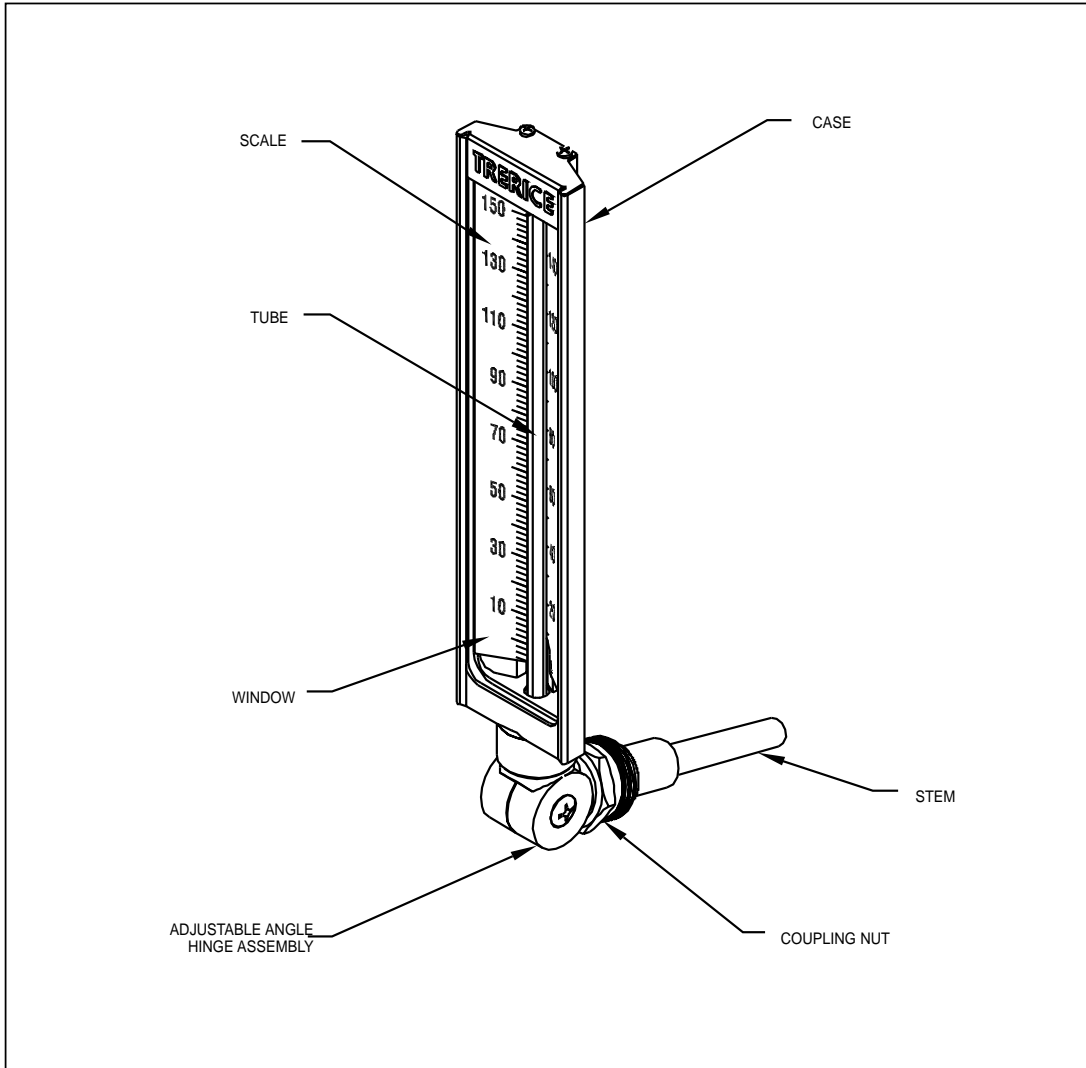


# What is an Industrial Thermometer?

## Definition

A thermometer is an instrument designed to measure and indicate the temperature of a specific application or condition. An Industrial Thermometer, commonly known as a "Mercury-In-Glass" Thermometer, is installed at the point of measurement and is usually read from that location.



## Principles of Operation

The Trerice Industrial Thermometer is typically of the mercury-in-glass type, although alternate fills are available. This thermometer is comprised of a mercury-filled sealed glass tube and bulb, which is affixed to the front of a metal temperature scale, and extends into a metal bulb chamber (stem). Flaked graphite is used within the bulb chamber to transfer the measured temperature to the glass bulb. Temperature changes cause the fill to expand or contract within the tube. This activity is instantly visible in the tube against the calibrated markings of the temperature scale. For purposes of readability, the tube is formed with a lens front to create a magnified red reading column.

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# What is an Industrial Thermometer?

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## Selecting an Industrial Thermometer

### Case

The case is durable, die cast aluminum with dark blue epoxy powder coating, and is available in scale sizes from 5½" through 12". Cases are available in adjustable angle, rigid straight, and rigid 90° and 45° angle configurations. The adjustable angle case can be moved to any viewing position for enhanced readability, and is available for temperature ranges up to 550°F. Rigid-cased thermometers may be specified with temperature ranges up to 750°F.

All Terrice Industrial Thermometers should be carefully selected to meet the demands of the particular application. The information contained in this catalog is offered only as a guide to assist in making the proper selection. Improper application may cause failure of the instrument, resulting in possible personal injury or property damage. For applications where the process media may be corrosive or contained under pressure, the use of a thermowell is required to prevent damage to the thermometer and facilitate its removal from the process.

### Stem

The stem is the sensitive portion of the instrument that is inserted into the process. Stems can be provided in aluminum (ranges up to 550°F), brass (required above 550°F), or stainless steel (required above 550°F). Aluminum and brass stems include a brass coupling nut, while the stainless steel stem includes a stainless steel coupling nut. **Note: Aluminum stems must always be installed in a thermowell. Brass and stainless steel stems may be installed using a union connection bushing in place of a thermowell. Terrice however, recommends the use of a thermowell to facilitate the removal of the thermometer.**

### Window

Windows are supplied in clear acrylic (ranges through 300°F), or double-strength glass (standard on ranges above 300°F).

### Accuracy

The accuracy of an industrial thermometer is expressed as a variance (plus or minus) in scale divisions. All Terrice Industrial Thermometers are accurate to within one scale division of the temperature range.

### Range and Scale

A wide variety of ranges are available in Fahrenheit, Celsius, or dual scale; in temperatures from -40°F (-40°C) through 750°F (400°C). Ranges are indelibly presented in black figures and markings upon an aluminum scale in lengths from 5½" to 12". Space constraints, as well as measurement readability, should be considered when selecting a scale size.

### Thermowells

For applications where the process media may be corrosive or contained under pressure, the use of a thermowell is required to prevent damage to the thermometer and facilitate its removal from the process. Thermowells are available in various lengths, connections, sizes, and materials. Please consult the Thermowell Section of this catalog.

To ensure minimum response time, Terrice Heat Transfer Paste should be applied to the sensing portion of the stem before installation into a thermowell.

1 oz. tube: Item No. 107-0001