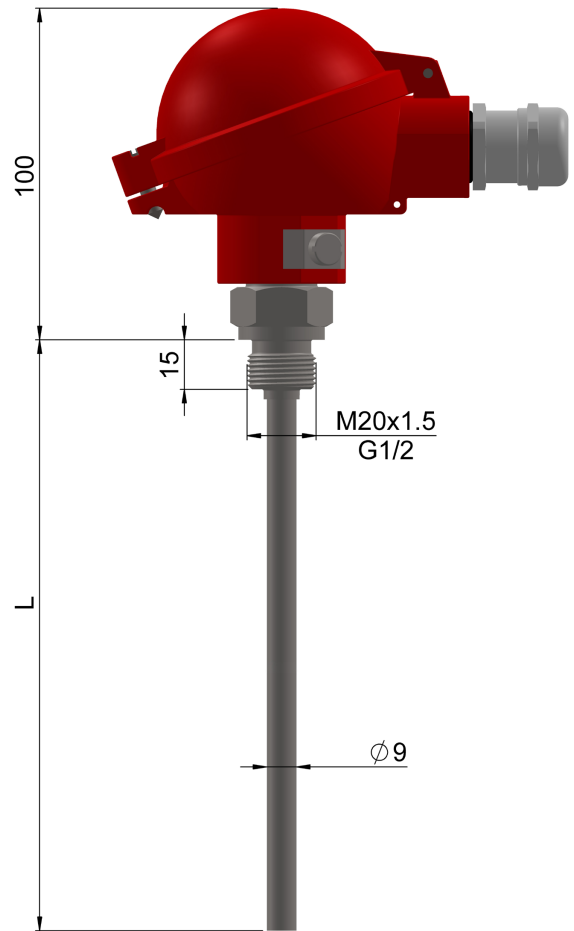


Intrinsically safe temperature sensors with replaceable measuring inserts **TOPGB-1..Exi, TTJGB-1..Exi, TTKGB-1..Exi**



Technical description

Measuring range / sensing element		
(-200 ÷ 150) °C	Pt100	class B
(-40 ÷ 150) °C	J, K	class 2
Measuring insert – p. 179		
– diameter [mm]: $\varnothing 6$		
– 2-, 3-, 4-wire connection (for Pt100)		
– 2-, 3-wire connection (for 2xPt100)		
– insert length: L+43 mm		
– mineral insulated measuring insert (min. 3-wire connection)		
Thermowell		
– material: steel 1.4541		
– diameter d [mm]: $\varnothing 9$		
– length L [mm]: 50+2000		
Connection head – p. 219		
– aluminium XE-DANA (S1-standard), XE-DAND (S2), XE-DANAW (W1), XE-DANDW (W2) or stainless steel XE-BE (N1), IP65		
– cable gland ATEX II GD IP68 (for cable 5+10 mm)		
– operating temperature up to 90 °C		
Construction version		
– Exi acc. to ATEX		
– WE Type-Examination Certificate: KDB 07ATEX055		
– I M1 Ex ia I (only with connection head N1)		
– II 2G Ex ia IIC T6; II 1D Ex ia IIIC T85 °C		
– 2AP version... and AP2... only with connection heads W1 and W2		
Options		
– Pt500, Pt1000, T, N		
– other threads (inch and metric) acc. to requirements		
– Pt100: class A (-50 ÷ 150) °C, class AA (0 ÷ 150) °C; TC: class 1		
Additional accessories		
– temperature transmitters with Exi version – p. 225÷241		



TEMPERATURE SENSORS FOR FOOD INDUSTRY

J

Response time T05/T09

Sensor type	$\varnothing 9$
Pt	$\leq 33/\leq 95$
J, K insulated junction	$\leq 22/\leq 62$
J, K grounded junction	$\leq 3/\leq 8$

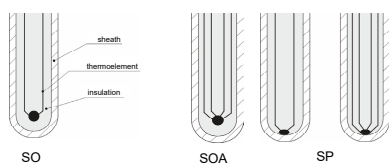
Resistors tolerance acc. to PN-EN 60751

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

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)	$\pm 1,5$ $\pm 0,004 |t|$	(-40+333) (333+750)	$\pm 2,5$ $\pm 0,0075 |t|$
K, Na NiCr-NiAl	(-40+375) (375+1000)	$\pm 1,5$ $\pm 0,004 |t|$	from (-40+333) (333+1200)	$\pm 2,5$ $\pm 0,0075 |t|$

Types of measuring hot junction



Ordering code

Temperature sensor	...	...	T	...	GB-1	...	Exi	-	...	...	...	...	...	...	...	...	...	...
Without transmitter	no sign																	
With transmitter	AP																	
With two transmitters	2AP																	
Single	no sign																	
Double	2																	
Resistor Pt				OP														
Thermocouple Fe-CuNi; NiCr-NiAl				TJ; TK														
Thermocouple Cu-CuNi; NiCrSi-NiSi				TT; TN														
Replaceable pipe insert						1												
Replaceable mineral insulated insert						2												
Type of head connection for II group (standard S1)							S1, S2, W1, W2											
Type of head connection for I and II groups							N1											
Sheath length L [mm]										200*								
Thermowell diameter [mm]											9							
Thread dimension												G½*						
Resistor type													Pt100*					
Hot junction type for TC													SO, SP, SOA					
Resistor class														A, B*				
Thermocouple class														1, 2				
Measuring circuit for RTD															2, 3, 4			
Type of transmitter																FT2221Ex*		
Setting of transmitter temperature																	(0 ÷ 150) °C*	

* or others acc. to requirements

Ordering example

2TTKGB-12Exi-S1-160-9-G1/2-SOA-2