



The MCS-T100-L-xx Specifications & Description

Physical Characteristics

Standard Temperature Range..... -60°F to +48°F
 Standard Temperature Accuracy ±0.36° F (±0.2°C)
 Resistance Range..... 754K to 20.8 K
 Response Time (to 48°F) 22 sec (in liquid)
 Response Time (to -60°F) 30 sec (in liquid)
 Input Voltage..... 5vdc
 Sensor Resistance..... 10,000 ohms @ 77°F (25°C)
 Cable
 Length 20' or 40'
 Wire 2 conductor 22 awg stranded
 Shield Foil shield with 25% overlap
 Drain Stranded tinned copper drain
 Part number description when ordering (MCS-T100-xx)
 xx..... 20', 40' or 60' wire length



Part # MCS-T100-L

Product Description

The probe is an extremely fast acting thermistor packaged in a watertight stainless steel deep drawn tube. The sensor is potted with thermally conductive RTV cure silicon adhesive to guarantee durability and response. Its high accuracy allows for interchangeability in the field.

The large resistance range allows the use of over 1000' of cable with no noticeable effect. By placing a 100,000 ohms

resistor between signal and ground the sensor may be used in a three wire input mode. The table below provides a cross reference between F, ohms and vdc at sensor input pin (S1) of MCS micro controller.

Product Specifications

| Temp (°F) | Resist (kΩ) | S1 (vdc) | Temp (°F) | Resist (kΩ) | S1 (vdc) | Temp (°F) | Resist (kΩ) | S1 (vdc) | Temp (°F) | Resist (kΩ) | S1 (vdc) | Temp (°F) | Resist (kΩ) | S1 (vdc) |
|-----------|-------------|----------|-----------|-------------|----------|-----------|-------------|----------|-----------|-------------|----------|-----------|-------------|----------|
| -60 | 743.4 | 0.593 | -42 | 368.9 | 1.066 | -24 | 192.0 | 1.712 | -6 | 104.4 | 2.446 | 12 | 59.1 | 3.143 |
| -59 | 714.1 | 0.614 | -41 | 355.3 | 1.098 | -23 | 185.4 | 1.752 | -5 | 101.1 | 2.487 | 13 | 57.3 | 3.179 |
| -58 | 686.0 | 0.636 | -40 | 342.3 | 1.131 | -22 | 179.1 | 1.792 | -4 | 97.8 | 2.582 | 14 | 55.6 | 3.214 |
| -57 | 659.1 | 0.659 | -39 | 329.8 | 1.163 | -21 | 173.0 | 1.832 | -3 | 94.7 | 2.568 | 15 | 53.9 | 3.248 |
| -56 | 633.4 | 0.682 | -38 | 317.8 | 1.197 | -20 | 167.1 | 1.872 | -2 | 91.7 | 2.608 | 16 | 52.3 | 3.283 |
| -55 | 608.8 | 0.705 | -37 | 306.3 | 1.231 | -19 | 161.4 | 1.913 | -1 | 88.8 | 2.648 | 17 | 50.8 | 3.316 |
| -54 | 585.2 | 0.730 | -36 | 295.2 | 1.265 | -18 | 156.0 | 1.953 | 0 | 86.0 | 2.688 | 18 | 49.3 | 3.350 |
| -53 | 562.7 | 0.755 | -35 | 284.6 | 1.300 | -17 | 150.8 | 1.994 | 1 | 83.3 | 2.728 | 19 | 47.8 | 3.383 |
| -52 | 541.1 | 0.780 | -34 | 274.4 | 1.335 | -16 | 145.7 | 2.035 | 2 | 80.7 | 2.767 | 20 | 46.4 | 3.415 |
| -51 | 520.4 | 0.806 | -33 | 264.6 | 1.371 | -15 | 140.9 | 2.076 | 3 | 78.2 | 2.806 | 21 | 45.1 | 3.447 |
| -50 | 500.6 | 0.833 | -32 | 255.2 | 1.408 | -14 | 136.2 | 2.117 | 4 | 75.7 | 2.845 | 22 | 43.7 | 3.478 |
| -49 | 481.6 | 0.850 | -31 | 246.2 | 1.444 | -13 | 131.7 | 2.158 | 5 | 73.4 | 2.884 | 23 | 42.5 | 3.509 |
| -48 | 463.4 | 0.888 | -30 | 237.5 | 1.482 | -12 | 127.3 | 2.199 | 6 | 71.1 | 2.922 | 24 | 41.2 | 3.540 |
| -47 | 445.9 | 0.916 | -29 | 229.1 | 1.519 | -11 | 123.1 | 2.241 | 7 | 68.9 | 2.960 | 25 | 40.1 | 3.570 |
| -46 | 429.2 | 0.945 | -28 | 221.1 | 1.557 | -10 | 119.1 | 2.282 | 8 | 66.8 | 2.997 | 26 | 38.9 | 3.600 |
| -45 | 413.1 | 0.974 | -27 | 213.4 | 1.595 | -9 | 115.2 | 2.323 | 9 | 64.8 | 3.034 | 27 | 37.8 | 3.629 |
| -44 | 397.8 | 1.005 | -26 | 206.0 | 1.634 | -8 | 111.5 | 2.364 | 10 | 62.8 | 3.071 | 28 | 36.7 | 3.657 |
| -43 | 383.0 | 1.035 | -25 | 198.9 | 1.673 | -7 | 107.9 | 2.405 | 11 | 60.9 | 3.107 | 29 | 35.7 | 3.685 |
| | | | | | | | | | | | | 48 | 21.0 | 4.131 |