

# RTD Probe

Variety of Configurations  
 Single and Dual Elements  
 Stainless Steel Case

Custom Designs Available with:

- Degree Specific Case Bends
- Fast Response Time
- Cut-to-length Cases
- Connector Options
- Special Cable or Leadwires



The **RTD Probe** is constructed with a Stainless Steel case. The sensing element is embedded into the tip of the sheath. With the element located in the tip of the case this is the area that needs to be in contact with the process to obtain correct temperature measurement. Fittings associated with the probe designs are related to the mounting technique required by your application. These sensors can be utilized in many different industries and applications. Probe sensors are ideal for immersion in processes.

## FEATURES

- Sheath Styles:
  - » Stainless Steel
- Elements, Single and Dual:
  - » Platinum, Copper, Nickel
- Sheath Diameters:
  - » 0.125", 0.188", 0.250"
- Leadwire/Cable Options

## APPLICATIONS

- Process
- Aerospace
- Defense
- Hot Melt

## dimensions



'D' = Sheath Diameter  
 'L' = Sheath Length  
 'Y' = Leadwire/Cable Length

# RTD Probe

## performance specifications

### Repeatability:

Less than  $\pm .06\%$  change in ice point resistance after 10 consecutive cycles between ice point and 250°C

### Long Term Stability:

Less than  $\pm .2\%$  ice point resistance shift after 1,000 hours at 250°C

### Self Heating:

10 mW/C in water moving 3 feet/sec

### Pressure Rating:

1,500 psi

### Insulation Resistance:

1,000 megohms @ 500 V, leads to case

### Vibration:

Withstands 5 to 500 Hz at 3 g-level peak for 3 hours. Per ASTM E 644, Sec. 10.

### Shock:

Withstands 50 g-level peak sine wave shock of 11 milliseconds duration. Per ASTM E 644, Sec. 11

### RTD Temperature Accuracy Specifications:

Element Material	TCR	Standard Tolerances at 0°C			
		$\pm .06\%$	$\pm .12\%$	$\pm .2\%$	$\pm .5\%$
Platinum	0.00385	0.15°C, 0.06Ω	0.30°C, 0.12Ω	0.50°C, 0.19Ω	1.20°C, 0.46Ω
Platinum	0.00392	N/A	N/A	N/A	1.20°C, 0.46Ω
Copper	0.00427	N/A	N/A	0.71°C, 0.028Ω	1.49°C, 0.058Ω
Nickel	0.00672	N/A	N/A	N/A	0.85°C, 0.68Ω

## ordering info

### RTD Probe

#### Model Temperature Range

100M Moderate: -50 to 250°C (-58 to 482°F)  
100H High: -50 to 500°C (-58 to 932°F)  
100F Full: -200 to 500°C (-328 to 932°F)

#### Model Element Accuracy Temperature Coefficient

Model	Element	Accuracy	Temperature Coefficient
P2A	Platinum	100 Ohm $\pm .06\%$ at 0°C	.00385
P2B	Platinum	100 Ohm $\pm .12\%$ at 0°C	.00385
P2C	Platinum	100 Ohm $\pm .5\%$ at 0°C	.00385
P6B	Platinum	1,000 Ohm $\pm .12\%$ at 0°C	.00385
G2C	Platinum	100 Ohm $\pm .5\%$ at 0°C	.00392
C1D	Copper	10 Ohm $\pm .2\%$ at 25°C	.00427 (Model 100 M Only)
N3C	Nickel	120 Ohm $\pm .5\%$ at 0°C	.00672 (Model 100 M Only)

#### Model Leadwires, Element Configuration Typical Color Code

Model	Leadwires, Element Configuration	Typical Color Code
3S	Three Wire, Single	Red/Red/White
3D	Three Wire, Dual	Red/Red/White // Black/Green/Green
4D	Four Wire, Dual	Red/Red/White/White // Black/Black/Green/Green

#### Model 'L' Sheath Length

--- Define 'L' Length in Inches (12 = 12.0") Note: Minimum 1.5" / Maximum 36.0"

#### Model 'D' Sheath Diameter

Model	'D' Sheath Diameter
A	.125" Diameter (Single Element Only)
B	.188" Diameter
C	.250" Diameter

#### Model 'Y' Leadwire/Cable Options

Model	'Y' Leadwire/Cable Options
N	No Options, Stranded TFE Leadwires (36.0" Standard)
W	Leadwire Options

## 联系方式



深圳市亿为测控电子有限公司  
Shenzhen Bill-Well Measurement & Control Electronics Co., Ltd.

广东省深圳市南山区创业路怡海广场东座2407 邮编: 518000

电话: +86 755 2641 9890 传真: +86 755 2641 9680

电子邮箱: sales@bill-well.com