

SR

Features

- High Accuracy & Stability
- Available in Bifilar and Thin Film sensor types
- Class F/H insulation materials
- Long life with vibration resistance

Advantages

- Continuous winding temperature monitoring
- High dielectric strength
- Flexible and ultra-thin for easy slot insertion
- Cost-effective and long service life
- Prevention of insulation breakdown and catastrophic machine failure
- Optimization of thermal performance and load carrying capacity
- Extended operational life of high-value rotating machinery
- Compliance with international reliability and safety standards

Application

- Electric Motors
- Generators
- Transformers
- Turbines (Gas & Steam)

Configuration Options

- Single or Double element
- Various insulation classes (F, H, or custom)
- Different lead wire terminations (bare, lugs)

Slot RTD (Stator Winding RTD)

For Motor and Generator Applications



Slot RTDs, also referred to as Stator Winding RTDs, are precision engineered resistance temperature detectors specifically developed for the direct measurement of winding temperatures in rotating electrical machines such as motors, generators, and alternators. Since the stator winding is the most critical and thermally stressed part of the machine, continuous monitoring of its temperature is essential to prevent insulation breakdown, unplanned shutdowns, and costly failures. Unlike conventional surface-mounted sensors, Slot RTDs are embedded within the stator slots during the winding process, maintaining intimate thermal contact with the insulation system and enabling highly accurate, real-time monitoring of actual winding temperatures under load.

Engineered with ultra-thin, flexible laminated construction, Slot RTD's can be seamlessly integrated without disturbing the machine's electromagnetic flux pattern, thermal dissipation characteristics, or winding geometry. They are available in different configurations including bifilar winding designs, which effectively cancel electromagnetic pickup and reduce inductive interference, and thin-film sensing elements, which provide compact form factors with fast response and high resolution. The robust design incorporates high-dielectric insulation layers and durable encapsulation materials, ensuring mechanical strength, dielectric reliability, and stability under conditions of vibration, thermal cycling, and high electrical stress.

By providing continuous, reliable, and precise temperature feedback, Slot RTDs not only safeguard the insulation system but also support advanced machine protection and predictive maintenance strategies. Their integration allows operators to optimize machine loading, extend operating life, and improve overall system efficiency, making them a critical component in modern condition monitoring and reliability engineering of rotating electrical equipment.

Technical Specification

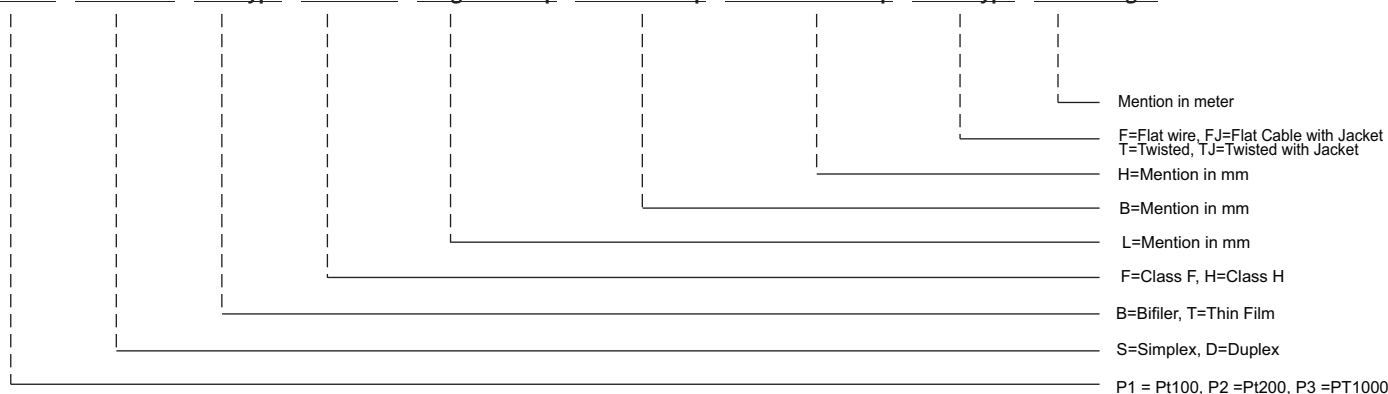
Parameter	Specification
RTD Element	Pt (Platinum), PT100 / PT1000
Sensor Type	Bifilar or Thin Film
Construction	Flexible laminated construction
No. of Elements	Single or Double
Temperature Range	-50°C to +180°C (Standard)
Accuracy	Class A ($\pm 0.15^{\circ}\text{C}$ at 0°C) or Class B ($\pm 0.3^{\circ}\text{C}$ at 0°C) as per IEC 60751
Dimensions (Special)	Thickness: 2 - 5 mm, Width: 5 - 10 mm, Length: 30 - 500 mm
Housing Material	Fiber Glass
Cable Connection	2, 3, or 4 wire
Cable Insulation	PTFE / Fiberglass/Polymide/silicon
Cable Length	As per customer requirement (typical: 5 m)
Dielectric Strength	Up to 3.0 kV AC / 1 min (5kV also available on special request)

Cable Configuration Options for Slot RTD

Cable Type	Description / Technical Form	Compatible Insulation Materials
Twisted Cable	Twisted conductors with basic insulation, no outer jacket	PTFE, FEP, Polyimide, Fiberglass
Twisted Cable with Outer Protection	Twisted conductors with additional outer jacket or shielding	PTFE/PTFE, FEP/FEP, Polyimide/Polyimide
Flat Cable (Unjacketed)	Flat cable with insulated conductors, no outer jacket	PTFE, FEP, Polyimide, Fiberglass
Flat Cable with Outer Protection	Flat cable with insulated conductors plus outer jacket/sheath	PTFE/PTFE, FEP/FEP

Ordering Code

SR - Element - No. of RTD - RTD Type - Insulation - Length of strip - Width of strip - Thickness of strip - Cable Type - Cable Length



Example = SR - Pt100 - D - B - F - 150 - 5 - 2 - TJ - 4



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