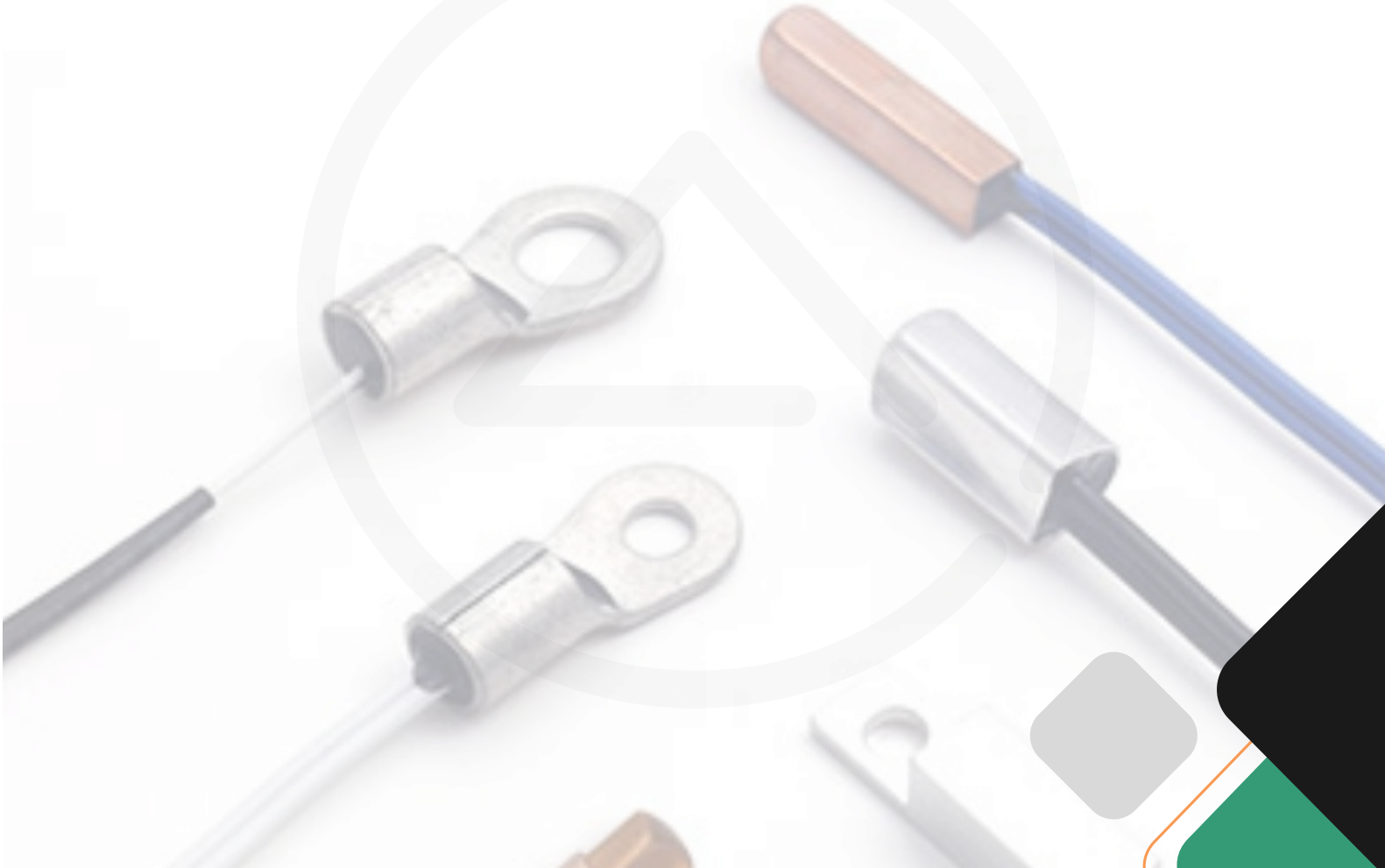
# NTC Thermistor for Coil winding Protection

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 ℃ | -40 |
| Higher operating Temperature in ℃ | +160 |
| Maximum permissible current at 25℃ | 10mA |
| Max. Power ( at 25℃) / P25 | ~60 mW |
| Resistance Tolerance (ΔR/RN ) | ±3%, ±5% |
| Rated Temperature (TN) | 25℃ |
| Beta Tolerance (Δβ/βN) | , ±2%, ±3% |
| Dissipation factor in air (δth) | ~5 to 10 mW/K |
| Thermal cooling time constant in air (τc) | ~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=1 sec) / (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

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|

| Product | |
|---|---|
| ZTE CWP | ZTE NTC |

| Resistance @ 25 °C R25 | |
|---|---|
| 502 | 5 kΩ |
| 473 | 47 kΩ |
| 104 | 100 kΩ |
| 174 | 170 kΩ |

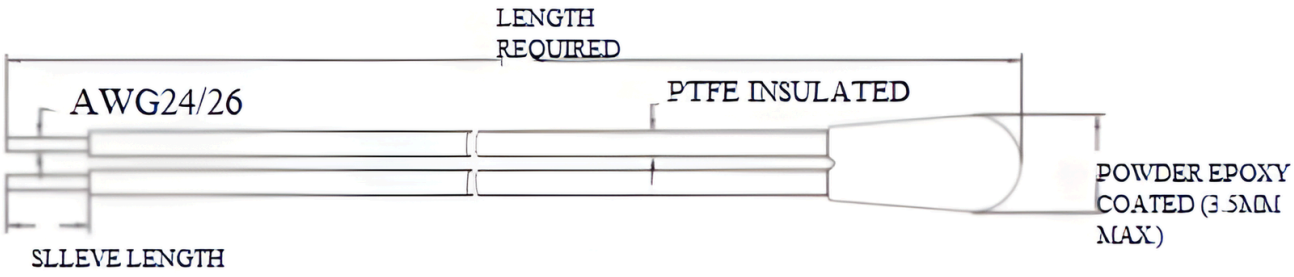
| Tolerance | |
|---|---|
| C | ±3% |
| D | ±5% |

| B Value | |
|---|---|
| 343 | 3435 |
| 397 | 3975 |
| 405 | 4050 |
| 425 | 4250 |
| 435 | 4350 |

| Length of Lead Wire | |
|---|---|
| 101 | 100 mm lead length |
| 151 | 150 mm lead length |
| 201 | 200 mm lead length |

| Optional | |
|---|---|
| Y | RoHS |

## 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 |
| ZTECWP502□□□ | 5.0 | 3,5 | 25/85 | 3975 | 2,3 | 60 | ⩾1 | ≤15 | -40 ~ +160 | Y | Y |
| ZTECWP103□□□ | 10.0 | | | 3435, 3975 | | | | | | Y | Y |
| ZTECWP473□□□ | 47.0 | | | 3975 | | | | | | Y | Y |
| ZTECWP683□□□ | 68.0 | | | 41500 | | | | | | Y | Y |
| ZTECWP104□□□ | 100.00 | | | 4250 | | | | | | Y | Y |
| ZTECWP174□□□ | 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<br>Relative humidity of air: 93%<br>Duration: 56 days | ΔR25/R25 (typical): < 2%<br>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<br>Upper test temperature: 100 °C<br>Time to change from lower to upper temperature: <30 s Number of cycles: 1000 Medium: air | No Visible Damage<br>△R25/R25 I ≤3% |

# Manufacturing Precision
# Delivering Trust