

iTHERM ModuLine TM152

Industrial modular thermometer

Imperial RTD/TC thermometer with barstock thermowell for a wide range of industrial applications



More information and current pricing:

www.endress.com/TM152

Benefits:

- Easy maintenance and recalibration of the thermometer (sensor can be replaced without interrupting the process)
- **Dual Seal technology:** second process seal with failure indication offers valuable device health status information
- **iTHERM QuickSens:** fastest response times of 1.5 s for optimum process control
- **iTHERM StrongSens:** unsurpassed vibration resistance (>60g) for ultimate plant safety
- **iTHERM QuickNeck:** cost and time savings thanks to simple, tool-free removal for recalibration
- **International certification:** e.g. explosion protection in accordance with ATEX, IECEx, CSA and INMETRO; functional safety (SIL)
- iTEMP temperature transmitter with **all common communication protocols** and **optional Bluetooth® connectivity**

Specs at a glance

- **Accuracy** Class AA acc. to IEC 60751 Class A acc. to IEC 60751 Class B acc. to IEC 60751 Class special or standard acc. to ASTM E230 Class 1 or 2 acc. to IEC 60584-2
- **Response time** depending on configuration
- **Max. process pressure (static)** depending on the configuration up to 500 bar
- **Operating temperature range** PT100 TF iTHERM StrongSens: -50 °C ...500 °C (-58 °F ...932 °F) PT100 TF iTHERM QuickSens: -50 °C ...200 °C (-58 °F ...392 °F) PT100 WW: -200 °C ...600 °C (-328 °F ...1.112 °F) PT100 basic TF: -50 °C ...200 °C (-58

°F ...392 °F) Typ K: max. 1.100 °C (max. 2.012 °F) Typ J: max. 800 °C (max. 1.472 °F) Typ N: max. 1.100 °C (max. 2.012 °F)

- **Max. immersion length on request 84"**

Field of application: The modular industrial RTD or TC thermometer iTHERM ModuLine TM152 is complete with barstock thermowell or to be used with onsite thermowell. It is suitable for every application, from basic functionality to high-end performance in the chemical, oil & gas and power & energy industries.

Features and specifications

Thermometer

Measuring principle

Resistance Temperature Detector

Characteristic / Application

imperial style
modular temperature assembly
universal range of application
suitable for hazardous areas
suitable for high process pressures
with neck or iTHERM QuickNeck
incl. thermowell / protection tube (metal) or to be installed into thermowell
can be used with iTHERM StrongSens

Thermowell / protection tube

barstock (drilled) or to be used with thermowell

Insert / probe

mineral insulated (MI), flexible

Thermometer**Outer diameter protection tube / Insert**

5/8" (15.88 mm)
3/4" (19.05 mm)
7/8" (22.2 mm)
1" (25.4 mm)
1.050" (26.7 mm)
1-1/16" (27 mm)
1-1/8" (28.58 mm)
1-1/4" (31.75 mm)
1.315" (33.4 mm)
1-3/8" (34.93 mm)
1-1/2" (38.1 mm)
1.660" (42.16 mm)
1.900" (48.26 mm)

Max. immersion length on request

84"

Material protection tube/ thermowell

316/316L
304/304L
Alloy600
AlloyC276
A182 F22
A182 F11
A182 F91
A105
Duplex

Optional coating

PTFE coated
Tantalum sleeve

Thermometer

Process connection

Male thread:

G1/2", G3/4"

NPT1/2", NPT3/4", NPT 1", NPT 1-1/4", NPT 1-1/2"

Innen-Gewinde:

NPT1/2"

Flansche:

ASME 1" 150 RF

ASME 1" 300 RF

ASME 1" 600 RF

ASME 1" 900/1500 RF

ASME 1 1/2" 150 RF

ASME 1 1/2" 300 RF

ASME 1 1/2" 600 RF

ASME 1 1/2" 900/1500 RF

ASME 2" 150 RF

ASME 2" 300 RF

ASME 2" 600 RF

zum Einschweißen:

NPS 3/4" (26.7 mm)

NPS 1" (33.4 mm)

NPS 1-1/4" (42.2 mm)

NPS 1-1/2" (48.3 mm)

1-3/8" (34.92 mm)

Tip shape

straight

tapered

stepped

Surface roughness Ra

0,76 µm (30 µin.)

1,6 µm (63,0 µin.)

Thermometer

Operating temperature range

PT100 TF iTHERM StrongSens:

-50 °C ...500 °C

(-58 °F ...932 °F)

PT100 TF iTHERM QuickSens:

-50 °C ...200 °C

(-58 °F ...392 °F)

PT100 WW:

-200 °C ...600 °C

(-328 °F ...1.112 °F)

PT100 basic TF:

-50 °C ...200 °C

(-58 °F ...392 °F)

Typ K:

max. 1.100 °C

(max. 2.012 °F)

Typ J:

max. 800 °C

(max. 1.472 °F)

Typ N:

max. 1.100 °C

(max. 2.012 °F)

Max. process pressure (static)

depending on the configuration up to 500 bar

Accuracy

Class AA acc. to IEC 60751

Class A acc. to IEC 60751

Class B acc. to IEC 60751

Class special or standard acc. to ASTM E230

Class 1 or 2 acc. to IEC 60584-2

Response time

depending on configuration

Integration head transmitter

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

Thermometer

Ex - approvals

ATEX Ex ec

ATEX IECEx Ex ia

CSA C/US IS, NI, XP, DIP

INMETRO Ex ia

Certification

SIL (Transmitter), CRN

More information www.endress.com/TM152