

# SMART3G-D2

with infrared sensor

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 infrared sensors employed for the flammable and refrigerant gas detection are poison free, with high accuracy and a long lifetime.

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 compliant and can be marked as follows:

II 2G Ex db IIC T5 Gb

Or, when equipped with dust adapter:

II 2GD Ex db IIC T5 Gb  
Ex tb IIIC T5 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 and Zone 21 (when equipped with dust adapter, optional)
Sensing element	Infrared
Predicted sensor lifetime	>5 years
Gas detected	Flammable, refrigerant and CO <sub>2</sub>
Fullscale	0 - 100% LFL flammable gas 0 - 2000 ppm refrigerant gas 0-2%Vol; 0-5%Vol; 0-30%Vol; 0-100%Vol CO <sub>2</sub>

## 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 30 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

Storage temperature	-40 / +85°C
Operating temperature	-40 / +60°C *
Operating humidity	20 / 90% RH @40°C *
Operating pressure	80 / 120 kPa *
Air velocity	6 m/s *
Time of response	t <sub>90</sub> < 60 s ; t <sub>50</sub> < 20 s *

\* Data tested with tests described in EN 60079-29-1 standard

## 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 128 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/UE EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014 EN 60079-29-1:2016
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

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## Product codes

## ATEX code

Flammable gas detectors 0-100% LFL, 12-24 Vdc

S2626ME	METHANE detector	ST / LW / E3 / S3
S2602BU	BUTANE detector	ST / LW / E3 / S3
S2602PR	PROPANE detector	ST / LW / E3 / S3
S2602GP	LPG detector	ST / LW / E3 / S3
S2602AT	ACETONE detector	ST / LW / E3 / S3
S2602BN	BUTADIENE detector	ST / LW / E3 / S3
S2602CE	CYCLO HEXANE detector	ST / LW / E3 / S3
S2602DT	DIMETHYL ETHER detector	ST / LW / E3 / S3
S2602EN	ETHANE detector	ST / LW / E3 / S3
S2602AE	ETHYL ACETATE detector	ST / LW / E3 / S3
S2602ET	ETHYL ALCOHOL detector	ST / LW / E3 / S3
S2602EP	HEPTANE detector	ST / LW / E3 / S3
S2602ES	HEXANE detector	ST / LW / E3 / S3
S2602IB	ISO BUTANE detector	ST / LW / E3 / S3
S2602IL	ISOBUTYLENE detector	ST / LW / E3 / S3
S2602IP	ISO PROPYL ALCOHOL detector	ST / LW / E3 / S3
S2602PE	PENTANE detector	ST / LW / E3 / S3
S2602PP	PROPYLENE detector	ST / LW / E3 / S3
S2602DE	R152a DIFLUOROETHANE detector	ST / LW / E3 / S3
S4435R454B	R454B detector	ST / LW / E3 / S3
S3427R32	R32 DIFLUOROMETHANE detector	ST / LW / E3 / S3

S3431R1234YF	R1234yf detector	ST / LW / E3 / S3
S3436R1234ZE	R1234ze detector	ST / LW / E3 / S3

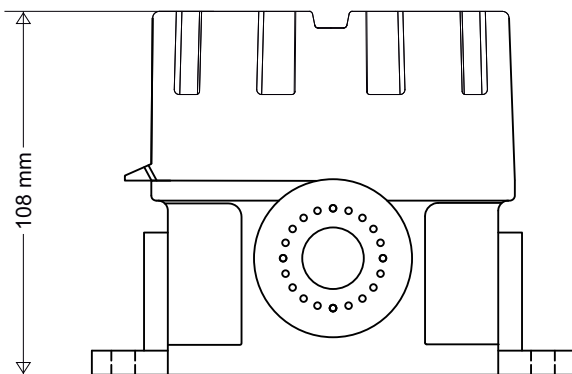
Refrigerant gas detectors 0-2000 ppm, 12-24 Vdc

S3945R32	R32 detector	ST / LW / E3 / S3
S3163R134A	R134a detector	ST / LW / E3 / S3
S3601SF6	SF6 detector	ST / LW / E3 / S3
S3661R125	R125 detector	ST / LW / E3 / S3
S3662R1234YF	R1234yf detector	ST / LW / E3 / S3
S3949R1234ZE	R1234ze detector	ST / LW / E3 / S3
S3663R404A	R404A detector	ST / LW / E3 / S3
S3917R407A	R407A detector	ST / LW / E3 / S3
S3664R407F	R407F detector	ST / LW / E3 / S3
S3924R449A	R449A detector	ST / LW / E3 / S3
S3665R507A	R507A detector	ST / LW / E3 / S3
S3673R410A	R410A detector	ST / LW / E3 / S3
S3953R417A	R417A detector	ST / LW / E3 / S3
S3957R448	R448 detector	ST / LW / E3 / S3

Carbon dioxide gas detectors, 12-24 Vdc

S2634CO2	CO <sub>2</sub> detector, 0-2% vol.	ST / LW / E3 / S3
S2635CO2	CO <sub>2</sub> detector, 0-5% Vol.	ST / LW / E3 / S3
S2449CO2	CO <sub>2</sub> detector, 0-30% Vol.	ST / LW / E3 / S3
S2636CO2	CO <sub>2</sub> detector, 0-100% Vol.	ST / LW / E3 / S3

## Mechanical drawings



STG/AD3  
Dust adapter

