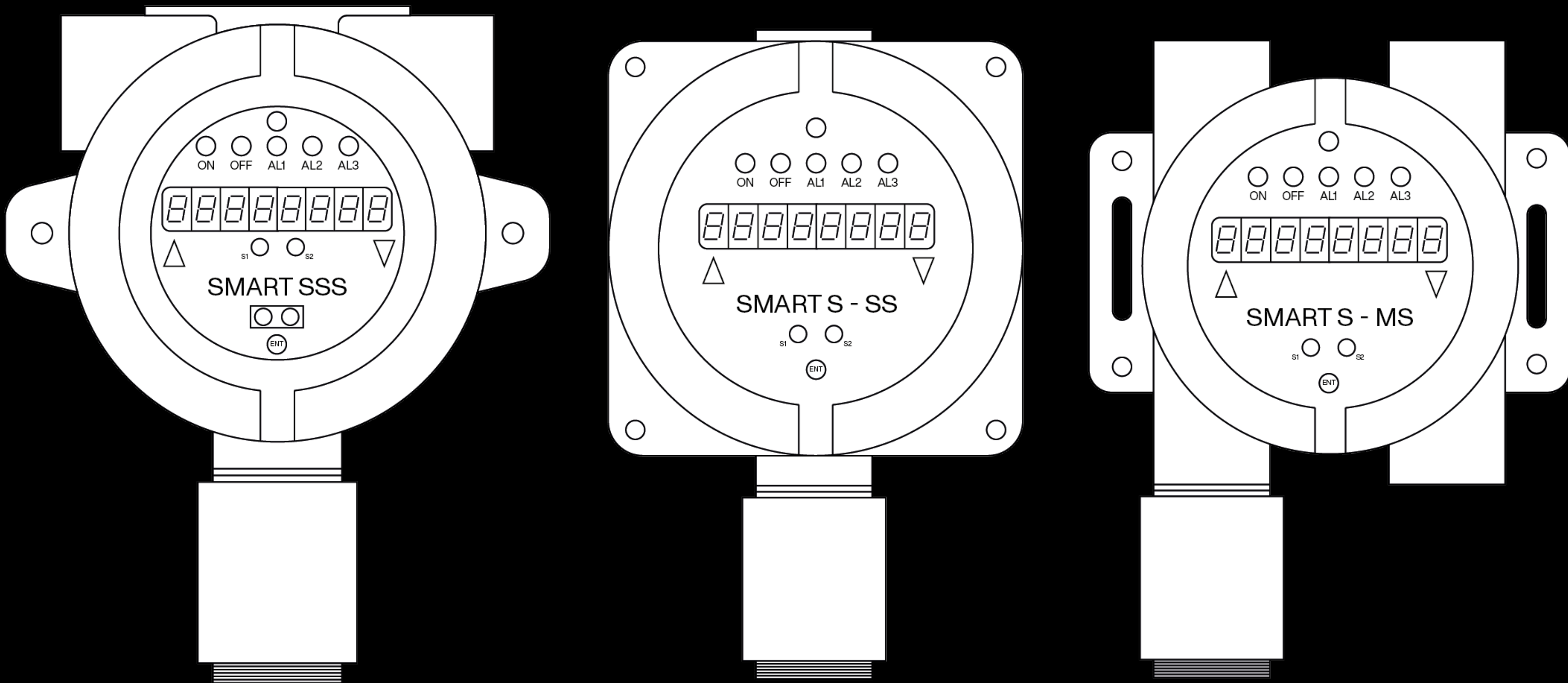


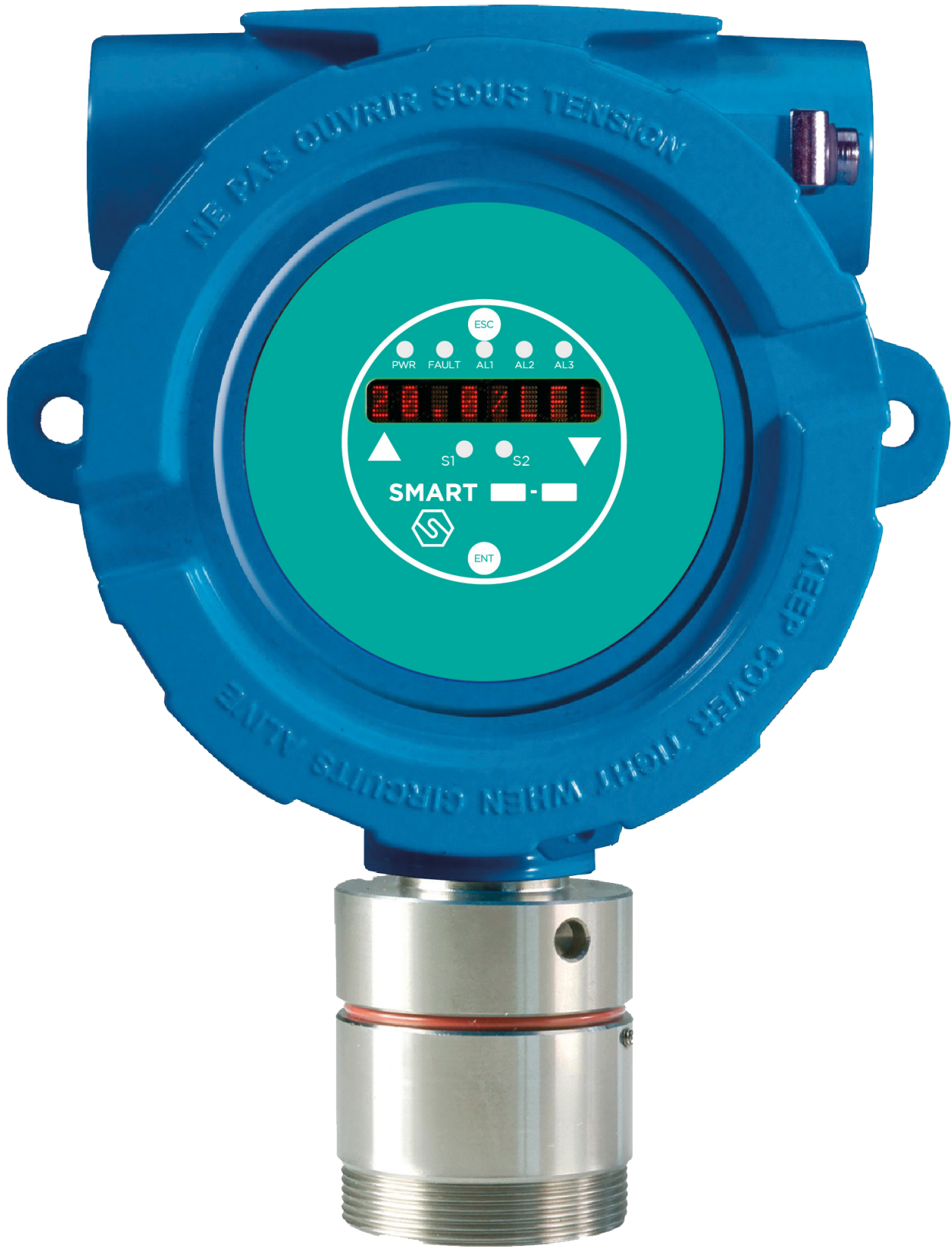
SMART S-SS

With photoionizator sensor



Datasheet





Designed to meet the toughest industrial standards, the SMART S-MS series gas detectors are used in classified areas (zone 1 and, if equipped with the dust adapter, zone 21).

The PID sensors employed for the Volatile Organic Compound are able to detect lower gas concentration than most of other technologies. The sensor is housed in a stainless steel head, with a diameter of 47.5 mm. The detector has a 12-24 Vdc power supply, a 4-20 mA signal output and an RS485 signal.

The SMART S-SS is equipped with a display (LCD or LED) to monitor the concentration in real time and Hall effect sensors for non-intrusive calibration in the field.

To adapt to the customer's needs, the SMART S-SS detector has the following customization possibilities:

- I Choice of the sensor head based on the gas to be detected
- II Choice of transmitter (3-relay board, HART modem)
- III Choice of enclosure (aluminium / steel, number of entrances)

The detector can be ATEX marked in the following ways:
CE 0722 Ex II 2G Ex db IIC T5 Gb

Or, if equipped with a dust adapter:
CE 0722 Ex II 2GD Ex db IIC T5 Gb
Ex tb IIIC T5 T100°C Db
IP65

The detector is also certified according to the international IECEx scheme and marked:
Ex db IIC T5 Gb

Or, if equipped with a dust adapter:
Ex db IIC T5 Gb
Ex tb IIIC 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 parameters	
Power supply	12-24 Vdc
Output	Analogue 4-20 mA output; RS485 serial output; 3 relay board (optional); HART modem (optional)
Maximum dissipated power	5.4 W
Relays contact ratings	1.0 A a 24 Vdc
Visual indications	LED or LCD display
Acoustic indications	-
Hall effect sensor	Three sensors for calibration by magnet
Environmental conditions	
Operating and storage temperature	Versions with FS 200 ppm with LED display: -40 / +65°C Versions with FS 20 or 2000 ppm and LCD: -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 s ; t ₅₀ < 15 s
External case	
Material	Enclosure: die-cast aluminium with colour and chemically resistant epoxy paint or electropolished SS316 stainless steel Sensor head: SS316 stainless steel
Protection mode	Ex d : Explosion proof enclosure Ex t : Equipment dust ignition protection by enclosure (when equipped with optional dust adapter)
Dimensions	145 x 187 x 110 mm (3A enclosure) 138 x 200 x 120 mm (4A enclosure) 155 x 210 x 124 mm (2S enclosure)
Weight	1700 g (3A enclosure) 2800 g (4A enclosure) 4200 g (2S enclosure)
Cable entries	2 or 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
IECEX	IEC 60079-0:2011 IEC 60079-1:2014 IEC 60079-31:2013

To order a SMART S-SS detector, the transmitter must be paired with the container and sensor head of the gas of interest. The product code is composed as follows:

SSS | enclosure code | transmitter code | - | sensor head code

Example:
the code SSS3A18-S4167IL is a SMART S-SS detector with the 3A enclosure, the electronics with LED display, 3 relay board and HART modem. The sensor head code S4167IL is for Isobutylene 0-20 ppm.

3A



4A



2S



Enclosure code		ATEX code
3A Aluminium enclosure with three 3/4" NPT conduits		ST / LW / ES / S3
4A Aluminium enclosure with four 3/4" NPT conduits		ST / 7W / ES / S3
2S Stainless steel enclosure with four 3/4" NPT conduits		ST / 8K / ES / S3
Transmitter code		
11	Electronics with 1 RS485 + 4-20 mA output, LCD display	
12	Electronics with 1 RS485 + 4-20 mA output, LED display	
13	Electronics with 1 RS485 + 4-20 mA output, 3 relays card, LCD display	
14	Electronics with 1 RS485 + 4-20 mA output, 3 relays card, LED display	
17	Electronics with 1 RS485 + 4-20 mA output, 3 relays card, Hart modem, LCD display	
18	Electronics with 1 RS485 + 4-20 mA output, 3 relays card, Hart modem, LED display	

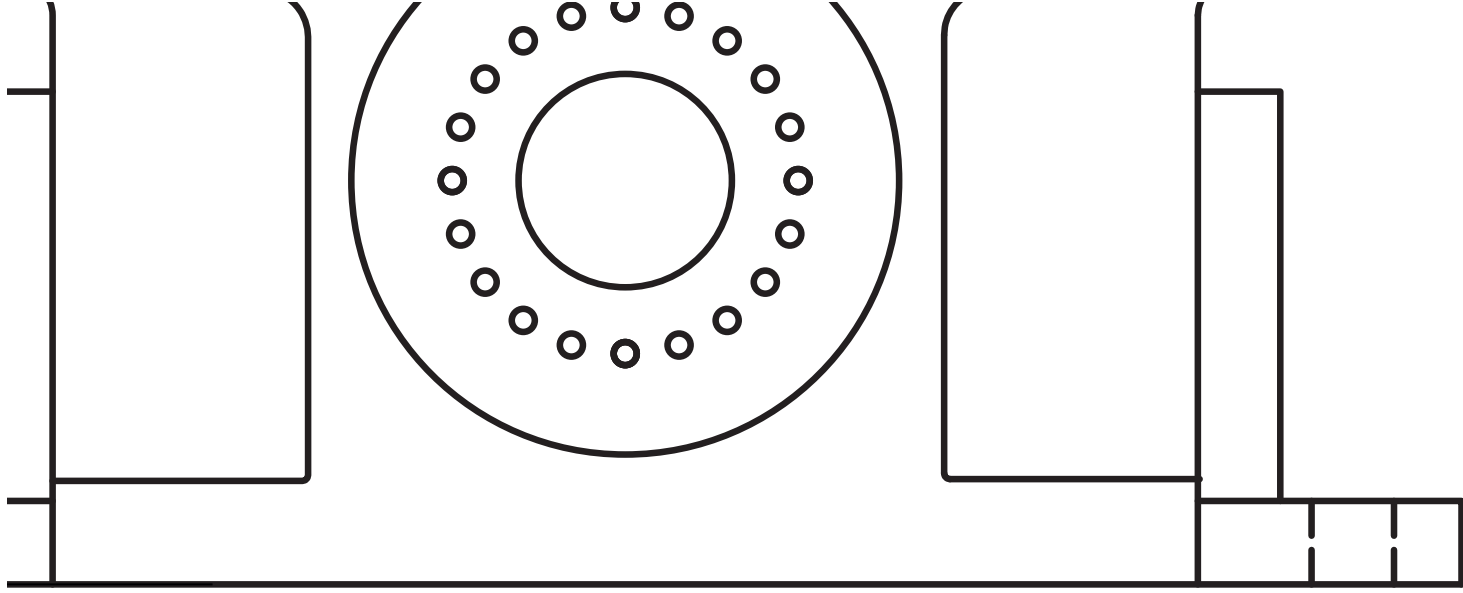


Sensor head code	(Volatile Organic Compounds)
S3541IL	Isobutylene (0-20 ppm) head
S3545IL	Isobutylene (0-200 ppm) head
S5122IL	Isobutylene (0-2000 ppm) head
S4075TO	Toluene (0-10 ppm) head
S4160TO	Toluene (0-100 ppm) head
S4161TO	Toluene (0-1000 ppm) head
S4075BZ	Benzene (0-10 ppm) head
S4160BZ	Benzene (0-100 ppm) head
S4161BZ	Benzene (0-1000 ppm) head

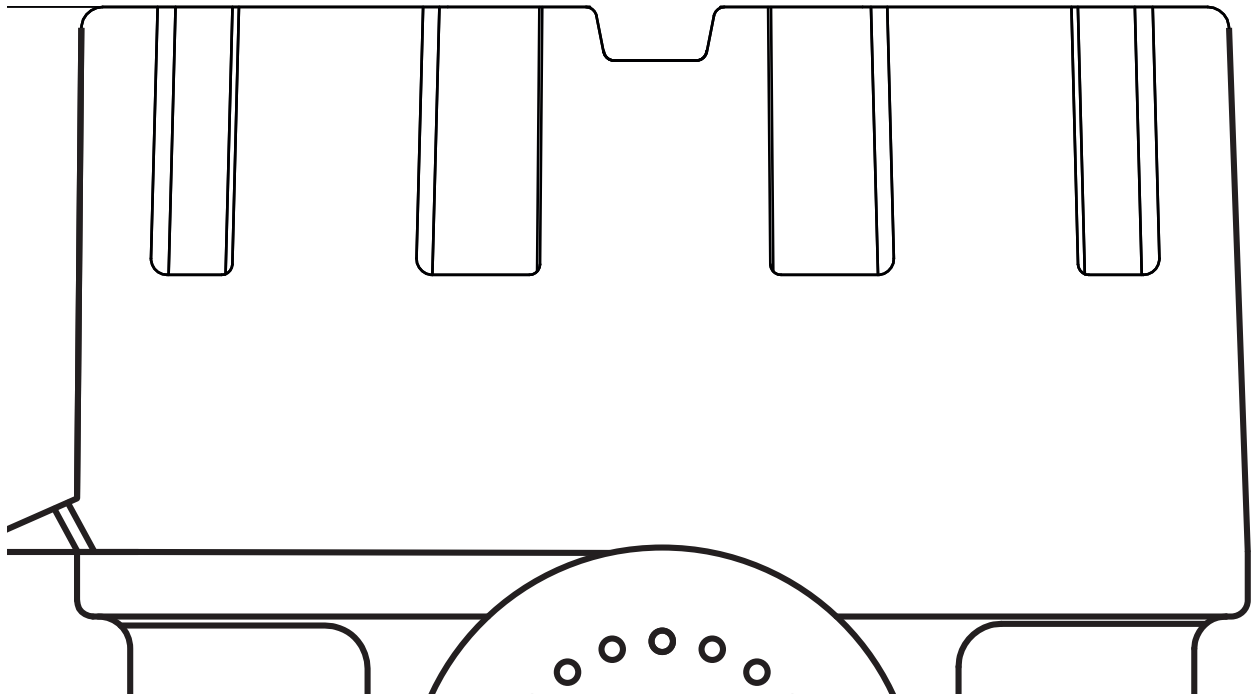


Mechanical drawings

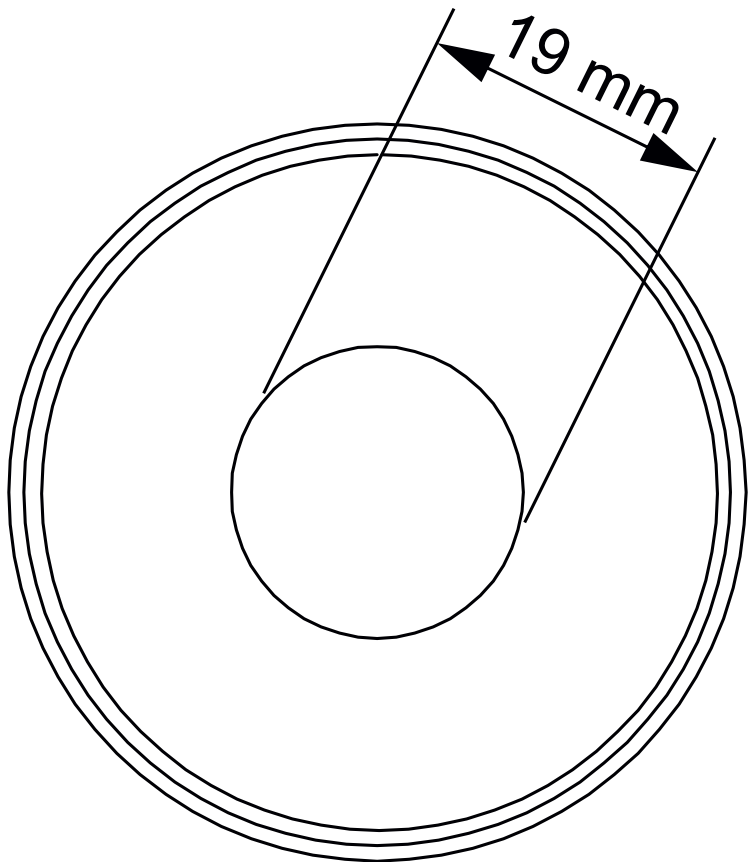
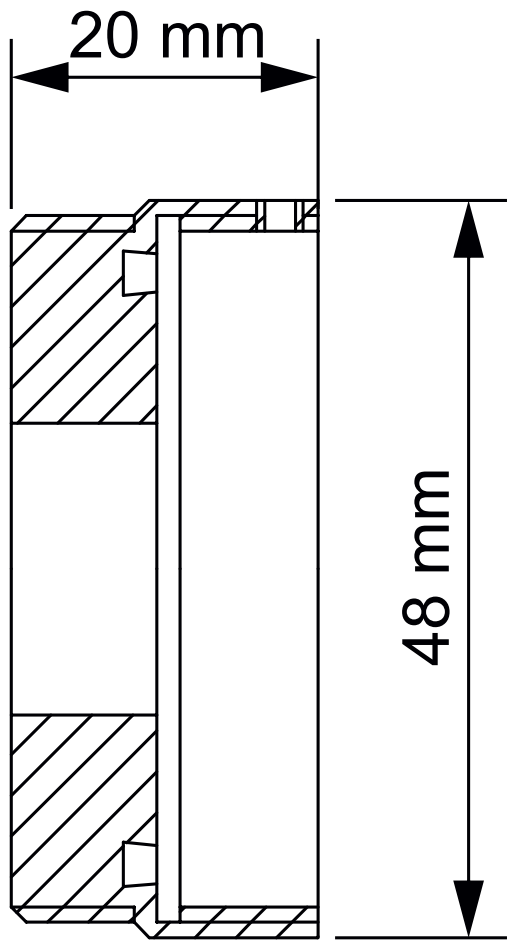
Mechanical drawings SMART S-SS with 3A enclosure



145 mm

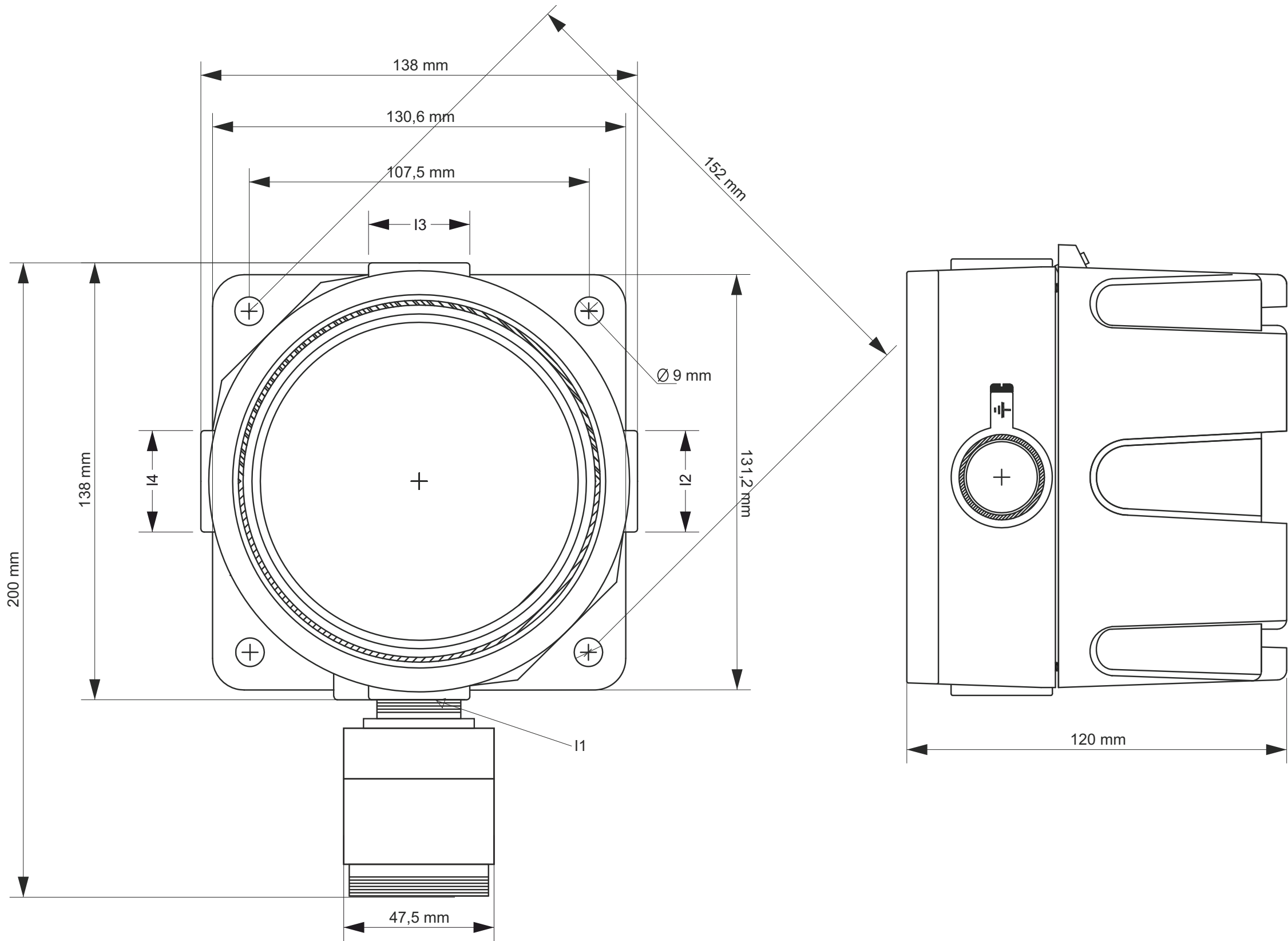


STG/AD3 dust adapter
(optional accessory available for all models)

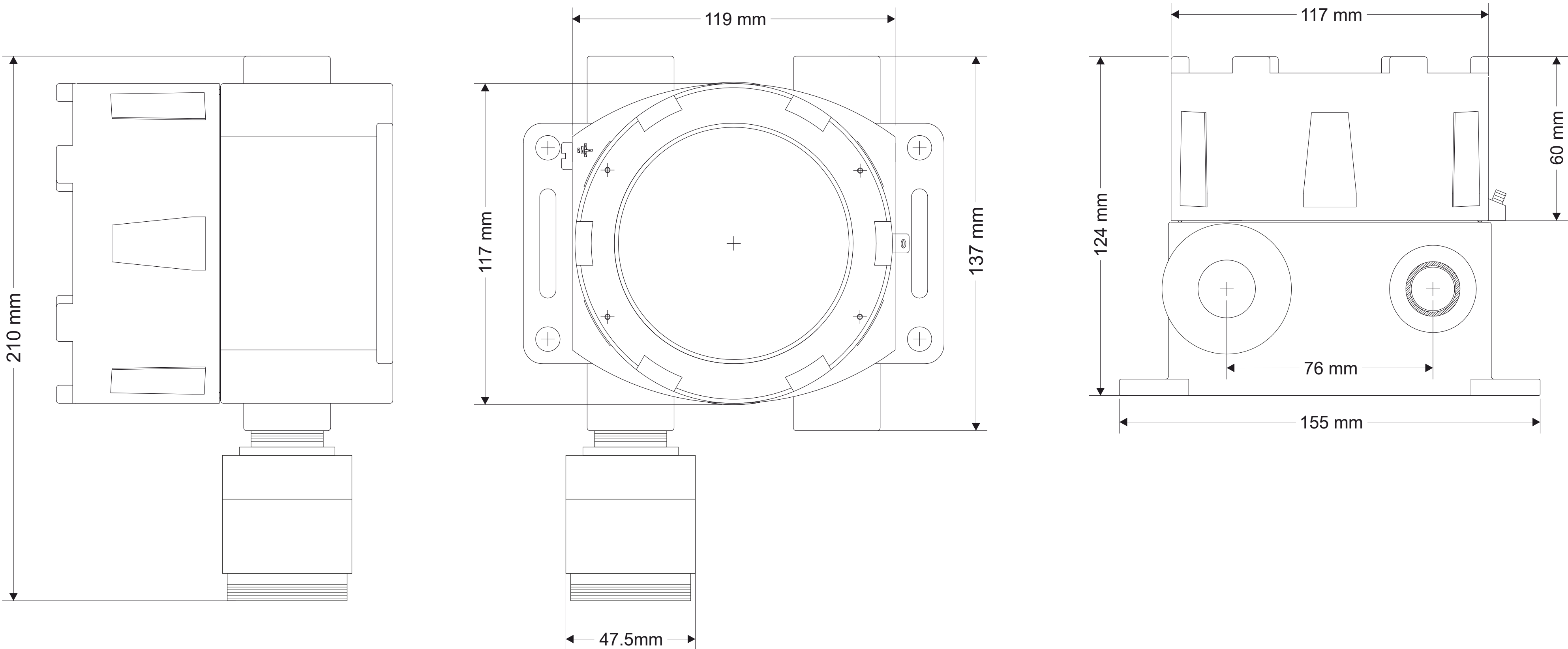




Mechanical drawings SMART S-SS with 4A enclosure



Mechanical drawings SMART S-SS with 2S enclosure



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