

Sanitary RTD - iTHERM TrustSens TM371

Self-calibrating hygienic temperature transmitter lowers risk and drives automation in regulated processes



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 sanitary **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)
- **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. 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")

Thermometer

Material protection tube/ thermowell

1.4435 Delta Ferrite < 1%
316L

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 pieces 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)

Max. process pressure (static)

at 20 °C: 40 bar (580 psi)

Thermometer**Response time**t₅₀ = 2.5 st₉₀ = 5.4 s

Integration head transmitterno (4 to 20 mA signal, HART)

Ex - approvals

CSA C/US IS, I/1+2/A-F

CSA C/US General Purpose

UK II1/2G Ex ia IIC T6 Ga/Gb, II1/2D Ex ia IIIC Da/Db

ATEX IECEx II1/2G Ex ia IIC T6 Ga/Gb, II1/2D Ex ia IIIC T6 Da/Db

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