

EAGLE SERIES - FIRE ALARM SYSTEMS

PHOTOELECTRIC SMOKE DETECTOR

LE-SLR-24V



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, 45µA 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 2 & 7, Inspection, Testing and Maintenance
- Compatible with SIJ-24 ionization detectors
- Backwards compatible with Lifeco SLK and SIH detectors



S24238

SPECIFICATIONS

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	45µA @ 24 VDC
Surge Current	160µA max. @ 24VDC
Alarm Current	150mA max. @ 24 VDC
Air Velocity Range	0-4000 fpm
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
Mounting	Refer to NS Conventional Detector Base Data Sheet

APPLICATION

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

LE-NS-4 Series, LE-NS-6 Series, LE-HSC-4R or LE-HSC-xxx R Style bases may be used with the LE-SLR-24V. Current interchangeable/compatible devices are the LE-SIJ-24 ionization detector, the LE-SLR-24H photoelectric detector with heat sensor, and the LE-DCD-135/190 heat detectors.

All LE-NS conventional devices are mechanically compatible with Lifeco LE-HSB, LE-HSC and LE-YBA type bases which may have been used in previous installations. Please check individual panel listings for compatible bases.



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OPERATION

The LE-SLR-24V 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 status 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 status LEDs light continuously during the alarm period.

ENGINEERING SPECIFICATIONS

The contractor shall furnish and install where indicated on the plans, Lifeco Model LE-SLR-24V 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 Lifeco SLR-24H combination photoelectric/heat detector, LE-SIJ-24 ionization type smoke detector and/or LE-DCD-135/190 fixed temperature/rate-of-rise heat detectors. The base shall be appropriate twist-lock base LE-NS-4 Series, LE-NS-6 Series, LE-HSC-4R, or LE-HSC-xxx R. In the event of partial or complete retrofit, the LE-SLR-24V maybe used in conjunction with, or as a replacement for, Lifeco detectors (LE-SLK-24, LE-SLK-24FH and the LE-SIH-24) on most LE-HSB and LE-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 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.

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ENGINEERING SPECIFICATIONS CONTD...

SLR-24V SENSITIVITY TEST FEATURE

1. The SLR-24V Photoelectric Smoke Detector has a built-in automatic sensitivity test feature.
2. In normal condition, both LED's flash green.
3. When the sensitivity drifts outside of its sensitivity limits, both LED's flash red.
4. In the alarm state both LED's are red continuously.
5. When the sensitivity drifts outside of its sensitivity limits and both LED's flash red, the device needs to be cleaned or returned
6. to the factory for cleaning. Refer to HA Technical Bulletin LE-HA-97 for cleaning information.

4 WIRE OPERATION

