

# TH54

## Modular TC thermometer, US style

Best in class temperature measurement technology for general applications



More information and current pricing:

[www.casc.endress.com/TH54](http://www.casc.endress.com/TH54)

### Benefits:

- One source shopping for temperature measurement solutions. World class transmitter with integrated sensor offering for heavy process industry applications.
- Remove and install straight out of the box!
- Improved galvanic isolation on most devices (2 kV)
- Simplified model structure: Competitively priced, offers great value. Easy to order and reorder. A single model number includes sensor, thermowell and transmitter assembly for a complete point solution.
- All iTEMP® transmitters provide long term stability  $\leq 0.05\%$  per year

### Specs at a glance

- **Accuracy** Standard acc. to ASTM E-230 Special acc. to ASTM E-230
- **Response time** depending on configuration 63% rt = 15,0 s
- **Max. process pressure (static)** at 20°C: 500 bar (7252 psi) depends on configuration
- **Operating temperature range** Type T: -270 °C ... 370 °C (-454 °F ... 698 °F) Type J: -210 °C ... 720 °C (-346 °F ... 1.328 °F) Type E: -270 °C ... 820 °C (-454 °F ... 1.508 °F) Type K: -270 °C ... 1.150 °C (-454 °F ... 2.102 °F) Type N: -270 °C ... 1.150 °C (-454 °F ... 2.102 °F)
- **Max. immersion length on request** up to 24" (609 mm) others on request

**Field of application:** The high modular thermometer is used for several applications with harsh environments, e.g. in power plants, refineries or in the chemical or petrochemical industry. The robust device with barstock thermowell, flange connection and different head transmitter is

a complete unit ready for use with enhanced measurement accuracy and reliability. A variety of dimensions and materials, like SS316, INCONEL600, HastelloyC276, Titan or Monel, offer flexible application possibilities.

## Features and specifications

### Thermometer

#### Measuring principle

Thermocouple

#### Characteristic / Application

Industrial US style  
 modular temperature assembly  
 flanged process connection  
 with extension  
 incl. thermowell

#### Thermowell / protection tube

bar stock (drilled)

#### Insert / probe

mineral insulated (MI), flexible

#### Outer diameter protection tube / Insert

3/4" (19,05 mm)  
 7/8" (22,23 mm)  
 17/16" (26,99 mm)

#### Max. immersion length on request

up to 24" (609 mm)  
 others on request

#### Material protection tube/ thermowell

316/316L  
 others on request

#### Optional coating

available on request

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**Thermometer****Process connection**

flange:

ASME 1" 150 RF (B16.5)

ASME 1" 300 RF (B16.5)

ASME 1" 600 RF (B16.5)

ASME 1" 900/1500 RF (B16.5)

ASME 1.5" 150 RF (B16.5)

ASME 1.5" 300 RF (B16.5)

ASME 1.5" 600 RF (B16.5)

ASME 1.5" 900/1500 RF (B16.5)

ASME 2" 150 RF (B16.5)

ASME 2" 300 RF (B16.5)

ASME 2" 600 RF (B16.5)

ASME 2" 900/1500 RF (B16.5)

ASME 3" 150 RF (B16.5)

ASME 3" 300 RF (B16.5)

ASME 3" 600 RF (B16.5)

ASME 3" 900/1500 RF (B16.5)

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**Tip shape**

straight

tapered

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**Surface roughness Ra**

1,6 µm (63,0 µin.)

## Thermometer

### Operating temperature range

Type T:

-270 °C ... 370 °C

(-454 °F ... 698 °F)

Type J:

-210 °C ... 720 °C

(-346 °F ... 1.328 °F)

Type E:

-270 °C ... 820 °C

(-454 °F ... 1.508 °F)

Type K:

-270 °C ... 1.150 °C

(-454 °F ... 2.102 °F)

Type N:

-270 °C ... 1.150 °C

(-454 °F ... 2.102 °F)

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### Max. process pressure (static)

at 20°C: 500 bar (7252 psi)

depends on configuration

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### Accuracy

Standard acc. to ASTM E-230

Special acc. to ASTM E-230

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### Response time

depending on configuration

63% rt = 15,0 s

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### Integration head transmitter

yes (4 ... 20 mA; HART; PROFIBUS PA; FOUNDATION  
FIELDBUS)

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### Ex - approvals

transmitter only

FM IS

CSA IS

FM/CSA IS

## Thermometer

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### Certification

SIL (transmitter only)

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