

RTDS

Operating Temperature Range: -50°C to 200°C

Element Resistance: 100 ohms at 0°C nominal

Temperature Coefficient of Resistance (alpha):
0.00385 Ω/Ω/°C nominal

Accuracy:

Standard: 0.10% of resistance at 0°C

Precision: 0.05% of resistance at 0°C

Insulation Resistance: 100 megohms minimum at 100 VDC at 25°C (Not applicable for grounded thermocouples)

Interchangeability: For 100 ohm elements the tolerance values at any temperature for these specifications are given by: Tolerance °C = ±(0.13 + 0.00185 |t|) for accuracy code 05 Tolerance °C = ±(0.26 + 0.0037 |t|) for accuracy code 10 (|t| = absolute value of temperature in °C)

Lead wire: PTFE insulated nickel-plated stranded copper, 22 and 24 AWG typical

Sheath Material: 316L stainless steel typical

100% Tested: For accuracy at 0°C and insulation resistance

Thermocouples

The tables listed below are provided to the user for a ready reference of thermocouple designations as compared to the generic and trade names for the most common thermocouple materials. The letter “P” in the designation indicates the positive (+) leg of the thermocouple while the letter “N” designates the negative (-). Color coding and other means of conductor identification are also provided. Specification reference per ASTM E230 / E230M.

Thermocouple Grade Wire

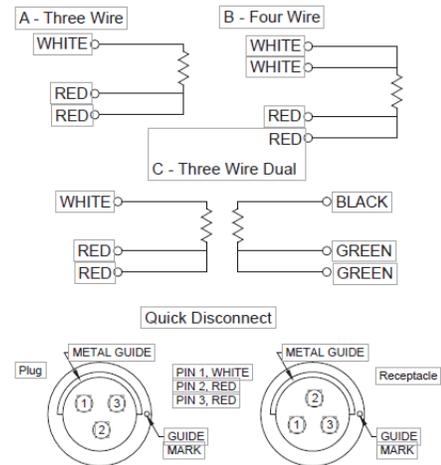
Type	Grade or Generic Trade Names	Single Conductors	Magnetic	Conductor Color Code	Overall Color Code
E	Chromel® Constantan	EP EN	No No	Purple Red	Brown w/Purple Tracer
J	Iron Constantan	JP JN	Yes No	White Red	Brown w/White Tracer
K	Chromel® Alumel®	KP KN	No Yes	Yellow Red	Brown w/Yellow Tracer
T	Copper Constantan	TP TN	No No	Blue Red	Brown w/ Blue Tracer

Thermocouple Type	Temperature Range	Special Limits
E	-50 to 125°C 125 to 200°C	±0.5°C ±0.4°C
J	0 to 200°C	±1.1°C
K	0 to 200°C	±1.1°C
T	-50 to 125°C 125 to 200°C	±0.5°C ±0.4°C

Extension Grade Wire

Type	Grade or Generic Trade Names	Single Conductors	Magnetic	Conductor Color Code	Overall Color Code
EX	Chromel® Constantan	EPX ENX	No No	Purple Red	Purple
JX	Iron Constantan	JPX JNX	Yes No	White Red	Black
KX	Chromel® Alumel®	KPX KNX	No Yes	Yellow Red	Yellow
TX	Copper Constantan	TPX TNX	No No	Blue Red	Blue

Color Codes Element/Leadwire Configuration



Temperature		Interchangeability			
°C	°F	0.05%**		0.10%	
-50	-58	±.23°C	±.41°F	±.45°C	±.80°F
0	32	±.13°C	±.23°F	±.26°C	±.46°F
100	212	±.32°C	±.57°F	±.64°C	±1.15°F
200	392	±.50°C	±.90°F	±1.0°C	±1.80°F

** ±0.05 accuracy is not currently available with all models. See the Ordering Information Table for each model for applicability.