

iTHERM TrustSens TM371

Compact thermometer

Metric RTD thermometer with self-calibration technology for hygienic applications



More information and current pricing:

www.endress.com/TM371

Benefits:

- **No plant downtime and reduced operational costs:** Fully automated in-situ self-calibration without interrupting the process for recalibration.
- **Safe audits and minimized risk:** Automatically generated, traceable and audit-proof calibration certificates.
- **Improved product quality and process safety:** Continuous device monitoring and verification with **Heartbeat Technology**, including automated loop checks.
- **Highest measurement accuracy** thanks to individual sensor-transmitter matching performed at the factory.
- **Easy handling:** iTHERM TrustSens comes preconfigured for quick integration; simply connect and start measuring. Guided wizards support intuitive commissioning.
- **Digitally future-ready:** 24/7 access to all calibration data, including cloud-based availability via Netilion.

Specs at a glance

- **Response time** $t_{50} = 2.5$ s $t_{90} = 5.4$ s
- **Max. process pressure (static)** at 20 °C: 40 bar (580 psi)
- **Operating temperature range** Pt100: -40 °C to 160 °C (-40 °F to 320 °F), optional up to 190 °C (374 °F) reference point for automated calibration
- **Max. immersion length on request** up to 900.00 mm (35.4")

Field of application: iTHERM TrustSens is the only self-calibrating RTD thermometer for hygienic processes, delivering continuous accuracy and compliance without interrupting production. Its fully automated in-situ

self-calibration and Heartbeat Technology ensure reliable drift detection, audit-proof documentation, and maximum process efficiency.

Features and specifications

Thermometer

Measuring principle

Resistance Temperature Detector

Characteristic / Application

self-calibrating

metric style

compact temperature probe

hygienic design

life sciences, food & beverage

Thermowell / protection tube

without

incl. thermowell

incl. Tee-/elbow thermowell

Insert / probe

without exchangeable insert

Outer diameter protection tube / Insert

6.0 mm (0.24")

9.0 mm (0.35")

12.7 mm (0.5")

Max. immersion length on request

up to 900.00 mm (35.4")

Material protection tube/ thermowell

1.4435 Delta Ferrite < 1%

316L

Thermometer

Process connection

compression fitting
weld in adapter
clamp connections acc. to ISO 2852
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
TT411 elbow thermowell DIN 11865

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

Pt100:
-40 °C to 160 °C (-40 °F to 320 °F),
optional up to 190 °C (374 °F)
reference point for automated calibration

Max. process pressure (static)

at 20 °C: 40 bar (580 psi)

Response time

t₅₀ = 2.5 s
t₉₀ = 5.4 s

Thermometer

Integration head transmitter

no (4 to 20 mA signal, HART)

Ex - approvals

ATEX IECEx Ex ia

CSA C/US IS

UKCA Ex ia

More information www.endress.com/TM371