

RTDs and Thermocouples

RTD's are high precision device used to measure temperatures in corrosive and non-corrosive media. They work on the principle of variation of resistance of a sensing element, usually made of Platinum, with corresponding change in temperature.



These RTD's are available in following types :

PT100, PT200, PT500, & PT1000 (AS PER DIN 43760 OR BS904 CLASS II) Pt50 (as per JIS) Simplex or Duplex.

Thermocouples:

A thermocouple is a sensor for measuring temperature. It consists of two dissimilar metals, joined together at one end which produces a small unique voltage at a given temperature. This voltage is measured and interpreted by a thermocouple thermometer.

These thermocouples are available in three types of hot junctions :

The Grounded Junction: Recommended for the measurement of static or flowing corrosive gas or liquid temperature and for high pressure application. The junctions are welded to the protective sheath giving faster response.

An Underground Junction: Used for measurement in corrosive application where it is desirable to have the thermocouple electronically isolated form and shielded by a sheath. The junction is physically isolated from the sheath from MgO powder.

An Exposed Junction: It is used for the measurement of static or flowing non-corrosive gas temperature where fast response time is required. The junction extends beyond the protective sheath to give accurate and fast response. The sheath insulation is sealed where the junction extends to prevent penetration or moisture or gas which would cause.

Type	Conductor	Callibration	Range °C	Sheath
K	CROMEL/ALUMEL	IS:2054, DIN 43710	0-1200	SS 446/ ss310/ 33316/ Inconel 600
T	COPPER / CONSTANTANN	IS:2056, DIN 43710	0-350	SS 340 / 316
J	IRON / CONSTANTANN	IS:2056, DIN 43710	0-750	SS 316
R	Pt 13% Rh - Pt	IS:2055, DIN 43710	0-1450	SILLIMINATE
S	Pt 10% Rh - Pt	IS:2055, DIN 43710	0-1450	SILLIMINATE
B	Pt 30% Rh - Pt	IS:6720, DIN IEC B8	800- 1700	RECRYSTALLISED ALUMINA

Types of Assemblies available:

Terminal Block Type/ Whether Proof IP 65 Or Flame Proof head mount.

Hand Held Type.

Mineral Insulated Metal Sheath.

Transition Joint Type.

Quick Disconnect.

Thermocouple with special outer sheaths like silicon Carbide, PTF, PVDF coated etc.

Mountings:

Fixed male threaded, addition, Gland type, Nipple - Union, Nipple assembly or adjustable flanged types, Bayonet type and others.

Insulations:

Multibore ceramic tubing / Magnesium Oxide (MgO filled) / M.I.

Ordering information's for Thermocouples and RTDs:

Operating Range, RTD/Thermocouple's type & Class - [K / J / T / E / B / R / S - Simplex or Duplex,]

Specify Wire Gauge in case of Thermocouple,

Type of RTD Element & Class

Head Assembly Weatherproof / Ex. Proof, Sheath Material - Length & O.D.,

Extension cable material - It's covering length, Process connection, Wire connection - 2 Wire / 3 Wire / 4 Wire