RESISTANCE AND ACCURACY TABLES

PLATINUM RTD RESISTANCE-VS-TEMPERATURE				
Ice Point, Alpha Value & RTD Type	1000Ω 0.00375 Pt Thin Film	100Ω 0.00385 Pt Thin Film	100Ω 0.00385 Pt WW	100Ω 0.003902 Pt WW
Temperature °C	**Resistance (Ω)**			
-200	199.49	18.10	18.10	19.76
-180	284.87	26.81	26.81	28.01
-160	368.57	35.35	35.35	36.17
-140	450.83	43.75	43.75	44.27
-120	531.83	52.04	52.04	52.31
-100	611.76	60.21	60.21	60.31
-80	690.78	68.30	68.30	68.27
-60	769.01	76.32	76.32	76.22
-40	846.58	84.27	84.27	84.15
-20	923.55	92.16	92.16	92.08
0	1000.00	100.00	100.00	100.00
20	1075.96	107.79	107.79	107.92
40	1151.44	115.54	115.54	115.84
60	1226.44	123.24	123.24	123.76
80	1300.96	130.89	130.89	131.69
100	1375.00	138.50	138.50	139.61
120	1448.56	146.06	146.06	147.53
140	1521.63	153.57	153.57	155.45
160	1594.22	161.04	161.04	163.37
180	1666.33	168.46	168.46	171.29
200	1737.96	175.83	175.83	179.21
220	1809.11	183.16	183.16	187.14
240	1879.78	190.43	190.43	195.06
260	1949.96	197.67	197.67	202.98
280	2019.67	204.85	204.85	210.90
300	2088.89	211.99	211.99	218.82
320	2157.63	219.08	219.08	226.74
340	2225.89	226.12	226.12	234.66
360	2293.66	233.12	233.12	242.59
380	2360.96	240.07	240.07	250.51
400	2427.78	246.98	246.98	258.43
420	2494.11	253.83	253.83	266.35
440	2559.96	260.65	260.65	274.27
460	2625.33	267.41	267.41	282.19
480	2690.22	274.13	274.13	290.11
500	2754.63	280.80	280.80	298.04
520	2818.55	287.42	287.42	305.96
540	2881.99	294.00	294.00	313.88
560	2944.96	300.53	300.53	321.80
580	3007.44	307.01		
600	3069.44	313.44		
620	3130.96	319.83		
640	3191.99	326.18		
660	3252.55	332.47		
680	3312.62	338.72		
700	3372.21	344.92		
720	3431.32	351.08		
740	3489.95	357.18		
750	3519.09	360.22		

Sensor accuracy is a function of production tolerance and any additional calibration which the sensor may get. Calibration can improve the accuracy of an RTD by 10X over production tolerance.

The accuracy values in the table below apply to production tolerance tight trim RTDs with ice point tolerances of R_0 ±0.1%. The thin film values are for tight trim platinum RTDs. Both thin film and wire wound tight trim RTDs with 0.00385 alpha values meet IEC 751 Class B.

In qualifying volumes, RTDs can be laser trimmed for tight resistance interchangeability at any temperature between 0°C and 150°C or to an ice point resistance other than 100Ω or 1000Ω. Laser trimming also allows matching the resistance of RTD's with different alpha values at a target temperature.

ACCURACY* VS TEMPERATURE			
Ice Point, Alpha Value	1000Ω 0.00375	100Ω 0.00385	100Ω 0.003902
Temperature °C	**±ΔResistance (Ω)**		
-200	5.1	0.5	0.5
-100	2.4	0.3	0.3
0	1.0	0.1	0.1
100	2.2	0.2	0.2
200	4.3	0.4	0.4
300	6.2	0.6	0.6
400	8.3	0.8	0.8
500	9.6	1.0	1.0
600	10.4	1.2	1.2
Temperature °C	**±ΔTemperature (°C)**		
-200	1.2	1.2	1.2
-100	0.6	0.6	0.6
0	0.3	0.3	0.3
100	0.6	0.6	0.6
200	1.2	1.2	1.2
300	1.8	1.8	1.8
400	2.5	2.5	2.5
500	3.0	3.0	3.0
600	3.3	3.6	3.6

*Figures are for production tolerance tight trim RTDs.