



MODEL 312M

TIP SENSITIVE BEARING RTD PROBE- BAYONET

Temperature Sensor

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

The Tip Sensitive Bearing RTD–Bayonet consists of a bearing probe and bayonet holder. Bayonet mounting provides a simple and inexpensive spring loaded option for installing probes where a fluid seal is not required. We also offer a 1/8" NPT mounting adaptor to assist with locking the sensor in position.

Bearing sensors 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.

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"

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

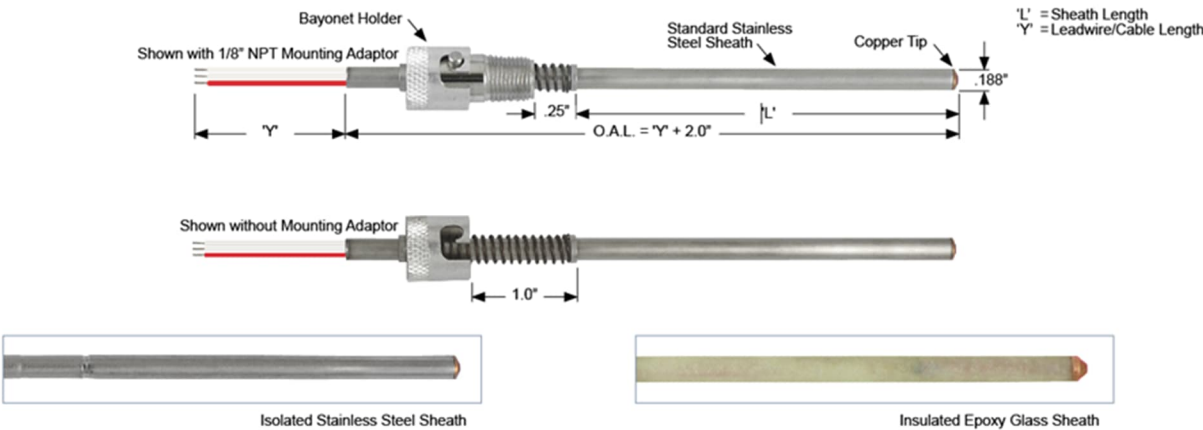
Self-Heating:

10 mW/C in water moving 3 feet/sec

RTD TEMPERATURE ACCURACY SPECIFICATIONS:

Element Material	TCR	Standard Tolerances at 0°C		
		±.12%	±.2%	±.5%
Platinum	0.00385	0.30°C, .12Ω	N/A	1.20°C, .46Ω
Platinum	0.00392	N/A	N/A	1.20°C, 0.46Ω
Copper	0.00427	N/A	0.71°C, 0.028Ω	1.49°C, .058Ω
Nickel	0.00672	N/A	N/A	0.85°C, .68Ω

Dimensions



312M - _ _ _ _ _ . _ _ _ _ _

A	Insulated Epoxy Glass -50 to 155°C (-58 to 311°F) Immersion Length: .50" Min / 46.0" Max
B	Standard Stainless Steel -50 to 250°C (-58 to 482°F) Immersion Length .50" Min / 94.0" Max
C	Isolated Stainless Steel -50 to 250°C (-58 to 482°F) Immersion Length 3.5" Min / 94.0" Max

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

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)

###	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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N	No Flexible Armor Over Lead Wires
A	Flexible Armor Over Lead Wire Length Minus 4 inches for Terminations

###	Define 'Y' Length in Whole Inches Note: Minimum 10" / Maximum 120" Example: (10" = 010; 114" = 114)
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N	No 1/8 NPT Bayonet Adapter
Y	Include 1/8 NPT Bayonet Adapter