

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:

- Reduce risks and costs by implementing fully automated, traceable inline RTD sensor self-calibration; Eliminate non-conformities or undetected failures
- True **RTD sensor self-calibration** making use of the Curie effect; Built-in, long-term stable fix point reference with complete traceability of calibration chain to ITS-90
- Full instrument diagnostics, monitoring and verification with Heartbeat Technology
- Automated process documentation, built-in memory for 350 calibration events; 24/7 access to printable, audit proof calibration certificates, on-site or through cloud-based system integration
- Built-in 4 to 20 mA loop check function saves time and increases process safety
- Highest temperature measurement precision: individual transmitter-sensor matching from factory for improved RTD accuracy

Specs at a glance

- **Response time** $t_{50} = 2.5 \text{ s}$ $t_{90} = 5.4 \text{ s}$
- **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: Our award-winning iTHERM TrustSens TM371 sanitary RTD features the world's first self-calibrating Pt100 sensor unit! The hygienic temperature transmitter with **Heartbeat Technology** effectively eliminates the risk of undetected non-conformities, reduces

production downtime while increasing product safety and process efficiency in food, beverage and life sciences applications. The instrument complies with FDA and GMP regulations and integrates with the Netilion cloud-based Industry 4.0 ecosystem.

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