

TH51

Modular TC thermometer, US style

Best in class temperature measurement technology for general applications



More information and current pricing:

www.endress.com/TH51

Benefits:

- One source shopping for temperature measurement solutions. World class transmitter with integrated sensor offering. 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 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** 63% $t_r = 0.3\text{ s}$
- **Max. process pressure (static)** at 20°C: 250 bar (3.626 psi) depends on configuration
- **Operating temperature range** Type T: -270 °C ... 400 °C (-454 °F ... 752 °F) Type J: -210 °C ... 1.200 °C (-346 °F ... 2.192 °F) Type E: -270 °C ... 1.000 °C (-454 °F ... 1.832 °F) Type K: -270 °C ... 1.372 °C (-454 °F ... 2.500 °F) Type N: -270 °C ... 1.300 °C (-454 °F ... 2.372 °F)
- **Max. immersion length on request** up to 96" (2.438 mm) others on request

Field of application: The high modular thermometer is used for several applications in almost all industries. Examples are heat exchangers, furnaces, dryers, process reactors, etc. With different head transmitter it's a complete unit ready for use with enhanced measurement accuracy and

reliability. It also enables very fast response times, due to direct contact measurement without thermowell. A variety of process connections and dimensions offer flexible application possibilities.

Features and specifications

Thermometer

Measuring principle

Thermocouple

Characteristic / Application

US style
modular temperature assembly
threaded process connection

Thermowell / protection tube

without (not intended to use with thermowell)

Insert / probe

mineral insulated (MI), flexible

Outer diameter protection tube / Insert

1/8" (3,18 mm)
3/16"(4,76 mm)
1/4" (6,35 mm)
3/8" (9,53 mm)

Max. immersion length on request

up to 96" (2.438 mm)
others on request

Material protection tube/ thermowell

316
Alloy 600

Optional coating

Not applicable

Thermometer

Process connection

male thread:

G1/2"

NPT1/2"

compression fitting:

NPT1/8"

NPT1/4"

Tip shape

straight

Surface roughness Ra

Not defined

Operating temperature range

Type T:

-270 °C ...400 °C

(-454 °F ...752 °F)

Type J:

-210 °C ...1.200 °C

(-346 °F ...2.192 °F)

Type E:

-270 °C ...1.000 °C

(-454 °F ...1.832 °F)

Type K:

-270 °C ...1.372 °C

(-454 °F ...2.500 °F)

Type N:

-270 °C ... 1.300 °C

(-454 °F ...2.372 °F)

Max. process pressure (static)

at 20°C: 250 bar (3.626 psi)

depends on configuration

Accuracy

Standard acc. to ASTM E-230

Special acc. to ASTM E-230

Thermometer

Response time

63% rt = 0.3 s

Integration head transmitter

yes (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.endress.com/TH51