# TR11 Modular RTD thermometer

# Comprehensive and common temperature measurement technology for almost all branches of industry



Mais informações e preço atual:

www.pt.endress.com/TR11

# Benefícios:

- 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™
- Marine approval

# Especificações resumidas

- 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: 75 bar (1088 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")

**Campo de aplicação:** 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.

# Características e especificações

#### Thermometer

#### Measuring principle

Resistance Temperature Detector

#### **Characteristic / Application**

metric style
modular temperature assembly
universal range of application
suitable for hazardous areas
threaded process connection
without neck
incl. thermowell / protection tube

incl. thermowell / protection tube (metal)
can be used with StrongSens insert

# Thermowell / protection tube

welded protection tube

# Insert / probe

mineral insulated (MI), flexible

#### Outer diameter protection tube / Insert

8,0 mm (0,31")

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")

# Thermometer

# Material protection tube/ thermowell

1.4401 (316)

1.4404 (316L)

1.4571 (316Ti)

#### **Optional coating**

Not defined

#### **Process connection**

male thread:

G3/8"

G1/2"

G3/4"

NPT1/2"

NPT3/4"

M20x1.5

# 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: 75 bar (1088 psi)

# Thermometer

#### 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 II

ATEX IECEX

**NEPSI** 

**IECE**x

**EAC Ex** 

#### Certification

Gost Metrology

SIL (transmitter only)

Marine approval

Mais informações www.pt.endress.com/TR11

