Product data sheet



System GM32

GM32

GAS ANALYZERS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
System GM32	On request

Our regional sales organization will help you to select the optimum device configuration.

Other models and accessories ➜ www.sick.com/GM32

Detailed technical data

Technical specifications

Description	In-situ gas analyzer for emission monitoring and process measurement
Measured values	NO, NO_2, NH_3, SO_2
Performance-tested measurands	NO, SO_2
Maximum number of measurands	4 (plus process temperature and pressure)
Measurement principles	Differential optical absorption spectroscopy (DOAS)
Measuring ranges	
NH_3	0 ... 30 ppm / 0 ... 2,600 ppm
NO	0 ... 40 ppm / 0 ... 1,900 ppm
NO_2	0 ... 50 ppm / 0 ... 1,000 ppm
LowNO_2	0 ... 20 ppm / 0 ... 1,000 ppm
SO_2	0 ... 32 ppm / 0 ... 7,000 ppm
	Measuring ranges refer to 1 m measuring path Measuring ranges depend on application and device version
Certified measuring ranges	
NO	0 ... 70 mg/m³ / 0 ... 700 mg/m³ / 0 ... 1,302 mg/m³
SO_2	0 ... 75 mg/m³ / 0 ... 1,000 mg/m³ / 0 ... 2,500 mg/m³
	With an active measuring path length of 1.86 m (cross- duct), 1.25 m (open path measuring probe) or 1 m (open path measuring probe, LowNO_2) The gas-testable measuring probe (GPP) is not TUV approved
Response time (t_{90})	Open measuring probe (GMP): ≥ 5 s Gas-testable measuring probe (GPP): ≥ 120 s Cross-duct version: ≥ 5 s Response time adjustable
Accuracy	
NH_3:	± 2 %
NO:	± 2 %
NO_2:	± 2 %
SO_2:	± 2 % Relative to the smallest measuring range
Ambient temperature	

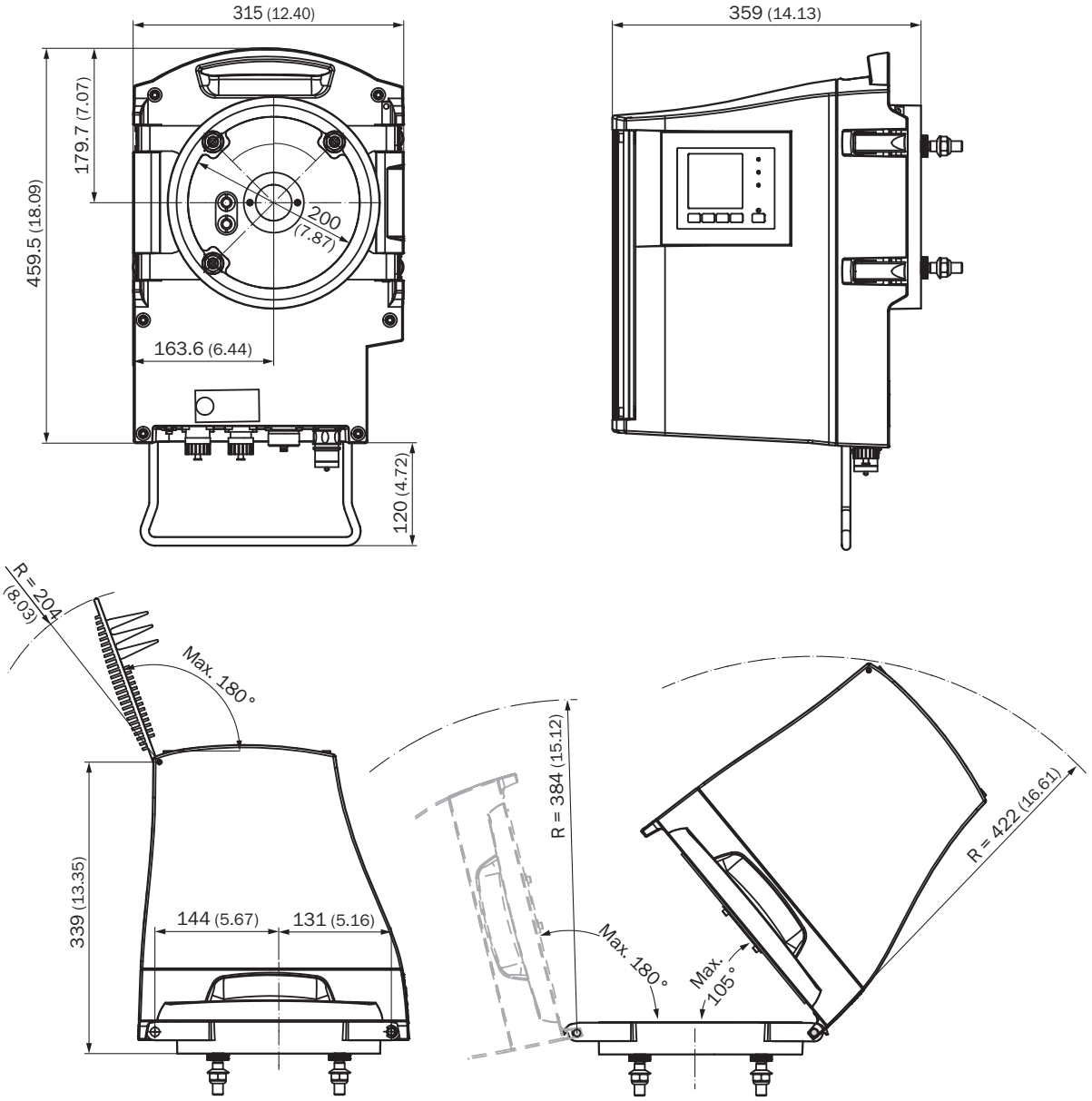
	–20 °C ... +55 °C Temperature change maximum ±10 °C/h
Storage temperature	–20 °C ... +55 °C Temperature change maximum ±10 °C/h
Ambient humidity	≤ 95 % Relative humidity; non-condensing
Conformities	Approved for plants requiring approval 2001/80/EC (13. BImSchV) 2000/76/EC (17. BImSchV) 27. BImSchV TA-Luft (Prevention of Air Pollution) EN 15267 EN 14181 MCERTS GOST
Ex-approvals	
IECEx	Ex pzc op is [ia] IIC T3 Gc
ATEX	II 3G Ex pzc op is [ia] IIC T3 Gc
Electrical safety	CE
Mounting	Mounting flange, DN125, PN6 Mounting flange, ANSI, 5″
Test functions	Internal zero point check Check cycle for zero and span point according to QAL3
Options	SCU control unit (for non-hazardous areas only) Multi range calibration (additional measuring ranges for one component) Extended gas temperature range up to 550 °C or 650 °C LowNO_2

Classifications

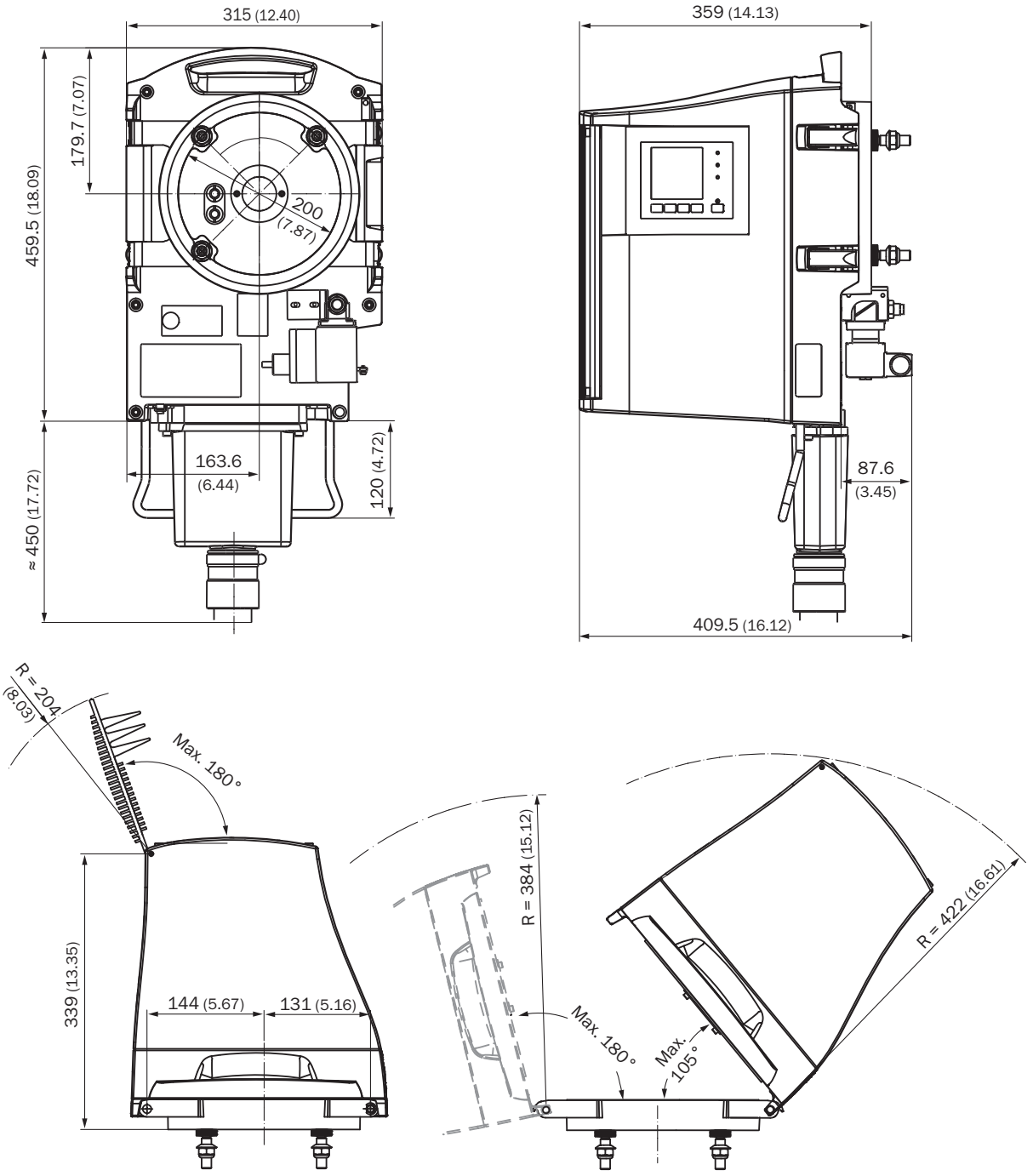
ECLASS 5.0	27150202
ECLASS 5.1.4	27150202
ECLASS 6.0	27150202
ECLASS 6.2	27150202
ECLASS 7.0	27150202
ECLASS 8.0	27150202
ECLASS 8.1	27150202
ECLASS 9.0	27150202
ECLASS 10.0	27150202
ECLASS 11.0	27150202
ETIM 5.0	EC001190
ETIM 6.0	EC001190
ETIM 7.0	EC001190
ETIM 8.0	EC001190
UNSPSC 16.0901	41115403

Dimensional drawing (Dimensions in mm (inch))

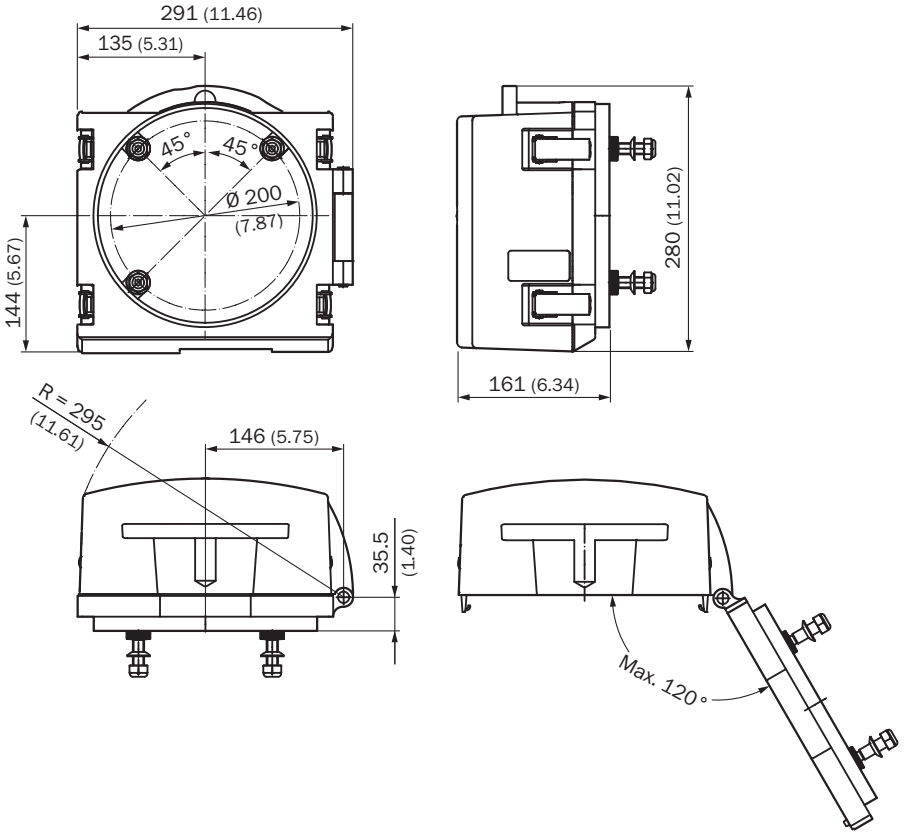
Sender/receiver unit; standard version



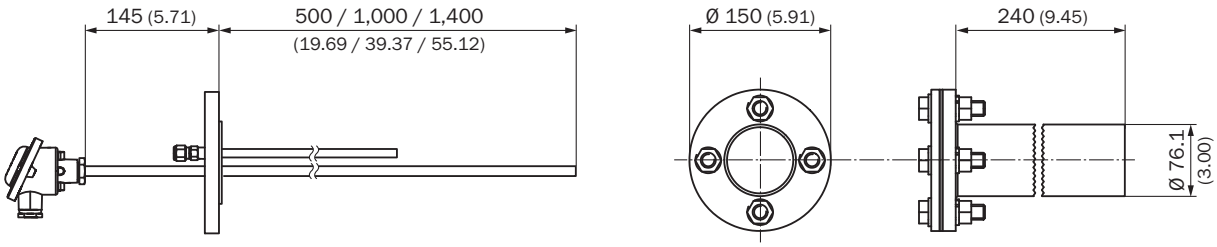
Sender/receiver unit; Ex-version



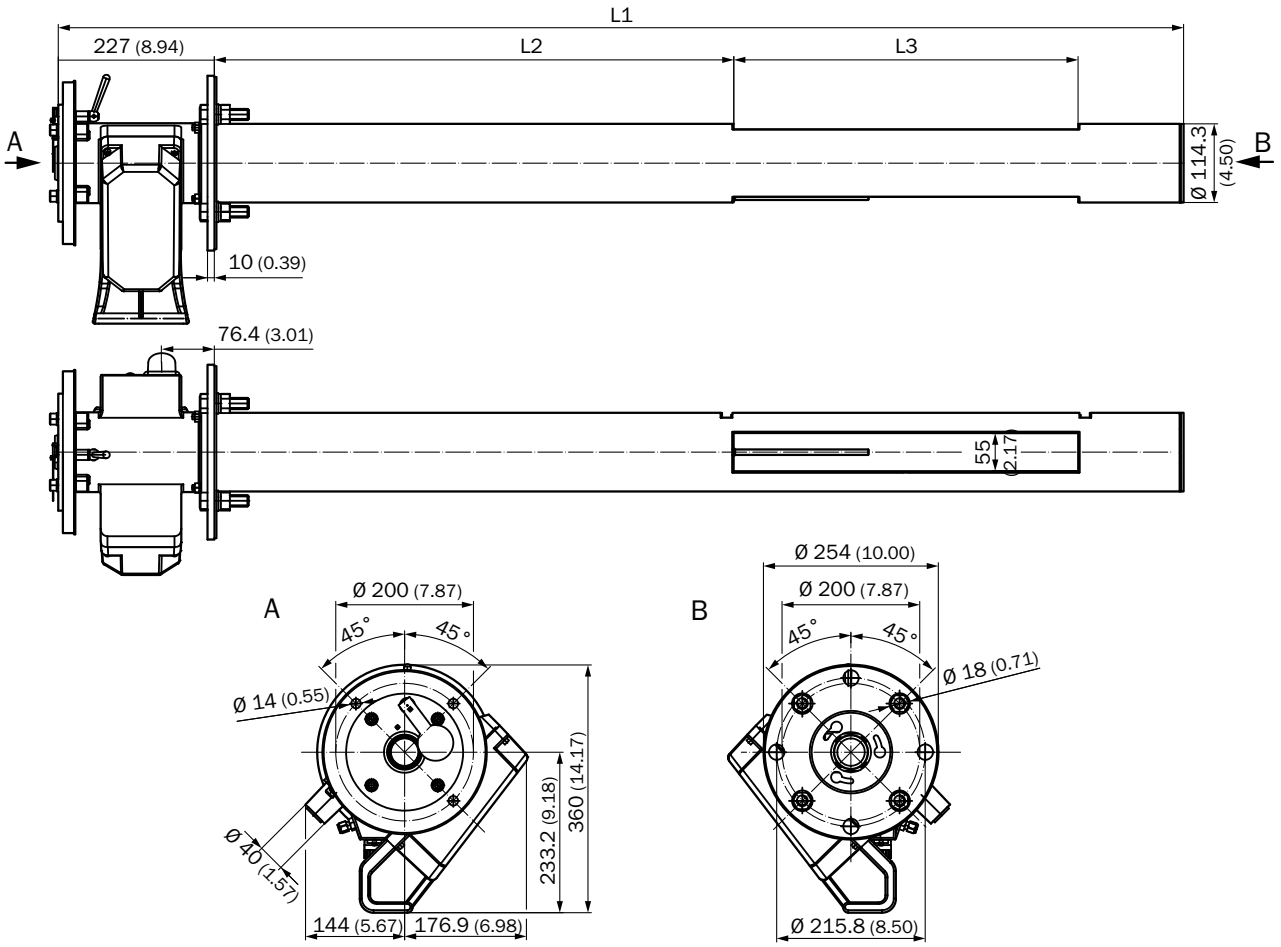
Reflector unit



Pressure and temperature sensor with DN40 / PN40 mounting flange



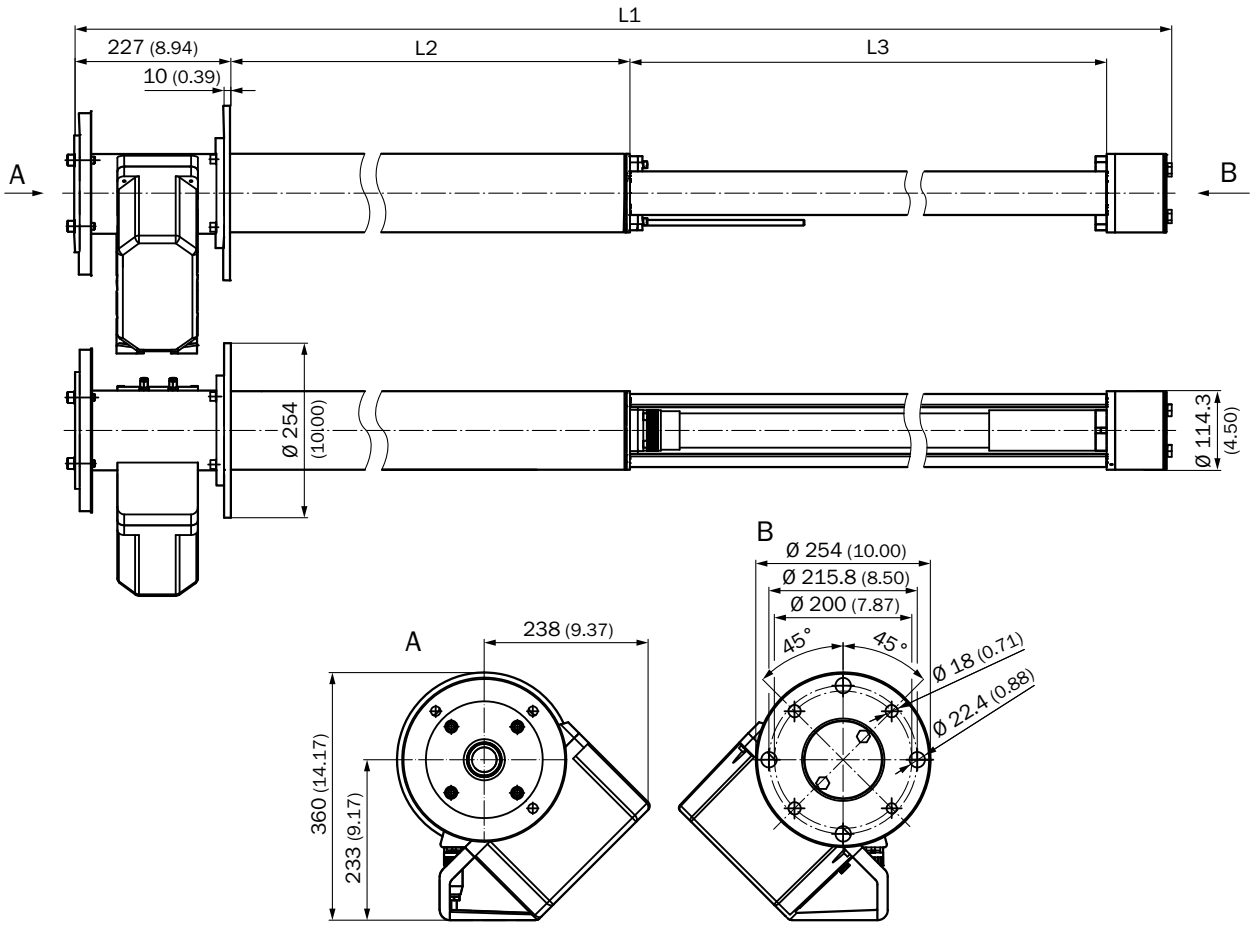
Open measuring probe (GMP)



GMP measuring probes		L3							
		250	500	750	1,000	1,250	1,500	1,750	
Probe length, nominal	L1	L2							Weight
900	935	296	---	---	---	---	---	---	21
1,500	1,644	1,005	755	505	255	---	---	---	24
2,000	2,128	1,489	1,239	989	739	489	239	---	30
2,500	2,628	1,988	1,738	1,488	1,238	988	738	488	35

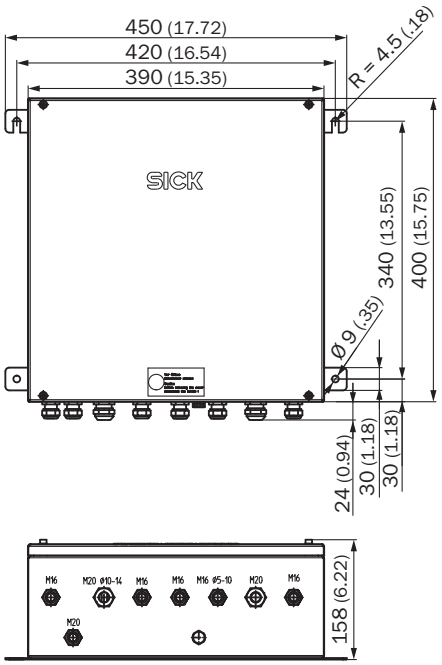
All dimensions in mm, all weights in kg
Application-specific lengths available on request

Gas-testable measuring probe (GPP)

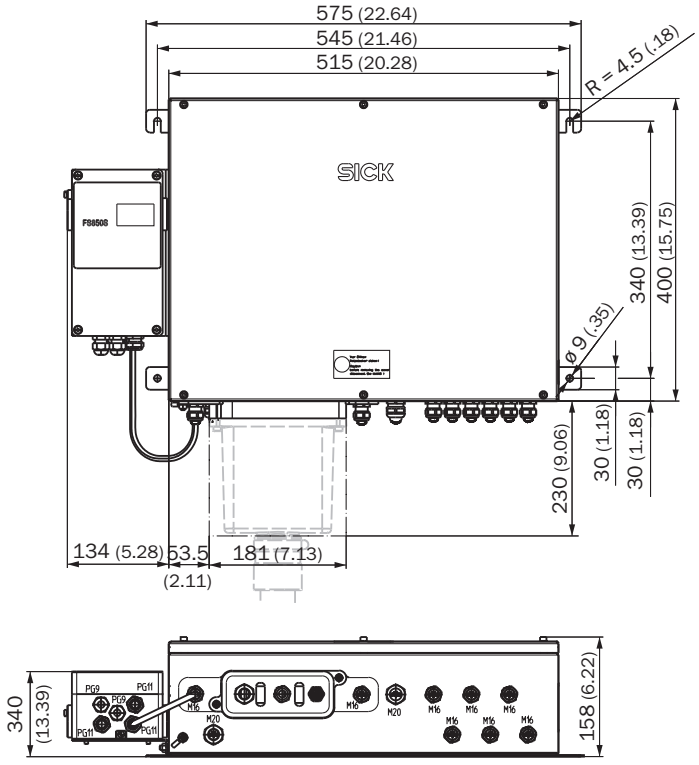


GPP measuring probes		L3				
		227	**477**	**727**	**977**	
Probe length, nominal	**L1**	**L2**				**Weight**
900	914	353	103	---	---	27
1,500	1,624	1,063	813	563	313	35
2,000	2,108	1,547	1,297	1,047	797	42
2,500	2,608	2,047	1,797	1,547	1,297	50
All dimensions in mm, all weights in kg Application-specific lengths available on request						

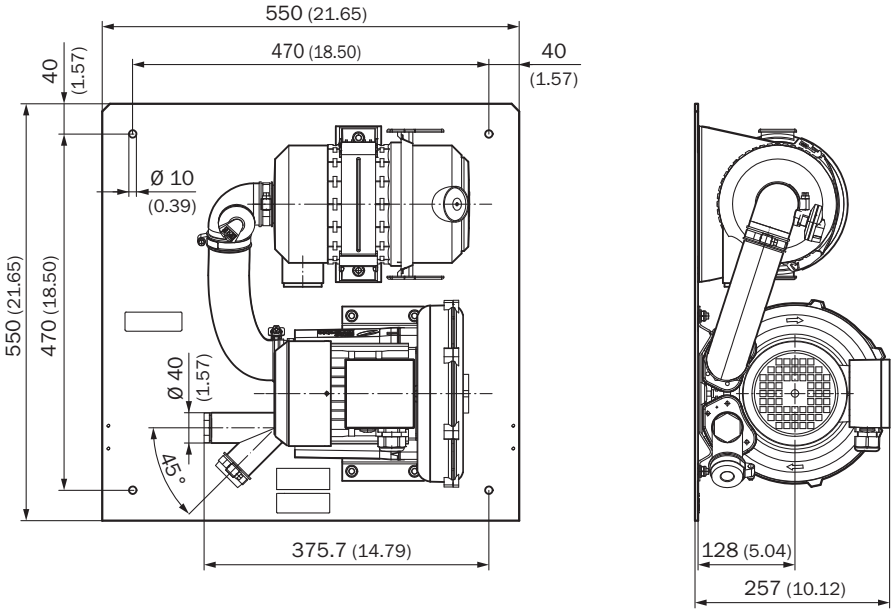
Connection unit; standard version



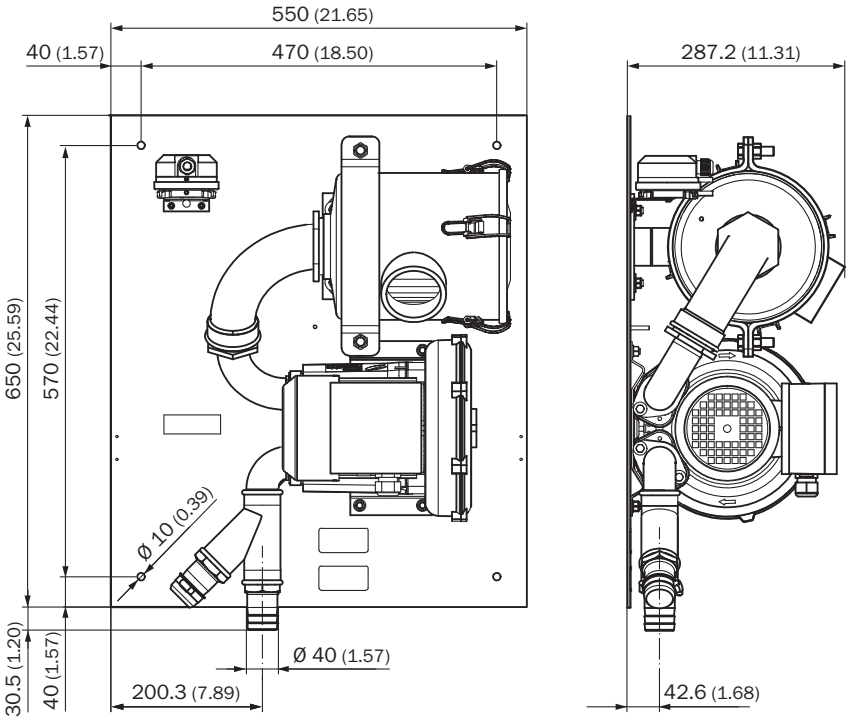
Connection unit; Ex-version



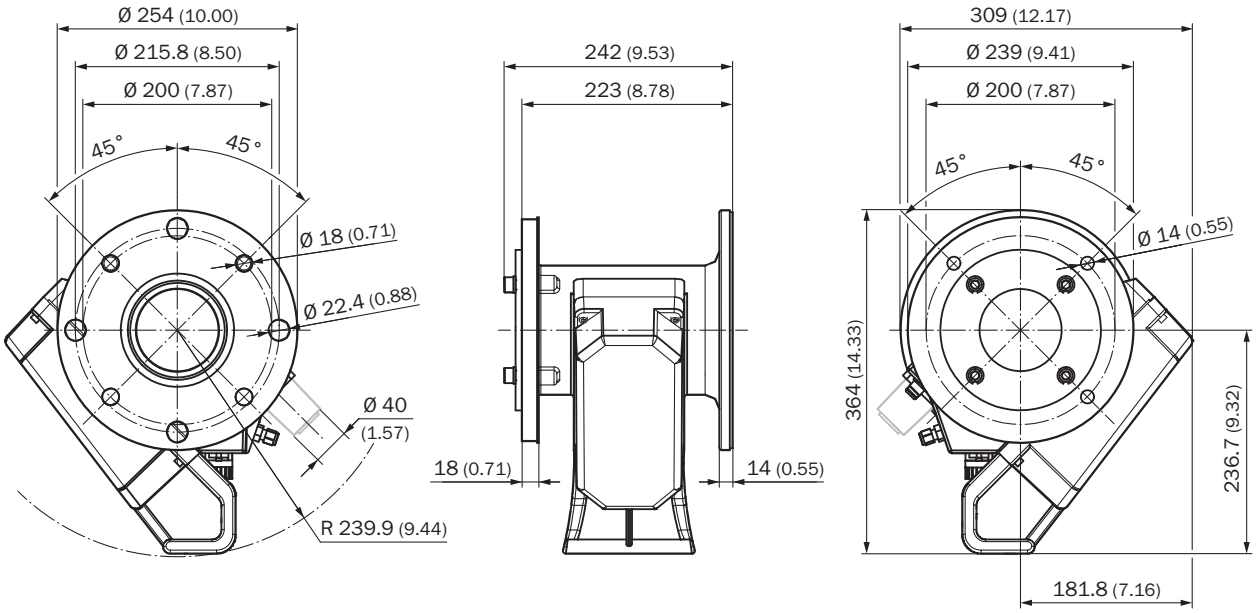
SLV4-2 purge air unit, 2BH1300



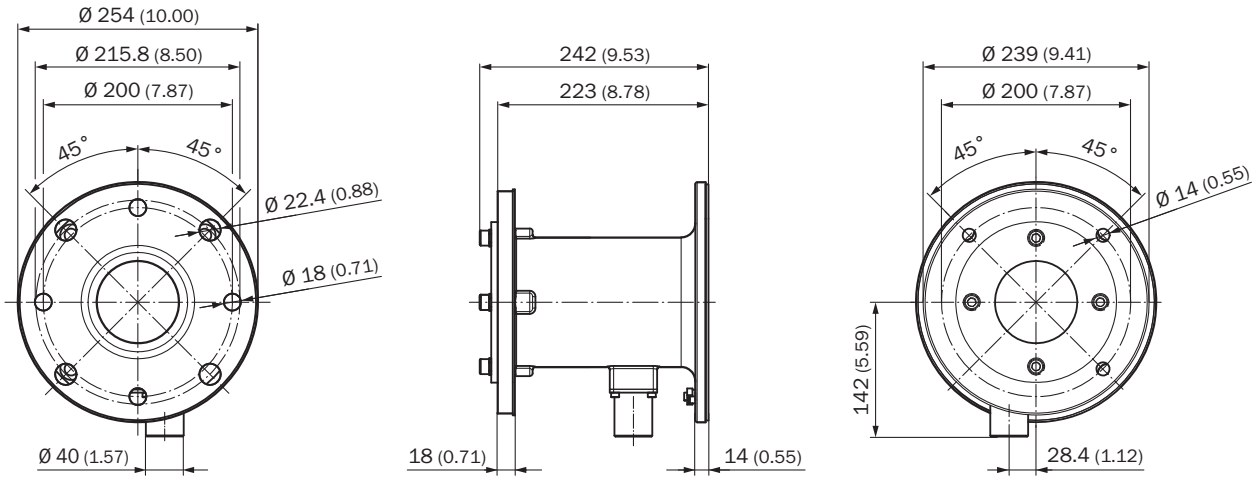
SLV6-1 purge air unit, 2SH1300, ATEX 3G



Purge air fixture

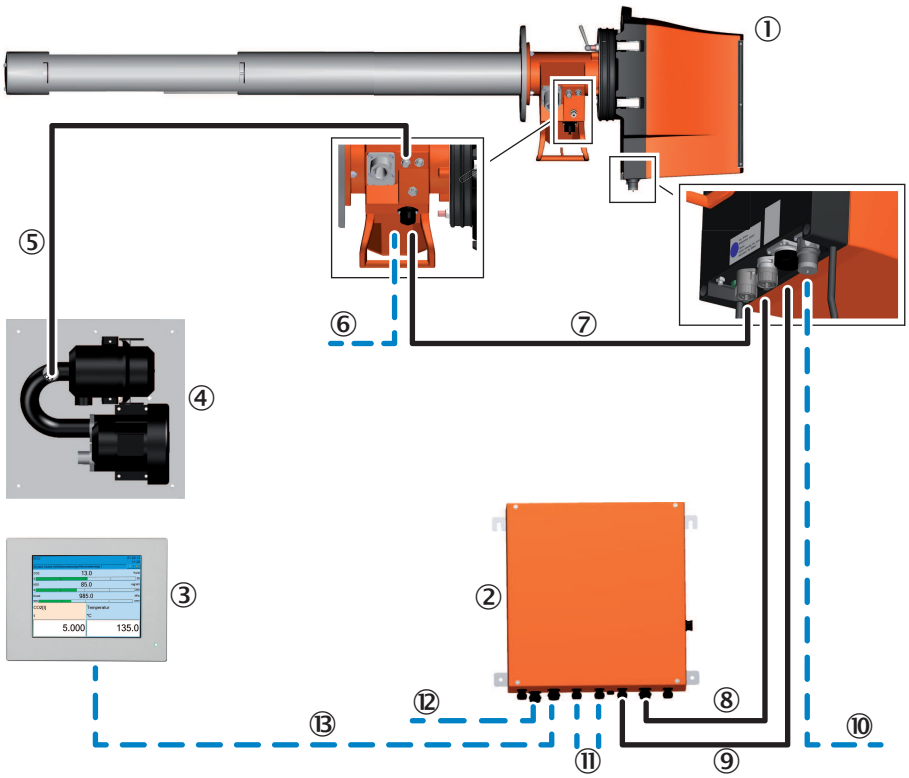


Hole circle on process side: Ø 215,8 mm for ANSI flanges, Ø 200 mm for DIN flanges (turned to 45°)
Purge air attachment, Ex version, passive



Connection types

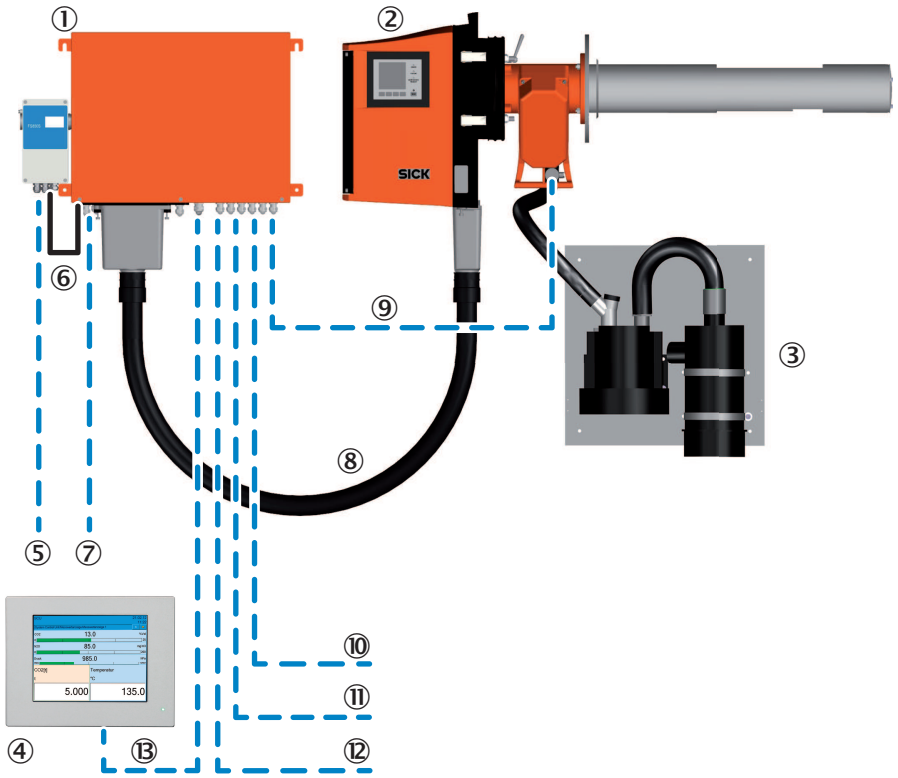
Measuring probe version; standard version



① Sender/receiver unit with measuring probe (shown: GMP measuring probe)
② Connection unit
③ SCU-P100 control unit (option)
④ Purge air unit (only for GMP measuring probe)

No.	Cable	Length	Remarks	Part no.
5	Filter monitoring SLV4	5 m	Included in measuring probe purge air attachment	2032143
6	Power supply for GPP measuring probe	10 m	Included in measuring probe purge air attachment; From customer: 115/230 V AC, 50/60 Hz	2017519
7	Sender/receiver unit – purge air attachment (CAN cable)	0.8 m	Included in measuring probe purge air attachment	2023704
8	Sender/receiver unit – connection unit (CAN cable)	10 m 20 m	Order separately	2028786 2045422
9	Power supply sender/receiver unit	10 m 20 m	Order separately	2046548 2046549
10	Ethernet cable – computer/network		From customer	–
11	Inputs/outputs		From customer: terminal connections	–
12	Power supply connection unit		From customer: 100 ... 240 V AC, 50/60 Hz	–
13	Connection unit – SCU-P100 (CAN cable)		From customer	–

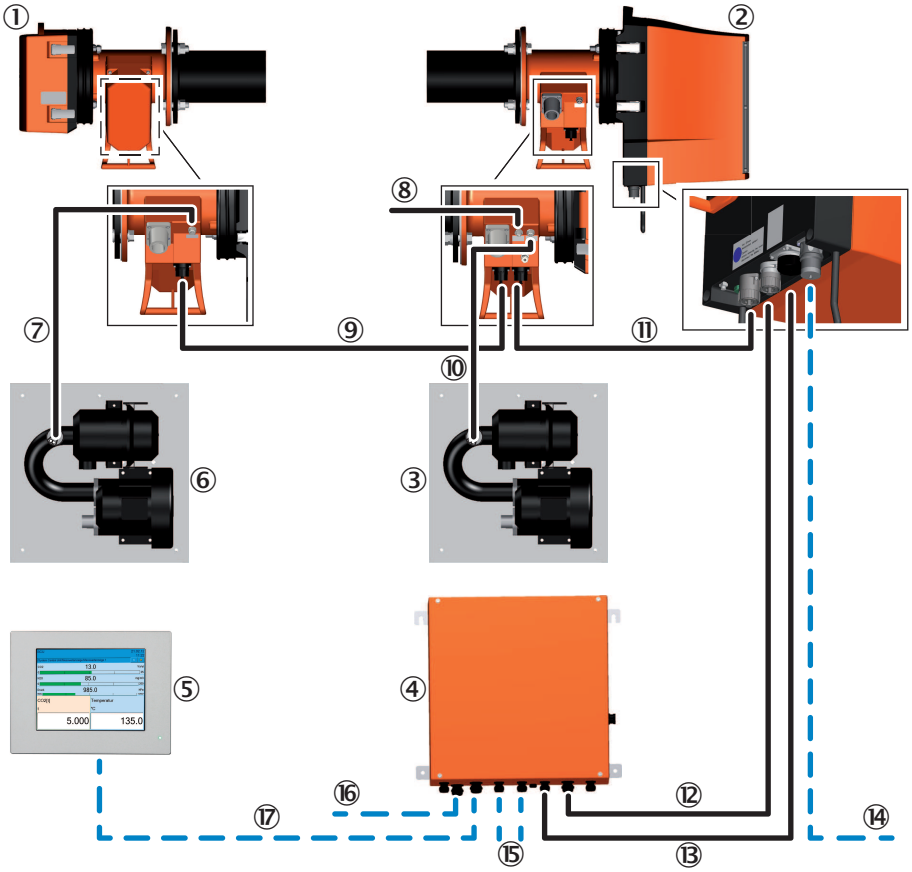
Measuring probe version; Ex version



① Connection unit with Ex-p control unit for Zone 1 (2G) and Zone 2 (3G)
② Sender/receiver unit with measuring probe (shown: GMP measuring probe)
③ Purge air unit
④ SCU-P100 control unit (option)

No.	Cable	Length	Remarks	Part no.
5	Power supply (2G and 3G types)		From customer: 115/240 V AC, 50/60 Hz	–
6	Ex-p control unit – connection unit (Only 2G type)		Included in connection unit	–
7	Power supply (only 3G type)		From customer: 115/240 V AC, 50/60 Hz	–
8	Connection unit – sender/receiver unit	5 m 10 m	Order separately	2057666 2057667
9	Differential pressure switch – connection unit		From customer	–
10	Input pressure/temperature		From customer	–
11	Ethernet computer/network (optical fiber)		From customer	–
12	Inputs/outputs		From customer: terminal connections	–
13	Connection unit – SCU-P100 (CAN cable)		From customer	–

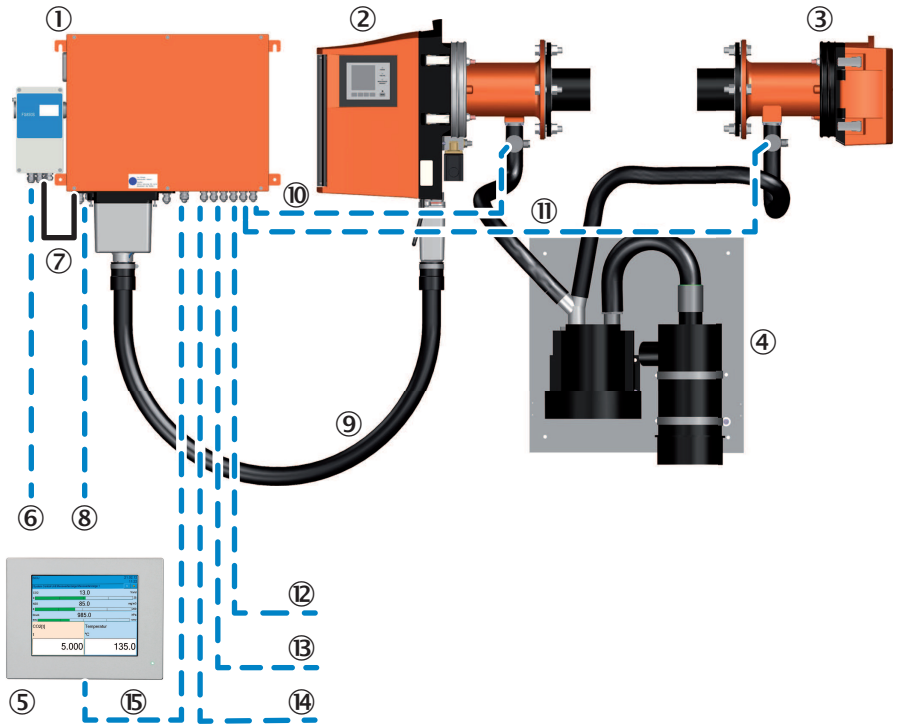
Cross-duct version; standard version



① Reflector unit
② Sender/receiver unit
③ Purge air unit (for sender/receiver unit)
④ Connection unit
⑤ SCU-P100 control unit (option)
⑥ Purge air unit (for reflector unit)

No.	Cable	Length	Remarks	Part no.
7	Filter monitoring SLV4 (Reflector unit)	5 m	Included in reflector unit purge air attachment	2032143
8	PT1000 temperature sensor		Available as option or provided by customer	–
9	Sender/receiver unit – reflector unit (CAN cable)	12 m 24 m	Order separately	2020861 2027031
10	Filter monitoring SLV4 (Sender/receiver unit)	5 m	Included in sender/receiver unit purge air attachment	2032143
11	Sender/receiver unit – purge air attachment (CAN cable)	0.8 m	Included in sender/receiver unit purge air attachment	2023704
12	Sender/receiver unit – connection unit (CAN cable)	10 m 20 m	Order separately	2028786 2045422
13	Power supply sender/receiver unit	10 m 20 m	Order separately	2046548 2046549
14	Ethernet cable – computer/network		From customer	–
15	Inputs/outputs		From customer: terminal connections	–
16	Power supply connection unit		From customer: 100 ... 240 V AC, 50/60 Hz	–
17	Connection unit – SCU-P100		From customer	–

Cross-duct version; Ex version

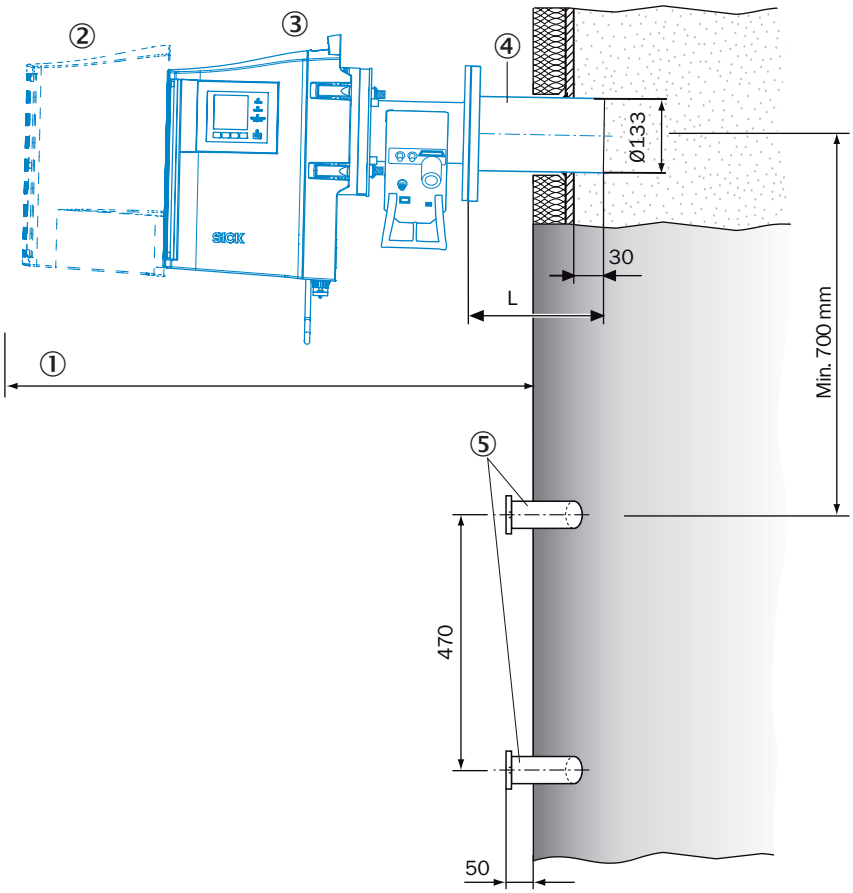


① Connection unit with Ex-p control unit for Zone 1 (2G) and Zone 2 (3G)
② Sender/receiver unit
③ Reflector unit
④ Purge air unit
⑤ SCU-P100 control unit (option)

No.	Cable	Length	Remarks	Part no.
6	Power supply (2G and 3G types)		From customer: 115/240 V AC, 50/60 Hz	–
7	Ex-p control unit – connection unit (Only 2G type)		Included in connection unit	–
8	Power supply (only 3G type)		From customer: 115/240 V AC, 50/60 Hz	–
9	Connection unit – sender/receiver unit	5 m 10 m	Order separately	2057666 2057667
10	Differential pressure switch – connection unit		From customer	–
11	Differential pressure switch – connection unit		From customer	–
12	Input pressure/temperature		From customer	–
13	Ethernet computer/network (optical fiber)		From customer	–
14	Inputs/outputs		From customer: terminal connections	–
15	Connection unit – SCU-P100 (CAN cable)		From customer	–

Instruction for installation

Measuring probe version



Mounting example on a vertical duct or stack

① Recommended free space: approx. 1.5 m (min. 1 m)
② Weather hood (option)
③ Sender/receiver unit
④ Mounting flange, L=240 mm/500 mm/1,000 mm, tilt tube: approx. 1° towards the duct, so that condensate can drain off.
⑤ Attachment for purge air unit (at the customer): e.g. 4 steel pipes, 50 x 5 mm

Project planning is extremely important for trouble-free mounting and commissioning of the measuring device. The important requirements and preparations at the site of installation for determining the measuring site for the GM32 measuring probe type are described as follows:

Unimpeded inlet and outlet zones taken into consideration

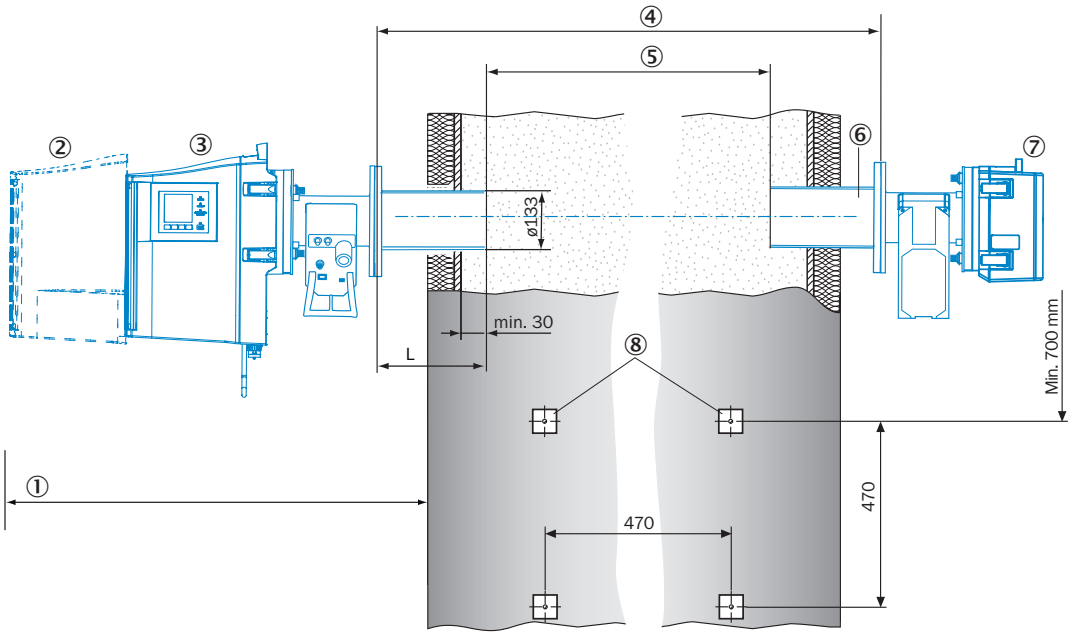
Plan suitable free space for mounting and maintenance activities, for example, for tilting the sender/receiver unit and extending the measuring probe

Arrange for sufficient weatherproofing for the device components, if mounting outdoors

The site of installation must be sufficient for the weight of the sender/receiver unit including the measuring probe

Arrange clearance of minimum 0.5 m in direction of flow upstream from the device for the calibration supports so that the measuring device and calibration probe cannot interfere with each other

Cross-duct version



Mounting example on a vertical duct or stack
① Recommended free space: approx. 1.5 m (min. 1 m)
② Weather hood (option)
③ Sender/receiver unit
④ Distance flange - flange
⑤ Active measuring path
⑥ Mounting flange, L=240 mm/500 mm/1,000 mm
⑦ Reflector unit
⑧ Attachment for purge air unit (at the customer): e.g. 4 steel pipes, 50 x 5 mm

Project planning is extremely important for trouble-free mounting and commissioning of the measuring device. The important requirements and preparations at the site of installation for determining the measuring site for the GM32-Cross Duct type are described as follows:
Unimpeded inlet and outlet zones taken into consideration
Always ensure “flange – flange distance” and “measuring distance” values are maintained!
Plan suitable free space for mounting and maintenance activities, for example, for tilting the sender/receiver unit
Arrange for sufficient weatherproofing for the device components, if mounting outdoors
The site of installation must be sufficient for the weight of the sender/receiver unit and reflector
Arrange clearance of minimum 0.5 m in direction of flow upstream from the device for the calibration supports so that the measuring device and calibration probe cannot interfere with each other

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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