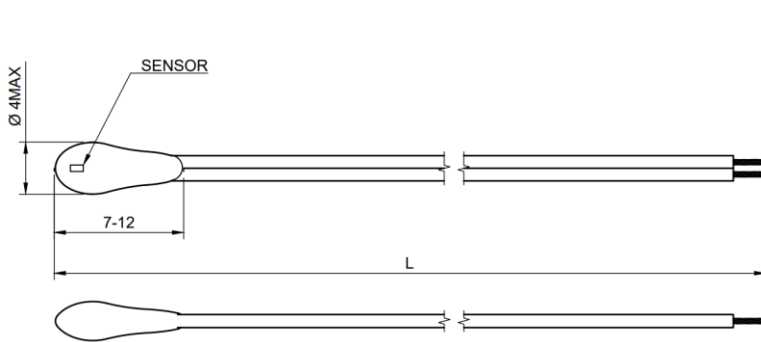


### DESCRIPTION

NTC Thermistor assembled with 26 AWG PVC INSULATED BLACK TWIN WIRE (UL2651 105°C Rated). Thermistor encapsulated with special epoxy for moisture protection.



### SPECIFICATIONS

SL NO	PARAMETER	VALUE	UNIT
1	Resistance at 25°C	10	KΩ
2	Resistance Tolerance	±1	%
3	Beta Value (25/85)°C	3977	K
4	Beta Tolerance	±1	%
5	Insulation Resistance	100	MΩ
6	Isolation Strength	1500	Vac
7	Response Time	6	Sec
8	Length	100 to 3000	mm
9	Storage Temperature	-40 to 85	°C
10	Operating temperature	-40 to +105	°C

### FEATURES

- High Stability & reliability
- Rugged construction
- Flame Resistant and Retardant
- Fast response
- High measuring accuracy
- Easy to install
- Complaint to RoHS Directive 2015/863/EU.

### APPLICATIONS

- Temperature sensing in motor windings
- HVAC applications
- Power Electronics
- EV Battery Pack Temperature Sensing
- Heating / Cooling Devices
- Boiler Systems Appliances.
- Monitor and control blade temperatures to allow turbines automated on/off controls to respond quickly.

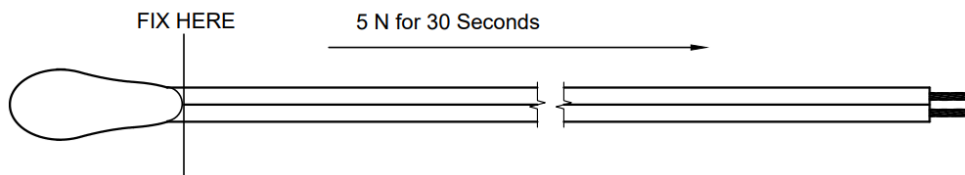
RELIABILITY SPECIFICATION

Description	Test Conditions	Characteristics Drift
<b>Dry Heat Test</b>	Elements are placed in a oven of temp. at 200°C± 5°C for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	ΔR after test are less than ± 3%. ΔB after test are less than ± 2%.
<b>Cold Test</b>	Elements are placed in an oil bath of temperature at -30°C± 5°C for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	ΔR after test are less than ± 3%. ΔB after test are less than ± 2%.
<b>Thermal Shock Test</b>	-30°C(Air Chamber,3 minute) -> RT(Air, under 1min) -> 90°C(Air Chamber, 3 minute) for 1000 cycle. After test the elements are stored in room temperature for one hour.	ΔR after test are less than ± 3%. ΔB after test are less than ± 2%.
<b>Damp Heat Test</b>	Elements are placed in a chamber of temp. at 60°C± 2°C and 90~95%RH for 1000 (+48, -0)hr. After test the elements are stored in room temperature for one hour.	ΔR after test are less than ± 3%. ΔB after test are less than ± 2%.

Mechanical Test

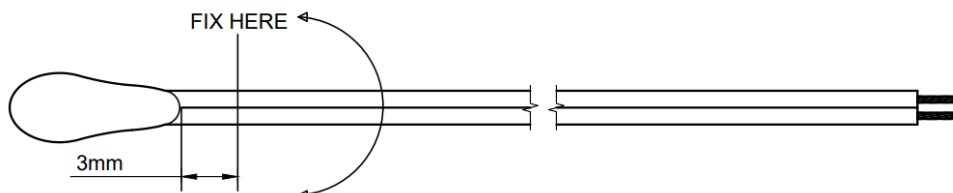
1.Terminal tensile strength test

Load tensile stress of 5N to axial direction slowly and keep it for 30±5 sec. after the test characteristics, appearance and shape shall not change.



2.Terminal bending test

Lead wire will be fixed at 3mm from its probe end. Apply load of 5N to lead wire so that it makes 90 degree. Then put it back to original position. After two times of this action, characteristics, appearance of sensor shall not change.



**PART LIST**

Ordering Part Number	R <sub>25</sub>		B25/85		Curve Type	Wire Length (mm)
	kΩ	± %	K	± %		
TNA-E-103R1BD L301	10	1	3977	1	D	300±10
TNA-E-103R1BD L501	10	1	3977	1	D	520±10
TNA-E-103R1BD L581	10	1	3977	1	D	580±10
TNA-E-103R1BD L701	10	1	3977	1	D	700±10
TNA-E-103R1BD L751	10	1	3977	1	D	750±10
TNA-E-103R1BD L102	10	1	3977	1	D	1000±10
TNA-E-103R1BD L152	10	1	3977	1	D	1500±15
TNA-E-103R1BD L202	10	1	3977	1	D	2000±15
TNA-E-103R1BD L272	10	1	3977	1	D	2750±15

**PART NUMBER SYSTEM**

**T N A E A 103 R1 BD LXXX**

**THERMOSEN**
**NTC**
**ASSEMBLY**
**EPOXY TYPE**
**CONSTRUCTION**
**RESISTANCE VALUE**
*(Eg: 103 for 10kΩ (10x10<sup>3</sup>), 104 for 100kΩ (10x10<sup>4</sup>))*
**RESISTANCE TOLERANCE**
**B VALUE CODE**
*(Eg: BA-3645, BB-3802, BC-3435, BD-3977, etc.)*
**LENGTH**
*(Eg: 101 for 100mm (10x10<sup>1</sup>), 102 for 1000mm (10x10<sup>2</sup>))*
**RT CHART**

T (°C)	R (kΩ)	T (°C)	R (kΩ)	T (°C)	R (kΩ)
-40	333.562	10	19.902	60	2.487
-35	241.072	15	15.713	65	2.082
-30	176.082	20	12.493	70	1.751
-25	129.925	25	10.000	75	1.480
-20	96.807	30	8.056	80	1.256
-15	72.809	35	6.530	85	1.070
-10	55.253	40	5.325	90	0.916
-5	42.292	45	4.367	95	0.786
0	32.640	50	3.601	100	0.678
5	25.391	55	2.985	105	0.587

**THERMOSEN TECHNOLOGIES PVT. LTD.**

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**PHONE:**+91-80-41106383

**EMAIL:** info@thermosen.com **WEBSITE:** www.thermosen.com

**SOLDERING**

1. Soldering Temperature: 320°C Max.
2. Soldering Duration: 6.0 Second Max.
3. Preheat Temperature: 160°C for 3.0 Sec.

**CUSTOM DESIGN & SUPPORT**

- Other resistance curve & tolerance are available on request
- End wire stripped and Tinned or with connector assembly.
- Part can be supplied with customised connectors

**PACKING**

- Bulk layer packing
- 100 in poly bag
- Custom packing solution will be provided.

**Consult Thermosen Technologies Pvt. Ltd. for custom product requirement**

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