

Flameproof temperature sensors with replaceable measuring inserts

**TOPT-Exd, TTJT-Exd,
TTKT-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+164 mm		
Thermowell		
– material: steel 1.4541; flange PN16, DN20 or DN25* with rebate B1		
– diameter d [mm]: ø11, ø12, ø14		
– length L [mm]: 50÷2000		
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		

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

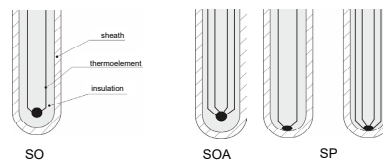
Resistors tolerance acc. to PN-EN 60751

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



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

Ordering code

Temperature sensor	...	T	...	T-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]										300/14*									
Type of flange																			DN20 PN16B1*
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

TOPT-Exd-NS1-600/11-DN20PN16B1-1A-3-a

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.