



INFRARED GAS DETECTOR

Omniguard® model 3100

The Omniguard® model 3100 gas detector is designed to detect and measure the presence and level of gases in industrial applications such as refineries, drilling and production platforms, gas turbines, chemical plants, fuel loading facilities, compressor stations, waste water treatment facilities, LNG/LPG processing and storage facilities, transportation facilities and manufacturing processes.

The Omniguard® model 3100 gas detector is based on well proven sensor technology and has fast response time, excellent measuring accuracy and long term stability. The microprocessor controlled functionality and the simple calibration procedure makes the Omniguard® 3100 gas detector easy to use and maintain and very reliable in field operation. Easy to read display and standard 4-20 mA and HART rev 7 output makes installation and operation of the detector quick and easy.

Specifications

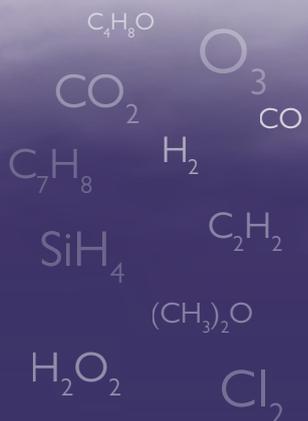
General specifications

Measuring type	Diffusion
Measuring method	Infrared
Detectable gases	Hydrocarbon gases (LNG, LPG, Methane, Buthane etc) CO ₂ , CO, N ₂ O
Measuring range	Depending on gas
Accuracy	≤ ±3% / Full range
Zero drift	≤ ±2% / Full range
Response time	Typical 90% of range in less than 10 seconds
Basic interface	Analog 4-20 mA current interface
HART interface	HART rev 7
Relay contact	Alarm1, Alarm 2, Fault relay rated 1.0A@30VDC or 0.5A@125VAC
Certification	 II 2 G Ex db IIC Gb T4, T6, SIL2 Classified for use in hazardous locations Class I, Division 1, Groups A, B, C, D hazardous locations. UL Certificate of Compliance E506030 SIL2 SGS TÜV Certificate number: FS/71/220/20/0566
Protection class	IP66
Operating temperature	Transmitter: -40°C to +80°C (-40°F to +176°F) Sensor: -40°C to +80°C (-40°F to +176°F)
Operation humidity	Transmitter: 5 to 99% RH (non-condensing) Sensor: 5 to 99% RH (non-condensing)
Pressure range	90 to 110 kPa
Max air velocity	6 m/s

Specifications continue on next page...

Key features

- ♣ Wide range of detectable gases
- ♣ Operation in non oxygen environment
- ♣ HART rev 7 communication as standard
- ♣ Advanced self-test and diagnostics
- ♣ Smart programming and auto calibration
- ♣ 4-20 mA output signal
- ♣ Easy in field calibration and maintenance
- ♣ Robust weather- and flame proof enclosure for indoor or outdoor applications
- ♣ Low cost of ownership
- ♣ Long service life (>5 years)
- ♣ IECEx, ATEX, SIL2, CE



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Specifications (continued)

Electrical specifications

Input voltage	18 to 31 VDC Nominal: 24 VDC Ripple voltage: <1 V
Power consumption	Max. wattage: 9.6W@+24 VDC Max. current: 400 mA@+24 VDC
Current loop	0-20 mA (source or sink) 500 ohms max load
Measured value signal:	4 mA (zero) to 20 mA (full range)
Fault:	0 mA
HART fault:	2 mA
Maintenance:	3 mA
0-100%:	4 mA-20 mA
100-109%:	20 mA - 21.6 mA
Over 110%:	22 mA
Current loop ripple & noise max	±20 µA
Wiring requirement	Power CVVS or CVVSB with shield Analog CVVS or CVVSB with shield
Signal transmission distance	Analog: 2500 m (8200 ft) RS485: 1000 m (3280 ft)
EMC protection	Complies with EN50270
Mechanical considerations	
Housing	Aluminium (ALDC) or Stainless Steel (316) Sensor: Stainless Steel (316)
Weight	3.2 kg (7.1 lbs) (aluminium) 4.8 kg (10.6 lbs) (stainless steel)
Dimensions	156 (W) x 322 (H) x 110 (D) mm (6.2 (W) x 12.7 (H) x 4.3 (D)) in
Conduit entry	3/4-14 NPT or M20-1.5
Mounting holes	Ø 7 ±0.1 (Ø 0.28 in)
Optional accessories (Art.no.)	
Pole mount	28237
Rain cover, plastic	27727
Rain cover, SS (304)	28346
Magnet bar	27730

Warranty 2 years (Transmitter) / 1 year (Sensor)



Ordering information

Type	Omniguard® model 3100
Designation	Infrared gas detector
Ordering number	3100 - X X X X X X
Housing material/conduit entry	<ul style="list-style-type: none"> 0 Aluminium, 3/4-14 NPT (white) 1 Stainless Steel, 3/4-14 NPT 2 Aluminium, M20x1.5 (white) 3 Stainless steel, M20x1.5
Detectable gas	<ul style="list-style-type: none"> 0 CH₄ (methane) 1 C₄H₁₀ (butane) 2 C₃H₈ (propane) 3 CO₂ (carbon dioxide) 4 CO (carbon monoxide) 5 N₂O (nitrous oxide) 9 Special gas
Measuring method	0 Infrared
Measuring range	<ul style="list-style-type: none"> 0 0-4000 ppm (N₂O) 1 0-9999 ppm (CH₄, C₄H₁₀, C₃H₈) 2 200-4000 ppm (N₂O) 3 0-2% Vol (CO) 4 0-5% Vol (CO₂) 5 0-20% Vol (CO₂) 6 0-100% Vol (CH₄, C₄H₁₀, C₃H₈) 7 0-100% LEL (CH₄, C₄H₁₀, C₃H₈) 9 Special range
Output signal	0 4-20 mA, and HART rev 7, relays
Configuration	<ul style="list-style-type: none"> 0 Standard 1 Remote option
Approvals	0 IECEx, ATEX, SIL2, CE



For information on the specific certifications and approvals each Omniguard® Gas Detector holds please visit: <https://omniguardbyfirefly.com/gasdetectors>

