

TEMPERATURE SENSORS WITH A CABLE AND METAL CASE


DESCRIPTION AND APPLICATION

These resistance sensors are designed to measure the surface temperature of solid substances. The maximum temperature range of use of the sensors is $-50\text{ }^{\circ}\text{C}$ to $200\text{ }^{\circ}\text{C}$ and these limits must not be exceeded even for a brief period. The structure of the sensors enables fast response to changes in temperature, in particular when silicone grease or thermally conductive paste is applied between the measured surface and the sensor. The sensors are mounted to the surface using one or two M4 screws. The sensors are designed for use in a chemically non-aggressive environment. The method of use must be chosen with regard to the temperature and chemical resistance of the case and lead-in cable.

ACCESSORIES

- thermal conductive paste up to $200\text{ }^{\circ}\text{C}$, 5g
- connectors

DECLARATION, CERTIFICATION, CALIBRATION

Manufacturer provides **EU Declaration of Conformity**.

Calibration – The final metrological inspection – comparison with standards or working instruments – is carried out for all the products. Continuity of the standards and working measuring instruments is ensured within the meaning of the Section 5 of Act no.505/1990 on metrology. The manufacturer offers a possibility to supply the sensors calibrated in SENSIT s.r.o.'s laboratory (according to requirements of the EN ISO/IEC 17025 standard) or in an Accredited laboratory.



TEMPERATURE SENSORS WITH A CABLE

SPECIFICATIONS

Sensor type	TG 7
Measuring range	$-50\text{ }^{\circ}\text{C}$ to $200\text{ }^{\circ}\text{C}$ (can be limited by the type of cable, determine in documentation)
Type of sensing element	Pt, Ni, NTC, TCx
Ingress protection	IP 65 in accordance with EN 60529
Case material	brass
Case dimensions	$\varnothing 19.5\text{ mm}$, height 6 mm
Lead-in cable	shielded silicone $2 \times 0.22\text{ mm}^2$ shielded silicone $4 \times 0.15\text{ mm}^2$
Wire resistance	$0.16\ \Omega$ for 1 m of cable for 2-wire connection
Time response	$\tau_{0.5} < 7\text{ s}$ (on flat surface of Al prism without paste)
Maximum allowable cable tension	2 kg
Recommendation	use thermal conductive paste for installation

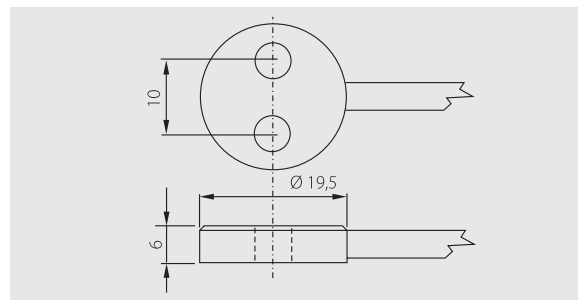
SENSOR INSTALLATION AND SERVICING

1. Make one or two holes with M4 thread in the measured material in order to mount the sensor. (The minimum thickness of the material is 3 mm). For thinner materials, in which it is not possible to create a thread, drill a 4.2 mm hole through.
2. Install the sensors on the surface of the measured material and attach using M4 screws. For material, which has a thickness of less than 3 mm, use a screw and washer.
3. Connect the wires of the lead-in cable according to the wiring diagram. The shielding of the lead-in cable is not connected to the outer case of the sensor or temperature sensor.

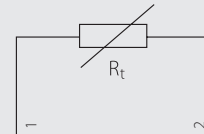
After installing and connecting to the electrical measuring equipment, the sensor is ready for use. The sensor does not require any special servicing or maintenance. The work position is adjustable.

MODIFICATION AND CUSTOMISATION

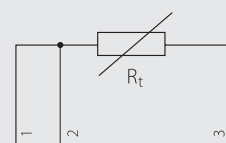
- accuracy class A (with the exception of sensors Ni 10000/5000, Ni 10000/6180, T1 = Ni 2226, thermistor NTC 20 k Ω)
- possibility of three or four-wire connection
- possibility of encasing non-standard temperature sensors (DALLAS, TSic, KTY, SMT, etc.)

DIMENSIONAL DRAFT

WIRING DIAGRAM

Two-wire



Three-wire



Four-wire

