els spelsberg

safe.inspiring.green.

Content

els spelsberg

1. About this guide

Read this guide carefully before assembly and operation and keep hold of it. In the event of transfer of the product pass this guide on to the new user. Further product information, details and technical know-how can be found on our website.

1.1. Explanation of symbols used

Danger
Non-observance will result in death or in serious injury.
▶ Avoid the danger.

Warning
Non-observance may result in death or in serious injury.
▶ Avoid the danger.

Caution
Non-observance may result in injury.
▶ Avoid the danger.

Attention
Non-observance may result in damage to property.
▶ Avoid damage.

Note
Explanation of Note
Important further information.

2. Safety instructions

The operator is responsible for the proper and safe condition of the wallbox at all times and must check the wallbox at regular intervals (siehe 13. Wartung, Seite 32).

The manufacturer is not liable for damage resulting from use other than as intended, e.g.:
- Assembly or connection errors
- Damage to the product from mechanical influences and incorrect connection voltage
- Modifications to the product without express permission from the manufacturer
- Use for purposes other than those described in the guide

2.1. General safety

Warning
Danger to life from electric shock
▶ If there is visible damage to the wallbox or the connected cables, remove the wallbox from operation.
▶ If the connected cables and lines of the wallbox become damaged, have them replaced by a qualified specialist company to prevent risks.
▶ Always pull the charging cable from the vehicle inlet by the plug or the optional connector holder accessory, never by the cable.
▶ Never immerse the vehicle charging plug in liquids.

> ⚠️ **Warning**
> **Health hazard**
> ► Do not operate the wallbox at outside temperatures below -30 °C or above +40 °C.
> ► In case of fire, do not release the wallbox cover. Use extinguishing agents approved for electronic equipment. Do not use water for extinguishing.
> ► This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
> ► Children must not play with the appliance.
> ► Cleaning and operator maintenance must not be carried out by children without supervision.

3. Target group

3.1. Operator/user

As the operator, you are responsible for the unit. You are responsible for the correct use and safe operation of the appliance. This also includes the instruction of persons using the device.
As an operator without specialist electrical training, you may only carry out activities that do not require a qualified electrician.

3.2. Qualified electrician

As a qualified electrician, you have a recognised electrical engineering qualification. Based on this expertise, you are authorised to carry out the electrotechnical work required in this guide.

Conditions to be met by a qualified electrician:
- Knowledge of general and specific safety and accident prevention regulations
- Knowledge of the electrotechnical regulations
- Knowledge of national regulations
- Ability to recognise risks and avoid possible hazards.

3.3. Activities by target group

Operator/user
- Operation
- Cleaning
- Observance of maintenance intervals

Qualified electrician
- Installation
- Initial commissioning
- Maintenance
- Troubleshooting/Repair
- Decommissioning

4.   Intended use
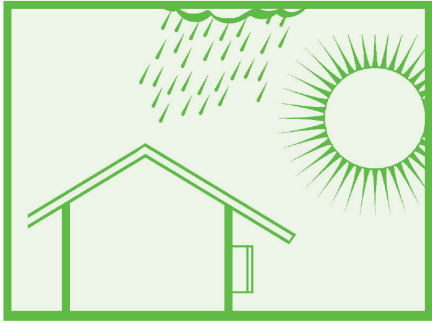
Abb. 1:   Mounting in protected outdoor areas

The wallbox is intended for charging electric vehicles with a Type 2 connector using alternating voltage. The wallbox is permanently connected to the AC power supply.

The wallbox is suitable for indoor and outdoor use. The wallbox is designed for wall and pedestal mounting. Only pedestals specified by Spelsberg may be used for pedestal mounting.

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

The following international regulations or respective national implementations must be observed:
- IEC 61851-1
- IEC 62196-1
- IEC 60364-7-722
- IEC 61439-7

The wallbox is for use in areas with unrestricted access.

5.   What's in the box ....

Quantity	Description
1	Wallbox pre-assembled consisting of - Box with integrated cable management - Cover - Cover screws - Cover retainer - Cable entry double membrane seal DMS M25 - Strain relief clamp for charging cable
1	Mounting rail
1	Charging cable with Type 2 connector
1	Design cover
5	Chip for unlocking the design cover
3	RFID chip
4	Flat head screw 6x60
4	Universal dowel UX 8 x 50 R
3	Cable entry double membrane seal DMS M16
1	Cable entry double membrane seal DMS M25
1	Cable entry double membrane seal DMS M32
3	Setup QR code for app commissioning
1	Quick Start Guide
1	Installation instructions

6.   Accessories

Description	Order number
RFID chip polar	591 813 01
RFID chip graphite	591 814 01
Single pedestal without roof	591 801 01
Single pedestal with roof	591 802 01
Double pedestal without roof	591 803 01
Double pedestal with roof	591 804 01
Weather-proof cover for wallbox	591 815 01
Connector holder polar	591 807 01
Connector holder graphite	591 808 01

Information on 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, Case C connection 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, the charging process must first be authorised by the user before the charging process is started.
After the charging process, the permanently connected charging cable can be stored using the wallbox cable management system. The protective cap prevents ingress of moisture into the charging connector.
A status LED and a buzzer indicate the state of the wallbox and the charging process.

The wallbox switches off the voltage under the following ambient conditions:
- D.C. fault currents > 6 mA
- Temperature too high
- Overload (Smart Pro only)
- Overvoltage/undervoltage (Smart Pro only)

The Spelsberg Wallbox App supports the installer in configuring the wallbox and offers the operator and user a variety of functions for controlling the wallbox and evaluating the charging processes:

- Charging of electric vehicles, provision of AC voltage for this purpose
- RFID chip registration
- Communication with the vehicle according to ISO 15118 (Plug & Charge), (Wallbox Smart Pro only)
- Dynamic load management for operation in a charging network (Wallbox Smart Pro only)
- Integration into energy management systems (Wallbox Smart Pro only)
- Integration into photovoltaic (PV) charging systems (Wallbox Smart Pro only)
- Evaluation of the charging processes (Wallbox Smart Pro only)

The Wallbox Smart Pro can be connected to the Internet through the following options:
- LAN (standard)
- WLAN

7.1. Controls and connections
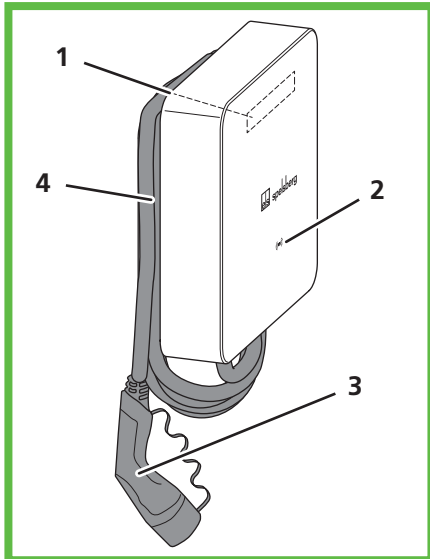
Abb. 2: General view

No	Description
1	Type plate (under the design cover)
2	Status LED, buzzer and RFID reader
3	Charging cable
4	Cable management

7.2. Type plate
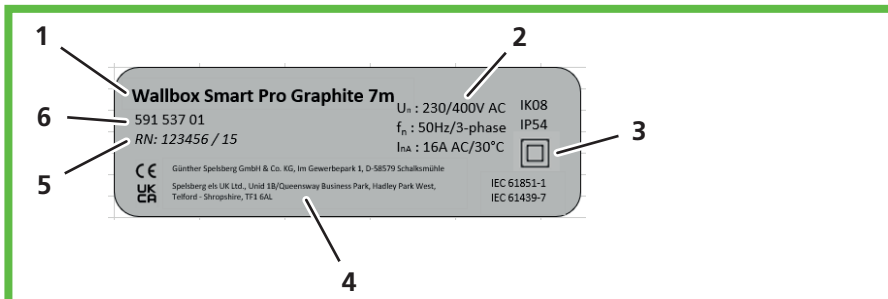
Abb. 3: Type plate

No	Description
1	Wallbox designation
2	Technical data
3	Protection class
4	Manufacturer address
5	Serial number
6	Product code

7.3. Cable entries
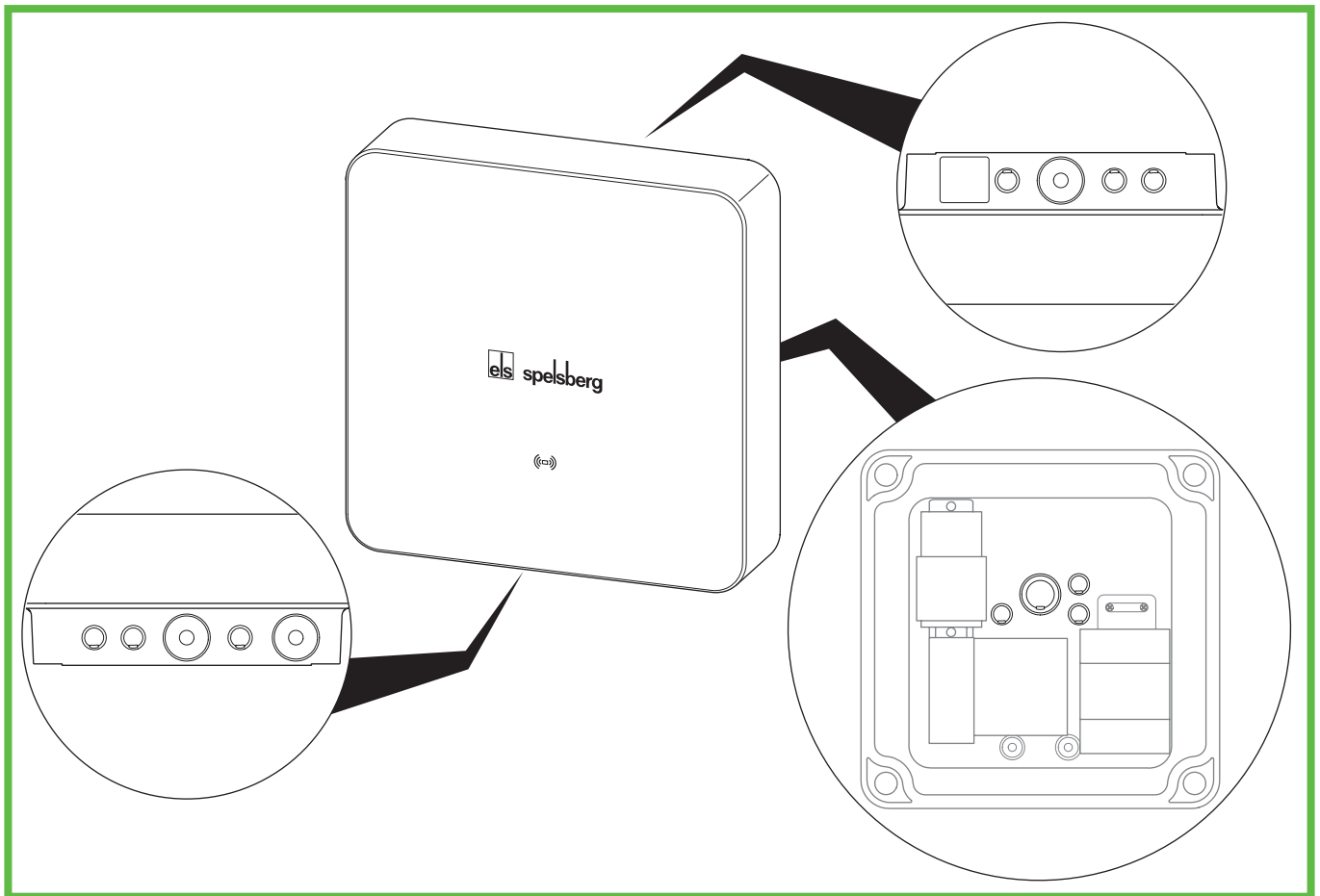
Abb. 4: Knockouts in the housing

The wallbox has a number of cable entries. The cable entries are suitable for the matching double membrane seals (DMS). Most of the cable entries are closed at the factory and provided with knockouts for opening them up.

The following cable entries and knockouts can be found on the wallbox:

Knockouts			matching double membrane seal DMS
top	bottom	rear	Sealing area (size)
3x M16	3x M16	3x M16	5 – 9 mm (M16)
1x M25/32 fitted with DMS M25	1x M25/32 fitted with DMS M25	1x M25/32	9 – 16 mm (M25)/ 14 – 21 mm (M32)
	1x M25 for the charging cable		9 – 16 mm (M25)

8. Storage

▶ Store the unit, the charging cable and the accessories in their original packaging in a dry and clean place until assembly.

9.   Installation

9.1.   Safety

> ⚠️ **Caution**
> **Risk of injury**
> The user may suffer injury from damaged components.
> ▶ Do **not** mount the charging station
> – near combustible materials.
> – in areas with a risk of explosion.
> – in salty or wet environments.
> – near corrosive fumes.
> – in environments subject to constant vibration.
>   Examples of such environments include outdoor areas of petrol stations, chemical plants, landfills, and sewage treatment plants.

> ❗ **Attention**
> **Risk of damage from the effects of weather**
> The charging station may be damaged by an incorrect choice of location.
> ▶ Do not expose the charging station to any heat source (e.g. sunlight, heating).
> ▶ Mount the charging station in a place that is protected from rain and splash water.
>
> **Risk of damage from drilling**
> Parts of the installation can be damaged by incorrectly performed drilling.
> ▶ Before creating drill holes in the wall/mounting surface, make sure that no electrical cables or other wiring will be damaged by the drilling.

9.2.   Prerequisites

The following protective devices must be provided on-site to safeguard the wallbox:
- Back-up fuse of max. 16 A. The manufacturer recommends:
  - **230 V:** Overcurrent switch (C-characteristic); 1-pole
  - **400 V:** Overcurrent switch (C-characteristic); 3-pole, all-pole switching
- Residual current device (RCD) Type A with $I_{\Delta n} \leq 30$ mA
  - **230 V:** FI circuit breaker 2-pole
  - **400 V:** FI circuit breaker 4-pole
- Depending on installation site: Surge protector according to national and regional regulations.

Take note of the following instructions when selecting the installation location:
- Only mount the wallbox vertically (e.g. on building walls).
- The mounting surface must be level and have sufficient strength. If there is any unevenness on the wall of more than 2 mm, equalisation under the fixing points must be provided to avoid distortion of the housing systems.
- The fixing material used must be suitable for the fixing surface.
- There must be a clearance of at least 250 mm around the wallbox. This also applies to plant growth.
- Spelsberg recommends maintaining sufficient distance from other obstacles in the installation environment.
- The underside of the wallbox must be at least 900 mm above the ground.
- The wallbox must always be adequately lit during operation. Install lighting if necessary.

You will need the following tools for mounting:

- Drill
- Screwdriver (suitable for the fastening screws used and the cover screws)
- Spirit level
- Pencil
- Side cutters
- Stripping tool
- Crimping pliers

9.3. Preparation for installation

ℹ️ **Note**

Double membrane seals are provided on the top and bottom of the wallbox for the power supply. Knockouts only need to be pushed through if further cables are to be connected or are to be inserted into the wallbox from the rear.

If the diameter of the supply line exceeds the sealing range of the pre-installed M25 DMS:

▶ Remove the pre-fitted M25 DMS.
▶ Push through the corresponding knockout.
▶ Fit an M32 DMS.
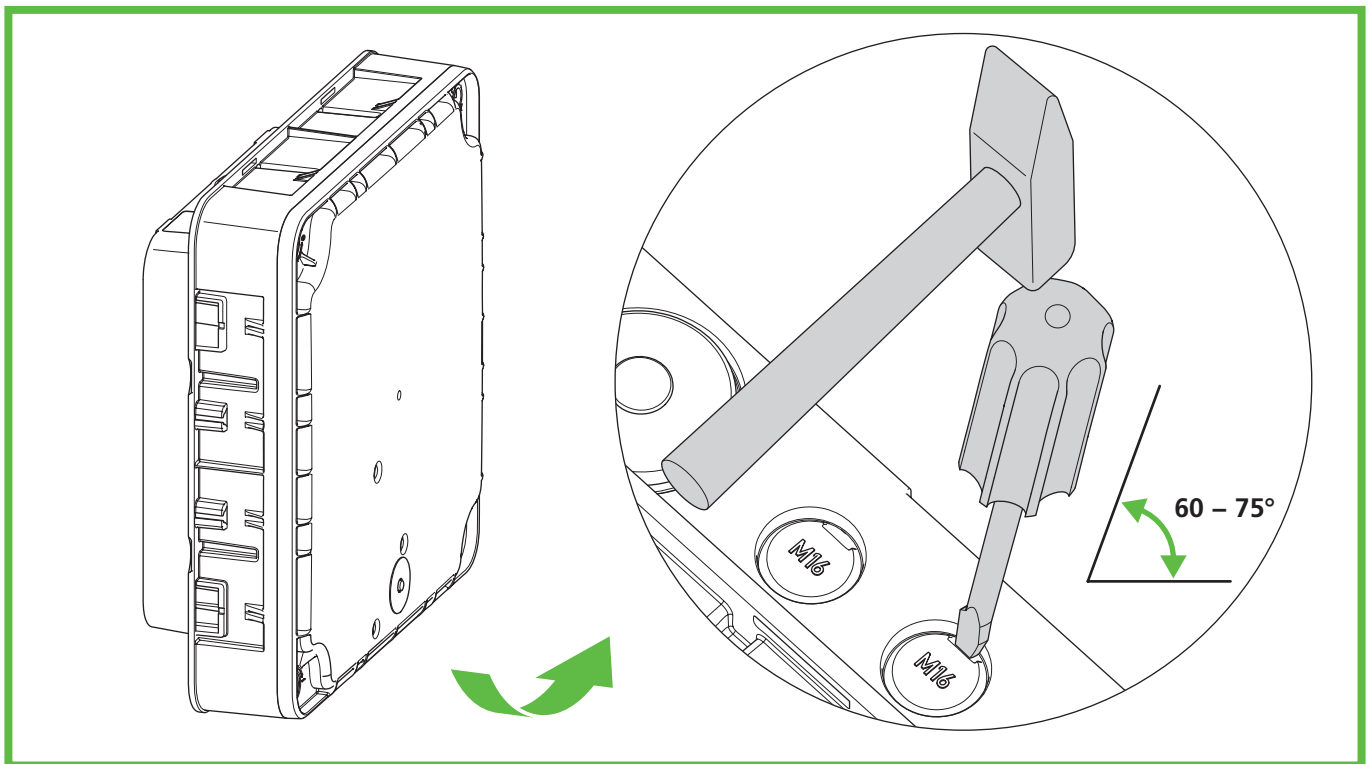
Abb. 5: Pushing through bottom knockouts

▶ **Only for cable entry through the rear wall:** Unscrew the housing cover from the wallbox.
▶ Push through the necessary knockouts in the housing.
▶ Fit the respective DMS.

9.4. Checking the connectors and the charging cable connection
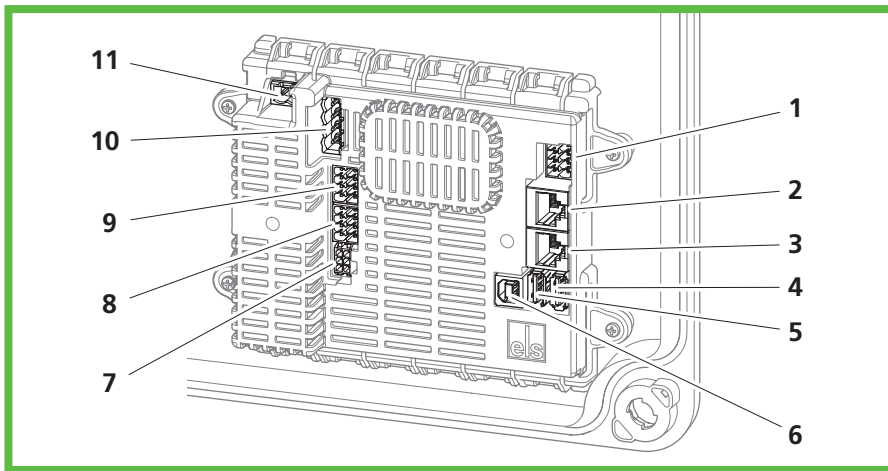
Abb. 6: Charge controller connections

No	Description	No	Description
1	Connection plug A (PE, CP, ...)	7	Measuring current transformer connection
2	LAN connection (LAN-2, Smart Pro only)	8	2-phase cut-off connection (Smart Pro only)
3	LAN connection (LAN-1, Smart Pro only)	9	Enabling contact connection
4	1x USB type A (HMI board connection), USB 2	10	Contactor control connection
5	1x USB type A (Smart Pro only), USB 2	11	Supply voltage connection
6	1x USB type B (service port)		

▶ Check all connectors for tightness.

9.5. Installation with wall mounting

Note
Dowels and screws are included in the scope of delivery.
▶ Use flat-head screws (no countersunk screws).

To mount the wallbox you will need:
- 4 screws (maximum diameter 6 mm, minimum screw head diameter Ø 12 mm, maximum Ø 15 mm)
- 4 matching dowels
- Drilling template

150 mm
5,91"

TOP

M16

M32

M16

M16

68 mm
2,68"

163 mm
6,42"

Bohrschablone
Drilling Template

45 mm
1,77"

M2-007-01_082022
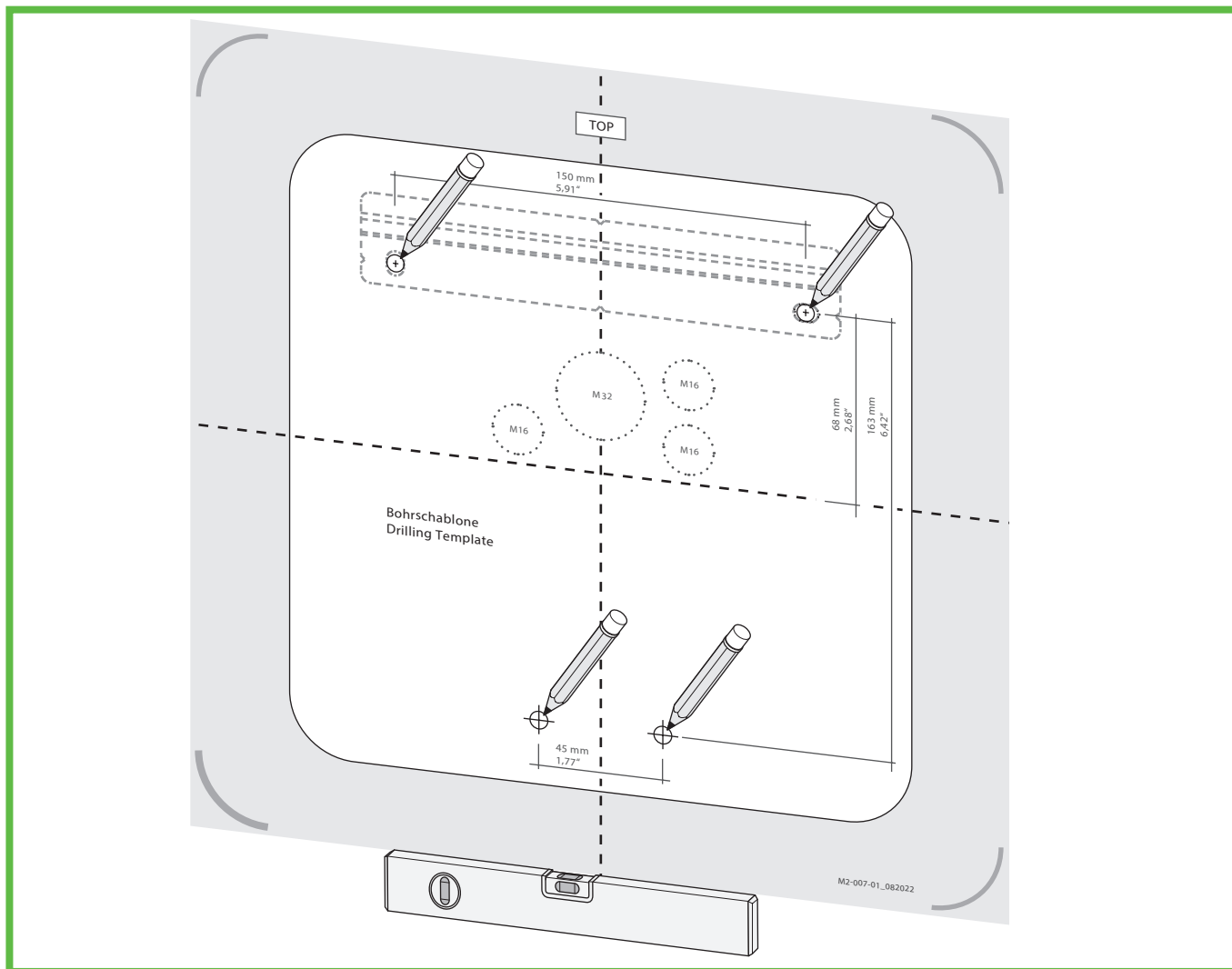
Abb. 7: Mark the fixing points

▶ Mark the fixing points of the mounting rail and wallbox (Abb. 7).
▶ **Only for cable entry through the rear wall:** Mark the respective cable entries of the wallbox (Abb. 7).
▶ Drill the holes for the fixing points.
▶ Insert the dowels into the holes.

150 mm

Abb. 8: Fit the mounting rail

▶ Screw on the mounting rail.
▶ **Only for cable entry through the rear wall:** Lay the necessary cables (e.g. power supply, LAN cable).
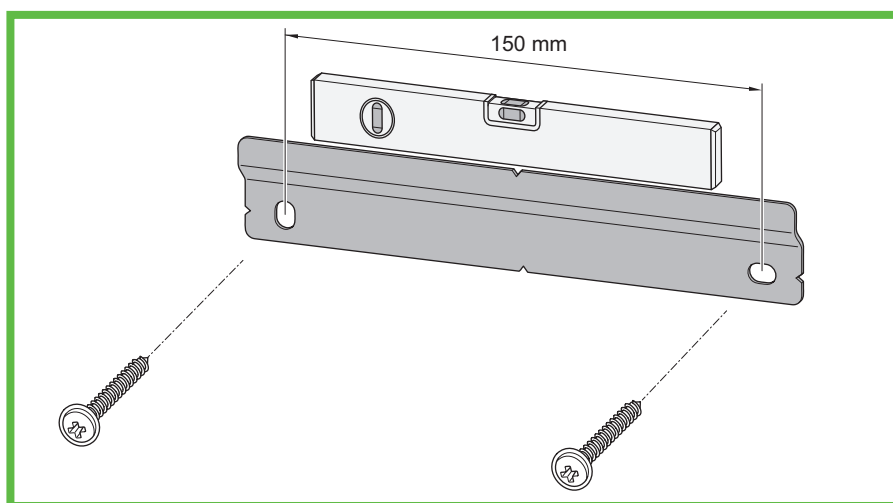▶ **Only for cable entry through the rear wall:** Guide the required cables through the respective cable entries in the rear wall of the wallbox.

els spelsberg
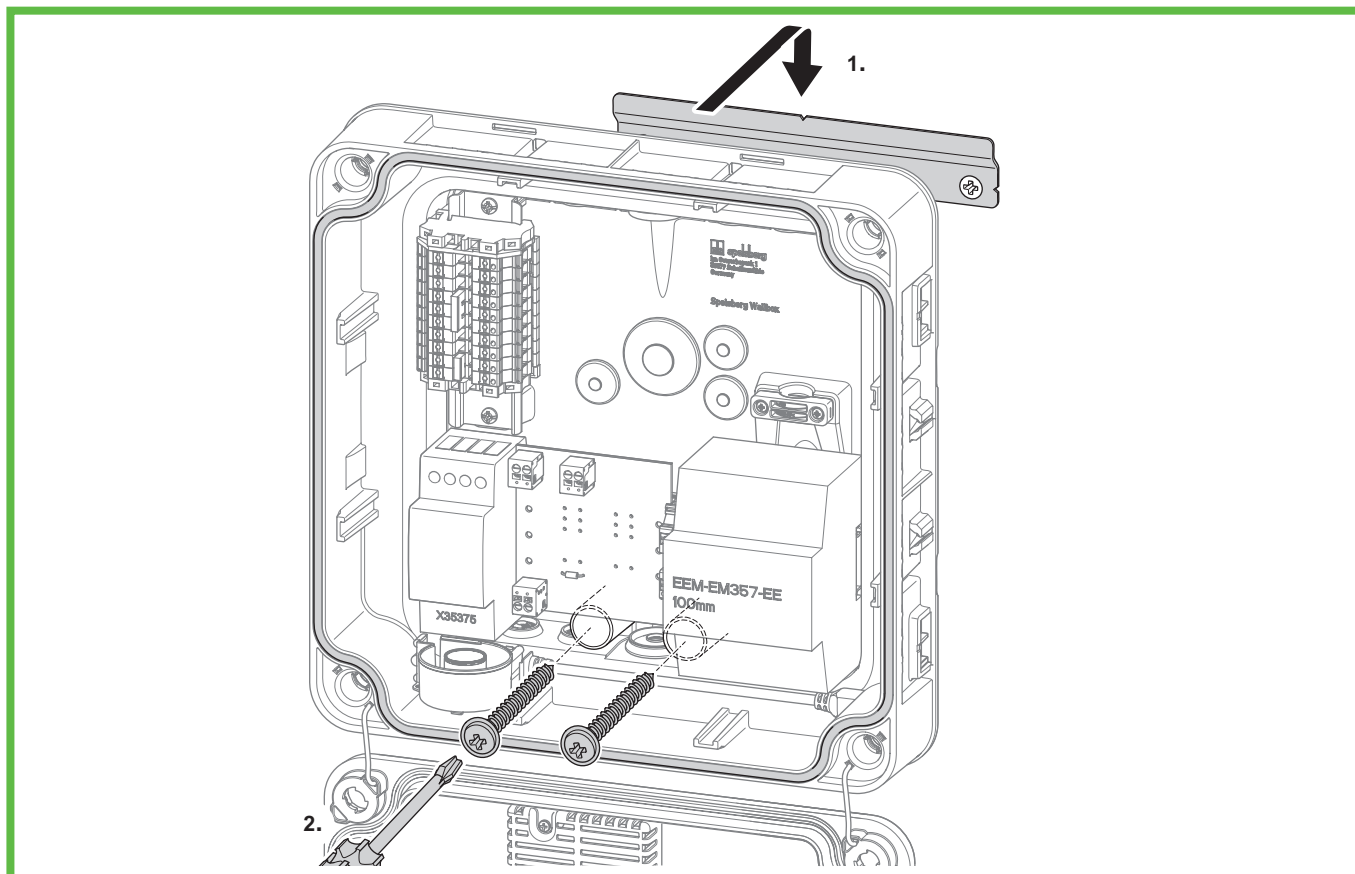
Abb. 9: Mount the wallbox on the wall

▶ Position the wallbox centrally on the mounting rail (1.).
▶ Screw the wallbox tight with the 2 screws (2.).

9.6. Connection of the supply line

⚠️ **Warning**
Danger to life from electric shock
There is a risk of electric shock due to errors when connecting to the electrical supply line.
▶ The connection to the electrical supply line must be performed by a locally authorised electrician only.
▶ Install a suitable residual-current circuit-breaker and appropriate fuse protection in the supply line.
▶ Take note of the following safety rules before any work on electrical components:
  – Isolate.
  – Secure against re-closing.
  – Determine the absence of voltage on all poles.
  – Earth and short-circuit.
  – Cover or cordon off adjacent live parts.
▶ Take note of local regulations and laws.
▶ Before connecting, ensure that the supply line, plugs, and connection sockets are clean and dry.
▶ Never touch the plugs if your hands are wet or your feet are standing in the wet.
▶ When connecting the supply line and the LAN cable , ensure that the cables and lines are not damaged.

Use a supply line with the maximum cross-section of the connection terminal: rigid and flexible 6mm^2, flexible with wire-end ferrule 4mm^2.
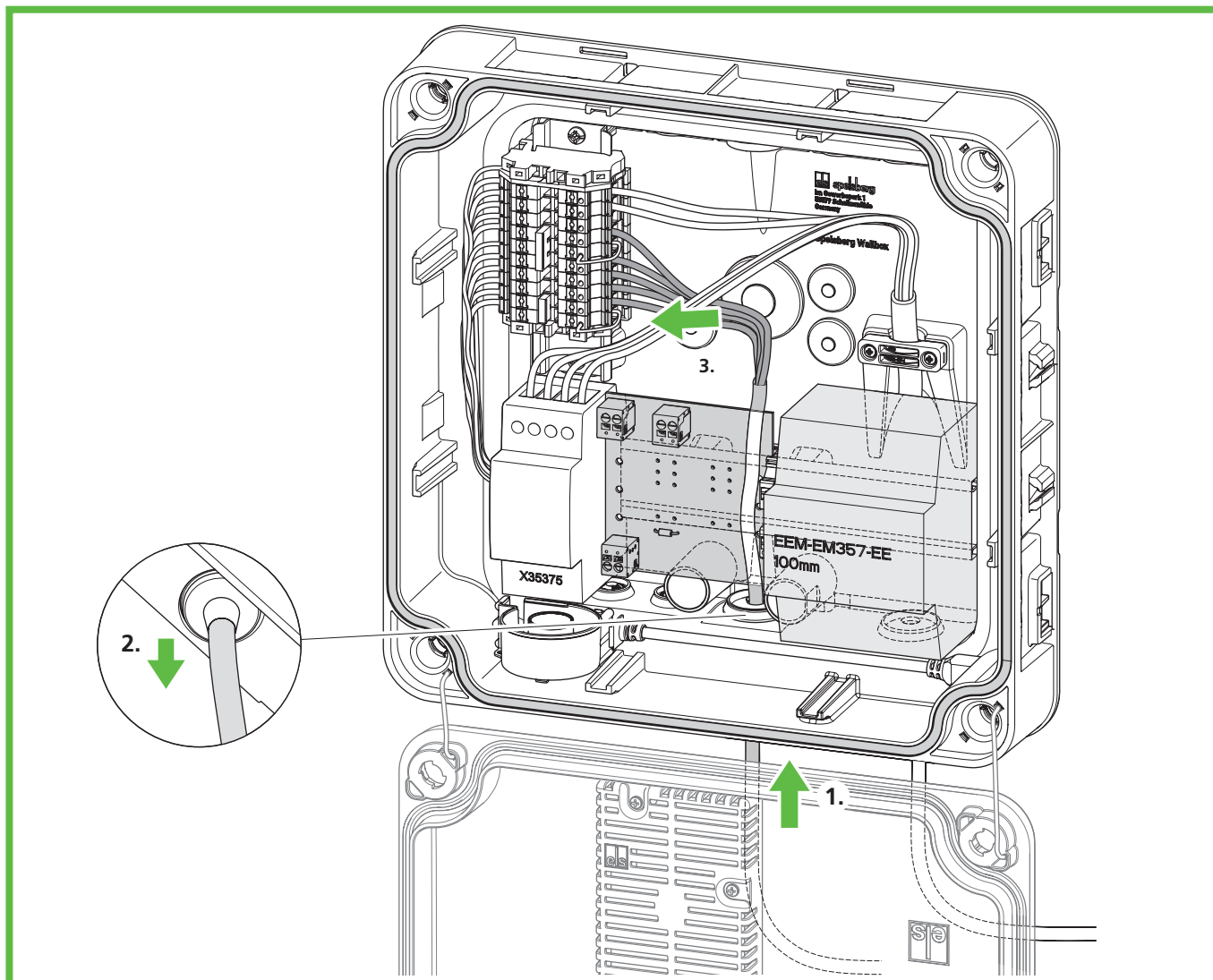
Abb. 10: Connecting the supply line

⚠ **Attention**
Risk of damage to the wallbox
Incorrect wiring may damage the wallbox.
▶ Ensure a clockwise rotation for a 400 V power supply.
▶ For a 1-phase wallbox connection, **always** connect the 230 V power supply to L1.
▶ If you operate multiple 1-phase connection wallboxes in a charging network, ensure that the load is distributed evenly over the various phases to avoid imbalances.

▶ Guide the supply line through the intended DMS.
▶ Pull back the supply line so that the DMS creates a funnel away from the housing.
▶ Strip the cores of the supply line to 10 - 12 mm.
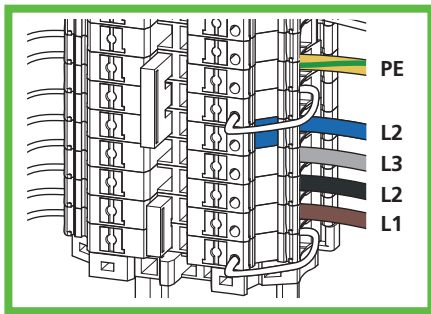
Abb. 11: 3-phase connection of the supply line in the TN/TT system (400 V)
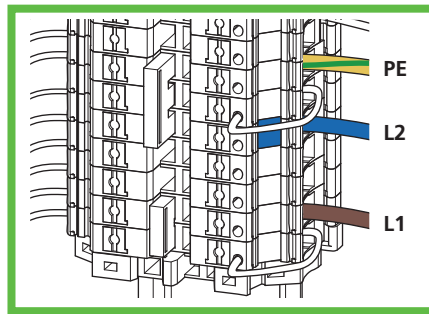
Abb. 12: 1-phase connection of the supply line in the TN/TT system (230 V)
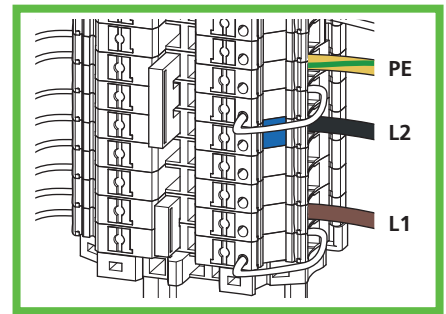
Abb. 13: 2-phase connection of the supply line in the TN/TT system (230 V)

▶ Connect the cores as follows:

3-phase connection in the TN/TT system (400 V)	1-phase connection in the TN/TT system (230 V)	2-phase connection in the TT/IT network (230 V)
L1 - brown	L1 - brown	L1 - brown
L2 - black	–	–
L3 - grey	–	–
N - blue	N - blue	N - black (L2*)
PE - green/yellow	PE - green/yellow	PE - green/yellow

*Note: In a TT or IT system with 230 V between the outer conductors and without a neutral conductor, the wallbox must be installed so that one phase is connected to terminal L1 and the other phase to terminal N.

9.7. Connection of the PV system signal line (optional)
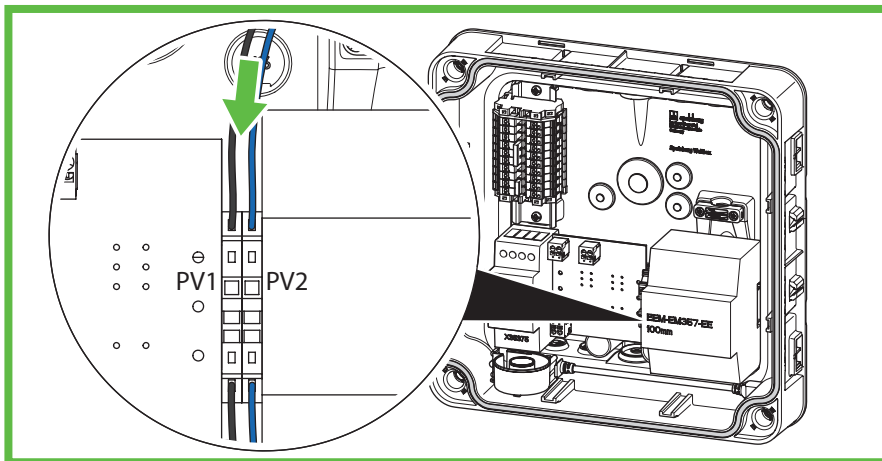
Abb. 14: Connecting the PV system control line

A potential-free switching contact (relay, normally open contact) is required to connect a PV enable contact on the photovoltaic system side. Use an unshielded control line 2 x 0.75mm^2.

▶ Guide the control line through the intended DMS.
▶ Pull back the control line so that the DMS forms a funnel away from the housing.
▶ Strip 8 - 10 mm of insulation from the cable.
▶ Lay the control line to the spring-cage clamps.

> **Note**
>
> The parameters for using the potential-free contact, e.g. for connecting the inverter of the photovoltaic system to the wallbox, must be set in the Spelsberg Wallbox App (siehe 10.6.4. PV-Anlage parametr **N** :n, Seite 25). **N**

9.8. LAN connection setup (optional, Wallbox Smart Pro only)

> **Attention**
>
> **Risk of damage to the LAN cable**
>
> Excessive kinking of the LAN cable may cause it to be damaged and its function to be limited.
>
> ▶ Note the bending radii of the LAN cable used.

▶ Guide the LAN cable line through the intended DMS. Use a category 6 or 7 LAN cable (Cat 6 or Cat 7).
▶ Pull back the LAN cable so that the DMS forms a funnel away from the housing.
▶ Crimp an RJ45 connector onto the LAN cable.
▶ Connect the LAN cable to the LAN connection socket LAN-1 in the cover (Abb. 6 No 3).
▶ Secure the LAN cable to the existing cable harness leading to the cover.

9.9. Essential tests and measurements

> **Note**
>
> A commissioning report template can be found on the Spelsberg website:
> www.spelsberg.de/service/support/elektromobilitaet/wallbox/

▶ Switch on the supply voltage.
▶ Before initial commissioning, check and record whether the protective measures of the installation function according to the nationally applicable regulations, including:

- Continuity of the connections of the protective conductor
- Insulation resistance (with disconnected controller and disconnected measuring devices (meters))
- Residual current circuit breaker
- Tripping current
- Trip time

▶ Pass the test and handover reports to the operator of the system.

9.9.1. Insulation resistance test

▶ Remove the following plugs and cables within the wallbox:
- Contactor control connection on the charge controller (Abb. 6 No 9)
- Supply voltage connection on the charge controller (Abb. 6 No 10)
- **Wallbox Smart Pro only:** N line at MID meter (terminal 10)
▶ Check the insulation resistance.
▶ Restore the connections.
▶ Check all connectors for tightness.

9.10. Initial commissioning

▶ Check the connections.
▶ Apply the supply voltage by activating the fuse.
▶ Check the voltage and the rotating field.
▶ Close the housing cover (siehe 9.11. Gehäusedeckel verschließen, Seite 18)
▶ Continue with the setup (siehe 10. Einrichtung, Seite 20).

9.11. Closing the housing cover
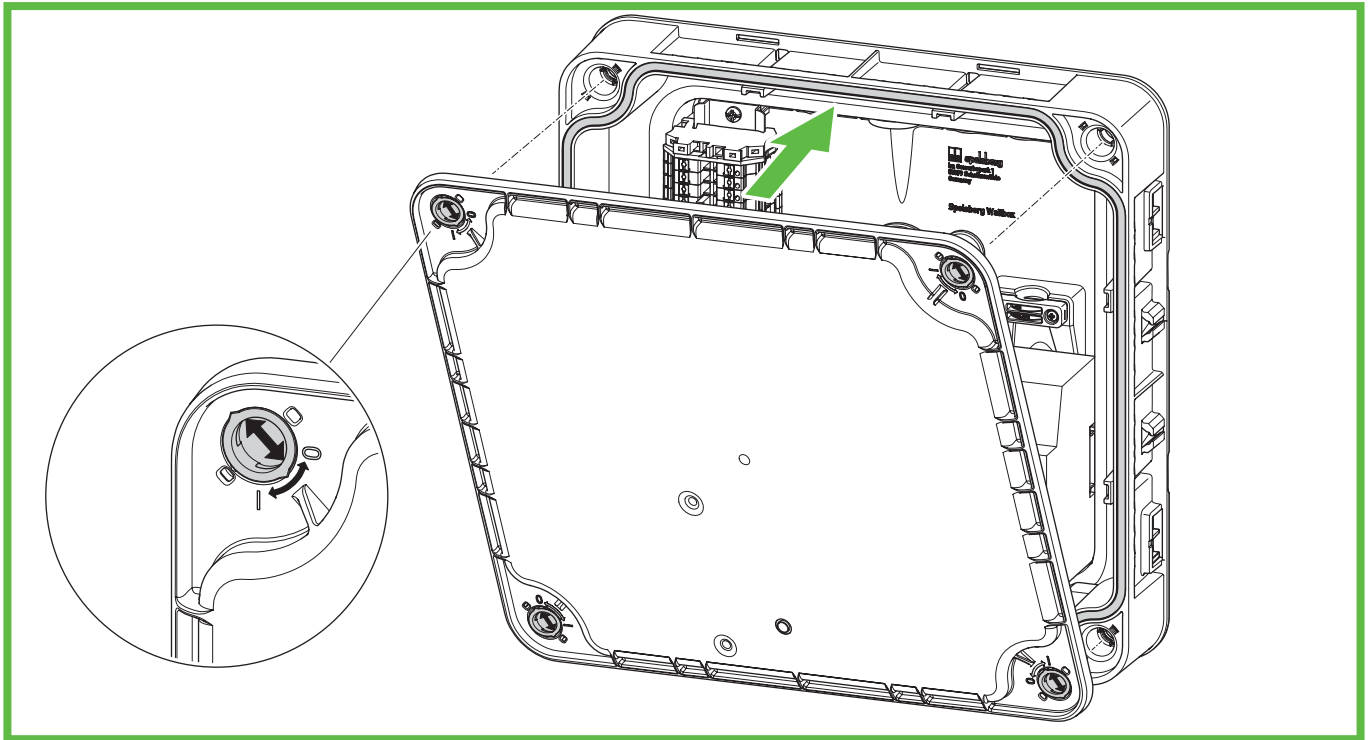
Abb. 15: Closing the housing cover

▶ Close the housing cover. Ensure that the cables are not pinched.
▶ Rotate the quick-release fasteners in the housing cover of the wallbox a quarter turn clockwise until you feel them engage.
▶ Fit the design cover (siehe 9.12. Designcover montieren, Seite 19).

9.12.   Fit the design cover
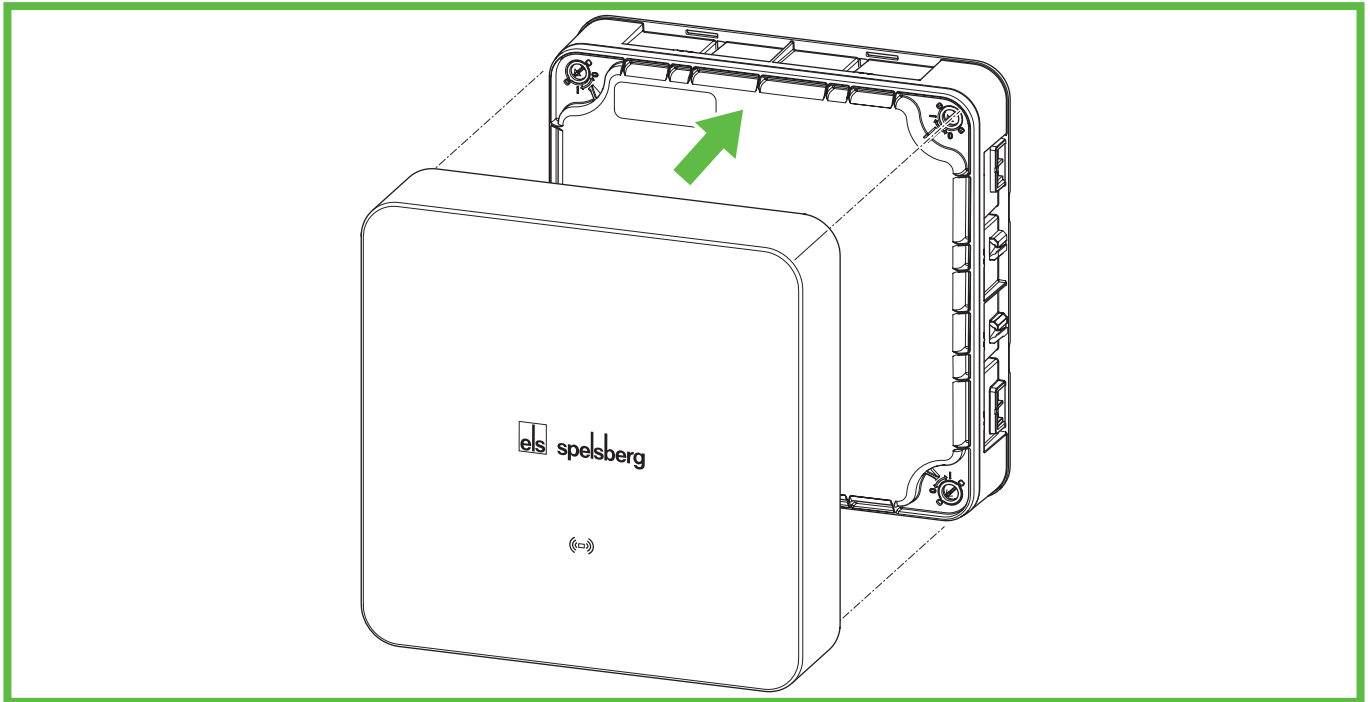
Abb. 16: Fitting the design cover

> **ℹ️ Note**
> Ensure that the RFID logo remains clear (no stickers or similar covering it). Otherwise, the NFC functionality may be restricted.

▶ Push the design cover onto the wallbox. The Spelsberg logo must be legible (see Abb. 16).

✓ The design cover snaps into the latching hooks on the side walls of the wallbox.

10.   Set-up

> **Note**
>
> In the following situations, the wallbox must not to be set up via smartphone:
> – 3-phase connection type
> – Home connection and supply line designed for 16 A
> – Autonomous operation without load management, connection to energy management systems or PV systems
>
> For documentation and handover, Spelsberg recommends commissioning via smartphone.

> **Note**
>
> Several identical setup QR codes are available for launching the app. These contain sensitive access data.
> ▶ Keep the setup QR codes in a safe place. Affix the setup QR codes to the manual or on the invoice, for example.
> ▶ For example, do not affix the setup QR code to the wallbox where it is visible from the outside.

10.1.   Installing the Spelsberg Wallbox App

For the initial set-up via smartphone the latter must be NFC enabled.

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 your smartphone. Alternatively, use the following QR code link to retrieve the app:

spelsberg.com/wallbox/app/

10.2. Commissioning and configuration of the wallbox via smartphone and NFC by the installer

i **Note**
The installer can parameterise the complete wallbox system via "advanced settings".

i **Note**
▶ Only hold the smartphone in front of the wallbox when the app prompts you to do so.
▶ Hold the smartphone in the designated position over the LED, similar to paying with a smartphone at the checkout terminal.
▶ If no communication is established, slowly move the smartphone around the designated position area over the LED.
▶ If the card wallet opens in the smartphone, the wallbox is not in NFC mode. Start the process again and follow the instructions in the app precisely. You can find more information in our FAQ section on the Spelsberg website.

10.2.1. Initial commissioning

▶ Start the app.
▶ Select the menu item "I am an electrician" and activate the service mode.
▶ Select "Configure wallbox".
▶ Scan the set-up QR code provided on the inside of the Quick Start Guide.

✓ The wallbox data (serial number, production date, type/variant) are transferred to the app.

▶ Follow the instructions in the app to set the "Basic parameters" and "Advanced parameters". (factory setting: 3-phase charging operation; charging current 16 A.)
▶ Transmit the data to the wallbox via NFC once configuration is complete. For this, the smartphone must be close to the RFID logo on the wallbox.

✓ The set parameters are transmitted to the wallbox.

i **Note**
During data transmission, any error messages are also read out and displayed via the app. Therefore, this transmission should be carried out even if no parameters or data have been changed.

✓ The wallbox is ready to begin the first charging process.

i **Note**
Once configuration is complete, no data are saved to the smartphone.

10.2.2. Reading out existing wallbox data

If the wallbox has already been configured, it is possible to read out the existing wallbox data.

▶ Start the app.
▶ Select the menu item "I am an electrician" and activate the service mode.
▶ Select "Configure wallbox".
▶ Scan the set-up QR code provided on the inside of the Quick Start Guide.
▶ Select "Read out existing wallbox data" and follow the instructions in the app.
▶ After successful reading out of the wallbox data, you will find the set parameters under "Settings".
▶ In addition, you can adjust, delete or add to the installation & maintenance data.

10.2.3. Reset to factory settings

The installer can reset the wallbox and delete the user data during commissioning.

▶ Start the app.

▶ Select the menu item "I am an electrician" and activate the service mode.

▶ Select "Configure wallbox".

▶ Scan the set-up QR code provided on the inside of the Quick Start Guide.

✓ The wallbox data (serial number, production date, type/variant) are transferred to the app.

▶ Follow the instructions in the app to set the "Basic parameters" and "Advanced parameters".

▶ Select "Reset to factory settings" in the lower section of the screen.

▶ Perform one of the two operations:
  - Delete the user data, e.g. charging statistics or permissions.
  - Reset all settings to factory settings.

✓ The wallbox performs a restart.

10.3. Setting up the wallbox for use by the user/operator

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

■ Status display in the app

■ Control of the charging process via the app (Smart Pro only)

■ Setting permissions for the charging process

■ Viewing charging statistics (Smart Pro only)

■ Advanced configuration options, e.g. integrating the wallbox into the home network

> **Warning**
> The user has no "restricted access rights" and can therefore set all parameters.
> ▶ Only have technical values set by a qualified electrician.

▶ Start the app.

▶ Select the menu item "Add wallbox to app".

▶ Scan the enclosed setup QR code with your smartphone to save the wallbox data in the app. After successful initial set-up, the set-up QR code will no longer need to be scanned in future.

▶ Set up the wallbox according to the procedure in the app.

▶ Transmit the data to the wallbox via NFC once configuration is complete. For this, the smartphone must be close to the RFID logo on the wallbox.

Additional users can add the wallbox separately in their app. Further configuration operations are then unnecessary.

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".

▶ Set the maximum charging current In the basic settings. For safety reasons, the maximum charging current cannot exceed the charging current configured by the installer.

■ With active load management, the charging current can be automatically distributed over various charging points. This must be configured. You can find information about this on our service and support website www.spelsberg.de/service/support/elektromobilitaet/wallbox/

■ If the energy management system (EMS) is active, it can set the available charging current so that the wallbox does not provide too much energy. This must be configured. You can find information about this on our service and support website www.spelsberg.de/service/support/elektromobilitaet/wallbox/

10.5. Wallbox Smart Pro network setup

> **Note**
>
> The Wallbox Smart Pro can be integrated into the existing IT infrastructure both via LAN cable (recommended) and via WLAN.

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

A network setup is necessary to make full use of the range of functions, e.g. for the evaluation of charging statistics.

10.5.1. Network connection via LAN

> **Note**
>
> For setup purposes, the smartphone and the wallbox must be in the same network.

▶ Start the app.

▶ Select the menu item "Add wallbox to app".

▶ Scan the enclosed setup QR code with your smartphone to save the wallbox data in the app. After successful initial set-up, the set-up QR code will no longer need to be scanned in future.

▶ Deactivate the "Set up WLAN" option.

▶ Follow the instructions in the app.

▶ Send the data to the wallbox via NFC. For this, the smartphone must be close to the RFID logo on the wallbox.

✓ The set parameters are transferred to the wallbox.

10.5.2. Network connection via WLAN

▶ Start the app.

▶ Select the menu item "Add wallbox to app".

▶ Read the enclosed setup QR code with your smartphone. After successful initial set-up, the set-up QR code will no longer need to be scanned in future.

▶ The network to which your smartphone is connected is displayed in the wallbox app.

▶ Enter the WLAN password.

▶ Send the data to the wallbox via NFC. For this, the smartphone must be close to the RFID logo on the wallbox.

✓ The set parameters are transferred to the wallbox.

✓ If the smartphone is in the same WLAN as the wallbox, it is recognised by the app and the network setup is complete.

10.6. Configuring applications (Smart Pro only)

⚠️ **Warning**

The user has no "restricted access rights" and can therefore set all parameters.

▶ Allow technical values to be set only by a qualified electrician.

10.6.1. Configuring load management

Dynamic load management (DLM) enables the operation of multiple charging points on a limited grid connection. Within the charging network, the charging power of individual charging points is reduced so that the maximum load is not exceeded, or the load can be distributed across different phases. Optimum load management is based on the appropriate performance of the mains connection, the use of phase rotation when connecting the charging point and the appropriate configuration of the charging network.

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

ℹ️ **Note**

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

10.6.2. Energy management system

The Spelsberg wallbox can be integrated into an energy management system. This allows adjustment of the charging process according to the available energy.

▶ Select the menu item "System" → "Settings" → "System integration" → "External control".

▶ Adjust the parameters to the conditions.

ℹ️ **Note**

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

10.6.3. OCPP backend

The Spelsberg wallbox is able to communicate with an OCPP backend. Charging processes are thereby reported to the backend and the wallbox can be controlled by this.

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

Note
Currently, only OCPP 1.6 JSON is supported.

10.6.4. PV system parameterisation

For a PV system to be supported it must be parameterised in the app. Depending on the specific application, this can be achieved via EEBUS, Modbus TCP, SMA SEMP or the potential-free contact.

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

10.6.5. Automatic phase cut-off

Depending on the available power of the PV system, phase cut-off automatically switches 2 phases off or on to ensure an optimal charging process with solar power. To be able to use phase cut-off, a compatible meter must be integrated at the feed-in point and connected to the Spelsberg Wallbox.

- Select the menu item "System"→"Settings"→"System integration" and follow the instructions in the "Active charging current control" section.

Warning
The phase cut-off function causes individual phases to be switched on or off during the charging process. Some electric vehicles do not provide for this change in phase configuration during the charging process. It can lead to damage to the vehicle, the wallbox or the electrical installation if the vehicle is not compatible. Only activate this function if the vehicle to be charged has been approved by Spelsberg and the manufacturer and ensure that no other vehicles can use the wallbox. Spelsberg accepts no liability for damage caused by use with incompatible electric vehicles, either to the vehicle itself, the wallbox or the electrical installation

A list of electric vehicles that are NOT supported can be found here:
www.spelsberg.com/service/support/e-mobility/wallbox/solar-power-charging

Note
Phase deactivation is only supported from wallbox software version 5.33 and app version 2.0.

els spelsberg

11. Operation

> **Danger**
>
> **Risk of death, severe injuries and burns**
>
> Dangerous arcs may cause death or serious injury.
> ► Never use force to remove the vehicle charging plug. The charging process shutdown and the duration of the unlocking may vary depending on the wallbox and electric vehicle.

> **Warning**
>
> **Risk of death, severe injuries and burns**
>
> Handling of the charging cable other than as prescribed can cause explosions, electric shocks and short circuits.
>
> Take note of the generally applicable safety precautions and the following instructions.
> ► Before each use, check the charging cable and the contacts for damage and dirt.
> ► Never charge with a damaged charging cable or vehicle inlet.
> ► Never charge with contacts that have become 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 allow the vehicle to be started with the charging cable plugged in. Always make sure to disconnect the charging cable before driving off.
> ► Do not use the charging cable with an extension cable or an adapter.
> ► If the connector gives off smoke or melts, on no account touch the charging cable. If possible, terminate the charging process.
> ► Ensure that the charging cable is not accessible to children. Only persons with a valid driving licence for motor vehicles may use the charging cable.
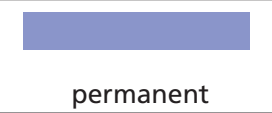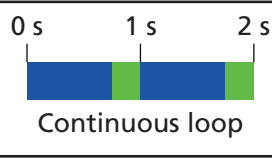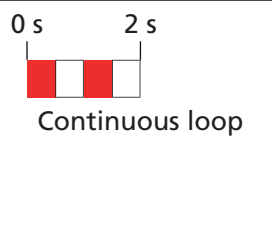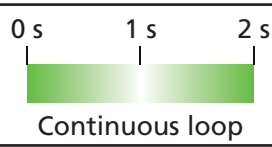
> **Attention**
>
> **Risk of damage**
>
> The charging plug can be damaged by environmental influences.
> ► When the vehicle charging plug is not in use, always fit the protective cap.
> ► Alternatively, the vehicle charging plug can be inserted into an optional plug holder available as an accessory.

11.1. Status LED and buzzer

There is an LED and a buzzer in the housing cover to signal the status of the wallbox.

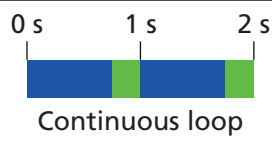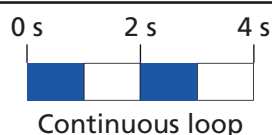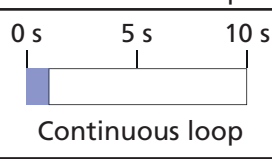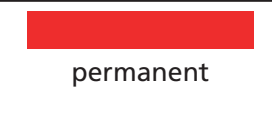| Display	Status Buzzer signal	Description Recommended action
0 s 2 s 4 s 6 s Continuous loop	STARTING	The wallbox starts up. ▶ Wait until the wallbox is ready for use.
permanent	READY	The wallbox is ready for the charging process.
0 s 1 s 2 s Continuous loop	WAITING for authorisation	A vehicle is connected but not authorised. ▶ Authorise the charging process with an RFID chip or authorise the vehicle (requires AutoCharge or Plug & Charge function)
permanent		Charging paused.
0 s 2 s Continuous loop	AUTHORISATION FAILED 1 long beep	The RFID chip was not accepted. ▶ Authorise the charging process with an RFID chip or authorise the vehicle (requires AutoCharge or Plug & Charge function) ▶ Extend the authorisation to include the current RFID chip.
0 s 1 s 2 s Continuous loop	CHARGING 1 short beep	A vehicle is charging.
0 s 1 s 2 s Continuous loop	RESERVED (OCPP only) 1 short beep	The wallbox has been reserved with the OCPP reservation and a vehicle is present. ■ The vehicle is not authorised. ▶ Use a different charging point.
0 s 2 s 4 s Continuous loop	RESERVED (OCPP only)	The wallbox has been reserved with the OCPP reservation, but there is **no** vehicle present. ▶ Connect an authorised vehicle.
0 s 5 s 10 s Continuous loop	NOT AVAILABLE (OCPP only)	The wallbox has been temporarily deactivated in the backend or in the app. ▶ Activate the wallbox in the backend or in the app to enable the wallbox.
permanent	ERROR STATE	The wallbox is defective and cannot be used. ▶ Have the wallbox repaired by a qualified electrician.

els spelsberg

11.2.   Charging an electric vehicle

⚠️ **Attention**
Danger to life from electric shock
There is a risk of electric shock due to moisture or damaged cables and plugs.
▶ Ensure that the supply line, plugs, and connection sockets are clean and dry before use.
▶ Never touch the plugs if your hands are wet or your feet are standing in the wet.
▶ When connecting the plug, ensure that the charging cable is not pinched or damaged.
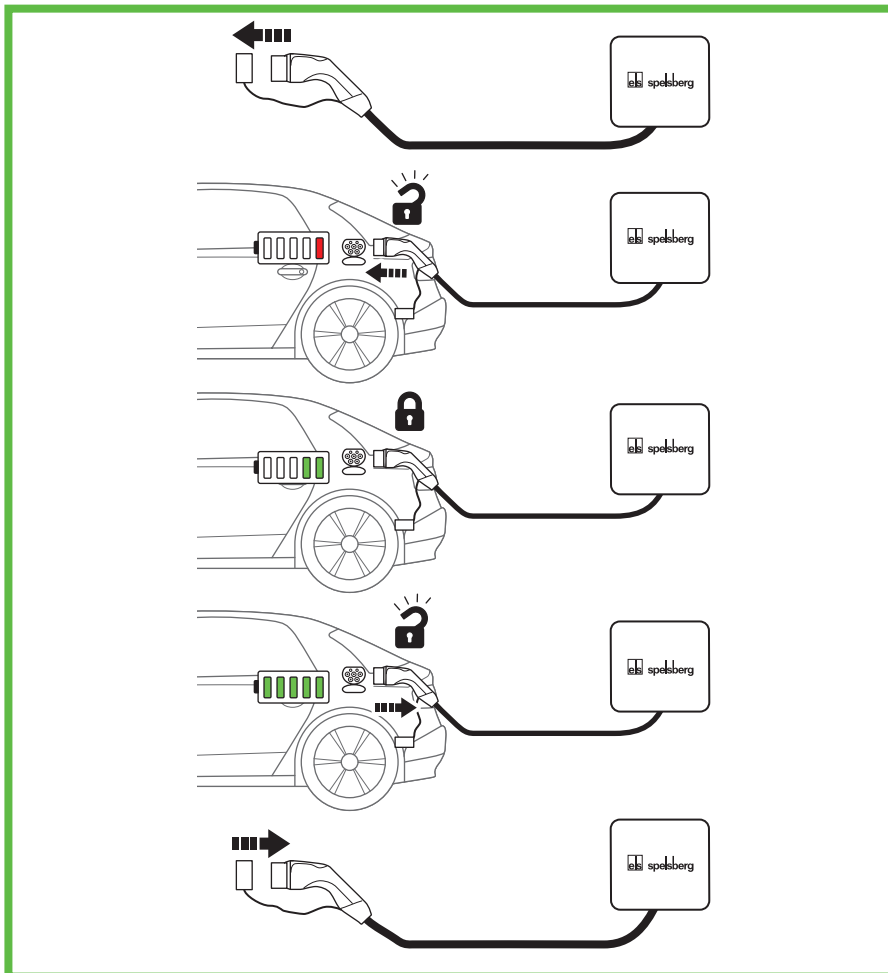
Abb. 17: Charging process

▶ Switch off the vehicle.
▶ Fully unwind the charging cable.
▶ Remove the protective cap from the vehicle charging plug.
▶ Plug the vehicle charging plug into the vehicle inlet.
▶ Ensure that the connector has been correctly and fully plugged in.
▶ If necessary, authorise the charging process on the wallbox.
▶ Start the charging process on the vehicle.

✓ The vehicle inlet locks the vehicle 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 charge level of the vehicle's high-voltage battery, and on the permissible charging power and the parameterisation of the wallbox. The electric vehicle selects the actual charging power based on capacity and other parameters.
✓ During the charging process, the status LED of the wallbox pulses green:

0 s   1 s   2 s

11.3. Ending the charging process

> ⚠️ **Danger**
> **Risk of death, severe injuries and burns**
> Dangerous arcs may cause death or serious injury.
> ▶ Never use force to remove the vehicle charging plug. The charging process shutdown and the duration of the unlocking may vary depending on the wallbox and electric vehicle.

▶ End the electric vehicle charging process (see electric vehicle operating instructions).
▶ Remove the vehicle charging plug from the vehicle inlet.
▶ Fit the protective cap.
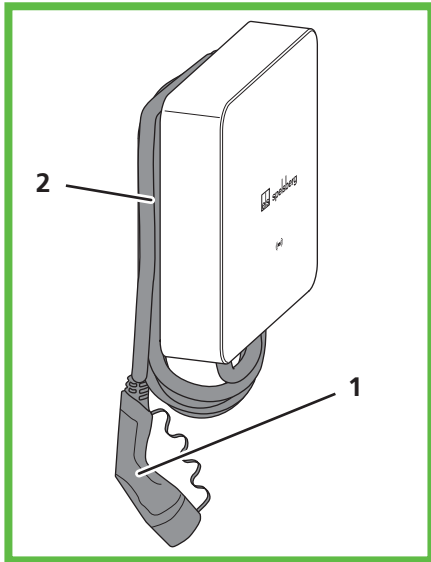
Abb. 18: Cable in cable management

▶ If necessary, wrap the cable three to four times around the cable management.

11.4. Operation with the app

> ℹ️ **Note**
> Further information on settings in the Spelsberg Wallbox App can be found in the FAQ section of the Spelsberg website.

To use the app, a one-time setup is necessary (siehe 10.3. Einrichtung der Wallbox für die Nutzung durch den Nutzer / Betreiber, Seite 23). The set-up QR code is required for this.

Upon successful completion of this, the Spelsberg Wallbox App will be available either in the home network (Smart Pro), or via NFC with limited functionality.

> ℹ️ **Note**
> The Spelsberg Wallbox App cannot access the wallbox via the Internet.

The Spelsberg Wallbox App offers the operator the following options:
- View status
- Control charging (Smart Pro only)
- View statistics and retrieve these for billing (Smart Pro only)
- Adjust the configuration of the wallbox
- Assign permissions

The Spelsberg Wallbox App is available for Android and iOS in the respective stores (see „10.1. Spelsberg Wallbox App installieren", page 21).

11.4.1. Configuring charging permissions

Authorisations can be set up and managed using the Spelsberg Wallbox App. If unrestricted use of the wallbox is not wanted, authorisations for vehicles and RFID chips can be set up. 3 RFID chips are included in the scope of supply of the wallbox. In addition, other RFID chips corresponding to ISO 14443A/Mifare Classic can be used.

11.4.2. RFID chip programming

RFID chips must be programmed before they can be used for authorisation at the Wallbox. Several RFID chips can be set up. The charging statistics for each RFID chip can be displayed in the app.
An NFC-enabled smartphone is required for setup by the user, where there is no network connection with the wallbox (Smart Pro only).

▶ Select the menu item "System" → "Permissions".
▶ Follow the instructions in the app.

> **Note**
> If the wallet opens, the smartphone is in the wrong mode.
> ▶ Restart the process ensuring that you only hold the smartphone in front of the wallbox when you are prompted to do so in the app.

11.4.3. E-vehicle programming (Plug & Charge/AutoCharge) (Smart Pro only)

If your e-vehicle supports the Plug & Charge or AutoCharge function, programming of the vehicle is required before authorisation is possible at the wallbox. For this, the wallbox must be in the local network. The e-vehicle must not be connected until it has been programmed.
First you must configure the wallbox.

▶ Select the menu item "System" → "Settings" → "Advanced Settings" → Show "Expert Settings" → "System".
▶ Set the corresponding parameter to "On":
  • "ISO 15118 Communication" (with Plug & Charge)
  • "AutoCharge"
▶ Apply the settings.
▶ Select the menu item "System" → "Permissions".
▶ Plug in the electric vehicle and wait for further instructions in the app.

✓ The electric vehicle is tuned.

11.4.4. Retrieving statistics

With the help of the Spelsberg Wallbox App, statistics and other information about the wallbox can be retrieved. These can be filtered according to predefined periods or according to programmed authorisations. The data are output as a PDF or CSV file by means of an export function via your smartphone. For correct display of time data (date, time) in the statistics, a network connection is mandatory.

▶ Select the "Statistics" menu item.

12.   Cleaning

> ⚠️ **Warning**
> **Danger to life from electric shock**
> There is a risk of electric shock when working on the electrical components of the wallbox.
> ▶ Only clean the charging cable when it is not connected to the vehicle.
> ▶ Clean only the exteriors of the wallbox and the charging cable.

> ❗ **Attention**
> **Incorrect cleaning agents can damage the wallbox.**
> ▶ Do not use any sharp or abrasive means for cleaning.
> ▶ Do not use water or a steam cleaner.

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

13.   Maintenance

13.1.   Firmware update

Firmware updates allow the Spelsberg Wallbox to be adapted to vehicle innovations, support new functions and correct errors. The Wallbox Smart Pro performs automatic updates when it is connected to the Internet. Details of the currently installed firmware version can be found under the menu item "System" → "Installation & Maintenance data" of the Spelsberg Wallbox App.

13.1.1.   Firmware update (offline)

> ⚠️ **Warning**
> **Danger to life from electric shock**
> During a firmware update with a USB stick, the wallbox is open and live.
> ▶ The firmware update must be performed by a locally authorised electrician only.
> ▶ Take note of local regulations and laws.
> ▶ Do not work on the open wallbox if your hands are wet or your feet are standing in the wet.

Firmware updates for an un-networked wallbox are carried out via the USB interface using a USB stick.
To perform a firmware update, a formatted USB stick is required.

▶ Download the required firmware file from the wallbox support website. Ensure that the firmware is compatible with the wallbox. Updates not approved by Spelsberg may lead to malfunctions or failure of the wallbox. In this case, the warranty is invalidated.
▶ Save the firmware file on a USB stick (see information on the Spelsberg Wallbox website).
▶ Remove the design cover (siehe 15.5.1. Designcover demontieren, Seite 35).
▶ Turn the quick-release fasteners in the housing cover of the wallbox 90° anticlockwise and open the cover.
▶ Insert the USB stick into one of the USB ports (Abb. 6, No 4).

✓ The firmware update proceeds automatically without further interaction.
✓ The wallbox performs a restart.
✓ The status LED of the charge controller first lights up permanently green, then permanently blue.
✓ Once the status LED of the charge controller is flashing green, the update is complete.
✓ The wallbox is ready for operation again.

▶ Remove the USB stick.
▶ Close the housing cover (siehe 9.11. Gehäusedeckel verschließen, page 19)
▶ Fit the design cover (siehe 9.12. Designcover montieren, page 20).

els spelsberg

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

> **ℹ️ Note**
> An Internet connection is a prerequisite for automatic updates of the wallbox. In the absence of this, the firmware update must be carried out locally using a USB stick (siehe 13.1.1. Firmware-Update (offline), Seite 31).

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 wallbox operator, you do not have to take any action and are regularly provided with new functions and bug fixes. In the app, the current firmware version of the wallbox is displayed under the menu item "System" → "Installation & Maintenance data". The release notes of the respective firmware version are published on the Spelsberg Wallbox website and can be viewed at any time.

14. Troubleshooting

> **ℹ️ Note**
> The wallbox interrupts an active charging process if one of the following situations arises:
> – The temperature in the housing exceeds the maximum value (siehe 19. Technische Daten, Seite 37)
> – Overload
> – Overvoltage or undervoltage
> – D.C. fault currents in excess of 6 mA

If the LED on the wallbox is permanently red, there is a fault.
Error messages are displayed in the Spelsberg Wallbox App.

▶ Read out the error codes with the Spelsberg Wallbox App:
- via NFC (Spelsberg Wallbox Pure 2.0 and Smart Pro), see 14.1. Reading out errors (Spelsberg Wallbox Pure 2.0), page 32
- via LAN/WLAN (Smart Pro only), see 14.2. Fehler auslesen (Wallbox Smart Pro), page 32

14.1. Reading out errors (Spelsberg Wallbox Pure 2.0)

▶ Open the Spelsberg Wallbox App.
▶ Select the wallbox in the app.
▶ Open the menu item "System" → "Messages".
▶ Hold the smartphone at the height of the RFID logo on the wallbox when prompted to do so in the app.

✓ The status of the wallbox is read out.

▶ To correct the errors, follow the instructions in the app or contact our technical support.

14.2. Reading out errors (Wallbox Smart Pro)

> **ℹ️ Note**
> The smartphone and the wallbox must be in the same network in order to read out the errors directly in the app. If the smartphone and the wallbox are not in the same network, the errors can be read out directly from the wallbox (see 14.1. Reading out errors (Spelsberg Wallbox Pure 2.0), page 32).

▶ Open the Spelsberg Wallbox App.
▶ Open the menu item "System" → "Messages".
▶ To correct the errors, follow the instructions in the app or contact our technical support.

14.3. Emergency release of the charging plug

See the electric vehicle operating instructions.

15. Repair

15.1. Safety

> ⚠️ **Warning**
> **Danger to life from electric shock**
> There is a risk of electric shock when working on the electrical components of the wallbox.
> ▶ The work on the electrical components of the wallbox must be performed by a locally authorised electrician only.
> ▶ Take note of the following safety rules before any work on electrical components:
>   – Isolate.
>   – Secure against re-closing.
>   – Determine the absence of voltage on all poles.
>   – Earth and short-circuit.
>   – Cover or cordon off adjacent live parts.

15.2. Contact/Service:

If you have any questions concerning the wallbox or electromobility, please visit our homepage:
www.spelsberg.de
A wide range of information on these topics can be found in the Service and Support section https://www.spelsberg.de/service/support/wallbox/..
If you have a specific question you would like to ask us directly, please use the contact form on our homepage.

15.3. Original spare parts

The following spare parts are available from Spelsberg:

5 m charging cable with Type 2 plug	591 809 01
7 m charging cable with Type 2 plug	591 810 01
Design cover, polar	591 811 01
Design cover, graphite	591 812 01
Cover retainer	182 006 01

15.4. Replacing the charging cable

▶ Disconnect the wallbox from the power supply and protect it against being switched on again.
▶ Remove the design cover (siehe 15.5.1. Designcover demontieren, Seite 35).
▶ Turn the quick-release fasteners in the housing cover of the wallbox 90° anticlockwise and open the cover.
▶ Ensure that the connection terminals are isolated from the supply.
▶ Disconnect the charging cable from the contactor.
▶ Open the strain relief clamp.

> ⚠ **Attention**
> ▶ Ensure that the DMS is not damaged when removing and reinserting the charging cable, so that the tightness of the housing is maintained.
> ▶ Replace the DMS if it has been damaged.
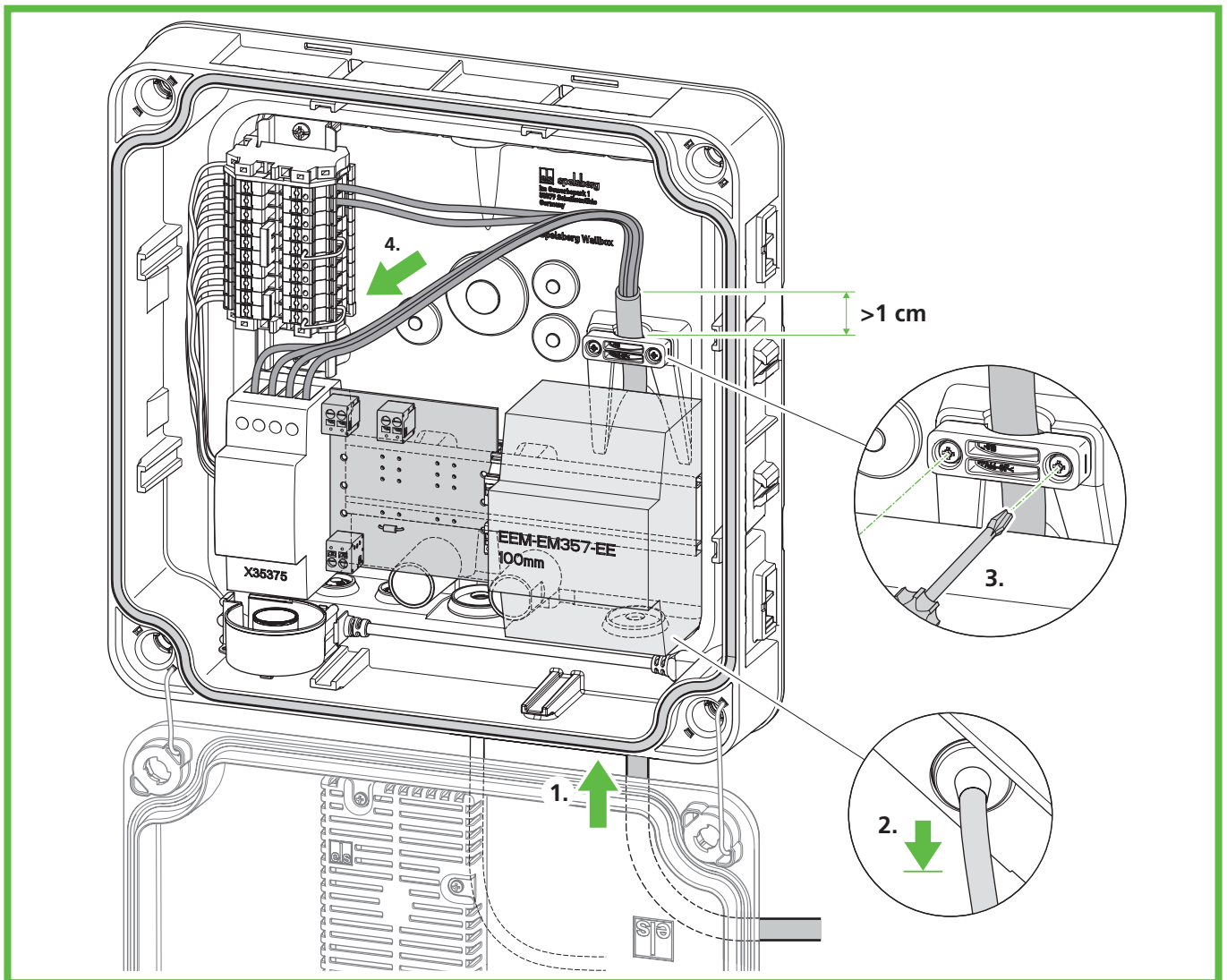
▶ Feed out the charging cable from the wallbox.

Abb. 19: Connecting the charging cable

▶ Open the strain relief clamp.
▶ Feed the charging cable through the lower right M25 DMS 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 clamp.
▶ Tighten the strain relief clamp (tightening torque: 0.9 Nm).
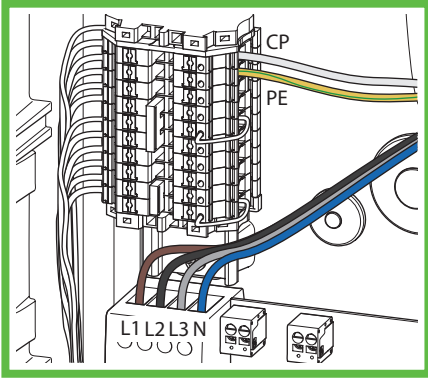▶ Ensure that the charging cable cannot be pulled out of the strain relief clamp.

Abb. 20: Connecting the charging cable

▶ Connect the charging cable (Abb. 20).
▶ Close the housing cover (siehe 9.11. Gehäusedeckel verschließen, Seite 19)
▶ Fit the design cover (siehe 9.12. Designcover montieren, Seite 20).

15.5. Replacing the design cover

15.5.1. Removing the design cover

To remove the design cover you will need:

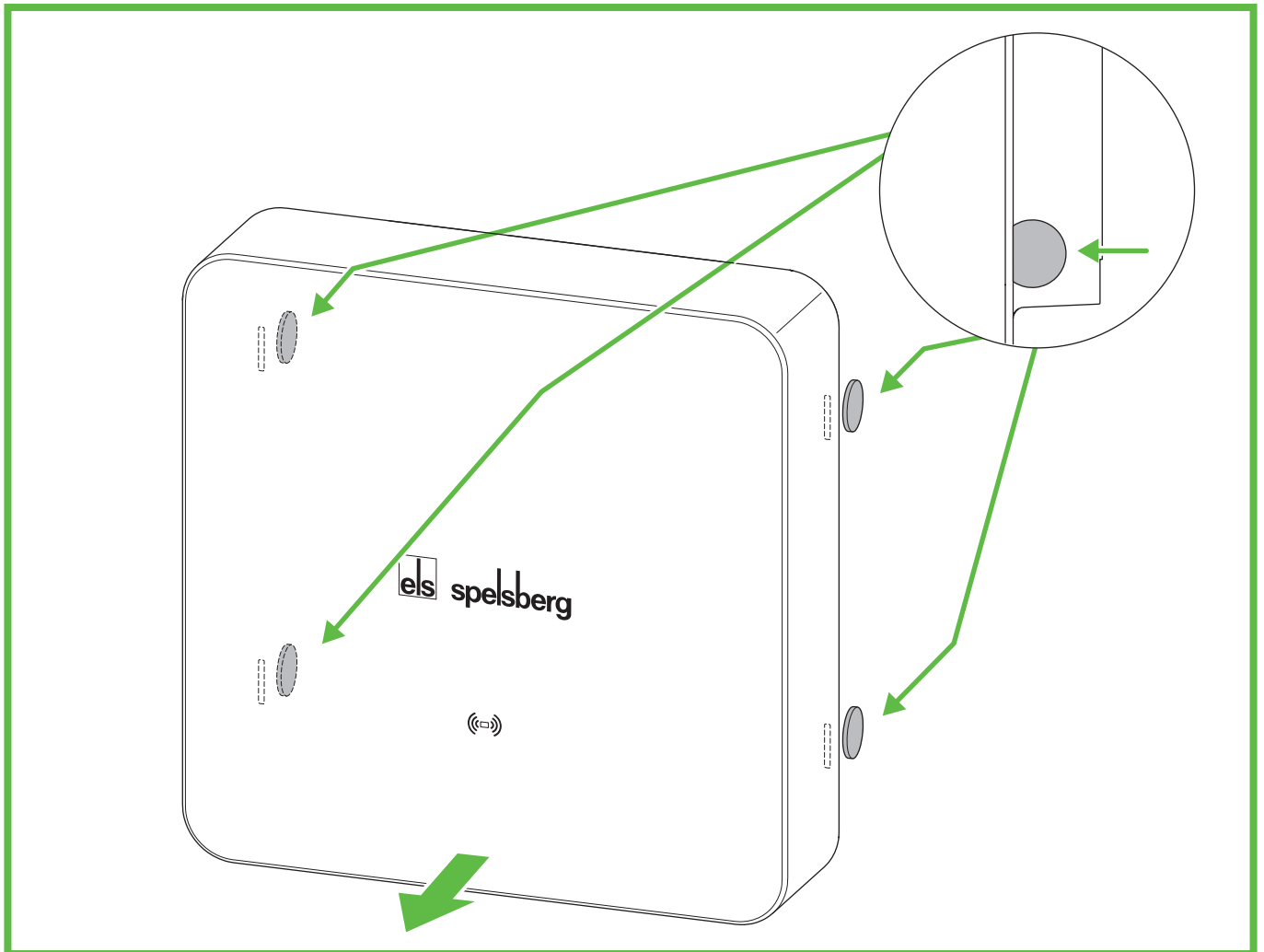■ min. 2 chips (included in delivery) or thin coins (e.g. 20-cent piece)

Abb. 21: Removing the design cover

▶ Unlock the design cover with the chips (Abb. 21). To do this, insert the chips on the back as far as they will go into the release openings provided.

✓ The design cover is unlocked.

▶ Pull the design cover away from the wallbox.
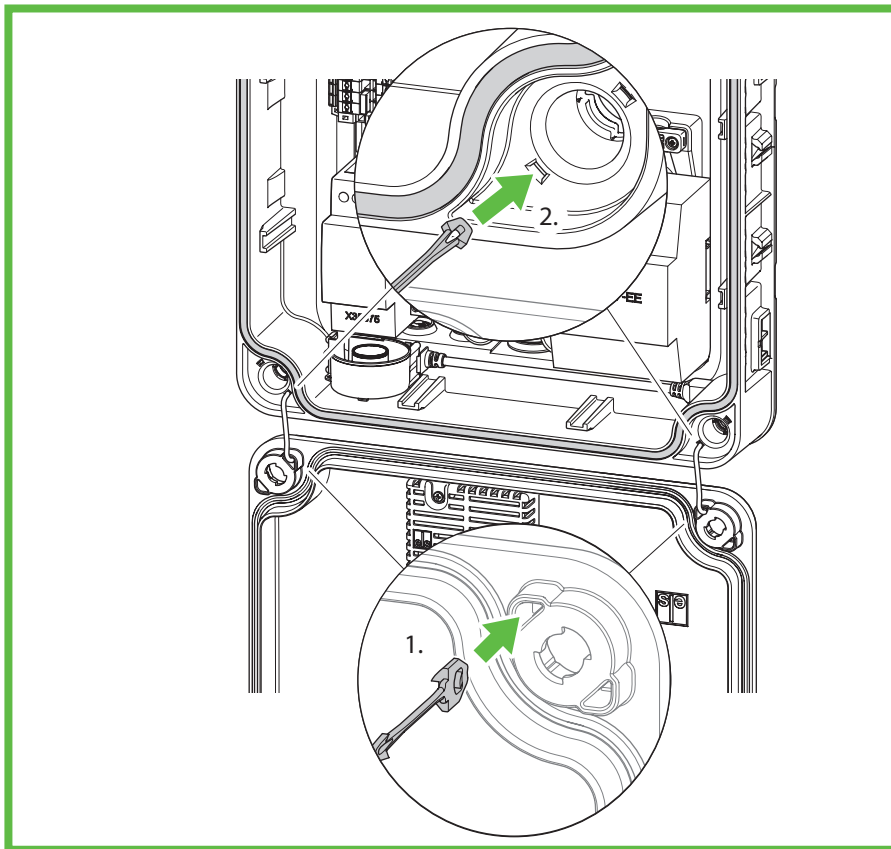
15.6. Replacing the cover retainer

Abb. 22: Replacing the cover retainer

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

▶ Cut the old cover retainer in the middle.
▶ Operate the latches of the remaining part in the cover with a small screwdriver and remove the cover retainer from the cover on the other side.
▶ Remove the cover retainer from the openings on the back of the wallbox.
▶ Insert the new cover retainer into the cover on the inside (1.).
▶ Push the cover retainer into the wallbox until it clicks into place (2.).

✓ The cover retainer can no longer be pulled out of the wallbox.

16. Warranty

The statutory warranty period shall apply. If the product is defective, please contact your electrical installer or the office of the manufacturer in your country.

Repair or warranty claims must be accompanied by the following:
■ a copy of the invoice with the date of purchase
■ a reason for the complaint or a description of the defect
■ the confirmation number on the type plate (serial/RN number)

17. Deinstallation

> ⚠️ **Warning**
> **Danger to life from electric shock**
> There is a risk of electric shock when working on the electrical components of the wallbox.
> ▶ The work on the electrical components of the wallbox must be performed by a locally authorised electrician only.

▶ Disconnect the wallbox from the power supply and protect it against being switched on again.
▶ Remove the design cover.
▶ Ensure that the device terminals are isolated from the supply.
▶ Disconnect the supply cable.
▶ Feed out the entire cable from the wallbox.
▶ Loosen the fixing screws.
▶ Pack and store the wallbox properly (siehe 8. Lagerung, Seite 9).

18. Disposal

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

> **Note**
> ▶ When you take the product out of service for good, please contact the nearest recycling centre or your specialist dealer for information on the applicable disposal regulations.

19. Technical data

	Spelsberg Wallbox Pure 2.0	Spelsberg Wallbox Smart Pro
Product code	591 427 01, 591 527 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 operational 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 system configuration	TN/TT/IT (1-phase) TN/TT/IT (3-phase)	
Rated loading factor	1	
Max. charging power	3.7 kW (1-phase) 11 kW (3-phase) at 30°C	
Rated current (I_{nA})	16 A	
Max. charging current	16 A (1-phase) 16 A (3-phase) at 30°C	
Pre-configuration	16 A (11 kW, 3-phase)	
Connector	IEC 62196 Type 2	
Charging mode	3	
Degree of protection	IP54	

	Spelsberg Wallbox Pure 2.0	Spelsberg Wallbox Smart Pro
Degree of soiling	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	Yes
Operating temperature	-25 to +40 °C (Average over 24 h<35°C)	
Relative humidity	15% - 100%	
Dimensions (H x W x D)	293 x 293 x 110 mm	
Installation height	max. 2,000 m above mean sea level	
Weight (excluding charging cable)	2.5 kg	3 kg
Weight (5 m charging cable)	1.7 kg	
Weight (7 m charging cable)	2.3 kg	
Material	Polycarbonate	
Colour (cover)	RAL 7016, Graphite and RAL 9010, Polar	
Installation type	Stationary	
Installation location	Outdoor use and indoor use	
Mounting point	Surface mounting/wall mounting	
Impact resistance:	IK08	
EMC classification	B	
Standard	IEC 61851-1 IEC 61439-7	

CE

els spelsberg

Affix setup QR code
here

PREMIUM MARKEN
Partner

Visit us on facebook

www.facebook.com/spelsberg.de

Follow us on twitter

www.twitter.com/spelsberg

We reserve the right to make changes in the interest of technical progress

M2-004-01-072024