

# TR66

## Explosion-proof Pt100 Thermometer

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



More information and current pricing:

[www.apsc.endress.com/TR66](http://www.apsc.endress.com/TR66)

### Benefits:

- Types of protection for use in hazardous locations: Intrinsic safety (Ex i.a.), flameproof (Ex d), non-sparking (Ex nA)
- High degree of insert compatibility and design as per DIN 43772
- Extension neck to protect the head transmitter from overheating
- Fast response time with reduced/tapered tip form
- High degree of flexibility thanks to modular design with standard terminal heads as per DIN EN 50446 and customer-specific immersion lengths
- Marine approval

### Specs at a glance

- **Accuracy** class A acc. to IEC 60751 class AA acc. to IEC 60751
- **Response time** depending on configuration
- **Max. process pressure (static)** at 20 °C: 500 bar (7.252 psi)
- **Operating temperature range** PT100 TF StrongSens: -50 °C ...500 °C (-58 °F ...932 °F) PT100 WW: -200 °C ...600 °C (-328 °F ...1.112 °F) PT100 TF: -50 °C ...400 °C (-58 °F ...752 °F)
- **Max. immersion length on request** up to 5.000,00 mm (196,85")

**Field of application:** The robust thermometer is designed for use in demanding and safety relevant applications e.g. in the Chemical, Oil & Gas and Energy industry. Harsh environments, corrosive substances and highest pressures can be handled by the use of robust protection tubes 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.

## Features and specifications

### Thermometer

**Measuring principle**

Resistance Temperature Detector

**Characteristic / Application**

US style metric  
modular temperature assembly  
for heavy duty applications  
suitable for hazardous areas  
suitable for high process pressures  
threaded process connection  
with neck  
incl. thermowell / protection tube (metal)

**Thermowell / protection tube**

bar stock (drilled)

**Insert / probe**

mineral insulated (MI), flexible

**Outer diameter protection tube / Insert**

20 mm (0,79")

24 mm (0,94")

25 mm (0,98")

**Max. immersion length on request**

up to 5.000,00 mm (196,85")

**Material protection tube/ thermowell**

1.4401 (316)

1.4404 (316L)

1.4571 (316Ti)

AlloyC276

Alloy600

## Thermometer

**Optional coating**

Not defined

**Process connection**

male thread:

NPT3/4"

NPT1"

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" 300 RF (B16.5)

ASME 2" 600 RF (B16.5)

**Tip shape**

tapered

**Surface roughness Ra**

1,6 µm (63,0 µin.)

**Operating temperature range**

PT100 TF StrongSens:

-50 °C ...500 °C

(-58 °F ...932 °F)

PT100 WW:

-200 °C ...600 °C

(-328 °F ...1.112 °F)

PT100 TF:

-50 °C ...400 °C

(-58 °F ...752 °F)

**Max. process pressure (static)**

at 20 °C: 500 bar (7.252 psi)

**Thermometer****Accuracy**

class A acc. to IEC 60751  
class AA acc. to IEC 60751

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**Response time**

depending on configuration

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**Integration head transmitter**

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

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**Ex - approvals**

ATEX II  
IECEX  
NEPSI  
EAC Ex  
Explosion proof

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**Certification**

Gost Metrology  
SIL (transmitter only)  
Marine approval

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