

# Thermocouple Emf. Table

## Type B Thermocouple

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

T: °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	6.793	7.865	8.992	10.269	11.557	12.826	14.088	0
10	-0.002	0.044	0.189	0.462	0.827	1.292	1.851	2.499	3.231	4.041	4.924	5.875	6.897	7.983	9.136	10.370	11.574	12.743	13.888	10
20	-0.003	0.053	0.226	0.506	0.879	1.344	1.903	2.550	3.288	4.105	5.005	5.973	6.999	8.088	9.242	10.467	11.662	12.828	13.975	20
30	-0.002	0.065	0.243	0.537	0.913	1.387	1.947	2.593	3.330	4.212	5.105	6.073	7.099	8.172	9.296	10.441	11.608	12.775	13.928	30
40	0.000	0.078	0.266	0.561	0.957	1.409	2.006	2.710	3.486	4.296	5.202	6.172	7.202	8.280	9.405	10.558	11.725	12.890	14.040	40
50	0.001	0.092	0.291	0.585	1.002	1.505	2.109	2.783	3.596	4.385	5.297	6.273	7.309	8.399	9.549	10.671	11.862	13.009	14.150	50
60	0.001	0.107	0.317	0.632	1.048	1.560	2.164	2.835	3.628	4.474	5.381	6.374	7.414	8.504	9.624	10.760	11.958	13.134	14.311	60
70	0.011	0.123	0.344	0.669	1.090	1.617	2.219	2.938	3.708	4.592	5.487	6.475	7.521	8.614	9.748	10.907	12.078	13.239	14.399	70
80	0.017	0.140	0.372	0.707	1.143	1.674	2.276	2.995	3.776	4.632	5.563	6.517	7.628	8.737	9.880	11.031	12.193	13.334	14.475	80
90	0.021	0.159	0.401	0.749	1.192	1.732	2.343	3.078	3.873	4.743	5.689	6.663	7.768	8.876	9.976	11.141	12.319	13.475	14.621	90
100	0.024	0.178	0.431	0.788	1.241	1.781	2.430	3.184	3.992	4.883	5.777	6.793	7.865	8.952	10.096	11.237	12.426	13.588	14.740	100

## Type S Thermocouple

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

T: °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	0.645	1.468	2.323	3.208	4.234	5.257	6.274	7.345	8.448	9.585	10.754	11.947	13.155	14.368	15.578	16.771	17.943	19.100	0
10	0.025	0.719	1.523	2.404	3.328	4.333	5.359	6.386	7.454	8.568	9.705	10.872	12.067	13.278	14.485	15.687	16.890	18.068	19.225	10
20	0.013	0.795	1.613	2.595	3.432	4.433	5.442	6.486	7.563	8.673	9.836	10.999	12.188	13.397	14.636	15.837	17.058	18.170	19.260	20
30	0.173	0.872	1.698	2.589	3.549	4.532	5.544	6.583	7.672	8.786	9.932	11.119	12.348	13.519	14.731	15.957	17.120	18.302	19.440	30
40	0.220	0.950	1.780	2.692	3.645	4.632	5.648	6.699	7.782	8.899	10.048	11.239	12.426	13.640	14.882	16.067	17.243	18.394	19.520	40
50	0.299	1.029	1.873	2.786	3.743	4.732	5.754	6.805	7.892	8.932	10.163	11.388	12.636	13.914	15.193	16.478	17.760	18.924	19.970	50
60	0.365	1.109	1.962	2.885	3.848	4.832	5.853	6.913	7.980	9.126	10.382	11.647	12.911	14.214	15.494	16.751	17.975	19.127	19.817	60
70	0.432	1.180	2.054	3.031	3.998	4.933	5.963	6.114	7.288	8.492	9.687	10.872	12.083	13.306	14.551	15.716	16.854	17.971	18.817	70
80	0.502	1.253	2.141	3.089	4.026	5.034	6.064	7.128	8.225	9.355	10.523	11.702	12.933	14.225	15.536	16.784	17.911	18.963	19.940	80
90	0.573	1.326	2.232	3.164	4.135	5.136	6.169	7.236	8.336	9.476	10.652	11.827	13.034	14.217	15.456	16.633	17.626	18.563	19.440	90
100	0.645	1.400	2.323	3.263	4.234	5.237	6.274	7.345	8.448	9.585	10.754	11.947	13.155	14.368	15.578	16.771	17.943	19.100	19.817	100

## Type R Thermocouple

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

T: °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	0.647	1.468	2.383	3.437	4.471	5.582	6.741	7.849	9.005	10.263	11.586	12.824	14.081	15.335	16.585	17.842	19.103	20.358	0
10	0.004	0.723	1.537	2.488	3.511	4.589	5.696	6.868	8.052	9.231	10.426	11.663	12.963	14.265	15.569	16.876	18.168	19.460	20.650	10
20	0.111	0.800	1.647	2.586	3.618	4.689	5.830	6.979	8.186	9.440	10.748	12.119	13.385	14.666	15.913	17.226	18.418	19.680	20.940	20
30	0.173	0.879	1.728	2.685	3.721	4.789	5.925	7.096	8.329	9.589	10.902	12.227	13.492	14.847	16.098	17.469	18.727	19.990	21.210	30
40	0.232	0.959	1.838	2.785	3.826	4.919	6.040	7.218	8.445	9.718	11.035	12.394	13.782	15.166	16.589	18.008	19.285	20.548	21.780	40
50	0.294	1.041	1.923	2.882	3.933	5.021	6.155	7.338	8.569	9.846	11.174	12.532	13.923	15.325	16.740	18.146	19.533	20.870	22.070	50
60	0.363	1.124	2.017	2.987	4.039	5.132	6.272	7.460	8.686	9.976	11.364	12.809	14.245	15.670	16.882	18.286	19.678	21.000	22.240	60
70	0.432	1.208	2.111	3.095	4.145	5.264	6.385	7.582	8.822	10.109	11.439	12.808	14.262	15.611	17.022	18.425	19.807	21.140	22.410	70
80	0.500	1.294	2.207	3.203	4.254	5.358	6.505	7.700	8.949	10.240	11.574	12.945	14.343	15.732	17.163	18.564	19.944	21.270	22.540	80
90	0.573	1.380	2.303	3.304	4.363	5.468	6.623	7.828	9.076	10.371	11.719	13.095	14.493	15.895	17.364	18.790	20.189	21.550	22.810	90
100	0.647	1.468	2.400	3.407	4.471	5.582	6.741	7.949	9.263	10.625	11.986	13.354	14.724	16.133	17.445	18.847	20.210	21.550	22.810	100

## Type K Thermocouple

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

T: °C	-200	-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
-200	-0.223	0.000	0.680	1.495	2.127	2.227	18.293	29.840	38.992	29.128	23.277	27.325	41.269	45.198	48.838	52.298	0				
-18	-0.832	-0.380	0.0	0.387	1.008	1.537	21.833	18.838	21.866	25.322	29.347	33.688	37.734	41.457	45.486	49.192	52.747	10			
-16	-1.138	-0.777	20	0.788	1.419	1.938	23.839	17.243	21.493	25.753	29.985	34.095	38.123	42.645	45.863	49.355	53.080	20			
-10	-1.438	-1.136	30	0.283	0.537	0.741	23.498	17.694	21.919	26.178	30.383	34.502	38.539	42.432	46.238	49.919	53.429	30			
-8	-1.499	-1.257	40	0.631	1.133	1.745	23.824	18.048	22.345	26.699	30.994	34.998	38.993	42.817	46.652	50.278	53.782	40			
-6	-1.512	-1.289	50	0.923	1.337	19.151	18.297	18.543	22.772	27.032	31.219	35.214	38.935	43.303	46.980	50.633	54.130	50			
-4	-1.518	-1.313	60	0.636	1.339	19.040	18.512	18.608	23.186	27.443	31.409	35.218	38.793	43.268	47.326	50.893	54.448	60			
-2	-1.526	-1.346	70	2.850	1.839	19.969	19.332	19.383	23.624	27.867	31.947	36.321	40.096	43.868	47.726	51.246	54.837	70			
0	-0.520	-0.520	80	3.266	2.338	11.281	19.532	19.798	24.050	28.388	32.452	36.328	40.488	44.349	48.083	51.699	80				
10	-0.750	-0.742	90	3.681	2.737	11.793	19.874	20.214	24.476	28.709	32.866	36.825	40.876	44.729	48.462	52.049	90				
100	0.388	-0.333	100	4.095	3.127	12.297	18.295	20.648	24.902	29.128	33.277	37.325	41.269	45.308	48.828	52.308	100				