

RTD AND THERMOCOUPLE TEMPERATURE RANGE AND OUTPUT

TABLE 1. THERMOCOUPLE TEMPERATURE RANGES AND EMF (mV) OUTPUT

ANSI Code	*NOMINAL TEMPERATURE RANGE	**EMF (mV) OUTPUT OVER RANGE
E	-270 TO 1000°C (-454 TO 1832°F)	-9.835 TO 76.373
J	-210 TO 760°C (-410 TO 1400°F)	-8.095 TO 42.919
K	-270 TO 1372°C (-454 TO 2502°F)	-6.458 TO 54.886
R	-50 TO 1768°C (-58 TO 3214°F)	-0.226 TO 21.103
S	-50 TO 1768°C (-58 TO 3214°F)	-0.236 TO 18.693
T	-270 TO 400°C (-454 TO 752°F)	-6.258 TO 20.872

*ANSI MC96.1
**ASTM MNL 12

TABLE 2. INDUSTRIAL PLATINUM RESISTANCE THERMOMETERS: WIREWOUND AND THIN FILM TOLERANCE CLASSES AND TEMPERATURE RANGES

TOLERANCE CLASS PER ISO/IEC 60751	TEMPERATURE RANGE (°C)		TOLERANCE VALUE (°C)
	WIRE WOUND RESISTORS	THIN FILM RESISTORS	
AA	-50 TO 250	0 TO 150	$\pm(0.1 + 0.0017 t)$
A	-100 TO 450	-30 TO 300	$\pm(0.15 + 0.002 t)$
B	-196 TO 600	-50 TO 500	$\pm(0.3 + 0.005 t)$
C	-196 TO 600	-50 TO 600	$\pm(0.6 + 0.01 t)$

|t| = modulus of temperature in °C without regard to sign.

TABLE 3. INDUSTRIAL PLATINUM RESISTANCE THERMOMETERS: MEASURED TEMPERATURE AND CORRESPONDING OUTPUT FOR A RESISTOR WITH NOMINAL RESISTANCE OF 100 OHMS AT 0 °C.

TEMPERATURE (°C)	OUTPUT OHMS (.00385 OHM/OHM/°C)
-200	18.52
-100	60.26
-50	80.31
0	100.00
150	157.33
300	212.05
450	264.18
500	280.98
600	313.71

