

ROTSN-P

Room temperature sensor



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.



Key features

- Low profile housing with covered screws
- Positive temperature coefficient
- Connection for shielded cables
- Long-term stability

Technical specifications

Long-term stability	< ±0,04 %	
Insulation resistance	> 10 MΩ	
Cable cross section	1,5 mm ²	
Protection standard	IP30	
Ambient conditions	Temperature	-20—60 °C
	Rel. humidity	< 95 % rH (non-condensing)

Article codes

	ROTSN-P100	ROTSN-P500	ROTSN-P1000
Resistance at 0 °C	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 K/mW	≤ 0,8 K/mW	≤ 0,7 K/mW
Thermal response time flowing water	t _{0,5} ≤ 0,2 s	t _{0,5} ≤ 0,2 s	t _{0,5} ≤ 0,3 s
	t _{0,9} ≤ 0,3 s	t _{0,9} ≤ 0,3 s	t _{0,9} ≤ 0,4 s
Thermal response time flowing air	t _{0,5} ≤ 1,5 s	t _{0,5} ≤ 1,5 s	t _{0,5} ≤ 0,3 s
	t _{0,9} ≤ 8,0 s	t _{0,9} ≤ 8,0 s	t _{0,9} ≤ 0,4 s

Area of use

- HVAC applications for temperature measurements

Wiring and connections

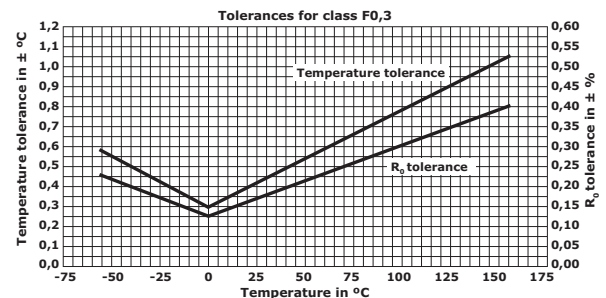
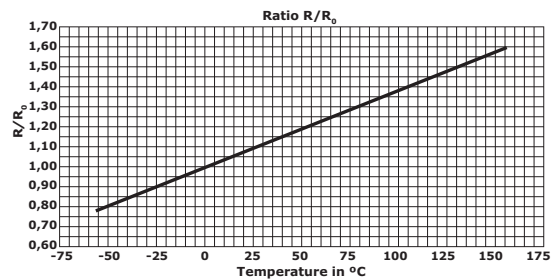
T1	Temperature sensor pin 1
T2	Temperature sensor pin 2
SH	Cable shield connection
Connections	Cable cross section: 1,5 mm ²

Standards

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



Resistance and tolerance values



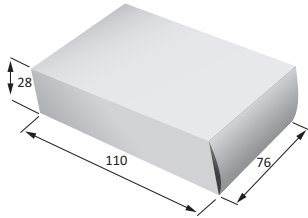
Temp. °C	R/R ₀ ratio	Nominal resistance values			Class F0.3
		R ₀ 100 Ω	R ₀ 500 Ω	R ₀ 1000 Ω	T _{tol} °C
-20	0,92160	92,16	460,80	921,60	±0,40
-15	0,94124	94,12	470,62	941,24	±0,38
-10	0,96086	96,09	480,43	960,86	±0,35
-5	0,98044	98,04	490,22	980,44	±0,33
0	1,00000	100,0	500,00	1000,00	±0,30
5	1,01953	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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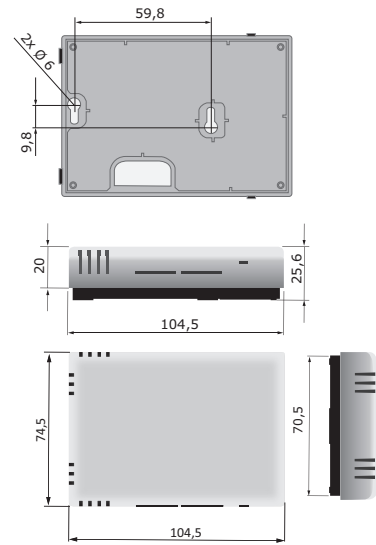


Packaging



Article	Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
ROTSN-P100	Unit (1 pc.)	110	76	28	0,054 kg	0,072 kg
	Carton (24 pcs.)	492	182	84	1,30 kg	1,86 kg
	Box (144 pcs.)	514	414	274	7,78 kg	12,13 kg
ROTSN-P500	Unit (1 pc.)	110	76	28	0,054 kg	0,072 kg
	Carton (24 pcs.)	492	182	84	1,30 kg	1,86 kg
	Box (144 pcs.)	514	414	274	7,78 kg	12,13 kg
ROTSN-P1K0	Unit (1 pc.)	110	76	28	0,054 kg	0,072 kg
	Carton (24 pcs.)	492	182	84	1,30 kg	1,86 kg
	Box (144 pcs.)	514	414	274	7,78 kg	12,13 kg

Fixing and dimensions



Global trade item numbers (GTIN)

Article	Unit	Carton	Box
ROTSN-P100	05401003011249	05401003301722	05401003502549
ROTSN-P500	05401003011263	05401003301746	05401003502563
ROTSN-P1K0	05401003011256	05401003301739	05401003502556