PAIRED TEMPERATURE SENSORS TP 13, TP 13A

080.10en

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 structure of the case allows for direct installation of sensors into pipes without the need for a thermowell, thus ensuring a quick response to changes in temperature. The sensors are compatible with heat-quantity meters manufactured by SIEMENS, LANDIS+GYR, KAMSTRUP, ITRON, CODEA, COMAC CAL, SENSUS METERING, BTU and others. The standard operating temperature range is 0 to 180 °C. The sensors are designed to operate in a chemically non-aggressive environment.

ACCESSORIES

- sealing from TEMASIL material

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

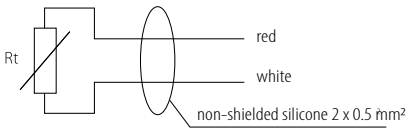
OTHER PARAMETERS

Length of the case	27.5 mm
Diameter of the case	3.6 mm (TP 13); 5 mm (TP 13A)
Material of the case	stainless steel DIN 1.4301
Material of the fastening nut	brass
Lead-in cable	2-wire shielded silicone 2 x 0.22 mm^2 4-wire shielded silicone 4 x 0.15 mm^2
Lengths of the cable	according to EN 1434-2, art. 3.3.4, chart 2, as amended
Wire resistance	0.16 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	TP 13: $\tau_{0.5}$ < 3 s (in flowing water at 0.4 m.s^{-1}) TP 13A: $\tau_{0.5}$ < 8 s (in flowing water at 0.4 m.s^{-1})

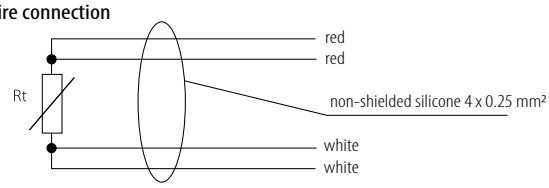
Quick response to changes in temperature.

WIRING DIAGRAM

2-wire connection

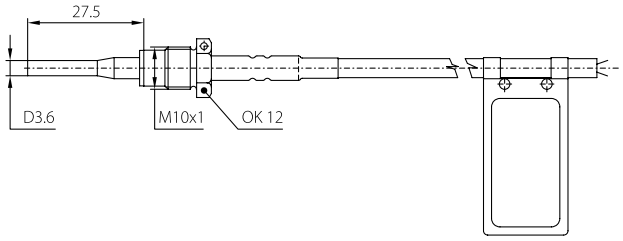


4-wire connection



DIMENSIONAL DRAFT

TP 13



TP 13A