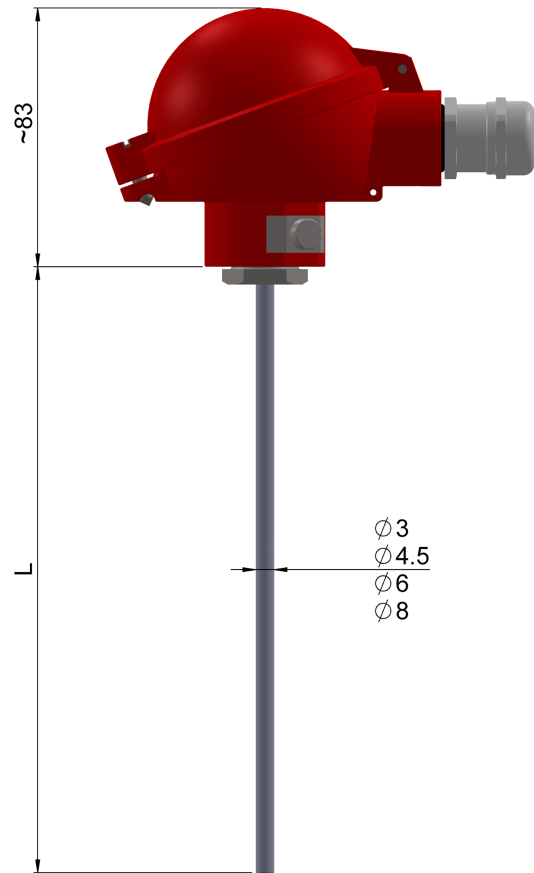


Intrinsically safe temperature sensors without outer thermowell **TOPI-...Exi, TTJI-...Exi, TTKI-...Exi**

Technical description



Measuring range / sensing element		
(-200 ÷ 600) °C	Pt100	class B
(-40 ÷ 700) °C	J	class 2
(-40 ÷ 1200) °C	K, N	class 2
Measuring insert – p. 179		
– pipe insert diameter [mm]: $\varnothing 6, 8$		
– mineral insulated [mm]: $\varnothing 3; 4,5$ (only TC); 6		
– mineral insulated 3-wire (2xPt); 3-, 4-wire (1xPt)		
– pipe insert 2-, 3-wire (2xPt); 2-, 3-, 4-wire (1xPt)		
Thermowell		
– pipe insert material: 1.4541 for Pt100, J, K		
– mineral insulated insert material: 1.4541 for J, T; 1.4571 for Pt100, 2.4816 for K, N		
– length L_{min} [mm]: 100		
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		
– 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		
– mounting brackets: UG-1, UG-3, UG-8 – p. 215		
– process protection tubes and thermowells – p. 200÷214		



TEMPERATURE SENSORS FOR FOOD INDUSTRY

J

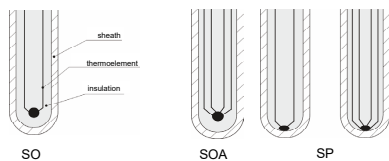
Resistors tolerance acc. to PN-EN 60751

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	...	I	-	...	...	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
Diameter wkładu (4 = ø4,5)																	3, 4, 6, 8
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*
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																	FT2202Ex*
Setting of transmitter temperature																	(0 ÷ 100) °C*

* or others acc. to requirements

Ordering example

2TTKI-42Exi-S1-160-SOA-2