iTHERM ModuLine TM112
Industrial modular thermometer

Imperial RTD/TC direct contact thermometer for a wide range of industrial applications

More information and current pricing:
www.endress.com/TM112

Benefits:

- User-friendly and reliable from product selection to maintenance
- **iTHERM inserts:** full traceability and consistently high product quality for reliable measured values
- **iTHERM QuickSens:** fastest response times of 1.5 s for optimum process control
- **iTHERM StrongSens:** unsurpassed vibration resistance (> 60g) for ultimate plant safety
- **International certification:** e.g. explosion protection according to 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** t90 starting at < 1,5 s iTHERM QuickSens depending on configuration
- **Max. process pressure (static)** depending on the configuration
- **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** up to 180"

Field of application: iTHERM ModuLine TM112 is an easy-to-use imperial direct contact modular thermometer, featuring outstanding RTD or TC sensor technology. 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
universal range of application
suitable for hazardous areas
can be used with iTHERM StrongSens, iTHERM QuickSens
direct process contact

Thermowell / protection tube
without, direct process contact

Insert / probe
mineral insulated (MI), flexible

Outer diameter protection tube / Insert
Insert:
1/8"
1/4"
3/8"
3/8" reduziert auf 3/16"
3,0 mm
6,0 mm

Max. immersion length on request
up to 180"

Thermometer

Material protection tube/ thermowell

Insert Material:
316L (1.4404)
Alloy 600 (2.4816)

Process connection

Thread:
NPT1/2", NPT3/4"
Compression fitting, also spring load:
NPT1/4", NPT1/2"

Tip shape

straight
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

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

t90 starting at < 1,5 s iTHERM QuickSens
depending on configuration

Thermometer

Integration head transmitter

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

Ex - approvals

ATEX Ex ec
ATEX IECEx Ex ia
CSA C/US IS, NI, XP, DIP
INMETRO Ex ia

Certification

SIL (Transmitter)

More information **www.endress.com/TM112**