RAEGuard 2 PID

Fixed photoionisation detector
(PID)

REDUCED MAINTENANCE COSTS

- Easy to remove sensor module in hazardous locations without use of tools

REDUCED LIFE COSTS

- Unique lamp design makes the product more robust and enables longer life time

AVAILABILITY

- Continuous VOC monitoring in hazardous and non-hazardous locations

PROVIDES FASTER RESPONSE TIMES

- The sample flow-through design powered by an internal diaphragm pump provides faster response times

ACCURATE READINGS

- Guaranteed by humidity compensation even in humid environments

ADVANCED TECHNOLOGY

- Patented pump duty cycle extending the sensor and lamp cleaning interval
- Patented Electronic zero keeping the zero point stable
- Patented 3D sensor technology lower quenching effect - faster response to high concentration - lower RH response

SUITABLE FOR A WIDE RANGE OF APPLICATIONS

- Over 200 correction factors1 are pre-programmed and allow users to display readings of specific target gas

KEY APPLICATIONS AND THEIR VOCS

- Benzene in refinery analyser shelters
- Ammonia in industry
- Vinyl Chloride in chemical manufacturing
- Toluene or Ammonia in semi-conductor plants
- Solvent and chemicals storage
- Phenol and DME in pharmaceutical
- Toluene in printing
- Air quality
- Methyl Ethyl Ketone in paint spray booths
- Heat transfer fluids
- Acetone, Xylene, Phenol in medical, pathology, histology lab

Status at a glance

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 has been greatly simplified with the introduction of Electronic Auto-zero patented by Honeywell.

The RAEGuard 2 PID is utilizing many of Honeywell's PID patents such as the electronic Auto-zero that guarantees a incomparable base line stability making it the best in class product.

Polynomial based calibration provides superior calibration linearity throughout the full range.

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* can be configured to trigger external alarms or process controls.

A magnetic key interface enables the detector to be calibrated and operational parameters adjusted with the explosion-proof enclosure in place.
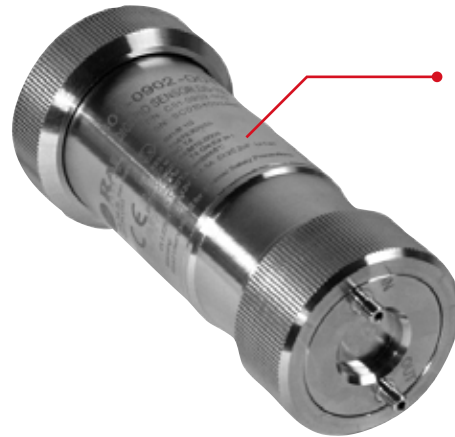
[1]Relays and Correction factors are disabled when using the 1 to 1000 ppm DigiPID

Technical Specifications

DigiPID Sensor Module

RAEGuard 2 Fixed Sensor Head

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	-20ºC to +55ºC (-4ºF to 131ºF)
HUMIDITY	0 to 95% relative humidity, non-condensing
PRESSURE	90 to 110kPa
DISPLAY	
DISPLAY	128 x 64 matrix backlit LCD, supports graphic display
128 X 64 MATRIX BACKLIT LCD, SUPPORTS GRAPHIC DISPLAY	
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
TR CU	1Ex d [ia Ga] IIC T4 Gb X

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, 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	49 mm x 150.8 mm (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
TR CU	0Ex ia IIC T4 Ga X

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