



SCT108-Exi

- mineral insulated thermoelectric sensor
- temperature range $-40 \div 1150^{\circ}\text{C}$
- connection head
- short response time for temperature change
- small dimensions for operation in hard-to-reach places
- resistance to vibrations and the possibility of bending
- thermowell made of nickel alloy (Inconel 600)

The mineral insulated thermocouple SCT108-Exi contains the flexible part of the probe. The probe consists of a stainless steel outer sheath, in which the inner conductors are insulated with compressed into a highly compacted ceramic mass. The outer sheath is made of stainless steel or Ni alloy. The inner conductors are welded together at the measuring end of the sheathed cable to form the 'thermocouple' junction. In designs, where the measuring element is not insulated, the sheath is also welded with the thermocouple junction. Connector cables are connected to the other end of the sheathed cable and hermetically sealed with a sealing compound. The connector wires are the basis of the electrical interface with cable, a connector, or a terminal block. Due to their flexibility and the small diameters in which they are available, sheathed thermocouples can be used in locations that are not easily accessible.

Application areas:

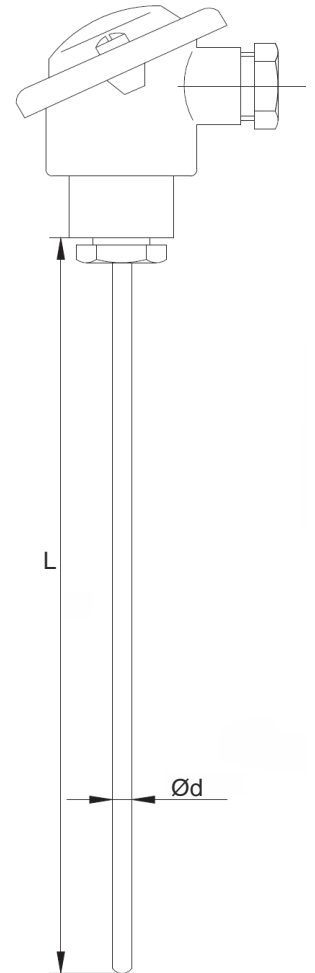
- general machinery and equipment design,
- measuring temperature of liquids, gases and solid bodies,
- all branches of industry,
- measurement laboratories.

TECHNICAL DATA

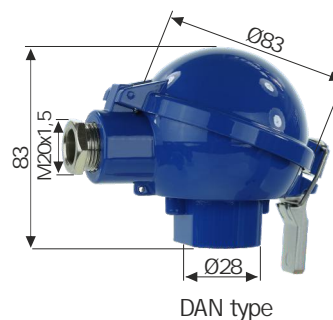
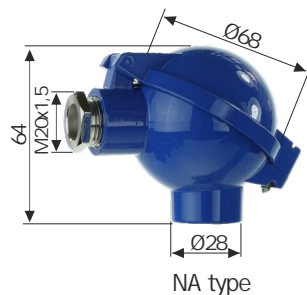
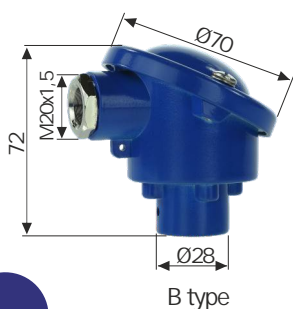
Sensing element	J, K, N, R, S, B, E, T thermocouple (single, double)
Measuring range	depending on thermocouple and material: $-40 \div 1150^{\circ}\text{C}$
Connection head	B, NA or other, operating temperature $-40 \div 150^{\circ}\text{C}$
Class	1 or 2
Sheath	material: nickel alloy 2.4816 (Inconel 600) or other any nominal length (specified when ordering) diameter: 3, 4, 4.5, 5, 6, 7, 8, 9, 10, 11, 12, 15 mm
Measuring junction	isolated, grounded or exposed
ATEX approval	II 1G Ex ia IIC T6-T1 Ga; II 1D Ex ia IIIC T85°C÷450°C Da

THERMOCOUPLES TOLERANCE ACC. TO PN-EN 60584

Thermocouple	Class 1		Class 2	
	Temperature range	Tolerance	Temperature range	Tolerance
J (Fe-CuNi)	$-40 \div 750^{\circ}\text{C}$	$\pm 1,5^{\circ}\text{C}$	$-40 \div 750^{\circ}\text{C}$	$\pm 2,5^{\circ}\text{C}$
K (NiCr-Ni)	$-40 \div 1000^{\circ}\text{C}$	$\pm 0,0040^{\circ}\text{C} \times t $	$-40 \div 1200^{\circ}\text{C}$	$\pm 0,0075^{\circ}\text{C} \times t $
N (NiCrSi-NiSi)	$-40 \div 1000^{\circ}\text{C}$		$-40 \div 1200^{\circ}\text{C}$	
B (PtRh30-PtRh6)	-	-	$600 \div 1700^{\circ}\text{C}$	$\pm 0,0025^{\circ}\text{C} \times t $
R (PtRh13-Pt)	$0 \div 1100^{\circ}\text{C}$	$\pm 1,0^{\circ}\text{C}$	$0 \div 600^{\circ}\text{C}$	$\pm 1,5^{\circ}\text{C}$
S (PtRh10-Pt)	$1100 \div 1600^{\circ}\text{C}$	$\pm [1+0,003(t-1100)]^{\circ}\text{C}$	$600 \div 1600^{\circ}\text{C}$	$\pm 0,0025^{\circ}\text{C} \times t $



CONNECTION HEAD TYPES



OPTIONAL ACCESORIES



S type flange
(stainless steel)

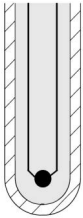


T type flange
(PTFE)

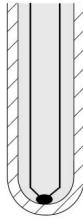


Threaded holder (fitting)
with a compression ferrule
(brass or stainless steel)

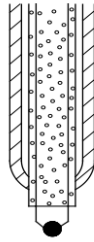
TYPES OF MEASURING HOT JUNCTION



SO
junction isolated
from the sheath

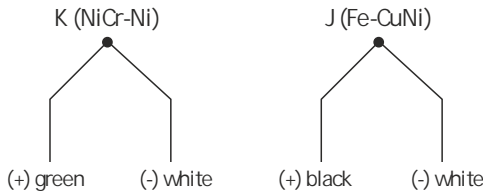


SU
junction
grounded

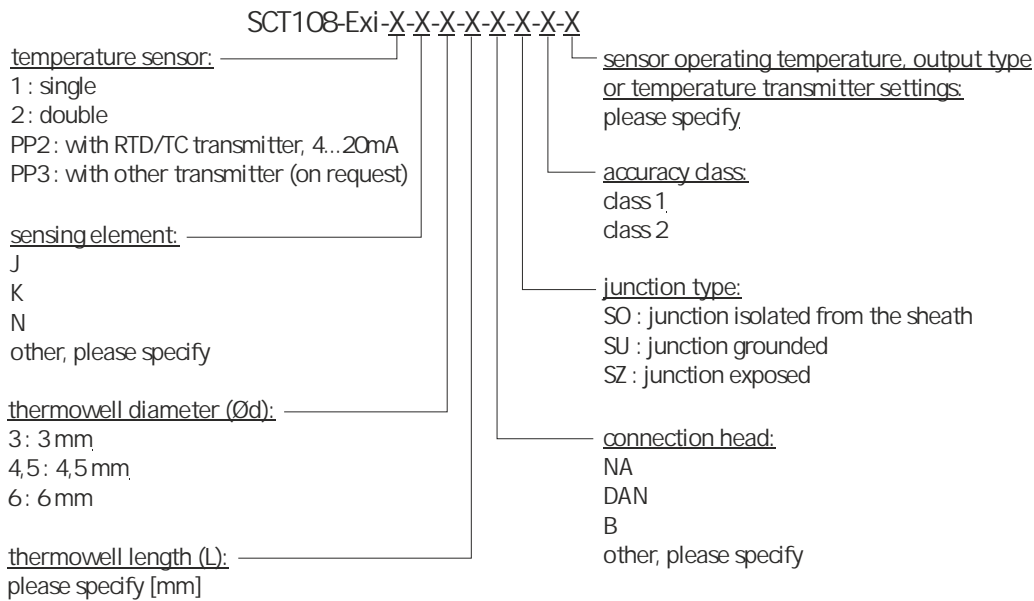


SZ
exposed
junction

ELECTRICAL CONNECTION



ORDERING



Ordering example:

SCT108-Exi-1-K-3-500-B-SO-2-800

Mineral insulated single TC intrinsically safe temperature sensor, K thermocouple, 2 tolerance class, sheath diameter 3 mm, length 500 mm, connection head B type, max. operating temperature 800°C.

