

Temperature Conversion

°C	= 5/9 (° F – 32)
°F	= 9/5 °C + 32
°K	= °C + 273.15
Rankine	= °F + 459.67
RT	= R ₀ (1 + α t)
RT	= Resistance at Temp. T
R ₀	= Resistance at 0 °C
α	= Temp. Coefficient at T = 0°C

Reference Temperatures

Triple Point of Hydrogen	- 259.34
Boiling Point of Hydrogen	- 252.87
Boiling Point of Neon	- 246.048
Triple Point of Oxygen	- 218.789
Boiling Point of Oxygen	- 182.962
Freezing Point of Mercury	- 38.9
Triple Point of Water	0.01
Boiling Point of Water	100
Freezing Point of Zinc	419.58
Freezing Point of Silver	961.93
Freezing Point of Gold	1064.43

Limits of Error for Thermocouples : Reference Junction 0°C

Thermocouple Type	Temperature Range °C	Std.(Whichever is greater)	ANSI Symbol
T	0 To 350	± 1.0°C Or ± 0.75%	Copper vs. Constantan
J	0 To 750	± 2.2°C Or ± 0.75%	Iron vs. Constantan
E	0 To 900	± 1.7°C Or ± 0.5%	Chromel vs. Constantan
K	0 To 1250	± 2.2°C Or ± 0.75%	Chromel vs. Alumel
R	0 To 1600	± 1.5°C Or ± 0.25%	Platinum 13% Rhodium vs. Platinum
S	0 To 1600	± 1.5°C Or ± 0.25%	Platinum 10% Rhodium vs. Platinum
B	800 To 1700	± 0.5%	Platinum 30% Rhodium vs. Platinum 6% Rhodium
T	-200 To 0	± 1.0°C Or 1.5%	
E	-200 To 0	± 1.7°C Or ± 1.0%	
K	-200 To 0	± 2.2°C Or ± 2.0%	