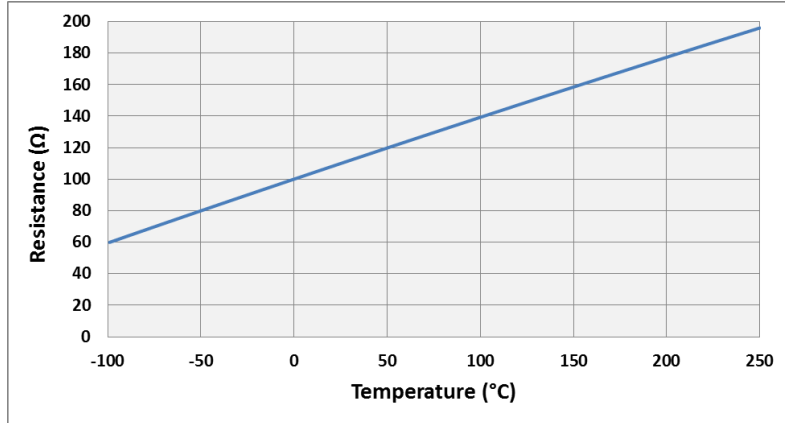


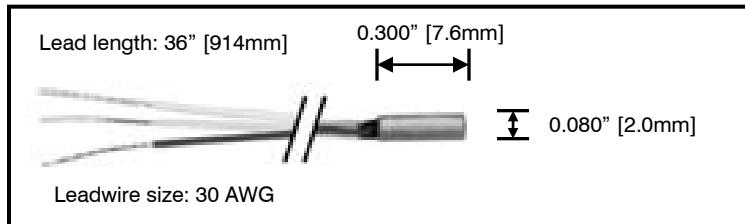
1600-100RTD Platinum RTD Instructions

The enclosed positive temperature coefficient (PTC) RTD, p/n 1600-100RTD, works by translating temperature into resistance, with resistance increasing as temperature increases (hence the 'positive coefficient').



Typical Resistance vs. Temperature Graph

As can be seen by the graph, the resistance of the RTD climbs in an almost linear way, making it a good sensor for measuring wide temperature ranges.



Temperature to Resistance Equation

Resistance varies with temperature in a slightly non-linear fashion. This relationship can be accurately modeled by the following equation:

$$R_t = R_0 [1 + At + Bt^2 + C(t - 100)t^3]$$

The C term is only applicable when $t < 0^\circ\text{C}$, omit otherwise (or make C zero).

This RTD is a 0.00385Ω/Ω/°C sensor, and has the following coefficients:

- A = 3.9080E-03
- B = -5.8019E-07
- C = -4.2735E-12
- R0 = 100.0

RTD Resistance vs Temperature Chart

°C	R Val (Ω)	°C	R Val (Ω)	°C	R Val (Ω)	°C	R Val (Ω)	°C	R Val (Ω)
-80	67.709	-30	87.991	20	107.946	70	127.606	120	146.972
-79	68.118	-29	88.393	21	108.342	71	127.996	121	147.357
-78	68.528	-28	88.795	22	108.738	72	128.386	122	147.741
-77	68.937	-27	89.197	23	109.134	73	128.776	123	148.125
-76	69.346	-26	89.599	24	109.530	74	129.166	124	148.509
-75	69.754	-25	90.001	25	109.925	75	129.556	125	148.893
-74	70.163	-24	90.402	26	110.321	76	129.945	126	149.277
-73	70.571	-23	90.803	27	110.716	77	130.335	127	149.660
-72	70.979	-22	91.205	28	111.111	78	130.724	128	150.044
-71	71.388	-21	91.606	29	111.507	79	131.114	129	150.427
-70	71.795	-20	92.007	30	111.902	80	131.503	130	150.810
-69	72.203	-19	92.407	31	112.296	81	131.892	131	151.194
-68	72.611	-18	92.808	32	112.691	82	132.281	132	151.577
-67	73.018	-17	93.209	33	113.086	83	132.669	133	151.959
-66	73.426	-16	93.609	34	113.480	84	133.058	134	152.342
-65	73.833	-15	94.009	35	113.875	85	133.447	135	152.725
-64	74.240	-14	94.410	36	114.269	86	133.835	136	153.108
-63	74.646	-13	94.810	37	114.663	87	134.223	137	153.490
-62	75.053	-12	95.210	38	115.057	88	134.612	138	153.872
-61	75.460	-11	95.610	39	115.451	89	135.000	139	154.255
-60	75.866	-10	96.009	40	115.845	90	135.388	140	154.637
-59	76.272	-9	96.409	41	116.239	91	135.776	141	155.019
-58	76.678	-8	96.808	42	116.633	92	136.163	142	155.401
-57	77.084	-7	97.208	43	117.026	93	136.551	143	155.782
-56	77.490	-6	97.607	44	117.419	94	136.938	144	156.164
-55	77.896	-5	98.006	45	117.813	95	137.326	145	156.545
-54	78.301	-4	98.405	46	118.206	96	137.713	146	156.927
-53	78.707	-3	98.804	47	118.599	97	138.100	147	157.308
-52	79.112	-2	99.203	48	118.992	98	138.487	148	157.689
-51	79.517	-1	99.601	49	119.385	99	138.874	149	158.070
-50	79.922	0	100.000	50	119.777	100	139.261	150	158.451
-49	80.327	1	100.398	51	120.170	101	139.648	151	158.832
-48	80.731	2	100.797	52	120.562	102	140.034	152	159.213
-47	81.136	3	101.195	53	120.955	103	140.421	153	159.593
-46	81.540	4	101.593	54	121.347	104	140.807	154	159.974
-45	81.944	5	101.991	55	121.739	105	141.193	155	160.354
-44	82.348	6	102.389	56	122.131	106	141.579	156	160.734
-43	82.752	7	102.786	57	122.523	107	141.965	157	161.114
-42	83.156	8	103.184	58	122.914	108	142.351	158	161.494
-41	83.560	9	103.582	59	123.306	109	142.737	159	161.874
-40	83.963	10	103.979	60	123.697	110	143.123	160	162.254
-39	84.367	11	104.376	61	124.089	111	143.508	161	162.634
-38	84.770	12	104.773	62	124.480	112	143.893	162	163.013
-37	85.173	13	105.170	63	124.871	113	144.279	163	163.393
-36	85.576	14	105.567	64	125.262	114	144.664	164	163.772
-35	85.979	15	105.964	65	125.653	115	145.049	165	164.151
-34	86.382	16	106.361	66	126.044	116	145.434	166	164.530
-33	86.784	17	106.757	67	126.435	117	145.819	167	164.909
-32	87.187	18	107.154	68	126.825	118	146.203	168	165.288
-31	87.589	19	107.550	69	127.216	119	146.588	169	165.667