CONTACT TEMPERATURE SENSORS WITH A CABLE

012.10en

DESCRIPTION AND APPLICATION

These temperature sensors are intended for contact surface temperature measurement. The sensors, which are available including the fastening strap are suitable for temperature measurements on piping. The sensor dimmensions make it possible to place the sensor even under the pipe insulation. The standard operating temperature range is -50 to 130 °C. The sensing element is constructed to be isolated from the ambient influence. The sensors can be utilised for any control systems that are compatible with sensing element output signals or output signals quoted in the table of sensing element types. The sensors are designed to be operated in a chemically non-aggressive environment.

ACCESSORIES

- thermal conductive paste up to 200 °C, 5g.

DECLARATION, CERTIFICATES, CALIBRATION

Manufacturer provides **EU Declaration of Conformity**.

Calibration – The final metrological inspection – comparison with standards or working instruments – is carried out for all the products. Continuity of the standards and working measuring instruments is ensured within the meaning of the Section 5 of Act no.505/1990 on metrology. The manufacturer offers a possibility to supply the sensors calibrated in SENSIT s.r.o.'s laboratory (according to requirements of the EN ISO/IEC 17025 standard) or in an Accredited laboratory.

SPECIFICATIONS

Sensor type	NS 150A	NS 151A	NS 152A	NS 350A	NS 351A
Type of sensing element	Ni 1000/5000	Ni 1000/6180	Ni 891	Ni 10000/5000	Ni 10000/6180
Measuring range	-50 to 130 °C				
Maximum measuring DC current	1 mA	1 mA	1 mA	0.3 mA	0.3 mA

Sensor type	NS 153A	PTS 150A	PTS 250A	PTS 350A	HS 150A
Type of sensing element	T1 = Ni 2226	PT 100/3850	PT 500/3850	PT 1000/3850	thermistor NTC 20 kΩ
Measuring range	-50 to 130 °C				
Maximum measuring DC current	0.7 mA	3 mA	1.5 mA	1 mA	10 mW *)

**) maximum power consumption*

Accuracy class **)	Ni sensing elements: B class, $t = \pm (0.4 + 0.007t)$, for $t \geq 0$; $t = \pm (0.4 + 0.028\|t\|)$, for $t \leq 0$ in °C; Pt sensing elements: B class according to EN 60751, $t = \pm (0.3 + 0.005\|t\|)$ in °C NTC 20 kΩ: ± 1 °C for the range 0 to 70 °C
Sensor connection	according to the wiring diagram
Time response sensor type	S 150A $\tau_{0.5} < 10$ sec, $\tau_{0.5} < 45$ sec (on the smooth surface without paste)
Insulation resistance	> 200 MΩ at 500 V DC, 25° ± 3 °C; humidity < 85 %
Ingress protection	IP 65 in accordance with EN 60529, as amended
Material of the case	brass
Lead-in cable	shielded silicone 2 x 0.22 mm2 shielded silicone 4 x 0.15 mm2
Standard length of the cable	2, 5, 10 m
Material of the protection case	POLYAMIDE type S150A
Standard length of the strap	40 cm
Minimum diameter of a pipe	20 mm

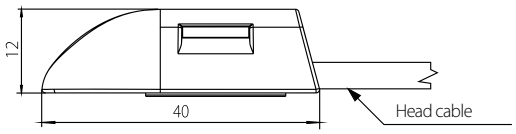
OTHER PARAMETERS

Operating conditions	ambient temperature: -50 to 130 °C relative humidity: max. 100 % (at the ambient temperature 25 °C) atmospheric pressure: 70 to 107 kPa
Weight approximately	0.15 kg

***) Regulated by immersing the sensor in a liquid, an error in method is not considered – the influence of the ambient temperature and environment, uneven surface, etc. In terms of two-wire connections, the impact of the resistance of the lead wire must be added. In a temperature of 20 °C, the impact of the lead resistance is 0.4 °C/1 m.*

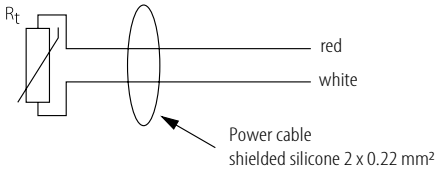
WIRING DIAGRAM

NS 150A



Note: Housing width = 12 mm

DIMENSIONAL DRAFT



MODIFICATION AND CUSTOMIZATION

FOR MANUFACTURED STANDARD SENSORS, THE FOLLOWING PARAMETERS CAN BE MODIFIED:

- option of encasing two sensing elements
- option of encasing non-standard temperature sensors (DALLAS, TSic, KTY, SMT, etc.)
- Accuracy class A (with the exception of sensors Ni 10000/5000, Ni 10000/6180, T1 = Ni 2226, termistor NTC 20 kΩ)
- option of three- or four-wire connection
- various length of the fastening strap