

TR61

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.be.endress.com/TR61

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

Specs at a glance

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

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

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)

Tip shape

straight

reduced

tapered

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)

Thermometer

Accuracy

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

Response time

depending on configuration
t₅₀ = 8 s
t₉₀ = 21 s

Integration head transmitter

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

Ex - approvals

ATEX II
IECEX
NEPSI
EAC Ex
Explosion proof

Certification

Gost Metrology
SIL (transmitter only)

More information www.be.endress.com/TR61