

FAST RESPONSE TEMPERATURE SENSORS WITH DISPLAY

D03.04en

DESCRIPTION AND APPLICATION

These fast response resistance temperature sensors with display are designed for contact temperature measurements of liquid or gaseous substances. The structure of the sensor's stem enables the sensor to be used for direct measuring of the temperature in ducts and also ensures quick response of the sensor to changes in temperature. 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 -50 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 version with connector: lead-in connector CONEC 43-00092
- connection cable with starigt-type RKT connector or with rectangular-type RKWT connector

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 (K – with a connector)	NSD 560 NSD 560 K	NSD 760 NSD 760 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	
Measurement error	0.8 % from the 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	

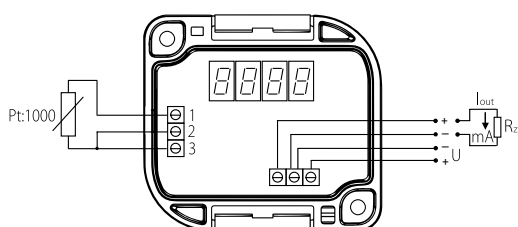
Sensor type (K – with a connector)	NSD 560 NSD 560 K	NSD 760 NSD 760 K
Dimension of the head	70 x 63 x 34 mm	
Wire cross-section	0.35 to 1.5 mm ²	
Ingress protection	IP 65 in accordance with EN 60529	
Cable connection	through the grommet M 16 x 1.5 / through the connector LUMBERG M12	
Ambient temperature around the head	-30 to 70 °C	
Electric strength	500 V / 50 Hz in accordance with EN 60730-1	

OTHER PARAMETERS

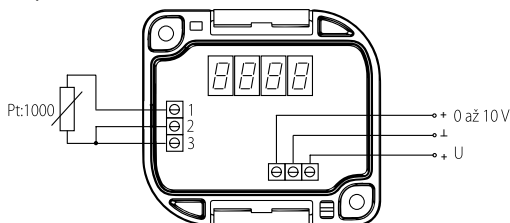
Length of the stem	50, 100, 160 and 220 mm
Diameter of the stem	4 ^{+0.1} mm
Material of the stem	stainless steel DIN 1.4301
Insulation resistance	> 200 MΩ at 500 V DC, 25° ± 3°C, relative humidity < 85 %
Max measurement range	-50 to 110 °C

WIRING DIAGRAM

Output 4 to 20mA

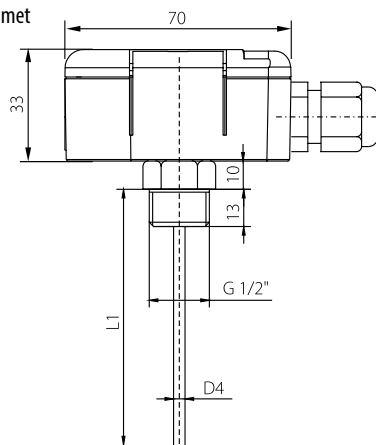


Output 0 to 10V



DIMENSIONAL DRAFT

Sensors with the grommet



Sensors with the connector

