

TG 47, 48, 49 – RIGHT-ANGLE TEMPERATURE SENSORS

P02.03en

DESCRIPTION AND APPLICATION

These right-angle temperature sensors with a threaded nut are designed to measure temperature of solid substances, however, they may be used also to measure temperature of liquid and gaseous substances. Due to temperature sensor design, the cable is led out at right angle to measuring part of the sensor. To fasten the temperature sensor into a point to be measured, the threaded nut that is screwed onto a spring is used. Combination of the threaded nut, the spring and the corresponding counterpart can provide higher pressure of the temperature sensor into the measured point or can adjust any changes in the distance between the nut and the measured point during the measurement. Maximum temperature range of sensor use is -50 to 350 °C (400 °C for a short period). The range for each design variant is reduced with a type of the temperature sensing element and the lead-in cable. The temperature sensors meet ingress protection from IP 50 to IP 67 according to the EN 60529 standard, as amended depending on the lead-in cable variant. The rectangular temperature sensors with a threaded nut are intended for operation in chemically non-aggressive environment.

ACCESSORIES

- welded-on pieces
- pipe reductions
- 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 47, 48, 49	
Sensing element	all types (Pt 100, Pt 1000, Ni 1000, Ni 10000, Ni 2226=T1, NTC, PTC, KTY, TSIC, DALLAS, TC K, TC J, TCT and so on)	
Case material	stainless steel DIN 1.4301	
Diameter of case	5 mm or 6 mm	
Diameter of case in contact part	8 mm or 10 mm	
Length of case L	60 to 200 mm	
Material of rectangular part	stainless steel	
Case end	TG 47 - straight TG 48 - semisphere R6 TG 49 - apex 120°	
Thread / OK of fixing mounting	standardly	
Material of fixing mounting	stainless steel DIN 1.4301	
Lead-in cable variations/ temperature range (can be limited by type of sensing element - specified in documentation)	PVC shielded	-30 to 80 °C
	PVC unshielded	-40 to 105 °C
	silicone shielded	-50 to 200 °C
	teflon shielded	-50 to 250 °C
	with fiberglass	0 to 400 °C
	(with metal braiding)	
Ingress protection	IP 50 to IP 67 according to the cable type - in accordance with EN 60529, as amended	
Insulation resistance	200 M Ω at 500 V DC, 25 ± 3 °C	
Maximum permissible static pull on the lead-in cable	1 kg	

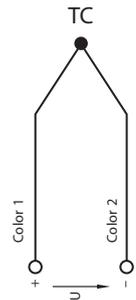
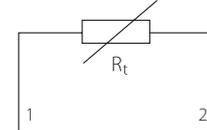
Note: Certain technical specifications of thermocouple sensors (lead wires, IP rating, etc.) may differ with different types.



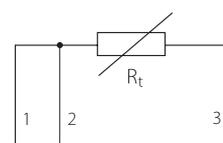
TEMPERATURE SENSORS WITH A CABLE

WIRING DIAGRAM

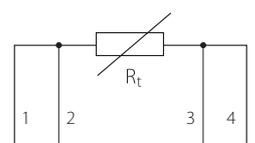
Two-wire



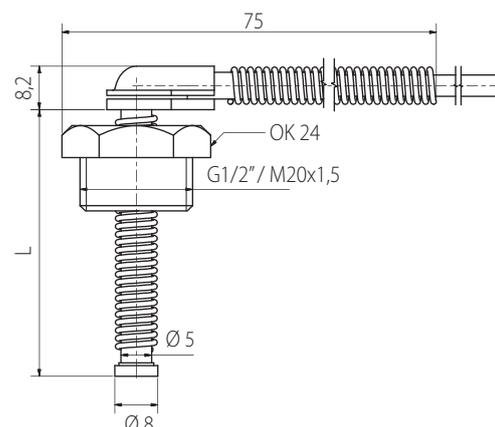
Three-wire



Four-wire



DIMENSIONAL DRAFT



MODIFICATION AND CUSTOMIZATION

- variable stem design – length L, diameter, case material, case ending
- possibility to encase two sensing elements
- accuracy class A (with the exception of sensors Ni 10000/5000, Ni 10000/6180, T1 = Ni 226, thermistor NTC 20k Ω)
- encapsulation of other types of sensing elements (DALLAS, KTY, TSiC, SMT, etc.)
- variable spring length