

SMART3GD-Grl

for mines and tunnels

The SMART3GD-Grl gas detector is designed to be installed in mines, tunnels and ATEX areas classified as Group I.

The sensing element is housed in the stainless steel head. Depending on the gas to be detected, the gas detector can be equipped with a catalytic sensor, an infrared sensor or an electrochemical cell.

The gas detector has a 12-24 Vdc power supply and a standard 4-20 mA 3-wires output and three relays. Optionally, the SMART3GD-Grl can be equipped with serial RS485 communication.

The stainless steel enclosure has dimensions 145 x 187 x 128 mm. The enclosure has 3 cable entries 3/4" NPT threaded. The SMART3GD-Grl features a 7-segment display for real-time concentration visualization and Hall effect sensors for non-intrusive field calibration.

The gas detector can be ATEX marked as follows:

CE 0722 Ex II 2G Ex db IIC T5 Gb

SMART3GD-Grl is SIL2 hardware and SIL3 software; with a redundant system also the hardware is SIL3.



| Sensor | |
|---------------------------|---|
| Application | Mines, tunnels and ATEX areas classified as Group I |
| Sensing element | Catalytic, Infrared and Electrochemical cell |
| Predicted sensor lifetime | Catalytic sensor: 4 / 5 years Infrared sensor: >5 years Electrochemical cell: 2/3 years |
| Gas detected | Methane [0 - 100% LFL]; Oxygen [0 - 25% Vol]; Carbon monoxide [0 - 500ppm] |

| Electrical data | |
|--------------------------|---|
| Power supply | 12-24 Vdc |
| Output | Analogue 4-20 mA output; 3 relay board; serial RS485 output (optional) |
| Maximum dissipated power | 5.4 W |
| Relays contact ratings | 1.0 A at 24 Vdc |
| Optical indications | 7-segment display, 5 status LED and 4 intelligent LED, multi-color LED light ring |
| Acoustic indications | - |
| Hall effect sensor | Three sensors for calibration by magnet |

| Environmental conditions | |
|--------------------------|--|
| Storage temperature | With catalytic and infrared sensor: -40 / +85°C With electrochemical cell: 0 / +20°C (up to 6 months) |
| Operating temperature | With catalytic and infrared sensor: -20 / +60°C With electrochemical cell: -20 / +50°C |
| Operating humidity | With catalytic and infrared sensor: 0 / 95% RH With electrochemical cell: 15 / 90% RH |

| External case | |
|-----------------|--|
| Material | Enclosure: stainless steel Sensor head: stainless steel |
| Protection mode | Ex d: Explosion proof enclosure |
| Dimensions | 145 x 187 x 128 mm |
| Weight | 3300 g |
| Cable entries | 3 x 3/4" NPT |
| IP grade | IP65 |

| Compliance | |
|------------|---|
| EMC | EN 61000-6-3:2007 + A1:2011; EN 50270:2015 |
| ATEX | ATEX directive 2014/34/EU EN IEC 60079-0:2012 EN 60079-1:2007 |
| SIL | EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7 EN50402:2017 |

| Product codes | ATEX code |
|---|-------------------|
| S3515ME CH ₄ gas detector with catalytic sensor | ST / LA / E3 / S3 |
| S3912ME CH ₄ gas detector with infrared sensor | ST / LA / E3 / S3 |
| S391102 O ₂ gas detector with electrochemical cell | ST / LA / E3 / S3 |
| S3514CO CO gas detector with electrochemical cell | ST / LA / E3 / S3 |



Distributed by:
Air-Met Scientific Pty Ltd
Air-Met Sales/Service P: 1800 000 744 F: 1800 000 774 E: sales@airmet.com.au
Air-Met Rental P: 1300 137 067 E: hire@airmet.com.au W: www.airmet.com.au

Sensitron srl works for a constant improvement of its products and reserves the right to change the technical data without notice. To have the updated product characteristics check on the website www.sensitron.it or write an e-mail to sales@sensitron.it

DS4929E Rev.0 09/04/2021

Sensitron srl, Viale della Repubblica 48, Cornaredo (MI) - 20007
sales@sensitron.it

TEL. +39 0293548155 FAX. +39 0293548089



SMART3GD-GrI

for mines and tunnels

Mechanical drawings

