



NTC Thermistor for Coil winding Protection

NTC Thermistor sensors as temperature measurement and protection of device for transformers, motors and coil winding where protection required.

Registered office

Zen Triad Door no. 18/331/32, 2nd Floor EDENS Complex, Kanjani Road,
Chungam, Thrissur, Kerala, India, Pin - 680 004.
Office PH: +91 8086861017, +91 6282940030

Manufacturing unit:

ZENTRIAD ELECTROLINK CORP
Industrial Development Plot No : 3
Varavoor Industrial Estate Thalssery Road Varavoor
8086861017 kerala

ZENTRIAD
Second Floor, 500 SQ.FEET, Plot No:- E-69, Hall No.5, GIDC Road, Sector
26, Gandhinagar, Gujarat, Pin-382028
Mob: +91-8980802380, +91-9778170597

Temperature Measurement & protection

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

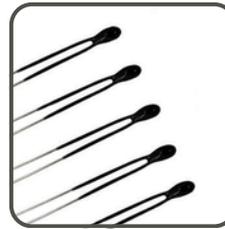
- Motor Coil temperature measurement and protection
- Over temperature cut off protection in Transformer windings and coils
- Major applications coming under stabilizer type equipment transformers
- Inverters/UPS transformer coil winding protection etc.



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 | +160 |
| Maximum permissible current at 25°C | 10mA |
| Max. Power (at 25°C) / P25 | ~60 mW |
| Resistance Tolerance (ΔR/RN) | ±3%, ±5% |
| Rated Temperature (TN) | 25°C |
| Beta Tolerance (Δβ/βN) | , ±2%, ±3% |
| Dissipation factor in air (δth) | ~5 to 10 mW/K |
| Thermal cooling time constant in air (tc) | ~15 Sec |
| Heat capacity (Cth) | ~22.5 mJ/K |
| Thermal Response time in oil (in sec) | 10 to 12 Sec |
| Insulation Resistance (Rins) (V=100V DC, t= 1 min) | >100 MΩ |
| High Voltage test(t=1sec) / (Vtest) | 2.0 kV AC |

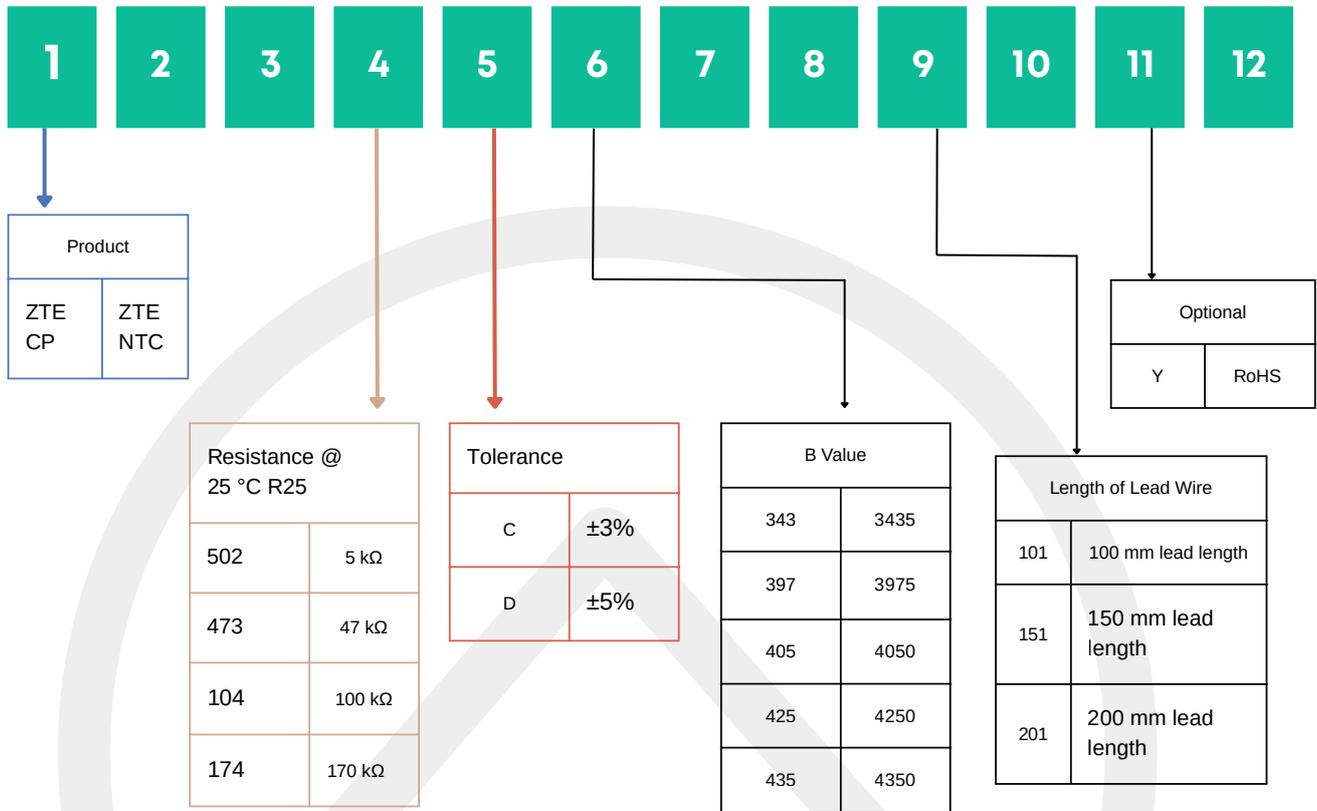
Type of lead wire in use

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

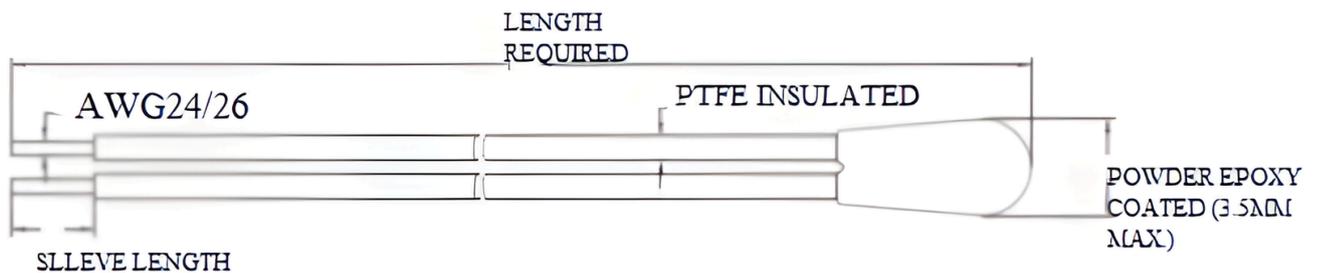
– Black XLPE Insulated tinned multi stranded Copper Wire AWG 22 - 26

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

Part Numbering



Product Layout



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(mW) | Δ (mW/°C) | T (Sec.) | TL~TU (°C) | UL | cUL |
| ZTECP502□□□ | 5.0 | 3,5 | 25/85 | 3975 | 2,3 | 60 | ≥1 | ≤15 | -40 ~ +160 | Y | Y |
| ZTECP103□□□ | 10.0 | | | 3435, 3975 | | | | | | Y | Y |
| ZTECP473□□□ | 47.0 | | | 3975 | | | | | | Y | Y |
| ZTECP683□□□ | 68.0 | | | 41500 | | | | | | Y | Y |
| ZTECP104□□□ | 100.00 | | | 4250 | | | | | | Y | Y |
| ZTECP174□□□ | 170.00 | | | 4350 | | | | | | Y | Y |

Note 1: □ = Tolerance of R25, 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 | ΔR25/R25 (typical): < 2% No Visible Damage |
| Voltage proof test | | 1250 V AC, 1 s | No Flashover |
| 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 ΔR25/R25 I ≤3% |



Manufacturing Precision Delivering Trust

