

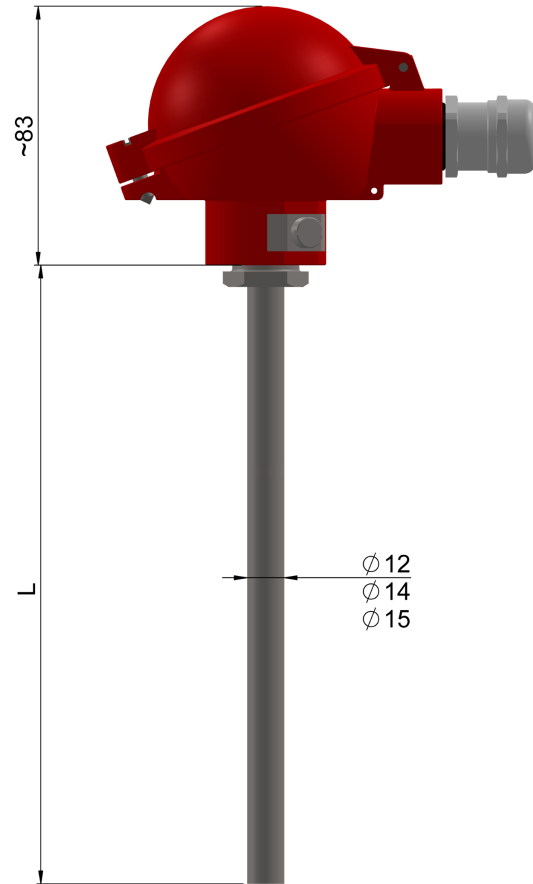
Intrinsically safe temperature sensors with replaceable measuring inserts

TOPP-1..Exi, TTJP-1..Exi,  
TTKP-1..Exi



**Technical description**

Measuring range / sensing element		
(-200 ÷ 550) °C	<b>Pt100</b>	class B
(-40 ÷ 700) °C	<b>J, K</b>	class 2
Measuring insert – p. 179		
– diameter [mm]: ø6		
– 2-, 3-, 4-wire connection (for Pt100)		
– 2-, 3-wire connection (for 2xPt100)		
– insert length: L+25 mm		
– mineral insulated measuring insert (min. 3-wire connection)		
Thermowell		
– material: steel 1.4541, 1.4841 or 1.4762		
– diameter: d [mm]: ø12, ø14, ø15		
– length L [mm]: 100+3000		
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: <b>KDB 07ATEX055</b>		
– I M1 Ex ia I (only with connection head N1)		
– II 1/2G 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		
– Pt100: class A (-50 ÷ 400) °C, class AA (0 ÷ 150) °C;		
– TC: class 1		
Additional accessories		
– temperature transmitters with Exi version – p. 225+241		
– compensation cables – p. 197		



TEMPERATURE SENSORS FOR FOOD INDUSTRY

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

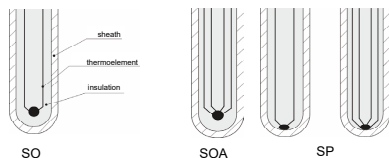
Resistors tolerance acc. to PN-EN 60751

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, Na 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-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]										500*											
Thermowell diameter [mm]												15*									
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
Material of the sheath																					1.4541*
Type of transmitter																					FT2202Ex
Setting of transmitter temperature																					(-20 ÷ 30) °C*

\* or others acc. to requirements

**Ordering example**

**2TTKP-12Exi-S1-500-15-SOA-2-1.4841**