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Wallbox Pure/Smart Pro

**Product manual**  
Wallbox Pure/Wallbox Smart Pro

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# 1. About these instructions

Read these instructions carefully before assembly and operation and keep them in a safe place. Give them to the new user if the product is passed on. More information on the product, details and technical knowledge can be found on our website.

## 1.1. Meaning of the symbols



### **Gefahr**

**Failure to comply will result in death or serious injury.**

▶ Avoid the danger.



### **Warnung**

**Failure to comply may result in death or serious injury.**

▶ Avoid the danger.



### **Vorsicht**

**Failure to comply may result in injury.**

▶ Avoid the danger.



### **Achtung**

**Failure to comply may result in damage to property.**

▶ Avoid the damage.



### **Note**

**Explanatory note**

Important additional information.

## 2. Safety instructions

The operator is responsible for ensuring that the wallbox is always kept in a proper and safe condition and must check it at regular intervals (See 13. Maintenance, page 29).

The manufacturer is not liable for damage resulting from improper use, e.g.:

- Assembly or connection errors
- Damage to the product due to mechanical effects and incorrect connection voltage
- Modifications to the product without the express permission of the manufacturer
- Use for purposes other than those described in the manual

## 2.1. General safety



### Warnung

#### Risk of fatal electric shock

- ▶ If the wallbox or the connected cables are visibly damaged, take the wallbox out of operation.
- ▶ If the connected cables and lines of the wallbox are damaged, have them replaced by a qualified specialist company to avoid hazards.
- ▶ Always pull the charging cable from the vehicle inlet by the plug or by the optional plug holder accessory, never by the cable.
- ▶ Never immerse the vehicle charging plug in liquids.



### Warnung

#### Health hazard

- ▶ Do not operate the wallbox at outside temperatures below -25 °C or above +40 °C.
- ▶ Do not unfasten the cover of the wallbox in the event of a fire. Use extinguishing agents approved for electronic devices. Do not use water for extinguishing.
- ▶ This device can be used by children aged 8 years or more and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, provided that they are supervised or have been instructed on using the device safely and they understand the hazards involved.
- ▶ Children must not be allowed to play with the device.
- ▶ Cleaning and operator maintenance must not be performed by children without supervision.

## 3. Intended readers

### 3.1. Operator

As the operator, you are responsible for the device. You are responsible for the proper use and safe operation of the device. This also includes instructing persons who use the device.

As an operator without specialised electrical training, you may only perform tasks that do not have to be done by a qualified electrician.

### 3.2. Qualified electrician

A qualified electrician is someone with a recognised electrotechnical training qualification. Based on this expertise, they are authorised to perform the electrotechnical work specified in these instructions.

Requirements for a qualified electrician:

- Knowledge of general and special safety and accident prevention regulations.
- Knowledge of the electrotechnical regulations
- Knowledge of national regulations
- The ability to recognise risks and avoid possible hazards.

### 3.3. Tasks according to group

#### Operator

- Operation
- Cleaning
- Compliance with maintenance intervals
- Troubleshooting

#### Qualified electrician

- Installation
- Initial commissioning
- Maintenance
- Decommissioning

## 4. Proper use



Fig. 1: Installation in a protected outdoor area

The wallbox is designed for charging electric vehicles with a type 2 connection using alternating current. The wallbox is permanently connected to the AC mains.

The wallbox is suitable for indoor and outdoor use. The wallbox is intended for mounting on a wall or pedestal. Only pedestals provided by Spelsberg may be used for mounting.

The wallbox must be operated in accordance with the applicable international and national regulations.

The following international regulations and national implementations must be observed:

- IEC 61851-1
- IEC 62196-1
- IEC 60364-7-722
- IEC 61439-7

The wallbox can be used in areas with unrestricted access. The wallbox is intended for private use only. Any other use is inappropriate.

## 5. Scope of delivery

Quantity	Description
1	Pre-assembled wallbox consisting of: <ul style="list-style-type: none"><li>■ Box with integrated cable management</li><li>■ Cover</li><li>■ Cover screws</li><li>■ Cover retainer</li><li>■ 3x double membrane seals DMS M25 for cable entries</li><li>■ Strain relief clamp for the charging cable</li></ul>
1	Mounting rail

Quantity	Description
1	Charging cable with type 2 plug
1	Design cover
5	Disc for unlocking the design cover
3	RFID chip
4	Truss head screw 6x60
4	Wall plug UX 8 x 50 R
3	Double membrane seal cable entry DMS M16
1	Double membrane seal cable entry DMS M25
1	Double membrane seal cable entry DMS M32
3	Setup QR code for commissioning by app
1	Quick Start Guide
1	Installation Guide

## 6. Accessories

Description	Order number
Polar RFID chip	591 813 01
Graphite RFID chip	591 814 01

Other accessories can be found on the Spelsberg website.

## 7. Technical description

The wallbox provides the AC voltage for single-phase or three-phase charging of electric vehicles (charging mode 3, connection case C according to IEC 61851). As soon as the charging cable is connected to the electric vehicle, the charging process can begin.



### Note

State D (ventilation) is not supported.

Depending on the setting in the wallbox, charging may have to be authorised by the user before it begins. After charging, the permanently connected charging cable can be stored using the cable management of the wallbox. The protective cap prevents moisture from entering the charging plug. A status LED and a buzzer signal the states of the wallbox and the charging process.

The wallbox switches off the voltage in the following situations:

- DC fault currents above 6 mA
- Excessive temperature
- Overload (Smart Pro only)
- Overvoltage / undervoltage (Smart Pro only)

The Spelsberg wallbox app helps the installer to configure the wallbox and offers the operator and users a variety of functions for controlling the wallbox and analysing the charging processes:

- Charging electric vehicles by providing the AC voltage
- Registration of RFID chips
- Communication with the vehicle as per ISO-15118 (Plug & Charge, Smart Pro wallbox only)
- Intelligent load management for operation in a charging network (Smart Pro wallbox only)
- Integration into energy management systems (Smart Pro wallbox only)
- Integration into photovoltaic (PV) charging systems (Smart Pro wallbox only)
- Evaluation of charging processes (Smart Pro wallbox only)

The Smart Pro wallbox can be connected to the internet using the following options:

- LAN (standard)
- WLAN

## 7.1. Controls and connections

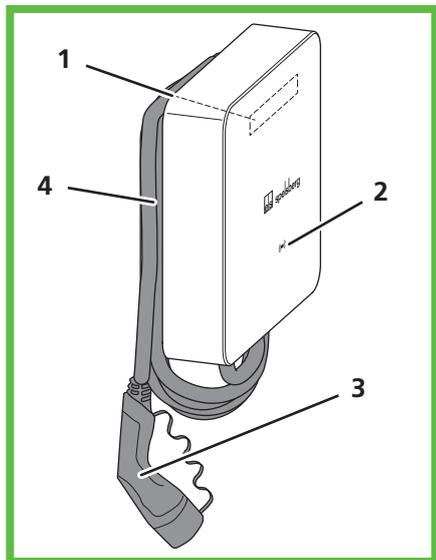


Fig. 2: General view

Item	Description
1	Nameplate (under the design cover)
2	Status LED, buzzer and RFID reader
3	Charging cable
4	Cable management

## 7.2. Nameplate

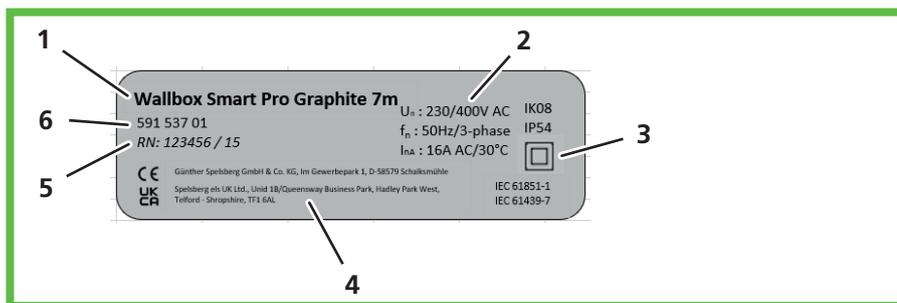
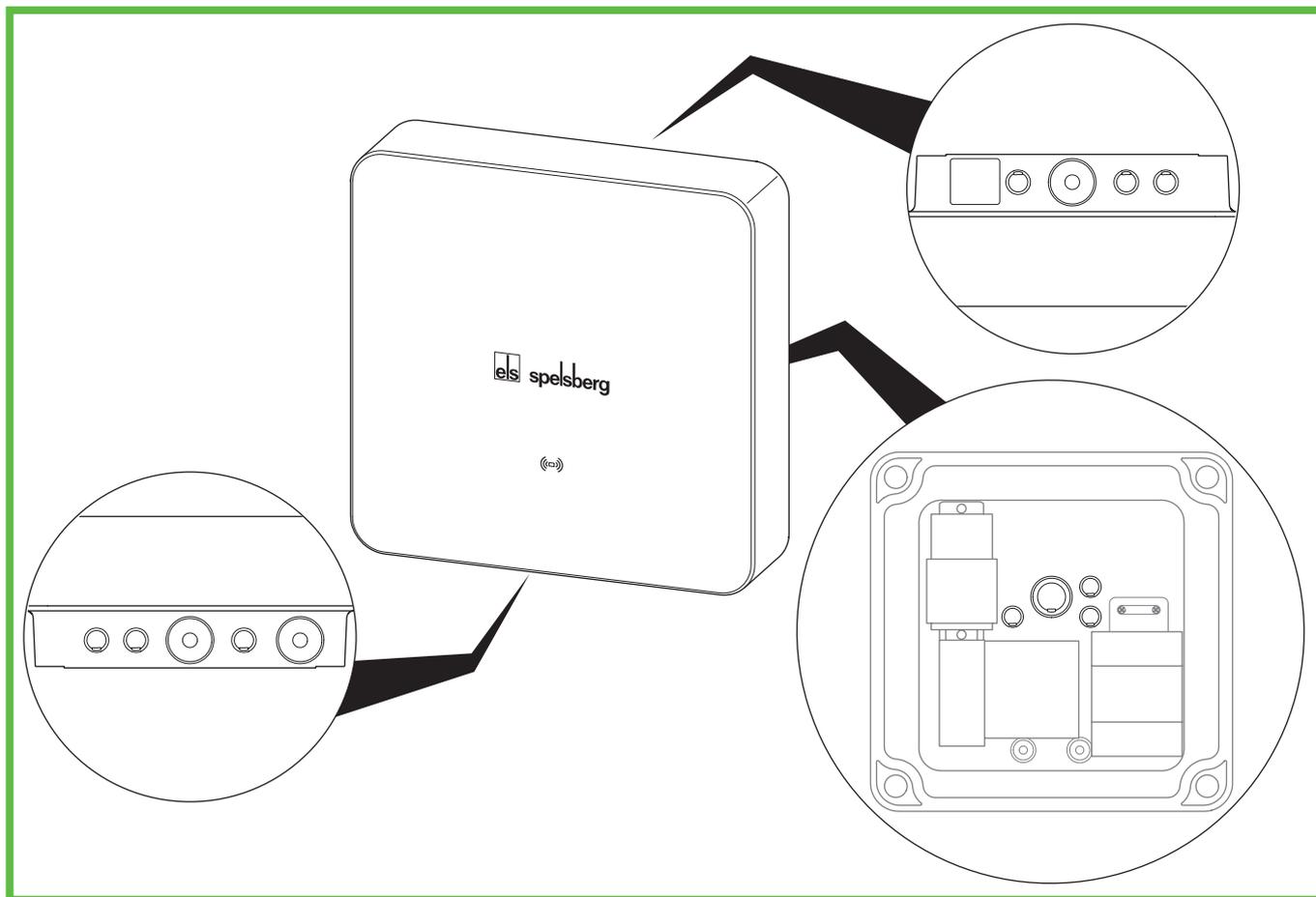


Fig. 3: Nameplate

Pos.	Description
1	designation of the wall box
2	technical specifications
3	protection class
4	manufacturer address
5	serial number
6	item number

### 7.3. Cable entries



**Fig. 4: Knockouts and factory installed cable entries DMS in the enclosure**

The wallbox has a number of cable entries. Some of the cable entries are equipped with double membrane seals (DMS). The remaining cable entries are designed as knock-out membranes and can be opened if necessary. The wallbox has the following cable entries and knockouts:

Knockouts			Suitable double membrane seals (DMS)
Top	Bottom	Rear	Sealing area (size)
3x M16	3x M16	3x M16	5 – 9 mm (M16)
1x M25/32 equipped with DMS M25	1x M25/32 equipped with DMS M25	1x M25/32	9 – 16 mm (M25) / 14 – 21 mm (M32)
	1x M25 for the charging cable, equipped with DMS M25		9 – 16 mm (M25)

## 8. Storage

- Keep the device as well as the charging cable and accessories in a dry and clean place before installation.

## 9. Installation

### 9.1. Safety



#### Vorsicht

##### Risk of injury

Users can be injured by damaged components.

- ▶ Do **not** install the charging station:
  - Near flammable materials
  - In areas with explosion hazards
  - In salty or wet environments
  - In the vicinity of aggressive vapours
  - In environments subject to constant vibration

Examples of these environments include petrol station forecourts, chemical plants, waste disposal sites and sewage plants.



#### Achtung

##### Risk of damage due to weather conditions

Incorrect choice of location can damage the charging station.

- ▶ Do not expose the charging station to any heat sources (such as sunlight or heaters).
- ▶ Install the charging station in a location protected from rain and splashing water (for example, in a protected outdoor area, Fig. 1).

##### Risk of damage from drilling

Damage can be caused by badly executed drilling.

- ▶ Before drilling holes in the wall or mounting surface, make sure that this will not damage any electrical cables or other lines.

### 9.2. Prerequisites

The following equipment must be provided on site to protect the wallbox:

- Pre-fuse with a maximum rating of 16 A. The manufacturer recommends:
  - **230 V:** Miniature circuit breaker (C characteristic); 1-pole
  - **400 V:** Miniature circuit breaker (C characteristic); 3-pole
- Residual current device RCD Type A with  $I_{\Delta n} \leq 30 \text{ mA}$ 
  - **230 V:** Residual current circuit breaker, 2-pole
  - **400 V:** Residual current circuit breaker, 4-pole
- Depending on the installation location: Overvoltage protection device according to national and regional regulations.

Observe the following when choosing the installation location:

- Always mount the wallbox upright (e.g. on building walls).
- The mounting surface must be level and sufficiently strong. If there is unevenness on the wall of more than 2 mm, compensation is required under the mounting points to prevent the enclosures from warping.
- The fastening material used must be suitable for the mounting surface.
- There must be at least 250 mm free space around the wallbox. This includes plant growth.
- Spelsberg recommends keeping a sufficient distance to other obstacles in the installation area.
- The bottom of the wallbox must be at least 900 mm above the ground.
- The wallbox must always be sufficiently lit during operation. Install lighting if necessary.

You will need the following tools for installation:

- Electric drill
- Screwdrivers (suitable for the fastening screws and cover screws)
- Spirit level
- Pencil
- Side cutter
- Wire stripper
- Crimping tool

### 9.3. Preparing for installation

- ▶ **Only for cable entry through the back wall:** Unscrew the enclosure cover from the wallbox.



#### Note

The cable entry for the charging cable has a DMS (bottom right of the wallbox). For the power supply, there are double membrane seals on the top and bottom of the wallbox. Knockouts only have to be opened if additional cables are to be connected or the supply cable is to be fed into the wallbox from the rear.

If the diameter of the supply cable is too big for the sealing area of the pre-installed DMS M25:

- ▶ Remove the DMS M32.
- ▶ Open the appropriate knockout.
- ▶ Install an DMS M32.

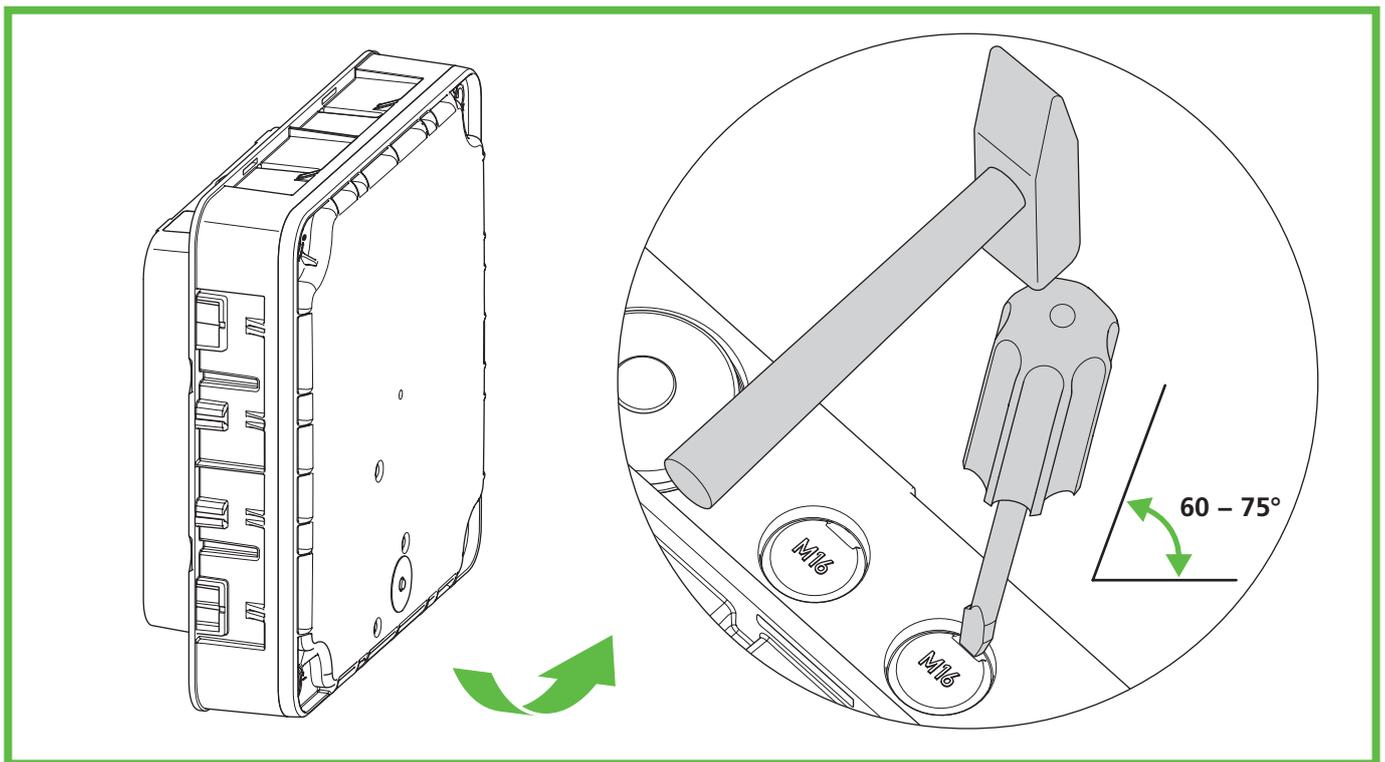


Fig. 5: Opening the knockout at the bottom

- ▶ Open the required knockouts from the enclosure.
- ▶ Fit the appropriate double membrane seals.

## 9.4. Checking the connectors

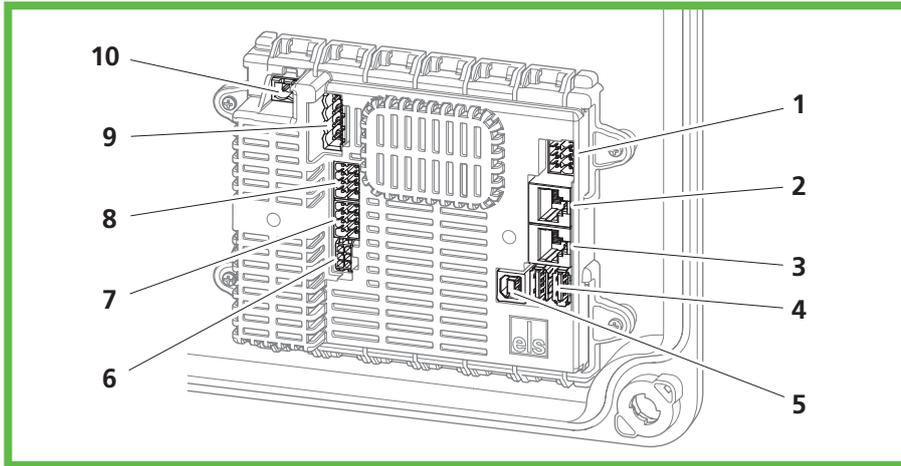


Fig. 6: Charge controller connections

Item	Description	Item	Description
1	Connection for plug A (PE, CP, ...)	6	Connection for measuring current transformer
2	Connection for LAN (LAN-2, Smart Pro only)	7	Connection for 2-phase disconnection (Smart Pro only)
3	Connection for LAN (LAN-1, Smart Pro only)	8	Connection for PV enabling contact (Smart Pro only)
4	2x USB type A (HMI board connection)	9	Connection for contactor control
5	1x USB type B (service port)	10	Connection for supply voltage

► Check that all connectors are firmly fitted.

## 9.5. Installation for wall mounting



### Note

Wall plugs and screws are included in the scope of delivery.

► Use screws with a flat head (not countersunk screws).

To fasten the wallbox you will need:

- 4 screws (maximum diameter 6 mm, screw head diameter at least  $\varnothing$  12 mm, maximum  $\varnothing$  15 mm).
- 4 suitable wall plugs

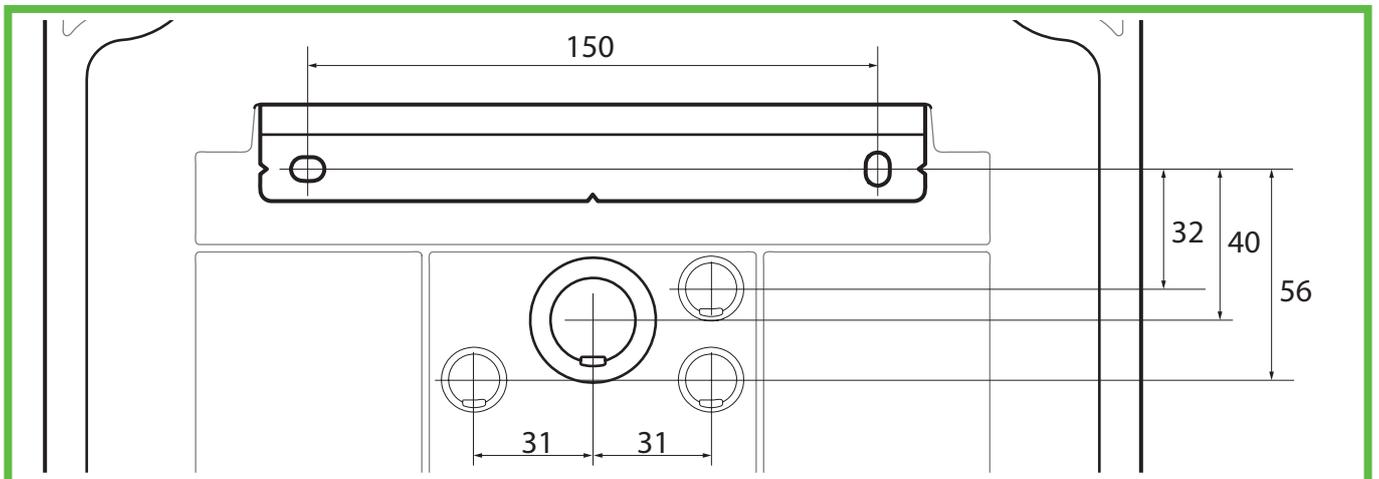
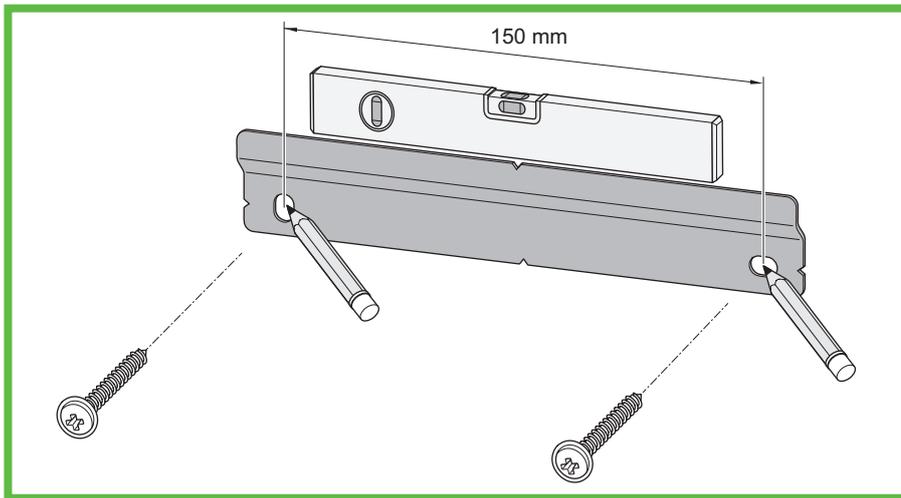


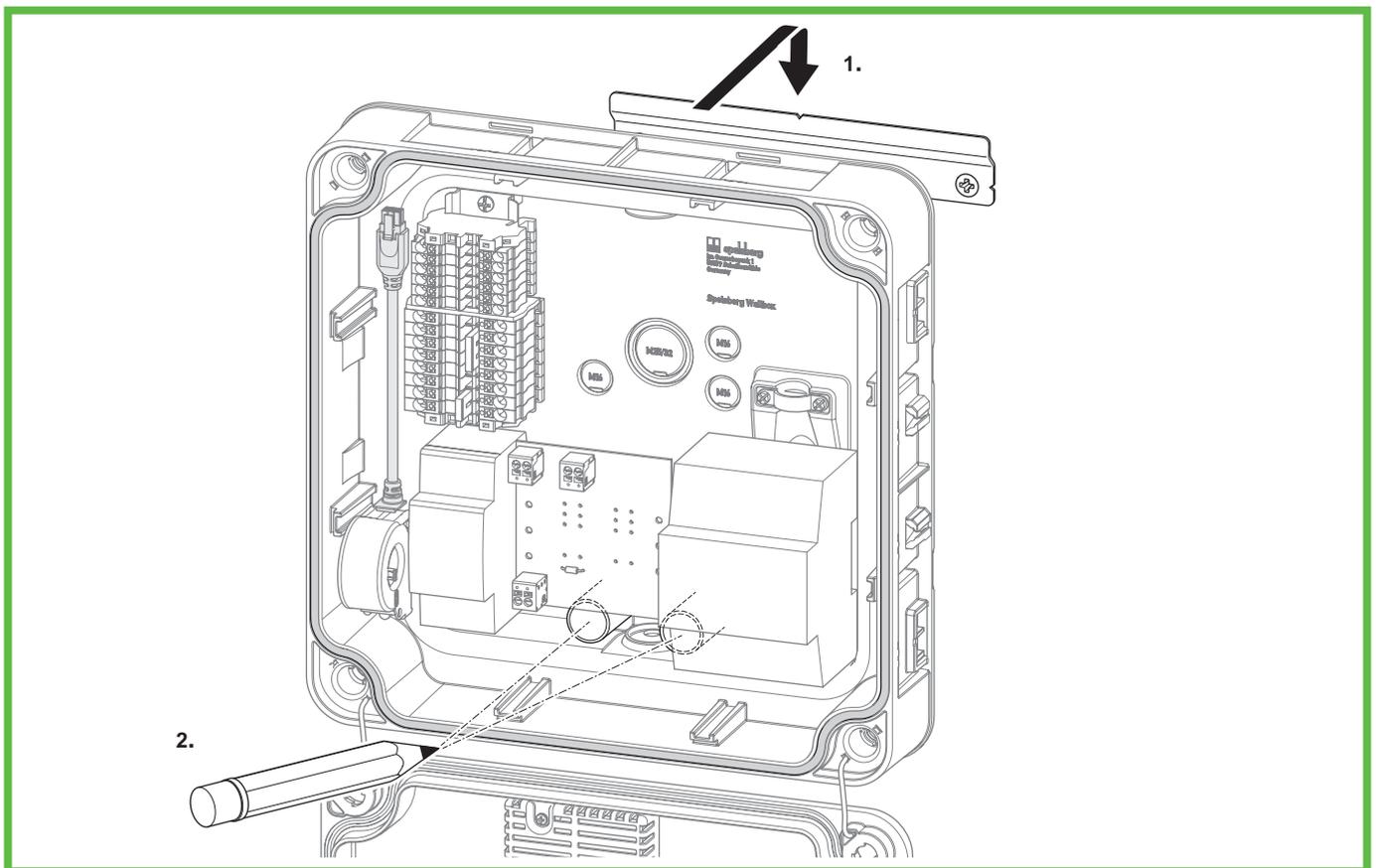
Fig. 7: Dimensional drawing for cable entry through the back wall (scale 1:2)

► **Only for cable entry through the back wall:** Use the dimensional drawing to mark the fastening points of the mounting rail (Fig. 7).



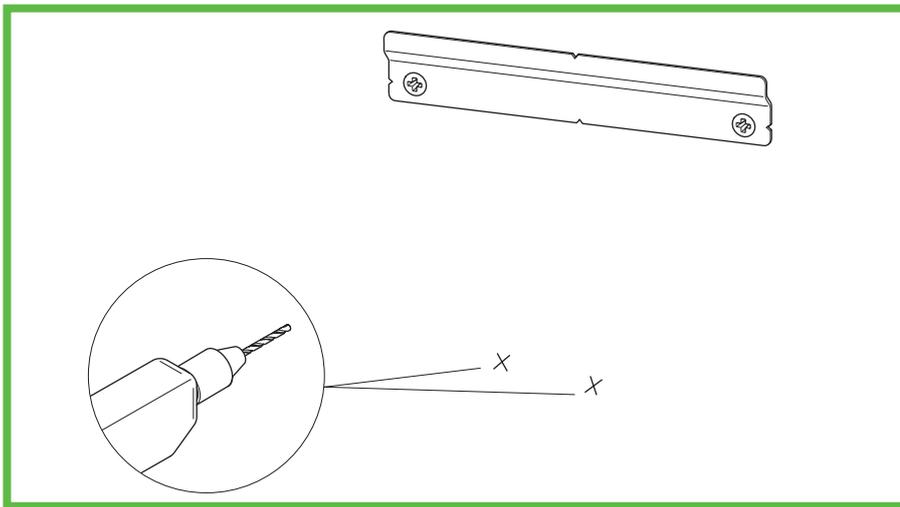
**Fig. 8: Marking the fastening points for the mounting rail**

- ▶ Mark the fastening points for the mounting rail (Fig. 8).
- ▶ Drill the holes for the fastening points.
- ▶ Insert the wall plugs into the holes.
- ▶ Screw on the mounting rail.



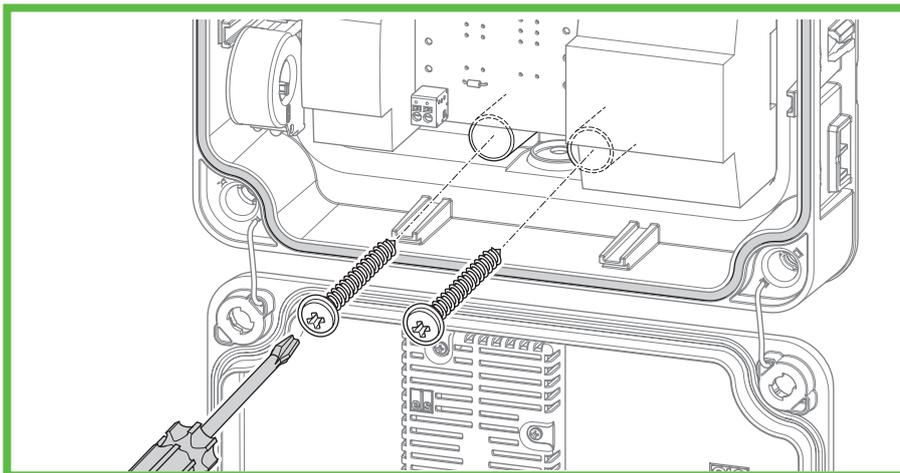
**Fig. 9: Marking the fastening points for the wallbox**

- ▶ Centre the wallbox on the mounting rail (1.).
- ▶ Mark the fastening points for the wallbox (2.).
- ▶ **Only for cable entry through the base:** Mark the cable entries.
- ▶ Take the wallbox off the mounting rail.



**Fig. 10: Drilling holes for the fastening points**

- ▶ Drill the holes for the fastening points.
- ▶ Insert the wall plugs into the holes.
- ▶ **Only for cable entry through the base:** Lay the required cables (e.g. power supply, LAN cable).
- ▶ Connect the charging cable (see "9.6. Connecting the charging cable", page 15).
- ▶ **Only for cable entry through the base:** Push the required cables through the appropriate cable entries in the base of the wallbox.



**Fig. 11: Screwing on the wallbox**

- ▶ Place the wallbox centrally on the mounting rail.
- ▶ Screw the wallbox tight with the 2 screws.

## 9.6. Connecting the charging cable

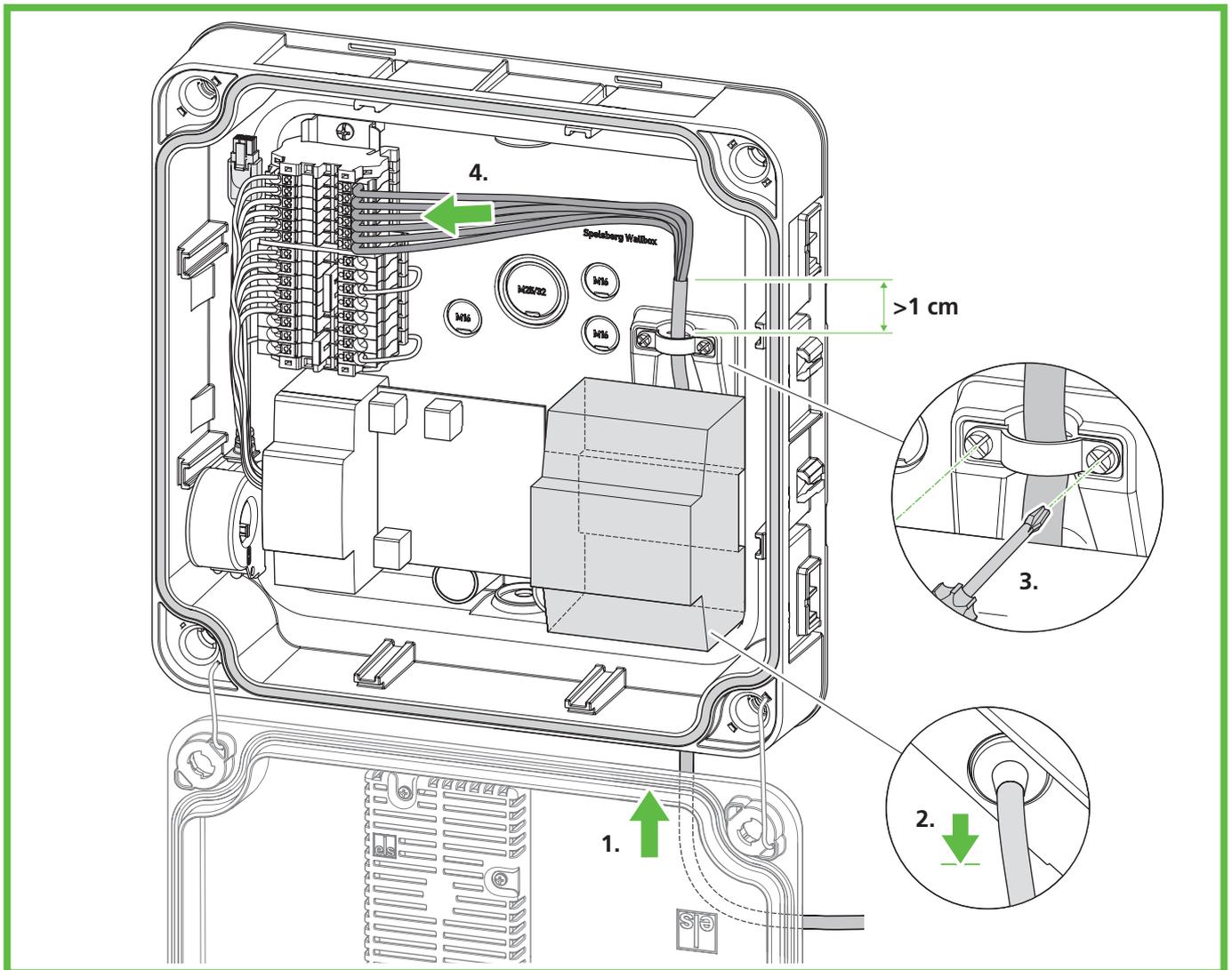


Fig. 12: Connecting the charging cable

- ▶ Unfasten the strain relief.
- ▶ Feed the charging cable through the bottom right DMS M25 and the strain relief clamp.
- ▶ Pull the charging cable back slightly so that the DMS forms a downward funnel. The sheath of the cable must still protrude at least 1 cm from the strain relief.
- ▶ Tighten the strain relief (tightening torque: 0.9 Nm).
- ▶ Make sure that the charging cable cannot be pulled out of the strain relief.

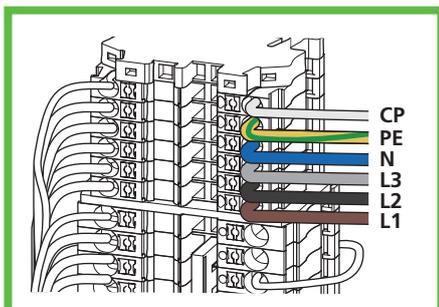


Fig. 13: Connecting the charging cable

- ▶ Connect the charging cable (Fig. 13).

## 9.7. Connecting the supply cable



### Warnung

#### Risk of fatal electric shock

There is a risk of electrocution if the electrical supply cable is not properly connected.

- ▶ Always have the electrical supply cable connected by a locally authorised electrician.
- ▶ Install a suitable residual current circuit breaker and line fuse in the supply line.
- ▶ Observe the following safety rules before any work on electrical components:
  - Disconnect the power supply.
  - Secure it against being switched on again.
  - Check that all poles are de-energised.
  - Earth and short-circuit.
  - Cover or enclose adjacent live parts.
- ▶ Observe the local regulations and laws.
- ▶ Before connecting, make sure that the supply line, plugs and connection sockets are clean and dry.
- ▶ Never touch the plugs if your hands are wet or you are standing in water.
- ▶ Take care not to damage the cables and lines when connecting the supply line and LAN cable.

Use a supply cable with the maximum cross-section of the connection terminal: rigid and flexible 6 mm<sup>2</sup>, flexible with 4 mm<sup>2</sup> ferrule.

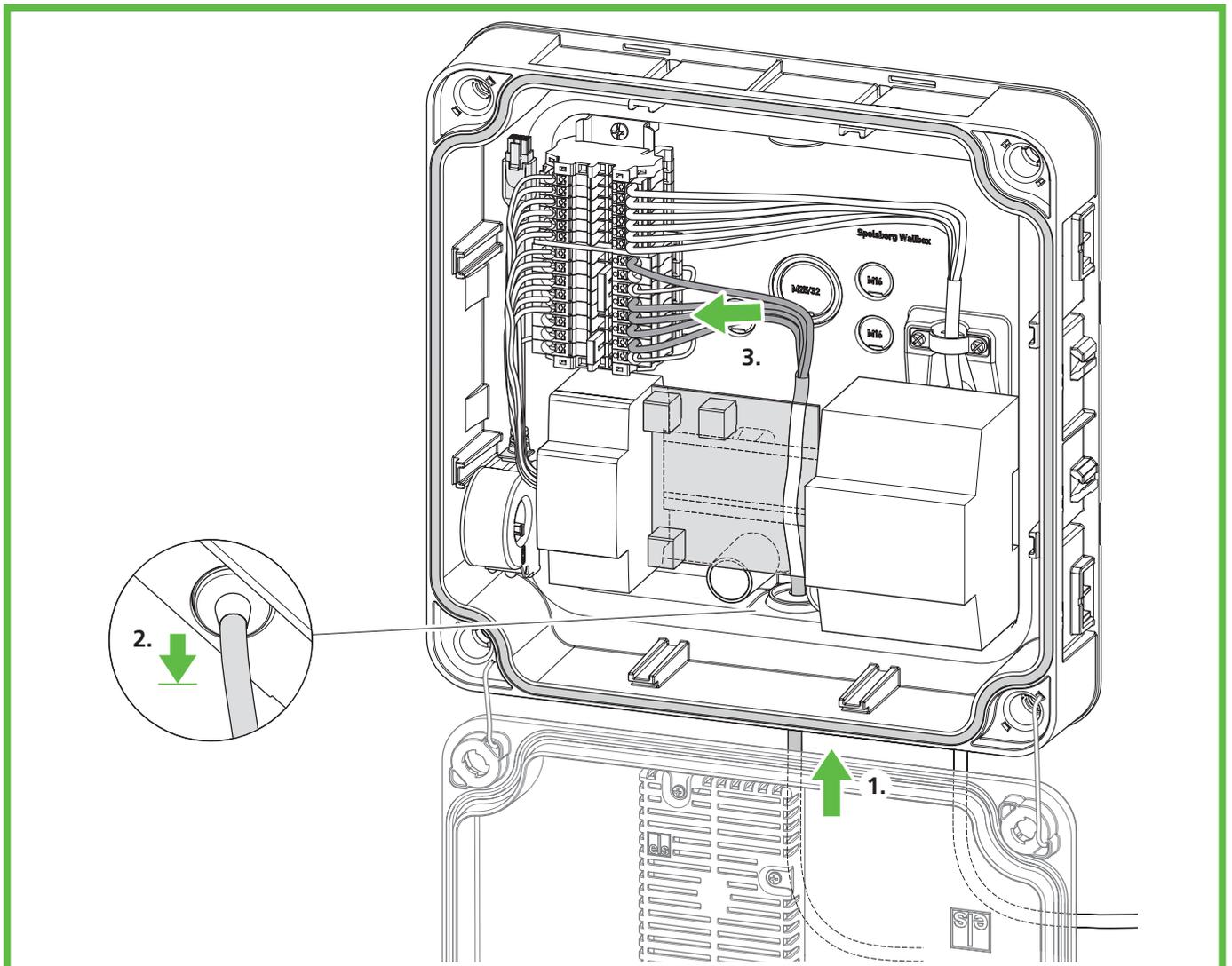


Fig. 14: Connecting the supply cable



## Achtung

### Risk of damage to the wallbox

Incorrect wiring can damage the wallbox.

- ▶ Ensure a clockwise rotating magnetic field for a 400 V power supply.
- ▶ For a 1-phase wallbox, **always** connect the 230 V power supply to L1.
- ▶ If you are operating several 1-phase wallboxes in a charging network, make sure the load is distributed evenly over the different phases to avoid imbalances.

- ▶ Feed the supply cable through the required DMS.
- ▶ Pull the supply cable back so that the DMS forms a funnel away from the enclosure.
- ▶ Strip the wires of the supply cable to 10–12 mm.

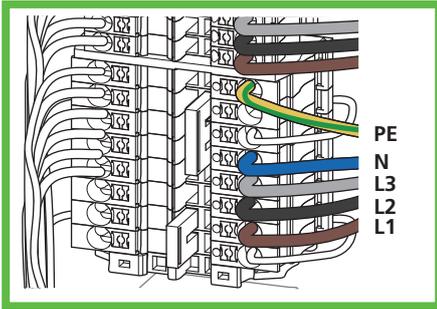


Fig. 15: 3-phase connection of the supply cable (400 V)

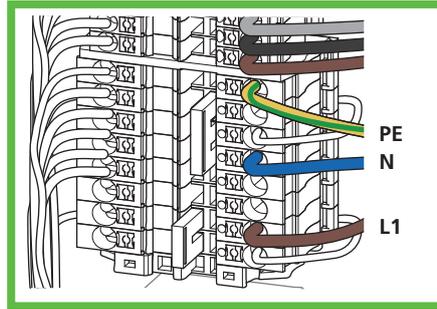


Fig. 16: 1-phase connection of the supply cable (230 V)

- ▶ Connect the wires as follows:
  - L1 – brown
  - L2 – black (400 V connection only)
  - L3 – grey (400 V connection only)
  - N – blue
  - PE – green/yellow

## 9.8. Connecting the PV system signal line (optional, Smart Pro wallbox only)

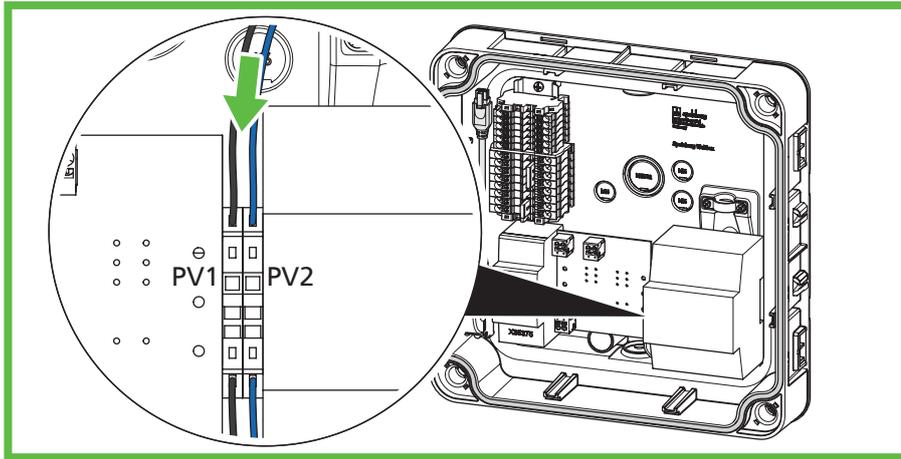


Fig. 17: Connecting the PV system signal line

To connect a PV enabling contact on the photovoltaic system side, a potential-free contact (relay, normally open contact) is required. Use an unshielded 2 x 0.75 mm<sup>2</sup> control cable.

- ▶ Feed the PV cable through the required DMS.
- ▶ Pull the PV cable back so that the DMS forms a funnel away from the enclosure.
- ▶ Strip 8 – 10 mm of the cable.
- ▶ Place the cable on the spring terminals.



### Note

The connection of the inverter of the photovoltaic system to the wallbox must be parametrised in the Spelsberg wallbox app (See 10.6.4. Parametrising a PV system, page 24).

## 9.9. Connecting the LAN (optional, Smart Pro wallbox only)



### Achtung

#### Risk of damage to the LAN cable

If the LAN cable is bent too much, it may be damaged and the function may be restricted.

- ▶ Observe the bending radii of the LAN cable used.

- ▶ Feed the LAN cable through the required DMS. Use a LAN cable of category 6 or 7 (Cat 6 or Cat 7).
- ▶ Pull the LAN cable back so that the DMS forms a funnel away from the enclosure.
- ▶ Crimp an RJ45 connector onto the LAN cable.
- ▶ Connect the LAN cable to the LAN-1 socket in the cover (Fig. 6, 3).
- ▶ Tie the LAN cable onto the existing wiring harness to the cover.

## 9.10. Necessary tests and measurements

- ▶ Switch on the supply voltage.
- ▶ Before initial commissioning, check and record whether the protective measures of the system function in accordance with the nationally applicable regulations, including:
  - Continuity of the connections of the protective conductor
  - Insulation resistance (with the controller and measuring devices (meters) disconnected)
  - Residual current circuit breaker
  - Tripping current
  - Tripping time
- ▶ Give the test report and the handover report to the operator of the system.

### 9.10.1. Testing the insulation resistance

- ▶ Disconnect the following plugs and cables inside the wallbox:
  - Contactor control connection on the charge controller (Fig. 6, 9)
  - Supply voltage connection on the charge controller (Fig. 6, 10)
  - **Smart Pro wallbox only:** N conductor on the MID meter (terminal 10).
- ▶ Test the insulation resistance.
- ▶ Make the connections again.
- ▶ Check that all connectors are firmly fitted.

### 9.11. Initial commissioning

- ▶ Check the connections.
- ▶ Apply the supply voltage by switching on the fuse.
- ▶ Check the voltage and the rotating magnetic field.
- ▶ Close the enclosure cover (See 9.12. Closing the enclosure cover, page 19).
- ▶ Continue with the setup (See 10. Setup, page 20).

### 9.12. Closing the enclosure cover

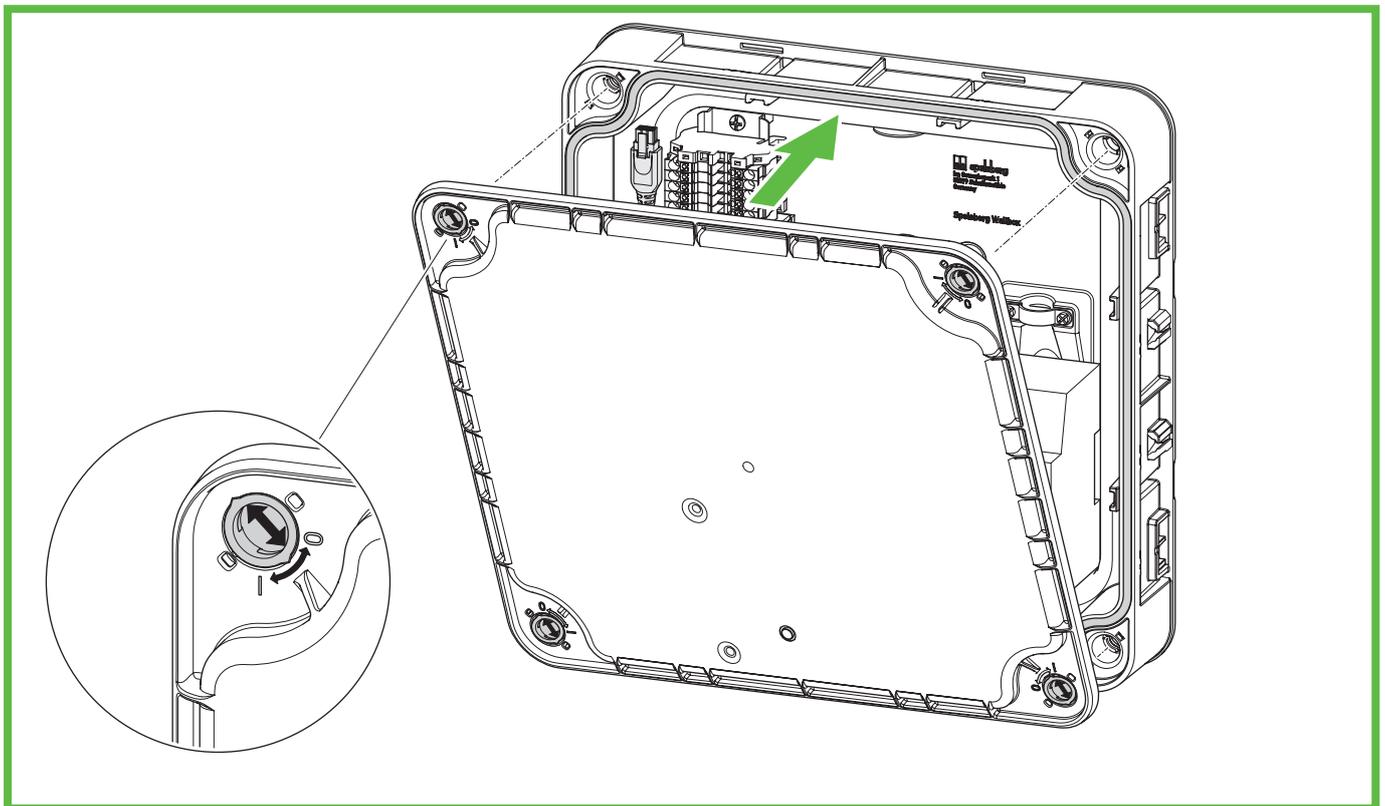


Fig. 18: Closing the enclosure cover

- ▶ Close the enclosure cover. Make sure that the cables are not pinched.
- ▶ Turn the catches in the enclosure cover of the wallbox a quarter turn clockwise until you feel them engage.
- ▶ Attach the design cover (See 15.5.3. mounting the design cover, page 34).

## 10. Setup



### Note

Under the following conditions, the wallbox does not need to be set up via smartphone:

- 3-phase connection type
- Domestic connection and supply line set up for 16 A
- Autonomous operation without load management, connection to energy management systems or PV systems

Spelsberg recommends commissioning via smartphone for the purposes of documentation and handover.



### Note

Several identical setup QR codes are provided for the commissioning app. These contain sensitive access data.

- ▶ Keep the setup QR codes in a safe place. Stick the setup QR codes in the manual or onto the invoice, for example.
- ▶ Do not affix the setup QR code to the wallbox or anywhere it can be seen from the outside.

### 10.1. Installing the Spelsberg wallbox app

An NFC-capable smartphone is required for initial setup via smartphone.

Prerequisites:

- Android version 6 or higher - API level 23, e.g. Samsung Galaxy A6 or newer.
- iOS version iOS 13 or higher, e.g. iPhone 7 or newer.
- ▶ Download the Spelsberg wallbox app from the Play Store or App Store and install it on the smartphone. Alternatively, use the following QR code link to access the app:



[spelsberg.com/wallbox/app/](https://spelsberg.com/wallbox/app/)

## 10.2. Instructions for installers on commissioning and configuring the wallbox via smartphone and NFC.



### Note

Installers can parametrise the entire wallbox system using the advanced settings.



### Note

- ▶ Only hold the smartphone up to the wallbox when prompted to do so by the app.
- ▶ Hold the smartphone at the position indicated above the LED, similar to paying by smartphone at a POS terminal.
- ▶ If no communication is established, slowly move the smartphone around the indicated position above the LED.
- ▶ If the card wallet on the smartphone opens, the wallbox is not in NFC mode. Follow the instructions in the app or check the FAQ section on the Spelsberg website.

- ▶ Start the app.
- ▶ Select the menu item "I'm an installer" and confirm service mode.
- ▶ Select "Configure wallbox".
- ▶ Scan the setup QR code provided.
- ✓ The wallbox data (serial number, production date, type/variant) is transferred to the app.
- ▶ Follow the instructions in the app.  
(Factory setting: 3-phase charging mode; 16 A installation current limit.)
- ▶ Transfer the data to the wallbox via NFC when the configuration is complete. The smartphone must be held near the RFID logo on the wallbox for this.
- ✓ The set parameters are transmitted to the wallbox.



### Note

During the data transfer, the app also reads and displays any wallbox system messages. This means that the data transfer should be carried out even if no data or parameters have been changed.

- ✓ The wallbox is now ready for the first charging process.



### Note

No data is stored on the smartphone after the configuration is completed.

## 10.3. Setting up the wallbox for the user/operator

Setting up the wallbox in the app enables the following functions for the user:

- Status display in the app
- Controlling the charging process via the app
- Setting authorisations for the charging process
- Viewing statistics on the charging processes
- Advanced configuration options, such as integrating the wallbox into the home network

The wallbox can be added separately for additional users in the app on their smartphones. They do not have to make any further configurations then.



### Warnung

The user does not have restricted access rights and can therefore set all parameters.

▶ Technical values may only be set by a qualified electrician.

- ▶ Start the app.
- ▶ Select the menu item "Add wallbox to app".
- ▶ Scan the provided setup QR code with the smartphone to save the wallbox data in the app. After a successful initial setup, the setup QR code will no longer need to be scanned again.
- ▶ Set up the wallbox according to the procedure in the app.
- ▶ Transfer the data to the wallbox via NFC when the configuration is complete. The smartphone must be held near the RFID logo on the wallbox for this.

## 10.4. Setting the charging current

The charging current of the wallbox can be set by the user:

- The charging current can be set for the current charging process.
- ▶ Select the menu item "System" → "Settings" → "Charge current limit" → "Charging process".
- If load management is active, the charging current can be automatically distributed to different charging points.
- With active energy management (EMS), this can specify the available charging current so that the wallbox does not provide too much energy.
- ▶ Select the menu item "System" → "Settings" → "Advanced settings" → "Installation".
- ▶ Follow the instructions in the app.

## 10.5. Setting up the Smart Pro wallbox in a network



### Note

The Smart Pro wallbox can be integrated into the existing IT infrastructure either via LAN cable (recommended) or via WLAN.

A network connection can be set up for the Smart Pro wallbox.

The network setup is necessary in order to use the full range of functions.

### 10.5.1. Network connection via LAN



### Note

To set this up, the smartphone and wallbox must be in the same network.

- ▶ Start the app.
  - ▶ Select the menu item "Add wallbox to app".
  - ▶ Scan the provided setup QR code with the smartphone to save the wallbox data in the app. After a successful initial setup, the setup QR code will no longer need to be scanned.
  - ▶ Deactivate the "Set up WLAN" option.
  - ▶ Follow the instructions in the app.
  - ▶ Transmit the data to the wallbox via NFC. The smartphone must be held near the RFID logo on the wallbox for this.
- ✓ The set parameters are transmitted to the wallbox.

### 10.5.2. Network connection via WLAN

- ▶ Start the app.
  - ▶ Select the menu item "Add wallbox to app".
  - ▶ Read the provided setup QR code with the smartphone. After a successful initial setup, the setup QR code will no longer need to be scanned.
  - ▶ Select the network to which you want to connect the wallbox.
  - ▶ Enter the WLAN password.
  - ▶ Transmit the data to the wallbox via NFC. The smartphone must be held near the RFID logo on the wallbox for this.
- ✓ The set parameters are transmitted to the wallbox.
- ✓ If the smartphone is in the same WLAN as the wallbox, it will be detected by the app and the network setup is complete.

## 10.6. Configuring applications (Smart Pro only)



### Warnung

The user does not have restricted access rights and can therefore set all parameters.

- ▶ Technical values may only be set by a qualified electrician.

### 10.6.1. Configuring load management

Dynamic load management (DLM) enables multiple charging points to be operated on a limited grid connection. This means that within the charging network, the charging power of individual charging points is reduced in order not to exceed the maximum load, or to distribute the load to different phases. Optimal load management depends on the capacity of the grid connection, the use of phase rotation when connecting the charging point and the way the charging network is configured.

- ▶ Select the menu item "System" → "Settings" → "Advanced settings" → "Load management".



### Note

For more information on load management, visit the Spelsberg website.

### 10.6.2. Energy management system

The Spelsberg wallbox can be integrated into an energy management system. This will adjust the charging process according to the available energy.

- ▶ Select the menu item "System" → "Settings" → "Advanced settings" → "Energy management systems".
- ▶ Adjust the parameters according to the conditions (e.g. teach-in of EEBUS system).



### Note

For more information on energy management, visit the Spelsberg website.

### 10.6.3. OCPP backend

The Spelsberg wallbox can communicate with an OCPP backend. Charging processes are then reported to the backend, and the wallbox can be controlled by the backend.

- ▶ Select the menu item "System" → "Settings" → "Advanced settings" → "OCPP backend".



#### Note

Only OCPP 1.6 JSON is supported at present.

### 10.6.4. Parametrising a PV system

The support of a PV system must be parametrised in the app.

- ▶ Select the menu item "System" → "Settings" → "Advanced settings" → "Energy management systems".
- ▶ Select the corresponding mode, e.g. PV charging via enabling contact.
- ▶ If necessary, set the maximum charging current.



#### Note

For more information on solar power, visit the Spelsberg website.

## 11. Operation



### **Gefahr**

#### **Risk of death, serious injury and burns**

Dangerous arcing can cause death or serious injury.

- ▶ Never pull the vehicle charging plug out by force. Depending on the wallbox and electric vehicle, the ending of the charging process and the time it takes to unlock may vary.



### **Warnung**

#### **Risk of death, serious injury and burns**

Incorrect handling of the charging cable can cause explosions, electric shocks and short circuits. Observe the generally applicable safety precautions and the following instructions.

- ▶ Before each use, check the charging cable and the contacts for damage and dirt.
- ▶ Never use a damaged charging cable or vehicle inlet.
- ▶ Never charge with contacts that are dirty or damp.
- ▶ Only connect the charging cable to vehicle inlets that are protected from water, moisture and other liquids.
- ▶ There are electric vehicles that can be started with the charging cable plugged in. Always be sure to disconnect the charging cable before driving off.
- ▶ Do not use the charging cable with an extension lead or adapter.
- ▶ Never touch the charging cable if the connector is smoking or has melted. Stop the charging process if possible.
- ▶ Make sure that the charging cable is out of the reach of children. Only persons with a valid motor vehicle driving licence may use the charging cable.



### **Achtung**

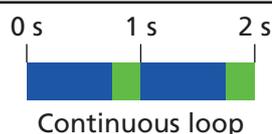
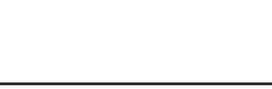
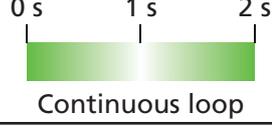
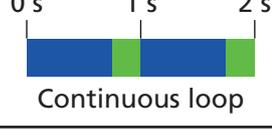
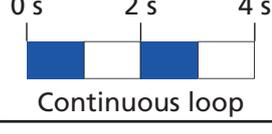
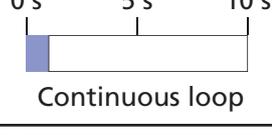
#### **Risk of damage**

The charging plug can be damaged by environmental influences.

- ▶ Always put the protective cap on the vehicle charging plug when it is not in use.
- ▶ Alternatively, you can put the vehicle charging plug into a plug holder, which is available as an accessory.

## 11.1. Status LED and buzzer

An LED and a buzzer in the enclosure cover indicate the status of the wallbox.

Display	Status Buzzer signal	Description Recommended action
 <p>Continuous loop</p>	START	The wallbox starts up. ▶ Wait until the wallbox is ready for use.
 <p>Continuous</p>	READY	The wallbox is ready for the charging process.
 <p>Continuous loop</p>	WAITING for authorisation	A vehicle is connected but not authorised. ▶ Authorise the charging process with an RFID chip or authorise the vehicle (AutoCharge or Plug & Charge function required).
 <p>Continuous</p>	AUTHORISATION 2 short beeps	An RFID chip has been detected and the charging station is authenticating.
 <p>Continuous loop</p>	AUTHORISATION FAILED 1 long beep	The RFID chip was not accepted. ▶ Authorise the charging process with a valid RFID chip or authorise the vehicle (Plug & Charge function required). ▶ Extend the authorisation to include the current RFID chip.
 <p>Continuous loop</p>	CHARGING 1 short beep	A vehicle is charging.
 <p>Continuous loop</p>	RESERVED (OCPP only) 1 short beep	The wallbox has been booked with an OCPP reservation and a vehicle is present. ■ The vehicle is not authorised. ▶ Use another charging point.
 <p>Continuous loop</p>	RESERVED (OCPP only)	The wallbox has been booked with an OCPP reservation but <b>no</b> vehicle is present. ▶ Connect an authorised vehicle.
 <p>Continuous loop</p>	UNAVAILABLE (OCPP only)	The wallbox has been temporarily disabled in the back-end or app. ▶ Activate the wallbox in the backend or the app to release it.
 <p>Continuous</p>	FAULT STATE	The wallbox is defective and cannot be used. ▶ Have the wallbox repaired by a qualified electrician.

## 11.2. Charging an electric vehicle



### Achtung

#### Risk of fatal electric shock

Moisture or damaged cables and plugs can cause electric shock.

- ▶ Before using them, make sure that the supply line, plug and charging socket are clean and dry.
- ▶ Never touch the plugs if your hands are wet or you are standing in water.
- ▶ When connecting the plug, take care not to pinch or damage the charging cable.

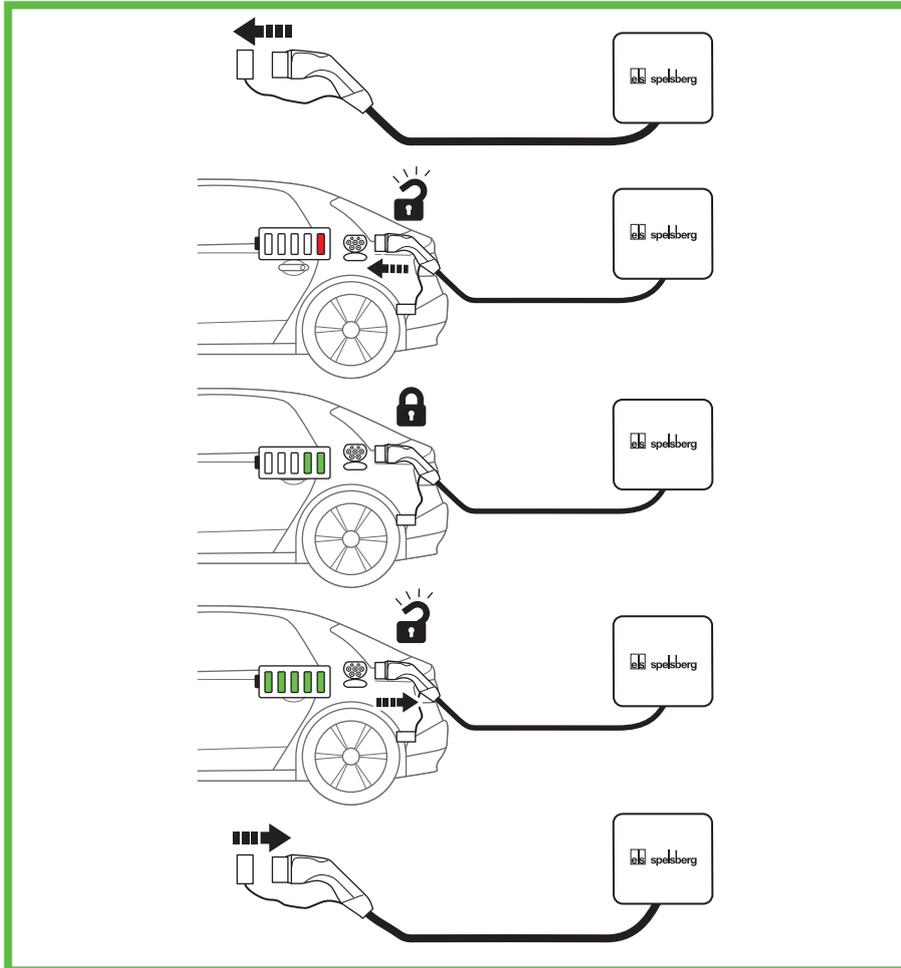


Fig. 19: Charging process

- ▶ Switch off the vehicle.
- ▶ Fully unwind the charging cable.
- ▶ Take the protective cap off the vehicle charging plug.
- ▶ Insert the vehicle charging plug into the vehicle inlet.
- ▶ Make sure the connector is correctly and completely plugged in.
- ▶ Authorise the charging process at the wallbox if necessary.
- ▶ Start the charging process on the vehicle.
- ✓ The vehicle inlet locks the charging plug with an internal locking actuator. To end the charging process, follow the operating instructions of the electric vehicle.
- ✓ The duration of the charging process depends on the capacity and state of charge of the vehicle's high-voltage battery and on the permissible charging power and parameters of the wallbox. The electric vehicle selects the actual charging power based on capacity and other parameters.
- ✓ During charging, the status LED of the wallbox pulses green:



### 11.3. Ending the charging process



#### Gefahr

#### Risk of death, serious injury and burns

Dangerous arcing can cause death or serious injury.

- ▶ Never pull the vehicle charging plug out by force. Depending on the wallbox and electric vehicle, the ending of the charging process and the time it takes to unlock may vary.

- ▶ End the charging process of the electric vehicle (see the owner's manual of the electric vehicle).
- ▶ Pull the vehicle charging plug out of the vehicle inlet.
- ▶ Put on the protective cap.

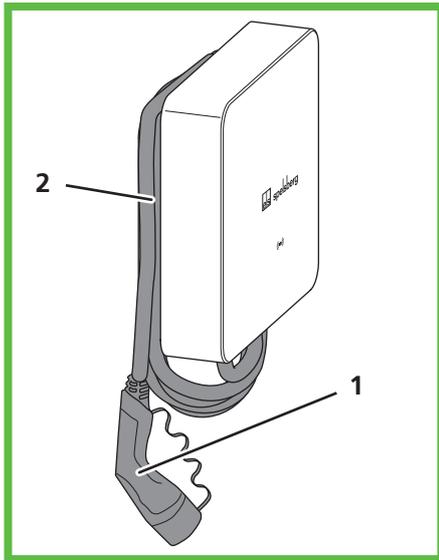


Fig. 20: Cable in the cable manager

- ▶ Wind the cable three to four times around the cable manager as necessary.

### 11.4. Operation with the app



#### Note

Further information on settings in the Spelsberg wallbox app can be found in the FAQ section on the Spelsberg website.

To use the app, it has to have been set up ("Set up as operator"). This requires the setup QR code.

Once this has been successfully done, the Spelsberg wallbox app is available, either in the home network (Smart Pro), or via NFC with limited functionality.



#### Note

The Spelsberg wallbox app cannot access the wallbox via the internet.

The operator has the following options with the Spelsberg wallbox app:

- Viewing the status
- Controlling the charging process
- Viewing statistics and exporting them for billing (Smart Pro only)
- Adjusting the wallbox configuration
- Assigning authorisations

The Spelsberg Wallbox App is available for Android and iOS from the respective stores (see “10.1. Installing the Spelsberg wallbox app”, page 20).

### 11.4.1. Configuring charging authorisations

Authorisations can be set up and managed using the Spelsberg wallbox app. If you do not want to allow unrestricted use of the wallbox, you can create authorisations for vehicles and RFID chips.

- ▶ Select the menu item “System” → “Authorisations”.
- ▶ Follow the instructions in the app.

### 11.4.2. Teaching RFID chips

RFID chips must be taught before they can be used for authorisation at the wallbox. Multiple RFID chips can be created. The charging statistics for each RFID chip can be viewed in the app.

To set them up using a smartphone and RFID reader, the user requires an NFC-capable smartphone.

- ▶ Select the menu item “System” → “Authorisations”.
- ▶ Follow the instructions in the app.

### 11.4.3. Viewing statistics

Statistics and other information about the wallbox can be viewed using the Spelsberg wallbox app.

- ▶ Select the menu item “Statistics”.
- ▶ Follow the instructions in the app.

## 12. Cleaning



### Warnung

#### Risk of fatal electric shock

There is a risk of electrocution when working on the electrical components of the wallbox.

- ▶ Only clean the charging cable when it is not connected to the vehicle.
- ▶ Only clean the outside of the wallbox and the charging cable.



### Achtung

#### Unsuitable cleaning agents can damage the wallbox.

- ▶ Do not use any sharp or hard objects for cleaning.
- ▶ Do not use water or a steam jet cleaner.

- ▶ Clean the wallbox and the charging cable with a soft, dry cloth.
- ▶ If necessary: Clean the wallbox with a soft, damp cloth. Stubborn dirt can be removed with a mild, solvent-free, non-abrasive cleaning agent.

## 13. Maintenance

### 13.1. Updating the firmware

Firmware updates adapt the Spelsberg wallbox to new vehicle features, allow it to support new functions, and fix bugs. The Smart Pro wallbox automatically carries out updates when it is connected to the internet.

You can find the currently installed firmware version under the menu item “System” → “Installation & maintenance data” of the Spelsberg wallbox app.

### 13.1.1. Updating the firmware (offline)



#### Warnung

##### Risk of fatal electric shock

When updating the firmware with a USB stick, the wallbox is open and live.

- ▶ Always have the firmware update carried out by a locally authorised electrician.
- ▶ Observe the local regulations and laws.
- ▶ Never work on the opened wallbox if your hands are wet or you are standing in water.

Firmware updates for a wallbox that is not connected to a network are carried out via the USB port using a USB stick.

To perform a firmware update, you need a formatted USB stick.

- ▶ Download the required firmware file from the support website for the wallbox. Make sure that the firmware is compatible with the wallbox. Updates that are not approved by Spelsberg can lead to malfunctions or failure of the wallbox. In this case, the warranty will be voided.
- ▶ Save the firmware file to a USB stick (see the information on the Spelsberg wallbox website).
- ▶ Remove the design cover (See 15.5.1. Removing the design cover, page 32).
- ▶ Turn the catches in the wallbox enclosure cover 90° anticlockwise and open the cover.
- ▶ Plug the USB stick into one of the USB ports (Fig. 6, 4).
- ✓ The firmware update is carried out automatically without any other action required.
- ✓ The wallbox carries out a restart.
- ✓ The status LED of the charge controller first lights up continuously green, then continuously blue.
- ✓ As soon as the status LED of the charge controller flashes green, the update is complete.
- ✓ The wallbox is ready for operation again.
- ▶ Remove the USB stick.
- ▶ Close the enclosure cover (See 9.12. Closing the enclosure cover, page 19).
- ▶ Attach the design cover (See 15.5.2. Mounting the design cover, page 34).

### 13.1.2. Firmware updates for a networked wallbox (online, Smart Pro only).



#### Note

The automatic update of the wallbox requires a connection to the Internet. If this is not available, the firmware update must be performed locally using a USB stick (See 13.1.1. Updating the firmware (offline), page 9).

The firmware updates of the charge controller for the networked Smart Pro variants take place automatically in the background and are managed by Spelsberg. As the operator of the wallbox, you do not have to perform any action and are regularly provided with new functions and bug fixes. The current firmware version of the wallbox is displayed in the app under the menu item "System" → "Installation & maintenance data". The release notes of the firmware version are published on the Spelsberg wallbox website and can be viewed at any time.

## 14. Troubleshooting



#### Note

The wallbox stops an active charging process if any of the following situations occur:

- The temperature in the enclosure exceeds the maximum limit (See 19. Technical data, page 39).
- Overload
- Overvoltage or undervoltage
- DC fault current more than 6 mA

If the LED on the wallbox lights up red continuously, there is a fault. Fault messages are displayed in the Spelsberg wallbox app.

- ▶ Read out the fault codes with the Spelsberg wallbox app:
  - Via NFC (Pure and Smart Pro) See 14.1. Reading out faults (Pure wallbox), page 31
  - Via LAN / WLAN (Smart Pro only) See 14.2. Reading out faults (Smart Pro wallbox), page 31

## 14.1. Reading out faults (Pure wallbox).

- ▶ Open the Spelsberg wallbox app.
  - ▶ Select the wallbox in the app.
  - ▶ Open the menu item "System" → "Messages".
  - ▶ Hold the smartphone up to the RFID logo on the wallbox when prompted to do so by the app.
- ✓ The status of the wallbox is read out.

## 14.2. Reading out faults (Smart Pro wallbox)



### Note

The smartphone and the wallbox must be in the same network in order to read out the faults directly in the app. If the smartphone and the wallbox are not in the same network, the fault can be read directly from the wallbox (See 14.1. Reading out faults (Pure wallbox), page 31).

- ▶ Open the Spelsberg wallbox app.
- ▶ Open the menu item "System" → "Messages".

## 14.3. Unlocking the charging plug in an emergency

See the owner's manual of the electric vehicle.

# 15. Repair

## 15.1. Safety



### Warnung

#### Risk of fatal electric shock

There is a risk of electrocution when working on the electrical components of the wallbox.

- ▶ All work on the electrical components of the wallbox must be carried out by a locally certified electrician.
- ▶ Observe the following safety rules before any work on electrical components:
  - Disconnect the power supply.
  - Secure it against being switched on again.
  - Check that all poles are de-energised.
  - Earth and short-circuit.
  - Cover or enclose adjacent live parts.

## 15.2. Contact / service

If you have any questions about the wallbox and electromobility, visit our website: [www.spelsberg.com](http://www.spelsberg.com)  
 The Service and Support section <https://www.spelsberg.com/service/support/wallbox/> contains a wide range of information.

If you would like to contact us directly about a specific question, please use the contact form on our website.

### 15.3. Genuine spare parts

Spelsberg offers the following spare parts:

5m charging cable with type 2 plug	591 809 01
7m charging cable with type 2 plug	591 810 01
Polar design cover	591 811 01
Graphite design cover	591 812 01
Cover retainer	182 006 01

### 15.4. Replacing the charging cable

- ▶ Disconnect the wallbox from the power supply and secure it against being switched on again.
- ▶ Remove the design cover (See 15.5.1. Removing the design cover, page 32).
- ▶ Turn the catches in the wallbox enclosure cover 90° anticlockwise and open the cover.
- ▶ Make sure there is no voltage at the connection terminals.
- ▶ Disconnect the charging cable from the connection terminals.
- ▶ Open the strain relief clamp.



#### **Achtung**

- ▶ To ensure that the enclosure stays tight, take care not to damage the double membrane seal when taking the charging cable out and putting it in.
- ▶ Replace the seal if it has been damaged.

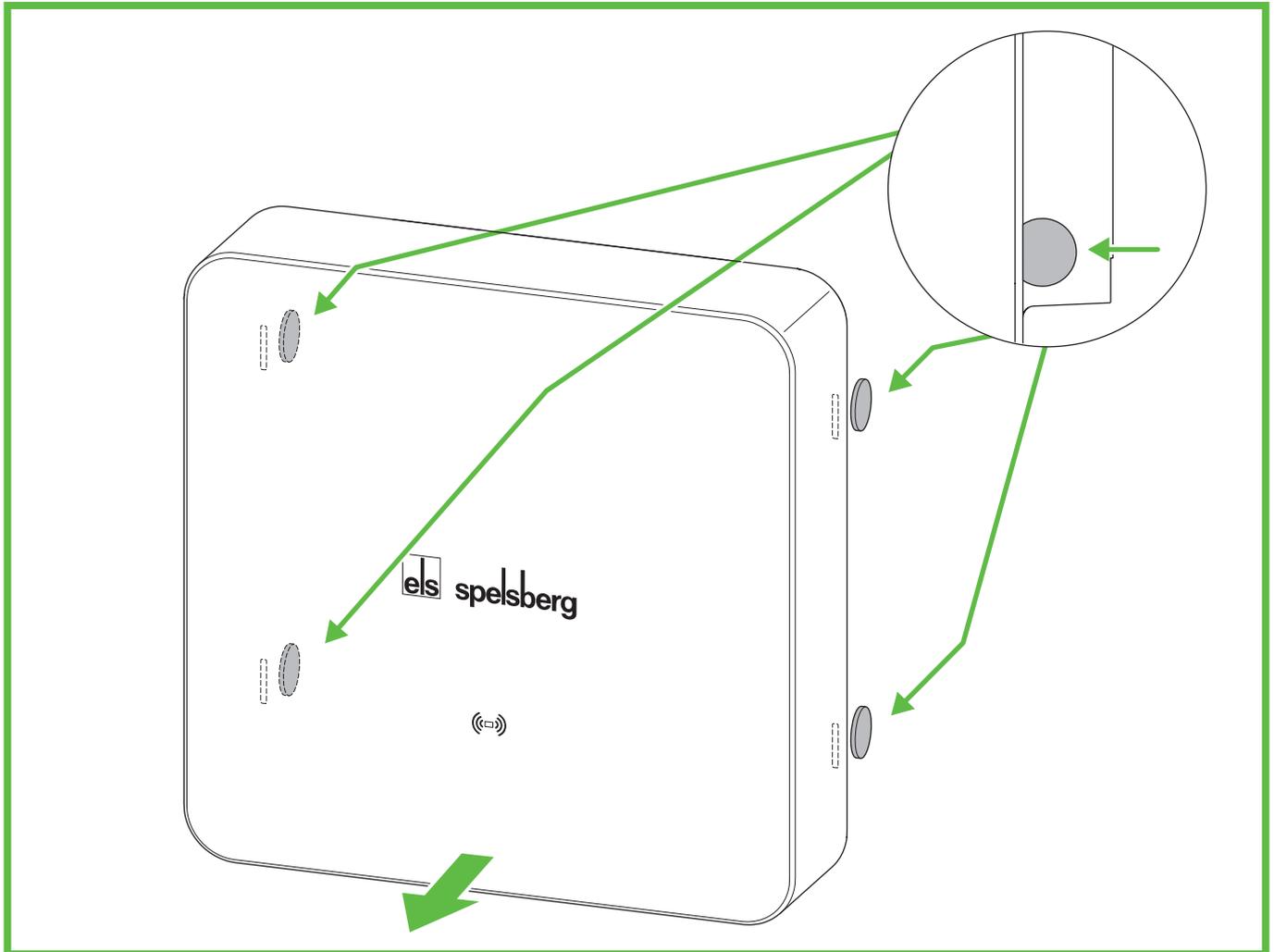
- ▶ Gently pull the charging cable out of the wallbox.
- ▶ Connect the new charging cable (See 9.6. Connecting the charging cable, page 15).
- ▶ Close the enclosure cover (See 9.12. Closing the enclosure cover, page 19).
- ▶ Attach the design cover (See 15.5.2. Mounting the design cover, page 34).

## 15.5. Replacing the design cover

### 15.5.1. Removing the design cover

To remove the design cover you need:

- At least 2 discs or suitably sized coins.



**Fig. 21: Removing the design cover**

- ▶ Release the design cover using the discs (Fig. 21). To do this, insert the discs as far as they will go into the release holes on the back.
- ✓ The design cover is released.
- ▶ Pull the design cover off the wallbox.

### 15.5.3. Mounting the design cover

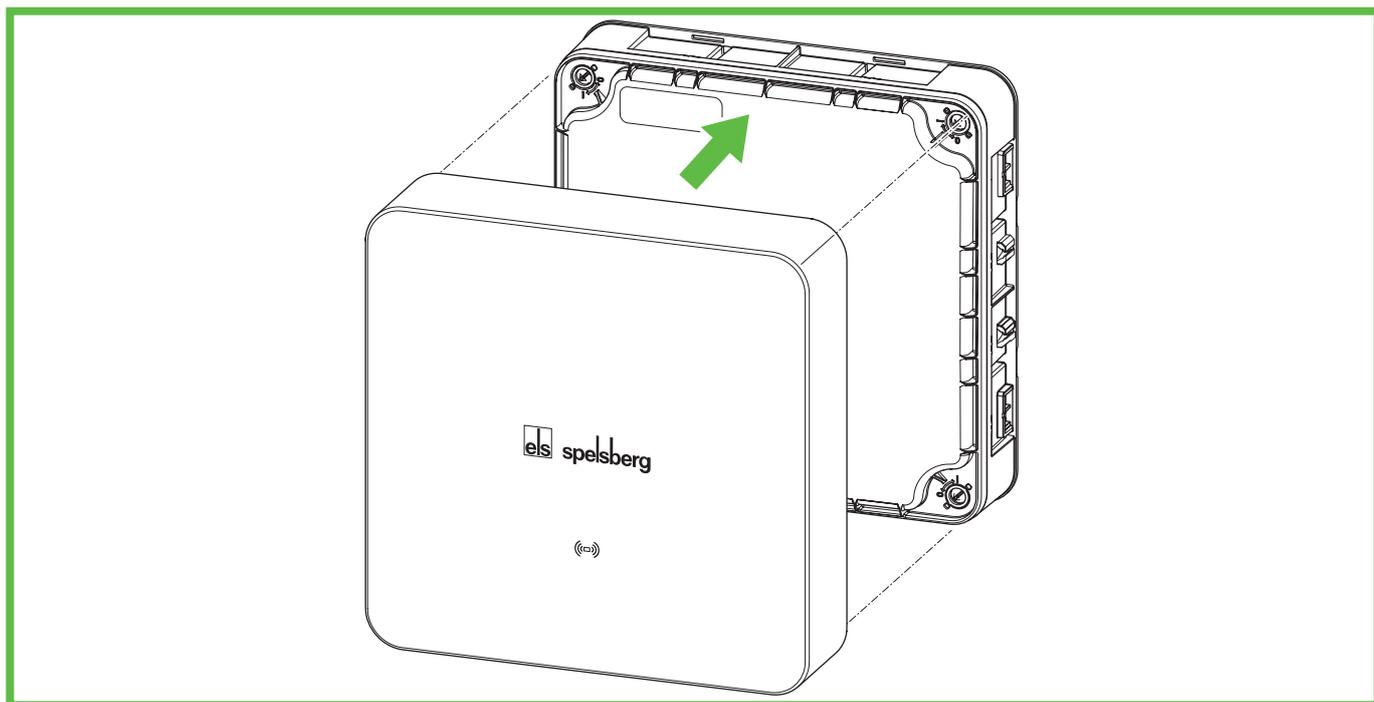


Fig. 22: Mounting the design cover



#### Note

Make sure that the RFID logo is not covered (with stickers or tape, for example). Otherwise, the NFC functionality may be impaired.

- ▶ Press the design cover onto the wallbox. The Spelsberg logo must be legible (see Fig. 22).
- ✓ The design cover snaps into the hooks on the side panels of the wallbox.

## 15.6. Replacing the cover retainer

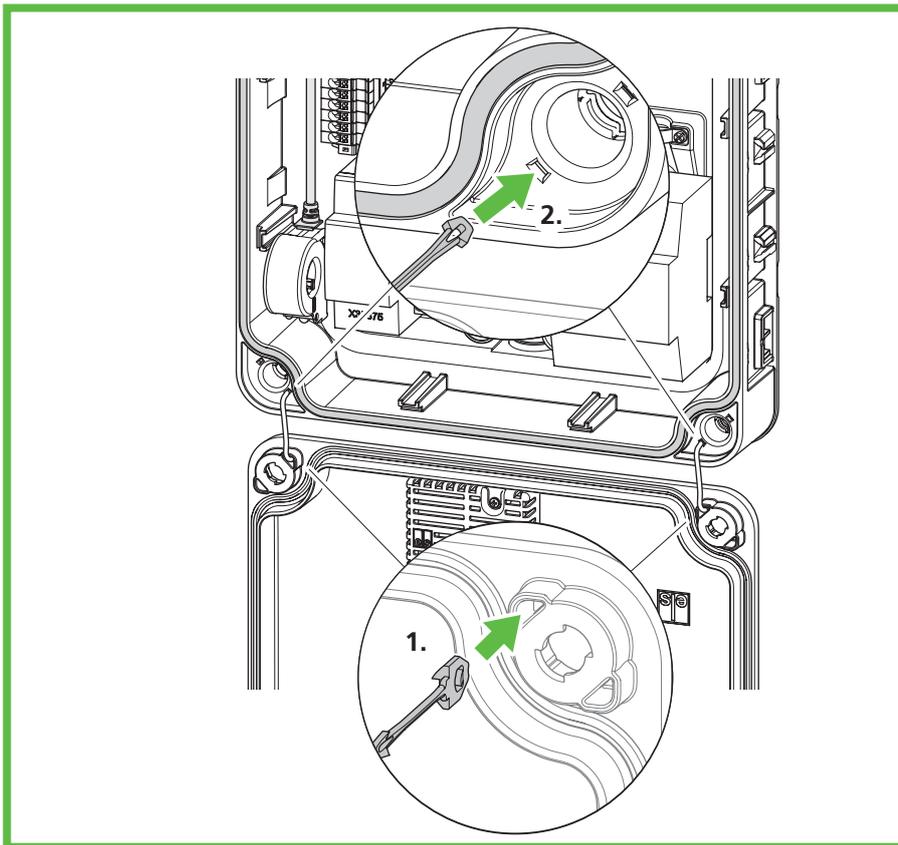


Fig. 23: Replacing the cover retainer

If the cover retainer has visible defects, it must be replaced.

- ▶ Cut the old cover retainer in the middle.
- ▶ Using a small screwdriver, push the lugs of the part of the retainer left in the cover and pull it out of the cover on the other side.
- ▶ Remove the cover retainer from the openings on the back of the wallbox.
- ▶ Insert the new retainer on the inside into the cover (1.).
- ▶ Push the cover retainer into the wallbox until it catches (2.).
- ✓ The cover retainer can no longer be pulled out of the wallbox.

## 16. Warranty

The statutory warranty period applies. If the product is defective, contact your electrical installer or the manufacturer's office in your country.

For repair or warranty cases, you must send the following documents:

- A copy of the invoice with the date of purchase
- A reason for the complaint or a description of the fault
- The confirmation number on the nameplate (serial / RN number)

## 17. Deinstallation



### Warnung

#### Risk of fatal electric shock

There is a risk of electrocution when working on the electrical components of the wallbox.

- ▶ All work on the electrical components of the wallbox must be carried out by a locally certified electrician.

- ▶ Disconnect the wallbox from the power supply and secure it against being switched on again.
- ▶ Remove the design cover.
- ▶ Make sure there is no voltage at the device terminals.
- ▶ Disconnect the supply cable.
- ▶ Gently pull all the cables out of the wallbox.
- ▶ Undo the fastening screws.
- ▶ Pack and store the wallbox properly (See 8. Storage, page 9).

## 18. Disposal

- ▶ If possible, dispose of the packaging material in the appropriate recycling waste.



### Note

- ▶ When you finally discontinue use of the product, please contact your nearest recycling centre or your dealer for information on the applicable disposal regulations.

## 19. Technical data

	Pure	Smart Pro
Item number	591 415 01, 591 417 01, 591 515 01, 591 517 01	591 435 01, 591 437 01, 591 535 01, 591 537 01
Rated voltage ( $U_N$ )	230 V AC (1-phase) 400 V AC (3-phase)	
Rated operating voltage ( $U_e$ )	230/400 V	
Rated frequency ( $f_n$ )	50 Hz	
Rated insulation voltage ( $U_i$ )	400 V	
Rated impulse withstand voltage ( $U_{imp}$ )	4 kV	
Rated conditional short-circuit current ( $I_{cc}$ )	< 17 kA	
Distribution network type	TN/TT	
Rated load factor	1	
Maximum charging power	3.7 kW (1-phase) 11 kW (3-phase) at 30 °C	
Rated current ( $I_{nA}$ )	16 A	
Maximum charging current	16 A (1-phase) 16 A (3-phase) at 30 °C	
Preconfiguration	16 A (11 kW, 3-phase)	
Connector plug	Type 2 as per IEC 62196-2	
Charging mode	3	
Degree of protection	IP54	

	Pure	Smart Pro
Pollution level	3	
Protection class	II	
Wallbox overvoltage category	III	
Charging cable overvoltage category	II	
Communication interfaces/protocols	NFC, USB	NFC, USB, WLAN, Ethernet, OCPP 1.6, Modbus, EEBus, SMA SEMP
Charging authorisation	RFID	RFID, EVCCID
MID meter	No	Yes
Load management	No	Dynamic
ISO15118 Plug & Charge	No	Yes
AutoCharge	No	Yes
Automatic phase switching	No	In preparation
Operating temperature	-25 to +40 °C (24 h average < 35 °C)	
Relative air humidity	15% – 100%	
Dimensions (H x W x D)	293 x 293 x 110 mm	
Installation altitude	Max. 2000 m above sea level	
Weight (without charging cable)	2.5 kg	3 kg
Weight (5m charging cable)	1.7 kg	
Weight (7m charging cable)	2.3 kg	
Material	Polycarbonate	
Colour (cover)	RAL 7016 (Graphite) and RAL 9010 (Polar)	
Type of installation	Stationary	
Installation site	Outdoor and indoor use	
Mounting location	Surface mounting / wall mounting	
Impact resistance:	IK08	
EMC classification	B	
Standard	IEC 61851-1 IEC 61439-7	









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We reserve the right to make  
technical modifications.