

PHOTOELECTRIC/HEAT SMOKE DETECTOR

DESCRIPTION

The Photoelectric/Heat Smoke Detector (P/N 63-1025) can be used in all areas where Photoelectric Smoke Detectors are required. The wide range smoke chamber makes the photoelectric/heat smoke detector well suited for fires ranging from smoldering to flaming fires. Various styles of bases may be used with the photoelectric/heat smoke detector. Current interchangeable/compatible devices are ionization detector (P/N 67-1033), photoelectric detector (P/N 63-1024) and the heat detectors (P/N's 60-1029/60-1030 [135°/190°]).

All conventional devices are mechanically compatible with Fike bases which may have been used in previous installations. Please check individual panel listings for compatible bases.

STANDARD FEATURES

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

SPECIFICATIONS

Light Source:	GaAlAs Infrared Emitting Diode
Heat Sensor:	135°F
Rated Voltage:	17.7 - 30.0 VDC
Working Voltage:	15.0 - 33.0 VDC
Maximum Voltage:	42 VDC
Supervisory Current:	45µA @ 24 VDC
Surge Current:	160µA max. @ 24 VDC
Alarm Current:	150mA max. @ 24 VDC
Ambient Temperature:	32°F to 120°F (0°C to 49°C)
Color & Case Material:	Bone PC/ABS Blend
Sensitivity Test Feature:	Automatic Sensitivity window verification test

OPERATION

The photoelectric/heat smoke detector utilizes two bicolored LED's for indication of status. In a normal standby condition the LED's flash Green every 3 seconds. When the detector senses that its sensitivity has drifted outside the UL listed sensitivity window the LED's will flash Red every 3 seconds. When the detector senses smoke and goes into alarm the status LED's will latch on Red.

The detector utilizes an infrared LED light source and silicon photo diode 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.

Signals are processed and compared to a reference level, and when two 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's light continuously during the alarm period.



APPROVALS:

- UL - S1383
- FM - 3006185
- CSFM - 7272-0410107



ENGINEERING SPECIFICATIONS

The contractor shall furnish and install where indicated on the plans, Fike photoelectric/heat smoke detectors (P/N 63-1025). 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 Fike's photoelectric detector (P/N 63-1024), ionization type smoke detector (P/N 67-1033) and/or fixed temperature/rate-of-rise heat detectors (P/N 60-1029/60-1030). The base shall be appropriate twistlock base.

The smoke detector shall have two flashing status LED's for visual supervision. When the detector is in standby condition the LED's will flash Green. When the detector is outside the UL listed sensitivity window the LED's will flash Red. When the detector is actuated, the flashing LED's 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.

ORDERING INFORMATION

Fike P/N	Mfg. P/N	Description
63-1025	SLR-24H	Photoelectric/Heat Smoke Detector
67-1034	NS6-224	430 Ω , 6" Base
67-1036	NS4-224	430 Ω , 4" Base
67-1035	NS6-220	220 Ω , 6" Base (SDR or Cross-Zone Only)
67-1037	NS6-220	220 Ω , 4" Base (SDR or Cross-Zone Only)
63-1012	HSC-224R	430 Ω , 6" Base (Sequential or Cross-Zone Only)

SENSITIVITY TEST FEATURE

The 63-1025 Photoelectric/heat Smoke Detector has a built-in automatic sensitivity test feature.

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

WIRING DIAGRAM

