▲ DET-TRONICS ®

A UTC Fire & Security Company

Infrared Hydrocarbon Gas Detector

PointWatch Eclipse®

Model PIRECL

DESCRIPTION

The Pointwatch Eclipse® Model PIRECL is a diffusion-based, infrared combustible gas detector that provides continuous, fixed monitoring of flammable hydrocarbon gases from 0 to 100% Lower Flammable Limit (LFL). Standard device outputs include an electrically isolated 4 to 20 mA signal with HART communication protocol, and RS-485 serial communication. Serial communication protocols supported include MODBUS and ASCII.

YEAR

5

WARRANTY

Ideally suited for protection of challenging on/offshore oil and gas facilities and other downstream hydrocarbon applications, the PointWatch Eclipse is globally certified for use in Class I, Divisions 1 and 2, and Zones 1 and 2 hazardous areas. In addition, the stainless steel construction, sapphire optics, and modular design all combine to deliver industrial grade hardness along with easy installation and the lowest cost of ownership available.

The PointWatch Eclipse is capable of detecting hundreds of flammable hydrocarbon vapors. Field-selectable algorithms are provided for methane (default), ethane, propane, butane, ethylene, and propylene. Numerous additional operating parameters are programmable via digital communications or the optional hand-held communicator.
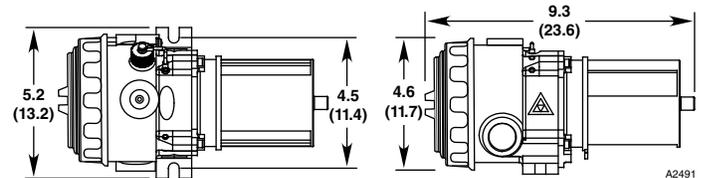
FEATURES AND BENEFITS

- Superior optics protection system.

- No undisclosed failure modes.

- Routine calibration not required.

- Explosion-proof, stainless steel housing with tethered weather protection baffle.

- Integral wiring compartment eliminates need for external junction boxes.

- Built-in tri-color LED eliminates need for external display module.

- Built-in optional relay package eliminates need for external relay output module.

- EQP models available.

- Non-interfering HART communication capability.

- Optional hand-held HART communicator enables field configuration and calibration.

- Heated sapphire optics deliver long-lasting, high performance detection capability.

- Immune to damage from exposure to constant background gases or to high gas concentrations.

- FM, CSA, ATEX, CE, and IECEx certifications.

- Gas performance verification by FM/CSA/DEMKO.

Input Voltage — 24 Vdc nominal. Operating range is 18 to 32 Vdc. Ripple cannot exceed 0.5 volt P-P.

Power Consumption — 4.0 watts nominal @ 24 Vdc
7.5 watts maximum @ 24 Vdc
10 watts maximum @ 32 Vdc.

Short Circuit Current —
Isc: 5.4 amperes.
Isc (fuse): 3.1 amperes.
Power Supply Max Voltage: Um = 250V.

Warmup Time — Two minutes from cold power-up to normal mode; 1 hour minimum recommended.

Current Output — Linear 4-20 mA (current source/sink, isolated/non-isolated) rated at 600 ohms maximum loop resistance @ 24 Vdc operating voltage.

Detection Range — 0 to 100% LFL standard. Other ranges are configurable.

Detectable Gases — Most flammable hydrocarbon vapors are detectable. Standard gases include methane, ethane, ethylene, propane, butane and propylene. Detection of non-standard gases is configurable using HART, MODBUS, or EQP system software.

Calibration — All units are methane-calibrated at the factory. Device configuration is required for detection of vapors other than methane.

Device Configuration — Configuration parameters include tag number, measurement range, signal processing algorithm, alarm levels, and other selectable parameters.

Response Time (With Baffle Installed)

	T50	T60	T90
Without Hydrophobic Filter:	3.8	4.2	5.4
With Hydrophobic Filter:	4.2	4.4	7.4

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

Humidity — 0 to 99% R.H. (Det-Tronics verified). 5 to 95% R.H. (FM/CSA/DEMKO verified).

Alarm Setpoint Range —
Low Alarm: 5 to 60% LFL
High Alarm: 5 to 60% LFL.
Note: Low alarm range for EQP model is 5-40% LFL.

Accuracy — ±3% from 0 to 50% LFL, ±5% from 51 to 100% LFL.

Self-Diagnostic Test — All critical tests performed once per second.

Ingress Protection — IP67 (DEMKO Verified).

Detector Housing Material — 316 stainless steel (CF8M).

Conduit Entry Options — Two entries, 3/4 inch NPT or 25 mm.

HART Communicator Port (Optional) — Intrinsically safe output.

Optics Protection — Weather guard with hydrophobic filter, static dissipating plastic.

Wiring Terminals — Field wiring screw terminals are UL/CSA rated for up to 14 AWG wire, and DIN/VDE rated for 2.5 mm^2 wire.

Shipping Weight — 11.5 pounds (5.2 kg).

Dimensions

9.3 (23.6)
5.2 (13.2)
4.5 (11.4)
4.6 (11.7)
A2491

Certifications

FM & CSA:
Class I, Div. 1, Groups B, C & D (T4) with intrinsically safe output for HART communication in accordance with control drawing 007283-001.
Class I, Div. 2, Groups A, B, C & D (T4). Performance verified to Methane in accordance with FM 6310/6320, ANSI/ISA 12.13.01, and CSA C22.2 No. 152.
Tamb = –40°C to +75°C.
Acidic atmospheres excluded.
Conduit seal not required.

CE: Conforms to:
Low Voltage Directive: 73/23/EEC,
EMC Directive: 2004/108/EC,
ATEX Directive: 94/9/EC.

IEC: IECEx ULD 04.0002X
Ex de IIC T4-T5 Gb
-- OR --
Ex de [ib] IIC T4-T5 Gb
(with HART communication port)
T5 (Tamb –50°C to +40°C)
T4 (Tamb –50°C to +75°C)
IP67.
-- OR --
IECEx ULD 04.0002X
Ex d IIC T4-T5 Gb
-- OR --
Ex d [ib] IIC T4-T5 Gb
(with HART communication port)
T5 (Tamb –50°C to +40°C)
T4 (Tamb –50°C to +75°C)
IP67.

IEC Standards:
IEC 60079-0: 2007
IEC 60079-1: 2007-04
IEC 60079-11: 2006
IEC 60079-7: 2006-07
IEC 60529, 2.1 Edition with Corr. 1 (2003-01 + 2 (2007-10)

ATEX: CE 0539 II 2 G
Ex de IIC T4-T5 Gb
-- OR --
Ex de [ib] IIC T4-T5 Gb
(with HART communication port)
DEMKO 01 ATEX 129485X.
(Performance verified to Methane in accordance with EN 60079-29-1).
T5 (Tamb –50°C to +40°C)
T4 (Tamb –50°C to +75°C)
IP67.
-- OR --
CE 0539 II 2 G
Ex d IIC T4-T5 Gb
-- OR --
Ex d [ib] IIC T4-T5 Gb
(with HART communication port)
DEMKO 01 ATEX 129485X.
(Performance verified to Methane in accordance with EN 60079-29-1).
T5 (Tamb –50°C to +40°C)
T4 (Tamb –50°C to +75°C)
IP67.

EN Standards:
EN 50270: 2006
EN 50271: 2002
EN 60079-0: 2009
EN 60079-1: 2007
EN 60079-7: 2007
EN 60079-11: 2007
EN 60079-29-1: 2007
EN 60529: 1991+ A1 2000

ISO 9001

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