

Ribble Enviro
...everything gas detection

Data Sheet

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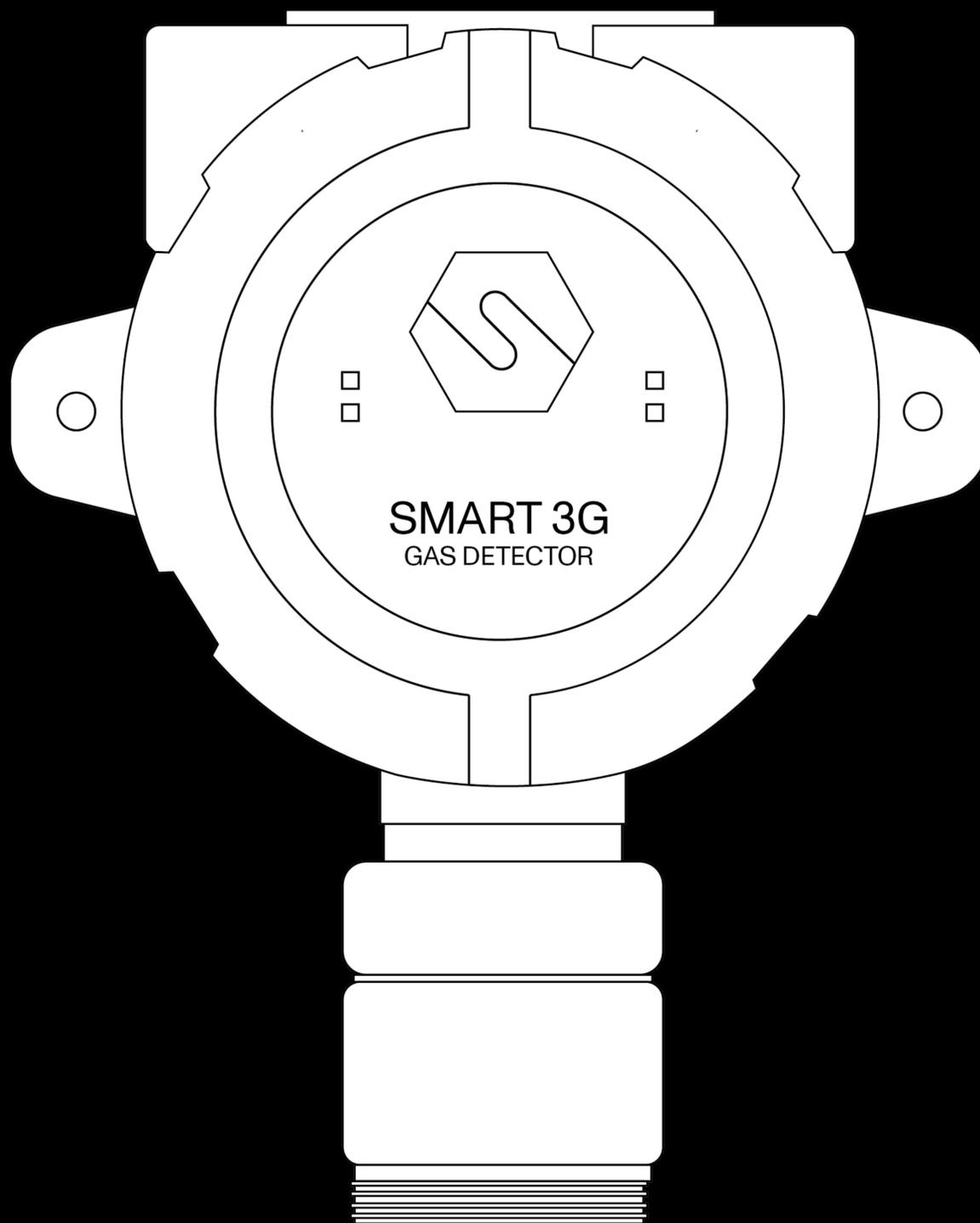
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Unit 4, Business Park, Gisburn, Clitheroe BB7 4JP

Company No: 06140589 VAT No: GB 906 6241 34

SMART 3G-C2-LD

with catalytic sensor



Datasheet





The SMART3G-C2-LD 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 housed in the stainless steel head. 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 and three relays. Optionally, the SMART3G-C2-LD 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 multi-colour LED light ring assures an immediate visual indication of the detector status.

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 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-C2-LD 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
Full scale	0 - 100% LFL
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	Multi-colour LED light ring
Acoustic indications	-



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	145 x 187 x 108 mm
Weight	1900 g
Cable entries	2 x 3/4" NPT
IP grade	IP65

Compliance

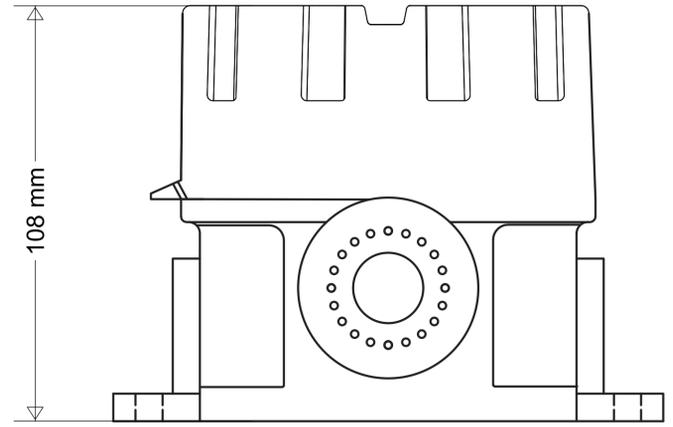
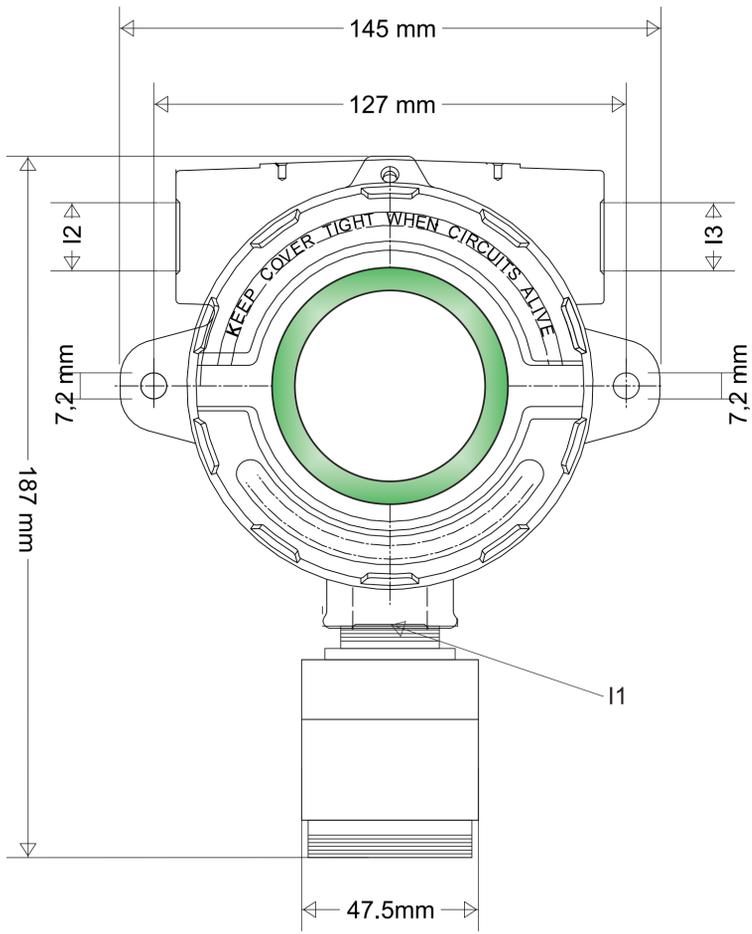
EMC	EN 61000-6-3:2007 + A1:2011; EN 50270:2015
ATEX	ATEX directive 2014/34/UE EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014 EN 60079-29-1:2016
IECEX	IEC 60079-0:2011 IEC 60079-1:2014 IEC 60079-31:2013
SIL	EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7 EN50402:2017



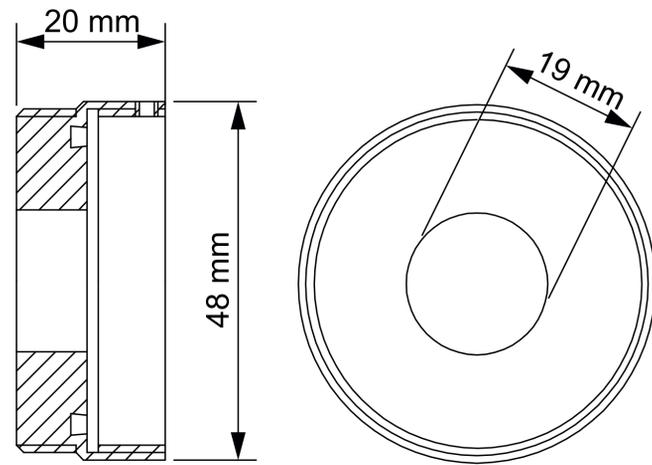
Product codes		ATEX code
S2155ME-LD	Methane gas detector	ST / LW / E3 / S3
S2155GP-LD	LPG gas detector	ST / LW / E3 / S3
S2155PR-LD	Propane gas detector	ST / LW / E3 / S3
S2155BU-LD	Butane gas detector	ST / LW / E3 / S3
S2155VB-LD	Petrol vapours gas detector	ST / LW / E3 / S3
S2155AA-LD	Acetic acid gas detector	ST / LW / E3 / S3
S2155AT-LD	Acetone gas detector	ST / LW / E3 / S3
S2155AB-LD	Butyl acetate gas detector	ST / LW / E3 / S3
S2155BT-LD	Butyl alcohol gas detector	ST / LW / E3 / S3
S2155CE-LD	Cyclohexane gas detector	ST / LW / E3 / S3
S2155CP-LD	Cyclopentane gas detector	ST / LW / E3 / S3
S2155EN-LD	Ethane gas detector	ST / LW / E3 / S3
S2155AE-LD	Ethyl acetate gas detector	ST / LW / E3 / S3
S2155ET-LD	Ethyl alcohol gas detector	ST / LW / E3 / S3
S2155EE-LD	Ethyl ether gas detector	ST / LW / E3 / S3
S2155EL-LD	Ethylene gas detector	ST / LW / E3 / S3
S2155EP-LD	Heptane gas detector	ST / LW / E3 / S3
S2155ES-LD	Hexane gas detector	ST / LW / E3 / S3
S2155H2-LD	Hydrogen gas detector	ST / LW / E3 / S3
S2155IB-LD	Isobutane gas detector	ST / LW / E3 / S3
S2155IT-LD	Iso butyl alcohol gas detector	ST / LW / E3 / S3
S2155IN-LD	Iso pentane gas detector	ST / LW / E3 / S3
S2155IP-LD	Iso propyl alcohol gas detector	ST / LW / E3 / S3
S2155MT-LD	Methyl alcohol gas detector	ST / LW / E3 / S3
S2155MK-LD	Methyl ethyl ketone gas detector	ST / LW / E3 / S3
S2155NN-LD	Nonane gas detector	ST / LW / E3 / S3
S2155PE-LD	Pentane gas detector	ST / LW / E3 / S3
S2155PP-LD	Propylene gas detector	ST / LW / E3 / S3
S2155PN-LD	Propyl alcohol gas detector	ST / LW / E3 / S3
S2155TM-LD	Tri-methylbenzene gas detector	ST / LW / E3 / S3
S2155TO-LD	Toluene gas detector	ST / LW / E3 / S3
S2155XI-LD	Xylene gas detector	ST / LW / E3 / S3
S2151AC-LD	Acetylene gas detector	ST / LW / E3 / S3
S2155AM-LD	Ammonia gas detector	ST / LW / E3 / S3
S2155BZ-LD	Benzene gas detector	ST / LW / E3 / S3
S2155OE-LD	Ethylene oxide gas detector	ST / LW / E3 / S3
S2154P8-LD	JP8 gas detector	ST / LW / E3 / S3
S2155ST-LD	Styrene gas detector	ST / LW / E3 / S3
S2155AV-LD	Vinyl acetate gas detector	ST / LW / E3 / S3



Mechanical drawings



STG/AD3 Dust Adapter



Contatti/Contacts

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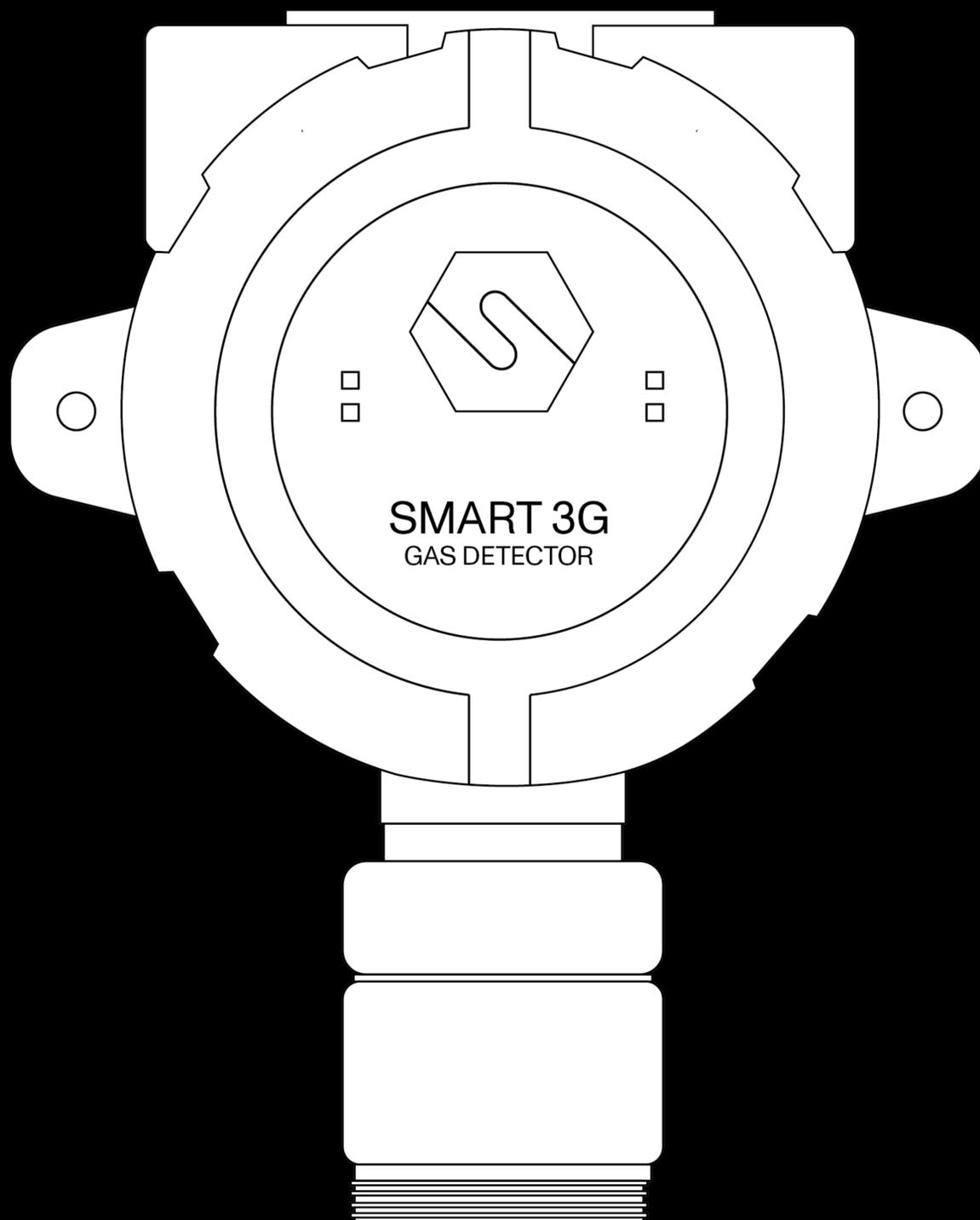
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SMART 3G-C2-LD

with infrared sensor



Datasheet





The SMART3G-C2-LD 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-C2-LD 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 multi-colour LED light ring assures an immediate visual indication of the detector status.

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 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-C2-LD 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 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; 3 relay board; serial RS485 output (optional)
Maximum dissipated power	5.4 W
Relays contact ratings	1.0 A at 24 Vdc
Optical indications	Multi-colour LED light ring
Acoustic indications	-



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	145 x 187 x 108 mm
Weight	1900 g
Cable entries	2 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



Product Codes		ATEX code
Flammable gas detectors 0-100% LFL, 12-24 Vdc		
S2624ME-LD	Methane detector	ST / LW / E3 / S3
S2654BU-LD	Butane detector	ST / LW / E3 / S3
S2654PR-LD	Propane detector	ST / LW / E3 / S3
S2654GP-LD	LPG detector	ST / LW / E3 / S3
S2654AT-LD	Acetone detector	ST / LW / E3 / S3
S2654BN-LD	Butadiene detector	ST / LW / E3 / S3
S2654CE-LD	Cyclo hexane detector	ST / LW / E3 / S3
S2654DT-LD	Dimethyl ether detector	ST / LW / E3 / S3
S2654EN-LD	Ethane detector	ST / LW / E3 / S3
S2654AE-LD	Ethyl acetate detector	ST / LW / E3 / S3
S2654ET-LD	Ethyl alcohol detector	ST / LW / E3 / S3
S2654EP-LD	Heptane detector	ST / LW / E3 / S3
S2654ES-LD	Hexane detector	ST / LW / E3 / S3
S2654IB-LD	Iso butane detector	ST / LW / E3 / S3
S2654IL-LD	Isobutylene detector	ST / LW / E3 / S3
S2654IP-LD	Iso propyl alcohol detector	ST / LW / E3 / S3
S2654PE-LD	Pentane detector	ST / LW / E3 / S3
S2654PP-LD	Ppropylene detector	ST / LW / E3 / S3
S2654DE-LD	R152a Difluoroethane detector	ST / LW / E3 / S3
S2654R454B-LD	R454B detector	ST / LW / E3 / S3
S3425R32-LD	R32 Difluoromethane detector	ST / LW / E3 / S3
S3429R1234YF-LD	R1234yf detector	ST / LW / E3 / S3
S3433R1234ZE-LD	R1234ze detector	ST / LW / E3 / S3
Refrigerant gas detectors 0-2000 ppm, 12-24 Vdc		
S3944R32-LD	R32 detector	ST / LW / E3 / S3
S3596R134A-LD	R134a detector	ST / LW / E3 / S3
S3599SF6-LD	SF6 detector	ST / LW / E3 / S3
S3656R125-LD	R125 detector	ST / LW / E3 / S3
S3657R1234YF-LD	R1234yf detector	ST / LW / E3 / S3
S3948R1234ZE-LD	R1234ze detector	ST / LW / E3 / S3
S3658R404A-LD	R404A detector	ST / LW / E3 / S3
S3659R407A-LD	R407A detector	ST / LW / E3 / S3
S3920R407F-LD	R407F detector	ST / LW / E3 / S3
S3923R449A-LD	R449A detector	ST / LW / E3 / S3
S3660R507-LD	R507A detector	ST / LW / E3 / S3
S3017R410A-LD	R410A detector	ST / LW / E3 / S3
S3952R417A-LD	R417A detector	ST / LW / E3 / S3
S3956R448-LD	R448 detector	ST / LW / E3 / S3



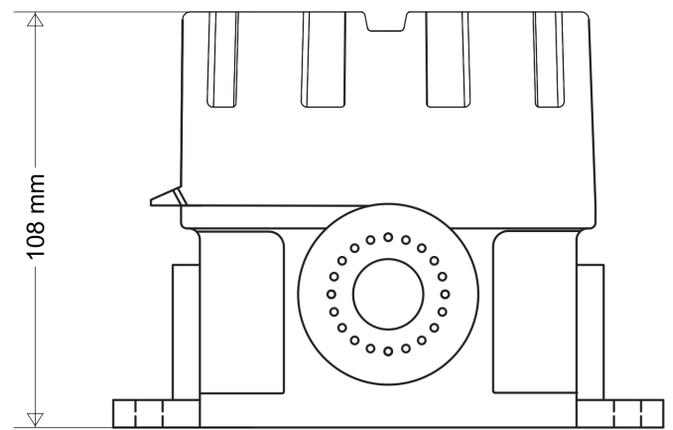
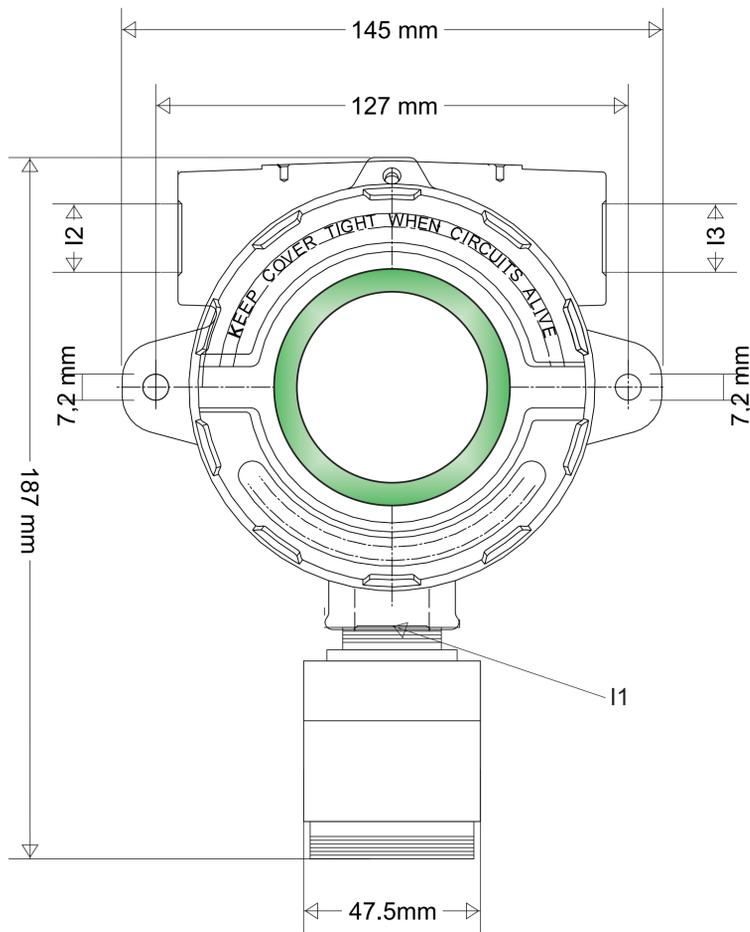
Product codes

ATEX code

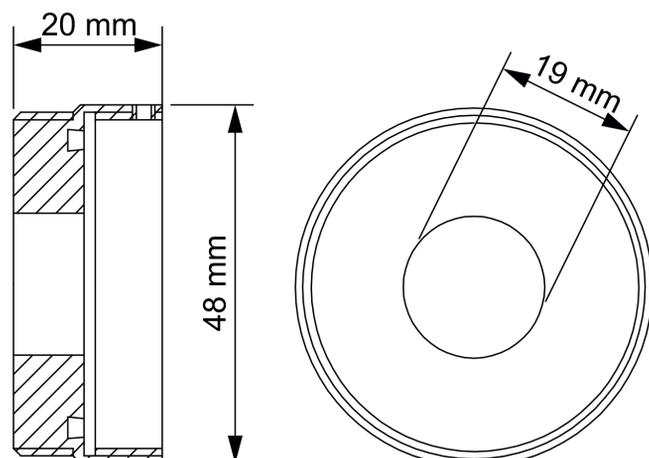
Carbon dioxide gas detectors, 12-24 Vdc

S2651CO2-LD	CO ₂ detector, 0-2% vol.	ST / LW / E3 / S3
S2652CO2-LD	CO ₂ detector, 0-5% Vol.	ST / LW / E3 / S3
S2445CO2-LD	CO ₂ detector, 0-30% Vol.	ST / LW / E3 / S3
S2630CO2-LD	CO ₂ detector, 0-100% Vol.	ST / LW / E3 / S3

Mechanical drawings



Adattatore per polveri STG/AD3
(accessorio opzionale disponibile per tutti i modelli)



Contatti/Contacts

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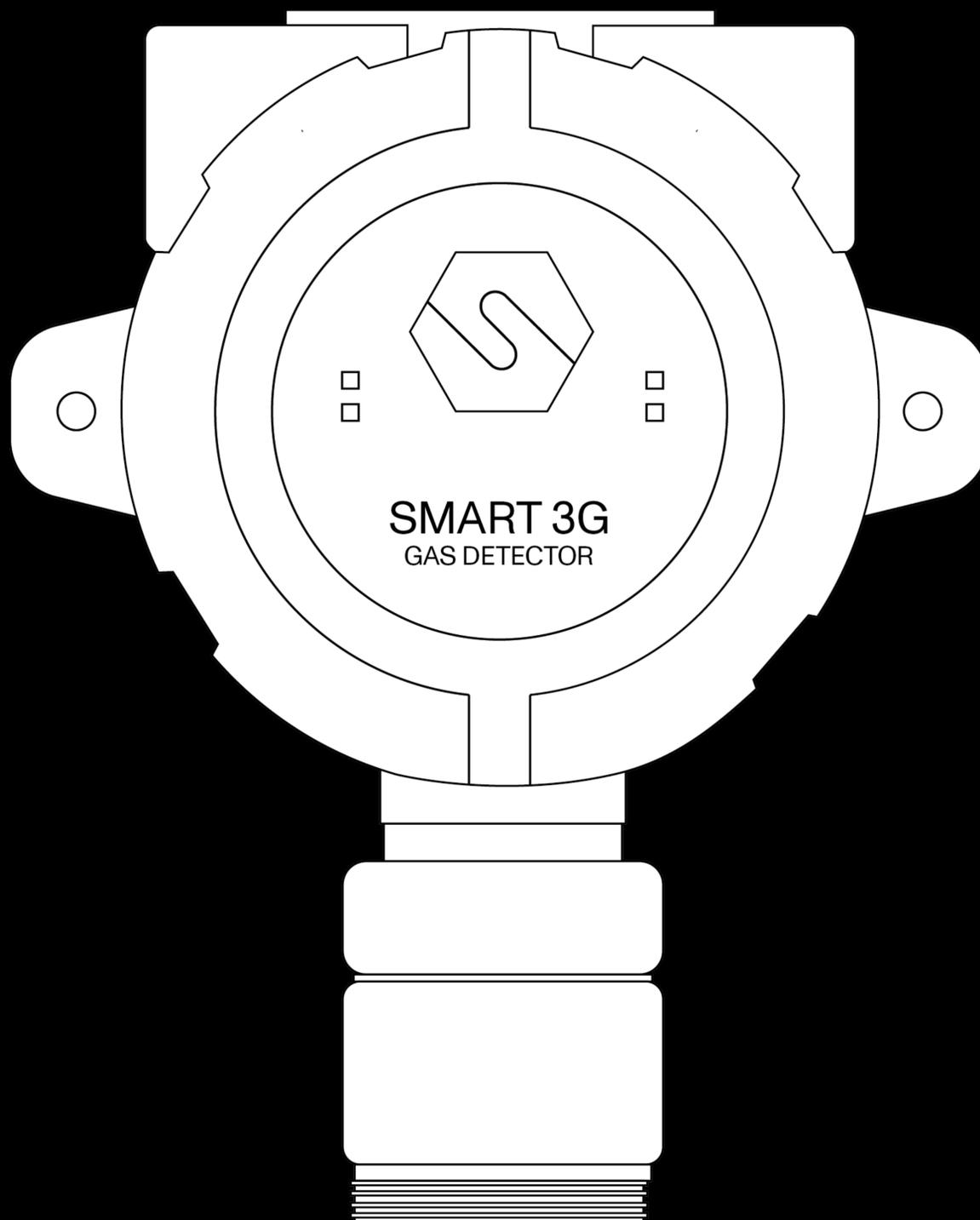
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SMART 3G-C2-LD

with electrochemical sensor



Datasheet





The SMART3G-C2-LD 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 electrochemical cell is used to detect toxic gas, due to the optimal performance in these applications.

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-C2-LD 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 multi-colour LED light ring assures an immediate visual indication of the detector status.

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 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-C2-LD 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	Electrochemical cell
Predicted sensor lifetime	2 / 3 years
Gas detected	O ₂ [0-25% Vol], CO [0-500/1000 ppm], NH ₃ [0-100/200/1000/5000 ppm], H ₂ S [0-50/100 ppm], NO [0 - 100 ppm]; H ₂ [0 - 2000/3000 ppm]
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	1.0 A at 24 Vdc
Optical indications	Multi-colour LED light ring
Acoustic indications	-



Environmental conditions

Storage temperature	0 / +20°C up to 6 months
Operating temperature	-30 / +55°C
Operating humidity	15 / 90% RH non condensing

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	2 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 Parti 1, 2, 3, 4, 5, 6, 7 EN50402:2017

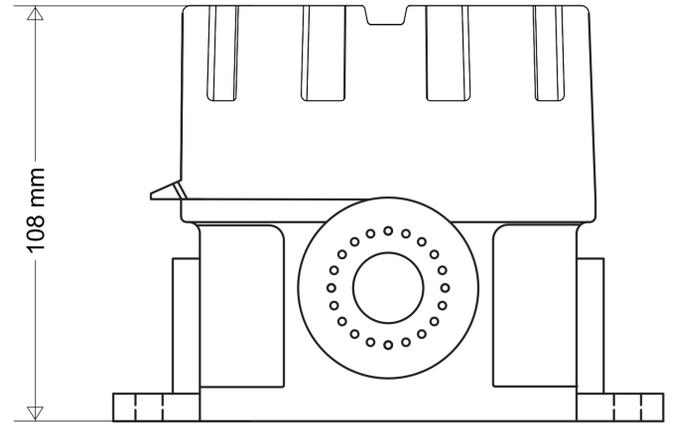
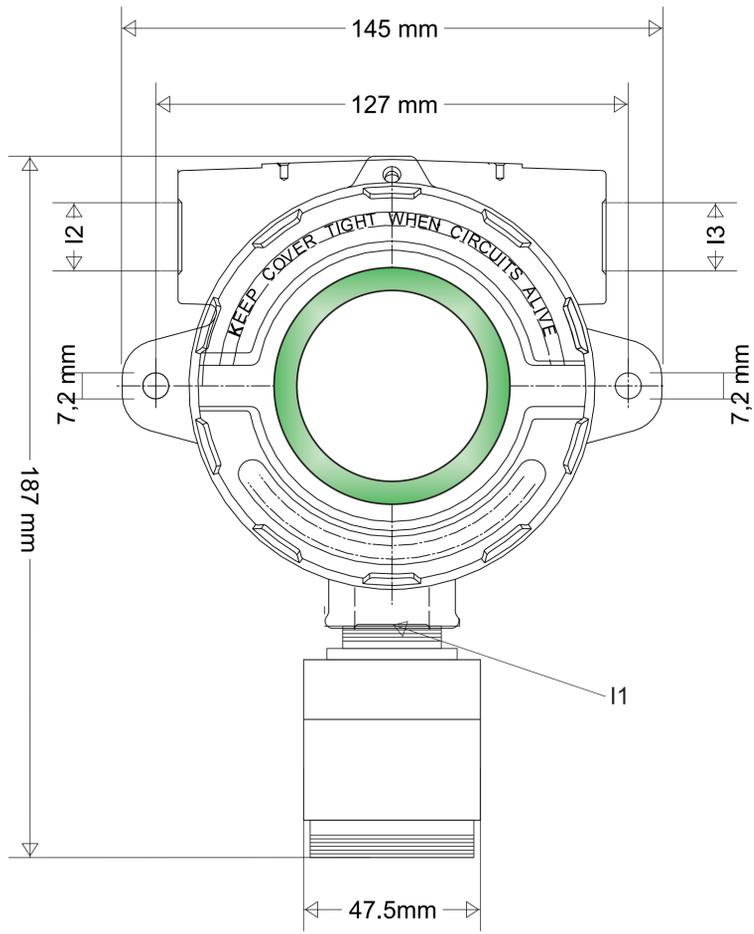
Product codes

ATEX code

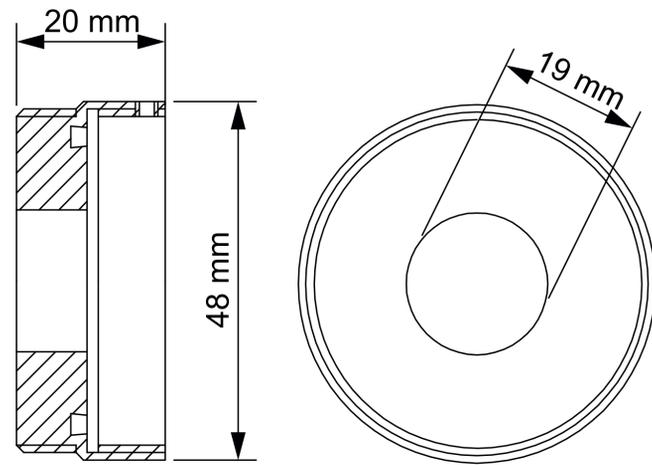
Product codes		ATEX code
S2641O2-LD	Oxygen (0 - 25% Vol) gas detector	ST / LW / E3 / S3
S2131CO-LD	CO (0-500 ppm) gas detector	ST / LW / E3 / S3
S2586CO-LD	CO (0-1000 ppm) gas detector	ST / LW / E3 / S3
S3225AM-LD	NH ₃ (0-100 ppm) gas detector	ST / LW / E3 / S3
S2133AM-LD	NH ₃ (0-200 ppm) gas detector	ST / LW / E3 / S3
S2135AM-LD	NH ₃ (0-1000 ppm) gas detector	ST / LW / E3 / S3
S3229AM-LD	NH ₃ (0-5000 ppm) gas detector	ST / LW / E3 / S3
S2137HS-LD	H ₂ S (0-50 ppm) gas detector	ST / LW / E3 / S3
S3708HS-LD	H ₂ S (0-100 ppm) gas detector	ST / LW / E3 / S3
S2145NO-LD	NO (0-100 ppm) gas detector	ST / LW / E3 / S3
S3593H2-LD	H ₂ (0-2000 ppm) gas detector	ST / LW / E3 / S3
S4547H2-LD	H ₂ (0-3000 ppm) gas detector	ST / LW / E3 / S3



Mechanical drawings



Adattatore per polveri STG/AD3
(accessorio opzionale disponibile per tutti i modelli)



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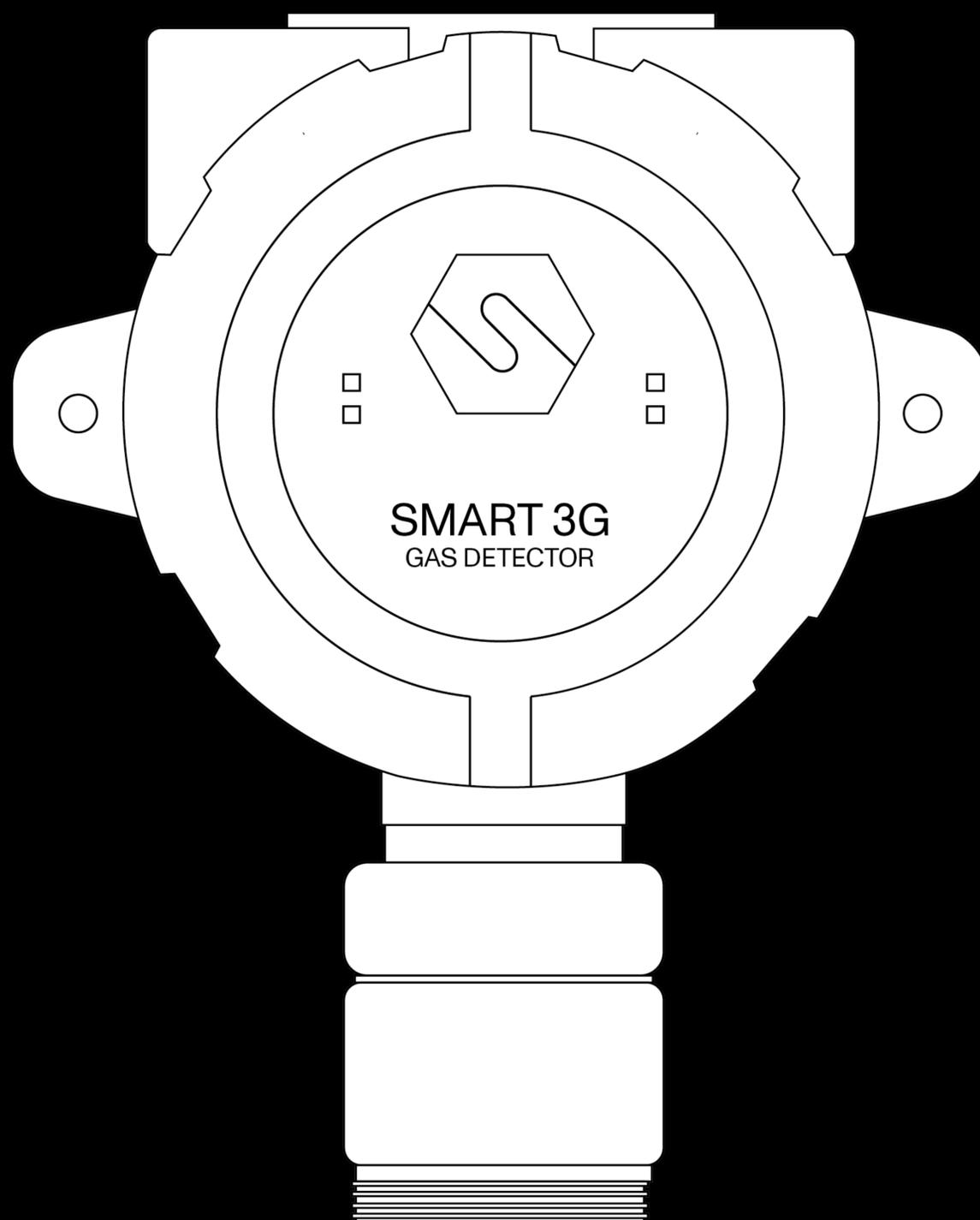
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SMART3G-C2-LD

With photoionizator sensor



Datasheet





SMART3G-C2-LD 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. 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. Optionally, the SMART3G-C2-LD can be equipped with serial RS485 communication and a 1 or 3 relays board. The aluminium enclosure has dimensions 145 x 187 x 108 mm.

The enclosure has 3 cable entries 3/4" NPT threaded. The multi-colour LED light ring assures an immediate visual indication of the detector status.

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 IIC 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 IIC T100°C Db
IP65

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	10000 hours
Gas detected	Volatile Organic Compounds (VOC) having photoionization potential up to 10.6 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; 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	Multi-colour LED light ring
Acoustic indications	-

Environmental conditions

Operating and storage temperature	Versions with FS 200 ppm: -40 / +65°C Versions with FS 20 and 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	2 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



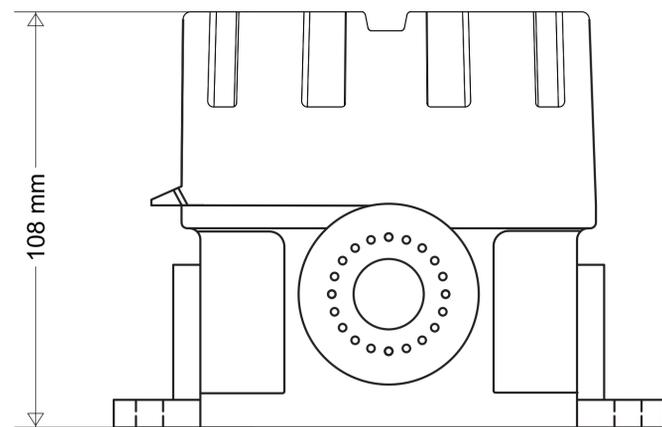
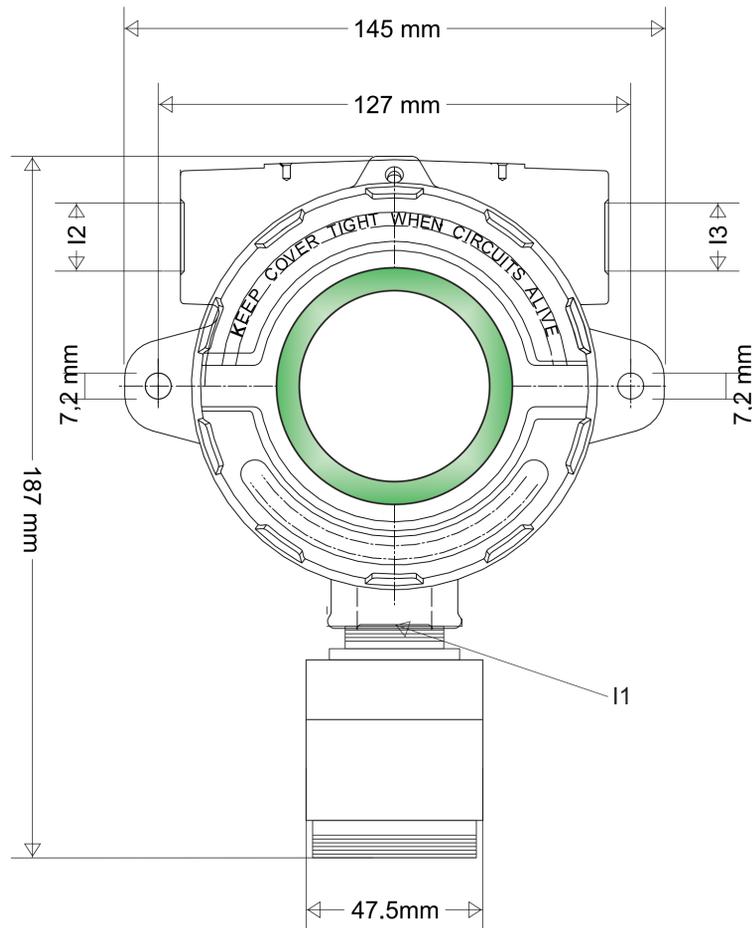
Product codes

ATEX code

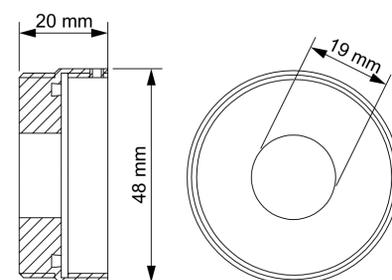
Volatile Organic Compounds detectors, 12-24 Vdc

S3541IL-LD	Isobutylene (0-20 ppm) gas detector	ST / L / E3 / S3
S3545IL-LD	Isobutylene (0-200 ppm) gas detector	ST / L / E3 / S3
S5122IL-LD	Isobutylene (0-2000 ppm) gas detector	ST / L / E3 / S3
S5021TO-LD	Toluene (0-10 ppm) gas detector	ST / L / E3 / S3
S5025TO-LD	Toluene (0-100 ppm) gas detector	ST / L / E3 / S3
S5029TO-LD	Toluene (0-1000 ppm) gas detector	ST / L / E3 / S3
S5021BZ-LD	Benzene (0-10 ppm) gas detector	ST / L / E3 / S3
S5025BZ-LD	Benzene (0-100 ppm) gas detector	ST / L / E3 / S3
S5029BZ-LD	Benzene (0-1000 ppm) gas detector	ST / L / E3 / S3

Mechanical drawings



STG/AD3
Dust adapter



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