

AutroPath HC600

Infrared Hydrocarbon Gas Detector - Open Path Product datasheet

Features

- Detects methane and most hydrocarbon gases including ethane, propane, butane, and propylene
- 5-120 meter separation distance
- Certified explosion-proof for use in Class I, Div. 1 and Div. 2, and Zone 1 and Zone 2 hazardous areas
- Performance verified in accordance with FM 6325, ANSI/ISA 12.13.04 and EN 60079-29-4
- Ideal for use in harsh outdoor environments
- Heated optics
- Continuous self-check for immediate notification of internal failure
- Signals operator in case of blocked or impaired optical conditions
- Reliable performance in the presence of oil mist, glycol, salt water
- Stainless steel construction
- Certified SIL 2 Capable to IEC61508: 2010
- Integral terminal wiring compartment
- Optional relay output board
- Tri-color onboard LED indicates system status
- Internal magnetic reed switch for non-intrusive calibration
- IS HART port supports HART and AMS communication menus
- Can be combined with AV10 for readout of device status / data logs

Application/Description

The AutroPath HC600 is an open path infrared gas detection system that provides continuous monitoring of combustible hydrocarbon gas concentrations in the range of 0 to 5 LFL-meters, over a distance of 5 to 120 meters. Standard system outputs include an electrically isolated/non-isolated 4-20 mA dc current output, with HART and RS-485 MODBUS communication. Alarm and fault relays are available as an option.



The AutroPath HC600 IR Gas Detector delivers superior open path combustible gas detection for protection of oil/gas and other industrial facilities. The Open Path system is especially useful for perimeter monitoring and applications where combustible gas/vapor leaks can happen over a widely dispersed area.

The HC600 system offers industry leading features including dual xenon flashlamps, stainless steel construction, ease of installation and alignment, field replaceable transmitter and receiver modules, and a standard 2 year warranty.

The system is optimized for low maintenance, no false alarms, and low cost. The HC600 system utilizes onboard heaters in both modules to melt snow and ice, enabling unattended and uninterrupted operation in inclement weather.

AutroPath HC600 is approved for use in Class I, Div. 1; IECEx Ex d, Ex de; and Zone 1, Zone 2 hazardous areas.



Specifications

Input Voltage (Both Modules)	24 Vdc nominal. Operating range is 18 to 32 Vdc. Ripple cannot exceed 0.5 volts P-P.
Power Consumption	<p>Transmitter 5.0 watts nominal @ 24 Vdc, 6.9 watts @ 30 Vdc. 5.8 watts peak @ 24 Vdc, 7.5 watts peak @ 30 Vdc.</p> <p>Receiver Without Relays 6.0 watts nominal @ 24 Vdc, 7.6 watts nominal @ 30 Vdc.</p> <p>Receiver With Relays 6.4 watts nominal @ 24 Vdc, 8.0 watts nominal @ 30 Vdc.</p>
Transmitter Lamps	Two xenon flashlamps, field-replaceable module.
Warmup Time	1 minute for transmitter. 30 seconds for receiver from power-up when correctly aligned.
Current Output	Linear 4-20 mA (isolated/non-isolated) rated at 600 ohms maximum loop resistance @ 24 Vdc operating voltage.
Visual Status Indicator	Tri-color LED: Red = Alarm or calibration (receiver only) Green = Power on / OK Yellow = Fault / warm-up
Relay Setpoint Range	Low Alarm: 0.25 to 3 LFL-meters (default = 1 LFL-meter) High Alarm: 1 to 3 LFL-meters (default = 2 LFL-meters)
Detection Range	5 to 120 meters
Calibration	Calibrated for methane at the factory.
Response Time (4-20 mA Model)	T90: <2.5 seconds with 2.5 LFL-meters applied <5 seconds with 5 LFL-meters applied.
Accuracy (FM Verified)	±0.25 LFL-meters or ±10% of applied gas concentration, whichever is greater.
Temperature Range	Operating: -55°C to +60°C (-67°F to +140°F) Storage: -55°C to +85°C (-67°F to +185°F)
Humidity	5 to 99% RH; designed for outdoor applications.
Measurement Range	0-5 LFL-meters
Self-Diagnostic Test	Fail-Safe operation ensured by performing all critical tests once per second.
Module Housing Material	316 stainless steel (CF8M).
Conduit Entries	Two entries, 3/4 inch NPT or 25 mm.
HART Port	IS port on receiver to connect HART devices.
Optics Protection	Stainless steel brow protects against windblown dirt and rain. Heated optics minimize ice and dew formation.

Wiring	Field wiring screw terminals are UL/CSA rated for up to 14 AWG wire, and are DIN/VDE rated for 2.5 mm ² wire. Receiver can be wired using 3 or 4 wires. Transmitter requires two wires (power only).	
Shipping Weight	Transmitter and receiver with mounting hardware: 75 pounds (34 kg)	
Dimensions	Modules-	Length: 11.5 in (29 cm) [w/o brow] 14.3 in (36.3 cm) [w brow] Dia: 3.5 in (9 cm) nom. 4.5 in (11 cm) max. Mounting Plate- Height: 14.5 in (37 cm) Width: 6.5 in (16 cm) Designed to attach to 4 inch (10 cm) nominal diameter pipe.
Certification		
FM:	Class I, Div. 1, Groups B, C & D (T5) with intrinsically safe output for HART communication. Class I, Div. 2, Groups A, B, C & D (T4). NEMA/Type 4X. Conduit seal not required. Performance verified in accordance with FM 6325, ANSI/ISA 12.13.04.	ATEX: Transmitter Ⓒ 0539 Ⓢ II 2 G DEMKO 06 ATEX 141002X Ex d e IIC T5 Gb T5 (Tamb -50°C to +60°C) IP66/IP67. --OR-- Ex d IIC T5 Gb T5 (Tamb -55°C to +60°C) IP66/IP67.
CSA:	Class I, Div. 1, Groups B, C & D (T5) with intrinsically safe output for HART communication. Class I, Div. 2, Groups A, B, C & D (T4). Type 4X. Conduit seal not required.	CE: Conforms to: Low Voltage Directive: 2006/95/EC, EMC Directive: 2004/108/EC, ATEX Directive: 94/9/EC, WEEE 2002/96/EC.
ATEX:	Receiver Ⓒ 0539 Ⓢ II 2 G DEMKO 06 ATEX 141002X Ex d e [ib] IIC T5 Gb T5 (Tamb -50°C to +60°C) EN 60079-29-4 IP66/IP67. (Receiver without relays) --OR-- Ex d [ib] IIC T5 Gb T5 (Tamb -55°C to +60°C) EN 60079-29-4 IP66/IP67. (Receiver with relays) Performance verified in accordance with EN 60079-29-4.	IECEx: Receiver IECEx ULD 05.0001X Ex d [ib] IIC T5 Gb T5 (Tamb -55°C to +60°C) --OR-- Ex d e [ib] IIC T5 Gb. T5 (Tamb -50°C to +60°C) IP66/IP67. IECEx: Transmitter IECEx ULD 05.0001X Ex d IIC T5 Gb T5 (Tamb -55°C to +60°C) --OR-- Ex d e IIC T5 Gb. T5 (Tamb -50°C to +60°C) IP66/IP67.
		SIL: IEC 61508 Certified SIL 2 Capable.
		UL/INMETRO Brazil: 05/UL-BRAE-0002

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