

CONTACT TEMPERATURE SENSOR WITH DISPLAY

D04.04en

DESCRIPTION AND APPLICATION

These fast response resistance temperature sensors with display are designed for contact surface temperature measurement. The sensors, which are available including the fastening strap (40 cm) and a closing device are suitable for temperature measurements on piping. The temperature sensing element is located in a stainless steel stem of length of 50 to 220 mm. The plastic head of the temperature sensor with display is equipped with a cable grommet or a connector; the measured temperature is indicated on the 4-digit display located under the transparent cap of the head.

The temperature sensors with display can be used for any control systems compatible with output signals listed in the table of technical parameters.

The maximum temperature range for current loop setting of the temperature sensors with display is -50 to 150 °C. Within this range, the required operating temperature ranges may be programmed, while the minimum difference between the lower and upper limit of the temperature range is 10 °C. The temperature range of measurement with the temperature sensor with display is -30 to 110 °C and, at the same time, the maximum temperature around the head is -30 to 70 °C and must not be exceeded even for a brief period. The temperature sensors with display meet ingress protection IP 65 according to EN 60529, as amended. The temperature sensors with display are easy to be installed thanks to the unique design of "S-head" made by SENSIT s.r.o.

The sensors are designed to be operated in a chemically non-aggressive environment, the use must be chosen with regard to temperature resistance of the head and the metal cases.



ACCESSORIES

- for the sensor with connector: lead-in connector CONEC 43-00092
- connection cable with the straight-type RKT connector or with the rectangular-type RKWT connector
- thermal conductive paste up to 200 °C, 5 g

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, as amended) or in an Accredited laboratory.

SPECIFICATIONS

Sensor type (K – with a connector)	NSD 540 NSD 540 K	NSD 740 NSD 740 K
Output signal	4 to 20 mA	0 to 10 V
Type of sensing element	Pt 1000/3850, accuracy class B ($\pm 0.3 + 0.005 \times t $) in °C	
Measuring range	adjustable	
Maximum temperature range	-50 to 150 °C	
Measuring error	0.8 % from range, at least 0.5 °C	
Display screen	4-digit LED, character dimension 7.62 x 4.22 mm	
Power Supply U	15 to 30 V DC	
Nominal voltage Un	24 V	
Load resistance	max 250 Ω	min 10 kΩ
Current / voltage when the sensor is interrupted	> 24 mA	> 12 V
Current / voltage when the sensor is short-circuited	< 3 mA	~ 0 V
Material of the head	POLYAMIDE	
Dimension of the head	70 x 63 x 34 mm	
Wire cross-section	0.35 to 1.5 mm ²	

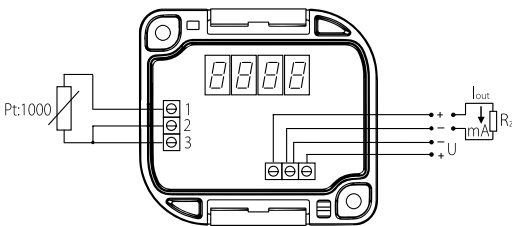
Sensor type (K – with a connector)	NSD 540 NSD 540 K	NSD 740 NSD 740 K
Ingress protection	IP 65 in accordance with EN 60529, as amended	
Cable connection through the grommet M 16 x 1.5 /	through the connector LUMBERG M12	
Ambient temperature around the head	-30 to 70 °C	
Electric strenght	500 V / 50 Hz in accordance with EN 60730-1, as amended	

OTHER PARAMETERS

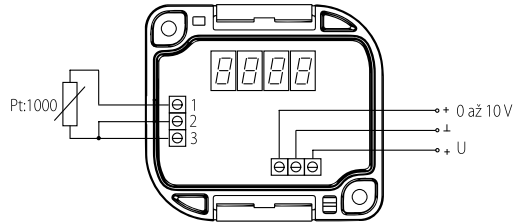
Material of the case	brass
Material of the protection case	POLYAMIDE
Insulation resistance	> 200 MΩ at 500 V DC, 25° ± 3°C, relative humidity < 85 %
Max measuring range	-30 to 110 °C

WIRING DIAGRAM

Output 4 to 20mA

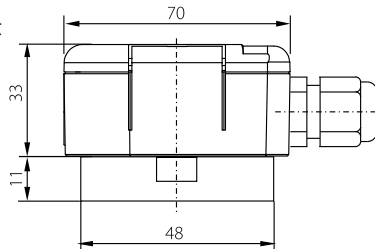


output 0 to 10 V



DIMENSIONAL DRAFT

Sensors with the grommet



Sensors with the connector

