

Temperature sensors for surface measurement **TOPE-6, TTJE-6, TTKE-6**

Technical description

Measuring range / sensing element		
(-50 ÷ 400) °C	Pt100	class B
(-40 ÷ 400) °C	J, K	class 2
Sheath		
– material: steel 1.4541		
– diameter [mm]: ø6		
– length [mm]: 50		
– 9mm wide tip suitable for mounting to flat surfaces with M4 screw		
Lead wire		
– Cu wire or thermocouple wire: 2x0,22 mm ²		
– fiberglass insulation with metal braid		
– measuring junction for TC: insulated SO		
– length L _p =1,5m (standard)		
– wires resistance Cu ~0,14 Ω/m=~-0,36 °C		
Options		
– Pt500, Pt1000, Ni100, Ni1000		
– other cable insulations acc. to requirements: silicon insulation, operating temperature up to 180 °C, teflon insulation, operating temperature up to 200 °C, PVC insulation, operating temperature up to 100 °C		
– measuring junction for TC: grounded SP		
– 3-, 4-wire connection for RTD		
– Pt100: class A (-30 ÷ 300) °C, class AA (0 ÷ 150) °C		

Response time T05/T09

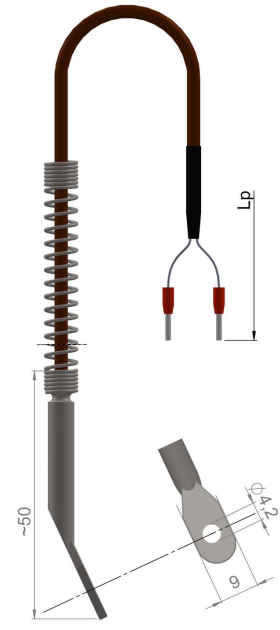
Sensor type	ø9	ø11
Pt	≤33/≤95	≤40/≤120
J, K insulated junction	≤22/≤62	≤27/≤90
J, K grounded junction	≤3/≤8	≤6/≤15

Resistors tolerance acc. to PN-EN 60751

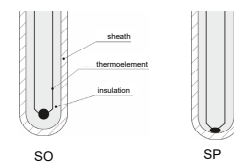
Class	Wire wound resistor	
	Range [°C]	Tolerance [°C]
AA	(-50÷250)	±(0,1+0,0017· t)
A	(-100÷450)	±(0,15+0,002· t)
B	(-196÷600)	±(0,3+0,005· t)

Tolerance for thermocouples class acc to. PN-EN 60584

Thermocouple	Class 1		Class 2	
	Range [°C]	Tolerance [°C]	Range [°C]	Tolerance [°C]
J Fe-CuNi	(-40÷375) (375÷750)	±1,5 ±0,004 t	(-40÷333) (333÷750)	±2,5 ±0,0075 t
K NiCr-NiAl	(-40÷375) (375÷1000)	±1,5 ±0,004 t	from (-40÷333) (333÷1200)	±2,5 ±0,0075 t



Types of measuring hot junction



Ordering code

Temperature sensor		T	...	E-6
Resistor Pt		OP							
Resistor Ni		ON							
Thermocouple Fe-CuNi		TJ							
Thermocouple NiCr-NiAl		TK							
Resistor type				Pt100*					
Junction insulated from the sheath	for			SO					
Junction grounded	TC			SP					
Resistor class							A, B*		
Thermocouple class								1, 2	
Measuring circuit for RTD								2, 3, 4	
Cable insulation: silicone									Si
Cable insulation: braided fiberglass									Ws
Cable insulation: teflon									F
Cable length L _p [m]									1,5m*

* or others acc. to requirements

Ordering example

TOPE-6-Pt500-B-2-Si-2m sensor with Pt500, class B, 2-wire connection, silicone insulated lead wire length L_p = 2m

TTJE-6-2-Ws-1,5m sensor with thermocouple Fe-CuNi, class 2, fiberglass insulated lead wire length L_p = 1,5m