

Operating Instructions

71638868

Immersion assembly for the laboratory area







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1 About this document



1.1 Safety information

Structure of information	Meaning
<p> DANGER</p> <p>Causes (/consequences) If necessary, Consequences of non-compliance (if applicable)</p> <ul style="list-style-type: none"> ▶ Corrective action 	<p>This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation will result in a fatal or serious injury.</p>
<p> WARNING</p> <p>Causes (/consequences) If necessary, Consequences of non-compliance (if applicable)</p> <ul style="list-style-type: none"> ▶ Corrective action 	<p>This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation can result in a fatal or serious injury.</p>
<p> CAUTION</p> <p>Causes (/consequences) If necessary, Consequences of non-compliance (if applicable)</p> <ul style="list-style-type: none"> ▶ Corrective action 	<p>This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or more serious injuries.</p>
<p> NOTICE</p> <p>Cause/situation If necessary, Consequences of non-compliance (if applicable)</p> <ul style="list-style-type: none"> ▶ Action/note 	<p>This symbol alerts you to situations which may result in damage to property.</p>

1.2 Symbols used

	Additional information, tips
	Permitted
	Recommended
	Not permitted or not recommended
	Reference to device documentation
	Reference to page
	Reference to graphic
	Result of an individual step

1.2.1 Symbols on the device

	Reference to device documentation
	Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to the manufacturer for disposal under the applicable conditions.

2 Basic safety instructions

2.1 Requirements for the personnel

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to carry out the specified activities.
- The electrical connection may be performed only by an electrical technician.
- The technical personnel must have read and understood these Operating Instructions and must follow the instructions contained therein.
- Faults at the measuring point may only be rectified by authorized and specially trained personnel.



Repairs not described in the Operating Instructions provided must be carried out only directly at the manufacturer's site or by the service organization.

2.2 Intended use

The assembly is designed for Memosens sensors in depressurized operation in the laboratory.

The assembly is designed exclusively for use in liquid media.

Any use other than that intended puts the safety of people and the measuring system at risk. Therefore, any other use is not permitted.

The manufacturer is not liable for harm caused by improper or unintended use.

2.3 Workplace safety

As the user, you are responsible for complying with the following safety conditions:

- Installation guidelines
- Local standards and regulations

2.4 Operational safety

Before commissioning the entire measuring point:

1. Verify that all connections are correct.
2. Ensure that electrical cables and hose connections are undamaged.
3. Do not operate damaged products, and protect them against unintentional operation.
4. Label damaged products as defective.

During operation:

- ▶ If faults cannot be rectified, take products out of service and protect them against unintentional operation.

2.5 Electromagnetic compatibility

Electromagnetic compatibility

- The product has been tested for electromagnetic compatibility in accordance with the applicable international standards for industrial applications.
- The electromagnetic compatibility indicated applies only to a product that has been connected in accordance with these Operating Instructions.

2.6 Product safety

2.6.1 State of the art

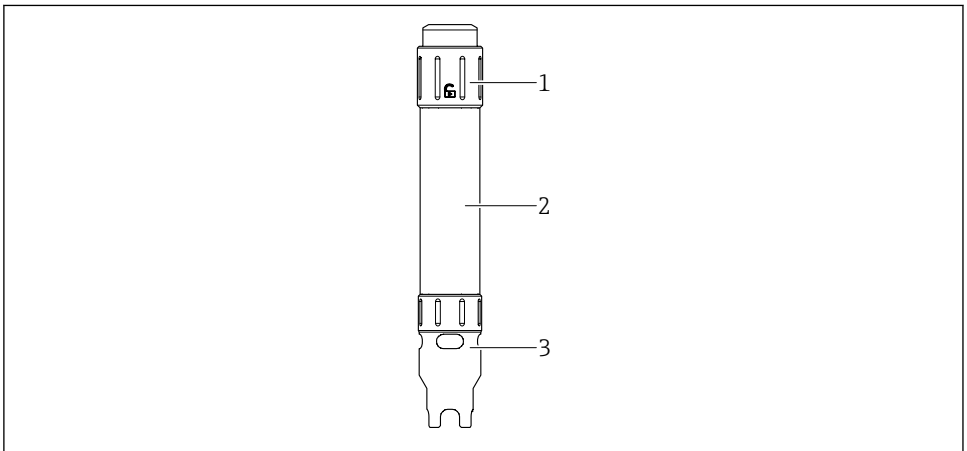
The product is designed to meet state-of-the-art safety requirements, has been tested, and left the factory in a condition in which it is safe to operate. The relevant regulations and international standards have been observed.

3 Product description

3.1 Product design

The assembly is designed for use in the water/wastewater/environmental sector:

- Tank or vessel, open
- Open channels/flumes
- Water (rivers, lakes, sea)



A0056590

1 Product description of the individual parts

1 Plug cap

2 Assembly housing

3 Protective cap and cable mounting tool

4 Incoming acceptance and product identification

4.1 Incoming acceptance

On receipt of the delivery:

1. Check the packaging for damage.
 - ↳ Report all damage immediately to the manufacturer.
Do not install damaged components.
2. Check the scope of delivery using the delivery note.
3. Compare the data on the nameplate with the order specifications on the delivery note.
4. Check the technical documentation and all other necessary documents, e.g. certificates, to ensure they are complete.



If one of the conditions is not satisfied, contact the manufacturer.

4.2 Product identification

4.2.1 Nameplate

The nameplate provides you with the following information on your device:

- Manufacturer identification
- Order code
- Extended order code
- Serial number
- Ambient and process conditions
- Safety information and warnings

- ▶ Compare the information on the nameplate with the order.

4.2.2 Identifying the product

Interpreting the order code

The order code and serial number of your product can be found in the following locations:

- On the nameplate
- In the delivery papers

Obtaining information on the product

1. Go to www.endress.com.
2. Page search (magnifying glass symbol): Enter valid serial number.
3. Search (magnifying glass).
 - ↳ The product structure is displayed in a popup window.
4. Click the product overview.
 - ↳ A new window opens. Here you fill information pertaining to your device, including the product documentation.

4.2.3 Manufacturer address

Endress+Hauser Conducta GmbH+Co. KG
Dieselstraße 24
70839 Gerlingen
Germany

4.3 Scope of delivery

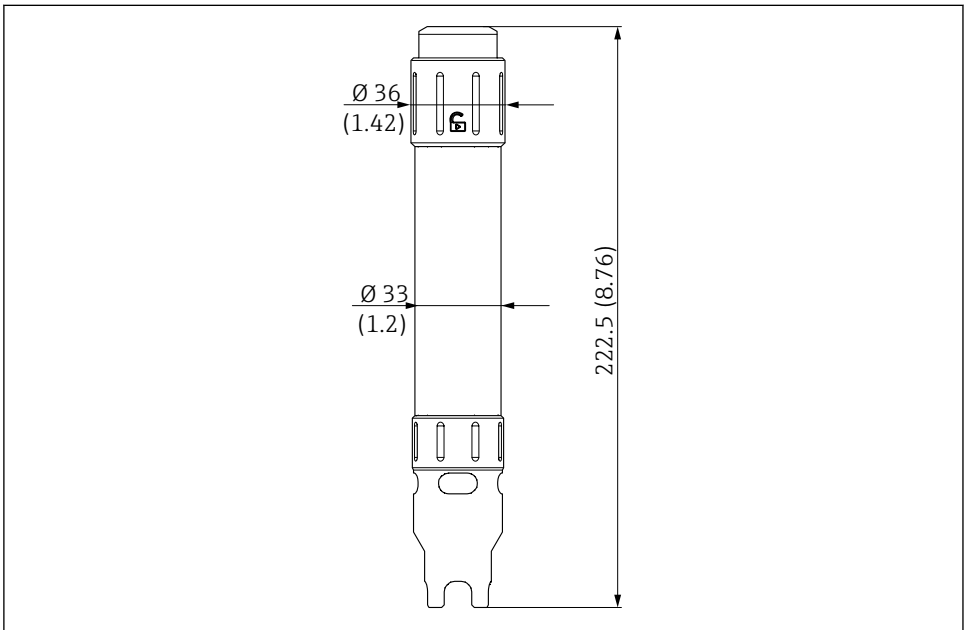
The scope of delivery comprises:

- Assembly
- Operating Instructions
- ▶ If you have any queries:
Please contact your supplier or local sales center.

5 Mounting

5.1 Mounting requirements

5.1.1 Dimensions



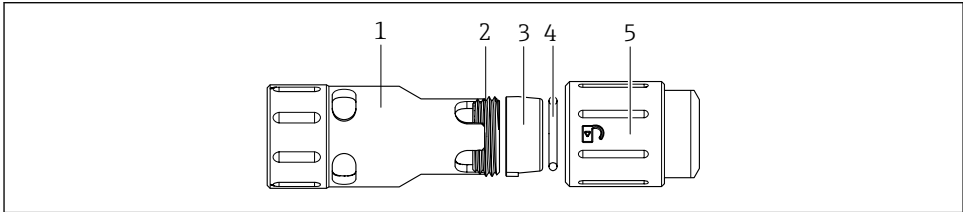
2 Dimensions. Unit of measurement mm (in)

5.2 Mounting the assembly

5.2.1 Mounting the sensor cable

Remove or fit the crown screw for the sensor cable

The protective cap also serves as a cable mounting tool. The protective cap is used to unscrew the crown screw in the plug cap in order to fit the sensor cable.



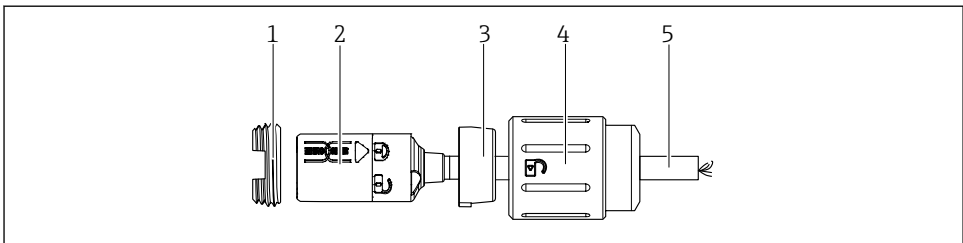
A0056593

1. Unscrew the protective cap (1) from the assembly.
2. Unscrew the assembly housing (5).
 - ↳ Inside the plug cap (5), there is a crown screw (2) with the fixing ring (3) and an O-ring (4), which hold and seal the sensor cable in the plug cap (5).
3. Use the protective cap (1) to unscrew the crown screw (2) in the plug cap (5) and remove the fixing ring (3). The O-ring (4) does not need to be removed. For this purpose, turn the protective cap (1) over and insert into the plug cap with the prongs.

Mount the sensor cable in the assembly

Prerequisite:

- The crown screw (1) and the fixing ring (3) are removed from the sensor cable plug cap.
- The O-ring (4) must be inserted into the plug cap (4).



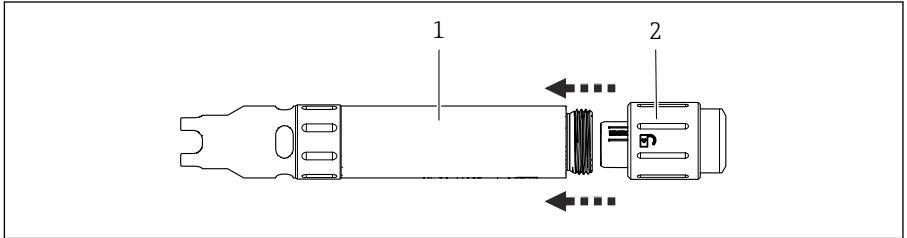
A0056587

1. Guide the sensor cable (5) with the Memosens coupling (2) through the fixing ring (3) and slide it over the lock symbols.
2. Guide the sensor cable (5) through the plug cap (4). The fixing ring (3) must be aligned with the groove in the plug cap (4) and pushed in. The Memosens coupling (2) remains in the plug cap (4).

3. Secure the Memosens coupling (2) with the crown screw (1) in the plug cap (4). Use the protective cap of the assembly for this purpose.
 - ↳ It must be possible to move the connector of the Memosens coupling (2) easily.

5.2.2 Mounting the sensor

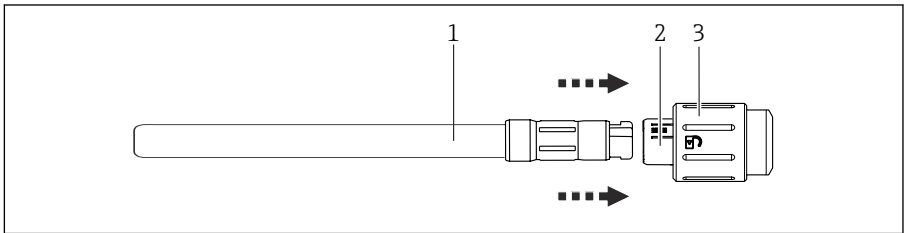
1.



A0056592

Unscrew the assembly housing (1) from the plug cap (2) in order to expose the Memosens coupling. Hold the plug cap (2) securely to ensure that the Memosens cable does not move with it.

2.



A0056586

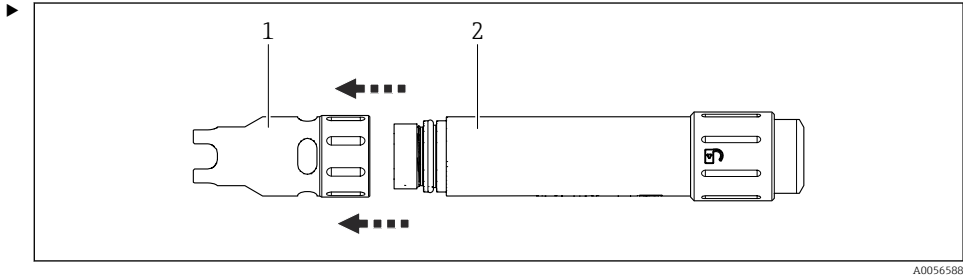
Connect the Memosens head of the sensor (1) with the Memosens coupling (2) of the cable in the plug cap (3) using plug & play. A padlock symbol is provided on the outside for this purpose showing the direction for unlocking.

3. Guide the assembly housing over the sensor (1).
4. Screw the assembly housing into the plug cap (3).

5.2.3 Mounting the protective cap

The assembly is fitted with a protective cap which also serves as a cable mounting tool.

Remove the protective cap



Unscrew the protective cap (1) at the lower end of the assembly housing (2).

Mount the protective cap

1. Press the protective cap (1) at the lower end of the assembly housing (2) straight onto the thread.
2. Screw the protective cap (1) over the thread and hand-tighten to 1.5 Nm approximately. Make sure that the protective cap (1) is positioned straight on the thread.

5.3 Post-mounting check

1. Check that the assembly is undamaged.
2. After mounting, check all the connections to ensure they are secure and leak-tight.
3. Check the sensor cable for damage.

6 Maintenance

⚠ WARNING

Risk of toxic vapors when cleaning the assembly.

Toxic effects!

- ▶ Wear a face mask, protective gloves, protective goggles and protective clothing.

⚠ WARNING

Flying parts.

Risk of injury!

- ▶ Slowly insert and retract the assembly in or out of the process.
- ▶ Wear protective gloves, protective goggles and protective clothing.

⚠ WARNING

Materials or environments with high or low temperatures.

Risk of injury!

- ▶ Wear protective gloves, protective goggles and protective clothing.

⚠ WARNING**Toxic components in lubricants.**

Contact with skin-irritating lubricants can cause irritation, redness or allergies.

- ▶ Use the grease provided in the service kit only.

⚠ WARNING**Electrostatic charge in industrial environments.**

Risk of injury!

- ▶ Implement ESD safety measures with conductive protective clothing.
- ▶ Do not wipe off the assembly with a dry cloth.
- ▶ Carry out an ignition source assessment.

⚠ WARNING**Risk of injury from high pressure, high temperature or chemical hazards if process medium escapes.**

- ▶ Check the connections to ensure they are sealed tightly.
- ▶ Do not carry out any work (maintenance, disassembly, sensor removal) unless the process is depressurized and secured.

⚠ WARNING**Risk of injury if medium escapes**

- ▶ Before each maintenance task, ensure that the process pipe is empty and rinsed.
- ▶ The assembly may contain residual medium; please rinse thoroughly before commencing work.

6.1 Maintenance work

6.1.1 Checking the seals

- ▶ Check the seals on the sensor, quick fastener and assembly at regular intervals.
- ▶ Use Klüber UNISILKON L 250 L to lubricate the seals.

7 Repair

The repair and conversion concept provides for the following:

- The product has a modular design
- Spare parts are grouped into kits which include the associated kit instructions
- Only use original spare parts from the manufacturer
- Repairs are carried out by the manufacturer's Service Department or by trained users
- Certified devices can only be converted to other certified device versions by the manufacturer's Service Department or at the factory
- Observe applicable standards, national regulations, Ex documentation (XA) and certificates

1. Carry out the repair according to the kit instructions.

2. Document the repair and conversion and enter, or have entered, in the Life Cycle Management tool (W@M).

7.1 Spare parts

Device spare parts that are currently available for delivery can be found on the website:

<https://portal.endress.com/webapp/SparePartFinder>

- ▶ Quote the serial number of the device when ordering spare parts.

7.2 Return

The product must be returned if repairs or a factory calibration are required, or if the wrong product was ordered or delivered. As an ISO-certified company and also due to legal regulations, Endress+Hauser is obliged to follow certain procedures when handling any returned products that have been in contact with medium.

To ensure the swift, safe and professional return of the device:

- ▶ Check the website www.endress.com/support/return-material for information on the procedure and general conditions.

7.3 Disposal

- ▶ Observe the local regulations.

8 Accessories

The following are the most important accessories available at the time this documentation was issued.

Listed accessories are technically compatible with the product in the instructions.

1. Application-specific restrictions of the product combination are possible.
Ensure conformity of the measuring point to the application. This is the responsibility of the operator of the measuring point.
2. Pay attention to the information in the instructions for all products, particularly the technical data.
3. For accessories not listed here, please contact your Service or Sales Center.

8.1 Device-specific accessories

Liquiline Mobile CML18

- Multiparameter mobile device for laboratory and field
- Reliable transmitter with display and app connection
- Product Configurator on the product page: www.endress.com/CML18



Operating Instructions BA02002C

Memosens data cable CYK10

- For digital sensors with Memosens technology
- Product Configurator on the product page: www.endress.com/cyk10



Technical Information TI00118C

8.2 Sensors

8.2.1 pH sensors

Memosens CPL51E

- pH sensor for laboratory measurements and random sampling in the field
- Digital with Memosens 2.0 technology
- Robust pH sensor with plastic shaft
- Product Configurator on the product page: www.endress.com/cpl51e



Technical Information TI01672C

Memosens CPL53E

- pH sensor for laboratory measurements and random sampling
- Digital with Memosens 2.0 technology
- Versatile pH sensor with very fast response time
- Product Configurator on the product page: www.endress.com/cpl53e



Technical Information TI01676C

Memosens CPL57E

- pH sensor for laboratory measurements and random sampling
- Digital with Memosens 2.0 technology
- pH sensor for pure and ultrapure water
- Product Configurator on the product page: www.endress.com/cpl57e



Technical Information TI01675C

Memosens CPL59E

- pH sensor for laboratory measurements and random sampling in the field
- Digital with Memosens 2.0 technology
- Robust pH sensor with PTFE junction and ion trap
- Product Configurator on the product page: www.endress.com/cpl59e



Technical Information TI01674C

8.2.2 Conductivity sensors

Memosens CLL47E

- Contacting conductivity sensor for laboratory measurements and random sampling in the field
- Digital with Memosens 2.0 technology
- 4-electrode sensor with large measuring range
- Product Configurator on the product page: www.endress.com/clk47e



Technical Information TI01529C

8.2.3 Oxygen sensors

Memosens COL37E

- Agile, optical oxygen sensor for laboratory measurements and random sampling in the field
- Digital with Memosens 2.0 technology
- Product Configurator on the product page: www.endress.com/col37e



Technical Information TI01678C

9 Technical data

9.1 Power supply

9.1.1 Cable specification

Max. cable length CYK10: 5 m (16.4 ft)

Use of the assembly with laboratory cable CYK20 is not permitted.

9.2 Environment

9.2.1 Ambient temperature range

0 to 60 °C (32 to 140 °F)

9.2.2 Storage temperature range

-15 to +60 °C (5 to +140 °F)

9.3 Process

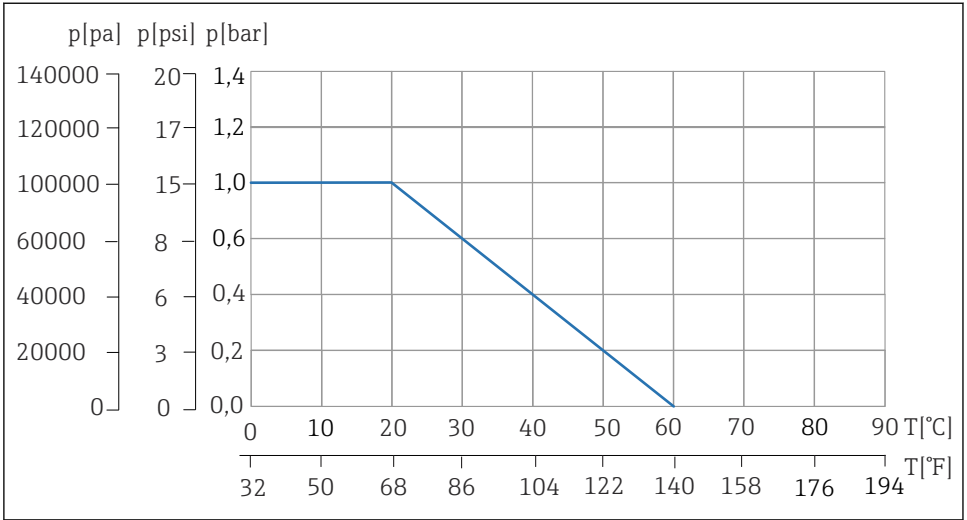
9.3.1 Process temperature range

0 to 60 °C (32 to 140 °F), non-freezing

9.3.2 Process pressure range

0 to 1 bar (0 to 15 psi) relative

Pressure/temperature rating



A0056351

3 Pressure/temperature rating

T Temperature

p Pressure

9.4 Mechanical construction

9.4.1 Design, dimensions

→ Section "Installation"

9.4.2 Weight

195 g (6.88 oz)

9.4.3 Materials

Component	Material
Wetted housing parts	PE-UHMW*
O-rings	EPDM
Fixing ring and crown screw	PBT-GF30

* ELS = Electrically conductive

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