



### Applications

The various available models of temperature probe are devices which, by means of a physical process, provide the instrument they are connected to with the temperature reading

### Technical Data

Sensor types available	Range	Cable types available	Range	Tip materials available	Range
NTC	-50...110°C	PVC plastic	-30...80°C	ABS	-30...80°C
PTC	-55...150°C	TPE	-40...110°C	TPE	-40...110°C
Pt100 thermistor	-100...600°C	Silicone	-60...200°C	AISI 304	-60...800°C
J thermocouple	0...600°C	Vetrotex	0...350°C	Inconel	0...1200°C
K thermocouple	0...1350°C				

### FEATURES AND MODELS

Probe types	Cable types	Tip material	Range
<b>NTC PROBES</b>			
Resin-coated NTC	PVC (light grey)	ABS	-30...80°C
Resin-coated NTC	PVC (light grey)	AISI 304 steel	-30...80°C
Resin-coated NTC	Silicone (light blue)	AISI 304 steel	-50...110°C
NTC	TPE	XXX	-40...110°C
NTC	TPE	XXX	-40...110°C
<b>PTC PROBES</b>			
PTC (A) for air	PVC (black)	Bare sensor	-30...80°C
Protected PTC (A/P) for air	PVC (black)	AISI 304 steel	-30...80°C
Protected PTC (A/P) S for air	Silicone (dark grey)	AISI 304 steel	-55...150°C
PTC (W) wall mounted	—	Plastic	-40...120°C
Fixed tube PTC (T)	PVC (black)	ABS plastic	-20...80°C
Resin-coated PTC (S)	Silicone (dark grey)	AISI 304 steel	-55...150°C
Resin-coated PTC (N)	PVC (black)	AISI 304 steel	-30...80°C
PTC	TPE	XXX	-40...110°C
PTC	TPE	XXX	-40...110°C
<b>Pt100 PROBES</b>			
Protected Pt100 (A/P) S for air	Silicone	AISI 316 steel	-60...200°C
Protected Pt100 (A/P) V for air	Vetrotex	AISI 316 steel	0...350°C
Pt100 (N) S standard normal	Silicone	AISI 316 steel	-60...200°C
Pt100 (N) V standard normal	Vetrotex	AISI 316 steel	0...350°C
Pt100 (N) V3P special	Protected Vetrotex	AISI 316 steel	0...600°C
Pt100 (W) wall mounted	—	Plastic	-40...120°C

Probe types	Cable types	Tip material	Range
<b>J THERMOCOUPLE</b>			
Fe-Co J (N) thermocouple	Vetrotex	AISI 316 steel	0...600°C *
* end part only			
<b>K THERMOCOUPLE</b>			
K (N) thermocouple Cr-Al	Vetrotex	AISI 316 steel	0...600°C *
K (N) thermocouple Cr-Al	Vetrotex	ICONEL	0...1350°C *
* end part only			

<b>Codes</b>				
Probe type	p/n	Cable	Tip	Range
NTC (IP68)	SN8T6H1502	TPE - 1.5m	5x20 - TPE	-40...110°C
NTC (IP68)	SNT86N1502	TPE - 1.5m	6x50 - Steel	-40...110°C
NTC (IP68)	SN8T6H3002	TPE - 3m	5x20 - TPE	-40...110°C
NTC (IP68)	SN8T6A1502	TPE - 1.5m	6x40 - Steel	-40...110°C
NTC (IP68)	SN8T6H1505	Shielded TPE - 1.5m	5x20 - TPE	-40...110°C
Resin-coated NTC (N)	SN8P0A1500	PVC - 1.5m	6x40 - PVC	-30...80°C
NTC 103AT-2 with Faston	SN8SAA1502	Silicone	6x40	
PTC (IP68)	SN7T6H1502	TPE - 1.5m	5x20 - TPE	-40...110°C
PTC (IP68)	SN7T6H3002	TPE - 3m	6x40 - Steel	-40...110°C
PTC (IP68)	SN7T6H3002	TPE - 3m	5x20 - TPE	-40...110°C
PTC (IP68)	SN7T6A1502	TPE - 1.5m	6x40 - Steel	-40...110°C
PTC (IP68)	SN7TAE51502C0	TPE - 1.5m	6x50 - Steel	-40...110°C
Resin-coated PTC (N)	SN7P0B1500	PVC - 1.5m	6x30 - PVC	-30...80°C
Resin-coated PTC (S)	SN8S0A1500	Silicone - 1.5m	6x40	-55...110°C
Pt100	SN200009	Vetrotex - 3m	6x100	0...600°C
Pt100	SN206000	Silicone - 3m	6x100	-40...200°C
Pt100	SN200000	Vetrotex - 3m	6x100	0...350°C
Pt100	SN200027	Silicone - 3m	4x40	-80...200°C
Pt100	SN204000	DIN head	8x100 - Steel	
Pt1000	SN9C0X2102	Silicone - 2.1m	4x3.2 - Teflon	-200...500°C
Pt1000	SN9C0X2103	Silicone - 2.1m	6.5/4x2.7 - Teflon	-200...500°C
Pt1000	SN9S0A2500	Silicone - 2.5m	6x40	-200...500°C
TcK	SN400000	Vetrotex - 3m	6x100	0...400°C
TcK	SN400004	Vetrotex - 1m	6x200	0...1200°C
TcK	SN400008	Vetrotex - 1.5m	4x50	0...400°C
Tcj	SN300000	Vetrotex - 3m	6x100	0...350°C
Tcj	SN300001	Vetrotex - 3m	4x50	0...350°C

## PTC probe table

Ambient temperature		Temperature coefficient	KTY81-121			
(°C)	(°F)	(%/K)	Resistance (Ohm)			Temperature error
			Minimum	Typical	Maximum	
-55	-67	0.99	471	485	500	±3.02
-50	-58	0.98	495	510	524	±2.92
-40	-40	0.96	547	562	576	±2.74
-30	-22	0.93	603	617	632	±2.55
-20	-4	0.91	662	677	691	±2.35
-10	14	0.88	726	740	754	±2.14
0	32	0.85	794	807	820	±1.91
10	50	0.83	865	877	889	±1.67
20	68	0.80	941	951	962	±1.41
25	77	0.79	980	990	1000	±1.27
30	86	0.78	1018	1029	1041	±1.39
40	104	0.75	1097	1111	1125	±1.64
50	122	0.73	1180	1196	1213	±1.91
60	140	0.71	1266	1286	1305	±2.19
70	158	0.69	1355	1378	1402	±2.49
80	176	0.67	1447	1475	1502	±2.80
90	194	0.65	1543	1575	1607	±3.12
100	212	0.63	1642	1679	1716	±3.46
110	230	0.61	1745	1786	1828	±3.83
120	248	0.58	1849	1896	1943	±4.33
125	257	0.55	1900	1950	2000	±4.66
130	266	0.52	1950	2003	2056	±5.07
140	284	0.45	2044	2103	1462	±6.28
150	302	0.35	2124	2189	2254	±8.55

## NTC probe table

Ambient temperature	Resistance (KOhm)					
\$(°C)	102AT	202AT	502AT	103AT	203AT	503AT
-50	24.46	55.66	154.60	329.50	1253	3168
-45	18.68	42.17	116.50	247.70	890.50	2257
-40	14.43	32.34	88.91	188.50	642.00	1632
-35	11.23	26.96	68.19	144.10	465.80	1186
-30	8.834	19.48	52.87	111.30	342.50	872.80
-25	6.998	15.29	41.21	86.43	253.60	646.30
-20	5.594	12.11	32.44	47.77	190.00	484.30
-15	4.501	9.655	25.66	53.41	143.20	364.60
-10	3.651	7.763	20.48	42.47	109.10	277.50
-5	2.979	6.277	16.43	33.90	83.75	212.30
0	2.449	5.114	13.29	27.28	64.88	164.00
5	2.024	4.188	10.80	22.05	50.53	127.50
10	1.684	3.454	8.840	17.96	39.71	99.99
15	1.408	2.862	7.267	14.69	31.36	78.77
20	1.184	2.387	6.013	12.09	24.96	62.56
25	1.000	2.000	5.000	10.00	20.00	50.00
30	0.8486	1.684	4.179	8.313	16.12	40.20
35	0.7229	1.424	3.508	6.940	13.06	32.48
40	0.6189	1.211	2.961	5.827	10.65	26.43
45	0.5316	1.033	2.509	4.911	8.716	21.59
50	0.4587	0.8854	2.137	4.160	7.181	17.75
55	0.3949	0.7620	1.826	3.536	5.941	14.64
60	0.3446	0.6587	1.567	3.020	4.943	12.15
65	0.3000	0.5713	1.350	2.588	4.127	10.13
70	0.2622	0.4975	1.168	2.228	3.464	8.482
75	0.2285	0.4343	1.014	1.924	2.916	7.129
80	0.1999	0.3807	0.8835	1.668	2.468	6.022
85	0.1751	0.3346	0.7722	1.451	2.096	5.105
90	0.1536	0.2949	0.6771	1.266	1.788	4.345
95	-	-	0.5961	1.108	1.530	3.712
100	-	-	0.5265	0.9731	1.315	3.185
105	-	-	0.4654	0.8572	1.134	2.741
110	-	-	0.4128	0.7576	0.9807	2.369

## NTC probe table - Extended range

Ambient temperature	Resistance (KOhm)		
(°C)	Minimum	Typical	Maximum
-40	321.654	333.562	345.877
-35	233.032	241.072	249.364
-30	170.611	176.082	181.710
-25	126.176	129.925	133.773
-20	94.221	96.807	99.454
-15	71.015	72.809	74.640
-10	54.004	55.253	56.525
-5	41.419	42.292	43.179
0	32.028	32.640	33.260
5	24.962	25.391	25.824
10	19.601	19.902	20.205
15	15.504	15.713	15.924
20	12.348	12.493	12.639
25	9.900	10.000	10.100
30	7.962	8.055	8.150
35	6.444	6.530	6.616
40	5.247	5.325	5.403
45	4.296	4.367	4.438
50	3.537	3.601	3.665
55	2.928	2.985	3.042
60	2.436	2.487	2.538
65	2.037	2.082	2.127
70	1.711	1.751	1.792
75	1.444	1.480	1.516
80	1.224	1.256	1.288
85	1.042	1.070	1.099
90	0.890	0.916	0.941
95	0.764	0.786	0.810
100	0.658	0.678	0.699
105	0.569	0.587	0.605
110	0.493	0.510	0.526
115	0.429	0.444	0.459
120	0.375	0.388	0.402
125	0.328	0.340	0.353
130	0.289	0.299	0.310
135	0.254	0.264	0.274
140	0.224	0.234	0.243
145	0.199	0.207	0.215
150	0.177	0.184	0.192

# Temperature probe tables

## Pt100 probe table

Ambient temperature	Resistance	Ambient temperature	Resistance	Ambient temperature	Resistance	Ambient temperature	Resistance	Ambient temperature	Resistance
(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)
-200	18.52	20	107.79	230	186.84	440	260.78	650	329.64
-190	22.83	30	111.67	240	190.47	450	264.18	660	332.79
-180	27.10	40	115.54	250	194.10	460	267.56	670	335.93
-170	31.34	50	119.40	260	197.71	470	270.93	680	339.06
-160	35.54	60	123.24	270	201.31	480	274.29	690	342.18
-150	39.72	70	127.08	280	204.90	490	277.64	700	345.28
-140	43.88	80	130.90	290	208.48	500	280.98	710	348.38
-130	48.00	90	134.71	300	212.05	510	284.30	720	351.46
-120	52.11	100	138.51	310	215.61	520	287.62	730	354.53
-110	56.19	110	142.29	320	219.15	530	290.92	740	357.59
-100	60.26	120	146.07	330	222.68	540	294.21	750	360.64
-90	64.30	130	149.83	340	226.21	550	297.49	760	353.67
-80	68.33	140	153.58	350	229.72	560	300.75	770	366.70
-70	72.33	150	157.33	360	233.21	570	304.01	780	369.71
-60	76.33	160	161.05	370	236.70	580	307.25	790	372.71
-50	80.31	170	164.77	380	240.18	590	310.49	800	375.70
-40	84.27	180	168.48	390	243.64	600	313.71	810	378.68
-30	88.22	190	172.17	400	247.09	610	316.92	820	381.65
-20	92.16	200	175.86	410	250.53	620	320.12	830	384.60
-10	96.09	210	179.53	420	253.96	630	323.30	840	387.55
0	100.00	220	183.19	430	257.38	640	326.48	850	390.48
10	103.90								

## Pt1000 probe table

Ambient temperature	Resistance	Ambient temperature	Resistance	Ambient temperature	Resistance	Ambient temperature	Resistance	Ambient temperature	Resistance
(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)	(°C)	(Ohm)
-200	185.281	20	1077.936	230	1868.465	440	2608.235	650	3297.246
-190	228.327	30	1116.731	240	1904.843	450	2642.196	660	3328.790
-180	271.029	40	1155.411	250	1941.106	460	2676.042	670	3360.219
-170	313.408	50	1193.976	260	1977.254	470	2709.773	680	3391.533
-160	355.484	60	1232.426	270	2013.287	480	2743.389	690	3422.731
-150	397.277	70	1270.961	280	2049.205	490	2776.889	700	3453.815
-140	432.903	80	1308.981	290	2085.007	500	2810.275	710	3484.783
-130	480.081	90	1347.085	300	2120.695	510	2843.545	720	3515.637
-120	521.127	100	1385.075	310	2156.267	520	2876.701	730	3546.375
-110	561.954	110	1422.949	320	2191.725	530	2909.741	740	3576.998
-100	602.578	120	1460.709	330	2227.067	540	2942.666	750	3607.506
-90	643.012	130	1498.353	340	2262.294	550	2975.476	760	3637.899
-80	683.267	140	1535.882	350	2297.406	560	3008.171	770	3668.177
-70	723.355	150	1573.296	360	2332.403	570	3040.751	780	3698.340
-60	763.286	160	1610.595	370	2367.285	580	3073.216	790	3728.387
-50	903.068	170	1647.779	380	2402.052	590	3105.565	800	3758.320
-40	842.71	180	1684.848	390	2436.703	600	3137.800	810	3788.137
-30	882.218	190	1721.801	400	2471.240	610	3169.919	820	3917.840
-20	921.6	200	1758.640	410	2505.661	620	3201.924	830	3847.427
-10	960.859	210	1795.363	420	2539.968	630	3233.813	840	3876.899
0	1000	220	1831.972	430	2574.159	640	3265.587	850	3906.256
10	1039.025								

## TCJ probe table

Temp.	0°C	-10°C	-20°C	-30°C	-40°C	-50°C	-60°C	-70°C	-80°C	-90°C
-200°C	-7.890	-8.095	-	-	-	-	-	-	-	-
-100°C	-4.633	-5.037	-5.426	-5.801	-6.159	-6.500	-6.821	-7.123	-7.403	-7.659
0°C	0.000	-0.501	-0.995	-1.482	-1.961	-2.431	-2.893	-3.344	-3.786	-4.215
	10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C	100°C
0°C	0.000	0.507	1.019	1.537	2.059	2.585	3.116	3.650	4.187	4.726
100°C	5.269	5.814	6.360	6.909	7.459	8.010	8.562	9.115	9.669	10.224
200°C	10.779	11.334	11.889	12.445	13.000	13.555	14.110	14.665	15.219	15.773
300°C	16.327	16.881	17.434	17.986	18.538	19.090	19.642	20.194	20.745	21.297
400°C	21.848	22.400	22.952	23.504	24.059	24.610	25.164	25.720	26.276	26.834
500°C	27.393	27.953	28.516	29.080	29.647	30.216	30.788	31.362	31.939	32.519
600°C	33.102	33.689	34.279	34.873	35.470	36.071	36.675	37.284	37.896	38.512
700°C	39.132	39.755	40.382	41.012	41.645	42.281	42.919	43.559	44.203	44.848
800°C	45.494	46.141	46.786	47.431	48.074	48.715	49.353	49.989	50.622	51.251
900°C	51.877	52.500	53.119	53.735	54.347	54.956	55.561	56.164	56.763	57.360
1000°C	57.953	58.545	59.134	59.721	60.307	60.890	61.473	62.054	62.634	63.214
1100°C	63.792	64.370	64.948	65.525	66.102	66.679	67.255	67.831	68.406	68.980
1200°C	69.553	-	-	-	-	-	-	-	-	-

## TCK probe table

Temp.	0°C	-10°C	-20°C	-30°C	-40°C	-50°C	-60°C	-70°C	-80°C	-90°C
-200°C	-5.730	-6.035	-6.158	-6.262	-6.344	-6.404	-6.441	-6.458	-	-
-100°C	-3.554	-3.852	-4.138	-4.411	-4.669	-4.913	-5.141	-5.354	-5.550	-5.730
0°C	0.000	-0.392	-0.778	-1.156	-1.527	-1.889	-2.243	-2.587	-2.920	-3.243
	10°C	20°C	30°C	40°C	50°C	60°C	70°C	80°C	90°C	100°C
0°C	0.000	0.397	0.798	1.203	1.612	2.023	2.436	2.851	3.267	3.682
100°C	4.096	4.509	4.920	5.328	5.735	6.138	6.540	6.941	7.340	7.739
200°C	8.138	8.539	8.940	9.343	9.747	10.153	10.561	10.971	11.382	11.795
300°C	12.209	12.624	13.040	13.457	13.874	14.293	14.713	15.133	15.554	15.975
400°C	16.397	16.820	17.243	17.667	18.091	18.516	18.941	19.366	19.792	20.218
500°C	20.644	21.071	21.497	21.924	22.350	22.776	23.203	23.629	24.055	24.480
600°C	24.905	25.330	25.755	26.179	26.602	27.025	27.447	27.869	28.289	28.710
700°C	29.129	29.548	29.965	30.382	30.798	31.213	31.628	32.041	32.453	32.865
800°C	33.275	33.685	34.093	34.501	34.908	35.313	35.718	36.121	36.524	36.925
900°C	37.326	37.725	38.124	38.522	38.918	39.314	39.708	10.101	40.490	40.885
1000°C	41.276	41.665	42.053	42.440	42.826	43.211	43.595	43.978	44.359	44.740
1100°C	45.119	45.497	45.873	46.249	46.623	46.995	47.367	47.737	48.105	48.473
1200°C	48.838	49.202	49.565	49.926	50.286	50.644	51.000	51.355	51.708	52.060
1300°C	52.410	52.759	53.106	53.451	53.795	54.138	54.479	54.819	-	-