

TEMPERATURE SENSORS WITH A CABLE AND METAL CASE


DESCRIPTION AND APPLICATION

These resistance sensors are designed to measure the temperature of gaseous and liquid substances. The maximum temperature range of use of the sensors is $-40\text{ }^{\circ}\text{C}$ to $200\text{ }^{\circ}\text{C}$ for the model with a silicone cable and $-40\text{ }^{\circ}\text{C}$ to $105\text{ }^{\circ}\text{C}$ for the model with a PVC cable. The lead-in cable is a type with silicone insulation and shielding. The diameter of the case also enables the encasement of special temperature sensors – KTY, SMT 160, DS 18B20, TSiC etc. In combination with a thermowell, the sensors meet the ingress protection of IP 68 (1 bar) in accordance with EN 60529 and are designed for measuring the temperature below the surface of water for continuous immersion at a depth of up to 5 m. The method of use must be chosen with regard to the temperature and chemical resistance of the case and lead-in cable.

ACCESSORIES

- stainless steel thermowell JTG 8
- connectors

DECLARATION, CERTIFICATES, 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.

SPECIFICATIONS

Sensor type	TG 68
Measuring range	$-40\text{ }^{\circ}\text{C}$ to $105\text{ }^{\circ}\text{C}$ PVC cable $-40\text{ }^{\circ}\text{C}$ to $200\text{ }^{\circ}\text{C}$ silicone cable
Type of sensing element	all types (Pt 100, Pt 1000, Ni 1000, Ni 10000, Ni 2226=T1, NTC, PTC, KTY, TSiC, DALLAS, thermocouple K, J, T and so on)
Ingress protection	IP 68 (1 bar) in accordance with EN 60529
Case material	stainless steel DIN 1.4301
Length of case L	60 mm
Diameter of case	6 mm
Lead-in cable	shielded silicone $2 \times 0.34\text{ mm}^2$ or $4 \times 0.22\text{ mm}^2$ unshielded PVC $2 \times 0.35\text{ mm}^2$ or $4 \times 0.35\text{ mm}^2$
Wire resistance	$0.11\ \Omega$ for 1 m of cable for 2-wire connection
Time response	$\tau_{0.5} < 12\text{ s}$ (in flowing water at $0.2\text{ m}\cdot\text{s}^{-1}$) $\tau_{0.9} < 35\text{ s}$ (in flowing water at $0.4\text{ m}\cdot\text{s}^{-1}$)

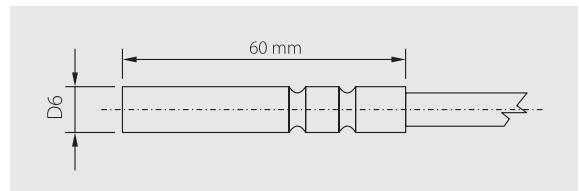
SENSOR INSTALLATION AND SERVICING

1. Installation of the sensor in the measured place.
2. Connection of 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.

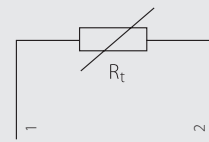
After installing and connecting to the electrical measuring equipment, the sensor is ready for use. The sensor does not require any special servicing or maintenance. The work position is adjustable.



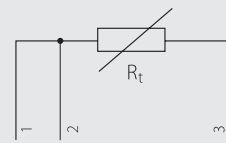
The sensors meet the ingress protection of IP 68 (1 bar) in accordance with EN 60529.


DIMENSIONAL DRAFT

WIRING DIAGRAM

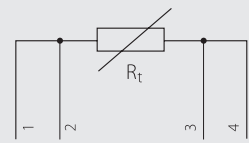
Two-wire



Three-wire



Four-wire


MODIFICATION AND CUSTOMISATION

- possibility to encase two sensing elements
- variable stem design in the area – L length, case material
- accuracy class A (with the exception of sensors i1 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.)