AutroPoint HC300PL

Infrared Hydrocarbon Gas Detector
Product datasheet

Features

- Superior optics protection system.
- No undisclosed failure modes.
- SIL 2 model certified to IEC 61508
- 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.
- 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, DNV/MED, DEMKO and CE (including ATEX 94/9/EC) certifications.
- Certified to FM Div. 1 and DEMKO Ex d, e protection standards for maximum versatility.
- Gas performance verification by FM/DEMKO.
- Factory set and calibrated to methane, propane, ethylene, or butane.

Application/Description

The AutroPoint HC300PL 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).

A key feature of the HC300PL IR gas detector is the built-in PowerLoop system technology, enabling the detector to communicate with AutroSafe Integrated Fire and Gas (IFG) systems on a single pair of wires.

This compatibility, called the PowerLoop technology, is a two-wire power and signalling bus connected in a ring topology and galvanically isolated from the rest of the system, saving cable cost and weight. Each detector has a built-in short-circuit isolator, hence no detectors will be lost because of a single break or short-circuit in the PowerLoop lines.

All alarms and faults are signalled via the PowerLoop. The detector does not require any local power supply.

Ideally suited for protection of challenging on/offshore oil and gas facilities and other downstream hydrocarbon applications, the HC300PL 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 AutroPoint HC300PL is capable of detecting hundreds of flammable hydrocarbon gases and vapors. The detector is performance certified to methane, propane, ethylene, and butane, and is shipped from the factory set and calibrated to one of these gases. Numerous additional operating parameters are programmable via digital communication or the optional hand-held communicator.

For details regarding versions and article numbers, please contact our sales department or see our product catalogue.

FM APPROVED CE Ex DNV SIL2 IEC 61508

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Specifications

Input Voltage	PowerLoop 20-30 Vdc
Power Consumption	7 watts maximum
Warmup Time	Two minutes from cold power-up to normal mode; 1 hour minimum recommended.
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. (Company verified). 5 to 95% R.H. (FM/CSA/DEMKO verified).
Detection Range	0 to 100% LFL standard. Other ranges are configurable.
Detectable Gases	Most flammable hydrocarbon vapors are detectable. HC300PL is performance certified to methane, propane, ethylene, and butane, and is shipped from the factory set and calibrated to one of these gases. For detection of other gases, configuration using HART, MODBUS, and device calibration are required.
Device Configuration	Configuration parameters include tag number, measurement range, signal processing algorithm, alarm levels, and other selectable parameters.
Response Time in Sec. (With Methane Applied and Baffle Installed)	T50 T60 T90 With Hydrophobic Filter: 4.4 4.8 8.2 Testing based on EN 60079-29-1. See manual HC300PL/IGB for other gases and other performance standards.
Alarm Setpoint Range	Low Alarm: 5 to 60% LFL High Alarm: 5 to 60% LFL.
Accuracy	±3% from 0 to 50% LFL, ±5% from 51 to 100% LFL.
Self-Diagnostic Test	All critical tests performed once per second.
Detector Housing Material	316 stainless steel (CF8M).
Conduit Entry Options	Two entries, 3/4 inch NPT or 25 mm.
Wiring Terminals	Field wiring screw terminals are UL/CSA rated for up to 14 AWG wire, and are DIN/VDE rated for 2.5 mm2 wire.
Shipping Weight (Approximate)	11.5 pounds (5.2 kg).
Dimensions	L = 236 mm, W = 132 mm, H = 117 mm

Certifications

FM:	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 (T3C). Performance certified to Methane, Propane, Ethylene, & Butane 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: 2006/95/EC, 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) -- 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 –55°C to +40°C) T4 (Tamb –55°C to +75°C) IP66/IP67.
ATEX:	CE 0539 Ex 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 certified to Methane, Propane, Ethylene, & Butane in accordance with EN 60079-29-1.) T5 (Tamb –50°C to +40°C) T4 (Tamb –50°C to +75°C) -- OR -- CE 0539 Ex 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 certified to Methane, Propane, Ethylene, & Butane in accordance with EN 60079-29-1.) T5 (Tamb –55°C to +40°C) T4 (Tamb –55°C to +75°C) IP66/IP67.
DNV:	Certificate No. A-11023
MED:	Certificate No. MED-B-5866 Certificate No. MED-D-1508
SIL:	Certified compliant to IEC61508: 2000 SIL 2 certified.

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