

iTHERM ModuLine TM111

Industrial modular thermometer

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



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

More information and current pricing:

www.endress.com/TM111

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** t_{90} 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 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 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 iTHERM StrongSens, iTHERM 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 shapestraight

Surface roughness Ra< 1.6 µm (63.00 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 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

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, Ex tc
ATEX IECEx Ex tb, Ex ia, Ex db
CSA C/US IS, NI, XP, DIP
INMETRO Ex ia, Ex d, Ex tb
NEPSI Ex ia, Ex d, Ex tD
EAC Ex d, Ex tb, Ex ia
UKCA Ex ia, Ex nA, Ex tc

Certification

SIL (Transmitter)

More information www.endress.com/TM111