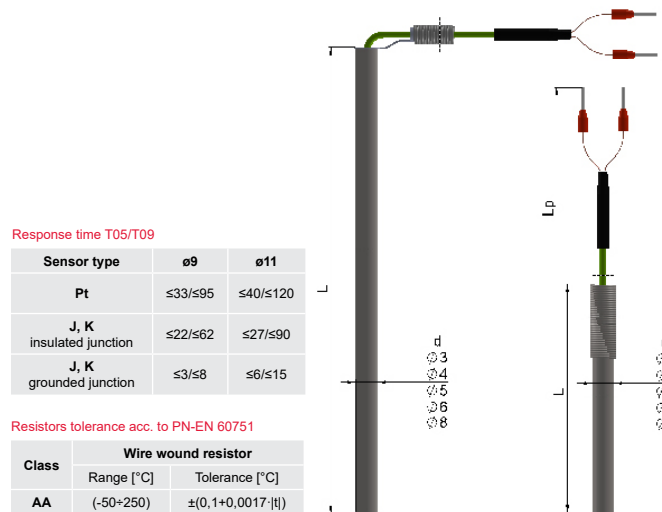


Temperature sensors of machinery and device parts **TOPE-361, 362, TTJE-361, 362, TTKE-361, 362**

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 d [mm]: ø3, ø4, ø5, ø6, ø8		
– length L [mm]: 30÷500		
Lead wire		
– Cu wire or thermocouple wire: 2x0,22 mm ²		
– fiberglass insulation with metal braid		
– length L _p =1,5m (standard)		
– measuring junction for TC: insulated SO		
– wires resistance Cu ~0,14 Ω/m≈0,36 °C		
Options		
– Pt500, Pt1000, Ni100, Ni1000		
– other lead wire insulation types: silicone, teflon, PVC		
silicone 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; TC: class 1		
Additional accessories		
– mounting brackets: UG-1, UG-3, UG-8, UZK-1 – p. 215+216		
– additional protection tubes and thermowells OG, OS-4 – p. 203+204		



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

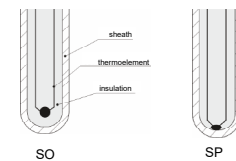
Resistors tolerance acc. to PN-EN 60751

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 v	from (-40÷333) (333÷1200)	±2,5 ±0,0075 t

Types of measuring hot junction



Ordering code

Temperature sensor	T	...	E-36
Resistor Pt	OP									
Thermocouple Fe-CuNi	TJ									
Thermocouple NiCr-NiAl	TK									
Construction version: straight			1							
angular			2							
Sheath length L [mm]			500*							
Thermowell diameter d [mm]			3, 4, 5, 6, 8							
Cable insulation: silicone								Si		
Cable insulation: braided fiberglass								Ws		
Cable insulation: teflon								F		
Resistor type								Pt100*		
Junction insulated from the sheath	dla							SO		
Junction grounded	TC							SP		
Resistor class								A, B*		
Thermocouple class								1, 2		
Measuring circuit for RTD								2, 3, 4		
Cable length L _p [m]								1,5m*		

* or others acc. to requirements

Ordering example

TOPE-361-100-6-Si-Pt100-B-2-4m sensor with Pt100, class B, 2-wire connection, sheath diameter ø6 mm, sensor length L=100 mm, with cable in silicone insulation, lead wire length L_p=4m

TTJE-361-200-6-Ws-SO-1-3m sensor with thermocouple Fe-CuNi, class 1, sheath diameter ø6 mm, sensor length L=200 mm, insulated sheath with lead wire in fiberglass insulation, lead wire length L_p= 3m