



## Guided micropulse level indicators PulsFox® PMG 20



### Benefits

- Level measurement independent of changes in pressure, temperature or density
- Stable, reliable measurement even with foam, vapour, dust or turbulent surfaces of the medium
- Robust housing for rough ambient conditions
- Maintenance-free, not subject to wear and tear

### Application

For universal continuous level measurement in containers, tanks or silos. Suitable for liquid, powdery, electrically conductive or non-conductive media. Ideal for changing media. FEP-coated and PFAcoated probes are available for corrosive, highly clean media or food. Also suitable for pressurised or vacuum tanks. The device can be easily adjusted by means of the programming display with user-friendly menus; it also serves as a local display.

### Versions

	Part no.
PulsFox® PMG 20 MO -00	5654000O-L-101
PulsFox® PMG 20 MO -00 with local display	5654000D-L-101
PulsFox® PMG 20 MS -20	5654020O-L-101
PulsFox® PMG 20 MS -21	5654021O-L-101
PulsFox® PMG 20 MS -22	5654022O-L-101
PulsFox® PMG 20 MS -23	5654023O-L-101
PulsFox® PMG 20 MS -20 with local display	5654020D-L-101
PulsFox® PMG 20 MS -21 with local display	5654021D-L-101
PulsFox® PMG 20 MS -22 with local display	5654022D-L-101
PulsFox® PMG 20 MS -23 with local display	5654023D-L-101
PulsFox® PMG 20 KX -40	5654040O-L-101

Blue part no. = in-stock items



	Part no.
PulsFox® PMG 20 KX -40 with local display	5654040D-L-101
PulsFox® PMG 20 MF -60	5654060O-L-101
PulsFox® PMG 20 MF -61	5654061O-L-101
PulsFox® PMG 20 MF -62	5654062O-L-101
PulsFox® PMG 20 MF -63	5654063O-L-101
PulsFox® PMG 20 MF -60 with local display	5654060D-L-101
PulsFox® PMG 20 MF -61 with local display	5654061D-L-101
PulsFox® PMG 20 MF -62 with local display	5654062D-L-101
PulsFox® PMG 20 MF -63 with local display	5654063D-L-101

Blue part no. = in-stock items

## Description

PulsFox® PMG 20 level indicators operate on the basis of the guided micropulse principle (TDR, time domain reflectometry). A micropulse is emitted along a probe. The micropulse is surrounded by an electromagnetic field. Reflections of the pulses from objects and surfaces serve as the basis of distance measurement. The pulse's propagation time is directly proportional to the distance between the probe and the surface of the medium. The reflectance of materials depends on the dielectric constant  $\epsilon_r$ . Changes of the medium such as, for example vapour, dust or a turbulent surface do not affect the measuring accuracy of this measuring principle. No recalibration is required when a different medium is used. Even if properties such as pressure, temperature and density change, the system operates with high reliability and precision. PulsFox® PMG 20 has no moving parts and is therefore maintenance-free and not subject to wear.



## Technical specifications

### Display

5-digit, 9 mm high, yellow Matrix OLED  
Resolution 128 x 64 pixels

### Max. measuring range

MS-20:	≤ 3,000 mm
MS-21:	≤ 3,000 mm
MS-22:	≤ 2,000 mm
MS-23:	≤ 2,000 mm
KX-40:	≤ 3,000 mm
MF-60:	≤ 40,000 mm
MF-61:	≤ 12,000 mm
MF-62:	≤ 40,000 mm
MF-63:	≤ 40,000 mm

(specify exact probe  
length when ordering)

### Dielectric constant ( $\epsilon_R$ ) of medium

MS:	≥ 2.1
KX:	≥ 1.8
MF:	≥ 2.1

### Measuring accuracy

MS:	± 4 mm ≤ 2 m
MS:	± 2 mm > 2 m
KX:	± 3 mm ≤ 2 m
KX:	± 2 mm > 2 m
MF:	± 4 mm ≤ 2 m
MF:	± 2 mm > 2 m

### Operating temperature range

Medium:	-40/+300 °C
Flange:	-40/+85 °C
Ambient:	-30/+70 °C

## Options

- Other process connections
- FEP/PFA coatings
- EX version Ex II 1/2 G Ex ia IIB T5 Ga/Gb

### Process pressure

MS:	Max. 100 bar
KX:	Max. 100 bar
MF:	Max. 10 bar

### Process connection

G1B, Stainless steel 316 Ti

### Supply voltage

DC 18 – 36 V

### Output signal

4–20 mA/HART, 2-wire

### Material

Probe head:	Aluminium die cast
Probe	
MS:	Stainless steel 316 Ti
KX:	Stainless steel 316 Ti
MF:	Stainless steel 316 L

### Degree of protection

IP 67 (EN 60529)

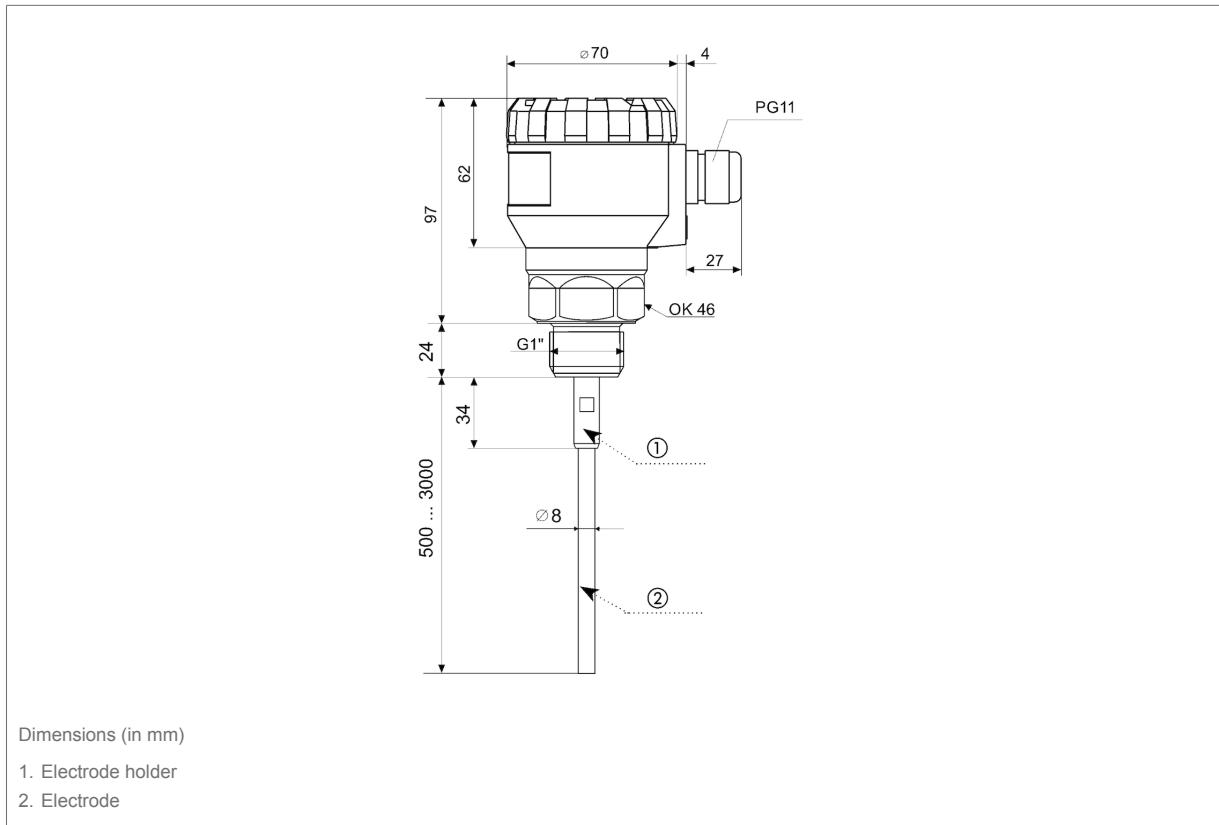
### Electrical connection

Cable gland M16 x 1.5

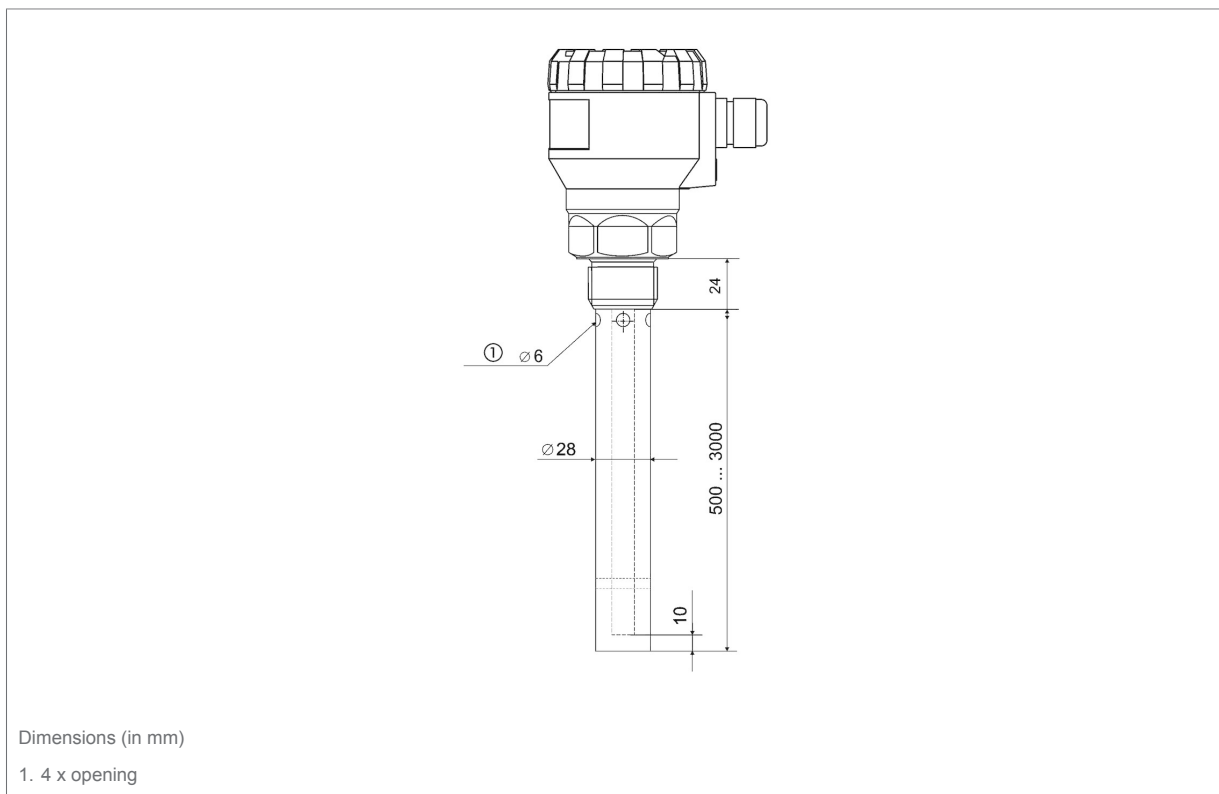


### Detail views

#### PulsFox® PMG 20 MS - 20-with rigid mono probe

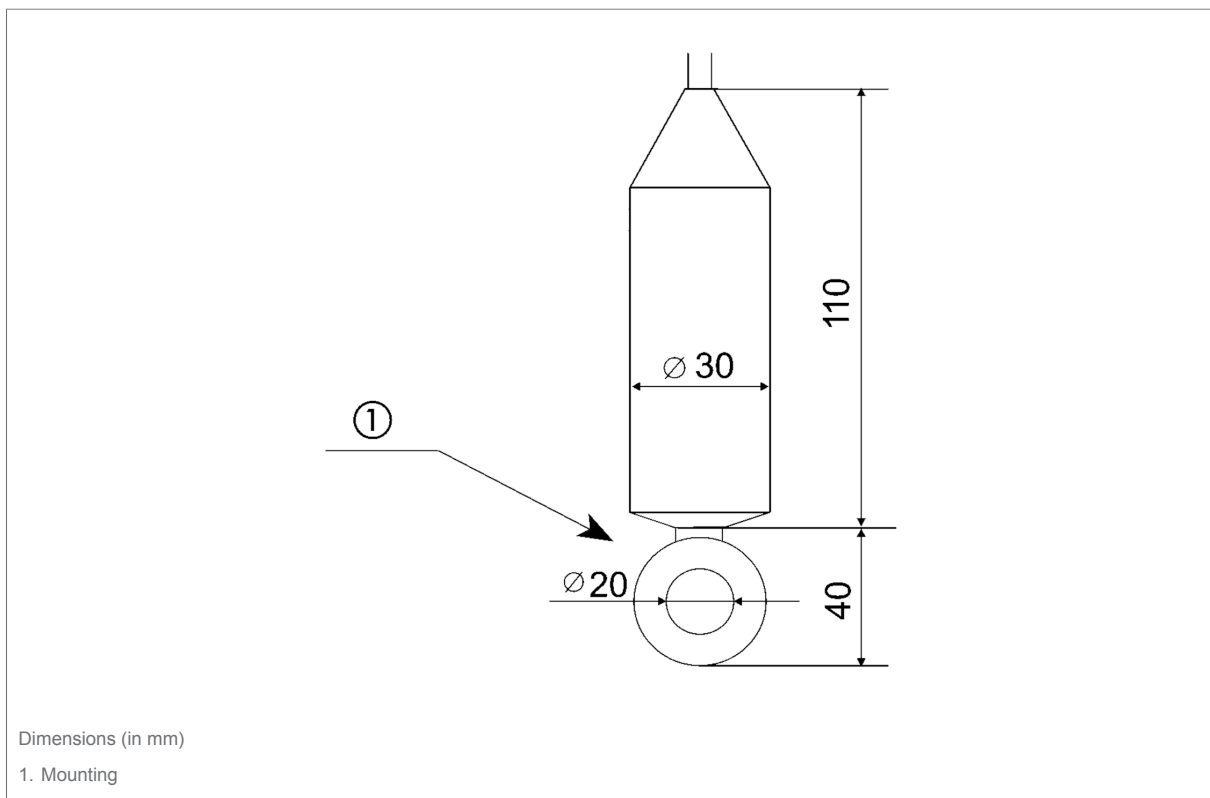


#### PulsFox® PMG 20 KX - 40 with coax probe



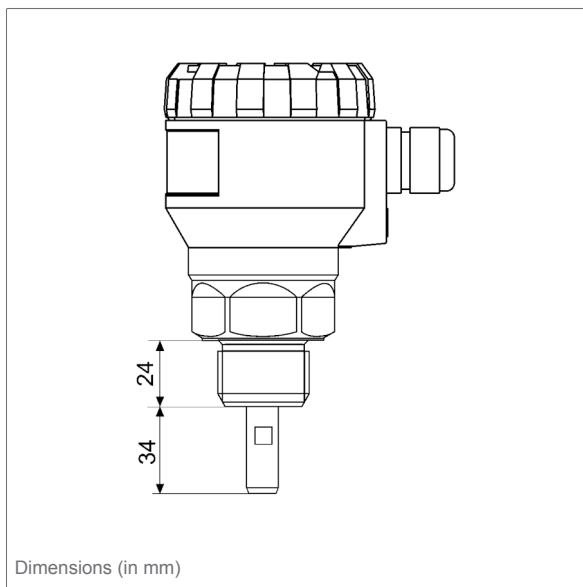


**PulsFox® PMG 20 - 62/63 mounting eyelet**

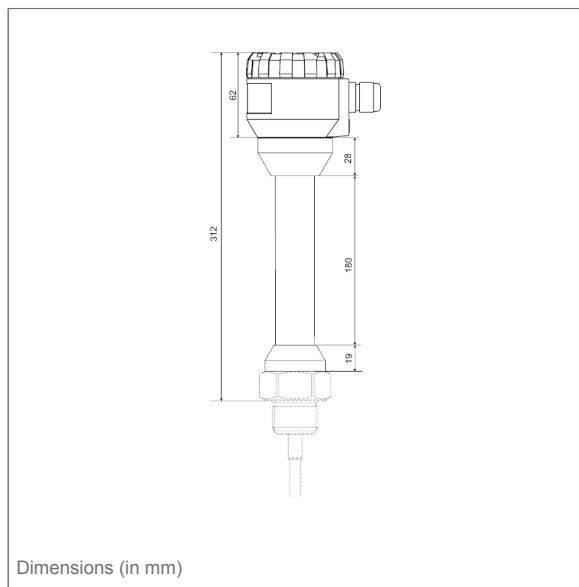


**Technical drawings**

**Guided micropulse level indicator PulsFox® PMG 20**

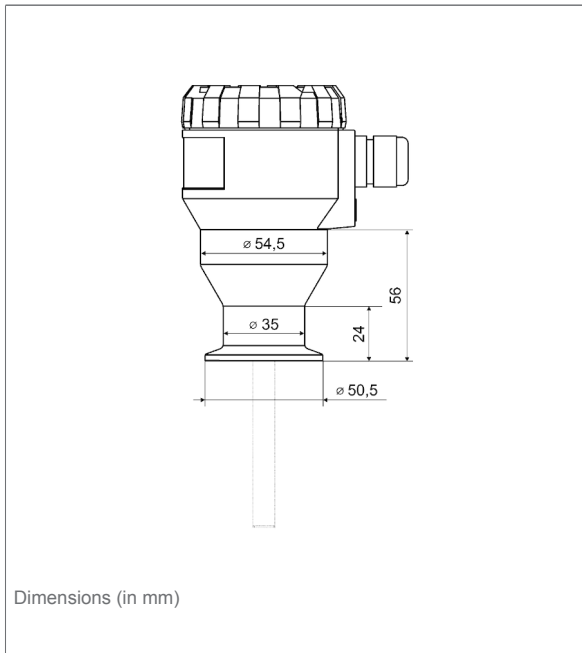


**PulsFox® PMG 20 high temperature version**

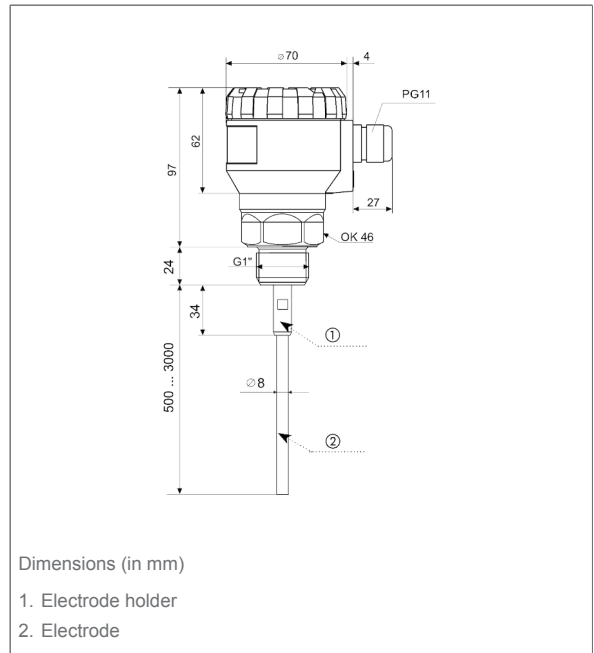




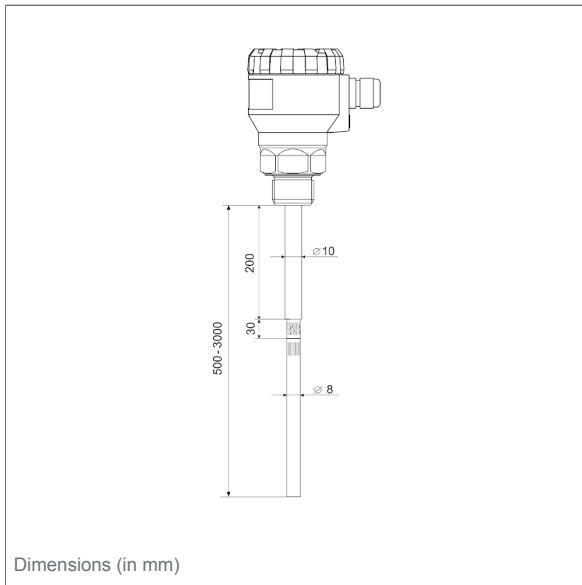
**PulsFox® PMG 20 with process connection TriClamp 1"**



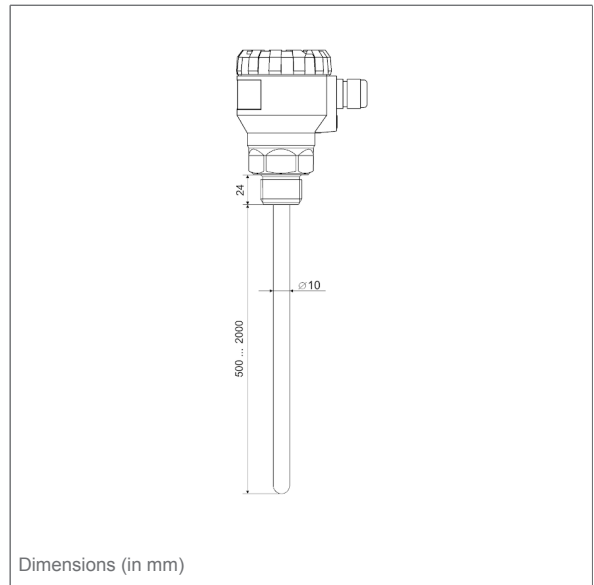
**PulsFox® PMG 20 MS - 20-with rigid mono probe**



**PulsFox® PMG 20 MS - 21 with rigid mono probe (partially insulated)**

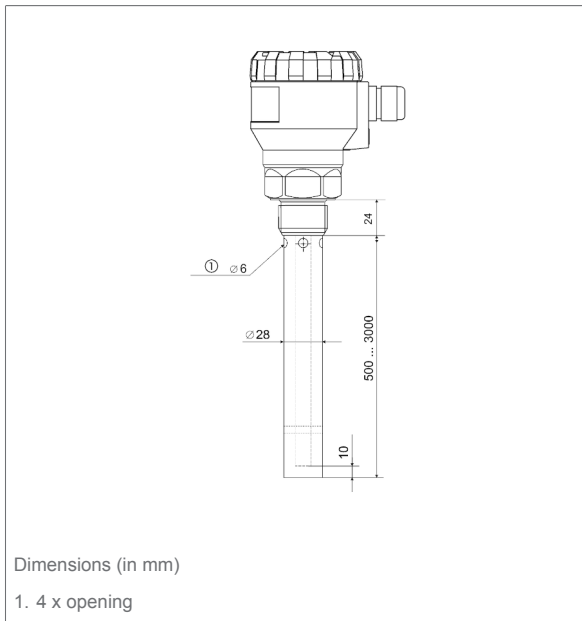


**PulsFox® PMG 20 MS - 22 with rigid mono probe (PFA insulation) – PulsFox® PMG 20 MS - 23-with rigid mono probe (FEP insulation)**

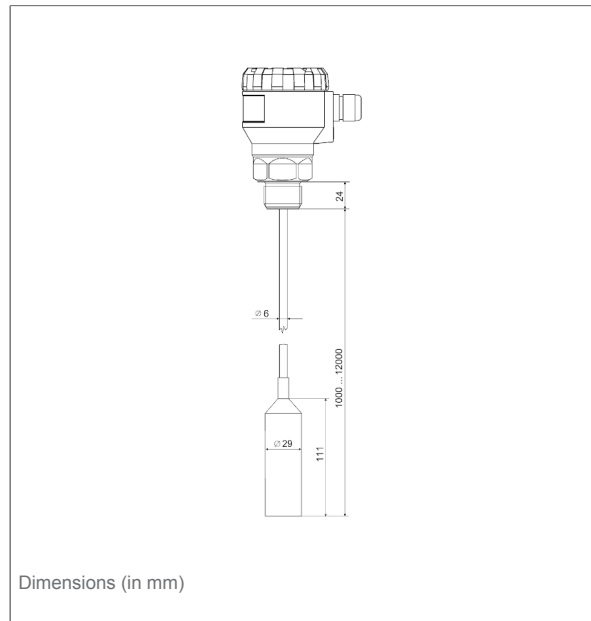




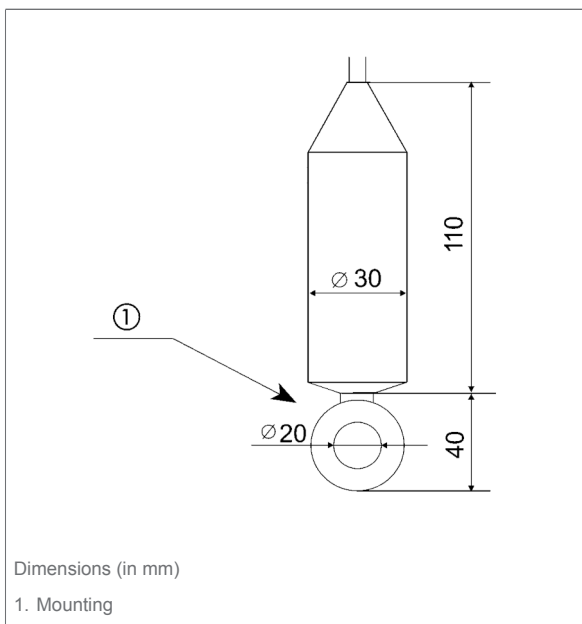
**PulsFox® PMG 20 KX - 40 with coax probe**



**PulsFox® PMG 20 MF - 61 with flexible mono probe (FEP/PTFE insulation)**



**PulsFox® PMG 20 - 62/63 mounting eyelet**



**PulsFox® PMG 20 MF - 60/62/63 with flexible mono probe**

