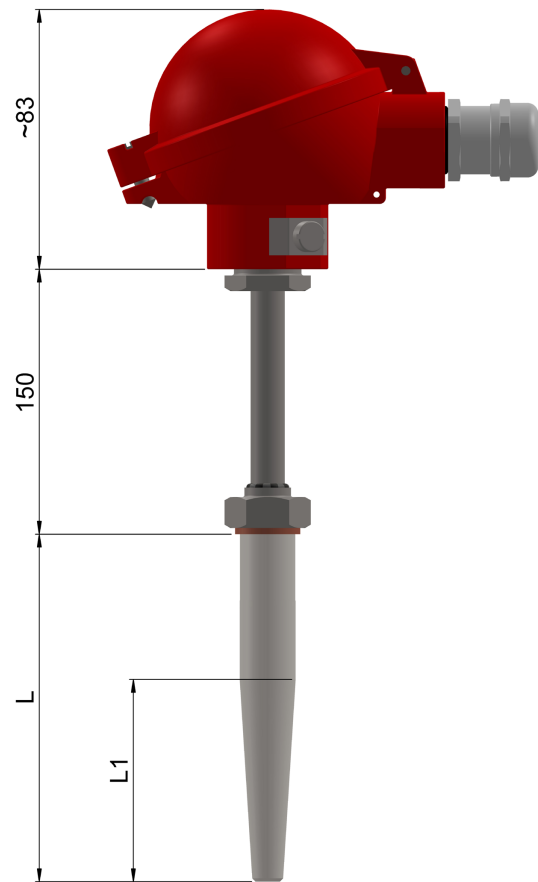


Intrinsically safe temp. sensors with replaceable measuring inserts **TOPSW-...Exi, TTJSW-...Exi, TTKSW-...Exi**



**Technical description**

Measuring range / sensing element		
(-200 ÷ 550) °C	<b>Pt100</b>	class B
(-40 ÷ 550) °C	<b>J, K</b>	class 2
Measuring insert – p. 179		
– diameter $\varnothing 3$ mm (for sheath $\varnothing 18$ mm) $\varnothing 6$ mm (for sheath $\varnothing 24$ mm)		
– 2-, 3-, 4-wire connection (for Pt100)		
– 2-, 3-wire connection (for 2xPt100)		
– insert length: L+173 mm		
– mineral insulated measuring insert (min. 3-wire connection)		
Sheath for welding		
– material: steel 1.7335 (15HM) or other acc. to requirements		
– diameter d: $\varnothing 18$ mm (SW1) or $\varnothing 24$ mm (SW2)		
– dimension L/L <sub>1</sub> [mm]: 100/35, 140/65, 200/65, 260/125		
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		



TEMPERATURE SENSORS FOR FOOD INDUSTRY

J

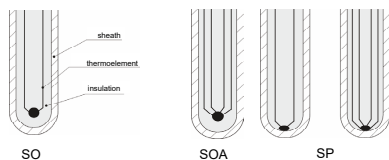
Resistors tolerance acc. to PN-EN 60751

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	...	SW	...	...	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															
Thermowell Ø18 with mineral insulated measuring insert																				1
Thermowell Ø24 with pipe or mineral insulated insert																				2
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]																				140*
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**

**APTOPSW-12Exi-S1-140-Pt100-B-3-FT2202Ex-(0 ÷ 100) °C**