

SMART3G-C2

with catalytic 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. Sensitron has developed two type heads with different dimensions: the model "Type head 2" has a 40 mm diameter, the "Type head 3" version has a 48 mm diameter. The pellistor sensors employed for the flammable gas detection show an excellent output linearity up to 100% LEL and fast time of response.

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 162 x 90 mm when equipped with type head 2, 120 x 184 x 90 mm when the head type 3 is used. The enclosure has 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 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-C2 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	Catalytic
Predicted sensor lifetime	4 / 5 years
Gas detected	Flammable gas
Fullscale	0 - 100% LFL

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 30 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	With type head 2: 120 x 162 x 90 mm With type head 3: 120 x 184 x 90 mm
Weight	With type head 2: 1050 g With type head 3: 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/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 Parti 1, 2, 3, 4, 5, 6, 7 EN50402:2017

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Product codes

Product codes	ATEX code	Product description	ATEX code		
S2097ME	ST / L / E3 / S2	Methane gas detector, 12-24 Vdc	S2097IB	ST / L / E3 / S2	Isobutane gas detector, 12-24 Vdc
S2097GP	ST / L / E3 / S2	LPG gas detector, 12-24 Vdc	S2097IT	ST / L / E3 / S2	Iso butyl alcohol gas detector, 12-24 Vdc
S2097PR	ST / L / E3 / S2	Propane gas detector, 12-24 Vdc	S2097IN	ST / L / E3 / S2	Iso pentane gas detector, 12-24 Vdc
S2097BU	ST / L / E3 / S2	Butane gas detector, 12-24 Vdc	S2097IP	ST / L / E3 / S2	Iso propyl alcohol gas detector, 12-24 Vdc
S2097VB	ST / L / E3 / S2	Petrol vapours gas detector, 12-24 Vdc	S2097MT	ST / L / E3 / S2	Methyl alcohol gas detector, 12-24 Vdc
S2097AA	ST / L / E3 / S2	Acetic acid gas detector, 12-24 Vdc	S2097MK	ST / L / E3 / S2	Methyl ethil ketone gas detector, 12-24 Vdc
S2097AT	ST / L / E3 / S2	Acetone gas detector, 12-24 Vdc	S2097NN	ST / L / E3 / S2	Nonane gas detector, 12-24 Vdc
S2097AB	ST / L / E3 / S2	Butyl acetate gas detector, 12-24 Vdc	S2097PE	ST / L / E3 / S2	Pentane gas detector, 12-24 Vdc
S2097BT	ST / L / E3 / S2	Butyl alchol gas detector, 12-24 Vdc	S2097PP	ST / L / E3 / S2	Propylene gas detector, 12-24 Vdc
S2097CE	ST / L / E3 / S2	Ciclohexane gas detector, 12-24 Vdc	S2097PN	ST / L / E3 / S2	Propyl alcohol gas detector, 12-24 Vdc
S2097CP	ST / L / E3 / S2	Ciclopentane gas detector, 12-24 Vdc	S2097TM	ST / L / E3 / S2	Tri-methylbenzene gas detector, 12-24 Vdc
S2097EN	ST / L / E3 / S2	Ethane gas detector, 12-24 Vdc	S2097TO	ST / L / E3 / S2	Toluene gas detector, 12-24 Vdc
S2097AE	ST / L / E3 / S2	Ethyl acetate gas detector, 12-24 Vdc	S2097XI	ST / L / E3 / S2	Xylene gas detector, 12-24 Vdc
S2097ET	ST / L / E3 / S2	Ethyl alcohol gas detector, 12-24 Vdc	S2151AC	ST / L / E3 / S3	Acetylene gas detector, 12-24 Vdc
S2097EE	ST / L / E3 / S2	Ethyl ether gas detector, 12-24 Vdc	S2155AM	ST / L / E3 / S3	Ammonia gas detector, 12-24 Vdc
S2097EL	ST / L / E3 / S2	Ethylene gas detector, 12-24 Vdc	S2155BZ	ST / L / E3 / S3	Benzene gas detector, 12-24 Vdc
S2097EP	ST / L / E3 / S2	Heptane gas detector, 12-24 Vdc	S2155OE	ST / L / E3 / S3	Ethylene oxide gas detector, 12-24 Vdc
S2097ES	ST / L / E3 / S2	Hexane gas detector, 12-24 Vdc	S2154P8	ST / L / E3 / S3	JP8 gas detector, 12-24 Vdc
S2097H2	ST / L / E3 / S2	Hydrogen gas detector, 12-24 Vdc	S2155ST	ST / L / E3 / S3	Styrene gas detector, 12-24 Vdc
			S2155AV	ST / L / E3 / S3	Vinyl acetate gas detector, 12-24 Vdc
			S2155AF	ST / L / E3 / S3	Formaldehyde gas detector, 12-24 Vdc

Mechanical drawings

