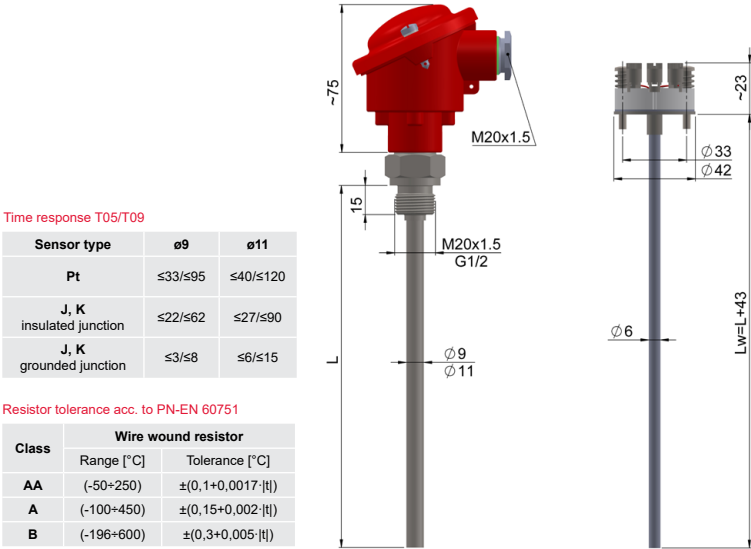


Temperature Sensors with Replaceable Measuring Inserts **TOPGB-11, TTJGB-11, TTKGB-11**

Technical description

Measuring range* / sensing element		
(-200 ÷ 150) °C	Pt100	class B
(-40 ÷ 150) °C	J, K	class 2
Measuring insert – p. 43+44		
– tube W1 or mineral insulated W2 i W3		
– 2-, 3-, 4-wire connection (for Pt100)		
– 2-, 3-wire connection (for 2xPt100)		
– insert length: L _w = L + 43 mm		
Sheath		
– material: steel 1.4541		
– length L [mm]: 50+2000		
Connection head		
– BA, IP55, (-40 ÷ 100) °C		
Options		
– local display in connection head DANAWwin – p. 220		
– Pt500, Pt1000, Ni100, Ni1000, N, T		
– other threads (inch and metric) acc. to requirements		
– measuring junction types – p. 13		
– connection heads: p. 217+218 (eg. stainless steel BEG; aluminium NA, IP65; aluminium NA with snap lock)		
– Pt100: class A (-100 ÷ 150) °C, class AA (-50 ÷ 150) °C; TC: class 1		
Additional accessories		
– temperature transmitters – p. 225+241		
– compensation cable – p. 197		

* for clean air



Time response 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

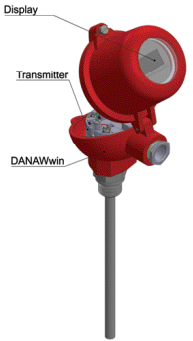
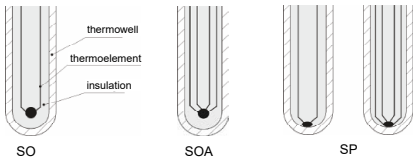
Resistor tolerance acc. to PN-EN 60751

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 sensors									
Single	no sign	T	GB-11	-	-	-	-	-	-
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							
Sheath length L [mm]			100*						
Thermowell diameter [mm]				9, 11					
Thread dimension					G½; M20x1,5*				
Junction insulated from the sheath						SO			
Double junction insulated from the sheath	for					SOA			
Grounded junction	TC					SP			
Resistor class							A, B*		
Thermocouple class							1, 2		
Measuring circuit for RTD								2, 3, 4	
Type of transmitter									RT-01*
Setting of transmitter temperature									(0 ÷ 400) °C*

* or other acc. to requirements

Ordering example **2TOPGB-11-160-9-G½-A-3**