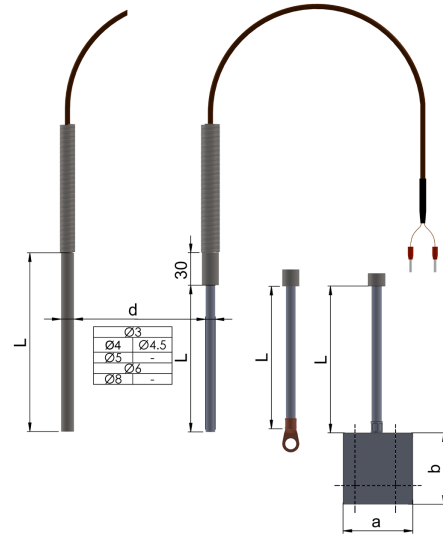


Intrinsically safe temperature sensors of machinery and device parts **TOPE-361Exi, TTJE-361Exi, TTKE-361Exi, TTNE-361Exi**



**Technical description**

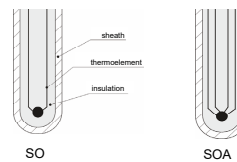
Measuring range / sensing element				
(-40 ÷ 550) °C	<b>Pt100</b>	class B		
(-40 ÷ 700) °C	<b>J</b>	class 2		
(-40 ÷ 1000) °C	<b>K</b>	class 2		
Thermowell				
– standard design (tube), material steel 1.4541				
length L [mm]: 50 ÷ 1000; working temperature: (-40 ÷ 400) °C				
– mineral insulated design with sleeve, mineral insulated material: 1.4571 for (Pt), 1.4541 for (J, T), 2.4816 for (K, N)				
length L <sub>min.</sub> [mm]: 50				
– operating temperature: (RTD class B, TC class 2) acc. to table				
Element pomiarowy	Mineral insulated diameter d [mm]			
	ø3	ø4,5	ø6	ø8
T	350 °C	–	–	–
J	450 °C	550 °C	700 °C	–
K	800 °C	900 °C	1000 °C	1000 °C
N	800 °C	–	1000 °C	–
Pt100	400 °C	–	550 °C	–
Wire				
– wire: 0,22 mm <sup>2</sup> in fiberglass insulation with metal braid, operating temperature up to 400 °C				
– wire: 0,22 mm <sup>2</sup> in silicone insulation, operating temperature up to 180 °C				
– cable length L <sub>p</sub> =1,5m (standard)				
– wires resistance Cu~0,14Ω/m ≈~0,36 °C				
Construction version				
– Exi acc. to ATEX				
– WE Type-Examination Certificate: <b>KDB 07ATEX055</b>				
– II 2G Ex ia IIC T6; II 2D Ex ia IIIC T85°C				
– measuring junction: isolated SO (single), SOA (double)				
Options				
– Pt500, Pt1000, T, N				
– 3-, 4-wire connection for RTD				
– Pt100: class A (-30 ÷ 250) °C, class AA (0 ÷ 150) °C; TC class 1				
– TT sensor termination with sleeve, eyelet tip or plate				
– mounting brackets: UG-1, UG-3, UG-8 – p. 215				



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



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 )

**Ordering code**

Temperature sensor	...	T	...	E-361	...	Exi	-	-	-	-	-	-	-	-	-	...
Single		no sign														
Double (d > 4)		2														
Resistor Pt																
Thermocouple Fe-CuNi; NiCr-NiAl																
Thermocouple Cu-CuNi; NiCrSi-NiSi																
Straight sheath																
Sheath with sleeve																
Sheath length L [mm]																50*
Thermowell diameter d [mm]																6*
Resistor class																A, B*
Thermocouple class																1, 2
Resistor type																Pt100*
Hot junction type for TC																SO, SOA
Measuring circuit for RTD																2, 3, 4
Insulation type and cable length L <sub>p</sub>																Ws-2m; Si-1,5m*
Special termination: plate a x b [mm]																30x50*
Special termination: eyelet tip																M5*

\* or others acc. to requirements

**Ordering example**

**TTKE-361TExi-400-6-2-Si-1,5m-M5**

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.