SENSALERT IR
Infrared Sensor Datasheet

Methane (CH_4) – Ethane Immune

OPERATION / DESCRIPTION

SensAlert IR is a complete self contained optical hydrocarbon gas detector. The sensing and reference elements are self-compensating for optical integrity and other signal inhibitors. Theindustry standard 4 - 20 mA analog output provides remote alarm, fault and calibration signals.

Transmitter display sold separately.

Inlet/Outlet

Inlet/Outlet

Sensor shown with optional Sample Draw Barrel.

FEATURES

- Immune to Ethane
- Reliable infrared sensing technology
- Virtually maintenance free
- Low cost of ownership, over ten years operating life
- Immune to poisoning and etching
- Designed for harsh environments
- Explosion proof
- Anodized aluminum or stainless steel construction
- Fast response time
- Smart calibration
- Self-compensating optics, pressure and temperature (U.S. Patents 6,414,310 and 7,132,657)
- No moving parts
- Heated optical chamber
- Low power consumption
- Operates in constant hydrocarbon background
- Operates in anaerobic atmospheres
- Fault indications for all failure states
- Frequent calibrations are not required. Zero calibrate every 12 mos.
- 4 to 20 mA output, HART® option available for some models
- 0 to 100% LFL detection range - %LEL, % Vol, PPM, Density
- Digital display option available
- Can be coupled with SensAlert IR transmitter display

APPLICATIONS

The SensAlert IR hydrocarbon detectors for **Methane (CH_4)** are designed to be used as an upgrade in the same applications where catalytic bead sensors have been applied, such as:

- Refineries, process applications
- Drilling and production platforms
- Fuel loading facilities
- Oil well logging
- LNG/LPG processing & storage facilities
- Gas turbines
- Biogas facilities
- Compressor stations
- Wastewater treatment facilities
- Transportation facilities

SENSALERT® IR

Infrared Sensor Datasheet

Methane (CH_4) – Ethane Immune

SensAlert IR – Sensor Specifications	
Model:	Methane (CH4) infrared gas detector
Part Numbers and Ranges:	
Part Number 820-9911-21	Range 0-100% VOL
Detection Method:	Diffusion
Output (analog):	4-20 mA (Source type) max. HART option, 1000 Ohm load at 24 VDC supply voltage (including field wiring)
Response Time:	T50 < 18 sec. T90 < 38 sec.
Construction:	316 Stainless Steel (also available in anodized aluminum)
Accuracy:	+/- 5% of value or 1.0% of full scale, whichever is greater
Repeatability:	+/- 2% of value
Operating Temperature Rating:	-40˚ to +50˚C at 0 to 99% RH (non-condensing)
Operating Range:	18-32 VDC measured at detector head
Power Consumption:	5 Watts Max
Current Draw: (at 24VDC)	Average: 210 mA Peak: 400 mA
U.S. Patents	6,414,310 7,132,657
Installation Category:	Cat. I, Pollution Degree 2
Dimensions:	Length 4.75” Diameter 2.5” Weight 3.25 lbs. (1.5 kg.)
Certifications:	IECEx: Ex db op is IIB T5 Gb

ULTRA-RUGGED INFRARED SENSORS

The fixed-point Non-Dispersive Infrared (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 anodized aluminum, with optics protected from dirt and water. It has a quick response time of under 5 seconds, thanks to its optical path of over 100 mm.

This SensAlert IR Infrared gas detector works reliably 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 sensor technology is unaffected by any known poisons. The advanced electronics are securely sealed with no need for user adjustments. Maintenance is recommended once a year.

Output Signals	
Current Output	Status
4-20 mA	Normal measuring mode
0.6 mA	Unit Fault
0.8 mA	Reference channel fault
0.9 mA	Analytical channel fault
0.7 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% VOL
8.0 mA	25% VOL
12 mA	50% VOL
16 mA	75% VOL
20 mA	100% VOL
20.1 – 23 mA	Over range (>100%)

SENSIDYNE, LP | 1000 112th Circle North, Suite 100 | St. Petersburg, Florida 33716 USA
800-451-9444 / +1 727-530-3602 | info@Sensidyne.com | www.Sensidyne.com