

# Guided microwave level indicators PulsFox® PMG 10 (TDR)

NEW

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- Stable and accurate level measurement even at rough ambient conditions
- Probes for almost any application
- No moving parts
- Maintenance-free, not subject to wear and tear
- Robust housing for rough ambient conditions



Local display

**Application** Guided micropulse level indicators can be used in a wide variety of level measurement applications with liquids and bulk solids.

**Function principle** The PulsFox® PMG 10 level indicator is based on the principle of Time Domain Reflectometry (TDR). A micropulse is emitted along a probe. This micropulse is surrounded by an electromagnetic field which allows for distance measurement due to the reflections from objects and surfaces. The reflectance of materials depends on the dielectric constant  $\epsilon$ . Even if properties such as pressure, temperature and density change, the system operates with high reliability and precision.

## Probe selection

	Rigid mono probe MS	Flexible mono probe MF	Flexible dual probe DF	Coax probe K
Low tanks < 1,000 mm	o	-	-	+
High tanks > 6,000 mm	-	+	+	-
Liquids	+	+	+	+
Solids	+	+	+	-
High-viscosity or adhesive media	+	o	-	-
Low-viscosity media	+	+	+	+
Disturbing installations/ small distances	-	-	+	+
Conductive foam on the medium	+	+	-	-

- Not suitable
- o Limited suitability
- + Suitable



Plug-in local display/programming display  
PD 10 PMG  
Part no. 53529  
DG: H

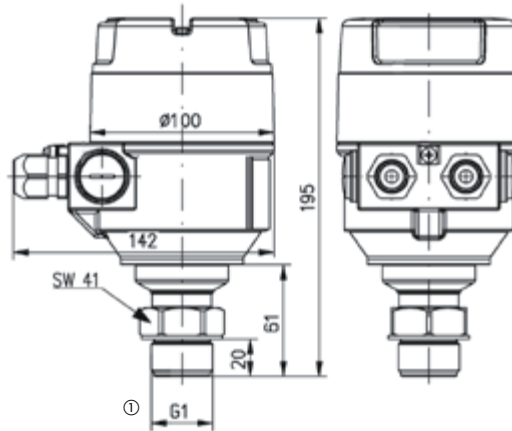
# Guided microwave level indicators PulsFox® PMG 10 (TDR)



Types and dimensions (mm)

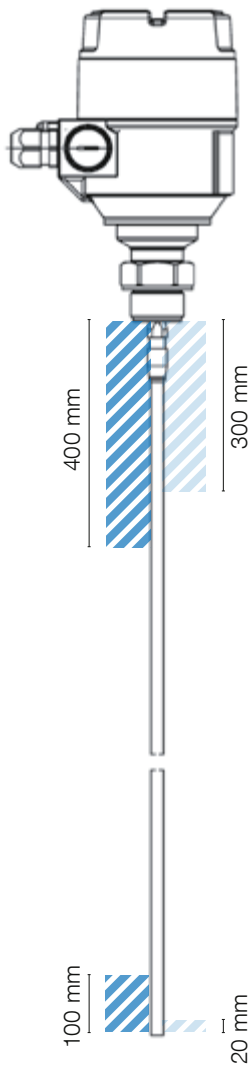
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Housing PMG 10

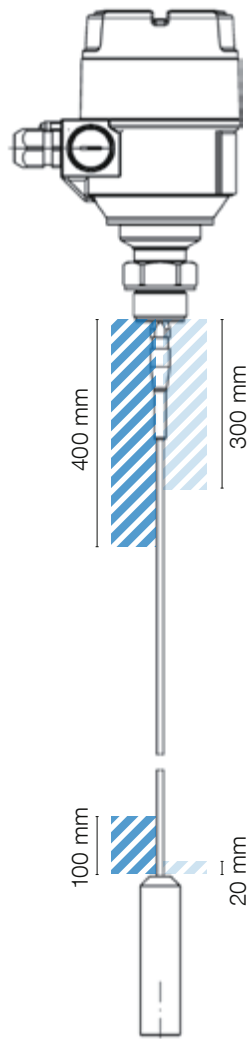


① Depending on version

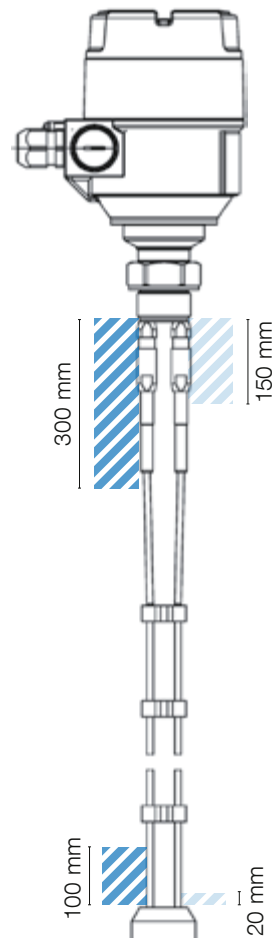
Pulsfox® PMG 10 MS  
with rigid mono probe



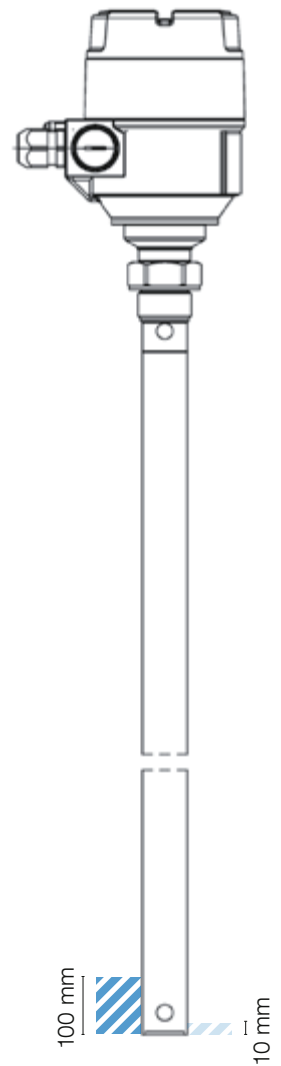
Pulsfox® PMG 10 MF  
with flexible mono probe



Pulsfox® PMG 10 DF  
with flexible dual probe



Pulsfox® PMG 10 KX  
with coax probe



▨ Blocking distance with a media with  $\epsilon_r$  value = 2.4

▨ Blocking distance with a medium with  $\epsilon_r$  value = 80

# Guided micropulse level indicator with rigid mono probe PulsFox® PMG 10 MS



## 1 Technical specifications

### Probe type/probe material

Mono probe, rigid / stainless steel 316 Ti

### Measuring range

Max. 3 m

### Dielectric constant of medium

≥ 2.1

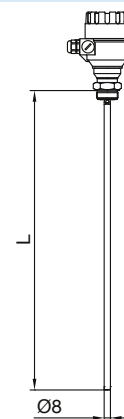
### Maximum measuring error

±5 mm in the case of liquids, ±20 mm in the case of powder/solids

### Special properties

- Also for high-viscosity or adhesive media
- Conductive foam does not influence the measurements

Pulsfox® PMG 10 MS  
with rigid mono probe



## Ordering data

DG: H

Price €

### 1 Probe type

**53530** Mono probe rigid PMG 10 MS

**53531** Mono probe, rigid, for use in hazardous area PMG 10 MS EX

### 2 Display and temperature range

**O** Without local display and without window, flange temperature max. **90 °C**

**HT** Without local display and without window, flange temperature max. **200 °C**

**D** With local display and with window, flange temperature max. **90 °C**

**HTD** With local display and with window, flange temperature max. **200 °C**

### 3 Housing

**A** Aluminium die cast IP 65

### 4 Probe and process connection

**10** G1B PN 16 / stainless steel 316 Ti

**11** 1 NPT PN 16 / stainless steel 316 Ti

**12** G1½B PN 16 / stainless steel 316 Ti

**13** 1½ NPT PN 16 / stainless steel 316 Ti

**54** DN 50 PN 25 / PFA coating

**56** DN 50 PN 25 / PP coating

### 5 Probe length (L)

**3000** Length in mm, e.g. 3 m

### 6 Output signal and EX-Type

**N** 4 – 20 mA + HART / non-EX

**D** 4 – 20 mA + HART / ATEX II 1 D iaD A20/21 IP 65 T100°C

**G** 4 – 20 mA + HART / ATEX 1G IIC or IIB T6...T3

Ordering code

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# Guided micropulse level indicator with flexible mono probe PulsFox® PMG 10 MF



## Technical specifications

### Probe type/probe material

Mono probe, flexible / stainless steel 316

### Measuring range

Max. 24 m

### Dielectric constant of medium

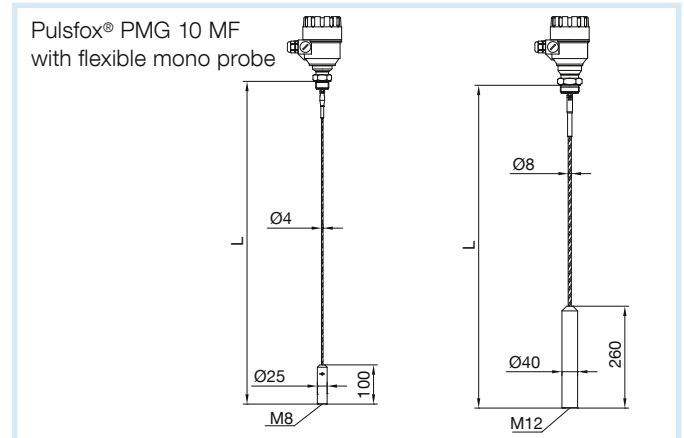
≥ 2.1

### Maximum measuring error

±0.05% of probe length (min. ±5 mm) in the case of liquids  
±0.2% of probe length (min. ±20 mm) in the case of powder/solids

### Special properties

- Also suitable for high tanks (> 6 m)
- Conductive foam does not influence the measurements
- With optional FEP coating for corrosive media



## Ordering data

DG: H

Price €

### 1 Probe type

**53532** Mono probe flexible PMG 10 MF

**53533** Mono probe, flexible, for use in hazardous area PMG 10 MF EX

### 2 Display and temperature range

**O** Without local display and without window, flange temperature max. **90 °C**

**HT** Without local display and without window, flange temperature max. **200 °C**

**D** With local display and with window, flange temperature max. **90 °C**

**HTD** With local display and with window, flange temperature max. **200 °C**

### 3 Housing

**A** Aluminium die cast IP 65

### 4 Probe and process connection

**30** G1B PN16 / stainless steel 316 / **4 mm**

**31** 1 NPT PN16 / stainless steel 316 / **4 mm**

**32** G1½B PN16 / stainless steel 316 / **4 mm**

**33** 1½ NPT PN16 / stainless steel 316 / **4 mm**

**34** G1½B PN16 / stainless steel 316 / **8 mm**

**35** 1½ NPT PN16 / stainless steel 316 / **8 mm**

**50** G1B PN16 / **FEP** coating / **4 mm**

**51** 1 NPT PN16 / **FEP** coating / **4 mm**

**52** Tri-Clamp DN40 PN16 / **FEP** coating / **4 mm**

**53** Dairy fitting / DN40 PN16 / **FEP** coating / **4 mm**

### 5 Probe length (L)

**3000** Length in mm, e.g. 3 m

Length > 3 m: extra charge for each m probe length

### 6 Output signal and EX-Type

**N** 4 – 20 mA + HART / non-EX

**D** 4 – 20 mA + HART / ATEX II 1 D iaD A20/21 IP 65 T100°C

**G** 4 – 20 mA + HART / ATEX 1G IIC or IIB T6...T3

Ordering code

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# Guided micropulse level indicator with flexible dual probe PulsFox® PMG 10 DF



## 1 Technical specifications

### Probe type/probe material

Dual probe, flexible / stainless steel 316

### Measuring range

Max. 24 m

### Dielectric constant of medium

≥ 1.8

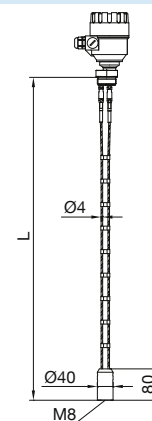
### Maximum measuring error

±0.05% of probe length (min. ±5 mm) in the case of liquids  
±0.2% of probe length (min. ±20 mm) in the case of powder/solids

### Special properties

- Small minimum distances
- Also suitable for high tanks (> 6 m)
- Not for adhesive media

Pulsfox® PMG 10 DF  
with flexible dual probe



## Ordering data

DG: H

Price €

### 1 Probe type

**53536** Dual probe flexible PMG 10 DF

**53537** Dual probe flexible in EX PMG 10 DF EX

### 2 Display and temperature range

**O** Without local display and without window, flange temperature max. **90 °C**

**HT** Without local display and without window, flange temperature max. **200 °C**

**D** With local display and with window, flange temperature max. **90 °C**

**HTD** With local display and with window, flange temperature max. **200 °C**

### 3 Housing

**A** Aluminium die cast IP 65

### 4 Probe and process connection

**40** G1½B PN 16 / stainless steel 316 / 4 mm

**41** 1½ NPT PN 16 / stainless steel 316 / 4 mm

### 5 Probe length (L)

**3000** Length in mm, e.g. 3 m

Length > 3 m: extra charge for each m probe length

### 6 Output signal and EX-Type

**N** 4 – 20 mA + HART / non-EX

**D** 4 – 20 mA + HART / ATEX II 1 D iaD A20/21 IP 65 T100°C

**G** 4 – 20 mA + HART / ATEX 1G IIC or IIB T6...T3

Ordering code

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# Guided micropulse level indicator with coax probe PulsFox® PMG 10 KX



## Technical specifications

### Probe type/probe material

Coax probe / stainless steel 316 Ti

### Measuring range

Max. 6 m

### Dielectric constant of medium

≥ 1.4

### Maximum measuring error

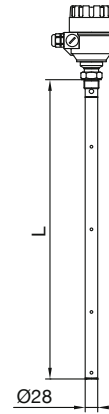
±0.05% of probe length (min. ±5 mm) in the case of liquids

±0.2% of probe length (min. ±20 mm) in the case of powder/solids

### Special properties

- Also suitable for low tanks (< 1 m)
- No minimum distances
- Not for adhesive media

Pulsfox® PMG 10 KX  
with coax probe



## Ordering data

DG: H

Price €

### 1 Probe type

**53534** Coax probe PMG 10 KX

**53535** Coax probe for use in hazardous area PMG 10 KX EX

### 2 Display and temperature range

**O** Without local display and without window, flange temperature max. **90 °C**

**HT** Without local display and without window, flange temperature max. **200 °C**

**D** With local display and with window, flange temperature max. **90 °C**

**HTD** With local display and with window, flange temperature max. **200 °C**

### 3 Housing

**A** Aluminium die cast IP 65

### 4 Probe and process connection

**01** G1B PN16 / stainless steel 316 Ti

**02** 1 NPT PN16 / stainless steel 316 Ti

**03** G1½B PN16 / stainless steel 316 Ti

**04** 1½ NPT PN16 / stainless steel 316 Ti

### 5 Probe length (L)

**3000** Length in mm, e.g. 3 m

Length > 3 m: extra charge for each m probe length

### 6 Output signal and EX-Type

**N** 4 – 20 mA + HART / non-EX

**D** 4 – 20 mA + HART / ATEX II 1 D iaD A20/21 IP 65 T100°C

**G** 4 – 20 mA + HART / ATEX 1G IIC or IIB T6...T3

Ordering code

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