

# Radar-Level-Sensor

## **MOTOMETER**



With the radar level sensor, you can achieve a new level of non-contact tank level measurement. State-of-the-art radar technology reliably and precisely detects the liquid level - even under changing environmental conditions.

The radar level sensor is designed for a variety of liquid media and tank geometries. Compared to ultrasonic measurement, radar technology is less sensitive to foaming, temperature changes, air currents, and vapors, making it particularly suitable for demanding applications in construction and agricultural machinery, commercial and specialty vehicles, and mobile machinery.

The sensor transmits electromagnetic radar waves toward the liquid surface. The reflected signal is received and evaluated.

The distance between the sensor and the liquid surface is determined based on the signal transit time, and the current level is calculated from this.

Since the measurement is non-contact, there is no mechanical wear. This enables low-wear, long-lasting level measurement.

With a measuring range of up to 2,000 mm and a dead zone of no more than 50 mm, the sensor is also suitable for compact tank applications.

The radar level sensor operates within a supply voltage range of 8 to 36 V, is designed for temperatures ranging from -40 to +85 °C, and features a rugged PPS housing with an integrated AMP Superseal connector.

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### Advantages

- Noncontact, wear-free measurement
- Measurement range up to 2.000 mm
- Low sensitivity to foaming, temperature, steam and air currents
- Narrow radar beam
- For compact and complex tank geometries
- Rugged for mobile applications
- Tested for vibration and shock resistance
- Tank opening not required for plastic tanks
- Optional CAN interface
- Gyroscope with tilt sensing

### Technical Information

#### **ELECTRICAL**

|                              |                                                               |
|------------------------------|---------------------------------------------------------------|
| <b>Rated Voltage:</b>        | 12-24 volts                                                   |
| <b>Operating Voltage:</b>    | 8-36 volts                                                    |
| <b>Output Signal:</b>        | 3-wire: 0,5-4,5 volts                                         |
| <b>Protection Functions:</b> | Reverse polarity and short-circuit protection per ISO 16750-2 |

#### **MEASUREMENT & ENVIRONMENT**

|                                |                                      |
|--------------------------------|--------------------------------------|
| <b>Max. Measurement Range:</b> | 2000 mm                              |
| <b>Measurement Accuracy:</b>   | ± 2,5 mm                             |
| <b>Dead Zone:</b>              | ≤ 50 mm                              |
| <b>Operating Temperature:</b>  | -40 to +85 °C                        |
| <b>Protection Rating:</b>      | IP6K9K, tested according to ISO20653 |
| <b>Vibration Resistance:</b>   | tested according to ISO16750-3       |
| <b>Shock Resistance:</b>       | tested according to IEC60068-2-27    |
| <b>Type Approval/EMV:</b>      | UN/ECE-Regulation No. 10             |
| <b>ESD-Protection:</b>         | 15 KV                                |
| <b>Acoustic Cone:</b>          | ± 6-20°                              |
| <b>Radar Frequency:</b>        | 60 GHz                               |
| <b>Bandwidth:</b>              | 5 GHz; Resolution of 512 points      |
| <b>Flange Size:</b>            | 5-hole-flange                        |
| <b>Acquisition Rate:</b>       | 5 Measurements / Second              |
| <b>FMCW:</b>                   | Yes                                  |

*All technical specifications reflect the current state of development and are subject to change until production approval is granted.*

