

Addition to the operation manual

MENNEKES ACU / SCU for controlling charging systems



GERMAN

ENGLISH

FRANÇAIS

ITALIANO

NORSK

NEDERLANDS

SWEDISH

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1. About this document

This document is an addition to the current operating manual **MENNEKES ACU / SCU for controlling charging systems**. This addition includes instructions for using the E-Mobility Gateway and is complete only together with the said operating manual. This manual contains instructions that you have to observe for your personal safety and to prevent injury or damage. The German version of this manual is the original manual. Manuals in other languages are translations of this original manual.

The information provided in this manual applies exclusively to the devices described in this manual.

In addition to this manual, the scope of delivery may also include further documentation (e.g. instructions for device components, diagrams, etc.) which must also be fully observed.

Keep all of these documents for later reference and pass these on to the new operator should the device change hands.

1.1 Service

Please contact MENNEKES or your authorised service partner.

Please have the following information ready:

from the device nameplate:

- Type designation
- Serial number

1.2 Nameplate



Abb.: 1. Nameplate (example)

- 1 Type / serial number
- 2 Nominal current
- 3 Rated voltage
- 4 Frequency
- 5 Protection class + Symbol for protection class 2 with functional earthing

1.3 Symbols used



The activities marked with this symbol may only be carried out by a qualified electrician.



This symbol indicates an important note.



This symbol is used to point out supplemental, useful information.

- ▶ The triangle marks a prompt for action.
- This square is used to point out a listing.
- ➔ The arrow indicates a cross-reference to another chapter in this manual.
- 📄 This symbol identifies a reference to another document.
- ✓ This tick is used to point out a result.

2. For your safety

2.1 Target groups

2.1.1 Operator / owner

As the operator, you are responsible for the device.

You are responsible for its proper and safe use. This includes maintenance, repair, and troubleshooting measures, as well as the instruction of persons in the safe operation of the device. As an operator, you must ensure that no unauthorized person or animals have access to the device. This also includes children and people with disabilities who are not able to assess the potential hazards associated with handling the device.

2.1.2 Electrotechnical layperson

As a layperson, you do not possess skills or knowledge in the electrotechnical sector. You may not carry out any electrotechnical work on the device that requires a qualified electrician.

2.1.3 Qualified electrician



As a qualified electrician, you have received recognised electrotechnical training.

Due to this specialist knowledge, you are authorised to carry out the required electrotechnical tasks described in this manual.



All target groups mentioned here may open this device. This applies in particular to the electrotechnical layperson, as opening is required for inserting the SIM card. The device is designed according to protection class 2 compliant with DIN EN 60950. When handled properly, the device does not present a danger even for people without electrotechnical knowledge.

2.2 Intended use

This device is intended for networking with a charging infrastructure and a backend system.

The device serves exclusively for the communication between connected charging systems and backend through RS485 bus, LAN or mobile telephone system.

The unit is intended for permanent installation and for indoor and outdoor use.

The operator is responsible for the proper and safe use of the device.

MENNEKES Elektrotechnik GmbH & Co. KG accepts no liability for any consequences arising from improper use of the device.



Only a qualified electrician may install the device and connect it to the voltage supply.

2.3 Improper use

Using the device is safe only when used as intended.

The following uses are not permitted:

Disregard of the manual

- ▶ Read the manual before using the device.
- ▶ Comply with the described procedure and sequence of work steps.
- ▶ Carry out only those tasks you are authorised to perform.

Using a damaged device

- ▶ Do not use a damaged device.
- ▶ Do not drive over cables and connectors.
- ▶ Have a qualified electrician repair the device.

Manipulation of the device

- ▶ Do not make changes or modifications to the device.
- ▶ Do not remove any parts of the device.
- ▶ Do not use adapter plugs in conjunction with the device.

Use of unsuitable cleaning agents

- ▶ Do not use aggressive cleaning agents or chemicals for cleaning because these may adversely affect and damage surfaces.

Use of unauthorised spare parts and accessories

- ▶ Use only spare parts and accessories that are manufactured and / or approved by MENNEKES.

Use under unsuitable ambient conditions

- ▶ Use the device only in suitable ambient conditions.
- ▶ Do not use the device in potentially explosive atmospheres where flammable liquids, gases or dust are present – explosion and fire risk.
- ▶ Keep device away from heat sources.
- ▶ Observe local regulations.
- ➔ See "4.2 Umgebungsbedingungen" auf Seite 8

3. Product description

The devices may differ due to customer or country-specific requirements. Depending on the model, the device may differ visually from the illustrations in this guide.

3.1 Delivery content

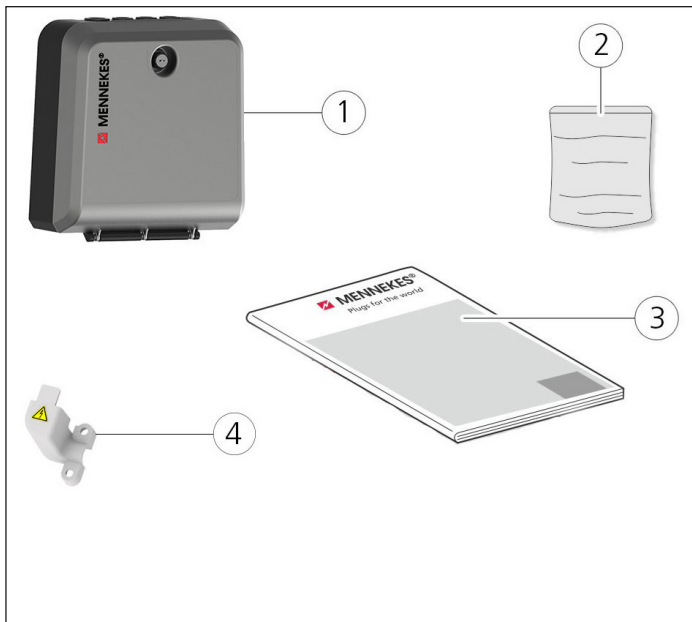


Abb.: 2. Delivery content

- 1 E-Mobility Gateway
- 2 Bag with accessory
 - 2 keys
 - 3x membrane cable entry CLIXX 20
 - 1x membrane cable entry CLIXX 25
 - 3x Quixx membrane sleeve EMT 32 IP66
 - 2x sealing plug ø15.6
 - 2x sealing plug ø 24.6
 - 4x Fischer universal dowel UX 8 x 50 R
 - 4x countersunk screw - SPS A2 5.0x50 T25
- 3 Installation and operating manual
- 4 Cover for power supply (inside the device)

3.2 Layout and gear

3.2.1 Gateway

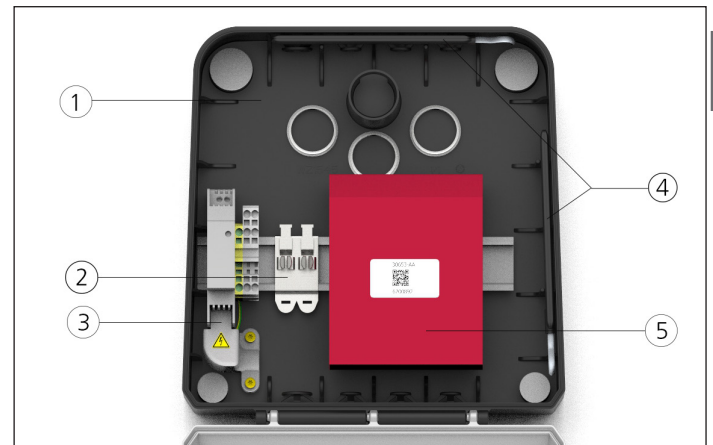


Abb.: 3. Layout

- 1 Bottom part of enclosure
- 2 Bus terminals
- 3 Mains connection
- 4 Antennas
- 5 ACU V4

3.2.2 ACU V4

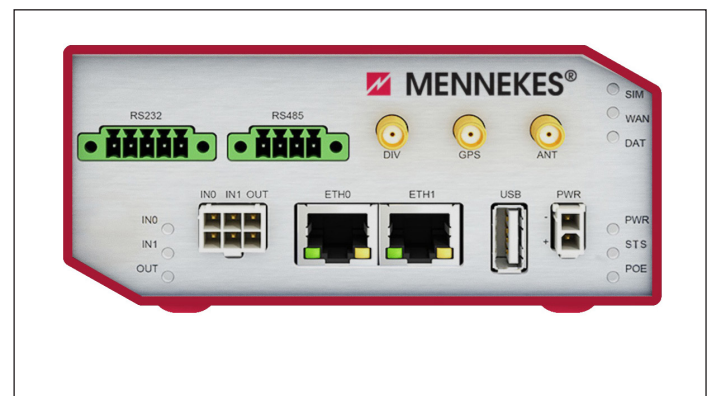


Abb.: 4. ACU V4

Connections


- RS232: Bus
- RS485: Bus
- ETH0: LAN
- ETH1: LAN

Displays

- SIM: GPRS status
- WAN: Internet connection
- DAT: Data transmission over antenna
- PWR: Power (ready for use)
- STS: Status of devices

4. Technical data

4.1 Device data

Nominal voltage U_n	230 V AC $\pm 10\%$	
Nominal frequency f_n	50 Hz	
Nominal current	0.5 A	
Protection class	IP 54	
Protection class	2 with functional earthing 	
Dimensions	250 x 250 x 100 mm	
Contamination level	3	
System according to type of earth connection	TN / TT	
Installation	Outdoor / indoor	
Stationary / non-stationary	Stationary	
Exterior design	Wall installation	
Ambient temperature	-25...+40 °C	
Maximum cable cross-sections at terminals	rigid	flexible
	2.5 mm ²	2.5 mm ²

4.2 Ambient conditions

Ambient conditions for operation

Ambient temperature	-25 ... +40 °C
Average temperature over 24 hours	< 35 °C
Storage temperature	-25 ... +40 °C
Altitude	max. 2,000 metres above sea level
Relative humidity	max. 90 % (non-condensing)



Avoid strong sunlight

5. Installation and start-up

5.1 Unpacking the device

WARNING

Danger of death by suffocation

Do not leave packaging material or small parts lying around. They may become dangerous toys for children.

- ▶ Keep children away from packaging material and small parts.

CAUTION

Damage to the device by improper handling

Collisions and shocks may damage the device.

- ▶ Do not use sharp or pointed objects for opening the package to avoid damage to the device.
- ▶ Move the device with utmost caution.
- ▶ Use a soft base to set aside the device.

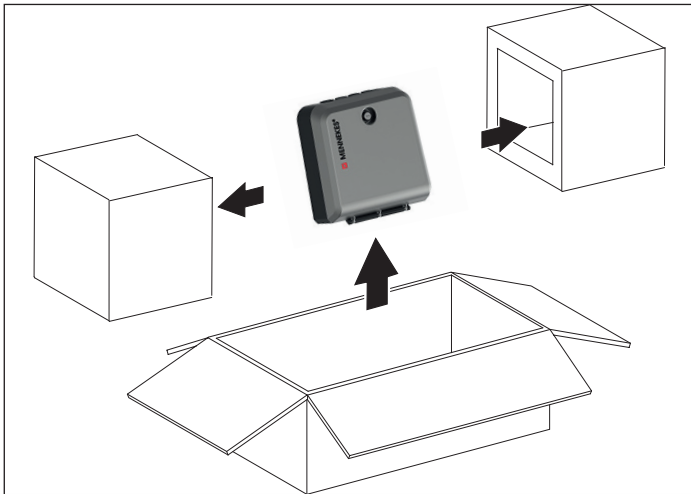


Abb.: 5. Unpacking

- ▶ Remove the device from the cardboard box.
- ▶ Remove rigid foam packaging and plastic bag.
- ▶ Place the device on a soft surface.
- ▶ Retain the packaging or dispose of it according to local regulations.

5.2 Choice of location

WARNING

Danger from unsuitable choice of location

An unsuitable choice of location may lead to dangerous situations electric current.

Please note the following points when choosing a location:

- ▶ do not use in hazardous areas (Ex-zones) such as natural gas stations;
- ▶ prevent penetration of water and heat build-up;
- ▶ Observe the permissible ambient temperatures for operation and avoid strong sunlight;
- ▶ Operate the device only with the matching electricity network data;
- ▶ Comply with local technical connection requirements and safety rules.

5.3 Opening the device



Abb.: 6. Opening the device

- ▶ Open the lock on the front by using the supplied key.
- ▶ Open the cover by pressing.
- ▶ Swing the enclosure cover downwards.

5.4 Preparing the device



Note the following points when connecting the device:

- No other circuits may be connected to this device.
- The residual current circuit breaker (RCCB) possibly required must be installed on site.
- The required miniature circuit breaker (MCB) must be installed on site. Permissible miniature circuit breaker: B6 (6A maximum)



The connection must be accomplished according to protection class 2 compliant with DIN EN 60950.

- ▶ When installing, please note the applicable requirements for compliance with protection class 2 including functional earth.

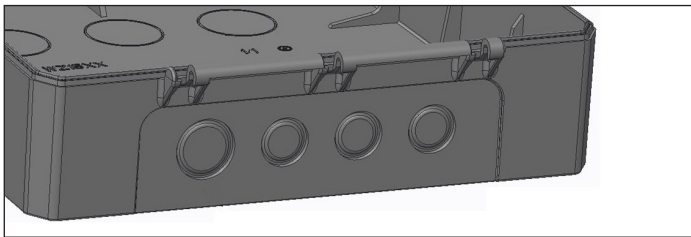


Abb.: 7. Openings for the supply line

- ▶ Select openings for cable entry and open with appropriate tools. Cut out holes on the back to prevent damage to the enclosure.
- ▶ Route supply line and possibly data and control lines to the appropriate locations. Depending on the opening used, not more than 40 cm are needed within the charging station for the electrical connection.
- ▶ Fit the supplied membrane plug in the opening provided on the enclosure.
- ▶ Route the supply line through membrane screw connection into the enclosure.

5.5 Installing the device

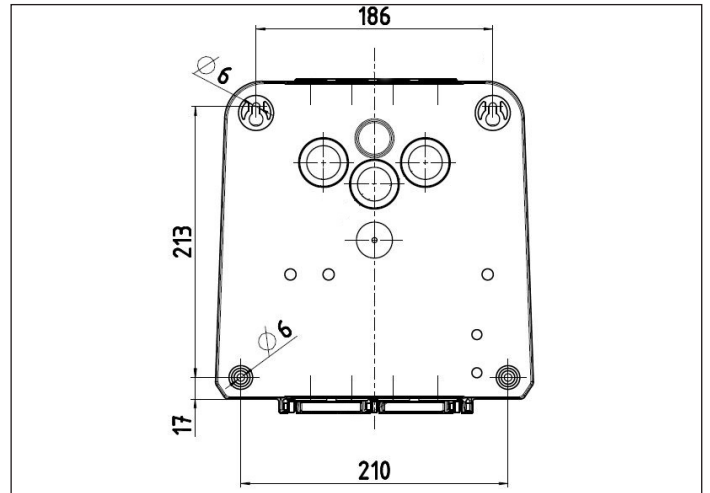


Abb.: 8. Drilling dimensions

- ▶ Mark the mounting holes.
- ▶ Drill holes in the wall with the diameter required by selected mounting material.
- ▶ Attach the device to the wall by using the supplied dowels and screws.
- ▶ Check the device for firm and secure attachment.
- ▶ Cover the screws inside the enclosure with the supplied plugs.

5.6 Connecting the supply line



DANGER

Risk of injury from electric shock

Danger of severe or fatal injury when touching live components.

- ▶ It is mandatory to install the cover for the mains connection.
- ▶ Do not strip the line before covering.

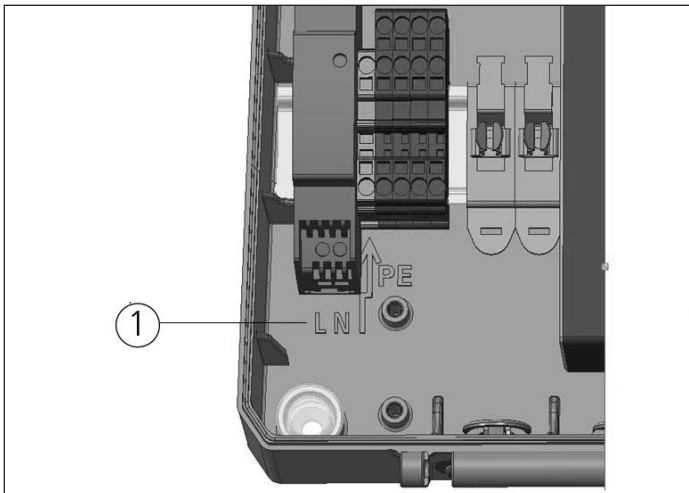


Abb.: 9. Connection of the supply line

- ▶ Strip the supply line and remove wire insulation.
- ▶ Connect the cable cores to the terminal block **(1)** according to the label.
- ▶ Check the individual cores for proper connection and screws for tight seating.

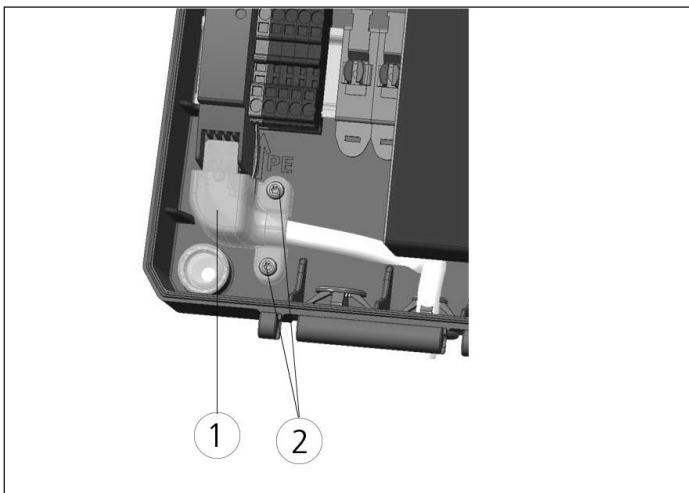


Abb.: 10. Cover the supply line

- ▶ Fit the cover **(1)** using the supplied screws **(2)**. Maximum torque of 1.2 Nm.
- ▶ Make sure to strip the supply line only when it is under the cover.



Protection class 2 requires the installation of the cover.

5.7 Connecting the BUS cable

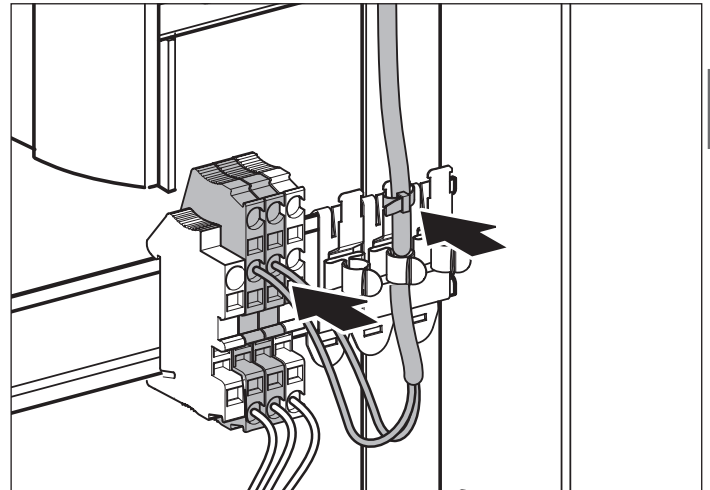


Abb.: 11. Connecting the BUS cable

A shield clamp is attached for connecting the BUS cable.

- ▶ Strip the BUS cable at least 120 mm.
- ▶ Expose the shield at a suitable location.
- ▶ Insert the exposed location of BUS cable in the shield clamp.
- ▶ Secure the line with a cable tie over the outer sheath on strain relief.
- ▶ Connect the individual cores to terminals 1 (A) and 2 (B) (e.g. for Siemens Profibus line: core of the green cable to terminal 1 (A), core of the red cable to terminal 2 (B)).

5.8 Start-up

⚠ WARNING

Damaged device – risk of injury from electric shock!

Do not use the device if it is damaged.

- ▶ Mark the possibly damaged device to ensure that no one continues using it.
- ▶ Have a qualified electrician rectify the damage immediately.
- ▶ Have an electrician take the device out of service if necessary.

📄 The documentation of the MENNEKES ACU / SCU describes the configuration.

5.9 Inserting the SIM card

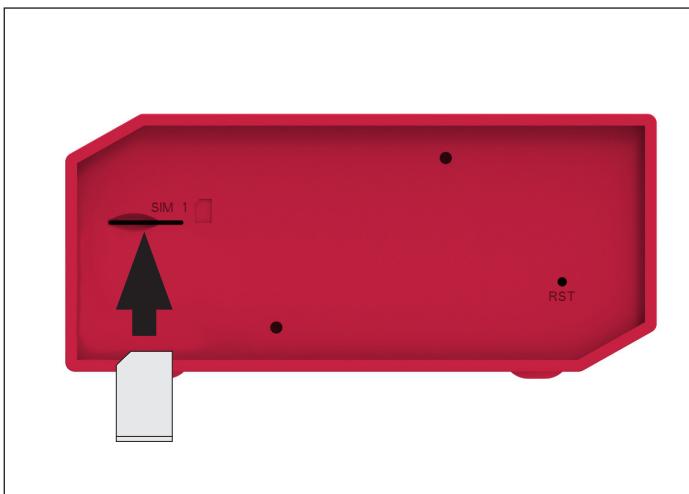


Abb.: 12. SIM card slot

- ▶ Insert the SIM card into the slot SIM 1.
- ▶ Let the SIM card click into place by applying slight pressure.

6. Taking out of service and dismantling

Dismantling the device



- ▶ Disconnect device from the mains.
- ▶ Open the device.
- ▶ Remove the screws on the cover of the power supply.
- ▶ Remove the cover.
- ▶ Disconnect the supply line.
- ▶ Disconnect the bus cables.
- ▶ Route the supply line back through the membrane screw connection of the enclosure.
- ▶ Loosen the wall screw connection and remove the device.

7. Maintenance and repair

7.1 Maintenance in the case of domestic use

For long-lasting and safe operation, we recommend that you have a qualified electrician inspect the device for proper condition at regular intervals.

➔ See "7.3 Wartungsarbeiten" auf Seite 13

7.2 Maintenance in the case of commercial use

When using the device commercially, the operator / user of the device must have a qualified electrician check the device for proper condition at regular intervals.

➔ See "7.3 Wartungsarbeiten" auf Seite 13

7.3 Maintenance tasks

Regular inspection and maintenance assist in trouble-free and safe operation of the device and help increase the service life.

This allows early detection of possible error sources and prevents hazards. We recommend that you carry out a visual inspection of the device regularly.

Defects found on the device need to be eliminated immediately. Do not use a damaged or defective device as this could increase the risk of electric shock and damage to property. Examples of defects:

- defective enclosure (e.g. severe deformation, cracks, heat damage)
- defective or missing components (e.g. missing cover, missing cover of the connecting cable)
- defective lines (e.g. kinks, cuts, pinch points)

7.3.1 Electrotechnical layperson

Required operations

- ▶ Check the device for external damage.
Defects found on the device need to be eliminated immediately by a qualified electrician.

7.3.2 Qualified electrician



DANGER

Risk of injury from electric shock

Danger of severe or fatal injury when touching live components.

- ▶ Disconnect the device from the mains supply.

Required operations

- ▶ Check the device for damage.
- ▶ Eliminate damage to the device according to regulations.
- ▶ Use only original spare parts from MENNEKES for repairing.
- ▶ Check the device for proper operation after repair.
- ▶ Do not recommission a damaged device that does not allow continued safe operation.

7.4 Maintenance schedule

Part / component	Maintenance operations
Enclosure	Visual inspection for defects or damage. Check the device for secure attachment. Clean the outside of the enclosure with a damp cloth.

7.5 Cleaning

The device can be cleaned with a dry cloth or a damp cloth, depending on application conditions and soiling.

However, cleaning with a dry cloth at regular intervals is recommended to prevent stubborn soiling on the surfaces.

7.5.1 Cleaning with a dry cloth

Remove dust and dirt first by using a brush with soft bristles.

For the dry cleaning, you can use a clean cloth suitable for plastic surfaces.

- ▶ Wipe the device thoroughly with a clean, dry cloth.

7.5.2 Cleaning with a damp cloth

WARNING

Touching live components – Danger of death from electric shock!

- ▶ Before cleaning with a damp cloth, take the device out of operation and have a qualified electrician disconnect it from the mains.
- ▶ Clean only outside of the device.
- ▶ Keep the device closed during cleaning with a damp cloth.

CAUTION

Material damage due to incorrect cleaning

- ▶ Clean only the outside of the device with a damp cloth.
- ▶ Close the enclosure cover.
- ▶ Avoid running water and make sure that no water enters the enclosure.
- ▶ Do not use compressed air or high-pressure cleaning equipment.
- ▶ Do not use aggressive cleaning agents or chemicals.

Remove dust and dirt first by using a brush with soft bristles.

For damp cleaning, we recommend to use clean water without the addition of detergents and a clean cleaning cloth suitable for plastic surfaces. Then use a clean cleaning cloth to wipe the device dry.

8. Storage and disposal

8.1 Storing the device

Proper storage of the device serves maintaining the correct functioning of the device.

- ▶ Clean the device before storing.
- ▶ Store the device in its original packaging or by using suitable packaging in a clean and dry place.

Permissible storage conditions

Storage temperature	
Min.	Max.
- 25 °C	+ 40 °C
Relative humidity	
≤ 95 % on 30 days / year	

8.2 Disposal

You must dispose of the device and packaging according to regulations when the device has reached the end of its useful life. Observe the national regulations for disposal and environmental protection applicable in the country of use. Dispose of the packaging material in collection containers provided for this purpose. Old devices and batteries must not be disposed of with household waste.



Plugs for the world



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