

# T13

## Explosion proof Pt100 thermometer, US style

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



More information and current pricing:

[www.at.endress.com/T13](http://www.at.endress.com/T13)

### 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** class A acc. to IEC 60751 class B acc. to IEC 60751
- **Response time** depending on configuration 63%  $t_r = 20$  s
- **Max. process pressure (static)** at 20 °C: 100 bar (1.450 psi) depends on configuration
- **Operating temperature range** PT100 WW: -200 °C ... 600 °C (-328 °F ... 1.112 °F) PT100 TF: -50 °C ... 200 °C (-58 °F ... 392 °F)
- **Max. immersion length on request** up to 22.5" (571 mm) others on request

**Field of application:** The robust device with a barstock thermowell is a complete unit ready for use with various housing transmitter heads to meet the application and space requirements. The unit offers enhanced measurement accuracy and reliability. A variety of process connections,

dimensions, and materials (like 316L SS and Hastelloy C276) offer flexible application possibilities.

## Features and specifications

### Thermometer

#### Measuring principle

Resistance Temperature Detector

#### Characteristic / Application

Explosions Proof US style  
modular temperature assembly  
for heavy duty applications  
threaded process connection  
with extension  
incl. thermowell

#### Thermowell / protection tube

bar stock (drilled)

#### Insert / probe

mineral insulated (MI), flexible  
PTFE-insulated, rigid

#### Outer diameter protection tube / Insert

3/4" (19,05 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 22.5" (571 mm)  
others on request

#### Material protection tube/ thermowell

316/ 316L  
A105  
others on request

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**Thermometer****Optional coating**available on request

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**Process connection**

male thread:

NPT1/2"

NPT3/4"

NPT1"

weld in version

socket weld version

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**Tip shape**

stepped

tapered

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

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**Operating temperature range**

PT100 WW:

-200 °C ... 600 °C

(-328 °F ... 1.112 °F)

PT100 TF:

-50 °C ... 200 °C

(-58 °F ... 392 °F)

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**Max. process pressure (static)**

at 20 °C: 100 bar (1.450 psi)

depends on configuration

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**Accuracy**

class A acc. to IEC 60751

class B acc. to IEC 60751

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**Response time**

depending on configuration

63% rt = 20 s

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## Thermometer

### 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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