panels using Nohmi protocol. The PSA is a low profile smoke sensor with a wide sensitivity range. The sensor and base (not included) are made of a durable plastic in an eggshell white (off white) to blend in with the ceiling.

The PSA has a sensitivity range of 1.05 to 3.82% per foot and is UL and cUL listed. The PSA can be configured for drift compensation and has built-in dirty detector warning. The PSA and the control panel communicate over a proven and robust digital communication path and the system analyzes the level of alarm at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The PSA has two LEDs that allow for 360° viewing. The sensor is compatible with any of the Potter/Nohmi bases and simply twists on. The PSA is addressed using the hand held programmer or the control panel addressing function.

The system has a maximum of 13 LEDs that can be turned on simultaneously. If the system already has 13 LEDs on, the PSA will operate even though the LED will not illuminate.

Air Velocity Ratings

The PSA has an Open Area of Protection air velocity rating of 0 to 300 feet per minute.

Setting the Address

Each addressable module, smoke sensor, heat detector and combination sensor/detector must have the address set before connecting the device to the SLC loop. The address is set using the hand held device programmer or the addressing feature on the control panel.

Before connecting a device to the SLC loop, take the following precautions to prevent potential damage to SLC or device. Verify the following:

1. Power to the device is removed.
2. Field wiring is correctly installed.
3. Field wiring has no open or short circuits.

Document discrepancies and notify appropriate personnel.

Operation

The PSA is an analog/addressable sensor that uses one address on the Signaling Line Circuit (SLC) of a compatible fire alarm control panel. The unit communicates with the control panel as it is polled. The LEDs flash every time the unit is polled and they will latch steady if the unit is in an active status.

The PSA is a proven design being in service throughout the world. The PSA with the AB-6 base has a low profile of less than two (2) inches to blend into the surrounding environment. The sensor includes an insect screen to prevent foreign objects from reaching the chamber and the entire unit can be cleaned with a simple vacuum.

Specifications			
Working voltage range	22.0 to 24.0 V	Start-up time	Max. 1 sec.
Standby current (*)	250 µA	Maximum number of addresses per zone	127
Alarm indicator	2 LEDs	Maximum number of lighted indicators in alarm per zone	13
Alarm indicator current	1.2 mA DC	Color	Eggshell White
Alarm set-point range	1.05 to 3.82%/ft / 3.4 to 12.0%/m	Weight (without base)	84g (2.96oz)
Installation temperature range	32 to 120°F / 0 to 49°C	Dimensions (without base)	Height: 1.33 in (34mm)
Operating relative humidity range	0% to 93% (Non-condensing)		Diameter: 4.0 inches (99mm)
		Approvals / Listings	UL, ULC, CSFM

Sensor Sensitivity

The PSA and the compatible control panel work in tandem to keep the sensitivity consistent. As the sensor is installed over time, the sensor compensates for the dirt in the unit until it is out of range. At that time, the panel will indicate a dirty sensor. The sensor will then have to be cleaned or replaced.

Anytime the PSA is being polled, the sensitivity may be viewed or printed from the control panel.

Note: As required by NFPA, do not install the sensors until all construction is complete and the work area has been thoroughly cleaned. If the sensors have been installed in a construction environment, they should be cleaned or replaced before the system is placed into service.

Spacing

The PSA is UL/ULC listed with a recommended maximum spacing of 30 feet. Refer to NFPA 72 for specific information regarding detector spacing, placement and special applications.

Compatible Bases

All bases will mount on a single gang, double gang, octagon, 4” square or mud ring electrical box.

Ordering Information		
Model Number	Description	P/N
PSA	Analog Photoelectric Smoke Detector	99238
AB-6	6” Standard Analog Base	99234
AIB	Analog Isolator Base	99233
ARB	Analog Relay Base	99231

Note: Approvals/Listings maintained by and manufactured by Potter Electric Signal Company.

1102 Rupcich Drive
Millennium Park
Crown Point, IN 46307
TEL: (219) 663-1600 FAX: (219) 663-4562
e-mail: info@janusfiresystems.com
www.janusfiresystems.com