

TUTSN | TEMPERATURE PROBE

Mounting and operating instructions



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SAFETY AND PRECAUTIONS



Read all the information, the datasheet, Modbus map, mounting and operating instructions and study the wiring and connection diagram before working with the product. For personal and equipment safety, and for optimum product performance, make sure you entirely understand the contents before installing, using or maintaining this product.



For safety and licensing (CE) reasons, unauthorised conversion and /or modifications of the product are inadmissible.



The product should not be exposed to abnormal conditions, such as extreme temperatures, direct sunlight or vibrations. Long-term exposure to chemical vapours in high concentration can affect the product performance. Make sure the work environment is as dry as possible; avoid condensation.



All installations shall comply with local health and safety regulations and local electrical standards and approved codes. This product can only be installed by an engineer or a technician who has expert knowledge of the product and safety precautions.



Avoid contacts with energised electrical parts. Always disconnect the power supply before connecting, servicing or repairing the product.



Always verify that you apply appropriate power supply to the product and use appropriate wire size and characteristics. Make sure that all the screws and nuts are well tightened and fuses (if any) are fitted well.



Recycling of equipment and packaging should be taken into consideration and these should be disposed of in accordance with local and national legislation / regulations.



In case there are any questions that are not answered, please contact your technical support or consult a professional.

PRODUCT DESCRIPTION

The TUTSN passive temperature probe provides extremely stable information about the temperature in ducts thanks to the sensitive platinum element, which is safely placed in a plastic housing. The flying leads are ready for immediate connection while the sensors are equipped with an adjustable flange suitable for a wide range of ducts (circular as well as rectangular).

ARTICLE CODES

| Code | Temp. sensor element | Duct diameter | Plastic tube length |
|-----------------------|----------------------|---------------|---------------------|
| TUTSN-P500-150 | PT500 | < 300 mm | 150 mm |
| TUTSN-P500-250 | PT500 | > 300 mm | 250 mm |
| TUTSN-P1K0-150 | PT1000 | < 300 mm | 150 mm |
| TUTSN-P1K0-250 | PT1000 | > 300 mm | 250 mm |

INTENDED AREA OF USE

- Controlled ventilation in buildings for maintaining temperature levels
- Non-corrosive, dry environment
- Duct and air temperature measurement systems

TECHNICAL DATA

- Temperature measurement range: -50—80 °C*
- Tolerance class: F0.3
- Measurement current (DC):
 - ▶ 0,1—0,3 mA (PT500)
 - ▶ 0,1—0,4 mA (PT1000)
- Self-heating: ≤ 0,5 K/mW in air flow of 1 m/s
- Flying leads:
 - ▶ Length: 1,0 m
 - ▶ Cross section: 0,5 mm²
 - ▶ Tensile forces: < 5 N
- Tube housing:
 - ▶ ASA, grey (RAL9002)
 - ▶ IP30 (according to EN 60529)
- Fixing flange:
 - ▶ PE, black (RAL9004)
 - ▶ IP20 (according to EN 60529)
- Installation ambient conditions:
 - ▶ installation temperature: > -5 °C
 - ▶ Operating ambient conditions:
 - ▶ temperature: -50—80 °C*
 - ▶ rel. humidity: < 95 % rH (non-condensing)
- Storage temperature: -30—50 °C

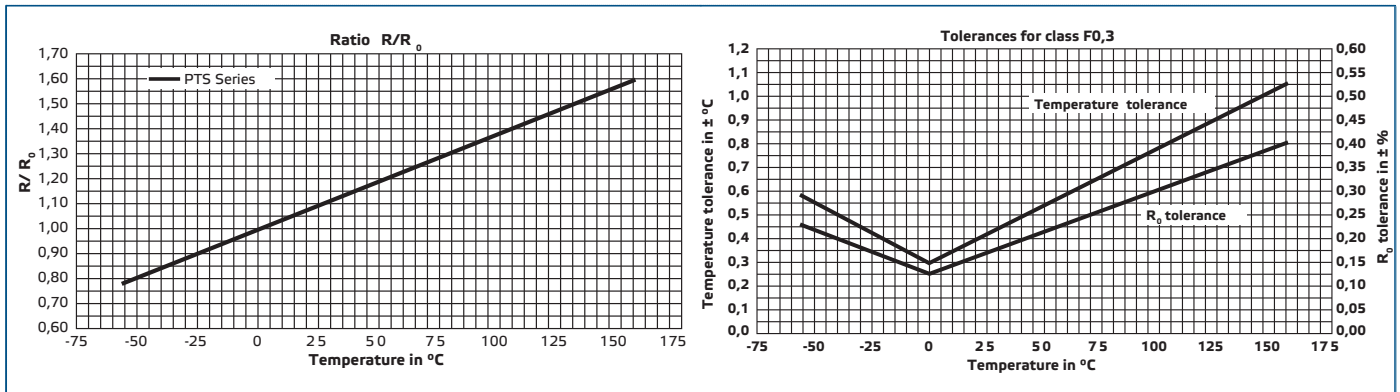
*The leads need additional insulation when the ambient temperature is outside the range of -30—50 °C

STANDARDS

- CE conformity
- Restriction of the use of Hazardous Substances Directive (RoHS 2)
- Waste Electrical and Electronic Equipment Directive (WEEE) 2012/19/EU
- IEC 60751/DIN EN 60751



OPERATIONAL DIAGRAMS



WIRING AND CONNECTIONS

Connections

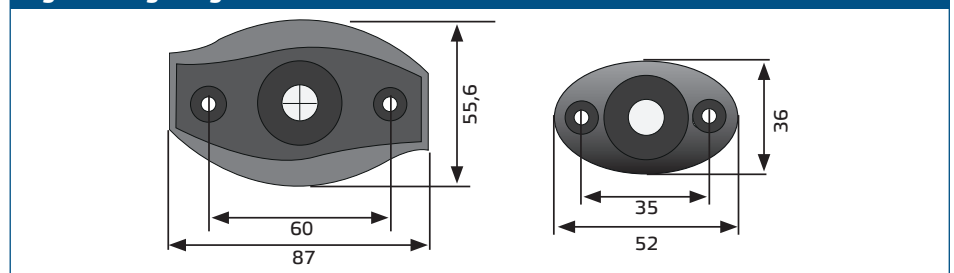
Cable cross section: max. 0,5 mm²

MOUNTING & OPERATING INSTRUCTIONS IN STEPS

Before you start mounting the unit read carefully **“Safety and Precautions”**. Then proceed with the following mounting steps:

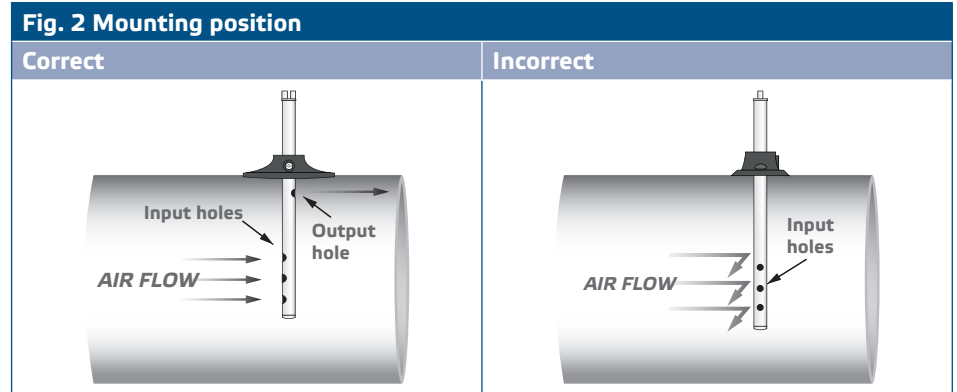
1. Switch off the power supply of your control equipment.
2. Choose a suitable place on the duct to install the probe.
3. Drill an airtight hole in the duct through which you insert the plastic sensor housing
 - TUTSN-PXX0-150: 13mm ≤ \varnothing ≤ 17mm
 - TUTSN-PXX0-250: 13mm ≤ \varnothing ≤ 26mm
4. Fix the adjustable flange (**Fig. 1**) on the duct using suitable screws (not included). The screw head diameter can be max. 10 mm for TUTSN-PXX0-150 and max. 11 mm for TUTSN-PXX0-250.

Fig. 1 Fixing flanges



5. Insert the tube through the flange at the desired depth in the duct. Fix the tube

using the screw already provided in the flange. To obtain optimum performance of the probe, we recommend to position the three input holes in the middle of the duct. The air must flow through the 3 holes of the sensor tube (see **Fig. 2**). The airflow direction must absolutely be taken into account when installing this probe.



6. Install and connect the cables with a drip loop.

ATTENTION

Installation of the unit near high EMI-emitting devices may lead to faulty measurements. Use shielded wiring in areas with high EMI.

ATTENTION

Keep 15 cm (5,9") minimal distance between the sensor lines and the 230 VAC power lines.

7. Switch on the power supply of the connected unit.

TRANSPORT AND STORAGE

Avoid shocks and extreme conditions; stock in original packing.

WARRANTY AND RESTRICTIONS

Two years from the delivery date against defects in manufacturing. Any modifications or alterations to the product after the date of publication relieve the manufacturer of any responsibilities. The manufacturer bears no responsibility for any misprints or mistakes in this data.

MAINTENANCE

In normal conditions this product does not require maintenance. When contaminated wipe with a dry or damp cloth. In case of heavy pollution, clean with a non-aggressive agent. In this case, the device should be disconnected from power supplies. Note that no liquid should enter the device. Only connect the appliance to the power supply when it is completely dry.

