

PHOTOELECTRIC SMOKE DETECTOR

APPROVALS:

- UL S2203

DESCRIPTION

The Fike P/N 63-1024 can be used in all areas where Photoelectric Smoke Detectors are required. The wide range smoke chamber makes the 63-1024 well suited for fires ranging from smoldering to flaming fires.

The 63-1028 is a non-listed photoelectric smoke detector. The detector is identical to the 63-1024, except the 63-1028 does not have the magnetic test reed switch, making it suitable for use in areas of high magnetic fields such as MRI's.

The 4" and 6" smoke detector bases and the 63-1012, two wire auxilliary relay base may be used with the 63-1024 and 63-1028. Current interchangeable/compatible devices are the 67-1033 ionization detector and the 60-1029 and 60-1030 heat detectors.



Photoelectric Smoke Detector	
Fike P/N	Mfg. P/N
63-1024	SLR-24V
63-1028	SLR-24VN
Compatible Bases 6"	
67-1034 (430 Ω)	NS6-224
67-1035 (220 Ω)	NS6-220
Compatible Bases 4"	
67-1036 (430 Ω)	NS4-224
67-1037 (220 Ω)	NS4-220

FEATURES

- Low profile, 1.8" high (with base)
- 2 or 4 wire base compatibility, relay bases available
- Highly stable operation, RF/Transient protection
- Low standby current, 45uA at 24VDC
- Two built-in power/sensitivity supervision/alarm LEDs
- Non-directional smoke chamber
- Vandal resistant security locking feature
- Built-in magnetic go/no go detector test feature
- Removable smoke labyrinth for cleaning or replacement
- Automatic Sensitivity window verification function meets outlined requirements in NFPA 72, Chapter 7, Inspection, Testing and Maintenance
- Compatible with 67-1033 ionization detectors
- Backwards compatible with Hochiki SLK and SIH detectors bases

OPERATION

The 63-1024 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 the UL listed sensitivity window the LEDs will flash Red every 3 seconds. When the detector senses smoke and goes into alarm the LEDs 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 LEDs light continuously during the alarm period.

63-1024 Sensitivity Test Feature

The 63-1024 Photoelectric 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. Refer to Hochiki Technical Bulletin HA-97 for cleaning information

Spacing

When spacing smoke detectors following the guidelines listed in NFPA 72, base the number and location of sensors on an engineering survey of the area to be detected. The Photoelectric smoke detectors cover 900 sq. ft.

SPECIFICATIONS

The contractor shall furnish and install where indicated on the plans, Fike 63-1024 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 Fike 63-1025 combination photoelectric/heat detector, 67-1033 ionization type smoke detector and/or 60-1029/60-1030 fixed temperature/rate-of-rise heat detectors. The base shall be appropriate twist-lock base. In the event of partial or complete retrofit, the 63-1024 may be used in conjunction with, or as a replacement for, Fike detectors (63-1007, 63-1016 and the 67-1016) on most HSB and HSC 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 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.

Light Source:	GaAlAs Infrared Emitting Diode
Rated Voltage:	17.7 - 30.0 VDC
Working Voltage:	15.0 - 33.0 VDC
Maximum Voltage:	42 VDC
Supervisory Current:	45mA @ 24 VDC
Surge Current:	160mA max. @ 24 VDC
Alarm Current:	150mA max. @ 24 VDC
Air Velocity Range:	0-4000 fpm
Ambient Temperature:	32 to 120°F (0 to 49°C)
Color & Case Material:	Bone PC/ABS Blend
Sensitivity Test Feature:	Automatic Sensitivity window verification test