

Flameproof temperature sensors with replaceable measuring inserts

TOPGB-Exd, TTJGB-Exd,  
TTKGB-Exd



Technical description

Measuring range / sensing element		
(-200 ÷ 150) °C	<b>Pt100</b>	class B
(-40 ÷ 150) °C	<b>J, K</b>	class 2
Measuring insert – p. 193		
– 3-, 4-wire connection (for Pt100)		
– 3-wire connection (for 2xPt100)		
– insert length: L+67 mm		
Thermowell		
– material: steel 1.4541		
– diameter d [mm]: ø9, 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: <b>KDB 08ATEX135</b>		
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		
– other threads (inch and metric) acc. to requirements		
– Pt100: class A (-50 ÷ 150) °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
<b>Pt</b>	≤33/≤95	≤40/≤120
<b>J, K</b> insulated junction	≤22/≤62	≤27/≤90
<b>J, K</b> grounded junction	≤3/≤8	≤6/≤15

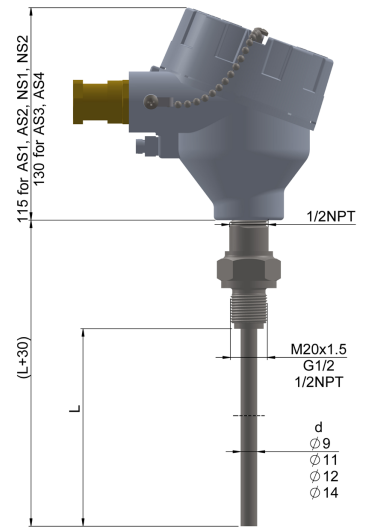
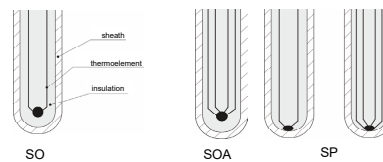
Resistors tolerance acc. to PN-EN 60751

Class	Wire wound resistor	
	Range [°C]	Tolerance [°C]
<b>AA</b>	(-50+250)	±(0,1+0,0017· t )
<b>A</b>	(-100+450)	±(0,15+0,002· t )
<b>B</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]
<b>J</b> Fe-CuNi	(-40+375) (375+750)	±1,5 ±0,004  t	(-40+333) (333+750)	±2,5 ±0,0075  t
<b>K, Na</b> 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	...	GB-Exd	-	...	...	...	...	...	...	...	...	...	...
Single		<b>no sign</b>													
Double		<b>2</b>													
Single with transmitter		<b>AP</b>													
Resistor Pt															
Thermocouple Fe-CuNi; NiCr-NiAl															
Thermocouple Cu-CuNi; NiCrSi-NiSi															
Type of aluminium connection head															
Type of stainless steel connection head															
Immersion length / thermowell diameter L/d [mm]															
Thread dimension															
Type** and resistor class															
Thermocouple class															
Measuring circuit for RTD															
Hot junction type for TC															
Type of transmitter															
Setting of transmitter temperature															
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)															

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

Ordering example

TOPGB-Exd-AS1-200/11-1/2NPT-1A-3-b