

# TEMP. AND HUMIDITY SENSORS FOR INTERIOR AND OUTDOOR USAGE WITH AN EXTERNAL PROBE AND THE OUTPUTS 4 TO 20 mA

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## DESCRIPTION AND APPLICATION

The programmable sensors enable to measure of temperature and humidity in food, pharmaceuticals and raw material stores, museums, archives, galleries, meteorological stations etc. The measuring sensors are located in an external probe that is connected with a connection head of electronics by a cable. The probe of the sensor is placed to a measured space and cannot be disconnected from the connection head with electronic circuits. The connection head with the sensor electronic is designed for wall mounting. Easy mounting of the temperature sensor is ensured by the unique "S head" design invented by SENSIT s.r.o.

Digital conception with microprocessor provides long-term stability of parameters, temperature compensation of the humidity sensing element and failure state signaling. The most up to date polymeric sensing element for humidity guarantees stability of indication and resistance to condensation water.

Two galvanically separated current signals 4 to 20 mA are available as output signals of the measured variables; the outputs are set by the producer as follows:

**the value on the output I1:** relative humidity, range 4 to 20 mA is related to 0 to 100 % RH

**the value on the output I2:** temperature, range 4 to 20 mA is related to -30 to 105 °C

A calibration sheet is included in the sensor price.

The sensors are designed to be operated in a chemically non-aggressive environment.



## ACCESSORIES

- USB cable SP003

## 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, as amended) or in an Accredited laboratory.

## SPECIFICATIONS

Type of sensor	PTSV 130
Type of sensing element	Pt 1000/3850
Analog outputs	two galvanically separated signals 4 to 20 mA
Current output in the case of error	< 3.8 mA or > 24 mA
Power supply (U)	9 to 30 V DC, maximum ripple 0.5 %
Lengths of cross-connecting cables	2 m a 4 m
Range of temperature measurement*	-30 to 105 °C
Accuracy	± 0.4 °C in the range 0 to 100 °C, otherwise 0.4 % of the measuring value
Range of relative humidity measurement **	0 to 100 % RH (the reading is temperature compensated in all temperature range)
Accuracy	± 2.5 % RH in the range 5 to 95 % RH at 23 °C
Ingress protection	electronics IP 65 in accordance with EN 60529, as amended sensors are placed behind the cover with ingress protection IP 40 in accordance with EN 60529, as amended
Dust filter of the sensors	filtration efficiency 0,025 mm
Operating temperature range of the device	-30 to 80 °C
Operating humidity range of the device	0 to 100 % RH
Working position	the measure stem downwards

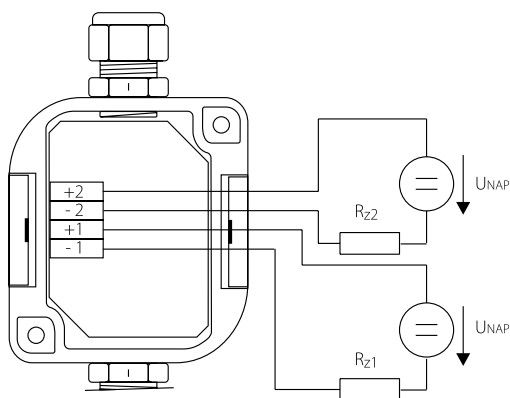
## OTHER PARAMETERS

Elektromagnetische compatibility	in accordance with EN 61326-1, as amended
Storage conditions temperature	-30 to 80 °C, humidity 0 to 100 % RH without condensation
Weight	approximately 200 g a 300 g
Material of the box	POLYAMIDE

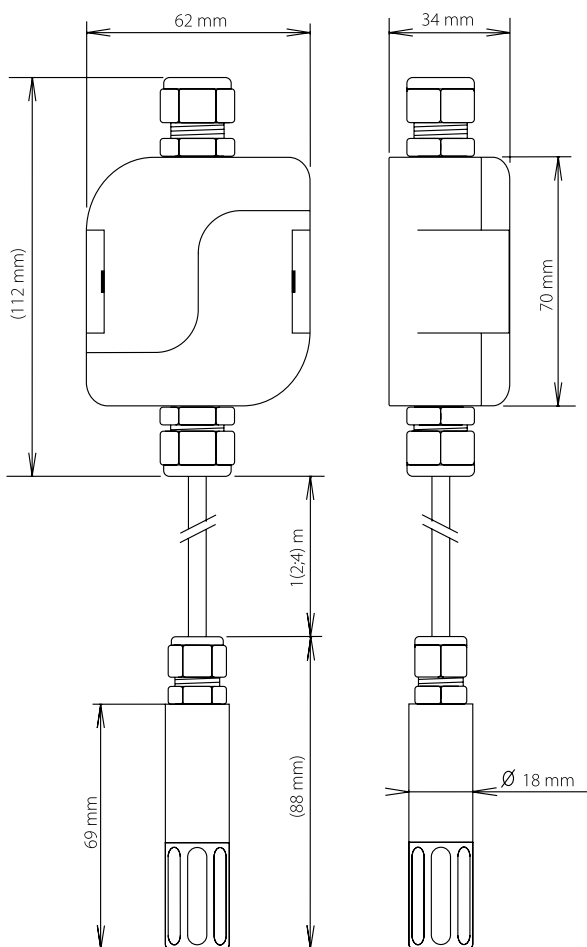
\* Maximum temperature is valid only for the measure ending with the sensing elements. At the temperatures above +85 °C the relative humidity in continuous operation must not go over the allowed limit according to the diagram for the range limitation of temperature and humidity measurements.

*\*\* Any kind of value - temperature, relative humidity, temperature of a condensation point, absolute humidity, specific humidity, proportion of mixture or specific enthalpy can be assigned to the each output of the 2-output-sensor. The same value can be assigned to the both of outputs, too. The outputs are set by the producer for the maximum range. The range of the outputs can be set by user by means of PC using the cable SP003 which is delivered as optional accessory 220 at extra cost. Other than standard setting of outputs (RH, T, Trb, ...) and their ranges is possible - it must be specified in the order.*

## WIRING DIAGRAM



## DIMENSIONAL DRAFT



## LIMITATION OF THE MEASURING RANGE FOR TEMPERATURE AND HUMIDITY

