

Endress+Hauser presents the world's first self-calibrating thermometer

Endress+Hauser is launching the iTHERM TrustSens TM371 compact thermometer for food & beverage and life sciences industries. It features unique sensor technology with fully automated inline self-calibration function for hygienic and aseptic applications.

100% Compliance – 0% Effort.

The new iTHERM TrustSens TM371 (also available as imperial version TM372) enables continuous, traceable monitoring thanks to its fully automated inline self-calibration function without process interruption. This results in high product safety, increases plant availability and helps reduce risk and costs. The hygienic thermometer is designed for users in the pharmaceutical, and food & beverage industries who require absolute compliance with FDA and/or GMP regulations.

At the heart of the temperature probe is a unique sensor unit consisting of a primary Pt100 temperature sensor and a highly accurate integrated reference with long-term stability. The reference sensor uses a physical fixed point on the basis of the Curie temperature and therefore serves to regularly calibrate the primary sensor. The self-calibration is triggered fully automatically at a temperature of 118 °C (Curie point of the integrated reference), a process typically occurring during each steam sterilization (SIP) of the plant. This ensures that the constantly high measuring accuracy of the temperature sensor is permanently monitored throughout its entire life cycle.

"Heartbeat Technology" in temperature measurement

The integrated smart electronics feature varied diagnostics functions, which are categorized in line with the NE107 NAMUR recommendation and transmitted via HART® communication. Furthermore, status signals are indicated locally by means of the LED integrated in the device. In addition to the automated calibration, and therefore verification of the thermometer's measuring accuracy, data from the last 350 calibrations is stored directly in the device (FIFO memory). This makes it possible to access a long device and process history, which can be used as a basis for predictions and the early determination of trends.

These features guarantee continuous, fully autonomous device self-diagnostics. The iTHERM TrustSens is therefore ready for Industry 4.0 applications.

Checked, tested, confirmed

Trust is good, control is better! Which is why the iTHERM TrustSens TM371 is supplied ex-works with a calibration certificate for the fixed-point reference integrated in the sensor, which ensures the traceability of the calibration chain to the ITS-90 International Temperature Scale. Years of extensive load tests over many thousands of cycles, both in the lab and in the field, have confirmed that the solution is well developed.

The device also has the following international approvals and certificates: Hygienic guidelines in accordance with EHEDG, ASME BPE, FDA, 3-A, 1935/2004, 2023/2006, 10/2011, CE, CRN, TSE, CSA General Purpose.

Significant advantages for the life sciences and food & beverage industries

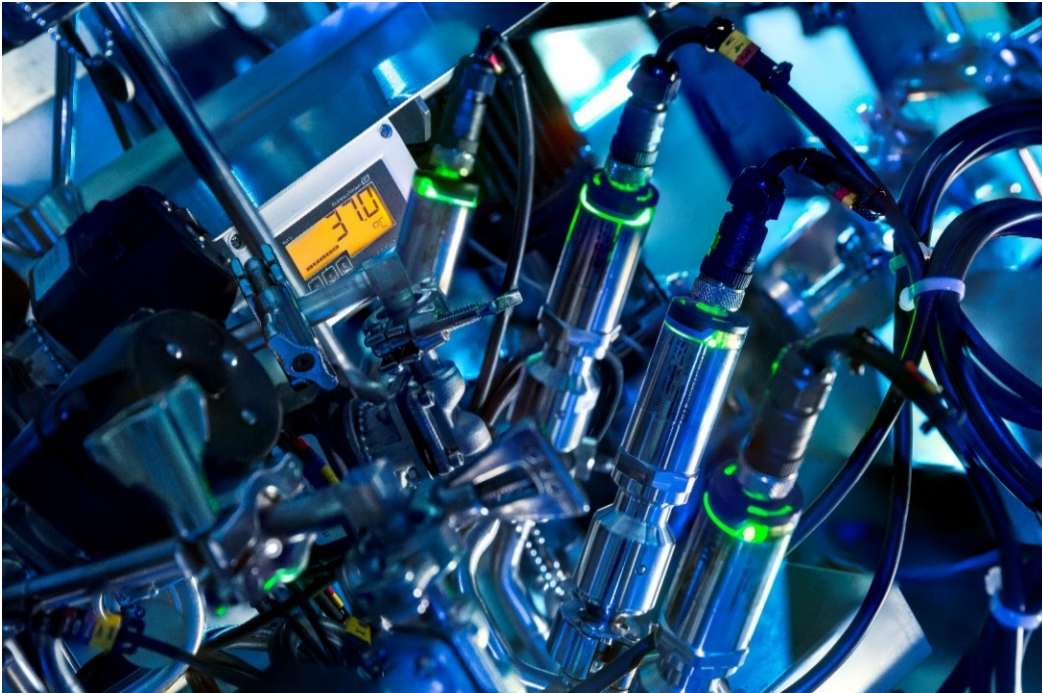
The self-calibrating TrustSens technology is a major innovation especially in the strictly regulated GMP environment. In addition to a clear rise in process reliability thanks to the self-calibration before every new batch, the availability of the plant is also significantly increased. This in turn results in an immense potential for reducing effort and costs, as well as a higher production yield. Due to the expected high frequency of calibration cycles, the iTHERM TrustSens also enables an unprecedented level of process transparency. Audit-compliant calibration data is available for complete documentation at all times: A valid calibration certificate can now be produced with a simple mouse click (e.g. with the Endress+Hauser FieldCare software).

The spearhead of a complete portfolio

Led by iTHERM TrustSens, Endress+Hauser is the first manufacturer to offer a complete, globally available range of products for temperature measurement technology, system products and services, specially developed for the hygienic and aseptic requirements of the pharmaceutical, and food & beverage industries. The comprehensive portfolio, consisting of compact, modular and highly precise thermometers, secure data managers and process display units, fulfills even the most demanding requirements in these industries.

For more information on iTHERM TrustSens TM371: <https://eh.digital/2rRQUwm> or watch our TrustSens video to find more detail <http://bit.ly/trustsens>

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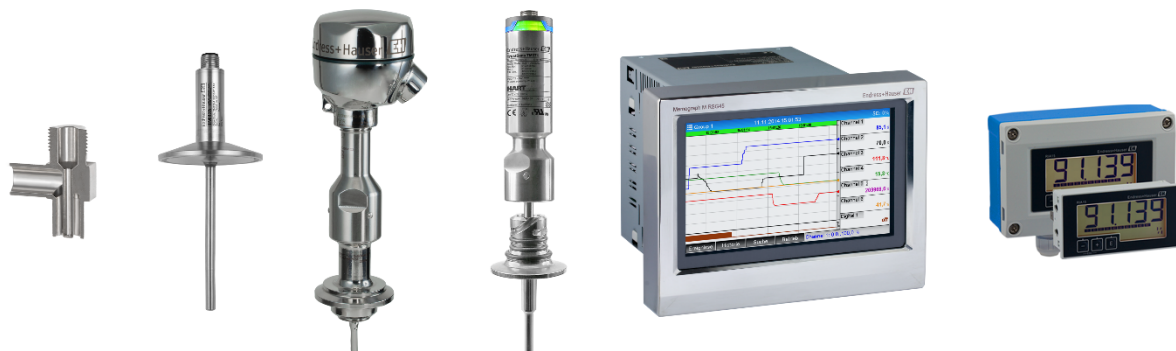
Continued inline self-calibration eliminates the risk of undetected non-conformities: iTHERM TrustSens for hygienic and aseptic applications.



iTHERM TrustSens: continued self-diagnosis with *Heartbeat Technology* and integrated status LED for on-site signaling



iTHERM TrustSens TM371 with iTHERM QuickNeck process connection: Patented connection for simple and tool-free installation.



Next Level Hygienic: The complete industry portfolio for temperature measurement, system products and services by Endress+Hauser for hygienic and aseptic applications.