

Features

- Selectable Rate of Rise and/or Fixed Heat Detector
- Reliable detection technology
- Wide selectable smoke sensitivity range of 1.0 to 3.5%/foot
- Sensor communicates sensitivity to control panel
- UL listed smoke calibration and sensitivity
- Ambient temperature listing of 32 ° F to 150 ° F
- Optional locking tab to prevent unwanted removal
- Simple DIP switch address setting, no programming tool required
- LED alarm indicator
- Product includes a 5 year warranty
- UUKL Listed for Smoke Control



Description

The PAD100-PHD is a listed Analog Addressable smoke sensor and a rate of rise and/or fixed temperature heat sensor compatible with fire alarm control panels that utilize the Potter Addressable Device (PAD) protocol. The PAD100-PHD is a low profile smoke/heat sensor with a wide sensitivity range. The heat sensing portion utilizes a proven thermistor for accurate and reliable heat detection. The sensor and base (not included) are made of a durable plastic in an off-white color to blend in with the ceiling.

The PAD100-PHD is UL listed and has a sensitivity range of 1.0 to 3.5% per foot with a fix temperature alarm threshold of 135°F and can be used for rate of rise applications. See detector spacing limitations below. The PAD100-PHD features drift compensation and has built in dirty detector warning. The PAD100-PHD and the control panel communicate over a proven and robust digital communication path and the system analyzes the information at the particular device. The total polling speed is less than five (5) seconds, well under the UL requirements.

The sensor is compatible with any of the PAD series sensor bases and simply twists on. The PAD100-PHD is addressed using DIP switches in the rear of the sensor and can be easily programmed in the field without special tools.

Setting the Address

Each addressable device on the SLC loop must have a unique address from 1 to 127 to function properly. The address is set using DIP switches.

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.

Technical Specifications

Operating Voltage	24 VDC
Detector Current Draw	300 μA
Alarm indicator	1 LED
Alarm set-point range for Smoke	1.1% - 3.5%
Alarm set-point for Heat	135°F
Rate of Rise Detection (Selectable Option)	15°F/min. (8.3°C/min.)
Installation temperature range	32°F to 120°F (0°C to 49°C)
Operating relative humidity range	0% to 93% (Non-condensing)
Start-up time	Max. 1 sec.
Maximum number of addresses per loop	127
Maximum number of lighted indicators in alarm per loop.	30
Color	Eggshell White
Weight (without base)	3.6 oz
Dimensions (without base)	Height: 1.94 in (49mm) Diameter 3.93 in (100mm)

Air Velocity Ratings

The PAD100-PHD has an Open Area of Protection air velocity rating of 0 to 300 feet per minute.

The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD100-PHD will operate even though the LED may not illuminate.

Operation

The PAD100-PHD 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 flash rapidly if the unit is in an active status. The polling LED can be turned off if desired for less conspicuous operation.

The PAD100-PHD with the PAD100-4DB or PAD100-6DB has a low profile to blend into the surrounding environment. The sensor includes an insect screen to prevent foreign objects from reaching the chamber and the can be cleaned to restore operation of a dirty detector.

The system has a maximum of 30 LEDs that can be turned on simultaneously. If the system already has 30 LEDs on, the PAD100-PHD will operate even though the LED will not illuminate.

Sensor Sensitivity

The PAD100-PHD 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.

The PAD100-PHD can be programmed to provide a maintenance alert prior to reaching the dirty sensor level which will allow for intervention prior to the sensor going into trouble. This allows for sensor replacement or cleaning prior to a nuisance trouble occurs.

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 PAD100-PHD is UL 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.

Device	Description	Stock No.
PAD100-4DB	4" Standard Base	3992731
PAD100-6DB	6" Standard Base	3992732
PAD100-IB	6" base with an isolator module included.	3992730
PAD100-RB	6" base with one Form-C relay contact. 2A @ 30VDC, 0.5A @ 125VAC	3992728
PAD100-SB	6" base with sounder module included. Sound pattern is provided from external source.	3992729
PAD100-SPKB	6" base with speaker included	3992762

Ordering Information

Model	Description	Stock No.
PAD100-PHD	Photoelectric Smoke/Heat Sensor	3992734