

Smoke Detectors for Classified Areas

U5005, U5006 Duct Mount

**APPLICATION**

The Det-Tronics U5005 Smoke Detector is a sensitive yet rugged, state-of-the-art protection device that is designed for classified areas in hazardous industrial and commercial locations. The detector is designed to operate effectively with both slow smoldering and fast burning fires. The U5005 Smoke Detector includes an external alarm indicating LED, as well as alarm, power supervision and auxiliary relays. Typical applications that use the U5005 include:

- Combustible storage facilities
- Munitions manufacturing
- Volatile chemical storage
- Chemical processing plants
- Petroleum refineries
- Turbine enclosures.

The Det-Tronics U5006 Air Duct Smoke Detector, using the technology of the U5005 Smoke Detector mounted inside a fiberglass NEMA 4X enclosure, is designed to detect the presence of smoke for the primary purpose of controlling blowers and dampers in air conditioning and ventilation systems. The unit mounts directly to heating, ventilating, and air conditioning ducts and uses a cross sectional sampling tube arrangement that allows large volume air sampling. The U5006 includes the same relay outputs as the U5005.

The detectors are intended to be connected to a control unit and function as part of a fire protection system (4-wire system, 2 wires for detector power and 2 wires for detector output).

**FEATURES**

- CSA Certified for use in Class I, Division 2, Groups A, B, C and D hazardous locations.
- Trouble-free photoelectric operation.
- Standard 4-wire 24 vdc operation.
- Designed to meet ANSI/UL 268A smoke obscuration limits.
- 600 to 4000 ft/min airflow range (duct mount model).
- Rugged design for environmental extremes.
- Self-checking circuitry ensures reliable smoke detection.
- Regulation photodiode, matched to the smoke detection circuit, adjusts output as necessary to compensate for accumulation of contaminants or environmental variations.
- Detector uses extensive filtering against RF and transient interference.
- Form A (SPST) N.O. alarm relay contacts (latching) for connection to alarm response circuitry.
- Form A (SPST) N.C. contacts for supervision of input power.
- Auxiliary Form C (SPDT) N.O./N.C. alarm relay for controlling remote annunciating devices.
- LED located on the outer surface of the housing is illuminated to provide a visual indication that an alarm condition has occurred.

SPECIFICATIONS

OPERATING VOLTAGE	20 to 28 vdc filtered supply, with less than 1.4 vpp at 60 to 120 Hz.								
OPERATING CURRENT	<table border="0" style="width: 100%;"> <tr> <td style="width: 100px;">U5005</td> <td>Standby: 10 milliamperes.</td> </tr> <tr> <td></td> <td>Alarm: 35 milliamperes.</td> </tr> <tr> <td>U5006</td> <td>Standby: 10 milliamperes.</td> </tr> <tr> <td></td> <td>Alarm: 50 milliamperes.</td> </tr> </table>	U5005	Standby: 10 milliamperes.		Alarm: 35 milliamperes.	U5006	Standby: 10 milliamperes.		Alarm: 50 milliamperes.
U5005	Standby: 10 milliamperes.								
	Alarm: 35 milliamperes.								
U5006	Standby: 10 milliamperes.								
	Alarm: 50 milliamperes.								
TEMPERATURE RANGE	<table border="0" style="width: 100%;"> <tr> <td style="width: 100px;">Operating:</td> <td>-13°F to +140°F (-25°C to +60°C).</td> </tr> <tr> <td>Storage:</td> <td>-67°F to +185°F (-55°C to +85°C).</td> </tr> </table>	Operating:	-13°F to +140°F (-25°C to +60°C).	Storage:	-67°F to +185°F (-55°C to +85°C).				
Operating:	-13°F to +140°F (-25°C to +60°C).								
Storage:	-67°F to +185°F (-55°C to +85°C).								
HUMIDITY RANGE (U5006 ONLY)	0 to 90% RH non-condensing.								
AIR VELOCITY RANGE (U5006 ONLY)	600 to 4000 ft/min.								
SENSITIVITY RANGE (U5006)	<p>Meets ANSI/UL268A visible smoke obscuration limits:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 100px;">Grey smoke:</td> <td>7.0% / ft maximum, 0.5% / ft minimum</td> </tr> <tr> <td>Black smoke:</td> <td>10.0% / ft maximum, 0.5% / ft minimum.</td> </tr> </table>	Grey smoke:	7.0% / ft maximum, 0.5% / ft minimum	Black smoke:	10.0% / ft maximum, 0.5% / ft minimum.				
Grey smoke:	7.0% / ft maximum, 0.5% / ft minimum								
Black smoke:	10.0% / ft maximum, 0.5% / ft minimum.								
SENSITIVITY RANGE (U5005)	2.3% obscuration.								
ALARM AND SUPERVISORY RELAY CONTACT RATING	1.0 ampere at 30 vdc, SPST.								
AUXILIARY ALARM RELAY CONTACT RATING	2.0 amperes at 30 vdc, Form C, SPDT.								
FIBERGLASS ENCLOSURE (U5006 ONLY)	NEMA 4X. Cover is clear polycarbonate with closed cell neoprene gasket supplied with stainless steel screws.								
CERTIFICATION	CSA Certified for Class I, Division 2, Groups A, B, C & D Hazardous Locations.								

WEIGHT	<table border="0" style="width: 100%;"> <tr> <td style="width: 100px;">U5005:</td> <td>2 pounds (0.91 kilogram).</td> </tr> <tr> <td>U5006:</td> <td>13 pounds (5.9 kilograms).</td> </tr> </table>	U5005:	2 pounds (0.91 kilogram).	U5006:	13 pounds (5.9 kilograms).
U5005:	2 pounds (0.91 kilogram).				
U5006:	13 pounds (5.9 kilograms).				
DIMENSIONS	<table border="0" style="width: 100%;"> <tr> <td style="width: 100px;">U5005:</td> <td>L = 14.4 inches (36.6 cm) W = 5.3 inches (13.5 cm) D = 3.8 inches (9.7 cm).</td> </tr> <tr> <td>U5006:</td> <td>L = 14.75 inches (37.5 cm) W = 11.6 inches (29.5 cm) D = 6.1 inches (15.5 cm).</td> </tr> </table>	U5005:	L = 14.4 inches (36.6 cm) W = 5.3 inches (13.5 cm) D = 3.8 inches (9.7 cm).	U5006:	L = 14.75 inches (37.5 cm) W = 11.6 inches (29.5 cm) D = 6.1 inches (15.5 cm).
U5005:	L = 14.4 inches (36.6 cm) W = 5.3 inches (13.5 cm) D = 3.8 inches (9.7 cm).				
U5006:	L = 14.75 inches (37.5 cm) W = 11.6 inches (29.5 cm) D = 6.1 inches (15.5 cm).				
SAMPLING TUBES (U5006 ONLY)	<table border="0" style="width: 100%;"> <tr> <td style="width: 100px;">Material:</td> <td>Galvanized steel tubing 3/4 inch EMT, length to be specified by customer (1, 3, 6, or 10 feet).</td> </tr> <tr> <td>Return tube:</td> <td>12 inch standard length sampling tube.</td> </tr> </table>	Material:	Galvanized steel tubing 3/4 inch EMT, length to be specified by customer (1, 3, 6, or 10 feet).	Return tube:	12 inch standard length sampling tube.
Material:	Galvanized steel tubing 3/4 inch EMT, length to be specified by customer (1, 3, 6, or 10 feet).				
Return tube:	12 inch standard length sampling tube.				

ORDERING INFORMATION When ordering, please specify:

U5005 Smoke Detector
U5006 Air Duct Smoke Detector

When ordering the U5006, specify the air duct sampling tube length required.

The air duct sampling tube provides a cross sectional sampling of air moving through the duct and is available in four lengths. The air duct sampling tube should cover the entire width of the duct, therefore, specify the shortest sampling tube that is at least the width of the duct to be protected. It can then be cut to the exact length at the job site.

Available duct sampling tube sizes:

Description	Model	Part Number
1 foot length	ST- 1	004783-001
3 foot length	ST- 3	004783-002
6 foot length	ST- 6	004783-003
10 foot length	ST- 10	004783-004



Detector Electronics Corporation

6901 West 110th Street • Minneapolis, Minnesota 55438 USA

Operator: (952) 941-5665 or (800) 765-FIRE

Customer Service: (952) 946-6491 • Fax (952) 829-8750

http://www.det-tronics.com • E-mail: detronics@detronics.com

Specifications subject to change without notice.