

TEMPERATURE SENSORS UP TO 400 °C WITH A DIGITAL OUTPUT

110.01en

DESCRIPTION AND APPLICATION

These temperature sensors are designed for contact measurement of temperature up to 400 °C. In combination with a central holder or a thermowell, it is possible to use the temperature sensors for temperature measurement in various industrial applications. The version of a sensor with a welded screw-on fitting is suitable for direct measurement of the medium in pipelines.

The sensors consist of a metal head and a metal case, where the sensing element for temperature measurement (sensor) is placed. In the head, there is a converter with a terminal block located, to which a 1-Wire bus supply cable is connected through a cable grommet or a connector. The basic versions of these sensors are:

PTS 4-1W – smooth stem version, communication via the 1-Wire bus

PTS 6-1W – version with a welded screw-on fitting, communication via the 1-Wire bus

The standard temperature range of the sensors is -50 to 400 °C. The sensors meet IP 54 ingress protection according to EN 60529, as amended.

The sensors are designed to be operated in a chemically non-aggressive environment, the use must be chosen with regard to the temperature and chemical resistance of the sensor head..

ACCESSORIES

- JPTS 41 stainless steel thermowell
- metal holder K 120
- fitting with a collet or with cutting rings – in the case of setting of different immersion lengths of the temperature sensor stem

DECLARATION, CERTIFICATES, CALIBRATION

Manufacturer provides **EU Declaration of Conformity**.

Calibration – The entire production passes through a final metrological inspection, which is carried out by comparing with standards or working measuring instruments. Continuity of the standards and working measuring instruments is ensured within the meaning of Section 5 of Act No. 505/1990 on Metrology. The manufacturer offers to supply the sensors calibrated in the SENSIT s.r.o. laboratory (according to requirements of the EN ISO/IEC 17025 standard, as amended) or in an accredited laboratory.

SPECIFICATIONS

Sensor type	PTS 4-1W	PTS 6-1W
Output signal	1-Wire / DS18B20	
Measuring range	- 50 to 400 °C	
Accuracy of the electronics	± 0.25 °C	
Type / Accuracy of the sensing element	Pt 1000 / ± (0.3 °C + 0.0005 t)	
Supply voltage (U)	4.5 - 5 V DC	
Supply current	6.5 mA	
Working conditions	ambient temperature: -10 to 60 °C relative air humidity: max. 100% atmospheric pressure: 70 to 107 kPa	
Ingress protection	IP 54 in accordance with EN 60529, as amended	
Time response	τ0.5 < 9 s (0.2 m.s-1 in running water)	
“Resistance to pressure (impact on the stem with the medium)”	without a thermowell PN 25 with a thermowell PN 63	without thermowell PN 25
Insulation resistance	> 200 MΩ at 500 V DC at a temperature of 25 ± 3 °C; humidity < 85 %	
Material of the stem	stainless steel DIN 1.4301	
Standard stem lengths	50, 100, 160, 220, 280, 400 mm	
Standard stem diameter	6 ± 0.2 mm	
PTS 61, PTS 63, PTS 65, PTS 71 thread types	/	G 1/2"; M 20 x 1.5; M 27 x 2
Material of the head	aluminium alloy, LIMATHERM B	
Recommended wire cross-section	0.35 to 1.5 mm ²	
Weight	min. 250 g	

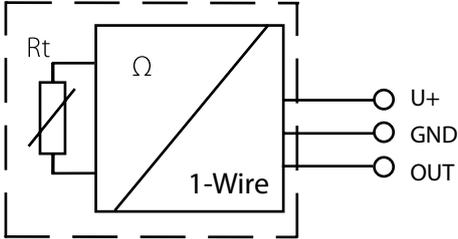


OTHER PARAMETERS

MAXIMUM FLOW SPEED OF THE MEASURED MEDIUM – AIR AND WATER VAPOUR / WATER [m.s-1]

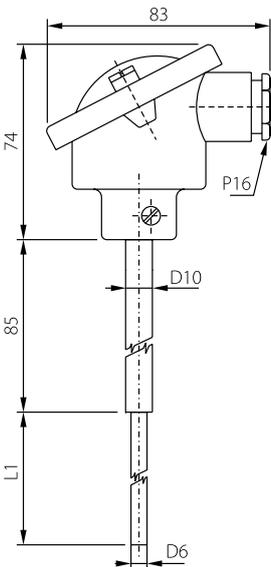
Stem length L1	> 60 to 100 mm	> 100 to 160 mm	> 160 to 220 mm	> 220 to 400 mm
Values for types with screw-on fitting	15.1.2005	8.0 / 1.0	2.5 / 0.6	0.6 / 0.3

WIRING DIAGRAM

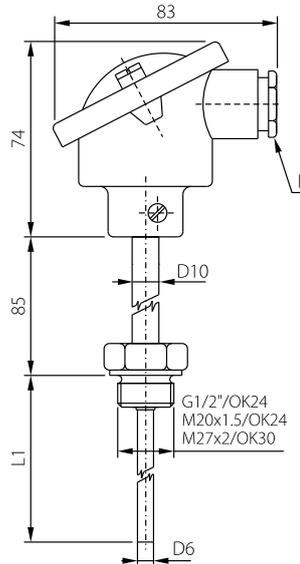


DIMENSIONAL DRAFT

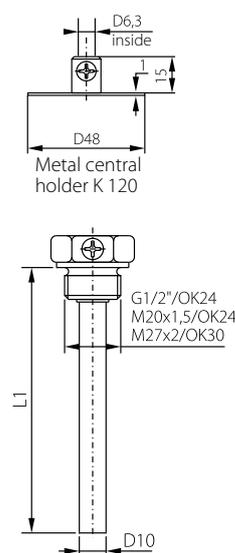
PTS4-1W



PTS6-1W



Accessories



MODIFICATION AND CUSTOMIZATION

- variable stem design in the area - L1 length, material, diameter
- thermowell thread type
- IP 68 ingress protection - by using different version of the metal head
 - PTS 44-1W - smooth stem version, communication via the 1-Wire bus, IP 68
 - PTS 46-1W - version with a welded screw-on fitting, communication via the 1-Wire bus, IP 68

