

TEMPERATURE SENSORS

THERMOCOUPLE

- A thermocouple is a temperature sensing device constructed of two dissimilar wires fused at one end to form a junction
- Construction is either mineral insulated cable where the thermocouple conductors are embedded in a closely compacted (MgO) powder which is surrounded by a metal sheath forming a hermetically sealed assembly, or a tube and wire assembly known as a general purpose thermocouple (GPT)
- As the sensor is heated / cooled an emf in the form of millivolts is generated which provides an indication of the temperature
- Available in simplex, duplex and triplex
- All thermocouples come standard with ungrounded junctions
- Grounded junctions available on request



RESISTANCE TEMPERATURE SENSORS (RTD)

- The electrical resistance of a conductor varies according to its temperature and this forms the basic principal of resistance thermometry.
- A PT-100 is a precision platinum resistor that exhibits 100Ω at 0°C .
- It has a positive temperature co-efficient so as the temperature rises, so does the resistance
- Available in simplex and duplex only



ORDERING OPTIONS

- Thermocouple type (J, K, T, E)
- Resistance thermometer types (Pt100)
- Number of junctions (simplex, duplex, triplex)
- Diameter of sheath
- Length of sheath
- Material of sheath (316, 310 (K only))
- Mounting type (spring and cap, plate, block, pipe clamp etc, see page 30)
- Connection type (plug, cable, lead, potseal etc, see page 30)
- Construction type (mineral insulated 'MI' or wire and tube)
- Conductor wire size (0.22mm^2 , 0.5mm^2 , 1mm^2)
- Temperature rating
- Cable type (PVC, teflon, silicone or Fg stainless steel)
- Pocket material (310, 316, 446, other)