SMART3GC-Grl

for mines and tunnels

The SMART3GC-GrI 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. Optionally, the SMART3GD-GrI can be equipped with serial RS485 communication and three relays.

The stainless steel enclosure has dimensions 145 x 187 x 108 mm. The enclosure has 3 cable entries 3/4'' NPT threaded.

The gas detector can be ATEX marked as follows:

C € 0722 **(** I M2 Ex db I Mb

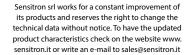
 ${\it SMART3GC-GrI}\ is\ {\it SIL2}\ hardware\ and\ {\it SIL3}\ software; with\ a\ redundant\ system\ also\ the\ hardware\ is\ {\it SIL3}.$



Sensor		
Application	Mines, tunnels and ATEX areas classified a 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 (optional); serial RS485 output (optional)	
Maximum dissipated power	5.4 W	
Relays contact ratings	1.0 A at 24 Vdc	
Optical indications	-	
Acoustic indications	-	
Hall effect sensor	-	
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	

With catalytic and infrared sensor: 0 / 95% RH With electrochemical cell: 15 / 90% RH

Material		Enclosure: stainless stee Sensor head: stainless st	•
Protection	mode	Ex d: Explosion proof en	closure
Dimension	ıs	145 x 187 x 108 mm	
Weight		2800 g	
Cable entr	ies	3 x 3/4" NPT	
IP grade		IP65	
Compliand	е		
EMC		EN 61000-6-3:2007 + A1:2011; EN 50270:2015	
ATEX		ATEX directive 2014/34/EU EN IEC 60079-0:2018 EN 60079-1:2007	
SIL		EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7 EN50402:2017	
Product co	des		ATEX code
S3914ME	CH₄ gas detector with catalytic sensor		ST/LI/E3/S3
S3916ME	CH₄ gas detector with infrared sensor		ST / LI / E3 / S3
S3915O2	O ₂ gas detector with electrochemical cell		ST / LI / E3 / S3
S3913CO	CO gas detector with electrochemical cell		ST / LI / E3 / S3



Operating humidity





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Mechanical drawings

