



## SCT602

- thermoelectric sensor with platinum thimble and ceramic protection tube
- temperature range max. 1700°C (depending on thermocouple used)
- operating temperature of connection heads max. 150°C
- possibility of mounting a 4...20 mA or 0...10 V temperature transmitter
- tube made of C799 (99,7% Al<sub>2</sub>O<sub>3</sub>)
- mounting by threaded fittings and flanges

Thermocouple **SCT602** with a ceramic protection tube is designed for industrial furnaces, the glass industry, etc. The sensor consists of a replaceable insert, a ceramic protective tube (thermowell) and an aluminum connection head, where a programmable temperature transmitter with 4-20 mA output signal can be installed. Sensors with the ceramic protective tube can be mounted with a flanged mounting bracket or threaded compression fitting. Sensor immersion length, compression fitting size (optional), the material of the protection tube, and connection head can be selected depending on the requirements of the application.

### Application areas:

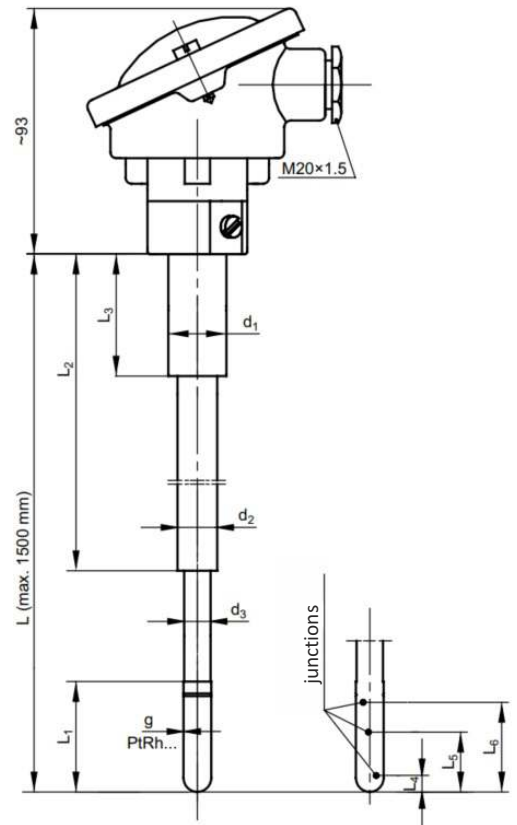
- glass and ceramics industry.

### TECHNICAL DATA

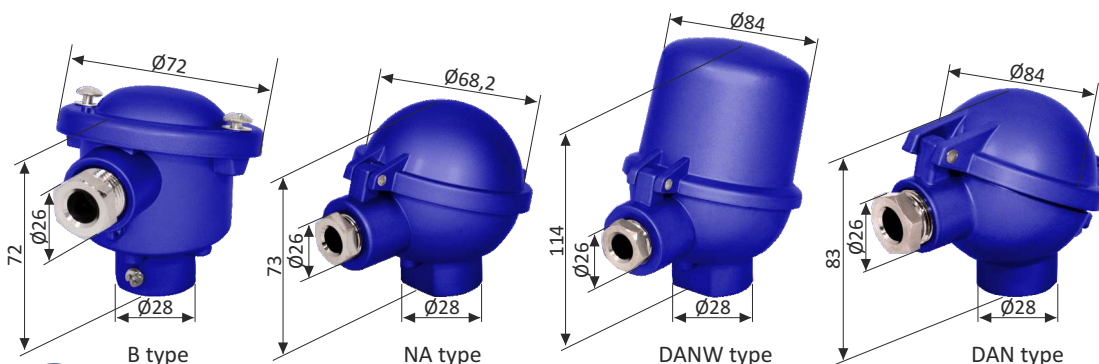
Sensing element	R, S, B thermocouple (single, double, triple)
Measuring range	0 ÷ 1600°C (TC S, R), 600 ÷ 1700°C (TC B)
Connection head	B, NA, MA, DAN or other, operating temperature -40 ÷ 150°C
Class	1 or 2
Sheath material	ceramic C799
Thimble	material: Pt, PtRh10, PtRh20 wall thickness: 0,3 mm; 0,4 mm; 0,5 mm
Process connection	flange, welding adapter

### THERMOCOUPLES TOLERANCE ACC. TO PN-EN 60584

Thermocouple	Class 1		Class 2	
	Temperature range	Tolerance	Temperature range	Tolerance
K (NiCr-Ni)	-40 ÷ 1000°C	± 1.5°C	-40 ÷ 1200°C	± 2.5°C
N (NiCrSi-NiSi)	-40 ÷ 1000°C	± 0.0040°C x  t	-40 ÷ 1200°C	± 0.0075°C x  t
B (PtRh30-PtRh6)	-	-	600 ÷ 1700°C	± 0.0025°C x  t
R (PtRh13-Pt)	0 ÷ 1100°C	± 1.0°C	0 ÷ 600°C	± 1.5°C
S (PtRh10-Pt)	1100 ÷ 1600°C	± [1+0,003(t-1100)]°C	600 ÷ 1600°C	± 0.0025°C x  t



### CONNECTION HEAD TYPES



**CERAMIC PROTECTION TUBE - FEATURES**

Material	Operation temperature	Advantages	Disadvantages	Application
C530 (73-75% Al <sub>2</sub> O <sub>3</sub> )	max. 1600°C	resistant to temperature shock	low resistance to mechanical load	electric furnaces up to 1300°C or others
C610 (60% Al <sub>2</sub> O <sub>3</sub> )	max. 1500°C	gas-tight, average thermal shock resistance, high flame resistance	low resistance to mechanical load, low Al <sub>2</sub> O <sub>3</sub> content	gas-tight furnaces, diffusion furnaces
C799 (99,7% Al <sub>2</sub> O <sub>3</sub> )	max. 1800°C	gas-proof, acid resistant, steam resistant, very high flame resistance	low resistance to mechanical load, low resistance to temperature shock	gas-tight furnaces up to 1800°C (liquid glass tanks), chemical industry, manufacturing of concrete

**ACCESSORIES**

Mounting bracket  
**SUZ11**



Mounting bracket  
**SUZ21**



**ORDERING**

**SCT602-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X-X**

<p><b>temperature sensor:</b></p> <p>1 : single 2 : double 3 : triple PP : with transmitter</p> <p><b>sensing element:</b></p> <p>R S B other, please specify</p> <p><b>diameter of platinum wire:</b></p> <p>0,5 : 0,5 mm</p> <p><b>connection head:</b></p> <p>NA B other, please specify</p> <p><b>handle sheath diameter ØD:</b></p> <p>22 : 22 mm 32 : 32 mm other, please specify</p> <p><b>handle sheath length Ld:</b></p> <p>150 : 150 mm (standard) other, please specify [mm]</p> <p><b>ceramic thermowell diameter Ød:</b></p> <p>15/10 : 15 mm outer / 10 mm inner 24/15 : 24 mm outer / 15 mm inner other, please specify [mm]</p>	<p><b>accuracy class:</b></p> <p>class 1 class 2</p> <p><b>junction position (acc. to requirements) (for double and triple sensor):</b></p> <p>L4 : please specify in mm L5 : please specify in mm L6 : please specify in mm</p> <p><b>thimble wall thickness:</b></p> <p>0,3 : 0,3 mm 0,4 : 0,4 mm 0,5 : 0,5 mm</p> <p><b>thimble diameter Ød3:</b></p> <p>10 : 10 mm other, please specify [mm]</p> <p><b>thimble length L1:</b></p> <p>50 : 50 mm other, please specify [mm]</p> <p><b>ceramic thermowell material:</b></p> <p>C799 other, please specify</p> <p><b>ceramic thermowell length L2:</b></p> <p>500 : 500 mm 1000 : 1000 mm other, please specify [mm]</p>
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Ordering example:

**SCT602-1-R-0,5-B-22-150-15/10-500-C799-50-10-0,3-2**

Single TC temperature sensor, R thermocouple, 2 tolerance class, B head type, ceramic protection tube made of C799, 15 mm outer, 10 mm inner diameter, 500 mm length, handle sheath diameter 22 mm and length 150 mm, thimble diameter 10 mm, length 50 mm, wall thickness 0,3 mm.

