



GAS & SPECIALTY SENSORS

DUCT SMOKE DETECTOR

SL-2000 SERIES

DESCRIPTION

The **SL-2000 Series Duct Smoke Detectors** provide early detection of smoke and combustion products present in air moving through HVAC ducts. Air sampling is accomplished by intake sampling tubes, which are ordered separately. A standard length exhaust tube is provided with each detector. These devices are designed to prevent the recirculation of smoke in areas by the air handling systems, fans, and blowers. Complete systems may be shut down in the event of smoke detection.

OPERATION

The **SL-2000 Series** is designed to operate in duct widths from 12.0" to 10.0' (30.5 cm to 3.05m) with an air velocity from 100-4000 fpm (0.5-20.3 mps). The **SL-2000 Series** will operate on any one of four input voltages: 24 VAC, 24 VDC, 115 VAC, or 230 VAC. It uses either a photoelectric or ionization smoke detector head. Each detector contains two Form C and one Form A alarm contacts, which transfer in the event of smoke. There is also one trouble contact, which supervises the presence of input power and removal of the detector head. A manual test/reset switch and visual indicators of pilot and alarm are provided on the front of the detector. Up to 30 **SL-2000 Series** units may be wired to use a common test/reset function and to alarm simultaneously when a single unit alarms.



MEA
approved



FEATURES

- **Low-flow technology, 100-4000 fpm**
- **Universal voltage: 24 VAC, 24 VDC, 115 VAC, or 230 VAC**
- **Two Form C and one Form A alarm contacts and one trouble contact**
- **Interchangeable "plug-in" photoelectric or ionization heads**
- **Compatible with building automation and fire alarm systems**
- **Dust filtering included in detector head**
- **Interconnect up to 30 detectors for common functions**
- **Compatible with MS Series Remote Accessories**
- **Cover removal trouble indication**
- **Magnet test capability**
- **Front or rear loading sampling tubes**
- **Optional weatherproof enclosure**

SPECIFICATIONS

Power requirements 50/60 Hz (without accessories)

| |
|---|
| 24 VAC @ 55 mA standby, 190 mA alarm |
| 24 VDC @ 15 mA standby, 70 mA alarm |
| 115 VAC @ 16 mA standby, 32 mA alarm |
| 230 VAC @ 10 mA standby, 20 mA alarm |

Relay contact rating

| | |
|-----------|---------------------------------|
| Alarm (2) | SPDT, 10A, 115 VAC, resistive |
| Alarm (1) | SPST-NO, 2A, 115 VAC, resistive |

Trouble (1) SPDT, 10A, 115 VAC, resistive

Radioactive element For **SL-2000-N** only
Americium 241, 0.9 μ Ci

Air velocity 100-4000 fpm (0.5-20.3 mps)

Agency approvals

| | |
|-------------|------------------|
| UL | 268A; UROX.S2829 |
| CSFM | 3240-1004:105 |
| MEA | 73-92-E, Vol. 27 |

Ambient temperature

| | |
|------------------|---------------------------|
| SL-2000-N | 32° to 155°F (0° to 68°C) |
| SL-2000-P | 32° to 100°F (0° to 38°C) |

Humidity

Material 10% to 85% RH noncondensing
Gray plastic back box,

clear plastic cover

Mounting

7" (17.8 cm) exhaust tube, sampling
tube end cap, mounting template

and hardware supplied
4.5"H x 13.5"L x 2.25"D

(11.4 x 34.3 x 5.7 cm)
2.5 lb (1.13 kg)

Weight

Warranty

1 year

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MOUNTING

Mount the detector in an air duct using the provided template and sheet metal screws. Detector should be mounted at least six duct widths from the fan or other sources of turbulence with airflow from 100-4000 fpm (0.5-20.3 mps). The intake sampling tube has holes drilled the entire length of the tube and should extend the entire width of the duct, with the end opposite the detector capped. The holes must be facing into the airflow (see Figure 1 to the right). The exhaust tube is a piece of steel piping approximately 7" long (17.8 cm).

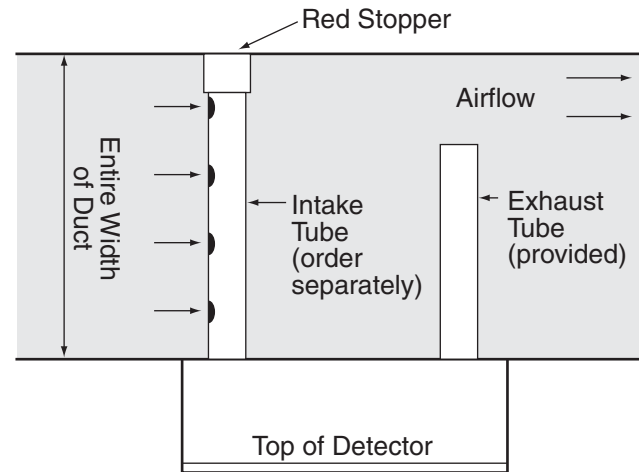
Intake Sampling Tube Lengths

| Model | Duct Width |
|----------|----------------------------|
| STN-2.5 | 1.0' to 2.5' (0.3 to 0.7m) |
| STN-5.0 | 2.5' to 5.0' (0.7 to 1.5m) |
| STN-10.0 | 5.0' to 10.0' (1.5 to 3m) |

Important

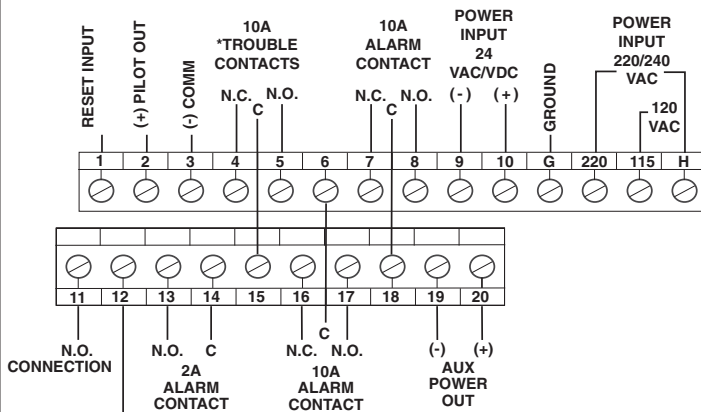
For the correct installation, testing and maintenance of a duct smoke detector, follow the instructions provided with the detector and refer to your locally enforced fire, mechanical, and/or building codes. Please also review NFPA 72 (National Fire Alarm Code) and NFPA 90A (Standard for Installation of Air Conditioning and Ventilation Systems). Your local authority having jurisdiction (AHJ) should also be consulted.

FIGURE 1. TYPICAL DUCT INSTALLATION



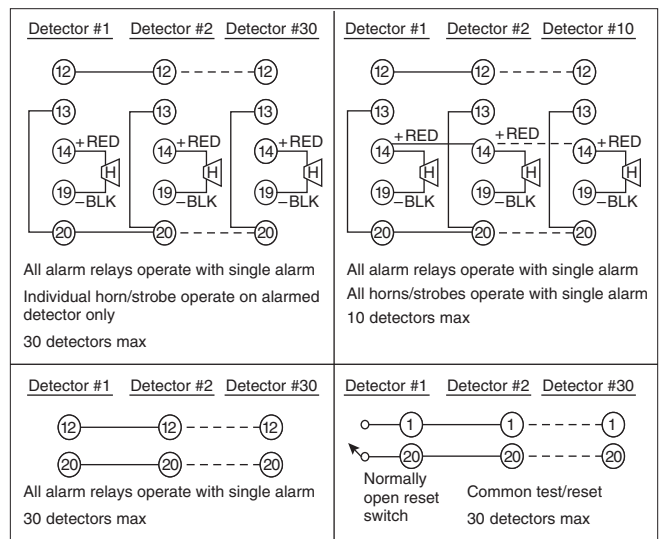
Note: Sampling tubes over 3' (0.9m) must be supported on the opposite side of the duct from the detector.

WIRING



CAUTION: For terminals (7, 8, 18), (6, 16, 17), and (13, 14) do not use looped wire under terminals. Break wire run to provide supervision of connections.

INTERCONNECTING WIRING



NOTE: When using detector interconnection functions, wire all detectors to a common power source. Use of multiple power sources for interconnected detectors may cause damage to the detectors and/or may prevent the detectors from functioning properly.

ORDERING INFORMATION

| MODEL | DESCRIPTION |
|--------------|--|
| SL-2000-N | Ionization duct smoke detector for 24 VAC, 24 VDC, 115 VAC, 230 VAC |
| SL-2000-P | Photoelectric duct smoke detector for 24 VAC, 24 VDC, 115 VAC, 230 VAC |
| STN-2.5 | Sampling tube for 1.0' to 2.5' (0.3 to 0.7m) duct widths |
| STN-5.0 | Sampling tube for 2.5' to 5.0' (0.7 to 1.5m) duct widths |
| STN-10.0 | Sampling tube for 5.0' to 10.0' (1.5 to 3m) duct widths |
| WP-2000 | NEMA type 3R enclosure 11.06" H x 18.13" W x 4.38" D (28.1 x 46.0 x 11.2 cm) |
| 55000-225APO | Replacement ionization smoke detector head only |
| 55000-350APO | Replacement photoelectric smoke detector head only |