

# Direct Immersion Thermocouple Probe— Process Thread Fitting

Variety of Configurations  
Single and Dual Junctions  
Stainless Steel Case  
Heavy Duty  
Oil Resistant  
Pressure Resistant  
Custom Designs Available



The **Direct Immersion RTD Probe—  
Process Threaded Fitting** is constructed with a stainless steel sheath and a welded connection. The welded connection is available in 1/8" NPT, 1/4" NPT, 3/8" NPT, 1/2" NPT or 3/4" NPT. The standard connection has a single process thread hex fitting. A reverse thread option is available, with a single control thread hex fitting. The sensors are available with single or dual junctions. These sensors are ideal for the process industry where immersion in the application is essential.

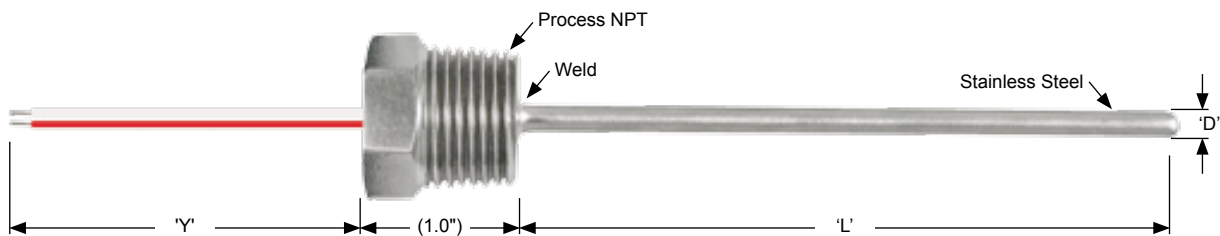
## FEATURES

- Sheath Styles:
  - » Stainless Steel
- Junction Types, Single and Dual:
  - » J, K, T, E
  - » Grounded or Ungrounded
- Sheath Diameters:
  - » 0.125", 0.188", 0.250"
- Leadwire/Cable Options

## APPLICATIONS

- Process
- Aerospace
- Flow
- Hot Melt

## dimensions



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

# Direct Immersion Thermocouple Probe— Process Thread Fitting



## performance specifications

### Insulation Resistance – Ungrounded Models:

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

### Pressure Rating:

1,500 psi

### Thermocouple Temperature Accuracy Specifications:

| Type | Temp Range   | Standard Limits of Error | Special Limits of Error |
|------|--------------|--------------------------|-------------------------|
| T    | -200 to 0°C  | ±1°C or 1.5%             | Not ASTM Defined        |
|      | 0 to 350°C   | ±1°C or 0.75%            | ±0.5°C or 0.4%          |
| J    | 0 to 750°C   | ±2.2°C or 0.75%          | ±1.1°C or 0.4%          |
| E    | -200 to 0°C  | ±1.7°C or 1%             | Not ASTM Defined        |
|      | 0 to 900°C   | ±1.7°C or 0.5%           | ±1°C or 0.4%            |
| K    | -200 to 0°C  | ±2.2°C or 2%             | Not ASTM Defined        |
|      | 0 to 1,250°C | ±2.2°C or 0.75%          | ±1.1°C or 0.4%          |

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## ordering info

### Direct Immersion Thermocouple Probe—Process Thread Fitting

|              |   |                 |                                 |
|--------------|---|-----------------|---------------------------------|
| <b>Model</b> | <b>Temperature Range</b>  |                 |                                 |
| 211M         | Moderate: -50 to 250°C (-58 to 482°F)                                       |                 |                                 |
| 211H         | High: Mineral Insulated (Consult Factory)                                   |                 |                                 |
| <b>Model</b> | <b>Thermocouple Type</b>  | <b>Junction</b> | <b>Color Code</b>               |
| J            | J   | Single          | Red/White [Constantan/Iron]     |
| K            | K   | Single          | Red/Yellow [Alumel/Chromel]     |
| T            | T   | Single          | Red/Blue [Constantan/Copper]    |
| E            | E   | Single          | Red/Purple [Constantan/Chromel] |
| JJ           | JJ  | Dual            | Red/White // Red/White          |
| KK           | KK  | Dual            | Red/Yellow // Red/Yellow        |
| TT           | TT  | Dual            | Red/Blue // Red/Blue            |
| EE           | EE  | Dual            | Red/Purple // Red/Purple        |
| <b>Model</b> | <b>Junction Style</b>   |                 |                                 |
| G            | Grounded Junction   |                 |                                 |
| U            | Ungrounded Junction   |                 |                                 |
| <b>Model</b> | <b>Limits of Error</b>  |                 |                                 |
| A            | Standard Limits of Error  |                 |                                 |
| B            | Special Limits of Error   |                 |                                 |
| <b>Model</b> | <b>'D' Sheath Diameter</b>  |                 |                                 |
| A            | .125" Diameter (Single Element Only) (Model 210M Only)                      |                 |                                 |
| B            | .188" Diameter  |                 |                                 |
| C            | .250" Diameter  |                 |                                 |
| <b>Model</b> | <b>Process Thread</b>   |                 |                                 |
| 1            | 1/8" NPT  |                 |                                 |
| 2            | 1/4" NPT  |                 |                                 |
| 3            | 3/8" NPT  |                 |                                 |
| 4            | 1/2" NPT  |                 |                                 |
| 5            | 3/4" NPT  |                 |                                 |
| <b>Model</b> | <b>Sheath Material</b>  |                 |                                 |
| B            | Stainless Steel   |                 |                                 |
| E            | Inconel (H Only)  |                 |                                 |
| <b>Model</b> | <b>'L' Sheath Length</b>  |                 |                                 |
| ---          | Define 'L' Length in Inches (12 = 12.0") Note: Minimum 1.5" / Maximum 36.0" |                 |                                 |
| <b>Model</b> | <b>'Y' Leadwire/Cable Options</b>   |                 |                                 |
| N            | No Options, Stranded TFE Leadwires (36.0" Standard)                         |                 |                                 |
| W            | Leadwire Options  |                 |                                 |
| <b>Model</b> | <b>Additional Options</b> (Leave Code Blank if Not Required)                |                 |                                 |
| R            | Reverse Thread, Control Threaded Hex  |                 |                                 |