

# TR61

## Explosion-proof Pt100 thermometer

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



Yderligere oplysninger og aktuel pris::

[www.dk.endress.com/TR61](http://www.dk.endress.com/TR61)

### Fordele:

- 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

### Oversigt over specifikationer

- **Accuracy** class A acc. to IEC 60751 class AA acc. to IEC 60751
- **Response time** depending on configuration  $t_{50} = 8$  s  $t_{90} = 21$  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")

**Anvendelsesområde:** 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.

## Funktioner og specifikationer

### Thermometer

#### Measuring principle

Resistance Temperature Detector

#### Characteristic / Application

metric style

modular temperature assembly

for heavy duty applications

suitable for hazardous areas

with neck

incl. thermowell / protection tube (metal)

usable with insert StrongSens

#### Thermowell / protection tube

welded protection tube

#### Insert / probe

mineral insulated (MI), flexible

#### Outer diameter protection tube / Insert

9,0 mm (0,35")

11,0 mm (0,43")

12,0 mm (0,47")

#### Max. immersion length on request

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

#### Material protection tube/ thermowell

1.4404 (316L)

1.4571 (316Ti)

AlloyC276 (2.4819)

#### Optional coating

Not defined

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**Thermometer****Process connection**

male thread:

G1/2"

G3/4"

G1"

NPT1/2"

NPT3/4"

M20x1,5

compression fitting:

G1/2"

flange:

ASME 1" 150 RF (B16.5)

ASME 1" 300 RF (B16.5)

DN25 PN40 B1 (EN1092)

DN40 PN40 B1(EN1092)

DN50 PN40 B1 (EN1092)

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**Tip shape**

straight

reduced

tapered

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**Surface roughness Ra**

Not defined

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**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)

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**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  
t<sub>50</sub> = 8 s  
t<sub>90</sub> = 21 s

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### Integration head transmitter

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

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### Ex - approvals

ATEX II1/2D Ex ia IIIC,II1G Ex ia IIC T6  
ATEX II 2 GD Ex d IIC  
ATEX II 3 G Ex nA IIC T6, II3D  
ATEX II 1/2 GD Ex d IIC  
IECEX Ex d Ga/Gb IIC T6/T5/T4,Ex tD A20  
IECEX Ex ia IIC T6 Ga/Gb  
IECEX Ex d IIC T6/T5/T4  
IECEX Ex d IIC T6/T5/T4, Ex tD A21  
EAC Ex ia IIC T6 Ga + DIP  
EAC Ex d IIC T6 Gb + DIP  
NEPSI Ex ia IIC T6, Ex iaD 20 T85-T450  
NEPSI Ex d IIC T6  
NEPSI Ex nA IIC T6  
Explosion proof

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### Certification

Gost Metrology  
SIL (transmitter only)

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