

Flameproof temperature sensors with replaceable measuring inserts

TOPSWT-Exd, TTJSWT-Exd,
TTKSWT-Exd



Technical description

Measuring range / sensing element		
(-200 ÷ 550) °C	Pt100	class B
(-40 ÷ 550) °C	J, K	class 2
Measuring insert – p. 193		
– 3-, 4-wire connection (for Pt100)		
– 3-wire connection (for 2xPt100)		
– insert length: L+210 mm		
Thermowell		
– pressure and drilled thermowell welded into the flange		
– material: steel 1.4541		
– sensor connection thread: 1/2NPT		
– flange acc. to PN-EN 1092-1*		
– diameter d _{min} : ø16 mm		
– length L [mm]: 100+570		
Connection head – p. 219		
– aluminium XD-AD (AS1 - one cable gland, AS2 - two cable glands),		
– with display		
XD-ADwin (AS3 - one cable gland, AS4 - two cable glands),		
– stainless steel		
XD-SD (NS1 - one cable gland, NS2 - two cable glands),		
– cable gland: ATEX II 2 GD; ATEX I M2; IP 66+68		
cable diameter: 3+14,3 mm (standard 6,1+11,7)		
Construction version		
– Exd acc. to ATEX		
– WE Type-Examination Certificate: KDB 08ATEX135		
⊕ I M2 Ex d I; (only with connection head NS1, NS2)		
⊕ II 2 GD Ex d IIC T6; Ex t IIIC T85 °C IP66		
Options		
– Pt500, Pt1000, T, N		
– Pt100: class A (-50 ÷ 400) °C, class AA (0 ÷ 150) °C;		
TC: class 1		
Additional accessories		
– temperature transmitters – p. 225+241		
– local display LPI-02 (connection head AS3 or AS4) – p. 221		

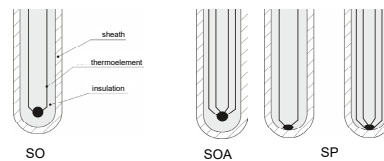
Resistors tolerance acc. to PN-EN 60751

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)

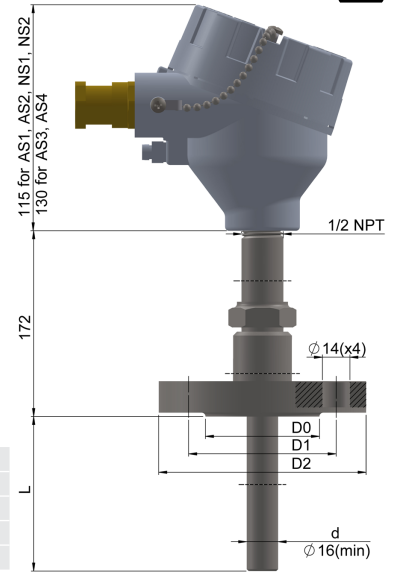
Tolerance for thermocouples class acc. to PN-EN 60584

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



Flange PN16	D ₂ [mm]	D ₀ [mm]	D ₁ [mm]
DN20	ø105	ø75	ø58
DN25	ø115	ø85	ø68



Ordering code

Temperature sensor	...	T	...	SWT-Exd	-
Single	no sign												
Double	2												
Single With transmitter	AP												
Resistor Pt		OP											
Thermocouple Fe-CuNi; NiCr-NiAl		TJ; TK											
Thermocouple Cu-CuNi; NiCrSi-NiSi		TT; TN											
Type of aluminium connection head			AS1, AS2, AS3, AS4										
Type of stainless steel connection head			NS1, NS2										
Immersion length / thermowell diameter L/d [mm]				500/16*									
Type of flange					DN20PN16B1*								
Type** and resistor class								aA, aB*					
Thermocouple class									1, 2				
Measuring circuit for RTD										3, 4			
Hot junction type for TC										SO, SP, SOA, SOB			
Type of transmitter											TxBLOCK*		
Setting of transmitter temperature												(0 ÷ 100) °C*	
Gland type (cable diameter): a (3,2 mm+8,7 mm), b: standard (6,1 mm+11,7 mm), c (6,5 mm+14 mm)													a, b, c

* or others acc. to requirements
** a=1 for Pt100, a=5 for Pt500, a=10 for Pt1000

Ordering example

TOPSWT-Exd-AS1-400/16-DN25PN40B1-1B-3-b

On request, a Quality Certificate confirming the conformity of workmanship or a Calibration Certificate of the Accredited Laboratory for Temperature Measurements at Limatherm Sensor Sp. z o.o.