

## **TABLES**

*Temperature Tables for Thermocouples* Page 158

*Temperature Tables for RTD Sensors* Page 162

*Tolerances* Page 164

*Conversion from °F to °C* Page 165

*Conversion from °C to °F* Page 166

# Temperature Tables for Thermocouples

## Thermocouple type J

Fe-CuNi according to IEC 584-1. ITS 90. Output in mV. Referenced to 0 °C.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	mV/°C*
-200	-7.890	-8.095									0.021
-100	-4.633	-5.037	-5.426	-5.801	-6.159	-6.500	-6.821	-7.123	-7.403	-7.659	0.033
0	0.000	-0.501	-0.995	-1.482	-1.961	-2.431	-2.893	-3.344	-3.786	-4.215	0.046
°C	0	10	20	30	40	50	60	70	80	90	
0	0.000	0.507	1.019	1.537	2.059	2.585	3.116	3.650	4.187	4.726	0.053
100	5.269	5.814	6.360	6.909	7.459	8.010	8.562	9.115	9.669	10.224	0.055
200	10.779	11.334	11.889	12.445	13.000	13.555	14.110	14.665	15.219	15.773	0.055
300	16.327	16.881	17.434	17.986	18.538	19.090	19.642	20.194	20.745	21.297	0.055
400	21.848	22.400	22.952	23.504	24.057	24.610	25.164	25.720	26.276	26.834	0.055
500	27.393	27.953	28.516	29.080	29.647	30.216	30.788	31.362	31.939	32.519	0.057
600	33.102	33.689	34.279	34.873	35.470	36.071	36.675	37.284	37.896	38.512	0.060
700	39.132	39.755	40.382	41.012	41.645	42.281	42.919	43.559	44.203	44.848	0.064
800	45.494	46.141	46.786	47.431	48.074	48.715	49.353	49.989	50.622	51.251	0.064
900	51.877	52.500	53.119	53.735	54.347	54.956	55.561	56.164	56.763	57.360	0.061
1000	57.953	58.545	59.134	59.721	60.307	60.890	61.473	62.054	62.634	63.214	0.058
1100	63.792	64.370	64.948	65.525	66.102	66.679	67.255	67.831	68.406	68.980	0.058
1200	69.553										

\*Average

## Thermocouple type K

NiCr-Ni according to IEC 584-1. ITS 90. Output in mV. Referenced to 0 °C.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	mV/°C*
-200	-5.891	-6.035	-6.158	-6.262	-6.344	-6.404	-6.441	-6.458			0.008
-100	-3.554	-3.852	-4.138	-4.411	-4.669	-4.913	-5.141	-5.354	-5.550	-5.730	0.023
0	0.000	-0.392	-0.778	-1.156	-1.527	-1.889	-2.243	-2.587	-2.920	-3.243	0.036
°C	0	10	20	30	40	50	60	70	80	90	
0	0.000	0.397	0.798	1.203	1.612	2.023	2.436	2.851	3.267	3.682	0.041
100	4.096	4.509	4.920	5.328	5.735	6.138	6.540	6.941	7.340	7.739	0.040
200	8.138	8.539	8.940	9.343	9.747	10.153	10.561	10.971	11.382	11.795	0.041
300	12.209	12.624	13.040	13.457	13.874	14.293	14.713	15.133	15.554	15.975	0.042
400	16.397	16.820	17.243	17.667	18.091	18.516	18.941	19.366	19.792	20.218	0.042
500	20.644	21.071	21.497	21.924	22.350	22.776	23.203	23.629	24.055	24.480	0.043
600	24.905	25.330	25.755	26.179	26.602	27.025	27.447	27.869	28.289	28.710	0.042
700	29.129	29.548	29.965	30.382	30.798	31.213	31.628	32.041	32.453	32.865	0.041
800	33.275	33.685	34.093	34.501	34.908	35.313	35.718	36.121	36.524	36.925	0.041
900	37.326	37.725	38.124	38.522	38.918	39.314	39.708	40.101	40.494	40.885	0.040
1000	41.276	41.665	42.053	42.440	42.826	43.211	43.595	43.978	44.359	44.740	0.038
1100	45.119	45.497	45.873	46.249	46.623	46.995	47.367	47.737	48.105	48.473	0.037
1200	48.838	49.202	49.565	49.926	50.286	50.644	51.000	51.355	51.708	52.060	0.036
1300	52.410	52.759	53.106	53.451	53.795	54.138	54.479	54.819			0.034

\*Average

## Thermocouple type N

NiCrSi-NiSi according to IEC 584-1. ITS 90. Output in mV. Referenced to 0 °C.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	mV/°C*
-200	-3.990	-4.083	-4.162	-4.226	-4.277	-4.313	-4.336	-4.345			0.005
-100	-2.407	-2.612	-2.808	-2.994	-3.171	-3.336	-3.491	-3.634	-3.766	-3.884	0.016
0	0.000	-0.260	-0.518	-0.772	-1.023	-1.269	-1.509	-1.744	-1.972	-2.193	0.024
°C	0	10	20	30	40	50	60	70	80	90	
0	0.000	0.261	0.525	0.793	1.065	1.340	1.619	1.902	2.189	2.480	0.028
100	2.774	3.072	3.374	3.680	3.989	4.302	4.618	4.937	5.259	5.585	0.031
200	5.913	6.245	6.579	6.916	7.255	7.597	7.941	8.288	8.637	8.988	0.034
300	9.341	9.696	10.054	10.413	10.774	11.136	11.501	11.867	12.234	12.603	0.036
400	12.974	13.346	13.719	14.094	14.469	14.846	15.225	15.604	15.984	16.366	0.038
500	16.748	17.131	17.515	17.900	18.286	18.672	19.059	19.447	19.835	20.224	0.039
600	20.613	21.003	21.393	21.784	22.175	22.566	22.958	23.350	23.742	24.134	0.039
700	24.527	24.919	25.312	25.705	26.098	26.491	26.883	27.276	27.669	28.062	0.039
800	28.455	28.847	29.239	29.632	30.024	30.416	30.807	31.199	31.590	31.981	0.039
900	32.371	32.761	33.151	33.541	33.930	34.319	34.707	35.095	35.482	35.869	0.039
1000	36.256	36.641	37.027	37.411	37.795	38.179	38.562	38.944	39.326	39.706	0.038
1100	40.087	40.466	40.845	41.223	41.600	41.976	42.352	42.727	43.101	43.474	0.038
1200	43.846	44.218	44.588	44.958	45.326	45.694	46.060	46.425	46.789	47.152	0.037
1300	47.513										

\*Average

## Thermocouple type T

Cu-CuNi according to IEC 584-1. ITS 90. Output in mV. Referenced to 0 °C.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	mV/°C*
-200	-5.603	-5.753	-5.888	-6.007	-6.105	-6.180	-6.232	-6.258			0.009
-100	-3.379	-3.657	-3.923	-4.177	-4.419	-4.468	-4.865	-5.070	-5.261	-5.439	0.022
0	0.000	-0.383	-0.757	-1.121	-1.475	-1.819	-2.153	-2.476	-2.788	-3.089	0.034
°C	0	10	20	30	40	50	60	70	80	90	
0	0.000	0.391	0.790	1.196	1.612	2.036	2.468	2.909	3.358	3.814	0.043
100	4.279	4.750	5.228	5.714	6.206	6.704	7.209	7.720	8.237	8.759	0.050
200	9.288	9.822	10.362	10.907	11.458	12.013	12.574	13.139	13.709	14.283	0.056
300	14.862	15.445	16.032	16.624	17.219	17.819	18.422	19.030	19.641	20.255	0.060
400	20.872										

\*Average

## Thermocouple type E

NiCr-CuNi according to IEC 584-1. ITS 90. Output in mV. Referenced to 0 °C.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	mV/°C*
-200	-8.825	-9.063	-9.274	-9.455	-9.604	-9.718	-9.797	-9.835			0.014
-100	-5.237	-5.681	-6.107	-6.516	-6.907	-7.279	-7.632	-7.963	-8.273	-8.561	0.036
0	0.000	-0.582	-1.152	-1.709	-2.255	-2.787	-3.306	-3.811	-4.302	-4.777	0.052
°C	0	10	20	30	40	50	60	70	80	90	
0	0.000	0.591	1.192	1.801	2.420	3.048	3.685	4.330	4.985	5.648	0.063
100	6.319	6.998	7.685	8.379	9.081	9.789	10.503	11.224	11.951	12.684	0.071
200	13.421	14.164	14.912	15.664	16.420	17.181	17.945	18.713	19.484	20.259	0.076
300	21.036	21.817	22.600	23.386	24.174	24.964	25.757	26.552	27.348	28.146	0.079
400	28.946	29.747	30.550	31.354	32.159	32.965	33.772	34.579	35.387	36.196	0.081
500	37.005	37.815	38.624	39.434	40.243	41.053	41.862	42.671	43.479	44.286	0.081
600	45.093	45.900	46.705	47.509	48.313	49.116	49.917	50.718	51.517	52.315	0.080
700	53.112	53.908	54.703	55.497	56.289	57.080	57.870	58.659	59.446	60.232	0.079
800	61.017	61.801	62.583	63.364	64.144	64.922	65.698	66.473	67.246	68.017	0.078
900	68.787	69.554	70.319	71.082	71.844	72.603	73.360	74.115	74.869	75.621	0.076
1000	76.373										

\*Average

## Thermocouple type R

Pt13%Rh-Pt according to IEC 584-1. ITS 90. Output in mV. Referenced to 0 °C.

°C	0	10	20	30	40	50	60	70	80	90	mV/°C*
0	0.000	0.054	0.111	0.171	0.232	0.296	0.363	0.431	0.501	0.573	0.006
100	0.647	0.723	0.800	0.879	0.959	1.041	1.124	1.208	1.294	1.381	0.008
200	1.469	1.558	1.648	1.739	1.831	1.923	2.017	2.112	2.207	2.304	0.009
300	2.401	2.498	2.597	2.696	2.796	2.896	2.997	3.099	3.201	3.304	0.010
400	3.408	3.512	3.616	3.721	3.827	3.933	4.040	4.147	4.255	4.363	0.011
500	4.471	4.580	4.690	4.800	4.910	5.021	5.133	5.245	5.357	5.470	0.011
600	5.583	5.697	5.812	5.926	6.041	6.157	6.273	6.390	6.507	6.625	0.012
700	6.743	6.861	6.980	7.100	7.220	7.340	7.461	7.583	7.705	7.827	0.012
800	7.950	8.073	8.197	8.321	8.446	8.571	8.697	8.823	8.950	9.077	0.013
900	9.205	9.333	9.461	9.590	9.720	9.850	9.980	10.111	10.242	10.374	0.013
1000	10.506	10.638	10.771	10.905	11.039	11.173	11.307	11.442	11.578	11.714	0.013
1100	11.850	11.986	12.123	12.260	12.397	12.535	12.673	12.812	12.950	13.089	0.014
1200	13.228	13.367	13.507	13.646	13.786	13.926	14.066	14.207	14.347	14.488	0.014
1300	14.629	14.770	14.911	15.052	15.193	15.334	15.475	15.616	15.758	15.899	0.014
1400	16.040	16.181	16.323	16.464	16.605	16.746	16.887	17.028	17.169	17.310	0.014
1500	17.451	17.591	17.732	17.872	18.012	18.152	18.292	18.431	18.571	18.710	0.014
1600	18.849	18.988	19.126	19.264	19.402	19.540	19.677	19.814	19.951	20.087	0.014
1700	20.222	20.356	20.488	20.620	20.749	20.877	21.003				0.013

\*Average

## Thermocouple type S

Pt10%Rh-Pt according to IEC 584-1. ITS 90. Output in mV. Referenced to 0 °C.

°C	0	10	20	30	40	50	60	70	80	90	mV/°C*
0	0.000	0.055	0.113	0.173	0.235	0.299	0.365	0.433	0.502	0.573	0.006
100	0.646	0.720	0.795	0.872	0.950	1.029	1.110	1.191	1.273	1.357	0.008
200	1.441	1.526	1.612	1.698	1.786	1.874	1.962	2.052	2.141	2.232	0.009
300	2.323	2.415	2.507	2.599	2.692	2.786	2.880	2.974	3.069	3.164	0.009
400	3.259	3.355	3.451	3.548	3.645	3.742	3.840	3.938	4.036	4.134	0.010
500	4.233	4.332	4.432	4.532	4.632	4.732	4.833	4.934	5.035	5.137	0.010
600	5.239	5.341	5.443	5.546	5.649	5.753	5.857	5.961	6.065	6.170	0.010
700	6.275	6.381	6.486	6.593	6.699	6.806	6.913	7.020	7.128	7.236	0.011
800	7.345	7.454	7.563	7.673	7.783	7.893	8.003	8.114	8.226	8.337	0.011
900	8.449	8.562	8.674	8.787	8.900	9.014	9.128	9.242	9.357	9.472	0.011
1000	9.587	9.703	9.819	9.935	10.051	10.168	10.285	10.403	10.520	10.638	0.012
1100	10.757	10.875	10.994	11.113	11.232	11.351	11.471	11.590	11.710	11.830	0.012
1200	11.951	12.071	12.191	12.312	12.433	12.554	12.675	12.796	12.917	13.038	0.012
1300	13.159	13.280	13.402	13.523	13.644	13.766	13.887	14.009	14.130	14.251	0.012
1400	14.373	14.494	14.615	14.736	14.857	14.978	15.099	15.220	15.341	15.461	0.012
1500	15.582	15.702	15.822	15.942	16.062	16.182	16.301	16.420	16.539	16.658	0.012
1600	16.777	16.895	17.013	17.131	17.249	17.366	17.483	17.600	17.717	17.832	0.012
1700	17.947	18.061	18.174	18.285	18.395	18.503	18.609				0.011

\*Average

## Thermocouple type B

Pt30%Rh-Pt6%Rh according to IEC 584-1. ITS 90. Output in mV. Referenced to 0 °C.

°C	0	10	20	30	40	50	60	70	80	90	mV/°C*
0	0.000	-0.002	-0.003	-0.002	0.000	0.002	0.006	0.011	0.017	0.025	0.000
100	0.033	0.043	0.053	0.065	0.078	0.092	0.107	0.123	0.141	0.159	0.001
200	0.178	0.199	0.220	0.243	0.267	0.291	0.317	0.344	0.372	0.401	0.003
300	0.431	0.462	0.494	0.527	0.561	0.596	0.632	0.669	0.707	0.746	0.004
400	0.787	0.828	0.870	0.913	0.957	1.002	1.048	1.095	1.143	1.192	0.005
500	1.242	1.293	1.344	1.397	1.451	1.505	1.561	1.617	1.675	1.733	0.006
600	1.792	1.852	1.913	1.975	2.037	2.101	2.165	2.230	2.296	2.363	0.006
700	2.431	2.499	2.569	2.639	2.710	2.782	2.854	2.928	3.002	3.078	0.007
800	3.154	3.230	3.308	3.386	3.466	3.546	3.626	3.708	3.790	3.873	0.008
900	3.957	4.041	4.127	4.213	4.299	4.387	4.475	4.564	4.653	4.743	0.009
1000	4.834	4.926	5.018	5.111	5.205	5.299	5.394	5.489	5.585	5.682	0.009
1100	5.780	5.878	5.976	6.075	6.175	6.276	6.377	6.478	6.580	6.683	0.010
1200	6.786	6.890	6.995	7.100	7.205	7.311	7.417	7.524	7.632	7.740	0.011
1300	7.848	7.957	8.066	8.176	8.286	8.397	8.508	8.620	8.731	8.844	0.011
1400	8.956	9.069	9.182	9.296	9.410	9.524	9.639	9.753	9.868	9.984	0.011
1500	10.099	10.215	10.331	10.447	10.563	10.679	10.796	10.913	11.029	11.146	0.012
1600	11.263	11.380	11.497	11.614	11.731	11.848	11.965	12.082	12.199	12.316	0.012
1700	12.433	12.549	12.666	12.782	12.898	13.014	13.130	13.246	13.361	13.476	0.012
1800	13.591	13.706	13.820								0.011

\*Average

# Temperature Tables for RTD Sensors

## RTD type Pt100

Pt100 according to IEC 751. ITS 90. Output in ohm.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	Ω/°C *
-200	18.52										
-100	60.26	56.19	52.11	48.00	43.88	39.72	35.54	31.34	27.10	22.83	0.417
0	100.00	96.09	92.16	88.22	84.27	80.31	76.33	72.33	68.33	64.30	0.397
°C	0	10	20	30	40	50	60	70	80	90	
0	100.00	103.90	107.79	111.67	115.54	119.40	123.24	127.08	130.90	134.71	0.385
100	138.51	142.29	146.07	149.83	153.58	157.33	161.05	164.77	168.48	172.17	0.374
200	175.86	179.53	183.19	186.84	190.47	194.10	197.71	201.31	204.90	208.48	0.362
300	212.05	215.61	219.15	222.68	226.21	229.72	233.21	236.70	240.18	243.64	0.350
400	247.09	250.53	253.96	257.38	260.78	264.18	267.56	270.93	274.29	277.64	0.339
500	280.98	284.30	287.62	290.92	294.21	297.49	300.75	304.01	307.25	310.49	0.327
600	313.71	316.92	320.12	323.30	326.48	329.64	332.79	335.93	339.06	342.18	0.316
700	345.28	348.38	351.46	354.53	357.59	360.64	363.67	366.70	369.71	372.71	0.304
800	375.70	378.68	381.65	384.60	387.55	390.48					0.296

\*Average

## RTD type Pt1000

Pt1000 according to IEC 751. ITS 90. Output in ohm.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	Ω/°C *
-200	185.20										
-100	602.60	561.90	521.10	480.00	438.80	397.20	355.40	313.40	271.00	228.30	4.174
0	1000.0	960.90	921.60	882.20	842.70	803.10	763.30	723.30	683.30	643.00	3.974
°C	0	10	20	30	40	50	60	70	80	90	
0	1000.0	1039.0	1077.9	1116.7	1155.4	1194.0	1232.4	1270.8	1309.0	1347.1	3.851
100	1385.1	1422.9	1460.7	1498.3	1535.8	1573.3	1610.5	1647.7	1684.8	1721.7	3.735
200	1758.6	1795.3	1831.9	1868.4	1904.7	1941.0	1977.1	2013.1	2049.0	2084.8	3.619
300	2120.5	2156.1	2191.5	2226.8	2262.1	2297.2	2332.1	2367.0	2401.8	2436.4	3.504
400	2470.9	2505.3	2539.6	2573.8	2607.8	2641.8	2675.6	2709.3	2742.9	2776.4	3.389
500	2809.8	2843.0	2876.2	2909.2	2942.1	2974.9	3007.5	3040.1	3072.5	3104.9	3.273
600	3137.1	3169.2	3201.2	3233.0	3264.8	3296.4	3327.9	3359.3	3390.6	3421.8	3.157
700	3452.8	3483.8	3514.6	3545.3	3575.9	3606.4	3636.7	3667.0	3697.1	3727.1	3.042
800	3757.0	3786.8	3816.5	3846.0	3875.5	3904.8					2.956

\*Average

## RTD type Ni100

Ni100 according to DIN 43760. ITS 90. Output in ohm.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	Ω/°C *
0	100.00	94.54	89.25	84.12	79.12	74.24	69.46				0.509
°C	0	10	20	30	40	50	60	70	80	90	
0	100.00	105.60	111.30	117.12	123.07	129.14	135.34	141.69	148.21	154.89	0.617
100	161.73	168.73	175.92	183.31	190.90	198.69	206.68	214.86	223.10		0.767

\*Average

## RTD type Ni1000

Ni1000 according to DIN 43760. ITS 90. Output in ohm.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90	Ω/°C *
0	1000.0	945.4	892.5	841.2	791.2	742.4	694.6				5.090
°C	0	10	20	30	40	50	60	70	80	90	
0	1000.0	1056.0	1113.0	1171.2	1230.7	1291.4	1353.4	1416.9	1482.1	1548.9	6.173
100	1617.3	1687.3	1759.2	1833.1	1909.0	1986.9	2066.8	2148.6	2231.0		7.671

\*Average

# Tolerances

## Thermocouples

### Tolerances according to IEC 584-2

Temperature ranges are referenced to 0 °C.

Thermocouple type	Class 1		Class 2	
	Temperature range °C	Tolerances	Temperature range °C	Tolerances
J Fe-CuNi	-40 to +375	±1.5 °C	-40 to +333	±2.5 °C
	+375 to +750	±0.4 % <sup>1)</sup>	+333 to +750	±0.75 % <sup>1)</sup>
K NiCr-Ni	-40 to +375	±1.5 °C	-40 to +333	±2.5 °C
	+375 to +1000	±0.4 % <sup>1)</sup>	+333 to +1200	±0.75 % <sup>1)</sup>
N NiCrSi-NiSi	-40 to +375	±1.5 °C	-40 to +333	±2.5 °C
	+375 to +1000	±0.4 % <sup>1)</sup>	+333 to +1200	±0.75 % <sup>1)</sup>
T Cu-CuNi	-40 to +125	±0.5 °C	-40 to +133	±1.0 °C
	+125 to +350	±0.4 % <sup>1)</sup>	+133 to +350	±0.75 % <sup>1)</sup>
E NiCr-CuNi	-40 to +375	±1.5 °C	-40 to +333	±2.5 °C
	+375 to +800	±0.4 % <sup>1)</sup>	+333 to +900	±0.75 % <sup>1)</sup>
R PtRh-Pt	0 to +1100	±1.0 °C	0 to +600	±1.5 °C
	+1100 to +1600	±[1+0.003(t-1100)] °C	+600 to +1600	±0.25 % <sup>1)</sup>
S PtRh-Pt	0 to +1100	±1.0 °C	0 to +600	±1.5 °C
	+1100 to +1600	±[1+0.003(t-1100)] °C	+600 to +1600	±0.25 % <sup>1)</sup>
B PtRh-PtRh	-	-	+600 to +1700	±0.25 % <sup>1)</sup>

<sup>1)</sup> Of the temperature value.

## RTD type Pt100

### Tolerances according to IEC 751

Temperature °C	Class A		Class B	
	Tolerances Ohm	Tolerances °C	Tolerances Ohm	Tolerances °C
-200	±0.24	±0.55	±0.56	±1.30
-100	±0.14	±0.35	±0.32	±0.80
0	±0.06	±0.15	±0.12	±0.30
+100	±0.13	±0.35	±0.30	±0.80
+200	±0.20	±0.55	±0.48	±1.30
+300	±0.27	±0.75	±0.64	±1.80
+400	±0.33	±0.95	±0.79	±2.30
+500	±0.38	±1.15	±0.93	±2.80
+600	±0.43	±1.35	±1.06	±3.30
+650	±0.46	±1.45	±1.13	±3.55
+700	-	-	±1.17	±3.80
+800	-	-	±1.28	±4.30
+850	-	-	±1.34	±4.60

## RTD type Ni100

### Tolerances according to DIN 43760

Temperature °C	Tolerances Ohm	Tolerances °C
-60	±1.00	±2.10
0	±0.20	±0.40
+100	±0.80	±1.10
+180	±1.30	±1.70



# Conversions

## Conversion from °F to °C

Expression:  $^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times 5/9$

All values in °C are rounded to integers.

°F	0	-10	-20	-30	-40	-50	-60	-70	-80	-90
-400	-240									
-300	-184	-190	-196	-201	-207	-212	-218	-223	-229	-234
-200	-129	-134	-140	-146	-151	-157	-162	-168	-173	-179
-100	-73	-79	-84	-90	-96	-101	-107	-112	-118	-123
0	-18	-23	-29	-34	-40	-46	-51	-57	-62	-68
°F	0	10	20	30	40	50	60	70	80	90
0	-18	-12	-7	-1	4	10	16	21	27	32
100	38	43	49	54	60	66	71	77	82	88
200	93	99	104	110	116	121	127	132	138	143
300	149	154	160	166	171	177	182	188	193	199
400	204	210	216	221	227	232	238	243	249	254
500	260	266	271	277	282	288	293	299	304	310
600	316	321	327	332	338	343	349	354	360	366
700	371	377	382	388	393	399	404	410	416	421
800	427	432	438	443	449	454	460	466	471	477
900	482	488	493	499	504	510	516	521	527	532
1000	538	543	549	554	560	566	571	577	582	588
1100	593	599	604	610	616	621	627	632	638	643
1200	649	654	660	666	671	677	682	688	693	699
1300	704	710	716	721	727	732	738	743	749	754
1400	760	766	771	777	782	788	793	799	804	810
1500	816	821	827	832	838	843	849	854	860	866
1600	871	877	882	888	893	899	904	910	916	921
1700	927	932	938	943	949	954	960	966	971	977
1800	982	988	993	999	1004	1010	1016	1021	1027	1032
1900	1038	1043	1049	1054	1060	1066	1071	1077	1082	1088
2000	1093	1099	1104	1110	1116	1121	1127	1132	1138	1143
2100	1149	1154	1160	1166	1171	1177	1182	1188	1193	1199
2200	1204	1210	1216	1221	1227	1232	1238	1243	1249	1254
2300	1260	1266	1271	1277	1282	1288	1293	1299	1304	1310
2400	1316	1321	1327	1332	1338	1343	1349	1354	1360	1366
2500	1371	1377	1382	1388	1393	1399	1404	1410	1416	1421
2600	1427	1432	1438	1443	1449	1454	1460	1466	1471	1477
2700	1482	1488	1493	1499	1504	1510	1516	1521	1527	1532
2800	1538	1543	1549	1554	1560	1566	1571	1577	1582	1588
2900	1593	1599	1604	1610	1616	1621	1627	1632	1638	1643
3000	1649	1654	1660	1666	1671	1677	1682	1688	1693	1699
3100	1704	1710	1716	1721	1727	1732	1738	1743	1749	1754
3200	1760	1766	1771	1777	1782	1788	1793	1799	1804	1810
3300	1816	1821	1827	1832	1838	1843	1849	1854	1860	1866
3400	1871	1877	1882	1888	1893	1899	1904	1910	1916	1921
3500	1927	1932	1938	1943	1949	1954	1960	1966	1971	1977
3600	1982	1988	1993	1999	2004	2010	2016	2021	2027	2032
3700	2038	2043	2049	2054	2060	2066	2071	2077	2082	2088
3800	2093	2099	2104	2110	2116	2121	2127	2132	2138	2143
3900	2149	2154	2160	2166	2171	2177	2182	2188	2193	2199
4000	2204									

## Conversion from °C to °F

Expression:  $^{\circ}\text{F} = (^{\circ}\text{C} \times 9/5) + 32$

All values in °F are rounded to integers.

°C	0	-10	-20	-30	-40	-50	-60	-70	-80	-90
-200	-328									
-100	-148	-166	-184	-202	-220	-238	-256	-274	-292	-310
0	32	14	-4	-22	-40	-58	-76	-94	-112	-130
°C	0	10	20	30	40	50	60	70	80	90
0	32	50	68	86	104	122	140	158	176	194
100	212	230	248	266	284	302	320	338	356	374
200	392	410	428	446	464	482	500	518	536	554
300	572	590	608	626	644	662	680	698	716	734
400	752	770	788	806	824	842	860	878	896	914
500	932	950	968	986	1004	1022	1040	1058	1076	1094
600	1112	1130	1148	1166	1184	1202	1220	1238	1256	1274
700	1292	1310	1328	1346	1364	1382	1400	1418	1436	1454
800	1472	1490	1508	1526	1544	1562	1580	1598	1616	1634
900	1652	1670	1688	1706	1724	1742	1760	1778	1796	1814
1000	1832	1850	1868	1886	1904	1922	1940	1958	1976	1994
1100	2012	2030	2048	2066	2084	2102	2120	2138	2156	2174
1200	2192	2210	2228	2246	2264	2282	2300	2318	2336	2354
1300	2372	2390	2408	2426	2444	2462	2480	2498	2516	2534
1400	2552	2570	2588	2606	2624	2642	2660	2678	2696	2714
1500	2732	2750	2768	2786	2804	2822	2840	2858	2876	2894
1600	2912	2930	2948	2966	2984	3002	3020	3038	3056	3074
1700	3092	3110	3128	3146	3164	3182	3200	3218	3236	3254
1800	3272	3290	3308	3326	3344	3362	3380	3398	3416	3434
1900	3452	3470	3488	3506	3524	3542	3560	3578	3596	3614
2000	3632									