

# REACH ELECTRICAL (S) PTE LTD

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Company's Reg. No. : 199004352W G.S.T Reg. No. M2-0095215-4



Cert. No.: SG02/00221

## Resistance Temperature Detector (RTD)

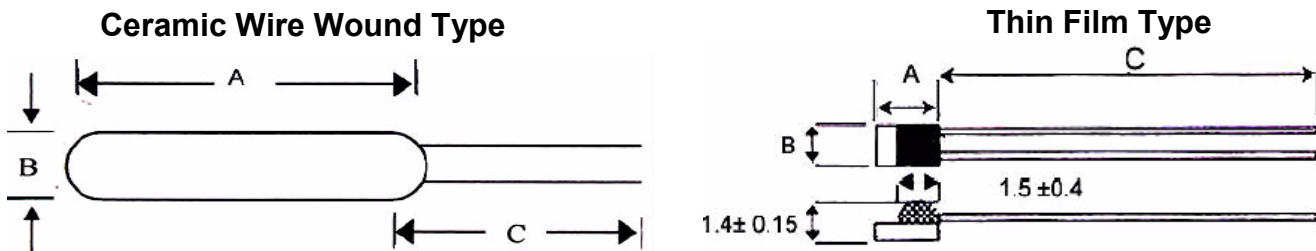
### What is a RTD Sensor

What is a Resistance Temperature Detector? (RTD), as the name implies, are sensors used to measure temperature by correlating the resistance of the RTD element with temperature. Most RTD elements consist of a length of fine coiled wire wrapped around a ceramic or glass core. The element is usually quite fragile, so it is often placed inside a sheathed probe to protect it. The RTD element is made from a pure material whose resistance at various temperatures has been documented. The material has a predictable change in resistance as the temperature changes; it is this predictable change that is used to determine temperature.

### Resistance Material For RTD

RTD material: Platinum (most popular and accurate)

Model Type: PT-50, PT-100 & PT-1000



### Characteristics For RTD

Characteristics:

- Broad application temperature range:  $-200^{\circ}\text{C}$  to  $+850^{\circ}\text{C}$
- Available TCR: 0.00385
- Standard accuracy: IEC751 and DIN60751
- Linear relationship between resistance and temperature
- Excellent long term stability
- Fast response, Reliability, Accuracy, Stability, Inter Changeability
- Exceptional Endurance Vibration Resistance

### Benefits Of Using An RTD Sensor

The RTD is one of the most accurate temperature sensors. Not only does it provide good accuracy, it also provides excellent stability and repeatability. Most standard RTD comply with **IEC751 AND DIN43760 Class B**. RTD are also relatively immune to electrical noise and therefore well suited for temperature measurement in industrial environments, especially around motors, generators and other high voltage equipment.

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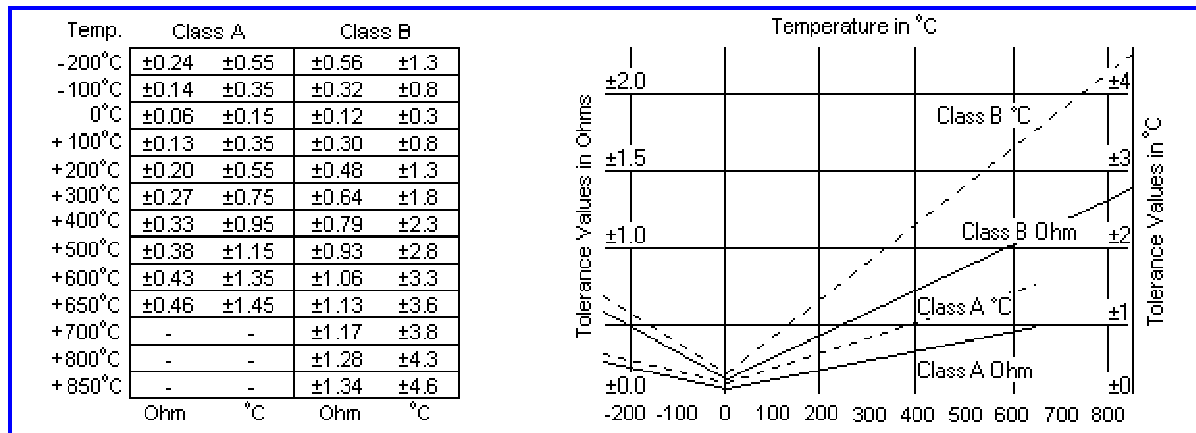
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## Typical Accuracies of Industrial RTD Sensors



- The tolerances are in accordance with DIN 60751 and IEC751.
- Temperature Coefficient Resistance:  $R_{100}/R_0 = 1.3851$ .
- All of elements are provided after inspecting and printing the actual resistance value at 0 deg. C.
- The elements are made exclusively of ceramic and Platinum, giving excellent stability even at high temperature.
- The Platinum thin film is sputtered on the ceramic surface, giving outstanding resistance to vibration and shock.
- In addition to Pt100 element, Pt500 and Pt1000 elements are available.
- The surface of Platinum thin film is coated with ceramic, so the element can withstand high voltage and show high insulation resistance.