



## Platinum RTD Sensor – PT1000 – 3 Wire 1 meter long

Product ID: 3984



### Description

For precision temperature sensing, nothing beats a Platinum RTD. Resistance temperature detectors (RTDs) are temperature sensors that contain a resistor that changes resistance value as its temperature changes, basically a kind of thermistor. In this sensor, the resistor is actually a small strip of Platinum with a resistance of 1000 ohms at 0°C, thus the name PT1000. Compared to most NTC/PTC thermistors, the PT type of RTD is much more stable and precise (but also more expensive) PT1000's have been used to measure temperature in laboratory and industrial processes, and have developed a reputation for accuracy (better than thermocouples), repeatability, and stability.

**This high-temperature PT100 sensor is equipped with a stainless steel shield that is good from -50°C to 280°C.**

#### PT1000 features:

- Based on resistance measurement principles
- Resistor material is Platinum with a value of 1000 ohm at temperature 0°C
- Platinum has a positive resistance temperature factor; resistance increases with rising temperature

- Resistance variation is a function of temperature:  $3.85\Omega/^{\circ}\text{C}$  nominal
- High accuracy and stability compared to thermocouples, silicon-based temperature sensors, or thermistors

Each sensor comes with *three wires*. Two of the wires connect to either side of the platinum resistor like you'd expect. The *third wire* is also connected to one end of the PT1000. If your RTD amplifier supports 3-wire sensors, it will drive the resistor with the first two wires, and measure the voltage differences so that it can subtract any voltage drop from the wires. If your RTD amplifier only has 2-wire support simply leave the third wire disconnected.

## Technical Details

Cable specs:

- 316L Stainless steel capsule: 4mm diameter by ~30mm long (size of stainless steel capsule may vary!)
- Cable is approx 1m / 100cm long
  - diameter is 2.8mm
  - 26 AWG 7/0.15mm stranded
- Contains PT1000 temperature sensor
- Three wires with terminal prong ends

