



# RAEGuard EC

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

The **RAEGuard EC** is a permanently mounted (fixed) toxic gas or oxygen transmitter that operates from 9 to 36 VDC power source and provides a 4-20mA analog output. The microprocessor based circuit is housed in an explosion-proof enclosure, the **RAEGuard EC** is equipped with a local digital display of the gas concentration and function keys for performing calibration. The **RAEGuard EC** is operated with a standard 4-20mA controller or as a stand-alone sensor module.

### Key Features

- Explosion-proof 7R-sized electrochemical sensor
- 4-20mA analog output of specified sensor
- Explosion-proof enclosure for hazardous locations
- Local displays with adjustment keys
- Magnetic key interface eliminates need to open explosion proof housing when making calibration or other minor adjustments
- Operation at 9 to 36 VDC
- Dry contact output (<30V, 2A)

### Applications:

- Refineries
- Oil production
- Chemical plants
- Industrial safety
- Pulp & Paper
- Heavy industry
- Waste water treatment plants
- Shipyard and maritime
- Power plants
- Steel mills

### Hazardous Location Classification:

- UL, cUL: Class I, Division 1, Groups B, C, D
- Temperature Code T6



**ATEX**

### RAE Systems Inc.

3775 North First Street, San Jose, CA • 95134 • USA  
Tel: 408.952.8200 • Fax: 408.952.8480  
Email: [raesales@raesystems.com](mailto:raesales@raesystems.com)  
<http://www.raesystems.com>

### RAE Systems Europe

Orestads Boulevard 69, 2300 Copenhagen S • Denmark  
Tel: +45.8652.5155

### RAE Systems (Hong Kong) Ltd.

Room 8, 6/F, Hong Leong Plaza, 33 Lok Yip Road, Fanling, N.T. • Hong Kong  
Tel: 852.2669.0828



## Specifications \*

### Default Sensor Settings

Gas	Range (ppm)	Resolution (ppm)	Response Time (T <sub>90</sub> )
Oxygen (O <sub>2</sub> )	0-30%	0.1%	<20s
Carbon Monoxide (CO)	0-1000	1	<30s
Hydrogen Sulfide (H <sub>2</sub> S)	0-300	1	<20s
Sulfur Dioxide (SO <sub>2</sub> )	0-150	0.1	<30s
Nitric Oxide (NO)	0-1000	0.5	<20s
Nitrogen Dioxide (NO <sub>2</sub> )	0-50	0.1	<25s
Chlorine (Cl <sub>2</sub> )	0-30	0.1	<30s
Chlorine Dioxide (ClO <sub>2</sub> )	0-1	0.01	<120s
Hydrogen Cyanide (HCN)	0-100	0.5	<200s
Ammonia (NH <sub>3</sub> )	0-100	0.5	<60s
Phosphine (PH <sub>3</sub> )	0-20	0.05	<30s
Ethylene Oxide (C <sub>2</sub> H <sub>4</sub> O)	0-200	0.1	<80s

### Detector Specifications

<b>Size</b>	12.7cmx12.7cmx11.5cm (5.0"Lx5.0"Wx4.5"H)
<b>Weight</b>	2.5kg (5.5 lbs)
<b>Detector</b>	Explosion proof 7R Electrochemical sensor
<b>Accuracy</b>	+/- 5%
<b>Hazardous Location Classifications</b>	UL, cUL: Class I, Division 1, Group B, C, D, Temperature code T6
<b>Power</b>	9-36 VDC max 40mA at 24V
<b>Signal Output</b>	4-20mA with 12V compliance at 24V power
<b>Sampling</b>	Internal diffusion
<b>Display</b>	7-segment, 4-digit LCD with 4 color-coded fault LEDs
<b>Response Time (t<sub>90</sub>)</b>	20-200 seconds to 90% of reading depending on target gas
<b>User Interface</b>	Magnetically accessed keys for calibration
<b>Calibration</b>	Two point field calibration
<b>Temperature</b>	-20 to +55 °C (-4 to +131 °F)
<b>Humidity</b>	0-95% relatively humidity (non-condensing)
<b>Pressure</b>	700-1,300 hPa
<b>Dry Contact</b>	Max 30V, 2A
<b>Mounting</b>	2 holes 133mm (5.25") from center to center
<b>Wiring</b>	3 or 4 wires

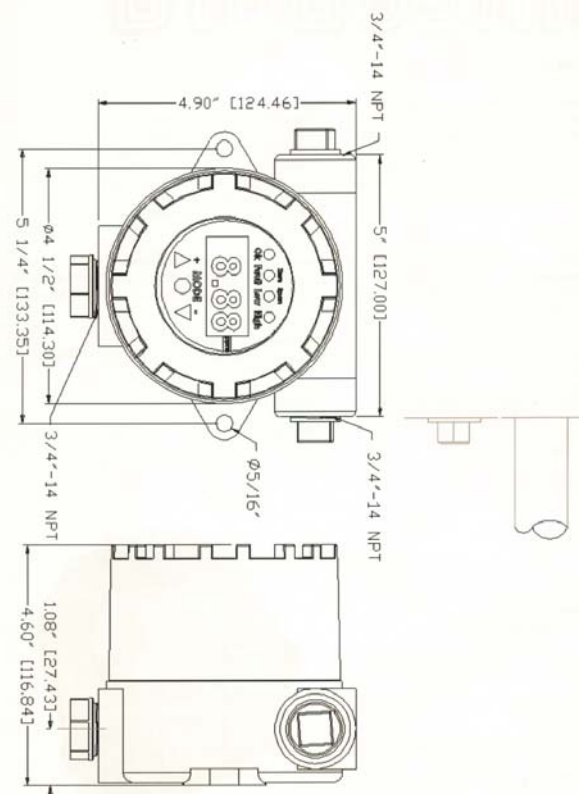
\*Ongoing projects to enhance our products means that these specifications are subject to changes

## RAEGuard EC Ordering Information

### RAEGuard EC Basic Kit FGM-13XX

- RAEGuard EC detector with sensor as specified
- Installation, operation and maintenance manual
- Magnetic key
- Calibration adapter

### Installation Drawing



# RAEGuard EC

#### RAE Systems Inc.

3775 North First Street, San Jose, CA • 95134 • USA  
 Tel: 408.952.8200 • Fax: 408.952.8480  
 Email: [raesales@raesystems.com](mailto:raesales@raesystems.com)  
<http://www.raesystems.com>

#### RAE Systems Europe

Orestads Boulevard 69, 2300 Copenhagen S • Denmark  
 Tel: +45.8652.5155

#### RAE Systems (Hong Kong) Ltd.

Room 8, 6/F, Hong Leong Plaza, 33 Lok Yip Road, Fanling, N.T. • Hong Kong  
 Tel: 852.2669.0828

