

RESISTANCE TEMPERATURE DETECTORS



WHAT IS AN RTD?

An RTD (Resistance Temperature Detector) is a temperature sensor that exhibits an increase in resistance when subjected to an increase in temperature.

What types of RTDs are available?

There are two main types of resistance temperature detectors, thin-film and wire-wound.

Wire-Wound RTDs

Wire wound RTDs are built using a small diameter wire, typically platinum, which is wound into a coil and packaged inside a ceramic insulator. Larger extension wires are then spot welded to the platinum wire. Conversely, the small diameter wire can also be wound around the outside of a ceramic mandrill and coated with an insulating material such as glass with extension wires then being spot welded to the winding wires.

Thin Film RTD Elements

Thin film RTDs are made by depositing a thin layer of resistive material, typically platinum film, onto a ceramic substrate. A pattern is then etched onto the element, creating the electrical circuit. Platinum Thin-film RTDs (Pt-RTDs) offer a nearly linear temperature vs resistance relationship as well as very high accuracy over wide temperature ranges. The European standard DIN/IEC 60751 is considered the worldwide standard for platinum RTDs.

EI Sensor Technologies offers [Thin Film RTDs](#). Capable of withstanding operating temperature from -200 C up to +850 C, we offer leaded devices as well as surface mount RTD devices. Higher temperature ratings are available thru special order. Our standard resistance values are 100Ω, 500Ω and 1,000Ω and we can supply just the sensing element or provide a full solution RTD probe assembly. Offered in a wide variety of thermowell configurations and sizes, the assemblies are well suited for temperature measurement in many industries such as white goods, HVAC, energy, industrial controls and medical electronics. Our design engineers are available at sales@ei-sensor.com to assist with the selection of an RTD probe for testing in your unique application.



EI Sensor Technologies

1440 S. State College Boulevard, Suite 2E, Anaheim, CA 92806 USA
(714) 860-4121 | sales@ei-sensor.com | www.ei-sensor.com