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Temperature senors of machinery and device parts **TOPWO-2, TTJWO-2, TTKWO-2**

Technical description

Measuring range / sensing element		
(-50 ÷ 400) °C	**Pt100**	class B
(-40 ÷ 400) °C	**J, K**	class 2

Sheath

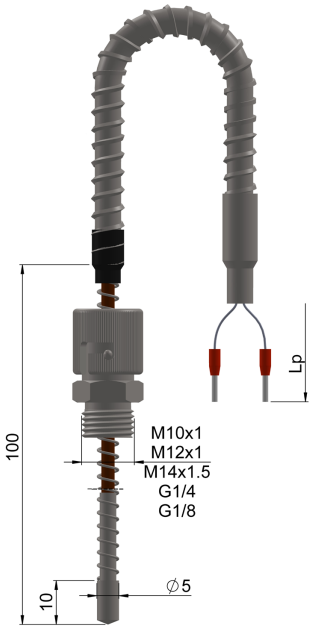
– material: steel 1.4541
– diameter [mm]: ø5
– length [mm]: 10
– spirng diameter [mm]: ø5
– spherical tip (K), flat (P) or conical
– bayonet handle with connector - nickel-plated brass

Lead wire

– Cu wire or thermocouple wire: 2x0,22 mm^2
– fiberglass insulation with metal braid
– flexible protective hose, stainless ø7/ø5 mm
– 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
– 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
– other threads - inch: G½; G⅜
metric: M12x1,25; M12x1,5; M12x1,75; M16x1,5



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

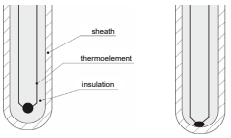
Resistors tolerance acc. to PN-EN 60751

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



SO SP

Ordering code

Temperature sensor		T ...	WO-2 – ...–	...–	..–	.–.	–..	...
Resistor Pt		OP						
Thermocouple Fe-CuNi		TJ						
Thermocouple NiCr-NiAl		TK						
Tip: flat				P				
Tip: spherical				K				
Tip: conical				S				
Thread dimension				G⅛; M10x1*				
Resistor type					Pt100*			
Junction insulated from the sheath	for				SO			
Junction grounded	TC				SP			
Resistor class						A, B*		
Thermocouple class						1, 2		
Measuirng circuit for RTD							2, 3, 4	
Cable length L_p [m]								1,5m*

* or others acc. to requirements

Ordering example

TTJWO-2–K–M12x1–SO–2–1,5m single thermocouple sensor Fe-CuNi, class 2, with thread M12x1, isolated junction, lead wire length L_p=1,5m

TOPWO-2–P–M10x1–2–2m single sensor Pt100, class B, with thread M10x1, lead wire length L_p= 2m

On request, a Quality Certificate confirming the conformity of workmanship or a Calibration Certificate of the Accredited Laboratory for Temperature Measurements at Limatherm Sensor Sp. z o.o.