

## Thermometer with drift detection sensor technology

WIKA data sheet SP 05.26

### Applications

- Chemical industry
- Petrochemical industry
- Offshore
- Plant and vessel construction

### Special features

- Sensor range from -50 ... +500 °C [-58 ... +932 °F]
- Pt100 sensor
- Sensor diameter 6 mm [0.236 in]
- Explosion-protected versions are available for many approval types (depending on the approval of the respective thermometer types)



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### Description

Resistance thermometers with True Drift Detection can be implemented in a variety of thermometer designs.

The sensors integrated in the measuring tip, in conjunction with the WIKA T38 temperature transmitter, allow permanent drift monitoring of the resistance sensor. As soon as a drift is detected, this error can be signalled by the temperature transmitter via HART or directly on the current loop. A faulty measuring location is thus identified immediately and before the next recalibration. Uncertainty between the regular calibration times can thus be eliminated.

## Suitable thermometers with optional True Drift Detection

In principle, drift detection can be implemented in all resistance thermometers, which are made of mineral-insulated sheathed cable in diameters of 6 mm [0.236 in] and allow the integration of a head transmitter.

### Design

#### Resistance thermometer



In sheathed resistance thermometers the flexible part of the probe consists of a mineral-insulated cable (MI cable). It features a stainless steel outer sheath, which contains the insulated internal leads, embedded within a high-density ceramic compound. The measuring resistor is connected directly to the internal leads of the sheathed cable. The drift detection sensor design differs from the standard versions by a special design of the probe tip.

### Sensor

Measuring element		
Connection method		
Single element	■ Pt100, 1 x 4-wire	
Validity limits of the class accuracy in accordance with EN 60751		
Pt100	Class A	-30 ... +300 °C [-22 ... +572 °F]
	Class B	-50 ... +500 °C [-58 ... +932 °F]

### Measuring insert

#### Thin-film measuring resistor Pt100 <sup>1)</sup>

Diameter Ø d in mm [in]	Index per DIN 43735	Tolerance in mm	Sheath material	
			Standard design	Recessed soldering lugs
6 [0.24]	60	±6	1.4571	1.4571

1) Bendable from 50 mm [1.97 in] of measuring insert length

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