

iTHERM TM411

Innovative advanced, modular RTD thermometer

For use in hygienic and aseptic applications in the Food & Beverages and Life Sciences industries



Daha fazla bilgi ve güncel fiyatlandırma:

www.tr.endress.com/TM411

Avantajlar:

- User-friendly and reliable from product selection to maintenance
- iTHERM inserts: globally unique, fully-automated production. Full traceability and consistently high product quality for reliable measured values
- iTHERM QuickSens: fastest response times (t90s: 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
- Over 50 hygienic process connections
- International certification: explosion protection as per ATEX/IECEX, hygiene standards according to 3-A, EHEDG, ASME BPE, FDA, TSE Certificate of Suitability

Özelliklere genel bakış

- **Accuracy** class A acc. to IEC 60751 class AA acc. to IEC 60751
- **Response time** depending on configuration QuickSens: t90 = 1,5 s StrongSens: t90 = 9,5 s
- **Max. process pressure (static)** at 20 °C: 40 bar (580 psi)
- **Operating temperature range** PT100: -200 °C ... 600 °C (-328 °F ... 1.112 °F) StrongSens: -50 °C ... 500 °C (-58 °F ... 932 °F) QuickSens: -50 °C ... 200 °C (-58 °F ... 392 °F)

Uygulama alanı: It has been designed to meet the requirements of the Food & Beverages and Life Sciences industries and complies with the highest quality standards. It offers a variety of versions within a clearly segmented standard product. The result: Time and cost savings by simple and fast product selection. It offers many technical innovations: iTHERM QuickSens, StrongSens or QuickNeck. This leads to distinctive reduction of maintenance costs, improved product quality, process efficiency and safety.

Özellikler ve şartlar

Thermometer

Measuring principle

Resistance Temperature Detector

Characteristic / Application

metric style
 modular temperature assembly
 hygienic/aseptic design (3-A[®], EHEDG, ASME BPE, FDA)
 hygienic process connections
 with neck
 suitable for hazardous areas
 incl. protection tube
 QuickSens for fastest response time
 StrongSens for most robust design
 QuickNeck for easy and cost saving recalibration

Thermowell / protection tube

without
 incl. thermowell
 incl. T-/ellbow thermowell

Insert / probe

mineral insulated (MI), flexible
 pipe version, isolated wires, not flexible

Thermometer**Outer diameter protection tube / Insert**

6,0 mm (0,24")

9,0 mm (0,35")

12,7 mm (0,5")

Material protection tube/ thermowell

1.4435 delta-ferrit < 1%

316L

Process connection

compression fitting

weld in adapter

clamp connections acc. to ISO2852

screwed pipe joint acc. to DIN 11851

aseptic screwed pipe joint acc. to DIN 11864-1

metallic sealing system

thread acc. to ISO 228 for liquiphant adaptor

APV Inline

Varivent

Ingold

SMS 1147

Neumo Biocontrol

T- and corner pieces

Tip shape

straight

reduced

tapered

Surface roughness Ra

0,76 µm (29,92 µin)

0,38 µm (14,96 µin)

0,38 µm (14,96 µin) electropolished

Thermometer

Operating temperature range

PT100:

-200 °C ... 600 °C

(-328 °F ... 1.112 °F)

StrongSens:

-50 °C ... 500 °C

(-58 °F ... 932 °F)

QuickSens:

-50 °C ... 200 °C

(-58 °F ... 392 °F)

Max. process pressure (static)

at 20 °C: 40 bar (580 psi)

Accuracy

class A acc. to IEC 60751

class AA acc. to IEC 60751

Response time

depending on configuration

QuickSens: $t_{90} = 1,5 \text{ s}$

StrongSens: $t_{90} = 9,5 \text{ s}$

Integration head transmitter

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

Ex - approvals

ATEX II

ATEX IECEx

FM

CSA

NEPSI

CRN

JPN

JPN Ex ia

Thermometer

Certification

SIL (transmitter only)

Ayrıntılı bilgi www.tr.endress.com/TM411