

Temperature sensors with ceramic protection tubes TTSCS-22, TTRCS-22, TTBCS-22

Dane techniczne

Measuring range / sensing element		
(0 ÷ 1600) °C	S, R	class 2
(600 ÷ 1700) °C	B	class 3
Sheath		
– ceramics material: corundum 799		
– sheath material: steel 1.4541		
– additional platinum sheath /thimble/, material Pt, PtRh10, PtRh20		
– Thimble wall thickness g [mm]=0,3; 0,4; 0,5		
– length L _{max.} [mm]: 1500		
Connection head		
– AA, IP53, (-40 ÷ 150) °C		
Options		
– for 2TT...CS-22 and 3TT...CS-22 the measuring junctions on different heights: L ₄ , L ₅ , L ₆		
– dimensions: L ₁ ...L ₆ [mm]		
– other thimble wall thickness		
– L ₁ ...L ₃ [mm] acc. to requirements		
– wire diameter ø0,35 mm		
– thermocouple R, S: class 1; B: class 2		
Additional accessories		
– temperature transmitters – p. 225+241		
– compensation cables – p. 197		
– mounting brackets: UZ-11, UZ-21 – p. 216		

d ₃ [mm]	d ₂ [mm]	d ₁ [mm]	wire diameter [mm]
8	15	22	ø0,5
10	15	22	
15	24	32	

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

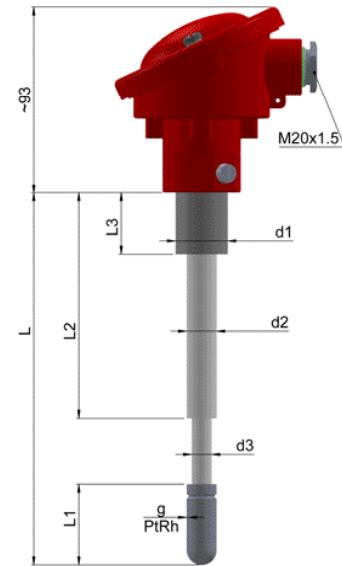
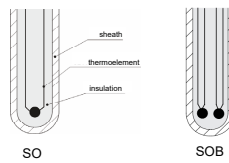
Resistors tolerance acc. to PN-EN 60751

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 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	...	TT	...	CS-22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Single		no sign																			
Double		2																			
Triple		3																			
Thermocouple PtRh10-Pt																					
Thermocouple PtRh13-Pt																					
Thermocouple PtRh30-PtRh6																					
Sensor sheath length L [mm]																				500*	
Thermocouple class for S, R																					1, 2
Thermocouple class for B																					2, 3
Thimble material																					Pt, PtRh10, PtRh20
Thimble wall thickness g [mm]																					0,3; 0,4; 0,5*
Diameter d ₃ [mm]																					10*
Dimensions L ₁ ...L ₆ [mm]																					acc. to requirements

* or others acc. to requirements

Ordering example

3TTSCS-22-800-2-Pt-0,3-10-L₁=100 L₂=700 L₃=150 L₄=20 L₅=40 L₆=80