

TECHNICAL DATA SHEET

For Use By Architects & Engineers



Photoelectric Smoke Detector

Part No.: LE-SOC-24V

LIFECO-227
HFC-227-EA Gas Extinguishing System



FEATURES

- Computer-designed non-directional smoke chamber
- 360° view of detector status LED
- 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, 59µA at 24VDC
- Two built-in power/sensitivity supervision/alarm LEDs
- Automatic Sensitivity window verification function meets outlined requirements in NFPA 72, Chapter 2 & 7, Inspection, Testing and Maintenance.



DESCRIPTION

The LE-SOC-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.

TECHNICAL SPECIFICATION

Part No.: LE-SOC-24V
Light Source: GaAlAs infrared emitting diode
Nominal Rated Voltage: 24 VDC
Working Voltage: 8 - 35.0 VDC
Maximum Voltage: 42 VDC
Supervisory Current: 59µA max. @ 24VDC
Surge Current: 160µA max. @ 24 VDC
Alarm Current: 150mA max @ 24 VDC
Air Velocity Range: 95% RH Non-Condensing
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 LE-NS Conventional Detector Base Data Sheet

OPERATION

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

LE-NS-4 Series, LE-NS-6 Series, LE-HSC-4R or LE-HSC-R Style bases may be used with the LE-SOC-24V.

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SENSITIVITY TEST FEATURE

The LE-SOC-24V 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 or calibration.

In line with our policy of continuous product improvement LIFECO reserves the right to modify specifications without prior notice.



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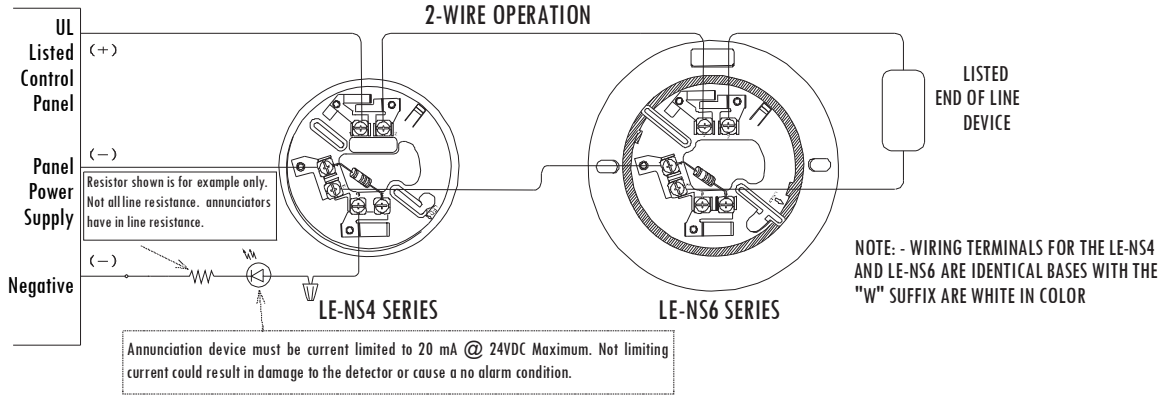
Part No.: LE-SOC-24V

LIFECO-227

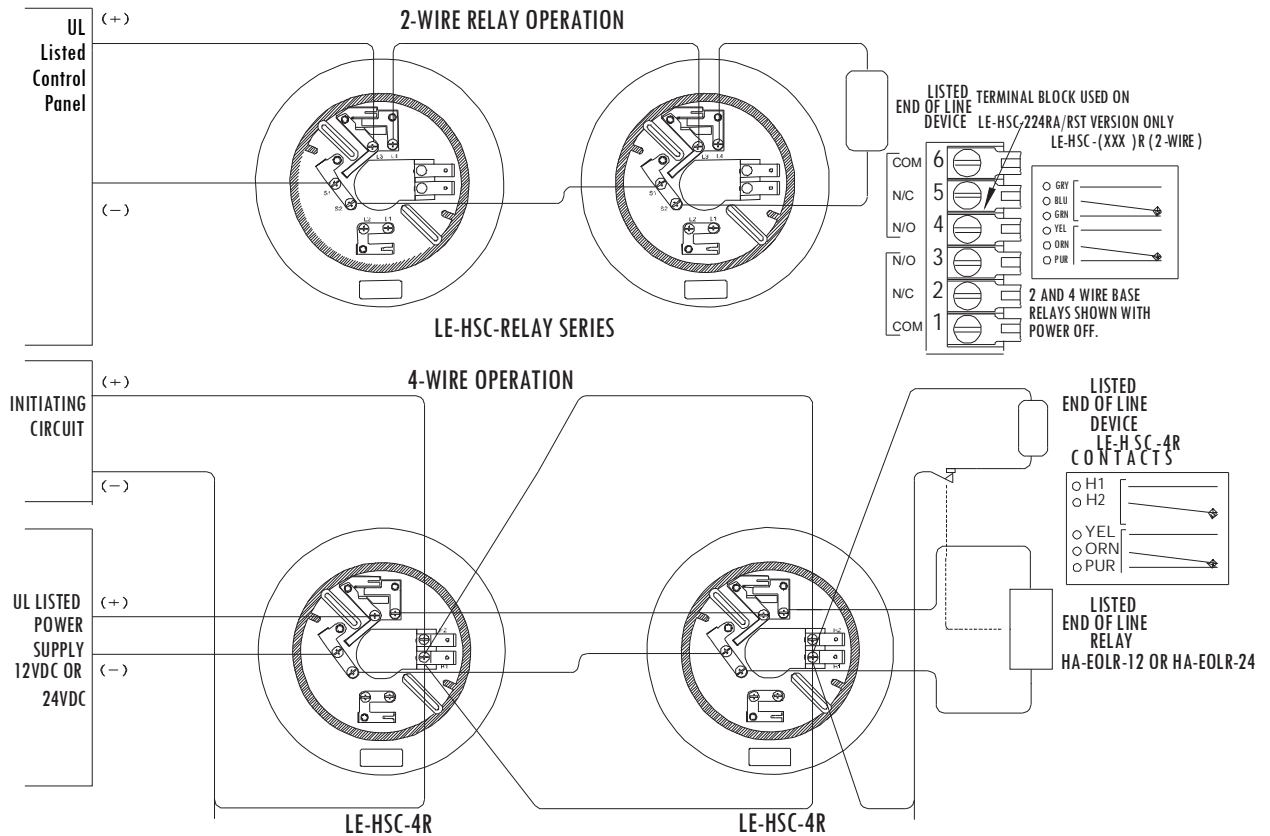
HFC-227-EA Gas Extinguishing System



WIRING DETAILS



OPTION: Available upon request.



The contractor shall furnish and install where indicated on the plans, LIFECO Model LE-SOC-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 LE-SOC-24V photoelectric smoke detector. The base shall be appropriate twistlock base LE-NS-4 Series, LE-NS-6 Series, LE-HSC-4R, or LE-HSC-R. In the event of partial or complete retrofit, the LE-SOC-24V maybe used in conjunction with, or as a replacement for, LIFECO detectors (LE-SLR-24V, LE-SLK-24 and the LE-SLR-24H) 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. 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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