

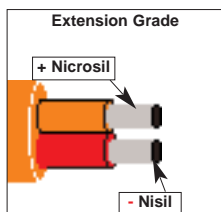


Technical Information Data Bulletin

Type N Thermocouple

Nicrosil-Nisil

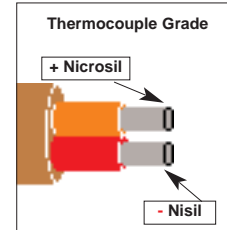
TEMPERATURE & PROCESS INSTRUMENTS - INC.



Temperature vs Millivolt Table Reference Junction 0°C

Temperature Range
Maximum Useful Temperature Range:
Thermocouple Grade: -450 to 2372°F
-270 to 1300°C
Extension Grade: 32 to 392°F
0 to 200°C

Maximum Thermocouple Grade
Temperature Range
-450 to 2372°F
-270 to 1300°C
Accuracy: Standard: 1.7°C or 0.5%
Special: 1.0°C or 0.4%



Recommended Applications:

Alternative to Type K. Thermocouples More Stable at High Temperature

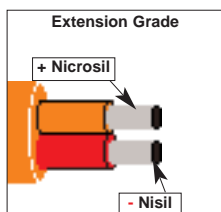
Temp	0	1	2	3	4	5	6	7	8	9
160	4.6178	4.6496	4.6814	4.7133	4.7451	4.7770	4.8090	4.8410	4.8730	4.9050
170	4.9371	4.9692	5.0013	5.0335	5.0657	5.0979	5.1301	5.1624	5.1948	5.2271
180	5.2595	5.2919	5.3243	5.3568	5.3893	5.4218	5.4544	5.4870	5.5196	5.5523
190	5.5850	5.6177	5.6504	5.6832	5.7160	5.7488	5.7817	5.8146	5.8475	5.8804
200	5.9134	5.9464	5.9795	6.0125	6.0456	6.0787	6.1119	6.1451	6.1783	6.2115
210	6.2448	6.2780	6.3114	6.3447	6.3781	6.4115	6.4449	6.4783	6.5118	6.5453
220	6.5789	6.6124	6.6460	6.6796	6.7133	6.7469	6.7806	6.8143	6.8481	6.8819
230	6.9157	6.9495	6.9833	7.0172	7.0511	7.0850	7.1190	7.1530	7.1870	7.2210
240	7.2551	7.2891	7.3232	7.3574	7.3915	7.4257	7.4599	7.4941	7.5284	7.5627
250	7.5970	7.6313	7.6656	7.7000	7.7344	7.7688	7.8033	7.8377	7.8722	7.9067
260	7.9413	7.9758	8.0104	8.0450	8.0797	8.1143	8.1490	8.1837	8.2184	8.2532
270	8.2879	8.3227	8.3576	8.3924	8.4272	8.4621	8.4970	8.5320	8.5669	8.6019
280	8.6369	8.6719	8.7069	8.7420	8.7770	8.8121	8.8473	8.8824	8.9176	8.9528
290	8.9880	9.0232	9.0584	9.0937	9.1290	9.1643	9.1996	9.2350	9.2704	9.3057
300	9.3412	9.3766	9.4120	9.4475	9.4830	9.5185	9.5541	9.5896	9.6252	9.6608
310	9.6964	9.7320	9.7677	9.8033	9.8390	9.8747	9.9105	9.9462	9.9820	10.0178
320	10.0536	10.0894	10.1252	10.1611	10.1970	10.2329	10.2688	10.3047	10.3407	10.3766
330	10.4126	10.4486	10.4847	10.5207	10.5568	10.5929	10.6290	10.6651	10.7012	10.7374
340	10.7735	10.8097	10.8459	10.8821	10.9184	10.9546	10.9909	11.0272	11.0635	11.0998
350	11.1362	11.1725	11.2089	11.2453	11.2817	11.3181	11.3546	11.3910	11.4275	11.4640
360	11.5005	11.5371	11.5736	11.6102	11.6467	11.6833	11.7199	11.7565	11.7932	11.8298
370	11.8665	11.9032	11.9399	11.9766	12.0133	12.0501	12.0869	12.1236	12.1604	12.1972
380	12.2341	12.2709	12.3078	12.3446	12.3815	12.4184	12.4553	12.4923	12.5292	12.5662
390	12.6031	12.6401	12.6771	12.7142	12.7512	12.7882	12.8253	12.8624	12.8995	12.9366
400	12.9737	13.0108	13.0480	13.0851	13.1223	13.1595	13.1967	13.2339	13.2711	13.3084
410	13.3456	13.3829	13.4202	13.4575	13.4948	13.5321	13.5695	13.6068	13.6442	13.6815
420	13.7189	13.7563	13.7937	13.8312	13.8686	13.9061	13.9435	13.9810	14.0185	14.0560
430	14.0935	14.1311	14.1686	14.2062	14.2437	14.2813	14.3189	14.3565	14.3941	14.4317
440	14.4694	14.5070	14.5447	14.5824	14.6201	14.6578	14.6955	14.7332	14.7709	14.8087
450	14.8464	14.8842	14.9220	14.9598	14.9976	15.0354	15.0732	15.1110	15.1489	15.1867
460	15.2246	15.2625	15.3004	15.3383	15.3762	15.4141	15.4521	15.4900	15.5280	15.5659
470	15.6039	15.6419	15.6799	15.7179	15.7559	15.7939	15.8320	15.8700	15.9081	15.9462
480	15.9842	16.0223	16.0604	16.0985	16.1367	16.1748	16.2129	16.2511	16.2892	16.3274
490	16.3656	16.4038	16.4420	16.4802	16.5184	16.5566	16.5948	16.6331	16.6713	16.7096
500	16.7479	16.7861	16.8244	16.8627	16.9010	16.9393	16.9777	17.0160	17.0543	17.0927
510	17.1310	17.1694	17.2078	17.2462	17.2846	17.3230	17.3614	17.3998	17.4382	17.4767
520	17.5151	17.5536	17.5920	17.6305	17.6690	17.7074	17.7459	17.7844	17.8229	17.8614
530	17.9000	17.9385	17.9770	18.0156	18.0541	18.0927	18.1313	18.1698	18.2084	18.2470
540	18.2856	18.3242	18.3628	18.4014	18.4401	18.4787	18.5173	18.5560	18.5946	18.6333
550	18.6720	18.7106	18.7493	18.7880	18.8267	18.8654	18.9041	18.9428	18.9815	19.0203
560	19.0590	19.0977	19.1365	19.1752	19.2140	19.2528	19.2915	19.3303	19.3691	19.4079
570	19.4467	19.4855	19.5243	19.5631	19.6019	19.6407	19.6796	19.7184	19.7572	19.7961
580	19.8349	19.8738	19.9127	19.9515	19.9904	20.0293	20.0682	20.1071	20.1460	20.1849
590	20.2238	20.2627	20.3016	20.3405	20.3794	20.4184	20.4573	20.4963	20.5352	20.5742
600	20.6131	20.6521	20.6910	20.7300	20.7690	20.8080	20.8469	20.8859	20.9249	20.9639
610	21.0029	21.0419	21.0809	21.1200	21.1590	21.1980	21.2370	21.2761	21.3151	21.3541
620	21.3932	21.4322	21.4713	21.5103	21.5494	21.5885	21.6275	21.6666	21.7057	21.7447
630	21.7838	21.8229	21.8620	21.9011	21.9402	21.9793	22.0184	22.0575	22.0966	22.1357



Technical Information Data Bulletin

Type N Thermocouple Nicrosil-Nisil

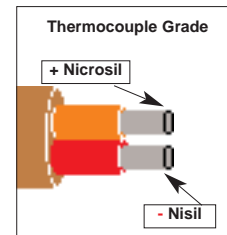
TEMPERATURE & PROCESS INSTRUMENTS - INC.



Temperature vs Millivolt Table Reference Junction 0°C

Temperature Range
Maximum Useful Temperature Range:
Thermocouple Grade: -450 to 2372°F
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Accuracy: Standard: 1.7°C or 0.5%
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Recommended Applications:

Alternative to Type K. Thermocouples More Stable at High Temperature

Temp	0	1	2	3	4	5	6	7	8	9
640	22.1748	22.2140	22.2531	22.2922	22.3313	22.3705	22.4096	22.4488	22.4879	22.5270
650	22.5662	22.6053	22.6445	22.6837	22.7228	22.7620	22.8011	22.8403	22.8795	22.9187
660	22.9578	22.9970	23.0362	23.0754	23.1146	23.1537	23.1929	23.2321	23.2713	23.3105
670	23.3497	23.3889	23.4281	23.4673	23.5065	23.5458	23.5850	23.6242	23.6634	23.7026
680	23.7418	23.7811	23.8203	23.8595	23.8988	23.9380	23.9772	24.0165	24.0557	24.0949
690	24.1342	24.1734	24.2127	24.2519	24.2911	24.3304	24.3696	24.4089	24.4481	24.4874
700	24.5267	24.5659	24.6052	24.6444	24.6837	24.7229	24.7622	24.8015	24.8407	24.8800
710	24.9193	24.9585	24.9978	25.0371	25.0764	25.1156	25.1549	25.1942	25.2334	25.2727
720	25.3120	25.3513	25.3906	25.4298	25.4691	25.5084	25.5477	25.5870	25.6262	25.6655
730	25.7048	25.7441	25.7834	25.8227	25.8619	25.9012	25.9405	25.9798	26.0191	26.0584
740	26.0977	26.1370	26.1762	26.2155	26.2548	26.2941	26.3334	26.3727	26.4120	26.4513
750	26.4905	26.5298	26.5691	26.6084	26.6477	26.6870	26.7263	26.7656	26.8049	26.8441
760	26.8834	26.9227	26.9620	27.0013	27.0406	27.0799	27.1192	27.1584	27.1977	27.2370
770	27.2763	27.3156	27.3549	27.3942	27.4334	27.4727	27.5120	27.5513	27.5906	27.6298
780	27.6691	27.7084	27.7477	27.7869	27.8262	27.8655	27.9048	27.9440	27.9833	28.0226
790	28.0619	28.1011	28.1404	28.1797	28.2189	28.2582	28.2975	28.3367	28.3760	28.4153
800	28.4545	28.4938	28.5330	28.5723	28.6116	28.6508	28.6901	28.7293	28.7686	28.8078
810	28.8471	28.8863	28.9256	28.9648	29.0040	29.0433	29.0825	29.1218	29.1610	29.2002
820	29.2395	29.2787	29.3179	29.3572	29.3964	29.4356	29.4748	29.5141	29.5533	29.5925
830	29.6317	29.6709	29.7101	29.7493	29.7886	29.8278	29.8670	29.9062	29.9454	29.9846
840	30.0238	30.0630	30.1022	30.1414	30.1805	30.2197	30.2589	30.2981	30.3373	30.3765
850	30.4156	30.4548	30.4940	30.5332	30.5723	30.6115	30.6507	30.6898	30.7290	30.7681
860	30.8073	30.8464	30.8856	30.9247	30.9639	31.0030	31.0422	31.0813	31.1204	31.1596
870	31.1987	31.2378	31.2769	31.3161	31.3552	31.3943	31.4334	31.4725	31.5116	31.5507
880	31.5898	31.6289	31.6680	31.7071	31.7462	31.7853	31.8244	31.8635	31.9026	31.9416
890	31.9807	32.0198	32.0588	32.0979	32.1370	32.1760	32.2151	32.2541	32.2932	32.3322
900	32.3713	32.4103	32.4493	32.4884	32.5274	32.5664	32.6054	32.6445	32.6835	32.7225
910	32.7615	32.8005	32.8395	32.8785	32.9175	32.9565	32.9955	33.0344	33.0734	33.1124
920	33.1514	33.1903	33.2293	33.2683	33.3072	33.3462	33.3851	33.4241	33.4630	33.5020
930	33.5409	33.5798	33.6188	33.6577	33.6966	33.7355	33.7744	33.8133	33.8522	33.8911
940	33.9300	33.9689	34.0078	34.0467	34.0856	34.1245	34.1633	34.2022	34.2411	34.2799
950	34.3188	34.3576	34.3965	34.4353	34.4741	34.5130	34.5518	34.5906	34.6294	34.6683
960	34.7071	34.7459	34.7847	34.8235	34.8623	34.9010	34.9398	34.9786	35.0174	35.0561
970	35.0949	35.1337	35.1724	35.2112	35.2499	35.2887	35.3274	35.3661	35.4048	35.4436
980	35.4823	35.5210	35.5597	35.5984	35.6371	35.6758	35.7145	35.7532	35.7918	35.8305
990	35.8692	35.9078	35.9465	35.9851	36.0238	36.0624	36.1011	36.1397	36.1783	36.2169
1000	36.2555	36.2941	36.3327	36.3713	36.4099	36.4485	36.4871	36.5257	36.5643	36.6028
1010	36.6414	36.6799	36.7185	36.7570	36.7956	36.8341	36.8726	36.9111	36.9496	36.9882
1020	37.0267	37.0652	37.1036	37.1421	37.1806	37.2191	37.2575	37.2960	37.3345	37.3729
1030	37.4114	37.4498	37.4882	37.5267	37.5651	37.6035	37.6419	37.6803	37.7187	37.7571
1040	37.7955	37.8338	37.8722	37.9106	37.9489	37.9873	38.0256	38.0640	38.1023	38.1406
1050	38.1790	38.2173	38.2556	38.2939	38.3322	38.3705	38.4088	38.4470	38.4853	38.5236
1060	38.5618	38.6001	38.6383	38.6766	38.7148	38.7530	38.7912	38.8294	38.8677	38.9059
1070	38.9440	38.9822	39.0204	39.0586	39.0967	39.1349	39.1730	39.2112	39.2493	39.2875
1080	39.3256	39.3637	39.4018	39.4399	39.4780	39.5161	39.5542	39.5923	39.6303	39.6684
1090	39.7064	39.7445	39.7825	39.8206	39.8586	39.8966	39.9346	39.9726	40.0106	40.0486
1100	40.0866	40.1246	40.1626	40.2005	40.2385	40.2764	40.3144	40.3523	40.3902	40.4281
1110	40.4660	40.5040	40.5418	40.5797	40.6176	40.6555	40.6934	40.7312	40.7691	40.8069



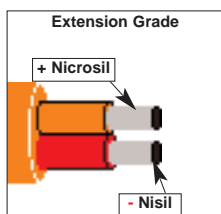
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Type N Thermocouple

Nicrosil-Nisil

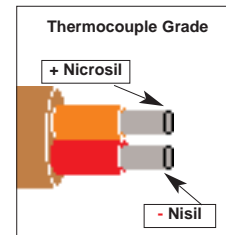
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Recommended Applications:

Alternative to Type K. Thermocouples More Stable at High Temperature

Temp	0	1	2	3	4	5	6	7	8	9
1120	40.8448	40.8826	40.9204	40.9582	40.9960	41.0338	41.0716	41.1094	41.1472	41.1850
1130	41.2227	41.2605	41.2982	41.3360	41.3737	41.4114	41.4491	41.4869	41.5246	41.5622
1140	41.5999	41.6376	41.6753	41.7129	41.7506	41.7882	41.8259	41.8635	41.9011	41.9388
1150	41.9764	42.0140	42.0516	42.0891	42.1267	42.1643	42.2018	42.2394	42.2769	42.3145
1160	42.3520	42.3895	42.4270	42.4645	42.5020	42.5395	42.5770	42.6145	42.6519	42.6894
1170	42.7268	42.7643	42.8017	42.8391	42.8766	42.9140	42.9514	42.9887	43.0261	43.0635
1180	43.1009	43.1382	43.1756	43.2129	43.2502	43.2876	43.3249	43.3622	43.3995	43.4368
1190	43.4740	43.5113	43.5486	43.5858	43.6231	43.6603	43.6975	43.7348	43.7720	43.8092
1200	43.8464	43.8835	43.9207	43.9579	43.9950	44.0322	44.0693	44.1065	44.1436	44.1807
1210	44.2178	44.2549	44.2920	44.3290	44.3661	44.4032	44.4402	44.4772	44.5143	44.5513
1220	44.5883	44.6253	44.6623	44.6993	44.7362	44.7732	44.8101	44.8471	44.8840	44.9209
1230	44.9579	44.9948	45.0316	45.0685	45.1054	45.1423	45.1791	45.2160	45.2528	45.2896
1240	45.3264	45.3632	45.4000	45.4368	45.4735	45.5103	45.5470	45.5838	45.6205	45.6572
1250	45.6939	45.7306	45.7673	45.8039	45.8406	45.8772	45.9139	45.9505	45.9871	46.0237
1260	46.0603	46.0969	46.1334	46.1700	46.2065	46.2430	46.2796	46.3161	46.3525	46.3890
1270	46.4255	46.4619	46.4984	46.5348	46.5712	46.6076	46.6440	46.6803	46.7167	46.7530
1280	46.7894	46.8257	46.8620	46.8983	46.9345	46.9708	47.0070	47.0433	47.0795	47.1157
1290	47.1518	47.1880	47.2242	47.2603	47.2964	47.3325	47.3686	47.4047	47.4407	47.4768
1300	47.5128									



MicroCal 200/200+ Two Channel High Accuracy Portable or Benchtop Laboratory Multifunction Calibrator

Features

- Compatible with 14 thermocouple types: J, K, T, R, S, B, N, C, E, U, L, F, G, D
- Resistance thermometers 2, 3, and 4 wire connections (Pt100/200/500/1000, Cu 10/100, and Ni100/120)
- High accuracy ($\pm 0.02\%$ / $\pm 0.01\%$ of reading)
- Two insulated and independent channels
- Menu-driven procedures
- Ideal tool for measuring and simulating: Thermocouple, mV, V, mA, and Ohms



MC1000 High Accuracy Multifunction Process Calibrator

Features

- Ten (10) Thermocouple types, eight (8) RTD types, plus YSI 400 Thermistors
- Read and source modes
- Full function 4 to 20 mA read, source, simulate, and read/power modes
- Source or read 0 to 20 Volts
- Measure 0 to 250 VDC or VAC
- Direct keyboard entry enables quick output changes
- Store up to nine (9) setpoints for each output function
- RTD function compatible with all pulsed transmitters
- RS232 interface