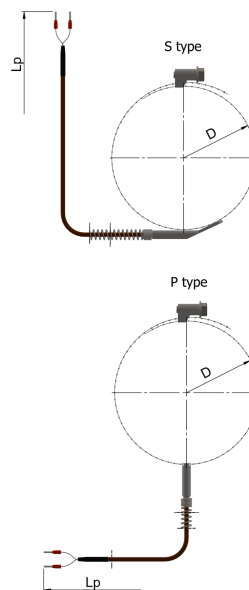


## Temperature sensors for surface measurement TOPE-243, TTJE-243, TTKE-243

### Technical description

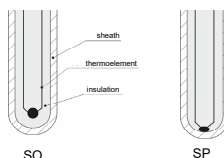
Measuring range / sensing element		
(-50 ÷ 400) °C	<b>Pt100</b>	class B
(-40 ÷ 400) °C	<b>J, K</b>	class 2
Pipe band clamp		
– material, steel 1.4301		
– pipeline diameter D [mm]: 16÷180		
– width b: 9 mm for D<110 mm 12 mm for D>110 mm		
Sheath		
– material: 1.4541 - welded tangentially to the band (S) perpendicular to the band (P)		
Wire		
– Cu wire or thermocouple wire: 2x0,22 mm <sup>2</sup>		
– fiberglass insulation with metal braid		
– measuring junction for TC: insulated SO		
– length L <sub>p</sub> =1,5m (standard)		
– wires resistance Cu ~0,14 Ω/m=~-0,36 °C		
Options		
– Pt500, Pt1000, Ni100, Ni1000		
– other cable insulations acc. to requirements: silicone insulation, operating temperature up to 180 °C, teflon insulation, operating temperature up to 200 °C		
– measuring junction for TC: grounded SP		
– 3-, 4-wire connection for RTD		
– Pt100: class A (-30 ÷ 300) °C, class AA (0 ÷ 150) °C TC: class 1		



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</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	...	E-243	...	...	...	...	...	...
Resistor Pt	OP								
Thermocouple Fe-CuNi	TJ								
Thermocouple NiCr-NiAl	TK								
Band clamp tangent to sheath				S					
Band clamp perpendicular to sheath				P					
Pipeline diameter D [mm]						40*			
Resistor type								Pt100*	
Junction insulated from the sheath		for						SO	
Junction grounded		TC						SP	
Resistor class								A, B*	
Thermocouple class								1, 2	
Measuring circuit for RTD								2, 3, 4	
Cable length L <sub>p</sub> [m]									1,5m*

\* or others acc. to requirements

### Ordering example

**TTJE-243S-25-SO-2-1,5m** single thermocouple sensor Fe-CuNi, class 2, with sheath welded tangentially to the band, band diameter 25 mm, isolated junction, with lead wire in fiberglass insulation, lead wire length L<sub>p</sub>=1,5m

**TOPE-243P-80-Pt100-B-2-1,5m** single sensor Pt100, class B, 2-wire connection connection, with sheath welded perpendicular to the band, band diameter 80 mm, with lead wire in fiberglass insulation, lead wire length L<sub>p</sub>=1,5m