

# T54

## Explosion proof TC thermometer, US style

Safe monitoring of process temperatures in challenging applications e. g. in the Oil & Gas industry



More information and current pricing:

[www.endress.com/T54](http://www.endress.com/T54)

### Benefits:

- FM/CSA XP Class I, Div. 1 approved temperature assemblies for maximum safety
- 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 s
- **Max. process pressure (static)** at 20°C : 500bar (7.252 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 22.5" (571 mm) others on request

**Field of application:** The robust thermometer is designed for use in demanding and safety relevant applications e.g. in Chemical, Oil & Gas and Energy industry. Harsh environments, corrosive substances and highest pressures can be handled by the use of robust thermowells and special materials. An optional head transmitter with all common communication protocols makes the device ready to use with enhanced measurement accuracy and reliability compared to directly wired sensors. Flexible configuration possible.

## Features and specifications

### Thermometer

#### Measuring principle

Thermocouple

#### Characteristic / Application

Explosion Proof US style

modular temperature assembly

for heavy duty applications

flanged process connection

with extension

incl. Thermowell

#### Thermowell / protection tube

bar stock (drilled)

#### Insert / probe

mineral insulated (MI), flexible

#### Outer diameter protection tube / Insert

7/8" (22,23 mm)

17/16" (26,99 mm)

## Thermometer

**Max. immersion length on request**

up to 22.5" (571 mm)

others on request

**Material protection tube/ thermowell**

316/316L

auf Anfrage

**Optional coating**

available on request

**Process connection**

flange:

ASME 1" 150 RF (B16.5)

ASME 1" 300 RF (B16.5)

ASME 1" 600 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 2" 150 RF (B16.5)

ASME 2" 300 RF (B16.5)

ASME 2" 600 RF (B16.5)

**Tip shape**

straight

tapered

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**Thermometer**

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**Surface roughness Ra**32 µin (0.80 µm)

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**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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## Thermometer

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at 20°C : 500bar (7.252 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 s

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**Integration head transmitter**

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

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**Ex - approvals**

FM XP

CSA XP

FM/CSA XP

CSA GP

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**Certification**

SIL (transmitter only)

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