TR65
Explosion-proof Pt100 Thermometer

Safe monitoring of process temperatures in challenging applications e.g. in the Oil & Gas industry

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** \( t_{50} = 2 \) s \( t_{90} = 5 \) 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.

More information and current pricing: [www.endress.com/TR65](http://www.endress.com/TR65)
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"
<table>
<thead>
<tr>
<th>Thermometer</th>
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<tbody>
<tr>
<td><strong>Tip shape</strong></td>
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<td><strong>Surface roughness Ra</strong></td>
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<td>yes (4 ... 20 mA; HART; PROFIBUS PA; FOUNDATION FIELDBUS)</td>
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Thermometer

**Ex - approvals**
- ATEX II1/2D Ex ia IIC, 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)

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