

SMART3G-C2

with infrared sensor

SMART3G-C2 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. Optionally, the SMART3G-C2 can be equipped with serial RS485 communication and a 1 or 3 relays board .

The aluminium enclosure has dimensions 120 x 184 x 90 mm, with 3 cable entries 3/4" NPT threaded.

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 T100°C Db
IP65

The gas detector is IECEx compliant 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-C2 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	Infrared
Predicted sensor lifetime	>5 years
Gas detected	Flammable, refrigerant and CO ₂
Full scale	0 - 100% LFL flammable gas 0 - 2000 ppm refrigerant gas 0-2%Vol; 0-5%Vol; 0-30%Vol; 0-100%Vol CO ₂

Electrical data

Power supply	12-24 Vdc
Output	Analogue 4-20 mA output; 1 or 3 relay board (optional); serial RS485 output (optional)
Maximum dissipated power	5.4 W
Relays contact ratings (optional board)	1.0 A at 24 Vdc
Optical indications	-
Acoustic indications	-
Hall effect sensor	-

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 ₉₀ < 60 s ; t ₅₀ < 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	120 x 184 x 90 mm
Weight	1250 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 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

S2624ME	Methane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654BU	Butane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654PR	Propane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654GP	LPG (0-100%LFL) gas detector	ST / L / E3 / S3
S2654AT	Acetone (0-100%LFL) gas detector	ST / L / E3 / S3
S2654BN	Butadiene (0-100%LFL) gas detector	ST / L / E3 / S3
S2654CE	Cyclohexane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654DT	Dimethyl ether (0-100%LFL) gas detector	ST / L / E3 / S3
S2654EN	Ethane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654AE	Ethyl acetate (0-100%LFL) gas detector	ST / L / E3 / S3
S2654ET	Ethyl alcohol (0-100%LFL) gas detector	ST / L / E3 / S3
S2654EP	Heptane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654ES	Hexane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654IB	Isobutane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654IL	Isobutylene (0-100%LFL) gas detector	ST / L / E3 / S3
S2654IP	Isopropyl alcohol (0-100%LFL) gas detector	ST / L / E3 / S3
S2654PE	Pentane (0-100%LFL) gas detector	ST / L / E3 / S3
S2654PP	Propylene (0-100%LFL) gas detector	ST / L / E3 / S3
S2654VB	Petrol vapours (0-100%LFL) gas detector	ST / L / E3 / S3
S2654DE	R152a (0-100%LFL) gas detector	ST / L / E3 / S3
S4433R454B	R454B (0-100%LFL) gas detector	ST / L / E3 / S3
S3425R32	R32 (0-100%LFL) gas detector	ST / L / E3 / S3

S3429R1234YF	R1234YF (0-100%LFL) gas detector	ST / L / E3 / S3
S3433R1234ZE	R1234ZE (0-100%LFL) gas detector	ST / L / E3 / S3
Refrigerant gas detectors 0-2000 ppm, 12-24 Vdc		
S3944R32	R32 (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3596R134A	R134A (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3599SF6	SF6 (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3656R125	R125 (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3657R1234YF	R1234YF (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3948R1234ZE	R1234ZE (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3658R404A	R404A (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3659R407A	R407A (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3920R407F	R407F (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3923R449A	R449A (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3660R507	R507 (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3017R410A	R410A (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3952R417A	R417A (0 - 2000 ppm) gas detector	ST / L / E3 / S3
S3956R448	R448 (0 - 2000 ppm) gas detector	ST / L / E3 / S3
Carbon dioxide gas detectors, 12-24 Vdc		
S2651CO2	CO ₂ (0-2% Vol) gas detector	ST / L / E3 / S3
S2652CO2	CO ₂ (0-5% Vol) gas detector	ST / L / E3 / S3
S2445CO2	CO ₂ (0-30% Vol) gas detector	ST / L / E3 / S3
S2630CO2	CO ₂ (0-100% Vol) gas detector	ST / L / E3 / S3

Mechanical drawings

