

TH53

Modular TC thermometer, US style

Best in class temperature measurement technology for general applications



More information and current pricing:

www.de.endress.com/TH53

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 s
- **Max. process pressure (static)** at 20°C: 100 bar (1.450psi) 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 and different head transmitter is a complete unit

ready for use with enhanced measurement accuracy and reliability. A variety of process connections, dimensions and materials, like SS316, INCONEL600, Hastelloy C276, Titan or Monel, offer flexible application possibilities.

Features and specifications

Thermometer

Measuring principle

Thermocouple

Characteristic / Application

Industrial US style
 modular temperature assembly
 threaded, weld-in, and socket weld 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)
 1" (25,40 mm)
 17/16" (26,99 mm)
 0,63" ...1,31" (15,88 mm ... 33,40 mm)

Max. immersion length on request

up to 24" (609 mm)
 others on request

Material protection tube/ thermowell

316/316L
 others on request

Thermometer**Optional coating**Available on request

Process connection

male thread:

NPT1/2"

NPT3/4"

NPT1"

weld in version

socket weld version

Tip shape

straight

stepped

tapered

Surface roughness Ra32 µin (0.80 µm)

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)

Thermometer

Max. process pressure (static)

at 20°C: 100 bar (1.450psi)

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 transmitteryes (4 ... 20 mA; HART; PROFIBUS PA; FOUNDATION
FIELDBUS)**Ex - approvals**

transmitter only

FM IS

CSA IS

FM/CSA IS

Certification

SIL (transmitter only)

More information www.de.endress.com/TH53