Sanitary digital thermometer iTHERM TM411

Hygienic temperature measurement instrument for optimum product quality, process safety and efficiency

More information and current pricing:

www.endress.com/TM411

Benefits:

- Optimum process control: Fast sensor response times with iTHERM QuickSens technology (t90: 1.5 s)
- Up to 75% faster and safer recalibrations with iTHERM QuickNeck – tool-free quick-release for instant insert removal
- High sensor availability under rough conditions: Vibration resistant RTD technology iTHERM StrongSens (> 60g)
- Easy product selection, configuration and maintenance
- Increase productivity and product safety in sanitary applications with highly accurate and reliable measurements
- Thermowells, hygienic process connections and housings expertly manufactured from high-grade materials treated for low surface roughness

Specs at a glance

- **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)

Field of application: The modular sanitary thermometer iTHERM TM411 with digital display delivers highly accurate, reliable and fast temperature measurements in process lines, vessels, tanks, fermenters and more. The high-performance device is designed for the strictly regulated food and life sciences industries. Configure your hygienic

Endress+Hauser

instruments from a selection of thin film RTDs with QuickSens or StrongSens technology or 2x Pt100 wire wound temperature sensors, smart transmitters and hygienic process connections.

Features and specifications

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

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

Thermometer

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

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)

Thermometer

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

Integration head transmitter

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

Ex - approvals

ATEX II

ATEX IECEx

FM

CSA

CRN

JPN

JPN Ex ia

Certification

SIL (transmitter only)

More information **www.endress.com/TM411**