

NTC Thermistors, Immersion Temperature Sensor, Screw Threaded



LINKS TO ADDITIONAL RESOURCES



DESCRIPTION

Thermistor NTC sensor to acquire the medium temperature in heat pumps, heat exchangers, storage tanks, boilers. The sensor is for a direct immersion into the medium and is screwed to the threaded hole. A heat-resistant O-ring is to be used for the sealing.

QUICK REFERENCE DATA		
PARAMETER	VALUE	UNIT
Resistance value at 25 °C	10K	Ω
Tolerance on R_{25} -value	± 2	%
$B_{25/85}$ -value	3984	K
Tolerance on $B_{25/85}$ -value	± 0.5	%
Thermal time constant at 63.2 % (25 °C to 85 °C water)	20	s
Operating temperature range at zero power	-25 to +125	°C
Min. dielectric withstanding voltage between the metallic housing and the terminals/NTC	500	V _{AC}
Maximum power dissipation	150	mW
Climatic category (IEC 60539)	25 / 125/ 56	

FEATURES

- Immersion sensor
- Rugged construction
- High grade stainless steel housing (316L / V4A)
- The sensor housing has a M8-6g screw thread and is mounted with a spanner size 12
- Connector Molex 39-01-2026 or equivalent
- RoHS-, REACH-, and SVHC-compliant. (e3) termination
- Halogen-free cable, with electron-beam cross-linked lead wire with improved fire performance and increased resistance to temperature and good oil resistance
- PVC-free
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912


RoHS
COMPLIANT

APPLICATIONS

Sensor used for temperature sensing and control in:

- Heat pumps
- Water boilers
- Heating systems
- Water and used water systems
- Water and oil tanks
- Consumer appliances
- Industrial appliances
- Solar heating systems
- Buildings

MOUNTING

- O-ring
- Cable allowed bending radius: 4 x outer diameter
- Electrical connection to the counter-connector
- Use spanner size 12

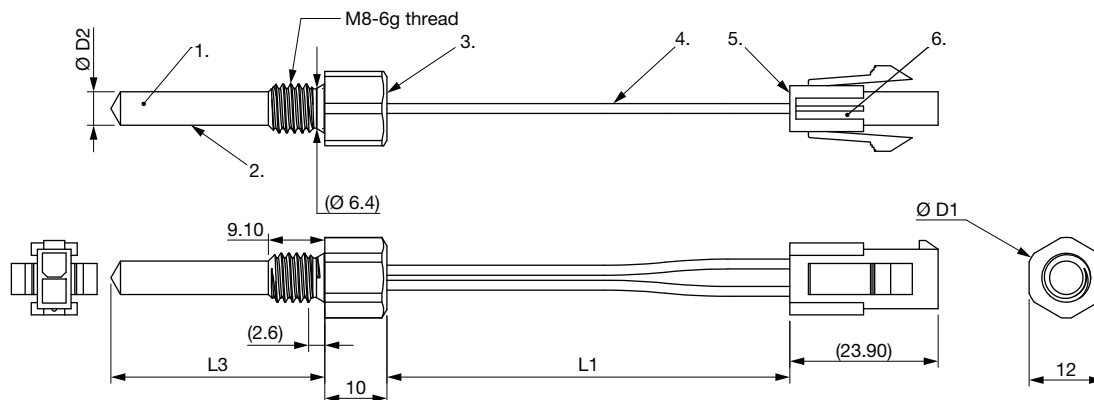
DESIGN-IN SUPPORT

- Other resistance curves and tolerances are available on request
- 3D solid models: www.vishay.com/doc?29253
- NTC curve computation: www.vishay.com/thermistors/ntc-rt-calculator/

ELECTRICAL DATA AND ORDERING INFORMATION					
R_{25} (Ω)	R_{25} -TOL. (± %)	$B_{25/85}$ (K)	$B_{25/85}$ -TOL. (± %)	SAP MATERIAL AND ORDERING NUMBER	DESCRIPTION
10 000	2	3984	0.5	NTCASCW78A103GA	NTC screw 10K 2 % 91 mm M8 SS316L lead (Pb)-free

Note

- Other resistance and tolerance values available

DIMENSIONS in millimeters


L1	L3	$\varnothing D1$	$\varnothing D2$
91 ± 5	34.5 ± 0.5	13 ± 0.2	5.4 ± 0.1

Notes

1. Thermistor NTC position
 2. High grade stainless steel 316L
 3. Epoxy potting
 4. Cable PEX insulated
 5. Connector terminals MOLEX 39-00-0061 or JS-4202-T / Mini-Fit Male Crimp Terminal, Tin
 6. Connector housing MOLEX 39-01-2026 or JS-4202-H-02 / Mini-Fit Jr. Plug Housing, Dual Row, 2 Circuits, UL 94 V-0, with Panel Mounting Ears
- Available without connector or with another connector type
 - Detailed mounting drawing available on request.
- For 3D solid model please see www.vishay.com/doc?29253

RELIABILITY DATA

TEST	CONDITIONS	$\Delta R_{25}/R_{25}$ (TYPICAL)
Dry heat storage (steady state) IEC 60068-2-2	T = 125 °C t = 1000 h	< 3 %
Damp heat storage (steady state) IEC 60068-2-78	T = 85 °C (air) 85 % RH t = 56 days	< 3 %
Rapid temperature cycling (air) IEC 60068-2-14	T1 = -40 °C T2 = 125 °C t < 30 s 1000 cycles	< 3 %



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