

TR65

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.us.endress.com/TR65

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
- 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** $t_{50} = 2\text{ s}$ $t_{90} = 5\text{ s}$
- **Max. process pressure (static)** at 20 °C: 80 bar (1.160 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 30.000,00 mm (1.181,10")

Field of application: The robust thermometer designed for use in demanding and safety relevant applications e.g. in the Chemical, Oil & Gas and Energy industry. 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. The sensor may be used in direct contact without thermowell or where the application requires it, spring load inside of a separate thermowell. 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
threaded process connection
without neck

Thermowell / protection tube

without (not intended to use with thermowell)

Insert / probe

mineral insulated (MI), flexible

Outer diameter protection tube / Insert

3,0 mm (0,12")

6,0 mm (0,24")

Max. immersion length on request

up to 30.000,00 mm (1.181,10")

Material protection tube/ thermowell

1.4404 (316L)

Process connection

male thread:

NPT1/2"

NPT3/4"

M20x1,5

compression fitting:

NPT1/2"

NPT3/4"

Thermometer**Tip shape**straight

Surface roughness RaNot 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: 80 bar (1.160 psi)

Accuracy

class A acc. to IEC 60751

class AA acc. to IEC 60751

Response timet₅₀ = 2 st₉₀ = 5 s

Integration head transmitteryes (4 ... 20 mA; HART; PROFIBUS PA; FOUNDATION
FIELDBUS)

Thermometer

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

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

Certification

Gost Metrology

SIL (transmitter only)

More information www.us.endress.com/TR65