TR15
Modular RTD thermometer

Robust temperature measurement technology especially for gas and steam applications

More information and current pricing:
www.cz.endress.com/TR15

Benefits:

- High degree of flexibility thanks to modular design with standard terminal heads as per DIN EN 50446 and customer-specific immersion lengths
- 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
- Types of protection for use in hazardous locations: Intrinsic safety (Ex i.a.), non-sparking (Ex nA)
- Head transmitter with easy selection: Analog output 4 to 20 mA, HART®, PROFIBUS® PA or FOUNDATION Fieldbus™

Specs at a glance

- **Accuracy** class A acc. to IEC 60751 class AA acc. to IEC 60751
- **Response time** depending on configuration
- **Max. process pressure (static)** at 20 °C: 400 bar (5.802 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 is designed for use in demanding applications like gas or steam applications e.g. in the Chemical, Oil & Gas and Energy industry. Highest pressures as well as high temperature can be handled by the use of robust protection tubes and special process connections. 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.

Features and specifications

Thermometer

Measuring principle
Resistance Temperature Detector

Characteristic / Application
metric style
modular temperature assembly
universal range of application
suitable for hazardous areas
suitable for high process pressures
flanged process connection or weld in
with neck
incl. thermowell (metal)
usable with insert StrongSens

Thermowell / protection tube
bar stock (drilled)
without thermowell

Insert / probe
mineral insulated (MI), flexible

Outer diameter protection tube / Insert
18,0 mm (0,71")
24,0 mm (0,94")
26,0 mm (1,02")

Max. immersion length on request
up to 30.000,00 mm (1.181,10")

Thermometer

Material protection tube/ thermowell

1.0460 (A105)
1.4571 (316Ti)
1.7335 (13CrMo4-5; F-11)
Alloy C276 (2.4819)
Duplex SAF 2205 (1.4462)
Titan Gr2 (3.7035)
16Mo3 (1.5415)

Optional coating

Not defined

Process connection

weld in version
flange:
DN25 PN40 B1 (EN1092)
DN40 PN40 B1(EN1092)
DN50 PN40 B1 (EN1092)
ASME 1" 150 RF (B16.5)
ASME 1" 300 RF (B16.5)

Tip shape

tapered

Surface roughness Ra

0,8 µm (31,5 µin.)
1,6 µm (63,0 µin.)

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)

Thermometer

Max. process pressure (static)
at 20 °C: 400 bar (5.802 psi)

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

Response time
depending on configuration

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

Ex - approvals
ATEX II1D Ex ia IIIC, II1G Ex ia IIC T6
ATEX II1/2D Ex ia IIIC,II1G Ex ia IIC T6
ATEX II1G Ex ia IIC T6
ATEX II 3 G Ex nA IIC T6, II3D
NEPSI Ex ia IIC T6, Ex iaD 20 T85-T450
IECEx Ex ia IIC T6 Ga/Gb
UK II1D Ex ia IIIC Da, II1G Ex ia IIC T6 Ga
UK II1/2D Ex ia IIIC Da/Db, II1G Ex ia IIC T6 Ga
UK II1G Ex ia IIC T6 Ga
UK II 3 G Ex nA IIC T6 Gc, II3D Ex tc IIIC Dc
EAC Ex ia IIC T6 Ga + DIP
NEPSI Ex nA IIC T6

Certification
Gost Metrology
SIL (transmitter only)

More information **www.cz.endress.com/TR15**