DET-TRONICS

SPECIFICATION DATA

Det-Tronics® ClearView 3D™ Explosion Proof Smoke Detector Model U5015



DESCRIPTION

The Det-Tronics ClearView 3D™ U5015 Explosion Proof Smoke Detector has Division and Zone explosion-proof ratings and is suitable for industrial and commercial applications. The ClearView 3D smoke detector is designed to operate effectively with smoldering and rapidly growing fires and contains the ability to annunciate fault ensuring no undisclosed failures. The U5015 Smoke Detector outputs include 0-20 mA, a localized LED, and relays.

Typical applications that use the U5015 include:

- Combustible storage facilities
- Munitions manufacturing
- Volatile chemical storage
- Chemical processing plants
- Petroleum refineries
- Turbine enclosures
- Battery rooms
- HVAC applications

The hot-swappable sensor module is intrinsically safe and allows live maintenance while under power, without de-classifying the hazardous area. The integrated junction box is available in 2 or 4 port configurations for simplified wiring and installation. See Figure 1 for all the U5015 Smoke Detector components.

HIGHLIGHTS

U5015 TECHNOLOGY FEATURES

- FM Approved for use in Class I, Division 1, and Zone 1 hazardous locations
- FM Approved for smoke detection performance
- IECEx Zone approved
- Trouble-free photoelectric operation
- 0-20 mA output for DCS integration
- Self-checking circuitry ensures reliable smoke detection
- Alarm, Auxiliary, and Fault relays for controlling annunciating devices or fire panel interface
- LED provides a visual indication that an alarm has occurred
- IP44 ingress protection level suitable for onshore or offshore requirements

BENEFITS

- Ideally suited for classified areas in the petrochemical, oil, and gas industry
- DCS, PLC, integration with milliamp, or relay outputs
- Rugged design for environmental extremes
- Visual confirmation of detector alarm
- Detects smoldering fires
- No undisclosed failures
- Able to mount on exterior of duct

SPECIFICATIONS

Operating Voltage	12-30 Vdc (24 Vdc nominal).
Power Consumption	3.5 watts maximum (2.75 watts at 24 Vdc).
Output Relays	Smoke alarm relay, Form C, 5 amperes at 30 Vdc: The smoke alarm relay has normally open/normally closed contacts and normally de-energized operation. Fault relay, Form A, 5 amperes at 30 Vdc: The fault relay has normally open contacts and normally energized operation. Auxiliary relay, Form C, 5 amperes at 30 Vdc: The auxiliary relay has normally open/normally closed contacts and normally de-energized operation.
Temperature Range	Operating: –20°C to +65°C (–4°F to +149°F) Storage: –55°C to +70°C (–67°F to +158°F).
Humidity Range	5 to 95% relative humidity.
Ingress Protection	IP44 (Applicable to ceiling mount only).
Current Output	0-20 mA (±0.3 mA) dc current, with maximum loop resistance of 300 ohms from 12-17.9 Vdc, 500 ohms from 18 to 19.9 Vdc, and 600 ohms from 20-30 Vdc.
Terminals	UL/CSA rated for 14-18 AWG or 2.5-0.75 mm^2 wire.
Thread Options	3/4 inch NPT or M25 2-port and 4-port models available.
Enclosure Material	Polycarbonate / ABS - Smoke Detector Copper-free aluminum (painted) - Junction Box.
Shipping Weight (Approximate)	7.85 lbs (3.56 kg).
Warranty Period	1 year.
Product Life:	10 years based on manufacturer's data.
Dimensions	See Figure 2.

Certification

FM APPROVED

Class 1 Div 1 Groups B, C, D (T4)
Class 1 Div 2 Groups A, B, C, D (T4)
Class 1 Zone 1 AEX db ia IIC (T4 Gb)
Tamb –20°C to +65°C
IP44.

IEC IECEx

IECEx FMG15.0014X
Ex db ia IIC T4 Gb
Tamb –20°C to +65°C
IP44.

Class - C481804 - Signal Appliances - Systems - For Hazardous Locations
Ex db ia IIC T4 IP44
Tamb –20°C to +65°C



Figure 1—U5015 Components



Figure 2—U5015 Dimensions in Inches (cm)

Specifications subject to change without notice.

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Det-Tronics manufacturing system is certified to ISO 9001—the world's most recognized quality management standard.

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Adaptive Industrial Solutions
Phone: (877) 818-5009
sales@adaptiveind.com
www.adaptiveind.com