

Characteristics of Thermocouples, RTD's, Infrared, and Thermistors

Characteristics	Thermocouple	RTD	Infrared	Thermistor
Temperature Range	-250°C to +2600°C	-200°C to +850°C	-50°C to +3000°C	-60°C to +300°C
Accuracy	Less Accurate	More Accurate	Less Accurate	Less Accurate
Stability (Lack of Drift)	Reasonable	Good-but does drift	Good	Good
Repeatability	Reasonable	Good	Good	Good
Response	Fast	Slow	Fast	Medium
Linearity	Not Linear	Reasonably Linear	Reasonably Linear	Not Linear
Hysteresis	Excellent	Good	Good	Good
Vibration	Very Resistant	Less Resistant	Tolerant	Good
Reference Junction	Required	Not Needed	Not Needed	Not Needed
Measurement Area	Single Point (Tip)	Length of element	Varies	Whole Bead (small)
Size (Diameter)	From 0.25 mm up	From 3.00 mm up	Varies	From 0.5 mm
Lead Wire Resistance	Not an issue	Very Important	Not an issue	Not an issue
Contact Required	Yes	Yes	No	Yes

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