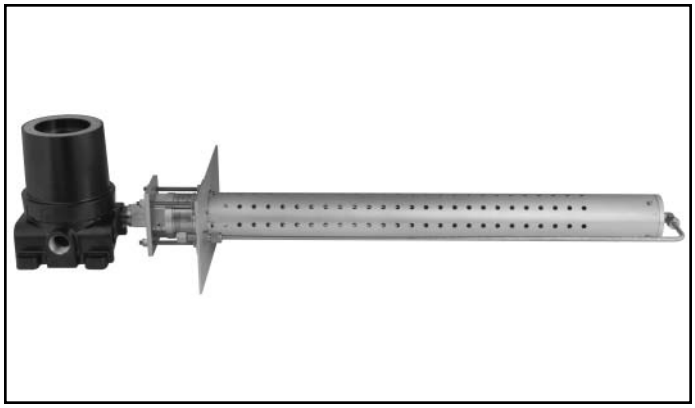
DET-TRONICS®

A UTC Fire & Security Company

SPECIFICATION DATA

DuctWatch™ Gas Monitor

Model PIRDUCT



DESCRIPTION

The Model PIRDUCT DuctWatch™ is an infrared (IR) based flammable gas monitoring solution designed for air handling ductwork and combustion turbine enclosure applications. The PIRDUCT is easy to install and does not require expensive extractive sampling system hardware. With a full scale measurement range of **0-15 %LFL (0-7500 ppm) methane vapor concentration**, the PIRDUCT delivers a new level of protection as recommended in new combustion turbine safety guidance notes, and provides exceptionally fast sensing and measurement of low concentration methane vapors. This product is designed specifically for installation within gas turbine compartments or other high airflow environments.

The PIRDUCT is compatible for mounting on any flat, solid surface, and is provided with a holding fixture/mounting plate with a seal gasket to prevent air leakage. A minimum internal duct width of 3 feet (1 meter) is required for proper instrument clearance and installation. The PIRDUCT is furnished with a Det-Tronics wiring termination box to ensure ease of wiring and calibration.

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 is proportional to 0 to 15% LFL methane concentration.
- Global approvals (FM, CSA, CENELEC/ATEX, CE).

SPECIFICATIONS

Input Voltage
24 Vdc nominal. Operating range is 18 to 32 Vdc including ripple.

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
Responds to most hydrocarbon gases. Output signal 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
T50 within 10 seconds;
T90 within 30 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).

Stability (Time)
(10 months) ±2% LFL (Det-Tronics verified).

Repeatability (Room Temperature)
Zero: ±1% LFL.
Span: ±2% LFL at 7.5% LFL.
(Det-Tronics verified)

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).

Ingress Protection
IP66 (DEMKO certified per EN60529).

RFI/EMI Protection
EN50081-1. Class B, EN50270.
Operates properly with 5 watt walkie talkie keyed at 1 meter.

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.

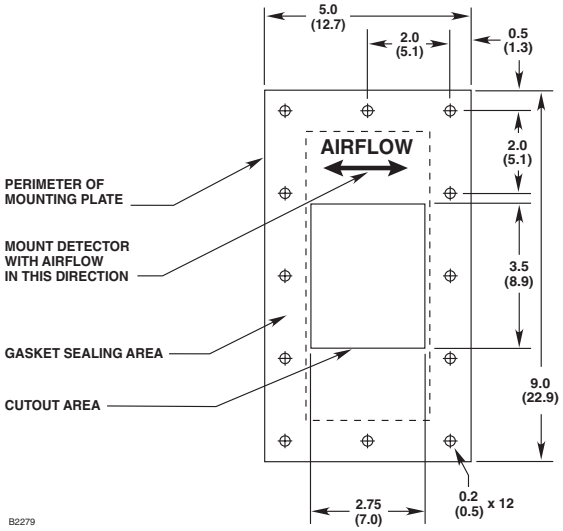
Certification

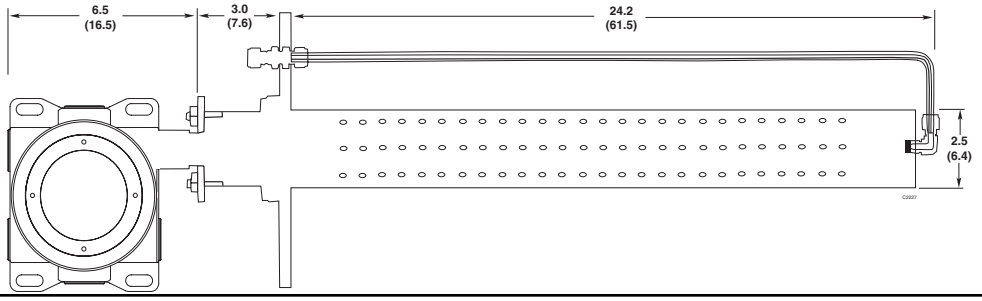
FM:
Class I, Div. 1, Groups B, C & D (T5).
Class I, Div. 2, Groups A, B, C & D (T3C).
Performance verified.

CSA:
Class I, Div. 1, Groups B, C & D (T5).
Class I, Div. 2, Groups A, B, C & D (T3C).
Performance verified.

CENELEC/CE:
CE 0539 Ex II 2 G
EEx d IIB +H_2 T4-T6
DEMKO 03 ATEX 136208X
T6 (T_{amb} = –55°C to +50°C)
T5 (T_{amb} = –55°C to +60°C)
T4 (T_{amb} = –55°C to +75°C)
IP66.

Dimensions
Dimensions in Inches (cm).





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