



## Memosens

Make the most of your process with better analysis quality and lower operating costs





# The digital revolution in the world of process analysis

Memosens is more than just a digital protocol or an inductive plug-in head. It is the ideal solution for safety and operating comfort in analytical measuring technology – something users and producers have been striving for generations.

Memosens provides numerous benefits for both plant managers and operators:

- Regeneration of the sensors results in up to 30% longer sensor lifetime
- Reduction in process downtime as sensors are pre-calibrated in the lab
- More accurate process management thanks to sensor maintenance planning
  - no bad surprises
- Predictive maintenance as an integrated part of the sensor technology, resulting in improved asset management



## The Memosens technology: Intelligent, safe, innovative

Memosens undoubtedly sets standards in process analytics. It is not only much more reliable than old, analog sensor technology but also more user-friendly and convenient. Crowned by high cost savings potential, there really is no reasonable argument anymore to stick with analog instruments.

**Setting standards in reliability** Memosens technology has revolutionized the safety of data transmission. The measuring signal is digitalized in the sensor and transferred to the transmitter inductively via a non-contact connection. This makes the measurement completely resistant to environmental influences such as moisture, corrosion and salt bridges. It also guarantees galvanic isolation of sensor and transmitter thus eliminating interferences. The digital measured value transmission automatically results in an error message if the signal flow is interrupted, dramatically increasing the reliability and availability of the measuring point.

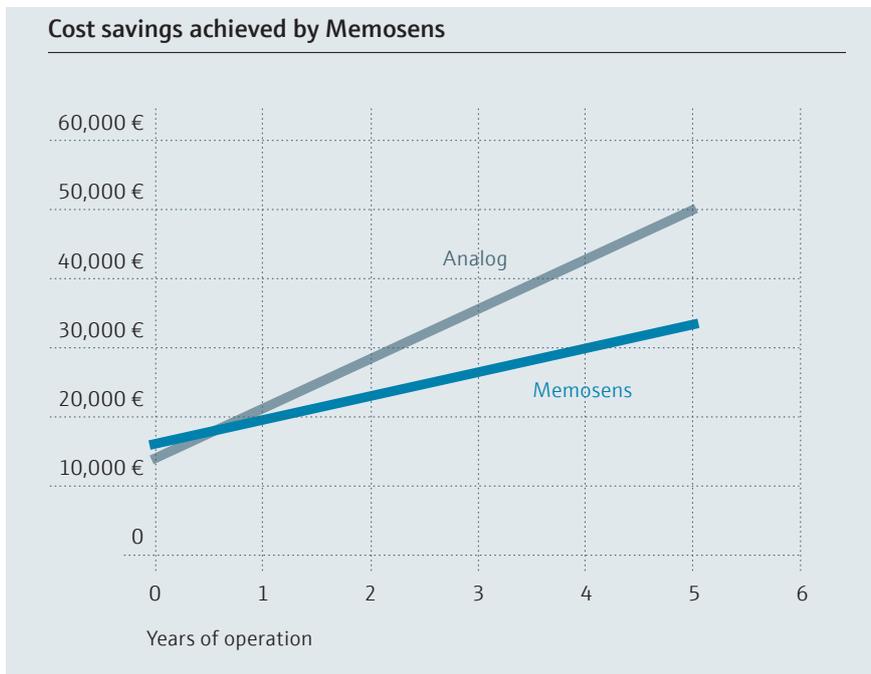


A small selection of Memosens sensors. Parameters available are pH/ORP, conductivity, oxygen and disinfection.

**Setting standards in user-friendliness** User-friendliness starts with the bayonet lock of the plug-in head that can be easily opened and closed without twisting the cable. It continues with real plug&play: Every Memosens sensor is automatically recognized and identified. Sensor and process-specific data are stored directly in the sensor head. Personnel no longer need to worry if they have everything they need for calibration when they are out in the field – they simply take a pre-calibrated sensor and exchange it on-site. Calibration is done in the comfort of the laboratory where harsh weather conditions and difficult access to measuring points don't cause complications – safety combined with highest calibration quality.



Calibrate your sensors with Memobase Plus in the controllable and comfortable environment of your laboratory.



*"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, about Memosens

Development of total cost of ownership over 5 years of 10 new measuring points with 10 calibrations per month

**Setting standards in maintenance strategies and cost of ownership** Here again, the storage of sensor and process-specific data plays a decisive role. Customers can use these data for a maintenance strategy that considers all relevant measuring point data. Preventive maintenance helps to increase the service life of the sensors. By exchanging, cleaning and regenerating them regularly, they can live up to 30% longer - even under harsh conditions. If customers want to analyze and optimize their measuring points even further, they can supplement their Memosens systems with the Memobase Plus software, which records all sensor and measuring point data. Whilst prolonged service life is one cost saving factor, reduced maintenance time is another very important factor as employees are no longer out in the field performing sensor calibrations.

**Setting standards with partners** Our Memosens technology has also convinced other suppliers, such as Knick, Hamilton Bonaduz and SI Analytics. We share our knowledge with them to develop a joint platform for inductive, non-contact connection systems for the benefit of all users. Your second source is guaranteed.



The Memosens cooperation:

[www.memosens.org](http://www.memosens.org)

# Memosens is carried in a large product environment

A powerful technology needs space to be effective. Memosens extends over large parts of the Endress+Hauser portfolio being the most comprehensive and integrated technology in Liquid Analysis.



**Liquiline platform** All the 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 in the Memosens family

- 2-wire transmitter Liquiline M CM42
- 4-wire multiparameter controller Liquiline CM44x for up to 8 sensors
- 4-wire transmitter Liquiline CM14 for pH/ORP, conductivity or dissolved oxygen
- Stationary sampler Liquistation CSF48
- Portable sampler Liquiport 2010 CSP44
- Colorimetric analyzers Liquiline System CA80

Memosens sensors can be connected to the whole range of Liquiline transmitters, Liquiline System analyzers and Liquistation and Liquiport samplers.



**Check your Memosens measuring point** In case of drifting measured values, Memocheck finds out if other factors than the sensor are the cause, such as cable and coupling, connection to the process control system or transmitter. With the Memocheck Sim handheld you can define the values freely and simulate all sensors speaking Memosens protocol. Memocheck and Memocheck Plus simulate Memosens sensors with defined measured values of pH/ORP, oxygen, conductivity or chlorine and a measurement error. These tools allow you to check your measuring point fast and directly on-site. Validation and troubleshooting made easy.

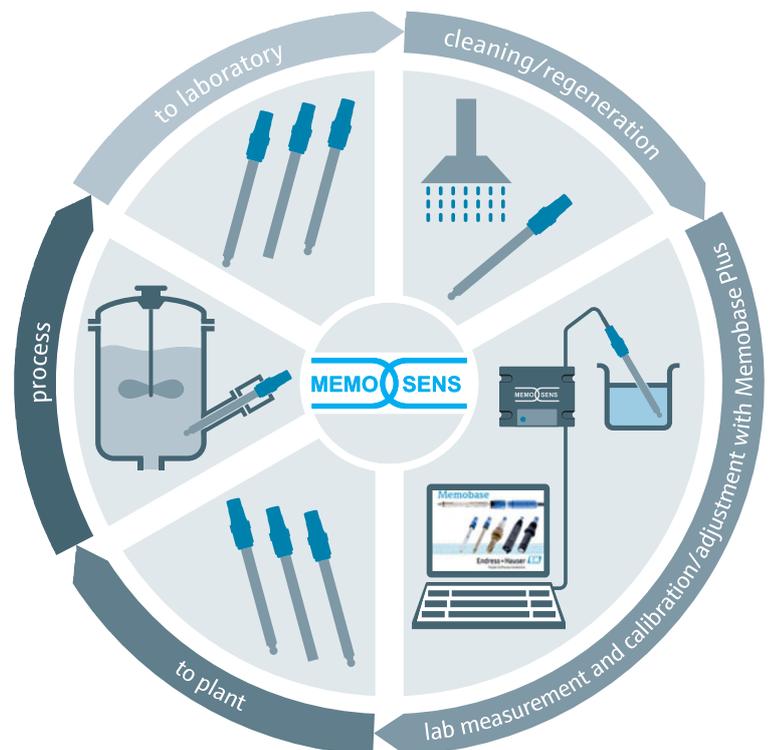
Service Tools for the Memosens measuring point: Memocheck Plus and Memocheck Sim



With Memobase Plus you can calibrate every Memosens sensor and keep track of your process analysis history.

**Measure, calibrate and document with Memobase Plus** Memobase Plus is the all-in-one sensor management tool. With the software, you can not only calibrate the sensor and read out sensor data but also generate reports on sensor history and status: measurement data, calibration data and sensor lifecycle are visible at a glance. Your process becomes crystal clear – Memobase Plus takes traceability to a new level.

- Time-saving with up to 4 sensors in parallel
- Flexibly mix and match sensors with Memosens technology
- Calibration under optimum conditions
- Improved quality management thanks to full traceability of sensors and reference solutions
- All available data for predictive maintenance
- Measurement technology identical to field transmitters for better comparability



The sensor calibration cycle with Memobase Plus

**Get the information you need, where you need it**

Liquiline To Go multiparameter handhelds are based on Memosens technology to measure pH/ORP, conductivity and oxygen with 100% signal integrity. They are suitable for quick process checks directly in your plant. With Liquiline To Go handhelds you can use the same robust Memosens sensors for grab sample measurement that you use in your process. This guarantees full data consistency between your measurements.



[www.addresses.endress.com](http://www.addresses.endress.com)

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