

# GD1-H<sub>2</sub>S

Laser Open Path Gas Detector



#### **Presentation**

The GD1 has been designed with features that provide an effective response to the detection of gas hazards in a wide range of industrial environments from offshore production facilities to wastewater treatment plants.

At the heart of the detector is a tunable laser diode that eliminates environmental effects from sun, rain, sand, and fog. The laser scans single absorption lines where there is no interference from other gases.

Unlike traditional methods for detecting H<sub>2</sub>S (MOS or EC cell), the GD1 needs no recalibration and can replace multiple standard detectors to cover the same risk.

The complete optomechanical design and construction is so stable that an ultra fast response time can be achieved whilst providing unparalleled service life and detector stability, thus saving on maintenance and service costs.

The detector is supplied with worldwide hazardous area approvals, is suitable for SIL2 applications and comes with a 5 year warranty.

#### **Features**

- Fail safe
- Fast response time
- Calibration free
- Operates up to 98% of obscuration

# **Technical data:**

#### **General**

| Detection method IR- | New IR laser scanning  |
|----------------------|--|
| Source               | Tunable laser diode<br>Laser Class 1, eye safe                               |
| Detected gas         | H <sub>2</sub> S   |
| Range                | 0-200 ppm*m 0-500 ppm*m 0-1000 ppm*m 0-2000 ppm*m 0-5000 ppm*m 0-20000 ppm*m |
| Path length          | 5 - 75 m   |
| Self test            | Continuous   |
| Calibration          | Factory set, no field recalibration  |

## **Performance**

| Accuracy      | <±4% of full range |
|---------------|--------------------|
| Repeatability | <±4% of full range |
| Response time | <5 sec             |

## **Optics**

| Alignment             | ±0.30 Degree                      |
|-----------------------|-----------------------------------|
| Optics                | Heated (transmitter and receiver) |
| Tolerable obscuration | 98% (Allowable signal loss)       |

# **Output signal**

| Standard      | 4-20mA source or sink<br>HART® |                                 |
|---------------|--------------------------------|---------------------------------|
| Fault signals | Fault<br>Beam block<br>Warning | 1 mA<br>2 mA<br>3 mA (optional) |

#### **Electrical**

| Power supply      | 24V DC, range (18 - 32V DC) |
|-------------------|-----------------------------|
| Power consumption | <15 W                       |
| Cable entry       | M25                         |

# **Temperature range**

| Storage              | -55°C to +65°c (-67°f to + 149°f) |
|----------------------|-----------------------------------|
| Operating            | -55°C TO + 65°C (-67°F TO +149°F) |
| Atex flameproof      | -55°C to + 75°c (-67°f to +167°f) |
| Humidity (operation) | 100% RH                           |

#### **Material**

| Tx and rx housing | Stainless steel (ASTM 316) |
|-------------------|----------------------------|
| Junction box      | Grp                        |

# Weight

| Approx. | 5.5 Kg (12 lbs) per tx or rx               |
|---------|--|
| Approx. | 2.0 Kg (4.4 Lbs) per tx or rx junction box |

### **Dimensions**

| Tx and rx housing | Ref. Outline drawing |
|-------------------|----------------------|

#### Warranty

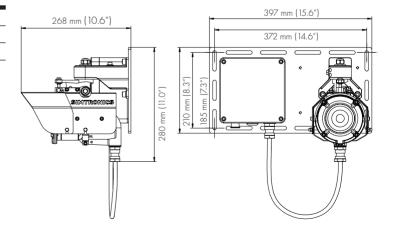
5 Years full warranty on detector system

# **Approvals**

| Atex rating tx/rx | II 2 g                           | Ex d [op is] IIC T6/T5 Gb |
|-------------------|----------------------------------|---------------------------|
| Atex rating jb    | II 2 g                           | Ex e IIC T5 Gb            |
| lecex             | DNV 10.0002X (JB: PRE 14.0040)   |                           |
| Ingress           | IP66/IP67 according to IEC 60529 |                           |
| Sil               | Suitable for us                  | e in SIL2 systems         |

#### **Accessories**

| GD1-X00-TT01 | Alignment kit |
|--------------|---------------|
| GD1-X00-TT02 | Test cell     |







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