



NS-series SLR-24 Photoelectric Smoke Detector



Features

- Low Profile, 1.8 inch (4.6 cm) high with plug-in base.
- RF/Transient protection. Non-directional chamber.
- Two built-in power/sensitivity supervision/alarm LED's. Magnetic go/no go detector test feature.
- Vandal resistant security locking feature.
- Automatic Sensitivity window verification function meets NFPA 72, Chapter 7 requirements.
- Backwards compatible with PRO-series SLK and SIH detectors.
- SLR-24H Combination Photoelectric/Heat Detector available.

Applications

The SLR-24 can be used in all areas where Photoelectric Smoke Detectors are required. The wide range smoke chamber makes the SLR-24 well suited for a wide variety of applications ranging from smoldering to flaming type fires.

These detectors are compatible with all Protectowire FireSystem Control Panel initiating circuits as well as Model HSB-220 bases which may have been used in previous installations. Other normally open contact devices such as Protectowire Linear Heat Detector, spot heat detectors or manual pull stations may also be utilized on the same initiating circuit.

The Model NS6-220 Base is designed specifically for use with the SLR-24 Photoelectric Smoke Detector and SLR-24H Combination Photoelectric/Heat Detector. The NS6-220 base is common throughout the product range and is also compatible with model SIJ-24 Ionization Smoke Detector. The NS6-220 is an electronics free 6 inch (15 cm) diameter base featuring a plastic tamper-lock lug and self-wiping contacts for reliability.

Operation

The SLR-24 Photoelectric Smoke Detector utilizes two bi-colored LED's for status indication purposes. In a normal standby condition the LED's flash *green* approximately once every 3 seconds. When the detector senses smoke and goes into alarm the status LED's will latch on *red*. When the detector senses that its sensitivity has drifted outside the UL listed sensitivity window, the LED's will flash *red* every 3 seconds.

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.

SLR-24H Combination Photoelectric/Heat Detector

The SLR-24H Smoke Detector incorporates the addition of a 135°F (57°C) self-restoring thermal sensor. When the temperature at the thermal sensor reaches the preset limit, the thermal contacts close, the status LED's glow steady and the detector locks into alarm.

Product Specifications

Rated Voltage	17.7 - 30.0 VDC
Working Voltage	15.0 - 33.0 VDC
Maximum Voltage	42 VDC
Supervisory Current	45uA @ 24 VDC
Surge Current	160uA max. @ 24 VDC
Alarm Current	150 mA max. @ 24 VDC
Ambient Temperature	32°F to 120°F (0°C to 49°C)

Mounting: Model NS6-220 Base mounted directly to a 4 inch octagonal or square outlet box.

SLR-24(H) Sensitivity Test Feature

The SLR-24 Photoelectric and SLR-24H Combination Detectors have a built-in automatic sensitivity test feature.

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

Typical Wiring Diagram

