

R-T Characteristics

Pt100 DIN B - E+E Order Code: TP2
Pt1000 DIN B - E+E Order Code: TP4

| Sensor Type | Nominal Resistance | Sensitivity | E+E Order Code |
|--------------|--------------------------|----------------------------------|----------------|
| Pt100 DIN B | R ₀ : 100 Ω | TC: 3 850 x 10 ⁻³ /°C | TP2 |
| Pt1000 DIN B | R ₀ : 1 000 Ω | TC: 3 850 x 10 ⁻³ /°C | TP4 |

Tabulated R-T Characteristics for Pt100 (according to DIN EN 60751, resistance values in Ω)

For Pt1000 temperature sensors, the resistance values have to be multiplied by 10.

| °C | -0 | -1 | -2 | -3 | -4 | -5 | -6 | -7 | -8 | -9 |
|------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| -200 | 18.520 | | | | | | | | | |
| -190 | 22.825 | 22.397 | 21.967 | 21.538 | 21.108 | 20.677 | 20.247 | 19.815 | 19.384 | 18.952 |
| -180 | 27.096 | 26.671 | 26.245 | 25.819 | 25.392 | 24.965 | 24.538 | 24.110 | 23.682 | 23.254 |
| -170 | 31.335 | 30.913 | 30.490 | 30.067 | 29.643 | 29.220 | 28.796 | 28.371 | 27.947 | 27.522 |
| -160 | 35.543 | 35.124 | 34.704 | 34.284 | 33.864 | 33.443 | 33.022 | 32.601 | 32.179 | 31.757 |
| -150 | 39.723 | 39.306 | 38.889 | 38.472 | 38.055 | 37.637 | 37.219 | 36.800 | 36.382 | 35.963 |
| -140 | 43.876 | 43.462 | 43.048 | 42.633 | 42.218 | 41.803 | 41.388 | 40.972 | 40.556 | 40.140 |
| -130 | 48.005 | 47.593 | 47.181 | 46.769 | 46.356 | 45.944 | 45.531 | 45.117 | 44.704 | 44.290 |
| -120 | 52.110 | 51.700 | 51.291 | 50.881 | 50.470 | 50.060 | 49.649 | 49.239 | 48.828 | 48.416 |
| -110 | 56.193 | 55.786 | 55.378 | 54.970 | 54.562 | 54.154 | 53.746 | 53.337 | 52.928 | 52.519 |
| -100 | 60.256 | 59.850 | 59.445 | 59.039 | 58.633 | 58.227 | 57.821 | 57.414 | 57.007 | 56.600 |
| -90 | 64.300 | 63.896 | 63.492 | 63.088 | 62.684 | 62.280 | 61.876 | 61.471 | 61.066 | 60.661 |
| -80 | 68.325 | 67.924 | 67.522 | 67.120 | 66.717 | 66.315 | 65.912 | 65.509 | 65.106 | 64.703 |
| -70 | 72.335 | 71.934 | 71.534 | 71.134 | 70.733 | 70.332 | 69.931 | 69.530 | 69.129 | 68.727 |
| -60 | 76.328 | 75.929 | 75.530 | 75.131 | 74.732 | 74.333 | 73.934 | 73.534 | 73.134 | 72.735 |
| -50 | 80.306 | 79.909 | 79.512 | 79.114 | 78.717 | 78.319 | 77.921 | 77.523 | 77.125 | 76.726 |
| -40 | 84.271 | 83.875 | 83.479 | 83.083 | 82.687 | 82.290 | 81.894 | 81.497 | 81.100 | 80.703 |
| -30 | 88.222 | 87.827 | 87.432 | 87.038 | 86.643 | 86.248 | 85.853 | 85.457 | 85.062 | 84.666 |
| -20 | 92.160 | 91.767 | 91.373 | 90.980 | 90.586 | 90.192 | 89.798 | 89.404 | 89.010 | 88.616 |
| -10 | 96.086 | 95.694 | 95.302 | 94.909 | 94.517 | 94.124 | 93.732 | 93.339 | 92.946 | 92.553 |
| 0 | 100.000 | 99.609 | 99.218 | 98.827 | 98.436 | 98.044 | 97.653 | 97.261 | 96.870 | 96.478 |

| °C | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0 | 100.000 | 100.391 | 100.781 | 101.172 | 101.562 | 101.953 | 102.343 | 102.733 | 103.123 | 103.513 |
| 10 | 103.903 | 104.292 | 104.682 | 105.071 | 105.460 | 105.849 | 106.238 | 106.627 | 107.016 | 107.405 |
| 20 | 107.794 | 108.182 | 108.570 | 108.959 | 109.347 | 109.735 | 110.123 | 110.510 | 110.898 | 111.286 |
| 30 | 111.673 | 112.060 | 112.447 | 112.835 | 113.221 | 113.608 | 113.995 | 114.382 | 114.768 | 115.155 |
| 40 | 115.541 | 115.927 | 116.313 | 116.699 | 117.085 | 117.470 | 117.856 | 118.241 | 118.627 | 119.012 |
| 50 | 119.397 | 119.782 | 120.167 | 120.552 | 120.936 | 121.321 | 121.705 | 122.090 | 122.474 | 122.858 |
| 60 | 123.242 | 123.626 | 124.009 | 124.393 | 124.777 | 125.160 | 125.543 | 125.926 | 126.309 | 126.692 |
| 70 | 127.075 | 127.458 | 127.840 | 128.223 | 128.605 | 128.987 | 129.370 | 129.752 | 130.133 | 130.515 |
| 80 | 130.897 | 131.278 | 131.660 | 132.041 | 132.422 | 132.803 | 133.184 | 133.565 | 133.946 | 134.326 |
| 90 | 134.707 | 135.087 | 135.468 | 135.848 | 136.228 | 136.608 | 136.987 | 137.367 | 137.747 | 138.126 |
| 100 | 138.506 | 138.885 | 139.264 | 139.643 | 140.022 | 140.400 | 140.779 | 141.158 | 141.536 | 141.914 |
| 110 | 142.293 | 142.671 | 143.049 | 143.426 | 143.804 | 144.182 | 144.559 | 144.937 | 145.314 | 145.691 |
| 120 | 146.068 | 146.445 | 146.822 | 147.198 | 147.575 | 147.951 | 148.328 | 148.704 | 149.080 | 149.456 |
| 130 | 149.832 | 150.208 | 150.583 | 150.959 | 151.334 | 151.710 | 152.085 | 152.460 | 152.865 | 153.210 |
| 140 | 153.584 | 153.959 | 154.333 | 154.708 | 155.082 | 155.456 | 155.830 | 156.204 | 156.578 | 156.952 |
| 150 | 157.325 | 157.699 | 158.072 | 158.445 | 158.818 | 159.191 | 159.564 | 159.937 | 160.309 | 160.682 |
| 160 | 161.054 | 161.427 | 161.799 | 162.171 | 162.543 | 162.915 | 163.286 | 163.658 | 164.030 | 164.401 |
| 170 | 164.772 | 165.143 | 165.514 | 165.885 | 166.256 | 166.627 | 166.997 | 167.368 | 167.738 | 168.108 |
| 180 | 168.478 | 168.848 | 169.218 | 169.588 | 169.958 | 170.327 | 170.696 | 171.066 | 171.435 | 171.804 |
| 190 | 172.173 | 172.542 | 172.910 | 173.279 | 173.648 | 174.016 | 174.384 | 174.752 | 175.120 | 175.488 |
| 200 | 175.856 | 176.224 | 176.591 | 176.959 | 177.326 | 177.693 | 178.060 | 178.427 | 178.794 | 179.161 |
| 210 | 179.528 | 179.894 | 180.260 | 180.627 | 180.993 | 181.359 | 181.725 | 182.091 | 182.456 | 182.822 |
| 220 | 183.188 | 183.553 | 183.918 | 184.283 | 184.648 | 185.013 | 185.378 | 185.743 | 186.107 | 186.472 |
| 230 | 186.836 | 187.200 | 187.564 | 187.928 | 188.292 | 188.656 | 189.019 | 189.383 | 189.746 | 190.110 |
| 240 | 190.473 | 190.836 | 191.199 | 191.562 | 191.924 | 192.287 | 192.649 | 193.012 | 193.374 | 193.736 |
| 250 | 194.098 | 194.460 | 194.822 | 195.183 | 195.545 | 195.906 | 196.268 | 196.629 | 196.990 | 197.351 |
| 260 | 197.712 | 198.073 | 198.433 | 198.794 | 199.154 | 199.514 | 199.875 | 200.235 | 200.595 | 200.954 |
| 270 | 201.314 | 201.674 | 202.033 | 202.393 | 202.752 | 203.111 | 203.470 | 203.829 | 204.188 | 204.546 |

| °C | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 280 | 204.905 | 205.263 | 205.622 | 205.980 | 206.338 | 206.696 | 207.054 | 207.411 | 207.769 | 208.127 |
| 290 | 208.484 | 208.841 | 209.198 | 209.555 | 209.912 | 210.269 | 210.626 | 210.982 | 211.339 | 211.695 |
| 300 | 212.052 | 212.408 | 212.764 | 213.120 | 213.475 | 213.831 | 214.187 | 214.542 | 214.897 | 215.252 |
| 310 | 215.608 | 215.962 | 216.317 | 216.672 | 217.027 | 217.381 | 217.736 | 218.090 | 218.444 | 218.798 |
| 320 | 219.152 | 219.506 | 219.860 | 220.213 | 220.567 | 220.920 | 221.273 | 221.626 | 221.979 | 222.332 |
| 330 | 222.685 | 223.038 | 223.390 | 223.743 | 224.095 | 224.447 | 224.799 | 225.151 | 225.503 | 225.855 |
| 340 | 226.206 | 226.558 | 226.909 | 227.260 | 227.612 | 227.963 | 228.314 | 228.664 | 229.015 | 229.366 |
| 350 | 229.716 | 230.066 | 230.417 | 230.767 | 231.117 | 231.467 | 231.816 | 232.166 | 232.516 | 232.865 |
| 360 | 233.214 | 233.564 | 233.913 | 234.262 | 234.610 | 234.959 | 235.308 | 235.656 | 236.005 | 236.353 |
| 370 | 236.701 | 237.049 | 237.397 | 237.745 | 238.093 | 238.440 | 238.788 | 239.135 | 239.482 | 239.829 |
| 380 | 240.176 | 240.523 | 240.870 | 241.217 | 241.563 | 241.910 | 242.256 | 242.602 | 242.948 | 243.294 |
| 390 | 243.640 | 243.986 | 244.331 | 244.677 | 245.022 | 245.367 | 245.713 | 246.058 | 246.403 | 246.747 |
| 400 | 247.092 | 247.437 | 247.781 | 248.125 | 248.470 | 248.814 | 249.158 | 249.502 | 249.845 | 250.189 |
| 410 | 250.533 | 250.876 | 251.219 | 251.562 | 251.906 | 252.248 | 252.591 | 252.934 | 253.277 | 253.619 |
| 420 | 253.962 | 254.304 | 254.646 | 254.988 | 255.330 | 255.672 | 256.013 | 256.355 | 256.696 | 257.038 |
| 430 | 257.379 | 257.720 | 258.061 | 258.402 | 258.743 | 259.083 | 259.424 | 259.764 | 260.105 | 260.445 |
| 440 | 260.785 | 261.125 | 261.465 | 261.804 | 262.144 | 262.483 | 262.823 | 263.162 | 263.501 | 263.840 |
| 450 | 264.179 | 264.518 | 264.857 | 265.195 | 265.534 | 265.872 | 266.210 | 266.548 | 266.886 | 267.224 |
| 460 | 267.562 | 267.900 | 268.237 | 268.574 | 268.912 | 269.249 | 269.586 | 269.923 | 270.260 | 270.597 |
| 470 | 270.933 | 271.270 | 271.606 | 271.942 | 272.278 | 272.614 | 272.950 | 273.286 | 273.622 | 273.957 |
| 480 | 274.293 | 274.628 | 274.963 | 275.298 | 275.633 | 275.968 | 276.303 | 276.638 | 276.972 | 277.307 |
| 490 | 277.641 | 277.975 | 278.309 | 278.643 | 278.977 | 279.311 | 279.644 | 279.978 | 280.311 | 280.644 |
| 500 | 280.978 | 281.311 | 281.643 | 281.976 | 282.309 | 282.641 | 282.974 | 283.306 | 283.638 | 283.971 |
| 510 | 284.303 | 284.634 | 284.966 | 285.298 | 285.629 | 285.961 | 286.292 | 286.623 | 286.954 | 287.285 |
| 520 | 287.616 | 287.947 | 288.277 | 288.608 | 288.938 | 289.268 | 289.599 | 289.929 | 290.258 | 290.588 |
| 530 | 290.918 | 291.247 | 291.577 | 291.906 | 292.235 | 292.565 | 292.894 | 293.222 | 293.551 | 293.880 |
| 540 | 294.208 | 294.537 | 294.865 | 295.193 | 295.521 | 295.849 | 296.177 | 296.505 | 296.832 | 297.160 |
| 550 | 297.487 | 297.814 | 298.142 | 298.469 | 298.795 | 299.122 | 299.449 | 299.775 | 300.102 | 300.428 |
| 560 | 300.754 | 301.080 | 301.406 | 301.732 | 302.058 | 302.384 | 302.709 | 303.035 | 303.360 | 303.685 |
| 570 | 304.010 | 304.335 | 304.660 | 304.985 | 305.309 | 305.634 | 305.958 | 306.282 | 306.606 | 306.930 |
| 580 | 307.254 | 307.578 | 307.902 | 308.225 | 308.549 | 308.872 | 309.195 | 309.518 | 309.841 | 310.164 |
| 590 | 310.487 | 310.810 | 311.132 | 311.454 | 311.777 | 312.099 | 312.421 | 312.743 | 313.065 | 313.386 |
| 600 | 313.708 | 314.029 | 314.351 | 314.672 | 314.993 | 315.314 | 315.635 | 315.956 | 316.277 | 316.597 |
| 610 | 316.918 | 317.238 | 317.558 | 317.878 | 318.198 | 318.518 | 318.838 | 319.157 | 319.477 | 319.796 |
| 620 | 320.116 | 320.435 | 320.754 | 321.073 | 321.391 | 321.710 | 322.029 | 322.347 | 322.666 | 322.984 |
| 630 | 323.302 | 323.620 | 323.938 | 324.256 | 324.573 | 324.891 | 325.208 | 325.526 | 325.843 | 326.160 |
| 640 | 326.477 | 326.794 | 327.110 | 327.427 | 327.744 | 328.060 | 328.376 | 328.692 | 329.008 | 329.324 |
| 650 | 329.640 | 329.956 | 330.271 | 330.587 | 330.902 | 331.217 | 331.533 | 331.848 | 332.162 | 332.477 |
| 660 | 332.792 | 333.106 | 333.421 | 333.735 | 334.049 | 334.363 | 334.677 | 334.991 | 335.305 | 335.619 |
| 670 | 335.932 | 336.246 | 336.559 | 336.872 | 337.185 | 337.498 | 337.811 | 338.123 | 338.436 | 338.748 |
| 680 | 339.061 | 339.373 | 339.685 | 339.997 | 340.309 | 340.621 | 340.932 | 341.244 | 341.555 | 341.867 |
| 690 | 342.178 | 342.489 | 342.800 | 343.111 | 343.422 | 343.732 | 344.043 | 344.353 | 344.663 | 344.973 |
| 700 | 345.284 | 345.593 | 345.903 | 346.213 | 346.522 | 346.832 | 347.141 | 347.451 | 347.760 | 348.069 |
| 710 | 348.378 | 348.686 | 348.995 | 349.303 | 349.612 | 349.920 | 350.228 | 350.536 | 350.844 | 351.152 |
| 720 | 351.460 | 351.768 | 352.075 | 352.382 | 352.690 | 352.997 | 353.304 | 353.611 | 353.918 | 354.224 |
| 730 | 354.531 | 354.837 | 355.144 | 355.450 | 355.756 | 356.062 | 356.368 | 356.674 | 356.979 | 357.285 |
| 740 | 357.590 | 357.896 | 358.201 | 358.506 | 358.811 | 359.116 | 359.420 | 359.725 | 360.029 | 360.334 |
| 750 | 360.638 | 360.942 | 361.246 | 361.550 | 361.854 | 362.158 | 362.461 | 362.765 | 363.068 | 363.371 |
| 760 | 363.674 | 363.977 | 364.280 | 364.583 | 364.886 | 365.188 | 365.491 | 365.793 | 366.095 | 366.397 |
| 770 | 366.699 | 367.001 | 367.303 | 367.604 | 367.906 | 368.207 | 368.508 | 368.810 | 369.111 | 369.412 |
| 780 | 369.712 | 370.013 | 370.314 | 370.614 | 370.914 | 371.215 | 371.515 | 371.815 | 372.115 | 372.414 |
| 790 | 372.714 | 373.013 | 373.313 | 373.612 | 373.911 | 374.210 | 374.509 | 374.808 | 375.107 | 375.406 |
| 800 | 375.704 | 376.002 | 376.301 | 376.599 | 376.897 | 377.195 | 377.493 | 377.790 | 378.088 | 378.385 |
| 810 | 378.683 | 378.980 | 379.277 | 379.574 | 379.871 | 380.167 | 380.464 | 380.761 | 381.057 | 381.353 |
| 820 | 381.650 | 381.946 | 382.242 | 382.537 | 382.833 | 383.129 | 383.424 | 383.720 | 384.015 | 384.310 |
| 830 | 384.605 | 384.900 | 385.195 | 385.489 | 385.784 | 386.078 | 386.373 | 386.667 | 386.961 | 387.255 |
| 840 | 387.549 | 387.843 | 388.136 | 388.430 | 388.723 | 389.016 | 389.310 | 389.603 | 389.896 | 390.188 |
| 850 | 390.481 | | | | | | | | | |