PointWatch™ Infrared
Hydrocarbon Gas Detector
Model PIR9400

DESCRIPTION

YEAR
5
WARRANTY

The PointWatch™ detector is a diffusion-based point-type infrared gas detector approved to provide continuous monitoring of methane gas concentrations in the range of 0 to 100% LFL. The detector provides a 4-20 mA output signal, corresponding to the detected gas concentration. The detector has Division and Zone explosion-proof ratings and is suitable for use in indoor and outdoor applications.

PointWatch is ideally suited for use in harsh environments and where the cost of required maintenance for conventional catalytic detectors is prohibitive. The PointWatch IR detector will perform reliably in the presence of silicone and other catalytic poisoning agents and can also operate in oxygen free environments or where high background gas levels are present. There are no known poisons that affect this technology.

The PointWatch detector is globally certified for use in Class 1, Divisions 1 and 2, and Zones 1 and 2 hazardous areas. It is also approved as a stand alone gas detector, and complies with global approvals when connected to a stand-alone approved controller for life safety. The approved Det-Tronics controllers are the FlexVu® UD10, Infiniti® U9500, R8471, and Eagle Quantum Premier® (EQP).

HIGHLIGHTS

▲ Compliance to ANSI/ISA 12.13.01-2000 performance standard.

▲ Requires no routine calibration to ensure proper operation.

▲ Fail-safe operation.

▲ Continuous self-test automatically indicates a fault or fouled optics condition.

▲ Unique multi-layered filtering system protects optics from dirt and water ingress.

▲ Internal heating system minimizes condensation, allowing reliable operation through temperature extremes.

▲ There are no known poisons, e.g. silicones or hydrides, that compromise the integrity of the measurement.

▲ Performs well in the presence of high concentrations or constant background levels of hydrocarbons, and in oxygen depleted atmospheres.

▲ Standard 4–20 mA output (current source).

▲ 0-2.4 mA indicates a calibration or fault condition.

▲ Compact, lightweight, explosion-proof housing is designed for duty in harsh environments.

▲ Standard 0 to 100% LFL detection range.

Input Voltage — 24 Vdc nominal. Operating range is 18 to 30 Vdc.

Power Consumption (Watts)

Input Voltage:	18 Vdc	24 Vdc	30 Vdc
Nominal	3.5	4.6	6.2
Maximum	4.0	5.5	7.0

Detection Range — 0 to 100% LFL.

Gases — The Model PIR9400 Detector is approved to Methane, but most flammable hydrocarbon vapors (ethane, ethylene, propane, butane, and propylene) are also detectable.

Current Output
- Linear 0 to 20 mA current source
- 4 to 20 mA output indicates 0 to 100% LFL detection range (for linearized gases)
- 23.2 mA indicates over-range condition
- 0 to 2.4 mA levels indicate calibration, fault and fouled optics conditions.

Accuracy (Room Temperature) — ±3% LFL from 0 to 50% LFL, ±5% LFL from 51% to 100% LFL.

Response Time (seconds)

	T50	T90
Multilayered aluminum weather baffle		
With hydrophobic screen	7.0	14.4
Without hydrophobic screen	5.0	10.0
Polyphthalamide (PPA) weather baffle		
With hydrophobic screen	6.0	16.0
Without hydrophobic screen	2.0	3.0

Stability (Temp)
- Zero: ±2% LFL from −40°C to +75°C (−40°F to +167°F).
- Span: ±5% LFL at 50% LFL from −25°C to +75°C (−13°F to +167°F).
  - ±10% LFL at 50% LFL from −40°C to −25°C (−40°F to −13°F).

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

Repeatability (Room Temperature)
- Zero: ±1% LFL.
- Span: ±2% LFL at 50% LFL (Det-Tronics verified).

Wiring — Five 22 AWG wires, 20.0 inches (50.8 cm) long.

Temperature Range
- Operating: −40°C to +75°C (−40°F to +167°F).
- Storage: −67°C to +85°C (−55°F to +185°F).

Humidity (non-condensing) — 0 to 99% relative humidity (Det-Tronics verified) 5 to 95% relative humidity (FM/CSA verified)

RFI/EMI Protection — Operates properly with 5.0 watt walkie-talkie keyed at 1 meter.

Ingress Protection — IP66

Enclosure Materials — Aluminum (clear anodized) enclosure and weather protection baffles. Content: 0.8% to 1.2% Mg, 0.15% to 0.40% Cu.

Stainless Steel (316 electropolished) enclosure, polyphthalamide (PPA) weather protection baffle.

Shipping Weight
- AL: 2.0 lbs. (0.95 kg)
- SS: 4.0 lbs. (1.8 kg).

Dimensions — See Figures 1 and 2.

Certification

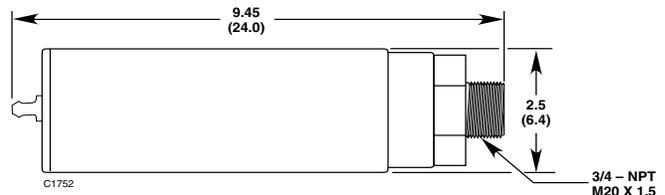|	
FM / CSA:	Class I, Div. 1, Groups B, C & D (T5) Class I, Div. 2, Groups A, B, C & D (T3C) Performance per FM 6310/6320 & CSA 22.2 #152.
ATEX:	CE 0539 Ex II 2 G Ex d IIB+H$_2$ T4-T6 Gb DEMKO 09 ATEX 147301X T6 (T$_{amb}$ −55°C to +50°C) T5 (T$_{amb}$ −55°C to +60°C) T4 (T$_{amb}$ −55°C to +75°C) IP66.
EN Standards:	EN 60079-0: 2009 EN 60079-1: 2007 EN 60529-1991+A1: 2000 EN 60079-29-1: 2007.
IECEx:	IECEx ULD 10.0017X Ex d IIB+H$_2$ T4-T6 Gb 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.
GOST–R:	GOST R Certificate of Compliance
VNIIFTRI:	Pattern Approval Certificate of Measuring Instruments.
INMETRO:	CEPEL 97.0059X Ex d IIB+H$_2$ T6 Gb IP66 T6 (T$_{amb}$ −55°C to +50°C) T5 (T$_{amb}$ −55°C to +60°C) T4 (T$_{amb}$ −55°C to +75°C)

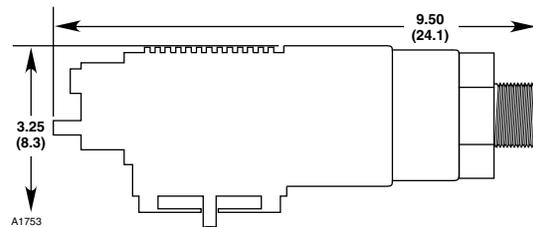Figure 1—Alumimum PointWatch Unit Dimensions in Inches (cm)

Figure 2—Stainless Steel PointWatch Unit Dimensions in Inches (cm)