



CPS-24N

PHOTOELECTRIC SMOKE DETECTOR



P/N 97630

Light Source: GaAIAs Infrared Emitting Diode
Rated Voltage: 12 - 24 VDC
Working Voltage: 8.0 - 35.0 VDC
Maximum Voltage: 42 VDC
Supervisory Current: 59 μ A at 24 VDC
Surge Current: 160 μ A Max. at 24 VDC
Alarm Current: 150 mA Max. at 24 VDC
Air Velocity Range: 0-4000 fpm
Ambient Temperature: 32°F (0°C) to 120°F (49°C)
Sensitivity Test Feature: Automatic Sensitivity window verification test.
Mounting: Refer to Janus Fire Systems® SB Series Smoke Detector Base series, datasheet DS1008.



Standard Features

- 360° view of detector status LED
- Low profile, 2" high (with base)
- 2 or 4 wire base compatibility, relay bases available
- Highly stable operation, RF/Transient protection
- Low standby current, 59 μ A at 24VDC
- One built-in power/sensitivity supervision/ alarm LED
- Automatic Sensitivity window verification function meets outlined requirements in NFPA 72, Chapter 2 & 7, Inspection, Testing and Maintenance.
- Without Magnetic Test Feature

Description

The CPS-24N is a reliable, high quality Photoelectric Smoke Detector. It can be used in all open areas where Photoelectric Smoke Detectors are required, including in-duct applications. The computer-designed smoke chamber makes the CPS-24N well suited for detecting smoldering fires as well as fast-flaming fires.

Operation

The CPS-24N photoelectric smoke detector utilizes one bicolored LED for indication of status. In a normal standby condition the LED flash Green every 3 seconds. When the detector senses that its sensitivity has drifted outside the UL listed sensitivity window the LED 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 photodiode receiving element in the smoke chamber. In 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.

Fire Judgement signals are processed and compared to a reference level, and when five consecutive signals exceeding the reference level are received within a specified period of time, the time delay circuit triggers the SCR switch to activate the alarm signal. The status LED lights continuously during the alarm period.



Specifications

The contractor shall furnish and install where indicated on the plans, Janus Fire Systems® CPS-24N 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 CPS-24N combination photoelectric smoke detector. The base shall be appropriate twist-lock base SB Series. In the event of partial or complete retrofit, the CPS-24N may be used in conjunction with, or as a replacement for, Potter detectors (PS-24, PS-24H and the IS-24) on most SB base applications.

The smoke detector shall have one flashing status LED for visual supervision. When the

detector is in standby condition the LED will flash Green. When the detector is outside the UL listed sensitivity window the LED will flash Red. When the detector is actuated, the flashing LED 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. 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.

CPS-24N Sensitivity Test Feature

The CPS-24N Photoelectric Smoke Detector has a built-in automatic sensitivity test feature.

1. In normal condition, the status LED flashes green.
2. When the sensitivity drifts outside of its sensitivity limits, the status LED flashes red.
3. In the alarm state, the status LED is red continuously.
4. When the sensitivity drifts outside of its sensitivity limits and the status LED flashes red, the device needs to be cleaned or returned to the factory for cleaning or calibration.

Ordering Information		
Model Number	Description	P/N
CPS-24N	Photoelectric Smoke Detector w/o Magnetic Test	97630
SB-46	Smoke Detector Base	18637
SB-81R	Smoke Detector Base w/Relay 81 mA draw	18638

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

The seller makes no warranties, express or implied, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose, except as expressly stated in the seller's sales contract or sales acknowledgment form. Every attempt is made to keep our product information up-to-date and accurate. All specific applications cannot be covered, nor can all requirements be anticipated. All specifications are subject to change without notice.



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