

POINT HYDROCARBON — INFRARED

Reliable, explosion proof infrared point gas detector for harsh high priority applications.



- **High Reliability and Durability**
The Point Hydrocarbon – IR has a straight-forward design and rugged 316 stainless steel construction to withstand the most demanding applications.
- **Dual Wavelength NDIR Technology**
The sensing and reference elements are self-compensating for optical integrity and other signal inhibitors.
- **Operates in Anaerobic Atmospheres and Constant Hydrocarbon Background**
The self-contained optics fully function in applications where there is no oxygen or hydrocarbons are regularly present. The Point Hydrocarbon – IR optics are also immune to poisoning and etching.
- **No Routine Calibration and Virtually Maintenance Free**
There is no scheduled calibration programs required for the operation of this instrument and maintenance is limited to an annual zeroing.
- **3-Wire 4-20 mA Linear Output**
These point detectors can be installed in new construction or retrofit situations using using 3-wires. The detectors communicate faults and special functions using signals below 4 mA.

See reverse for detailed specifications.

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Using a solid state collimated Infrared light source and self compensating heated optics, the Point Hydrocarbon NDIR LEL detector is ideally suited for use in very harsh and hazardous environments demanding low-maintenance gas detectors. The 316ss explosion proof housing has no mirrors or beam splitters and the optics are sealed from dirt and water ingress. With a 100 mm plus optical path, response time is <5 seconds.

The Point Hydrocarbon Infrared gas detector performs reliably in the presence of silicone and other catalytic poisoning agents and operates in Oxygen-free environments or background LEL levels. There are no known poisons that affect the sensor technology. The advanced processor-based electronics are sealed and have no user access or adjustments. The recommended maintenance interval is one year.



Common Applications:

- Fire & Gas Applications
- Drilling
- Production
- FPSO
- Oil Refining
- Gas Processing
- LNG/LPG Processing
- Loading Racks
- Compressor Stations
- Gas Turbines
- Chemical Plants
- Waste Treatment

Point Hydrocarbon—IR Specifications

Sensors

Types:	Combustibles
Technology:	Infrared
Detection Method:	Diffusion
Min. Detectable Change:	+ 1%LEL
Repeatability:	± 2% of reading
Accuracy:	± 3% LEL, 0 to 50% LEL
	± 5% LEL, 51 to 100% LEL
Response Time (Rise):	T50 ≤ 5 seconds
	T90 ≤ 10 seconds
Oxygen Requirement:	None

Electrical

Power:	18-32 Vdc, measured at detector
	5 Watts max
Termination Resistance:	< 500 Ω @ 24 VDC
Outputs:	3-wire, 4-20 mA

User Interface

Controls:	Zero
Interface:	4 mA level and activator

Environmental

Temperature:	-40° to 158°F (-40° to 70°C)
Humidity:	0-99% RH, non-condensing

Enclosure

Material:	316 Stainless Steel
Ingress:	IP54
Weight:	5 lbs (2.3 kg)

Approvals

CSA:	Class 1, Div. 1 Groups B, C & D
EMI Protection:	C22.2 No. 152-M1984
	ISAS12.13.01-2000

Note: Refer to certification documents and datasheets for specific approval and configuration information.

Available Gases

(0-100% LEL)

Cyclopentane
DF 2000
Diesel
Ethanol
Ethylene
Ethylene Oxide
Gasoline
Isobutane
Isopropyl Alcohol
Jet A
Methane
Methanol
n-Butane
Pentane
Propane
Propylene

Other gases may be available. Please call factory.

Output Signals

Current	Output Status
4-20 mA	Normal measuring mode
0.0 mA	Unit Fault
0.2 mA	Reference channel fault
0.4 mA	Analytical channel fault
0.8 mA	Unit warm up
1.0 mA	Optics fault
1.2 mA	Zero drift fault
1.6 mA	Calibration fault
2.0 mA	Unit spanning
2.2 mA	Unit Zeroing
4.0 mA	Zero gas level
5.6 mA	10% LEL
8.0 mA	25% LEL
12 mA	50% LEL
16 mA	75% LEL
20 mA	100% LEL
>20.1 mA	Over range

Ordering Information

Gas	Junction Box and Sensor Assembly	Sensor Only
Cyclopentane	820-9902-01	820-9903-01
DF 2000	820-9902-02	820-9903-02
Diesel	820-9902-03	820-9903-03
Ethanol	820-9902-04	820-9903-04
Ethylene	820-9902-05	820-9903-05
Ethylene Oxide	820-9902-06	820-9903-06
Gasoline	820-9902-07	820-9903-07
Isobutane	820-9902-08	820-9903-08
Isopropyl Alcohol	820-9902-09	820-9903-09
Jet A	820-9902-10	820-9903-10
Methane	820-9902-11	820-9903-11
Methanol	820-9902-12	820-9903-12
n-Butane	820-9902-13	820-9903-13
Pentane	820-9902-14	820-9903-14
Propane	820-9902-15	820-9903-15
Propylene	820-9902-16	820-9903-16