

iTHERM CompactLine TM311

Compact thermometer

Metric/imperial RTD 4-20 mA/IO-Link compact thermometer for industrial and hygienic applications



Benefits:

- Fast installation and easy commissioning:
 - Compact dimensions for installation in tight spaces
 - Standard M12 connector with IP69 for easy electrical connection
 - Recommended process immersion lengths for optimum measurement
 - Preset temperature range
- Excellent temperature measurement performance:
 - Short response times as low as 1.5 s (t90)
 - High sensor accuracy even with short immersion lengths
 - Improved measuring accuracy with transmitter-sensor matching
- Safe and reliable operation:
 - Device safety to EN 610101-1 and CSA C/US
 - Electromagnetic compatibility (NAMUR NE 21)
 - Device diagnostic information (NAMUR NE 43)
 - Hygienic design manufactured from high-grade stainless steel
 - Marine approval

Specs at a glance

- **Accuracy** class A acc. to IEC 60751
- **Response time** t50 = 1 s t90 = 1.5 s
- **Max. process pressure (static)** at 20 °C: 50 bar (725 psi)
- **Operating temperature range** PT 100: -50 °C ...200 °C (-58 °F ...392 °F)
- **Max. immersion length on request** up to 600,00 mm (23,62")

from **€85.00**

Price as of 31.08.2025

More information and current pricing:

www.endress.com/TM311

Field of application: iTHERM CompactLine TM311 sanitary thermometer provides accurate and fast process temperature measurements in hygienic and aseptic applications. Its temperature sensor offers a 4-wire connection or feeds into a smart temperature transmitter with 4 to 20 mA, IO-Link (auto-detect) or switch output. Featuring TipSens technology, the RTD (Pt100; Class A) delivers response times as low as 1.5 s (t₉₀) for optimum process control. This versatile device is a great choice to drive plant standardization.

Features and specifications

Thermometer

Measuring principle

Resistance Temperature Detector

Characteristic / Application

metric and imperial style
compact temperature probe
fast response time
high accuracy
standard and hygienic design
hygienic process connection
threaded process connection

Thermowell / protection tube

without
incl. thermowell
incl. Tee-/elbow thermowell

Insert / probe

pipe version, isolated wires, not flexible

Outer diameter protection tube / Insert

3,0 mm (0,12")
6,0 mm (0,24")

Max. immersion length on request

up to 600,00 mm (23,62")

Thermometer**Material protection tube/ thermowell**

1.4435 Delta-Ferit < 1%
316L

Process connection

compression fitting
Thread
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 liquidphat adaptor
Varivent
SMS 1147
Tee-/elbow thermowell

Tip shape

straight
reduced

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

PT 100:
-50 °C ...200 °C
(-58 °F ...392 °F)

Max. process pressure (static)

at 20 °C: 50 bar (725 psi)

Accuracy

class A acc. to IEC 60751

Thermometer

Response time

t50 = 1 s

t90 = 1.5 s

Integration head transmitter

no (4...20mA Signal, IO-Link)

Ex - approvals

CSA C/US

Certification

3A, EHEDG, ASME BPE, FDA, TSE

1935/2004, 2023/2006, 10/2011

DNV, BV

RCM

More information www.endress.com/TM311