iTHERM ModuLine TM111

Trend-setting, explosion-proof temperature sensor iTHERM ModuLine TM111 is designed for a wide range of industrial applications and hazardous areas.

More information and current pricing:

www.endress.com/TM111

Benefits:

- User-friendly and reliable from product selection to maintenance
- iTHERM inserts: globally unique, automated production. Full traceability and consistently high product quality for reliable measured values
- iTHERM QuickSens: fastest response times 1.5 s for optimum process control
- iTHERM StrongSens: unsurpassed vibration resistance (> 60g) for ultimate plant safety
- iTHERM TA30x: variety of terminal heads for easier handling and lower installation and maintenance costs
- International certification: explosion protection according to ATEX, IECEx, CSA C US and NEPSI

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 QuickSens depending on configuration
- **Max. process pressure (static)** depending on the configuration
- **Operating temperature range** PT100 TF StrongSens: -50 ℃ ...500 ℃ (-58 ℉ ...932 ℉) PT100 QuickSensTF: -50 ℃ ...200 ℃ (-58 ℉ ...392 ℉) PT100 WW: -200 ℃ ...600 ℃ (-328 ℉ ...1.112 ℉) PT100 TF: -50 ℃ ...400 ℃ (-58 ℉ ...752 ℉) Thermoelement: Typ K up to 1.100 ℃ (2.012 ℉) Typ J up to 800 ℃ (1.472 ℉) Typ N up to 1.100 ℃ (2.012 ℉)

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- **Max. immersion length on request** up to 4.500,0 mm (177")

Field of application: Our explosion-proof temperature sensor iTHERM ModuLine TM111 is ideal for a wide range of industrial applications and hazardous areas. Easy-to-use metric version with outstanding RTD or TC sensor technology. An optional head transmitter, with all common communication protocols – **Bluetooth® technology** for high measurement accuracy and reliability. It features vibration-resistant and fast-response sensor technology (**iTHERM StrongSens** and **QuickSens**).

Features and specifications

Thermometer

Measuring principle
Resistance Temperature Detector

Characteristic / Application
metric style
universal range of application
suitable for hazardous areas
can be used with StrongSens, QuickSens insert
direct process contact

Thermowell / protection tube
without, direct process contact

Insert / probe
mineral insulated (MI), flexible

Outer diameter protection tube / Insert
Insert:
3,0 mm
6,0 mm

Max. immersion length on request
up to 4.500,0 mm (177")

Thermometer

Material protection tube/ thermowell

Insert Material:

316L (1.4404)

Alloy 600 (2.4816)

Pyrosil

Process connection

Thread:

G1/4, G1/2"

NPT1/2", NPT3/4"

M18x1.5, M20x1.5

Cap-nut:

G1/2", G3/4"

Compression fitting, also spring load:

NPT1/2", G1/2"

Weld-in adapter cylindrical or spherical

Tip shape

straight

Surface roughness Ra

< 1.6 µm (63.00 µin)

Thermometer

Operating temperature range

PT100 TF StrongSens:

-50 ℃ …500 ℃

(-58 ℉ …932 ℉)

PT100 QuickSensTF:

-50 ℃ …200 ℃

(-58 ℉ …392 ℉)

PT100 WW:

-200 ℃ …600 ℃

(-328 ℉ …1.112 ℉)

PT100 TF:

-50 ℃ …400 ℃

(-58 ℉ …752 ℉)

Thermoelement:

Typ K up to 1.100 ℃ (2.012 ℉)

Typ J up to 800 ℃ (1.472 ℉)

Typ N up to 1.100 ℃ (2.012 ℉)

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 QuickSens

depending on configuration

Integration head transmitter

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

Thermometer

Ex – approvals
ATEX
ATEX IECEx
NEPSI
IECEx
EAC Ex
CSA C/US
INMETRO

Certification
SIL (Transmitter)

More information **www.endress.com/TM111**

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