

## EAGLE SERIES - FIRE ALARM SYSTEMS

### PROJECTED BEAM SMOKE DETECTOR

#### LE-SRA-24



#### FEATURES

- Detector spacing from 25ft-100ft.
- Pulsed beam to reduce overall consumption and improve the noise rejection characteristics.
- Small flat reflector.
- Automatic drift compensation.
- Fire detection sensitivity can be set to 20% or 30% obscuration.

#### SPECIFICATION

Operating Voltage	15-33Vdc
Stand-by Current	350µA at 24Vdc
Max Current In Alarm	50mA at 24Vdc
Operating Range	25ft - 100ft
Sensitivity	20% or 30%
Compensation	1% per Hr. ±50%
Reflector mounting angle	±10%
Operating Temp. Range	32°F to +100°F
Storage Temp. Range	-22°F to +158°F
Maximum Humidity	95%RH - Non condensing (at 104°F)
Color & Case Material	Ivory ABS
Size: LE-SRA-24	6" x 4.8" x 3.1"
Reflector	7.5" x 7.5" x.1"
Weight: LE-SRA-24	1.9 lbs (Including termination module)
Reflector	1.6 oz.

#### APPLICATION

Reflective Beam Detector is designed for smoke detection in large spaces such as halls, warehouse, museums, theatres etc., where conventional point detection is impractical or more costly. The unit is not suitable for applications where strong or reflected sunlight is present, in these instances the LE-SPB-24N should be considered. The unit detects smoke linearly over the protected range enabling early detection before the fire spreads. Compact design, good looks and flush mounting installation makes this unit ideal for fitting in areas where architectural considerations are important.



UL S24238



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##### GENERAL DESCRIPTION

The Photoelectric reflective beam detector consists of the LE-SRA-24 unit and a reflector, which face each other at a distance of between 25ft and 100ft. In the event of fire the smoke generated will decrease the amount of near infrared light energy on the LE-SRA-24, this decrease is electronically interpreted to identify the occurrence of fire. An important feature of the detector is that it monitors the protected space

linearly. This enables the detector to identify a fire before it spreads, even when the smoke is scattered over a large area. The fire detection sensitivity is factory set at 20% beam obscuration and it can be changed to 30% with a sensitivity switch.

The status of the unit is indicated by three LEDs which are viewed through a unique lens that allows good visibility from any viewing angle, particularly from beneath the unit. The LEDs indicate, Normal, Setup, Fault and Fire Condition, so the user can verify which unit is in alarm.

The unit indicates a fault on the zone under the following conditions:

- Compensation limit exceeded
- Total obscuration of beam
- Beam detector unit removed from zone

##### ENGINEERING SPECIFICATION

The contractor shall furnish and install, where indicated on the plans, Lifeco LE-SRA-24 Reflective Beam Detector. The detector shall have a range of 25 feet to 100 feet. The beam smoke detector shall be field adjustable to one of the two obscuration settings of 20%, or 30% per span. These settings shall be capable of being verified with calibrated filters. Side to side spacing shall be a maximum of 60 feet on center.

The reflective beam detector shall possess circuitry that automatically compensates for normal ambient changes in the intensity of the emitted beam strength. The microprocessor shall provide compensation for a change in received signal value, with time, caused by contamination of the optics. Since such a change with time appears as a slow change in the beam signal, the microcomputer compensates in such a manner that the signal moves closer to the reference data at a rate of approximately +1% per hour. When this compensating capability reaches a limit, the microcomputer automatically generates a trouble signal.

The reflective beam detector(s) shall also signal a trouble condition if the beam has a blockage of 90% for more than 20 seconds and automatically resets to normal when blockage is removed.

The reflective beam detector(s) shall be UL listed for these applications. Voltage and RF transient protection shall be integral to the internal circuitry of the reflective beam detector so as to minimize false alarm potential.

To facilitate easy installation and setup, the reflective beam detectors shall employ signal strength indicating LED's. Alignment shall be facilitated by turning an alignment adjustment screws and monitoring the relative signal strength based upon which LEDs are illuminated.

The detectors shall also illuminate a red LED, which is visible externally, when an alarm condition is indicated. The reflective beam detector shall provide a Form "A" dry contact for alarm and Form "B" dry contact for trouble.

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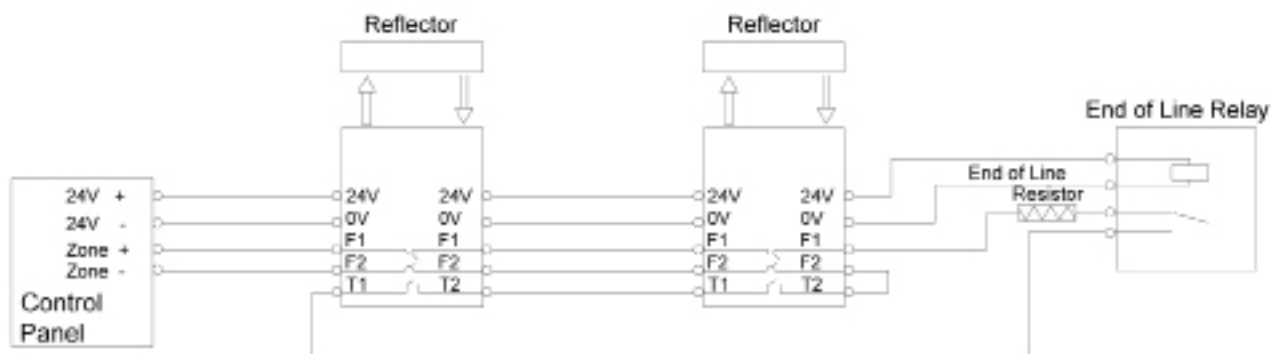
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#### INSTALLATION

The Lifeco LE-SRA-24 Reflective Beam Detector shall be installed in accordance with the Installation Instruction Guide provided with every unit. Refer to the applicable NFPA Standards for additional guidance on spacing, irregular ceiling surfaces and other design considerations.

#### TYPICAL WIRING



Note: End of line relay and trouble contacts are closed when power is applied