RTD Thermometer TR12

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
- 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: 40 bar (580 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 high modular and robust thermometer finds its use in several applications in almost all industries. 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. A variety of process connections, dimensions and materials offer flexible application possibilities.

Features and specifications

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<td>Resistance Temperature Detector</td>
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## Thermometer

### Characteristic / Application
- metric style
- modular temperature assembly
- universal range of application
- suitable for hazardous areas
- process connection as compression fitting without neck
- incl. thermowell / protection tube (metal)

### 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")
- 14,0 mm (0,55")
- 15,0 mm (0,59")

### Max. immersion length on request
- up to 10.000,00 mm (393,70")

### Material protection tube/ thermowell
- 1.4404 (316L)
- 1.4571 (316Ti)
- 1.4841 (310)

### Optional coating
- Not defined
Thermometer

**Process connection**
compression fitting:
- G1/2"
- G3/4"
- G1"
- NPT1/2"
- weldingadapter

**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: 40 bar (580 psi)

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

**Response time**
depending on configuration
Thermometer

**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 IECEx II1/2D Ex ta/tb IIIC Da/Db
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
EAC Ex ia IIC T6 Ga + DIP
NEPSI Ex nA IIC T6

**Certification**

Gost Metrology
SIL (transmitter only)

More information [www.endress.com/TR12](http://www.endress.com/TR12)