

## 500 Series

---

### Packaged Temperature Probes



#### DESCRIPTION

The 500 Series is broad portfolio of air/gas, liquid and surface temperature probes that use Honeywell's NTC (Negative Temperature Coefficient) thermistors.

Thermistors can be very effective in sensing temperatures of gases, liquids or solids because of their enhanced sensitivity. These small, easy to install probe assemblies support and position the thermistor elements within the media to be monitored as well as protect the thermistors against damage in use or handling. The assemblies also help direct thermal or fluid flow evenly across the thermistors for accurate temperature sensing.

The enhanced reliability, precision and stability of the 500 Series products allow the customer greater flexibility in temperature monitoring and control. The wide operating temperature range is -60 °C to 300 °C [-76 °F to 572 °F] provides application flexibility.

#### FEATURES

---

- Air/gas, surface, immersion and liquid level
- NTC type output
- Enhanced sensitivity
- Small package size
- Easy to install
- Enhanced reliability
- Enhanced accuracy
- Enhanced stability/low drift
- Wide operating temperature range
- Wide variety of probe assembly styles
- Custom configurations available
- RTD linear output available

The 500 Series is available in a wide variety of housing styles and materials, R-T (Resistance-Temperature) curves, mounting methods, mechanical interface, electrical interface and connector types to meet most applications.

In addition to custom configurations, a variety of existing designs is available.

Honeywell also offers RTD (Resistance Temperature Detector) technology that may be packaged into probe assemblies for similar applications that may require an RTD linear output instead of an NTC thermistor output.

#### POTENTIAL APPLICATIONS

---

- Industrial: HVAC, refrigeration, office automation, air compressors, industrial ovens and ranges, hydraulic systems, processing and packaging, power generation
- Transportation: heavy duty or sport vehicle engine oil, air inlet, fuel, coolant or surface temperature sensing
- Aviation: engine bleed air or environmental control systems
- Weather stations

# 500 Series

**Table 1. General Specifications**

Characteristic	Parameter																														
Temperature sensing type	air/gas, surface, immersion and liquid level																														
Thermistor type	NTC																														
Nominal resistance at 25 °C [77 °F]	100 Ohm to 1,000,000 Ohm (inclusive)																														
Operating temperature range	-60 °C to 300 °C [-76 °F to 572 °F] (inclusive)																														
Tolerance	±0.5% to ±20% (catalog listing specific)																														
Accuracy	single point or curve match																														
Time constant in air	0.5 s to 150 s (inclusive)																														
Dissipation constant in air	0.1 mW/°C to 6 mW/°C (inclusive)																														
Time constant in water at 0.914 m/s [3 ft/s]	5 s to 10 s (inclusive)																														
Dissipation constant in water at 0.914 m/s [3 ft/s]	5 mW/°C to 6 mW/°C (inclusive)																														
Time constant on metal surface	3.0 s to 30 s (inclusive)																														
Dissipation constant on metal surface	3.3 mW/°C to 30 mW/°C (inclusive)																														
Housing material <sup>1</sup>	<ul style="list-style-type: none"> <li>• aluminum</li> <li>• brass</li> <li>• copper</li> <li>• ceramic-filled tubing</li> <li>• epoxy filled</li> <li>• glass encapsulated</li> <li>• Kynar tubing</li> <li>• nickel-plated copper</li> <li>• plastic</li> <li>• tin-plated copper</li> <li>• stainless steel</li> <li>• stainless steel/plastic</li> <li>• steel magnet</li> </ul>																														
Mounting method/mechanical interface <sup>1</sup>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Adhesion</u></th> <th style="text-align: left;"><u>Ring Tongue</u></th> <th style="text-align: left;"><u>Threaded Body</u></th> </tr> </thead> <tbody> <tr> <td></td> <td>• #1/4</td> <td>• 1/8-27 NPT</td> </tr> <tr> <td><u>Bracket</u></td> <td>• #5/16</td> <td>• 1/4-18 NPT</td> </tr> <tr> <td>• with one hole (#6)</td> <td>• #4</td> <td>• 5/15-24 UNF</td> </tr> <tr> <td>• with two holes (#6)</td> <td>• #5</td> <td>• 3/8-24 UNF-2A</td> </tr> <tr> <td></td> <td>• #6</td> <td>• 8-32 UNC-2A</td> </tr> <tr> <td><u>Bullet Housing</u></td> <td>• #8</td> <td>• 9/16 18 UNF-2B</td> </tr> <tr> <td>• magnet</td> <td>• #10</td> <td>• M5x0.8 6 g</td> </tr> <tr> <td>• push fit</td> <td></td> <td>• BS G 1/8 B to BS 2779</td> </tr> <tr> <td><u>Flexible Tie-Down</u></td> <td></td> <td></td> </tr> </tbody> </table>	<u>Adhesion</u>	<u>Ring Tongue</u>	<u>Threaded Body</u>		• #1/4	• 1/8-27 NPT	<u>Bracket</u>	• #5/16	• 1/4-18 NPT	• with one hole (#6)	• #4	• 5/15-24 UNF	• with two holes (#6)	• #5	• 3/8-24 UNF-2A		• #6	• 8-32 UNC-2A	<u>Bullet Housing</u>	• #8	• 9/16 18 UNF-2B	• magnet	• #10	• M5x0.8 6 g	• push fit		• BS G 1/8 B to BS 2779	<u>Flexible Tie-Down</u>		
<u>Adhesion</u>	<u>Ring Tongue</u>	<u>Threaded Body</u>																													
	• #1/4	• 1/8-27 NPT																													
<u>Bracket</u>	• #5/16	• 1/4-18 NPT																													
• with one hole (#6)	• #4	• 5/15-24 UNF																													
• with two holes (#6)	• #5	• 3/8-24 UNF-2A																													
	• #6	• 8-32 UNC-2A																													
<u>Bullet Housing</u>	• #8	• 9/16 18 UNF-2B																													
• magnet	• #10	• M5x0.8 6 g																													
• push fit		• BS G 1/8 B to BS 2779																													
<u>Flexible Tie-Down</u>																															
Electrical Interface <sup>1</sup>	<ul style="list-style-type: none"> <li>• flying leads (two)</li> <li>• leadwires</li> <li>• lead wires with terminal</li> <li>• inbuilt terminal</li> <li>• overmolded connector</li> <li>• cable (pig tail)</li> </ul>																														
Connector <sup>1</sup>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>AMP</u></th> <th style="text-align: left;"><u>MOLEX</u></th> <th style="text-align: left;"><u>Other</u></th> </tr> </thead> <tbody> <tr> <td>• AMP 172157-1</td> <td>• Molex 70107-0002</td> <td>• HRS DF 13-2S-1.25</td> </tr> <tr> <td>• AMP 640443-2</td> <td>• Molex 50-57-9402</td> <td>• quick connect female</td> </tr> <tr> <td>• AMP 104257-1</td> <td>• Molex 19003-0064</td> <td>• 0.187 TAB type</td> </tr> <tr> <td>• AMP 42531-2</td> <td></td> <td>• standard 1/4 phone plug</td> </tr> <tr> <td>receptacles</td> <td><u>Packard</u></td> <td></td> </tr> <tr> <td>• AMP 172338-1</td> <td>• Packard 15300027</td> <td>• standard 1/4 stereo phone plug</td> </tr> </tbody> </table>	<u>AMP</u>	<u>MOLEX</u>	<u>Other</u>	• AMP 172157-1	• Molex 70107-0002	• HRS DF 13-2S-1.25	• AMP 640443-2	• Molex 50-57-9402	• quick connect female	• AMP 104257-1	• Molex 19003-0064	• 0.187 TAB type	• AMP 42531-2		• standard 1/4 phone plug	receptacles	<u>Packard</u>		• AMP 172338-1	• Packard 15300027	• standard 1/4 stereo phone plug									
<u>AMP</u>	<u>MOLEX</u>	<u>Other</u>																													
• AMP 172157-1	• Molex 70107-0002	• HRS DF 13-2S-1.25																													
• AMP 640443-2	• Molex 50-57-9402	• quick connect female																													
• AMP 104257-1	• Molex 19003-0064	• 0.187 TAB type																													
• AMP 42531-2		• standard 1/4 phone plug																													
receptacles	<u>Packard</u>																														
• AMP 172338-1	• Packard 15300027	• standard 1/4 stereo phone plug																													
Lead material <sup>1</sup>	Teflon, PVC, Kapton insulated; uninsulated																														

**Note:**

1. Other options available. Please consult the factory.

# Packaged Temperature Probes

Figure 1. Mounting Methods



## 500 Series Packaged Temperature Probes Order Guide (Page 1 of 3)

Catalog Listing	Temperature Sensing Type	Nominal Resistance at 25 °C [77 °F]	Tolerance	Accuracy	BETA (25/85)	R-T Curve	Housing Material	Mounting Method/Mechanical Interface	Electrical Interface/Connector Type	Lead Material	Lead Length	Time Constant in Air	Dissipation Constant in Air	Time Constant in Water at 0.914 m/s [3 ft/s]	Dissipation Constant in Water at 0.914 m/s [3 ft/s]	Time Constant on Metal Surface	Dissipation Constant on Metal Surface
511-49BJ01-102	Air/Gas	1,000 Ohm	±20.0%	25 °C [77 °F]	3068	9	Plastic	Adhesion	Flying leads (two)	24 Gauge PVC insulation	305 mm [12 in]	0.5 s	0,1 mW/°C	N/A	N/A	N/A	N/A
512-32AC05-204	Surface	200,000 Ohm	±20.0%	25 °C [77 °F]	4268	15	Aluminum	Ring tongue (#5)	Flying leads (two)	24 Gauge Teflon insulation	330 mm [13 in]	N/A	N/A	N/A	N/A	2.0 s	5.2 mW/°C
520-41AD08-153	Air/Gas	15,000 Ohm	±20.0%	50 °C [122 °F]	3670	12	Ceramic-filled tubing	Adhesion	Flying leads (two)	28 Gauge Teflon-impregnated Fiberglass	1118 mm [44 in]	16.0 s	0,7 mW/°C	N/A	N/A	N/A	N/A
520-41AH02-503	Air/Gas	50,000 Ohm	±8.8%	37 °C [99 °F]	4061	14	Epoxy filled	Adhesion	Flying leads (two)	30 Gauge Teflon insulation	152 mm [6 in]	16.0 s	0,7 mW/°C	N/A	N/A	N/A	N/A
520-41AH05-105	Air/Gas	1,000,000 Ohm	±20.0%	25 °C [77 °F]	4716	5	Epoxy filled	Adhesion	Flying leads (two)	28 Gauge Teflon insulation	305 mm [12 in]	16.0 s	0,7 mW/°C	N/A	N/A	N/A	N/A
521-59BP01-103	Immersion	10,000 Ohm	±20.0%	25 °C [77 °F]	3670	12	Stainless steel	Bullet housing	Flying leads (two)	28 Gauge Teflon insulation	64 mm [2.5 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
526-31AD50-153	Surface	15,000 Ohm	±1.0%	ESA/SCC-4006-001-03	3670	12	Aluminum	Adhesion	Flying leads (two)	30 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	1.0 s	3.3 mW/°C
526-31AN07-202	Surface	2,000 Ohm	±1.0%	ESA/SCC-4006-001-07	3518	11	Aluminum	Adhesion	Flying leads (two)	24 Gauge Kapton insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	1.0 s	3.3 mW/°C
526-31AN08-153	Surface	15,000 Ohm	±1.0%	ESA/SCC-4006-001-08	3670	12	Aluminum	Adhesion	Flying leads (two)	24 Gauge Kapton insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	1.0 s	3.3 mW/°C
526-31AN25-402	Surface	4,000 Ohm	±1.0%	ESA/SCC-4006-001-06	3518	11	Aluminum	Adhesion	Flying leads (two)	24 Gauge Kapton insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	1.0 s	3.3 mW/°C
526-31AN36-402	Surface	4,000 Ohm	±1.0%	ESA/SCC-4006-001-09	3518	11	Aluminum	Adhesion	Flying leads (two)	24 Gauge Kapton insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	1.0 s	3.3 mW/°C
526-33AB20-153	Surface	15,000 Ohm	±0.1 °C [0.18 °F]	-5 °C to 35 °C [32 °F to 95 °F]	3670	12	Stainless steel	Threaded body (8-32 UNC-2A)	Flying leads (two)	30 Gauge silver-plated Teflon	305 mm [12 in]	N/A	N/A	N/A	N/A	2.0 s	5.2 mW/°C
526-33AB47-202	Surface	2,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 125 °C [32 °F to 257 °F]	3518	11	Stainless steel	Threaded body (8-32 UNC-2A)	Flying leads (two)	24 Gauge Teflon insulation	356 mm [14 in]	N/A	N/A	N/A	N/A	2.0 s	5.2 mW/°C
526-59AR04-104	Immersion	100,000 Ohm	±1.0 °C [1.8 °F]	105 °C to 165 °C [221 °F to 329 °F]	4061	14	Stainless steel	Bullet housing	Flying leads (two)	28 Gauge Teflon insulation	610 mm [24 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
528-59AR12-104	Immersion	100,000 Ohm	±1.5 °C [2.7 °F]	10 °C to 260 °C [50 °F to 500 °F]	4061	14	Stainless steel	Bullet housing	Flying leads (two)	26 Gauge Teflon insulation	4267 mm [168 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
535-32AA20-104	Surface	100,000 Ohm	±1.0 °C [1.8 °F]	25 °C [77 °F]	3974	16	Nickel-plated copper	Ring tongue (#10)	Flying leads (two)	22 Gauge Teflon insulation	1981 mm [78 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
535-32AA30-503	Surface	50,000 Ohm	±10.0%	25 °C [77 °F]	3974	16	Nickel-plated copper	Ring tongue (#10)	Flying leads (two)	22 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
535-32AA33-103	Surface	10,000 Ohm	±5.0%	25 °C [77 °F]	3974	16	Tin-plated copper	Ring tongue (#10)	Flying leads (two)	22 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
535-32AA35-103	Surface	10,000 Ohm	±5.0%	25 °C [77 °F]	3974	16	Nickel-plated copper	Ring tongue (#10)	Lead wires/AMP 172157-1	22 Gauge Teflon insulation	102 mm [4 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
535-32BH03-104	Surface	100,000 Ohm	±5.0%	25 °C [77 °F]	3974	16	Tin-plated copper	Ring tongue (#1/4)	Flying leads (two)	24 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
535-32BR01-503	Surface	50,000 Ohm	±10.0%	25 °C [77 °F]	3974	16	Tin-plated copper	Ring tongue (#5/16)	Flying leads (two)	24 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
535-33AF01-823	Surface	82,000 Ohm	±2.9%	225 °C [437 °F]	3974	16	Brass	Threaded body (BS pipe thread G 1/8 B to BS 2779)	Flying leads (two)	18 Gauge Teflon insulation	127 mm [5 in]	N/A	N/A	N/A	N/A	30.0 s	10 mW/°C
535-34AB03-103	Surface	10,000 Ohm	±1.0 °C [1.8 °F]	0 °C to 100 °C [32 °F to 212 °F]	4261	1	Stainless steel	Cable-tie wrap	Lead wires/quick connect female terminals	24 Gauge PVC insulation	1905 mm [75 in]	30.0 s	6 mW/°C	N/A	N/A	N/A	N/A
535-39BU02-105	Air/Gas	1,000,000 Ohm	±3.0%	120 °C to 232 °C [248 °F to 450 °F]	4261	1	Glass encapsulated	Bullet housing	Flying leads (two)	22 Gauge solid nickel	107 mm [4.2 in]	4.0 s	2.5 mW/°C	N/A	N/A	N/A	N/A
535-41AA12-103	Air/Gas	10,000 Ohm	±5.0%	25 °C [77 °F]	3974	16	Kynar tubing	Adhesion	Flying leads (two)	24 Gauge Teflon insulation	1448 mm [57 in]	25.0 s	1.9 mW/°C	N/A	N/A	N/A	N/A

500 Series Thermistor Packaged Temperature Probes Order Guide (Page 2 of 3)

Catalog Listing	Temperature Sensing Type	Nominal Resistance at 25 °C [77 °F]	Tolerance	Accuracy	BETA (25/85)	R-T Curve	Housing Material	Mounting Method/ Mechanical Interface	Electrical Interface/ Connector Type	Lead Material	Lead Length	Time Constant in Air	Dissipation Constant in Air	Time Constant in Water at 0.914 m/s [3 ft/s]	Dissipation Constant in Water at 0.914 m/s [3 ft/s]	Time Constant on Metal Surface	Dissipation Constant on Metal Surface
535-42AR08-503	Air/Gas	50,000 Ohm	±5.0%	25 °C [77 °F]	3974	16	Stainless steel	Bracket with one hole (#6)	Flying leads (two)	28 Gauge Teflon insulation	165 mm [6.5 in]	150.0 s	3 mW/°C	N/A	N/A	N/A	N/A
535-42AR10-403	Air/Gas	40,000 Ohm	±5.0%	25 °C [77 °F]	3974	16	Stainless steel	Bracket with one hole (#6)	Flying leads (two)	28 Gauge Teflon insulation	457 mm [18 in]	150.0 s	3 mW/°C	N/A	N/A	N/A	N/A
535-42AR16-253	Air/Gas	25,000 Ohm	±1.0%	25 °C [77 °F]	3974	16	Stainless steel	Bracket with one hole (#6)	Flying leads (two)	28 Gauge Teflon insulation	165 mm [6.5 in]	150.0 s	3 mW/°C	N/A	N/A	N/A	N/A
535-42BA02-303	Air/Gas	30,000 Ohm	±2.0%	7.2 °C [50.0 °F]	3974	16	Plastic	Bracket with two holes (#6)	Inbuilt terminal/0.187 TAB Type	N/A	N/A	30.0 s	2 mW/°C	N/A	N/A	N/A	N/A
535-53DA02-303	Immersion	30,000 Ohm	±0.2 °C [0.36 °F]	25 °C [77 °F]	3974	16	Brass	Threaded body (9/16 18 UNF-2B)	Flying leads (two)	20 Gauge SE J1128 Type TXL	102 mm [4 in]	N/A	N/A	15.0 s	6 mW/°C	N/A	N/A
535-59AD14-104	Immersion	100,000 Ohm	±7.5%	125 °C [257 °F]	4261	1	Stainless steel	Bullet housing	Flying leads (two)	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
535-59BF05-503	Immersion	50,000 Ohm	±1.0 °C [1.8 °F]	60 °C to 85 °C [140 °F to 185 °F]	3974	16	Stainless steel/plastic	Bullet housing	Overmolded connector/standard ¼ phone plug	22 Gauge silicon rubber insulation	450 mm [17.7 in]	N/A	N/A	10.0 s	6 mW/°C	N/A	N/A
535-59DV26-303	Immersion	30,000 Ohm	±2.0%	0 °C [32 °F]	3974	16	Stainless steel	Bullet housing	Flying leads (two)	24 Gauge PVC insulation	3,048 mm [120 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
535-59DV37-303	Immersion	30,000 Ohm	±2.0%	0 °C [32 °F]	3974	16	Stainless steel	Bullet housing	Flying leads (two)	24 Gauge PVC insulation	63,096 mm [240 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
535-59DV41-303	Immersion	30,000 Ohm	±2.0%	0 °C [32 °F]	3974	16	Stainless steel	Bullet housing	Flying leads (two)	24 Gauge PVC insulation	9,144 mm [360 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
590-31AB10-103	Surface	10,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Adhesion	Flying leads (two)	24 Gauge Teflon insulation	1219 mm [48 in]	N/A	N/A	N/A	N/A	2.0 s	4 mW/°C
590-32AC35-103	Surface	10,000 Ohm	±0.2 °C [0.36 °F]	32 °C to 42 °C [90 °F to 108 °F]	3974	16	Aluminum	Ring tongue (#5)	Flying leads (two)	24 Gauge Teflon insulation	559 mm [22 in]	N/A	N/A	N/A	N/A	2.0 s	10 mW/°C
590-32AC36-103	Surface	10,000 Ohm	±0.2 °C [0.36 °F]	32 °C to 42 °C [90 °F to 108 °F]	3974	16	Aluminum	Ring tongue (#5)	Flying leads (two)	24 Gauge Teflon insulation	330 mm [13 in]	N/A	N/A	N/A	N/A	2.0 s	10 mW/°C
590-32AD01-103	Surface	10,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Aluminum	Ring tongue (#6)	Flying leads (two)	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	2.0 s	5.2 mW/°C
590-32AD11-303	Surface	30,000 Ohm	±0.05 °C [0.09 °F]	32 °C to 42 °C [90 °F to 108 °F]	3943	18	Aluminum	Ring tongue (#6)	Flying leads (two)	28 Gauge Teflon insulation	508 mm [20 in]	N/A	N/A	N/A	N/A	2.0 s	5.2 mW/°C
590-32AD16-103	Surface	10,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	4261	16	Aluminum	Ring tongue (#6)	Lead wires/Molex 70107-0002	24 Gauge Teflon insulation	76 mm [3 in]	N/A	N/A	N/A	N/A	2.0 s	5.2 mW/°C
590-32BP01-203	Surface	20,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Tin-plated copper	Ring tongue (#10)	Flying leads (two)	22 Gauge PVC insulation	914 mm [36 in]	N/A	N/A	N/A	N/A	3.0 s	20 mW/°C
590-33AA26-104	Surface	100,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	4261	1	Aluminum	Threaded body (8-32 UNC-2A)	Flying leads (two)	28 Gauge Teflon insulation	356 mm [14 in]	N/A	N/A	N/A	N/A	3.0 s	6 mW/°C
590-33AA33-503	Surface	50,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	4261	1	Aluminum	Threaded body (8-32 UNC-2A)	Lead wires/AMP 104257-1	28 Gauge Teflon insulation	30 mm [1.2 in]	N/A	N/A	N/A	N/A	3.0 s	6 mW/°C
590-33AA34-503	Surface	50,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	4261	1	Aluminum	Threaded body (8-32 UNC-2A)	Flying leads (two)	28 Gauge Teflon insulation	64 mm [2.5 in]	N/A	N/A	N/A	N/A	3.0 s	6 mW/°C
590-33AA38-103	Surface	10,000 Ohm	±0.05 °C [0.09 °F]	37 °C [99 °F]	3974	16	Aluminum	Threaded body (8-32 UNC-2A)	Flying leads (two)	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	3.0 s	6 mW/°C
590-33AB06-503	Surface	50,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 50 °C [32 °F to 122 °F]	4261	1	Stainless steel	Threaded body (8-32 UNC-2A)	Flying leads (two)	28 Gauge Teflon insulation	457 mm [18 in]	N/A	N/A	N/A	N/A	3.0 s	6 mW/°C
590-33BN01-103	Surface	10,000 Ohm	±0.1 °C [0.18 °F]	0 °C to 39 °C [32 °F to 102 °F]	3974	16	Aluminum	Threaded body (M5x0.8 6 g)	Lead wires/Molex 50-57-9402	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	3.0 s	6 mW/°C
590-33BQ01-103	Surface	10,000 Ohm	±0.1 °C [0.18 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Aluminum	Threaded body (M5x0.8 6 g)	Lead wires/Molex 50-57-9402	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	3.0 s	10 mW/°C
590-39CG02-103	Surface	10,000 Ohm	±0.05 °C [0.09 °F]	15 °C to 25 °C [59 °F to 77 °F]	3974	16	Steel magnet	Magnet	Overmolded connector/standard ¼ phone plug	N/A	3,810 mm [150 in]	N/A	N/A	N/A	N/A	25.0 s	30 mW/°C
590-51AF05-103	Immersion	10,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 100 °C [32 °F to 212 °F]	3974	16	Epoxy filled	Adhesion	Flying leads (two)	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	10.0 s	5 mW/°C	N/A	N/A
590-51AF09-103	Immersion	10,000 Ohm	±1.0%	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Epoxy filled	Adhesion	Lead wires/AMP 640443-2	28 Gauge Teflon insulation	178 mm [7 in]	N/A	N/A	10.0 s	5 mW/°C	N/A	N/A

500 Series Thermistor Packaged Temperature Probes Order Guide (Page 3 of 3)

Catalog Listing	Temperature Sensing Type	Nominal Resistance at 25 °C [77 °F]	Tolerance	Accuracy	BETA (25/85)	R-T Curve	Housing Material	Mounting Method/Mechanical Interface	Electrical Interface/Connector Type	Lead Material	Lead Length	Time Constant in Air	Dissipation Constant in Air	Time Constant in Water at 0.914 m/s [3 ft/s]	Dissipation Constant in Water at 0.914 m/s [3 ft/s]	Time Constant on Metal Surface	Dissipation Constant on Metal Surface
590-53AD10-103	Immersion	10,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Threaded body (1/8-27 NPT)	Flying leads (two)	24 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	5.0 s	5.7 mW/°C	N/A	N/A
590-53AD33-104	Immersion	100,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	4261	1	Stainless steel	Threaded body (1/8-27 NPT)	Flying leads (two)	24 Gauge Teflon insulation	457 mm [18 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
590-53AZ06-302	Immersion	3,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Threaded body (1/4-18 NPT)	Flying leads (two)	22 Gauge PVC insulation	1829 mm [72 in]	N/A	N/A	10.0 s	5.7 mW/°C	N/A	N/A
590-53BJ01-502	Immersion	5,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Threaded body (3/8-24 UNF-2A)	Flying leads (two)	20 Gauge PVC insulation	305 mm [12 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
590-53CU02-103	Immersion	10,000 Ohm	±1.0 °C [1.8 °F]	0 °C to 80 °C [32 °F to 176 °F]	3974	16	Brass	Threaded body (1/8-27 NPT)	Lead wires/Packard 15300027	18 Gauge polyolefin insulation	152 mm [6 in]	N/A	N/A	15.0 s	5 mW/°C	N/A	N/A
590-53CU05-153	Immersion	15,000 Ohm	±1.0 °C [1.8 °F]	0 °C to 80 °C [32 °F to 176 °F]	3974	16	Brass	Threaded body (1/8-27 NPT)	Lead wires/Packard 15300027	18 Gauge polyolefin insulation	152 mm [6 in]	N/A	N/A	15.0 s	5 mW/°C	N/A	N/A
590-59AD02-104	Immersion	100,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	4261	1	Stainless steel	Bullet housing	Flying leads (two)	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
590-59AD07-302	Immersion	3,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Bullet housing	Flying leads (two)	24 Gauge PVC insulation	813 mm [32 in]	N/A	N/A	6.0 s	5.7 mW/°C	N/A	N/A
590-59AR18-103	Immersion	10,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Bullet housing	Flying leads (two)/Molex 19003-0064	24 Gauge Teflon insulation	1219 mm [48 in]	N/A	N/A	6.0 s	5 mW/°C	N/A	N/A
590-59AR19-103	Immersion	10,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Bullet housing	Flying leads (two)/Molex 19003-0064	24 Gauge Teflon insulation	1524 mm [60 in]	N/A	N/A	6.0 s	5 mW/°C	N/A	N/A
590-59AR20-103	Immersion	10,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Bullet housing	Flying leads (two)/Molex 19003-0064	24 Gauge Teflon insulation	1524 mm [60 in]	N/A	N/A	6.0 s	5 mW/°C	N/A	N/A
590-59BC20-103	Immersion	10,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Copper	Bullet housing	Flying leads (two)/Molex 19003-0071	20 Gauge PVC insulation	914 mm [36 in]	N/A	N/A	6.0 s	5 mW/°C	N/A	N/A
590-59BC21-103	Immersion	10,000 Ohm	±0.1 °C [0.18 °F]	0 °C to 25 °C [32 °F to 177 °F]	3974	16	Stainless steel	Bullet housing	Flying leads (two)	20 Gauge PVC insulation	1397 mm [55 in]	N/A	N/A	6.0 s	5 mW/°C	N/A	N/A
590-59BC22-103	Immersion	10,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Copper	Bullet housing	Flying leads (two)/Molex 19003-0071	20 Gauge PVC insulation	1219 mm [48 in]	N/A	N/A	6.0 s	5 mW/°C	N/A	N/A
590-59EU01-502	Immersion	5,000 Ohm	±0.5 °C [0.9 °F]	0 °C to 70 °C [32 °F to 158 °F]	3974	16	Stainless steel	Bullet housing	Cable (pig tail)	24 Gauge PVC insulation	762 mm [30 in]	N/A	N/A	10.0 s	5 mW/°C	N/A	N/A
592-39AK14-103	Surface	10,000 Ohm	±0.2 °C [0.36 °F]	32 °C to 42 °C [90 °F to 108 °F]	3974	16	Epoxy filled	Bullet housing	Flying leads (two)	28 Gauge Teflon insulation	203 mm [8 in]	N/A	N/A	N/A	N/A	3.0 s	10 mW/°C
592-39CD04-103	Surface	10,000 Ohm	±0.1 °C [0.18 °F]	28 °C to 39 °C [82 °F to 102 °F]	3974	16	Epoxy filled	Bullet housing	Lead wires/Molex 50-57-9402	28 Gauge Teflon insulation	406 mm [16 in]	N/A	N/A	N/A	N/A	3.0 s	10 mW/°C
592-59LS01-103	Immersion and liquid level	10,000 Ohm	±1.0 °C [1.8 °F]	80 °C to 100 °C [176 °F to 212 °F]	3974	16	Stainless steel	Bullet housing push fit	Lead wires/AMP172338-1	26 Gauge Teflon insulation	279 mm [11 in]	N/A	N/A	10.0 s	5 mW/°C	N/A	N/A
593-51AR01-303	Immersion	30,000 Ohm	±0.2 °C [0.36 °F]	0 °C to 70 °C [32 °F to 158 °F]	4261	1	Epoxy filled	Adhesion	Flying leads (two)	28 Gauge Teflon insulation	279 mm [11 in]	N/A	N/A	10.0 s	5 mW/°C	N/A	N/A
595-32AB13-104	Surface	100,000 Ohm	±10.0%	25 °C [77 °F]	4261	1	Tin-plated copper	Ring tongue (#6)	Flying leads (two)	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	3.0 s	20 mW/°C
595-32AE04-103	Surface	10,000 Ohm	±1.0%	25 °C [77 °F]	3974	16	Tin-plated copper	Ring tongue (#4)	Flying leads (two)	24 Gauge Teflon insulation	762 mm [30 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
595-32AE05-103	Surface	10,000 Ohm	±5.0%	25 °C [77 °F]	3974	16	Tin-plated copper	Ring tongue (#5)	Lead wires/HRS DF 13-2S-1.25	28 Gauge Teflon insulation	203 mm [8 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
595-32AB13-104	Surface	100,000 Ohm	±10.0%	25 °C [77 °F]	4261	1	Tin-plated copper	Ring tongue (#6)	Flying leads (two)	28 Gauge Teflon insulation	305 mm [12 in]	N/A	N/A	N/A	N/A	3.0 s	20 mW/°C
597-32BM06-103	Surface	10,000 Ohm	±2.0%	25 °C [77 °F]	3974	16	Tin-plated copper	Ring tongue (#8)	Flying leads (two)	24 Gauge solid nickel uninsulated	38.1 mm [1.5 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C
597-32BM07-104	Surface	100,000 Ohm	±2.0%	25 °C [77 °F]	4261	1	Tin-plated copper	Ring tongue (#8)	Flying leads (two)	24 Gauge solid nickel uninsulated	38.1 mm [1.5 in]	N/A	N/A	N/A	N/A	4.0 s	20 mW/°C

## **WARNING**

### **PERSONAL INJURY**

DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

### **WARRANTY/REMEDY**

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

## **WARNING**

### **MISUSE OF DOCUMENTATION**

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

### **SALES AND SERVICE**

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

**E-mail:** [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

**Internet:** [www.honeywell.com/sensing](http://www.honeywell.com/sensing)

### **Phone and Fax:**

Asia Pacific +65 6355-2828  
+65 6445-3033 Fax  
Europe +44 (0) 1698 481481  
+44 (0) 1698 481676 Fax  
Latin America +1-305-805-8188  
+1-305-883-8257 Fax  
USA/Canada +1-800-537-6945  
+1-815-235-6847  
+1-815-235-6545 Fax

Sensing and Control  
Honeywell  
11 West Spring Street  
Freeport, Illinois 61032  
[www.honeywell.com/sensing](http://www.honeywell.com/sensing)

009035-1-EN IL50 GLO Printed in USA  
August 2008  
Copyright © 2008 Honeywell International Inc. All rights reserved.

# Honeywell