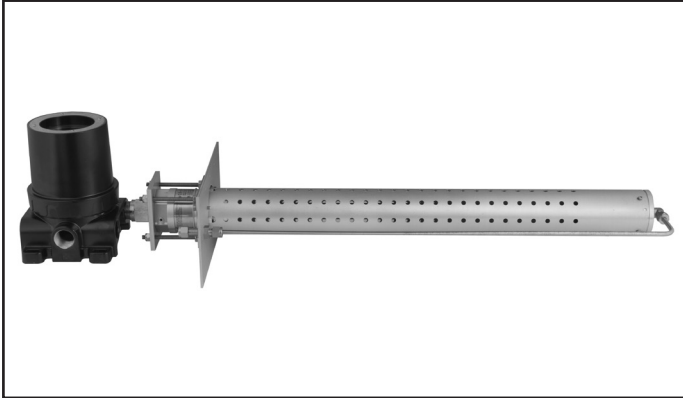


DuctWatch Gas Detector/Monitor Model PIRDUCT



DESCRIPTION

The Model PIRDUCT DuctWatch is an infrared (IR) based flammable gas detection solution, designed for combustion turbine enclosure monitoring and similar air handling ductwork applications. The PIRDUCT is easy to install and commission, and does not require expensive extractive sampling system hardware. Providing a full scale measurement range of 0 to 15% LFL (0 to 7500 ppm) methane vapor concentration, the PIRDUCT delivers a new level of flammable hydrocarbon gas protection for high airflow environments.

The PIRDUCT assembly is designed for mounting on any flat surface, and is provided pre-assembled with an aluminum mounting plate, seal gasket, and electrical termination junction box. A minimum internal duct width of 3 feet (1 meter) is required for proper installation.

FEATURES AND BENEFITS

- In-situ design improves gas response time and simplifies installation.
- Continuous self-test automatically indicates a fault or fouled optics condition.
- Field calibration not required, but supported.
- Standard 4-20 mA signal output is proportional to 0 to 15% LFL (0-7500 ppm) methane.
- Global approvals (FM, CSA, ATEX, CE, IECEx).

SPECIFICATIONS

| | | | | |
|--------------------------------------|---|--------|--------|--------|
| Input Voltage | 24 Vdc nominal. Operating range is 18 to 32 Vdc. Ripple must not exceed 0.5 volts peak-to-peak. | | | |
| Power Consumption (Watts) | Input Voltage: | 18 Vdc | 24 Vdc | 32 Vdc |
| | Nominal | 3.5 | 4.6 | 6.2 |
| | Maximum | 4.0 | 5.5 | 7.0 |
| Detection Range | 0 to 15% LFL methane (0-7500 ppm). | | | |
| Detectable Gases | Will respond to most hydrocarbon gases. Outputs linearized for 0 to 15% LFL methane. | | | |
| Current Output (Non-Isolated) | Linear 4 to 20 mA current source. 4 to 20 mA output indicates 0 to 15% LFL detection range (linearized for methane). 23.2 mA indicates over-range condition. 0 to 2.4 mA levels indicate calibration, fault and fouled optics conditions. Maximum loop resistance: 580 ohms at +24 Vdc. | | | |
| Accuracy (Room Temperature) | ±0.5% LFL from 0 to 7.5% LFL, ±0.75% LFL from 7.5 to 15% LFL. | | | |
| Response Time | With Hydrophobic screen: T50 within 8 seconds, T90 within 15 seconds. Without Hydrophobic screen: T50 within 6 seconds, T90 within 12 seconds. | | | |
| Stability (Temperature) | Zero: ±0.3% LFL from -40°F to +167°F (-40°C to +75°C). Span: ±0.75% LFL at 50% of full scale from -13°F to +167°F (-25°C to +75°C), ±1.5% LFL at 50% of full scale from -40°F to -13°F (-40°C to -25°C). | | | |
| Temperature Range | Operating: (-40°F to +167°F) -40°C to +75°C. Storage: (-67°F to +185°F) -55°C to +85°C. | | | |
| Humidity (Non-Condensing) | 0 to 99% relative humidity (Det-Tronics verified). 5 to 95% relative humidity (FM/CSA verified). | | | |
| RFI/EMI Protection | EN61000-6-4. Class B, EN50270. Operates properly with 5 watt walkie talkie keyed at 1 meter. | | | |
| Ingress Protection | IP66 (DEMKO certified per EN60529). | | | |
| Enclosure Materials | Weather Protection Baffles: Aluminum. Electronics Assembly: E-coated Aluminum. Aluminum (clear anodized) content: 0.8% to 1.2% Mg, 0.15% to 0.40% CU. | | | |
| Dimensions | See Figure 2. | | | |
| Shipping Weight | 7.5 pounds (3.4 kilograms). | | | |

Certification



FM / CSA:

Class I, Div. 1, Groups B, C & D (T5).
Class I, Div. 2, Groups A, B, C & D (T3C).
Performance verified to:
ANSI/ISA 12.13.01-2000.



ATEX:

CE 0539 II 2 G
Ex d IIB+H₂ T4-T6
EN60079-29-1
DEMKO 09 ATEX 147623X
T6 (Tamb = -55°C to +50°C)
T5 (Tamb = -55°C to +60°C)
T4 (Tamb = -55°C to +75°C)
IP66.

EN Standards:

EN 60079-0: 2006
EN 60079-1: 2007
EN 60079-29-1: 2007
EN 60529: 1991+A1: 2000
EN 50270: 2006.



IECEx:

IECEx ULD 10.0019X
Ex d IIB+H₂ T4-T6
T6 (Tamb = -55°C to +50°C)
T5 (Tamb = -55°C to +60°C)
T4 (Tamb = -55°C to +75°C)
IP66.

IEC Standards:

IEC 60079-0: 2004
IEC 60079-1: 2007
IEC 600529: 2001.

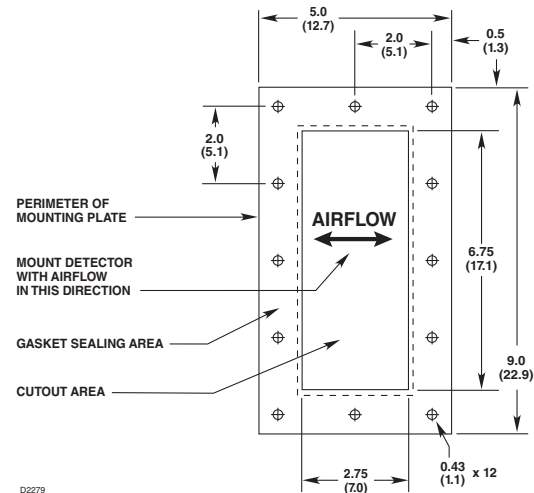


Figure 1—Dimensions of PIRDUCT Mounting Plate in Inches (cm)

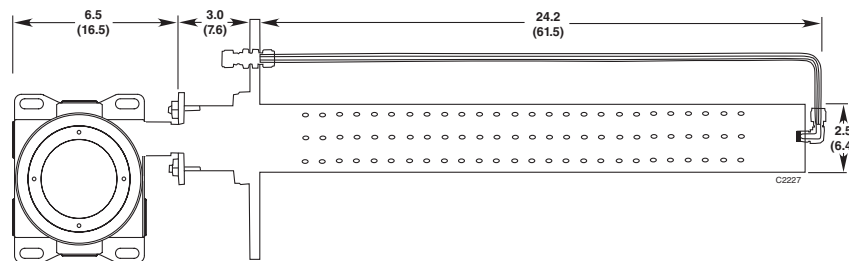


Figure 2—Dimensions of PIRDUCT Detector in Inches (cm)

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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