

Ribble Enviro
...everything gas detection

Data Sheet

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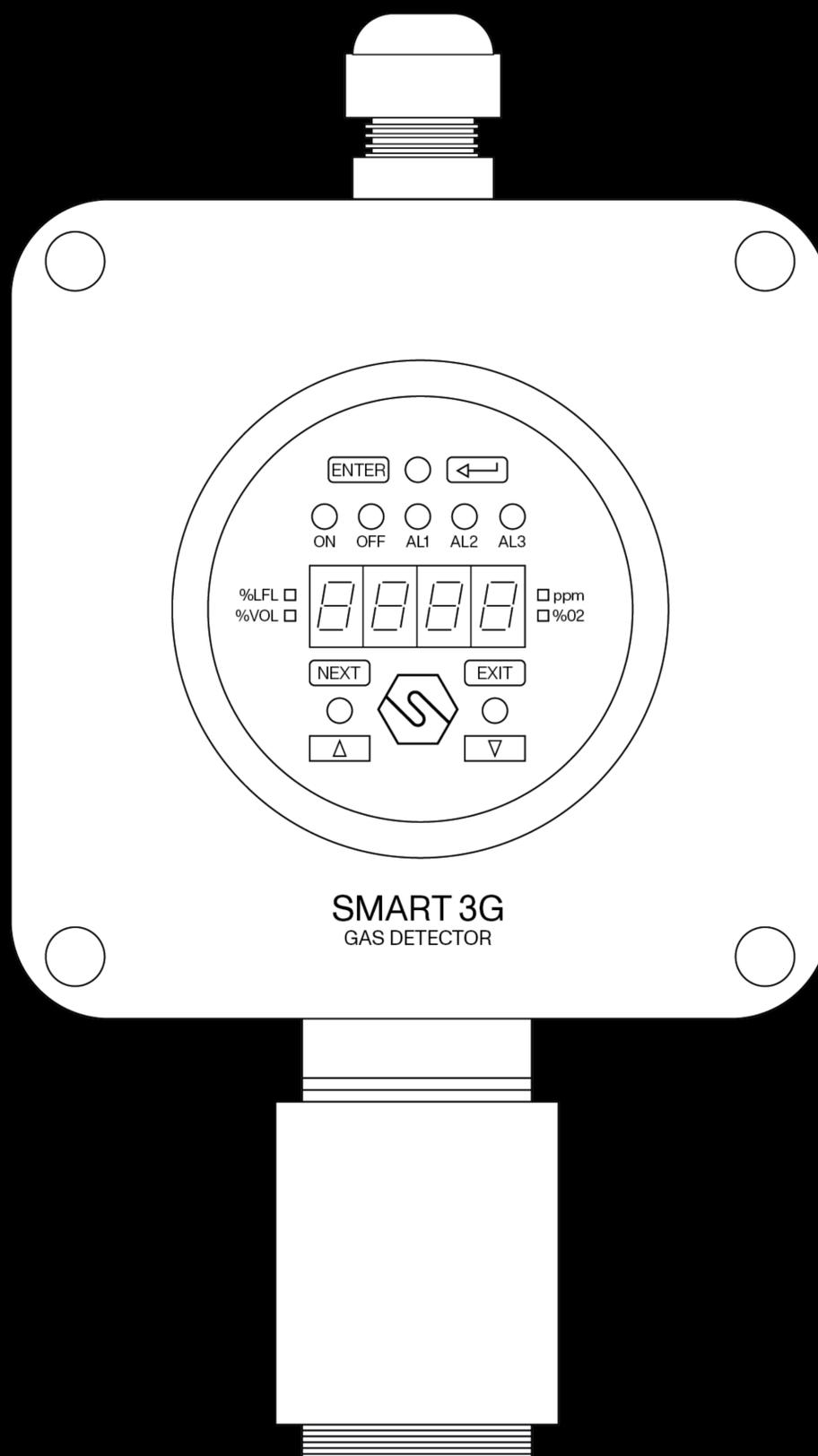
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Company No: 06140589 VAT No: GB 906 6241 34

SMART 3G-D3

with catalytic sensor



Datasheet





SMART3G-D3 gas detector is designed to meet industrial requirements; the enclosure is explosion proof and can be installed in ATEX Zone 2 and, when equipped with dust adapter, in Zone 22.

The sensing element is placed in the stainless steel head with 47.5 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 and three relays. Optionally, the SMART3G-D3 can be equipped with serial RS485 communication.

The enclosure has dimensions 106 x 160 x 81 mm, on the upper side there's a M20 cable gland. The SMART3G-D3 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  II 3G
Ex db ec nC IIC T6 Gc

Or, when equipped with dust adapter:

CE  II 3D
 II 3G
Ex db ec nC IIC T6 Gc
Ex tc IIIC T85°C Dc IP65

SMART3G-D3 is SIL2 hardware and SIL3 software; with a redundant system also the hardware is SIL3.

Sensor	
Application	Industrial area, ATEX Zone 2 and Zone 22 (when equipped with dust adapter, optional)
Sensing element	Catalytic
Estimated sensor lifetime	4 / 5 years
Gas detected	Methane, LPG, Propane, Butane, Petrol Vapours
Full scale	0 - 100% LFL
Electrical data	
Power supply	12-24 Vdc
Output	Analogue 4-20 mA output; 3 relays; 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	
Storage temperature	-40 / +85°C
Operating temperature	-40 / +45°C
Operating humidity	0 / 90% RH



External case

Material	Enclosure: Aluminium Sensor head: stainless steel
Protection mode	Ex e: Increased safety protection mode Ex nC: Enclosed equipment protection mode Ex d : Explosion proof enclosure Ex t : Equipment dust ignition protection by enclosure (when equipped with dust adapter, optional)
Dimensions	106 x 160 x 81 mm
Weight	1210 g
Cable entries	1 x M20
IP grade	IP65 (with dust adapter)

Compliance

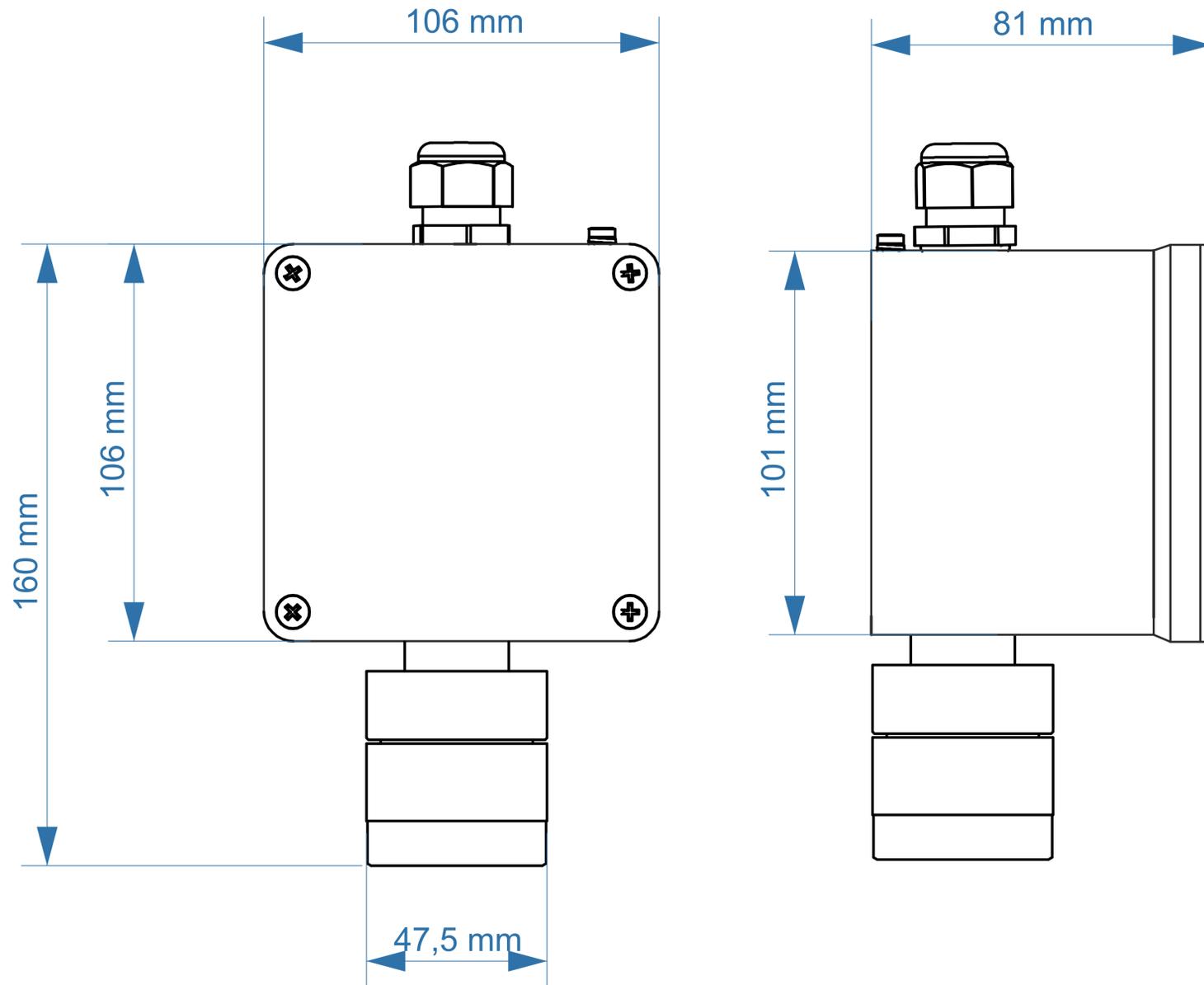
EMC	EN 61000-6-3:2007 + A1:2011; EN 50270:2015
ATEX	ATEX directive 2014/34/EU EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-7:2015 EN 60079-15:2010 EN 60079-31:2014
SIL	EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7 EN50402:2017

Product codes

S2156ME	Methane gas detector, 12-24 Vdc
S2156GP	LPG gas detector, 12-24 Vdc
S2156PR	Propane gas detector, 12-24 Vdc
S2156BU	Butane gas detector, 12-24 Vdc
S2156VB	Petrol vapours gas detector, 12-24 Vdc



Mechanical drawings



Contatti/Contacts

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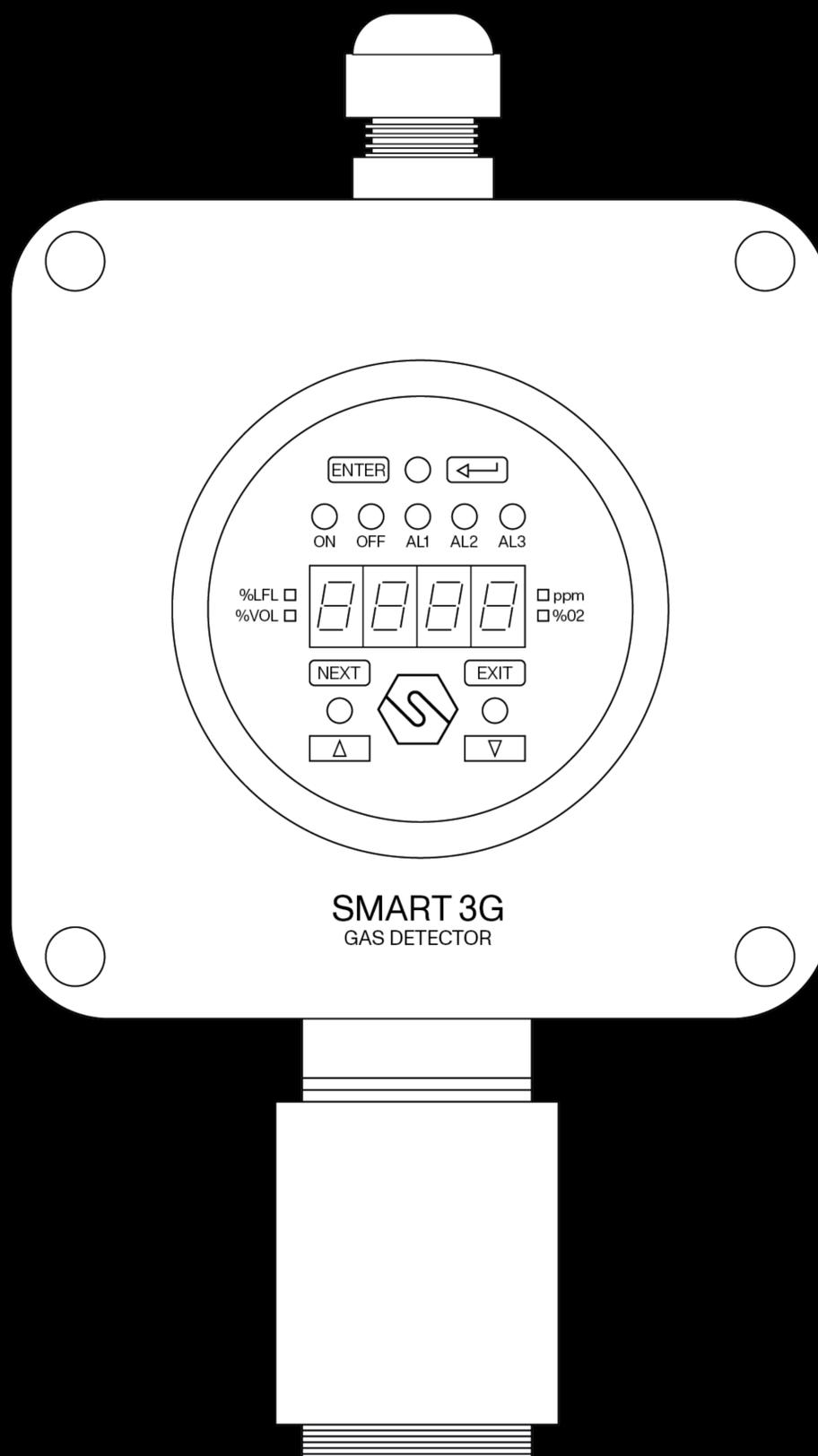
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SMART 3G-D3

with infrared sensor



Datasheet





SMART3G-D3 gas detector is designed to meet industrial requirements; the enclosure is explosion proof and can be installed in ATEX Zone 2 and, when equipped with dust adapter, in Zone 22.

The sensing element is placed in the stainless steel head with 47.5 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-D3 can be equipped with serial RS485 communication.

The enclosure has dimensions 106 x 160 x 81 mm, on the upper side there's a M20 cable gland. The SMART3G-D3 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  II 3G
Ex db ec nC IIC T6 Gc

Or, when equipped with dust adapter:

CE  II 3D
II 3G
Ex db ec nC IIC T6 Gc
Ex tc IIIC T85°C Dc IP65

SMART3G-D3 is SIL2 hardware and SIL3 software; with a redundant system also the hardware is SIL3.



Sensor	
Application	Industrial area, ATEX Zone 2 e Zone 22 (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 relays; 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	
Storage temperature	-40 / +85°C
Operating temperature	-40 / +45°C
Operating humidity	0 / 90% RH



External case

Material	Enclosure: Aluminium Sensor head: stainless steel
Protection mode	Ex e: Increased safety protection mode Ex nC: Enclosed equipment protection mode Ex d : Explosion proof enclosure Ex t : Equipment dust ignition protection by enclosure (when equipped with dust adapter, optional)
Dimensions	106 x 160 x 81 mm
Weight	1210 g
Cable entries	1 x M20
IP grade	IP65 (with dust adapter)

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 60079-7:2015 EN 60079-15:2010 EN 60079-31:2014
SIL	EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7 EN50402:2017

Product codes

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

S2625ME	Methane (0-100%LFL) gas detector
S2601PR	Propane (0-100%LFL) gas detector
S2601BU	Butane (0-100%LFL) gas detector
S2601GP	LPG (0-100%LFL) gas detector
S4434R454B	R454B (0-100%LFL) gas detector
S3426R32	R32 (0-100%LFL) gas detector
S3430R1234YF	R1234YF (0-100%LFL) gas detector
S3435R1234ZE	R1234ZE (0-100%LFL) gas detector

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

S3943R32	R32 (0 - 2000 ppm) gas detector
S3597R134A	R134A (0 - 2000 ppm) gas detector
S3600SF6	SF6 (0 - 2000 ppm) gas detector
S3651R125	R125 (0 - 2000 ppm) gas detector
S3652R1234YF	R1234YF (0 - 2000 ppm) gas detector
S3947R1234ZE	R1234ZE (0 - 2000 ppm) gas detector
S3653R404A	R404A (0 - 2000 ppm) gas detector



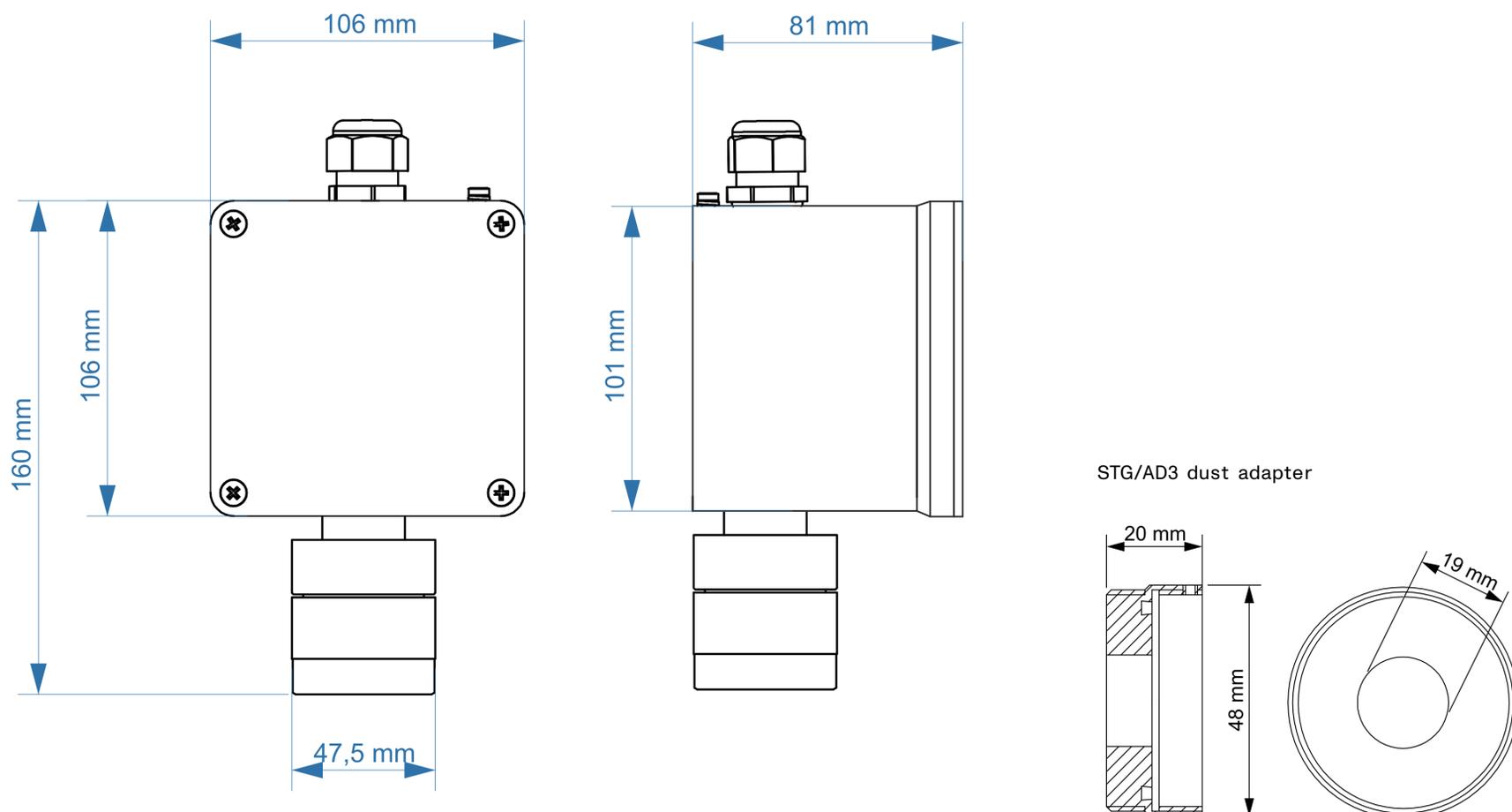
Product codes

S3654R407A	R407A (0 - 2000 ppm) gas detector
S3919R407F	R407F (0 - 2000 ppm) gas detector
S3922R449A	R449A (0 - 2000 ppm) gas detector
S3655R507A	R507 (0 - 2000 ppm) gas detector
S3672R410A	R410A (0 - 2000 ppm) gas detector
S3951R417A	R417A (0 - 2000 ppm) gas detector
S3955R448	R448 (0 - 2000 ppm) gas detector

Carbon dioxide gas detectors, 12-24 Vdc

S2448CO2	CO ₂ (0-5000 ppm) gas detector
S2631CO2	CO ₂ (0-2% Vol) gas detector
S2632CO2	CO ₂ (0-5% Vol) gas detector
S2447CO2	CO ₂ (0-30% Vol) gas detector
S2633CO2	CO ₂ (0-100% Vol) gas detector

Mechanical drawings



Contatti/Contacts

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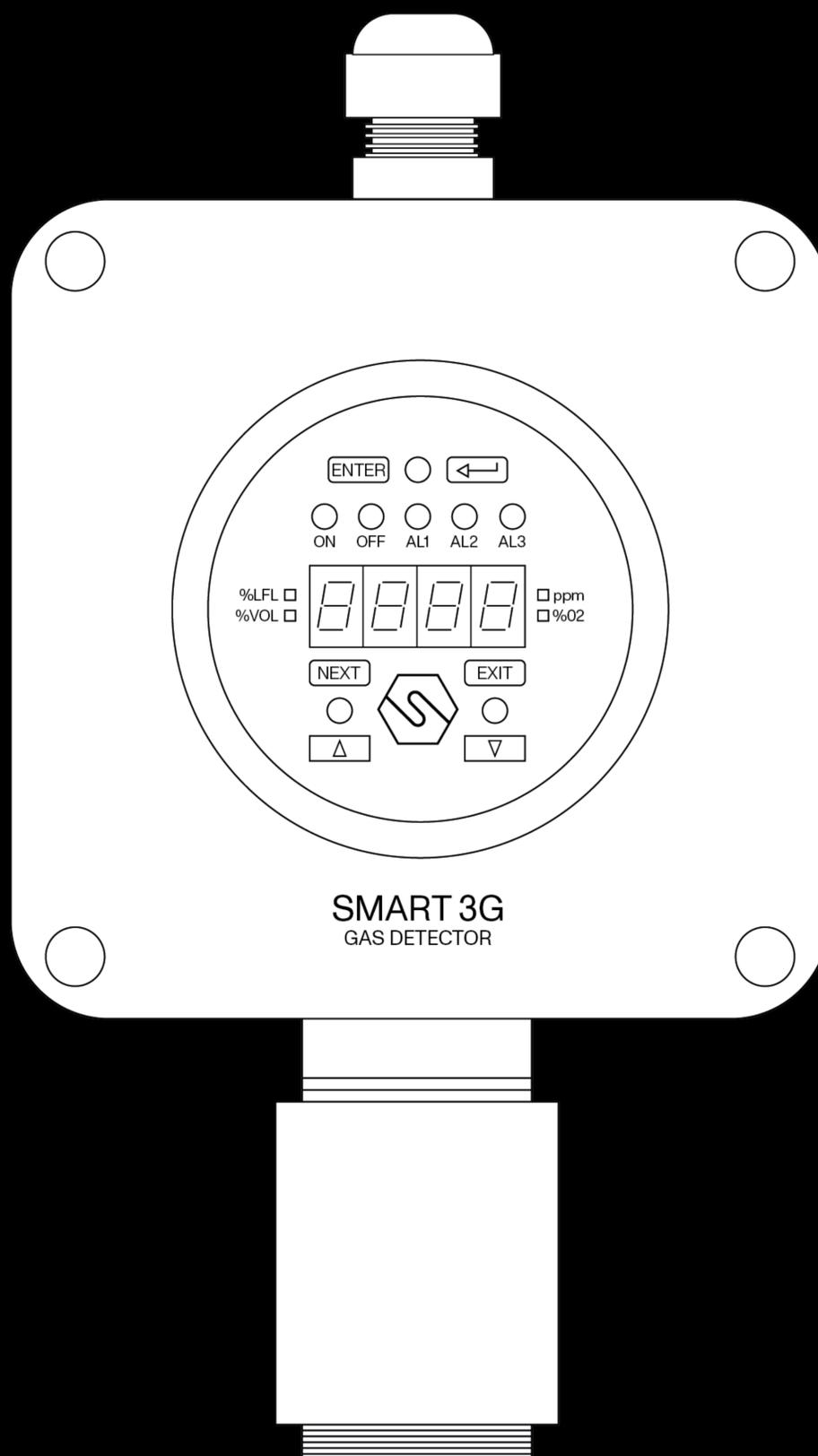
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SMART 3G-D3

with electrochemical cell



Datasheet





SMART3G-D3 gas detector is designed to meet industrial requirements; the enclosure is explosion proof and can be installed in ATEX Zone 2 and, when equipped with dust adapter, in Zone 22.

The sensing element is placed in the stainless steel head with 47.5 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-D3 can be equipped with serial RS485 communication.

The enclosure has dimensions 106 x 160 x 81 mm, on the upper side there's a M20 cable gland. The SMART3G-D3 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 Ex II 3G
Ex db ec nC IIC T6 Gc

Or, when equipped with dust adapter:

CE Ex II 3D
II 3G
Ex db ec nC IIC T6 Gc
Ex tc IIIC T85°C Dc IP65

SMART3G-D3 is SIL2 hardware and SIL3 software; with a redundant system also the hardware is SIL3.

Sensor	
Application	Industrial area, ATEX Zone 2 and Zone 22 (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; 3 relays; 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	
Storage temperature	0 / +20°C up to six months
Operating temperature	-30 / +45°C
Operating humidity	15 / 90% RH non condensing



External case

Material	Enclosure: Aluminium Sensor head: stainless steel
Protection mode	Ex e: Increased safety protection mode Ex nC: Enclosed equipment protection mode Ex d : Explosion proof enclosure Ex t : Equipment dust ignition protection by enclosure (when equipped with dust adapter, optional)
Dimensions	106 x 160 x 81 mm
Weight	1210 g
Cable entries	1 x M20
IP grade	IP65 (with dust adapter)

Compliance

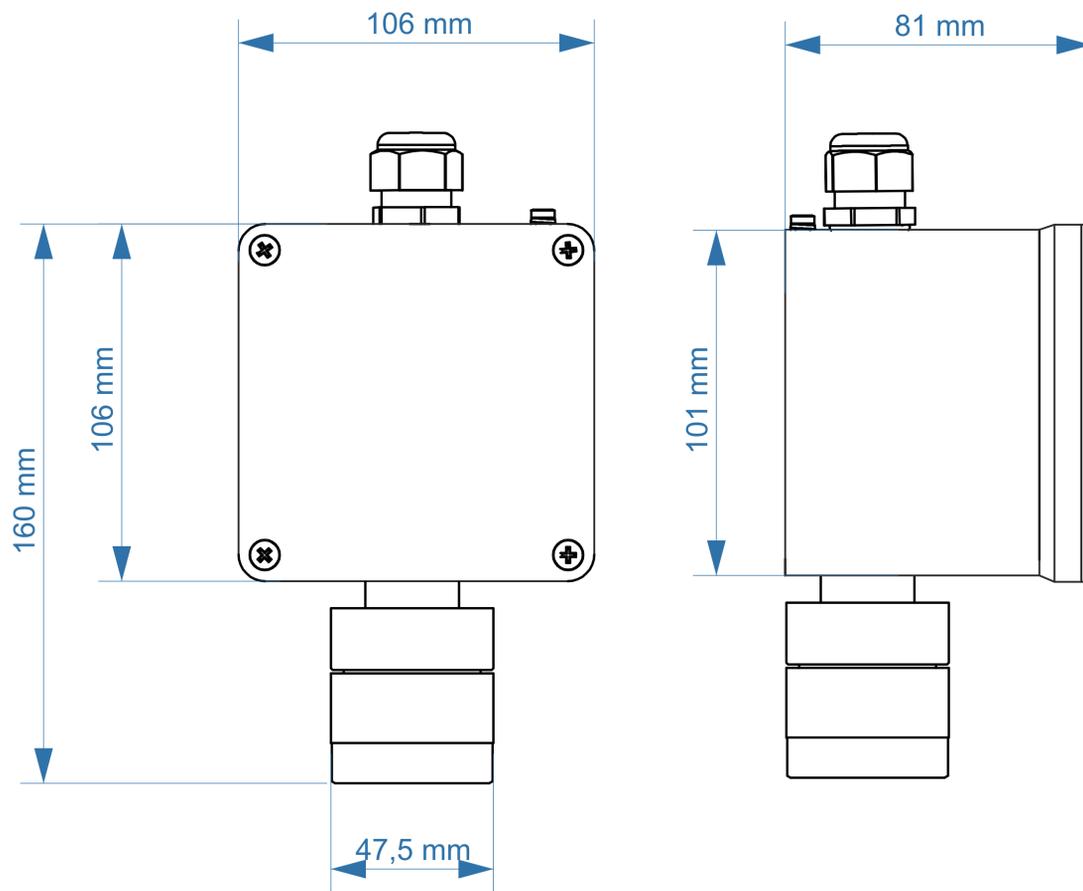
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ATEX	ATEX directive 2014/34/EU EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-7:2015 EN 60079-15:2010 EN 60079-31:2014
SIL	EN 61508:2010 Parts 1, 2, 3, 4, 5, 6, 7 EN50402:2017

Product codes

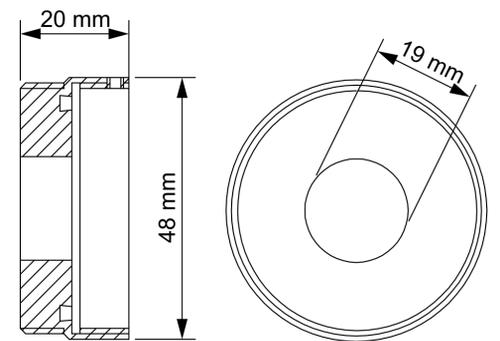
S2642O2	Oxygen 0 - 25% Vol gas detector
S2162CO	CO 0-500 ppm gas detector
S3226AM	NH ₃ 0-100 ppm gas detector
S2164AM	NH ₃ 0-200 ppm gas detector
S2166AM	NH ₃ 0-1000 ppm gas detector
S3230AM	RNH ₃ 0-5000 ppm gas detector
S2168HS	H ₂ S 0-50 ppm gas detector
S2176NO	NO 0-100 ppm gas detector
S3594H2	H ₂ 0-2000 ppm gas detector
S4548H2	H ₂ 0-3000 ppm gas detector



Mechanical drawings



STG/AD3 dust adapter



Contatti/Contacts

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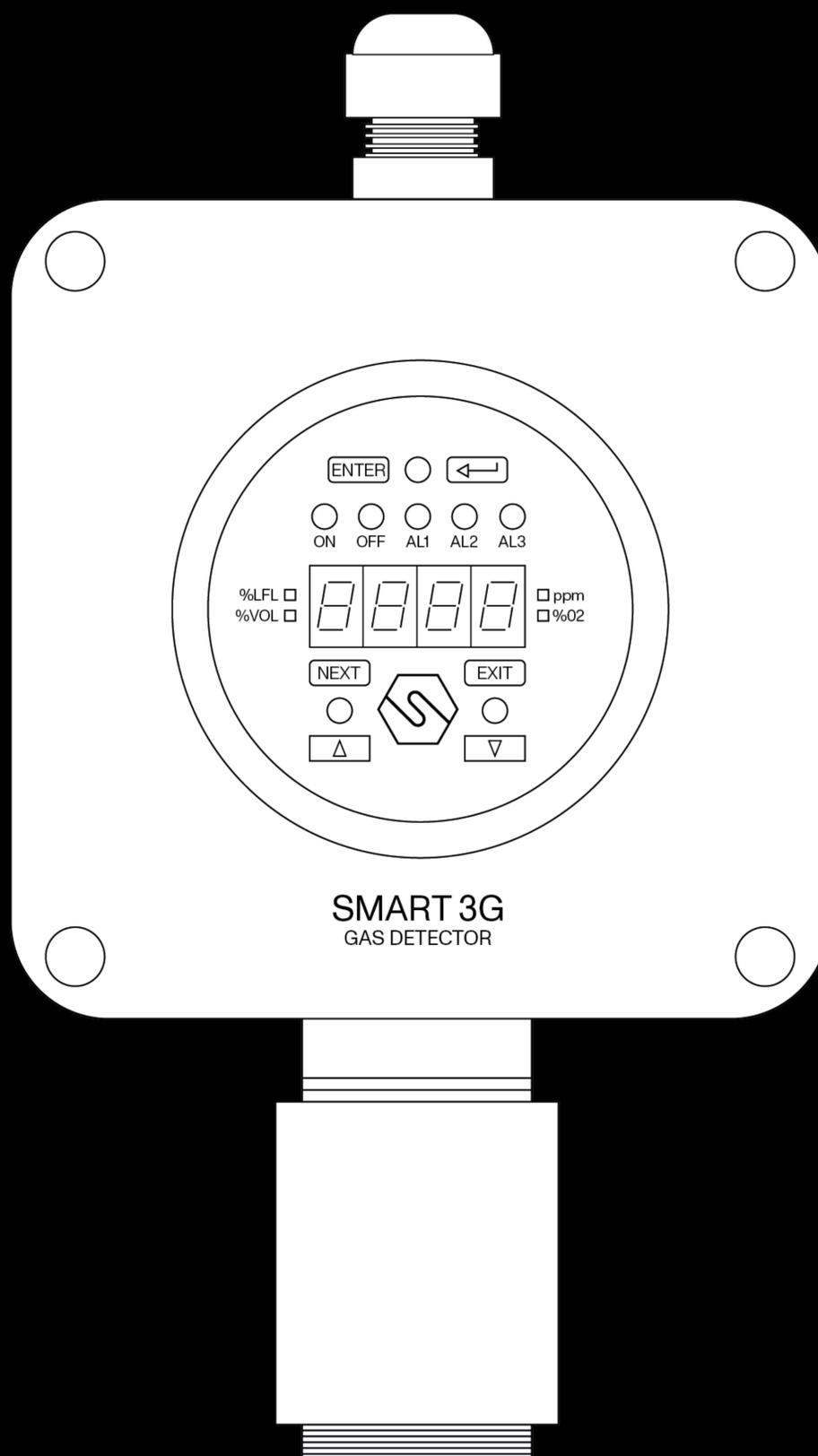
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SMART 3G-D3

With photoionizator sensor



Datasheet





SMART3G-D3 gas detector is designed to meet industrial requirements; the enclosure is explosion proof and can be installed in ATEX Zone 2 and, when equipped with dust adapter, in Zone 22.

The sensing element is placed in the stainless steel head with 47.5 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-D3 can be equipped with serial RS485 communication.

The enclosure has dimensions 106 x 106 x 81 mm, on the upper side there's a M20 cable gland. The SMART3G-D3 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  II 3G
Ex db ec nC IIC T6 Gc

Or, when equipped with dust adapter:

CE  II 3D
 II 3G
Ex db ec nC IIC T6 Gc
Ex tc IIIC T85°C Dc IP65

Sensor

Application	Industrial area, ATEX Zone 2 e Zone 22 (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; 3 relays; 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 200 ppm: -40 / +45°C Versions with FS 20 and 2000 ppm: -20 / +45°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

External case

Material	Enclosure: Aluminium Sensor head: stainless steel
Protection mode	Ex e: Increased safety protection mode Ex nC: Enclosed equipment protection mode Ex d : Explosion proof enclosure Ex t : Equipment dust ignition protection by enclosure (when equipped with dust adapter, optional)
Dimensions	106 x 106 x 81 mm
Weight	1210 g
Cable entries	1 x M20
IP grade	IP65 (with dust adapter)

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 60079-7:2015 EN 60079-15:2010 EN 60079-31:2014

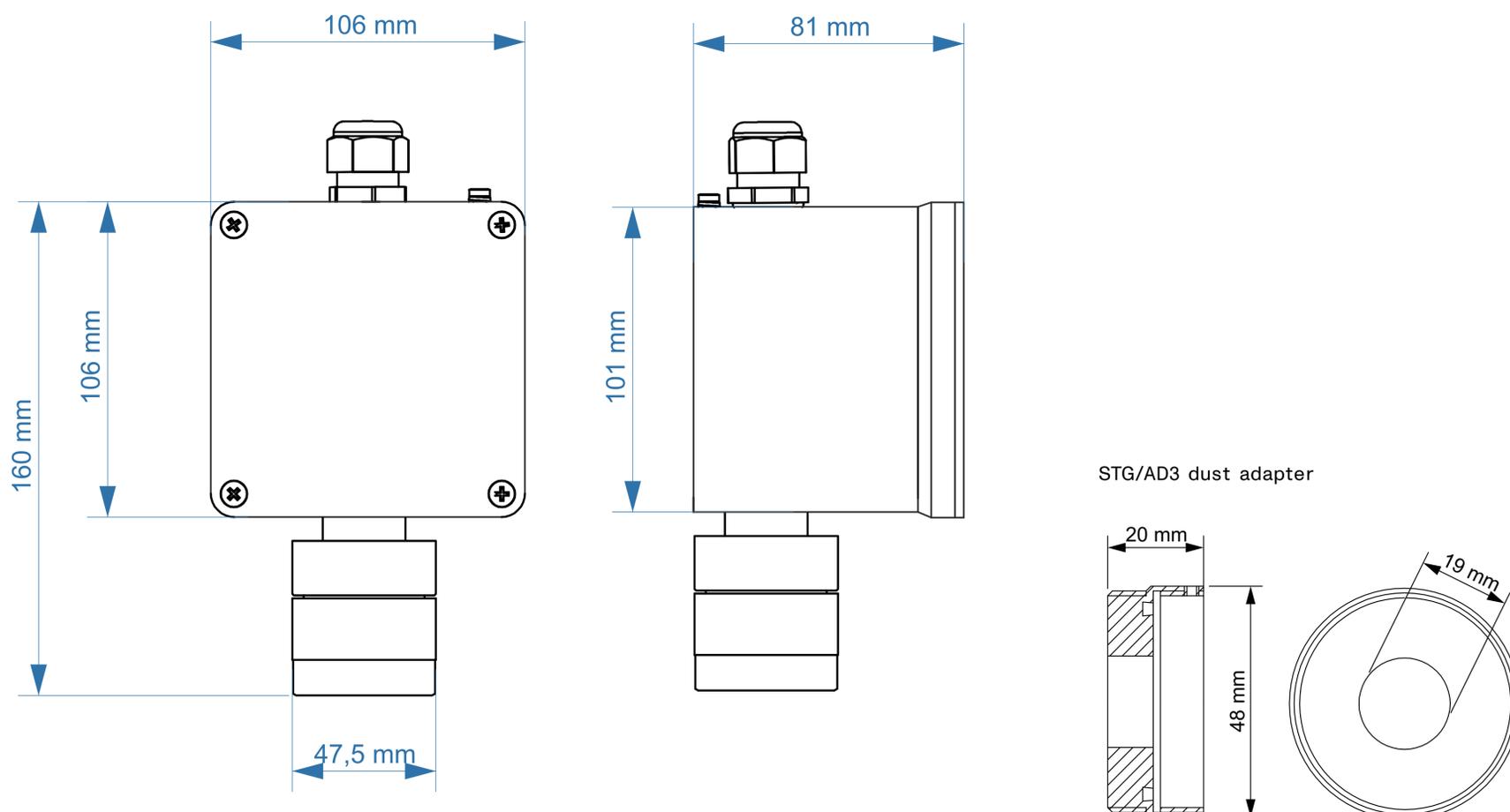


Product codes

Volatile Organic Compounds detectors, 12-24 Vdc

S3542IL	Isobutylene (0-20 ppm) gas detector
S3546IL	Isobutylene (0-200 ppm) gas detector
S5123IL	Isobutylene (0-2000 ppm) gas detector
S5022TO	Toluene (0-10 ppm) gas detector
S5026TO	Toluene (0-100 ppm) gas detector
S5030TO	Toluene (0-1000 ppm) gas detector
S5022BZ	Benzene (0-10 ppm) gas detector
S5026BZ	Benzene (0-100 ppm) gas detector
S5030BZ	Benzene (0-1000 ppm) gas detector

Mechanical drawings



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