

## MG1 series guided wave radar level sensor



The MG1 series uses TDR (Time Domain Reflectometry) technology: Energy optimized, high-frequency electromagnetic impulses, generated by the electronics, are propagated along the probe. When these impulses hit the surface of the media, part of the impulse energy is reflected back up the probe to the electronics. The level is calculated from the time difference between the impulse sent and the impulses reflected. The sensor can output the analysed level as a continuous measurement reading through its current output, and it can convert the one value into a freely positionable switching output signal. TDR Sensors are also known as Guided Radars or Guided Wave Radars (GWR).

### Application Areas

The innovative TDR technology enables direct, precise and highly reliable continuous level measurement as well as point level detection in almost every liquid and solids—independent of changing process conditions (such as density, conductivity, temperature, pressure, vapour and turbulence). It is suitable for all types of process and storage tank applications and has an exceptional performance in media with low dielectric constant (i.e. low reflectivity) such as oils and hydrocarbons.

- Fast reaction time of 0,5 sec
- Precise continuous level measurement and reliable point level detection in one device
- For liquids as well as powdery solids suitable
- No influences caused by tank / vessel internals
- Unmatched price/performance ratio

### Technical Information

Accuracy	± 3mm or 0,03% of measured distance*
Repeatability	<2mm*
Resolution	<1mm*
Ambient temperature	-25°C to +80°C
Application temperature	Single rod / wire rope probe: -40°C to +150°C Coaxial probe EPDM o-ring: -40°C to +130°C Coaxial probe FKM (viton) o-ring: -15°C to +150°C
Process connection	Threads G $\frac{3}{4}$ "A, $\frac{3}{4}$ " NPT (wrench size 32mm)
Power supply	12 to 30 VDC (reverse polarity protected)
Outputs	Analogue: 4...20mA (active) Switch: DC PNP (active)
Materials (wet)	Single rod probe: 1.4404 / 316L, Peek, Ø 6mm Wire rope probe: 1.4404 / 316L, Peek, Ø 4mm Coaxial probe: 1.4404 / 316L, Peek, Ø 17,2mm and o-ring: EPDM or FKM (Viton)
Protection class	IP 68, NEMA6P (housing)

### Options & Ordering Information

Model Code	Type	Measuring Range
MG1-E	Single Rod Probe	100 ... 3000mm
MG1-S	Wire Rope Probe	1000 ... 20000mm
MG1-C	Coaxial Probe	100 ... 6000mm