

iTHERM ModuLine. Modular by design. Tailored to your needs.

One portfolio of modular thermometers
to cover all industrial applications.



iTHERM ModuLine

Our offering covers the right solution for every application **from basic functionality to high-end performance** with advanced safety features. It is differentiated by **easy selection and configuration, global availability** and short delivery times. Combined with our customer-oriented service and project support ensures lower cost over the entire life cycle.



Portfolio overview thermometers

Our **iTHERM ModuLine family** is the latest generation of modular thermometers for industrial applications. Innovative technologies provide added values and certifications according to international standards complete the offering.

Portfolio description

- Variety of sensor designs - best possible measurement performance for any application
- Thermometers with or without transmitter
- Thermometers with or without display
- Threaded, compression fitted, flanged process connections

Thermowell	Direct contact – without thermowell			Protection tube		Barstock thermowell		
Model	TM101	TM111	TM112	TM121	TM131	TM151	TM152	
Product website								
Design	Metric			Imperial	Metric			Imperial
								
Segment	FLEX	FLEX		FLEX	FLEX			
Communication standards	4-20 mA, HART, IO-Link	4-20 mA, HART, PROFINET over Ethernet-APL, FOUNDATION Fieldbus, IO-Link, PROFIBUS PA		4-20 mA, HART, IO-Link	4-20 mA, HART, PROFINET over Ethernet-APL, FOUNDATION Fieldbus, IO-Link, PROFIBUS PA			
Features	Best price/performance ratio	iTHERM StrongSens iTHERM QuickSens		Best price/performance ratio	iTHERM StrongSens iTHERM QuickSens iTHERM QuickNeck QuickLink Dual Seal Dual compartment housing	iTHERM StrongSens iTHERM QuickSens iTHERM QuickNeck iTHERM TwistWell QuickSleeve Dual Seal Dual compartment housing		
Approvals/certificates	-	ATEX/IECEX Ex ia, Ex nA, Ex ec, Ex tc, Ex ta/tb, Ex db; CSA C/US IS, NI, XP, DIP; INMETRO Ex ia, Ex d; NEPSI Ex ia, Ex d, Ex tD; UK Ex ia, Ex nA ; KC Ex ia, Ex d		-	ATEX/IECEX Ex ia, Ex nA, Ex ec, Ex tc, Ex ta/tb, Ex db; CSA C/US IS, NI, XP, DIP; INMETRO Ex ia, Ex d; NEPSI Ex ia, Ex d, Ex tD; UK Ex ia, Ex nA; SIL 2/SC 3; DNV; KC Ex ia, Ex d			
Temperature range	TC: -40 to +650 °C (-40 to 1202 °F) RTD: -50 to +200 °C (-58 to +392 °F)	TC: -40 to +1100 °C (-40 to +2012 °F) RTD: -200 to +600 °C (-328 to +1112 °F)		TC: -40 to +650 °C (-40 to +1202 °F) RTD: -50 to +200 °C (-58 to +392 °F)	TC: -40 to +1100 °C (-40 to +2012 °F) RTD: -200 to +600 °C (-328 to +1112 °F)			

Portfolio overview thermowells

Combined, our **iTHERM ModuLine thermometers and thermowells** form the perfect unit for industrial applications.

Portfolio description

- Wide range of industrial process connections – e.g. threaded, flanged, weld-in, socket weld, compression fitting...
- Thermowell geometry: straight, tapered, stepped
- Wide choice of materials
- With or without extension neck
- Designs according to DIN 43772, ASME B40.9 or NAMUR NE 170

Type	Barstock thermowell			Protection tube
Model	TT151	TT152	TT511	TT131
Product website				
Design	Metric		Imperial	Metric
				
Segment	F L E X			
Thermowell design	DIN, ASME		ASME	Vanstone
Process connection	Flange, weld-in, threaded, socket weld			Lap-joint flange
Material	316, 316L, 316Ti, 347, 310 Alloys 600, C276, 10CrMo9-10, 13CrMo4-5, 16Mo3 A105, C22.8 Duplex S32205, Titan Gr.2			1.4401, 1.4571
Innovations	iTHERM TwistWell			-
Suitable for	TM151	TM152	TM151	TM131

Stainless steel: 316, 316L, 316Ti, 321, Alloy446
nickel-based materials: AlloyC276, Alloy600, jackets in Tantalum and PTFE

QuickLink
iTHERM QuickNeck

Unmatched simplicity

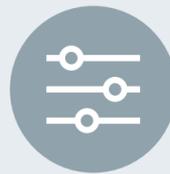
We have successfully streamlined the Endress+Hauser **industrial modular thermometer portfolio** from more than 50 to just **7 product roots** in the iTHERM ModuLine product family.

This consolidation allows for **easy configuration to suit different applications and local requirements**. In addition, we can help you **simplify your inventory and material handling processes**, while ensuring consistent quality - all from a single source.



Global availability

- Sales and support
- Documentation for installation, troubleshooting, maintenance
- Certificates, approvals, tests, calibration options



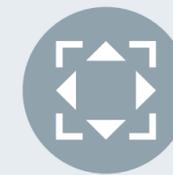
Ease of selection

- Quick and easy configuration
- Reduced number of order codes
- From basic to advanced products
- For standard or demanding applications



iTEMP temperature transmitters

- All common communication protocols
- Optional Bluetooth® connectivity



Wide selection

- Assembly
- Thermowells
- Temperature transmitter
- Sensor designs
- Process connections
- Materials
- Mechanical and sensor innovations



Reduced life cycle costs

- Streamlined stockkeeping
- Simplified material handling processes

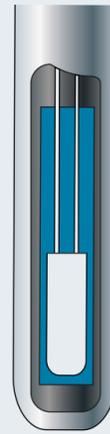
Increased efficiency

Our unique sensor technologies and thermowell designs help **improve process efficiency by enabling faster reactions to temperature changes.**

Whether using barstock / protection tube or direct-contact thermometers, our solutions provide accurate, long-term stable temperature measurements in any application.

QuickLink

Pipe thermowell with patented design to control the process at peak efficiency and performance

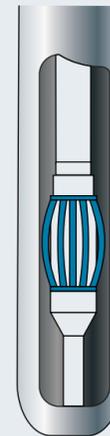


Up to
5x
faster response times

- Optimized thermal coupling between insert and thermowell
- Applicable with replaceable standard inserts Ø 6 mm (0.25 inches)
- For temperatures up to 400 °C (752 °F)

QuickSleeve

Insert for fast response times in combination with barstock thermowells

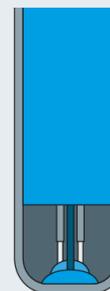


Up to
2x
faster response times

- Bridging the usual airgap between insert & barstock thermowells for optimized thermal coupling
- Suitable for bore Ø 6,5 and 7 mm (0.26 inches)
- For temperatures up to 400 °C (752 °F)

iTHERM QuickSens

Insert for fastest response times



T90 =
1.5s

- Pt100 thinfilm sensor
- Sensor-on-tip technology
- Minimum immersion length can be reduced by > 70% (20-30 mm (0.78-1.18 inches))
- Measuring range from -50 to +200 °C (-58 to 392 °F)

Enhanced safety

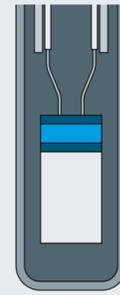
Process conditions in demanding applications require robust solutions to **reduce the risk of unexpected incidents and potential safety issues for plant and personnel.**

Our patented robust sensor / specially designed thermowell prevent sensor damage / thermowell breakage, ensuring long-term durability.

Additionally, a second process barrier can add an extra layer of protection by sealing the system and prevents leakage of hazardous media.

iTHERM StrongSens

Insert with highest vibration resistance

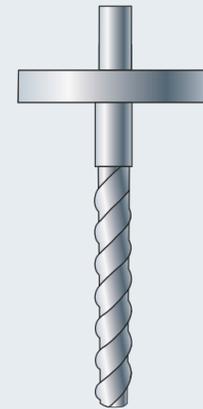


>60g
vibration
resistance

- Highly robust
- Suitable for applications in hazardous areas
- Ceramic-encapsulated Pt100 thinfilm RTD
- Long lifetime and plant availability
- Suitable for e.g. turbines, compressors

iTHERM TwistWell

Barstock thermowell with helix design for high velocity applications

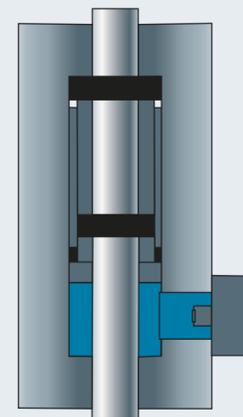


>90%
reduction of
vortex induced
vibrations

- Static loads can be calculated acc. ASME PTC 19.3 TW
- Easy installation for all nozzle sizes starting from 1" / DN25
- Effectiveness of the design verified by an independent 3rd party agency

Dual Seal

Pressure-triggered safety valve for critical applications



100%
leakage
detection

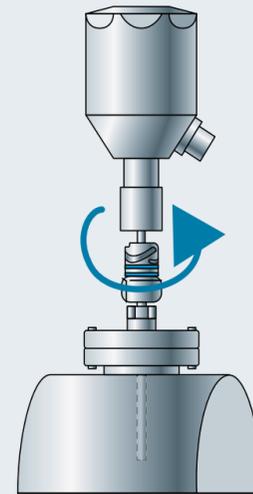
- Second process barrier for the case of thermowell failure / rupture
- Health monitoring & signal to PLC in case of activation
- Additional health information from measurement device
- Immediate sealing for containment of hazardous media

Effortless handling

Our patented iTHERM QuickNeck **boosts productivity by minimizing maintenance downtime.** It streamlines manual temperature sensor recalibration, offering a fast, tool-free solution that enhances efficiency and reduces risks.

iTHERM QuickNeck

Divisible extension neck with tool-free quick release



More than
50%
cost + time
savings

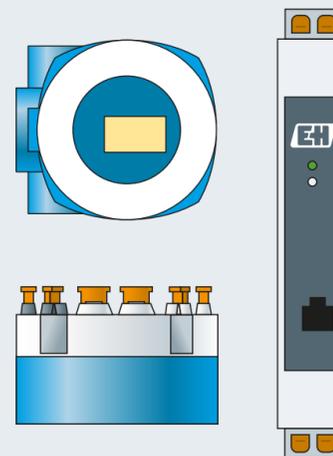
- Removal of insert without any tools
- Terminal head can remain closed, connection cables remain connected
- No risk of water ingress, mechanical damage or wiring errors

Perfect fit

Whatever the industry or application, iTEMP temperature transmitters **fit perfectly into iTHERM ModuLine thermometers.** Unique features and worldwide approvals allow for optimal selection according to the existing or desired system environment.

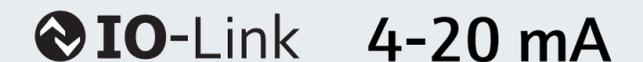
iTEMP temperature transmitter

The perfect solution for your measuring point



10
transmitters to
cover all needs

- All common communication protocols
- Optional Bluetooth® technology
- Plug-in display unit (TID10) for head transmitters
- Housing types: head transmitter, field transmitter or DIN rail
- Advanced diagnostics
 - Sensor break, open-circuit, short-cut detection
 - Corrosion monitoring
 - Sensor drift detection
 - Sensor back up function



Industry focus

Our iTHERM ModuLine portfolio of **basic and advanced modular temperature assemblies** is designed for customers in the **chemical, oil & gas and power & energy industries** where applications require reliable temperature measurements that are accurate, stable and offer valuable additional information with the goal to improve process control, increase uptime and plant safety.



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Related offering

System products and data managers to complete your measuring point.

Temperature measurement involves far more than just recording values. Thermometers must be powered and protected against overvoltage. Measurement data needs to be visualized or processed, limit values monitored and all data securely archived to prevent tampering.



False measuring values due to signal interference?

Our RN series conditions your measurement signals reliably.



Measuring device out of reach?

Our process indicators display your process values directly on site.



Small automation tasks required?

Our process indicators with control unit can solve it.



Audit upcoming?

Our data managers document seamlessly and tamper-proof.



Concerned about lightning strikes and power surges?

Our surge protective devices protect your equipment.



Want to reduce energy consumption and operate sustainably?

Our energy and application managers measure precisely.



Thermometer portfolio

Our expansive portfolio offers globally available, standardized thermometers for industrial and hygienic applications across all industries.

As a full-range supplier for temperature measurement, we unite all competencies under one roof – from sensors and electronics to complete assemblies and customized solutions.

Thermometer portfolio

- Compact and modular thermometers for industrial or hygienic applications across all industries
- Expansive, globally available portfolio offers of standardized thermometers, or customized solutions
- Temperature switches, high temperature thermometers, surface thermometers, cable probes and multipoint thermometers



iTHERM SurfaceLine TM611

- Non-invasive surface thermometer for demanding applications
- No process opening required, no leakage risk
- Measurement accuracy and response time comparable with invasive measurements
- International approvals and certificates
- All common communication protocols



People for Process Automation



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