



DESCRIPTION AND APPLICATION

The programmable sensors are designed to measure of temperature and humidity in food-processing areas, storage rooms of pharmaceutical products and stores for raw materials. Moreover these sensors are perfectly suitable for monitoring temperature and humidity conditions in museum, archives, galleries, meteorological stations etc. The measuring sensors are located in an external remote probe with cable that is connected to an enclosure containing the electronic. The probe of the sensor can not be disconnected from the enclosure with electronic circuits. The enclosure with the sensor electronic is designed for wall mounting. Easy mounting of the temperature sensor is ensured by the unique “S head” design.

The unique design and high quality components ensure a long-term sensor stability. The humidity sensing element is temperature compensated and the sensor provides a signal in the event of a failure. 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 factory set:

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 and program TSensor for sensor configuration by means of USB cable SP003 are included in the sensor price.

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



DECLARATION, CERTIFICATES, CALIBRATION

EC Declaration of Conformity – in accordance with Act No. 22/1997 Coll. as amended for sensors with an output of 4 to 20 mA.

Calibration – the sensors are delivery with a calibration sheet from from producer. Based on customer requirements the sensor can be delivered with a calibration sheet from an accredited laboratory.

SPECIFICATIONS

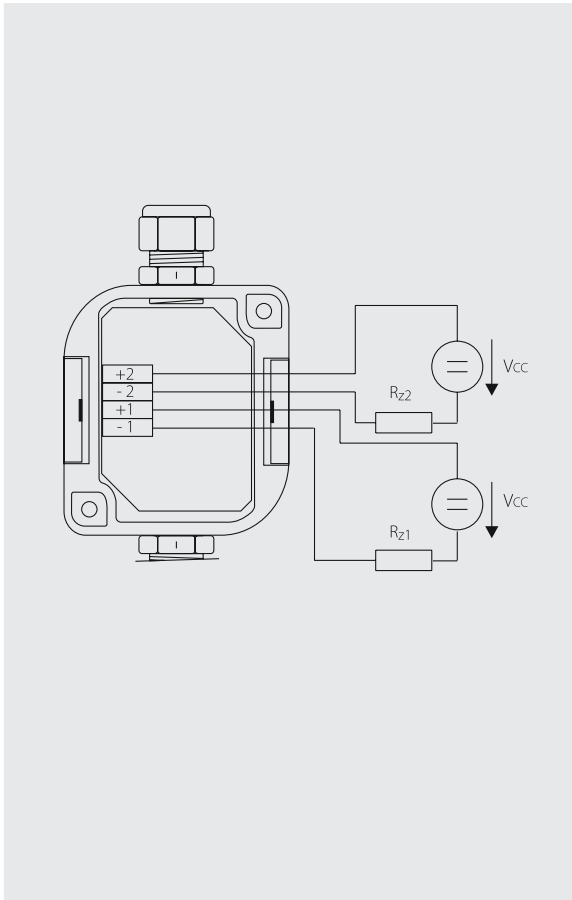
BASIC DATA

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 (Vcc)	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 IP65 according to EN 60 529 sensors are placed behind the cover with ingress protection IP 40 according to EN 60 529
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 should be mounted downwards
Electromagnetic compatibility	in accordance with EN 61326-1
Storage conditions	temperature -30 to 80 °C, humidity 0 to 100 % RH without condensation
Weight	approximately 200 g a 300 g
Material of the enclosure	polyamid

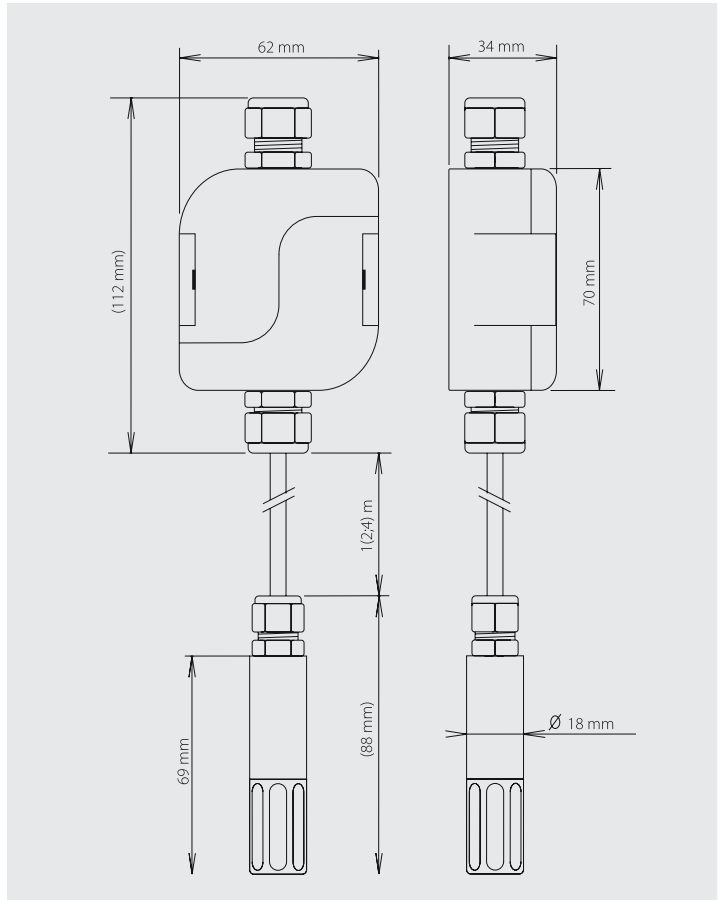
* The maximum temperature as specified above is only valid for the end of the probe, containing the sensing elements. At temperature above +85 °C in continuous operation, the relative humidity conditions should not exceed the limitation of the range, as specified in the diagram on page 124 of this catalog.

** 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 both outputs, as well. The outputs are set factory for the maximum range. The range of the outputs can be adjusted by user by means of PC using the cable SP003 which is delivered as optional accessory at extra cost. Other setting of outputs (RH, T, Trb, ..) and ranges is possible – this should be specified in the order.

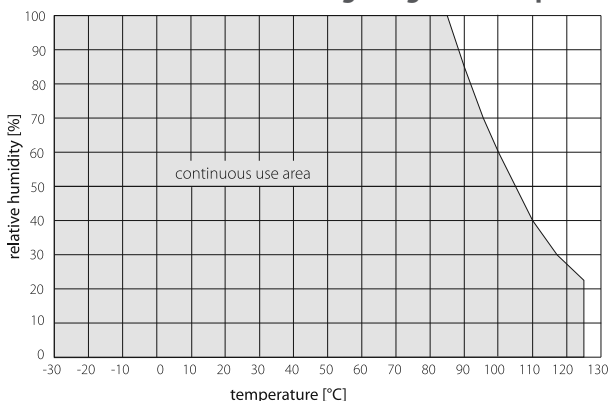
WIRING DIAGRAM



DIMENSIONAL DRAFT



Limitation of the measuring range for temperature and humidity



SENSOR INSTALLATION AND SERVICING

Before connecting the supply lead-in cable, lift off the lid of the plastic enclosure by means of a flat screwdriver. The lead-in cable is connected to the terminals according to the wiring diagram through the loosened grommet. The recommended wire cross section is 0.35 to 1.5 mm², the outer diameter of the circular cross-section cable can range between 4 and 8 mm. To ensure the ingress protection value of IP 65, the grommet has to be tightened and the lid has to be securely closed after connecting the lead-in cable. In case the lead-in cable is located near high voltage conductors or those supplying equipment creating disturbing electromagnetic field (e.g. inductive load equipment), a shielded cable should be used. In case of using a holder this accessory should be mounted first in the location where the temperature will be measured, prior to mounting the actual sensors. After installing and connecting the sensor to the appropriate evaluating electrical equipment the sensor is ready to use. The sensor does not require any special attendance or maintenance. The device can be operated in any working position, but the grommet should not be directed upwards. Sensors are mounted in any working position directly on flat surface by means of two screws of diameter 4.0 mm in the openings placed in head corners. The dimension 13 mm (distance to the barrier in the enclosure) must be added to the necessary length for fastening to a basis. To ensure the tightness it is necessary to tighten the grommet carefully after connecting the cable. During closing of the head by means of the lid the clips should be snapped in the proper position.