



PMG 01

## Operating Principle

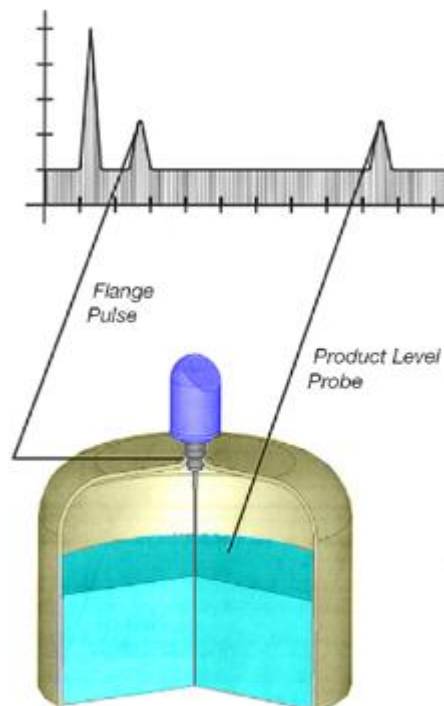
PulsFox® PMG 01 and PMG 02 level measuring systems operate on the basis of the TDR principle (time domain reflectometry). This principle uses a probe as a micropulse guide.

Electromagnetic pulses are emitted at the speed of light, reflected by the surface of the medium to be measured and received by the signal converter. Since the speed of light is constant and independent of the gas composition in the tank, the PMG devices do not require commissioning.

The devices do not have any moving parts, thus being almost maintenance-free. Changes of the medium do not affect the measuring accuracy of the TDR principle. The pulse's propagation time is directly proportional to the distance between the probe and the surface of the medium.

## Applications

Guided Micropulse devices are used to measure levels and interfaces of liquids, granular materials and powders. Guided Micropulse devices replace float systems, level switches and displacer units and provide a superior technology at comparable costs.



PMG 02



## Advantages

- The measurement is unaffected by changes in dielectric constant, pressure, temperature or density.
- Foam, steam, dust or a turbulent surface of the medium do not affect the accuracy of the measurement.
- No recalibration is required when a different medium is used.
- Depending on how demanding the application is, the devices are available as 2-wire or 4-wire systems.
- A great number of materials and process connections are available and allow the application of the systems with aggressive media or in the food industry, for example.
- The 4-wire devices (PMG 02) are also suitable for interface measurement.



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# **PulsFox<sup>®</sup> PMG 01**

## **MicroPulse Level Indicators**



- 2-wire technology 4 – 20 mA / HART interface
- Replaces switches and other float level units
- Superior technique with similar costs
- Accurate to within +/- 5 mm
- No adjustment necessary in multi-product vessels.

**Measuring ranges**  
0...24 m

**Wetted parts**  
Stainless steel 1.4571, FEP, PVC, PVDF, Hastelloy, Titanium or Tantalum

**Process connections**  
Flanges to DIN or ANSI, 1" BSP (G 1")

**Process conditions**  
Pressure - 1 ... + 40 bar  
Flange temperature - 30 ... + 90°C  
(Options to 200°C)

**For materials with dielectric constants greater than 1.3**

## **Excellence in Level Measurement**



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# PulsFox® PMG 02

## MicroPulse Level Indicators



- Level indication or interface measurement
- Widest application spectrum with materials for wetted parts
- TBF-modus for extremely low dielectric materials
- 'Ex' certified units for Zone 0 (ATEX)

### Measuring ranges

0...60 m

### Wetted parts

Stainless steel 1.4571, FEP, PVC, PVDF, Hastelloy

Titanium, Tantalum, Enamel, special coatings

### Process Connections

Flanges to DIN or ANSI, 1" BSP (G 1")

### Process conditions

Pressure - 1 ... + 100 bar

Flange temperature -50° ... +240°C

For materials with dielectric greater than 1.05

## Excellence in Level Measurement



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