TFK500

Temperature sensor Pt 500

Your benefits

- High accuracy:
  Low measurement errors
- Short response time:
  Accurate instantaneous values
- Various versions:
  Flexible insert
- CH refrigeration approval (METAS) incl. initial calibration:
  Approved for use in clearing traffic

Applications

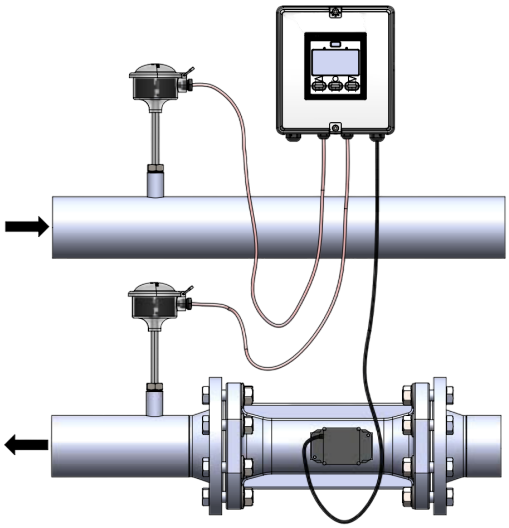
- Temperature detection for heating and cooling measurements in the building services sector
- Temperature detection for energy measurements in billing transactions for district heating supplies

Properties

- Supplied as a set with two paired temperature sensors
- Immersion sleeve sensor with fast response to temperature changes
- Replaceable Pt500 sensor insert
- High water resistance (IP68)
- Support for adjusting the temperature offset
- Type examination/approval:
  - Heat: CE Conformity in accordance with the European Measuring Instruments Directive (MID)
  - Cooling: CH approval (METAS) incl. initial calibration

Options

- Head sensor pair TFK500 consists of Pt500 temperature sensors (insert) and various suitable thermowells in lengths of 65, 90, 140 and 180 mm



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Approvals and calibration

MID-Zulassung DK-0200-MI004-046	
Temperature range	θ: 2....150 °C
Temperature difference	ΔΘ: 3....140 K

CH approval (METAS) incl. initial calibration CH-T2-21627 -00	
Temperature range	θ: 2....150 °C
Temperature difference	ΔΘ: 3....140 K

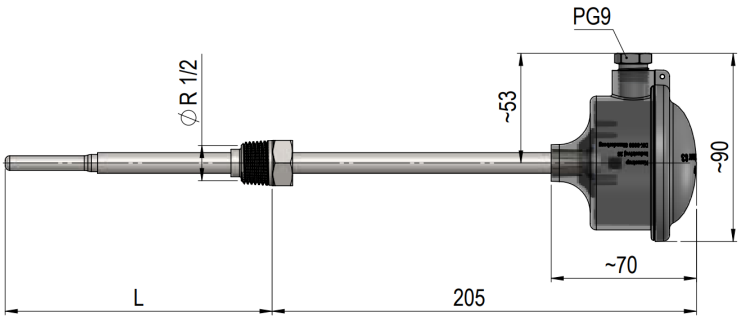
Pairing and calibration according to EN1434-5:2015.

Dimensions

Pt500 temperature sensor (insert)

Thermowell with connection head

Length (L): 65, 90, 140 or 180 mm



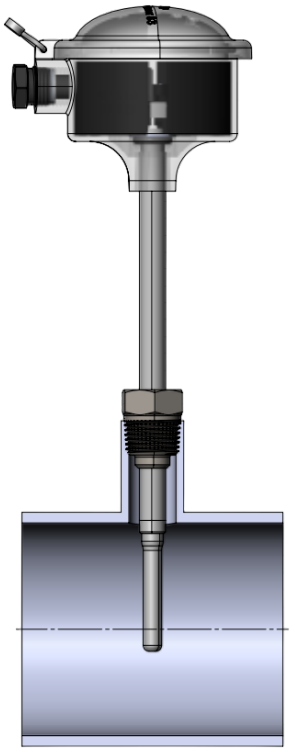
Technical data

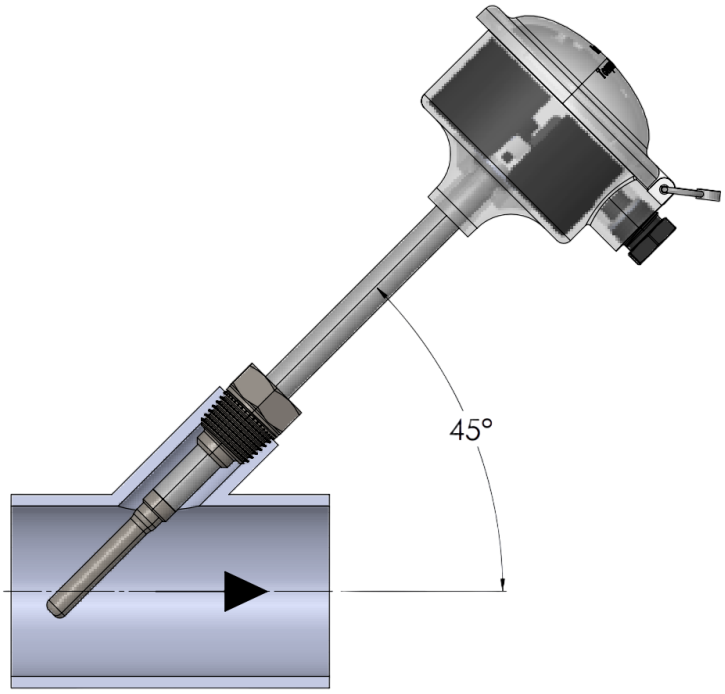
TFK500	
Component	Pt500 according to EN60751
Time constant τ0.5 with thermowell fitted	Max. 8 s
Diameter of the temperature sensor	ø5,8 mm
Length of the temperature sensor immersion sleeve	46 mm
Material of the temperature sensor immersion sleeve	AISI 316L, W-.Nr. 1.4404
Cross-section of the silicone cable	0,22 mm²
Length of thermowells	65 mm, 90 mm, 140 mm, 180 mm
Material of the thermowell	AISI 304L, W-.Nr. 1.4306/1.4307
Connection	R½
Material of the connection head	PC
Cover material	PC

Area of use

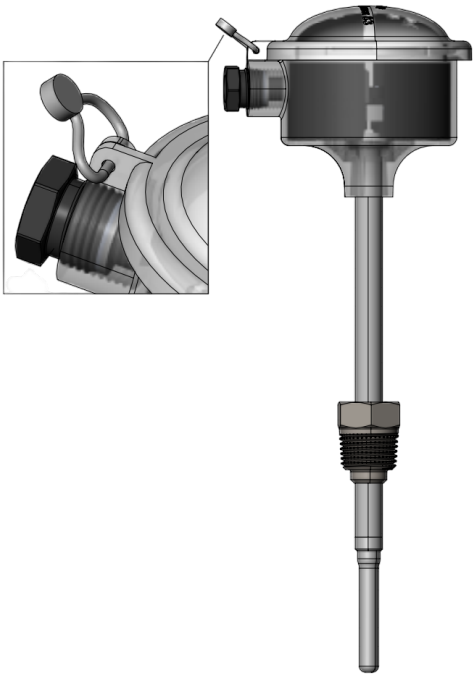
TFK500	
Ambient temperature	-10 °C...70 °C
Storage and transport temperature	-25 °C...70 °C
Medium	District heating water
Medium temperature	0...150 °C, short-term 160 °C
Air humidity	<98 % rH condensing
IP class	IP 68
Approved mechanical classes	M1, M2
Approved pressure levels	PN16, PN25
Highest flow rate	3 m/s

Assembly examples



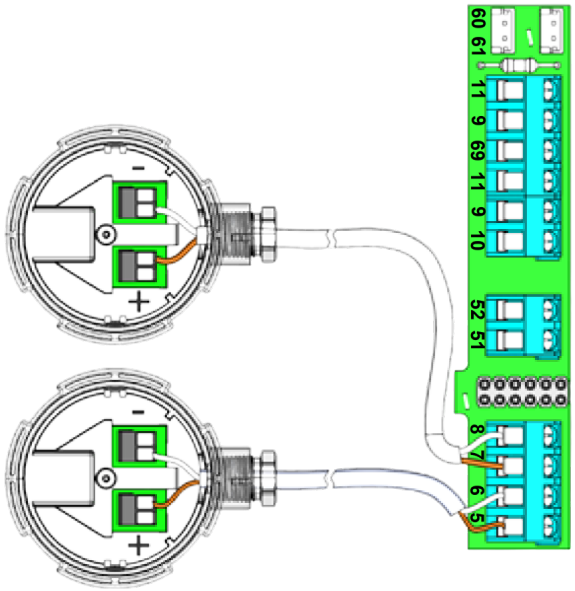


Sealing example

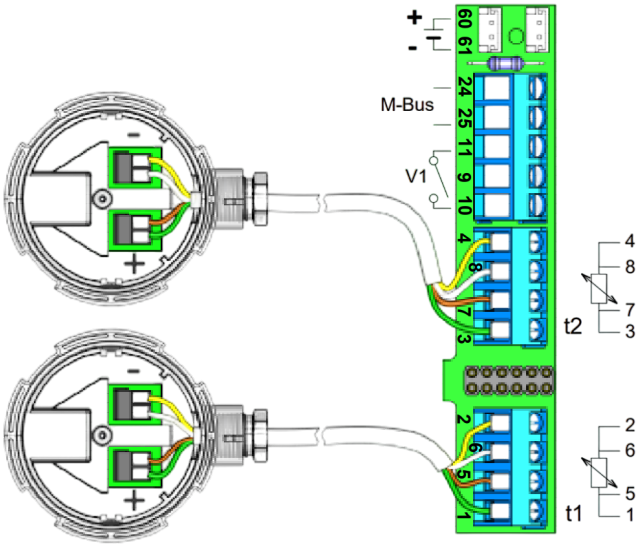


Electrical schematic

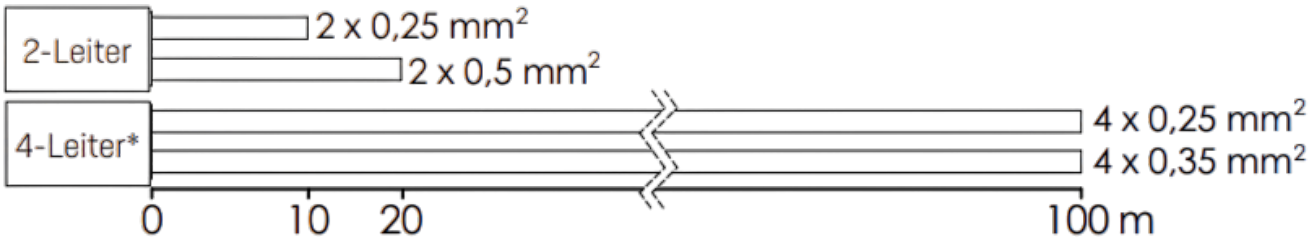
2-wire



4-wire



Connection cable



MULTICAL® 603 and 803 are MID-approved for 100 m 4-conductor connection cables.

When using the 2-wire connection, the flow and return temperature sensors must be connected with cables of the same length.

Optimizing the accuracy of flow and return temperatures

The heat/cooling meters MULTICAL® 403, MULTICAL® 603 and MULTICAL® 803 have an offset adjustment function that allows the flow and return temperatures to be adjusted by up to ±0.99 K. The value of the offset adjustment is determined by the manufacturer in connection with the factory calibration. If this value is registered in the meter, the deviation of the flow and return temperatures will normally be less than ±0.1 K. Since both the flow and return temperatures are adjusted to the same value, the offset adjustment does not affect the calculation of the energy consumed.