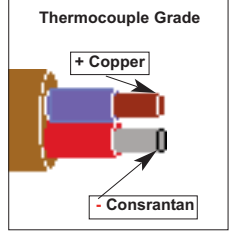
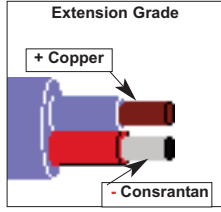


Type T Thermocouple Copper-Constantan

TEMPERATURE & PROCESS INSTRUMENTS - CON-

Temperature vs Millivolt Table Reference Junction 0°C



| | |
|--|---|
| <p>Temperature Range Maximum Useful Temperature Range: Thermocouple Grade: -328 to 662°F -200 to 350°C Extension Grade: -76 to 212°F -60 to 100°C</p> | <p>Maximum Thermocouple Grade Temperature Range -454 to 752°F -270 to 400°C Accuracy: Standard: 1.0°C or 0.75% Special: 0.5°C or 0.4%</p> |
|--|---|

Recommended Applications:
 Mild Oxidizing, Reducing Vacuum or Inert Environments. Good Where Moisture Is Present. Low Temperature Applications.

| Temp | 0 | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| -270 | -6.2575 | | | | | | | | | |
| -260 | -6.2318 | -6.2356 | -6.2391 | -6.2424 | -6.2454 | -6.2482 | -6.2507 | -6.2529 | -6.2548 | -6.2563 |
| -250 | -6.1804 | -6.1867 | -6.1926 | -6.1984 | -6.2039 | -6.2091 | -6.2141 | -6.2189 | -6.2234 | -6.2277 |
| -240 | -6.1050 | -6.1136 | -6.1220 | -6.1301 | -6.1380 | -6.1457 | -6.1531 | -6.1603 | -6.1673 | -6.1740 |
| -230 | -6.0067 | -6.0175 | -6.0281 | -6.0384 | -6.0486 | -6.0585 | -6.0683 | -6.0778 | -6.0871 | -6.0961 |
| -220 | -5.8885 | -5.9011 | -5.9136 | -5.9259 | -5.9380 | -5.9499 | -5.9616 | -5.9732 | -5.9845 | -5.9957 |
| -210 | -5.7532 | -5.7675 | -5.7815 | -5.7955 | -5.8092 | -5.8228 | -5.8363 | -5.8496 | -5.8627 | -5.8757 |
| -200 | -5.6030 | -5.6186 | -5.6342 | -5.6496 | -5.6648 | -5.6799 | -5.6949 | -5.7097 | -5.7243 | -5.7389 |
| -190 | -5.4386 | -5.4557 | -5.4726 | -5.4894 | -5.5060 | -5.5225 | -5.5389 | -5.5551 | -5.5712 | -5.5872 |
| -180 | -5.2608 | -5.2792 | -5.2974 | -5.3155 | -5.3335 | -5.3514 | -5.3691 | -5.3867 | -5.4041 | -5.4215 |
| -170 | -5.0696 | -5.0893 | -5.1089 | -5.1283 | -5.1476 | -5.1668 | -5.1859 | -5.2048 | -5.2236 | -5.2422 |
| -160 | -4.8654 | -4.8864 | -4.9073 | -4.9280 | -4.9486 | -4.9691 | -4.9895 | -5.0097 | -5.0298 | -5.0497 |
| -150 | -4.6485 | -4.6707 | -4.6929 | -4.7149 | -4.7368 | -4.7585 | -4.7801 | -4.8017 | -4.8230 | -4.8443 |
| -140 | -4.4190 | -4.4425 | -4.4659 | -4.4891 | -4.5123 | -4.5353 | -4.5582 | -4.5809 | -4.6036 | -4.6261 |
| -130 | -4.1771 | -4.2019 | -4.2265 | -4.2510 | -4.2754 | -4.2996 | -4.3237 | -4.3477 | -4.3716 | -4.3954 |
| -120 | -3.9230 | -3.9489 | -3.9748 | -4.0005 | -4.0261 | -4.0516 | -4.0769 | -4.1022 | -4.1273 | -4.1523 |
| -110 | -3.6567 | -3.6839 | -3.7109 | -3.7378 | -3.7646 | -3.7913 | -3.8179 | -3.8443 | -3.8707 | -3.8969 |
| -100 | -3.3786 | -3.4069 | -3.4351 | -3.4632 | -3.4912 | -3.5191 | -3.5469 | -3.5745 | -3.6020 | -3.6294 |
| -90 | -3.0889 | -3.1184 | -3.1477 | -3.1770 | -3.2061 | -3.2352 | -3.2641 | -3.2929 | -3.3216 | -3.3501 |
| -80 | -2.7879 | -2.8185 | -2.8490 | -2.8794 | -2.9096 | -2.9398 | -2.9698 | -2.9998 | -3.0296 | -3.0593 |
| -70 | -2.4758 | -2.5075 | -2.5391 | -2.5706 | -2.6019 | -2.6332 | -2.6644 | -2.6954 | -2.7263 | -2.7572 |
| -60 | -2.1527 | -2.1855 | -2.2182 | -2.2508 | -2.2832 | -2.3156 | -2.3478 | -2.3800 | -2.4120 | -2.4439 |
| -50 | -1.8190 | -1.8529 | -1.8866 | -1.9202 | -1.9538 | -1.9872 | -2.0205 | -2.0537 | -2.0868 | -2.1198 |
| -40 | -1.4750 | -1.5099 | -1.5446 | -1.5793 | -1.6138 | -1.6483 | -1.6826 | -1.7169 | -1.7511 | -1.7851 |
| -30 | -1.1209 | -1.1567 | -1.1925 | -1.2282 | -1.2637 | -1.2992 | -1.3345 | -1.3698 | -1.4050 | -1.4400 |
| -20 | -0.7568 | -0.7937 | -0.8304 | -0.8671 | -0.9036 | -0.9401 | -0.9764 | -1.0127 | -1.0489 | -1.0849 |
| -10 | -0.3831 | -0.4209 | -0.4586 | -0.4962 | -0.5337 | -0.5711 | -0.6085 | -0.6457 | -0.6829 | -0.7199 |
| 0 | 0.0000 | -0.0387 | -0.0773 | -0.1159 | -0.1543 | -0.1926 | -0.2309 | -0.2691 | -0.3072 | -0.3452 |
| Temp | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | 0.0000 | 0.0388 | 0.0776 | 0.1166 | 0.1555 | 0.1946 | 0.2337 | 0.2729 | 0.3122 | 0.3516 |
| 10 | 0.3910 | 0.4305 | 0.4701 | 0.5098 | 0.5495 | 0.5893 | 0.6292 | 0.6692 | 0.7093 | 0.7494 |
| 20 | 0.7896 | 0.8299 | 0.8703 | 0.9108 | 0.9513 | 0.9920 | 1.0327 | 1.0735 | 1.1144 | 1.1554 |
| 30 | 1.1965 | 1.2376 | 1.2788 | 1.3202 | 1.3616 | 1.4031 | 1.4446 | 1.4863 | 1.5280 | 1.5699 |
| 40 | 1.6118 | 1.6538 | 1.6959 | 1.7381 | 1.7803 | 1.8227 | 1.8651 | 1.9076 | 1.9503 | 1.9929 |
| 50 | 2.0357 | 2.0786 | 2.1215 | 2.1646 | 2.2077 | 2.2509 | 2.2942 | 2.3375 | 2.3810 | 2.4245 |
| 60 | 2.4682 | 2.5119 | 2.5556 | 2.5995 | 2.6435 | 2.6875 | 2.7316 | 2.7758 | 2.8201 | 2.8645 |
| 70 | 2.9089 | 2.9534 | 2.9980 | 3.0427 | 3.0875 | 3.1323 | 3.1772 | 3.2222 | 3.2673 | 3.3125 |
| 80 | 3.3577 | 3.4030 | 3.4484 | 3.4939 | 3.5395 | 3.5851 | 3.6308 | 3.6766 | 3.7224 | 3.7683 |
| 90 | 3.8144 | 3.8604 | 3.9066 | 3.9528 | 3.9991 | 4.0455 | 4.0920 | 4.1385 | 4.1851 | 4.2318 |
| 100 | 4.2785 | 4.3253 | 4.3722 | 4.4192 | 4.4662 | 4.5134 | 4.5605 | 4.6078 | 4.6551 | 4.7025 |
| 110 | 4.7500 | 4.7975 | 4.8451 | 4.8928 | 4.9405 | 4.9883 | 5.0362 | 5.0842 | 5.1322 | 5.1803 |
| 120 | 5.2285 | 5.2767 | 5.3250 | 5.3733 | 5.4218 | 5.4703 | 5.5188 | 5.5675 | 5.6162 | 5.6649 |
| 130 | 5.7138 | 5.7627 | 5.8116 | 5.8607 | 5.9097 | 5.9589 | 6.0081 | 6.0574 | 6.1068 | 6.1562 |
| 140 | 6.2057 | 6.2552 | 6.3049 | 6.3545 | 6.4043 | 6.4541 | 6.5040 | 6.5539 | 6.6039 | 6.6540 |
| 150 | 6.7041 | 6.7543 | 6.8045 | 6.8548 | 6.9052 | 6.9557 | 7.0062 | 7.0567 | 7.1074 | 7.1580 |

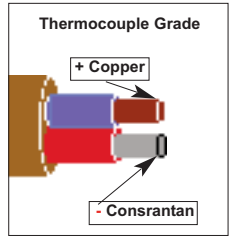
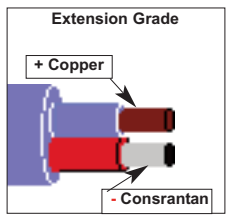


Technical Information Data Bulletin

Type T Thermocouple Copper-Constantan

TEMPERATURE & PROCESS INSTRUMENTS - INC.

Temperature vs Millivolt Table Reference Junction 0°C



| | |
|--|---|
| Temperature Range | Maximum Thermocouple Grade Temperature Range |
| Maximum Useful Temperature Range: | Temperature Range |
| Thermocouple Grade: -328 to 662°F | -454 to 752°F |
| -200 to 350°C | -270 to 400°C |
| Extension Grade: -76 to 212°F | Accuracy: Standard: 1.0°C or 0.75% |
| -60 to 100°C | Special: 0.5°C or 0.4% |

Recommended Applications:
Mild Oxidizing, Reducing Vacuum or Inert Environments. Good Where Moisture Is Present. Low Temperature Applications.

| Temp | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 160 | 7.2088 | 7.2596 | 7.3105 | 7.3614 | 7.4124 | 7.4635 | 7.5146 | 7.5658 | 7.6170 | 7.6683 |
| 170 | 7.7197 | 7.7711 | 7.8226 | 7.8741 | 7.9257 | 7.9774 | 8.0291 | 8.0809 | 8.1327 | 8.1847 |
| 180 | 8.2366 | 8.2886 | 8.3407 | 8.3929 | 8.4450 | 8.4973 | 8.5496 | 8.6020 | 8.6544 | 8.7069 |
| 190 | 8.7595 | 8.8121 | 8.8647 | 8.9175 | 8.9702 | 9.0231 | 9.0760 | 9.1289 | 9.1819 | 9.2350 |
| 200 | 9.2881 | 9.3413 | 9.3945 | 9.4478 | 9.5012 | 9.5546 | 9.6080 | 9.6615 | 9.7151 | 9.7687 |
| 210 | 9.8224 | 9.8762 | 9.9299 | 9.9838 | 10.0377 | 10.0916 | 10.1457 | 10.1997 | 10.2538 | 10.3080 |
| 220 | 10.3622 | 10.4165 | 10.4709 | 10.5252 | 10.5797 | 10.6342 | 10.6887 | 10.7433 | 10.7980 | 10.8527 |
| 230 | 10.9075 | 10.9623 | 11.0171 | 11.0720 | 11.1270 | 11.1820 | 11.2371 | 11.2922 | 11.3474 | 11.4026 |
| 240 | 11.4579 | 11.5132 | 11.5686 | 11.6240 | 11.6795 | 11.7350 | 11.7906 | 11.8462 | 11.9019 | 11.9576 |
| 250 | 12.0134 | 12.0692 | 12.1251 | 12.1810 | 12.2370 | 12.2930 | 12.3491 | 12.4052 | 12.4614 | 12.5176 |
| 260 | 12.5738 | 12.6302 | 12.6865 | 12.7429 | 12.7994 | 12.8559 | 12.9124 | 12.9690 | 13.0256 | 13.0823 |
| 270 | 13.1391 | 13.1958 | 13.2527 | 13.3095 | 13.3664 | 13.4234 | 13.4804 | 13.5375 | 13.5946 | 13.6517 |
| 280 | 13.7089 | 13.7661 | 13.8234 | 13.8807 | 13.9381 | 13.9955 | 14.0529 | 14.1104 | 14.1680 | 14.2256 |
| 290 | 14.2832 | 14.3409 | 14.3986 | 14.4564 | 14.5142 | 14.5720 | 14.6299 | 14.6879 | 14.7458 | 14.8039 |
| 300 | 14.8619 | 14.9200 | 14.9782 | 15.0364 | 15.0946 | 15.1529 | 15.2112 | 15.2696 | 15.3280 | 15.3864 |
| 310 | 15.4449 | 15.5035 | 15.5620 | 15.6207 | 15.6793 | 15.7380 | 15.7968 | 15.8556 | 15.9144 | 15.9733 |
| 320 | 16.0322 | 16.0911 | 16.1501 | 16.2092 | 16.2682 | 16.3274 | 16.3865 | 16.4457 | 16.5050 | 16.5642 |
| 330 | 16.6236 | 16.6829 | 16.7423 | 16.8018 | 16.8613 | 16.9208 | 16.9804 | 17.0400 | 17.0997 | 17.1594 |
| 340 | 17.2191 | 17.2789 | 17.3387 | 17.3985 | 17.4584 | 17.5184 | 17.5784 | 17.6384 | 17.6984 | 17.7585 |
| 350 | 17.8187 | 17.8788 | 17.9391 | 17.9993 | 18.0596 | 18.1200 | 18.1803 | 18.2408 | 18.3012 | 18.3617 |
| 360 | 18.4222 | 18.4828 | 18.5434 | 18.6041 | 18.6648 | 18.7255 | 18.7862 | 18.8470 | 18.9079 | 18.9687 |
| 370 | 19.0297 | 19.0906 | 19.1516 | 19.2126 | 19.2737 | 19.3347 | 19.3959 | 19.4570 | 19.5182 | 19.5794 |
| 380 | 19.6407 | 19.7020 | 19.7633 | 19.8247 | 19.8861 | 19.9475 | 20.0089 | 20.0704 | 20.1319 | 20.1934 |
| 390 | 20.2550 | 20.3166 | 20.3782 | 20.4398 | 20.5015 | 20.5632 | 20.6249 | 20.6866 | 20.7484 | 20.8102 |
| 400 | 20.8720 | | | | | | | | | |