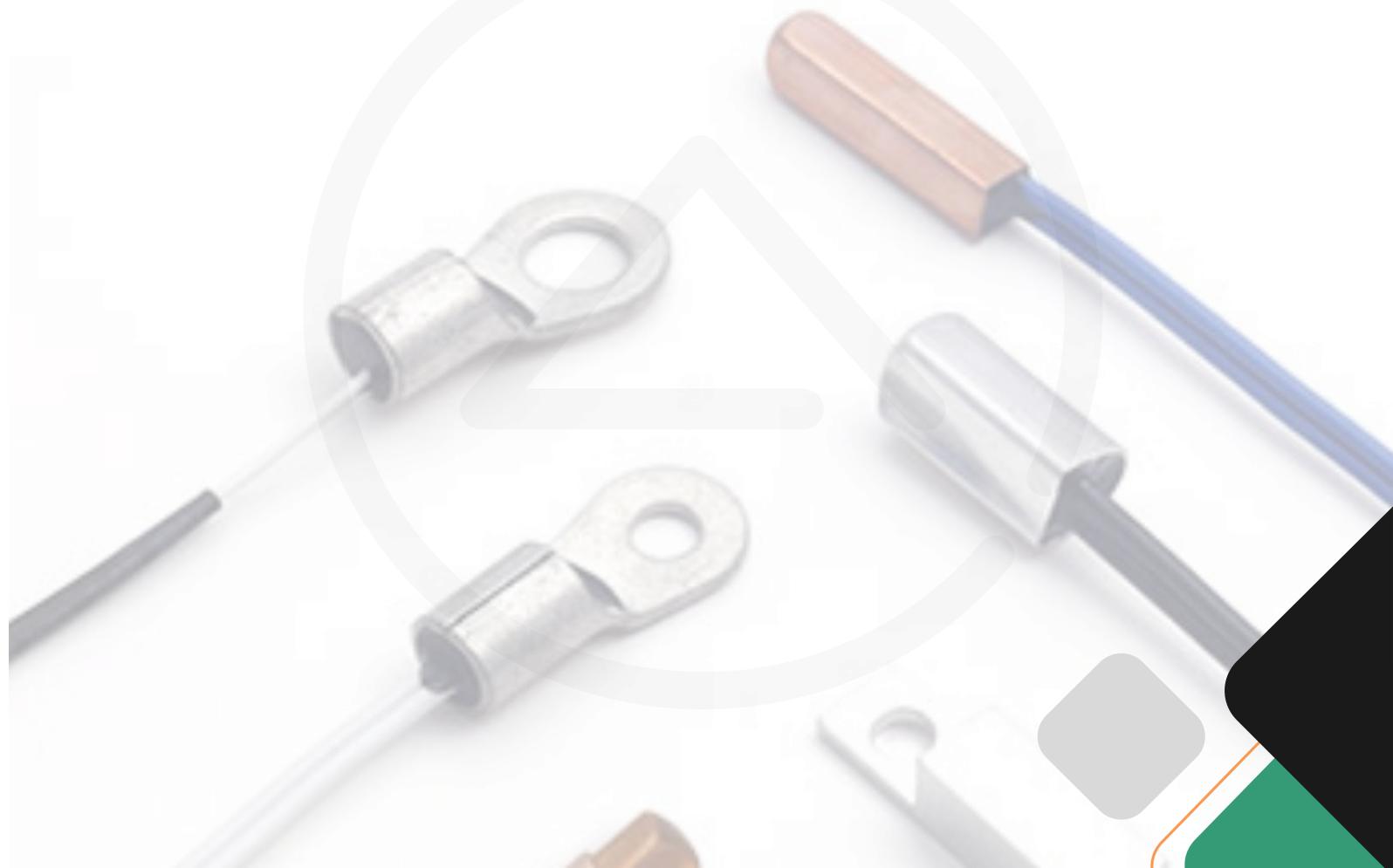




NTC Thermistor for Air Conditioning / Refrigerator /chiller temperature measurements

NTC Thermistor based assembled sensors widely used for air-conditioning,refrigerator and chiller type temperature measurements



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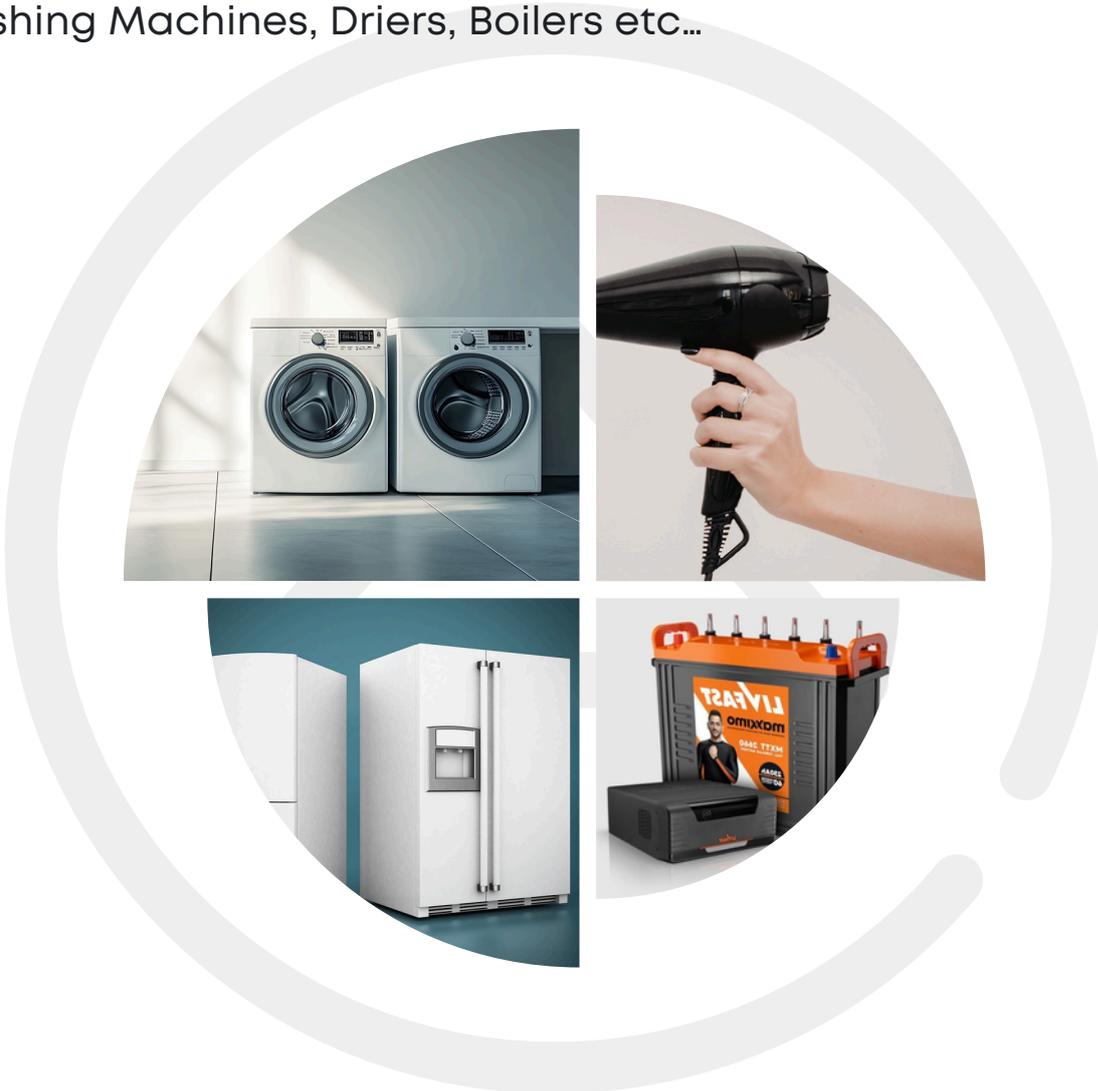
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Temperature Measurement

This type of sensors using in winding coil protection in stabilizer transformers, motor coil windings, and related coil protection at high temperature faults, We can set the customized requirements and support for the particular application like.

Applications

- Ambient & Coil temperature measurement
- Water pipe in AC pipe housings and in water lines
- Inverters, UPS, Air Conditioners etc.
- Water Heaters, Air Warmers, Chillers
- Refrigerators, Freezers, Air-cooled systems etc.
- Washing Machines, Driers, Boilers etc...



- HVAC vent temperature (automotive)
- In cabin temperature (automotive)
- Air Temperature
- HVAC airflow monitoring (industrial)
- Industrial automation - Ambient environment and process monitoring

Features

- High accuracy OEM sensor
- High sensitivity and reliability
- Excellent interchangeability
- High reliability and high voltage / temperature withstanding
- Thermistors encapsulated in Resin/Powder epoxy coated

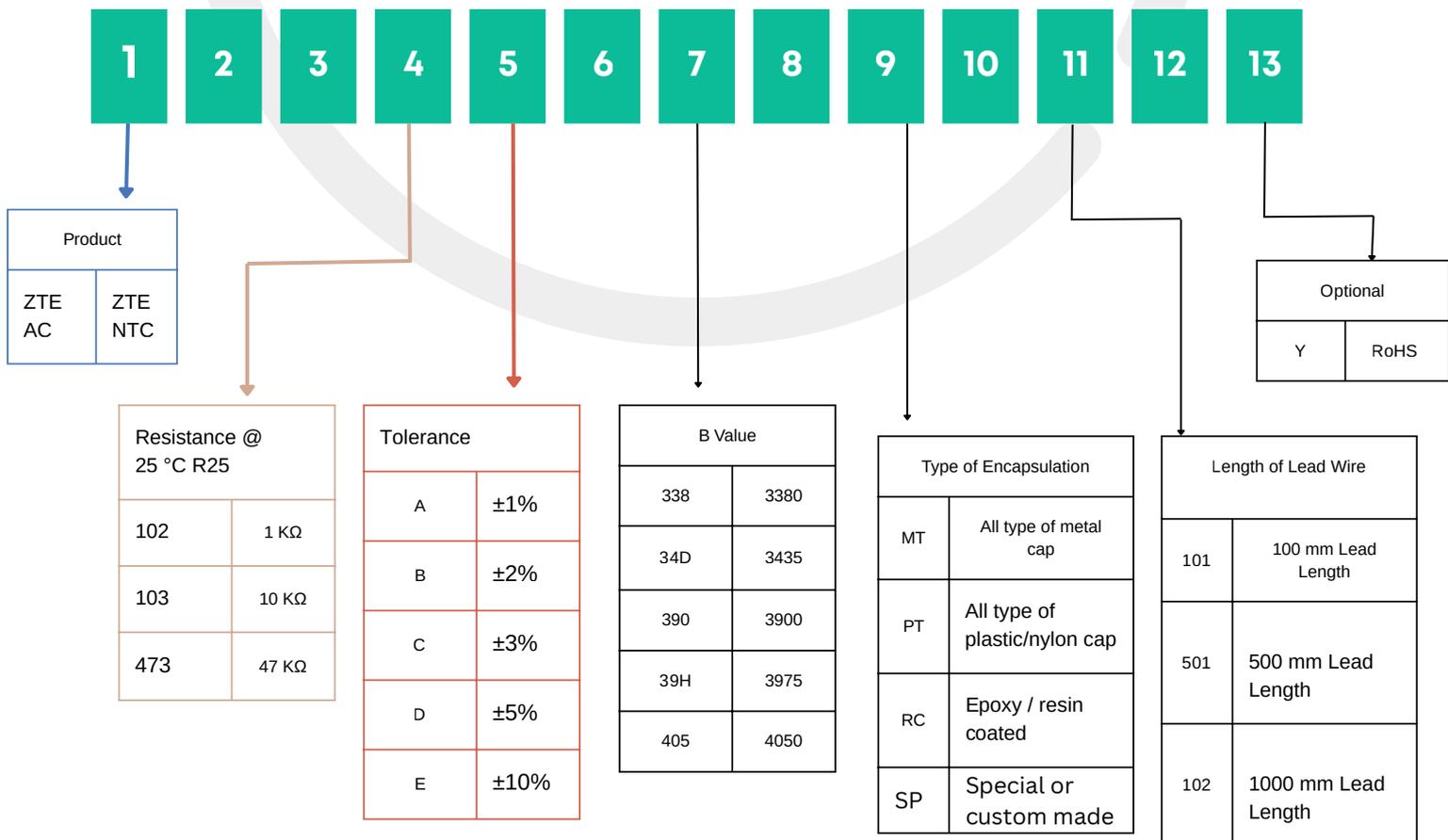
Model image



General Parameter Data

Parameters	Permissible values
Lower operating Temperature in °C	-40
Higher operating Temperature in °C	+105
Maximum permissible current at 25°C	10mA
Max. Power (at 25°C) / P25	~60 mW
Resistance Tolerance ($\Delta R/RN$)	$\pm 1\%$, $\pm 2\%$, $\pm 3\%$, $\pm 5\%$
Rated Temperature (TN)	25°C
Beta Tolerance ($\Delta\beta/\beta N$)	$\pm 1\%$, $\pm 2\%$, $\pm 3\%$
Dissipation factor in air (δ_{th})	~5 to 10 mW/K
Thermal cooling time constant in air (τ_c)	~30 Sec
Heat capacity (Cth)	~22.5 mJ/K
Thermal Response time in oil (in sec)	10 to 14 Sec
Insulation Resistance (Rins) (V=100V DC, t= 1 min)	>100 M Ω
High Voltage test(t=1 sec) / (Vtest)	1.5 kV AC

Part Numbering



Type of encapsulations (caps) available

MT – Ø4mm to Ø6mm / 25mm length Nickel plated Copper / Brass one side closed flat/ balled

MT – Ø4mm to Ø6mm / 25mm length SS304 GRADE SS tube one side closed flat/ balled

PT – Customized diameter nylon / plastic / rubber mixed in white and black shades

RC – Black epoxy / resin coated type

SP – IN Customized specific requirements in shape and dimensions

Type of lead wire in use

– WHITE / BLACK PVC Insulated tinned multi stranded Copper Wire AWG 24 - 26

– Black XLPE Insulated tinned multi stranded Copper Wire AWG 22 - 26

– Red/Blue/ Yellow PTFE Insulated tinned single core Copper Wire AWG 24 - 30

– Blue/ Yellow PTFE Insulated Silver Plated Multi Stranded Copper Wire AWG 30

– 2 CORE round type cables as per special request

Range of Products available - Electrical Characteristics

Part No.	Zero Power Resistance at 25°C	Tolerance of R25	B Value		Tolerance of B value	Max.Power Dissipation at 25 °C	Dissipation factor	Thermal Time Constant	Operating Temperature Range	Safety Approvals		
	R25 (KΩ)	(±%)	(K)		(±%)	Pmax(m W)	Δ (mW/°C)	T (Sec.)	TL~TU (°C)	UL	cUL	
ZTEAC102□□□□□□	1.0	2,3,5	25/85	3420 TO 3975	2,3	60	≥1	≤30	-40 ~ +160	Y	Y	
ZTEAC202□□□□□□	2.0											
ZTEAC212□□□□□□	2.1											
ZTEAC282□□□□□□	2.8			3975								
ZTEAC502□□□□□□	5.0			3975								
ZTEAC103□□□□□□	10.0			3435, 3975								
ZTEAC203□□□□□□	20.0			3975								
ZTEAC473□□□□□□	47.0			41500								
ZTEAC683□□□□□□	68.00			4250								
ZTEAC104□□□□□□	100.00			4350								

Note 1 : □ = Tolerance of R25, Type of cap,B-value,lead wire length

Note 2: Special Mechanical and Electrical specifications are available upon request.

Reliability Measurement

Item	Standard	Test conditions	Specifications
Storage in damp heat, steady state	IEC 60068-2-78	Temperature of air: 40 °C Relative humidity of air: 93% Duration: 56 days	$\Delta R_{25}/R_{25}$ (typical): < 2% No Visible Damage
Storage in dry heat	IEC 60068-2-2	Storage at upper category temperature T:100 °C t: 1000 h	$\Delta R_{25}/R_{25}$ (typical): < 2% No Visible Damage
Storage in coldness		Storage at lower category temperature T: -30 °C t: 1000 h	$\Delta R_{25}/R_{25}$ (typical): < 2% No Visible Damage
Rapid temperature cycling (in air)	IEC 60068-2-14	Lower test temperature: -30 °C Upper test temperature: 100 °C Time to change from lower to upper temperature: <30 s Number of cycles: 1000 Medium: air	No Visible Damage $\Delta R_{25}/R_{25} \leq 3\%$
Vibration resistance	IEC 60068-2-6	Frequency range: 5 to 500 Hz Amplitude: 7.5 mm, 2 g Duration: 3 x 8 h	No Visible Damage $\Delta R_{25}/R_{25} \leq 3\%$
Long-term stability (empirical value)		Temperature: 100 °C / t: 10000 h	No Visible Damage $\Delta R_{25}/R_{25} \leq 3\%$
Voltage proof test		1250 V AC, 1 s	No Flashover
Insulation test		The sensors are placed in a vessel containing metallic balls of 1 mm diameter (with total immersed head). The applied voltage is 100 V DC	Above 100 M Ω



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