

Brief Operating Instructions

CA76NA

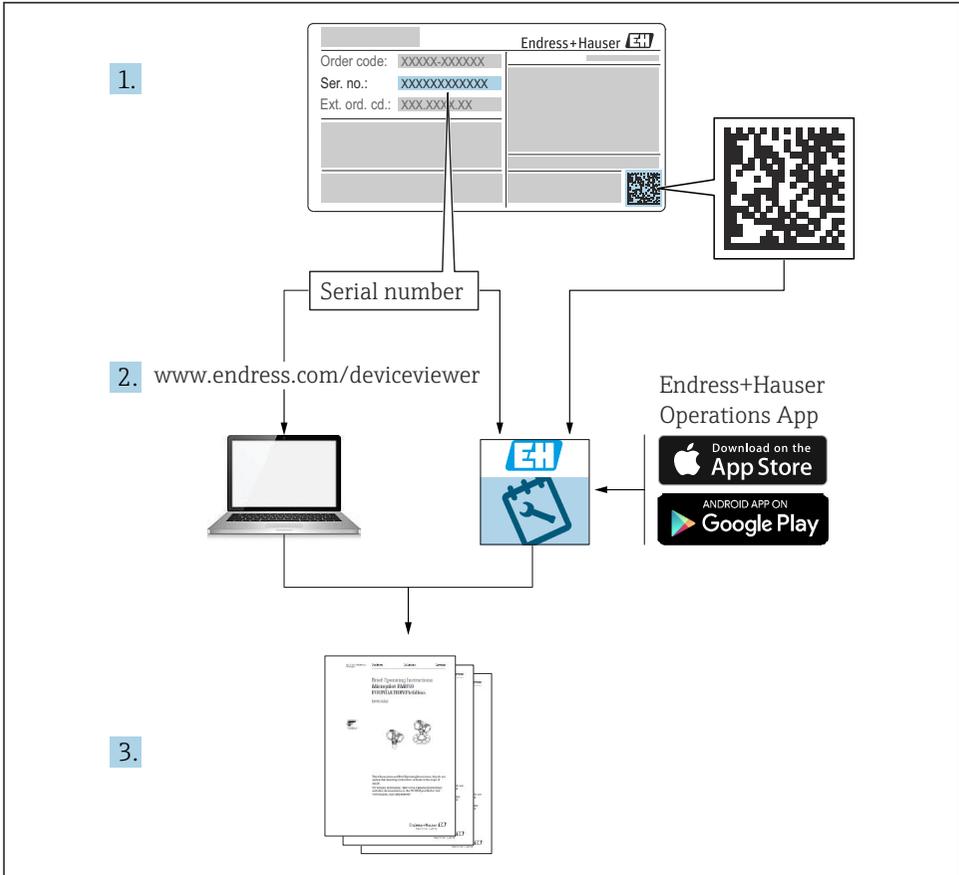
Analyzer for sodium



These instructions are Brief Operating Instructions; they are not a substitute for the Operating Instructions pertaining to the device.

Detailed information on the device can be found in the Operating Instructions and in the other documentation available at:

- www.endress.com/device-viewer
- Smart phone/tablet: Endress+Hauser Operations App



A0040778

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1 Document information

1.1 Symbols used

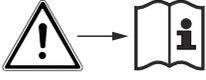
1.1.1 Safety information

| 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>ℹ 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> |

1.1.2 Symbols

| | |
|---|-----------------------------------|
|  | Additional information, tips |
|  | Permitted or recommended |
|  | Not permitted or not recommended |
|  | Reference to device documentation |
|  | Reference to page |
|  | Reference to graphic |
|  | Result of a step |

1.1.3 Symbols on the device

| Symbol | Meaning |
|---|---|
|  | Caution: Hazardous voltage |
|  | No naked flames Fire, open sources of ignition and smoking are forbidden |
|  | Eating and drinking are forbidden |
|  | Wear eye protection goggles |
|  | Wear safety gloves |
|  | Reference to device documentation |

1.2 Documentation

The following instructions complement these Brief Operating Instructions and are available on the product pages on the Internet:

Operating Instructions CA76NA

- Device description
- Commissioning
- Operation
- Software description
- Device-specific diagnostics and troubleshooting
- Maintenance
- Repair and spare parts
- Accessories
- Technical data

2 Basic safety instructions

2.1 Requirements of 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

CA76NA is an analyzer designed for the continuous measurement of the concentration of sodium in aqueous solutions.

The analyzer is designed for use in the following applications:

- Monitoring of the water/steam circuit in power plants, particularly for condenser monitoring
- Quality assurance of demineralization systems and seawater desalination
- Quality assurance of the ultrapure water circuit in the semi-conductor and electronics industry

Use of the device for any purpose other than that described, poses a threat to the safety of people and of the entire measuring system and is therefore not permitted. The manufacturer is not liable for damage caused by improper or non-designated use.

2.3 Workplace safety

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

- Installation guidelines
- Local standards and regulations

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.

2.4 Operational safety

WARNING

Contact of chemicals with eyes and skin, and inhalation of vapors

Damage to the skin, eyes and respiratory organs

- ▶ Wear protective goggles, protective gloves and a lab coat when working with chemicals.
- ▶ Avoid any skin contact with chemicals.
- ▶ Do not inhale any vapors.
- ▶ Ensure the area is well ventilated.
- ▶ Comply with further instructions in the safety data sheets for the chemicals used.

2.5 Product safety

2.5.1 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.

Devices connected to the analyzer must comply with the applicable safety standards.

2.6 IT security

We only provide a warranty if the device is installed and used as described in the Operating Instructions. The device is equipped with security mechanisms to protect it against any inadvertent changes to the device settings.

IT security measures in line with operators' security standards and designed to provide additional protection for the device and device data transfer must be implemented by the operators themselves.

3 Incoming acceptance and product identification

3.1 Incoming acceptance

1. Verify that the packaging is undamaged.
 - ↳ Notify the supplier of any damage to the packaging.
Keep the damaged packaging until the issue has been resolved.
2. Verify that the contents are undamaged.
 - ↳ Notify the supplier of any damage to the delivery contents.
Keep the damaged goods until the issue has been resolved.
3. Check that the delivery is complete and nothing is missing.
 - ↳ Compare the shipping documents with your order.

4. Pack the product for storage and transportation in such a way that it is protected against impact and moisture.
 - ↳ The original packaging offers the best protection.
Make sure to comply with the permitted ambient conditions.

If you have any questions, please contact your supplier or your local Sales Center.

3.1.1 Scope of delivery

The scope of delivery comprises:

- 1 analyzer
- 1 print version of the Brief Operating Instructions in the language ordered



The sodium electrode, pH electrode, standard solution and alkalization reagent are not included in the delivery for the analyzer.

Before commissioning the analyzer, order the sodium electrode, pH electrode and standard solution as a "starter kit" accessory.

Purchase alkalization reagent separately (recommended: diisopropylamine (DIPA), > 99.0 % (GC), in a bottle made from a solid material, e.g. glass.

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

3.2 Product identification

3.2.1 Nameplate

The nameplate is located on the panel.

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

- Manufacturer identification
- Order code
- Serial number
- Extended order code
- Input and output values
- Ambient temperature
- Safety information and warnings
- Approvals as per version ordered

- ▶ Compare the data on the nameplate with your order.

3.2.2 Identifying the product

Product page

www.endress.com/ca76na

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 pop-up window.
4. Click the product overview.
 - ↳ A new window opens. Here you fill information pertaining to your device, including the product documentation.

3.3 Storage and transport

1. Store the measuring device in a dry space where it is protected against moisture.
2. At temperatures around or below freezing, ensure there is no water in the device.
3. Store the alkalization reagent and electrodes at temperatures above +5 °C (41 °F).
4. Observe the permitted storage temperatures .

4 Installation

CAUTION

Danger of crushing or entrapment if the analyzer is mounted or disassembled incorrectly

- ▶ Two people are needed to mount and disassemble the analyzer.
- ▶ Wear suitable protective gloves to protect against mechanical risks.
- ▶ Comply with minimum spacing requirements when mounting.
- ▶ Use the spacers provided when mounting.

4.1 Mounting requirements

4.1.1 Installation options

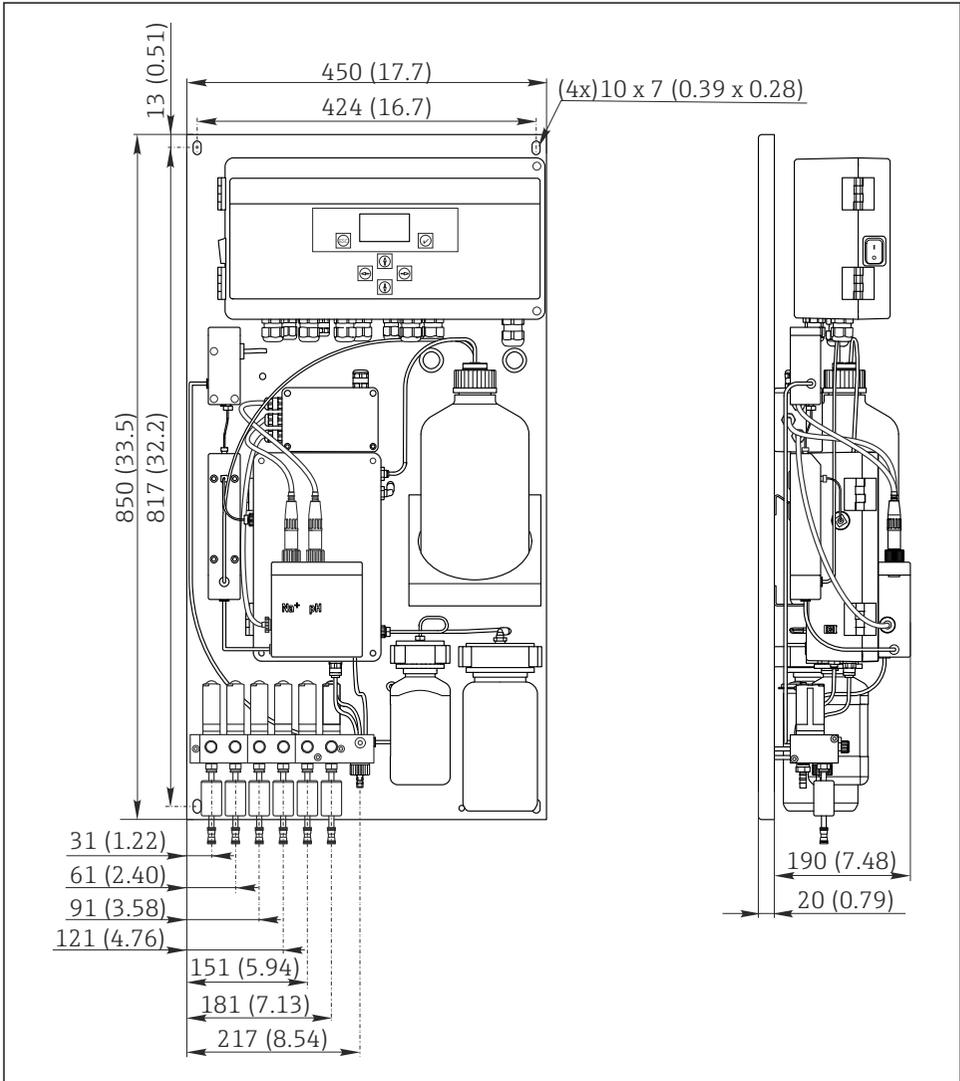
Mounted on a vertical surface:

- Wall
- Mounting plate

4.1.2 Dimensions

The mounting materials required to secure the device to the wall (screws, wall plugs) are not supplied.

- ▶ Provide mounting materials on site.



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1 Analyzer CA76NA. Unit of measurement mm (in)

4.1.3 Installation site

Please note the following:

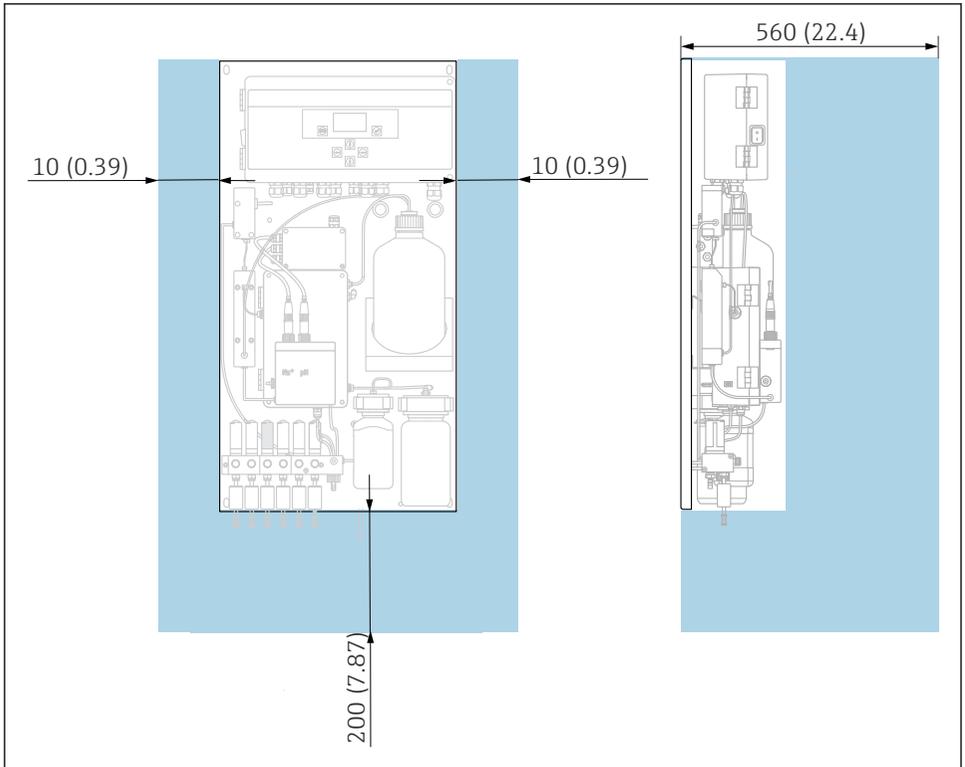
1. Protect the device against mechanical vibrations.
2. Protect the device against chemical exposure.

3. Do not expose the device to very dusty environments.
4. Install the device in a dry environment.
5. Make sure that the wall has sufficient load-bearing capacity and is fully perpendicular.
6. Make sure that the device is horizontally aligned and is mounted on a vertical surface (mounting plate or wall).
7. Protect the device from additional heating (e.g. from heaters or direct sunlight).

Comply with the following minimum spacing requirements:

- at least 10 mm (0.39 in) at the sides of the analyzer
- at least 550 mm (21.7 in) in front of the analyzer
- at least 200 mm (7.87 in) under the analyzer since cables and water conduits are connected from below

4.2 Mounting the analyzer on a vertical surface



A0049178

2 Analyzer CA76NA, spacing requirements in mm (in)

- Observe the required distances when mounting.

4.3 Post-mounting check

After mounting, check all the connections to ensure they are secure.

5 Electrical connection

WARNING

Device is live!

Incorrect connection may result in injury or death!

- ▶ The electrical connection may be performed only by an electrical technician.
- ▶ The electrical technician must have read and understood these Operating Instructions and must follow the instructions contained therein.
- ▶ **Prior** to commencing connection work, ensure that no voltage is present on any cable.

5.1 Connection conditions

1. Route the input and control cables separately from the low-voltage cables.
2. Use shielded cables to connect control cables for analog signals.
3. At the place of installation, connect the shield at one end or both ends in accordance with the shielding concept of the plant and the cable used.
4. Suppress inductive loads such as a relay with a free-wheeling diode or RC module.
5. When connecting the current output, pay attention to the polarity and maximum load (500 Ω).
6. If floating relay outputs are used, provide an appropriate backup fuse for these relays at the installation location.
7. Observe the values for maximum contact load .

NOTICE

The device is only suitable for fixed installation.

- ▶ At the installation location, you must provide an all-pole disconnecting device as per IEC 60947-1 and IEC 60947-3 in the vicinity of the power supply.
- ▶ The disconnecting device may not disconnect a protective conductor.

5.2 Connecting the analyzer

WARNING

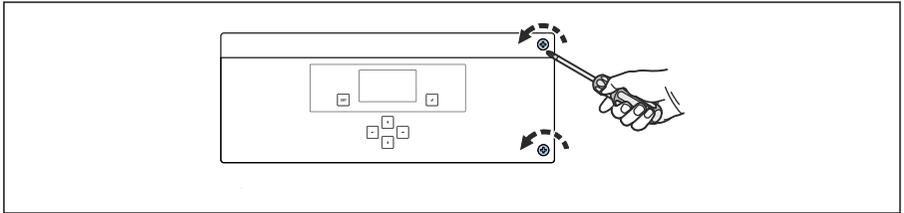
Failure to comply with the instructions for protective grounding can result in injury or death

- ▶ Comply with the instructions for protective grounding when installing the analyzer.
- ▶ The device is Class 1 equipment: use a separate protective ground for the mains connection.
- ▶ It is not permitted to disconnect the protective ground

5.2.1 Opening the housing of the electronics unit

Opening the housing of the electronics unit

1.



A0039421

 3 *Electronics unit housing, securing screws on the cover*

Loosen the securing screws on the cover with a PH2 Phillips head screwdriver.

2. Open the cover of the electronics unit to the left.

5.2.2 Connecting the analog outputs, digital outputs and power supply

Connecting the signal outputs

The measured value of the particular channel is available as a current signal on the analog or digital output card. The analyzer can have up to 6 current outputs depending on the device version.

1. Guide the cables through the cable entries at the bottom of the electronics unit. Position and dimensions of the cable entries .
2. Guide the cables through the cable glands to the electronics unit.
3. Connect the outputs as shown in the terminal connection diagram .

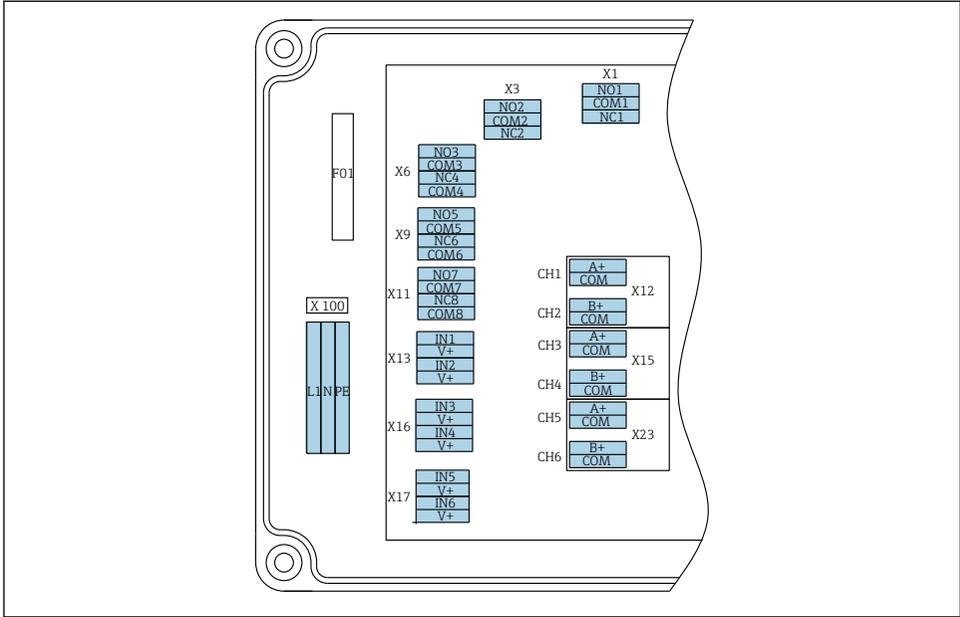
Connecting the power supply



The analyzer is fitted with a fuse, T 1.25 A, for the 215 to 240 V AC voltage level. If the analyzer is operated with 100 to 130 V AC, replace the fuse with the T 2.5 A fuse supplied. The fuse is located in the cover of the electronics unit.

1. Guide the cables through the cable entries on the back of the electronics unit. Position and dimensions of the cable entries .
2. Connect with a 3-core cable to terminal strip X100 (L1/N/PE) in the electronics unit according to terminal connection diagram .

Terminal diagram without PROFIBUS



A0033459

| L1 | N | PE | NO1 | COM1 | NC1 | NO2 | COM2 | NC2 | A | COM | B | COM | A | COM | B | COM | A | COM | B | COM |
|---|---|----|------------------|------|-----|--------------------|------|-----|-------------------------------|-----|-------------------------------|-----|-------------------------------|-----|-------------------------------|-----|-------------------------------|-----|-------------------------------|-----|
| | | | | | | | | | + | | + | | + | | + | | + | | + | |
| X100 | | | X1 | | | X3 | | | X12A | | X12B | | X15A | | X15B | | X23A | | X23B | |
| Power supply 100 to 240 V AC, 50/60 Hz | | | Relay 1 Alarm | | | Relay 2 Warning | | | 4 to 20 mA Channel 1 | | 4 to 20 mA Channel 2 | | 4 to 20 mA Channel 3 | | 4 to 20 mA Channel 4 | | 4 to 20 mA Channel 5 | | 4 to 20 mA Channel 6 | |

Mains voltage

Multi-range power unit for 100 to 240 V AC



The analyzer is fitted with a fuse, T 1.25 A, for the 215 to 240 V AC voltage level. If the analyzer is operated with 100 to 130 V AC, replace the fuse with the T 2.5 A fuse supplied. The fuse is located in the cover of the electronics unit.

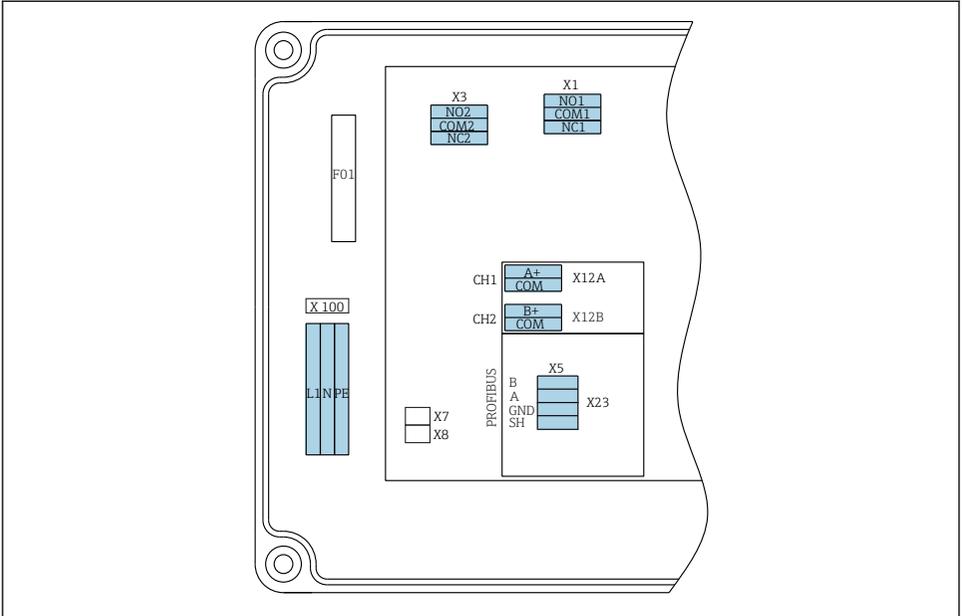
Analog outputs

- X12: current output, channel 1 + 2
- X15: current output, channel 3 + 4
- X23: current output, channel 5 + 6

Digital outputs

- X1: relay, 1 alarm
 - Open contact on error: COM-NO
 - Closed contact on error: COM-NC
- X3: relay 2, warning
 - Open contact on error: COM-NC
 - Closed contact on error: COM-NO

Terminal diagram with PROFIBUS



A0041292

| L1 | N | PE | NO1 | CO M1 | NC1 | NO2 | CO M2 | NC2 | A+ | CO M | B+ | CO M | B | A | GND | SH | |
|--|---|----|------------------------|-------|-----|--------------------------|-------|-----|---------------------------------|------|---------------------------------|------|---------------------------|---|-----|----|--|
| X100 Power supply 100 to 240 V AC, 50/60 Hz | | | X1 Relay 1 Alarm | | | X3 Relay 2 Warning | | | X12A 4 to 20 mA Channel 1 | | X12B 4 to 20 mA Channel 2 | | PROFIBUS cable (internal) | | | | |

Mains voltage

Multi-range power unit for 100 to 240 V AC

Analog outputs

X12: current output, channel 1 + 2

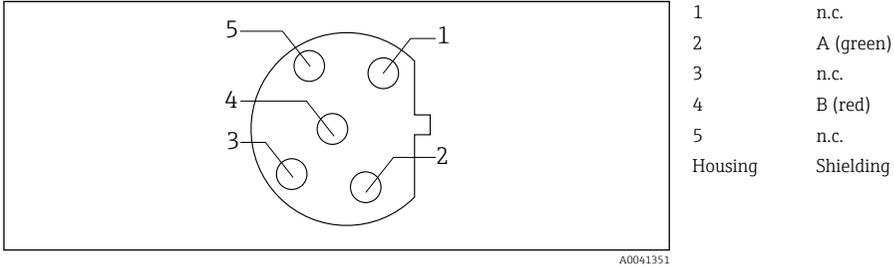
Digital outputs

- X1: relay 1, alarms
 - Open contact on error: COM-NO
 - Closed contact on error: COM-NC
- X3: relay 2, warnings
 - Open contact on error: COM-NC
 - Closed contact on error: COM-NO

If the CA76NA is the last device in the bus segment, the two jumpers must be set to X7 and X8 on the PROFIBUS interface card to incorporate the terminating resistors. If the analyzer is not the last device in the bus segment, the jumpers must be removed from X7 and X8 on the PROFIBUS interface card.

M12 socket

PROFIBUS is connected to an external M12 socket.



4 Pin assignment 5-pin, b-coded

5.3 Ensuring the degree of protection

Only the mechanical and electrical connections which are described in these instructions and which are necessary for the required, designated use, may be carried out on the device delivered.

- ▶ Exercise care when carrying out the work.

Individual types of protection approved for this product (impermeability (IP), electrical safety, EMC interference immunity) can no longer be guaranteed if, for example:

- Covers are left off.
- Different power units to the ones supplied are used.
- Cable glands are not sufficiently tightened (must be tightened with 2 Nm for the confirmed level of IP protection).
- Cables/cable ends are loose or insufficiently secured.
- Conductive cable strands are left in the device.

5.4 Post-connection check

⚠ WARNING

Connection errors

The safety of people and of the measuring point is at risk! The manufacturer does not accept any responsibility for errors that result from failure to comply with the instructions in this manual.

- ▶ Put the device into operation only if you can answer **yes** to **all** the following questions.

Device condition and specifications

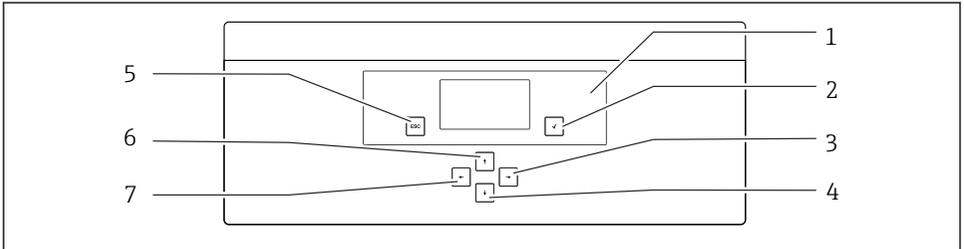
- ▶ Are the device and all the cables free from damage on the outside?

Electrical connection

- ▶ Are the mounted cables strain relieved?
- ▶ Are the cables routed without loops and cross-overs?
- ▶ Are the signal cables correctly connected as per the wiring diagram?
- ▶ Are all plug-in terminals securely engaged?

- Are all the connection wires securely positioned in the cable terminals?

6 Operation options



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5 Operating elements of the electronics unit

- | | | | |
|---|---------|---|-----|
| 1 | Display | 5 | Key |
| 2 | Key | 6 | Key |
| 3 | Key | 7 | Key |
| 4 | Key | | |

Each main menu contains submenus. Navigate through the menus using the 6 keys on the control panel.

Functions of the keys on the control panel:

Key 

Measured value display>Main menu

Main menu Submenu

Submenu Input menu

Input menu Entry mode

Entry mode Input menu, input value is accepted

Key 

Entry mode Input menu, input value is not accepted

Input menu Submenu

Submenu Main menu

Main menu Measured value display

Press the  key for 4 s Measured value display

Keys , 

Measured value display Measured value display (channel): detailed overview of status and measured values / overview of current outputs

Menus Select the menu item

Input menu Select the entry field

Entry mode Select character/list

Keys , 

Measured value display Change channel

Menus No function assigned

Input menu Field selection (if multi-column)

Entry mode Position selection

7 Commissioning

7.1 Preliminaries



Due to the necessary calibrations, schedule about 8 hours to commission the device.

The following prerequisites apply for commissioning:

- The analyzer is mounted as described .
- Pipes that carry liquid are mounted as described .
- The electrodes are inserted as described .

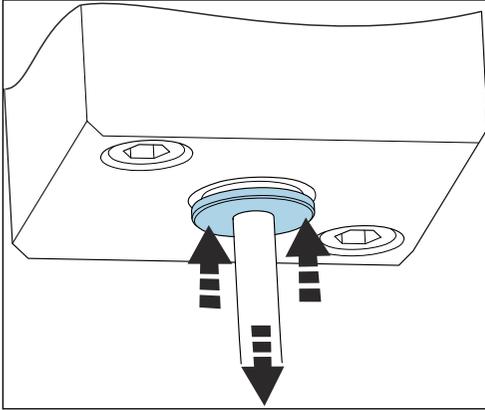
- The reagent bottles are connected as described .
- The electrical connection is established as described .
- Power supply and medium supply are available.

Push-in couplings

All hydraulic connections with hoses feature "push-in couplings" by design. Hoses must be cut clean and straight and must not have any damage on the surface.

1. Insert the hose as far as it will go.

2.



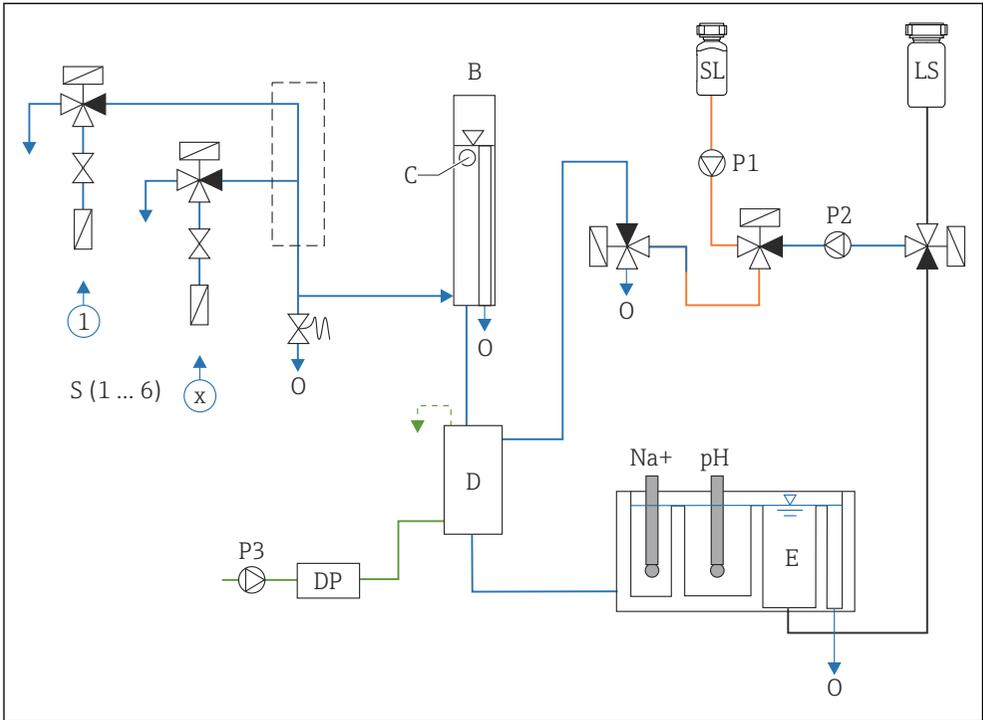
Hoses can only be removed when unpressurized:

Push in the ring with the hose and hold it in place, then remove the hose.

If the hose is removed frequently, indentations appear on the hose in the area around the retaining clips. It is important that the first 5 mm of the hose are smooth.

7.1.1 Connecting pipes that carry liquid

Flow diagram



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6 Liquid control unit with measuring unit and supply vessel

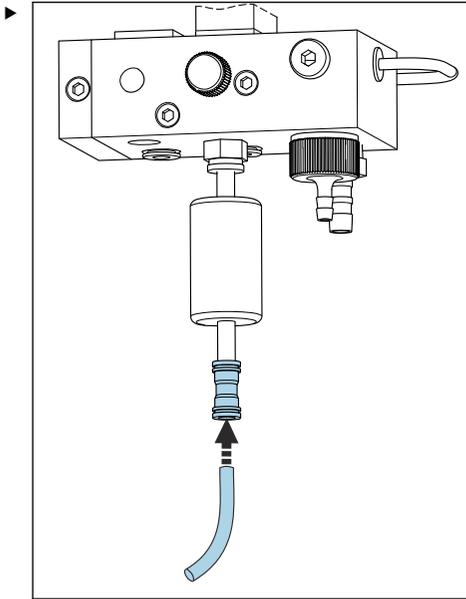
| | | | |
|----|---|----|-------------------|
| S | Sample inlet, 1 to 6 | O | Outlet |
| B | Overflow vessel for constant primary pressure | SL | Standard solution |
| C | Overflow level monitor | LS | Laboratory sample |
| D | Alkalization vessel | P1 | Dosing pump |
| DP | Diisopropylamine (DIPA) | P2 | Circuit pump |
| E | Supply vessel | P3 | Alkalization pump |

Connecting medium supply points

The analyzer can have up to 6 medium supply points depending on the device version.

Hose specifications (not included in scope of delivery):

- Externally toleranced, flexible PE or PTFE hose with outer diameter of 6 mm (0.24 in)
- Length at least 200 mm (7.87 in)



Connect sample hose using quick-release coupling.

- ↳ The applied pressure is limited to approx. 1 bar (14.5 psi) by the installed overflow valve.

Connecting medium outlet points

There are 3 sample outlet points on the device:

- Individual channel outlet points of the sample conditioning unit, up to 6 pieces of hose measuring 6 x 4 mm
- Overflow valve outlet, hose measuring 8 x 6 mm
- General outlet, hose measuring 11 x 8 mm

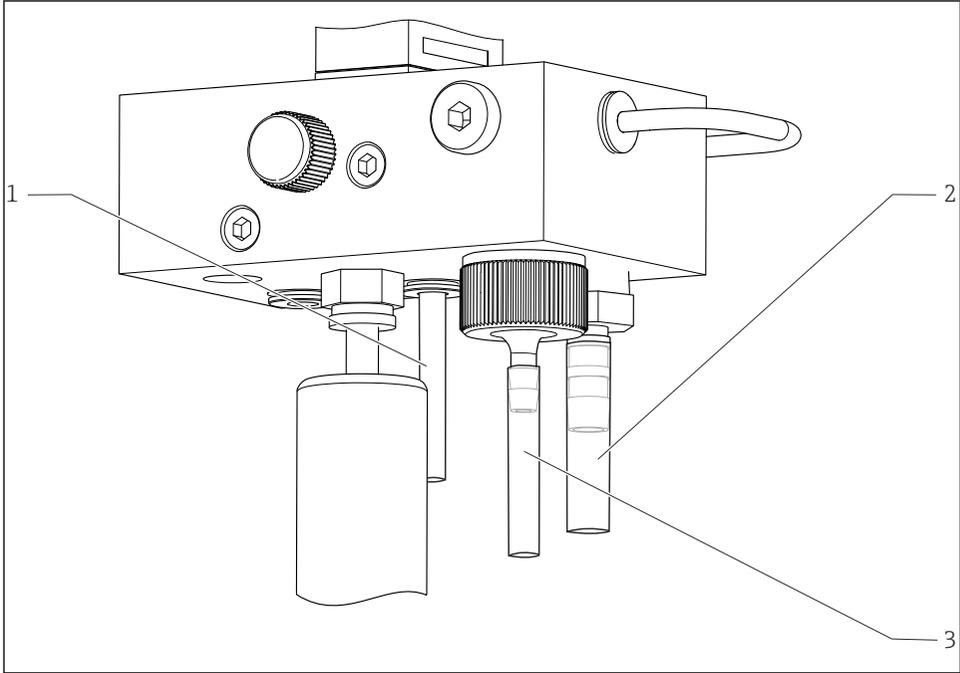
The medium discharged from the sample conditioning unit and overflow vessel can be directly re-introduced into the power plant circuit. As alkalization reagent is used, the water discharged at the general outlet is contaminated with these reagent substances. The discharging of wastewater into drains or the disposal of discharged water is governed by the wastewater management concept of the owner/operator.



Media must be able to drain off freely; do not route hoses upwards or bend hoses.

To avoid any buildup of backwater, use outflow hoses with a maximum length of 1 m (3.28 ft).

- ▶ Route hoses with a constant downward gradient so that water can drain off easily.



A0049111

- 1 Channel outlet
- 2 General outlet
- 3 Overflow valve

7.1.2 Installing electrodes

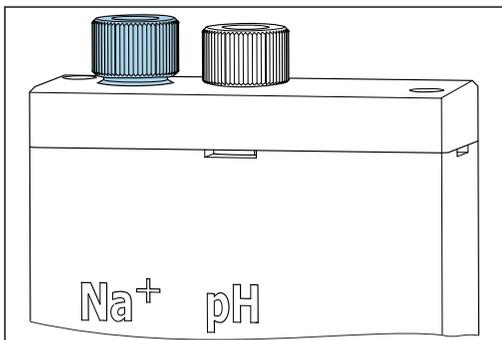
Preparing electrodes

1. The analyzer is switched off or the operating mode is **OFF**.
Fill the measuring unit halfway with deionized water so that the electrodes do not dry out after installation.
2. Remove the electrodes from the packaging. The sodium electrode is marked "Na" on the shaft. The pH electrode has no marking.
3. Remove the lower sealing cap with the saline solution. If there are any salt crystals on the electrode, rinse them off carefully with deionized water.

The electrodes are now ready to be installed.

Installing the electrodes

1.

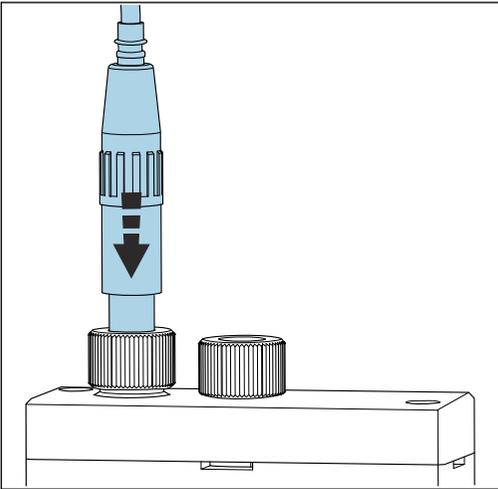


Loosen the screw connection on the measuring unit.

2. Fit the plug of the cable marked "Na+" onto the sodium electrode.
3. Fit the plug of the cable marked "pH" onto the pH electrode.
4. The plugs have a right-hand thread. Tighten the plugs by hand.

5. NOTICE**Risk of damaging the electrodes during the installation and removal procedure**

- ▶ Exercise care when inserting the electrodes into, and removing the electrodes from, the chambers of the flow through cell.
- ▶ Do not touch against the glass bulbs of the electrodes.
- ▶ The electrodes are very fragile. Exercise great care when handling the electrodes.
- ▶ Avoid air bubbles in the glass bulbs. If air bubbles are present, hold the electrode in a vertical position and shake it gently to remove the bubbles.
- ▶ Do not allow the glass bulbs of the electrodes to become dry. Fit the electrodes with the protection caps after removal.
- ▶ Protect the cable connections and plugs against corrosion and moisture.



Carefully insert the electrode as far as it will go into the left-hand chamber (sodium) or right-hand chamber (pH).

6. Tighten the screw connection by hand.

7.1.3 Connecting reagent bottles**⚠ WARNING****Contact of chemicals with eyes and skin, and inhalation of vapors**

Damage to the skin, eyes and respiratory organs

- ▶ Wear protective goggles, protective gloves and a lab coat when working with chemicals.
- ▶ Avoid any skin contact with chemicals.
- ▶ Do not inhale any vapors.
- ▶ Ensure the area is well ventilated.
- ▶ Comply with further instructions in the safety data sheets for the chemicals used.

⚠ CAUTION**Fire hazard**

- ▶ Make sure there are no sources of ignition, e.g. hot surfaces, in the vicinity
- ▶ Do not smoke

NOTICE**Escaping chemicals can contaminate the device**

Incorrect measurements

- ▶ When changing the hoses, do not contaminate the hose ends with chemicals.
- ▶ Allow the ends of the hoses to drain fully.
- ▶ Do not touch the hoses when changing the standard solution.
- ▶ Ensure the area is well ventilated.

Connecting the bottle with alkalization reagent**Bottles with alkalization reagent with S40 thread**

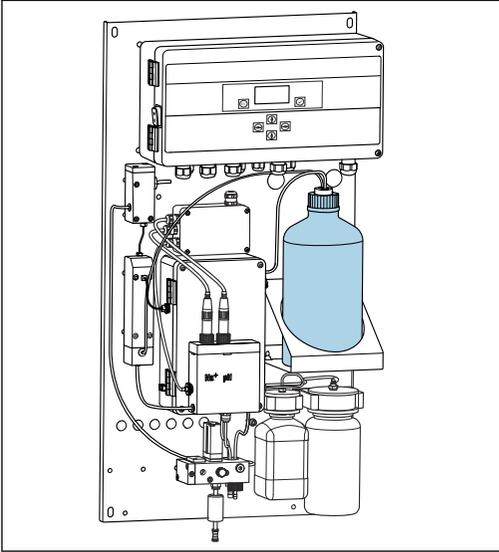
No adapter required for connection to the analyzer, the bottle connection including thread adapter nut and seal are ready to use

Bottles with alkalization reagent with GL45 thread

A different union is supplied for connection to the analyzer, can be reordered as an accessory for the analyzer

- ▶ Use bottles made of solid material, e.g. glass, for alkalization reagent.

There is space for a 2.5 liter bottle on the analyzer (0.66 US gal). An empty bottle is supplied as a protective measure.



7 *Bottle for alkalization reagent*

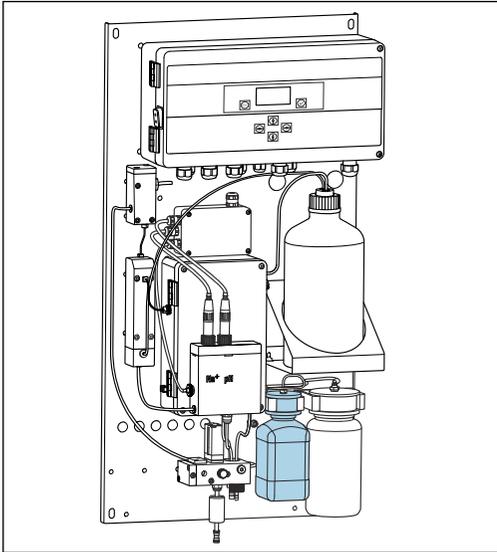
1. Unscrew the empty bottle and remove it from the holder.
2. Place the new bottle in the holder.
3. Open the bottle cap.
4. When using a bottle with GL45 thread: replace the union, the bottle connection including seal remain the same.
5. Screw the bottle connection with the union nut onto the new bottle.

Connecting the bottle with standard solution

The standard solution is ready-to-use when delivered.

1. Open the bottle.

2. Screw the bottle into the head provided. In doing so, make sure you do not touch the hoses.

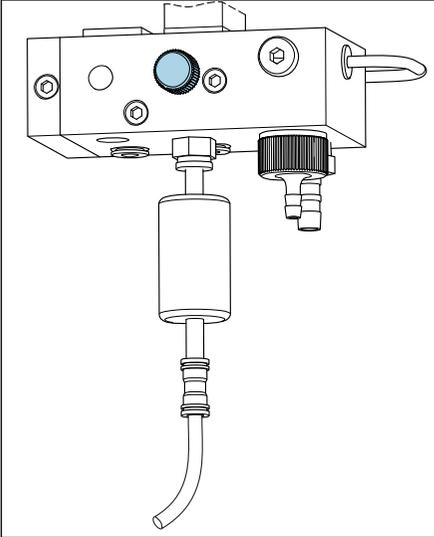


 8 Connected bottle for sodium standard solution, incl. head

7.1.4 Setting the sample flow

The control valve is used to adjust the sampling volume so that the sample flows off evenly at the overflow.

1.



 9 Control valve

Set the sample flow to 5 to 10 l/h (1.32 to 2.64 gal/h) at the control valve.

2. Wait until sample flows off evenly via the overflow.
3. Repeat the process for all available channels.

7.2 Function check

WARNING

Incorrect connection, incorrect supply voltage

Safety risks for staff and device malfunctions

- ▶ Check that all connections have been established correctly in accordance with the wiring diagram.
- ▶ Ensure that the supply voltage matches the voltage indicated on the nameplate.
- ▶ Before commissioning, check whether the correct fuse is installed for the specific voltage range.



The analyzer is fitted with a fuse, T 1.25 A, for the 215 to 240 V AC voltage level. If the analyzer is operated with 100 to 130 V AC, replace the fuse with the T 2.5 A fuse supplied. The fuse is located in the cover of the electronics unit.

7.3 Switching on the measuring device

- ▶ Switch on the analyzer at the mains switch.

7.4 Configuring the measuring device

The following steps must be performed once the analyzer has been switched on:

1. Wait for a run-in period of 4 hours.
2. Calibration of the electrodes
3. Configure the basic parameters
4. Repeat calibration of the electrodes (after at least 12 hours)

7.4.1 Calibrating the electrodes

1. Calibrate the pH electrode .
2. Calibrate the sodium electrode .

Occasionally a calibration error can occur when calibrating for the first time after commissioning. This is caused by impurities that entered during transportation, mounting and commissioning.

3. Repeat calibration of the electrodes after the analyzer has been in operation for at least 12 hours. This is necessary to purge the entire system after transportation and installation.

7.4.2 Configuring the basic parameters

1. Switch to automatic mode after calibrating the electrodes:
2. In the **Maintenance** menu, select the **Operating Mode** submenu and confirm with .
3. Enter the factory password 1111, or a new password that has been assigned and confirm with .
4. Use the key to select the **Mode** function and confirm with .
5. Select the **AUTOMATIC** option and confirm with .
6. Navigate to the **Parameters** menu.
7. Enter the factory password 2222, or a new password that has been assigned.
8. Define the required basic parameters in the **Parameters** menu.



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