

# Bimetal, Industrial Type with External Reset

## 300 SERIES



### APPLICATIONS

- Industrial process
- Petrochemical
- Food & beverage processing
- Commercial
- Wastewater

- Highest quality thermometers available on the market
- Easy to calibrate with 1/16" Allen key
- Corrosion-resistant 304 Stainless Steel case and bezel provide a hermetic seal to prevent lens fogging and moisture damage
- Single °F, single °C, and dual scale options available
- Accuracy:  $\pm 1\%$  full scale, Grade A, ASME B40.3
- 2", 3" and 5" sizes - center back and bottom connections
- 2" Dial Size - 1/4" NPT; 3" & 5" Dial Sizes - 1/2" NPT
- Standard stem lengths 2-1/2" through 42"
- Minimum or maximum indicating pointers are available in 3" and 5" sizes
- Highly sensitive bimetallic helix coil is heat-treated for stress relief, and silicone-coated to minimize pointer vibration and maximize heat transfer and response time
- 360° groove around stem is a visual reference to show minimum immersion point
- Made in the U.S.A.

|                         | SERIES                            | SPECIFICATIONS                                                                                                           |
|-------------------------|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Case & bezel            | All 300 Series                    | 304 Stainless Steel; 316 Stainless Steel optional                                                                        |
| Lens                    | All 300 Series                    | Instrument glass                                                                                                         |
| Pointer                 | All 300 Series                    | Aluminum, black finish                                                                                                   |
| Stem diameter           | All 300 Series                    | .250" (6.35 mm)                                                                                                          |
| Accuracy                | All 300 Series                    | $\pm 1\%$ full scale, Grade A, ASME B40.3                                                                                |
| Dial                    | All 300 Series                    | Anodized Aluminum with large black numbers and graduations                                                               |
| Process connection      | 2" Dial Size<br>3" & 5" Dial Size | 1/4" NPT<br>1/2" NPT                                                                                                     |
| Wetted parts            | All 300 Series                    | 304 Stainless Steel; 316 Stainless Steel optional                                                                        |
| Hermetic seal           | All 300 Series                    | Per ASME B40.3 dustproof and leakproof                                                                                   |
| Bimetal coil            | All 300 Series                    | Silicone coated helix coil on ranges below 500 °F for vibration dampening, maximum heat transfer and response time       |
| Over temperature limits | All 300 Series                    | Up to 250 °F 100%; 250 °F to 550 °F 50%; 550 °F to 1,000 °F continuous use up to 800 °F; intermittent use over 800 °F    |
| Recalibrator            | All 300 Series                    | External reset                                                                                                           |
| Adjustable angle form   | 320 Series                        | All Stainless Steel brackets with screws that loosen to allow 360° rotation of head and 180° adjustment of stem position |



**WARNING:** This product can expose you to chemicals including Chromium (VI) and Nickel, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Thermowells are recommended for pressure, corrosive fluids and high velocity applications, see pages 46-48.

| ORDERING INFORMATION                           |              |                                                   |            |                                    |                      |                                |
|------------------------------------------------|--------------|---------------------------------------------------|------------|------------------------------------|----------------------|--------------------------------|
| DIAL SIZES                                     | 20           | 2" (Back connected only)                          | 30         | 3"                                 | 50                   | 5"                             |
| CASE TYPES                                     | 300          | Bottom connection                                 | 310        | Back connection                    | 320                  | Adjustable angle connection ** |
| STEM LENGTHS                                   | 025          | 2-1/2"                                            | 120        | 12"                                | 300                  | 30"                            |
|                                                | 040          | 4"                                                | 150        | 15"                                | 360                  | 36"                            |
|                                                | 060          | 6"                                                | 180        | 18"                                | 420                  | 42"                            |
|                                                | 090          | 9"                                                | 240        | 24"                                | Available up to 120" |                                |
| TEMPERATURE RANGES<br><i>Dual Scale °F/ °C</i> | -100/100 F/C | -100 °F/°C to 100 °F/°C                           | 0/250 F/C  | 0 °F/°C to 250 °F/°C               | 50/500 F/C           | 50 °F/°C to 500 °F/°C          |
|                                                | -40/160 F/C  | -40 °F/°C to 160 °F/°C                            | 20/240 F/C | 20 °F/°C to 240 °F/°C              | 150/750 F/C          | 150 °F/°C to 750 °F/°C         |
|                                                | 0/140 F/C    | 0 °F/°C to 140 °F/°C                              | 25/125 F/C | 25 °F/°C to 125 °F/°C †            | 200/1000 F/C         | 200 °F/°C to 1,000 °F/°C *     |
|                                                | 0/180 F/C    | 0 °F/°C to 180 °F/°C                              | 50/300 F/C | 50 °F/°C to 300 °F/°C              |                      |                                |
|                                                | 0/220 F/C    | 0 °F/°C to 220 °F/°C                              | 50/400 F/C | 50 °F/°C to 400 °F/°C              |                      |                                |
| <i>Single Scale °F</i>                         | -100/100 F   | -100 °F to 100 °F                                 | 0/300 F    | 0 °F to 300 °F**                   | 50/550 F             | 50 °F to 550 °F                |
|                                                | -50/120 F    | -50 °F to 120 °F                                  | 0/500 F    | 0 °F to 500 °F**                   | 100/800 F            | 100 °F to 800 °F**             |
|                                                | -40/160 F    | -40 °F to 160 °F                                  | 20/240 F   | 20 °F to 240 °F                    | 150/750 F            | 150 °F to 750 °F               |
|                                                | 0/140 F      | 0 °F to 140 °F                                    | 25/125 F   | 25 °F to 125 °F                    | 200/1000 F           | 200 °F to 1,000 °F*            |
|                                                | 0/180 F      | 0 °F to 180 °F                                    | 50/250 F   | 50 °F to 250 °F                    |                      |                                |
|                                                | 0/200 F      | 0 °F to 200 °F                                    | 50/300 F   | 50 °F to 300 °F                    |                      |                                |
|                                                | 0/220 F      | 0 °F to 220 °F                                    | 50/400 F   | 50 °F to 400 °F                    |                      |                                |
|                                                | 0/250 F      | 0 °F to 250 °F                                    | 50/500 F   | 50 °F to 500 °F                    |                      |                                |
| <i>Single Scale °C</i>                         | -75/175 C    | -75 °C to 175 °C                                  | 0/50 C     | 0 °C to 50 °C                      | 0/300 C              | 0 °C to 300 °C                 |
|                                                | -70/70 C     | -70 °C to 70 °C **                                | 0/60 C     | 0 °C to 60 °C **                   | 0/400 C              | 0 °C to 400 °C                 |
|                                                | -50/100 C    | -50 °C to 100 °C **                               | 0/80 C     | 0 °C to 80 °C **                   | 0/450 C              | 0 °C to 450 °C                 |
|                                                | -50/50 C     | -50 °C to 50 °C                                   | 0/100 C    | 0 °C to 100 °C                     | 100/400 C            | 100 °C to 400 °C               |
|                                                | -40/70 C     | -40 °C to 70 °C                                   | 0/150 C    | 0 °C to 150 °C                     | 100/550 C            | 100 °C to 550 °C *             |
|                                                | -20/120 C    | -20 °C to 120 °C **                               | 0/200 C    | 0 °C to 200 °C                     |                      |                                |
|                                                | -10/110 C    | -10 °C to 110 °C **                               | 0/250 C    | 0 °C to 250 °C                     |                      |                                |
|                                                |              | Consult factory for additional temperature ranges |            |                                    |                      |                                |
| OPTIONS                                        | 6            | 6 mm stem diameter **                             | HD         | Heavy-Duty Stem (0.375" Dia.) **   | SG                   | Safety Glass Lens **           |
|                                                | 8            | 8 mm stem diameter **                             | LL         | Polycarbonate Lens                 | SL                   | Silicone Filled †††            |
|                                                | 316          | 316 SS Connection & Stem **                       | MIP        | Min or Max Indicating Pointer***   | ST                   | Stainless Steel Tagging        |
|                                                | AU           | 1/2" NPT Adjustable Union**                       | MIP2       | Min and Max Indicating Pointers*** | TG                   | Tempered Glass Lens † †        |
|                                                | GD           | Glow Dial †                                       | PL         | Acrylic Lens                       |                      |                                |

**Note:** All 316 Stainless Steel construction (case, bezel, wetted parts) is available. Please consult factory.

\* Thermometers with temperature ranges 200/1000 °F and 100/500 °C are not recommended for continuous use above 800 °F/425 °C. **For intermittent use only.**

\*\* Available for 3" and 5" dial sizes only.

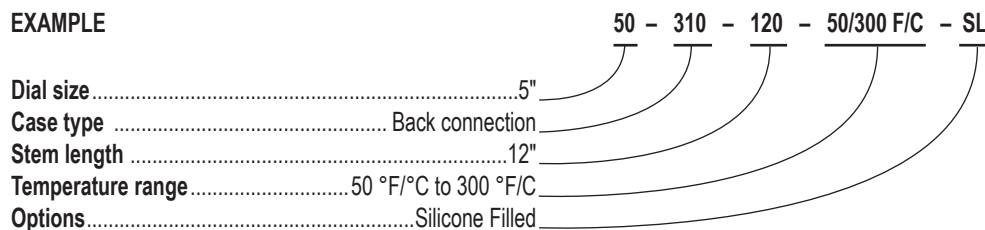
\*\*\* Available only on 30-310 and 50-310 models.

† Available only on 50-310 and 50-320 model. Includes reflective pointer and two reflective clips.

†† Not available with Silicone Filled (SL) option.

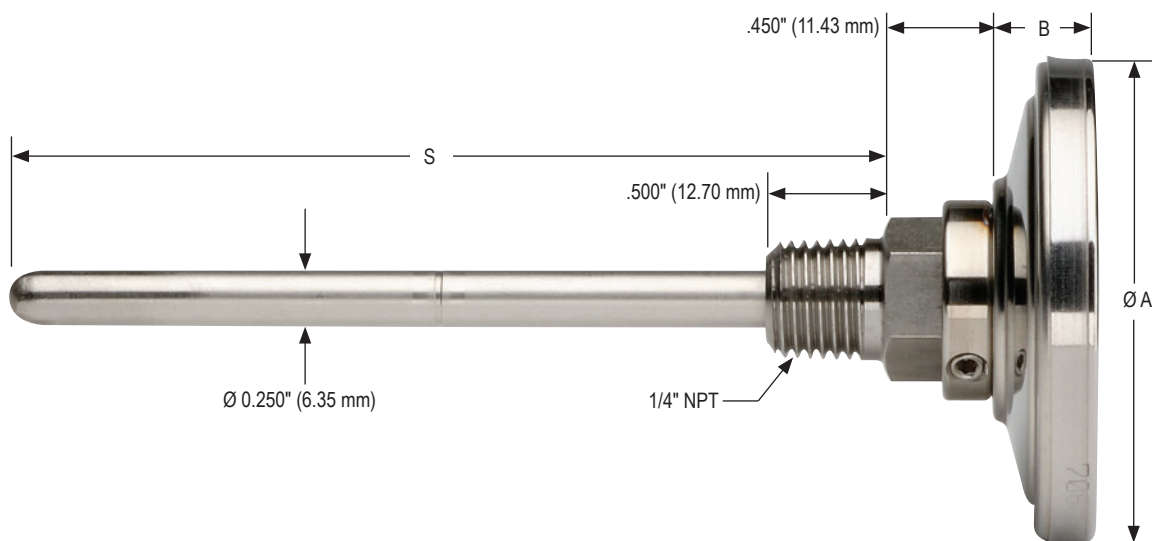
††† Available only for ranges from -50 °F (-45 °C) to 500 °F (260 °C). Polycarbonate lens is standard with Silicone Fill.

## EXAMPLE



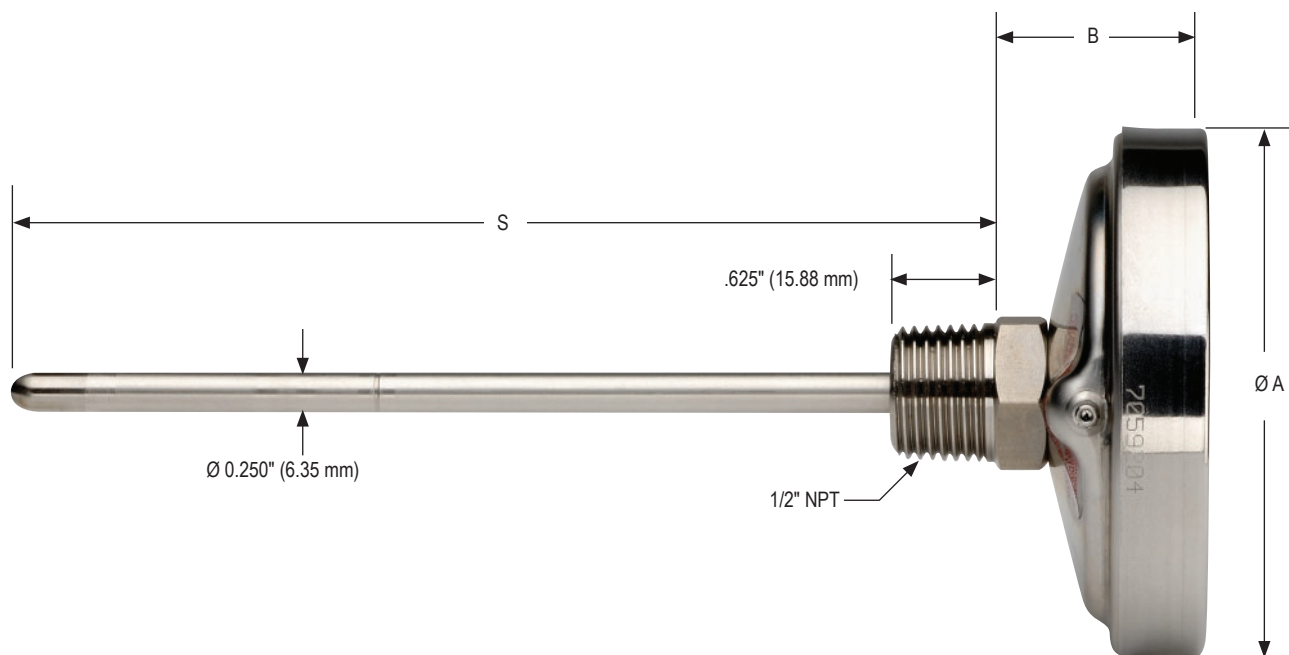
## Dimensions

20-310



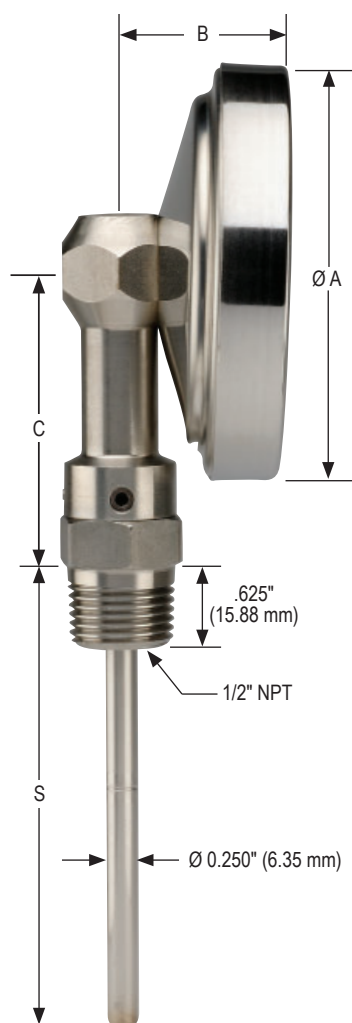
See page 15 for dimension chart.

30-310/50-310

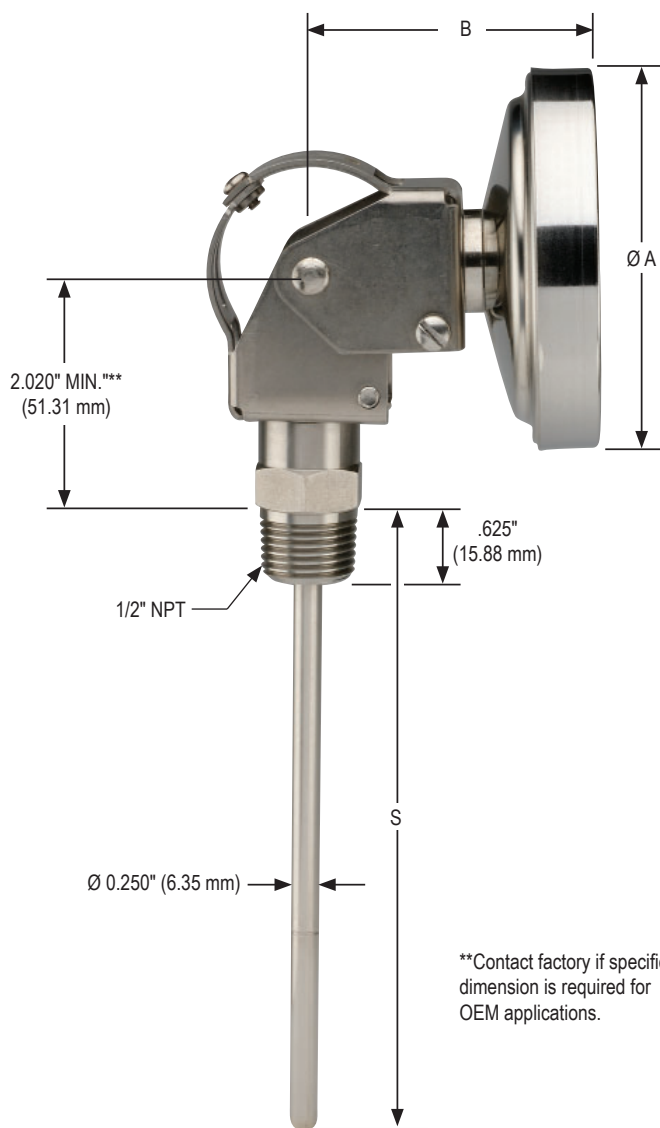


See page 15 for dimension chart.

## 30-300/50-300



## 30-320/50-320



\*\*Contact factory if specific dimension is required for OEM applications.

| Series | Ø A                 | B                  | C                    | S (Stem Length) |
|--------|---------------------|--------------------|----------------------|-----------------|
| 20-310 | 2.089"<br>53.06 mm  | .438"<br>11.13 mm  | —                    | As specified    |
| 30-310 | 3.187"<br>80.95 mm  | 1.375"<br>34.93 mm | —                    | As specified    |
| 50-310 | 5.040"<br>128.02 mm | 1.718"<br>43.63 mm | —                    | As specified    |
| 30-300 | 3.187"<br>80.95 mm  | 1.187"<br>30.15 mm | 2.300"<br>(58.42 mm) | As specified    |
| 50-300 | 5.040"<br>128.02 mm | 1.625"<br>41.28 mm | 3.000"<br>(76.20 mm) | As specified    |
| 30-320 | 3.187"<br>80.95 mm  | 2.430"<br>61.72 mm | —                    | As specified    |
| 50-320 | 5.040"<br>128.02 mm | 2.660"<br>67.56 mm | —                    | As specified    |