Honeywell | Gas Detection





RAEGuard 2 PID

Fixed photoionisation detector (PID)

MODEL OPTIONS: PUMPED OR DIFFUSION

- Pumped is used for sticky gas
- Diffusion is used for high humidity ambients

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 factors[1] 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 (4-20 mA) three-wire signal output, and RS-485 Modbus digital signal output. It is available in two different models, pumped or diffusion, to best fit your needs.

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 an 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[1] 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.

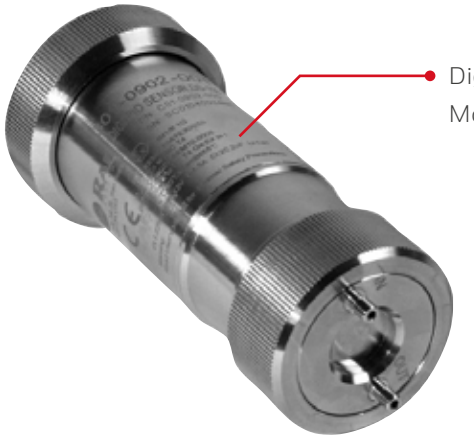
[1]Relays and correction factors are disabled when using the 1 to 1000 ppm DigiPID



Technical Specifications



RAEGuard 2 Fixed Sensor Head



DigiPID Sensor Module

RAEGUARD 2 FIXED SENSOR HEAD SPECIFICATIONS	
BASIC PARAMETERS	
WORKING CURRENT	DC 10 to 28 V, 210 mA at 24 V
POWER	<5 W
OUTPUT	4-20 mA Three-level programmable alarm relays (30 VDC, 2A) RS-485 (Supports Modbus)
SAMPLING	Internal diaphragm pump, up to 500 cc/min
IP RATING	IP65
MECHANICAL INTERFACE	3/4 in NPT Male
INSTALLATION	50.8 mm (2 in) 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 110 kPa
DISPLAY	
DISPLAY	128 x 64 matrix backlit LCD, supports graphic display
128 X 64 MATRIX BACKLIT LCD, SUPPORTS GRAPHIC DISPLAY	
SIZE	10.1 in L x 7.9 in W x 4.2 in 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	5 V ±0.25 V DC
CURRENT	110 mA max
POWER CONSUMPTION	< 0.6 W
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	(T90): <30 s pumped version will provide improved response and recovery times on sticky gas
CALIBRATION	Two-point off-line and field calibration Optional three-point calibration
ACCURACY	±2% for calibration point
ANALOGUE OUTPUT	0.5 - 2.5 V (ro=1.0 k)
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	-20°C to +55°C (-4°F to +131°F)
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 in D x 5.94 in L)
WEIGHT	< 550 g (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