

TR15

Modular RTD thermometer

Robust temperature measurement technology especially for gas and steam applications



More information and current pricing:

www.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 iTHERM 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 iTHERM 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 iTHERM 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 Ex ia, Ex nA

IECEX Ex ia

NEPSI Ex ia

EAC Ex ia

UKCA Ex ia, Ex nA, Ex tc

Certification

Gost Metrology

SIL (transmitter only)

More information www.endress.com/TR15