RAEGuard 2 PID

Honeywell

The RAEGuard 2 PID is a fixed photoionization detector (PID) that measures a broad range of volatile organic compounds (VOCs)

RAEGuard 2 PID



Key Features

- Class I, Division 1 (Zone 1) continuous VOC monitoring solution for hazardous locations
- Three wire 4-20mA analogue output and RS-485 digital communication in Modbus protocol
- Three dry contact relays (<30V, 2A) normally open (or normally closed), one for high and low alarm, another for fault alarm
- Explosion-proof stainless-steel enclosure suitable for outdoor hazardous environment applications
- Magnetic-key interface eliminates the need to open the explosion-proof housing when adjusting parameters
- Continuous VOC monitoring in hazardous and non-hazardous area locations
- Reduced maintenance costs due to easily removable sensor module. Sensor and lamp can be removed without tools and serviced in hazardous locations
- Faster response time with sample flow-through design powered by internal diaphragm pump
- Humidity compensation ensures accurate readings even in humid environments

Applications

- Refineries and petrochemical plants
- Power plants
- Solvent recovery systems
- Painting and coating operations
- Waste water treatment plants
- Air quality

The RAEGuard 2 PID operates on 10 to 28 VDC and provides an analogue (4-20mA) three-wire signal output, and RS-485 Modbus digital signal output. Calibration and maintenance have been greatly simplified as the digital PID module can be easily removed in hazardous locations for calibration or maintenance.

The RAEGuard 2 PID has a graphic display and LED light status indicator for fault and alarm conditions. In addition, Low, High, and Fault relays[1] can be configured to trigger external alarms or process controls. Over 200 correction factors[1] are pre-programmed and allow users to display readings of a specific target gas. A magnetic key interface enables the detector to be calibrated and operational parameters adjusted with the explosion-proof enclosure in place.

[1]Relays and Correction factors are disabled when using the 1 to 1000 ppm DigiPID.

General Specifications

RAEGuard 2 Fixed Sensor Head Specifications

Basic parameters	
Working current	DC 10 to 28V, 210mA at 24V
Power	<5W
Output	• 4-20mA • Three-level programmable alarm relays (30 VDC, 2A) • RS-485 (Supports Modbus)
Sampling	Internal diaphragm pump, up to 500cc/min
IP rating	IP-65
Mechanical interface	3/4" NPT Male
Installation	50.8 mm (2") pipe-holding or wall mounting
User interface	Three-key magnetic bar adjustment
Calibration	Two points
Warranty	1 year for the pump, 2 years for the housing and electronics
Environmental parameters	
Temperature	-20°C to +55°C (-4°F to 131°F)
Humidity	0 to 95% relative humidity, non-condensing
Pressure	90 to 110kPa
Display	
Display	128 x 64 matrix backlit LCD, supports graphic display
Physical parameters	
Size	10.1" L x 7.9" W x 4.2"H (257 x 201 x 107 mm)
Weight	3.5 kg (7.7 lbs)
Material	316 stainless steel
Certification	
ATEX	Ex II 2(1)G, Ex d [ia Ga] IIC T4 Gb
UL/CSA	Class 1, Div. 1, Groups ABCD T4
IECEx	Ex d [ia Ga] IIC T4, Gb

DigiPID Sensor Module Specifications

Power supply	5V ±0.25V DC
Current	110mA max
Power consumption	< 0.6W
Measuring range	0.01 to 100 ppm 0.1 to 1000 ppm 1 to 1000 ppm (No relays or correction factors)
Resolution	10 ppb, 1 ppm (depends on model)
Response time	Pumped (T90): <30 s
Calibration	Two-point off-line and field calibration Optional three-point calibration
Accuracy	±2% for calibration point
Analogue output	0.5 - 2.5V (ro=1.0k)
Digital interface	Serial Interface (UART) Transmit (Tx): 3.3V TTL Receive (Rx): 3.3V TTL
Warranty	2 years for the lamp, 1 year for the sensor, pump, electronics, and housing
Operating temperature	-20ºC to +55ºC (-4ºF to +131ºF)
Humidity	0 to 95% RH non-condensing
EMI/RFI	Highly resistant to EMI/RFI Compliant with EMC Directive 2004/108/EC
Package	316 stainless steel Spray watertight for IP-65 rating Dust membrane for sensor front protection
Size	49mm x 150.8mm (1.92" D x 5.94" L)
Weight	< 550g (19.4 oz)
Certification	
ATEX	II 1 G EX ia IIC T4 and 1M1 Ex ia I
UL/CSA	Class I, Div. 1, Groups A B C D T4
IECEx	Ex ia IIC T4 Ga and Ex ia I

RAEGuard Ordering Options

RAEGuard 2 Fixed Sensor Head Includes:	• Explosion-proof stainless steel enclosure with LCD display, integrated sampling pump and relays, digital connector for external sensors • Magnetic key
DigiPID Sensor Module Includes:	• Complete stainless steel PID sensor module with UV lamp and digital connector output for use with RAEGuard 2 • Choice of detection range 0.01 to 100 ppm, 0.1 to 1000 ppm, or 1 to 1000 ppm • DigiPID maintenance kit
RAEGuard 2 PID Kits Includes:	• All RAEGuard 2 Fixed Sensor Head contents and all DigiPID contents as stated above

Honeywell Analytics Lines of Business

Commercial
Gas detection from standalone units to fully engineered, multi-point systems, all offering cost-effective regulatory compliance

» Applications: parking structures, chillers, mechanical rooms, office towers, commercial buildings, shopping centers, swimming pools, golf courses, schools and universities, laboratories

Industrial
Renowned Sieger and Manning gas detection systems with advanced electrochemical, infrared and open path sensing technologies

» Applications: oil and gas, cold storage, water/wastewater treatment, chemicals, engine rooms, plastics and fibers, agriculture, printing and light industrial

Portables
Single or multi-gas Lumidor and other premium detectors with compact, lightweight designs ranging from simple alarm only units to advanced, fully configurable and serviceable instruments

» Applications: underground utility and electricity ducts, boiler rooms, post-fi
plants, industrial hygiene, first responder teams, remote fleets

High Tech/Government
A complete portfolio of gas and chemical detection instrumentation including infrared spectroscopy (MST) with no cross interference, to Chemcassette paper-based solutions (MDA Scientific) offering detection down to parts per billion

» Applications: semiconductor manufacturing and nanotechnology, aerospace propulsion and safety, specialty chemicals industry, research laboratories, emergency response

Technical Services
24/7 global network includes post-sales service and Systems Integration teams

» Emergency call out, service contracts, on/off-site repair, training and commissioning

» Complete range of spares, consumables and accessories

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