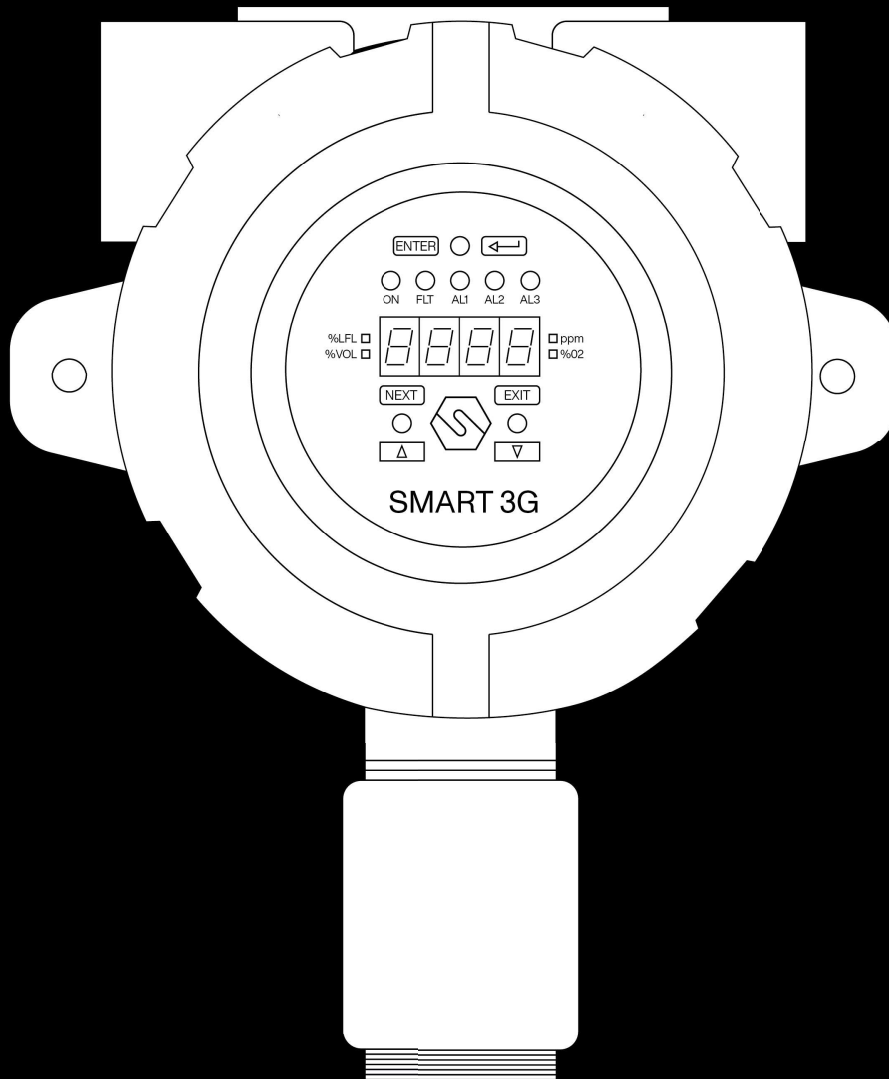


# SMART3G-D2

With photoionizator sensor



Datasheet





The SMART3G-D2 gas detector is designed to meet industrial requirements; the enclosure is explosion proof and can be installed in ATEX Zone 1 and, when equipped with dust adapter, in Zone 21.

The sensing element is placed in the stainless steel head with a 48 mm diameter. The PID sensors employed for the Volatile Organic Compound are able to detect lower gas concentration than most of other technologies.

The gas detector has a 12-24 Vdc power supply and a standard 4-20 mA 3-wires output and three relays. Optionally, the SMART3G-D2 can be equipped with serial RS485 communication.

The aluminium enclosure has dimensions 145 x 187 x 108 mm. The enclosure has 3 cable entries 3/4" NPT threaded. The SMART3G-D2 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**

Or, when equipped with dust adapter:  
**CE 0722 Ex II 2GD Ex db IIC T5 Gb**  
**Ex tb IIIC T5 T100°C Db**  
**IP65**

The gas detector is IECEx complaint and can be marked as follows:  
**Ex db IIC T5 Gb**

Or, when equipped with dust adapter:  
**Ex db IIC T5 Gb**  
**Ex tb IIIC T100°C Db**  
**IP65**

SMART3G-D2 is SIL2 hardware and SIL3 software; with a redundant system also the hardware is SIL3.

## Sensor

Application	Industrial area, ATEX Zone 1 e Zone 21 (when equipped with dust adapter, optional)
Sensing element	Photoionizator (PID)
Predicted sensor lifetime	>5 years
Lamp lifetime	Versions with FS 20 and 200 ppm: 10000 hours Versions with FS 2000 ppm: 6000 hours
Gas detected	Volatile Organic Compounds (VOC) having photoionization potential up to 10.8 eV
Full scale	0 - 20 ppm (Isobutylene) 0 - 200 ppm (Isobutylene) 0 - 2000 ppm (Isobutylene)



## 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
Acoustic indications	-
Hall effect sensor	Three sensors for calibration by magnet

## Environmental conditions

Operating and storage temperature	Versions with FS 20 and 200 ppm: -40 / +65°C Versions with FS 2000 ppm: -20 / +60°C
Operating humidity (non condensing)	Versions with FS 20 and 200 ppm: 5 / 95% RH Versions with FS 2000 ppm: 5 / 90% RH @40°C
Response Time	$t_{90} < 40 \text{ s}$ ; $t_{50} < 15 \text{ s}$

## External case

Material	Enclosure: aluminium pressure die-casting with epoxy paint chromating and chemically resistant Sensor head: stainless steel
Protection mode	Ex d : Explosion proof enclosure Ex t : Equipment dust ignition protection by enclosure (when equipped with dust adapter, optional)
Dimensions	145 x 187 x 108 mm
Weight	1900 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 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014
IECEX	IEC 60079-0:2011 IEC 60079-1:2014 IEC 60079-31:2013
SIL	EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7 EN50402:2017



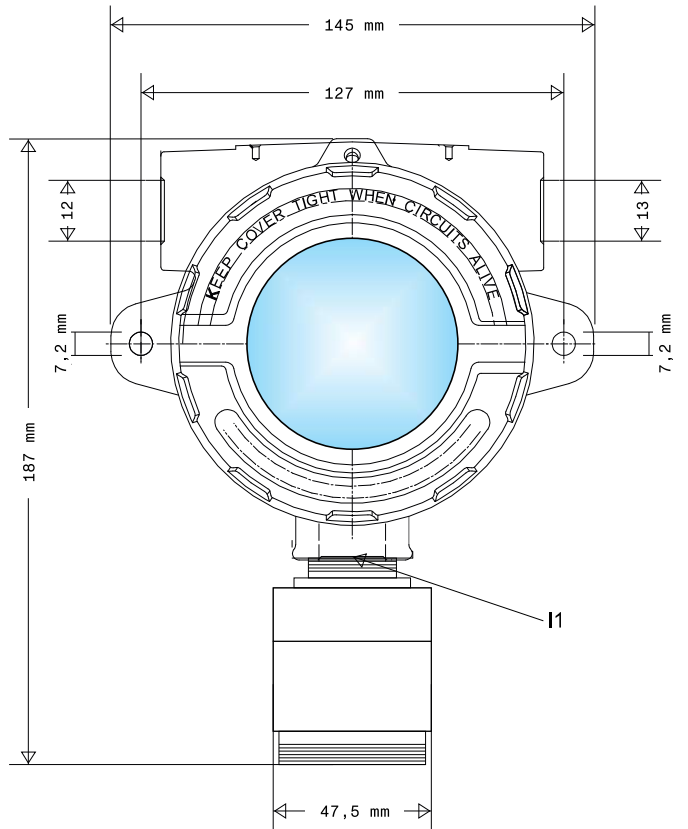
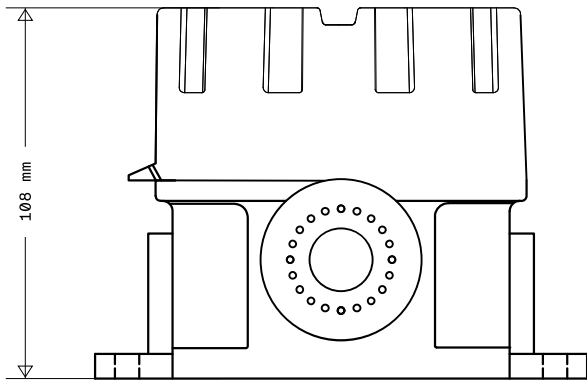
Product codes

ATEX code

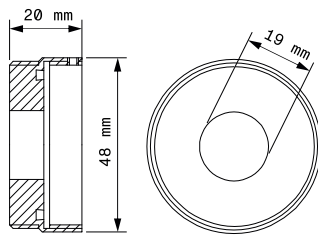
Volatile Organic Compounds detectors, 12-24 Vdc

S3541IL	Isobutylene (0-20 ppm) gas detector	ST / LW / E3 / S3
S3545IL	Isobutylene (0-200 ppm) gas detector	ST / LW / E3 / S3
S5122IL	Isobutylene (0-2000 ppm) gas detector	ST / LW / E3 / S3

Mechanical drawings



STG/AD3  
Dust adapter



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