SENSIDYNE®
Industrial Health & Safety Instrumentation

FIXED GAS DETECTION

SENSALERT® IR

Ultra rugged, explosion-proof infrared point gas detector for harsh, high priority applications

Ideal for remote or hard-to-access environments where high maintenance is not practical.

High Reliability and Durability

The SensAlert IR has a straight-forward design and rugged 316 stainless steel construction to withstand the most demanding applications.

No Routine Calibration and Virtually Maintenance Free

There is no scheduled calibration programs required for the operation of this instrument and required maintenance is limited to zeroing. You can practically "fire it and forget it," except for normal periodic testing.

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 SensAlert IR optics are also immune to poisoning and etching.

Dual Wavelength NDIR Technology

The sensing and reference elements are self-compensating for optical integrity and other signal inhibitors.

Dual Sensor and Remote Mount Capability

One or two sensors can be mounted locally or remotely up to 250 feet / 76 meters away from the transmitter.

3-Wire 4-20 mA Linear Output

Detectors can be installed in new construction or retrofits using using 3-wires. Detectors communicate faults and special functions using signals below 4 mA.

ULTRA RUGGED INFRARED SENSORS

The fixed point Hydrocarbon NDIR LEL detector is designed for harsh and hazardous environments. It uses a solid-state, collimated infrared light source and heated optics that adjust automatically. The detector is housed in durable, explosion-proof 316 stainless steel or aluminum, with optics protected from dirt and water. It has a quick response time of under 5 seconds, due to its optical path of over 100 mm.

The SensAlert IR Infrared sensor technology is highly reliable and unaffected by any known poisons. It works even with the presence of silicone and other substances that usually poison catalysts. It also functions well without oxygen or in environments with background LEL levels. The advanced electronics are securely sealed with no need for user adjustments and are virtually maintenance-free.

The expected lifespan is 10 years, and we offer a 5 year warranty.

Common Applications:

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

C1, D1 Combustible Sensors - 316 Stainless Steel

Acetone (C3H6O) 0-100% LEL	820-9928-11
n-Butane (C4H10) 0-100% LEL	820-9914-11
Carbon Dioxide (CO2) 0-5% VOL	820-9915-11
Cyclopentane (C5H10) 0-100% LEL	820-9916-11
DF-2000 (CAS 64742-48-9) 0-100% LEL	820-9917-11
Diesel No. 1 (CAS 8008-20-6) 0-100% LEL	820-9918-11
Ethane (C2H6) 0-100% LEL	820-9913-11
Ethanol (EtOH) 0-100% LEL	820-9919-11
Ethylene (C2H4) 0-100% LEL	820-9920-11
Ethylene Oxide (ETO) 0-100% LEL	820-9929-11
Gasoline (CAS 8006-61-9) 0-100% LEL	820-9921-11
Isobutane (C4H10) 0-100% LEL	820-9922-11
Isopropyl Alcohol (C3H8O) 0-100% LEL	820-9923-11
Jet A (CAS 8008-20-6 or 64742-47-8) 0-100% LEL	820-9924-11
Methane (CH4) 0-100% LEL (316 Stainless-Steel)	820-9911-21
Methanol (CH3OH) 0-100% LEL	820-9925-11
Pentane (C5H12) 0-100% LEL	820-9926-11
Propane (C3H8) 0-100% LEL	820-9912-11
Propylene (C3H6) 0-100% LEL	820-9927-11

Also available in aluminum enclosure

General Purpose Area Toxic Sensors - Aluminum

Ammonia (NH3) 0-1000 PPM without HART	820-9907-01
Tetrafluoroethane (R134A) 0-1000 PPM without HART	820-9907-05
Tetrafluoroethane (R134A) 0-2000 PPM without HART	820-9907-06
Sulphur Hexafluoride (SF6) 0-1000 PPM without HART	820-9907-02

SensAlert 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

Transmitter Material:.....Aluminum
Sensor Material: .....Aluminum / 316 Stainless Steel
Total Weight: .....7 lbs (3.2 kg) / 10 lbs (4.5 kg)
Ingress: IP54

Approvals

NEC/CEC: .....Class 1, Div. 1 Groups B, C & D
C22.2 No. 152-M1984
ISAS12.13.01-2000

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

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% of Sensor full-scale range
8.0 mA	25% of Sensor full-scale range
12 mA	50% of Sensor full-scale range
16 mA	75% of Sensor full-scale range
20 mA	100% of Sensor full-scale range
>20.1 mA	Over range

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