Unlock simple liquid analysis

with our proven Memosens technology

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Endress+Hauser

Memosens technology

Memosens technology digitizes the measuring signal directly in the sensor and transmits it with 100% reliability via an inductive connection. Memosens helps you get the most out of your measured values, exceptionally reliable, user-friendly and practical.

- Reduced process downtime thanks to plug-and-play system with pre-calibrated sensors
- More accurate measured values as calibration takes place under optimum conditions in the laboratory
- Sensor regeneration increases sensor lifetime by up to 30%
- All relevant information about your measuring point at hand using one of our various apps
- Increased flexibility when configuring measuring points even in hazardous areas

▶ Take a look at the product video

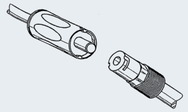
Visit the technology website

Download the full case study

Over 20 years of Memosens

Since the invention of Memosens in 2004, the technology has evolved from revolutionizing pH measurement to becoming a global standard for liquid analysis. Over the years, new parameters like oxygen, conductivity and chlorine were added. Strategic partnerships strengthened its position, and Liquiline transmitters introduced true plug-and-play and multiparameter capabilities. Today, Memosens and the Liquiline platform offer a modular, compatible and intuitive system that covers all measurement requirements in liquid analysis.

2004 The pH revolution begins



Memosens is invented and patented. Non-contact, digital signal transmission revolutionizes pH measurement.

2008 More than pH

New parameters are unlocked. Oxygen, conductivity and free chlorine supplement the portfolio.

2009 Stronger together

Cooperation with competitors. Memosens becomes a de-facto standard thanks to strategic partnerships.

2010 Hot plug-and-play is becoming reality

Liquiline CM44 is launched. The multi-parameter and multi-channel transmitter connects to all Memosens sensors.

2014 Memosens becomes part of colorimetric analyzers

Liquiline System is launched. The new analyzer generation enables the connection of Memosens sensors.

2021 Memosens 2.0 takes off

Simple, safe, connected. Future-proof thanks to larger memory, IIoT capabilities and seamless integration into exisiting systems.

2025 More than 20 years of Memosens

Market leader & all-rounder. All parameters available, globally established, ready for the future.

Endress+Hauser

People for Process Automation

Benefits at a glance

Memosens technology offers bidirectional digital data transmission with a wide range of sensors, enabling flexible use across multiple liquid analysis applications. It ensures reliable signal transmission, easy handling, and supports predictive maintenance for efficient process control.

- Simple
- Safe
- Comprehensive portfolio
- Cost-efficient
- Future-oriented

Comprehensive portfolio

Memosens sensors support all key parameters of liquid analysis. This enables consistent measurement quality and simplifies handling across different applications.

Simple

Sensors are easy to connect, automatically recognized, and pre-calibrated in the lab. This reduces effort in the field and saves time during maintenance.

Safe

Memosens ensures stable signal transmission, even in challenging environments. The digital connection minimizes interference and improves measurement reliability.

Cost-efficient

Pre-calibrated Memosens sensors can be quickly exchanged on-site. This reduces downtime and lowers maintenance and operating costs.

Future-oriented

Memosens records load data like temperature and operating hours. This enables timely, condition-based maintenance and supports IIoT integration for remote monitoring.

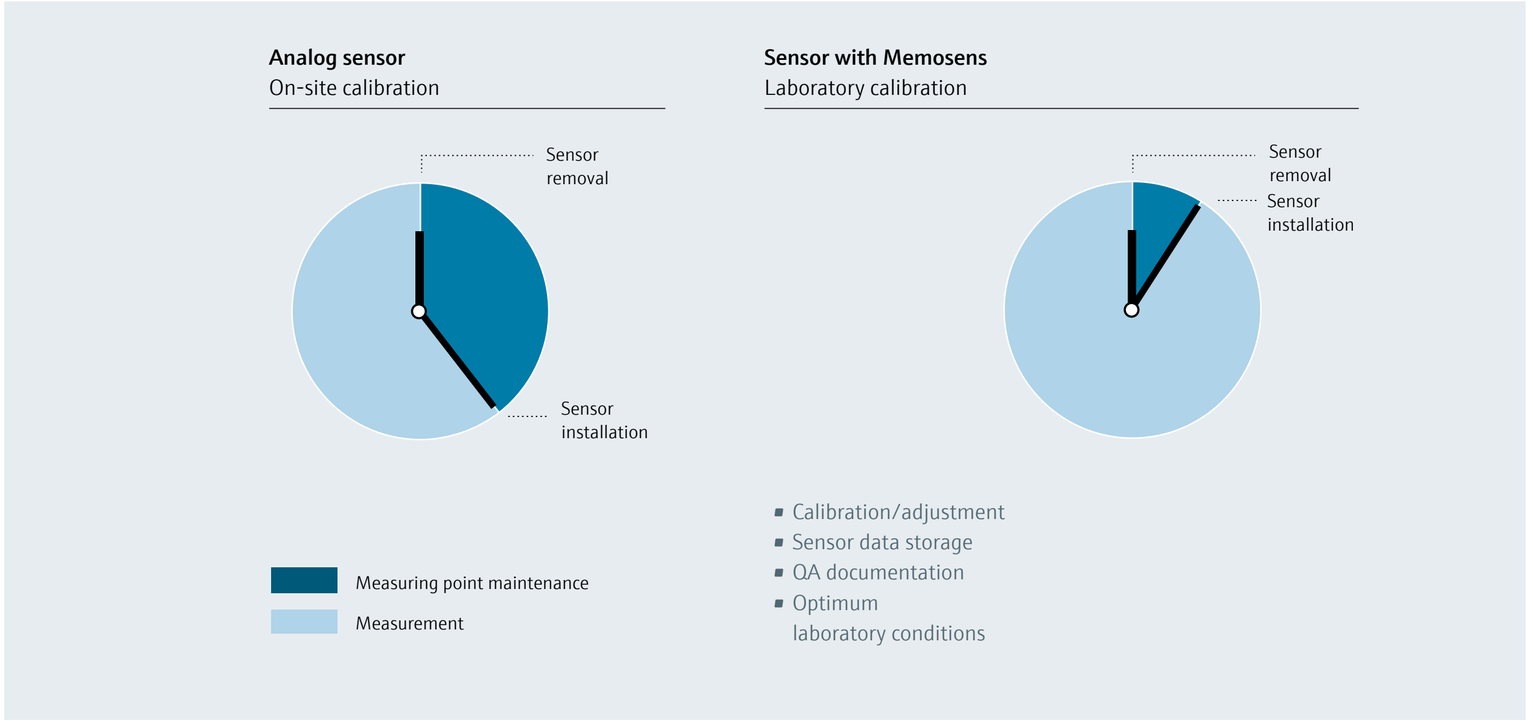
Simple

Simplify your daily work

It starts with the easy-to-use bayonet lock that allows quick and secure sensor connection without twisting cables.
Once connected, the measuring system automatically recognizes and identifies the sensor, enabling true plug-and-play. Each Memosens sensor stores sensor- and process-specific data directly in its head and transmits it digitally to the transmitter. This makes handling in the field easier than ever.

On-site calibration is no longer necessary. Instead of bringing cleaning and calibration equipment to the measuring point, personnel can simply exchange the sensor with a pre-calibrated one. Thus, calibration is performed under optimal conditions in the laboratory, improving both precision and convenience for your analytical experts. Even during night shifts or weekends, plant operators can easily exchange sensors without needing to contact a specialist. This independence speeds up maintenance and reduces downtime.

▶ Simplicity in action



„I used to carry all my cleaning stuff around just to calibrate one pH sensor. Now I can calibrate the sensor inside the laboratory.“

Hassan Maati B AlHarbi, Analyzer Supervisor, Saudi Kayan – SABIC, Saudi Arabia

Safe

Improve your measurement reliability

Memosens technology delivers the reliability you expect. The measured value is digitized directly in the sensor and transmitted to the transmitter via an inductive, non-contact connection. This makes measurements resistant to moisture, corrosion and salt bridges. Sensors can even be plugged in under water. Galvanic isolation eliminates interference signals. If the signal is interrupted, the transmitter immediately shows an error message, increasing reliability and availability at the measuring point.

Memosens sensors meet all requirements for hazardous areas, ensuring safety for plant operators. Quick sensor exchange on-site means personnel are only briefly exposed to harsh weather, toxic environments, hot zones or elevated positions.

Whether you need a compact device, a panel-mounted solution or a multiparameter field transmitter, Ex-approved options are available and fully compatible with Memosens sensors. Planning becomes easier, installation faster and compliance guaranteed.

▶ Safety in action

Comprehensive portfolio

Digitize liquid analysis for all key parameters

Memosens sensors cover all key parameters of liquid analysis, including pH, ORP, dissolved oxygen, conductivity, and disinfection. Fixed-cable sensors extend the portfolio to turbidity, nitrate, SAC, and more. All sensors store process-relevant data in the sensor head and transmit it digitally to the transmitter, ensuring consistent measurement quality and seamless integration. The unified Memosens platform simplifies handling across applications and enables plug-and-play sensor exchange, reducing maintenance effort and improving process reliability.

▶ **Comprehensive portfolio in action**

Cost-efficient

Make smart use of your resources

Memosens technology helps reduce operating costs across multiple areas. Pre-calibrated sensors can be quickly exchanged in the field, minimizing downtime and increasing process yield. Regeneration of the sensors in the lab extends sensor lifetime by up to 30%, lowering maintenance and replacement costs.
Since no 24/7 availability of PAT experts is required, personnel expenses are reduced. Additionally, tighter process control enabled by precise calibration leads to savings on chemicals.

▶ **Cost-efficiency in action**

„With Endress+Hauser's Memosens technology our maintenance efforts for calibrating the pH loops have been reduced drastically: we were able to decrease the time needed from 2,200 to 240 hours per year."

Reijo Mämmioja, Senior Instrumentation Engineer - Agnico Eagle, Finland

Future-oriented

Prepare your processes for tomorrow

Memosens sensors enable maintenance strategies on the next level. They store extensive sensor, calibration and load data such as temperatures, operating hours, extreme measured values, and CIP/SIP cycles.
In combination with Heartbeat Technology, additional diagnostic information becomes available, including device health, connection checks and power supply monitoring. All data can be transferred to your process control system, for example via Ethernet IP, and used to optimize maintenance planning.

Memosens is ready for IIoT which is especially useful in water monitoring, where measuring points are often remote. Sensor data can be sent to the Netilion ecosystem and enriched with GPS coordinates. Netilion visualizes measurement and location data in clear dashboards and sends alerts when limits are exceeded, allowing fast response. Cloud connectivity is easily established via the Liquiline Edge Module, available as an option or retrofit for the Liquiline transmitter platform.

▶ **Future orientation in action**

Compatible offering

Liquiline platform

This platform offers the appropriate transmitter whatever the measurement requirements; whether a field device, top-hat rail or ultracompact version. This simplifies the engineering process and makes it faster. All Liquiline transmitters operate on the digital Memosens protocol and use the same calculation technology and menu guidance. This harmonizes and simplifies the handling of your measuring points and reduces operating errors.

Transmitters, analyzers and samplers in the Memosens family

- 2-wire transmitter Liquiline CM42B
- 4-wire multiparameter transmitter Liquiline CM44x for up to 8 sensors as a field device or DIN-rail device
- 4-wire transmitter Liquiline CM14 for pH/ORP, conductivity or dissolved oxygen as a panel-mounted device
- Compact transmitter Liquiline Compact CM82/72
- Stationary sampler Liquistation CSF48
- Portable sampler Liquiport 2010 CSP44
- Colorimetric analyzers Liquiline System CA80

Compatible offering

All instruments that simplify your measuring task

Liquiline Mobile CML18

Mobile handheld device for pH/ORP, conductivity and oxygen measurement

- Easy operation: capture your measured values with your existing tablets and smartphones
- Full consistency between process, laboratory and grab sample measurement
- Flexible use wherever it is needed, from the laboratory to the process

Memobase Pro CZL81

Node-locked licensed software for single station use

- Enabling the digitalization of the entire lifecycle of Memosens sensors
- Outstanding sample and calibration management software for Memosens sensors
- Smart buffer management and multipoint calibration for high-precision results

Memocheck Sim CYP03D

All-round checker for Memosens measuring points

- Fast function checks for efficient setup and troubleshooting
- Certified for use in controlled and hazardous environments
- Multi-parameter support in one single testing tool

Unlock simple liquid analysis

with our proven Memosens technology

Digital signal transmission, plug-and-play sensors, and app-based access reduce downtime, improve accuracy, and extend sensor lifetime. Memosens records load data for condition-based maintenance and is ready for IIoT. Simple, future-oriented, and built for reliable performance.

Get further insights

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