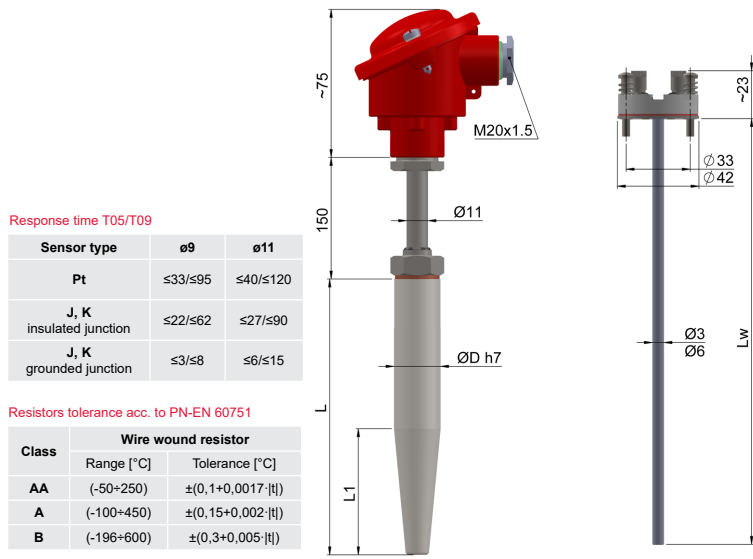


Temperature sensors with replaceable measuring inserts **TOPSW-11, 21, TTJSW-11, 21, TTKSW-11, 21**

Technical description

Measuring range / sensing element		
(0 ÷ 540) °C	Pt100	class B
(0 ÷ 540) °C	J, K	class 2
Measuring insert – p. 44		
– mineral insulated W2		
– 3-, 4-wire connection (for Pt100)		
– 3-wire connection (for 2xPt100)		
– insert length: $L_w = L + 173$ mm		
Sheath SWS-SZ - p. 208		
– material: boiler or acid resistant steel		
– diameter d [mm]: ø18 (SW1) or ø24 (SW2)		
– dimension L/L ₁ [mm]: 100/35, 140/65, 200/65, 260/125		
Connection head		
– BA, IP55, (-40 ÷ 100) °C		
Options		
– 2-wire version with W1 measuring insert (only ø24)		
– local display built into the DANAWwin head connection – p. 220		
– Pt500, Pt1000, Ni1000, Ni1000, N, T		
– measuring junction types – p. 13		
– connection heads: p. 217+218 (eg. stainless BEG; aluminium NA, IP65; NA with snap lock)		
– 1xPt100: class A (-100 ÷ 450) °C, class AA (-50 ÷ 250) °C; (only ø24) TC: class 1		
Additional accessories		
– temperature transmitters – p. 225+241		
– compensation cables – p. 197		



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

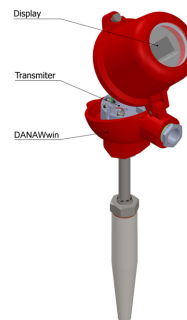
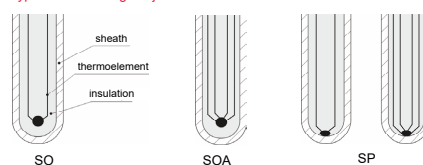
Resistors tolerance acc. to PN-EN 60751

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	...	SW
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								
Resistor Pt			OP							
Thermocouple Fe-CuNi			TJ							
Thermocouple NiCr-NiAl			TK							
Thermowell diameter d=18 mm				11						
Thermowell diameter d=24 mm				21						
Sheath length L [mm]					260*					
Junction isolated from the sheath								SO		
Double junction isolated from the sheath		for						SOA		
Grounded junction		TC						SP		
Resistor class								A, B*		
Thermocouple class								1, 2		
Measuring circuit for RTD									3, 4	
Type of transmitter										RT-01*
Setting of transmitter temperature										(0 ÷ 400) °C*

* or others acc. to requirements

Ordering example

APTTKSW-21-SO-140-1-Tx-(0 ÷ 540) °C