

# TR 046 – TEMPERATURE SENSORS WITH A CABLE AND METAL CASE

K10.05en

## DESCRIPTION AND APPLICATION

These temperature sensors are designed to measure the temperature of gaseous and liquid substances. The maximum temperature range of use of the sensors is -50 to 200 °C. 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. The sensors are designed for universal use, the method of use must be chosen with regard to the temperature and chemical resistance of the case and lead-in cable.

## ACCESSORIES

- screw with collet or cutting rings – if different lengths of stem immersion of the temperature sensor are set
- 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	TR 046
Measuring range	-50 to 200 °C (can be limited by the type of cable, determine in documentation)
Type of sensing element	all types (Pt 100, Pt 1000, Ni 1000, Ni 10000, Ni 2226=T1, NTC, PTC, KTY, TSiC, DALLAS, TC K, TC J, TC T and so on)
Ingress protection	IP 67 in accordance with EN 60529, as amended
Case material	stainless steel DIN 1.4301, DIN 1.4404 or DIN 1.4571
Length of case L	40 to 200 mm (in 20 mm)
Diameter of case	6 + 0.1 mm
Lead-in cable	shielded silicone 2 x 0.34 mm <sup>2</sup> shielded silicone 4 x 0.22 mm <sup>2</sup>
Wire resistance	0.11 Ω for 1 m of cable for 2-wire connection
Time response	$\tau_{0.5} < 7$ s (in flowing water at 0.4 m.s <sup>-1</sup> )

Note: Certain technical specifications of thermocouple sensors (lead wires, IP rating, etc.) may differ with different types.

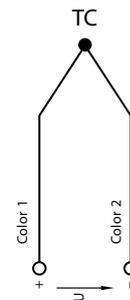
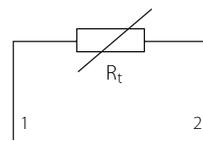
## MODIFICATION AND CUSTOMIZATION

- possibility to encase two sensing elements
- variable stem design in the area – L length, case material
- accuracy class A (with the exception of sensors Ni 10000/5000, Ni 10000/6180, T1 = Ni 2226, thermistor NTC 20 kΩ)
- possibility of three or four-wire connection
- possibility of encasing non-standard temperature sensors (DALLAS, TSiC, KTY, SMT, etc.)
- possibility to use other types of cables (PVC etc.)

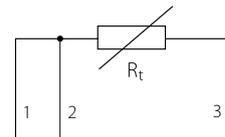


## WIRING DIAGRAM

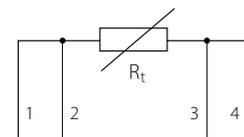
Two-wire



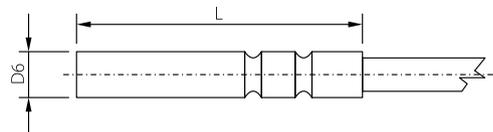
Three-wire



Four-wire



## DIMENSIONAL DRAFT



TEMPERATURE SENSORS WITH A CABLE