

# TR63

## 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.cz.endress.com/TR63](http://www.cz.endress.com/TR63)

### Benefits:

- Types of protection for use in hazardous locations: Intrinsic safety (Ex i.a.), flameproof (Ex d), non-sparking (Ex nA)
- High degree of flexibility thanks to modular design with standard terminal heads as per DIN EN 50446 and customer-specific immersion lengths
- Optionally fast response time with tapered tip form
- Variable selection of process connections: thread, compression fitting or flange
- Extension neck, nipple union version, to protect the head transmitter from overheating
- Marine approval

### Specs at a glance

- **Accuracy** class A acc. to IEC 60751 class AA acc. to IEC 60751
- **Response time** depending on configuration  $t_{50} = 4\text{ s}$   $t_{90} = 8\text{ s}$
- **Max. process pressure (static)** at 20 °C: 100 bar (1.450 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 10.000,00 mm (393,70")

**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. Flexible configuration possible.

## Features and specifications

### Thermometer

#### Measuring principle

Resistance Temperature Detector

#### Characteristic / Application

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

#### Thermowell / protection tube

welded protection tube

#### Insert / probe

mineral insulated (MI), flexible

#### Outer diameter protection tube / Insert

1/4" SCH80  
1/2" SCH80  
1/2" SCH40  
3/4" SCH80  
3/4" SCH40

#### Max. immersion length on request

up to 10.000,00 mm (393,70")

#### Material protection tube/ thermowell

1.4404 (316)  
1.4749 (~446)

## Thermometer

**Optional coating**

Not defined

**Process connection**

male thread:

NPT1/2"

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**

straight

reduced

**Surface roughness Ra**

Not defined

**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: 100 bar (1.450 psi)

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## Thermometer

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### Accuracy

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

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### Response time

depending on configuration  
t50 = 4 s  
t90 = 8 s

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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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