ROTSN-P | ROOM TEMPERATURE SENSOR

Mounting and operating instructions

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SAFETY AND PRECAUTIONS

Read all the information, the datasheet, 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 our technical support or consult a professional.

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ROTSN-P

SENTERA
C O N T R O L S

PRODUCT DESCRIPTION

The ROTSN passive temperature probes feature outstanding stability of the temperature characteristics thanks to the platinum sensor element used. They have a positive temperature coefficient of resistance: when the temperature rises, the resistance rises. The sensor element is soldered on a printed circuit board and is mounted in a plastic housing. It is designed to be connected with shielded cable, grounded on the other side of the line.

ARTICLE CODES

	ROTSN-P100	ROTSN-P500	ROTSN-P1K0
Resistance at 0 ºC	100 Ω	500 Ω	1,000 Ω
Measurement current (DC)	0,1—1,0 mA	0,1—0,40 mA	0,1—0,25 mA
Self-heating	≤ 0,8 ºC/mW	≤ 0,8 ºC/mW	≤ 0,7 ºC/mW
Thermal response time flowing air	T0,5 ≤ 1,5 s T0,9 ≤ 8,0 s	T0,5 ≤ 1,5 s T0,9 ≤ 8,0 s	T0,5 ≤ 0,3 s T0,9 ≤ 0,4 s

NOTE: "T0,5" means the time elapsed to respond to 50% of a step change in temperature. "T0,9" means the time elapsed to respond to 90 % of a step change in temperature.

INTENDED AREA OF USE

- HVAC applications for temperature measurements
- For indoor use only

TECHNICAL DATA

- Positive temperature coefficient
- Connection for shielded cables
- Cable cross section: 1,5 mm²
- Enclosure:
  - ▶ rear plate: plastic ABS, black (RAL 9004)
  - ▶ front cover: ASA, ivory (RAL 9010)
- Protection standard: IP30 (according to EN 60529)
- Operating ambient conditions:
  - ▶ temperature: 0—50 ºC
  - ▶ rel. humidity: 5—85 % rH, (non-condensing)
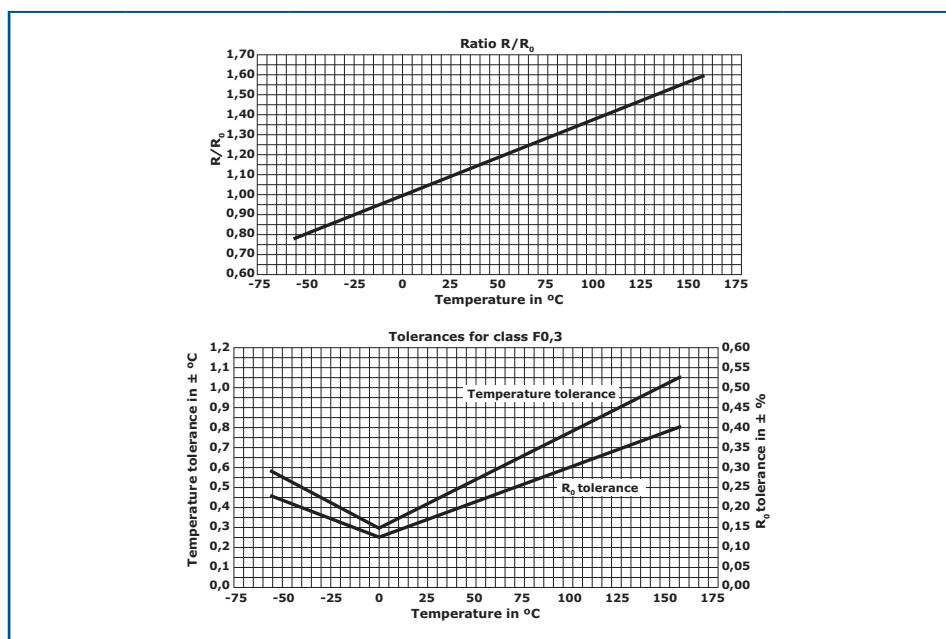- Storage temperature: -10—60 ºC

STANDARDS

- Low Voltage Directive 2006/95/EC
- DIN / IEC 60751
- WEEE 2012/19/EC
- RoHs Directive 2011/65/EC

CE

ROTSN-P | ROOM TEMPERATURE SENSOR

SENTERA CONTROLS

WIRING AND CONNECTIONS

T1	Temperature sensor pin 1
T2	Temperature sensor pin 2
SH	Cable shield connection
Connections	Cable cross section: 1,5 mm²

RESISTANCE AND TOLERANCE VALUES

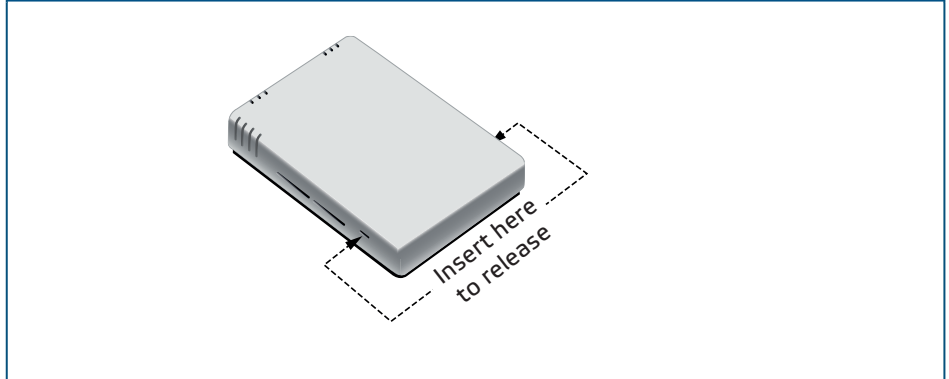| Temp. °C	R/R_0 ratio	Nominal resistance values			Class F0.3
		R_0 100 Ω	R_0 500 Ω	R_0 1000 Ω	T_{tol} °C
-20	0,92160	92,16	460,80	921,60	±0,40
-15	0,94124	94,12	470,62	941,24	±0,38
-10	0,96086	96,09	480,43	960,86	±0,35
-5	0,98044	98,04	490,22	980,44	±0,33
0	1,00000	100,0	500,00	1000,00	±0,30
5	1,01953	101,95	509,76	1019,53	±0,33
10	1,03903	103,90	519,51	1039,03	±0,35
15	1,05849	105,85	529,25	1058,49	±0,38
20	1,07794	107,79	538,97	1077,94	±0,40
25	1,09735	109,73	548,67	1097,35	±0,43
30	1,11673	111,67	558,36	1116,73	±0,45
35	1,13608	113,61	568,04	1136,08	±0,48
40	1,15541	115,54	577,70	1155,41	±0,50
45	1,17470	117,47	587,35	1174,70	±0,53
50	1,19397	119,40	596,99	1193,97	±0,55
55	1,21321	121,32	606,60	1213,21	±0,58
60	1,23242	123,24	616,21	1232,42	±0,60

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MOUNTING INSTRUCTIONS IN STEPS

Before you start mounting the ROTSN-P, read carefully **"Safety and Precautions"**. Choose a smooth surface (a wall, panel and etc.).
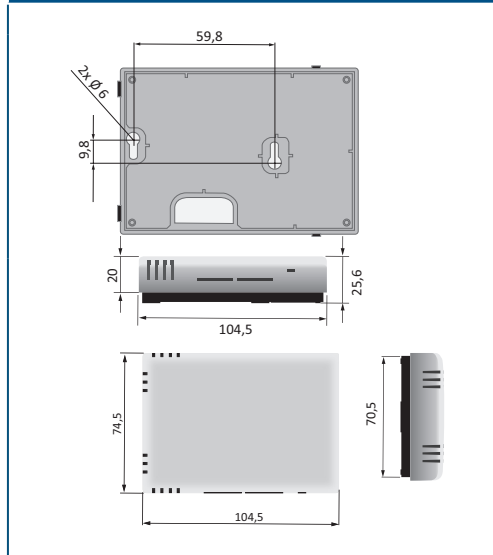
Follow these steps:

1. Using a flat screwdriver, remove the front white cover by releasing the snap-fits on its both sides (See **Fig. 1** *Snap-fits release*).
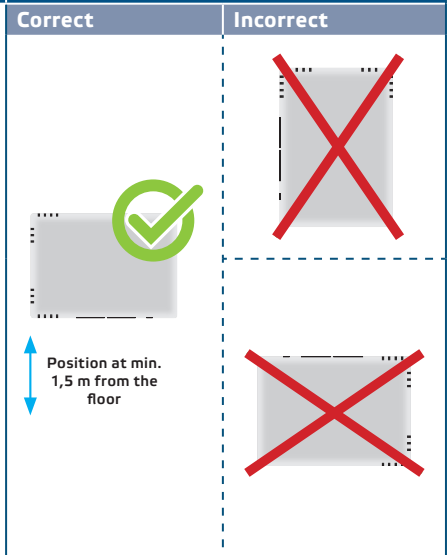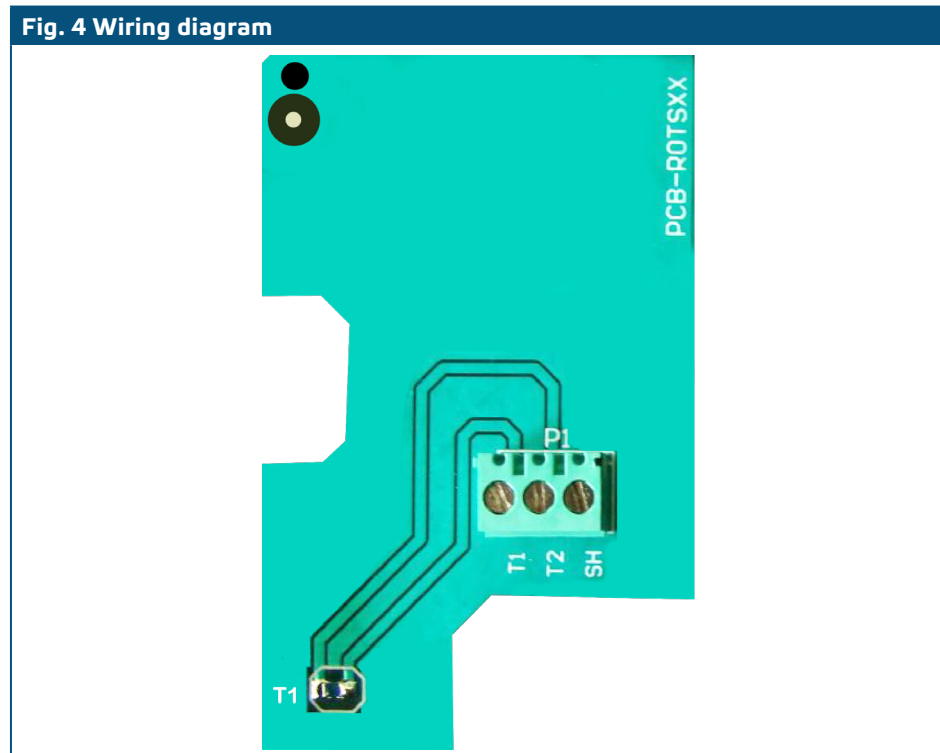
Fig. 1 Snap-fits release

3. Insert the cables through the opening on the rear plate and do the wiring - see **Fig. 2** *Mounting dimensions* and **Fig. 4** *Wiring diagram*.
4. Using suitable fastening materials (not supplied), position the room sensor at least 1,5 m from the floor. When planning the installation, allow enough clearance for maintenance and service. Mount the sensor in a well-ventilated area. Mind the correct mounting position and unit dimensions. See **Fig. 2** and **Fig. 3**.

Fig. 2 Mounting dimension

Fig. 3 Mounting position

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Fig. 4 Wiring diagram

5. Put back the cover and snap it in.

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 is maintenance-free. If soiled, clean with a dry or damp cloth. In case of heavy pollution, clean with a non-aggressive product. In these circumstances the unit should be disconnected from the supply. Pay attention that no fluids enter the unit. Only reconnect it to the supply when it is completely dry.