

# PAIRED TEMPERATURE SENSORS TP 11E

037.22en

## DESCRIPTION AND APPLICATION

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 11

## DECLARATION, CERTIFICATES, CALIBRATION

The sensors are compliant with the requirements of the EN 60751, as amended and EN 1434, as amended standards and have an EU-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

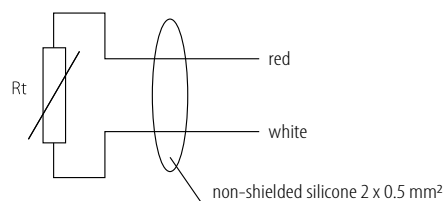
Length of the case	40 ± 5 mm (37 mm as a standard)
Diameter of the case	5.5 ± 0.5 mm
Material of the case and the thermowell	stainless steel DIN 1.4571
Lead-in cable	2-wire non-shielded silicone 2 x 0.5 mm <sup>2</sup> 4-wire non-shielded silicone 4 x 0.25 mm <sup>2</sup>
Lengths of the cable	according to the standard EN 1434-2, art. 3.3.4, chart 2, as amended
Wire resistance	0.07 Ω for 1 m of 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	$\tau_{0.5} < 6$ s (in flowing water at 0.4 m.s <sup>-1</sup> )
Recommended minimum immersion	75 mm
Lengths of thermowells	36, 86, 136, 176 mm
Thermowell thread	G ½", M 20 x 1.5
Maximum overpressure for a thermowell	6.3 MPa



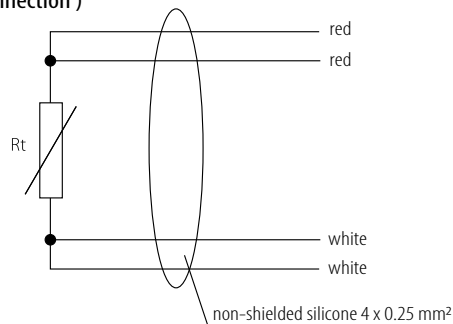
The variable location of the plug allows the use of these short cases even in longer existing thermowells.

## WIRING DIAGRAM

### 2-wire connection



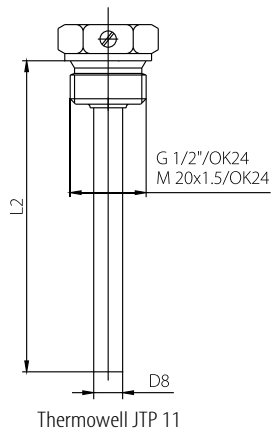
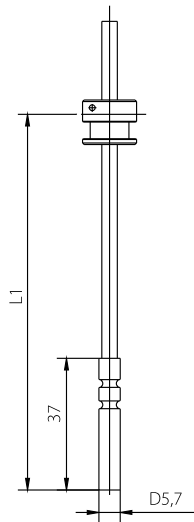
### 4-wire connection)\*



DIMENSIONAL DRAFT

TP 11E

Accessories



L1 Distance of the fixing plug for TP 11E )**	L2 thermowell length for JTP 11
47 ***	36
97	86
147	136
187	176

)\* In the 4-wire connection the wire colour design can be red, red / white, white  
)\*\* By means of the length L1 the distance of the fixing plug is defined and the length of a spacer is defined by the length of the thermowell  
)\*\*\* Producer does not recommend to use this length due to insufficient immersion of the sensor and inaccurate measurement.