

Features

- Low profile, 2.2" high (with base)
- 2 or 4 wire base compatibility, relay bases available
- 135°F latching heat sensor
- Heat sensor protected by a built-in guard
- Highly stable operation, RF/Transient protection
- Low standby current, 45µA at 24 VDC
- Two built-in power/sensitivity supervision/alarm LEDs
- Non-directional smoke chamber
- Vandal resistant security locking feature
- Removable smoke labyrinth cleaning or replacement
- Automatic sensitivity window verification function meets outlined requirements in NFPA 72, Chapter 2&7, for inspection, Testing and Maintenance.



Description

The PS-24H photoelectric smoke detector utilizes two bicolored LEDs for indication of status. In a normal standby condition, the LEDs flash green every 3 seconds. When the detector senses that its sensitivity has drifted outside its UL listed sensitivity window, the LEDs will flash Red every 3 seconds. When the detector senses smoke and goes into alarm, the status LED will latch on Red.

The detector utilizes an infrared LED light source and silicon photo diode receiving element in the smoke chamber. During a normal standby condition, the receiving element receives no light from the pulsing LED light source. In the event of a fire, smoke enters the detector smoke chamber and light is reflected from the smoke particles to the receiving element. The light received is converted into an electronic signal.

Signals are processed and compared to a reference level. And when two executive signals exceeding the reference level are received within a specified period of time, the time delay circuit triggers the SCR switch and the LED's light continuously during the alarm period.

Application

The PS-24H can be used in all areas where Photoelectric Smoke Detectors are required. The wide range smoke chamber makes the PS-24H well suited for fires ranging from smoldering to flaming fires.

SB Series bases may be used with the PS-24H. Current interchangeable/compatible devices are the IS-24 Ionization detector, PS-24 photoelectric detector.

Technical Specifications

| | |
|---------------------------|---|
| Heat Detector | 135°F Latching |
| Light Source | GaAl as infrared emitting diode |
| Rated Voltage | 17.6 - 33.0 VDC |
| Maximum Allowable Voltage | 42 VDC |
| Supervisory Current | 45µA Max. at 24 VDC |
| Surge Current | 160mA Max. at 24 VDC |
| Alarm Current | 150mA Max. at 24 VDC |
| Ambient Temperature | 32°F - 120°F (0°C - 49°C) |
| Test Feature | Automatic Sensitivity window verification test |
| Service Use | National Fire Alarm Code NFPA-72 |
| Mounting | Refer to Potter SB Series Smoke Detector Base series, bulletin no. 8840008. |

Engineering Specifications

The contractor shall furnish and install where indicated on the plans, Potter Model PS-24H photoelectric smoke detectors. The combination detector head and twist-lock base shall be UL listed compatible with a UL listed fire alarm panel.

The base shall permit direct interchange with Potter PS-24 photoelectric detector and IS-24 ionization type smoke detector. The base shall be appropriate twist-lock base SB Series. In the event of partial or complete retrofit, the PS-24 may be used in conjunction with, or as a replacement for, Potter detectors (PS-24, PS-24H and the IS-24) on SB Series base applications.

The smoke detector shall have two flashing status LEDs for visual supervision. When the detector is in standby condition the LEDs will flash Green. When the detector is outside the UL listed sensitivity window the LEDs will flash Red. When the detector is actuated, the flashing LEDs will latch on Red. The detector may be reset by actuating the control panel reset switch.

The sensitivity of the detector shall be capable of being measured. It shall be possible to perform a functional test of the detector without the need of generating smoke. The sensitivity of the detector shall be monitored automatically and continuously to verify that it is operating within the listed sensitivity range.

To facilitate installation, the detector shall be non-polarized. Voltage and RF transient suppression techniques shall be employed to minimize false alarm potential. Auxiliary SPDT relays shall be installed where indicated.

The vandal-resistant, security locking feature shall be used in those areas as indicated on the drawing. The locking feature shall be field-removable when not required.

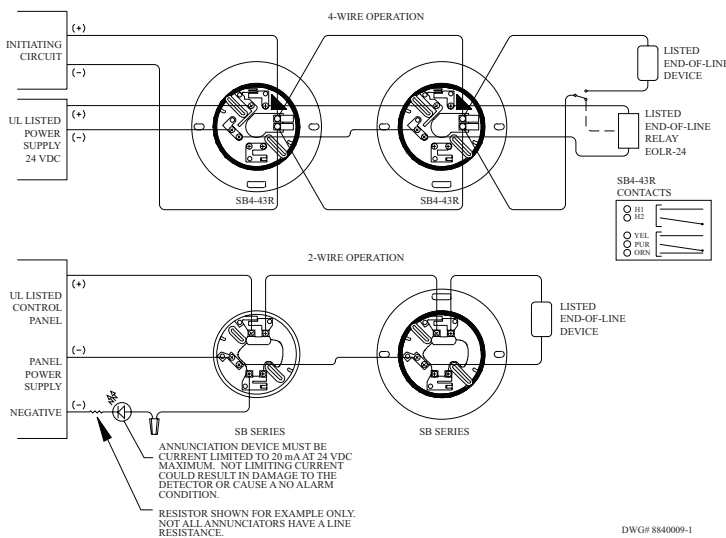
Voltage and R/F transient suppression techniques shall be employed to minimize false alarm potential.

Specifications subject to change without notice.

PS-24H Sensitivity Test Feature

The PS-24H Photoelectric Detector has a built-in automatic sensitivity test feature.

1. In normal condition, both LEDs flash green.
2. When the sensitivity drifts outside of its sensitivity limits, both LEDs flash red.
3. In the alarm state, both LEDs are red continuously.
4. When the sensitivity drifts outside of its sensitivity limits and both LEDs flash red, the device needs to be cleaned or returned to the factory for cleaning.



Ordering Information

| Model | Description | Stock No. |
|--------|-----------------------------------|-----------|
| PS-24H | Photoelectric Smoke/Heat Detector | 1430012 |