

PAIRED TEMPERATURE SENSORS TP 15, TP 15A, TP 15B

079.11en

DESCRIPTION AND APPLICATION

These paired temperature sensors are used as component parts of the electrical heat-quantity meters. They are produced with the Pt 100, Pt 500 and Pt 1000 temperature sensing elements. The sensors are compatible with heat-quantity meters manufactured by SIEMENS, LANDIS+GYR, KAMSTRUP, ITRON, CODEA, COMAC CAL, SENSUS METERING, BTU and others. The sensors are intended for installation in thermowells. The standard operating temperature range is 0 to 180 °C. The sensors are designed to operate in a chemically non-aggressive environment.

ACCESSORIES

- stainless steel thermowell JTP 15

DECLARATION, CERTIFICATES, CALIBRATION

The sensors are compliant with the requirements of the EN 60751, as amended and EN 1434 standards, as amended and have an EC-Type Examination Certificate No. TCM 321/17 - 5471. **EU Declaration of Conformity** – the sensors are manufactured in conformity with the Directive of the European Parliament and of the Council 2014/32/EU on Measuring Instruments (so-called MID). All sensor dimensions and tolerances comply with the requirements of EN 1434, as amended.

SPECIFICATIONS

Type of sensing element	Pt 100, Pt 500, Pt 1000
Maximum measuring DC current	3 mA (Pt 100); 1.5 mA (Pt 500); 1 mA (Pt 1000)
Recommended measuring DC current	1 mA (Pt 100); 0.5 mA (Pt 500); 0.3 mA (Pt 1000)
Measuring range	0 to 180 °C
$\Delta\Theta$ min	2 °C or 3 °C
$\Delta\Theta$ max	180 °C
Accuracy class of individual sensors	B according to EN 60751, as amended
Sensor connection	according to the wiring diagram

OTHER PARAMETERS

The standard length of the case	TP 15: 65 *, 105, 140, 230 mm TP 15A: 120/91; 175/146 mm TP 15B: 120/91; 175/146 mm
Diameter of the case	6 mm (with tolerance d10 in the length 50 mm)
Material of the case and of the thermowell	stainless steel DIN 1.4301
Lead-in cable	2-wire non-shielded silicone 2 x 0.5 mm ² 4-wire non-shielded silicone 4 x 0.25 mm ²
Cable lengths	according to EN 1434-2, art. 3.3.4, chart 2, as amended
Wire resistance	0.07 Ω per 1 m of the 2-wire cable
Temperature resistance of the cable	-25 to 180 °C
Ingress protection	IP 67 in accordance with EN 60529, as amended
Insulation resistance	> 100 MΩ at 100 V DC, 15 to 35 °C, relative humidity < 80 %
Time response	$\tau_{0.5} < 12.1$ s, $\tau_{0.9} = 36.3$ s (in flowing water at 0.4 m.s ⁻¹)
Lengths of the thermowells	65*, 105, 140, 230 mm (TP 15); 91, 146 mm (TP 15 A)
Thermowell thread	G1/2", M 20 x 1.5
Maximum overpressure of the thermowell	6.3 MPa

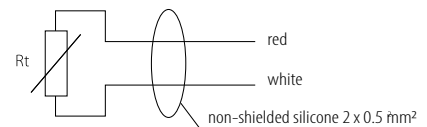
* Producer does not recommend to use this length due to insufficient immersion of the sensor and inaccurate measurement.



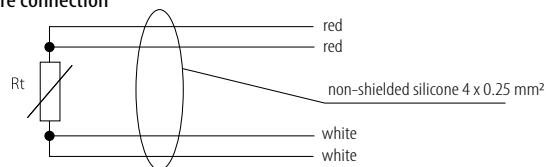
Variable design of temperature sensors allows for precise installation and helps achieve quick time responses even for sensors installed in thermowells.

WIRING DIAGRAM

2-wire connection

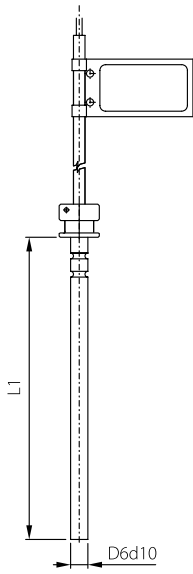


4-wire connection

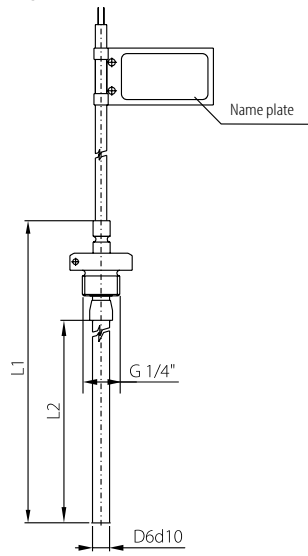


DIMENSIONAL DRAFT

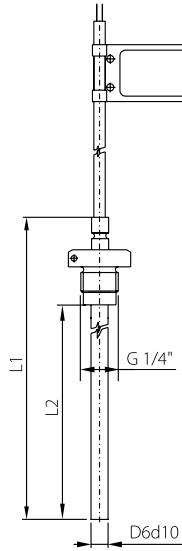
TP 15



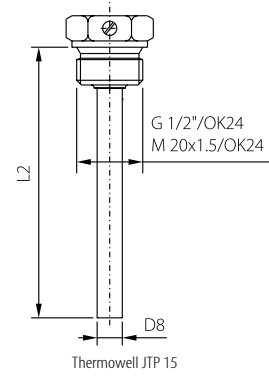
TP 15A



TP 15B



Accessories



L1 Case length for TP 15	Thermowell length L2 – JTP 15
65*	65
105	105
140	140
230	230

L1 Case length for TP 15A, TP 15B	Thermowell length L2 – JTP 15A, JTP 15B
120	91
175	146

) Producer does not recommend to use this length due to insufficient immersion of the sensor and inaccurate measurement.*

