

THERMOCOUPLE EMF TABLE

ANSI MC96.1 1982

Type B Thermocouple

IS C 1602 1981 Unit: mV

°C	0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	°C
0	0.000	0.033	0.178	0.431	0.786	1.241	1.791	2.430	3.154	3.957	4.833	5.777	6.783	7.845	8.952	10.094	11.257	12.426	13.585	0
10	-0.002	0.043	0.199	0.462	0.827	1.292	1.851	2.499	3.231	4.041	4.924	5.875	6.887	7.953	9.065	10.210	11.374	12.543	13.699	10
20	-0.003	0.053	0.220	0.494	0.870	1.344	1.912	2.569	3.308	4.126	5.016	5.973	6.991	8.063	9.178	10.325	11.491	12.659	13.814	20
30	-0.002	0.065	0.243	0.527	0.913	1.397	1.974	2.639	3.387	4.212	5.109	6.073	7.096	8.172	9.291	10.441	11.608	12.776		30
40	0.000	0.078	0.266	0.561	0.957	1.450	2.036	2.710	3.466	4.298	5.202	6.172	7.202	8.283	9.405	10.558	11.725	12.892		40
50	0.002	0.092	0.291	0.598	1.002	1.505	2.100	2.782	3.546	4.386	5.297	6.273	7.308	8.393	9.519	10.674	11.842	13.008		50
60	0.006	0.107	0.317	0.632	1.048	1.560	2.164	2.855	3.626	4.474	5.391	6.374	7.414	8.504	9.634	10.790	11.959	13.124		60
70	0.011	0.123	0.344	0.669	1.095	1.617	2.230	2.928	3.708	4.562	5.487	6.475	7.521	8.616	9.748	10.907	12.076	13.239		70
80	0.017	0.140	0.372	0.707	1.143	1.674	2.296	3.003	3.790	4.652	5.583	6.577	7.628	8.727	9.863	11.024	12.193	13.354		80
90	0.025	0.159	0.401	0.746	1.192	1.732	2.363	3.078	3.873	4.742	5.680	6.680	7.736	8.839	9.974	11.141	12.310	13.470		90
100	0.033	0.178	0.431	0.786	1.241	1.791	2.430	3.154	3.957	4.833	5.777	6.783	7.845	8.952	10.094	11.257	12.426	13.585		100

Type S Thermocouple

ANSI MC96.1 1982

IS C 1602 1981 Unit: mV

0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	°C	1,400	1,500	1,600	1,700	°C
0.000	0.645	1.440	2.323	3.260	4.234	5.237	6.274	7.345	8.448	9.585	10.754	11.947	13.155	0	14.368	15.576	16.771	17.942	0
0.055	0.719	1.525	2.414	3.356	4.333	5.339	6.380	7.454	8.560	9.700	10.872	12.067	13.276	10	14.489	15.697	16.890	18.056	10
0.113	0.795	1.611	2.506	3.452	4.432	5.442	6.486	7.563	8.673	9.816	10.991	12.188	13.397	20	14.610	15.817	17.008	18.170	20
0.173	0.872	1.698	2.599	3.549	4.532	5.544	6.592	7.672	8.786	9.932	11.110	12.308	13.519	30	14.731	15.937	17.125	18.282	30
0.235	0.950	1.785	2.692	3.645	4.632	5.648	6.699	7.782	8.899	10.048	11.229	12.429	13.640	40	14.852	16.057	17.243	18.394	40
0.299	1.029	1.873	2.786	3.743	4.732	5.751	6.805	7.892	9.012	10.165	11.348	12.550	13.761	50	14.973	16.176	17.360	18.504	50
0.365	1.109	1.962	2.880	3.840	4.832	5.855	6.913	8.003	9.126	10.282	11.467	12.671	13.883	60	15.094	16.296	17.477	18.612	60
0.432	1.190	2.051	2.974	3.938	4.933	5.960	7.020	8.114	9.240	10.400	11.587	12.792	14.004	70	15.215	16.415	17.594		70
0.502	1.273	2.141	3.069	4.036	5.034	6.064	7.128	8.225	9.355	10.517	11.707	12.913	14.125	80	15.336	16.534	17.711		80
0.573	1.356	2.232	3.164	4.135	5.136	6.169	7.236	8.336	9.470	10.635	11.827	13.034	14.247	90	15.456	16.653	17.826		90
0.645	1.440	2.323	3.260	4.234	5.237	6.274	7.345	8.448	9.585	10.754	11.947	13.155	14.368	100	15.576	16.771	17.942		100

Type R Thermocouple

ANSI MC96.1 1982

IS C 1602 1981 Unit: mV

°C	0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	°C
0	0.000	0.647	1.468	2.400	3.407	4.471	5.582	6.741	7.949	9.203	10.503	11.846	13.224	14.624	16.035	17.445	18.842	20.215	0
10	0.054	0.723	1.557	2.498	3.511	4.580	5.696	6.860	8.072	9.331	10.636	11.983	13.363	14.765	16.176	17.585	18.981	20.350	10
20	0.111	0.800	1.647	2.596	3.616	4.689	5.810	6.979	8.196	9.460	10.768	12.119	13.502	14.906	16.317	17.726	19.119	20.483	20
30	0.171	0.879	1.738	2.695	3.721	4.799	5.925	7.098	8.320	9.589	10.902	12.257	13.642	15.047	16.458	17.866	19.257	20.616	30
40	0.232	0.959	1.830	2.795	3.826	4.910	6.040	7.218	8.445	9.718	11.035	12.394	13.782	15.188	16.599	18.006	19.395	20.748	40
50	0.296	1.041	1.923	2.896	3.933	5.021	6.155	7.339	8.570	9.848	11.170	12.532	13.922	15.329	16.741	18.146	19.533	20.878	50
60	0.363	1.124	2.111	2.997	4.039	5.132	6.272	7.460	8.696	9.978	11.304	12.669	14.062	15.470	16.882	18.286	19.670	21.006	60
70	0.431	1.208	2.207	3.099	4.146	5.244	6.388	7.582	8.822	10.109	11.439	12.808	14.202	15.611	17.022	18.425	19.807		70
80	0.501	1.294	2.141	3.201	4.254	5.356	6.505	7.703	8.949	10.240	11.574	12.946	14.343	15.752	17.163	18.564	19.944		80
90	0.573	1.380	2.303	3.304	4.362	5.469	6.623	7.826	9.076	10.371	11.710	13.085	14.483	15.893	17.304	18.703	20.080		90
100	0.647	1.468	2.400	3.407	4.471	5.582	6.741	7.949	9.203	10.503	11.846	13.224	14.624	16.035	17.445	18.842	20.215		100

Type K Thermocouple

ANSI MC96.1 1982

IS C 1602 1981 Unit: mV

°C	-100	-0	°C	0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	°C
-0	-3.553	0.000	0	0.000	4.095	8.137	12.207	16.395	20.640	24.902	29.128	33.27	37.325	41.269	45.108	48.828	52.398	0
-10	-3.852	-0.392	10	0.397	4.508	8.537	12.623	16.818	21.066	25.327	29.547	33.686	37.724	41.657	45.486	49.192	52.747	10
-20	-4.138	-0.777	20	0.798	4.919	8.938	13.039	17.241	21.493	25.751	29.965	34.095	38.122	42.045	45.863	49.555	53.093	20
-30	-4.410	-1.156	30	1.203	5.327	9.341	13.456	17.664	21.919	26.176	30.383	34.502	38.519	42.432	46.238	49.916	53.439	30
-40	-4.699	-1.527	40	1.611	5.733	9.745	13.874	18.088	22.346	26.599	30.799	34.909	38.915	42.817	46.612	50.276	53.782	40
-50	-4.912	-1.898	50	2.022	6.137	10.151	14.292	18.513	22.772	27.022	31.214	35.314	39.310	43.202	46.985	50.633	54.125	50
-60	-5.141	-2.243	60	2.436	6.539	10.560	14.712	18.938	23.198	27.445	31.629	35.718	39.703	43.585	47.356	50.990	54.466	60
-70	-5.354	-2.586	70	2.850	6.939	10.969	15.132	19.363	23.624	27.867	32.042	36.121	40.096	43.968	47.726	51.344	54.807	70
-80	-5.550	-2.920	80	3.266	7.338	11.381	15.552	19.788	24.050	28.288	32.455	36.524	40.488	44.349	48.095	51.697		80
-90	-5.730	-3.242	90	3.681	7.737	11.793	15.974	20.214	24.476	28.709	32.866	36.925	40.879	44.729	48.462	52.049		90
-100	-5.891	-3.553	100	4.095	8.137	12.207	16.395	20.640	24.902	29.128	33.277	37.325	41.269	45.108	48.828	52.398		100

Type J Thermocouple

ANSI MC96.1 1982
JIS C 1602 1981 Unit: mV

°C	-100	-0	°C	0	100	200	300	400	500	600	700	800	900	1,000	1,100	°C
-0	-4.632	0.000	0	0.000	5.268	10.777	16.325	21.846	27.388	33.096	39.130	45.498	51.875	57.942	63.777	0
-10	-5.036	-0.501	10	0.507	5.812	11.332	13.879	22.397	27.949	33.683	39.754	46.144	52.496	58.533	64.355	10
-20	-5.426	-0.995	20	1.019	6.359	11.887	17.432	22.949	28.511	34.273	40.382	46.790	53.115	59.121	64.933	20
-30	-5.801	-1.481	30	1.536	6.907	12.442	17.984	23.501	29.075	34.867	41.013	47.434	53.729	59.708	65.510	30
-40	-6.159	-1.960	40	2.058	7.457	12.996	18.537	24.054	29.642	35.464	41.647	48.076	54.341	60.293	66.067	40
-50	-6.499	-2.431	50	2.585	8.008	13.553	19.089	24.607	30.210	36.066	42.283	48.716	54.948	60.876	66.664	50
-60	-6.821	-2.892	60	3.115	8.560	14.108	19.640	25.161	30.782	36.671	42.922	49.354	55.553	61.459	67.240	60
-70	-7.122	-3.344	70	3.649	9.113	14.663	20.192	25.716	31.356	37.280	43.563	49.989	56.155	62.03962	67.815	70
-80	-7.402	-3.785	80	4.186	9.667	15.217	20.743	26.272	31.933	37.893	44.207	50.621	56.753	619	68.390	80
-90	-7.659	-4.215	90	4.725	10.222	15.771	21.295	26.829	32.513	38.510	44.852	51.249	57.349	63.199	68.964	90
-100	-7.890	-4.632	100	5.268	10.777	16.325	21.846	27.388	33.096	39.130	45.498	51.875	57.942	63.777	69.536	100

Type E Thermocouple

ANSI MC96.1 1982
JIS C 1602 1981 Unit: mV

°C	-100	-0	°C	0	100	200	300	400	500	600	700	800	900	°C
-0	-5.237	0.000	0	0.000	6.317	13.419	21.033	28.943	36.999	45.085	53.110	61.022	68.783	0
-10	-5.680	-0.581	10	0.591	6.996	14.161	21.814	29.744	37.808	45.891	53.907	61.806	69.549	10
-20	-6.107	-1.151	20	1.192	7.983	14.909	22.597	30.546	38.617	46.697	54.703	62.588	70.313	20
-30	-6.516	-1.709	30	1.801	8.377	15.661	23.383	31.350	39.426	47.502	55.498	63.368	71.075	30
-40	-6.907	-2.254	40	2.419	9.078	16.417	24.171	32.155	40.236	48.306	56.291	64.147	71.835	40
-50	-7.279	-2.787	50	3.047	9.787	17.178	24.961	32.960	41.045	49.109	57.083	64.924	72.593	50
-60	-7.631	-3.306	60	3.683	10.501	17.942	25.754	33.767	41.853	49.911	57.873	65.700	73.350	60
-70	-7.963	-3.811	70	4.329	11.222	18.710	26.549	34.574	42.662	50.713	58.663	66.473	74.104	70
-80	-8.273	-4.301	80	4.983	11.949	19.481	27.354	35.382	43.470	51.513	59.451	67.245	74.857	80
-90	-8.561	-4.777	90	5.646	12.681	20.256	28.143	36.190	44.278	52.312	60.237	68.015	75.608	90
-100	-8.824	-5.237	100	6.317	13.419	21.033	28.943	36.999	45.085	53.110	61.022	68.783	76.358	100

Type T Thermocouple

ANSI MC96.1 1982
JIS C 1602 1981 Unit: mV

°C	-200	-100	-0	°C	0	100	200	300	°C
-0	-5.603	-3.378	0.000	0	0.000	4.277	9.286	14.860	0
-10	-5.753	-3.656	-0.383	10	0.391	4.749	9.820	15.443	10
-20	-5.889	-3.923	-0.757	20	0.789	5.227	10.360	16.030	20
-30	-6.007	-4.177	-1.121	30	1.196	5.712	10.905	16.621	30
-40	-6.105	-4.419	-1.475	40	1.611	6.204	11.456	17.217	40
-50	-6.181	-4.648	-1.819	50	2.035	6.702	12.011	17.816	50
-60	-6.232	-4.865	-2.152	60	2.467	7.207	12.572	18.420	60
-70	-6.258	-5.069	-2.475	70	2.908	7.718	13.137	19.027	70
-80		-5.261	-2.788	80	3.357	8.235	13.707	20.252	80
-90		-5.439	-3.089	90	3.813	8.757	14.281	20.869	90
-100		-5.603	-3.378	100	4.277	9.286	14.860		100

Type N Thermocouple

ANSI MC96.1 1982
JIS C 1602 1981 Unit: mV

°C	0	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	°C
0	0.000	2.744	5.912	8.340	12.927	16.744	20.609	24.526	28.456	32.370	36.248	40.076	43.836	47.502	0
10	0.261	3.072	6.243	9.695	13.344	17.127	20.999	24.919	28.849	32.760	36.633	40.456	44.207		10
20	0.525	3.374	6.577	10.053	13.717	17.511	21.390	25.312	29.241	3.149	37.018	40.835	44.578		20
30	0.793	3.679	6.914	10.412	14.092	17.896	21.781	25.705	29.633	3.538	37.403	41.213	44.947		30
40	1.064	3.988	7.254	10.773	14.467	18.282	22.172	26.098	30.025	33.927	37.786	41.590	45.315		40
50	1.340	4.301	7.596	11.135	14.844	18.668	22.564	26.491	30.417	34.315	38.169	41.966	45.682		50
60	1.619	4.617	7.940	11.499	15.222	19.055	22.956	26.885	30.808	34.702	38.552	42.342	46.048		60
70	1.902	4.936	8.287	11.865	15.601	19.443	23.348	27.278	31.199	35.089	38.934	42.717	46.413		70
80	2.188	5.258	8.636	12.233	15.981	19.831	23.747	27.671	31.590	35.476	39.316	43.091	46.777		80
90	2.479	5.584	8.987	12.602	16.362	20.220	24.133	28.063	31.980	35.862	39.696	43.464	47.140		90
100	2.774	5.912	8.340	12.927	16.744	20.609	24.526	28.456	32.370	36.248	40.076	43.836	47.502		100