

Process Gas Monitor
100% Methane by Volume Full Scale
PIRVOL

**DESCRIPTION**

PIRVOL is a diffusion-based point-type infrared process monitor that provides continuous monitoring of methane gas in the range of 0 to 90% by volume. Its output is a 4 to 20 milliamperes dc signal, and is factory calibrated to methane gas. The PIRVOL is intended for use in extractive sampling systems where hydrocarbon gas levels are likely to be above the Lower Flammable Limit (LFL).

PIRVOL is ideally suited for use in oil/gas wellhead mud logging applications, where the maintenance costs for conventional catalytic detectors is prohibitive. The PIRVOL detector will perform reliably in oxygen free environments or where high background gas levels are present. There are no known poisons that affect this technology.

PIRVOL is CSA Certified for Class I, Division 1, Groups B, C and D, and Class I, Division 2, Groups A, B, C and D (T3C) hazardous areas.

**FEATURES AND BENEFITS****IR TECHNOLOGY BENEFITS**

- Routine calibration not required.
- Continuous self-test automatically indicates a fault or fouled optics condition.
- Performs well in the presence of high concentrations or constant background levels of hydrocarbons and in oxygen depleted atmospheres.
- There are no known poisons, e.g. silicones or hydrides, that compromise the integrity of the measurement.
- Analog 4 to 23 milliamperes signal output (current source).
- Compact, lightweight, explosion-proof housing.
- Hydrophobic screen provides superior optics protection.

UNIQUE DESIGN

- Compact and lightweight.
- Built to withstand harsh environments.
- Optics heated to prevent condensation.
- Factory calibrated.

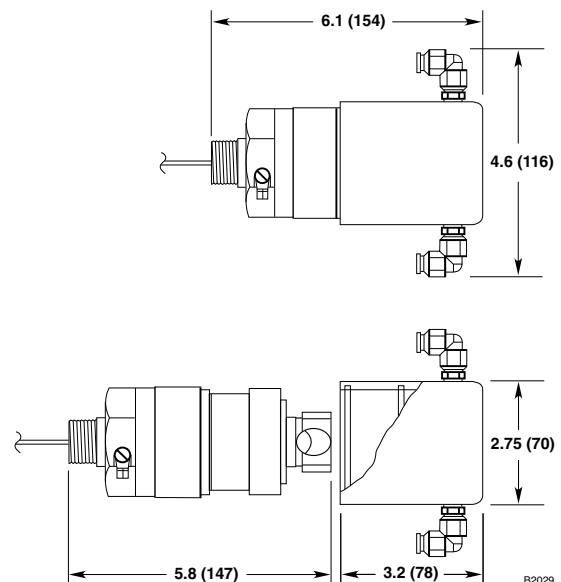
SPECIFICATIONS

Input Voltage	24 vdc nominal. Operating range is 18 to 32 vdc including ripple.
Power Consumption	5 watts nominal, 7 watts maximum.
Detection Range	0 to 100% by volume methane.
Current Output	Linear 0 to 23 ma current source (non-isolated). 4 to 20 ma output indicates 0 to 90% by volume. 20 to 23 ma output indicates 90 to 100% by volume. 0 to 2.4 ma levels indicate calibration, fault and fouled optics conditions.
Detectable Gases	PIRVOL is intended for methane monitoring only. However, it will respond to most hydrocarbon gases.
Accuracy	±3% of full scale @ 25°C.
Stability (Time)	(12 months) ±2% by volume.
Repeatability	Zero: ±1% by volume. Span: ±2% at 50% by volume.
Temperature Range	Operating: (−40°F to +167°F) −40°C to +75°C. Storage: (−40°F to +185°F) −40°C to +85°C.
Humidity	0 to 99% relative humidity (non-condensing). Sample stream condensation control recommended.
Ingress Protection	IP66.
Wiring	Five 22 AWG wires, 20 inches (50 cm) long.
RFI/EMI Protection	EN50081-1. Class B, EN50082-1 (IEC 801-2, 3, 4). Operates properly with 5 watt walkie talkie keyed at 1 meter.

Certification	CSA: Class I, Div. 1, Groups B, C and D; Class I, Div. 2, Groups A, B, C and D (T3C). CE: Conforms to relevant European norms.
Enclosure Materials	Copper-free aluminum (clear anodized) enclosure. Stainless Steel (316 electropolished) enclosure.
Sample Draw Cup	Material: Aluminum. Fittings: Brass. Tubing Size: 1/4 inch O.D.
Junction Boxes	Det-Tronics junction box, available in a tall cover (with window) or a short cover version, is recommended for optimum ease of installation. PIRVOL can be threaded into any approved junction box suitable for the specific application. Junction box thread options: • 3/4 inch NPT • M 20.
Junction Box Terminals	UL/CSA rated for 14 to 22 AWG wire; DIN/VDE rated for 2.5 mm ² wire.

Shipping Weight (Approximate)	Aluminum: 1.9 pounds (0.9 kilogram). Stainless Steel: 5.0 pounds (2.3 kilograms).
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Dimensions	Dimensions in Inches (mm).
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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: dettronics@dettronics.com

Specifications subject to change without notice.