

# TR 160, TR 161 AND TR 162 – TEMPERATURE SENSORS WITH CABLE AND PLASTIC CASE

K32.04en

## DESCRIPTION AND APPLICATION

Temperature sensors TR 160, TR 161 and TR 162 are intended for temperature measurements of solid, loose ground, gaseous and liquid materials. The ingress protection of the sensor is IP 67 in accordance with EN 60529. The sensors have a polyamide case with diameter 6, 8 and 10 mm in which the own sensing element hermetically encapsulated. All types of resistance sensing elements used by company SENSIT s.r.o. can be used. The wiring of the sensor is always 2-wire.

## ACCESSORIES

- 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 160	TR 161	TR 162
Measuring range	-40 to 105 °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 Tand so on)		
Ingress protection	IP 67 in accordance with EN 60529		
Case material	on the base of POLYAMIDE		
Diameter of case	6 mm	8 mm	10 mm
Length of case L	20 mm	25 mm	25 mm
Lead-in cable	PVC unshielded 2 x 0.35 mm <sup>2</sup> up to 105 °C PVC shielded 2 x 0.14 mm <sup>2</sup> up to 80 °C		
Wire resistance	0.105 Ω for 1 m of cable for 2-wire connection - PVC up to 105 °C 0.14 Ω for 1 m cable for 2-wire connection - PVC up to 80 °C		
Time response	$\tau_{0,5} \leq 12$ s; $\tau_{0,9} \leq 32$ s (in flowing water at 0.2 m.s <sup>-1</sup> )	$\tau_{0,5} \leq 18$ s; $\tau_{0,9} \leq 48$ s (in flowing water at 0.2 m.s <sup>-1</sup> )	$\tau_{0,5} \leq 24$ s; $\tau_{0,9} \leq 64$ s (in flowing water at 0.2 m.s <sup>-1</sup> )

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

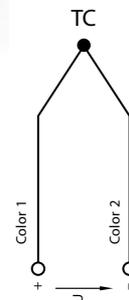
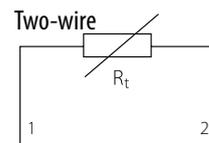
## MODIFICATION AND CUSTOMIZATION

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

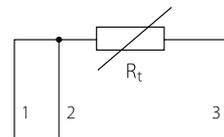


TEMPERATURE SENSORS WITH A CABLE

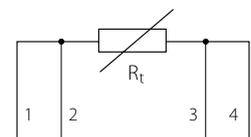
## WIRING DIAGRAM



### Three-wire



### Four-wire



## DIMENSIONAL DRAFT

