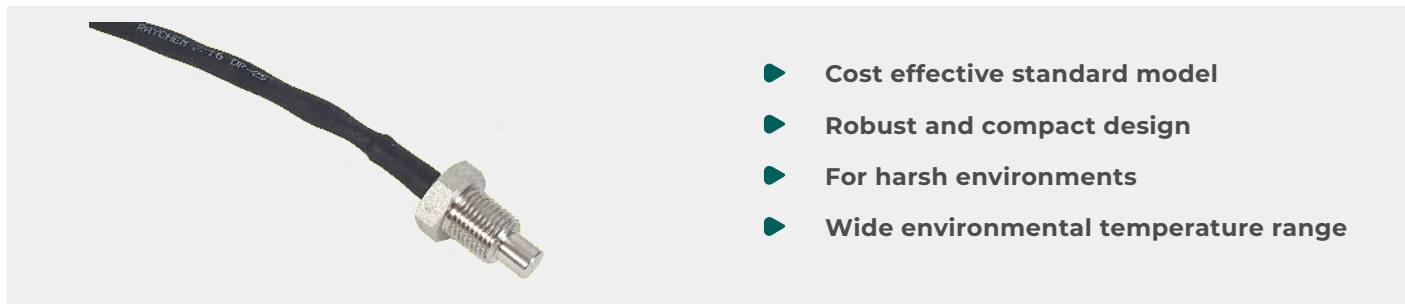
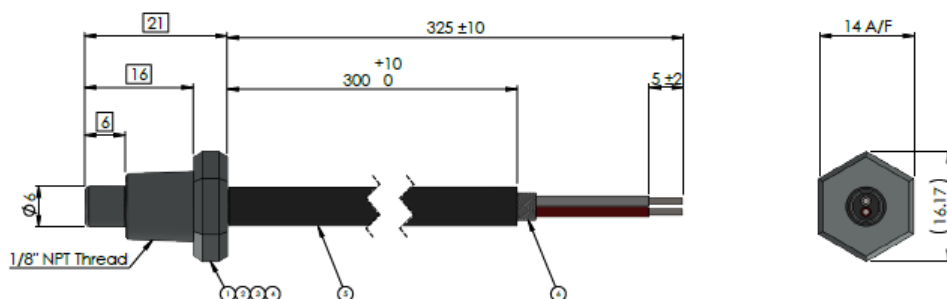




The ETP-MO-SP has been specifically designed for demanding temperature measurement tasks as can be found in motor vehicles. The probe is designed to withstand shock and vibration due to a robust overall construction. The selected materials are oil and fuel resistant for use in typical mobile applications whilst supporting a wide environmental temperature range.

| Specifications                |                                                                   |
|-------------------------------|-------------------------------------------------------------------|
| Element:                      | NTC Thermistor                                                    |
| Resistance at +25 °C:         | 10000 $\Omega$                                                    |
| Resistance Tolerance at +25°C | $\pm 1\%$                                                         |
| Beta Value 25/85 constant     | 3435K $\pm 1\%$                                                   |
| Working temperature:          | -40° C to +230° C                                                 |
| Environmental temperature:    | -40° C to +150° C                                                 |
| Sealing:                      | IP67                                                              |
| Housing:                      | 316 stainless steel                                               |
| Cable:                        | 2 core AWG 20 oil/fuel resistant cable with stainless steel braid |
| Heat shrink:                  | Raychem DR-25                                                     |

## Dimensions in mm



## Ordering information

Order code: 25936-ETP-MO-SP-1/8NPT-30-G1B-10k3435-1

# ETP - MO - 18NPT - 30 - G1B - 10K3435 - 1

## TEMPERATURE PROBE



### Resistance vs. temperature table for 10k3435-1

R(25) = 10000 Ohm

B(25/85) = 3435K

| Temp.<br>(°C) | R <sub>min</sub><br>(KΩ) | R <sub>nor.</sub><br>(KΩ) | R <sub>max</sub><br>(KΩ) |
|---------------|--------------------------|---------------------------|--------------------------|
| -40           | 194.3148                 | 202.2693                  | 210.5284                 |
| -39           | 183.6545                 | 191.0637                  | 198.7519                 |
| -38           | 173.6512                 | 180.5546                  | 187.7137                 |
| -37           | 164.2602                 | 170.6944                  | 177.3629                 |
| -36           | 155.44                   | 161.4387                  | 167.6521                 |
| -35           | 147.1525                 | 152.7468                  | 158.5379                 |
| -34           | 139.362                  | 144.5807                  | 149.9798                 |
| -33           | 132.0356                 | 136.9052                  | 141.9402                 |
| -32           | 125.1427                 | 129.6879                  | 134.3847                 |
| -31           | 118.6551                 | 122.8985                  | 127.281                  |
| -30           | 112.5462                 | 116.5089                  | 120.5991                 |
| -29           | 106.7917                 | 110.4932                  | 114.3116                 |
| -28           | 101.3688                 | 104.8272                  | 108.3927                 |
| -27           | 96.2564                  | 99.4883                   | 102.8185                 |
| -26           | 91.4348                  | 94.4558                   | 97.5669                  |
| -25           | 86.8857                  | 89.7101                   | 92.6171                  |
| -24           | 82.592                   | 85.2332                   | 87.9501                  |
| -23           | 78.5378                  | 81.0082                   | 83.5479                  |
| -22           | 74.7084                  | 77.0194                   | 79.394                   |
| -21           | 71.09                    | 73.2523                   | 75.4729                  |
| -20           | 67.6695                  | 69.6931                   | 71.77                    |
| -19           | 64.4351                  | 66.3291                   | 68.272                   |
| -18           | 61.3754                  | 63.1485                   | 64.9663                  |
| -17           | 58.4801                  | 60.1402                   | 61.8412                  |
| -16           | 55.7394                  | 57.2939                   | 58.8858                  |
| -15           | 53.144                   | 54.5998                   | 56.0899                  |
| -14           | 50.6855                  | 52.049                    | 53.4439                  |
| -13           | 48.3557                  | 49.633                    | 50.9389                  |
| -12           | 46.1473                  | 47.3439                   | 48.5666                  |
| -11           | 44.0532                  | 45.1743                   | 46.3193                  |
| -10           | 42.0668                  | 43.1172                   | 44.1894                  |
| -9            | 40.182                   | 41.1663                   | 42.1705                  |
| -8            | 38.3929                  | 39.3153                   | 40.2558                  |
| -7            | 36.6943                  | 37.5587                   | 38.4396                  |
| -6            | 35.0809                  | 35.891                    | 36.7161                  |
| -5            | 33.5482                  | 34.3074                   | 35.0803                  |
| -4            | 32.0914                  | 32.8029                   | 33.5268                  |
| -3            | 30.7066                  | 31.3734                   | 32.0515                  |
| -2            | 29.3896                  | 30.0145                   | 30.6497                  |
| -1            | 28.1368                  | 28.7225                   | 29.3174                  |

|    |         |         |         |
|----|---------|---------|---------|
| 0  | 26.9448 | 27.4936 | 28.0508 |
| 1  | 25.8102 | 26.3245 | 26.8463 |
| 2  | 24.73   | 25.2119 | 25.7006 |
| 3  | 23.7012 | 24.1527 | 24.6103 |
| 4  | 22.7213 | 23.1442 | 23.5726 |
| 5  | 21.7874 | 22.1835 | 22.5846 |
| 6  | 20.8972 | 21.2682 | 21.6436 |
| 7  | 20.0485 | 20.3959 | 20.7472 |
| 8  | 19.2392 | 19.5644 | 19.8931 |
| 9  | 18.467  | 18.7714 | 19.0789 |
| 10 | 17.7303 | 18.0151 | 18.3027 |
| 11 | 17.027  | 17.2935 | 17.5624 |
| 12 | 16.3556 | 16.6048 | 16.8561 |
| 13 | 15.7145 | 15.9475 | 16.1823 |
| 14 | 15.102  | 15.3198 | 15.5391 |
| 15 | 14.5169 | 14.7203 | 14.9251 |
| 16 | 13.9575 | 14.1475 | 14.3386 |
| 17 | 13.423  | 13.6003 | 13.7786 |
| 18 | 12.9117 | 13.0772 | 13.2435 |
| 19 | 12.4228 | 12.5771 | 12.732  |
| 20 | 11.955  | 12.0988 | 12.2431 |
| 21 | 11.5074 | 11.6413 | 11.7756 |
| 22 | 11.0791 | 11.2037 | 11.3286 |
| 23 | 10.6689 | 10.7848 | 10.9009 |
| 24 | 10.2762 | 10.3839 | 10.4917 |
| 25 | 9.9     | 10      | 10.1    |
| 26 | 9.5325  | 9.6324  | 9.7324  |
| 27 | 9.1805  | 9.2802  | 9.38    |
| 28 | 8.8435  | 8.9428  | 9.0423  |
| 29 | 8.5206  | 8.6195  | 8.7186  |
| 30 | 8.2113  | 8.3096  | 8.4083  |
| 31 | 7.9147  | 8.0124  | 8.1105  |
| 32 | 7.6305  | 7.7275  | 7.8249  |
| 33 | 7.3579  | 7.4541  | 7.5508  |
| 34 | 7.0966  | 7.1919  | 7.2878  |
| 35 | 6.8458  | 6.9403  | 7.0354  |
| 36 | 6.6052  | 6.6987  | 6.7928  |
| 37 | 6.3744  | 6.4669  | 6.5601  |
| 38 | 6.1527  | 6.2442  | 6.3364  |
| 39 | 5.94    | 6.0304  | 6.1216  |
| 40 | 5.7357  | 5.825   | 5.9151  |
| 41 | 5.5394  | 5.6276  | 5.7166  |

|    |        |        |        |
|----|--------|--------|--------|
| 42 | 5.3509 | 5.438  | 5.5259 |
| 43 | 5.1698 | 5.2557 | 5.3425 |
| 44 | 4.9957 | 5.0804 | 5.1661 |
| 45 | 4.8283 | 4.9119 | 4.9964 |
| 46 | 4.6674 | 4.7498 | 4.8331 |
| 47 | 4.5127 | 4.5939 | 4.6761 |
| 48 | 4.3639 | 4.4439 | 4.5249 |
| 49 | 4.2207 | 4.2995 | 4.3793 |
| 50 | 4.0829 | 4.1605 | 4.2391 |
| 51 | 3.9504 | 4.0268 | 4.1042 |
| 52 | 3.8228 | 3.898  | 3.9742 |
| 53 | 3.6999 | 3.7739 | 3.849  |
| 54 | 3.5816 | 3.6544 | 3.7283 |
| 55 | 3.4677 | 3.5393 | 3.612  |
| 56 | 3.358  | 3.4284 | 3.5    |
| 57 | 3.2522 | 3.3215 | 3.3919 |
| 58 | 3.1504 | 3.2185 | 3.2877 |
| 59 | 3.0521 | 3.1191 | 3.1872 |
| 60 | 2.9576 | 3.0234 | 3.0904 |
| 61 | 2.8663 | 2.931  | 2.9969 |
| 62 | 2.7783 | 2.8419 | 2.9067 |
| 63 | 2.6934 | 2.7559 | 2.8196 |
| 64 | 2.6115 | 2.6729 | 2.7355 |
| 65 | 2.5326 | 2.5929 | 2.6544 |
| 66 | 2.4563 | 2.5156 | 2.5761 |
| 67 | 2.3828 | 2.441  | 2.5004 |
| 68 | 2.3118 | 2.369  | 2.4274 |
| 69 | 2.2432 | 2.2994 | 2.3568 |
| 70 | 2.177  | 2.2322 | 2.2886 |
| 71 | 2.1131 | 2.1673 | 2.2227 |
| 72 | 2.0513 | 2.1046 | 2.159  |
| 73 | 1.9917 | 2.044  | 2.0975 |
| 74 | 1.934  | 1.9854 | 2.0379 |
| 75 | 1.8783 | 1.9288 | 1.9804 |
| 76 | 1.8245 | 1.874  | 1.9247 |
| 77 | 1.7724 | 1.8211 | 1.8709 |
| 78 | 1.7221 | 1.7699 | 1.8188 |
| 79 | 1.6735 | 1.7204 | 1.7685 |
| 80 | 1.6264 | 1.6725 | 1.7197 |
| 81 | 1.581  | 1.6262 | 1.6726 |
| 82 | 1.5369 | 1.5813 | 1.6268 |
| 83 | 1.4943 | 1.5379 | 1.5826 |

# ETP - MO - 18NPT - 30 - G1B - 10K3435 - 1

## TEMPERATURE PROBE



Resistance vs. temperature table for 10k3435-1

| Temp.<br>(°C) | R <sub>min</sub><br>(kΩ) | R <sub>nor.</sub><br>(kΩ) | R <sub>max</sub><br>(kΩ) |
|---------------|--------------------------|---------------------------|--------------------------|
| 84            | 1.4531                   | 1.4959                    | 1.5398                   |
| 85            | 1.4132                   | 1.4553                    | 1.4985                   |
| 86            | 1.3746                   | 1.4159                    | 1.4583                   |
| 87            | 1.3373                   | 1.3778                    | 1.4194                   |
| 88            | 1.301                    | 1.3408                    | 1.3817                   |
| 89            | 1.266                    | 1.3051                    | 1.3453                   |
| 90            | 1.232                    | 1.2704                    | 1.3099                   |
| 91            | 1.1991                   | 1.2368                    | 1.2756                   |
| 92            | 1.1673                   | 1.2043                    | 1.2424                   |
| 93            | 1.1365                   | 1.1728                    | 1.2102                   |
| 94            | 1.1065                   | 1.1422                    | 1.1789                   |
| 95            | 1.0776                   | 1.1126                    | 1.1487                   |
| 96            | 1.0495                   | 1.0839                    | 1.1193                   |
| 97            | 1.0222                   | 1.056                     | 1.0908                   |
| 98            | 0.9958                   | 1.029                     | 1.0632                   |
| 99            | 0.9702                   | 1.0028                    | 1.0364                   |
| 100           | 0.9454                   | 0.9774                    | 1.0104                   |
| 101           | 0.9213                   | 0.9527                    | 0.9851                   |
| 102           | 0.8979                   | 0.9288                    | 0.9606                   |
| 103           | 0.8752                   | 0.9055                    | 0.9368                   |
| 104           | 0.8532                   | 0.883                     | 0.9137                   |
| 105           | 0.8318                   | 0.8611                    | 0.8913                   |
| 106           | 0.8112                   | 0.8399                    | 0.8696                   |
| 107           | 0.7911                   | 0.8193                    | 0.8485                   |
| 108           | 0.7715                   | 0.7992                    | 0.8278                   |
| 109           | 0.7526                   | 0.7798                    | 0.808                    |
| 110           | 0.7341                   | 0.7609                    | 0.7886                   |
| 111           | 0.7162                   | 0.7425                    | 0.7697                   |
| 112           | 0.6989                   | 0.7247                    | 0.7514                   |
| 113           | 0.682                    | 0.7074                    | 0.7337                   |
| 114           | 0.6657                   | 0.6906                    | 0.7164                   |
| 115           | 0.6497                   | 0.6742                    | 0.6996                   |
| 116           | 0.6342                   | 0.6583                    | 0.6832                   |
| 117           | 0.6192                   | 0.6429                    | 0.6674                   |
| 118           | 0.6046                   | 0.6278                    | 0.6519                   |
| 119           | 0.5904                   | 0.6132                    | 0.6369                   |
| 120           | 0.5765                   | 0.599                     | 0.6223                   |
| 121           | 0.5631                   | 0.5852                    | 0.6081                   |
| 122           | 0.5501                   | 0.5718                    | 0.5943                   |
| 123           | 0.5374                   | 0.5587                    | 0.5808                   |
| 124           | 0.525                    | 0.546                     | 0.5677                   |
| 125           | 0.513                    | 0.5336                    | 0.555                    |
| 126           | 0.5014                   | 0.5216                    | 0.5426                   |
| 127           | 0.4899                   | 0.5098                    | 0.5305                   |
| 128           | 0.4788                   | 0.4984                    | 0.5187                   |
| 129           | 0.4681                   | 0.4873                    | 0.5073                   |
| 130           | 0.4576                   | 0.4765                    | 0.4961                   |
| 131           | 0.4474                   | 0.466                     | 0.4853                   |
| 132           | 0.4375                   | 0.4558                    | 0.4748                   |
| 133           | 0.4278                   | 0.4458                    | 0.4645                   |
| 134           | 0.4184                   | 0.4361                    | 0.4545                   |
| 135           | 0.4092                   | 0.4266                    | 0.4447                   |
| 136           | 0.4003                   | 0.4174                    | 0.4352                   |
| 137           | 0.3916                   | 0.4084                    | 0.4259                   |
| 138           | 0.3832                   | 0.3997                    | 0.4169                   |
| 139           | 0.3748                   | 0.3911                    | 0.408                    |
| 140           | 0.3668                   | 0.3828                    | 0.3995                   |
| 141           | 0.359                    | 0.3747                    | 0.3911                   |
| 142           | 0.3514                   | 0.3669                    | 0.383                    |
| 143           | 0.344                    | 0.3592                    | 0.3751                   |
| 144           | 0.3367                   | 0.3517                    | 0.3673                   |
| 145           | 0.3297                   | 0.3444                    | 0.3598                   |
| 146           | 0.3227                   | 0.3372                    | 0.3523                   |
| 147           | 0.316                    | 0.3303                    | 0.3452                   |
| 148           | 0.3095                   | 0.3235                    | 0.3381                   |
| 149           | 0.3031                   | 0.3169                    | 0.3313                   |
| 150           | 0.2968                   | 0.3104                    | 0.3246                   |
| 151           | 0.2908                   | 0.3042                    | 0.3182                   |
| 152           | 0.2848                   | 0.298                     | 0.3117                   |
| 153           | 0.279                    | 0.292                     | 0.3055                   |
| 154           | 0.2734                   | 0.2862                    | 0.2995                   |
| 155           | 0.2679                   | 0.2805                    | 0.2936                   |
| 156           | 0.2625                   | 0.2749                    | 0.2878                   |
| 157           | 0.2573                   | 0.2695                    | 0.2822                   |
| 158           | 0.2522                   | 0.2642                    | 0.2767                   |
| 159           | 0.2472                   | 0.259                     | 0.2713                   |
| 160           | 0.2424                   | 0.254                     | 0.2661                   |
| 161           | 0.2376                   | 0.249                     | 0.261                    |
| 162           | 0.2329                   | 0.2442                    | 0.256                    |
| 163           | 0.2284                   | 0.2395                    | 0.2511                   |
| 164           | 0.224                    | 0.2349                    | 0.2463                   |
| 165           | 0.2197                   | 0.2304                    | 0.2416                   |
| 166           | 0.2154                   | 0.226                     | 0.2371                   |
| 167           | 0.2114                   | 0.2218                    | 0.2327                   |
| 168           | 0.2073                   | 0.2176                    | 0.2284                   |
| 169           | 0.2034                   | 0.2135                    | 0.2241                   |
| 170           | 0.1995                   | 0.2095                    | 0.2199                   |
| 171           | 0.1958                   | 0.2056                    | 0.2159                   |
| 172           | 0.1921                   | 0.2018                    | 0.2119                   |
| 173           | 0.1885                   | 0.198                     | 0.208                    |
| 174           | 0.185                    | 0.1944                    | 0.2042                   |
| 175           | 0.1816                   | 0.1908                    | 0.2005                   |
| 176           | 0.1783                   | 0.1874                    | 0.197                    |
| 177           | 0.1749                   | 0.1839                    | 0.1933                   |
| 178           | 0.1718                   | 0.1806                    | 0.1899                   |
| 179           | 0.1687                   | 0.1774                    | 0.1865                   |
| 180           | 0.1656                   | 0.1742                    | 0.1832                   |
| 181           | 0.1626                   | 0.1711                    | 0.18                     |
| 182           | 0.1597                   | 0.168                     | 0.1768                   |
| 183           | 0.1568                   | 0.165                     | 0.1736                   |
| 184           | 0.154                    | 0.1621                    | 0.1706                   |
| 185           | 0.1513                   | 0.1593                    | 0.1677                   |
| 186           | 0.1486                   | 0.1565                    | 0.1648                   |
| 187           | 0.146                    | 0.1538                    | 0.162                    |
| 188           | 0.1434                   | 0.1511                    | 0.1591                   |
| 189           | 0.141                    | 0.1485                    | 0.1564                   |
| 190           | 0.1385                   | 0.1459                    | 0.1537                   |
| 191           | 0.1361                   | 0.1434                    | 0.1511                   |
| 192           | 0.1338                   | 0.141                     | 0.1486                   |
| 193           | 0.1315                   | 0.1386                    | 0.1461                   |
| 194           | 0.1292                   | 0.1362                    | 0.1436                   |
| 195           | 0.127                    | 0.1339                    | 0.1412                   |
| 196           | 0.1249                   | 0.1317                    | 0.1389                   |
| 197           | 0.1228                   | 0.1295                    | 0.1366                   |
| 198           | 0.1206                   | 0.1273                    | 0.1343                   |
| 199           | 0.1186                   | 0.1252                    | 0.1321                   |
| 200           | 0.1166                   | 0.1231                    | 0.1299                   |
| 201           | 0.1147                   | 0.1211                    | 0.1278                   |
| 202           | 0.1128                   | 0.1191                    | 0.1257                   |
| 203           | 0.111                    | 0.1172                    | 0.1238                   |
| 204           | 0.1092                   | 0.1153                    | 0.1218                   |
| 205           | 0.1073                   | 0.1134                    | 0.1198                   |
| 206           | 0.1056                   | 0.1116                    | 0.1179                   |
| 207           | 0.1039                   | 0.1098                    | 0.116                    |



Resistance vs. temperature table for 10k3435-1

| Temp. | R <sub>min</sub> | R <sub>nor.</sub> | R <sub>max</sub> |
|-------|------------------|-------------------|------------------|
| (°C)  | (kΩ)             | (kΩ)              | (kΩ)             |
| 208   | 0.1022           | 0.108             | 0.1141           |
| 209   | 0.1006           | 0.1063            | 0.1124           |
| 210   | 0.0989           | 0.1046            | 0.1106           |
| 211   | 0.0973           | 0.1029            | 0.1088           |
| 212   | 0.0958           | 0.1013            | 0.1071           |
| 213   | 0.0943           | 0.0997            | 0.1054           |
| 214   | 0.0928           | 0.0982            | 0.1039           |
| 215   | 0.0914           | 0.0967            | 0.1023           |
| 216   | 0.09             | 0.0952            | 0.1007           |
| 217   | 0.0885           | 0.0937            | 0.0992           |
| 218   | 0.0871           | 0.0922            | 0.0976           |
| 219   | 0.0858           | 0.0908            | 0.0961           |
| 220   | 0.0845           | 0.0895            | 0.0948           |
| 221   | 0.0832           | 0.0881            | 0.0933           |
| 222   | 0.0819           | 0.0868            | 0.0919           |
| 223   | 0.0807           | 0.0855            | 0.0906           |
| 224   | 0.0795           | 0.0842            | 0.0892           |
| 225   | 0.0782           | 0.0829            | 0.0878           |
| 226   | 0.0771           | 0.0817            | 0.0866           |
| 227   | 0.0759           | 0.0805            | 0.0853           |
| 228   | 0.0748           | 0.0793            | 0.0841           |
| 229   | 0.0737           | 0.0781            | 0.0828           |
| 230   | 0.0726           | 0.077             | 0.0816           |
| 231   | 0.0716           | 0.0759            | 0.0805           |
| 232   | 0.0705           | 0.0748            | 0.0793           |
| 233   | 0.0695           | 0.0737            | 0.0782           |
| 234   | 0.0684           | 0.0726            | 0.077            |
| 235   | 0.0675           | 0.0716            | 0.076            |
| 236   | 0.0665           | 0.0706            | 0.0749           |
| 237   | 0.0655           | 0.0695            | 0.0738           |
| 238   | 0.0646           | 0.0686            | 0.0728           |
| 239   | 0.0637           | 0.0676            | 0.0718           |
| 240   | 0.0627           | 0.0666            | 0.0707           |
| 241   | 0.0619           | 0.0657            | 0.0698           |
| 242   | 0.061            | 0.0648            | 0.0688           |
| 243   | 0.0601           | 0.0639            | 0.0679           |
| 244   | 0.0593           | 0.063             | 0.0669           |
| 245   | 0.0584           | 0.0621            | 0.066            |
| 246   | 0.0577           | 0.0613            | 0.0651           |
| 247   | 0.0569           | 0.0605            | 0.0643           |
| 248   | 0.0561           | 0.0596            | 0.0634           |
| 249   | 0.0553           | 0.0588            | 0.0625           |
| 250   | 0.0545           | 0.058             | 0.0617           |