



Are you getting the full picture?

Whether it's level, pressure, flow, temperature or analysis, Endress+Hauser has the instrument for your application



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Whatever you need to measure: level, pressure, flow, temperature or liquid analysis, we have the instrument to do the job. And all under one roof!

Whether it's precision, robustness, hygiene or efficiency, every industry has its specific requirements. Technical specifications and standards must be met and, where appropriate, compliance proven by documents and certification. Nobody is more aware of this than you and that's why you need advisors who know your business and the marketplace. People who speak your language – the People for Process Automation.



A pressure transmitter for every application

Endress+Hauser's pressure sensor range has been designed to offer outstanding performance across the process industries



Cerabar T: the economic solution

The Cerabar T transmitter is designed for straightforward applications. With a fixed span, there's no need for calibration and installation is simple via either threaded or flush-mounted process connections. Surprisingly versatile, Cerabar can be used in both safe and hazardous areas and you can choose from either a ceramic sensor (up to 40 bar) or a metallic sensor (up to 400 bar).



Cerabar M: versatile with a wide range of process connections

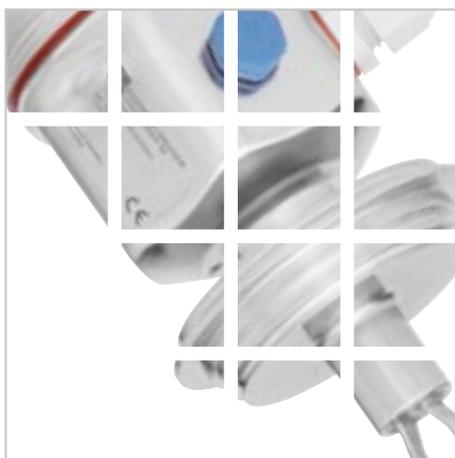
This overload-resistant pressure transmitter measures the gauge and absolute pressure of gas, vapour, liquid and dust, even in hazardous areas. It's also popular in the food and life science industries conforming to 3-A, FDA and EHEDG approvals, with HART, PROFIBUS and FOUNDATION Fieldbus outputs.



Cerabar S: for precision and long-term stability

Used in a wide variety of processes and industries, Cerabar S really comes into its own in traditionally more difficult applications. It meets the latest trends in legislation and directives such as ATEX and NACE, and is SIL compliant to IEC61508/61511.

All Cerabar transmitters are available with either metallic or ceramic sensors. Endress+Hauser Ceraphire sensors are manufactured in our own 300m² cleanroom and boast 99.9% purity for extreme robustness and corrosion resistance. No other manufacturer produces ceramic sensors of such high purity.



The level switch for every budget

The Liquiphant range covers all liquid level switch applications



The vibronics principle has a proven track record in level limit detection. Coupled with Endress+Hauser's experience and know-how, Liquiphant is the reliable and cost-effective solution for overspill protection, high/low level alarms and pump protection in a wide range of applications across the process industries.

Liquiphant T

Straightforward applications have a straightforward solution: the Liquiphant T vibrating level switch. Perfect for use in a variety of process applications up to 150°C, Liquiphant T offers compact construction, making it ideal for use in difficult-to-access measuring points. Cost-effective and maintenance-free, it is the ideal choice for OEM applications.

Liquiphant M

Maintenance-free and particularly suitable as a direct replacement for float switches, Liquiphant M provides high or low level alarms in a wide range of processes. Its small construction makes it ideal for applications where space is at a premium and it can be mounted in any position for maximum versatility.

It is equally at home in the food and pharmaceutical industries, capable of meeting all legislative requirements including 3-A, EHEDG, FDA and ASME BPE, and will fit seamlessly into your processes. It is also ideal for the chemical and petrochemical industries with ATEX EEx ia and EEx d conformity as standard. Compliant to IEC 61508 and returning figures that typically fall within the SIL2/3 rating, it's the perfect choice for inclusion as part of Safety Instrumented Systems.

Liquiphant S

The Liquiphant S range with duplex stainless steel construction offers both a low thermal expansion rate and high yield strength, making it the ideal choice for high temperature applications. It maintains reliable measurement up to 280°C and 64 bar and, unlike gap switches, is insensitive to build-up and gas bubbles.

Endress+Hauser invented the vibronic principle and Liquiphant continues to be a market leader with close to 3 million units installed! With a patented piezo drive, it offers improved immunity to flow, turbulence, air bubbles or build-up.

Level

The most comprehensive range of level measurement techniques available



	Vibronic	Conductive	Capacitance	Float switch	Ultrasonic	Radiometric	Level radar	Guided radar	Hydrostatic	Paddle switch	Microwave barrier	Electro-mechanical level measurement
Liquid continuous												
Liquid limit												
Solid continuous												
Solid limit												
Interface liquids												
Interface solids												



Flow: the widest sensor range

With world-class production and calibration



Endress+Hauser's comprehensive mass flow portfolio makes us the market leader, covering a wide range of applications in liquid, gas and steam measurement. Our Promass Coriolis mass flowmeter not only measures mass and volume flow, but also provides density, temperature, concentration and viscosity measurement offering amazing value for money! Twin-tube, single-tube, straight-tube or curved – we have the ideal sensor for your application. Accurate and reliable, Promass delivers maximum performance, even in demanding applications.

Promass A is designed for low flow rates and dosing applications. With flowrates from as little as 100g/hr, Promass A provides accurate measurement with tube diameters from 1 - 4mm.

Promass E offers an economic alternative to traditional mechanical flowmeters. Its compact design and high turndown ensure maximum performance in many applications. Line sizes 8 – 80mm.

Promass F for premium performance in a wide range of applications. With line sizes from 8 – 250mm, temperature ranges - 50°C to +350°C, ATEX and hygienic approvals, it meets all your application requirements.

Promass I straight-tube sensor offers the widest range of process variables from a Coriolis flowmeter: mass flow, volume flow, density, temperature and patented inline viscosity measurement. Ideally suited to difficult and sensitive liquids, offering low pressure loss with excellent performance. Line sizes 8 – 80mm.

Promass P and S Coriolis flowmeters are ideally suited for hygienic applications in the life science and food & beverage sectors. Single tube design from 8 – 50mm.

As inventors of the first 2-wire straight-tube Coriolis meter, Endress+Hauser continues to push the boundaries. In the UK we are the only manufacturer to offer such a large range of designs with 10 sensors to cover all applications.

	Coriolis	Electromagnetic	Ultrasonic	Vortex	Thermal
Liquid applications					
Liquids in general (e.g. water)	✓	✓	✓	✓	!
Very high flowrates (> 100,000m ³ /h)	✗	✓	✓	✗	✗
Non-conductive liquids	✓	✗	✓	✓	!
Viscous liquids (> 50 Cp)	✓	✓	!	!	!
Food and beverages (e.g. milk, beer)	✓	✓	✓	✗	!
Gas/steam applications					
Gas flow in general (e.g. air flow)	✓	✗	✗	✓	✓
Low flowrates (<20 l/min)	✓	✗	✗	✗	✓
Steam	!	✗	✗	✓	✗
Special applications					
Slurries, suspended solids	!	✓	✗	!	✗
Liquid/liquid mixtures (oil/water)	✓	!	!	✓	✗
Liquid/gas mixtures (water/air)	!	✗	✗	!	✗
Corrosive liquids (acids, alkalis)	✓	✓	✓	✓	✗
Bidirectional metering (forward/reverse)	✓	✓	✓	✗	✗
Measurement from outside without process interruption	✗	✗	✓	✗	✗
Ranges of application					
Nominal diameters	DN 1 to 250	DN 2 to 2000	DN 15 to 4000	DN 15 to 300	DN 15 to 1500
Process pressure	max. 350 bar (400 bar)	max. 40 bar	Depending on sensor type	max. 250 bar	max. 40 bar
Process temperature	-50 to +350°C	-40 to +180°C	-40 to +170°C	-200 to +400°C	-40 to +130°C

✓ 
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 ✗ 



Analytical measurement: a digital revolution

Memosens digital sensors enable important process data to be saved directly in the sensor



The inductive two-way data transfer between sensor and transmitter guarantees interference-free measurement and a dramatic simplification of process technology. The inductive plug-in head offers complete galvanic isolation and eliminates issues such as moisture ingress, leakages and corrosion. Memosens sensors can be pre-calibrated and quickly replaced at the measuring point, eliminating the problem of hazardous or difficult to access locations. Sensors in harsh applications can be interchanged, then regenerated under laboratory conditions, resulting in a dramatic increase in sensor lifetime. Calibration and maintenance time is also considerably reduced - all achieving significant cost savings.

CM44 – a common platform

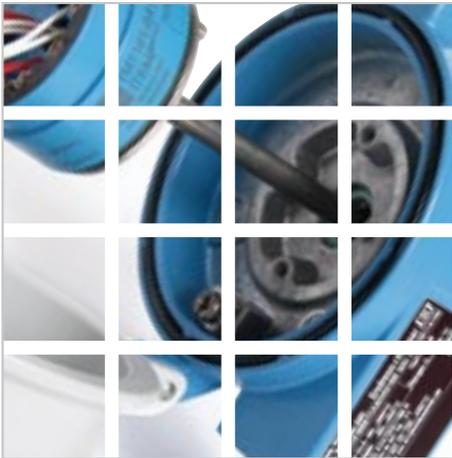
The new Liquiline digital platform offers simple, intuitive functionality, with both transmitter and samplers sharing the same CM44 interface. Whether standalone transmitter or one of the new sampler range for a complete sampling and measuring station, the common menu structure ensures simple commissioning and ease of operation. Furthermore, the Memosens technology has been expanded to include a new range of digital fixed cable sensors with Memosens protocol. These high energy sensors, including optical dissolved oxygen, turbidity and nitrate offer the same advanced functionality and Memosens diagnostics. Better still, the Memocheck qualification tools verify data transmission independently of the sensor, for optimum process safety.

Memosens digital pH sensors set new standards in accuracy and reliability, putting an end to moisture problems and giving trouble-free measurement, with predictive maintenance and extended sensor life.

Analysis

The Memosens range has been developed to include all key analytical parameters.





Endress+Hauser: experts in temperature

Endress+Hauser offers a complete range of temperature sensing devices for any application across all industries



Endress+Hauser offers a complete range of temperature sensing devices for any application across all industries. We design and manufacture every component in the thermometer system from basic RTD element, sensing insert, housing, thermowell and electronic interface. Our temperature product basket ranges from simple small diameter thermocouples and modular

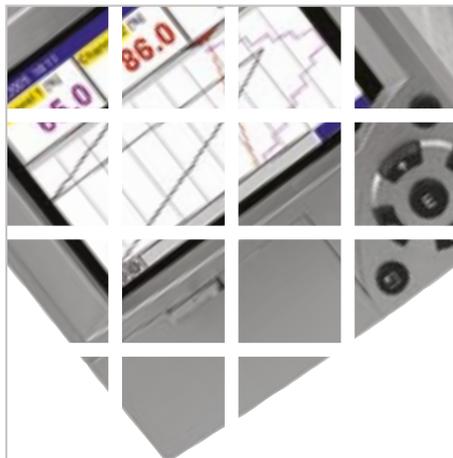
thermometer assemblies through to specialist multipoint sensors.

Endress+Hauser's Common Equipment Record offers full access to all device specific information including calibration & material certificates, test reports and detailed spare parts lists.



To request your free copy of the Temperature Products and Accessories brochure call 0161 286 5000

Our production centres manufacture around 6,500 temperature assemblies and transmitters every week, to supply Endress+Hauser customers around the globe.



Safe and simple data manipulation

Endress+Hauser data managers offer a state-of-the-art paperless recording system



System
Components

Endress+Hauser's data managers offer a technological and economical alternative to paper chart recorders. Used to record temperature, flow, level and pressure values, they are easy to read, with flexible graphics, allowing data to be imported into Excel spreadsheets.

A real advantage is its ability to store historical data on a hard disk, therefore eliminating the need for storing boxes of paper charts. And due to extensive self-monitoring functions, power failure secure memory and manipulation monitored archiving; the device guarantees secure process data in all industrial areas.

Endress+Hauser has led the industry in the development of system components such as controllers, digital communications, displays, power supplies, barriers, samplers, recorders and isolators. We offer a comprehensive range of hardware and software solutions that enable measuring devices to be quickly and economically integrated into process automation systems.



Endress+Hauser Services

Commissioning, Calibration and Maintenance Contracts

Commissioning

Our customers choose Endress+Hauser for commissioning services for the same reason they specify our technology: they're assured of a top quality, cost-efficient solution. With demands on engineering and maintenance personnel higher than ever, deploying Endress+Hauser service engineers is an excellent use of resources. We're experts in delivering a thorough job in the minimum possible time.

Our team performs a complete installation check to ensure optimum performance from the start, with application reassessment to define settings and confirm device selection. We'll also produce a report of future maintenance requirements to keep your plant running at optimum.

Calibration

Product quality, health & safety and custody transfer are all important drivers for making sure that your instruments are regularly calibrated. But how regular is regular? No two situations are the same, and the balancing act is a delicate one - reducing the risk of instrument failure or drift, against the cost of calibration itself. Endress+Hauser provides expert guidance, factoring in considerations such as the technology involved, the application, the installation environment and the legislative demands surrounding the measurement. Drawing on years of experience in different industries and environments, we can help advise you on the most cost-efficient calibration intervals for your instruments.

If sending your instrument for calibration is a problem, we've got that covered too! With a fleet of mobile calibration rigs, we're able to visit you on site to perform calibration so you don't have to take the instrument away from site and in many cases, even out of the process. Mobile calibration can be performed either in-situ or offline, dramatically reducing turnaround and downtime.

Maintenance Contracts

In addition to a wealth of leading-edge products, devices and spares, Endress+Hauser takes pride in offering complete customer support. This includes comprehensive maintenance agreements for discounted spare parts and reduced service rates, including workshop repairs and site visits.

Cutting corners on maintenance is clearly a recipe for disaster: 'economies' now can turn into expensive and disruptive downtime later. Equally, excessive maintenance is wasteful and unnecessary. We help our customers strike a careful balance: within the scope of our contracts we cover a wide range of activities from simple instrument check-ups to calibration of quality-critical equipment. Drawing on our experience, we'll help you decide the best way forward.

Contract holders can also count on us in an emergency. We offer a 24-hour helpline providing technical advice and support in the event of a breakdown.

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People for Process Automation