



# RAEGuard IR

## Fixed Hydrocarbon Gas Monitor, 4-20 mA transmitter

The **RAEGuard IR** is a permanently mounted (fixed) hydrocarbon gas transmitter that operates from 9 to 36 VDC power source and provides a 4-20mA analog output in the range of 0-100%LEL hydrocarbon equivalent or ppm concentration of CO<sub>2</sub>. The **RAEGuard IR** is based on RAE's patented technology of non-dispersive infrared (NDIR) for methane, hydrocarbon, or carbon dioxide measurement. The microprocessor based circuit is housed in an explosion-proof enclosure, the **RAEGuard IR** is equipped with a local digital display of the gas concentration and function keys for performing calibration. The **RAEGuard IR** is operated with a standard 4-20mA controller or as a stand-alone sensor module.

### Key Features

- Non-dispersive infrared technology with built-in temperature compensation
- 4-20mA analog output of 0-100%LEL hydrocarbons including methane, acetylene, propane or 0-50,000 ppm of CO<sub>2</sub>
- No poison problem on catalytic beads
- Explosion-proof enclosure for hazardous environment application
- Magnetic key interface eliminates need to open explosion-proof housing when making calibration or other minor adjustments
- Long life infrared source and detector
- Operation at 9 to 36 VDC
- Dry contact output (<30V, 2A)

### Applications:

- Refineries
- Oil production
- Chemical plants
- Industrial safety
- Waste water treatment plants
- Shipyard and maritime
- Power plants
- Steel mills

### Hazardous Location Classification:

- UL: Class I, Division 1, Groups B, C and D
- Temperature CodeT6



**ATEX**

## Specifications

### Default Sensor Settings

Gas	Range (ppm)	Resolution (ppm)	Response Time (T <sub>90</sub> )
Carbon Dioxide (CO <sub>2</sub> )	0-50,000	10	<30s
Methane (CH <sub>4</sub> )	0-100%LEL	1%	<30s
Hydrocarbons (HC)	0-100%LEL	1%	<30s

### Detector Specifications

Size	12.7cmx12.7cmx11.5cm (5.0"Lx5.0"Wx4.5"H)
Weight	2.5kg (5.5 lbs)
Detector	7R-sized HC Sensor, NDIR detector with built-in temperature compensation
Range	0-100% LEL
Resolution	1% LEL for HC, Resolutions to other gases is specified to the target gas
Accuracy	+/-2% LEL or +/-10% of reading
Hazardous Location Classifications	UL: Class I, Division 1, Group B,C,D Temperature Code T6
Power	9-36 VDC max 160mA at 24V
Signal Output	4-20mA with 12V compliance at 24V power
Sampling	Internal diffusion
Display	7-segment, 4-digit LCD with 4 color-coded fault LEDs
Response Time (t <sub>90</sub> )	30 seconds to 90% of reading to 50%LEL hydrocarbon
User Interface	Magnetically accessed keys for calibration
Calibration	Two point field calibration
Temperature	-20 to +55° C (-4 to +131° F)
Humidity	0-95% relatively humidity (non-condensing)
Pressure	700-1,300hPa
Dry Contact	Max 30V, 2A
Mounting	2 holes 133mm (5.25") from center to center
Wiring	3 or 4 wires

\*Ongoing projects to enhance our products means that these specifications are subject to changes

## RAEGuard IR Ordering Information

### RAEGuard IR Basic Kit FGM-12XX

- RAEGuard IR detector with 7R-size NDIR sensor
- Installation, operation and maintenance manual
- Magnetic key
- Calibration adapter

## Installation Drawing

