

Slip-Fit Bimetal Thermometers

Type 3BIE • 5BIE • 3AIE • 5AIE 3BI • 5BI • 3AI • 5AI

Designed to “Slip” into Existing Industrial Mercury-in-Glass Type Thermowells and “Fit” with Tapered Bulbs Providing Metal-to-Metal Contact with no process interruption.



5" Dial Slip-Fit Bimetal Thermometer, All Angle Model 5AIE (Replaceable Element Model).

Available in Two Styles and Two Dial Sizes: BI (Back Connected) and AI (All Angle) Styles with External Reset Gear. BIE and AIE Styles with Replaceable Element option and Adjustable Pointer. 3" and 5" Dial sizes for both types.

Rugged Design Features: Stainless steel case, stem, and tapered bulb chamber. Glass lens with option for Plexiglass. Built-in over-range protection.

Eliminates Conversion Kits: Built-in tapered bulb and 1-1/4" x 18 swivel nut fitting for SLIP-FIT Bimetal Thermometer interchange with existing industrial thermometer style thermowells.

Replaceable Element Feature: (BIE & AIE Models): Easy to replace - just remove the element and save the case, making changing the internal elements as easy as replacing batteries in a flashlight. Range changes can be easily made. In some applications, used with a Union fitting, the case and stem will serve as a thermowell.

Adjustable or Fixed Back Connections: The All Angle (AI and AIE) Models offer easy adjustment to any viewing angle. Back Connected (BI and BIE) Models are fixed at the most common style connection.

Accurate: Consistent accuracy is achieved within 1% of full scale. Ambient temperature changes at the case will not affect accuracy.

Simple, Convenient Recalibration: Either reset gear or adjustable pointer feature (Replaceable Element only), permits setting for zero calibration error at any desired temperature within scale.

Easy-To-Read 3" or 5" Dial: Deep drawn, anti-parallax dial design. Dial can be seen from a greater distance and from more angles than mercury-in-glass thermometers. Minimized reading errors from low-glare background with graduations and pointer on the same surface level.

Hermetically Sealed Case: Securely sealed by quick-lock, cam-action bezel ring. Heavy, heat resistant gasket seals out moisture, prevents icing and helix freeze-up.

Specifications

Form: All Angle Adjustable or Fixed Back Connected.

Case: Polished-Type 304 Stainless Steel Case and Bezel in 3" (76 mm) or 5" (127 mm) Size. Cases are Hermetically Sealed.

Stem: Polished-Type 304 Stainless Steel.

Stem Length: Listed in Stem Length Table, Page 11.

Bulb: Type 303 Stainless Steel Tapered Bulb Chamber.

Fitting: 1-1/4"-18 Brass Swivel Nut.

Dial Face: Black Graduations and Numerals on White Background. Anti-parallax Dial Design with Linear Scale. High-Visibility Tapered-Tip Black Pointer.

Lens: Instrument Quality Glass Standard. Optional Plexiglass.

Recalibration: Replaceable Element Models (“AIE” and “BIE”) have an Adjustable Pointer. Other Models (“AI” and “BI”) have an External Adjustment (“Reset”) Gear.

Accuracy: 1% of Full Range.

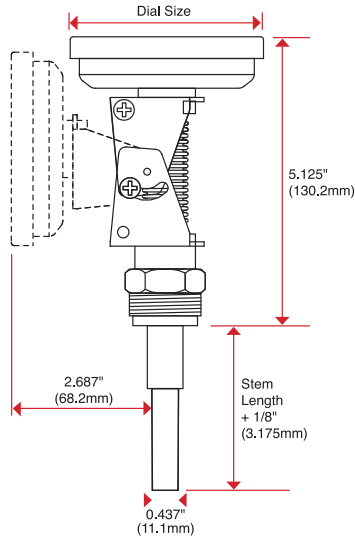
Element: Bimetallic Coil Sensing Element Located in Bulb Tip.

Over-Range: Protected Design Allows Temporary Swings of Up to 50% of Range without Permanent Damage to the Thermometer.

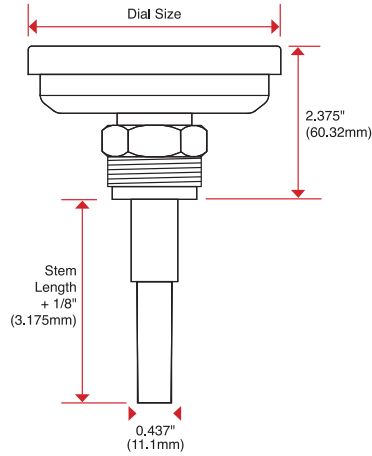
Warranty: One Year Limited Warranty.



Type 3BIE • 5BIE • 3AIE • 5AIE 3BI • 5BI • 3AI • 5AI



Adjustable Angle Slip-Fit
Models 3A and 5A



Back Connected Slip-Fit
Models 3B and 5B



External Reset Gear (BI and AI Models) Allows Setting for Zero Error at Any Critical Temperature Point within the Thermometer's Scale Range. Replaceable Element Models AIE and BIE can be recalibrated by micro-adjustable pointer.

How To Order

1. Select Case Style and Dial Size Code from the table below.

Replaceable Element Slip-Fit		
	Back Connected Code	All Angle Code
3" Dial Thermometer	3BIE	3AIE
5" Dial Thermometer	5BIE	5AIE
3" Dial Element Only*	3BIEO	3AIEO
5" Dial Element Only*	5BIEO	5AIEO
External Reset Gear Slip-Fit		
	Back Connected Code	All Angle Code
3" Dial	3BI	3AI
5" Dial	5BI	5AI

*Please see "Order Notes and Information" below.

3. Select Temperature Range Code from the table below.

Temperature Range Codes					
°F Range	°Div	Code	°C Range	°Div	Code
-100 to 100	2°	-100/100F	-50 to 50	1°	-50/50C
-40 to 120	1°	-40/120F	-50 to 100	1°	-50/100C
0 to 200	2°	0/200F	-20 to 120	1°	-20/120C
0 to 250	2°	0/250F	0 to 50 ¹	0.5°	0/50C
25 to 125 ¹	1°	25/125F	0 to 100	1°	0/100C
50 to 300	2°	50/300F	0 to 150	1°	0/150C
50 to 400	5°	50/400F	0 to 200	2°	0/200C
50 to 500	5°	50/500F	0 to 300	5°	0/300C
150 to 750 ¹	5°	150/750F	100 to 400 ¹	5°	100/400C
200 to 1000 ^{1,2}	10°	200/1000F	100 to 500 ^{1,2}	5°	100/500C

¹ Minimum stem length for these ranges is 4" in All Angle, and 6" in Back Connected.

² Recommended for continuous service up to 800°F or 427°C. Can be used for intermittent service up to 1000°F or 500°C.

2. Select Stem Length Code from table below.

Stem Length										
Code	3.5	6	8	9	12	15	18	24	30	36
Length (in)	3.5	6	8	9	12	15	18	24	30	36
Length (mm)	89	152	203	229	305	381	457	610	762	914

4. Select Option Code from the table below.

Options	
Code	Description
(GF)	Glycerine Filled
(SF)	Silicone Filled (Discontinued)
(PC)	Plexiglass Cover
(SPG)	Shatter Proof Safety Glass

Order Notes and Information

- 1.) On **Replaceable Element only** orders, all internal parts are included: bimetal element, shaft, and pointer/dial assembly. Assembly: The element is pre-calibrated and ready for installation.
- 2.) To order a **Case only**, specify dial size, case form, and stem length. All exterior parts are included: case, stem assembly, fitting, lens, bezel ring, spacer ring, and sealing gasket.

Part Number Example: 5BIE6-100/100F(PC)(GF)

Register your product at www.palmerwahl.com/register

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