

iTHERM ModuLine TM151

Industrial modular thermometer

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



More information and current pricing:

www.endress.com/TM151

Benefits:

- Second process seal with failure indication offering 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 recalibration
- Bluetooth® connectivity (optional)
- International certification: explosion protection according to ATEX, IECEx, CSA C/US and CCC

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 TF: -50 °C ...400 °C (-58 °F ...752 °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** up to 1.500,0 mm (59,06")

Field of application: Modular industrial RTD or TC thermometer, complete with barstock thermowell or to be used with onsite thermowell. Available with Endress+Hauser temperature transmitters for enhanced accuracy and reliability - easy customizing by choosing the outputs and communication protocols. Optionally available with Bluetooth® connectivity. Thermometer featuring latest innovations such as **iTHERM QuickNeck**, and temperature sensor technologies like **iTHERM QuickSens** and **iTHERM StrongSens**.

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
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**

16 mm (0,63")
18 mm (0,71")
19 mm (0,75")
19,5 mm (0,77")
20 mm (0,79")
22,2 mm (0,87")
24 mm (0,95")
25 mm (0,98")
25,4 mm (1,0")
26 mm (1,02")
27 mm (1,06")
30 mm (1,18")
33,4 mm (1,31")

Max. immersion length on request

up to 1.500,0 mm (59,06")

Material protection tube/ thermowell

316 (1.4401)
316L (1.4404)
316/316L (1.4401/1.4404)
316Ti (1.4571)
347 (1.4550)
310 (1.4841)
Alloy 600 (2.4816)
Alloy C276 (2.4819)
10CrMo9-10 (1.7380)
13CrMo4-5 (1.7335)
16Mo3 (1.5415)
A105 (1.0460)
C22.8 (P250GH) (1.0460)
P355NH (1.0565)
Duplex S32205 (1.4462)
Titanium Gr2 (3.7035)

Thermometer

Process connection

Male thread:

G1"

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

M14x1.5, M18x1.5, M20x1.5, M27x2, M33x2

Female thread:

M24x1.5

NPT1/2"

Flange:

DN25 PN16, PN40, PN50, PN100 B1

DN40 PN40 B1

DN50 PN40, PN63 B1

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 1 1/2" 2500 RF

ASME 2" 150 RF

ASME 2" 300 RF

ASME 2" 600 RF

ASME 2" 900/1500 RF

ASME 2" 2500 RF

to weld-in:

Diameter 18 mm (0,71")

Diameter 24 mm (0,94")

Diameter 26 mm (1,02")

Diameter 26,7 mm (NPS 3/4")

Diameter 33,4 mm (NPS 1")

Tip shape

straight

tapered

stepped

Thermometer**Surface roughness Ra**

0,76 µm (30 µin.)

1,6 µm (63,0 µin.)

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 TF:

-50 °C ...400 °C

(-58 °F ...752 °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

Thermometer

Response time

depending on configuration

Integration head transmitter

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

Ex - approvals

ATEX Ex ec, Ex tc

ATEX IECEx Ex ia

NEPSI Ex ia

Certification

SIL, MID, DNV/GL

More information www.endress.com/TM151