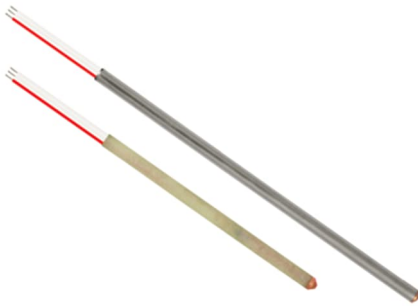




MODEL 310M

TIP SENSITIVE BEARING RTD PROBE

Temperature Sensor

- Variety of Configurations
- Fast Response
- Tip Sensitive
- Single and Dual Elements

The Tip Sensitive Bearing RTD Probe is a tubular sensor in which the sensing element is encased in a Copper alloy tip. This allows for increased accuracy and sensitivity to temperature changes at the point of contact in bearings. Inserted at an opening on the bearing housing, they are used in electric motors and generators for continuous sensing of the bearing temperature.

Bearing sensors can be used with a fluid sealed adjustable spring-loaded holder for proper loading in any depth hole to maintain contact with the bearing surface.

Features

- Variety Sheath Styles:
 - » Stainless Steel, Isolated Stainless Steel, Insulated Epoxy Glass
 - » Copper Tip
- Elements, Single and Dual:
 - » Platinum, Copper, Nickel
- Sheath Diameter:
 - » 0.188", 0.215", 0.250"

Applications

- Industrial
- Electric Motors
- Generators

Performance Specifications

Insulation Resistance:

Single or Dual Elements:
1,000 megohms @ 500 VDC, leads to case
Dual Elements:
100 megohms @ 50 VDC between elements

Time Constant (typical in 3 ft/sec moving water):

Stainless Steel Sheath and Isolated Stainless Steel Sheath:
Single Element: 2.0 seconds
Dual Element: 3.0 seconds
Insulated Epoxy Glass Sheath: 2.5 seconds

Pressure Rating:

Standard Stainless Steel Sheath: 100 psi (6.9 bar)
Isolated Stainless Steel Sheath: 100 psi (6.9 bar)
Insulated Epoxy Glass Sheath: 30 psi (2.1 bar)

Repeatability:

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

Long Term Stability:

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

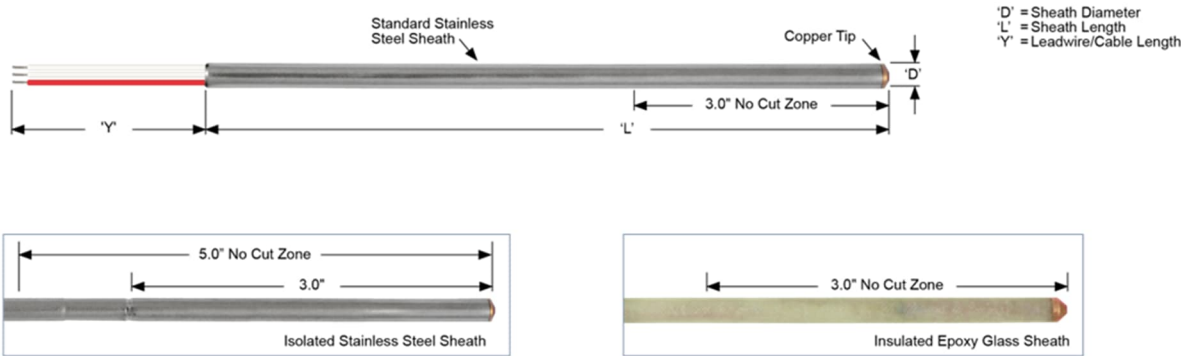
Self-Heating:

10 mW/C in water moving 3 feet/sec

RTD TEMPERATURE ACCURACY SPECIFICATIONS:

Element Material	TCR	Standard Tolerances at 0°C			
		±.06%	±.12%	±.2%	±.5%
Platinum	0.00385	0.15°C, .06Ω	0.30°C, .12Ω	N/A	1.20°C, .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, .058Ω
Nickel	0.00672	N/A	N/A	N/A	0.85°C, .68Ω

Dimensions



Configuration Model Number

310M - _ - _ - _ - _ . _ - _ - _

Sheath Style

A	Insulated Epoxy Glass -50 to 155°C (-58 to 311°F) Immersion Length: 3.0" Min / 48.0" Max
B	Standard Stainless Steel -50 to 250°C (-58 to 482°F) Immersion Length 3.0" Min / 96.0" Max
C	Isolated Stainless Steel -50 to 250°C (-58 to 482°F) Immersion Length 5.0" Min / 96.0" Max

Element / Accuracy

P2A	Platinum 100 Ohm $\pm 0.06\%$ at 0°C Temp Coefficient: .00385
P2B	Platinum 100 Ohm $\pm 0.12\%$ at 0°C Temp Coefficient: .00385
P2C	Platinum 100 Ohm $\pm 0.5\%$ at 0°C Temp Coefficient: .00385
G2C	Platinum 100 Ohm $\pm 0.5\%$ at 0°C Temp Coefficient: .00392
C1D	Copper 10 Ohm $\pm 0.2\%$ at 25°C Temp Coefficient: .00427
N3C	Nickle 120 Ohm $\pm 0.5\%$ at 0°C Temp Coefficient: .00672

Lead Wires / Element Configuration

2S	2 Wire Single (Red/White)
3S	3 Wire Single (Red/White/White)
4S	4 Wire Single (Red/Red/White/White)
3D	3 Wire Dual (Red/White/White & Blue/Yellow/Yellow)

Lead Wire Length 'Y'

###	Define Length in Whole Inches Note: Minimum 6" / Maximum 120" Example: (6" = 006; 96" = 096)
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Sheath Diameter

B	.188" Diameter
C	.250" Diameter (Only SS and Isolated Sheath Styles)
D	.215" Diameter

Sheath Length 'L'

###.##	Define 'L' Length in Inches (See 'Sheath Style' for Minimum / Maximum Lengths) Example: (10.00" = 10.00; 6.30" = 06.30)
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