

Absolute and continuous filling-level measurement

Continuous acquisition of the level must be ensured for high precision monitoring of filling levels. These requirements can be realized with a MICRO-EPSILON vipSENSOR element whereby the actual sensor is integrated into a specified housing. The specified length of immersed tube can be optimally used as the measurement range due to the compact design and the very short installed length of the sensor element. This ensures a highly accurate, continuous filling level measurement from completely filled to completely empty. An aluminum ring is integrated into the float as the measurement object which passes over the immersed tube at the height of the filling level. The sensor element has no contact to the liquid to be measured. Through the application of a sensor ASIC with microcontroller, the system can be adapted to the specific filling-level measurement requirement. Apart from the continuous analog and digital output signals, the output of warning and switching points can be programmed.

Reasons for the system selection

- Absolute and continuous measurement principle.
- Non-contacting and wear-free.
- Integration of sensor element in existing housing.
- Maximum usable ratio of filling-level acquisition / installed length.
- Specific temperature compensation.
- Measurement object independent of medium.

Measurement system requirements

- Measurement range: 50 ... 1,000 mm
- Resolution: ≤ 0.05 % of measuring range
- Linearity: ≤ 0.4 %
- Cut-off frequency (-3dB) 150 Hz
- Signal output: 4 ... 20 mA
- Digital interface

Ambient conditions

- Temperature: -25 °C to +85 °C

