Bimetal Thermometer - Process Grade - All Stainless Steel Construction
Type TI.31, 3” Dial Size - Bottom Connected

Applications
- General process instrumentation in the chemical, petrochemical, oil and gas, energy and water/wastewater industries
- Temperature measurement in harsh and aggressive environments
- With liquid dampening suitable for applications with high vibrations

Product features
- Process grade design
- Lower (bottom) connection with external reset
- All stainless steel case construction
- Hermetically sealed per ASME B40.3
- Accurate to 1% of full scale value
- Available with silicone case filling for vibration

Specifications

Size
3” (76.2 mm) Type TI.31

Accuracy
± 1.0% full scale value per ASME B40.3, Grade 3A

Ranges
From -100°F (-70°C) to +1000°F (+540°C)
From -50°C to +550°C (as single scale)

Working Range
Steady: full scale value
Short time: 110% of full scale value

Over/Under Range Protection
≤ +500°F (+260°C): Temporary up to 50% of full scale
> +500°F (+260°C): Continuous to 800°F (+427°C)
Intermittant up to 1000°F (+538°C)

Connection
Material: 304 stainless steel
Lower mount (LM), 1/2” NPT

Stem
Material: 304 stainless steel
Diameter: 1/4” (6.35 mm)
Length: 2½” to 72” (63.5 mm to 1,828.8 mm)

Measuring Element
Bi-metal helix

Case
Material: 304 stainless steel
Hermetically sealed per ASME B40.3 standard
Weather protection NEMA 4X (IP 66)
External reset slotted hex head on back of case

Dial
White aluminum, dished, with black markings

Pointer
Black aluminum

Standard Scales
Single: Fahrenheit or Celsius
Dual: Fahrenheit (outer) and Celsius (inner)

Window Gasket
Neoprene
Silicone for ranges -100°F (-70°C) and ranges > +550°F (+260°C)

Dampening
Inert gel to minimize pointer oscillation

Window
Flat instrument glass

Weight
11 oz. (311 g) - 3” dial (76.2 mm)
Add 1 oz (28 g) for every 2” (50 mm) of stem length
Optional Extras
- Thermowells
- Silicone fill
- Dampened Movement
- Special scales and dial markings
- Acrylic and safety glass windows
- Calibration certification traceable to NIST

Dimensions

<table>
<thead>
<tr>
<th>Standard versions</th>
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<tbody>
<tr>
<td>WIKA Type</td>
</tr>
<tr>
<td>31</td>
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</table>

STANDARD RANGES

<table>
<thead>
<tr>
<th>Fahrenheit</th>
<th>Dual Scale F &amp; C</th>
<th>Celsius Single Scale</th>
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<tbody>
<tr>
<td>-100/150 F</td>
<td>-100/150 F &amp; -70/70 C</td>
<td>-50/50 C</td>
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<tr>
<td>-40/120 F</td>
<td>40/120 F &amp; -40/50 C</td>
<td>-20/120 C</td>
</tr>
<tr>
<td>0/140 F</td>
<td>0/140 F &amp; -20/60 C</td>
<td>0/50 C¹</td>
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<tr>
<td>0/200 F</td>
<td>0/200 F &amp; -15/90 C</td>
<td>0/100 C</td>
</tr>
<tr>
<td>0/250 F</td>
<td>0/250 F &amp; -20/120 C</td>
<td>0/150 C</td>
</tr>
<tr>
<td>20/240 F</td>
<td>20/240 F &amp; -5/115 C</td>
<td>0/200 C</td>
</tr>
<tr>
<td>25/125 F¹</td>
<td>25/125 F &amp; -5/50 C¹</td>
<td>0/250 C</td>
</tr>
<tr>
<td>50/300 F</td>
<td>50/300 F &amp; 10/150 C</td>
<td>0/300 C</td>
</tr>
<tr>
<td>50/400 F</td>
<td>50/400 F &amp; 10/200 C</td>
<td>0/450 C²</td>
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<tr>
<td>50/550 F</td>
<td>50/550 F &amp; 10/260 C</td>
<td>100/550 C²</td>
</tr>
<tr>
<td>150/750 F</td>
<td>150/750 F &amp; 65/400 C</td>
<td></td>
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<tr>
<td>200/1000 F²</td>
<td>200/1000 F &amp; 100/540 C²</td>
<td></td>
</tr>
</tbody>
</table>

¹ Minimum length 4” for Types 31, 34, 51, 52, 54
² Not recommended for continuous service over 800°F (425°C)

Note: Thermowells for temperature instruments are recommended for all process systems where pressure, velocity, or viscous, abrasive and corrosive materials are present individually or in combination. A properly selected thermowell protects the temperature instrument from possible damage resulting from these process variables. Furthermore, a thermowell permits removal of the temperature instrument for replacement, repair or testing without effecting the process media or the system.

Ordering information
State computer part number (if available) /type number/size/range/connection size and locations/options required. WIKA reserves the right to make changes without prior notice.