

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.de.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)

Max. immersion length on request

up to 22.5" (571 mm)
others on request

Thermometer**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

Surface roughness Ra

32 µin (0.80 µm)

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)

Max. process pressure (static)

at 20°C : 500bar (7.252 psi)

depends on configuration

Accuracy

Standard acc. to ASTM E-230

Special acc. to ASTM E-230

Response time

depending on configuration

63% rt = 15 s

Integration head transmitter

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

Ex - approvals

FM XP

CSA XP

FM/CSA XP

CSA GP

Thermometer

Certification

SIL (transmitter only)

More information www.de.endress.com/T54