Temperature and system products from Endress+Hauser

The ideal device for each industry

Endress+Hauser

People for Process Automation

Your industry

Chemical

Water & Wastewater

Food & Beverage

Life Sciences

Oil & Gas

Power & Energy

Mining, Minerals & Metals

Utilities

Competitive and safe

We help you boost your plant's safe performance.

Water is our life

Increase your efficiency and ensure compliance with an experienced and trusted partner.

Trust in quality

We help you to improve quality while reducing operational costs.

The pulse of life sciences

Trust a reliable partner who helps you achieve operational excellence.

Fuel for thought

We reduce complexities to help you perform, comply and thrive in the oil and gas sector.

Power up your plant

Power plants play a vital role. We help maximize uptime while delivering safety and productivity.

Extracting more from less

In a world of lower ore grades, skill gaps and excavation challenges we can help you hit your targets.

Saving energy and costs

We help you to run utilities with air, steam, gas or water as efficiently as possible.

The devices

iTEMP TMT86

RN22

iTHERM CompactLine TM311

iTHERM ModuLine TM411

iTHERM ModuLine TM151

iTEMP TMT82

iTHERM ModuLine TM131

EngyCal RH33

The features

iTEMP TMT86
Ethernet-APL transmitter for hazardous areas

- Installation in field housing for Ex d applications
- System integration with PROFINET
- Temperature measurement with two independent universal inputs (RTD, Ω, TC, mV)
- Beneficial diagnostic functions like corrosion monitoring of the sensor wires

RN22
Active barrier, power supply, analog signal doubler

- Intrinsically safe 24 V_{DC} compact interface module for use in hazardous areas
- Quick and easy wiring with screw or push-in terminals or power supply via power rail T-connector
- Bidirectional HART communication (transparent)

iTHERM CompactLine TM311
Compact, accurate and fast RTD sensor with IO-Link

- Combining highest accuracy with extremely short response times
- With 4 to 20 mA, IO-Link or switch output
- Hygienic design manufactured from high-grade stainless steel
- Optimized thermowells for hygienic applications

iTHERM ModuLine TM411
Innovative modular, hygienic temperature assembly

- iTHERM QuickSens and iTHERM StrongSens — the world´s fastest and most robust inserts
- RTD temperature probe with conformity to hygienic standards
- iTHERM QuickNeck — the divisible neck with quick release for tool-free recalibrations

iTHERM ModuLine TM151
Highly modular and robust RTD or TC thermometer

- Complete with barstock thermowell or to be used with onsite thermowell
- iTHERM TwistWell thermowell in helical design for high-velocity applications
- Wide selection of terminal heads, process connections and thermowells

iTEMP TMT82
Highly accurate, powerful and intelligent transmitter

- Dual channel and SIL compliant for hazardous areas
- The second channel allows a sensor backup function or drift detection
- Diagnostic capabilities and related status information according to NAMUR NE 107

iTHERM ModuLine TM131
The temperature sensor for challenging applications

- More than 60 g shock and vibration resistance
- Long-term stability and reliable measurement values
- Second process barrier with failure indication
- Robust thermometer for heavy duty applications

EngyCal RH33
The perfect BTU meter for liquid energy carriers

- Recording and billing of heat and cold in heating, cooling and combined circuits
- Available with MID custody approval
- Reduce the measurement uncertainty with the optional calibrated and electronically paired temperature sensors
- Recording of consumption history

The devices

iTHERM ModuLine TM131

iTHERM ModuLine TM131

iTHERM ModuLine TM411

iTHERM CompactLine TM311

iTEMP TMT82

iTHERM ModuLine TM131

TAF1x

EngyCal RS33

The features

iTHERM ModuLine TM131
The temperature sensor for demanding applications

- More than 60 g shock and vibration resistance
- Long-term stable and reliable measurement values
- Fast response time for continuous control of the chemical reactions' dynamic

iTHERM ModuLine TM131
Trend-setting, highly modular RTD or TC thermometer

- Long-term stable and reliable measurement values
- Fast response time for continuous control of the chemical reactions' dynamic
- Featuring iTHERM QuickNeck, iTHERM StrongSens, iTHERM QuickSens

iTHERM ModuLine TM411
Innovative modular, hygienic temperature assembly

- Fast sensor response times with iTHERM QuickSens technology
- Available with a digital display for on-site process temperature monitoring
- Up to 75% faster and safer recalibrations with iTHERM QuickNeck

iTHERM CompactLine TM311
Compact, accurate and fast RTD sensor with IO-Link

- Combining highest accuracy with extremely short response times
- With 4 to 20 mA, IO-Link or switch output
- Hygienic design manufactured from high-grade stainless steel
- Optimized thermowells for hygienic applications

iTEMP TMT82
Highly accurate, powerful and intelligent transmitter

- Dual channel and SIL compliant
- The second channel allows a sensor backup function or drift detection
- Diagnostic capabilities and related status information according to NAMUR NE 107
- Strong and corrosion-free push-in terminals

iTHERM ModuLine TM131
The temperature sensor for demanding applications

- More than 60 g shock and vibration resistance
- Long-term stable and reliable measurement values
- Wide selection of terminal heads, process connections and thermowells

TAF1x
Modular high temperature thermometers

- Exclusive materials increase durability
- Long-term stability due to sensor protection with non-porous materials
- Optimized life cycle costs by means of replaceable spare parts
- For ceramic baking ovens, metal processing, steel treatment, cement production etc.

EngyCal RS33
The steam calculator from Endress+Hauser

- Reduce energy costs with transparent consumption metering
- Based on flow, pressure and temperature
- According the IAPWS standard
- Accurate steam calculation and data logging

The devices

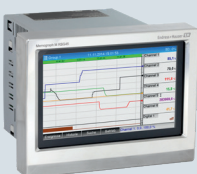**iTEMP TMT162**

RIA15

iTEMP TMT7x

iTEMP TMT82

iTHERM MultiSens Flex TMS01

TAF16

Advanced data managers RSG35, RSG45

Memograph M RSG45

The features

iTEMP TMT162
Highly reliable transmitter in harsh industrial environments
- Dual compartment housing and compact, fully potted electronics
- Backlit display with large measured value, bar-graph and status condition indication
- Diagnostics information and international Ex approvals

RIA15
Loop-powered indicator for 4 to 20 mA or HART signals
- Small voltage drop of < 1V (< 1.9 V with HART)
- Panel-mount housing or field housing as local display
- No external power supply required
- Easy 3-key operation for configuring the device

iTEMP TMT7x
Bluetooth-enabled temperature transmitters
- TMT71: 4 to 20 mA, TMT72: HART 7 communication
- 1-channel transmitters
- SmartBlue app helps with commissioning, configuration and maintenance
- Strong and corrosion-free push-in terminals

iTEMP TMT82
Highly accurate, powerful and intelligent transmitter
- Dual channel and SIL compliant
- The second channel allows a sensor backup function or drift detection
- Diagnostic capabilities and related status information according to NAMUR NE 107
- Strong and corrosion-free push-in terminals

iTHERM MultiSens Flex TMS01
Flexible multipoint assembly for precise 3D temperature profiling
- Available with thermowells or without thermowells
- Infinite layout of sensor routing for any desired process monitoring configuration
- Linear or 3D measurement with up to 46 measuring points

TAF16
Designed for extremely high process temperatures
- Innovative thermowell materials with increased wear and chemical resistance
- Single or double thermocouple insert, metal or ceramic protection tube, optional internal sheath
- Thermocouple sensor types J, K, N, R, S, B

Advanced data managers RSG35, RSG45
Our graphic data recorders
- Save, visualize and monitor process values
- With integrated web server: remote access to device operation and visualization
- Powerful devices for stand alone applications and integration into systems
- Support common fieldbuses (Modbus, Profibus DP, PROFINET, EtherNet/IP)

Memograph M RSG45
Saves, visualizes and analyzes data
- Recording and billing of heat and cold in heating, cooling and combined circuits
- Integrated Web server: remote access to device operation and visualization for lower maintenance costs
- Utilize the additional software packages, like the energy application, to fully customize the device

The devices

RN22

RMA42

Memograph M RSG45

iTHERM TrustSens TM37x

iTEMP TMT142B

RMA42

iTEMP TMT72, TMT82

RIA45

The features

RN22
Active barrier, power supply, analog signal doubler

- Intrinsically safe 24 V_{DC} compact interface module for use in hazardous areas
- For SIL systems up to SIL 2 (SC3)
- Bidirectional HART communication (transparent)
- 0/4 to 20 mA analog signal transmission (NAMUR NE 43) and galvanic isolation

RMA42
Universal transmitter, display, loop power supply, barrier, limit switch

- All-in-one process transmitter with control unit
- 1 or 2 universal inputs, analog outputs and two integrated relays
- Connection of 4 to 20 mA signals, voltage, RTDs and TCs

Memograph M RSG45
Saves, visualizes, analyzes and communicates

- Tamper-proof data storage and personalized access authorization
- Integrated web server for remote access to device operation and visualization
- Available in stainless steel with touch display
- Intuitive operation

iTHERM TrustSens TM37x
World's first self-calibrating compact thermometer

- Reduces the risk of process failures
- Drivess automation in regulated processes
- Offers 100% compliance with automated audit-proof documentation
- Fully automated and fully traceable inline self-calibration

iTEMP TMT142B
Smart, robust and innovative field temperature transmitter

- Single-channel device with HART 7 communication and Bluetooth
- Pressure-encapsulated single-chamber field housing made of robust aluminum or stainless steel
- Can be sheltered with an optional integrated overvoltage protection

RMA42
Universal transmitter, display, loop power supply, barrier, limit switch

- All-in-one process transmitter with control unit
- 1 or 2 universal inputs, analog outputs and two integrated relays
- Connection of 4 to 20 mA signals, voltage, RTDs and TCs

iTEMP TMT72, TMT82
Reliable temperature transmitters for HART signals

- Available as head transmitter, DIN-rail or field transmitter
- With explosion protection approvals
- TMT82: SIL / SC3 optional
- TMT72: with optional Bluetooth connectivity

RIA45
Process meter with a basic control unit

- Add extra safety with integrated limit switches
- User-configurable dot matrix display range for bar graph, units and tag name
- Realize complex applications like a tank level application with the customizable linearization tabel
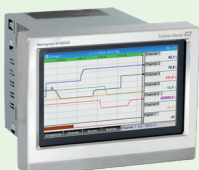- Integrated loop power supply

The devices

iTHERM MultiSens Slim TMS21

Advanced data managers RSG35, RSG45

iTHERM ModuLine

Memograph M RSG45

RN42

RN22

RIA15

RIA15

The features

iTHERM MultiSens Slim TMS21
Intrinsically safe TC multipoint thermometer
- Long temperature profiling with customized measurement points distribution
- Low invasiveness, light weight and high bendability
- High density of measurement points
- Available with or without upper flexible thermowell-hose

Advanced data managers RSG35, RSG45
Energy & application managers for monitoring process values
- RSG45 with specific water wastewater application packages
- With integrated web server: remote access to device operation and visualization
- Powerful devices for stand alone applications and integration into systems

iTHERM ModuLine
Innovative modular, hygienic temperature assemblies
- RTD temperature probes with conformity to hygienic standards
- More than 50 sterile and hygienic process connections as standard
- iTHERM QuickSens and iTHERM StrongSens — the world´s fastest and most robust inserts

Memograph M RSG45
Saves, visualizes, analyzes and communicates
- Tamper-proof data storage and personalized access authorization
- Integrated web server for remote access to device operation and visualization
- Available in stainless steel with touch display
- Intuitive operation

RN42
Active barrier, wide range power supply
- For safe isolation of 4 to 20 mA standard signal circuits
- For SIL systems up to SIL 2 (SC3)
- Quick and easy wiring thanks to plug-in terminals
- Bidirectional transmission of HART communication signals

RN22
Active barrier, power supply, analog signal doubler
- Intrinsically safe 24 V_{DC} compact interface module for use in hazardous areas
- For SIL systems up to SIL 2 (SC3)
- Bidirectional HART communication (transparent)
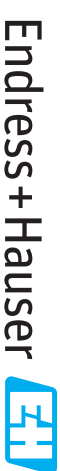- 0/4 to 20 mA analog signal transmission (NAMUR NE 43) and galvanic isolation

RIA15
Loop-powered indicator for 4 to 20 mA or HART signals
- Small voltage drop of < 1V (< 1.9 V with HART)
- Panel-mount housing or field housing as local display
- No external power supply required
- Easy 3-key operation for configuring the device

RIA15
Simple and robust loop-powered indicator
- Benefit from a simple-loop powered installation with a small voltage drop
- Panel-mount housing or field housing as local display
- Displays up to 4 HART values
- Easy 3-key operation for configuring the device

Endress+Hauser

People for Process Automation