

FSTSN-P500-010

Temperature probe



The FSTSN-P500-010 braided shielded passive temperature probes feature an outstanding stability of temperature characteristics thanks to their platinum sensor element. The shield acts as a Faraday cage to reduce electrical noise and electromagnetic radiation. The sensor element is resin encapsulated in a stainless steel tube. These temperature sensors have a positive temperature coefficient of resistance: when the temperature rises, the resistance rises.

Key features

- Shield composed of braided strands of tinned copper
- Resin encapsulated sensor element in a stainless steel tube
- Positive temperature coefficient
- Long-term stability

Technical specifications

Long-term stability $\Delta R_0/R_0$; R_0 change after 1000 h at +155 °C			$< \pm 0,04 \%$
Insulation resistance			$> 10 \text{ M}\Omega$
Resistance at 0 °C			500 Ω
Flying leads	Length	900 mm	
	Cross section	0,5 mm ²	
Ambient conditions	Temperature	-20—60 °C	
	Rel. humidity	$< 95 \%$ rH (non-condensing)	
Current consumption (DC)*			0,1—0,4 mA
Self-heating**			$\leq 0,8 \text{ K/mW}$
Thermal response time	Flowing water ($v = 0,4 \text{ m/s}$)	$t_{0,5} \leq 0,2 \text{ s}$ $t_{0,9} \leq 0,3 \text{ s}$	
	Flowing air ($v = 0,3 \text{ m/s}$)	$t_{0,5} \leq 1,5 \text{ s}$ $t_{0,9} \leq 3,0 \text{ s}$	

* The current consumption during continuous use causes self-heating of less than 0,1 °C;

**Valid for sensor element only.

Area of use

- HVAC applications for temperature measurements

Standards

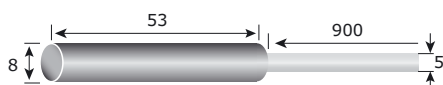
- Low Voltage Directive 2006/95/EC: EN 60335-1:2012 to EN 603351:2012



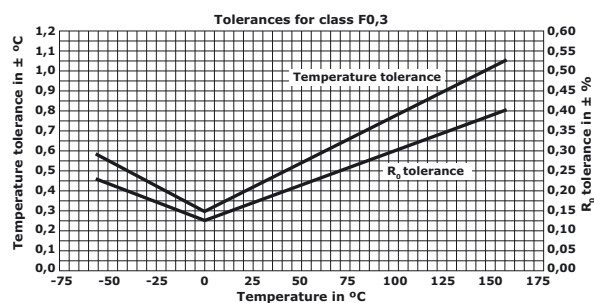
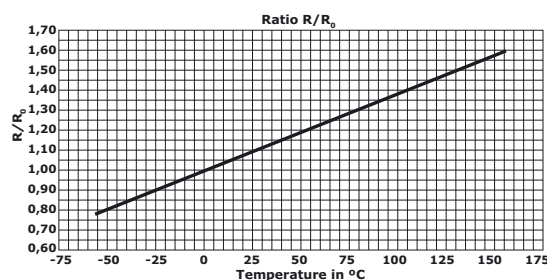
- WEEE Directive 2012/19/EC

- RoHS Directive 2011/65/EC

Dimensions



Resistance and tolerance values



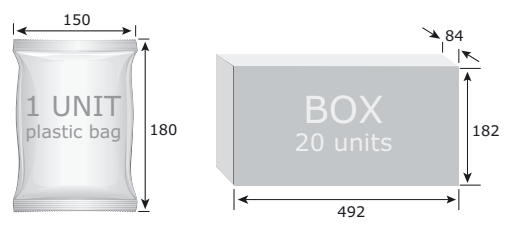
Temp. °C	R/R ₀ ratio	Nominal resistance values R ₀ Ω	Class F0.3
			T _{tol.} °C
-20	0,92160	460,80	± 0,40
-15	0,94124	470,62	± 0,38
-10	0,96086	480,43	± 0,35
-5	0,98044	490,22	± 0,33
0	1,00000	500,00	± 0,30
5	1,01953	509,76	± 0,33
10	1,03903	519,51	± 0,35
15	1,05849	529,25	± 0,38
20	1,07794	538,97	± 0,40
25	1,09735	548,67	± 0,43
30	1,11673	558,36	± 0,45
35	1,13608	568,04	± 0,48
40	1,15541	577,70	± 0,50
45	1,17470	587,35	± 0,53
50	1,19397	596,99	± 0,55
55	1,21321	606,60	± 0,58
60	1,23242	616,21	± 0,60

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Packaging



Packaging	Length [mm]	Width [mm]	Height [mm]	Net weight	Gross weight
Bag (1 pc.)	150	20	180	0,048 kg	0,050 kg
Box (20 pcs.)	492	84	182	0,96 kg	1,00 kg