

# TR 141A AND TR 141E – TEMPERATURE SENSORS WITH A CABLE AND METAL CASE

K23.05en

## DESCRIPTION AND APPLICATION

These temperature sensors are designed for measuring the surface temperature of solid substances with a flat and smooth surface. The maximum temperature range of use is  $-50\text{ }^{\circ}\text{C}$  to  $200\text{ }^{\circ}\text{C}$ , when mounting with an M4 screw, it is recommended to apply silicone grease or thermally conductive to the measured surface, which ensures quicker response and minimizes error in the method of measurement. 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, 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.

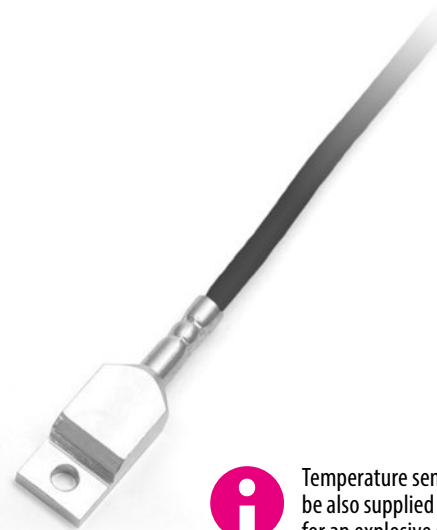
## SPECIFICATIONS

Sensor type	TR 141A	TR 141E
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 100, Pt 500, Pt 1000, TC K, TC J, TC T	
Ingress protection	IP 65 in accordance with EN 60529	
Case material	stainless steel DIN 1.4301 aluminium alloy	
Length of case	L 40 mm	
Lead-in cable	silicone shield. $2 \times 0.22\text{ mm}^2$ silicone shield. $4 \times 0.15\text{ mm}^2$	
Wire resistance	$0.16\ \Omega$ for 1 m of cable for 2-wire connection	
Time response	$\tau_{0.5} < 10\text{ s}$ (on flat surface of Al prism without paste)	
Maximum allowable cable tension	1 kg	
Recommendation	use thermal conductive paste for installation	

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

## MODIFICATION AND CUSTOMIZATION

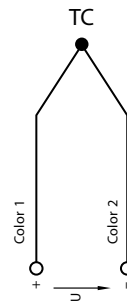
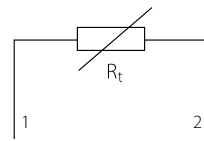
- possibility of encasing two sensing elements
- variable design of sensor case dimensions and materials
- accuracy class A (with the exception of sensors Ni 10000/5000, Ni 10000/6180, T1 = Ni 2226, thermistor NTC 20 k $\Omega$ )
- possibility of three or four-wire connection
- possibility of encasing non-standard temperature sensors (DALLAS, TSIC, KTY, SMT, etc.)



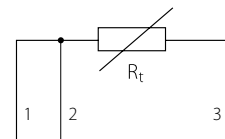
Temperature sensors TR 141A can be also supplied in special design for an explosive environment.

## WIRING DIAGRAM

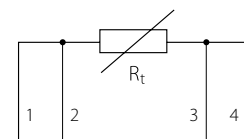
Two-wire



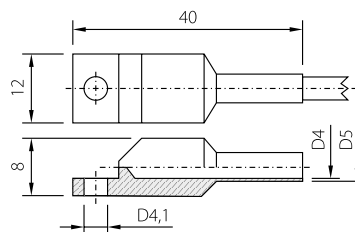
Three-wire



Four-wire



## DIMENSIONAL DRAFT



TEMPERATURE SENSORS WITH A CABLE