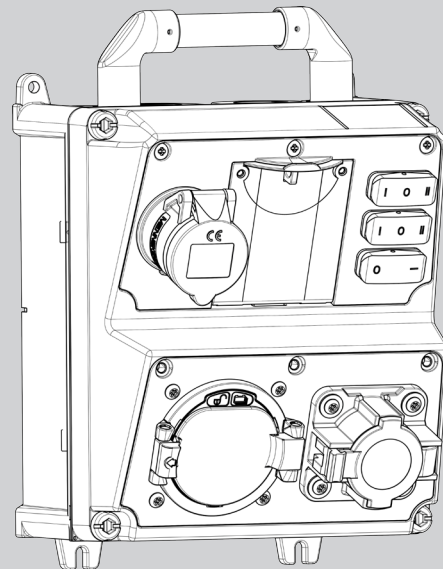
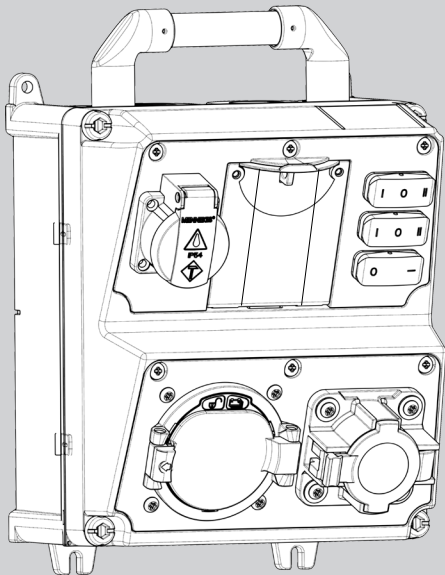


Test box models

TwinInlet Type F, TwinInlet Type E, TwinInlet Universal for charging stations



About this document

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- Must be read and kept in a safe place.
- Protected by copyright.
- Duplication, reproduction or transmission, in whole or in part, only with written consent.
- We reserve the right to make technical changes geared towards improving the product.

Document symbols

▶ Required action

■ Listing

✓ Check

💡 Tip

➔ Reference to another part of this document

📄 Reference to separate documents that need to be complied with

Explanation of safety symbols

DANGER!

Indication of a high-risk hazard!

Failure to comply with the information will directly result in death or major injury.

WARNING!

Indication of a medium-risk hazard!

Failure to comply with the information can result in death or major injury.

CAUTION!

Indication of a low-risk hazard!

Failure to comply with the information can result in minor to moderate injury.

NOTICE

Indication of a low-risk hazard!

Failure to comply with the information can result in the product being damaged or destroyed.

Table of contents

1.	For your safety.....	4
1.1	Intended use	4
1.2	Target group	4
1.3	General safety information	4
1.4	Operating position.....	5
1.5	Service.....	5
2.	Device overview	5
2.1	Scope of delivery	5
2.2	Features and variants.....	5
	2.2.1 Twinlet Type F.....	6
	2.2.2 Twinlet Type E.....	6
	2.2.3 Twinlet Universal.....	7
2.3	Technical data	7
2.4	Nameplate.....	7
3.	Setting-up process.....	8
4.	Operation	8
4.1	Charging mode 3	8
	4.1.1 Status A	8
	4.1.2 Status B.....	8
	4.1.3 Status C	9
	4.1.4 Status D	9
	4.1.5 Status E.....	10
5.	Troubleshooting	10
6.	Storage and disposal.....	11
6.1	Storage.....	11
6.2	Disposal.....	11
7.	Appendix	11
7.1	Accessories	11
7.2	Glossary.....	11

1. For your safety

1.1 Intended use

MENNEKES test boxes simulate the charging process for electric vehicles at charging stations.

- Mode 3 charging according to IEC 61851-2:2017.
- Plugs and sockets according to IEC 62196.

Test boxes are used to check MENNEKES charging stations.

“Intended use” also includes compliance with the requirements for installation, operation and servicing set out by MENNEKES.

Any other use is regarded as improper use and is not permitted.

1.2 Target group

Qualified electrician

The device is intended to be used exclusively by an electrician.

The electrician, moreover, must have a recognised qualification in electrical engineering. On account of his or her specialist knowledge, the electrician is authorised to carry out the tasks described in this manual.

Requirements to be met by the qualified electrician:

- Knowledge of general and special regulations pertaining to safety and accident prevention.
- Knowledge of relevant electrotechnical regulations (e.g. DIN VDE 0100-600, DIN VDE 0100-722).
- Ability to identify risks and avoid possible hazards.

1.3 General safety information

DANGER!

Risk of death from electrocution!

Some components are live.

Contact with live parts will result in electric shock, burns or death.

- ▶ It is essential to comply with the safety information and instructions in this document.

Use of the device is prohibited:

- if explosive or highly flammable materials are stored nearby.
- if the device is standing in water.
- for ambient temperatures below -20 °C or above 40 °C.
- in case of damage to the device or individual components.
- for children and persons who are not able to accurately assess the hazards associated with using the device.

MENNEKES accepts no liability for damage in the following cases, all of which result in the guarantee for the device and accessories becoming null and void.

- Failure to comply with the information in this operating manual.
- Improper use.
- Incorrect handling.
- Deployment of unqualified personnel.
- Modification or conversion of the device.
- Use of spare parts not manufactured or approved by MENNEKES.
- Use of high-pressure cleaners or sandblasters.

1.4 Operating position

During operation, the position of the device must be checked and the positioning requirement complied with. The test box must be positioned on its rear face, so that the hinged socket lids open in an upward direction and the plugs of the consumers can be connected.

1.5 Service

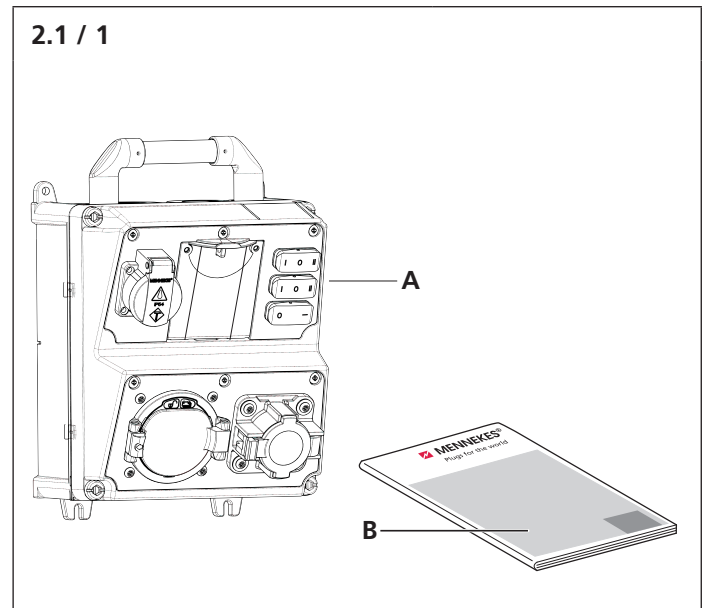
The device was in perfect working order at the time it left the factory.

- ▶ In the event of complaints regarding the device, please contact MENNEKES or your responsible service partner immediately.
- ➔ Contact details on the rear of the device.

- ▶ Please have the following information ready at hand:
 - type designation / serial number;
 - date of manufacture;
 - reason for complaint;
 - duration of use;
 - ambient conditions (temperature, humidity).
- ➔ „2.4 Nameplate“

2. Device overview

2.1 Scope of delivery



- A Test box
- B Operating manual

2.2 Features and variants

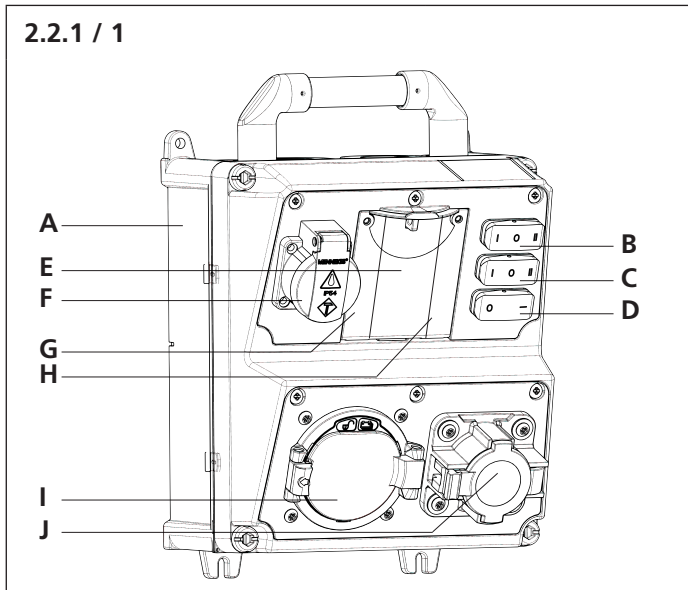
- Simulation of a charging process for an electric vehicle.
- Setting options for vehicles with gassing and non-gassing batteries.
- Simulation of an alternating current load via connected external consumers.
- Simulation of a defective line.
- Residual current device test using an external measuring instrument.
- Meter test via connected external consumers.
- Displays indicating failure of protective devices.
- Suitable for type-1 and type-2 plugs

System monitoring

- Check of rotating field
- Check for phase failure
- Check for undervoltage
- Check of PWM signal via external measuring instrument

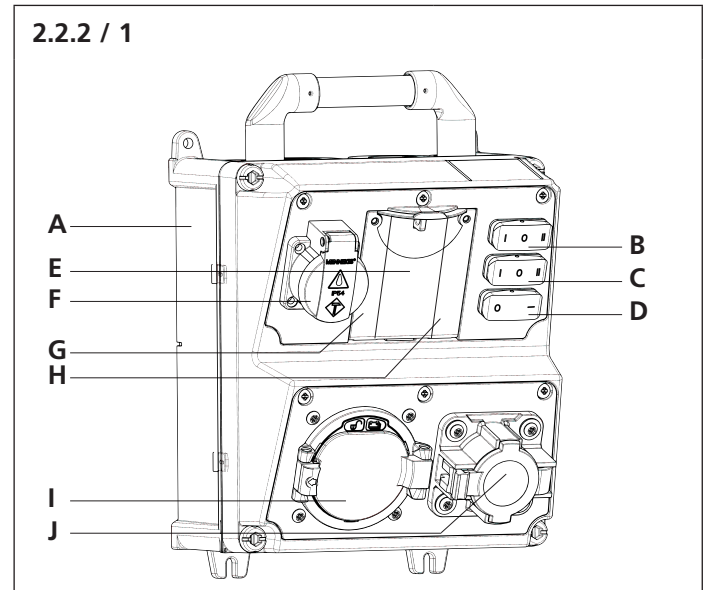
- ➔ „7.2 Glossary“

2.2.1 Twinlet Type F



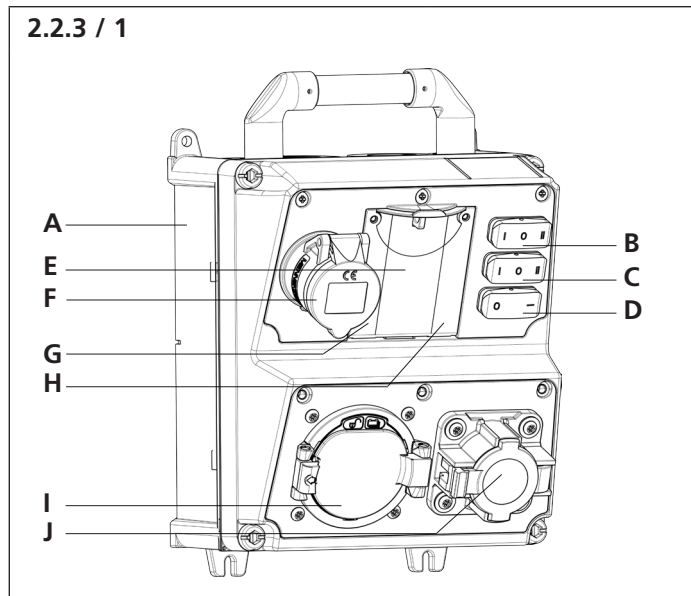
- A Basic enclosure
- B Rocker switch for selecting vehicle inlet
- C Rocker switch for ventilation requirement
- D Rocker switch for fault message
- E Fuse protection for SCHUKO® socket
- F SCHUKO® socket
- G System monitor
- H BNC connection point
- I Type-2 vehicle inlet (mode 3)
- J Type-1 vehicle inlet (mode 3)

2.2.2 Twinlet Type E



- A Basic enclosure
- B Rocker switch for selecting vehicle inlet
- C Rocker switch for ventilation requirement
- D Rocker switch for fault message
- E Fuse protection for Type E socket
- F Type E socket
- G System monitor
- H BNC connection point
- I Type-2 vehicle inlet (mode 3)
- J Type-1 vehicle inlet (mode 3)

2.2.3 Twinlet Universal



- A Basic enclosure
- B Rocker switch for selecting vehicle inlet
- C Rocker switch for ventilation requirement
- D Rocker switch for fault message
- E Fuse protection for CEE socket
- F Single-phase CEE socket
- G System monitor
- H BNC connection point
- I Type-2 vehicle inlet (mode 3)
- J Type-1 vehicle inlet (mode 3)

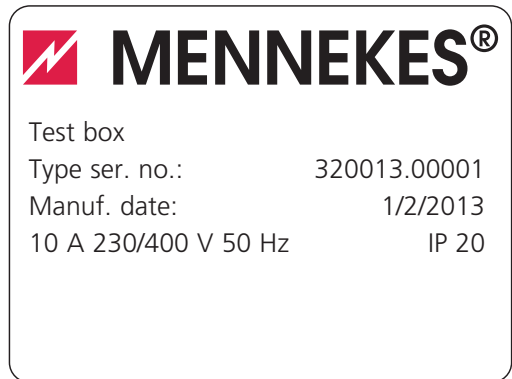
2.3 Technical data

Nominal voltage	230 VAC (±10%) 400 VAC (±10%)
Nominal frequency	50 Hz
Nominal current	10 A
Maximum back-up fuse rating	80 A
Protection class	IP 20
Dimensions (H x W x D)	260 x 225 x 165 mm
Weight	3.3 kg

2.4 Nameplate

The nameplate can be found on the rear of the device.

2.4 / 1



Information on the nameplate:

- Manufacturer
- Type
- Serial number
- Date of manufacture
- Nominal current
- Nominal voltage
- Nominal frequency
- Protection class

3. Setting-up process

Requirements at the place of operation

! DANGER!

Risk of death due to improper use

Failure to comply with the specifications for the ambient conditions can lead to hazardous situations when working with electricity.

- ▶ Ensure that the requirements at the place of operation are adhered to at all times.

- Device not to be used in potentially-explosive atmospheres (e.g. at gas filling stations).
- Compliance with the local technical connection requirements and safety rules.
- Maximum humidity (non-condensing): 95 %.
- Ambient temperature between -20 °C and + 40 °C, mean temperature over 24-hour period < 35 °C.

4. Operation

! CAUTION!

Hazard due to improper use

An open charging inlet can become contaminated

- ☞ Close the lid of the charging inlet not in use.

4.1 Charging mode 3

- 📄 Have the documentation on the charging station handed out by the operator. The documentation can also be found at the MENNEKES website (www.MENNEKES.de).

The test box simulates the charging statuses of an electric vehicle. Consequently, the test box acts like an electrical vehicle in this manual.

The device has rocker switches which can be used to set the various charging statuses and test certain functions of the charging system; this is achieved by selecting the switch positions accordingly. The positions of the rocker switches are indicated in the diagrams below.

- ▶ Insert the charging plug fully in the type-1 or type-2 charging socket at

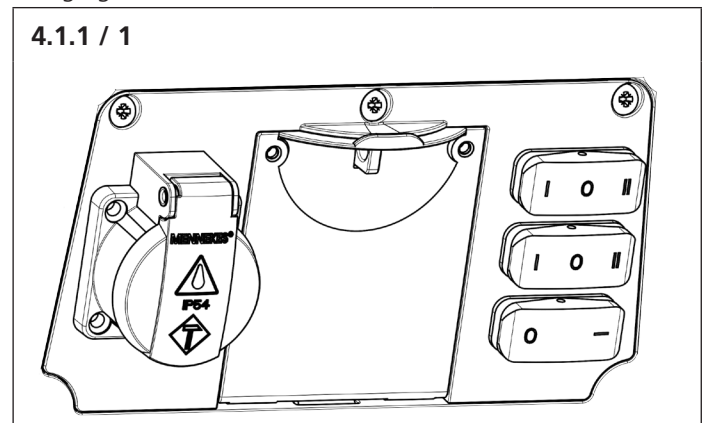
the test box. Use one charging inlet only at all times

- ▶ Connect the charging cable to the MENNEKES charging station.
- ▶ Set the three rocker switches according to the vehicle status (one of A - E) that you wish to simulate. Note the information below in this regard.

4.1.1 Status A

Test box connected to charging station

There is no communication between the test box and the charging station.



Setting for rocker switches (0)

4.1.2 Status B

Test box connected to charging station

Communication between the test box and the charging station is established.

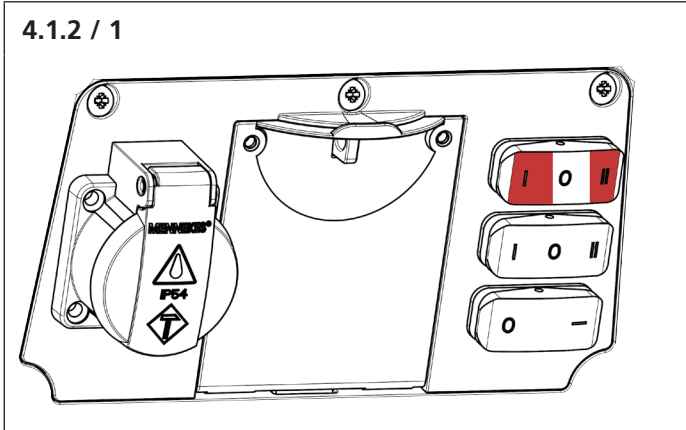
Charging socket (type 1 or type 2) selected via setting for top rocker switch.

Switch setting I corresponds to a charging inlet of type 2 (left side).

Switch setting II corresponds to a charging inlet of type 1 (right side).

The test box simulates the charge readiness state of the vehicle.

4.1.2 / 1



Setting for top rocker switch (I or II)

4.1.3 Status C

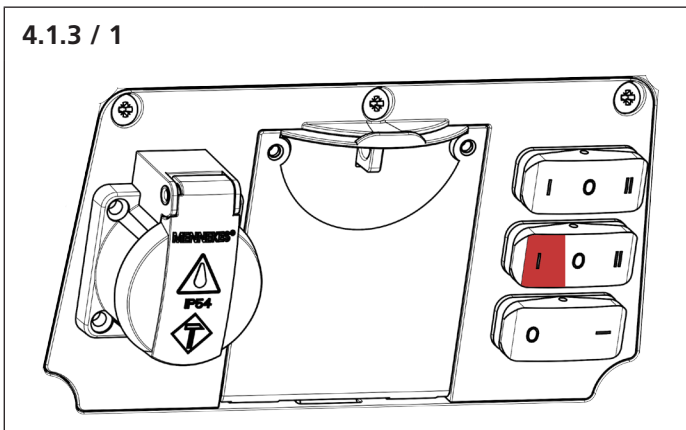
Test box simulation of charging process for vehicle with non-gassing battery

For status C, external ventilation of the vehicle surroundings is not required for the charging process. The charging process for a vehicle is simulated.

For a single-phase charging cable, the L1 LED of the system monitor lights up.

For a three-phase charging cable, all 3 LEDs (L1, L2, L3) of the system monitor light up.

4.1.3 / 1



Setting for middle rocker switch (I)

4.1.4 Status D

Test box simulation of charging process for vehicle with gassing battery

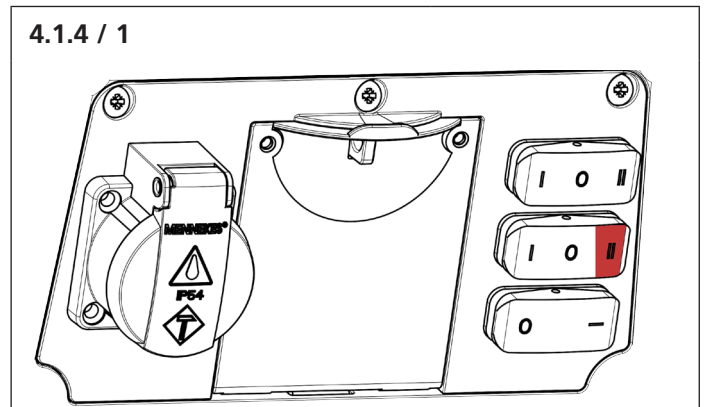
Caution: For status D, external ventilation of the vehicle surroundings is essential for the charging process. A vehicle can be charged if the place of charging is sufficiently ventilated. The ventilation requirement at the charging station has to be satisfied with the appropriate setting.

- ☞ For information on the ventilation requirements, please refer to the operating manual provided for the MENNEKES charging station.

For a single-phase charging cable, the L1 LED of the system monitor lights up.

For a three-phase charging cable, all 3 LEDs (L1, L2, L3) of the system monitor light up.

4.1.4 / 1



Setting for middle rocker switch (II)

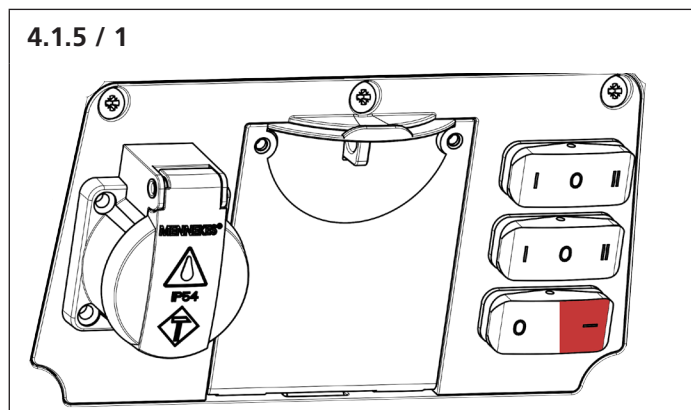
4.1.5 Status E

Simulation of communication fault between test box and charging station

The charging station indicates a fault. If a charging process is still active, this will be terminated immediately. For the "status E" setup, it is not possible to start a charging process.

After completing the tests or for the purpose of starting a new charging process:

- ▶ Remove the charging cable.



Setting for bottom rocker switch (I)

5. Troubleshooting

Fault	Description
1	<p>Test box does not respond</p> <ul style="list-style-type: none"> ■ No supply of power to charging system. ▶ Check the power supply. ■ Charging plug not correctly inserted. ▶ Check the plug-in connection. ■ Incorrect vehicle status set. ▶ Check the switch settings for the respective status (one of A-E). ■ Incorrect charging cable current. ▶ Use a suitable charging cable.
2	<p>Control lamps of system monitor do not light up</p> <ul style="list-style-type: none"> ■ No supply of power to charging system. ▶ Check the power supply. ■ Charging plug not correctly inserted. ▶ Check the plug-in connection. ■ Incorrect vehicle status set. ▶ Check the switch settings for the respective status (one of A-E). ■ Incorrect charging cable current. ▶ Use a suitable charging cable.
3	<p>System monitor indicates a faulty operating state</p> <p>Anticlockwise rotating field (LEDs flash in reverse order)</p> <ul style="list-style-type: none"> ■ Phases are swapped. ▶ Check the power supply connections. ▶ Make corrective adjustments for the swapped connections. <p>Phase failure (one or several LEDs are off).</p> <ul style="list-style-type: none"> ■ Failure of a phase. ▶ Check the phase according to the circuit diagram. ▶ Check whether residual current devices and MCBs are activated. ▶ Check the power supply line.

Fault	Description
4	<p>Low voltage (one or several LEDs are flashing)</p> <ul style="list-style-type: none"> ■ Fault cause ▶ Fault remedy <p>■ Voltage of corresponding phase too low.</p> <ul style="list-style-type: none"> ▶ Check the power supply. ▶ Check the neutral conductor, if necessary.

- ▶ If, following the check, faults continue to occur, please contact MENNEKES or your responsible service partner.
- ➔ See rear of device for contact details.

6. Storage and disposal

6.1 Storage

Dry and temperature-controlled rooms are to be used for storage, with the temperature lying between 0 °C and 40 °C.

6.2 Disposal

Old devices and packaging must be disposed of in accordance with the national and regional laws and standards. Environmental concerns must be taken into consideration.

Old devices must not be disposed of with household waste.

- ▶ Dispose of old devices at a collection point for electronic waste or via your dealer.
- ▶ Dispose of packaging material in accordance with the applicable regulations.

7. Appendix

7.1 Accessories

Part number	Description
36213	Mode-3 charging cable, type 2, 32 A, 3P+N+PE

7.2 Glossary

MCB	Miniature circuit breaker
Mode 3 (IEC 61851)	Charging mode for vehicles with communication interface at charging sockets of type 1 and type 2.
Type 2 (IEC 62196-2)	Single- and three-phase charging couplers with identical plug geometry for charging powers ranging from 3.7 to 44 kW AC.
Type 1 (IEC 62196-2)	Single-phase charging couplers for a charging power of 7.4 kW AC.
BNC connection	Co-axial connection with bayonet coupling.



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