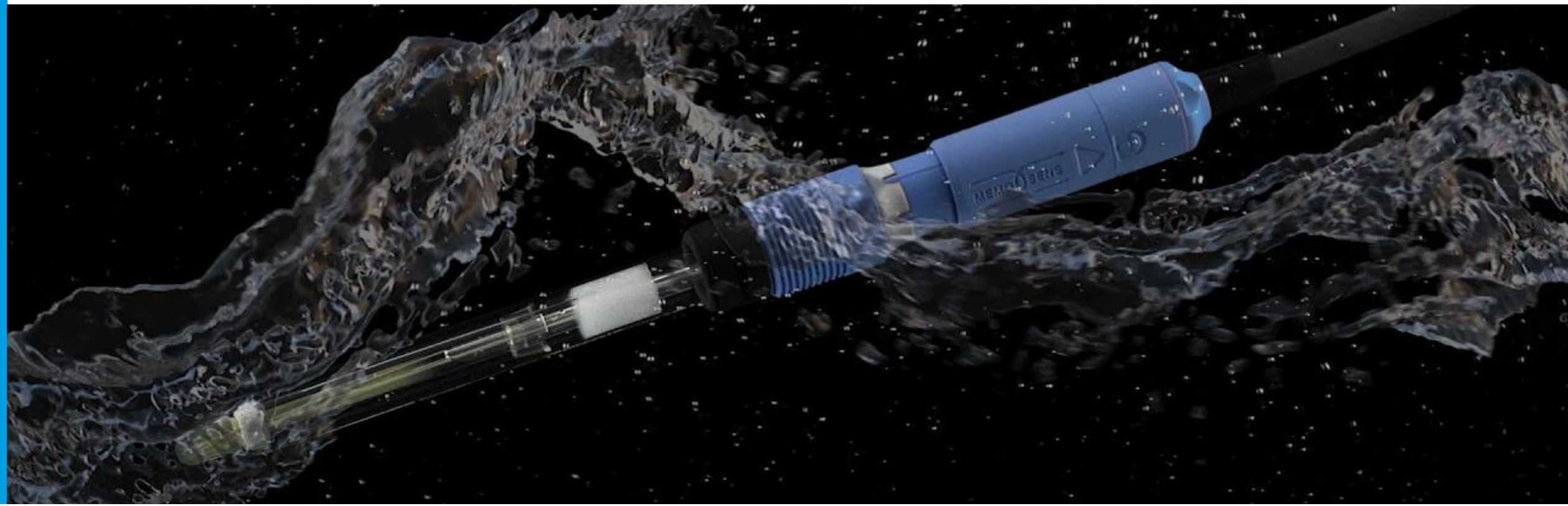
How the E-volution of the Memosens 2.0 will benefit your liquid analysis processes

Presented by – Preeth John (PJ)



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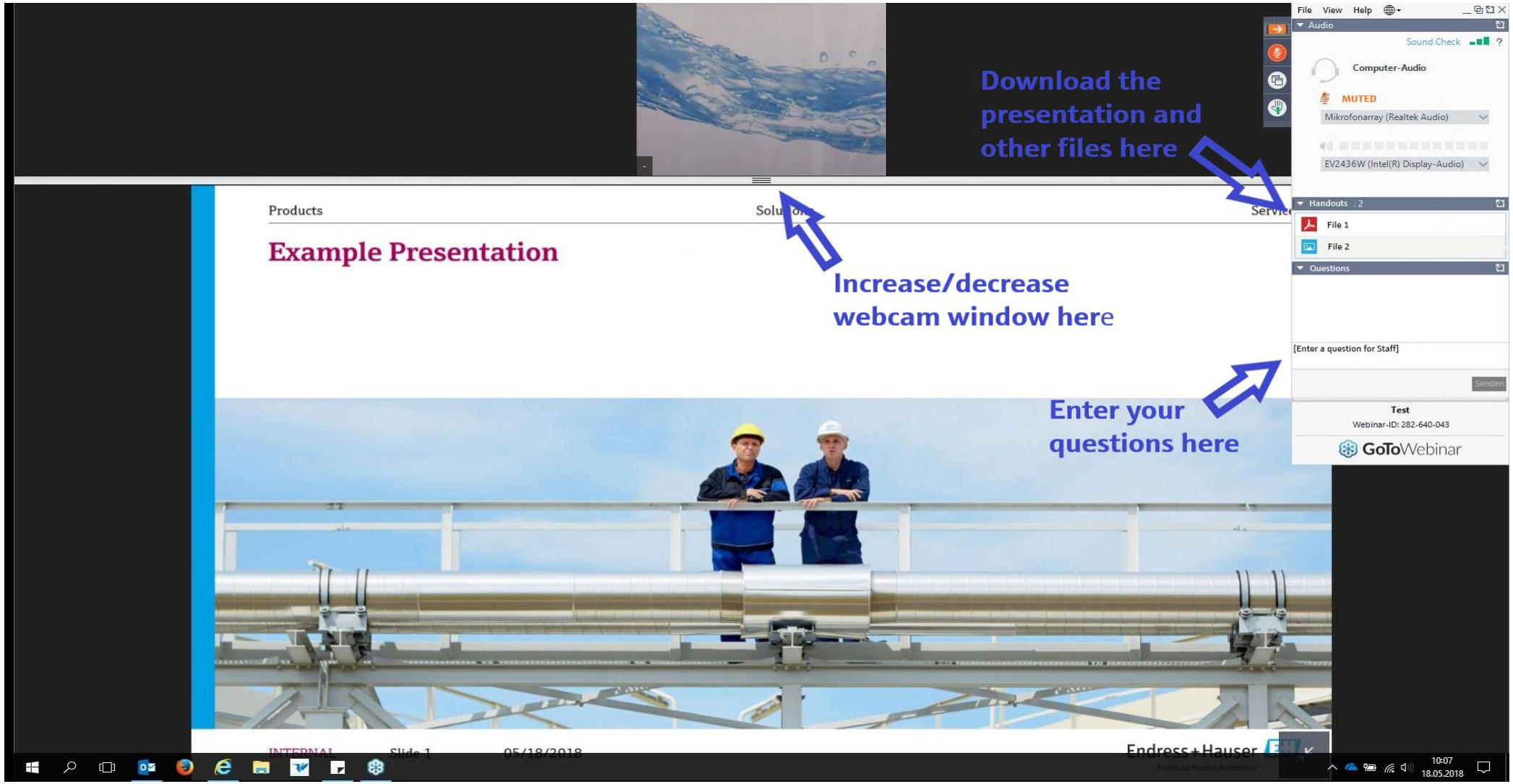

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Contents of this Webinar

- Overview of Liquid Analysis Portfolio
- What is Memosens?
- Memosens 2.0
- Optical Changes
- Demonstration 1: Simple and Safe
- Demonstration 2: Connected

Overview of Liquid Analysis

Product Portfolio

Endress+Hauser
People for Process Automation

Liquid analysis portfolio overview

pH

ORP

pH/ISFET

ISE

Photometers

Conductivity

Dissolved Oxygen

Disinfection

Turbidity

Sludge-level

Nitrate/SAC

Samplers

Analyzers

COD | Ammonium | Ortho Phosphate | Total phosphate | Silica | Hardness | Iron | Aluminum | Chromate | Nitrite | Sodium | TOC | TN, TOCppb

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Sensors and transmitters(Memosens & Liquiline)

Measuring task									
pH/Redox	Conductivity	Dissolved Oxygen	Disinfection (Chlorine, ...)	Turbidity	Sampling	Concentration	Humidity	Concentration	Composition
liquid						solid		gas	

Heartbeat Technology

MEMOSENS

Endress+Hauser

What is Memosens?

Simple. Safe. Connected

Connector system insensitive to moisture and liquids

GSA plug
2 open contacts

TOP68 plug
4/6 open contacts

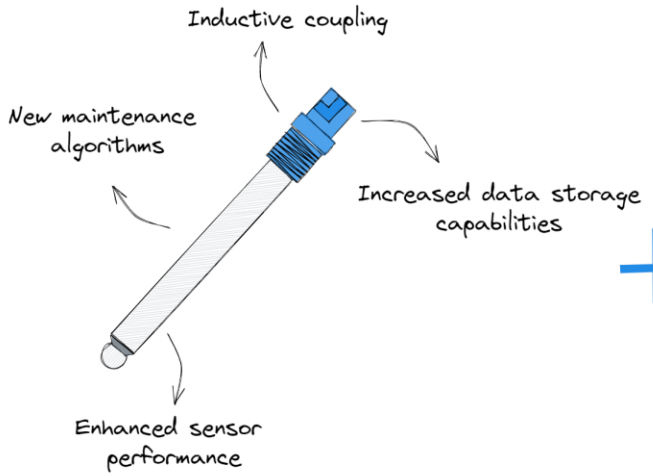
Memosens
No open contacts

- Invented by Endress+Hauser
  Memosens patent held by E+H
- To prevent a single source situation, Memosens is an open-source protocol

Check out this link:
https://www.memosens.org/en/home.html#hersteller

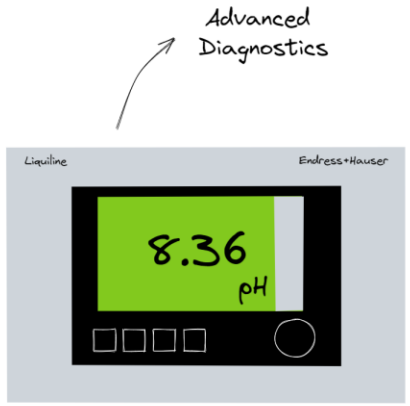
How to turn data into process insights?

Digitalisation



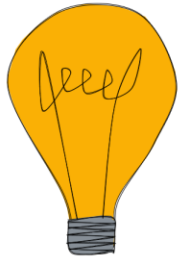
MEMOSENS

Expertise



Heartbeat Technology

Insights



- Improving plant availability
- Ensuring product quality
- Delivering improved safety

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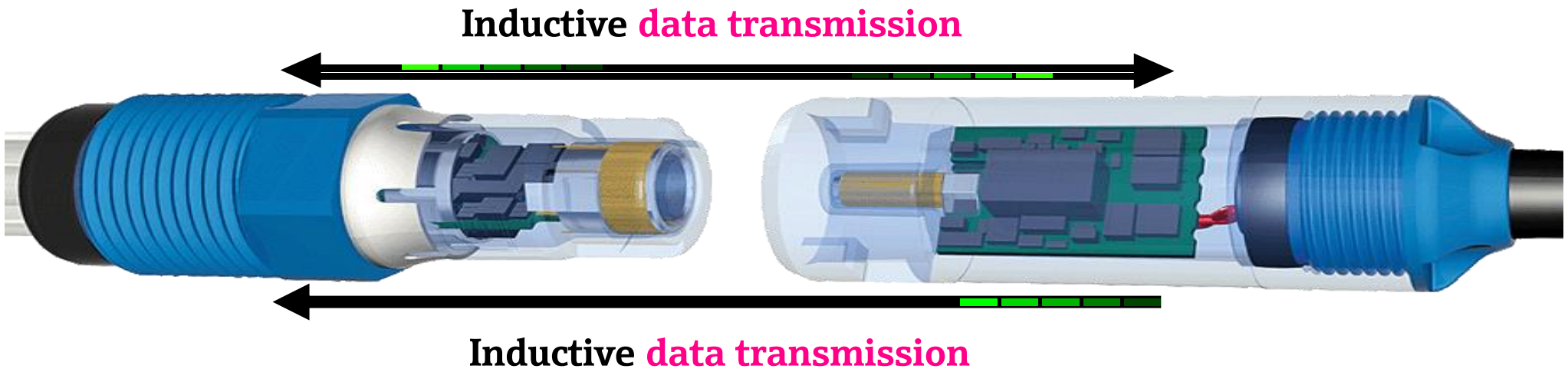
Memosens 2.0

Upgraded for the future

Memosens 2.0



Memosens Technology

- Launched in 2004
- Inductive coupling between cable and sensor
- Digital data transmission
- Data storage on sensor's head

Memosens 2.0 (2021)

- Increased sensor performance
- Improved data storage capabilities
- Additional configurations

Root Order Code Details

New hardware

for our digital sensor portfolio

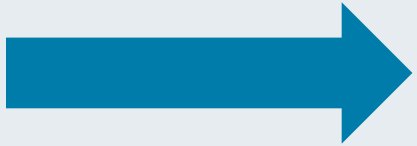
- All sensors: new electronic
- pH: new ion traps for some sensors
- Cond: new temperature sensors (Pt1000)

New order root codes and structures

for our digital sensor portfolio

“E” = Memosens 2.0

CxSxxD



Memosens CxSxxE

Root Order Code Details

CCS51/CCS51D
Free chlorine amperometric

CCS50/CCS50D
Chlorine dioxide amperometric

CCS120/CCS120D
Total chlorine amperometric

CCS55D
Free bromine amperometric

CCS58D
Ozone amperometric

Root Order Code for Disinfection Remains “D” series till further notice

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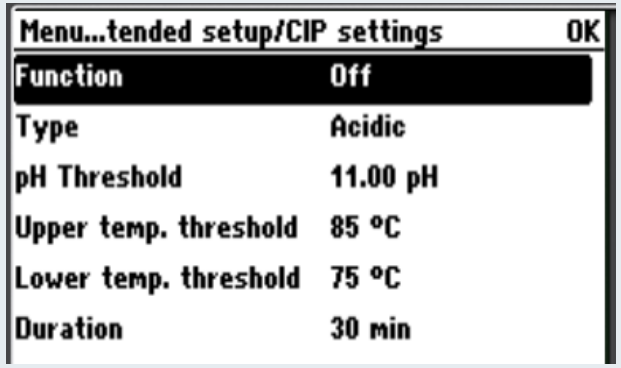
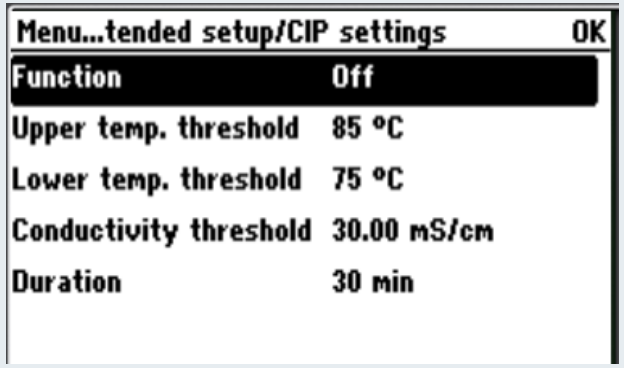
New features – Advantages – Benefits: pH, conductivity, DO

No	Feature	Advantage Memosens 2.0	Benefit
1	Configurable CIP counter	For all parameters, DO and Conductivity (time and temperature), pH: Acid and alkaline CIP selectable	Early detection of sensor wear and optimization of calibration and adjustment cycles

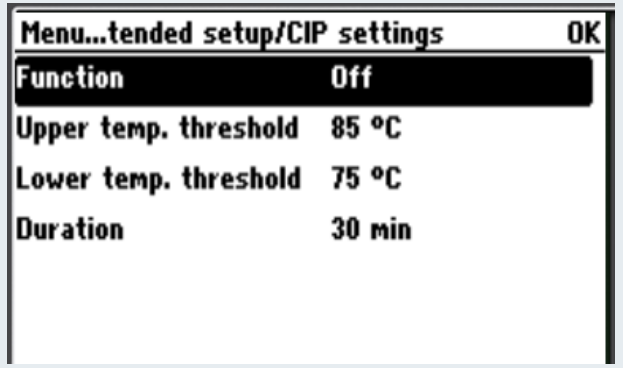
pH/ORP



Conductivity



Dissolved oxygen



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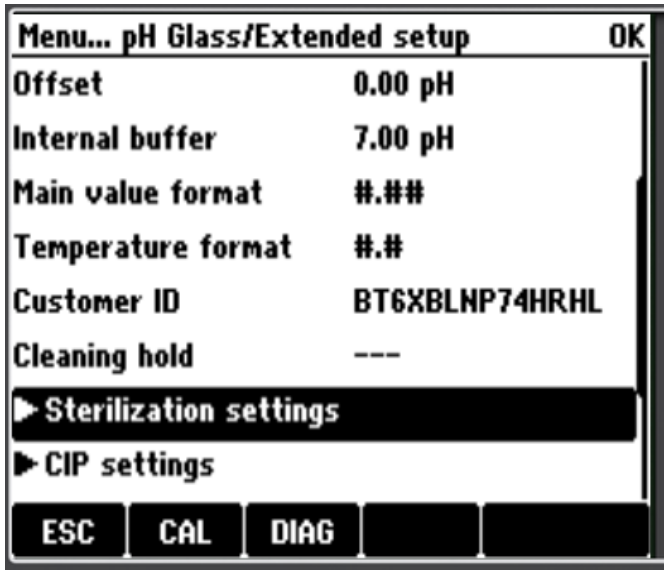
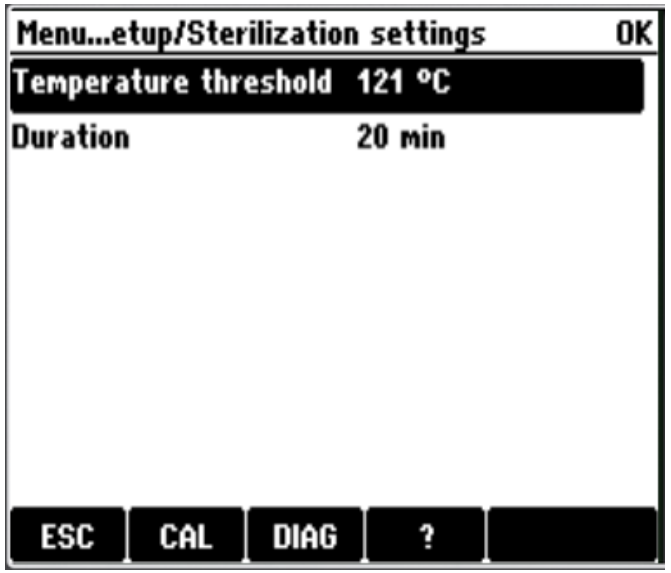
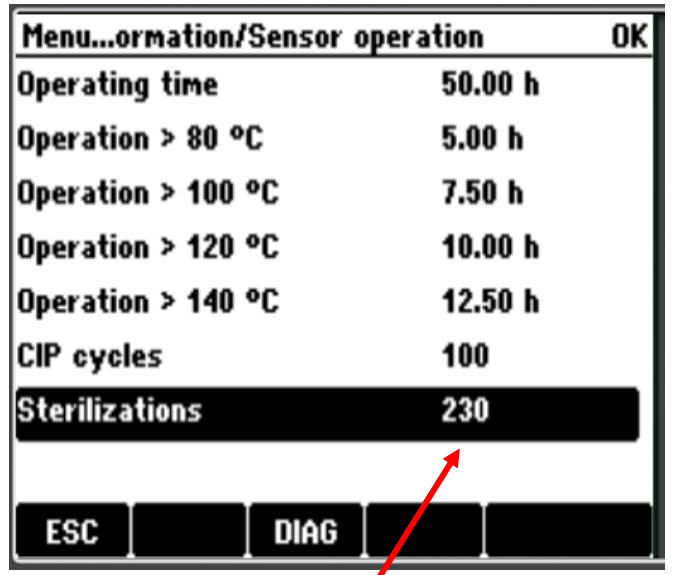
New features – Advantages – Benefits: pH, conductivity, DO

No	Feature	Advantage Memosens 2.0	Benefit
2	Configurable sterilization counter	Automatically counts sterilizations and manual autoclaves	Perfect compliance with SOP







Automatic counts from the process
+
Manual counts via Memobase plus/pro

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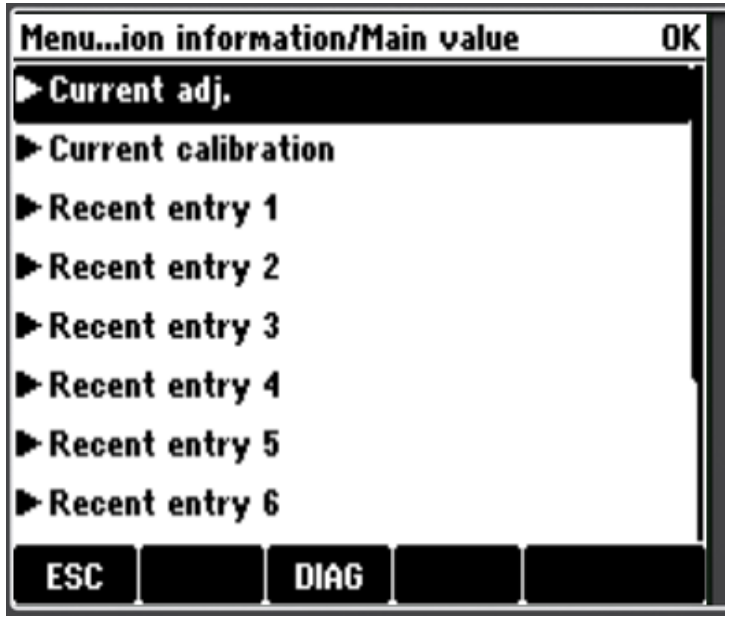
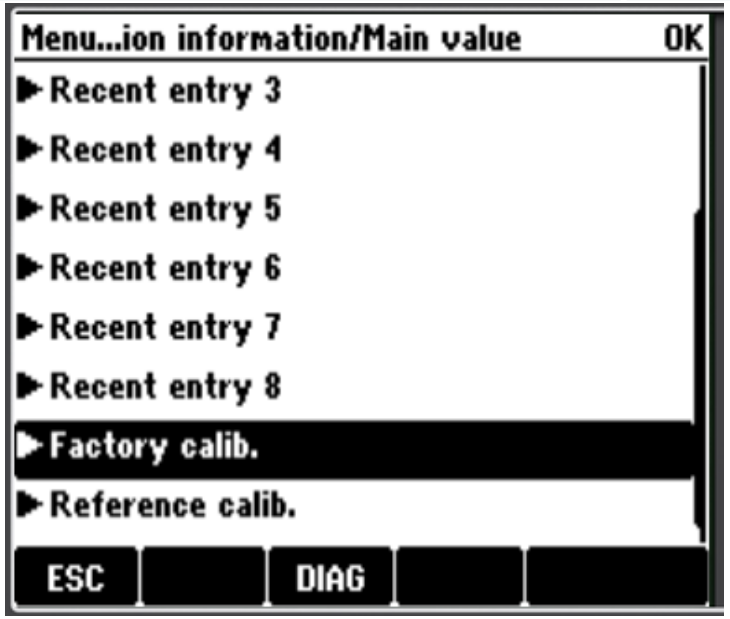
New features – Advantages – Benefits: pH, conductivity, DO

No	Feature	Advantage Memosens 2.0	Benefit
3	Calibration history	Memory for 8 calibrations or adjustments including factory adjustment and (pH: customer reference adjustment)	Early detection of sensor wear and optimization of calibration and adjustment cycles





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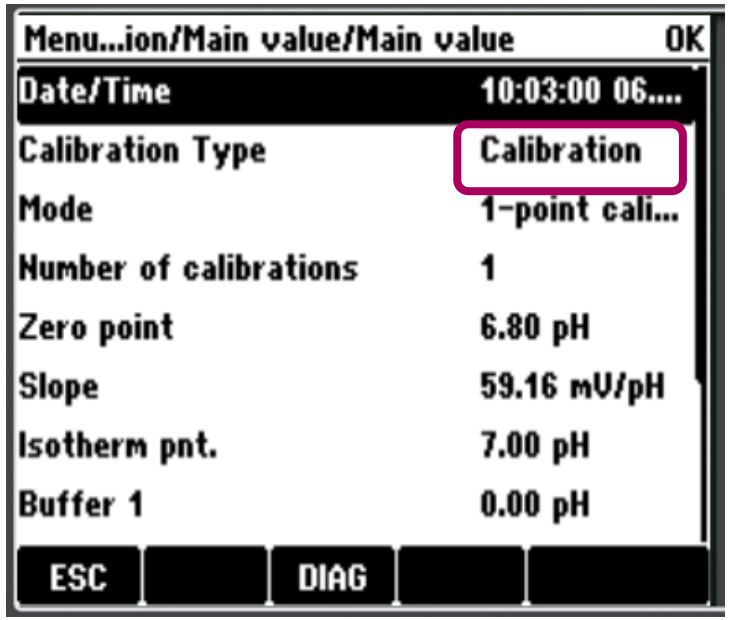
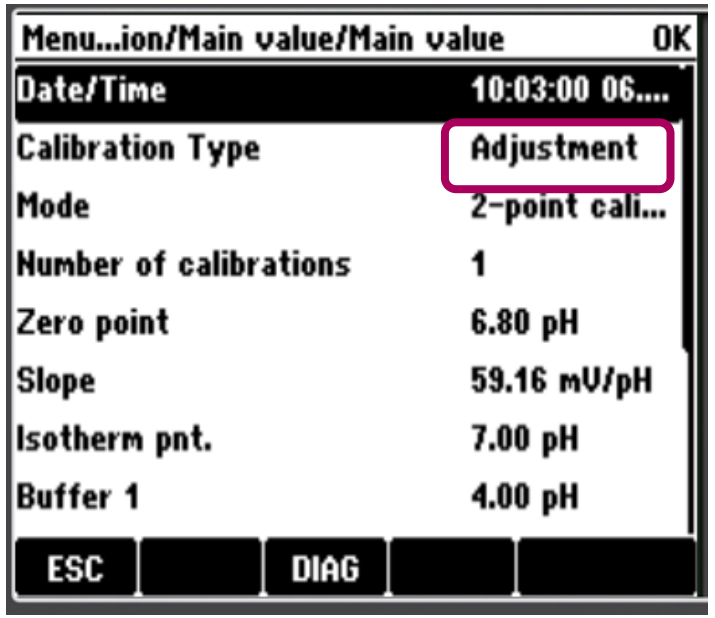
New features – Advantages – Benefits: pH, conductivity, DO

No	Feature	Advantage Memosens 2.0	Benefit
4	Distinction between calibration and adjustment	Be conform to international regulations, the traceability of service actions	Perfect compliance with SOP





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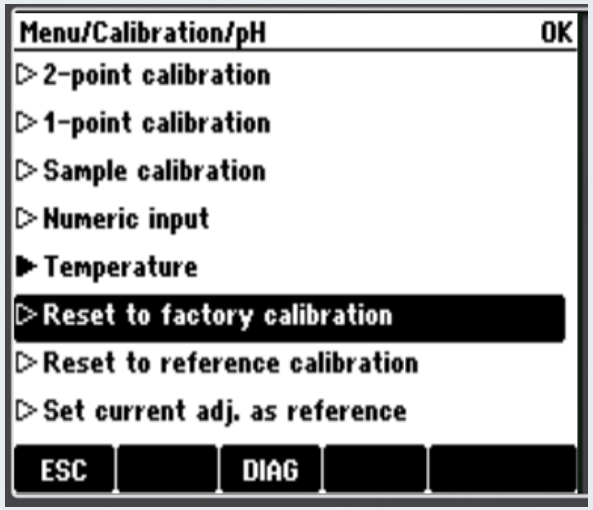
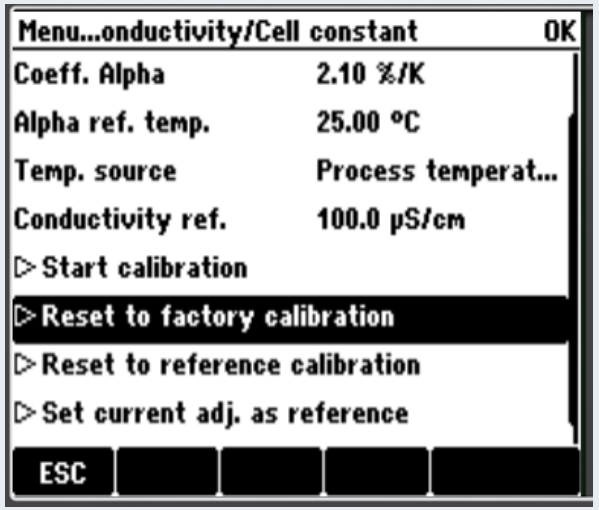
New features – Advantages – Benefits: pH, conductivity, DO

No	Feature	Advantage Memosens 2.0	Benefit
5	Reset to factory calibration	The system is to persistently save the calibration carried out in the factory as a factory calibration.	The user can view the factory calibration at any time and reactivate it as an active adjustment if necessary

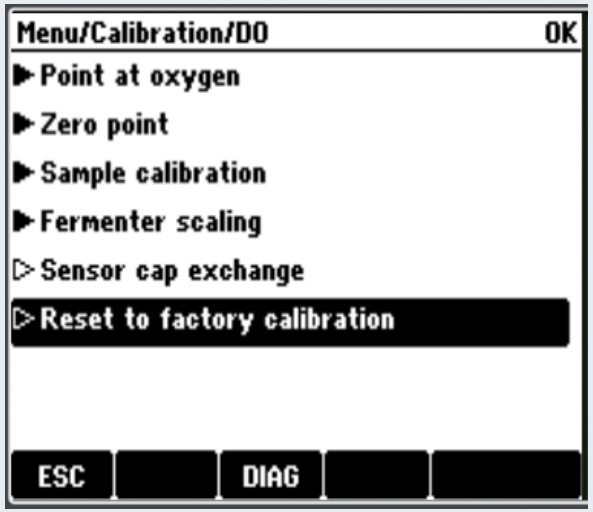
pH/ORP



Conductivity



Dissolved oxygen



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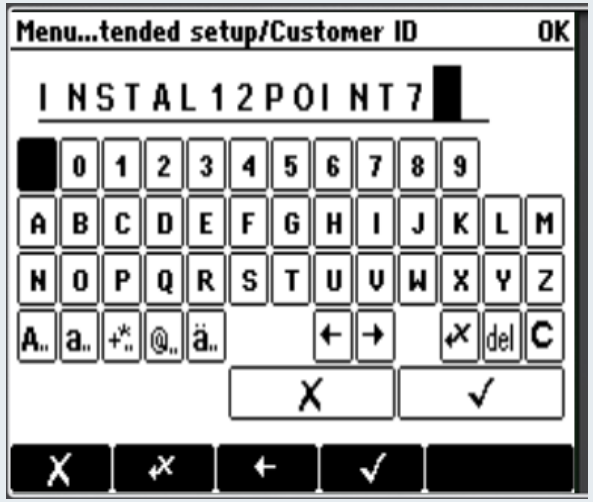
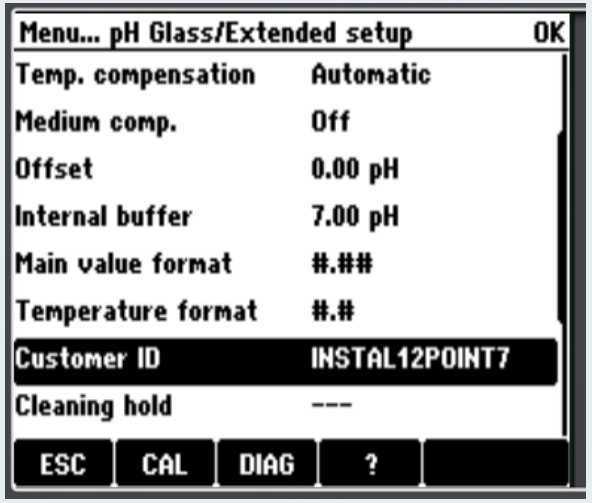
New features – Advantages – Benefits: pH, conductivity, DO

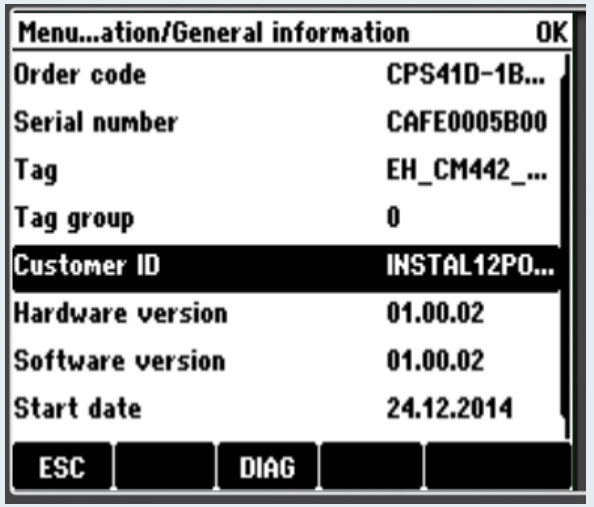
No	Feature	Advantage Memosens 2.0	Benefit
6	Digital sensor label	The system offers a digital label for the sensor that the customer can use to replace a sticker to identify the sensor.	The customer can configure and view the digital label.

Set a customer-specific label:





View the customer specific label:



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Compatibility Ex

Ex Transmitter	Memosens (D-Sensors)	Memosens 2.0 (E-Sensors)
Liquiline CM42 	✓	✓
Liquiline CM72 	X	✓
Liquiline CM82 	X	✓

Ex approval to increase platform with flexible number of components

Ex approval for every sensor for new E-Structures → Single sensor Ex approvals

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Ex approval to increase platform with flexible number of components

Ex approval for CYK10 cable

- List of allowed sensors
  - Compatibility with D-Sensors (backwards compatibility)
- Ex interface to **single sensor Ex approvals**
  - Compatibility with E-Sensors

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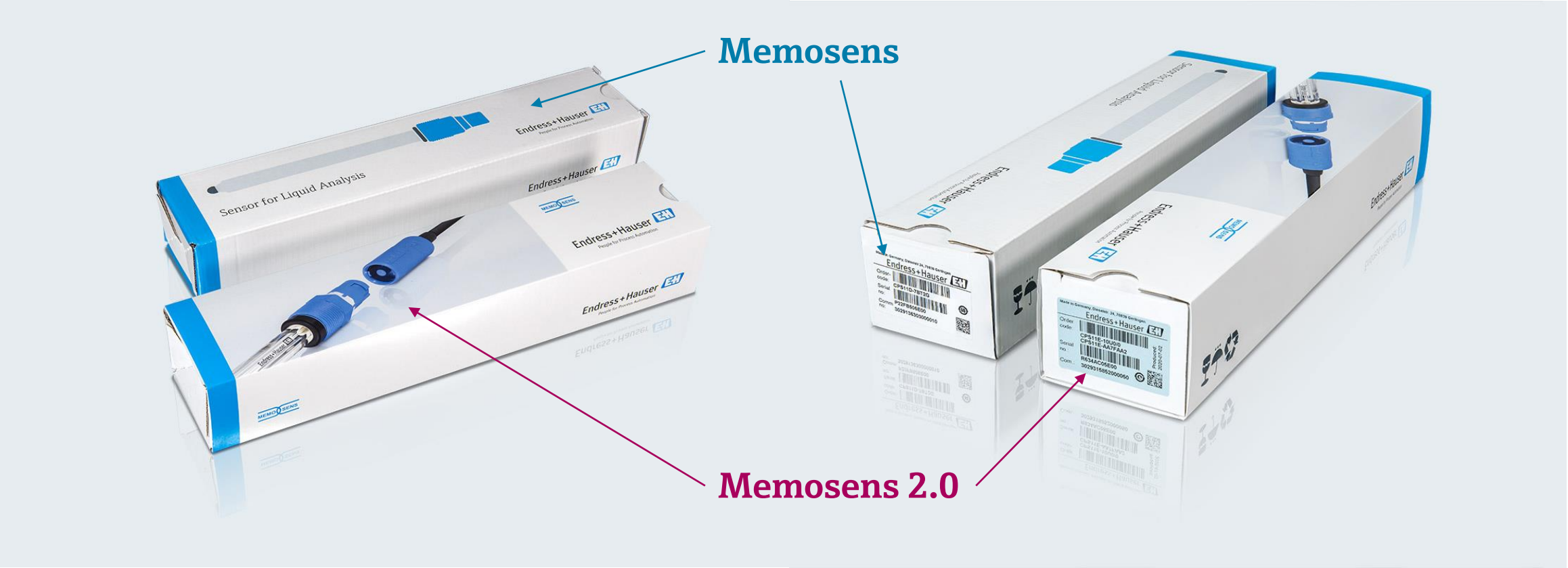
Optical Changes

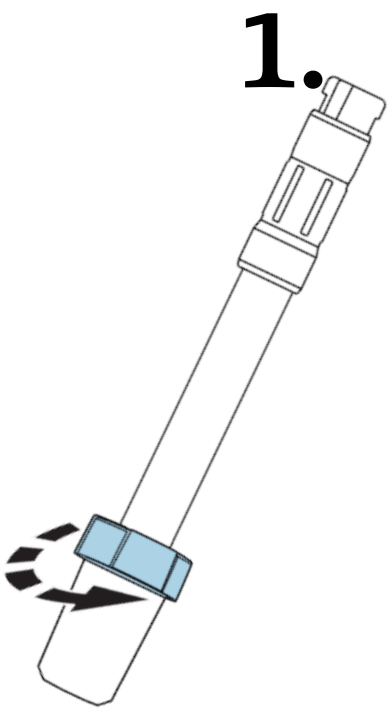
- So that is the quick overview!!

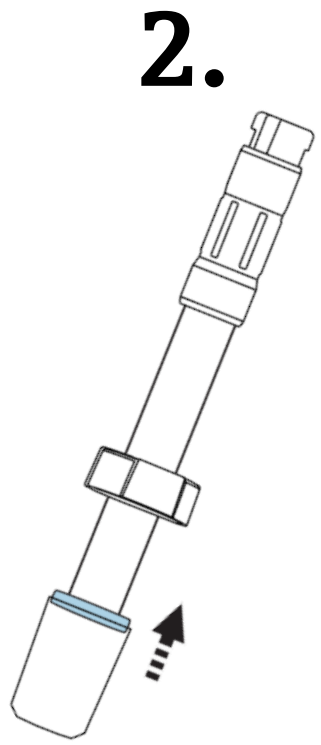
- Let’s have a look at some of the different visual differences between the 1st Generation Memosens and the new Memosens 2.0 “E” series.
  - Packaging
  - KCl Cap for pH/ORP
  - New Ion-traps CPS11E, CPS71E & CPS61E
  - New Salt Storage CPS11E & CPS31E

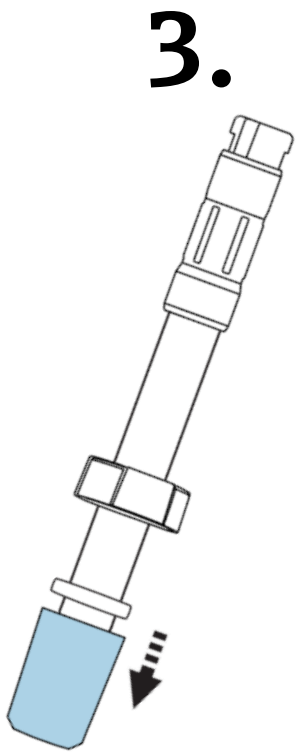
New package design Memosens 2.0



New KCl cap for all pH / ORP sensors







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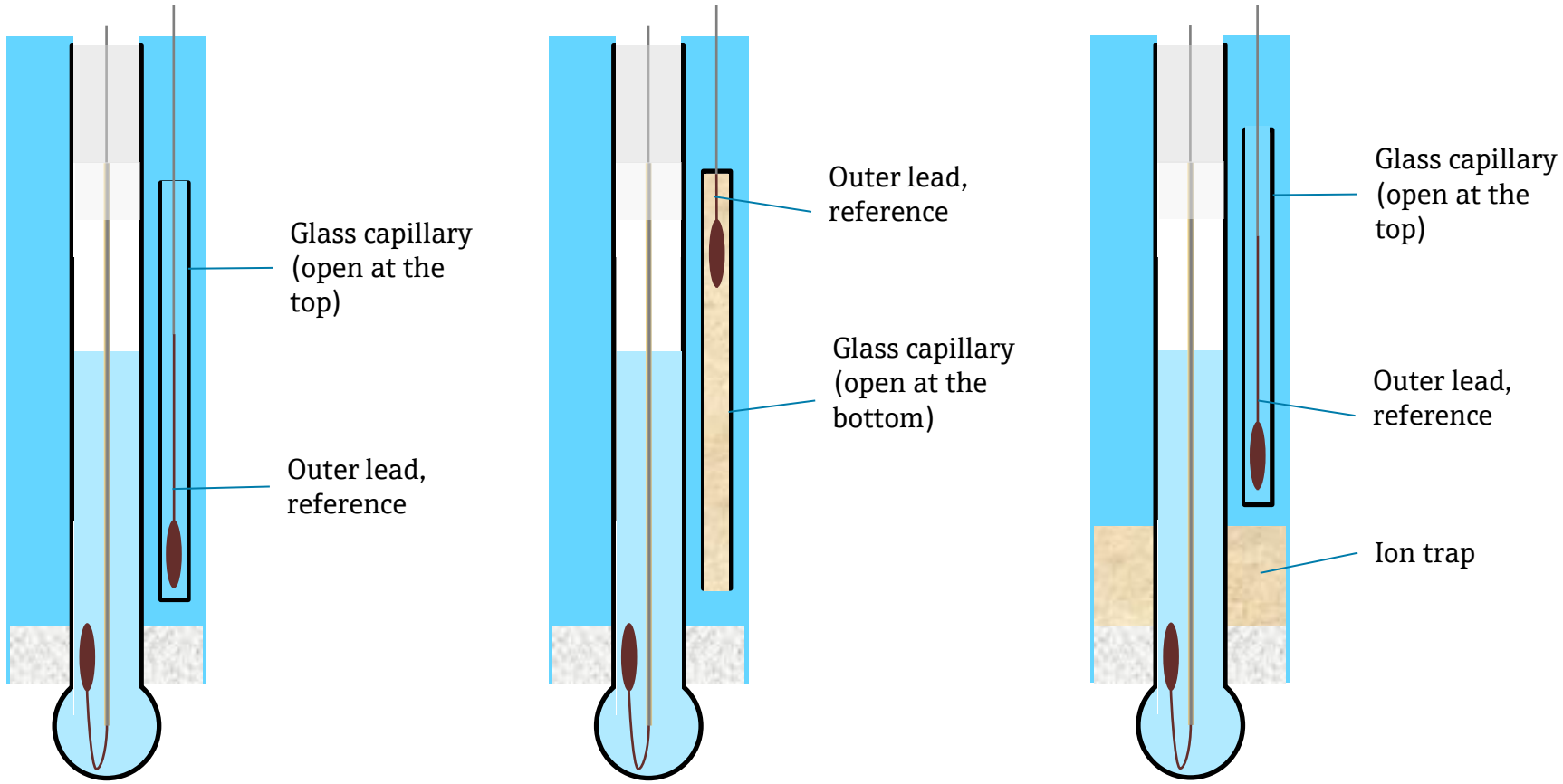
Ion trap with improved drift behavior



Without ion trap | Old ion trap | New ion trap

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New ion trap for CPS11E, CPS71E and for the new CPS61E

Longer lifetime of sensors

Higher accuracy also at varying temperatures

Lower drift behaviour, more accurate zero point

Endress+Hauser

CPS11E and CPS31E with new salt storage

Old

New

1. **Longer lifetime of the sensor**
2. **Better control of consumption**
3. **Higher accuracy also at varying temperatures**

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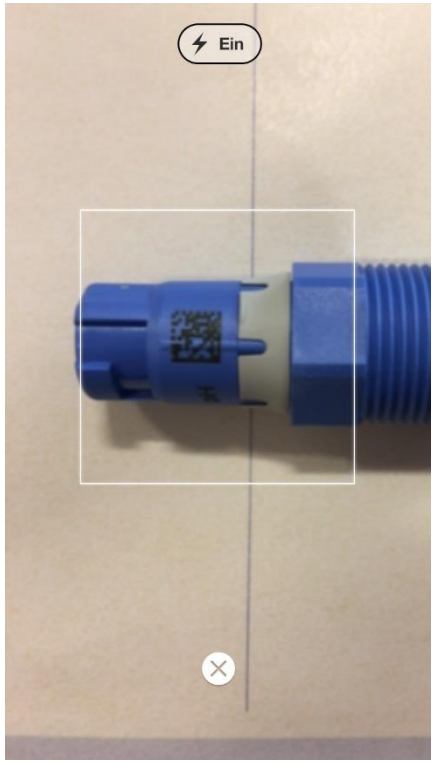
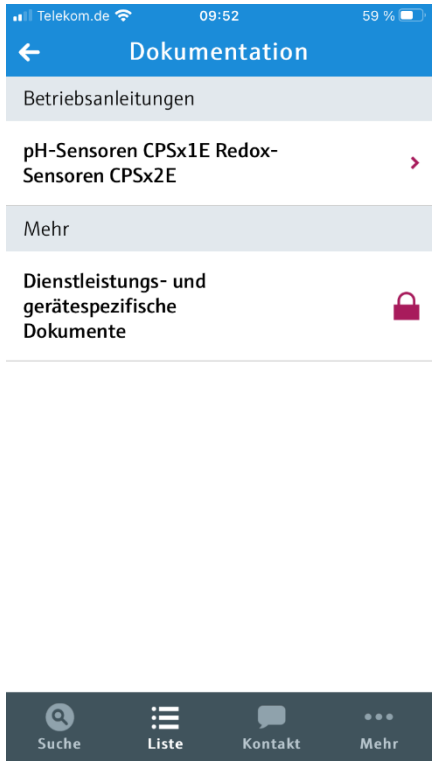
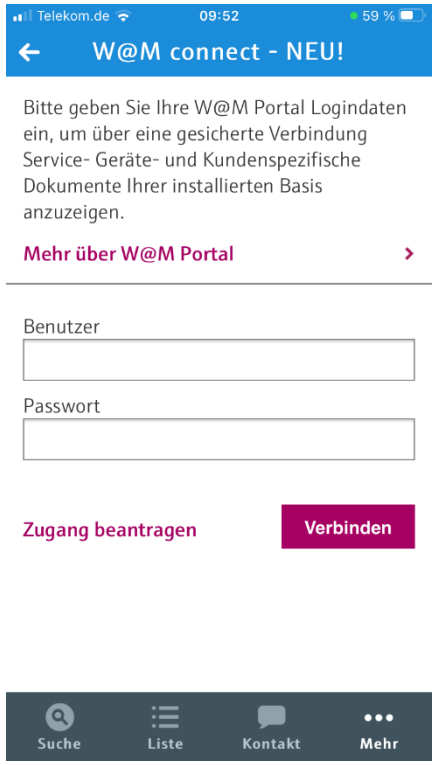
Data Matrix Code and Operations App

- Scanning the DMC on the plug head using the E + H Operations app
  ➔ Direct access to CER data and documentation







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Demonstration 1

Purpose of this demonstration: Simple & Safe!

- Easy to connect (even under water)
- Changing of sensors (pH to conductivity)– what will happen?

Demonstration 2

Purpose of this demonstration: Connected

- Using a CM82 + Smartblue App

Android

Apple

SmartBlue app

Thank you for you attention – Questions?