



# IEC7.4kW bi-directional DC wallbox

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## User Manual

To prevent damage to the equipment from improper use, please read this manual carefully before operation.

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# Legal Statement

Company Name: Wanbang Digital Energy Co., Ltd.

Company Address: No.39 Longhui Road, Wujin High-tech Zone, Changzhou, Jiangsu, China

Customer service: 400-800-2610

Company Website: <https://www.starcharge.com>

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# Contents

1 Important Information .....	4
1.1 Safety Symbols .....	4
1.2 Intended Use .....	4
1.3 About this Manual.....	5
1.4 Audience.....	5
2 Safety Instructions.....	6
2.1 General Safety.....	6
2.2 Electrical Safety.....	8
3 Product Overview.....	9
3.1 Appearance View.....	9
3.2 Technical Data.....	10
3.2.1 Electrical Data .....	10
3.2.2 Interfaces .....	11
3.2.3 BMS and Wallbox Functional Overview .....	12
3.2.4 Ambient Conditions.....	13
3.3 Status Indicator & Display.....	13
3.3.1 LED Instruction.....	13
3.3.2 Digital Display Tube.....	14
3.3.3 Status Indicator Lighting Effect .....	15
3.3.4 Signal Lamp Code.....	16
4 Transport .....	20
4.1 Handling .....	20
5 Troubleshooting .....	21
6 Installation .....	23
6.1 Visual Inspection.....	23
6.2 Unpacking List.....	23
6.3 Installation Preparation.....	24
6.4 Installation.....	25
6.4.1 Mount the DC Wallbox .....	25
7 Electrical Connections.....	29
7.1 Requirements for Electrical Connections.....	29
7.2 Interface Introduction.....	30
7.3 Connect to AC Grid .....	32
7.3.1 Remove the Cover.....	32
7.3.2 Connect to the Power Grid .....	32
7.3.3 AC Line.....	33
7.4 Connect Smart Energy Module (Optional) .....	34

7.5 Peak Load Distribution (Optional).....	35
7.6 Connect to ATS Device (Optional).....	36
7.7 Connect to Island Model (Optional).....	36
7.7.1 Wiring Instructions for Island Model.....	36
7.8 Ethernet Connection of the Wallbox (Optional).....	37
7.9 SMGW Connection of the Wallbox (Optional).....	37
7.10 DRED Connection of the Wallbox (Optional).....	38
7.10.1 DRED Instruction.....	38
7.11 Cable Crimping.....	39
7.11.1 Signal Line.....	39
8 Commissioning.....	40
8.1 Configuration of Star Service APP.....	40
8.2 User Interface of StarCharge Home.....	61
9 Charging Operation.....	72
9.1 Plug in and Charge.....	72
9.2 Charging via RFID Card.....	73
10 Preventive Maintenance.....	74
10.1 Appearance Check.....	75
10.2 Internal Check.....	75
10.3 Functional Check.....	76
10.4 Cleaning.....	76
11 Guarantee Card.....	77
11.1 Guarantee Clause.....	77
11.2 Information Registration.....	77
Appendix 1.....	78
Appendix 2.....	80

# 1 Important Information

## 1.1 Safety Symbol

Symbol	Meaning
	The "Warning" sign indicates danger. Incorrect operation steps, experiment or execution will cause personal injury or death. Only when the referred conditions are fully understood and met can subsequent operations be carried out.
	The "Caution" sign indicates danger. Incorrect operation steps, experiment or executive can lead to product damage or damage, etc. Only when the referred conditions are fully understood and met can subsequent operations be carried out.
	The "Tip" sign indicates usage tips or useful information. Use the tips and useful information, which does not contain warning functions of dangerous or harmful information.
	The "Waste Disposal" sign indicates that electrical and electronic equipment and their accessories should be disposed of separately from ordinary domestic waste. By reusing old equipment, materials or other forms, you can make a significant contribution to environmental protection.

## 1.2 Intended Use

- The DC wallbox is a bidirectional charging station for Indoor and outdoor applications for charging/discharging for electric or plug-in hybrid vehicles. Do not connect any other devices to it, e.g. electric tools. The DC wallbox is designed for installation on a wall or column. You must comply with the relevant national regulations for installing and connecting the DC wallbox.
- The DC wallbox was developed, manufactured, tested and documented on the basis of the relevant safety standards. To avoid any danger in terms of property damage or to personal safety, comply with the instructions and safety information described in the manual.
- The instructions in this manual must be followed to the letter in order to eliminate sources of danger. Otherwise the danger may be created or safety equipment may be rendered inoperable. In addition to the safety information provided in this manual, the safety and accident prevention regulations relating to the specific DC wallbox must be followed.

## 1.3 About this Manual

- This manual is designed exclusively for trained personnel. As a result of their training, skills and experience and their knowledge of the relevant standards, they can assess the work assigned to them and identify possible dangers.
- The illustrations and explanations contained in this manual refer to a typical version of the DC wallbox. Your DC wallbox version may differ from this.
- Please refer to the operating manual for information and instructions for operating the DC wallbox.
- The DC wallbox has not been tested to AS/NZS 4777.2:2020 for multiple inverter combinations and/or multiple phase inverter combinations so combinations should not be used, or external devices should be used in accordance with the requirements of AS/NZS 4777.1.

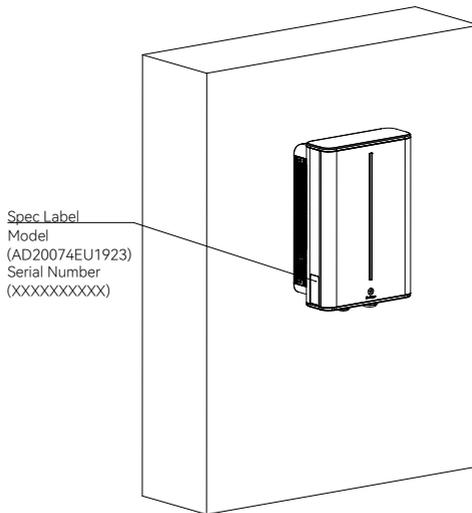


Figure 1-1 Location of specifications label/type plate

## 1.4 Audience

This manual is intended for:

- Sales engineers
- System engineers
- Technical support engineers
- DC wallbox users

## 2 Safety Instructions

### 2.1 General Safety

- When installing, operating, and maintaining equipment, please read this manual first and follow all safety precautions marked on the equipment and in the manual.
- The “Warning”, “Caution” and “Tip” in the manual do not represent all safety precautions that should be followed, but only serve as a supplement to all safety precautions. Our company does not assume any responsibility for violating general safety operation requirements or violating safety standards for design, production, and use of equipment.
- This equipment should be used in an environment that meets the design specifications, otherwise it may cause equipment malfunction, resulting in equipment functional abnormalities or component damage, personal safety accidents, property losses, etc., which are not within the scope of equipment quality assurance.
- Local laws, regulations, and specifications should be followed when installing, operating, and maintaining equipment. The safety precautions in the manual are only used as local laws and regulations supplement to regulations.
- Our company shall not be responsible for any of the following situations:
  - Not operating within the usage conditions specified in this manual.
  - The installation and use environment exceed the provisions of relevant international or national standards.
  - Unauthorized disassembly, modification of products, or modification of software codes.
  - Failure to follow the operating instructions and safety warnings in the product and documentation.
  - Equipment damage caused by abnormal natural environments (such as earthquakes, fires, storms, etc.).
  - Transportation damage caused by the customer’s own transportation.
  - Damage caused by storage conditions that do not meet product documentation requirements.
- Live operation is strictly prohibited during installation:
  - It is strictly prohibited to install, use, and operate outdoor equipment and cables (including but not limited to handling equipment, operating equipment and cables, plugging and connecting to outdoor signal interfaces, high-altitude work, outdoor installation, etc.) in adverse weather conditions such as lightning, rain, snow, and strong winds above level six.

- After installing the equipment, empty packaging materials in the equipment area, such as cartons, foam, plastics, cable ties, etc., shall be removed.
- If a fire occurs, evacuate the building or equipment area and press the fire alarm bell, or call the fire alarm number. Under any circumstances, it is strictly prohibited to re-enter a burning building.
- It is strictly prohibited to artificially alter, damage or obstruct the identification and nameplate on the equipment.
- When installing equipment, tools need to be used to tighten the screws to the specified torque.
- Paint scratches that occur during equipment transportation and installation must be repaired in a timely manner, and long-term exposure of the scratched parts to the outdoor environment is strictly prohibited.
- Do not open the host panel of the DC wallbox.
- Do not perform reverse engineering, decompilation, disassembly, adaptation, implantation, or other derivative operations on the equipment software. Do not study the internal implementation logic of the equipment, obtain the source code of the equipment software, violate intellectual property rights, or disclose any of the performance test results of the equipment software.
- During equipment operation, if any faults are found that may cause personal injury or equipment damage, the operation should be immediately terminated. Report it to the responsible person, and effective protective measures should be taken.
- Before using tools, please master the correct method of using them to avoid injury to people and damage to equipment.
- To ensure network security, please only use Ethernet connections in protected environments. Using Ethernet connections in public or unprotected areas may result in data breaches or other security risks.

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## 2.2 Electrical Safety

### ■ General Requirements:

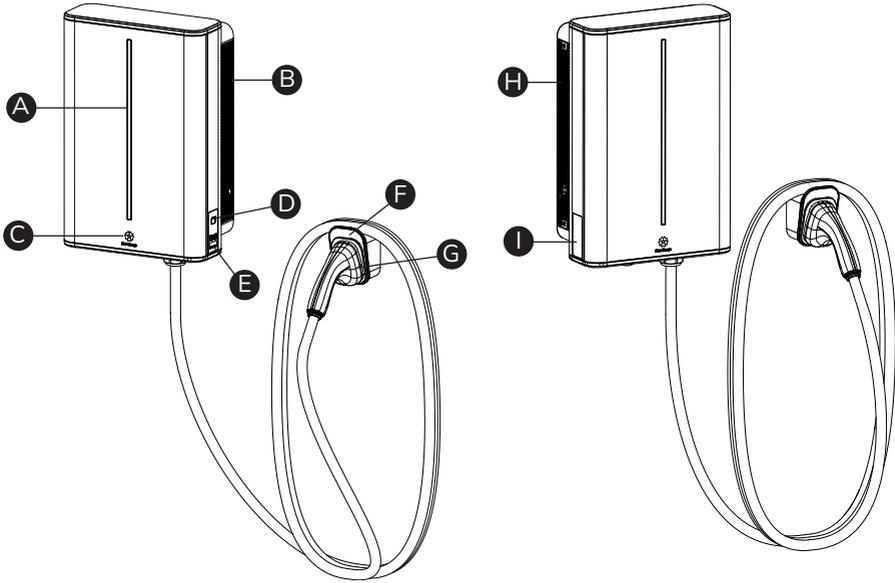
- Before making electrical connections, please ensure that the equipment is not damaged, otherwise it may cause electric shock or fire.
- All electrical connections must meet the electrical standards of the country/region where they are located.
- It is necessary to obtain permission from the power department of the country/region in order to connect to the grid for power generation.
- User provided cables should comply with local laws and regulations.
- When performing high-voltage operations, please use specialized insulation tools.

### ■ Wiring Requirements:

- Before making electrical connections, turn off the disconnecter on the upstream device to cut off the power supply if people may contact energized components.
- Before connecting a power cable, check if the label on the power cable is correct.
- If the equipment has multiple inputs and outputs, disconnect all the inputs and outputs before operating the equipment.
- The use of cables in high-temperature environments may cause aging and damage to the insulation layer, and the distance between the cable and the periphery of the heating device or heat source area should be at least 30 mm.
- Similar cables should be tied together, and different types of cables should be arranged at least 30 mm apart, and it is forbidden to entangle or cross them.
- Ensure that the cables are properly connected and insulated and meet specifications.

## 3 Product Overview

### 3.1 Appearance View



No.	Product Name	No.	Product Name
A	Status indicator	F	Charging connector holder
B	Air outlet	G	Charging connector
C	LOGO	H	Air inlet
D	RFID reader	I	Nameplate
E	Display area		



- The figures above are for reference only, and please refer to the actual product.
- When not performing charging operations, the charging connector should be inserted into the charging connector holder for safe storage.
- Cable can be coiled 2-3 turns and placed onto the charging connector holder.

## 3.2 Technical Data

### 3.2.1 Electrical Data

Item	Parameter
Series name	Halo
Product name	IEC7.4kW bi-directional DC wallbox
Product model	AD20074EU1923
Vehicle connector	CCS2
Inverter topology	Isolated
AC connection	230Vac/220Vac, single phase, L+N+PE
<b>Electrical data– Charging</b>	
Rated input AC current	32A
Rated input frequency	50/60Hz
Rated output power	7.4kW
Efficiency	≥95.5% (Peak)
Output voltage range	200-920Vdc
Max output DC current	24.7A
Max DC voltage	920Vdc
<b>Electrical data– Discharging</b>	
Input voltage	200-920Vdc
Max input DC current	26A
Rated output AC current	32A
Max output apparent power	7.4kVA
Rated output apparent power	7.4kVA
Max output active power	7.4kW
Rated output active power	7.4kW
Grounding system	TN/TT/IT (for IT system, line voltage is 230V)
Cable length	5 m
Minimum connection cross-section	3×6mm <sup>2</sup> (3×9AWG)
Internal residual current detection	DC: 6mA
Protection against electric shock	Class I
Ingress protection (indoor and outdoor areas)	IP65
Dimensions (W x H x D)	323×480×175 mm
Weight	22±1 kg

Item	Parameter
Electrical protection	Input overvoltage and undervoltage protection Input overcurrent protection Output overvoltage protection Output overcurrent protection Surge protection Short circuit protection Over temperature protection Battery reverse connection protection Island protection Relay welding protection
Encryption	Encryption technology: PSK2/CCMP/SAE/AES-GCM+PKCS7 Encryption protocol: WPA2/WPA3/LE Encryption algorithm: AES/AES-GCM
Method of active anti-islanding	Active Frequency Drift

### 3.2.2 Interfaces

Item	Parameter
Indicator	LED_BAR, Nixie tube
Communication	Wireless comm.methods: 4G, Wi-Fi, Bluetooth, RFID Local comm. methods: Ethernet, RS485, TIC Backend comm. protocol: OCPP 2.0.1、OCPP 2.1 draft EV comm. protocol: DIN 70121, ISO 15118-2, ISO 15118-20
Silent mode	Users can activate and deactivate this function via the App. After activation, the maximum noise will not exceed 45 dB (within a range of 1m). After the activation of "Silent Mode", the charging/ discharging power may decrease.

### 3.2.3 BMS and Wallbox Functional Overview

This bidirectional charging station establishes a high-level communication session with the Electric Vehicle (EV) Battery Management System (BMS) using standards-compliant digital communication (PLC). Once the charging connector is properly connected to the vehicle inlet, the station engages in real-time data exchange and coordinated control with the vehicle's battery system, ensuring the safety and reliability of all Vehicle-to-Everything (V2X) energy interactions. The BMS communication interface is critical to enabling the following multi-layered safety protections:

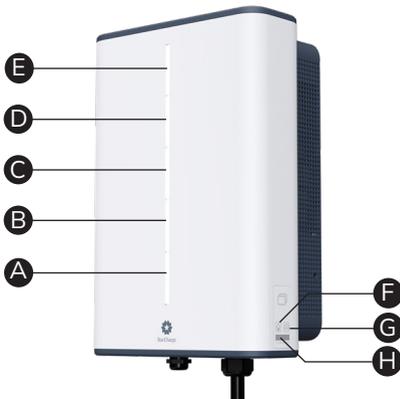
- **Real Time Status Monitoring**
  - DC wallbox Side: Implements continuous monitoring via a thermistor to track the temperature of the charging connector.
  - EV Side: Acquires key parameters from the vehicle's battery pack—including voltage, current, temperature, and State of Charge (SOC)—through ongoing communication sessions.
- **Dual-Tier Temperature Protection**
  - DC wallbox Protection: The charging station constantly monitors the temperature of the charging connector and cable. If an overheating risk is detected, it immediately initiates power derating or ceases charging.
  - EV BMS Protection: The vehicle's BMS continuously monitors individual cell temperatures. Upon detecting any abnormality, it immediately commands the charging station to adjust power or halt charging/discharging, thereby fundamentally preventing the risk of battery thermal runaway.
- **Coordinated Operation and Fault Protection**
  - Through highly reliable digital communication, the charging station and the vehicle BMS jointly manage the charging and discharging process. The detection of any fault condition (such as over voltage, over current, over temperature, or insulation failure) by either party will trigger an immediate protection sequence to ensure the safety of both the vehicle and the charging infrastructure.

### 3.2.4 Ambient Conditions

Item	Parameter
Operating temperature	-30°C to +50°C
Storage temperature	-40 °C to +80 °C
Humidity	2%-95% RH
Altitude	≤ 3000 m
Cooling	Independent air duct, forced air cooling
Restart after power outage	Randomized delay between 1 and 120 seconds before charging restart after power outage
Noise	≤55dB (@25°C ambient temp.); ≤45dB in silent mode
Impact protection	IK10
Overvoltage category	OVC III (AC) OVC II (DC)

## 3.3 Status Indicator & Display

### 3.3.1 LED Instruction



#### Status Indicator (Front):

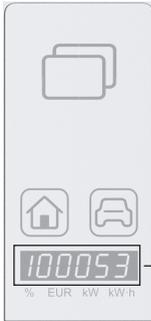
No.	Product Name
A	Status indicator light ①
B	Status indicator light ②
C	Status indicator light ③
D	Status indicator light ④
E	Status indicator light ⑤

#### Display area (Side):

No.	Product Name
F	Discharging mode light
G	Charging mode light
H	Digital display tube

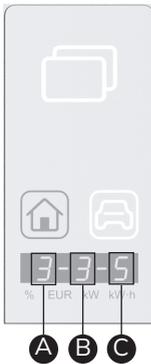
### 3.3.2 Digital Display Tube

- When there is a fault, the fault code is displayed. Refer to the attached table for fault codes such as “100053”.



Detailed code parameters are shown in Appendix 2.

- When there is no fault, three digits of numbers display the current charging and discharging status of the DC wallbox such as “3-3-5”.



No.	Code meaning
A	0: Standby
	1: Plugging in the connector
	2: Charging operation started
B	3: In the running state
	0: Data exchange with the car terminal
	1: Insulation detection stage
C	2: Discharge phase
	3: Precharge stage
	0: Charging to the minimum SOC at maximum power
	1: Charging to the target SOC at maximum power
	2: Island mode discharging operation
	3: 0kW mode
	4: Pause (ISO15118-20 protocol pause)
5: Charging operation	
6: Discharging operation	
7: Pause (ISO15118-2/DIN protocol pause)	

Note: During the charging and discharging operation, the DC wallbox will cyclically display charging/discharging status, real-time power, real-time meter energy and real-time SOC.

### 3.3.3 Status Indicator Lighting Effect

#### ■ Charging/Discharging lighting effect



Indicator chart 1 (20%)



Indicator chart 2 (40%)



Indicator chart 3 (60%)



Indicator chart 4 (80%)



Indicator chart 5 (100%)



Side indicator chart 1 (Charging mode)



Side indicator chart 2 (Discharging mode)

### 3.3.4 Signal Lamp Code

Section	State	Front light Colour	Lighting effect	Side&Front light effect chart
POR	BOOTING	White	Side: Off Front: From bottom to top - Illuminated in sequence	
DC wallbox Config Card	In card configuration		Side: Off Front: All lights fully on	
Authorization	Authorization is successful		Side: Off Front: Light ① : 2 flashes → Light ② : Steady On	
	Authorization fails		Side: Off Front: Light ① : Rapid Continuous Flashing	
	Authorization is canceled		Side: Off Front: Light ① : 2 flashes → Light ② : Steady On	

Section	State	Front light Colour	Lighting effect	Side&Front light effect chart
Session	The wallbox is ready, but the vehicle is not connected		Side: Off Front: Light ① : Steady On	
	Plug in the connector and start initializing the charging session		Side: Off Front: All lights: 2 flashes → Light ① : Breathing	
Charge-discharge	The vehicle has been connected and charging is suspended	White	Side: Off Front: Light ① : Breathing	
	Charging		Side: "G": On "F": Off Front: The current power level stays on continuously The lights corresponding to the uncharged portion gradually brighten upward with 0.5s interval	
	Discharging		Side: "F": On "G": Off Front: Based on the current power level The lights corresponding to the undischarged portion gradually dim downward in a cycle (with 0.5s interval)	

Section	State	Front light Colour	Lighting effect	Side&Front light effect chart
Lose connection	Back end connection lose,network not connected		Side: Off Front: Light ① & ② : Rapid Continuous Flashing	
	Back end connection lose,network connected		Side: Off Front: Light ① : Steady On Light ② : Rapid Continuous Flashing	
	Back end connection lose, charging		Side: "G": On "F": Off Front: Light ① & ② : Rapid Continuous Flashing	
	Back end connection lose, discharging		Side: "F": On "G": Off Front: Light ① & ② : Rapid Continuous Flashing	

Section	State	Front light Colour	Lighting effect	Side&Front light effect chart
Fault	Back end connection lose, Fault	Red	Side: Off Front: Light ① : Rapid Continuous Flashing	
	Fault		Side: Off Front: Light ① & ② : Rapid Continuous Flashing	

Explanation of Breathing Effect: All lights fade in - fade out - fade in, cycling repeatedly.

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## 4 Transport

A transportation company is responsible for delivering the charging system to the site and moving it to the designated location. You are not allowed to transport or handle the DC wallbox unless you have proper authorization and follow these safety measures. Safety measures for handling DC wallbox equipment:

- Check the weight of the DC wallbox on the Unpacking list. Make sure that the offloading equipment you use can safely handle this weight.
- Check that the pallet is not damaged. If the pallet is damaged, contact the site manager for instructions on how to safely unload and move the DC wallbox.
- Check that the work area is safe before handling the load (e.g., there should be no obstacles in the unloading area, the flooring should be suitable, and there should be a safe path).
- Make sure that the forklift or hoisting equipment you use for loading/unloading is suitable and can move the DC wallbox safely. Also, check that the forks of the forklift can fully enter the pallet to support the DC wallbox. Forklift operators must follow all local regulations.
- Make sure that the area is not accessible to unauthorized personnel and that the personnel involved in handling the equipment are fully aware of the safety measures to be applied when handling the equipment. They should also stay a safe distance from moving equipment.
- All personnel involved in handling must wear the necessary personal protective equipment (PPE) and follow all relevant safety measures for the work area.

### 4.1 Handling

- When carrying heavy objects, preparations should be made for load-bearing to avoid personal injuries or death.
- When handling equipment by hand, protective gloves should be worn to avoid injury.
- For equipment exceeding 10kg, two personnel are recommended for handling.

## 5 Troubleshooting

Issue	Possible cause	Solution
LED indicator is not powered.	No supply voltage	Check the residual current breaker and power circuit breaker and switch on if necessary.
	Error on the DC wallbox	Contact your local dealership.
Charging session does not start.	The vehicle connector has not been inserted correctly	<ul style="list-style-type: none"> <li>■ Remove the vehicle connector and reconnect it.</li> <li>■ The vehicle has been programmed to start the charging session at a later point of time.</li> </ul>
	The vehicle does not require any energy	Check the vehicle status.
	Installer App is not configured correctly	Follow the instructions in the manual.
	Unsuccessful authorization	Refer to the "Authorization fails" light indicator description in Chapter 3.3.
Vehicle connector cannot be disconnected.	The charging session has not been ended by the vehicle.	End the charging session via the App, RFID or the vehicle itself.
	The residual voltage on the DC side is higher than the unlocking voltage of the charging inlet of the vehicle, preventing the vehicle from unlocking the connector.	<ul style="list-style-type: none"> <li>■ Wait for a period of time until pressure relief is completed.</li> <li>■ Check the emergency unlocking in the vehicle manual.</li> </ul>
	The locking mechanism of the charging inlet of the vehicle is damaged.	Check the emergency unlocking in the vehicle manual.
Charging takes longer.	The high temperature of the DC wallbox unit may be caused by poor ventilation or inadequate shading measures, which results in limited charging power.	Try cleaning foreign objects from the air inlet or enhancing the shading treatment before recharging.

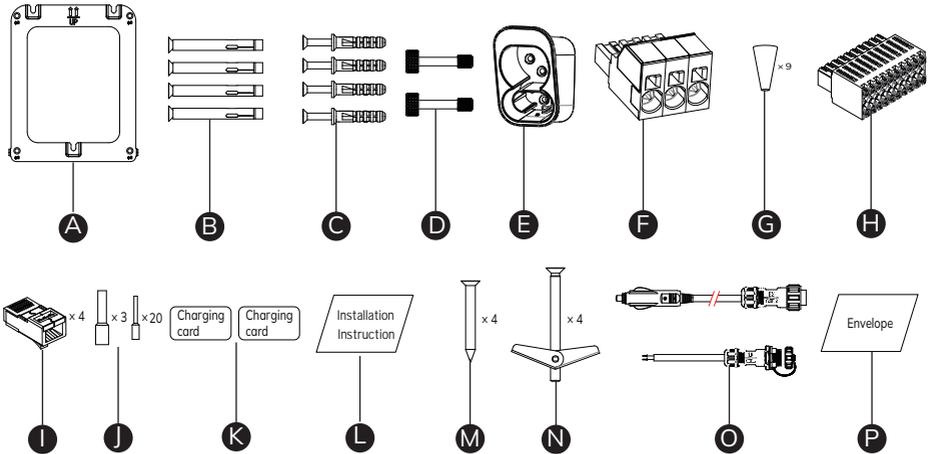
Issue	Possible cause	Solution
Fault alarm (LED red)	/	<ul style="list-style-type: none"> <li>■ Check the possible causes of the error on the nixie tube (Please refer to Appendix 2).</li> <li>■ Check if the charging gun cable functions properly or if there is any foreign object in the gun connector port. If the issue persists after cleaning, please contact the supplier.</li> <li>■ Verify whether the ambient temperature is excessively high or the ventilation is adequate. If the charger unit itself is overheated, allow it to cool down completely before reuse.</li> <li>■ Inspect if the fan module is properly installed. If the fan module is improperly mounted, contact the operation and maintenance (O&amp;M) team to have it correctly installed before retrying.</li> <li>■ Check if the front cover is properly fitted. If the front cover is not correctly reinstalled after being abnormally opened, contact the O&amp;M team for proper installation and then retry.</li> <li>■ Switch off the supply voltage to the DC wallbox Professional using the appropriate mains isolation device.</li> <li>■ Disconnect the vehicle connector and switch on the supply voltage again.</li> <li>■ If the situation persists, contact your local dealership or support.</li> </ul>

## 6 Installation

### 6.1 Visual Inspection

Before unpacking the equipment, check the outer packing materials for damage, such as holes and cracks, and check the equipment. If any damage is found or the equipment model is not what you requested, contact your supplier as soon as possible.

### 6.2 Unpacking List



No.	Product Name	No.	Product Name
A	Mounting plate (1x)	I	RJ45 connector (4x)
B	M6*70 Stainless steel wall anchor set (4x)	J	E10-18 Tubular terminals (3x) E0512 Tubular terminals (20x)
C	ST5*50 Plastic wall anchor Set (4x)	K	Charging card (2x)
D	Torx screw (2x)	L	Installation Instruction (1x)
E	Charging connector holder	M	ST6*50 Self-tapping screw (4x)
F	AC power connector (1x)	N	M6*70 Drywall expanding anchor set (4x)
G	Rubber plug (9x)	O	Cable assembly (1x) (optional)
H	Signal connector (1x)	P	Envelope (1x)

## 6.3 Installation Preparation

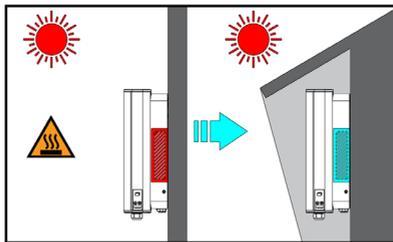
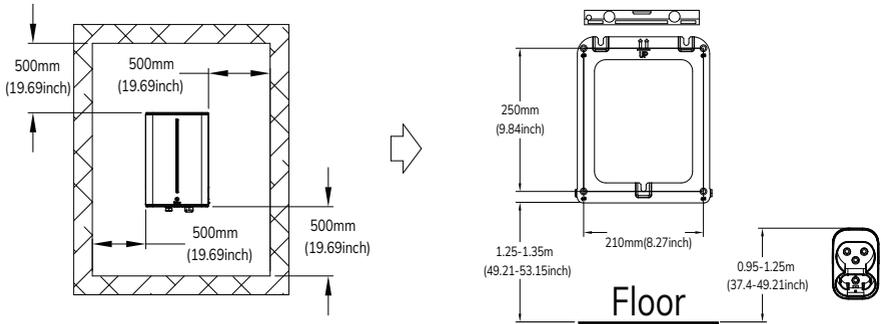
- Follow the local installation regulations.
- Acclimatization: If there is a temperature difference of more than 15 °C between transport and the installation site, the DC wallbox must be acclimatized unopened for at least two hours. Opening the DC wallbox immediately may result in condensation formation in the interior and cause damage when the DC wallbox is switched on. In certain circumstances, damage caused by condensation formation may also not appear until a later date after the installation. Ideally, the DC wallbox should be stored for a few hours in advance at the installation site. If this is not possible, the DC wallbox should not be stored in low temperatures (< 5 °C) overnight outdoors or in a vehicle.
- Prepare the following tools:

No.	Tool	No.	Tool
A	Electrical drill $\Phi$ 3mm & 8mm & 18mm	J	Measuring tape
B	Tubular terminal crimping plier	K	Hammer
C	Network cable plier RJ45	L	Utility knife
D	Torx torque screw driver:T10 (The torque range should include: 0.45-0.55 N·m)	M	Marker
E	Torx torque screw driver:T20 (The torque range should include: 0.9-1.1 N·m)	N	Leveling ruler
F	Torx screw driver:T25 & T30	O	Safety gloves
G	Adjustable wrench(The torque range should include: 5.0-5.5 N·m)	P	Safety glasses
H	Diagonal plier	Q	Dust mask
I	Wire stripper	R	Safety boots

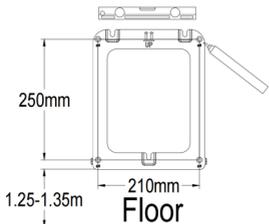
## 6.4 Installation

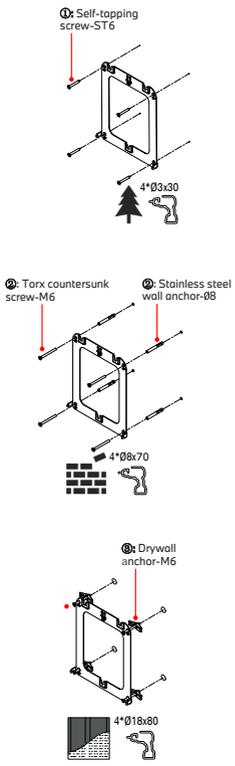
### Required distance

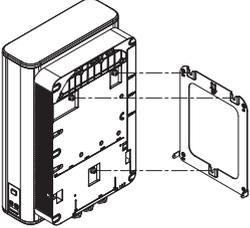
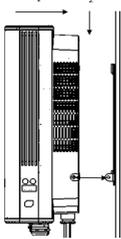
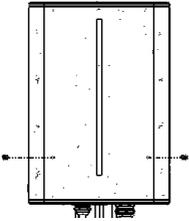
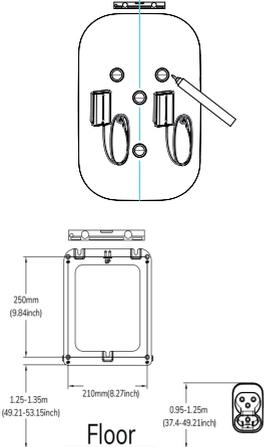
- Observe the applicable accessibility requirements for the installation position. The device must be mounted at a sufficient height above ground so that bottom edge is ideally located between 950mm and 1250mm over the ground.
- Please make sure to have at least 500mm space on each side to ensure fan cooling and avoid overheating.
- To minimize the fan noise, ensure that the device is placed in a shaded and well-ventilated area and oriented away from living spaces to ensure optimal placement and user comfort. (Under a quiet surrounding environment).

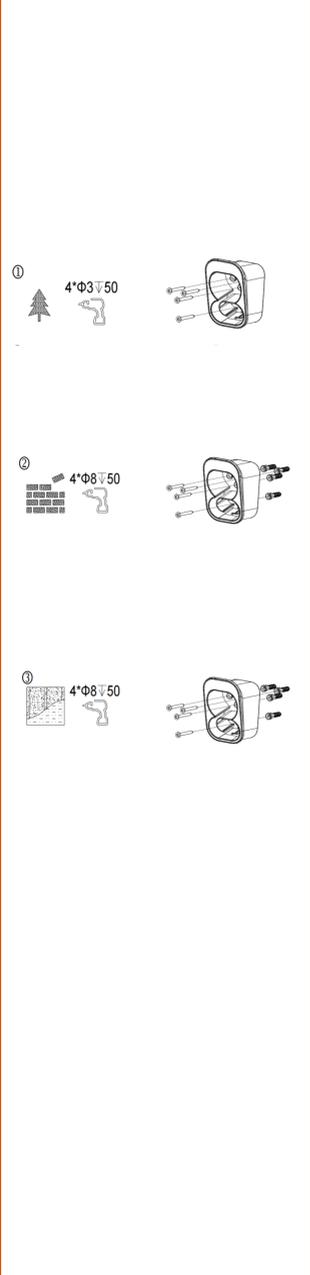


### 6.4.1 Mount the DC Wallbox

Steps	Illustration	Instructions
1		<ul style="list-style-type: none"> <li>■ Place the mounting plate on the wall and mark the fixing points. Use leveling ruler to make sure the mounting plate be placed horizontally.</li> </ul> <p>Tools:</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  Leveling ruler         </div> <div style="text-align: center;">  Marker         </div> </div>

Steps	Illustration	Instructions
2		<p><b>Install Mounting Plate:</b></p> <ul style="list-style-type: none"> <li>■ <b>Figure ① :</b> The mounting wall material must be wood. <ul style="list-style-type: none"> <li>• Drill holes to a depth of 30mm at the marked fixing points using a <math>\Phi 3</math> drill bit.</li> <li>• Fix the mounting plate by using four ST6*50 self-tapping screws.</li> </ul> </li>   <li>■ <b>Figure ② :</b> The mounting wall material must be concrete. <ul style="list-style-type: none"> <li>• Drill holes to a depth of 70mm at the marked fixing points using a <math>\Phi 8</math> drill bit.</li> <li>• Insert four <math>\Phi 8^*60</math> stainless steel wall anchors and fix the mounting plate by using four M6*70 torx countersunk screws.</li> </ul> </li>   <li>■ <b>Figure ③ :</b> The mounting wall material must be drywall. <ul style="list-style-type: none"> <li>• Drill holes to a depth of 80mm at the marked fixing points using a <math>\Phi 18</math> drill bit.</li> <li>• Fix the mounting plate by using four M6*70 drywall anchors.</li> </ul> </li> </ul> <p><b>Tool and spare parts:</b></p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;">  <p>Electrical drill</p> </div> <div style="text-align: center;">  <p>Torx screwdriver T30</p> </div> <div style="text-align: center;">  <p><math>\Phi 3\text{mm}</math> &amp; <math>\Phi 8\text{mm}</math> &amp; <math>\Phi 18\text{mm}</math> drill bit</p> </div> <div style="text-align: center;">  <p>Figure ① : ST6*50 Self-tapping screw (4x)</p> </div> <div style="text-align: center;">  <p>Figure ② : M6*70 Stainless steel wall anchor set (4x)</p> </div> <div style="text-align: center;">  <p>Figure ③ : M6*70 Drywall expanding anchor set (4x)</p> </div> </div>

Steps	Illustration	Instructions
3		<p>Hold the wallbox and hang it on the mounting plate by aligning it to the fixing slots.</p> <p> The DC Wallbox weighs 22 kg. It is recommended that this step be carried out by at least two people.</p>
4		<p>Place the wallbox as shown in the left figure.</p>
5		<p>Align the screw mounting holes on the side of the wallbox with the two fixing points on the mounting plate, and tighten two M4*18 torx pin on both sides. Torque: 0.9~1.1 N·m (8~ 9.7 lb-in) Tool:</p> <div style="text-align: center;">  <p>Torx torque screw driver T20</p> </div>
6		<ul style="list-style-type: none"> <li>Place Installation Instruction on the wall and mark the mounting hole positions for the charging connector holder.</li> <li>Use Spirit level to make sure the charging connector holder. is placed horizontally.</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Leveling ruler</p> </div> <div style="text-align: center;">  <p>Marker</p> </div> <div style="text-align: center;">  <p>Installation Instruction</p> </div> </div>

Steps	Illustration	Instructions
7		<p>Note : Installation distance: 200–500 mm (between Connector Receiver Assembly and DC Wallbox)</p> <ul style="list-style-type: none"> <li>■ Figure ① : The wall material must be wood. <ul style="list-style-type: none"> <li>• Drill holes to a depth of 50mm at the marked fixing points using a <math>\Phi 3</math> drill bit.</li> <li>• Fix the charging connector holder by using four ST5 torx countersunk screws</li> </ul> </li> <li>■ Figure ② : The wall material must be concrete. <ul style="list-style-type: none"> <li>• Drill holes to a depth of 50mm at the marked fixing points using a <math>\Phi 8</math> drill bit.</li> <li>• Insert four <math>\Phi 8</math> plastic wall anchors and fix the charging connector holder by using four ST5 torx countersunk screws.</li> </ul> </li> <li>■ Figure ③ : The wall material must be drywall. <ul style="list-style-type: none"> <li>• Drill holes to a depth of 50mm at the marked fixing points using a <math>\Phi 8</math> drill bit.</li> <li>• Insert four <math>\Phi 8</math> plastic wall anchors and fix the charging connector holder by using four ST5 torx countersunk screws.</li> </ul> </li> </ul> <p>Tool:</p> <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%; text-align: center;">   Leveling ruler </div> <div style="width: 50%; text-align: center;">   Electrical drill </div> <div style="width: 50%; text-align: center;">   Marker </div> <div style="width: 50%; text-align: center;">   Torx screwdriver T25 </div> <div style="width: 50%; text-align: center;">   ø3mm Drill bit  ø8mm Drill bit </div> <div style="width: 50%; text-align: center;">   Scenario / : Plastic wall anchor ø8 (4x) </div> <div style="width: 50%; text-align: center;">   ST5 Torx countersunk screw (4x) </div> </div> <p><b>Note:</b> The ST5 torx countersunk screws and the plastic wall anchors ø8 are both included in the ST5*50 Plastic wall anchor Set. Please refer to the "Package" section for details.</p>

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## 7 Electrical Connections

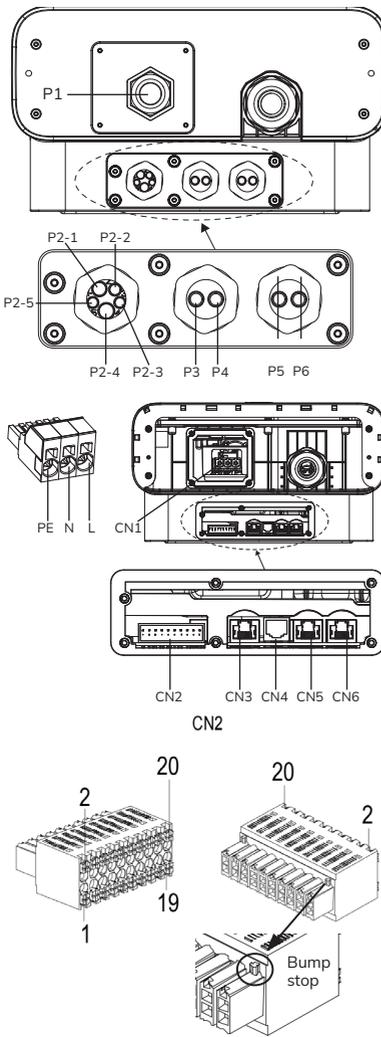
### 7.1 Requirements for Electrical Connections

For the personal safety of users and to prevent leakage current, the DC wallbox must configure the residual current device and miniature circuit breaker.

- The residual current device must meet the following conditions:
  - Every DC wallbox must be connected to its own residual-current-operated circuit breaker (RCCB) externally. No other circuits may be connected to this RCCB.
  - The RCCB must at least be of type A (30 mA trip current).
  - Additional measurements are implemented in the DC wallbox as protection against direct current faults (<6mA DC).
- The miniature circuit breaker must meet the following conditions:
  - A circuit breaker of type C (40 A min., 230 V min.) must be used.
  - According to the BS 7671 standard in the UK, PEN conductor is not allowed to directly enter the DC wallbox. Therefore, the PEN conductor needs to be divided into PE and N conductors to be connected to wallbox. The standard requires that in TN-C systems, if the PEN line breaks, corresponding protective measures should be taken. For this situation, a circuit breaker with PEN fault protection function should be selected.
- Power cable must meet the following conditions:
  - When selecting the supply cable, take into account the possible reduction factors and the increased ambient temperatures in the internal connection area of the DC wallbox, see the temperature rating of the supply terminals. In certain circumstances, this may require an increase in the cable cross-section and an adjustment in the temperature resistance of the supply cable.

## 7.2 Interface Introduction

Use an appropriate copper wire with listed pressure terminal connectors, such as a tube type, on the end of the conductor before attaching to the terminal blocks. Keep enough wire length to facilitate installation.

Illustration	Instructions
	<p>On-site installation wiring requires passing through rubber rings. To ensure waterproof performance, the rubber rings are compatible with the following cable diameters:</p> <p>P1: Power input cable Applicable cable diameter: 13mm to 18mm</p> <p>P2-1: 2-core wire Applicable cable diameter: 5.6mm to 7mm</p> <p>P2-2: 2-core wire Applicable cable diameter: 4.0mm to 5.8mm</p> <p>P2-3: 2-core wire Applicable cable diameter: 4.0mm to 5.3mm</p> <p>P2-4: 2-core wire Applicable cable diameter: 6.2mm to 7.7mm</p> <p>P2-5: 2-core wire Applicable cable diameter: 4.0mm to 5.3mm</p> <p>P3: 8-core Category 5e shielded internet cable, RJ-45 Applicable cable diameter: 5.3mm to 7.5mm</p> <p>P4: N/A</p> <p>P5: 8-core Category 5e shielded internet cable, RJ-45 Applicable cable diameter: 5.3mm to 7.5mm</p> <p>P6: 8-core Category 5e shielded internet cable, RJ-45 Applicable cable diameter: 5.3mm to 7.5mm</p>

### Illustration

### Instructions

Item	Type	Connectors		
		NO.	Description	Function Description
CN1	SPC 16/ 3-ST-10,16	/	/	/
CN2	SUPU MC-DRG3.5H20P-0001	1	NA	NA
		2	NA	NA
		3	DI_N	Input dry contact negative
		4	DO_N	Output dry contact negative
		5	DI_P	Input dry contact positive
		6	DO_P	Output dry contact positive
		7	RS485_B1	RS485_B
		8	RS485_A1	RS485_A
		9	TIC+	TIC meter positive
		10	TIC-	TIC meter negative
		11	ATS_RS485_P	ATS RS485 A
		12	ATS_RS485_N	ATS RS485 B
		13	NA	NA
		14	NA	NA
		15	LIC_RS485A	LIC RS485 A
		16	LIC_RS485B	LIC RS485 B
		17	LIC_12V	LIC power supply
		18	LIC_12V	LIC power supply
		19	LIC_GND	LIC GND
		20	LIC_GND	LIC GND
CN3	RJ45	/	DRED	DRED
CN4	NA	/	NA	NA
CN5	RJ45	/	SMGW	SMGW
CN6	RJ45	/	Ethernet	Ethernet

Connect each terminal to the correct connector in the terminal input block. Then, secure the terminal for the input cable correctly. The stripping length of the input cable should not be less than the length of the piping type terminal.

The rubber ring hole corresponds to the position of the terminal block. For example:

- CN1—P1
- CN2—P2
- CN3—P3
- CN4—P4
- CN5—P5
- CN6—P6

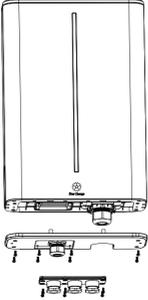
- Normal installation requires connecting AC power cables in the order of PE, N and L.  
Recommended:  $3 \times 6\text{mm}^2$  (3×9AWG)
- AC Power connector: Conductor cross section solid max =  $16\text{mm}^2$
- AC Power connector: Conductor cross section flexible with ferrule with plastic sleeve max =  $10\text{mm}^2$
- Choose appropriate conduit in accordance with all applicable local, state and national electrical codes and standards. Make sure the circuit breaker is turned off before installation.



- Use an appropriate copper wire with listed pressure terminal connectors, such as a tube type, on the end of the conductor before attaching to the terminal blocks. Keep enough wire length to facilitate installation. Ensure that hazardous voltages are isolated safely.
- Please choose the recommended specifications for the AC power cord, otherwise the tubular terminals in the installation package may not be compatible and require additional preparation.

## 7.3 Connect to AC grid

### 7.3.1 Remove the Cover

Illustration	Instructions
	<p>Use a T10 screw driver to remove the screws securing the Bottom Cover and the Junction Box cover.</p> <p>Remove the Bottom Cover and the Junction Box cover.</p> <p>Tool:</p>  <p>Torx torque screw driver T10/T20</p>

If there are any other connections, this step must also be performed.

After the wiring is completed, the cover must be installed. Secure the cover to the DC wallbox with torx pin screws (14xM3<sup>1</sup>/M4<sup>1</sup>). Tighten the sealing nuts (3xM25) and the cable gland (1xM32).

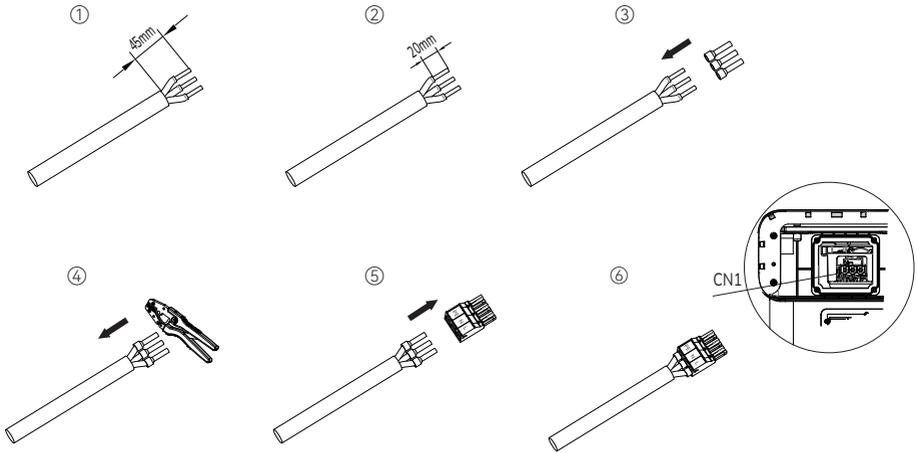
Note: M3<sup>1</sup> Torque: 0.45 N·m-0.55 N·m (4.0lb-in-4.9lb-in), by using torx torque screw driver T10.

M4<sup>1</sup> Torque: 0.9N·m-1.1N·m (8.0lb-in- 9.7lb-in), by using torx torque screw driver T20.

### 7.3.2 Connect to the Power Grid

- Connect the AC grid, and you can charge an EV through the DC wallbox.
- Before wiring, disconnect the circuit breaker and the EV!
- Connection of this product to the electrical grid shall be carried out in accordance with local laws, regulations and installation standards.
- During wiring, the cables must pass through the nuts and the cable gland in sequence.
- If you have other needs, you can wire according to the instructions from Chapter 7.4 to 7.10.

### 7.3.3 AC Line



Wiring diagram (example)

- ① Peel off the insulation sheath of the entire wire harness by 45mm.
- ② Peel off the insulation sheath of each wire by 20 mm.
- ③ Insert the tube type terminal onto the wire.
- ④ Use tube terminal crimping pliers for wiring.
- ⑤ Insert the AC Connector.
- ⑥ Insert the AC connector into the DC wallbox CN1 interface.

Note: Solid wires can be directly connected to connectors. The wiring sequence shall refer to the schematic diagram in Chapter 7.2.

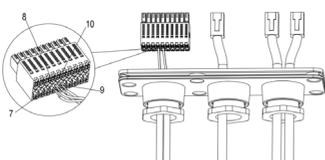


- The tubular terminals are free from deformation and damage.
- The tubular terminals are crimped firmly and reliably with the cables, without falling off or loosening.
- Ensure that the wiring is implemented in accordance with the definitions set forth in Chapter 7.

## 7.4 Connect Smart Energy Module (Optional)



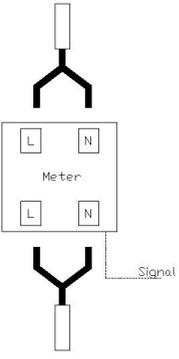
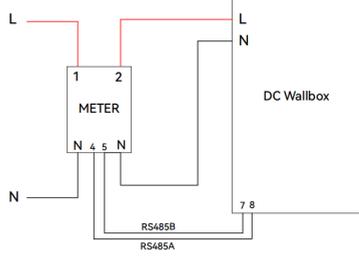
- Connect the external smart energy module for monitoring the domestic power connection. The configuration of the smart energy module must be carried out via the Installation Wizard in the Wallbox Installation App. The connection of a smart energy module is required to activate the charging functions of the Connected Home Charging Service.
- You must ensure that the setting parameters of the smart energy module are accurately transferred to the DC wallbox Installation App.

Illustration	Instructions
 <p>For pin number reference, refer to Chapter 7.2.</p>	<ul style="list-style-type: none"> <li>■ Connect the RS-485/TIC interface with the shielded and twisted connecting cables (Recommended 22AWG or 0.5mm<sup>2</sup>)</li> <li>■ Definition:                             <ul style="list-style-type: none"> <li>• Pin 7 (CN2-P2-5): RS485_B1</li> <li>• Pin 8 (CN2-P2-5): RS485_A1</li> <li>• Pin 9 (CN2-P2-3): TIC +</li> <li>• Pin 10 (CN2-P2-3): TIC -</li> </ul> </li> </ul> <p>TIC is only relevant for France (Reserved for future expansion).</p> <p>Note: RS485_A is always the positive signal, RS485_B is always the inverted signal. That means RS485_A must always be connected to RS485_A on the smart energy module and DC wallbox side. Same applies for RS485_B.</p>

The following smart energy modules can be used for Connected Home Charging Services – load-optimised charging and solar-optimised charging:

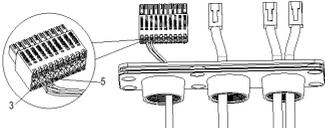
- Inepro Pro 380-MOD for three phase connections (RS-485 interface)
- Inepro Pro2-MOD for single phase connections (RS-485 interface)
- Janitza B23 312-10J for three-phase connections (RS-485 interface)
- Janitza B21 312-10J for single phase connections (RS-485 interface)
- EM112DINAV01 (RS-485 interface)

Note: If the distance between the energy meter and the DC wallbox is greater than 10m, an additional resistor at the Smart Energy Module side can be necessary. Please check Smart Energy Module and the respective manual for more information.

Illustration	Instructions
	<p>Connect the smart energy module to the power line in accordance with the instructions in the manual of the corresponding smart energy module.</p> <p>EM112DINAV01 Wiring diagram</p> 

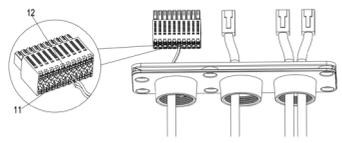
## 7.5 Peak Load Distribution (Optional)

An additional external component is required for peak load distribution and depends on the distribution network operator, the DC wallbox provides DI interface for connection.

Illustration	Instructions
 <p>For pin number reference, refer to Chapter 7.2.</p>	<ul style="list-style-type: none"> <li>■ Connect the interface for peak load distribution with the shielded and twisted connecting cables (Recommended 22AWG or 0.5mm<sup>2</sup>)</li> <li>■ Definition:             <ul style="list-style-type: none"> <li>• For usage of DI:                 <ul style="list-style-type: none"> <li>Pin 3 (CN2-P2-2): DL_N (GPIO input N)</li> <li>Pin 5 (CN2-P2-2): DL_P (GPIO input P)</li> </ul> </li> </ul> </li> </ul>

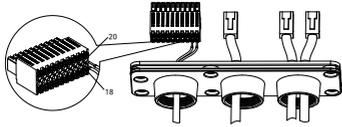
## 7.6 Connect to ATS Device (Optional)

ATS is required for controlling the connection status between distributed energy systems and the public grid to achieve automatic or manual switching between two operating modes.

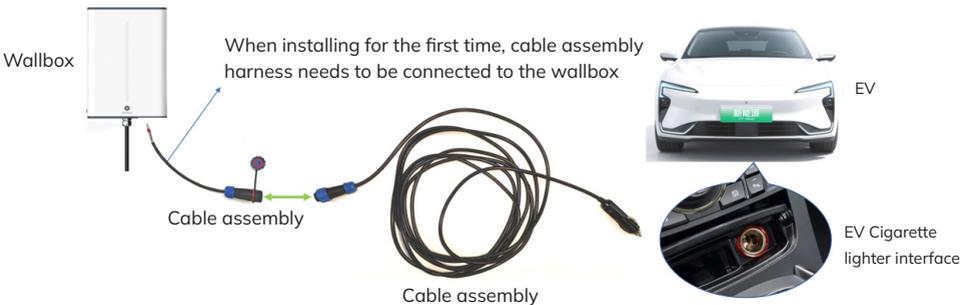
Illustration	Instructions
 <p>For pin number reference, refer to Chapter 7.2.</p>	<ul style="list-style-type: none"> <li>■ Connect the interface for ATS with the shielded and twisted connecting cables (Recommended 2x22AWG or 2x0.5mm<sup>2</sup>).</li> <li>■ Definition:               <ul style="list-style-type: none"> <li>● Pin 11 (CN2-P2-1): ATS_485_P (RS485P)</li> <li>● Pin 12 (CN2-P2-1): ATS_485_N (RS485N)</li> </ul> </li> </ul>

## 7.7 Connect to Island Model (Optional)

When the DC wallbox is off-grid, electricity from the EV can be transmitted to household power supply through Island model.

Illustration	Instructions
 <p>For pin number reference, refer to Chapter 7.2.</p>	<ul style="list-style-type: none"> <li>■ Definition:               <ul style="list-style-type: none"> <li>● Pin 18 (CN2-P2-4): Lic_12V (Lic12V), (Connect to cable assembly red).</li> <li>● Pin 20 (CN2-P2-4): Lic_GND (LicGND), (Connect to cable assembly black).</li> </ul> </li> </ul>

### 7.7.1 Wiring Instructions for Island Model



ATS: Auto transfer switch. Proactively identify the status of the power grid and switching grid connecting/disconnecting (Optional ATS model: StarCharge: TSSAU00). ATS is optional.

Note: When using the Island Model, connect the extension cord to the vehicle's cigarette lighter, and ensure that it is tightly and reliably connected to the waterproof connector on the wallbox's Cable Assembly.

When the Island Model is not in use, disconnect the extension cord from the vehicle's cigarette lighter, and tighten the protective cap of the waterproof connector on the wallbox's Cable Assembly to prevent dust and water from entering.

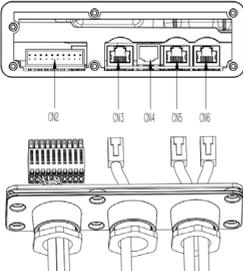


Island function shall be installed in accordance with local installation standards.

For Australia market, the installation shall comply with AS/NZS 4777.1 and AS/NZS 3000.

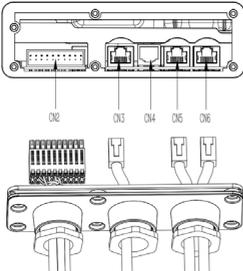
## 7.8 Ethernet Connection of the Wallbox (Optional)

In the wallbox Installation App, the backend connection can also be established via Wi-Fi or eSim.

Illustration	Instructions
	<ul style="list-style-type: none"> <li>■ Connect the Ethernet interface using RJ45 cables (Recommended 8-core category 5e shielded internet cable).</li> <li>■ Definition: <ul style="list-style-type: none"> <li>• RJ45 (CN6): Ethernet</li> </ul> </li> </ul> <p>Note: Prioritize using CN6 to establish a network connection via an Ethernet cable. If Port CN6 fails or is unavailable, Port CN5 can be connected to an external switch. The switch will provide shared access for both the SMGW and the external network, enabling both network communication and SMGW connection.</p>

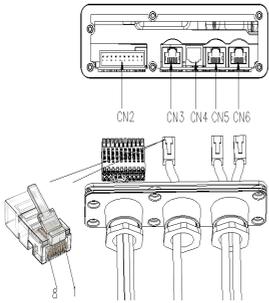
## 7.9 SMGW Connection of the Wallbox (Optional)

The DC wallbox can be compatible with in the distribution regions installed digital electrical meters and establish a connection for communication. Examples: Smart Meter Gateway (SMGW).

Illustration	Instructions
	<ul style="list-style-type: none"> <li>■ Connect the SMGW interface using RJ45 cables (Recommended 8-core category 5e shielded internet cable).</li> <li>■ Definition: <ul style="list-style-type: none"> <li>• RJ45 (CN5): SMGW</li> </ul> </li> </ul>

## 7.10 DRED Connection of the Wallbox (Optional)

In response to the grid connection requirements in Australia, the DC wallbox provides RJ45 interface for interaction with demand response emitting device (DRED).

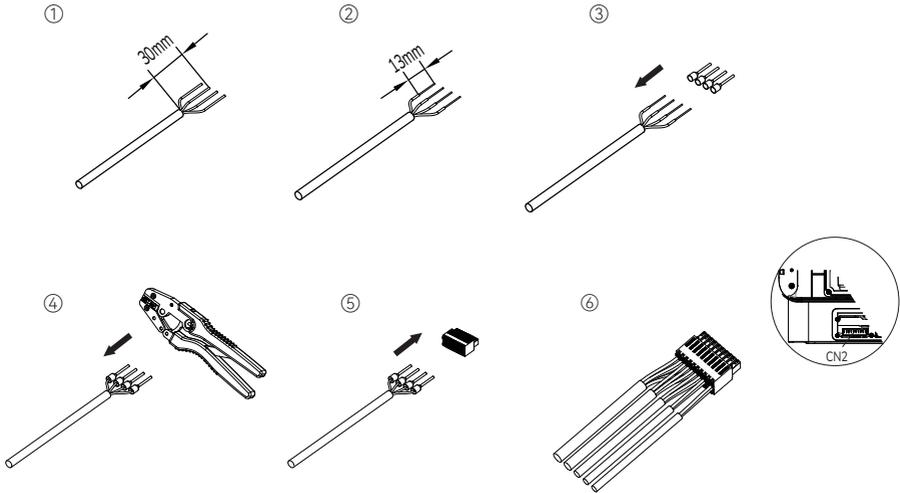
Illustration	Instructions
	<ul style="list-style-type: none"> <li>■ Connect the DRED interface using RJ45 cables(Recommended 8-core Category 5e shielded internet cable) .</li> <li>■ Definition: <ul style="list-style-type: none"> <li>● RJ45 (CN3): DRED</li> </ul> </li> <li>■ DRED pin function : <ul style="list-style-type: none"> <li>● Pin 3(DRED):COM_LOAD</li> <li>● Pin 4(DRED):REF_GEN</li> <li>● Pin 5(DRED):DRM4/8</li> <li>● Pin 6(DRED):DRM3/7</li> <li>● Pin 7(DRED):DRM2/6</li> <li>● Pin 8(DRED):DRM1/5</li> </ul> </li> </ul>

### 7.10.1 DRED Instruction

Mode	Requirement
DRM 0	Operate the disconnection device.
DRM 1	Do not consume power.
DRM 2	Do not consume at more than 50 % of rated power.
DRM 3	Do not consume at more than 75 % of rated power AND supply reactive power if capable.
DRM 4	Increase power consumption (subject to constraints from other active DRMs).
DRM 5	Do not generate power.
DRM 6	Do not generate at more than 50 % of rated power.
DRM 7	Do not generate at more than 75 % of rated power AND absorb reactive power if capable.
DRM 8	Increase power generation (subject to constraints from other active DRM 8 DRMs).

## 7.11 Cable Crimping

### 7.11.1 Signal Line



Wiring diagram (example)

- ① Peel off the insulation sheath of the entire wire harness by 30mm.
- ② Peel off the insulation sheath of each wire by 13mm.
- ③ Insert the tube type terminal onto the wire.
- ④ Use tube terminal crimping pliers for wiring.
- ⑤ Insert the Signal Connector.
- ⑥ Wiring is completed.

Note: Tubular terminals are only suitable for flexible wires. The wiring sequence shall refer to Chapters from 7.4 to 7.7.

After the crimping of the tubular terminals is completed, the following items must be confirmed to ensure connection reliability:



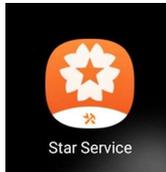
- The tubular terminals are free from deformation and damage.
- The tubular terminals are crimped firmly and reliably with the cables, without falling off or loosening.
- Ensure that the wiring is implemented in accordance with the definitions set forth in Chapter 7.

## 8 Commissioning

- Power on steps (Initial on-site commissioning):
  - (1) Verify that the wiring configuration complies with the requirements stipulated in Chapter 7, with particular attention to the AC incoming lines.
  - (2) Conduct a visual and physical inspection of all cables connected to the DC wallbox (including the charging gun cable) to ensure the absence of any damage, abrasion or breakage.
  - (3) Actuate the closure of the circuit breaker only after a comprehensive inspection confirms the absence of all abnormalities.

### 8.1 Configuration of Star Service APP

- (1) We can upgrade the DC wallbox firmware if necessary. For details on updating the firmware version, refer to Chapter 8.2.
- (2) Before connecting to the DC wallbox, disconnect your mobile phone's Bluetooth from other devices.
- (3) Try to connect to the Bluetooth via Android or IOS connection.
- (4) Install the Star Service app onto your phone and proceeded to connect to the DC wallbox.



- (5) Open the APP and turn on the Bluetooth function on your phone. At this point, you need to ensure that no other devices are connected to the phone's Bluetooth.
- (6) Opening the APP brings you to the following page.
- (7) If you cannot set up StarCharge account, connect to the DC wallbox through the Workbench option as shown in the top right-hand side of the window.
  - Installation engineers may request the Admin password from the service manager. For the service manager's contact information, please refer to the Envelope enclosed with the DC wallbox.

English/EN Workbench

### Login

**Password**    Auth code

🌐 Asia Pacific (China) ▾

📱 Please Enter Account

🔒 Please enter password 👁️

[Forgot Password?](#)

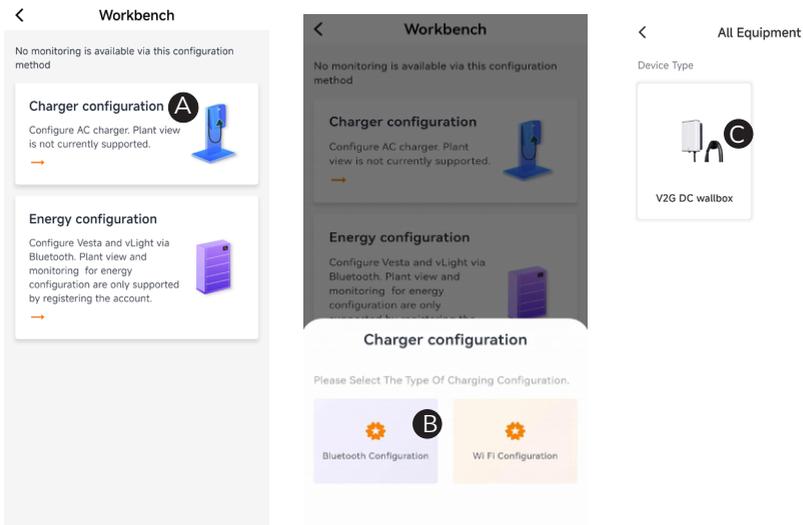
Remember Password

I have read and agreed to [User Agreement](#) & [Privacy Policy](#)

Login

v3.7.2

(8) Enter “Charger configuration”, “DC wallbox” and select the DC wallbox as shown below.



(9) The selection will prompt you to enter the serial number by QR code or typing it in.

(10) The QR code is located on the nameplate on the side of the DC wallbox. If you fail to scan the code, type in the code manually.

(11) Currently, the PIN code is 666666.

**Operation Instruction**

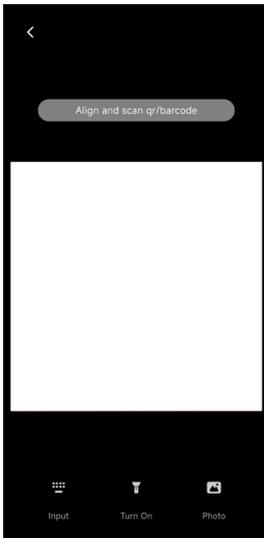
- 1 Open Setting
 
- 2 Bluetooth for connecting equipment
 
- 3 Scan Bluetooth PIN code for pairing
 

**Next** **A**

**Operation Instruction**

- 1 Scan the QR code of the charger
 
- 2 Enter or scan the Bluetooth PIN code for pairing
 

**Yes, I know** **B**



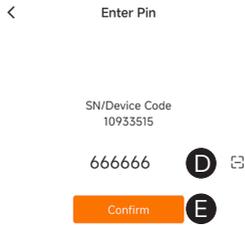
**StarCharge** P/N D59230001  
IP65 -30 ~ 50 °C

Product Name/Nome do produto:  
IEC 7.4kW bi-directional DC wallbox  
AC Voltage/AC Voltagem: 220/230 V a.c. 50/60Hz, 1 phase  
DC Voltage/DC Voltagem: 200 ~ 920V d.c.  
Rated AC Current/Classificado Corrente AC: 32A a.c.  
Max. DC Current/Corrente DC Máx.: 26A d.c.  
Model/Modelo: AD20074EU1923  
Manufacture Date/Data de Fabricação:  
SN:  
Power Factor/Factor de Potência:  
0.8(loading) ~ 0.8(loading)  
Protective Class/Classe de Protecção: Class I  
Rated Apparent Power/Potência Aparente Nominal:  
7.4kVA  
Over Voltage Category/Categoria Sobre Tensão:  
OVC III(ac), OVC II(dc)  
Inverter Topology/Topologia Inversor: Isolated/Isolado  
Made in China/Feito na China  
Manufacturer/Fabricante:  
Wanbang Digital Energy Co., Ltd (Star Charge)  
Warning: Only electrical professionals are responsible for the installation.  
Caution: No user serviceable parts inside.  
Refer servicing to qualified service personnel.



Online user manual xxxxxxxx

**C**



(12) Select country options based on the location. After selecting your country, the corresponding time zone is automatically displayed. To check the current region, please follow the figures below.

- To view the region, the power grid type setting must be completed first.
- The current firmware version is viewable from the main interface of the APP.

My wallbox ⏻

Index Configuration A



Version:v3.20.3-standard  
Refresh

Equipment No.:10933515  
Fault

Abnormal information >

Trial charging order >

Current data >

Mode Switch Charge Discharge

< Installation Wizard

1/11

Please select the country where the wallbox is installed

A

- Australia A
- Australia B ✓ C
- Australia C

C

- Canada

G

- Germany

I

- Italy

M

- Mexico

Next D

My wallbox ⏻

Index Configuration

Equipment Configuration

- Installation Wizard B
- Self Test Wizard >
- CPID Configuration >
- OCPP Configuration >
- Authentication Configuration >
- LED Brightness Configuration >
- Fan Configuration >
- Grid Feed-In Limitation >
- Firmware upgrade >

< Installation Wizard

2/11

Please select a time zone

Timezone configuration

UTC+10 ▼

System Time

2025-12-30 18:08:07 ▼

Previous item Next E

(13) Choose the type of power grid based on the selected country. According to the current phase sequence, configure the connection method between the equipment and the power grid. Configuration of the grid phase line is mandatory, non-compliance will lead to missing functions.

< Installation Wizard

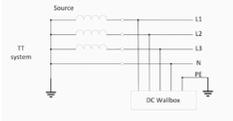
3/11

Please select the power grid type

TN

**TT** ✓ **A**

IT



The diagram shows a 'Source' with three phase lines (L1, L2, L3) and a neutral line (N). The L1, L2, and N lines are connected to a 'DC Wallbox'. The L3 line is connected to ground. The TT system is indicated by a ground symbol connected to the DC Wallbox.

Previous item

Next



< Installation Wizard

4/11

Wall Box and Grid Wiring Configuration

Current wallbox type:7.4KW

Wallbox connection hole      Grid phase line

L      -      v

N      N      v

Please connect at least one L line

Previous item

Next

< Installation Wizard

4/11

Wall Box and Grid Wiring Configuration

Current wallbox type:7.4KW

Wallbox connection hole      Grid phase line

L      L1      v **C**

N      N      v **D**

Previous item

Next



(14) Soft power limit. Set "Maximum charging current" according to the maximum input device current.

< Installation Wizard

5/11

Please enter the maximum current of wallbox circuit breaker per phase(CB rated current), equal to maximum charging current

---

Maximum charging current (A)

 **A**

Previous item

Next



(15) Soft power limit. Set "Maximum discharging current" according to the maximum output device current.

< Installation Wizard

6/11

please enter the maximum discharging current of the wallbox

---

Maximum discharging current (A)

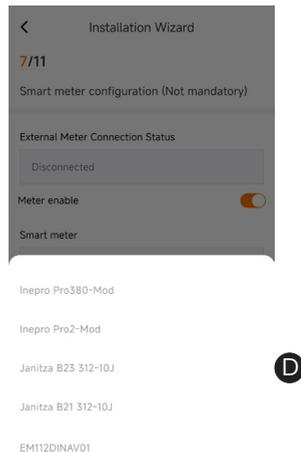
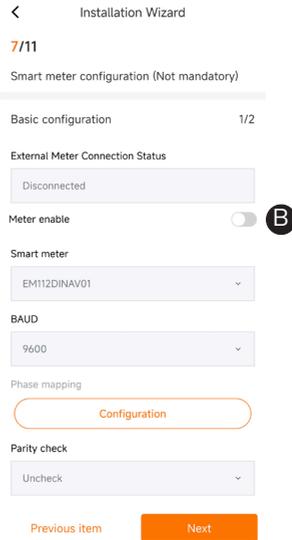
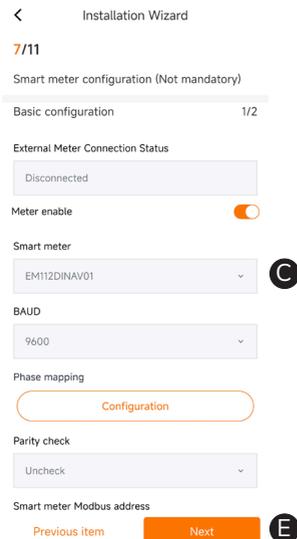
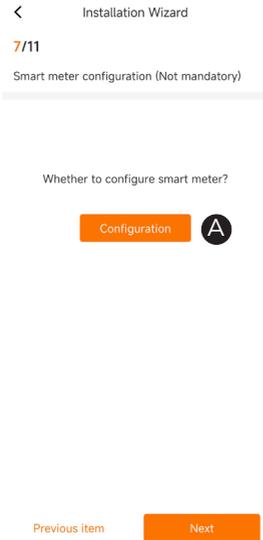
 **A**

Previous item

Next



(16) (Optional) If you have connected a smart meter, please refer to this step; otherwise, skip it. According to the connected electric meter, select the meter model. According to the purchased meter specification, configure the meter's current, baud rate and communication method.



< Installation Wizard

7/11

Smart meter configuration (Not mandatory)

Activate dynamic load control(Not mandatory) 1/2

Confirm configuration

Maximum current per phase of grid connected circuit breaker (A)

0

Current safety margin at the grid connection point (A)

0

Maximum asymmetric phase load (A)

0

[Previous item](#)

[Next](#)



(17) (Optional) If you have connected Island model, please refer to this step; otherwise, click Next, skip it. Configure voltage, frequency, maximum output current, and cutoff discharge parameters based on the current power grid settings.

< Installation Wizard

8/11

Island mode configuration (Not mandatory)

✔ The meter configuration test passed, click to view the data signal test [click to view the data signal test](#)

Whether to island mode configuration?

Configuration

Previous item

< Installation Wizard

8/11

Island mode configuration (Not mandatory)

Rated voltage of the power grid (V)

Rated frequency of power grid (Hz)

Maximum outflow current island mode (A)

Minimum SOC (%)

Previous item

(18) (Optional) If you want to connect the StarCharge backend, please refer to this step, otherwise, skip it. Network must be configured (refer to next step).

< Installation Wizard

9/11

OCPP Configuration

---

Requires manual background connection configuration

Previous item

< OCPP Configuration

OCPP Path

SSL Level

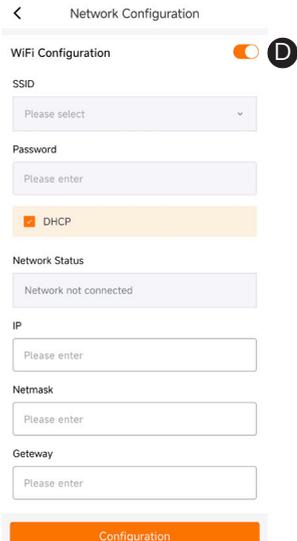
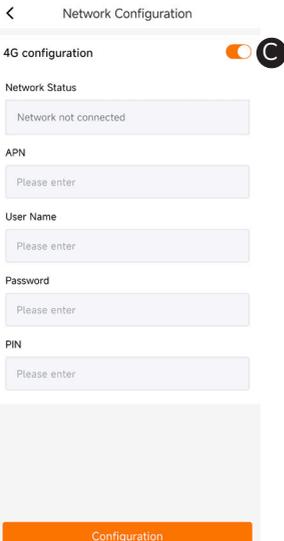
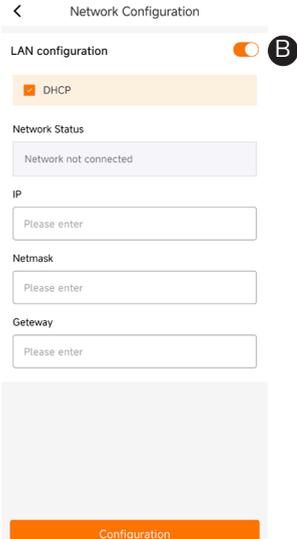
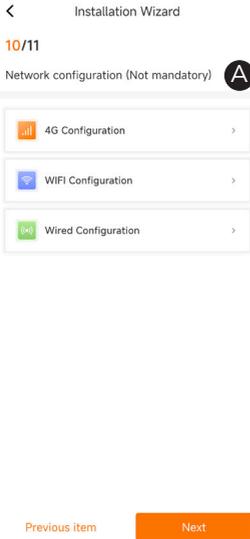
Authentication Key

Ip Or Domain Name

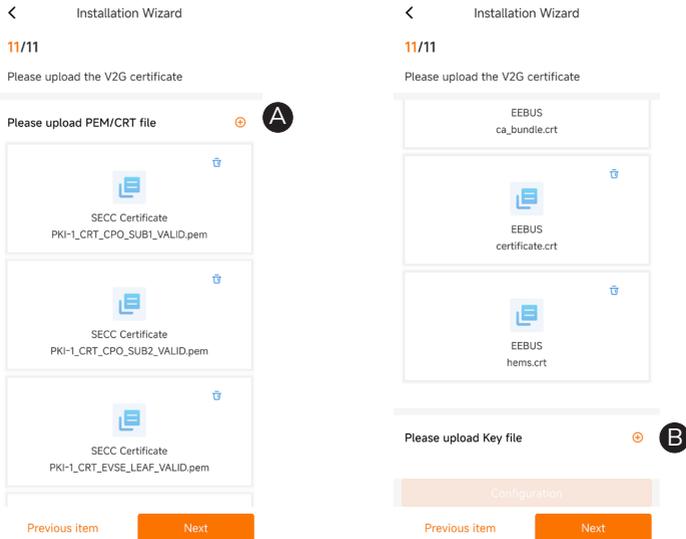
Port Number

OCPP Protocol

(19) (Optional) If you want to configure the network, please refer to this step. You can Configure LAN (Step 7 and 8 must be completed)/4G/Wi-Fi. Click the button, enter the information and configuration for the current installation environment, and click configuration. Otherwise, skip it.

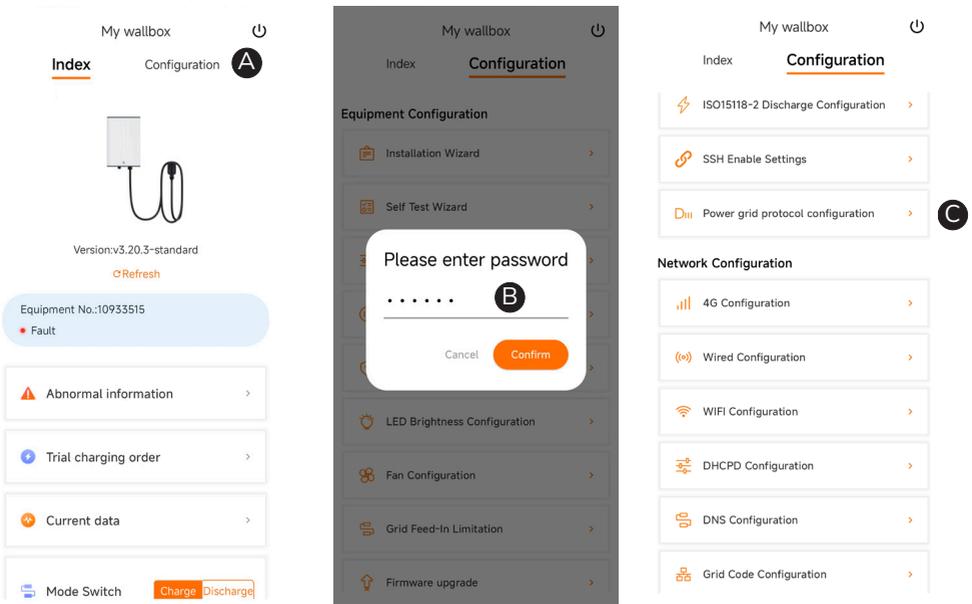


(20) Security certificate configuration: You can upload the required PEM and KEY files in the phone's file storage and select the certificate type when uploading.



(21) (Optional) DRED enable/Random Delay Configuration/Export Limit Configuration.

Click "Configuration", enter password, then choose "Power grid protocol configuration".  
Click "Configuration".



My wallbox ⏻

Index Configuration **A**

Version:v3.20.3-standard  
Refresh

Equipment No.:10933515  
Fault

- Abnormal information
- Trial charging order
- Current data
- Mode Switch Charge Discharge

Equipment Configuration

- Installation Wizard
- Self Test Wizard
- Please enter password **B**
- LED Brightness Configuration
- Fan Configuration
- Grid Feed-In Limitation
- Firmware upgrade

My wallbox ⏻

Index **Configuration**

- ISO15118-2 Discharge Configuration
- SSH Enable Settings
- Power grid protocol configuration **C**

Network Configuration

- 4G Configuration
- Wired Configuration
- WIFI Configuration
- DHCPD Configuration
- DNS Configuration
- Grid Code Configuration

Power grid protocol configuration

**Enable Configuration**

DRED enable  **D**

**Random Delay Configuration**

Cancel Random Delay

Maximum Random Delay Limit (s)  
300

Minimum Random Delay Limit (s)  
0

**Export Limit Configuration**

Export Limit Soft Enable

Export Limit Hard Enable

Export Limit Soft Percent (%)  
25

Power grid protocol configuration

**Generation Limit Configuration**

Generation Limit Soft Enable  **E**

Generation Limit Hard Enable

Generation Limit Soft Percent (%)  
100

Generation Limit Hard Percent (%)  
100

**WGRa Configuration**

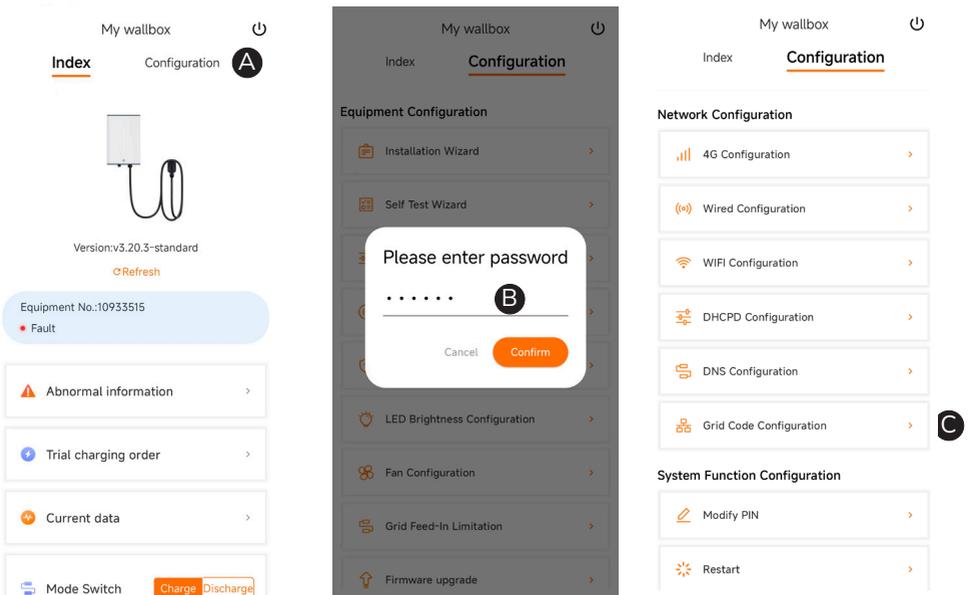
WGRa Increase Percent (%Pn/min)  
16.67

WGRa Decrease Percent (%Pn/min)  
16.67

**Configuration** **F**

(22) (Optional) Power quality response mode parameter Coconfiguration. Click "Configuration", enter password, then choose "Grid Code Configuration". Click "V2G Power\_Control" and click "Configuration". Choose "Reactive power mode ". Options include PF<sup>1</sup>, QU<sup>2</sup>, QP<sup>3</sup> and QT<sup>4</sup>.

- PF<sup>1</sup>: Fix power factor mode
- QU<sup>2</sup>: Volt-var response mode
- QP<sup>3</sup>&QT<sup>4</sup>: Reactive power mode



< Grid Code Configuration

- Grid Rated Parameter ▾
- V2G Power\_Control ▾ **D**
- Grid\_Protection ▾
- Frequency Power Response ▾
- Reactive Qu Mode ▾
- Reactive Qp Mode ▾
- HVRT ▾
- LVRT ▾
- Grid Voltage Power Response ▾

< Grid Code Configuration

On grid connect min frequency(Hz) 47.5

Reactive power Pf mode first order response time(s) 0.2

Reactive power Qu mode first order response time(s) 6

Reactive power Qp mode first order response time(s) 10

Reactive power Qt mode first order response time(s) 0.2

**Configuration** **E**

- Grid\_Protection ▾
- Frequency Power Response ▾
- Reactive Qu Mode ▾
- Reactive Qp Mode ▾

< V2G Power\_Control

Reactive power mode **F**

OFF ▾

Anti-Island Switch

AC current DC component control switch

AC voltage DC component control switch

Fault recovery power limit switch

Enter service switch

On grid normal running power up rate(Max:60000,Min:1)

6000

On grid normal running power down rate(Max:60000,Min:1)

6000

On grid reconnect power rate(Max:60000,Min:1)

6000

**Configuration**

< V2G Power\_Control

Reactive power mode

PF ▾

Anti-Island Switch

AC current DC component control switch

AC voltage DC component control switch

Fault recovery power limit switch

Enter service switch

On grid normal running power up rate(Max:60000,Min:1)

- OFF
- PF
- QU
- QP
- QT

**G**

< V2G Power\_Control

Reactive power mode

PF ▾

Anti-Island Switch

AC current DC component control switch

AC voltage DC component control switch

Fault recovery power limit switch

Enter service switch

On grid normal running power up rate(Max:60000,Min:1)

6000

On grid normal running power down rate(Max:60000,Min:1)

6000

On grid reconnect power rate(Max:60000,Min:1)

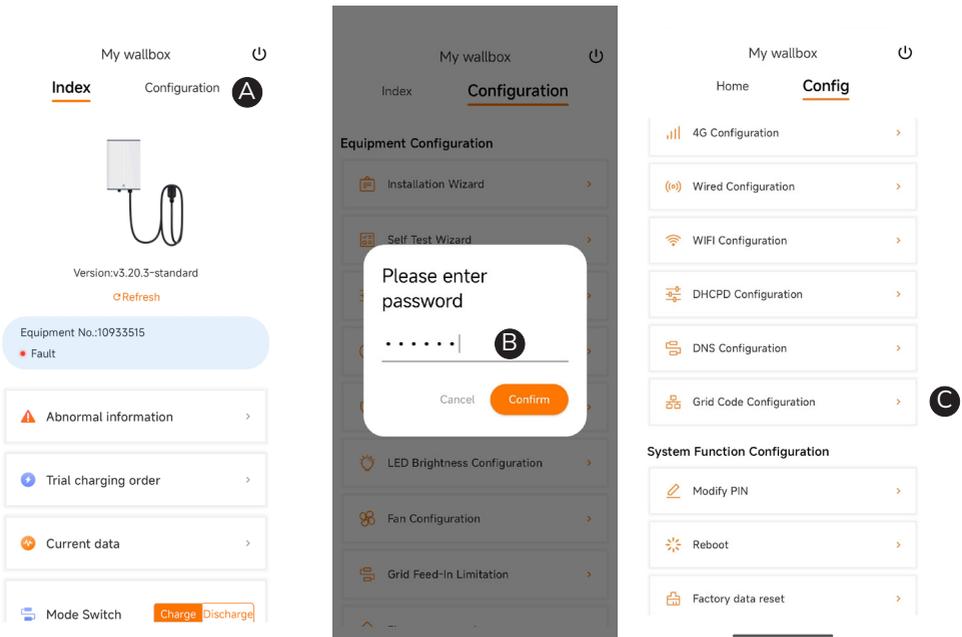
6000

**Configuration**

**H**

(23) (Optional) Power parameter Configuration. Click "Configuration", enter password, then choose "Grid Code Configuration". Refer to PF<sup>1</sup>/QU<sup>2</sup>/QP<sup>3</sup>/QT<sup>4</sup>/PU<sup>5</sup> model parameters. If parameter modification is required, it may be carried out with the approval of the power grid distributor, Click "Config" to modify the parameters:

- PF<sup>1</sup>: Refer figure A,B,C,D,E,F
- QU<sup>2</sup>: Refer figure A,B,C,G,H,I
- QP<sup>3</sup>: Refer figure A,B,C,J,K,L
- QT<sup>4</sup>: Refer figure A,B,C,D,E,F
- PU<sup>5</sup>: Refer figure A,B,C,M,N. Volt-watt mode



< Grid Code Configuration

Grid Rated Parameter	^	<b>D</b>
Rated grid phase rms voltage(V)	230	
Rated grid frequency(Hz)	50	
Rated power(VA)	7400	
Min power factor	0.8	
Rated battery charge power(W)	7400	
<b>Configuration</b>		
V2G Power_Control	^	
Grid_Protection	^	
Frequency Power Response	^	
Reactive Qu Mode	^	
Reactive Qp Mode	^	

< Grid Code Configuration

On grid reconnect min voltage(Un)	0.89	
On grid reconnect max frequency(Hz)	50.15	
On grid reconnect min frequency(Hz)	47.5	
On grid connect max voltage(Un)	1.1	
On grid connect min voltage(Un)	0.89	
On grid connect max frequency(Hz)	50.15	<b>F</b>
On grid connect min frequency(Hz)	47.5	
Reactive power Pf mode first order response time(s)	0.1	
Reactive power Qu mode first order response time(s)	0.1	
Reactive power Qp mode first order response time(s)	0.1	
Reactive power Qt mode first order response time(s)	0.1	
<b>Configuration</b>		

< Grid Code Configuration

V2G Power_Control	^	<b>E</b>
Reactive power mode	OT	
Anti-Island Switch	On	
AC current DC component control switch	On	
AC voltage DC component control switch	On	
Fault recovery power limit switch	On	
Enter service switch	On	
On grid normal running power up rate(%Pn/min)	6000	
On grid normal running power down rate(%Pn/min)	6000	
On grid reconnect power rate(%Pn/min)	6000	
On grid reconnect wait time(s)	1	
On grid connect power rate(%Pn/min)	6000	
On grid connect wait time(s)	1	
On grid reconnect max voltage(Un)	1.1	

< Grid Code Configuration

Grid Rated Parameter	^	
V2G Power_Control	^	
Grid_Protection	^	
Frequency Power Response	^	
Reactive Qu Mode	^	<b>G</b>
Reactive Qp Mode	^	
HVRT	^	
LVRT	^	
Grid Voltage Power Response	^	

< Grid Code Configuration

Qu curve select	Curve A
Qu response mode select	Unlimited
Qu PF limit mode PF limit value	0.4
Qu-CurveA-U1	0.891
Qu-CurveA-Q1	0.3
Qu-CurveA-U2	0.956
Qu-CurveA-Q2	0
Qu-CurveA-U3	1.022
Qu-CurveA-Q3	0
Qu-CurveA-U4	1.108
Qu-CurveA-Q4	-0.4
Qu-CurveB-U1	-0.08
Qu-CurveB-Q1	0.44
Qu-CurveB-U2	-0.02
Qu-CurveB-Q2	0
Qu-CurveB-U3	0.02

H

< Grid Code Configuration

Qu-CurveA-U4	1.108
Qu-CurveA-Q4	-0.4
Qu-CurveB-U1	-0.08
Qu-CurveB-Q1	0.44
Qu-CurveB-U2	-0.02
Qu-CurveB-Q2	0
Qu-CurveB-U3	0.02
Qu-CurveB-Q3	0
Qu-CurveB-U4	0.08
Qu-CurveB-Q4	-0.44
Qu voltage Hysteresis	0
Qu response in power ratio	0.2
Qu response out power ratio	0.05
Qu-Vref Coefficient	1
Qu-Vref Time Constant	1000

I

Configuration

< Grid Code Configuration

Grid Rated Parameter	▼
V2G Power_Control	▼
Grid_Protection	▼
Frequency Power Response	▼
Reactive Qu Mode	▼
Reactive Qp Mode	▼
HVRT	▼
LVRT	▼
Grid Voltage Power Response	▼

J

< Grid Code Configuration

Reactive Qp Mode	^
Qp curve select	Curve A
Qp response mode select	Unlimited
Qp-CurveA-P1	0.1
Qp-CurveA-P2	0.5
Qp-CurveA-P3	1
Qp-CurveA-P4	1
Qp-CurveA-PF1	1
Qp-CurveA-PF2	1
Qp-CurveA-PF3	-0.9
Qp-CurveA-PF4	-0.9
Qp-CurveB-P1	0.15
Qp-CurveB-P2	0.2
Qp-CurveB-P3	0.8
Qp-CurveB-P4	0.9
Qp-CurveB-P5	0

K

< Grid Code Configuration

Qp-CurveA-PF4	-0.9
Qp-CurveB-P1	0.15
Qp-CurveB-P2	0.2
Qp-CurveB-P3	0.8
Qp-CurveB-P4	0.9
Qp-CurveB-P5	0
Qp-CurveB-P6	0
Qp-CurveB-Q1	1
Qp-CurveB-Q2	0
Qp-CurveB-Q3	0
Qp-CurveB-Q4	-1
Qp-CurveB-Q5	0
Qp-CurveB-Q6	0
Qp enter-voltage value	1.05
Qp quit voltage value	1

[Configuration](#)

L

< Grid Code Configuration

Grid Rated Parameter	▼
V2G Power_Control	▼
Grid_Protection	▼
Frequency Power Response	▼
Reactive Qu Mode	▼
Reactive Qp Mode	▼
HVRT	▼
LVRT	▼
Grid Voltage Power Response	▼

M

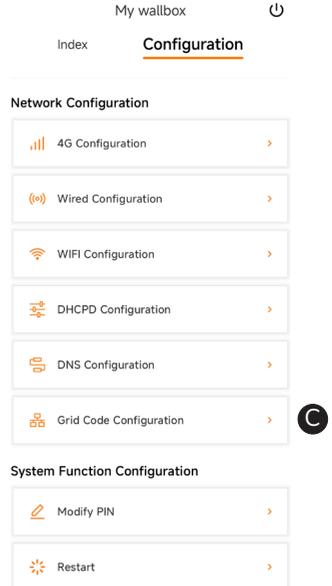
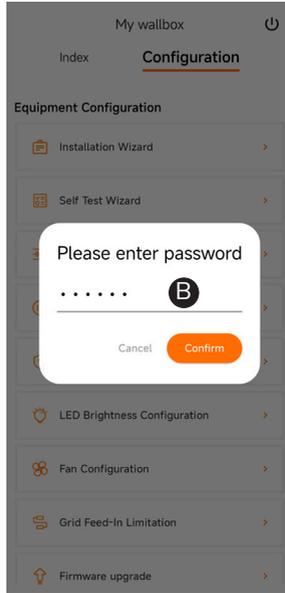
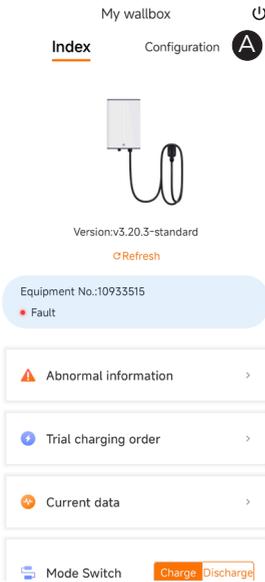
< Grid Code Configuration

LVRT	▼
Grid Voltage Power Response	^
PU-Switch	On
PU Curve-U1	1.087
PU Curve-U2	1.15
PU Curve-U3	1.15
PU Curve-U4	1.15
PU Curve-P1	1
PU Curve-P2	0.2
PU Curve-P3	0.2
PU Curve-P4	0.2
PU Response Time(s)	3
PU-Curve Select(s)	0

[Configuration](#)

N

(24) (Optional) Grid\_Protection. Click "Configuration", enter password, then choose "Grid Code Configuration". Click "Grid\_Protection". Refer to the grid-connection protection parameters. If parameter modification is required, it may be carried out with the approval of the power grid distributor. Click "Config" to modify the parameters.



< Grid Code Configuration

Grid_Protection	^
Grid voltage 10min over voltage protection switch	On
On grid 10min over voltage protect value(Un)	1.122
On grid 10min over voltage recovery value(Un)	1.11
On grid voltage protect class	Two-
Voltage Protect time mode	-100ms
On grid over voltage protect value1(Un)	1.152
On grid over voltage protect time1(s)	2
On grid over voltage protect value2(Un)	1.196
On grid over voltage protect time2(s)	0.2
On grid over voltage recovery value(Un)	1.14
On grid under voltage protect value1(Un)	0.783

D

< Grid Code Configuration

On grid under voltage protect value1(Un)	0.783
On grid under voltage protect time1(s)	11
On grid under voltage protect value2(Un)	0.304
On grid under voltage protect time2(s)	2
On grid under voltage protect value3(Un)	0.304
On grid under voltage protect time3(s)	2
On grid under voltage recovery value(Un)	0.8
Voltage protection mode select	Phase
On grid frequency protect class	Single-
Frequency Protect time mode	-100ms
On grid over frequency protect value1(Hz)	52
On grid over frequency protect time1(s)	0.2
On grid under frequency protect	

E

< Grid Code Configuration

On grid over frequency protect time1(s)	0.2
On grid under frequency protect value1(Hz)	47
On grid under frequency protect time1(s)	2
On grid under frequency recovery value(Hz)	47.1
Italy frequency control local command	Narrow
Rate of Change of Frequency Switch	Off
Rate of Change of Frequency Value	2
Idc Protection Value(%In)	0.5
Idc Protection Time(s)	1
<b>Configuration</b>	
Frequency Power Response	^
Reactive Qu Mode	^

F

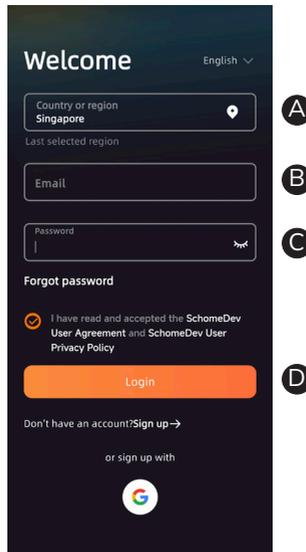
## 8.2 User Interface of StarCharge Home

- (1) Install APP. Search for "StarCharge Home" in the Play Shop and install the APP for Android user. IOS user can download and install the Schome APP through the follow link:

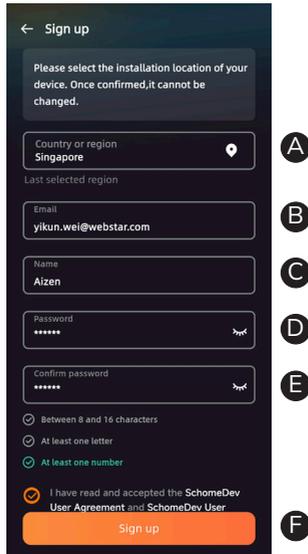
<https://testflight.apple.com/join/t4aGnX9k>



- (2) Login in. If you don't have an account, refer to step (3), Enter "Country or region", "Email", "Password", then click "Login". If password is forgotten, refer to step (4).

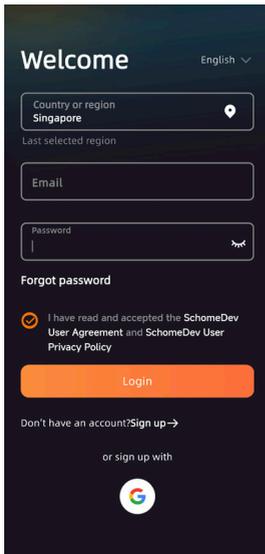


(3) Sign up. Click "Sign up", enter "Country or region", "Email", "Name", "Password", "Confirm password", and then click "Sign up".



The screenshot shows a mobile application's sign-up screen. At the top, there is a back arrow and the text "Sign up". Below this is a message: "Please select the installation location of your device. Once confirmed, it cannot be changed." The form contains several input fields: "Country or region" with "Singapore" selected (labeled A), "Email" with "yikun.wei@webstar.com" (labeled B), "Name" with "Aizen" (labeled C), "Password" with six asterisks (labeled D), and "Confirm password" with six asterisks (labeled E). Below the fields are three checked checkboxes: "Between 8 and 16 characters", "At least one letter", and "At least one number". At the bottom, there is a checked checkbox for "I have read and accepted the SchomeDev User Agreement and SchomeDev User" (labeled F) and an orange "Sign up" button.

(4) Forgot password. Click "Forgot password", enter "Email address" and click "Continue". Enter "Verify your code", then Enter "New password", "Re-type your new password". Click "Confirm".



**Welcome** English ▾

Country or region  
Singapore

Last selected region

Email

Password

**Forgot password** A

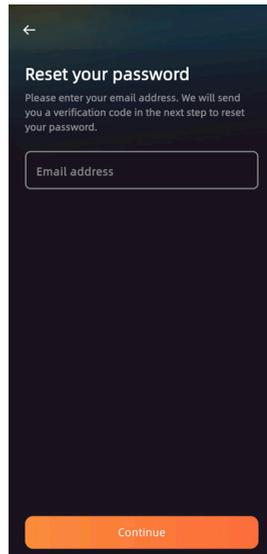
I have read and accepted the [SchemeDev User Agreement](#) and [SchemeDev User Privacy Policy](#)

Login

Don't have an account? [Sign up →](#)

or sign up with





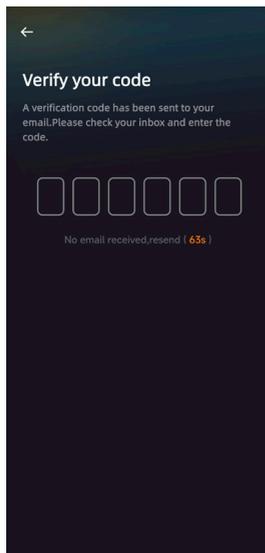
←

**Reset your password**

Please enter your email address. We will send you a verification code in the next step to reset your password.

Email address B

Continue C



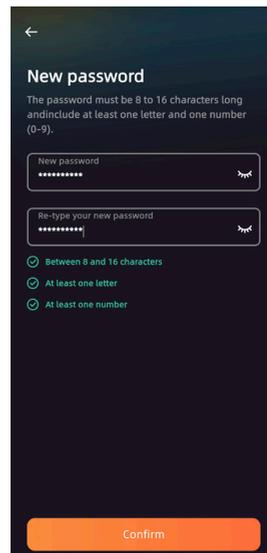
←

**Verify your code** D

A verification code has been sent to your email. Please check your inbox and enter the code.

□ □ □ □ □ □

No email received, [resend \( 63s \)](#)



←

**New password**

The password must be 8 to 16 characters long and include at least one letter and one number (0-9).

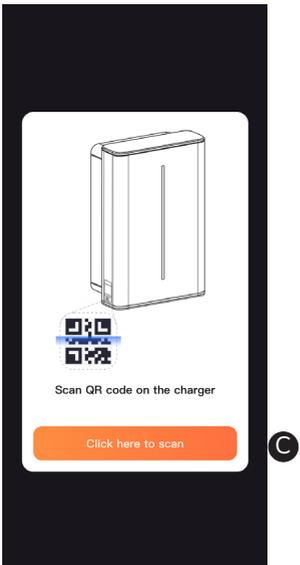
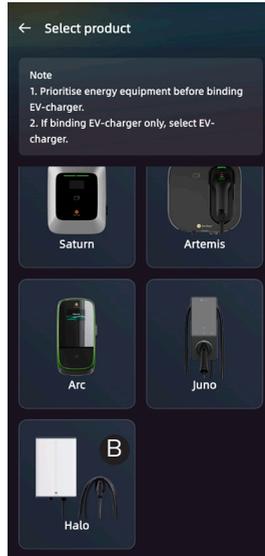
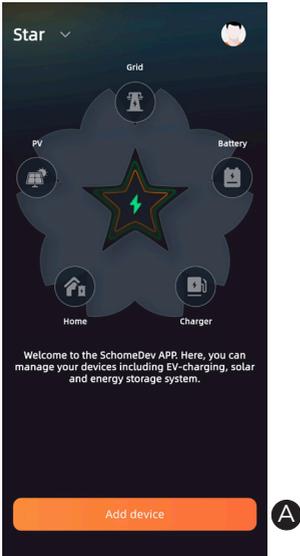
New password  
\*\*\*\*\* E

Re-type your new password  
\*\*\*\*\* F

- Between 8 and 16 characters
- At least one letter
- At least one number

Confirm G

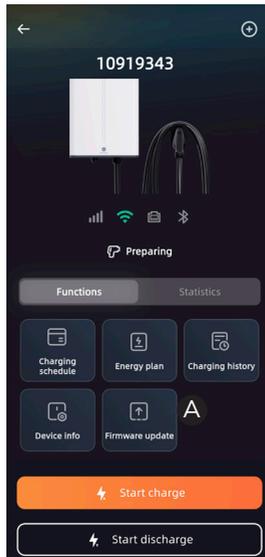
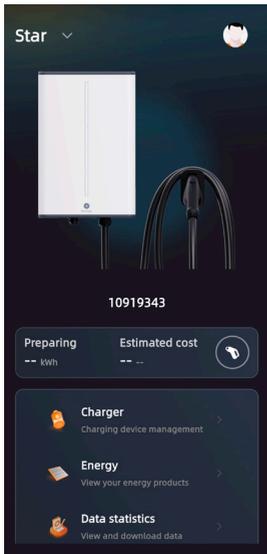
(5) Add device. Click "Add device", then choose "Halo", then scan "Charger ID QR" on the nameplate.



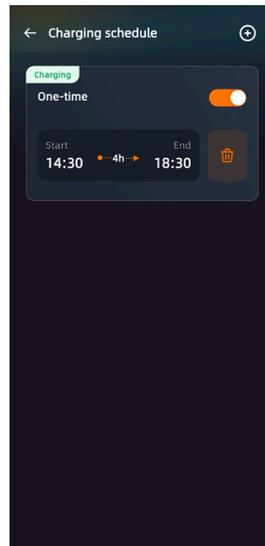
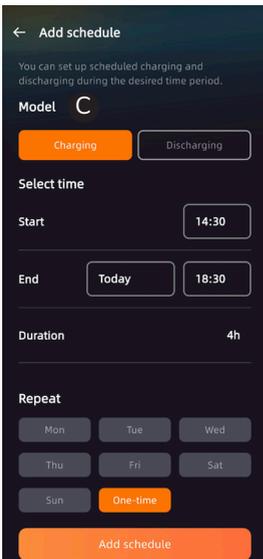
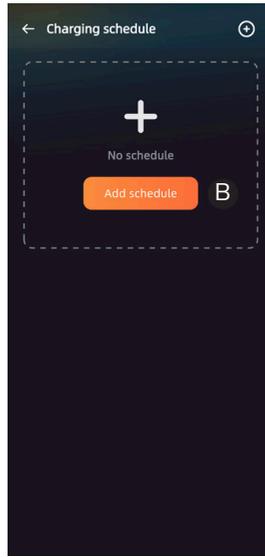
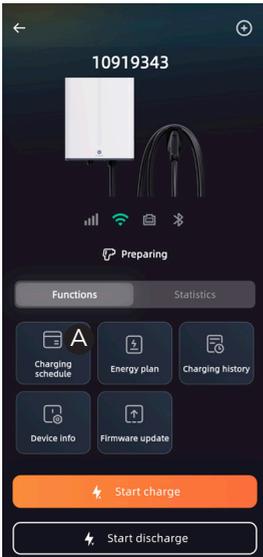
(6) Main interface. After adding a new wallbox, you can manage the wallbox by balancing loads, setting charging schedules, configuring energy plans, viewing and downloading charging history. Check device information and updating firmware.

Start charging or discharging by clicking "Start charge" or "Start discharge", and stop charging or discharging by sliding to stop charging.

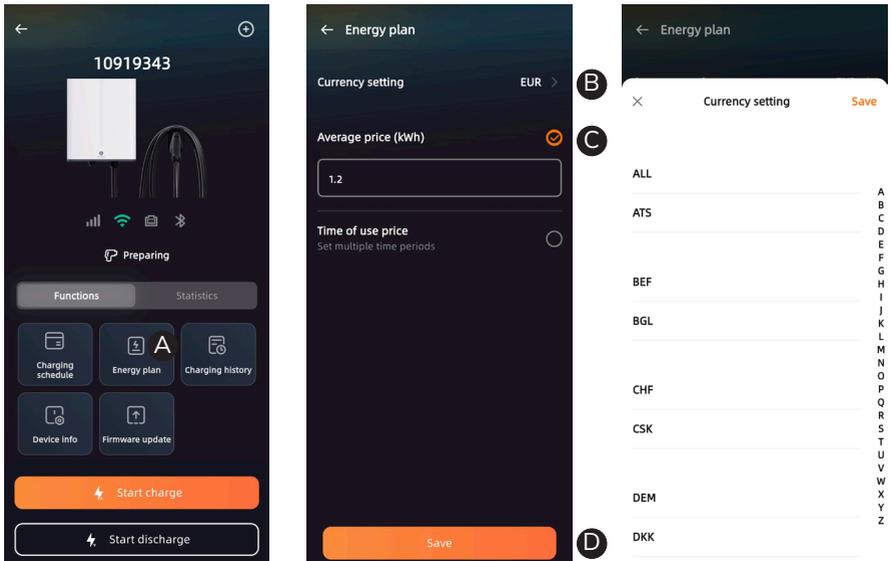
Note: After installing the APP for the first time, the charging station must be connected to the electric vehicle; otherwise, the DC wallbox may appear offline.



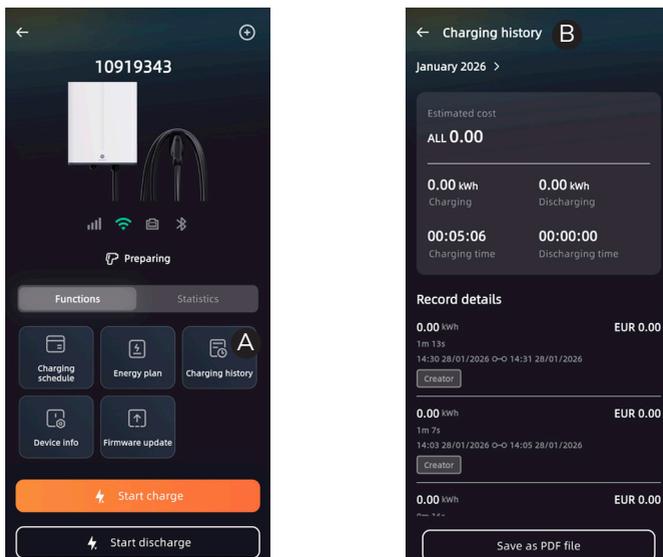
(7) (Optional) Charging schedule. Click "Charging schedule", then click "Add schedule", then set "Model", "Start", "End", "Repeat". Click "Add schedule".



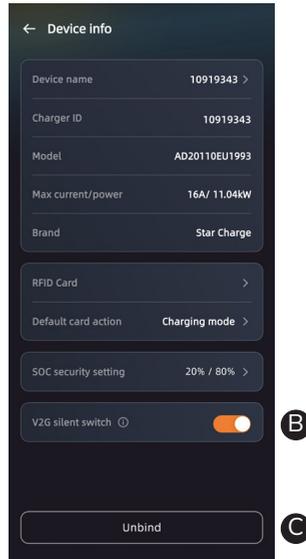
(8) (Optional) Energy plan. Click "Energy plan", choose "Currency setting". Set "Average price". Click "Save".



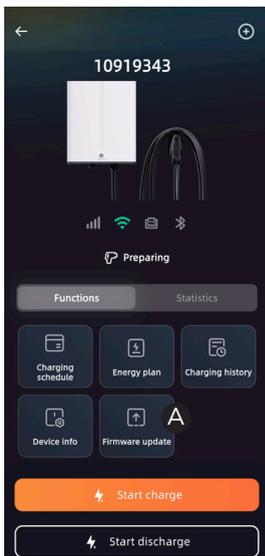
(9) (Optional) Charging history. Click "Charging history", then you can view historical charging data.



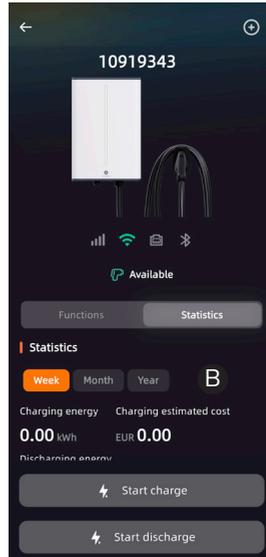
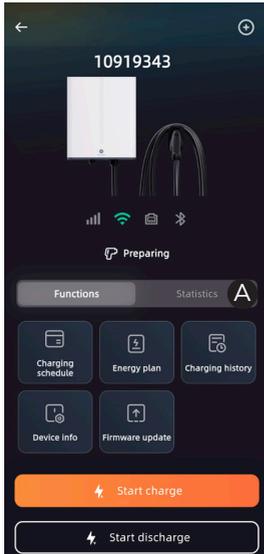
(10) (Optional) Device info. Click "Device info", then can check current device information. If you want to enable silent mode, click "V2G silent switch". Click "Unbind".



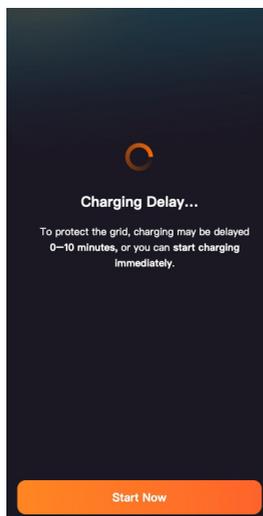
(11) (Optional) Firmware update. Click "Firmware update", then you can view current version. If a new version is found, click "Update".



(12) (Optional) Statistics. Click "Statistics", then can view data for different time periods by selecting "Week", "Month" or "Year". Data includes Charging energy, Discharging energy, Charging estimated cost and Estimated carbon reduction.

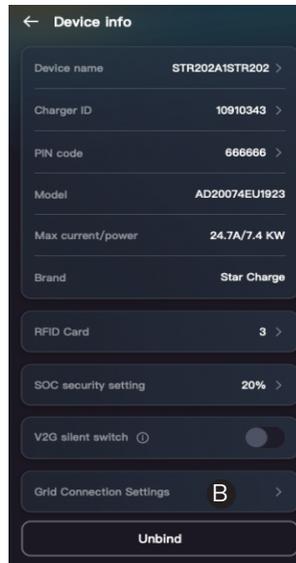


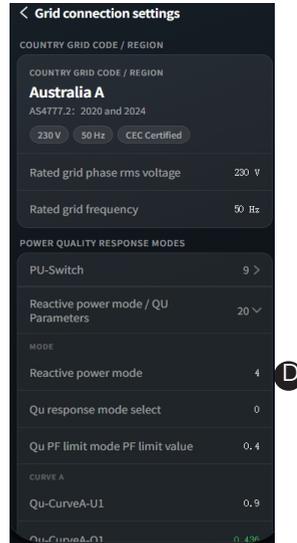
(13) New Zealand Region Special Requirements. The DC wallbox meets the random delay requirements for the New Zealand market. In New Zealand, the following responses will occur once the product commences.



(14) (Optional)Parameter View.Click "Device info", click "Grid Conection Setting",then can check region and firmware version.If you need to view the current grid-connected parameters:

- a."PU-Switch"(Volt-watt response mode).
- b."QP Parameters"(Watt-var response mode).
- c."Frequency Power Response"(Sustained operation for frequency variations).
- d."Grid Regulatory Configuration"(Generation/export limit controll).
- e."On grid voltage/frequency protect"(Voltage and frequency limits,Limits for sustained operation).
- f."Reactive power mode / QU Parameters",click "Reactive power mode / QU Parameters", can check the current mode by viewing Reactive power mode.





D:

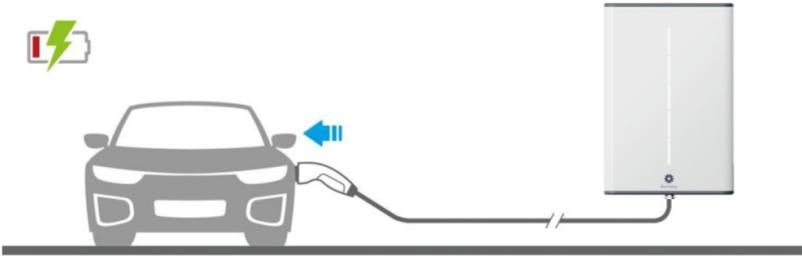
- 0 = Disable
- 1 = Fixed power factor mode
- 2 = Volt-var response mode
- 3 = Reactive power mode (vs Active power)
- 4 = Reactive power mode (vs Time)

## 9 Charging Operation

### 9.1 Plug in and Charge

#### ■ Start charging

- (1) Use the Installer APP to configure the DC wallbox authentication method.
- (2) Connect the wallbox connector to your EV.
- (3) The wallbox will start the charging session automatically.



#### ■ Stop charging

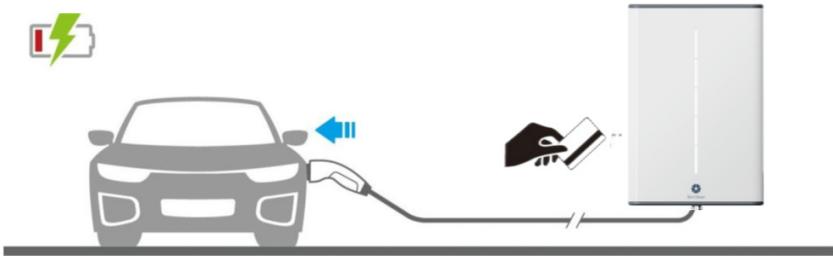
- (1) Stop charging session via vehicle or App.
- (2) Disconnect the charging connector from the EV.
- (3) Place the wallbox connector back into the charging connector holder of the DC wallbox.



## 9.2 Charging via RFID Card

### ■ Start charging

- (1) Use the Installer APP to configure the DC wallbox authentication method as RFID Authentication.
- (2) Connect the wallbox connector to your EV.
- (3) Place the RFID card in front of the RFID reader to authorize and initiate the charging session.



### ■ Stop charging

- (1) Stop the charging process at the wallbox side via the App or the RFID card.
- (2) Disconnect the charging connector from the EV.
- (3) Place the wallbox connector back into the charging connector holder of the DC wallbox.

## 10 Preventive Maintenance

The recommended maintenance schedule is provided in the table below. Local regulations may require adjustments to the maintenance cycle. In such cases, always comply with applicable laws.

Check items	Maintenance cycle	Working hours
Appearance check	Yearly	5min/unit
Internal check		10min/unit
Functional check		15min/unit
Cleaning		20min/unit

- Power off steps (The power-off procedure shall be performed prior to maintenance):
  - Ensure that the DC wallbox is in an idle state.
  - Disconnect the upper-level circuit breaker.
  - Unplug the charging connector.

### 10.1 Appearance Check



The Check items, Frequency and Working hours listed below are for reference only. Overseas regions can adjust these based on local regulations and actual site conditions.

- Requirements: Input power is off
- Working hours: 5 min/site
- Frequency: Yearly

Check Item	Content and specification	Check Method	Conclusion	Remark
Appearance check	The DC wallbox is intact and complete.	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	All components of the equipment are free from stains, scratches, deformations.	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	Nameplate and other signages including safety warning signs are accurate, clear, and complete.	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	The charging cable/socket is complete without damage.	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	No water or dust in the charging connector.	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	The insulation cap of the charging connector is complete.	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	

## 10.2 Internal Check

- Requirements: Input power is off
- Working hours: 10 min/site
- Frequency: Yearly

Check Item	Content and specification	Check Method	Conclusion	Remark
Internal check	Ensure the wiring connection and its screws on MCB	Visually/ Manual	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	L1 connection at the AC input and output terminal are tight.		<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	N connection at the AC input and output terminal are tight.		<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	PE connection at the AC input and output terminal are tight.		<input type="checkbox"/> Pass <input type="checkbox"/> Fail	

Note: If any screw or connection is found loose, a screwdriver must be used to tighten it.

## 10.3 Functional Check

- Requirements: The DC wallbox is on
- Working hours: 15 min/site
- Frequency: Yearly

Check Item	Content and specification	Check Method	Conclusion	Remark
Functional check	During standby, LED indicator is functional with color codes.	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	Power on the wallbox and confirm the self-test completes successfully with normal indicators.	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	Verify grid interaction: charging/ discharging in grid-connected mode, anti-islanding protection, and overcurrent/ overvoltage protections.	Visually/ Measurement	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	
	Verify V2G bidirectional power regulation (charging → discharging → standby).	Visually	<input type="checkbox"/> Pass <input type="checkbox"/> Fail	

## 10.4 Cleaning

- Requirements: Input power is off
- Working hours: 20 min/site
- Frequency: Yearly

It is recommended that the housing of DC wallbox is regularly cleaned with a wet cloth. In addition, there should be no plants growing on or around the DC wallbox.

- Do not clean the product with a high-pressure water pipe.
- Do not clean the product with corrosive cleansers.
- Do not clean the inside of the product.

It is also recommended carrying out regular cleaning and dust removal of the ventilation and filtration components to prevent dust accumulation that could obstruct airflow. (Suggested frequency: Once every three months) This will help ensure effective heat dissipation is maintained over time and support the stable operation of the system.

# 11 Guarantee Card

## 11.1 Guarantee Clause

The warranty period is defined in your warranty policy. If you have purchased an extended warranty, the warranty period is defined in your purchase agreement. The warranty only covers the product and its parts delivered by the company. The warranty does not cover consumable parts such as cables and connectors, any other materials, labor, accommodation, or travel costs. Changes or modifications to the equipment, unless specifically agreed upon with the company, will void the warranty.



- When you replace parts under warranty, keep the old parts until you know that the company does not need them for inspection.
- Installation, operation, commissioning, and maintenance tasks should only be done by the people described in Chapter 1.4. If someone who is not authorized to do these tasks, the warranty may be void.

## 11.2 Information Registration

Product name	
Product model	
Guarantee time	
Customer name	
Contact number	
Correspondence address	

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## Appendix 1

The following documents are the design standards for this product:

- [EN IEC 61851-1:2019]:Electric vehicle conductive charging system-Part 1: General requirements.
- [EN 61851-24:2014]:Electric vehicle conductive charging system - Part 24: Digital communication between a d.c. EV charging station and an electric vehicle for control of d.c. charging.
- [EN 61851-23:2014]:Electric vehicle conductive charging system-Part 23: DC electric vehicle charging station.
- [EN 301489-52 V1.3.1:2024]:Electromagnetic compatibility and Radio spectrum Matters (ERM); Cordless audio devices in the range 25 MHz to 2 000 MHz:Consumer radio microphones and in-ear monitoring systems operating in the CEPT harmonized band 863 MHz to 865 MHz;Part 2: Harmonized EN under article 3.2 of the R&TTE Directive.
- [EN 301489-17 V 3.3.1:2024]:Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for Broadband and Wideband Data Transmission Systems; Harmonised Standard for Electromagnetic Compatibility.
- [EN 301489-3 V2.3.2:2023]:Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz; Harmonised Standard for Electromagnetic Compatibility.
- [EN 301489-1 V 2.2.3:2019]:Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements; Harmonised Standard for Electromagnetic Compatibility.
- [EN IEC 61000-6-3:2021]:Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for equipment in residential environments.
- [EN IEC 61000-6-1:2019]:Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity standard for residential, commercial and light-industrial environments.
- [EN IEC 61851-21-2:2021]:Electric vehicle conductive charging system - Part 21-2: Electric vehicle requirements for conductive connection to an AC/DC supply - EMC requirements for off board electric vehicle charging systems.
- [EN 62479:2010]:Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz).
- [EN IEC 62311:2020]:Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz).

- [EN 300330 V 2.1.1:2017]:Short Range Devices (SRD);Radio equipment to be used in the 1 GHz to 40 GHz frequency range;Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU.
- [EN 300440 V 2.1.1:2017]:Short Range Devices (SRD);Radio equipment to be used in the 1 GHz to 40 GHz frequency range;Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU.
- [EN 301893 V 2.1.1:2017]:5 GHZ RLAN;Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU.
- [EN 300328 V 2.2.2:2019]:Electromagnetic compatibility and Radio spectrum Matters (ERM);Wideband transmission systems;Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques;Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive.
- [EN 301908-13 V 13.2.1:2022]:IMT cellular networks; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive Part 13: Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE).
- [EN 301908-2 V 13.1.1:2020]:Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS),Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks Part 3: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive.
- [EN 301908-1 V 15.2.1:2023]:IMT zellulare Netze -Harmonisierte EN, die die wesentlichen Anforderungen nach Artikel 3.2 der R&TTE-Richtlinie enthält -Teil 1: Einleitung und gemeinsame Anforderungen(Anerkennung der Englischen Fassung EN 301 908-1 V7.1.1(2015-03) ars Deutsche Norm).
- [EN 301511 V 12.5.1:2017]:Global System for Mobile communications (GSM);Harmonised Standard covering the essential requirements Mobile Stations (MS) equipment;of article 3.2 of Directive 2014/53/EU.
- [IEC 62477-1:2022]: Safety requirements for power electronic converter systems.
- [AS/NZS4777.2:2020+A1+A2]: Grid connection of energy systems via inverters Part 2: Inverter requirements

## Appendix 2

Category	Parts	Fault Code (Hexadecimal)	Fault Description
Charging control (0x01)	CPU	100001	MCU watchdog reset fault
		100002	Inter-processor communication fault
		100003	CPU core over-temperature fault
	Relay	100011	Output relay welding fault
		100012	Input relay welding fault
		100013	Input relay mistrip fault
		100014	Output relay mistrip fault
		100015	DC relay error
		100016	AC relay error
	Meter	100021	MID onboard meter communication error
		100022	MID onboard meter hardware failure
		100023	MID onboard meter data error
		100024	Grid meter communication failure
		100025	Grid meter data error
	NTC	100031	NTC data error
		100032	NTC overtemperature error
	connector	100040	Charging connector terminal temperature data error
		100041	Charging connector terminal over-temperature
		100042	Charging connector CP disconnected
	Insulating detection module	100051	Insulation self check fault
		100052	Insulation monitoring fault
		100053	Insulation monitoring module communication fault
	Power controller	100060	Power controller output voltage error
		100061	Power controller boost timeout
100062		Power controller discharge voltage fault	
100063		Power controller mismatch model	

Category	Parts	Fault Code (Hexadecimal)	Fault Description
Charging control (0x01)	System controller	100071	System power loss
		100072	SECC proxy communication timeout
		100073	Connector pin voltage absolute value > 60V
		100074	Incompatible charging parameters
		100075	Precharge timeout
		100076	Overvoltage between DC+/- and PE
		100077	Output overvoltage during charging process
		100078	Output undervoltage during charging process
		100079	Output overcurrent during charging process
		100080	Lid opening fault
	Other	100081	Fan fault
		100082	DOS attack
		100083	Grid under freq fault
		100084	Grid over freq fault
		100085	Grid abnormal volt fault
Power controller and proxy (0x02)	AC/DC	200001	Power controller A2D AC voltage DC component exceeds limit
		200002	Power controller A2D AC current DC component out of limit
		200003	Instantaneous overcurrent of power controller A2D AC
		200004	Power controller A2D AC RMS overcurrent
		200005	Power controller A2D AC hardware overcurrent positive
		200006	Power controller A2D AC hardware overcurrent negative
		200007	Power controller A2D grid current CBC protection
		200008	Power Controller A2D AC Current Imbalance
		200009	Power Controller A2D DC Bus Hardware Overvoltage
		20000A	Power Controller A2D Positive DC Bus Hardware Overvoltage
		20000B	Power Controller A2D Negative DC Bus Hardware Overvoltage

Category	Parts	Fault Code (Hexadecimal)	Fault Description
Power controller and proxy (0x02)	AC/DC	20000C	Power Controller A2D DC Bus Overvoltage
		20000D	Power Controller A2D DC Bus Undervoltage
		20000E	Power Controller A2D Positive Half Bus Overvoltage
		20000F	Power Controller A2D Negative Half Bus Overvoltage
		200010	Power Controller A2D Bus Neutral Offset
		200011	Power Controller A2D Grid Voltage Overvoltage Segment I
		200012	Power Controller A2D Grid Voltage Overvoltage Segment II
		200013	Power Controller A2D Grid Voltage Overvoltage Segment III
		200014	Power Controller A2D Grid Voltage Undervoltage Segment I
		200015	Power Controller A2D Grid Voltage Undervoltage Segment II
		200016	Power Controller A2D Grid Voltage Undervoltage Segment III
		200017	Power Controller A2D Grid Voltage 10-Minute Average Overvoltage
		200018	Power Controller A2D Grid Voltage Over Frequency Segment I
		200019	Power Controller A2D Grid Voltage Over Frequency Segment II
		20001A	Power Controller A2D Grid Voltage Over Frequency Segment III
		20001B	Power Controller A2D Grid Voltage Under Frequency Segment I
		20001C	Power Controller A2D Grid Voltage Under Frequency Segment II
		20001D	Power Controller A2D Grid Voltage Under Frequency Segment III
		20001E	Power Controller A2D High Ride-Through Fault
		20001F	Power Controller A2D Low Ride-Through Fault
		200020	Power Controller A2D Insufficient Grid Connection Conditions
		200021	Power Controller A2D Grid Voltage Imbalance
		200022	Power Controller A2D Grid Transient Overvoltage
		200023	Power Controller A2D AC Overload
		200024	Power Controller A2D PFC State Machine Self-Test Timeout
200025	Power Controller A2D Active Island Detection Fault		

Category	Parts	Fault Code (Hexadecimal)	Fault Description
Power controller and proxy (0x02)	AC/DC	200026	Power Controller A2D Passive Island Detection Fault
		200027	Power Controller A2D PFC Hardware Fault Summary
		200028	Power Controller A2D PFC Restart Count Exceeded
		200029	Power Controller A2D Italy Self-Test Failure
		20002A	Power Controller A2D AC Wiring Fault
		20002B	Power Controller A2D Idc zone 2 protection
	DC/DC	200031	Power controller D2D current CMPSS protection
		200032	Power controller D2D hardware protection summary
		200033	Power controller D2D overvoltage hardware protection
		200034	Power controller D2D lower bridge hardware overvoltage
		200035	Power controller D2D DC hardware overcurrent (positive)
		200036	Power controller D2D DC hardware overcurrent (negative)
		200037	Power controller D2D primary upper bridge hardware overcurrent
		200038	Power controller D2D primary lower bridge hardware overcurrent
		200039	Power controller D2D bus hardware overvoltage
		20003A	Power controller D2D DC undervoltage
		20003B	Power controller D2D DC short circuit
		20003C	Power controller D2D DC discharge fault
		20003D	Power controller D2D series-parallel relay fault
		20003E	Power controller D2D DC current imbalance
		20003F	Power controller D2D DC voltage imbalance
		200040	Power controller D2D bus undervoltage slow protection
		200041	Power controller D2D DC upper bridge overcurrent
		200042	Power controller D2D DC lower bridge overcurrent
		200043	Power controller D2D DC upper bridge overvoltage

Category	Parts	Fault Code (Hexadecimal)	Fault Description
Power controller and proxy (0x02)	DC/DC	200044	Power controller D2D DC lower bridge overvoltage
		200045	Power controller D2D bus overvoltage
		200046	Power controller D2D bus undervoltage
		200047	Power controller D2D DC total overvoltage
	SYS	200051	Power controller high temperature fault
		200052	Power controller low temperature fault
		200053	Power controller EEPROM fault
		200054	Power controller CAN communication fault
		200055	Power controller SPI communication fault
		200056	Power controller 12V fault
		200057	Power controller 1.5V fault
	Leakage module	200058	Power controller hardware version mismatch
		200061	Ground fault on the grid side
	Power controller agent	200062	Grid-side ground fault self-check failed
		200071	Unknown fault in power module
		200072	Power module communication fault
200073		Input grounding fault	
		200074	Battery reverse connection fault

Category	Parts	Fault Code (Hexadecimal)	Fault Description
SECC and its proxy (0x03)	SECC	300001	SECC SLAC error at startup, CP voltage error
		300002	SECC SLAC PARAM timeout
		300003	SECC SLAC connection check timeout
		300004	SLAC waiting for SDP timeout
		300005	SECC SLAC PLC Set Key Fault
		300006	SECC V2G SessionStop session terminated during service
		300007	SECC V2G SessionStop session paused during service
		300008	SECC V2G service out of order
		300009	SECC V2G SessionSetup old Session joined during service
		30000A	SECC V2G unknown service type
		30000B	SECC V2G ServiceServiceDetail or PaymentServiceSelection service incorrect service ID during service
		30000C	SECC V2G PaymentDetails incorrect payment method during service
		30000D	SECC V2G PaymentServiceSelection service not selected charging service during payment
		30000E	SECC V2G CertificateInstallation or CertificateUpdate service exceeds the specified number of ListOfRootCertificateIDs (20)
		30000F	SECC V2G PaymentServiceSelection service SelectedPaymentOption is Contract, but the connection method is not TLS
		300010	SECC V2G SupportAPP protocol matching failure during service
		300011	SECC V2G refused by DC wallbox during communication
		300012	SECC V2G ChargeParameterDiscovery service charge parameter exchange failed
		300013	SECC V2G Socket exception during communication
		300014	SECC V2G EXI protocol decoding error during communication
300015	SECC Session initialization error (failed to obtain EVCC connection IP and MAC or create Session memory)		
300016	SECC Session registration error (already registered or MAC does not match)		
300017	SLAC MAC SECC Session no matching DC wallbox with connection		
300018	SECC V2G Message version check error communication		

Category	Parts	Fault Code (Hexadecimal)	Fault Description
SECC and its proxy (0x03)	SECC	300019	SECC V2G Message Payload type error
		30001A	SECC V2G Message Payload length error
		30001B	SECC V2G SessionSetup service EVCCID format error
		30001C	SECC V2G communication EXI decoding failure
		30001D	SECC V2G communication session and current connection mismatch
		30001E	SECC V2G communication did not perform SupportAPP
		30001F	SECC V2G Message header error
		300020	SECC V2G PowerDelivery service requested renegotiation but did not start charging previously
		300021	SECC V2G incorrect CP voltage during communication
		300022	SECC V2G PowerDelivery or CurrentDemand service vehicle not ready
		300023	SECC V2G PowerDelivery or CurrentDemand service vehicle malfunction
		300024	SECC V2G PowerDelivery service requested power exceeds limit
		300025	SECC V2G PowerDelivery service illegal schedule
		300026	SECC V2G ChargeParameterDiscovery service incorrect energy method
		300027	SECC V2G Authorization service timeout
		300028	SECC V2G Message sequence timeout
		300029	SECC V2G WeldDetection service timeout
		30002A	SECC CP voltage low range error
		30002B	SECC CP voltage high range error
		30002C	SECC DC wallbox heartbeat timeout
		30002D	SECC Plugin event detected during charging, illogical
		30002E	SECC Plugout event detected during charging, illogical
		30002F	SECC BC charging CP voltage change from 6V to 9V, stop output
300030	SECC MAC address mismatches SLAC result		
300031	SECC BC charging SW disconnect		

Category	Parts	Fault Code (Hexadecimal)	Fault Description
SECC and its proxy (0x03)	SECC	300032	SECC HLC charging SW disconnect
		300033	SECC DC wallbox not ready during charging
		300034	SECC not enabled
		300100	SECC unknown fault
	SECC agent	300101	SECC module communication timeout



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## ABOUT US

Headquarter: No.39 Longhui Road, Wujin High-tech Zone, Changzhou, Jiangsu, China

China Office: Building 5, Innovation and Research Port, Changzhou, Jiangsu, China

Europe Office: Am Prime Parc 17, 65479 Raunheim, Germany

APAC Office: 1 Harbourfront Pl #04-09, Singapore 098633

