MAXIMUM TEMPERATURE RANGE
-200 to $1250^{\circ} \mathrm{C}$
Extension Grade
32 to $392^{\circ} \mathrm{F}$
0 to $200^{\circ} \mathrm{C}$
LIMITS OF ERROR
whichever is greater)
Standard: $2.2^{\circ} \mathrm{C}$ or $0.75 \%$ Above $0^{\circ} \mathrm{C}$ $2.2^{\circ} \mathrm{C}$ or $2.0 \%$ Below $0^{\circ} \mathrm{C}$
Special: $1.1^{\circ} \mathrm{C}$ or $0.4 \%$
COMMENTS, BARE WIRE ENVIRONMENT:
Clean Oxidizing and Inert; Limited Use in Vacuum or Reducing; Wide Temperature Range; Most Popular Calibration TEMPERATURE IN DEGREES ${ }^{\circ} \mathrm{C}$ REFERENCE JUNCTION AT $0^{\circ} \mathrm{C}$


Thermocouple Grade

Nickel-Chromium
VS. Nickel-Aluminum

$\begin{array}{lllllllllllll} & \mathbf{C} & \mathbf{0} & 10.153 & 10.194 & 10.235 & 10.276 & 10.316 & 10.357 & 10.398 & 10.439 & 10.480 & 10.520 \\ 10.561 & 260\end{array}$ $\begin{array}{llllllllllllllll}260 & 10.561 & 10.602 & 10.643 & 10.684 & 10.725 & 10.766 & 10.807 & 10.848 & 10.889 & 10.930 & 10.971 & 270\end{array}$ $\begin{array}{llllllllllllllllllllll}270 & 10.971 & 11.012 & 11.053 & 11.094 & 11.135 & 11.176 & 11.217 & 11.259 & 11.300 & 11.341 & 11.382 & 280\end{array}$ $\begin{array}{lllllllllllllll}280 & 11.382 & 11.423 & 11.465 & 11.506 & 11.547 & 11.588 & 11.630 & 11.671 & 11.712 & 11.753 & 11.795 & 290\end{array}$ $\begin{array}{llllllllllllllllllllll}290 & 11.795 & 11.836 & 11.877 & 11.919 & 11.960 & 12.001 & 12.043 & 12.084 & 12.126 & 12.167 & 12.209 & 300\end{array}$
$\begin{array}{llllllllllll}300 & 12.209 & 12.250 & 12.291 & 12.333 & 12.374 & 12.416 & 12.457 & 12.499 & 12.540 & 12.582 & 12.624\end{array}$ $\begin{array}{lllllllllllll}310 & 12.624 & 12.665 & 12.707 & 12.748 & 12.790 & 12.831 & 12.873 & 12.915 & 12.956 & 12.998 & 13.040\end{array}$ $\begin{array}{llllllllllllllllll}320 & 13.040 & 13.081 & 13.123 & 13.165 & 13.206 & 13.248 & 13.290 & 13.331 & 13.373 & 13.415 & 13.457\end{array}$ $\begin{array}{lllllllllllllllllll}330 & 13.457 & 13.498 & 13.540 & 13.582 & 13.624 & 13.665 & 13.707 & 13.749 & 13.791 & 13.833 & 13.874\end{array}$

$\begin{array}{llllllllllllll}350 & 14.293 & 14.335 & 14.377 & 14.419 & 14.461 & 14.503 & 14.545 & 14.587 & 14.629 & 14.671 & 14.713\end{array}$ $\begin{array}{lllllllllllll}360 & 14.713 & 14.755 & 14.797 & 14.839 & 14.881 & 14.923 & 14.965 & 15.007 & 15.049 & 15.091 & 15.133\end{array}$ $\begin{array}{llllllllllllllllll}370 & 15.133 & 15.175 & 15.217 & 15.259 & 15.301 & 15.343 & 15.385 & 15.427 & 15.469 & 15.511 & 15.554\end{array}$ $\begin{array}{lllllllllllll}380 & 15.554 & 15.596 & 15.638 & 15.680 & 15.722 & 15.764 & 15.806 & 15.849 & 15.891 & 15.933 & 15.975\end{array}$ $\begin{array}{llllllllllllllllllll}390 & 15.975 & 16.017 & 16.059 & 16.102 & 16.144 & 16.186 & 16.228 & 16.270 & 16.313 & 16.355 & 16.397\end{array}$
$\begin{array}{llllllllllll}400 & 16.397 & 16.439 & 16.482 & 16.524 & 16.566 & 16.608 & 16.651 & 16.693 & 16.735 & 16.778 & 16.820\end{array}$ $\begin{array}{llllllllllll}410 & 16.820 & 16.862 & 16.904 & 16.947 & 16.989 & 17.031 & 17.074 & 17.116 & 17.158 & 17.201 & 17.243\end{array}$ $\begin{array}{lllllllllllll}420 & 17.243 & 17.285 & 17.328 & 17.370 & 17.413 & 17.455 & 17.497 & 17.540 & 17.582 & 17.624 & 17.667\end{array}$ $\begin{array}{lllllllllllll}430 & 17.667 & 17.709 & 17.752 & 17.794 & 17.837 & 17.879 & 17.921 & 17.964 & 18.006 & 18.049 & 18.091\end{array}$ $\begin{array}{lllllllllllll}440 & 18.091 & 18.134 & 18.176 & 18.218 & 18.261 & 18.303 & 18.346 & 18.388 & 18.431 & 18.473 & 18.516\end{array}$
$\begin{array}{llllllllllll}450 & 18.516 & 18.558 & 18.601 & 18.643 & 18.686 & 18.728 & 18.771 & 18.813 & 18.856 & 18.898 & 18.941\end{array}$ $\begin{array}{llllllllllll}460 & 18.941 & 18.983 & 19.026 & 19.068 & 19.111 & 19.154 & 19.196 & 19.239 & 19.281 & 19.324 & 19.366\end{array}$ $\begin{array}{lllllllllllll}470 & 19.366 & 19.409 & 19.451 & 19.494 & 19.537 & 19.579 & 19.622 & 19.664 & 19.707 & 19.750 & 19.792\end{array}$ $\begin{array}{llllllllllllll}480 & 19.792 & 19.835 & 19.877 & 19.920 & 19.962 & 20.005 & 20.048 & 20.090 & 20.133 & 20.175 & 20.218\end{array}$ $\begin{array}{llllllllllllllllll}490 & 20.218 & 20.261 & 20.303 & 20.346 & 20.389 & 20.431 & 20.474 & 20.516 & 20.559 & 20.602 & 20.644\end{array}$
$\begin{array}{lllllllllllll}500 & 20.644 & 20.687 & 20.730 & 20.772 & 20.815 & 20.857 & 20.900 & 20.943 & 20.985 & 21.028 & 21.071\end{array}$ $\begin{array}{lllllllllllll}510 & 21.071 & 21.113 & 21.156 & 21.199 & 21.241 & 21.284 & 21.326 & 21.369 & 21.412 & 21.454 & 21.497\end{array}$ $\begin{array}{lllllllllllll}520 & 21.497 & 21.540 & 21.582 & 21.625 & 21.668 & 21.710 & 21.753 & 21.796 & 21.838 & 21.881 & 21.924\end{array}$ $\begin{array}{lllllllllllllll}530 & 21.924 & 21.966 & 22.009 & 22.052 & 22.094 & 22.137 & 22.179 & 22.222 & 22.265 & 22.307 & 22.350\end{array}$ $\begin{array}{lllllllllllllllllllll}540 & 22.350 & 22.393 & 22.435 & 22.478 & 22.521 & 22.563 & 22.606 & 22.649 & 22.691 & 22.734 & 22.776\end{array}$
$\begin{array}{lllllllllllll}550 & 22.776 & 22.819 & 22.862 & 22.904 & 22.947 & 22.990 & 23.032 & 23.075 & 23.117 & 23.160 & 23.203\end{array}$ $\begin{array}{llllllllllllll}560 & 23.203 & 23.245 & 23.288 & 23.331 & 23.373 & 23.416 & 23.458 & 23.501 & 23.544 & 23.586 & 23.629\end{array}$ $\begin{array}{lllllllllllllllll}570 & 23.629 & 23.671 & 23.714 & 23.757 & 23.799 & 23.842 & 23.884 & 23.927 & 23.970 & 24.012 & 24.055\end{array}$ $\begin{array}{llllllllllllllllll}580 & 24.055 & 24.097 & 24.140 & 24.182 & 24.225 & 24.267 & 24.310 & 24.353 & 24.395 & 24.438 & 24.480\end{array}$ $\begin{array}{llllllllllllllllll}590 & 24.480 & 24.523 & 24.565 & 24.608 & 24.650 & 24.693 & 24.735 & 24.778 & 24.820 & 24.863 & 24.905\end{array}$
$\begin{array}{llllllllllll}600 & 24.905 & 24.948 & 24.990 & 25.033 & 25.075 & 25.118 & 25.160 & 25.203 & 25.245 & 25.288 & 25.330\end{array}$ $\begin{array}{lllllllllllllll}610 & 25.330 & 25.373 & 25.415 & 25.458 & 25.500 & 25.543 & 25.585 & 25.627 & 25.670 & 25.712 & 25.755\end{array}$ $\begin{array}{lllllllllllllllll}620 & 25.755 & 25.797 & 25.840 & 25.882 & 25.924 & 25.967 & 26.009 & 26.052 & 26.094 & 26.136 & 26.179\end{array}$ $\begin{array}{lllllllllllllllllll}630 & 26.179 & 26.221 & 26.263 & 26.306 & 26.348 & 26.390 & 26.433 & 26.475 & 26.517 & 26.560 & 26.602\end{array}$ $\begin{array}{llllllllllllllllllll}640 & 26.602 & 26.644 & 26.687 & 26.729 & 26.771 & 26.814 & 26.856 & 26.898 & 26.940 & 26.983 & 27.025\end{array}$
$\begin{array}{lllllllllllll}650 & 27.025 & 27.067 & 27.109 & 27.152 & 27.194 & 27.236 & 27.278 & 27.320 & 27.363 & 27.405 & 27.447\end{array}$ $\begin{array}{llllllllllll}660 & 27.447 & 27.489 & 27.531 & 27.574 & 27.616 & 27.658 & 27.700 & 27.742 & 27.784 & 27.826 & 27.869\end{array}$ $\begin{array}{lllllllllllllllll}670 & 27.869 & 27.911 & 27.953 & 27.995 & 28.037 & 28.079 & 28.121 & 28.163 & 28.205 & 28.247 & 28.289\end{array}$ $\begin{array}{lllllllllllll}680 & 28.289 & 28.332 & 28.374 & 28.416 & 28.458 & 28.500 & 28.542 & 28.584 & 28.626 & 28.668 & 28.710\end{array}$ $\begin{array}{llllllllllllllllll}690 & 28.710 & 28.752 & 28.794 & 28.835 & 28.877 & 28.919 & 28.961 & 29.003 & 29.045 & 29.087 & 29.129\end{array}$
$\begin{array}{llllllllllll}700 & 29.129 & 29.171 & 29.213 & 29.255 & 29.297 & 29.338 & 29.380 & 29.422 & 29.464 & 29.506 & 29.548\end{array}$ $\begin{array}{lllllllllllll}710 & 29.548 & 29.589 & 29.631 & 29.673 & 29.715 & 29.757 & 29.798 & 29.840 & 29.882 & 29.924 & 29.965\end{array}$ $\begin{array}{llllllllllllllll}720 & 29.965 & 30.007 & 30.049 & 30.090 & 30.132 & 30.174 & 30.216 & 30.257 & 30.299 & 30.341 & 30.382\end{array}$ $\begin{array}{llllllllllllll}730 & 30.382 & 30.424 & 30.466 & 30.507 & 30.549 & 30.590 & 30.632 & 30.674 & 30.715 & 30.757 & 30.798\end{array}$ $\begin{array}{llllllllllllllll}740 & 30.798 & 30.840 & 30.881 & 30.923 & 30.964 & 31.006 & 31.047 & 31.089 & 31.130 & 31.172 & 31.213\end{array}$
$\begin{array}{llllllllllllll}750 & 31.213 & 31.255 & 31.296 & 31.338 & 31.379 & 31.421 & 31.462 & 31.504 & 31.545 & 31.586 & 31.628\end{array}$ $\begin{array}{lllllllllllll}760 & 31.628 & 31.669 & 31.710 & 31.752 & 31.793 & 31.834 & 31.876 & 31.917 & 31.958 & 32.000 & 32.041\end{array}$ $\begin{array}{llllllllllll}770 & 32.041 & 32.082 & 32.124 & 32.165 & 32.206 & 32.247 & 32.289 & 32.330 & 32.371 & 32.412 & 32.453\end{array}$ $\begin{array}{llllllllllllll}780 & 32.453 & 32.495 & 32.536 & 32.577 & 32.618 & 32.659 & 32.700 & 32.742 & 32.783 & 32.824 & 32.865\end{array}$ $\begin{array}{lllllllllllllll}790 & 32.865 & 32.906 & 32.947 & 32.988 & 33.029 & 33.070 & 33.111 & 33.152 & 33.193 & 33.234 & 33.275\end{array}$

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\begin{array}{lllllllllllll}
100 & 4.096 & 4.138 & 4.179 & 4.220 & 4.262 & 4.303 & 4.344 & 4.385 & 4.427 & 4.468 & 4.509 & 110
\end{array}
$$

$$
\begin{array}{lllllllllllll}
110 & 4.509 & 4.550 & 4.591 & 4.633 & 4.674 & 4.715 & 4.756 & 4.797 & 4.838 & 4.879 & 4.920 & 120
\end{array}
$$

$$
\begin{array}{lllllllllllll}
120 & 4.920 & 4.961 & 5.002 & 5.043 & 5.084 & 5.124 & 5.165 & 5.206 & 5.247 & 5.288 & 5.328 & 130
\end{array}
$$

$$
\begin{array}{lllllllllllll}
130 & 5.328 & 5.369 & 5.410 & 5.450 & 5.491 & 5.532 & 5.572 & 5.613 & 5.653 & 5.694 & 5.735 & 140
\end{array}
$$

$\begin{array}{llllllllllll}150 & 6.138 & 6.179 & 6.219 & 6.259 & 6.299 & 6.339 & 6.380 & 6.420 & 6.460 & 6.500 & 6.540 \\ 160\end{array}$ $\begin{array}{lllllllllllll}160 & 6.540 & 6.580 & 6.620 & 6.660 & 6.701 & 6.741 & 6.781 & 6.821 & 6.861 & 6.901 & 6.941 & 170\end{array}$
$\begin{array}{lllllllllllll}170 & 6.941 & 6.981 & 7.021 & 7.060 & 7.100 & 7.140 & 7.180 & 7.220 & 7.260 & 7.300 & 7.340 & 180\end{array}$
$\begin{array}{lllllllllllll}180 & 7.340 & 7.380 & 7.420 & 7.460 & 7.500 & 7.540 & 7.579 & 7.619 & 7.659 & 7.699 & 7.739 & 190\end{array}$
$\begin{array}{lllllllllllll}190 & 7.739 & 7.779 & 7.819 & 7.859 & 7.899 & 7.939 & 7.979 & 8.019 & 8.059 & 8.099 & 8.138 & 200\end{array}$
$\begin{array}{lllllllllllll}200 & 8.138 & 8.178 & 8.218 & 8.258 & 8.298 & 8.338 & 8.378 & 8.418 & 8.458 & 8.499 & 8.539 & 210\end{array}$ $\begin{array}{lllllllllllll}210 & 8.539 & 8.579 & 8.619 & 8.659 & 8.699 & 8.739 & 8.779 & 8.819 & 8.860 & 8.900 & 8.940 & 220\end{array}$ $\begin{array}{lllllllllllll}220 & 8.940 & 8.980 & 9.020 & 9.061 & 9.101 & 9.141 & 9.181 & 9.222 & 9.262 & 9.302 & 9.343 & 230\end{array}$ $\begin{array}{lllllllllllll}230 & 9.343 & 9.383 & 9.423 & 9.464 & 9.504 & 9.545 & 9.585 & 9.626 & 9.666 & 9.707 & 9.747 & 240\end{array}$ $\begin{array}{lllllllllllll}240 & 9.747 & 9.788 & 9.828 & 9.869 & 9.909 & 9.950 & 9.991 & 10.031 & 10.072 & 10.113 & 10.153 & 250\end{array}$ $\begin{array}{lllllllllllll}-5.891 & -5.876 & -5.861 & -5.845 & -5.829 & -5.813 & -5.797 & -5.780 & -5.763 & -5.747 & -5.730 & -190\end{array}$ $-5.730-5.713 ~-5.695-5.678-5.660-5.642-5.624 ~-5.606 ~-5.588$-5.569 $\begin{array}{llllllllllll}-5.550 & -5.531 & -5.512 & -5.493 & -5.474 & -5.454 & -5.435 & -5.415 & -5.395 & -5.374 & -5.354 & -170\end{array}$ $\begin{array}{llllllllllll}-5.141 & -5.119 & -5.097 & -5.074 & -5.052 & -5.029 & -5.006 & -4.983 & -4.960 & -4.936 & -4.913 & -150\end{array}$ $\begin{array}{llllllllllll}-4.913 & -4.889 & -4.865 & -4.841 & -4.817 & -4.793 & -4.768 & -4.744 & -4.719 & -4.694 & -4.669 & -140\end{array}$


 | 3.852 | -3.823 | -3.794 | -3.764 | -3.734 | -3.705 | -3.675 | -3.945 | -3.911 | -3.882 | -3.852 | -110 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | $\begin{array}{lllllllllllll}-3.554 & -3.523 & -3.492 & -3.462 & -3.431 & -3.400 & -3.368 & -3.337 & -3.306 & -3.274 & -3.243 & -90\end{array}$ $\begin{array}{llllllllllll}-3.243 & -3.211 & -3.179 & -3.147 & -3.115 & -3.083 & -3.050 & -3.018 & -2.986 & -2.953 & -2.920 & -80\end{array}$ $\begin{array}{llllllllllll}-2.920 & -2.887 & -2.854 & -2.821 & -2.788 & -2.755 & -2.721 & -2.688 & -2.654 & -2.620 & -2.587 & -70\end{array}$ $\begin{array}{llllllllllll}-2.243 & -2.208 & -2.173 & -2.138 & -2.103 & -2.067 & -2.032 & -1.996 & -1.961 & -1.925 & -1.889 & -50\end{array}$

$\begin{array}{lllllllllll}1.889 & -1.854 & -1.818 & -1.782 & -1.745 & -1.709 & -1.673 & -1.637 & -1.600 & -1.564 & -1.527\end{array}$
 $\begin{array}{llllllllllll}1.156 & -1.119 & -1.081 & -1.043 & -1.006 & -0.968 & -0.930 & -0.892 & -0.854 & -0.816 & -0.778\end{array}$
 $\begin{array}{lllllllllll}0.000 & 0.039 & 0.079 & 0.119 & 0.158 & 0.198 & 0.238 & 0.277 & 0.317 & 0.357 & 0.397\end{array}$ $\begin{array}{lllllllllll}0.397 & 0.437 & 0.477 & 0.517 & 0.557 & 0.597 & 0.637 & 0.677 & 0.718 & 0.758 & 0.798\end{array}$ $\begin{array}{lllllllllll}0.798 & 0.838 & 0.879 & 0.919 & 0.960 & 1.000 & 1.041 & 1.081 & 1.122 & 1.163 & 1.203\end{array}$ $\begin{array}{llllllllllll}1.203 & 1.244 & 1.285 & 1.326 & 1.366 & 1.407 & 1.448 & 1.489 & 1.530 & 1.571 & 1.612 & 40\end{array}$ $\begin{array}{lllllllllll}1.612 & 1.653 & 1.694 & 1.735 & 1.776 & 1.817 & 1.858 & 1.899 & 1.941 & 1.982 & 2.023\end{array}$ $\begin{array}{llllllllllll}2.023 & 2.064 & 2.106 & 2.147 & 2.188 & 2.230 & 2.271 & 2.312 & 2.354 & 2.395 & 2.436 & 60 \\ 2.436 & 2.478 & 2.519 & 2.561 & 2.602 & 2.644 & 2.685 & 2.727 & 2.768 & 2.810 & 2.851 & 70\end{array}$ $\begin{array}{lllllllllll}2.851 & 2.893 & 2.934 & 2.976 & 3.017 & 3.059 & 3.100 & 3.142 & 3.184 & 3.225 & 3.267\end{array}$ $\begin{array}{lllllllllll}3.267 & 3.308 & 3.350 & 3.391 & 3.433 & 3.474 & 3.516 & 3.557 & 3.599 & 3.640 & 3.682\end{array}$ $\begin{array}{lllllllllllll}3.682 & 3.723 & 3.765 & 3.806 & 3.848 & 3.889 & 3.931 & 3.972 & 4.013 & 4.055 & 4.096 & 100\end{array}$

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\begin{array}{lllllllllllll}
140 & 5.735 & 5.775 & 5.815 & 5.856 & 5.896 & 5.937 & 5.977 & 6.017 & 6.058 & 6.098 & 6.138 & 150
\end{array}
$$ $-6.404 \quad-6.399-6.393-6.388-6.382-6.3777-6.370$ $\begin{array}{llllllllllll}-6.344 & -6.337 & -6.329 & -6.322 & -6.314 & -6.306 & -6.297 & -6.289 & -6.280 & -6.271 & -6.262 & -230\end{array}$ $\begin{array}{llllllllllll}-6.262 & -6.252 & -6.243 & -6.233 & -6.223 & -6.213 & -6.202 & -6.192 & -6.181 & -6.170 & -6.158 & -220\end{array}$ $\begin{array}{llllllllllll}6.158 & -6.147 & -6.135 & -6.123 & -6.111 & -6.099 & -6.087 & -6.074 & -6.061 & -6.048 & -6.035 & -210\end{array}$ ${ }^{\circ} \mathrm{C} \quad 0$

