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.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 t50 = 8 s t90 = 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")

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")

Thermometer

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

Thermometer

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)

Accuracy

class A acc. to IEC 60751

class AA acc. to IEC 60751

Response time

depending on configuration

t50 = 8 s

t90 = 21 s

Thermometer

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.endress.com/TR61**