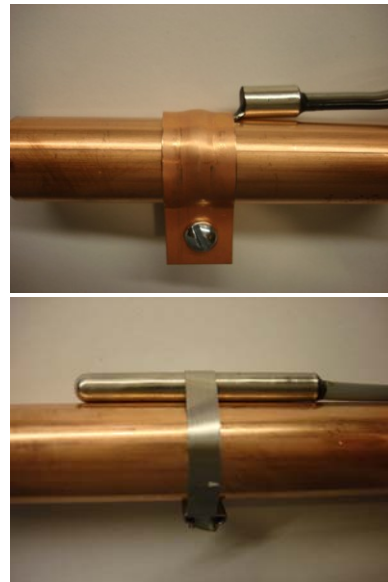
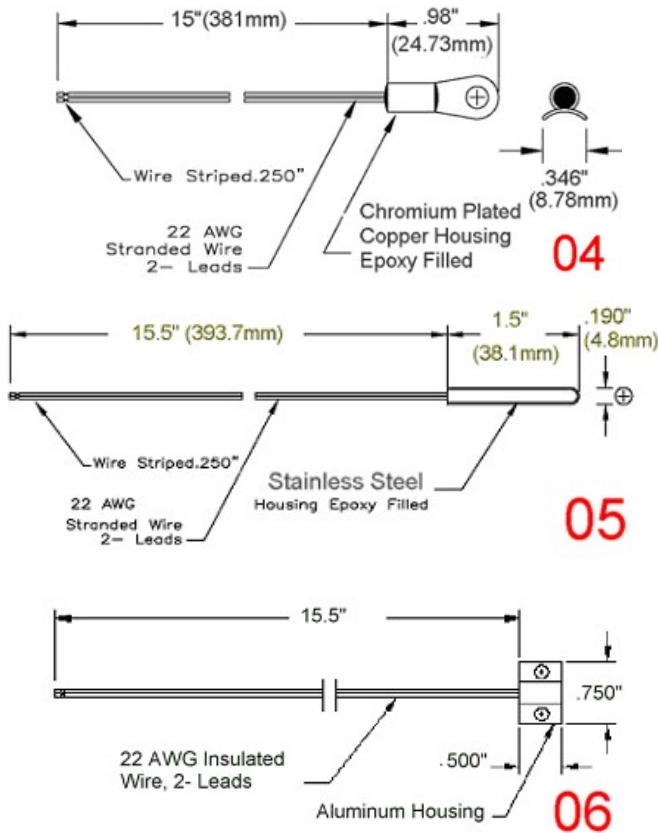


# NTC Pipe Sensor

Western Electronic Components' NTC Pipe Sensor Probes are ruggedly designed to withstand a variety of environmental conditions when used for temperature measurement and control of heating systems. They also incorporate interchangeable NTC Thermistors for excellent accuracy and interchangeability over a large temperature range.

## Physical Specification



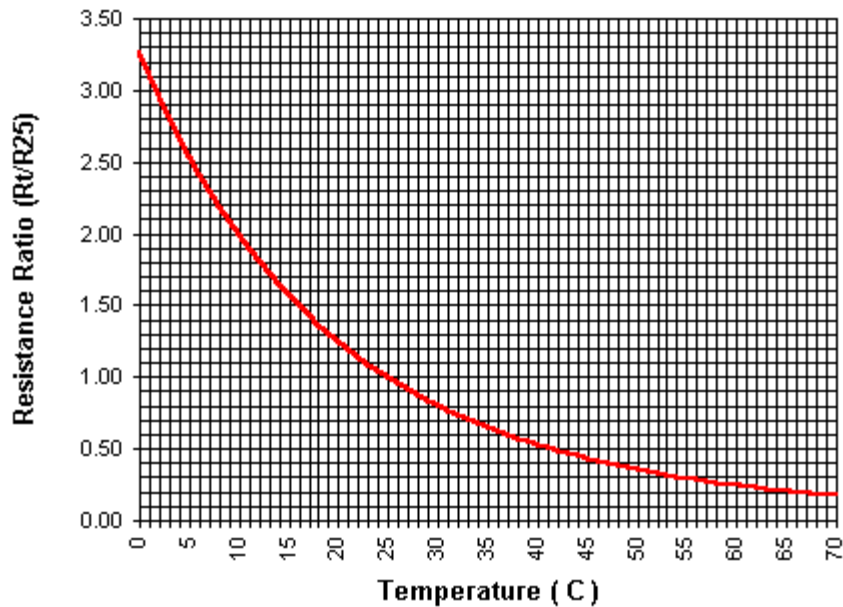
## Electrical Specification Table

| $\Omega$ @ 25 °C | Resistance Tolerance @ 25 C |                |                | Curve Type        |
|------------------|-----------------------------|----------------|----------------|-------------------|
|                  | $\pm 1\%$                   | $\pm 2\%$      | $\pm 5\%$      |                   |
|                  | PART NUMBER                 | PART NUMBER    | PART NUMBER    | (see table below) |
| 10,000           | WNP20107-01-xx              | WNP20107-02-xx | WNP20107-04-xx | H                 |
| 20,000           | WNP20108-01-xx              | WNP20108-02-xx | WNP20108-04-xx | H                 |

Note: Add Housing Dash Number to Part Number

Example: WNP20107-02-05 : 10K $\Omega$ @ 25 °C,  $\pm 2\%$  Tolerance and (0.190" Diameter x 1.50" Long Stainless Steel Housing)

**Interchangeable Thermistor Curve (Curve "H")**  
Resistance Ratio - Temperature



## INTERCHANGEABLE THERMISTOR DATA

### Curve "H" (0-70 in 1°C increments)

#### Resistance Ratio vs Temperature

| Temperature |    | Resistance<br>Ratio (R/R25) | Temperature |     | Resistance<br>°F |
|-------------|----|-----------------------------|-------------|-----|------------------|
| °C          | °F |                             | °C          | °C  |                  |
| 0           | 32 | 3.2657                      | 36          | 97  | 0.6268           |
| 1           | 34 | 3.1036                      | 37          | 99  | 0.6016           |
| 2           | 36 | 2.9505                      | 38          | 100 | 0.5776           |
| 3           | 37 | 2.8058                      | 39          | 102 | 0.5546           |
| 4           | 39 | 2.6690                      | 40          | 104 | 0.5327           |
| 5           | 41 | 2.5396                      | 41          | 106 | 0.5117           |
| 6           | 43 | 2.4174                      | 42          | 108 | 0.4918           |
| 7           | 45 | 2.3018                      | 43          | 109 | 0.4726           |
| 8           | 46 | 2.1922                      | 44          | 111 | 0.4543           |
| 9           | 48 | 2.0886                      | 45          | 113 | 0.4369           |
| 10          | 50 | 1.9904                      | 46          | 115 | 0.4201           |
| 11          | 52 | 1.8974                      | 47          | 117 | 0.4041           |
| 12          | 54 | 1.8093                      | 48          | 118 | 0.3889           |
| 13          | 55 | 1.7258                      | 49          | 120 | 0.3742           |
| 14          | 57 | 1.6465                      | 50          | 122 | 0.3602           |
| 15          | 59 | 1.5715                      | 51          | 124 | 0.3467           |
| 16          | 61 | 1.5003                      | 52          | 126 | 0.3340           |
| 17          | 63 | 1.4327                      | 53          | 127 | 0.3217           |
| 18          | 64 | 1.3684                      | 54          | 129 | 0.3099           |
| 19          | 66 | 1.3074                      | 55          | 131 | 0.2986           |
| 20          | 68 | 1.2495                      | 56          | 133 | 0.2878           |
| 21          | 70 | 1.1944                      | 57          | 135 | 0.2774           |
| 22          | 72 | 1.1421                      | 58          | 136 | 0.2675           |
| 23          | 73 | 1.0923                      | 59          | 138 | 0.2580           |
| 24          | 75 | 1.0451                      | 60          | 140 | 0.2488           |
| 25          | 77 | 1.0000                      | 61          | 142 | 0.2400           |
| 26          | 79 | 0.9573                      | 62          | 144 | 0.2316           |
| 27          | 81 | 0.9166                      | 63          | 145 | 0.2235           |
| 28          | 82 | 0.8778                      | 64          | 147 | 0.2157           |
| 29          | 84 | 0.8409                      | 65          | 149 | 0.2083           |
| 30          | 86 | 0.8057                      | 66          | 151 | 0.2011           |
| 31          | 88 | 0.7722                      | 67          | 153 | 0.1941           |
| 32          | 90 | 0.7403                      | 68          | 154 | 0.1876           |
| 33          | 91 | 0.7099                      | 69          | 156 | 0.1813           |
| 34          | 93 | 0.6809                      | 70          | 158 | 0.1752           |
| 35          | 95 | 0.6532                      |             |     |                  |

## INTERCHANGEABLE THERMISTOR DATA

### Curve "H" (5°C Increments)

#### Resistance Ratio vs Temperature

| Temperature |     | Resistance    | Temperature |     | Resistance    |
|-------------|-----|---------------|-------------|-----|---------------|
| °C          | °F  | Ratio (R/R25) | °C          | °F  | Ratio (R/R25) |
| -50         | -58 | 67.260        | 55          | 131 | 0.2987        |
| -45         | -49 | 47.337        | 60          | 140 | 0.2488        |
| -40         | -40 | 33.727        | 65          | 149 | 0.2084        |
| -35         | -31 | 24.312        | 70          | 158 | 0.1753        |
| -30         | -22 | 17.721        | 75          | 167 | 0.1482        |
| -25         | -13 | 13.054        | 80          | 176 | 0.1257        |
| -20         | -4  | 9.714         | 85          | 185 | 0.1072        |
| -15         | 5   | 7.299         | 90          | 194 | 0.09174       |
| -10         | 14  | 5.535         | 95          | 203 | 0.07882       |
| -5          | 23  | 4.234         | 100         | 212 | 0.06798       |
| 0           | 32  | 3.266         | 105         | 221 | 0.05884       |
| 5           | 41  | 2.540         | 110         | 230 | 0.05110       |
| 10          | 50  | 1.990         | 115         | 239 | 0.04454       |
| 15          | 59  | 1.571         | 120         | 248 | 0.03894       |
| 20          | 68  | 1.249         | 125         | 257 | 0.03416       |
| 25          | 77  | 1.000         | 130         | 266 | 0.03005       |
| 30          | 86  | 0.8055        | 135         | 275 | 0.02652       |
| 35          | 95  | 0.6531        | 140         | 284 | 0.02347       |
| 40          | 104 | 0.5325        | 145         | 293 | 0.02082       |
| 45          | 113 | 0.4368        | 150         | 302 | 0.01853       |
| 50          | 122 | 0.3602        |             |     |               |