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Temperature sensors with replaceable measuring inserts **TOPP-11, TTJP-11, TTKP-11**

Technical description

Measuring range* / sensing element		
(-200 ÷ 550) ºC	**Pt100**	class B
(-40 ÷ 700) ºC	**J**	class 2
(-40 ÷ 700) ºC	**K**	class 2; Thermowell 1.4541
(-40 ÷ 900) ºC	**K**	class 2; Thermowell 1.4841, 1.4762 with measuring insert W1
(-40 ÷ 1150) ºC	**K**	class 2; Thermowell 1.4841, 1.4762 with measuring insert W2

Measuring insert – p. 43÷44

– tube or minetal insulated W2 i W3
– 2-, 3-, 4-wire connection (for Pt100)
– 2-, 3-wire connection (for 2xPt100)
– insert length: L_w=L+25 mm

Sheath

– material: steel 1.4541 for d [mm]: ø9, ø11, ø12, ø14, ø15
- operating temperature 700 °C
– material: steel 1.4841; ø15 - operating temperature 1150 °C
– material: steel 1.4762; ø15 - operating temperature 1150 °C
– length L [mm]: 100÷2000

Connection head

– BA, IP55, (-40 ÷ 100) ºC

Options

– local display built into the DANAWwin head connection – p. 220
– Pt500, Pt1000, Ni100, Ni1000, N, T
– measuring junction types – p. 13
– connection heads: p. 217÷218 (eg. stainless BEG; aluminium NA, IP65; NA with snap lock)
– Pt100: class A (-100 ÷ 450) ºC, class AA (-50 ÷ 250) ºC; TC: class 1

Additional accessories

– temperature transmitters – p. 225÷241
– compensation cables – p. 197
– mounting brackets: UG-1, UG-3, UG-8, UZK-1 – p. 215÷216

* applies to clean air

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

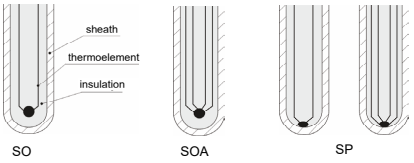
Resistors tolerance acc. to PN-EN 60751

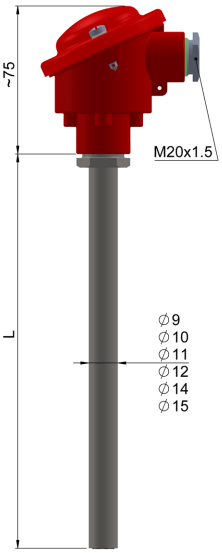
Class	Wire wound resistor	
	Range [°C]	Tolerance [°C]
AA	(-50÷250)	±(0,1+0,0017·|t|)
A	(-100÷450)	±(0,15+0,002·|t|)
B	(-196÷600)	±(0,3+0,005·|t|)

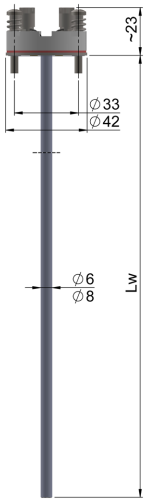
Tolerance for thermocouples class acc to. PN-EN 60584

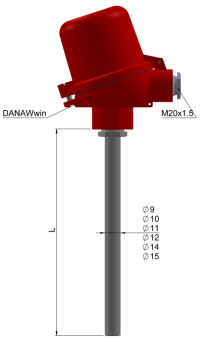
Thermocouple	Class 1		Class 2	
	Range [°C]	Tolerance [°C]	Range [°C]	Tolerance [°C]
J Fe-CuNi	(-40÷375) (375÷750)	±1,5 ±0,004 |t|	(-40÷333) (333÷750)	±2,5 ±0,0075 |t|
K NiCr-NiAl	(-40÷375) (375÷1000)	±1,5 ±0,004 |t|	from (-40÷333) (333÷1200)	±2,5 ±0,0075 |t|

Types of measuring hot junction









Ordering code

Temperature sensor	...	...	T	...	P-11	– ... –	...–	...–	...–	–...	–...	– ...	...
Single	no sign												
Double	2												
Single with transmitter	AP												
Double with transmitter (only one circuit)	AP2												
Double with two transmitters	2AP2												
With local display (single)	APW												
With tube measuring insert W1		no sign											
With mineral insulated measuring insert W2 or W3		P											
Resistor Pt				OP									
Thermocouple Fe-CuNi				TJ									
Thermocouple NiCr-NiAl				TK									
Sheath length L [mm]					500*								
Thermowell diameter [mm]					9, 10, 11, 12, 14, 15								
Material of the sheath					1.4541, 1.4841, 1.4762								
Junction isolated from the sheath								SO					
Double junction isolated from the sheath								SOA					
Grounded junction								SP					
Resistor class									A, B*				
Thermocouple class									1, 2				
Measuirng circuit for RTD										2, 3, 4			
Type of transmitter											RT-01*		
Setting of transmitter temperature											(0 ÷ 400) ºC*		

* or others acc. to requirements

Ordering example **TOPP-11–500–12–1.4541–A–3**

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.