



GAS & SPECIALTY SENSORS

DUCT SMOKE DETECTOR SL-2000 SERIES

DESCRIPTION

The **Air Products & Controls 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 6.0" to 10.0" (15.2 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.

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**



SL-2000



SPECIFICATIONS

Supply Voltage	(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	Air Velocity	100-4000 fpm (0.5-20.3 mps)
Frequency	50/60 Hz	Radioactive Element	Americium 241, 0.9 µCi
Relay Contacts	Alarm (2) SPDT, 10A, 115 VAC, resistive Alarm (1) SPST-NO, 2A, 115 VAC, resistive Trouble (1) SPDT, 10A, 115 VAC, resistive	Operating Temperature	SL-2000-N 32° to 158°F (0° to 70°C) SL-2000-P 32° to 140°F (0° to 60°C)
		Operating Humidity	10% to 85% RH non-condensing
		Enclosure Rating	NEMA 1, Gray plastic back box, clear plastic cover
		Dimensions	4.5"H x 13.5"L x 2.25"D (11.4 x 34.3 x 5.7 cm)
		Weight	3.5 lb (1.6 Kg)
		Approvals	UL File #S2829 CSFM 3240-1004;105 MEA 73-92-E, Vol 27
		Warranty	3 years



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).

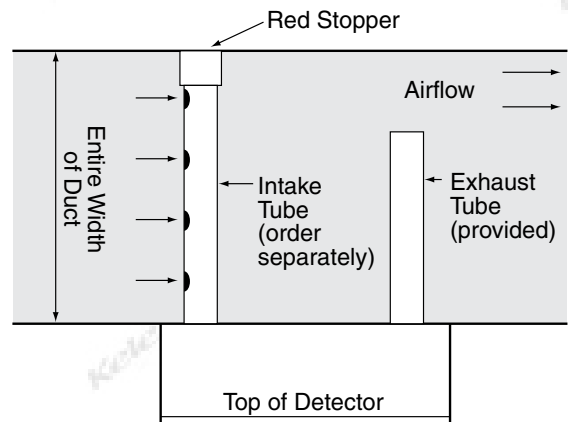
Intake Sampling Tube Lengths

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

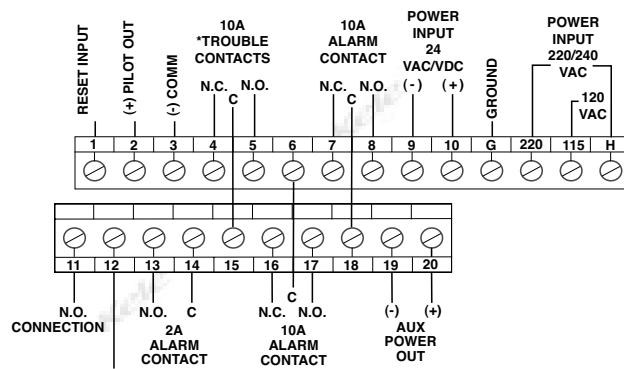
For the correct installation, testing and maintenance of a duct smoke detector, follow the instructions provided with the detector and refer to your locally enforced fire, mechanical, and/or building codes. Please also review NFPA 72 (National Fire Alarm Code) and NFPA 90A (Standard for Installation 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

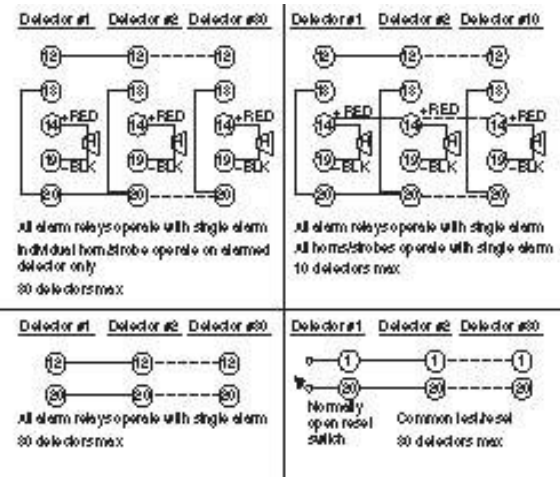


AL+ INTERCONNECT ALARM LINK

* Trouble contacts are shown in non-energized condition. Under normal operation contacts will be reversed.

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
SL-2000-N
SL-2000-P

DESCRIPTION

Ionization duct smoke detector for 24 VAC, 24 VDC, 115 VAC, 230 VAC
Photoelectric duct smoke detector for 24 VAC, 24 VDC, 115 VAC, 230 VAC

RELATED PRODUCTS

55000-225APO
55000-328APO
STN-10.0
STN-2.5
STN-5.0
TG-1000
WP-2000

Replacement ionization smoke detector head only
Replacement photoelectric smoke detector head only
Sampling tube for 5.0' to 10.0' (1.5 to 3m) duct widths
Sampling tube for 1.0' to 2.5' (0.3 to 0.7m) duct widths
Sampling tube for 2.5' to 5.0' (0.7 to 1.5m) duct widths
Aerosol test gas
NEMA type 3R enclosure 11.06"H x 18.13"W x 4.38"D (28.1 x 46.0 x 11.2 cm)

ACCESSORIES

691-K0A
DCP-1.5-W
DCPA-1.2

Control transformer, 120:24 VAC, 40 VA, Class 2
Power supply, 24 VAC IN to 24 VDC OUT
Power supply, 120 VAC IN to 24 VAC/24 VDC OUT