PT100 AND PT1000 RESISTANCE TABLE GENERATOR

Project: RTD reference table	Calc no: CALC TE 001 Rev: 0

Yellow cells: enter data. Grey cells: calculated automatically. Free template from instrumentationblog.in

Sensor			
R0 at 0 °C (100 for Pt100, 1000 for Pt1000)	100	**Measured resistance for lookup (Ω)**	138.51
Temperature from measured R (°C, valid ≥ 0 °C)	100.01	**Sensitivity near 0 to 100 °C (Ω/°C)**	0.3850

Resistance table

Temperature (°C)	Resistance (Ω)	Class A tolerance (± °C)	Class B tolerance (± °C)	Class A band (± Ω)	Class B band (± Ω)	R ÷ R0	Notes
-50	80.306	0.25	0.55	0.099	0.218	0.80306	
-40	84.271	0.23	0.50	0.091	0.198	0.84271	
-30	88.222	0.21	0.45	0.083	0.177	0.88222	
-20	92.160	0.19	0.40	0.075	0.157	0.92160	
-10	96.086	0.17	0.35	0.067	0.137	0.96086	
0	100.000	0.15	0.30	0.059	0.117	1.00000	
10	103.903	0.17	0.35	0.066	0.136	1.03903	
20	107.794	0.19	0.40	0.074	0.155	1.07794	
30	111.673	0.21	0.45	0.081	0.174	1.11673	
40	115.541	0.23	0.50	0.089	0.193	1.15541	
50	119.397	0.25	0.55	0.096	0.212	1.19397	
60	123.242	0.27	0.60	0.104	0.230	1.23242	
70	127.075	0.29	0.65	0.111	0.249	1.27075	
80	130.897	0.31	0.70	0.118	0.267	1.30897	
90	134.707	0.33	0.75	0.126	0.285	1.34707	
100	138.506	0.35	0.80	0.133	0.303	1.38506	
110	142.293	0.37	0.85	0.140	0.321	1.42293	
120	146.068	0.39	0.90	0.147	0.339	1.46068	
130	149.832	0.41	0.95	0.154	0.357	1.49832	
140	153.584	0.43	1.00	0.161	0.375	1.53584	
150	157.325	0.45	1.05	0.168	0.392	1.57325	
160	161.054	0.47	1.10	0.175	0.410	1.61054	
170	164.772	0.49	1.15	0.182	0.427	1.64772	
180	168.478	0.51	1.20	0.189	0.444	1.68478	
190	172.173	0.53	1.25	0.196	0.461	1.72173	
200	175.856	0.55	1.30	0.202	0.478	1.75856	
210	179.528	0.57	1.35	0.209	0.495	1.79528	
220	183.188	0.59	1.40	0.216	0.512	1.83188	
230	186.836	0.61	1.45	0.222	0.528	1.86836	
240	190.473	0.63	1.50	0.229	0.545	1.90473	
250	194.098	0.65	1.55	0.235	0.561	1.94098	
260	197.712	0.67	1.60	0.242	0.577	1.97712	
270	201.314	0.69	1.65	0.248	0.593	2.01314	
280	204.905	0.71	1.70	0.255	0.609	2.04905	
290	208.484	0.73	1.75	0.261	0.625	2.08484	
300	212.052	0.75	1.80	0.267	0.641	2.12052	
310	215.608	0.77	1.85	0.273	0.657	2.15608	
320	219.152	0.79	1.90	0.280	0.672	2.19152	
330	222.685	0.81	1.95	0.286	0.688	2.22685	
340	226.206	0.83	2.00	0.292	0.703	2.26206	
350	229.716	0.85	2.05	0.298	0.718	2.29716	
360	233.214	0.87	2.10	0.304	0.733	2.33214	
370	236.701	0.89	2.15	0.310	0.748	2.36701	
380	240.176	0.91	2.20	0.316	0.763	2.40176	
390	243.640	0.93	2.25	0.322	0.778	2.43640	
400	247.092	0.95	2.30	0.327	0.793	2.47092	

Values follow IEC 60751. Class A applies from −100 to 450 °C for wire wound and −30 to 300 °C for thin film elements; class B over wider ranges. The lookup uses the quadratic inverse valid at or above 0 °C.

Prepared by	Checked by
Name:	Name:
Signature:	Signature:
Date:	Date: