Technical Manual

Artemis 7/11kW Charging System

Star Charge

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Contents

1 Introduction 5
1.1 Function of this document 5
1.2 Target user 5
1.3 Version and revision history 5
1.4 Disclaimer 6
1.5 Copyright 6
1.6 Warranty 7
1.7 Supplier 7
1.7.1 Europe 7
1.7.2 APAC 7
1.7.3 Americas 8
2 Safety 9
2.1 General safety 9
2.2 Safety symbols 10
2.3 Engineer requirements 11
2.3.1 Normal requirements 11
2.3.2 Responsibility requirements 11
2.3.3 Skill requirements 12
2.4 Safety guidelines for engineers 12
2.4.1 For installation engineers 12
2.4.2 For commissioning and maintenance engineers 13
2.5 Fire safety guidelines for construction sites 11
2.6 Fire emergency response plans 11
2.6.1 Initiation of the plan 11
2.6.2 Contingency procedures 11
2.6.3 Concluding fire emergency response 12
2.7 Disposal 12
3 Product overview 13
3.1 Nameplate 13
3.2 External view 14
3.2.1 Wall-mounted EVSE 14
3.2.2 Pole-mounted EVSE 15
3.3 Technical specifications 16
3.3.1 Product model 16
3.3.2 Mains supply parameters 16
3.3.3 Output of the EVSE 17
3.3.4 Protection features and integrated components for safety 17
3.3.5 Charging and access 18
3.3.6 Operating conditions 18
3.3.7 Mechanical parameters 18
3.3.8 Network communications 19
3.3.9 Output power adjustment 21
3.3.10 Compliance and standard adhered to 21
3.4 Charging connector type 22
3.5 Status of the LED indicator 22
3.6 Emergency button (optional) 23
4 Installation 24
4.1 Safety notice 24
4.1.1 General rules of safety 24
4.1.2 Electrical safety 24
4.1.3 Requirements for installation personnel 25

4.1.4 Safety protection measures 25
4.2 Preparation for installation 26
4.2.1 Installation tools 26
4.2.2 Installation environment 27
4.2.3 Concrete foundation (if necessary) 28
4.2.4 Spacing requirements 30
4.2.5 Power supply requirements 31
4.3 Installation procedure 33
4.3.1 Unpacking list 33
4.3.2 Unpacking inspection 33
4.3.3 Wall mounting 34
4.3.4 Pole mounting 40
4.4 Check after installation 43
4.4.1 Clean up 43
4.4.2 Inspection 43
5 Commissioning 44
5.1 Pre-power on checks 44
5.2 Power on and startup 44
5.3 Network connection method 44
5.4 Login into web configuration 45
5.4.1 Ethernet (A laptop with a network port and an Ethernet cable needed) 45
5.4.2 Wi-Fi AP (need a laptop with Wi-Fi) 46
5.5 System status 47
5.5.1 Common 47
5.6 System configuration 49
5.6.1 Basic configuration 49
5.6.2 Network configuration 54
5.6.3 Certificate configuration 62
5.6.4 Charging configuration 65
5.6.5 Power configuration 71
5.6.6 Bluetooth configuration 72
5.6.7 Upload & Download 73
5.6.8 User management 79
5.7 Other notes 80
5.7.1 About login 80
5.7.2 System log notification 80
5.7.4 Language settings 81
5.7.5 Logout page 81
5.8 Customer Training 82
5.9 Appendix 83
Appendix 1 Customer Training Record Sheet 83
Appendix 2 Commissioning Report 84
6 Maintenance 91
6.1 Engineer qualifications 91
6.2 Preventive maintenance 91
6.2.1 Appearance check 91
6.2.2 Internal check 92
6.2.3 Function check 93
6.2.4 Cleaning 93
7 Troubleshooting 94

Abbreviations

AC	Alternating Current
CMS	Cable Management System
DC	Direct Current
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
LED	Light Emitting Diode
MCB	Miniature Circuit Breaker
MCCB	Molded Case Circuit Breaker
OCPP	Open Charge Point Protocol
RCBO	Residual Current Circuit Breaker with Overcurrent Protection Device
RFID	Radio Frequency Identification
SECC	Supply Equipment Communication Controller

1 Introduction

1.1 Function of this document

Star charge equipment is intended exclusively for charging Electric Vehicles (EV) in both indoor and outdoor areas. To ensure proper usage of the charging station (hereinafter can be referred to as Electric Vehicle Supply Equipment/EVSE or the Charger), the instructions in this manual must always be complied with. Installation, commissioning, and maintenance of this equipment shall only be performed by qualified personnel (Star charge certified partner).

1.2 Target user

This manual is for:

- **EVSE owners**: These are people who own and operate the EVSE for commercial or business purposes, or who may allow others to use it. EVSE owners are legally responsible for protecting users, other employees, and third parties while the EVSE is in operation.
- **Qualified engineers**: These are people who are fully familiar with the EVSE and are responsible for installing, operating, commissioning, and maintaining it. Qualified engineers should have knowledge of electrical safety, understand the principles and performance of EVSEs, and follow all local rules and instructions in this manual.

1.3 Version and revision history

The version of this document is V1.0.0 and the revision history is as follows.

Version	Date	Description
V 1.0.0	28th May 2024	Initial version

Table 1-1 Version of the technical manual

1.4 Disclaimer

- This document has been subject to rigorous technical review before being published. It will subsequently be revised at regular intervals.
- The information in this manual is for informational purposes only.
- This manual, related manuals, and warnings do not replace your responsibility to use common sense when working with the EVSE.
- Although Star charge has put its best efforts to keep the document as precise and up-to-date, Star charge shall not assume any liability for defects and damage that may come from using the information.
- In no event will Star charge be liable for direct, indirect, special, or consequential damages (including loss of profits) resulting from any errors or omissions in this manual. All of Star Charge's obligations are stated in the relevant contracts. Star charge reserves the right to revise this document from time to time.
- Any changes to the EVSE, including but not limited to user-specific modifications to the EVSE (such as placing stickers, SIM cards, or using different colors), hereinafter referred to as "Customization", may affect the final product's user experience, appearance, quality, and/or lifespan.
- Star Charge is not responsible for any damage to or caused by the product "Customization" and is not responsible for any damages, losses, costs, or expenses resulting from the improper handling of the product.

1.5 Copyright

All rights reserved. The disclosure, duplication, distribution and editing of this document, or utilization and communication of the content are not permitted, unless authorized in writing. All rights, including rights created by patent grant or registration of a utility model or a design, are reserved.

1.6 Warranty

The warranty period is defined in your warranty policy. If you have purchased extended warranty, the warranty period is defined in your purchase agreement.

The warranty only covers the product and its parts delivered by Star Charge. 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 Star Charge, will void the warranty.

- When you replace parts under warranty, keep the old parts until you know that Star Charge does not need them for inspection.
- Installation, operation, commissioning, and maintenance tasks should only be done by the people described in section 1.2. If someone who is not authorized to do these tasks does them, the warranty may be void.

1.7 Supplier

1.7.1 Europe

Star Charge Europe GmbH

Am Prime Parc 17, 3.OG, Raunheim 65479, Germany

Customer service hotline: +44 20 7096 1752

Customer service E-mail: Service.europe@Star charge.com

Homepage: www.Star charge.com

1.7.2 APAC

Star charge Energy Pte., Ltd.

1 Harbourfront Pl, 04-09; Singapore 098633

Customer servicehotline: +60 15 4600 0603

Global customer service E-mail: service.global@starcharge.com

Homepage: www.starcharge.com

1.7.3 Americas

Star Charge Americas Corp.

46571 Fremont Blvd, Fremont, California 94538

Customer service hotline:

- For North America: +001 917 242 3088
- For South America: +0055 21 2018 6947

Global customer service E-mail: service.global@starcharge.com

Homepage: www.starcharge.com

2 Safety

2.1 General safety

Before charging your EV, please read the safety rules and usage instructions in this chapter as failure to do so may result in safety hazards or device failure.

During the installation and connection of the Charger, it is imperative to comply with the legal acts or regulations set forth by the respective country.

- Only qualified electricians (Star Charge certified partners) should install, operate, commission, and maintain the EVSE.
- All installation and wiring must be done when the AC cables are not energized. This means that the EVSE cannot be turned on during this process. This helps to prevent electrical accidents, short circuits, and electric shock hazards. It makes sure that the system is not turned on during risky procedures, which reduces the chance of fires during installation or maintenance.
- Do not use the EVSE:
  - Near explosives or flammable substances.
  - In or near water.
  - If it is visibly damaged.
- Do not clean the EVSE with running water or a pressure washer.
- Do not change or modify the EVSE unless Star Charge has approved it.
- Do not wrap the cables around the EVSE while charging.
- Do not put the connector on the ground. Put it in its socket after charging.
- Only do things that are described in this manual or the related manual, and that you are qualified to do.
- Follow the safety rules and accident prevention rules for the EVSE and the area where it is used.
- Make sure the EVSE is used in the environmental conditions that are specified for it. For more information about environmental conditions, refer to section 3.3.6.
- When handling electrical connections, always follow safety protocols, wear the necessary personal protective equipment (PPE), and use insulated tools.
- Follow the local rules and the instructions in this manual. If any requirements in this manual are not the same as the local rules, follow the local rules or the stricter of the two, as allowed by law.

2.2 Safety symbols

Symbols	Meanings
	Electric hazard: This symbol indicates that there is a danger of electric shock. Failure to pay attention to the procedures, practices or improper implementation may cause injuries or death. Only perform operations with this symbol if you fully understand and meet all of the requirements.
	Caution: This symbol indicates that there is a hazard that could damage the product. Only perform operations with this symbol if you fully understand and meet all of the requirements.
	Tips: This symbol indicates that the information is helpful or provides useful advice. It does not contain any information about danger or harm.
	Garbage disposal: This symbol indicates that the electrical and electronic equipment and their accessories should be disposed of separately from household waste. They can be reused, recycled, or disposed of in a safe and environmentally friendly way.
	Grounding: This symbol indicates ground protection. Once the ground fails or there is no grounding, the EVSE will report fault and stop charging.

Table 2-1 Safety symbols

2.3 Engineer requirements

2.3.1 Normal requirements

Engineers responsible for installation, operation, commissioning, and maintenance should:

- Be trained in safety and job skills, and pass the corresponding assessment.
- Follow the local rules and the instructions in this manual. If any requirements in this manual are different from the local rules, follow the local rules or the stricter of the two, as allowed by law.
- Learn the electrical safety requirements and how to do first aid and emergency treatment for electric shock.
    - If there is a safety accident, immediately start the emergency plan and report it to the relevant person in charge. Also, provide first aid and emergency treatment according to the plan, control the spread of the accident, and rescue people and property.
    - If there is an electric shock, immediately cut off the power and rescue the person using the emergency rescue method. At the same time, call for professional help, report to the relevant person in charge, and make a record.
- Strictly follow the operating procedures and job specifications when working to ensure safety and stability.
- Wear a uniform, work permit, insulated shoes and gloves, a safety helmet, and other protective gear if necessary.
- Be responsible for their work and fulfill their service commitments to the best of their abilities.
- Communicate with customers in a professional and courteous manner, using clear and concise language.

2.3.2 Responsibility requirements

Engineers responsible for EVSE installation, operation, commissioning, and maintenance are accountable for:

- Making sure the EVSE is safe to use
- Improving the EVSE’s safety system
- Regularly checking the EVSE for safety issues
- Monitoring and reporting on the EVSE's safety status

2.3.3 Skill requirements

Engineers responsible for EVSE installation, operation, commissioning, and maintenance should:

- Understand how EVs and EVSEs work, how to troubleshoot common problems, how to maintain EVSEs, how to handle emergencies, and safety knowledge.
- Be familiar with the relevant national safety production rules and regulations, and know about charging safety and emergency treatment methods.

2.4 Safety guidelines for engineers

2.4.1 For installation engineers

- **Safety:**
  - Follow the safety rules of the construction site.
  - Wear a safety helmet, fasten the chin strap, and make sure it is in good condition.
  - Do not wear unsafe clothing, such as loose clothes or slippers.
  - Do not go to work inebriated.
- **Working at heights:**
  - Wear a safety helmet, fasten your safety belt, and wear non-slip shoes.
  - Tie up your work tools.
  - Be careful when entering areas such as foundation pits, roofs, and openings. This is to prevent falling from a height.
- **Protective measures:**
  - If there is heavy dust on the construction site or painting work is being done, wear a protective mask.
  - Do not enter dangerous areas, such as hoisting areas or the places under the position of vertical operation.
  - Do not strike objects.
  - Stay away from mechanical equipment and electrical circuits to prevent accidents.
- **When using portable power tools:**
  - Make sure you know how to use the tool safely.
  - Wear insulated shoes and gloves.
  - Make sure the metal shell is grounded or connected to the neutral line.
- **Temporary electricity:**
  - Replace damaged electrical components immediately.
  - Temporary wires must be made of rubber cables, not plastic flexible cords.
  - Do not plug temporary wires directly into sockets.
  - Do not use temporary electrical components when they are live.

- **Ground conditions:**
  - Be careful of ground conditions with iron nails and steel bars.
  - This is to prevent injuries such as piercing, touching, hanging, and falling.
- **Site maintenance:**
  - Do not dismantle construction site protection facilities, safety signs, and warning signs without permission.
  - Maintain construction equipment in good condition.
  - This is to prevent malfunctions or overload operation.
- **EVSE usage:** Keep the door of the EVSE closed after installing it to prevent it from getting wet in the rain.

2.4.2 For commissioning and maintenance engineers

- **Safety:**
  - Follow the safety management rules of the construction site.
  - Wear a safety helmet and fasten the chin strap.
  - Do not wear unsafe clothing, such as loose clothes or slippers.
  - Do not go to work after drinking or smoking.
- **Electrical safety knowledge:**
  - Know about electrical safety and how EVSEs work.
  - Know how to do first aid and emergency treatment for electric shock. This will help you to identify and deal with potential emergencies before commissioning the EVSE.
- **Preparation before work:**
  - Before commissioning the EVSE, confirm the upper power supply point, power supply lines, and whether there is a safety emergency plan on site.
  - Make sure there are at least two carbon dioxide fire extinguishers on site.
- **Protective measures:**
  - Assume that all electrical equipment and lines are live and do not touch them before checking the power. If you need to touch them, turn off the power and check them again. Put a "No closing, someone is working" sign on the power switch handle or take other measures to prevent false closing.
  - If possible, turn off the power before working. If you need to work with the power on, have someone monitor you. The person must meet the professional requirements and must not do anything else while monitoring you.
  - When working on live equipment, first identify the L, N, and PE lines and choose a safe working position. When working, do not touch the conductive part and the zero (ground) part at the same time.

- Do not change the original wiring and structure of the EVSE without permission and approval.
- After the work is completed, restore the components to their original state, check the tools to prevent omissions, and clean and organize the site.

- **In case of a safety accident:**
  - Immediately turn off the power at the upper power supply point and start the safety emergency plan.
  - Report to the relevant person in charge immediately as required.
  - Conduct on-site emergency treatment in accordance with the emergency plan for the first time.
  - Control the spread and expansion of the accident, and rescue personnel and property.
  - If there is an electric shock, immediately cut off the upper power and perform rescue according to the emergency rescue method.
  - At the same time, make emergency calls for professional help and report to the superior leader.
  - Make a record.

- Only Star Charge's personnel or people who have been authorized, certified, and trained by Star Charge or other qualified personnel can commission AC EVSEs. Star Charge will not be responsible for any losses caused by third-party personnel commissioning EVSEs without Star Charge's authorization.
- Commissioning must be done carefully according to the procedures. If any operation cannot be completed, it must be stopped until the cause is found and fixed. Commissioning cannot be done in severe weather conditions such as rain, snow, or sandstorms.

2.5 Fire safety guidelines for construction sites

- **Flammable and explosive materials**:
  - Do not store flammable and explosive materials on the construction site.
  - Set up proper storage areas for these materials to prevent accidents.
- **Fire extinguishers**: The construction site must have at least two fire extinguishers, such as carbon dioxide fire extinguishers, to respond to any possible fire hazard.
- **Placement of fire extinguishers**:
  - Place fire extinguishers in a location that is easy to see and access.
  - Make sure they do not block any evacuation routes.
  - This ensures that they can be quickly and safely accessed in an emergency.

2.6 Fire emergency response plans

2.6.1 Initiation of the plan

If a fire happens, tell the emergency command leading group right away. Everyone must follow the orders of the emergency response team to help rescue people and clean up the damage.

2.6.2 Contingency procedures

- **If you see a fire accident:**
  - Stop charging immediately. If the fire is in the charging station, stop the charging process to prevent the fire from getting worse.
  - Call the fire department. Call the fire department right away and tell them where the fire is.
  - Evacuate safely. Get away from the fire quickly and stay away from it.
  - Use a fire extinguisher (if possible). If the fire is small, you can use a fire extinguisher to put it out. But make sure you use the right type of fire extinguisher.
- **If there is a fire:**
  - Tell your supervisor right away.
  - If the fire is small and you can control it, use a fire extinguisher to put it out. While you are doing this, tell people at all levels about the fire.
  - Have at least two people fight the fire. Stand upwind, crosswind, or in a safe position.
  - If you cannot control the fire, have everyone in the area evacuate immediately.
  - If the fire gets bigger, the person in charge must evacuate everyone immediately.
  - Tell employees in the affected area to go to the assembly point along the designated route. Follow the instructions of the person in charge of the company.
  - The emergency response team (ERT) will organize rescue efforts according to the fire.

- If you cannot control the fire, report it to the government department in time for support. Cooperate with the fire brigade for rescue efforts.
- Collect information about what happened before the fire, what the monitoring system showed, and what witnesses saw. This will help you to understand what caused the accident. You will need to share this information with the owner and the site.
- Give the local fire department the information they need to investigate the cause of the fire.
- If the company did not cause the losses, the local branch will claim compensation from the relevant parties. The company's EHS and risk control center will provide support and cooperation.

2.6.3 Concluding fire emergency response

When the emergency crews have finished their work, the people in charge of emergencies will announce that the disaster is over and the emergency is lifted. Then, everyone can go back to their normal work.

2.7 Disposal

In accordance with the European Directive 2012/19/EU, Waste Electrical and Electronic Equipment (WEEE) and its implementation in national law, the electrical devices including chargepoints which are used must be collected separately and recycled in an environmentally responsible manner. We recommend that you return your used device to your dealer or obtain information regarding a local, authorized collection and disposal system. Failure to comply with this EU Directive may result in a negative impact on the environment.

3 Product overview

3.1 Nameplate

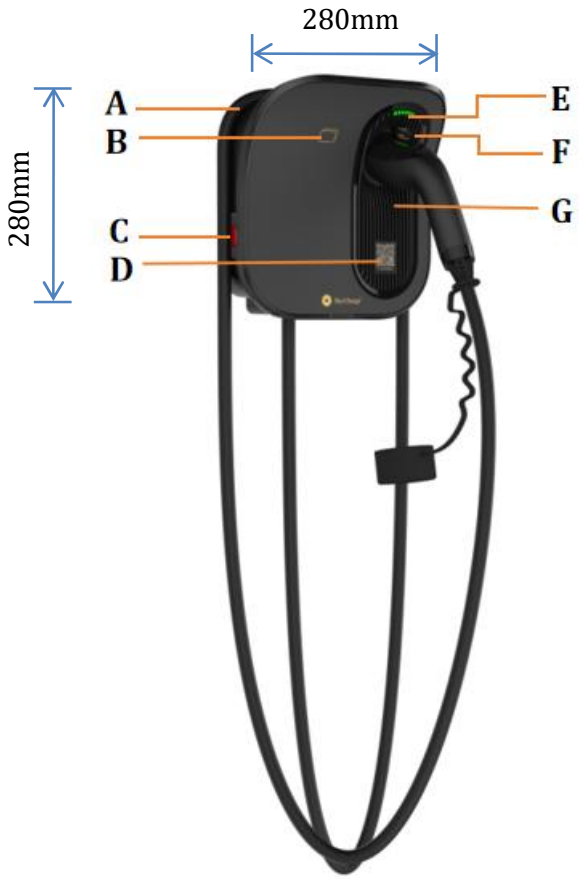
Artemis 7kW

Artemis 11kW

Figure 3-1 Nameplates

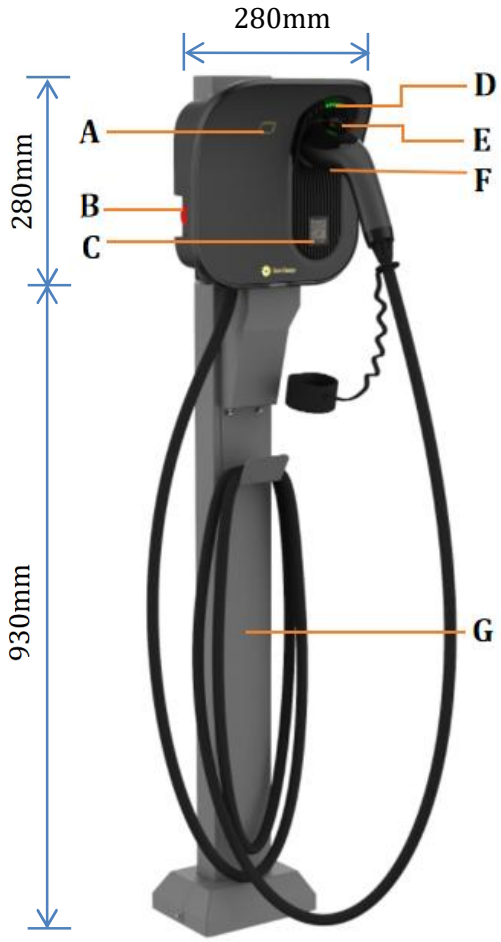
3.2 External view

3.2.1 Wall-mounted EVSE



A	Cable winding groove
B	RFID reader
C	Emergency button (optional)
D	QR code
E	LED status indicator
F	Charging connector unlocking button
G	Charging connector holder

3.2.2 Pole-mounted EVSE



A	RFID reader
B	Emergency button (optional)
C	QR code
D	LED status indicator
E	Charging connector unlocking button
F	Charging connector holder
G	Mounting pole

3.3 Technical specifications

3.3.1 Product model

Power	Model	Name
7kW	AC0070EN025XX	Artemis 7kW
11kW	AC0110EN025XX	Artemis 11kW

3.3.2 Mains supply parameters

Recommended cable diameter	**7kW**: Copper wire cable, with a wire gauge of 6mm^2. **11kW**: Copper wire cable, with a wire gauge of 2.5mm^2.
Input voltage	230/400Vac(±10%)
Limits of input power	**7kW**: Single-phase input: with the maximum value of 32A **11kW**: Three-phase input: with the maximum value of 16A per phase
Frequency	50/60Hz
Grounding	TN system TT system IT system(230Vac)
Main MCB	**7kW**: 40A **11kW**: 20A
Stand-by Consumption	Less than 4W

3.3.3 Output of the EVSE

Vehicle connection	Type 2 connector, which meets the standard IEC62196-2
Output voltage	230/400Vac(±10%)
Maximum output power	**7kW**: Single-phase output: with the maximum value of 32A **11kW**: Three-phase output: with the maximum value of 16A per phase

3.3.4 Protection features and integrated components for safety

Residual current protection	DC leakage current detection: 6mA (has complied with IEC 62955 certification)
Energy meter	Accuracy: 1% Class B (MID only)
Power switch relay	Integrated in the hardware circuit when powered on or off
Over-current protection	• The current reaches 110%-125% of the rated current, and the circuit is disconnected for 5 seconds • Disconnect the circuit as soon as the current is greater than 125% of the rated current
Over/Under-voltage protection	Over-voltage protection: 276Vac Under-voltage protection: 161Vac

3.3.5 Charging and access

Controllers	Mode 3
Status indication	LED status indicator
Card reader	• ISO/IEC 14443A • ISO/IEC 15693
Network communication	4G/ Wi-Fi/Ethernet
Communication protocol	OCPP 1.6(JSON)

3.3.6 Operating conditions

Operating temperature	-30℃~ +50℃
Relative humidity	5%~95% (No condensation)
Altitude	≤3000 m
Electrical safety class	I
Overvoltage Category	OVC III
Protection rating	IP65

3.3.7 Mechanical parameters

Dimensions (H x W x D)	280 mm×280 mm×148 mm
Weight	About 4 kg

3.3.8 Network communications

4G module

ME3630		
GSM900	880~915 MHz	925~960 MHz
DCS1800	1710~1785 MHz	1805~1880 MHz
WCDMA B1	1920~1980 MHz	2110~2170 MHz
WCDMA B8	880~915 MHz	925~960 MHz
LTE Band 1	1920~1980 MHz	2110~2170 MHz
LTE Band 3	1710~1785 MHz	1805~1880 MHz
LTE Band 7	2500~2570 MHz	2620~2690 MHz
LTE Band 8	880~915 MHz	925~960 MHz
LTE Band 20	832~862 MHz	791~821 MHz
LTE Band 28	703~748 MHz	758~803 MHz
LTE Band 40	2300~2400 MHz	2300~2400 MHz

Wi-Fi module

Standard	2.4G: IEEE802.11 b/g/n radio
Frequency	2.4GHz
Transmit power	12-18dBm
Profiles	Wi-Fi-AP (access point) Wi-Fi-STA

Bluetooth module

Standard	BT 5.3
Frequency range	2402~2480MHz

3.3.9 Output power adjustment

Support output power adjustable (Maximum output current set by rotary switch, single-phase 6A-32A, three-phase 6-16A).

Rotary switch / Power rate	0	1	2	3	4	5	6	7	8	9
7kW	32	6	8	10	13	16	20	25	32	32
11kW	16	6	8	10	13	16	16	16	16	16

3.3.10 Compliance and standard adhered to

The Artemis EVSE has passed the CE certification and meets the requirements of RED Directive 2014/53/EU and Low Voltage Directive 2014/35/EU and the following standards:

IEC 61851-1:2019

IEC 61851-21-2:2018

EN 300 328 V2.2.2

EN 300 330 V2.1.1

EN 301 908-1 V13.1.1

EN 301 908-2 V13.1.1

EN 301 908-13 V13.1.1

EN 301 511 V12.5.1

EN 301 489-1 V2.2.3

EN 301 489-3 V2.1.1

EN 301 489-17 V3.2.4

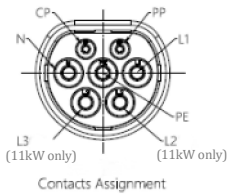
EN 301 489-52 V1.1.0

EN 50665:2017

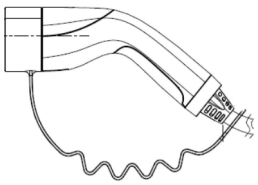
EN 62311:2008

IEC 62955:2018

3.4 Charging connector type



Contacts Assignment



Star Charge can deliver EVSE with Type 2 connectors on the charging cables.

The length of the charging cable outside of this EVSE is 5 m.

3.5 Status of the LED indicator

Lighting effect		Meaning
	Steady white	Starting up
	Yellow flashing	The backend not connected
	Green flashing 1 time per 5s	EVSE in standby
	Green flashing 4 times per 1s	Firmware upgrading
	Steady blue	Charging connector connected
	Blue flashing 8 times per 1s	RFID authentication
	Blue breathing	Charging
	Blue flashing 2 times per 1s	The EV/EVSE charging suspended
	Steady red/flashing	Fault

Table 3-1 Status of the LED indicator

Note: Please contact the dealer and service team for help if the indicator is red or flashing.

3.6 Emergency button (optional)

In the event of an emergency, the user should press the emergency button immediately to cut off power output. Upon activation, the LED indicator will turn red.

Please note that the EVSE cannot be remotely reset if the emergency button is pressed, contact our customer service center to solve any problem. The professional should reset the emergency button once the problem is solved.

If the emergency button is not available, please power off the EVSE in case of emergency.

4 Installation

4.1 Safety notice

4.1.1 General rules of safety

- The installation shall be done by qualified or licensed personnel based on safety and usage instructions (refer to Chapter 2).
- The installer must always ensure that the installation of the EVSE complies with local regulations.

4.1.2 Electrical safety

- Installation, maintenance, and repair of this product must be performed by a supplier-approved installer or electrician.
- Improper installation or maintenance can be dangerous.
- All installation and maintenance work must be done with the power off.
- Do not attempt to repair the EVSE yourself. No user-serviceable parts inside.
- Do not install the EVSE in explosive environments, areas with high electromagnetic radiation, or flood-prone areas.
- Before installation, disconnect the main power supply.
- Do not use adapters, converter adapters, or cable extension kits.
- The EVSE's power cable must be connected directly to a dedicated Type A RCBO or MCB+ Type A RCD in the distribution box. The RCBO/RCD capacity should match the charging cable size.
- When installing underground cables for public EVSE networks, take care to avoid damaging existing underground utilities.
- Always consult the electricity transmission licensee before any excavation work (for structures, cables, grounding systems, etc.) to prevent damage to their underground cables.

4.1.3 Requirements for installation personnel

Only authorized technicians can install and maintain the product. These technicians must:

- Understand and follow the safety instructions and product installation sections in this Manual.
- Understand and abide by governing local, national and international laws and regulations.
- Be able to identify potential hazards of the product and take necessary measures to protect personal and property safety.
- Be an EVSE owner or operator who has been trained, certified, and possesses sufficient knowledge of the relevant standards and requirements for safe EVSE operation.

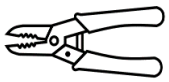
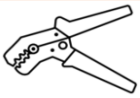
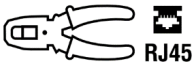
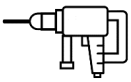
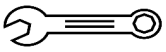
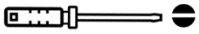
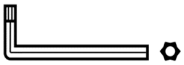
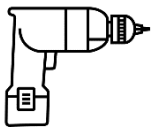
4.1.4 Safety protection measures

Personal Protective Equipment (PPE) is mandatory for installation work:

- insulation gloves are required when installing wires and electrical components to prevent shock from electrostatic discharge.
- Wear anti-static safety shoes (Level S3) for proper grounding and to prevent static discharge.
- Goggles must be worn while drilling to protect your eyes from dust and debris.
- Safety earmuffs are necessary to protect your hearing from drilling noise.

4.2 Preparation for installation

4.2.1 Installation tools

No.	Tool type	Name	Purpose	Picture
1	Power cable preparation	Electrician knife	Stripping of insulating layers	
2		Wire stripping pliers	Stripping of insulating layers	
3		Crimping pliers	Crimping of pin terminals	
4		Crimping pliers	Crimping of ring terminals	
5	Preparation	RJ45 Network crimping pliers	Crimping the RJ45 connector	
6	Installation tool	Percussion drill	Drilling	
7		Combination wrench (full set)	Installing or removing nuts	
8		Screwdriver (PH2)		
9		Screwdriver (SL2)		
10		Torx screwdriver (full set)		
11		Electric torque screwdriver (with full set of PH screw bit, Torx screw bit and SL screw bit)		
12		Hammer	Knocking	
13	Measurement tool	Spirit level	Horizontal measurement	
14		Tape measure	Distance measurement	
15	Marking tools	Maker pen	Position making	

Notice: The above tools shall be selected based on the actual situations on site.

4.2.2 Installation environment

Warning: Do not perform the installation outdoor on rainy days.

Operating temperature	-30℃~ +50℃
Relative humidity	5%~95% (No condensation)
Altitude	≤3000m
Dust level	≤1mg/m^3
Corrosive substance	No pollutants, such as acid, smoke, etc.
Vibration	≤1.5mm/s^2
Fire prevention	No flammable substances on the top and bottom of cabinet

4.2.3 Concrete foundation (if necessary)

In the absence of a suitable existing mounting location, constructing a concrete foundation is recommended. The concrete foundation must be poured before the installation.

- Standard dimensions: 400 mm x 400 mm x 500 mm (depth: 500 mm)
- Adjustable size based on customer requirements and site conditions.

Refer to Figure 4-1 for the top view and Figure 4-2 for the three-view construction drawing.

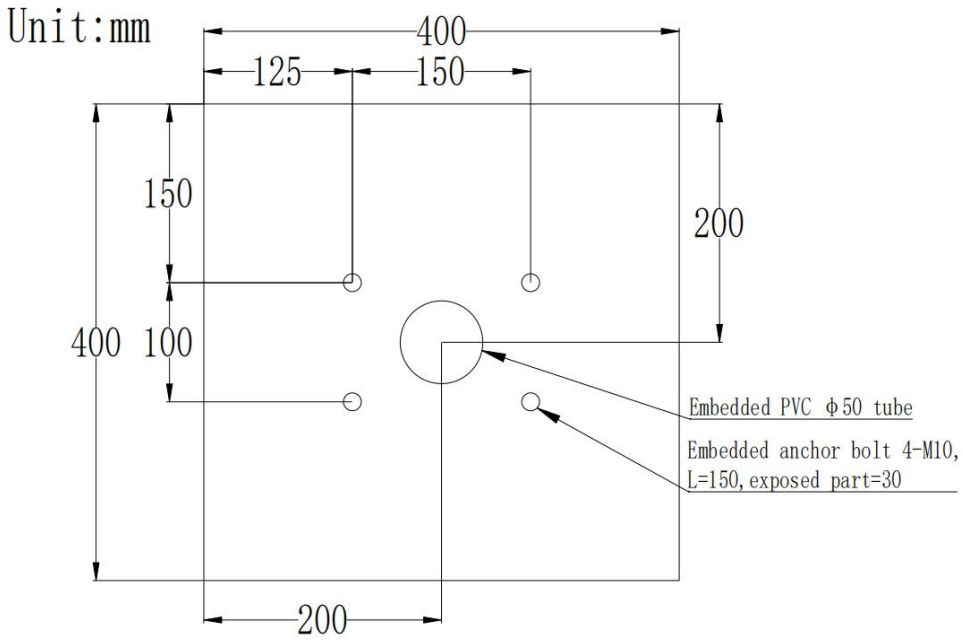


Figure 4-1 Top-view drawing of concrete foundation

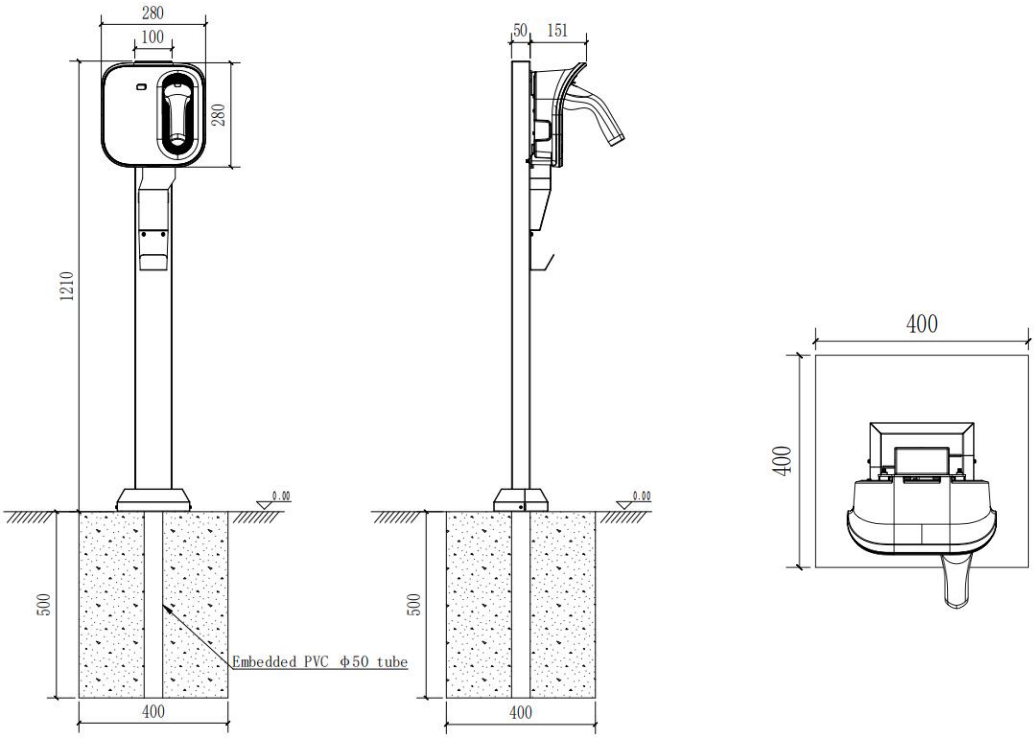


Figure 4-2 The three-view drawing of construction

Concrete foundation inspection:

- Levelness: Ensure proper leveling during concrete pouring.
- Height: The foundation should be installed higher than ground level, with appropriate space reserved for maintenance based on site conditions.
- Concrete mix: The foundation must be filled with C20 concrete.
- Cable hole: Reserve an opening in the foundation for cable access.
- Level check: After pouring, use a spirit level to verify the foundation's levelness.
- Embedded anchors: As per the installation drawing, four M10 screws should be pre-embedded in the concrete with 30-40mm exposed on the top surface.

4.2.4 Spacing requirements

Maintain sufficient clearance around the EVSE for future maintenance. Refer to Figures 4-3 and 4-4 for the required clearances when installing the EVSE near a wall or obstacle.

Unit: mm

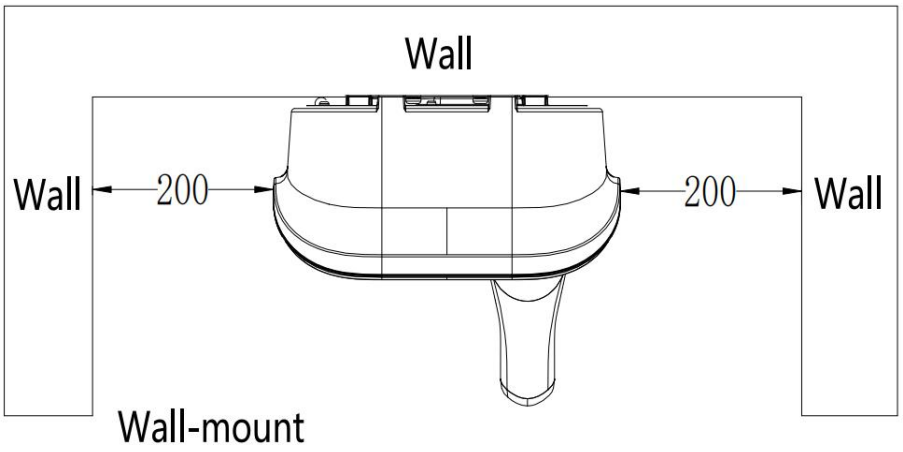


Figure 4-3 Wall mounting maintenance distance diagram

Unit: mm

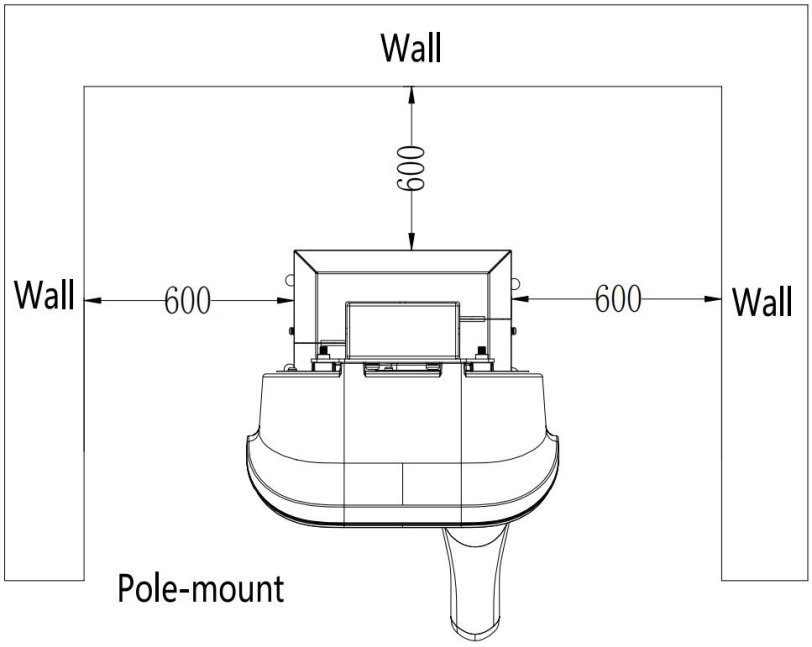


Figure 4-4 Pole mounting maintenance distance diagram

4.2.5 Power supply requirements

4.2.5.1 Power requirements

- Input voltage: 230/400VAC (±10%)
- Operating frequency: 50/60Hz
- Cable recommendations (Copper Core):
  - 7kW: 3 x 6mm^2
  - 11kW: 5 x 2.5mm^2
- Wall mount cable: Use a flexible wire crimped to the terminal.
- Recommended circuit protection:
  - 11kW: Type A RCBO or MCB + Type A RCD, Ue=400V, In=20A, 4P
  - 7kW: Type A RCBO or MCB + Type A RCD, Ue=230V, In=40A, 2P

4.2.5.2 Grounding system compatibility

TN / TT / IT (230VAC) systems

4.2.5.3 Electrical system diagram

Refer to the provided diagram for details on the 7kW electrical system configuration.

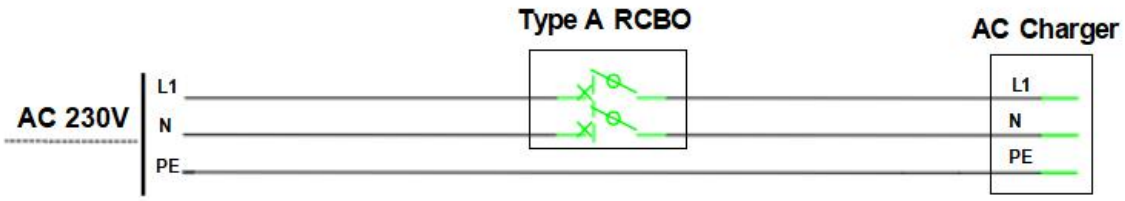


Figure 4-5(1) 7kW electrical system

Refer to the provided diagram for details on the 11kW electrical system configuration.

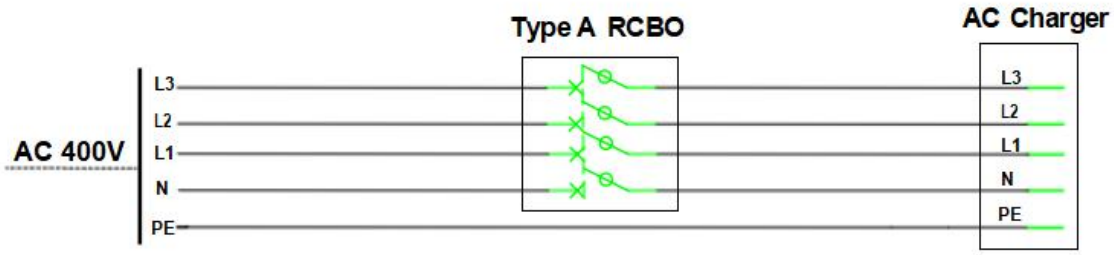


Figure 4-5(2) 11kW electrical system

4.2.5.4 List of cables

- Inlet power cable (7kW):
  - Use a 3 x 6mm^2 copper core cable (outer diameter 13-18mm).
  - For wall-mounted EVSEs, a flexible cable is recommended.
  - If using a 6mm^2 flexible cable, a KST E6012 pin-type terminal (or equivalent) is recommended for connection.

Note: The cable core cross section should be not less than 6mm^2.

- Inlet power cable (11kW):
  - Use a 5 x 2.5mm^2 copper core cable (outer diameter 15-22mm).
  - For wall-mounted EVSEs, a flexible cable is recommended.
  - If using a 2.5mm^2 flexible cable, a KST E2512 pin-type terminal (or equivalent) is recommended for connection.

Note: The cable core cross section should be not less than 6mm^2.

- Network cable (CAT5):
  - Required only for Ethernet communication.

4.3 Installation procedure

4.3.1 Unpacking list

Device	Quantity	Accessories
EVSE	1	Positioning cardboard x 1 M6 x 50 self-tapping screw x 5 (1 for standby) Φ8 x 40 plastic expansion tube x 5 (1 for standby)
RFID card (only for RFID version)	2	N/A
Cover key	1	N/A
Attached document	1	Certificate x 1
Pole (optional)	1	Pedestal x 1 M6x16 Cross screw x 7 (1 for standby) M4x12 Torx screw x 3 (1 for standby) M3x10 Torx screw x 3 (1 for standby) M10x120 Expansion screw x 4 Mounting Accessory 1 x 1 Mounting Accessory 2 x 1 Cable cover x 1 Trim cover x 2

4.3.2 Unpacking inspection

Upon unpacking, inspect the following:

- Verify the packing list quantity matches the actual number of equipment pieces.
- Check the equipment nameplate for accurate information.
- Ensure all accompanying documents are present.
- Confirm all accessories are included.
- Inspect the equipment for any signs of damage, such as dents, bumps, or stains.

4.3.3 Wall mounting

The general assembly drawing is shown in Figure 4-6.

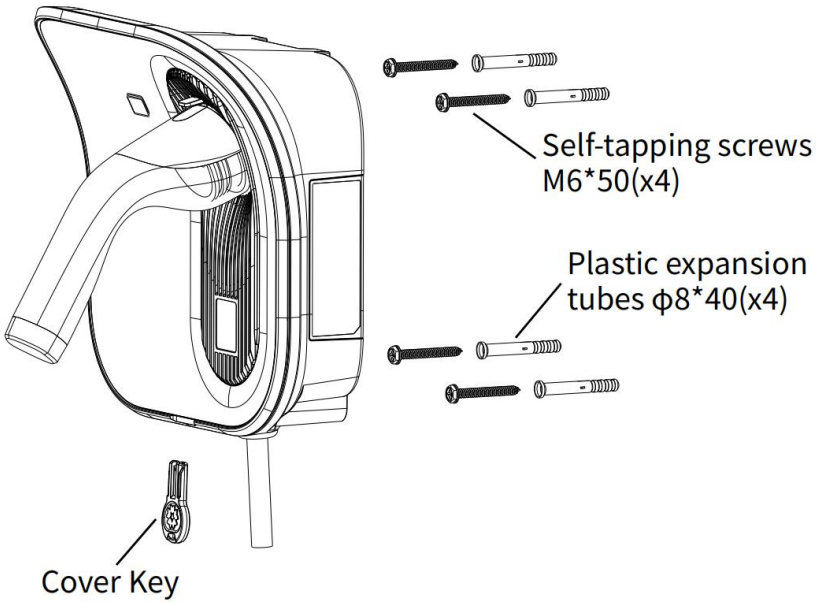


Figure 4-6 General assembly drawing of wall mounting

(1) Mark the installation position of the EVSE by a marker pen and positioning cardboard. The top of the EVSE should be at least 0.85m above the ground.

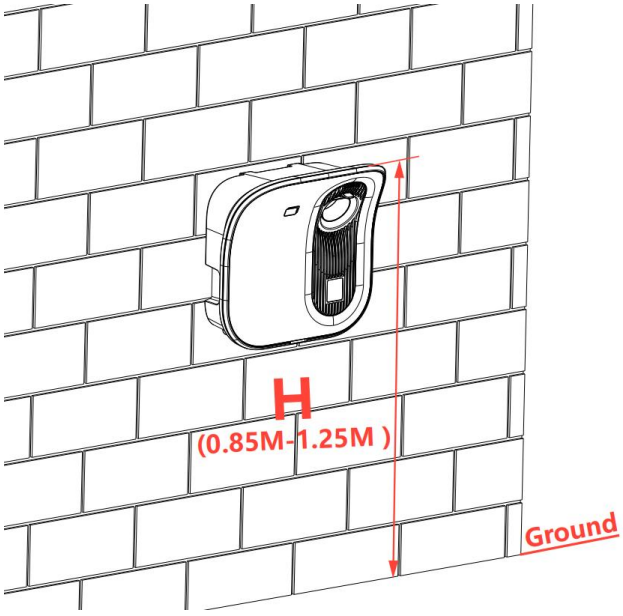


Figure 4-7 Determine the installation height

(2) Drill 4 holes with a diameter of 8mm and a depth of 50mm on the wall using an impact drill, install ϕ 8 x40 expansion tubes in 4 holes. First put the top two expansion tubes into self-tapping screws (note: the top two self-tapping screws flange end distance is reserved about 6mm distance from the wall, the cover key can be used to auxiliary calibration distance), as shown in Figure 4-8 and 4-9.

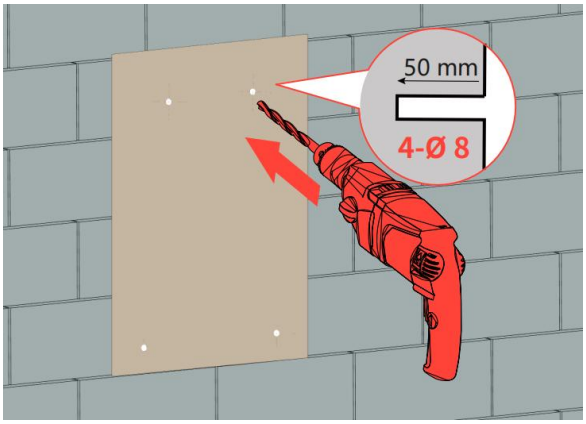


Figure 4-8 Mark the drill holes

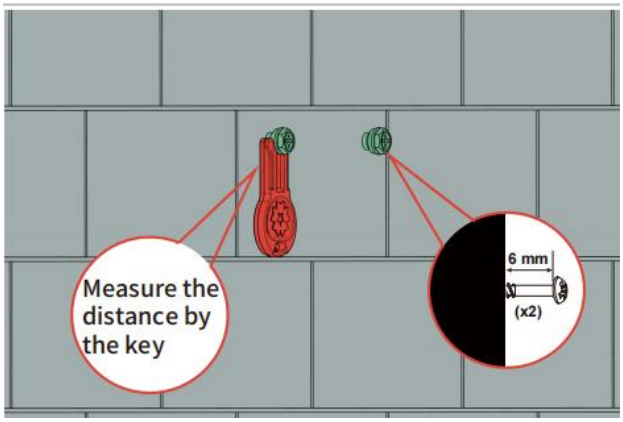


Figure 4-9 Install expansion screws

(3) Use the cover key to open the decorative cover of the EVSE, hang the EVSE on the top two extended screws, and insert the two self-tapping screws at the bottom through the front screw mounting hole of the EVSE to fix the EVSE, as shown in Figure 4-10 and 4-11.

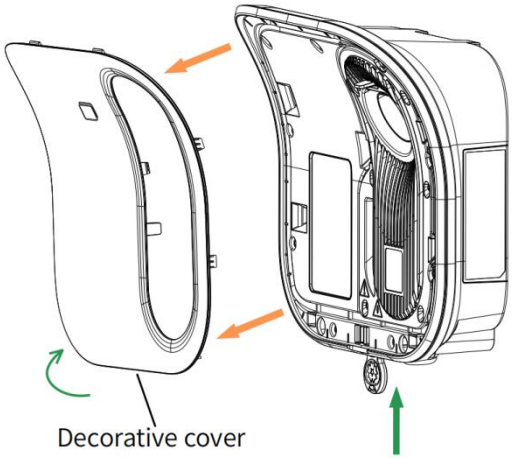


Figure 4-10 Remove the decorative cover

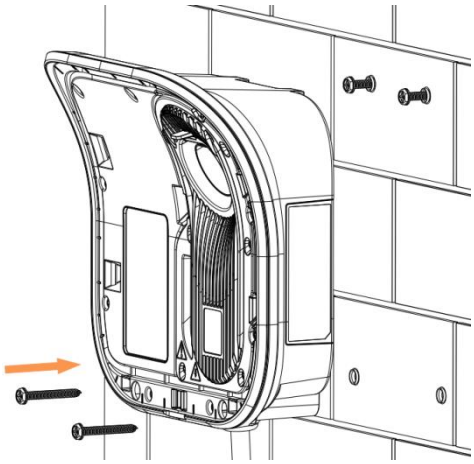


Figure 4-11 Fix EVSE

(4) Remove the 6 screws connecting the charging connector holder and the front cover, then remove the charging connector holder and prepare to connect the power cable from the wiring window, as shown in Figure 4-12.

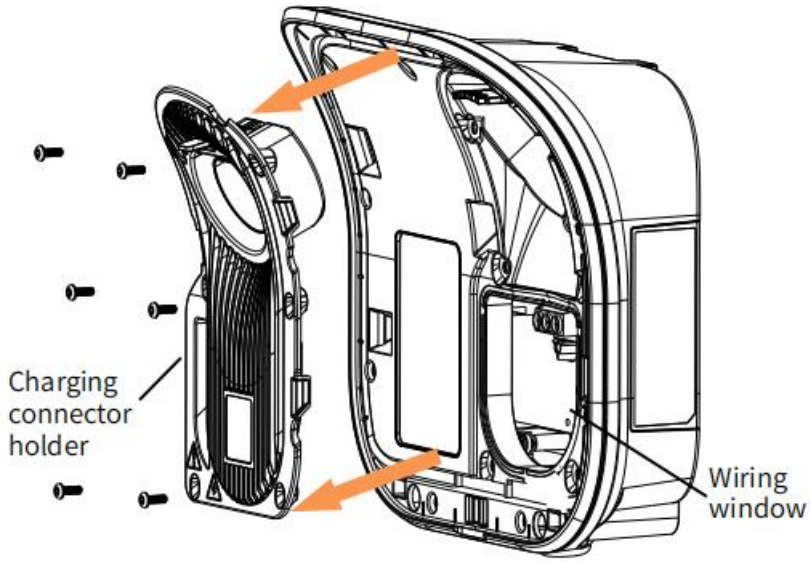
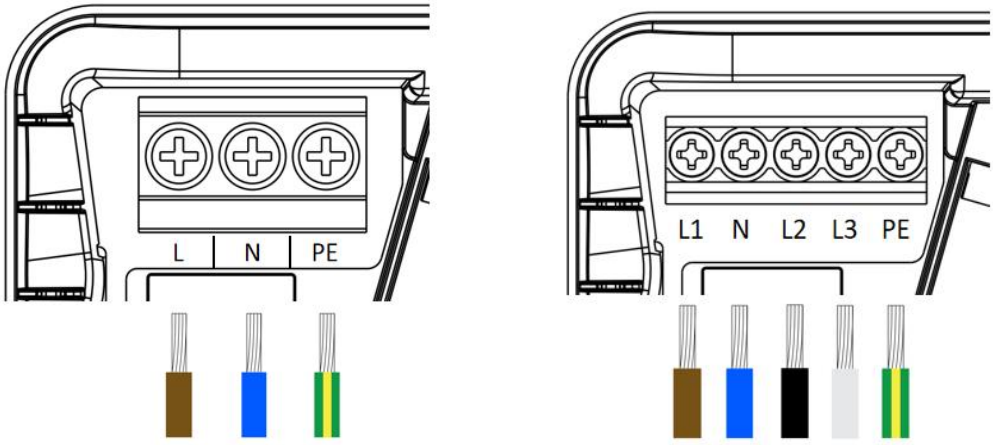


Figure 4-12 Remove the charging connector holder

(5) If power cable is flexible conductors, it is recommended to use ferrules on stranded wires. Use correct tools to press them. Connection mode of 7kW and 11kW is as shown in Figure 4-13.



(a) 7kW (b) 11kW

Figure 4-13 Wire stripping

Different wiring modes of 7kW inlet lines are shown in the following Figure 4-14 and 4-15.

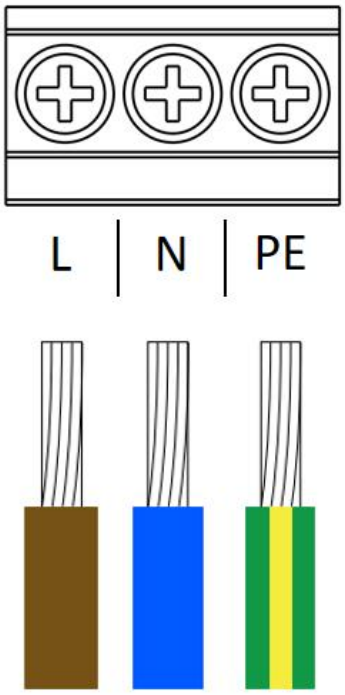


Figure 4-14 TN/TT 1-phase (230V)

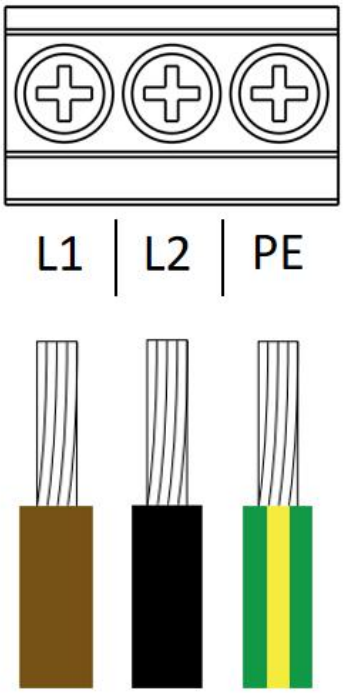


Figure 4-15 IT 1-phase(230V)

Different wiring modes of 11kW inlet lines are shown in the following Figure 4-16 and 4-17.

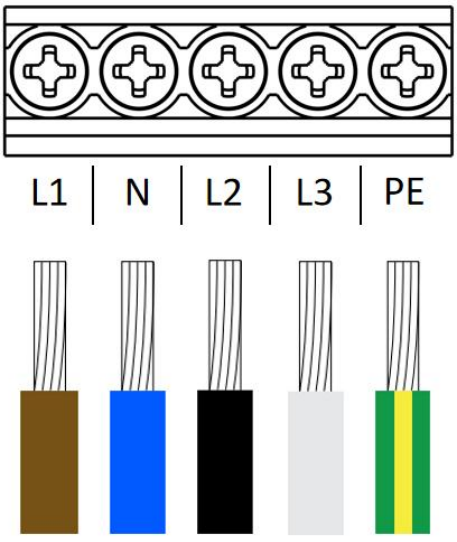


Figure 4-16 TN/TT 3-phase (230/400V)

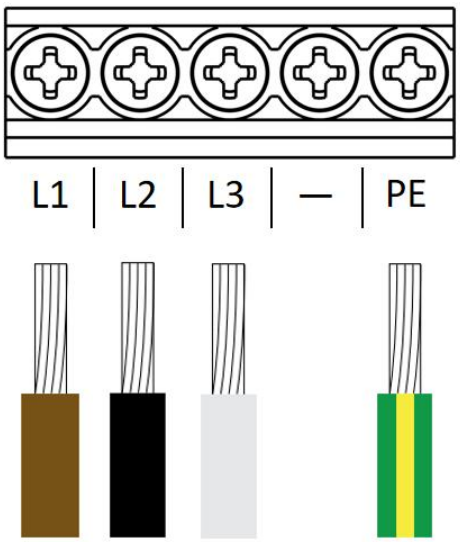


Figure 4-17 IT 3-phase(230V)

After connecting the wires to the terminals, gently tug on each wire to ensure a secure connection.

Note: While this manual uses illustrations based on the IEC 60446 standard for wire color coding, national standards may vary. Always follow the existing color codes used in your specific installation.

(6) Insert the network cable into the Ethernet cable port (Network cable is only needed when Ethernet communication is required) and install the SIM card, as shown in Figure 4-18 and Figure 4-19.

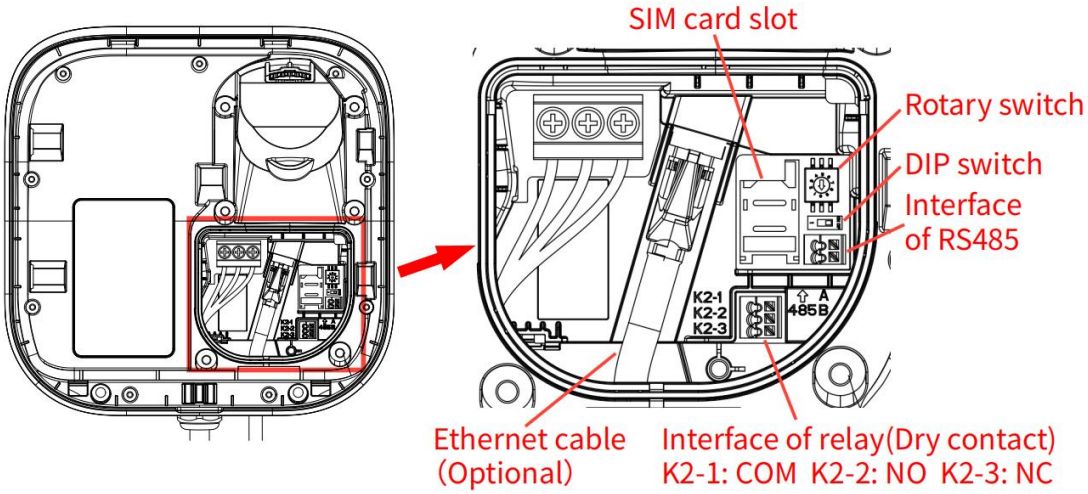


Figure 4-18 7kW

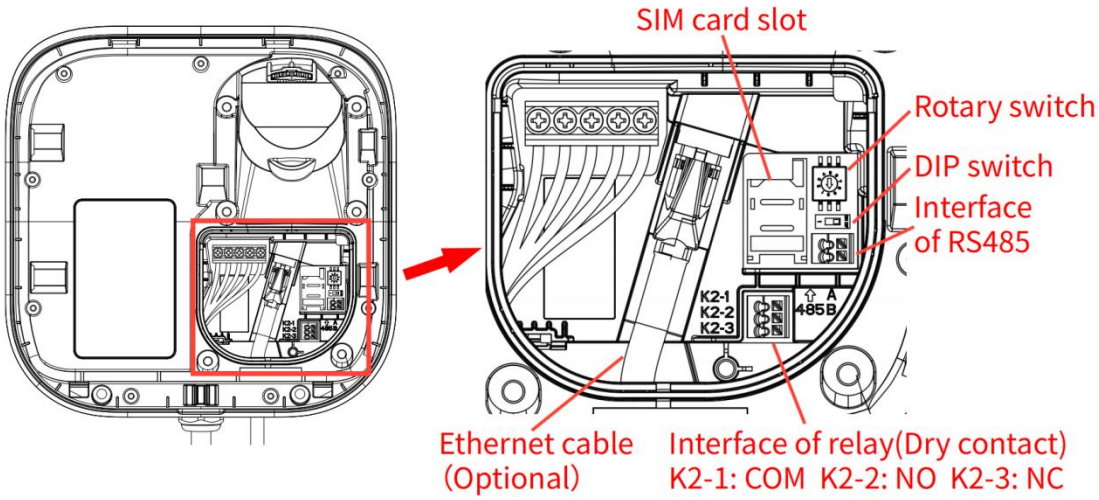


Figure 4-19 11kW

Note: The power cable hole and network cable hole are at the bottom of the EVSE, power cable hole is equipped with M25 gland, which is suitable for cable diameters of 13-18mm. Network cable hole is equipped with M20 plug. If it is connected to the network cable, the network cable hole plug needs to be removed, and M20 gland needs to be installed (network cable hole diameter 20.2mm), M20 gland needs to be prepared before installation, which is used to seal the network cable. as shown in Figure 4-20.

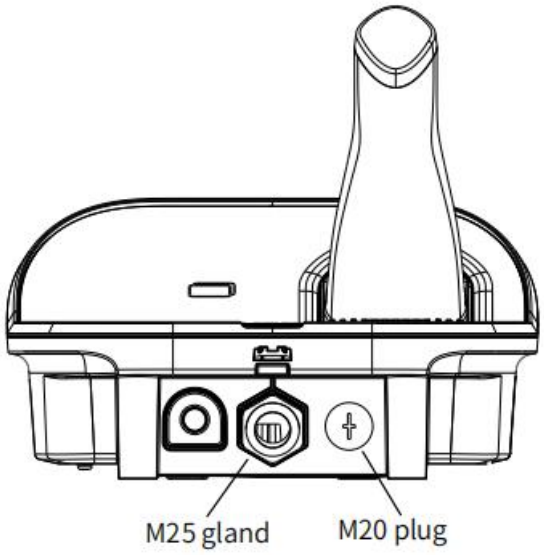


Figure 4-20 Cable glands

(7) Check the sealing rubber strip of the wiring window is properly installed, after that reinstall the charging connector holder and tighten the 6 screws, reinstall the decorative cover, and insert the charging connector into the charging connector holder, as shown in Figure 4-21.

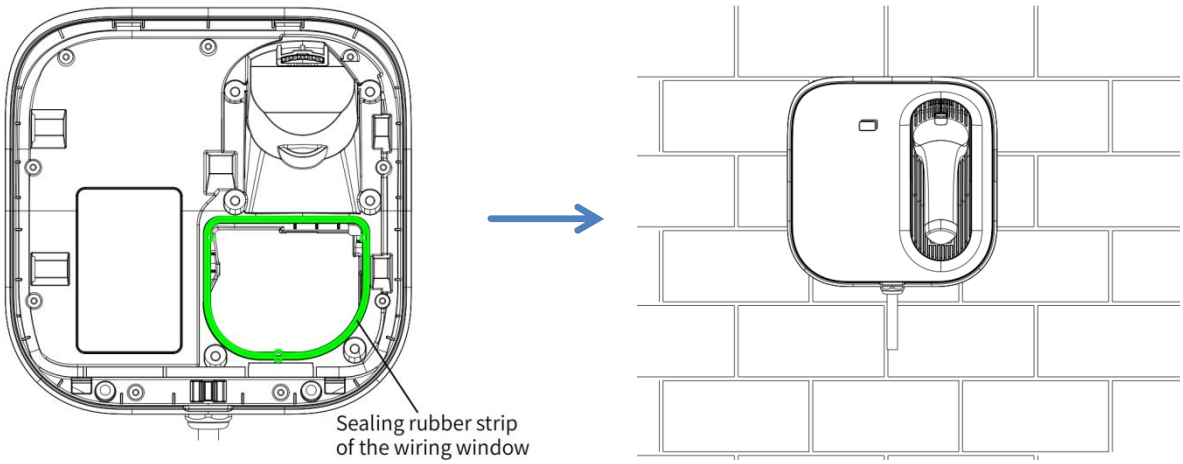


Figure 4-21 Complete the installation

Adjustable Output Power: Refer to 3.3.9 section.

4.3.4 Pole mounting

The general assembly drawing is shown in Figure 4-22.

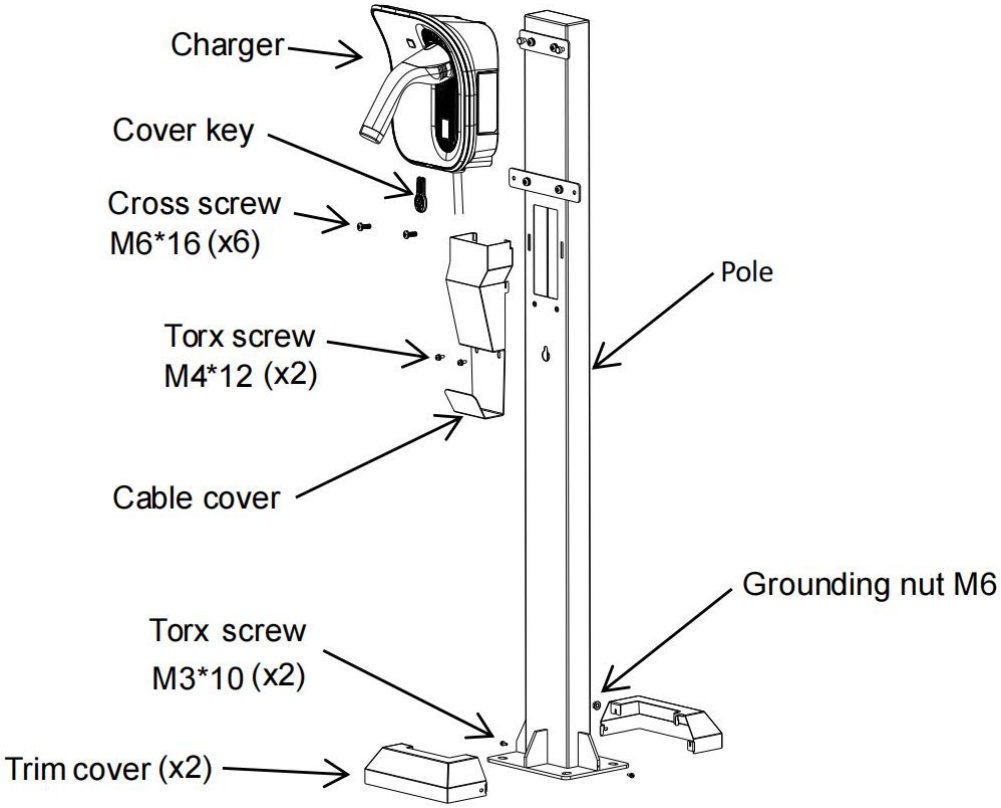


Figure 4-22 General assembly drawing of pole mounting

(1) Pole Installation

Prepare the pole:

Remove the trim cover and cable cover from the pole. Lay the pole flat on the ground. Route the power cable through the designated inlet and outlet holes, as shown in Figure 4-23.

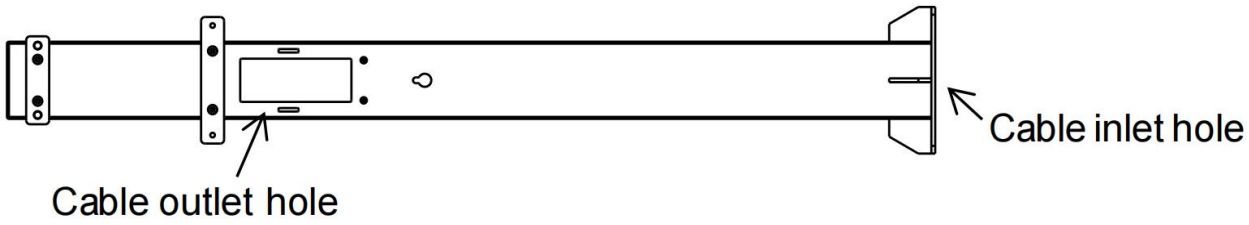


Figure 4-23 Lead the cable into the pole

(2) Install the Pole

Fix the pole to the ground using M10×120 expansion screws, and tighten the grounding nut M6, as shown in Figure 4-24.

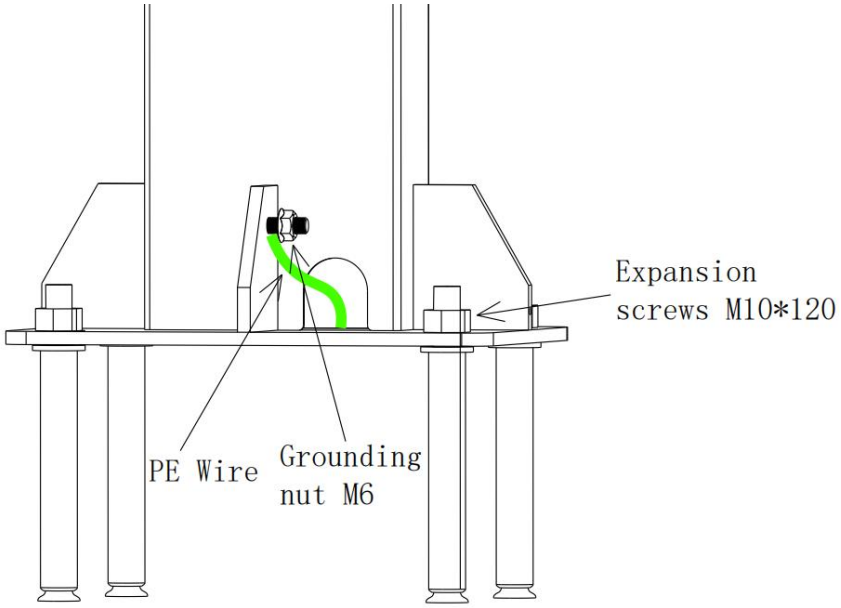


Figure 4-24 Install the pole

(3) Install the EVSE

Remove the decorative cover of the EVSE with the key, hang the EVSE on the screws above the pole, and then insert the two screws at the bottom through the front screw mounting hole of the EVSE to fix the EVSE, as shown in Figure 4-25.

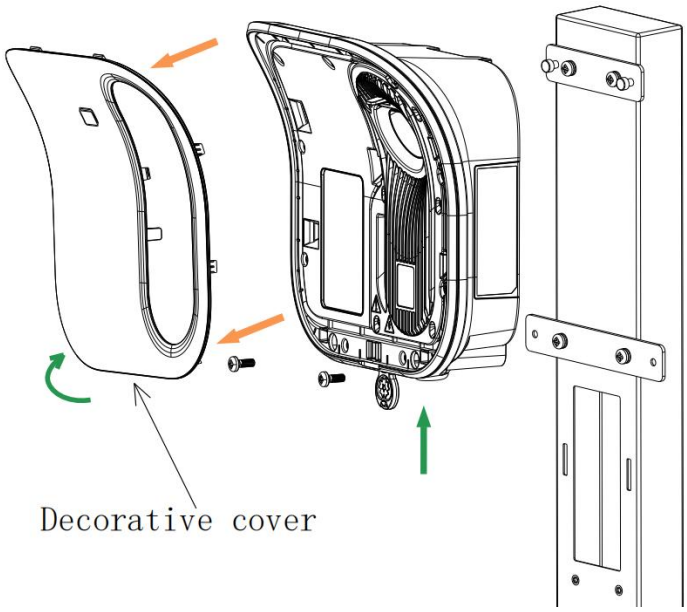


Figure 4-25 Install the EVSE

(4) Wire

Remove the 6 screws from the charging connector holder and remove the charging connector holder, then wire in the wiring window, as shown in Figure 4-26.

Note: The power cable and network cable inside the EVSE are the same as the wall-mounted EVSE, please refer to the installation steps of the wall-mounted EVSE above.

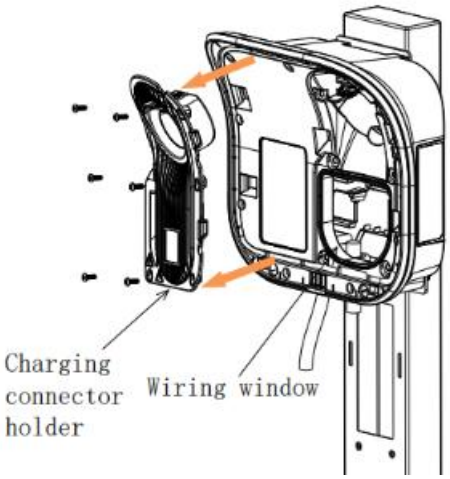


Figure 4-26 Remove the charging connector holder

(5) Complete the installation

Check the sealing rubber strip of the wiring window is properly installed, after that reinstall the charging connector holder and tighten the 6 screws, reinstall the decorative cover, and insert the charging connector into the charging connector holder. Finally, reinstall the cable cover and trim cover, check after installation, as shown in Figure 4-27.

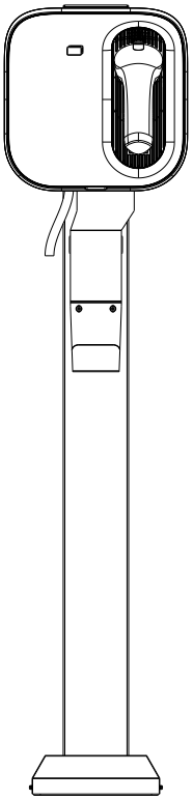


Figure 4-27 Complete the installation

4.4 Check after installation

4.4.1 Clean up

- Dispose of all shipping and packaging materials in accordance with local regulations.
- Clean the charging station and surrounding debris, such as small cables, straps, screws, etc. Do not leave the installation tools on site or in the charting station (record the type and quantity of tools to prevent omission).
- Wipe the insulation with an anti-static cloth. Do not use any corrosive solvents.

4.4.2 Inspection

- Verify that the base is secure and properly sealed.
- Ensure all internal components of the device are securely fastened.
- Check if the protection level of the device meets the requirements, especially at the cable inlet at the bottom of the EVSE.
- Inspect the overall appearance, markings, completeness, and cleanliness of the unit.

5 Commissioning

5.1 Pre-power on checks

- Insulation Resistance (IR): Measure the insulation resistance with a multimeter. It should be greater than 1 MΩ (1 megohm).
- Connections: Verify that all screws and electrical connections are secure.
- Wiring: Ensure proper connection of all phase wires and data cables.
- Voltage Verification: Before activating the EVSE's protection device, measure the voltage on the applied MCB in the consumer unit. The voltage between the phase(s) and neutral should be within 10% of 230V.

5.2 Power on and startup

- Power on : Switch on the power to the circuit where the EVSE is installed.
- EVSE Startup: The EVSE will initiate and the LED will illuminate white.
- EVSE Ready: Wait for 1 minute until the LED indicator turns yellow.
- Network Connectivity (optional): Check if the EVSE is connected to the network (if applicable).

5.3 Network connection method

There are three methods for network connection: data traffic, Wi-Fi, and Ethernet.

Note: If Ethernet communication is required, a network cable connection is mandatory.

5.4 Login into web configuration

5.4.1 Ethernet (A laptop with a network port and an Ethernet cable needed)

(1) Configure the IP address of laptop as shown in Figure 5-1.

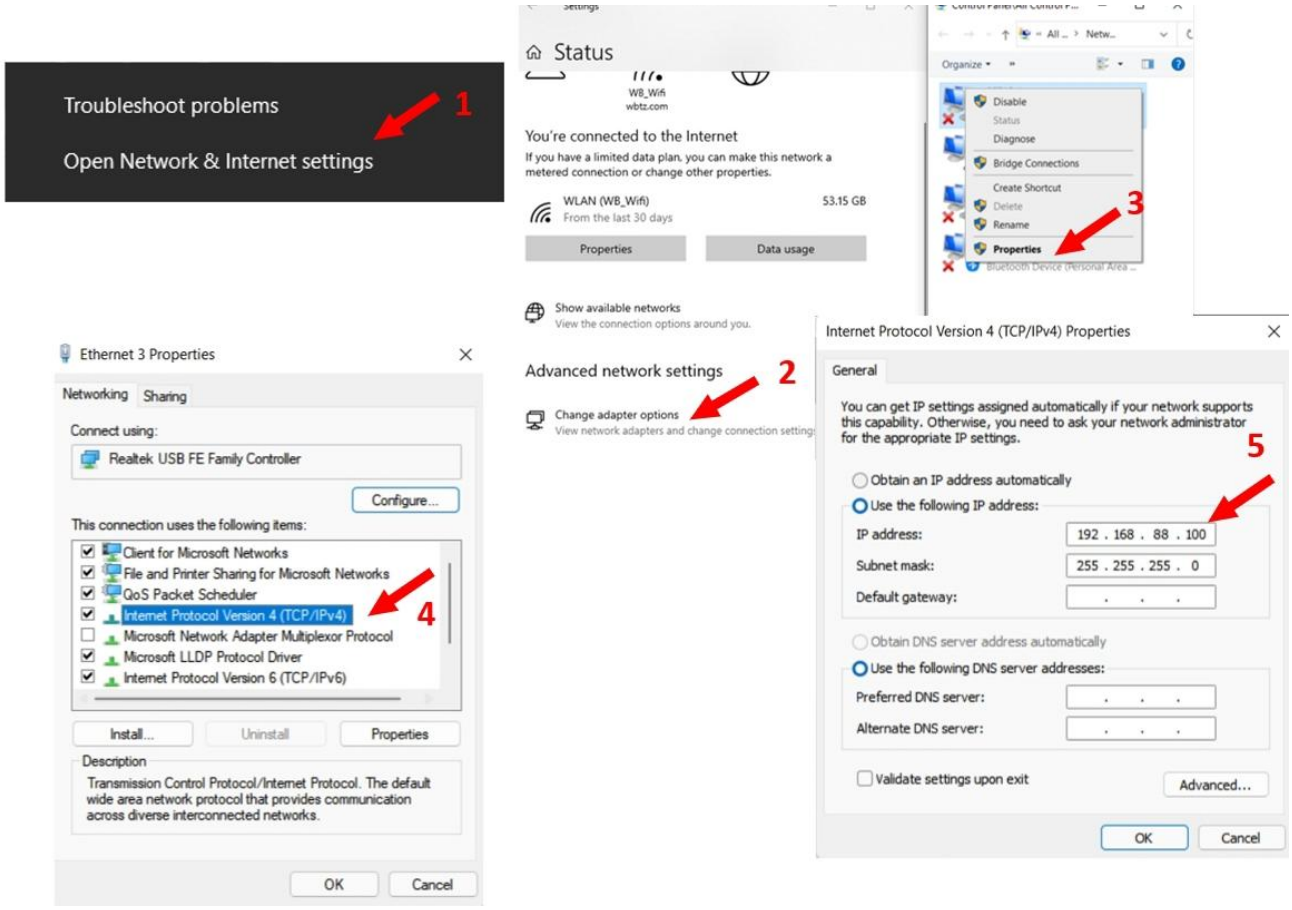


Figure 5-1 IP Address Configuration

(2) Open the browser and input 192.168.88.206, log in with username (Admin) and password (Starcharge123!) as shown in Figure 5-2.

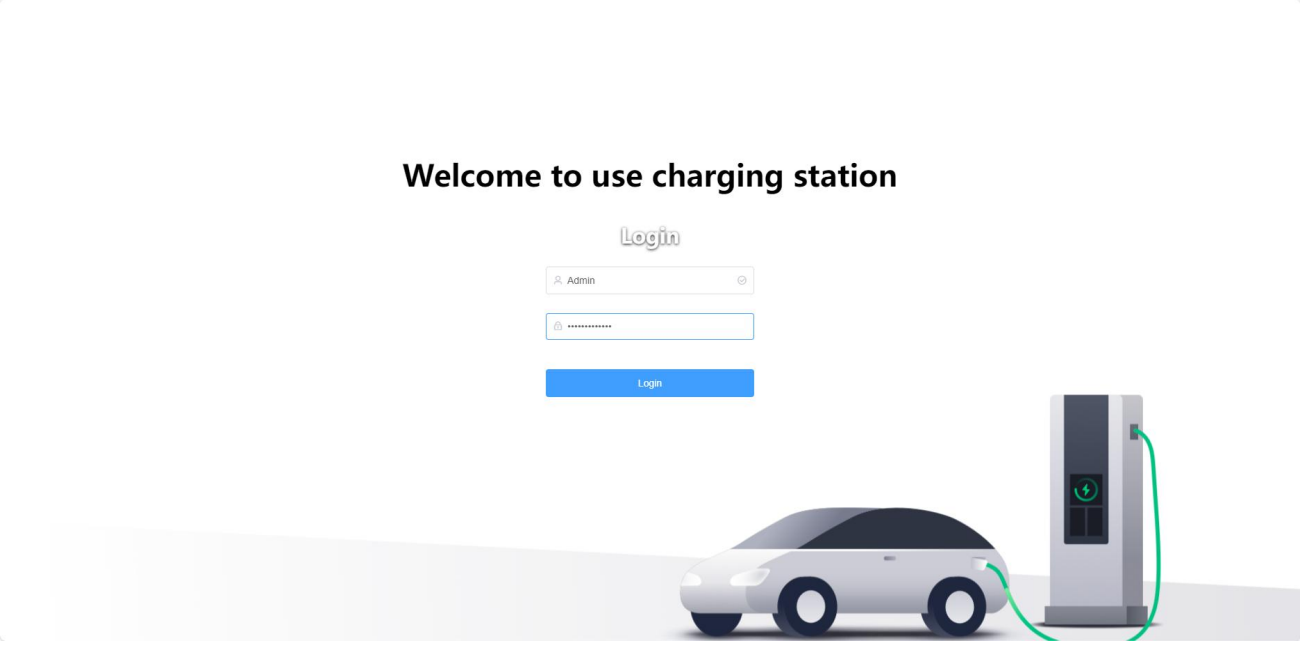


Figure 5-2 Web Panel Access

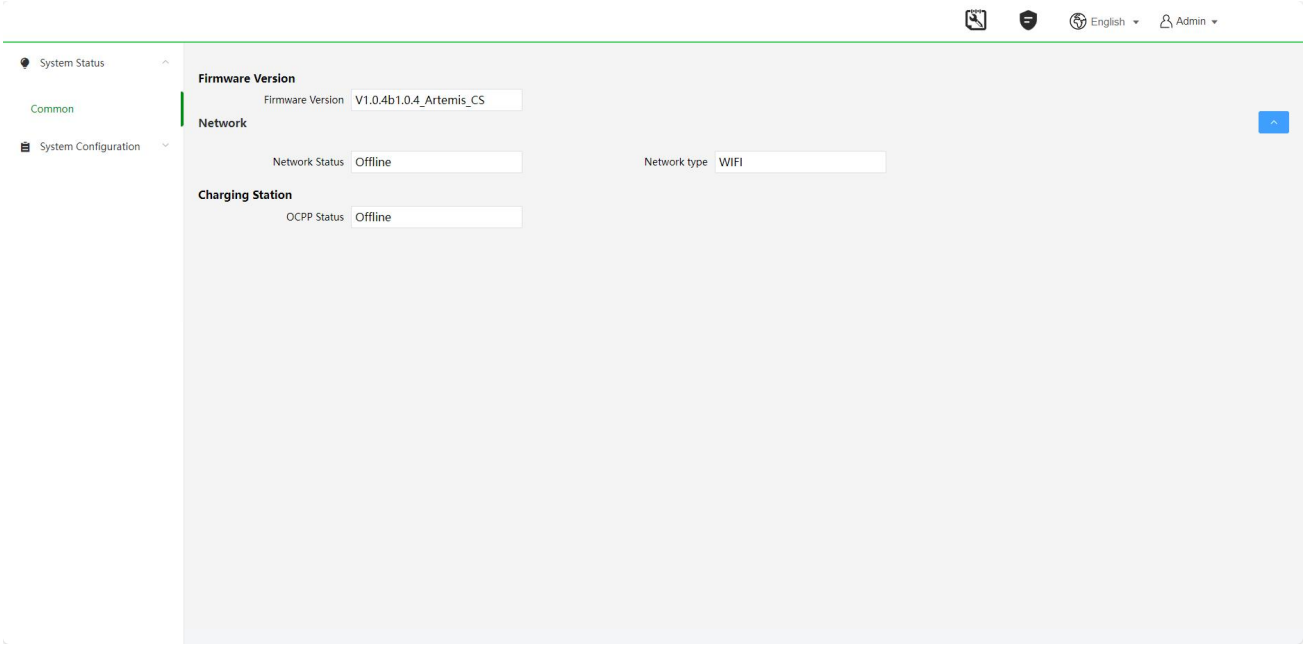


Figure 5-3 Web Panel

5.4.2 Wi-Fi AP (need a laptop with Wi-Fi)

(1) The default work mode of the EVSE is AP which lasts for 5 minutes and then changes to STA mode when the EVSE is available. After the EVSE is powered on for 1 minute, connect the hot spot with your laptop. The hotspot SSID is Artemis+SN and the password is Wb123456789.

(2) Visit https://192.168.1.136 via your laptop's browser.

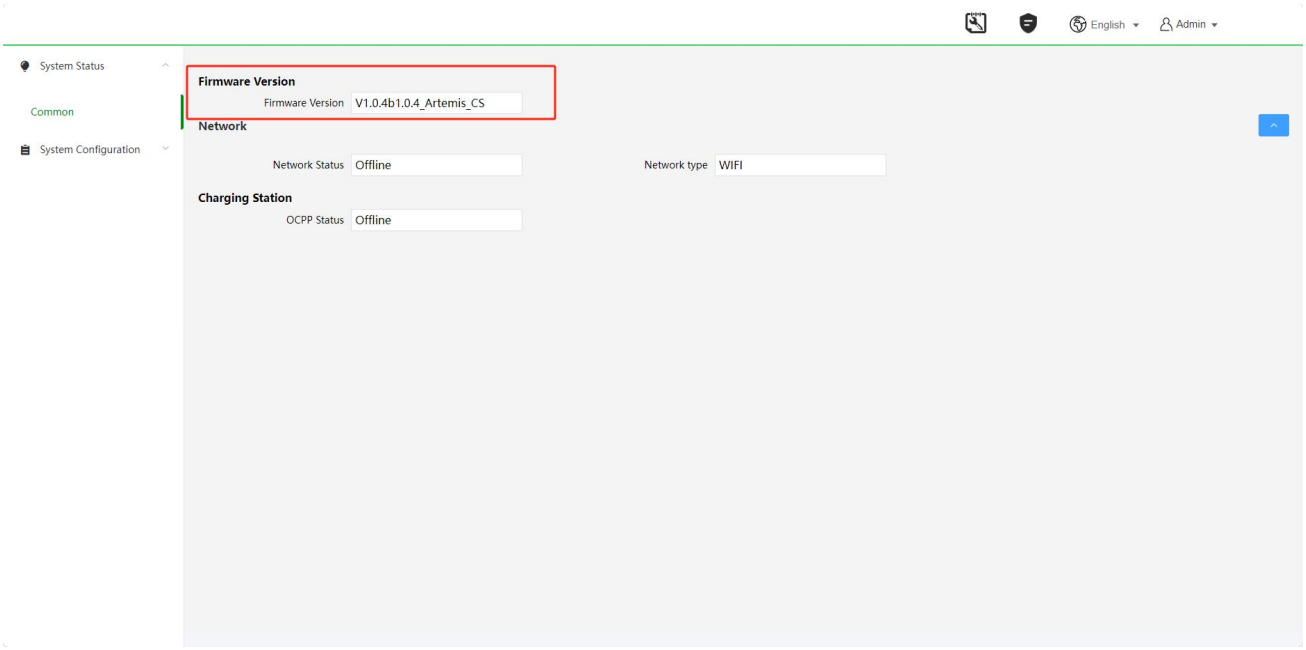
(3) Log in with user name “Admin” and password “Starcharge123!”.

5.5 System status

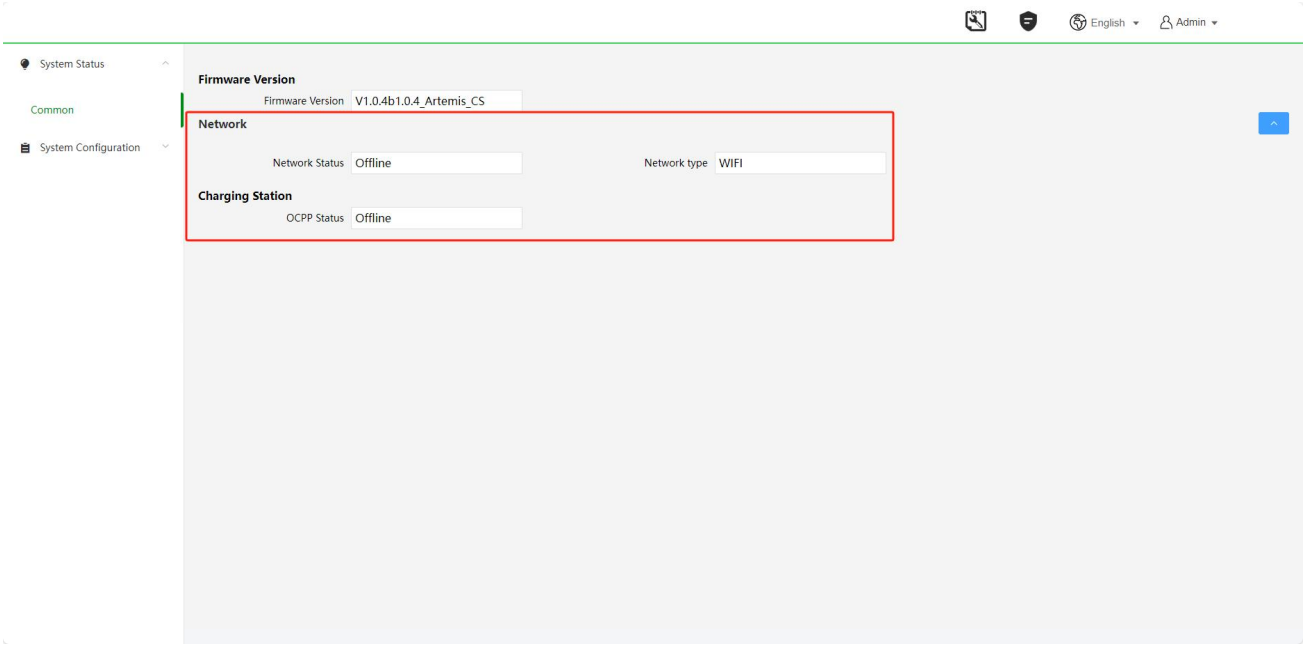
This section is used to tell the user the current firmware version of the charging station, the status of the connected network, and the connected platform.

5.5.1 Common

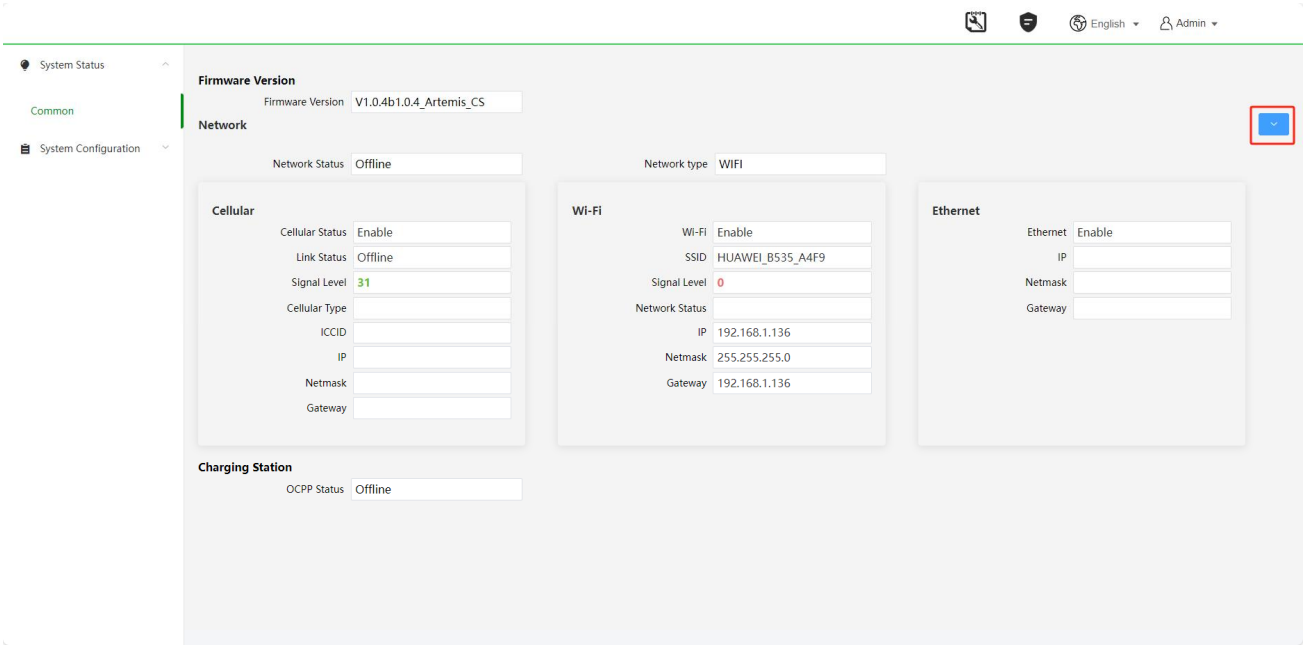
- **Firmware Version:** The current software version number is displayed and can be used to confirm whether the upgrade is successful.



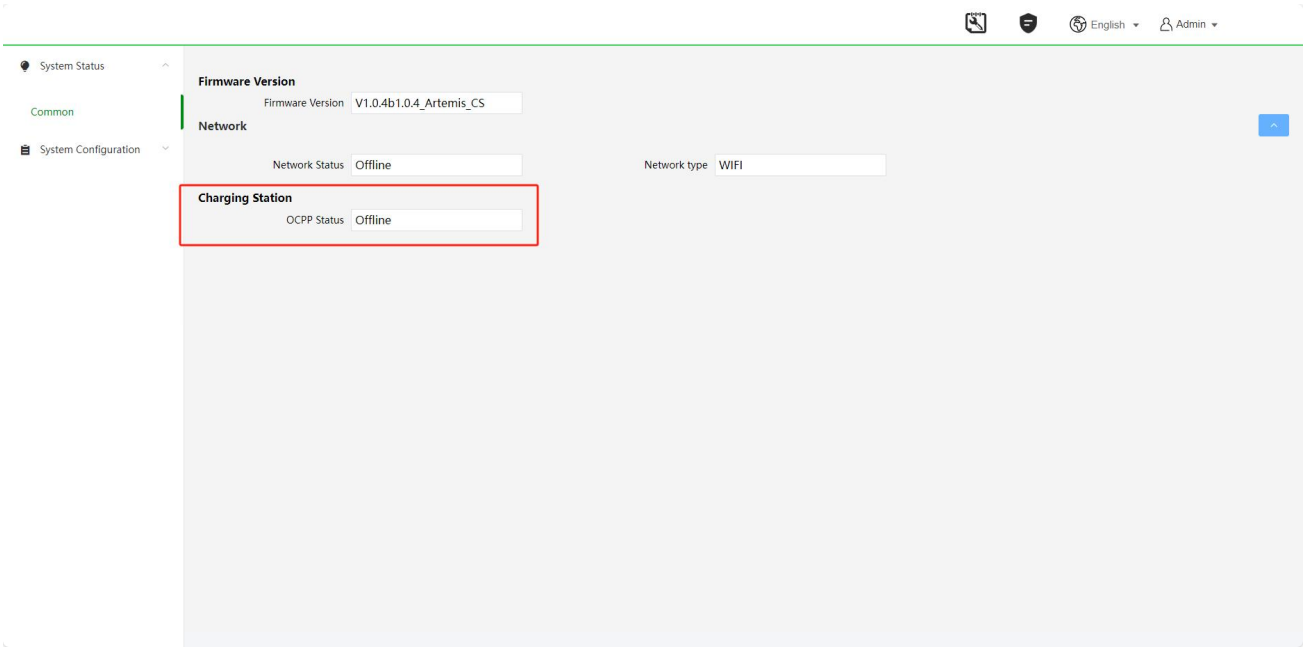
- **NetWork:** Link Status is the networking status of the charging station, and Link Type is the networking type of the charging station, including Wi-Fi, 4G and Ethernet.



Click on the blue arrow to see the details.



- **Charging Station:** Displays the connection status of the OCPP platform.



5.6 System configuration

5.6.1 Basic configuration

5.6.1.1 OCPP Configuration

Functional Description: OCPP is a communication protocol between charge stations and back-end platforms. Charge stations and platforms of different manufacturers that conform to this protocol can communicate with each other. The platform can connect multiple charging stations to manage charging stations, including information viewing, remote upgrade, user authentication, remote control and so on. If you want to connect to the OCPP platform, your charge station must be able to connect to the network, and then refer to the following method to set up the OCPP.

OCPP Settings:

(1) Click "Basic Configuration".

(2) Click the pencil icon.

(3) Fill corresponding OCPP configuration. If website of OCPP back-end platform is not written into the port, the default HTTP/WS port is 80, and the default HTTPS/WSS port is 443. For example:

1) http:// 218.93.7.106:3400/steve/websocket/CentralSystemService
   IP or Domain Name: 218.93.7.106
   Path: /steve/websocket/CentralSystemService
   Port: 3400
   SSL: Disable

2) http://www.osb-prefytuyu.com:80/miugigyu-ws/ocpp16
   IP or Domain Name: osb-prefytuyu.com
   Path: /miugigyu-ws/ocpp16
   Port: 80
   SSL:Disable

3) https://blog.csdn.net/luo_boke/article/details/114220450
   IP or Domain Name: blog.csdn.net
   Path: /luo_boke/article/details/114220450
   Port: 43
   Enable: Disable

If the URL uses the HTTPS protocol, SSL must be enabled here.

(4) Click "Save" to complete the OCPP Settings, then check the connection status of OCPP back-end platform by referring to "Status Check". If online is displayed, the connection is successful.

About customer Number:

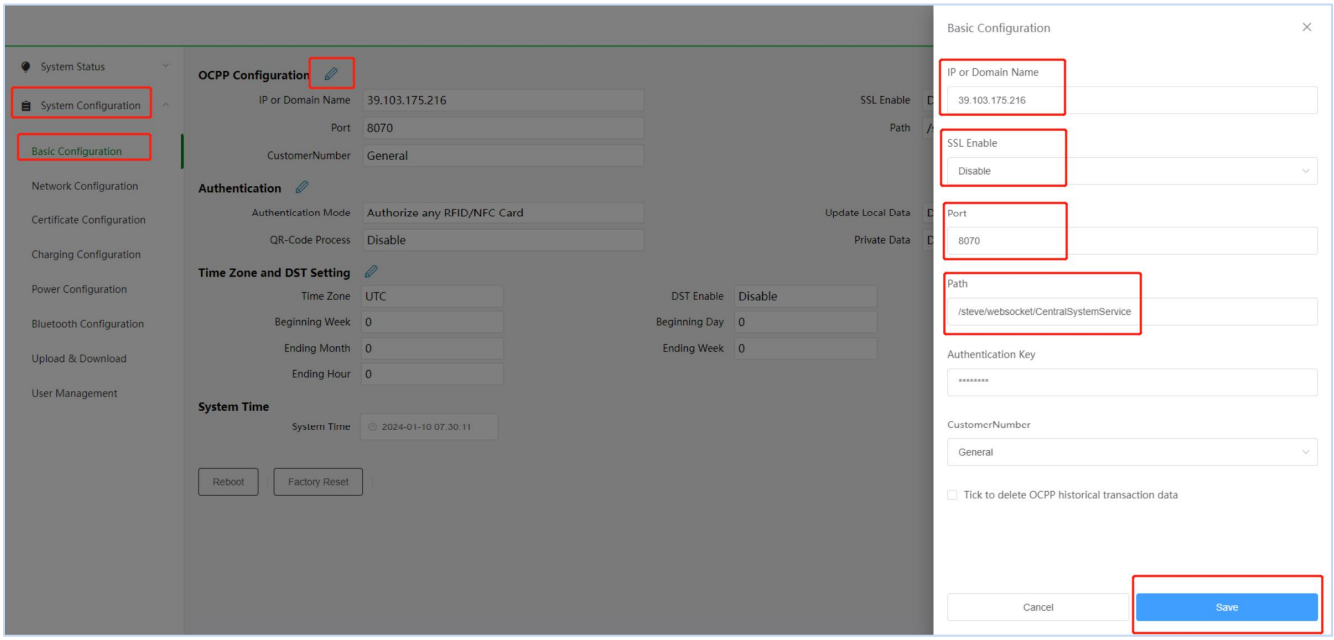
This page displays the factory default customer number for the charging station, which can be modified, but it is generally sufficient to keep the factory mode settings.

About Authentication Key:

Usually it is not necessary to fill in, when it is necessary to fill in, the platform will give it.

About Tick to delete OCPP historical transaction data:

Check the option to delete order data.



5.6.1.2 Authentication

There are four authentication modes.

(1) **Authorize registered RFID/NFC Card:** The card with the correct key and registered on the OCPP platform

(2) **Authorize any RFID/NFC Card:** The card with the correct key

(3) **No Authentication Required:** plug and charge

(4) **Authentication with EV MAC address:** charging “MAC”(Currently only stations with 15118 can be used)

STEPS:

(1) Click “Basic Configuration”.

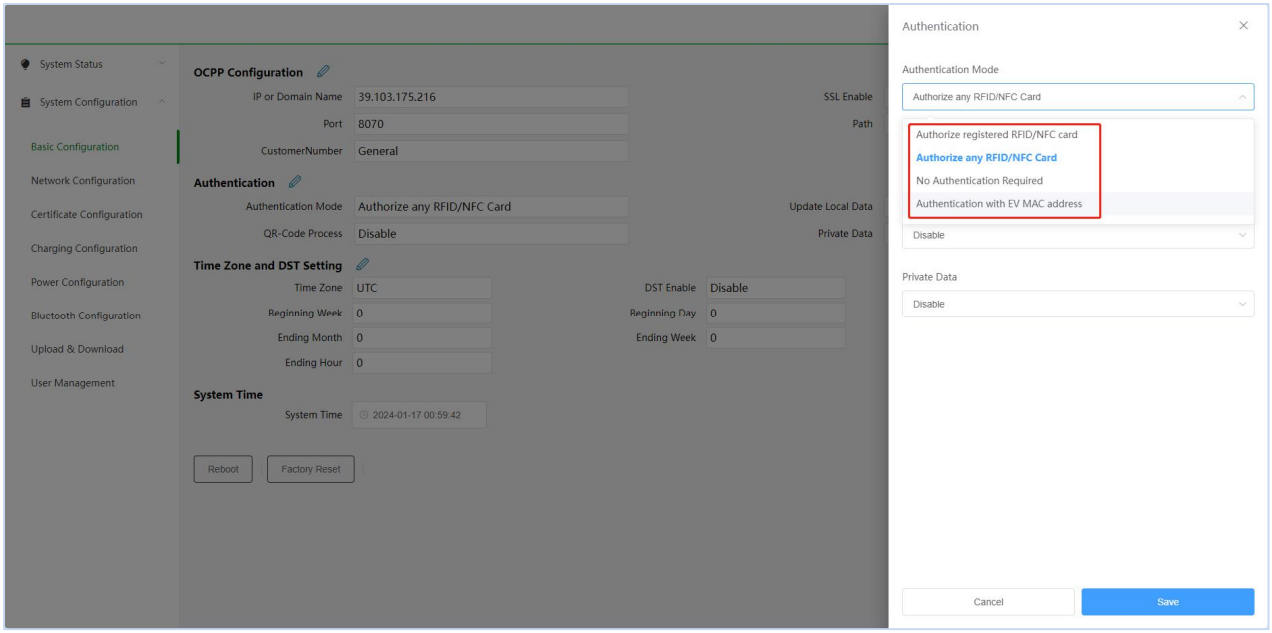
(2) Click the pencil icon.

(3) Select the authentication mode.

(4) Do not change the Disable status of Update Local Data, QR-Code Process, Private Data.

Note: Enable does not work for the AC charging station.

(5) Click “save” to complete the ope



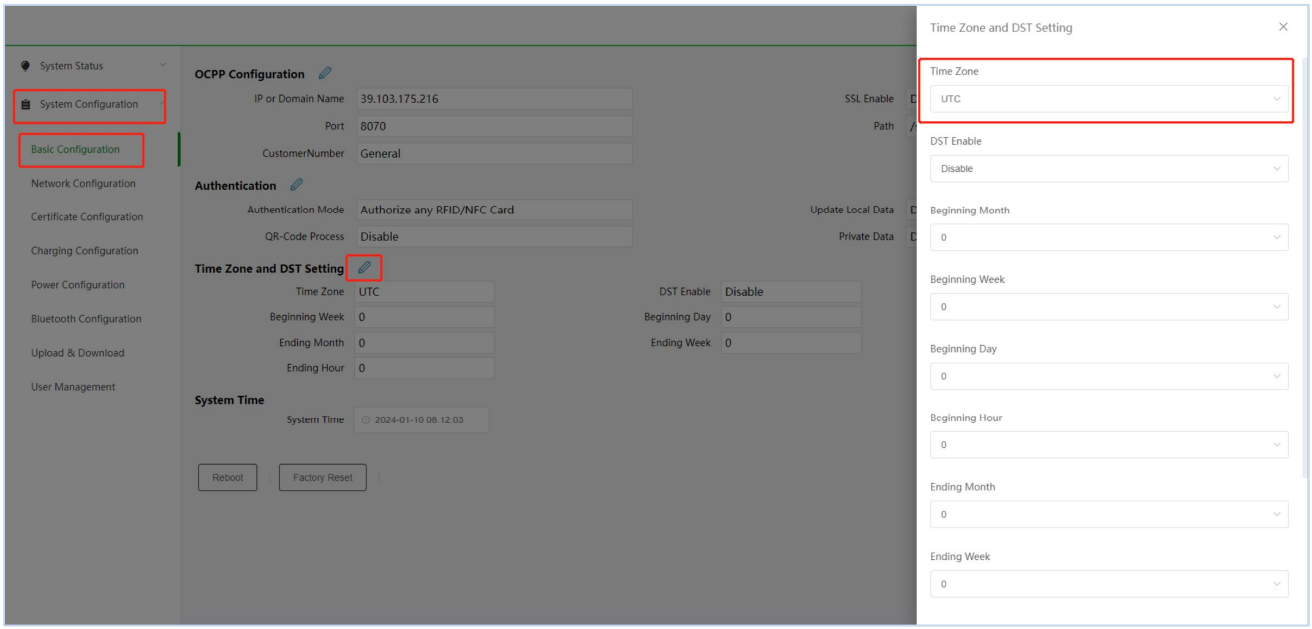
5.6.1.3 System Time

Set the system time of the EVSE to keep it consistent with platform time when off-line.

(1) Click “Basic Configuration”.

(2) Click "System Time" to set the time.

(3) Click “OK” to complete the operation.

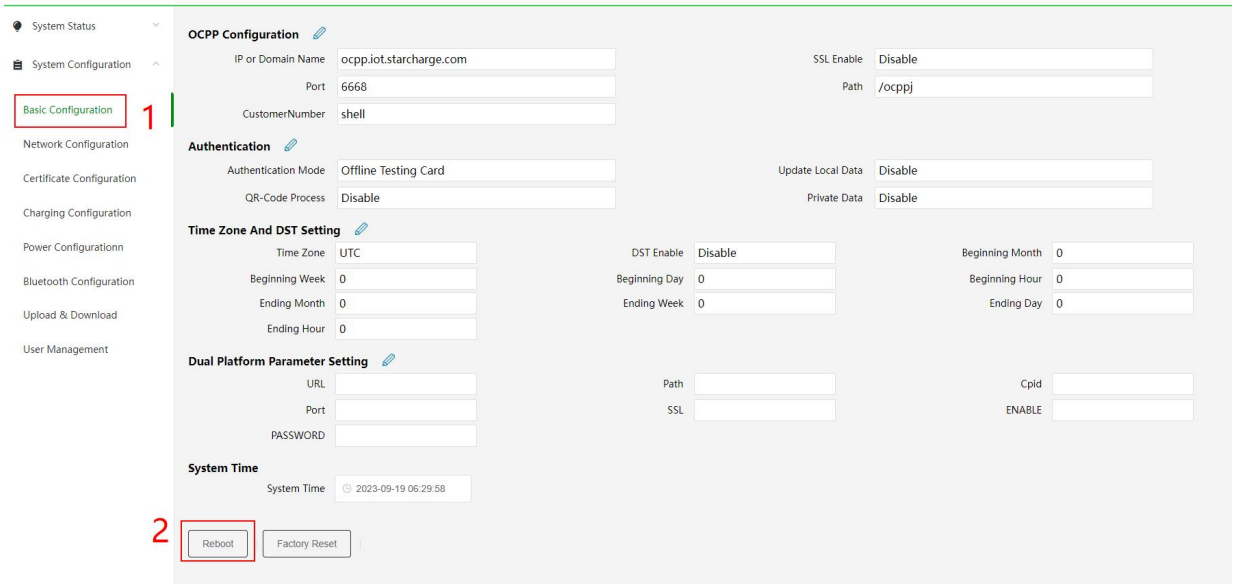


5.6.1.4 Reboot

(1) Click “Basic Configuration”.

(2) Click “Reboot”.

Note: If reboot during charging process, the charging order will be stopped. (After you configure and save the parameter, then reboot EVSE, the parameter will not return back to default.)



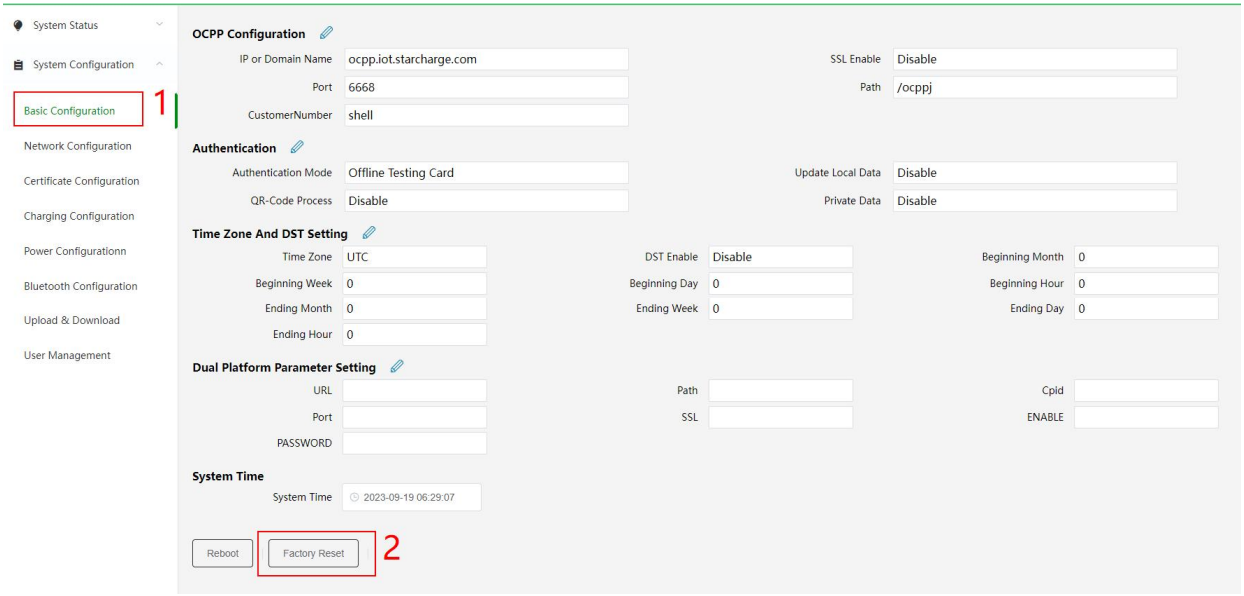
5.6.1.5 Factory Reset

(1) Click “Basic Configuration”.

(2) Click “Factory Reset”.

Note:

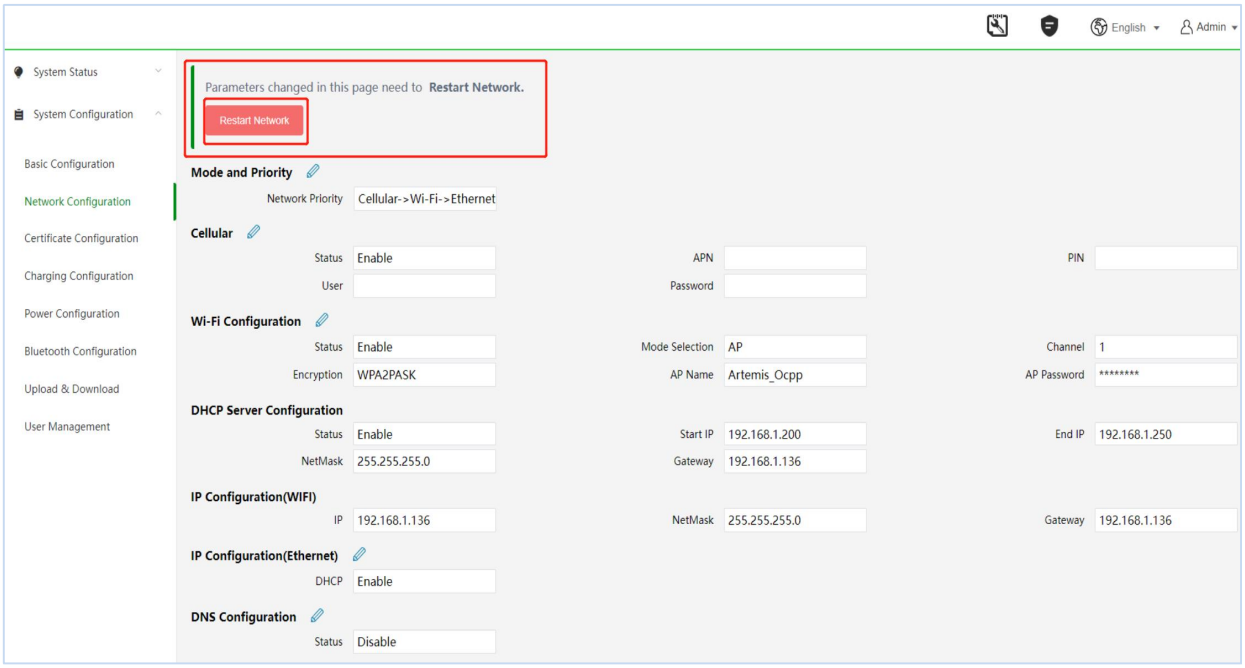
- This button is used to restore factory Settings. Be extremely careful when performing this operation.
- This function is only available if the EVSE is not in use.



5.6.2 Network configuration

Note: Click **Restart Network** after you change the configuration every time. The network configuration will only take effect after the network is restarted.

After a network reboot, the system will return to the login page. Please wait until the network reboot is complete before logging in again.



5.6.2.1 Mode and Priority

Default Priority: Cellular-->Wi-Fi-->Ethernet

(1) Click “Network Configuration”.

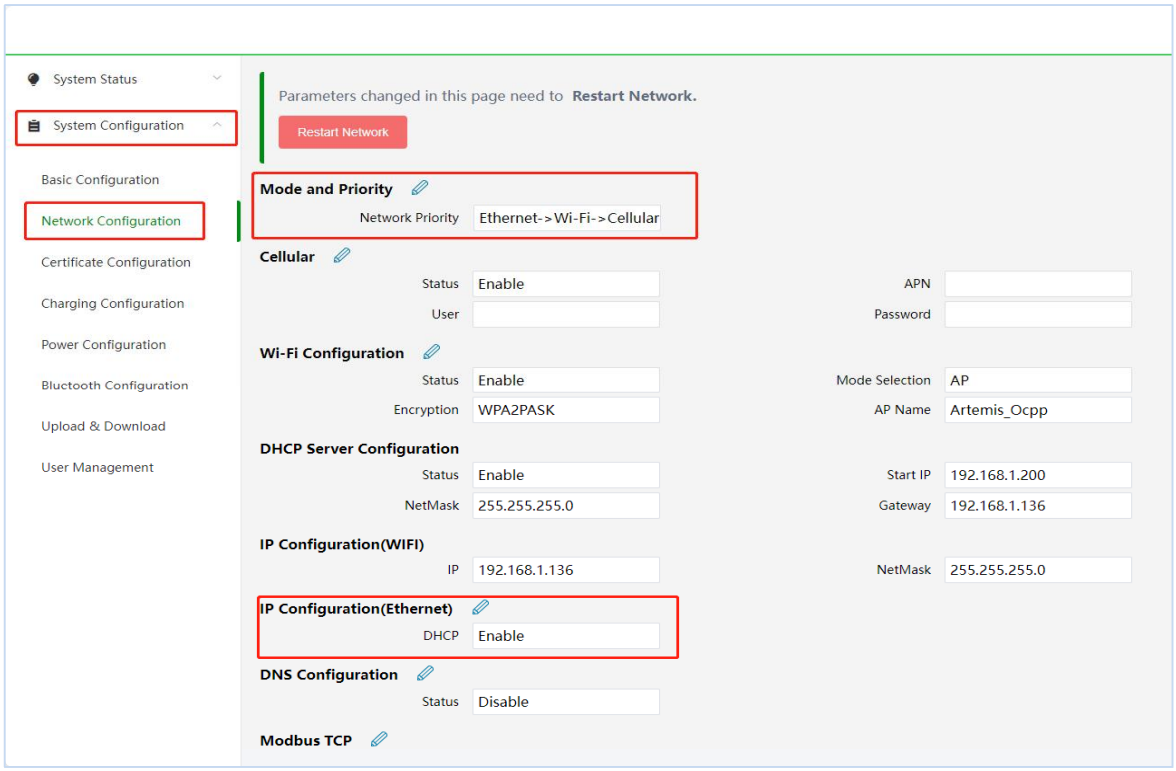
(2) Click the pencil icon.

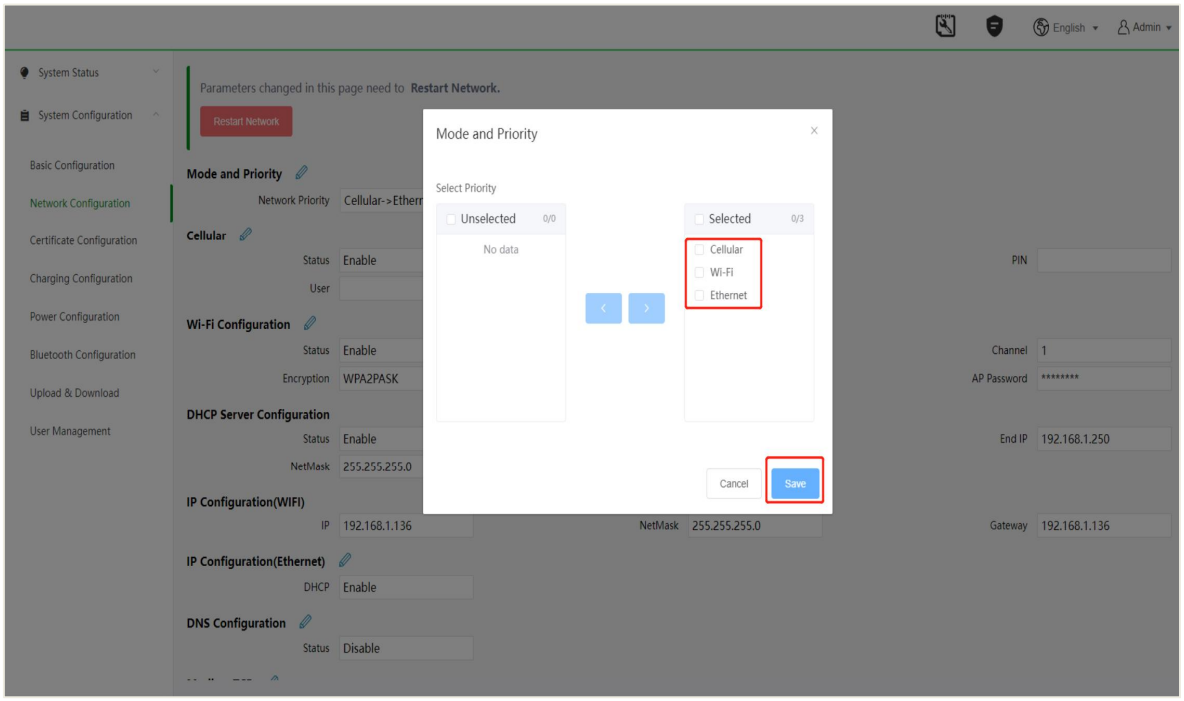
(3) Set the priority. For example Wi-Fi-->Ethernet-->Cellular is set as below:

1) Tick the Wi-Fi box in the UnSelected area.
2) Click on the blue arrow to enter the selected area.
3) Repeat this for the remaining two.

Note: The network priority decreased from top to bottom.

(4) Click “Save” to complete the mode and priority settings.


System Status
System Configuration
Basic Configuration
Network Configuration
Certificate Configuration
Charging Configuration
Power Configuration
Bluetooth Configuration
Upload & Download
User Management
Parameters changed in this page need to Restart Network.
Restart Network
Mode and Priority
Network Priority Ethernet->Wi-Fi->Cellular
Cellular
Status Enable
User
APN
Password
Wi-Fi Configuration
Status Enable
Encryption WPA2PASK
Mode Selection AP
AP Name Artemis_Ocpp
DHCP Server Configuration
Status Enable
NetMask 255.255.255.0
Start IP 192.168.1.200
Gateway 192.168.1.136
IP Configuration(WIFI)
IP 192.168.1.136
NetMask 255.255.255.0
IP Configuration(Ethernet)
DHCP Enable
DNS Configuration
Status Disable
Modbus TCP


English
Admin
Mode and Priority
Select Priority
Unselected 0/0
No data
Selected 0/3
Cellular
Wi-Fi
Ethernet
Cancel
Save

5.6.2.2 Cellular

Prerequisite: Insert the SIM before you power on the EVSE. If the EVSE is already on, restart it after the SIM is inserted.

In some countries or regions, when the 4G card is used for network connection, APN must be set. The APN can be obtained from the local network carrier.

(1) Click “Network Configuration”.

(2) Click the pencil icon.

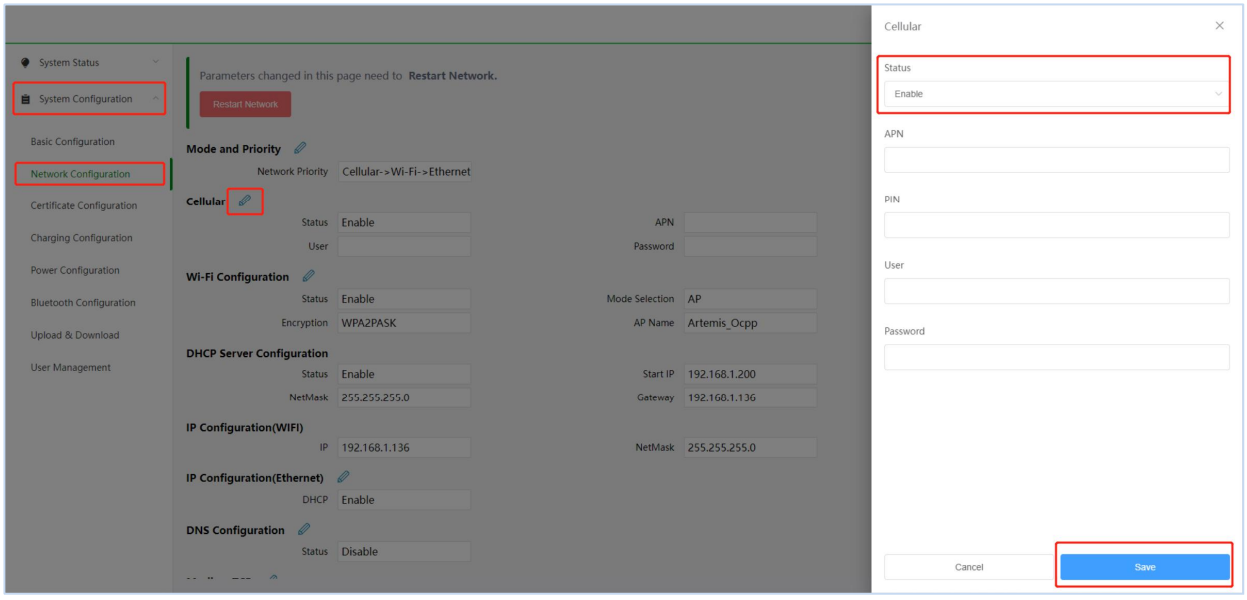
(3) Make sure the status is Enable.

(4) Fill in corresponding APN data.

Note: The maximum length of the access station name, username and password is 64 digits, and the maximum length of the PIN is 6 digits.

(5) Click “save” to complete the operation.

Note: If no signal is displayed on the 4G card, check whether the 4G card is properly, and then restart the EVSE.



5.6.2.3 Wi-Fi configuration

The Wi-Fi of the charging station has two modes, STA mode and AP mode, and the station can only be in one of them at the same time. The AP is used for web configuration and the STA is used to connect to the OCPP platform on the extranet. In order to enable the station to connect to the external network and configure the station parameters, a function of maintaining AP mode for a few minutes after the charging station is powered on is added to provide customers with the opportunity to configure. If there is no customer connection into webconfig within this period of time, then switch STA mode networking, if there is a customer connection, wait for the customer configuration and then switch STA mode networking.

Current Wireless mode: The mode of the current Wi-Fi.

Automatic Enable AP: Whether to switch to STA mode automatically.

Automatically Close AP: Whether to automatically disable the AP mode.

AP Duration(min)：Duration of AP mode.

Channel: Wi-Fi channel in AP mode.

Wireless Channel Switching: Whether to automatically switch the Wi-Fi channel in AP mode.

Encryption: Encryption mode in AP mode.

AP Password: Wi-Fi password in AP mode.

IP: IP address in AP mode.

AP Name: SSID in AP mode.

Encryption: Encryption mode in STA mode.

Network Name: SSID in STA mode.

Password: Wi-Fi password in STA mode.

DHCP: Whether DHCP can be enabled in STA mode.

Operation example:

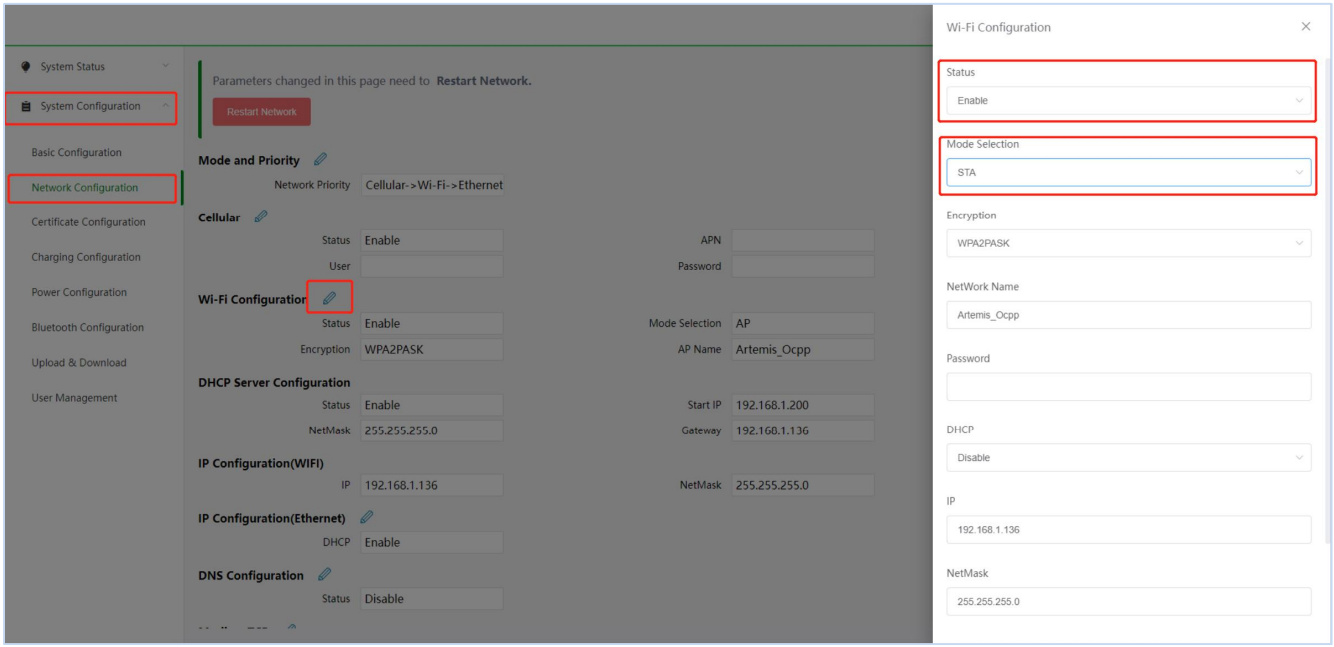
(1) Click “Network Configuration”.

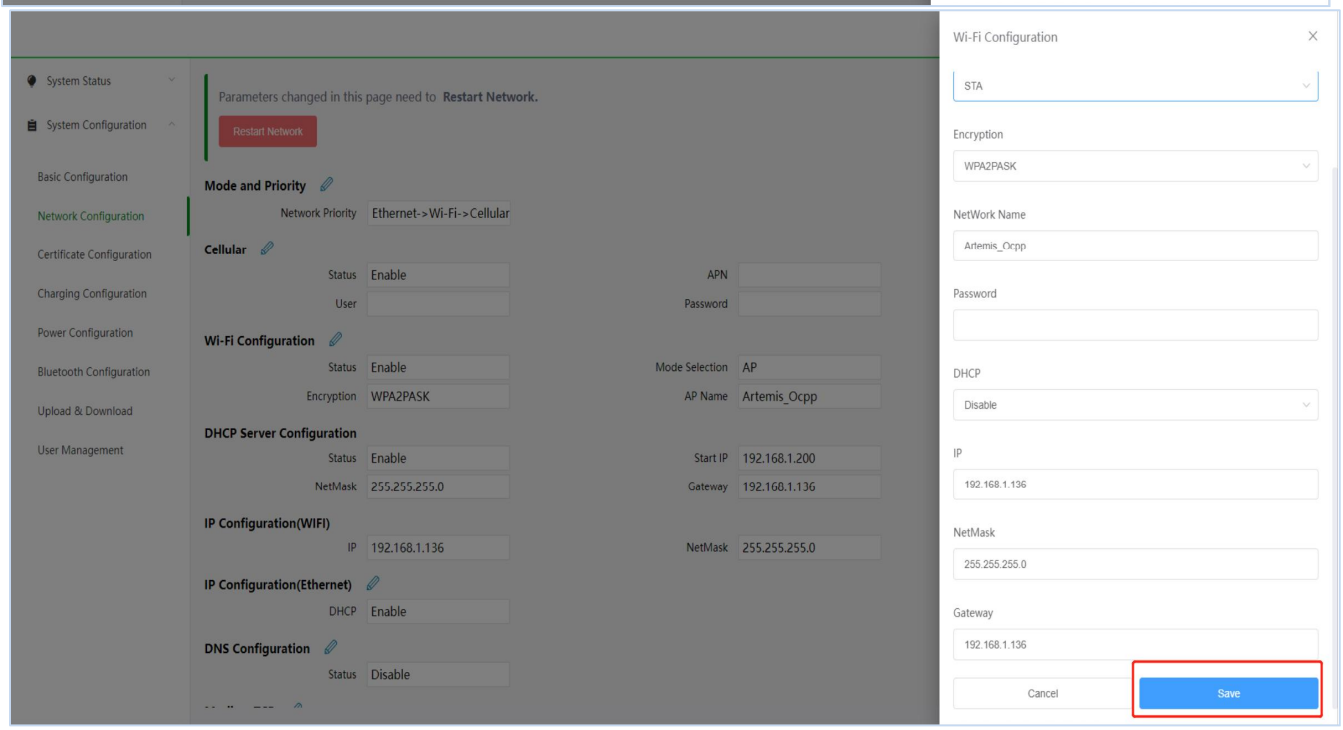
(2) Set Wi-Fi parameters according to the following figure.

(3) Click Restart Network.

After following this example configuration, power off and restart.

The Wi-Fi of the charging station will be in AP mode within the first five minutes after power-on, with the SSID being ArtemisSN1234894801. You can use ipad or laptop to visit https://192.168.1.136/ and enter the configuration page of webconfig to configure parameters for the charging station. If you do not enter webconfig within five minutes, the Wi-Fi of the charging station will switch to STA mode and try to connect to a Wi-Fi hotspot with an SSID of xxj15.


System Status
System Configuration
Basic Configuration
Network Configuration
Certificate Configuration
Charging Configuration
Power Configuration
Bluetooth Configuration
Upload & Download
User Management
Parameters changed in this page need to Restart Network.
Restart Network
Mode and Priority
Network Priority Cellular->Wi-Fi->Ethernet
Cellular
Status Enable
APN
User
Password
Wi-Fi Configuration
Status Enable
Mode Selection AP
Encryption WPA2PASK
AP Name Artemis_Ocpp
DHCP Server Configuration
Status Enable
Start IP 192.168.1.200
NetMask 255.255.255.0
Gateway 192.168.1.136
IP Configuration(WIFI)
IP 192.168.1.136
NetMask 255.255.255.0
IP Configuration(Ethernet)
DHCP Enable
DNS Configuration
Status Disable
Wi-Fi Configuration
Status
Enable
Mode Selection
STA
Encryption
WPA2PASK
NetWork Name
Artemis_Ocpp
Password
DHCP
Disable
IP
192.168.1.136
NetMask
255.255.255.0


System Status
System Configuration
Basic Configuration
Network Configuration
Certificate Configuration
Charging Configuration
Power Configuration
Bluetooth Configuration
Upload & Download
User Management
Parameters changed in this page need to Restart Network.
Restart Network
Mode and Priority
Network Priority Ethernet->Wi-Fi->Cellular
Cellular
Status Enable
APN
User
Password
Wi-Fi Configuration
Status Enable
Mode Selection AP
Encryption WPA2PASK
AP Name Artemis_Ocpp
DHCP Server Configuration
Status Enable
Start IP 192.168.1.200
NetMask 255.255.255.0
Gateway 192.168.1.136
IP Configuration(WIFI)
IP 192.168.1.136
NetMask 255.255.255.0
IP Configuration(Ethernet)
DHCP Enable
DNS Configuration
Status Disable
Wi-Fi Configuration
STA
Encryption
WPA2PASK
NetWork Name
Artemis_Ocpp
Password
DHCP
Disable
IP
192.168.1.136
NetMask
255.255.255.0
Gateway
192.168.1.136
Cancel
Save

5.6.2.4 IP configuration(Ethernet)

After you have successfully set the priority of networking mode, connect the router and charging point with a network cable and check the network connection status according to the "system status".If the network connection fails, refresh the web page or check the network cable connection and restart the charging point.Generally, the setting is set to "Enable" DHCP.

If you want to set the IP address manually, please follow the steps below:

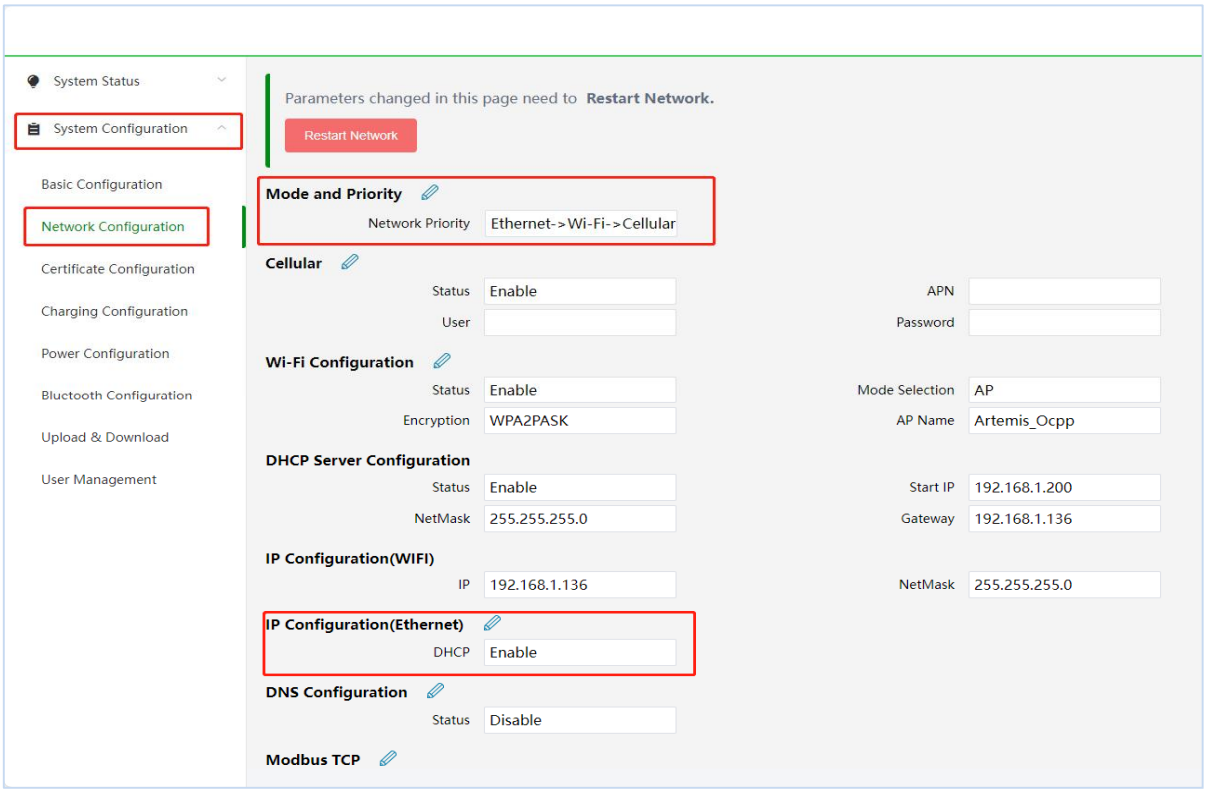
(1) Click “Network Configuration”.

(2) Click the pencil icon.

(3) Change the status to "Disable".

(4) Fill in the IP, NetMask, Gateway (fill in by yourself, the picture is only an example).

(5) Click “save” to complete the operation.



5.6.2.5 DNS Configuration

Generally, the factory setting "Disable" is maintained. If you want to change it, please follow the steps below:

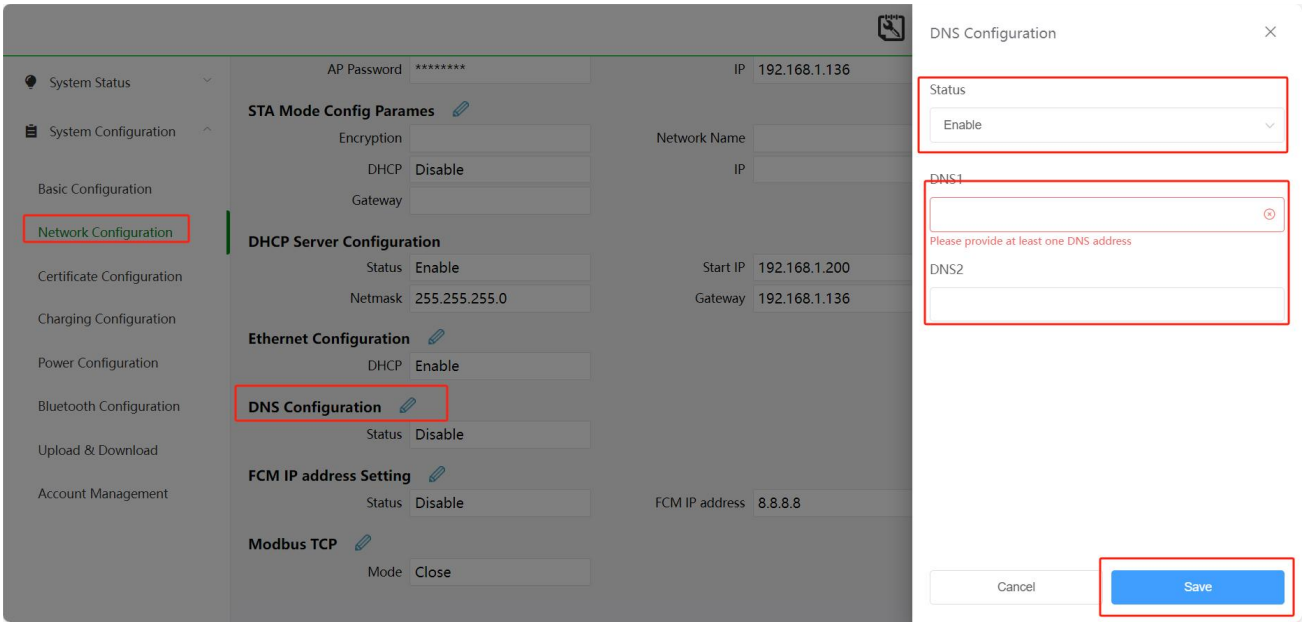
(1) Click “Network Configuration”.

(2) Click the pencil icon.

(3) Change the status to "Enable".

(4) Fill in the DNS (please fill in the form yourself, the picture is only an example and here the DNS can fill in only one).

(5) Click “save” to complete the operation.



5.6.2.6 FCM IP address configuration

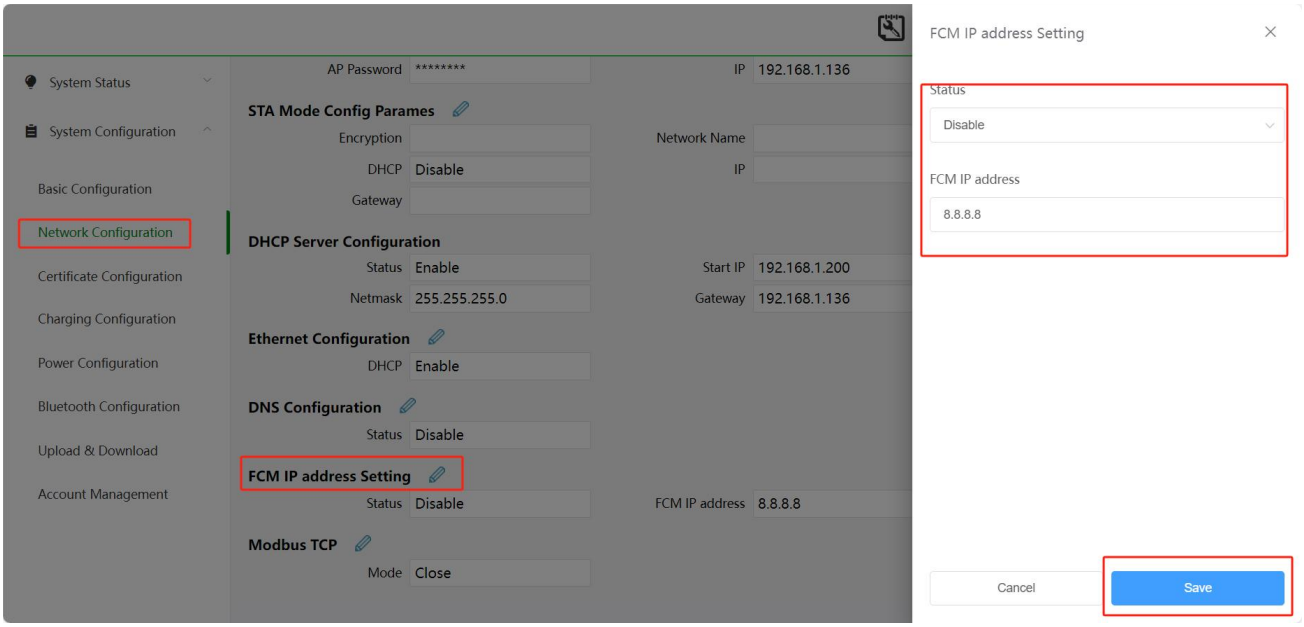
Set an IP to check if it's connected and stop charging if it's disconnected.

(1) Click “Network Configuration”.

(2) Click the pencil icon.

(3) Change the status to Enable and fill in the FCM IP address (The address in the figure is assumed).

(4) Click “save” to complete the operation.



5.6.2.7 Modbus TCP

One-to-many power regulation through external devices.

(1) Click “Network Configuration”.

(2) Click the pencil icon.

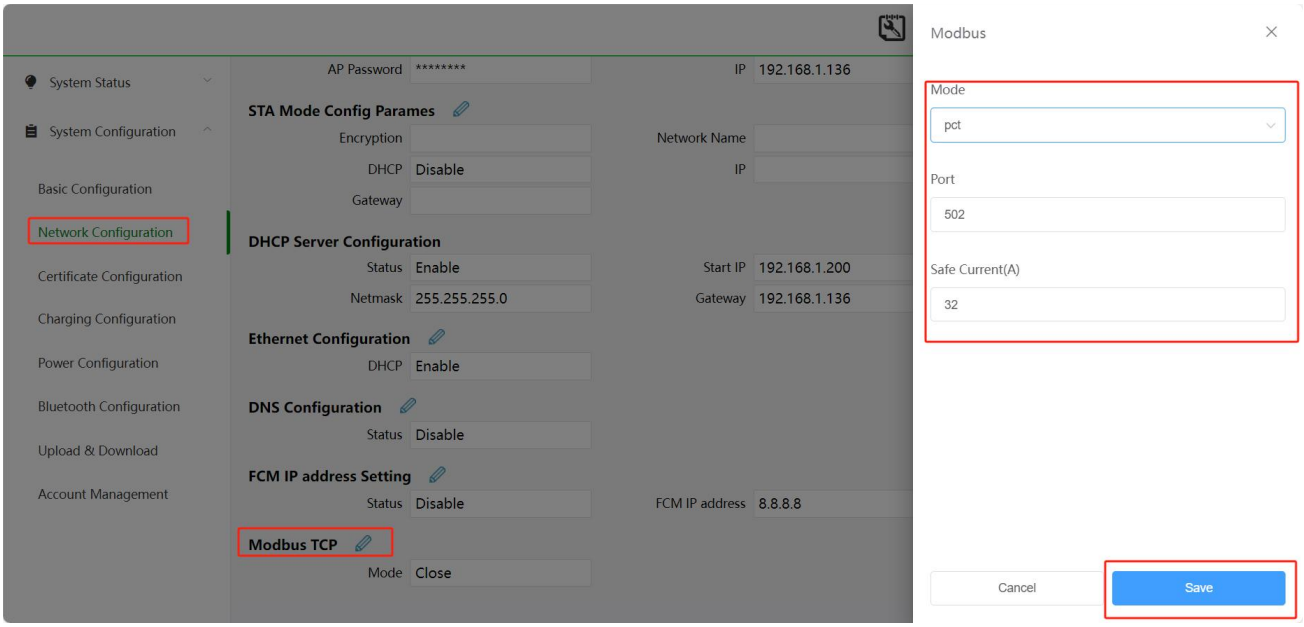
(3) Fill in the port number, here the default is 502 , you can also set your own.

(4) Depending on the hardware selection mode, three modbus station table types are provided here:pct(peakcontroller), ECC(Energy Center Controller).

Note：The ECC IP Address input box is displayed when ECC is selected for Modbus Type.

(5) Fill in the safety current value(Different charging stations correspond to different ranges.).

(6) Click “save” to complete the operation.



5.6.3 Certificate configuration

5.6.3.1 OCPP certificate management

View or download the uploaded certificate, or upload a new certificate.

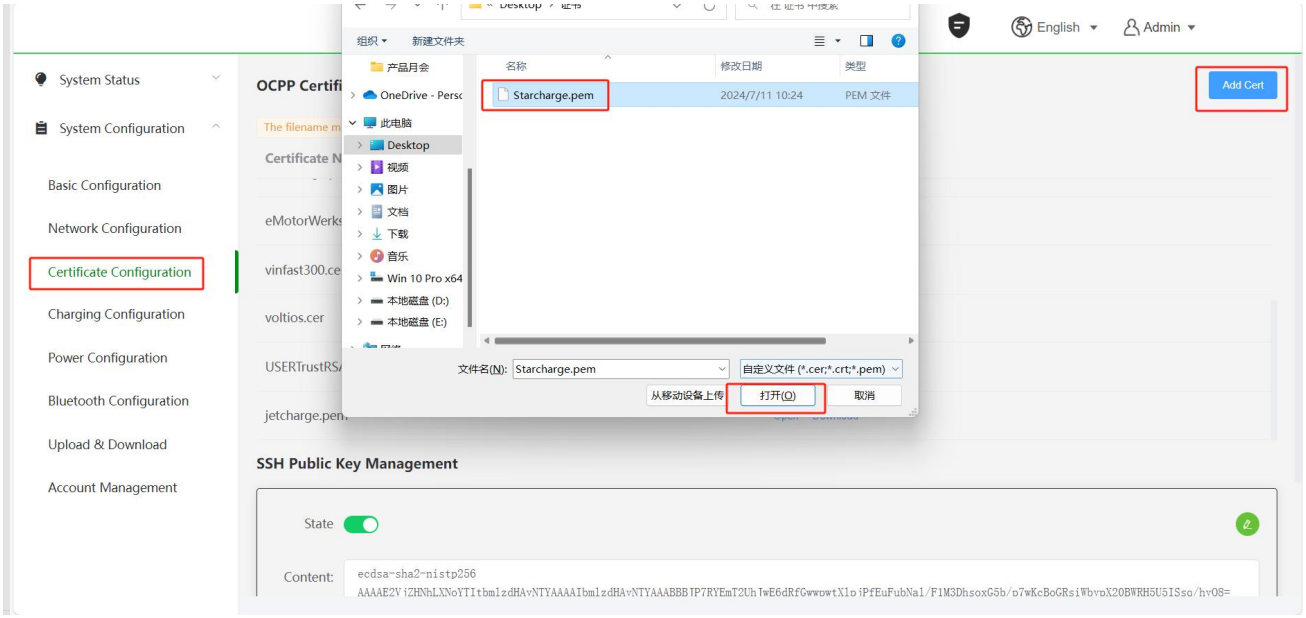
(1) Click “Certificate Configuration”.

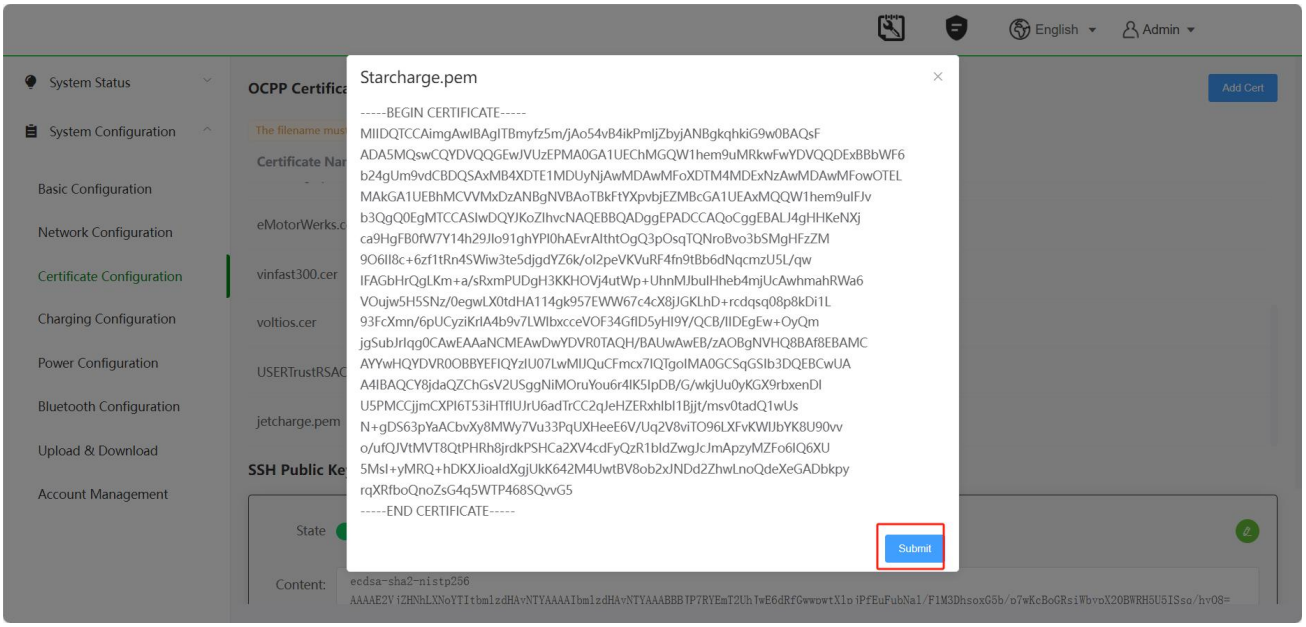
(2) Click “Add Cert” to add the certificate file.

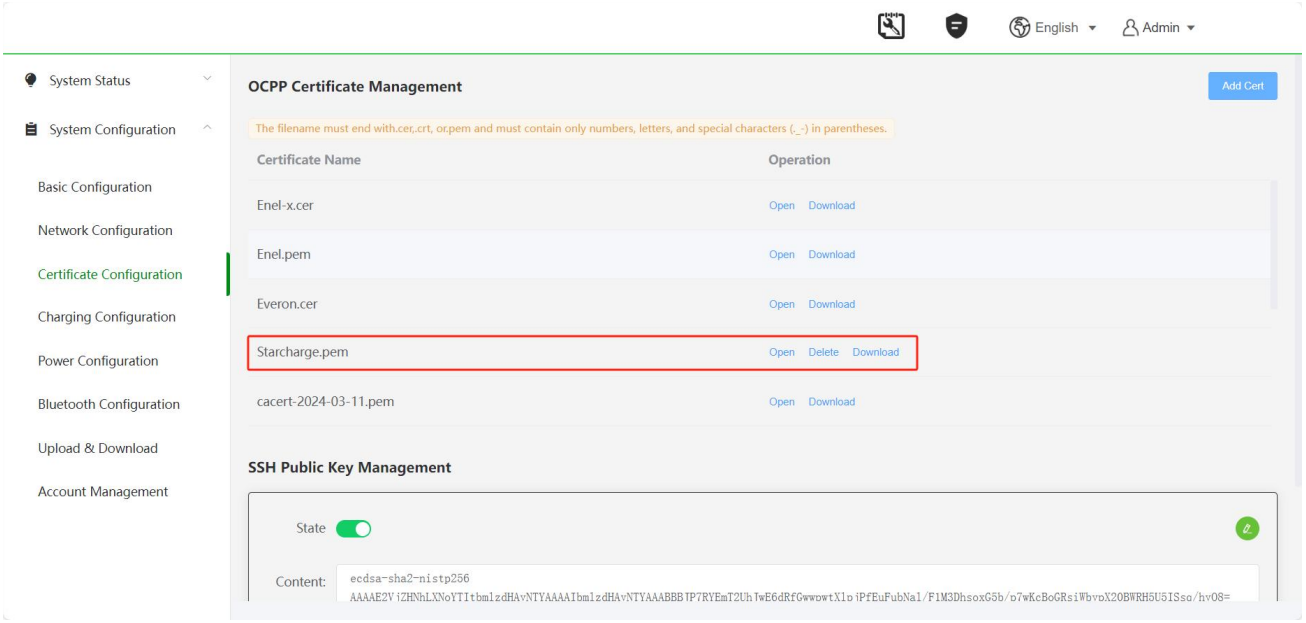
(3) Confirm and click “Submit”.

(4) After submitting, you can see the certificate you just uploaded on the *OCPP Certificate Management page*, and you can delete or download it.

Note: Only *crt, *cer, *pem formats are supported.


English
Admin
System Status
System Configuration
Basic Configuration
Network Configuration
Certificate Configuration
Charging Configuration
Power Configuration
Bluetooth Configuration
Upload & Download
Account Management
OCPP Certifi
Add Cert
组织
新建文件夹
名称
修改日期
类型
Starcharge.pem
2024/7/11 10:24
PEM 文件
产品月会
OneDrive - Perso
此电脑
Desktop
视频
图片
文档
下载
音乐
Win 10 Pro x64
本地磁盘 (D:)
本地磁盘 (E:)
文件名(N):
Starcharge.pem
自定义文件 (*.cer;*.crt;*.pem)
从移动设备上传
打开(O)
取消
SSH Public Key Management
State
Content:
ecdsa-sha2-nistp256


English
Admin
System Status
System Configuration
Basic Configuration
Network Configuration
Certificate Configuration
Charging Configuration
Power Configuration
Bluetooth Configuration
Upload & Download
Account Management
Add Cert
Starcharge.pem
-----BEGIN CERTIFICATE-----
MIIDQTCCAimgAwIBAgITBmyfz5m/jAo54vB4ikPmIjZbyjANBgkqhkiG9w0BAQsF
ADA5MQswCQYDVQQGEwJVUzEPMA0GA1UEChMGQW1hem9uMRkwFwYDVQQDExBBbWF6
b24gUm9vdCBDQSAxMB4XDTE1MDUyNjAwMDAwMFoXDTM4MDExNzAwMDAwMFowOTEL
MAkGA1UEBhMCVVMxDzANBgNVBAoTBkFtYXpvbjEZMBcGA1UEAxMQQW1hem9uIFJv
b3QgQ0EgMTCCASIwDQYJKoZIhvcNAQEBBQADggEPADCCAQoCggEBALJ4gHHKeNXj
ca9HgFB0fW7Y14h29Jlo91ghYPl0hAEvrAIthtOgQ3pOsqTQNroBvo3bSMgHFzZM
9O6II8c+6zf1tRn4SWiw3te5djgdYZ6k/oI2peVKVuRF4fn9tBb6dNqcmzU5L/qw
IFAGbHrQgLKm+a/sRxmPUDgH3KKHOVj4utWp+UhnMJbulHheb4mjUcAwhmahRWa6
VOujw5H5SNz/0egwLX0tdHA114gk957EWW67c4cX8jJGKLhD+rcdqsq08p8kDi1L
93FcXmn/6pUCyziKrlA4b9v7LWlbxcceVOF34GfID5yHI9Y/QCB/IIDEgEw+OyQm
jgSubJrIqg0CAwEAAaNCMEAwDwYDVR0TAQH/BAUwAwEB/zAOBgNVHQ8BAf8EBAMC
AYYwHQYDVR0OBBYEFIQYzIU07LwMIJQuCFmcx7IQTgoIMA0GCSqGSIb3DQEBCwUA
A4IBAQCY8jdaQZChGsV2USggNiMOruYou6r4lK5IpDB/G/wkjUu0yKGX9rbxenDI
U5PMCCjjmCXPI6T53iHTfIUJrU6adTrCC2qJeHZERxhlbI1Bjjt/msv0tadQ1wUs
N+gDS63pYaACbvXy8MWy7Vu33PqUXHeeE6V/Uq2V8viTO96LXFvKWlJbYK8U90vv
o/ufQJVtMVT8QtPHRh8jrdkPSHCa2XV4cdFyQzR1bldZwgJcJmApzyMZFo6IQ6XU
5MsI+yMRQ+hDKXJioaldXgjUkK642M4UwtBV8ob2xJNDd2ZhwLnoQdeXeGADbkpy
rqXRfboQnoZsG4q5WTP468SQvvG5
-----END CERTIFICATE-----
Submit

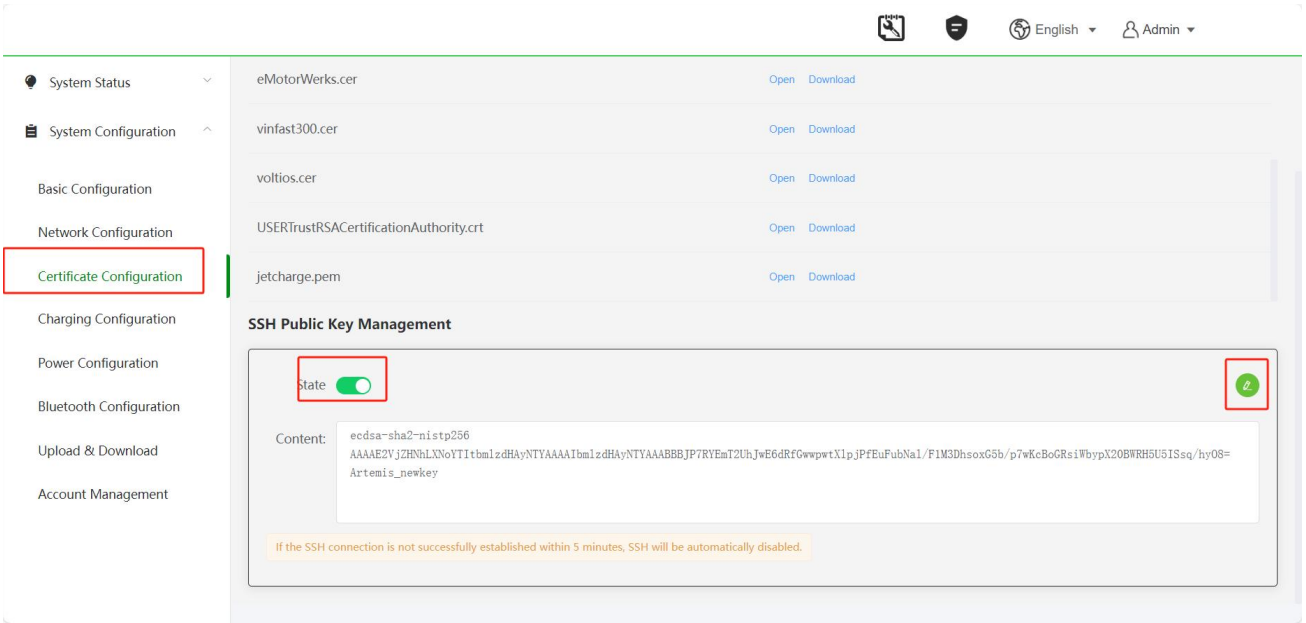


5.6.3.2 SSH public key management

Application Scenario： The charging stations from our factory do not come with SSH pre-installed. If you wish to use SSH, please upload your public key here and proceed to pair it with the private key.

The specific operation is as follows:

You can use the State button to enable or disable the SSH Public Key Management function. Once opened, add the certificate by clicking the pencil icon.Finally, remember to click "Submit".



5.6.4 Charging configuration

5.6.4.1 Basic configuration

Functional Description： This part is the basic settings of the charging station.It is possible to modify EVSE ID, Group Number, Equipment type, etc. as well as to enable screen, sub-board Cover, and QR code.

Parameter Explanation:

EVSE ID: The station number of the charging station, initialized as the station number of the baseboard,maximum support 40 digits.

Group Number: Grouping number of the charging station.

Alternating Charging: Equipment type,1-single connector .

Card reader Block Number: That is the card sector block,a specific area used to store and access data on a card.The default setting here is 0.

Card Read Pwd: The password for the card reader. All 0xFF, meaning no card number.

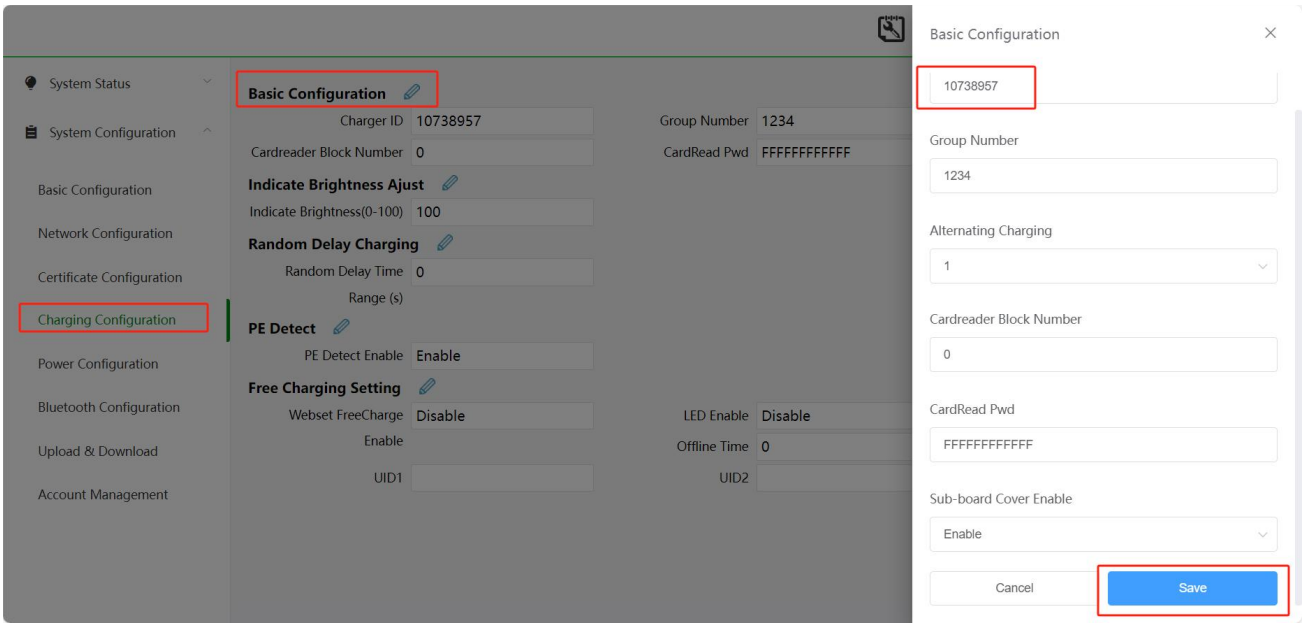
(1) Click the “Charging Configuration”.

(2) Click the pencil icon.

(3) Make changes according to your actual needs.

(4) Click “save” to complete the operation.

Note: If you find that your charging station ID is not changed successfully after reboot, please check if "sub-board Cover Enable" is enabled.



5.6.4.2 Indicate brightness adjust

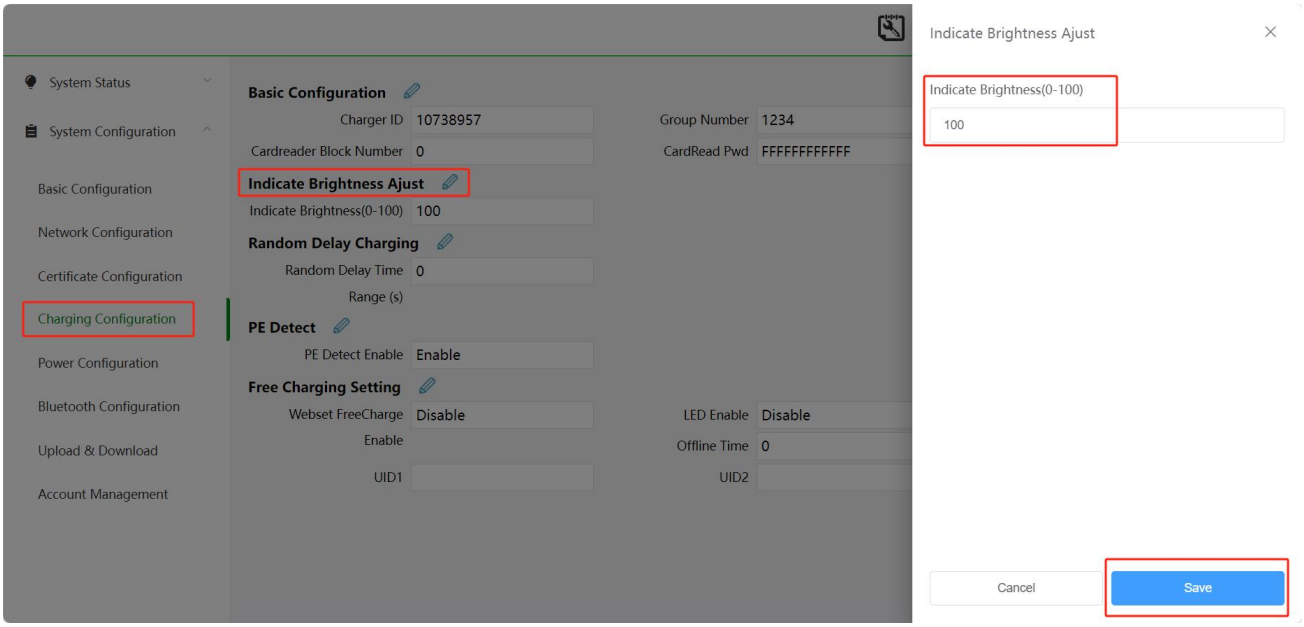
Adjust the brightness of the light. The factory default display brightness is 100.

(1) Click “Charging Configuration”.

(2) Click the pencil icon.

(3) Fill in the display brightness (0-100).

(4) Click “save” to complete the operation.



5.6.4.3 Random delay charging

Functional Description： Before initiating charging (card swipe, platform, bluetooth, etc.), the system will randomly select a number(between 0 and the number you set) for the delay. Note that the plug and charge mode does not support this function.

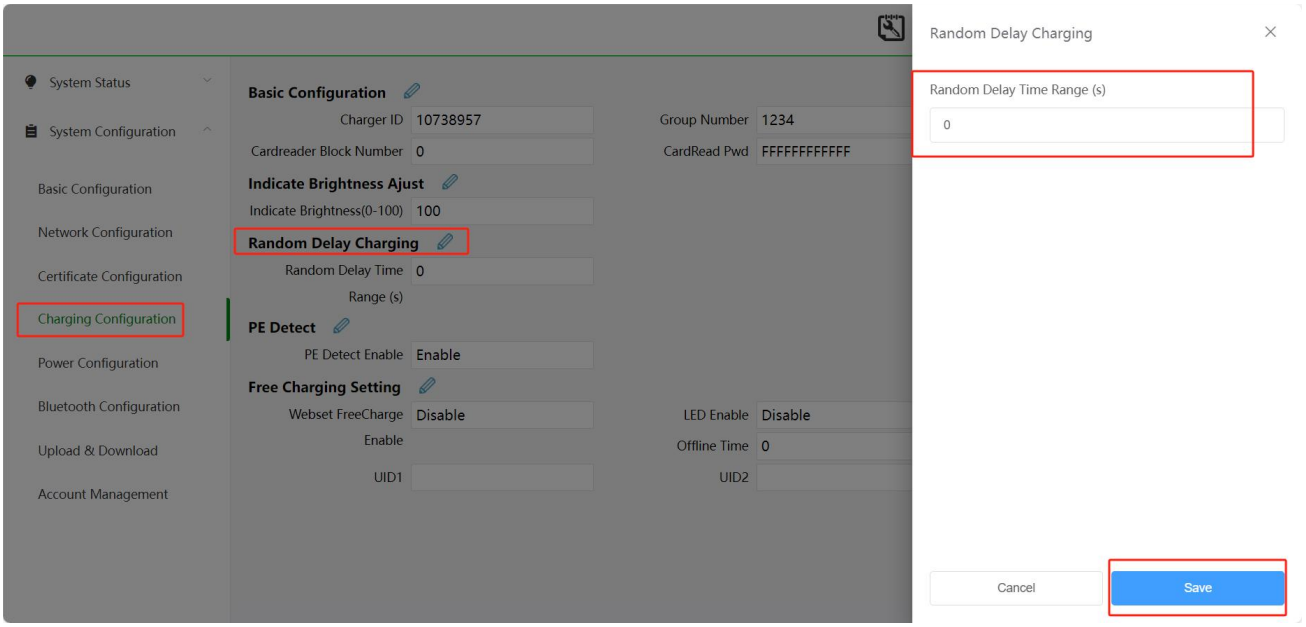
STEPS:

(1) Click “Charging Configuration”.

(2) Click the pencil icon.

(3) Set the upper limit of the random delay (need to be between 0 and 1800).

(4) Click “save” to complete the operation.



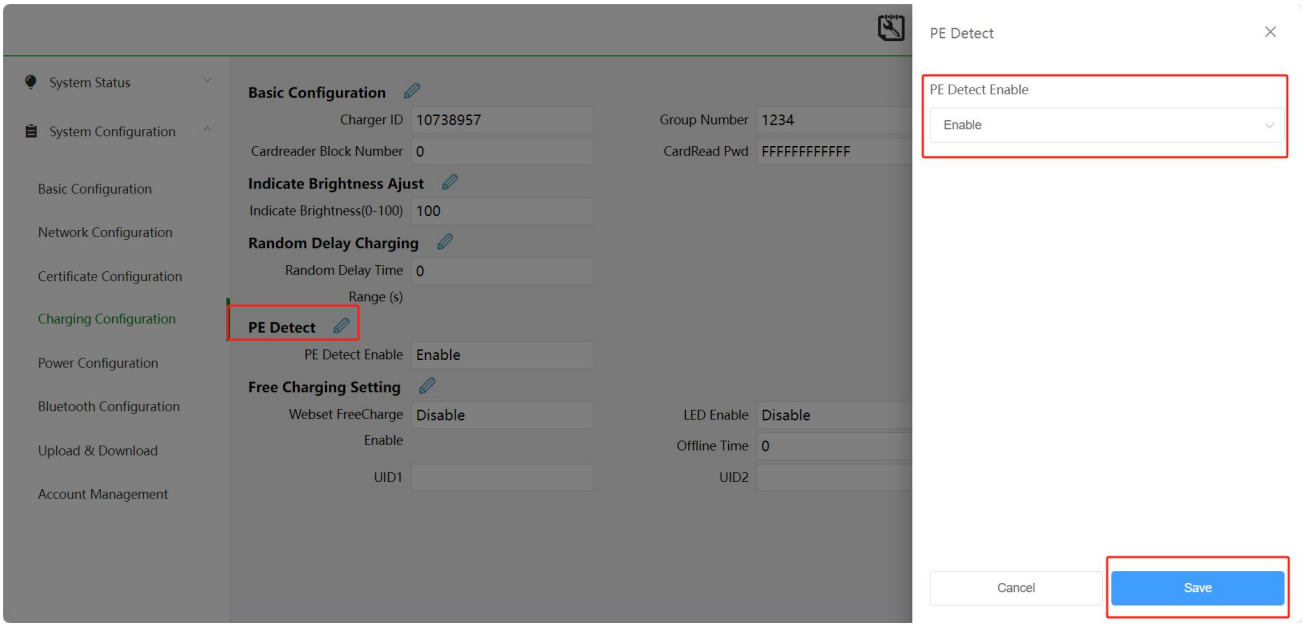
5.6.4.4 PE Detect

(1) Click “Charging Configuration”.

(2) Click the pencil icon.

(3) Select whether to enable or disable PE detect. If the PE detect is disabled it also means that no further ground faults will be reported.

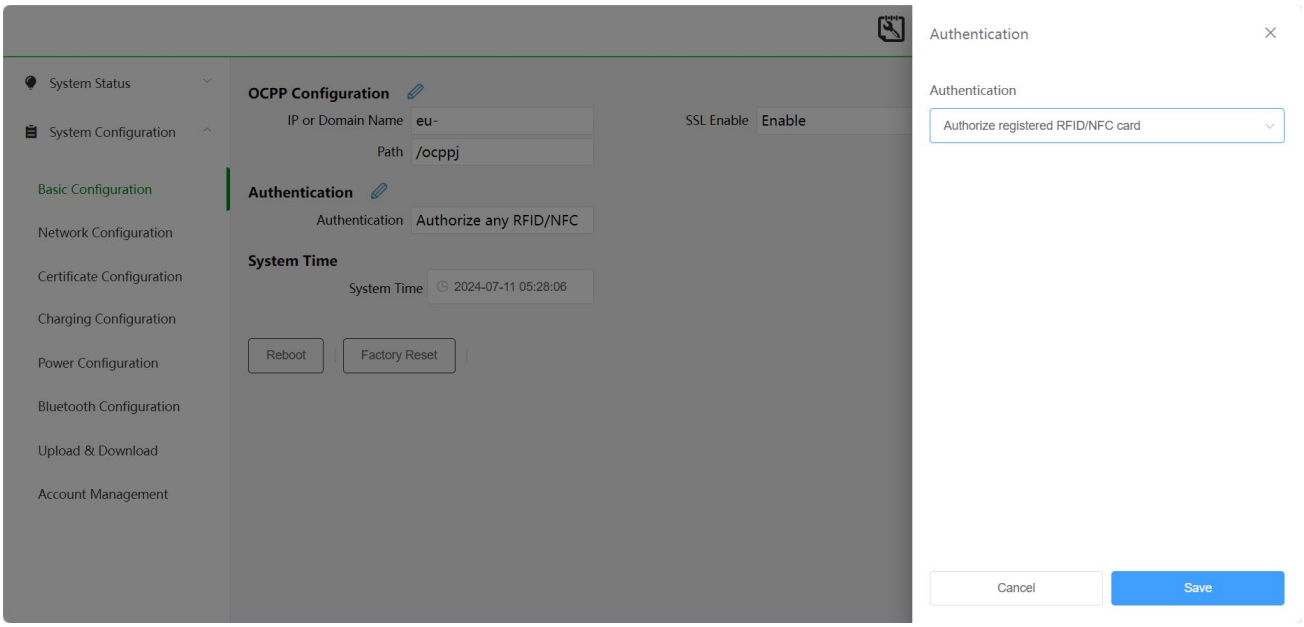
(4) Click “save” to complete the operation.

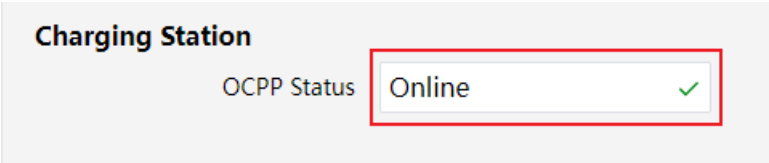


5.6.4.5 Free charging setting

Prerequisite:

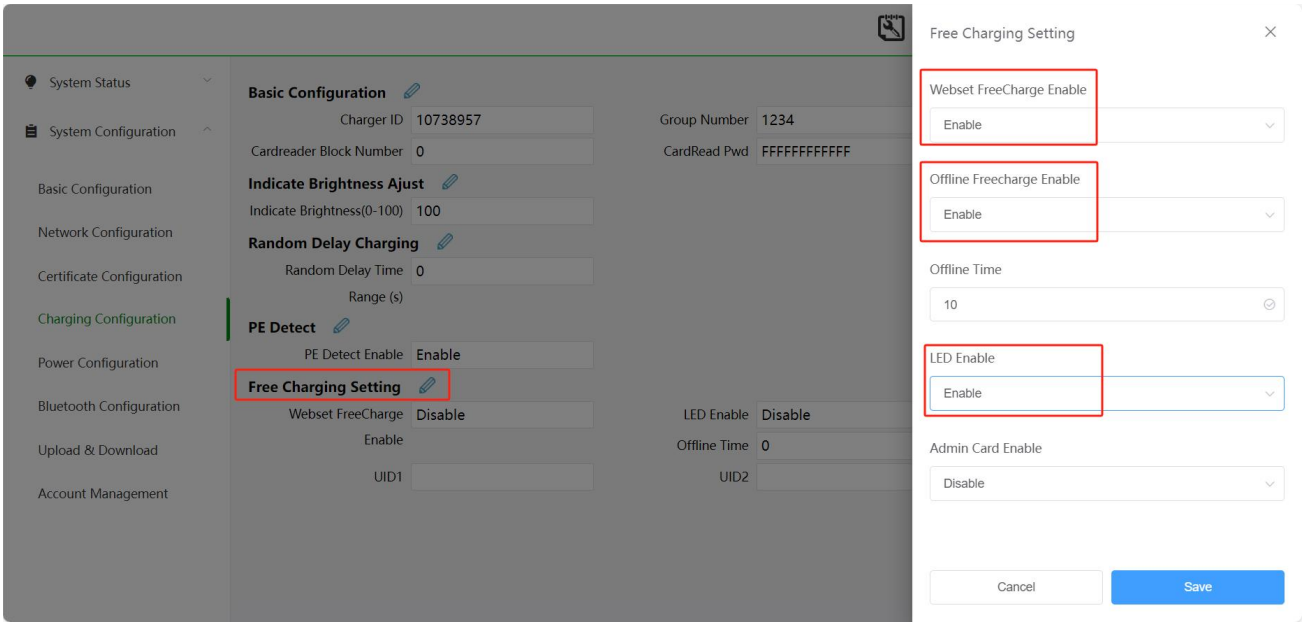
- The authentication mode must be Authorize registered RFID/NFC card.
- Connected to the OCPP platform.



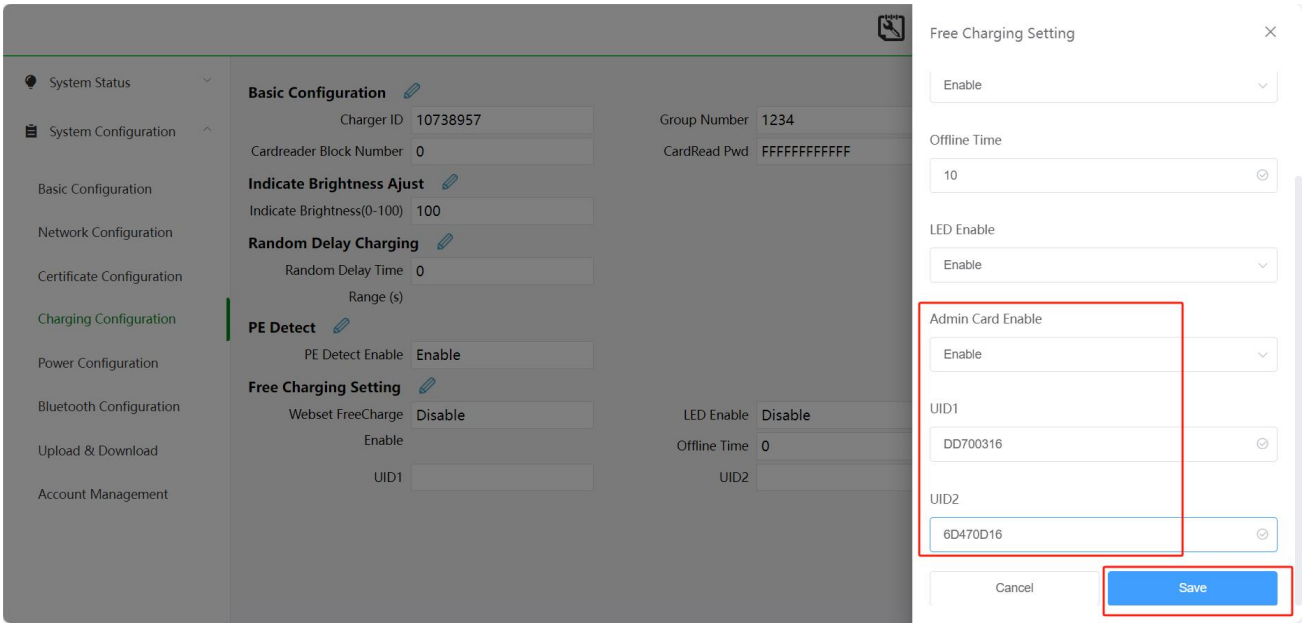


Functional Description: This function simply means that no authentication is required which is equivalent to plug-and-play mode(note:starting/stopping charging must be done by plugging and unplugging the connector), and I'll explain what each box represents below.

- **Webset Free Charge Enable:** Enable Free Charge mode when online.
- **Offline Free charge Enable: E**nable Free Charge mode when offline and you can also set the offline time(Unit: seconds).
- **LED Enable:** If enabled, it will turn on a special light effect for Free Charge mode, provided your charging station has this feature.



- **Admin Card Enable:** After using the Admin Card to authenticate, the subsequent charging station will always be in Free charge mode (reboot does not affect).
    - It is possible to bind two idTags at the same time, but of course it is possible to bind only one(only support 0-9, A-F, a-f).
    - If two cards are bound, the two cards do not need to correspond to each other, which means that if Freecharge mode is enabled by card A, it can be cancelled through card B as well.



5.6.5 Power configuration

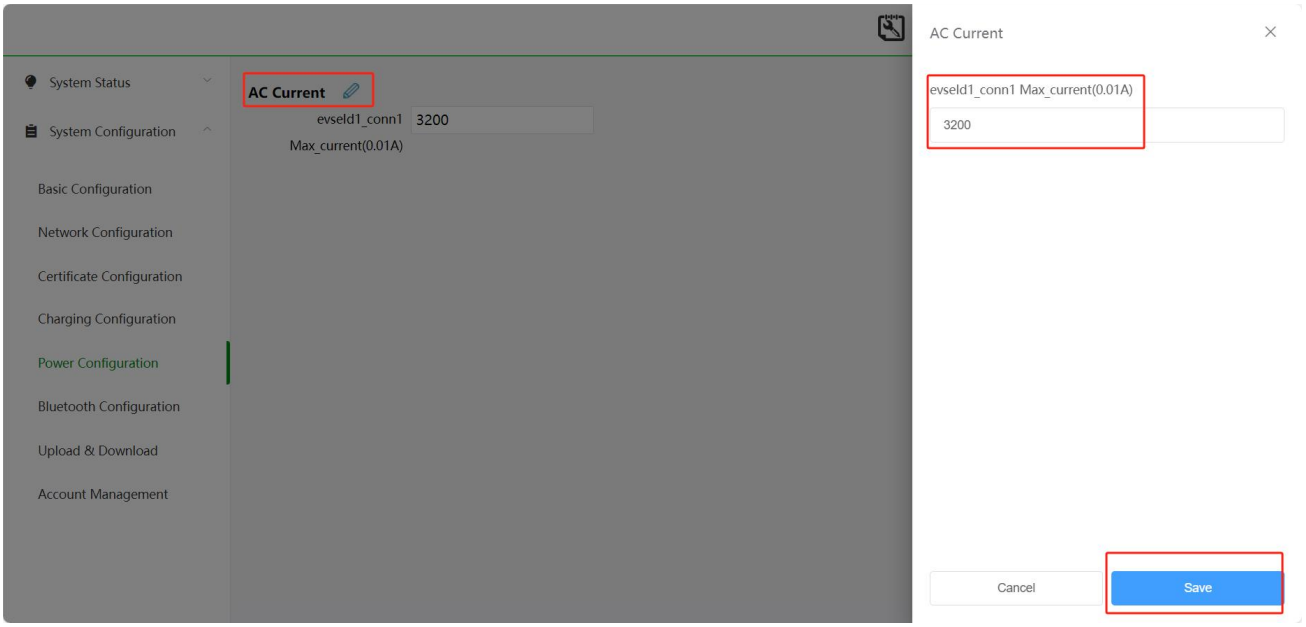
5.6.5.1 AC current

(1) Click “Power Configuration ”.

(2) Click the pencil icon.

(3) Set the maximum rechargeable current of the charging station, in 0.01A.

(4) Click “save” to complete the operation.



5.6.6 Bluetooth configuration

(1) Click “Bluetooth Configuration ”.

(2) Click the pencil icon.

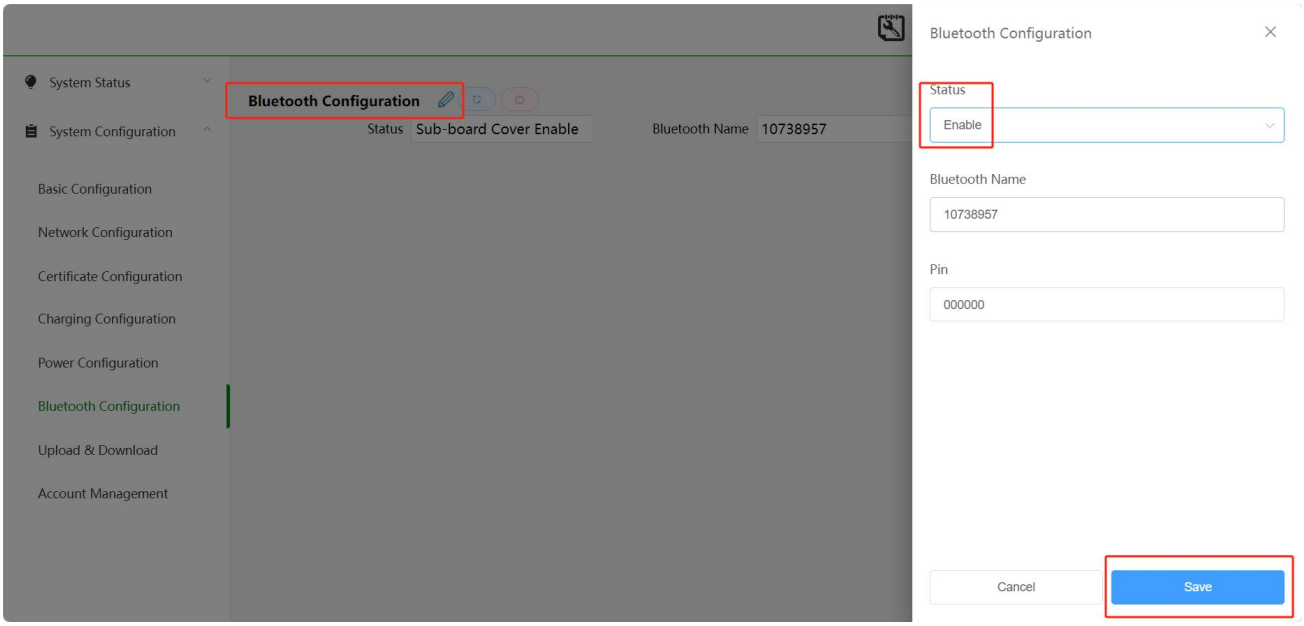
(3) The status is selected as “Enable” or “Sub-board Cover Enable”.

(4) Set the Bluetooth name (needs to be 8 digits).

This entry is ignored if the status selection is Enable “Daughterboard Cover” (i.e. Bluetooth name uses charging station ID).

(5) Setting the Pin (must consist of 6 digits or letters).

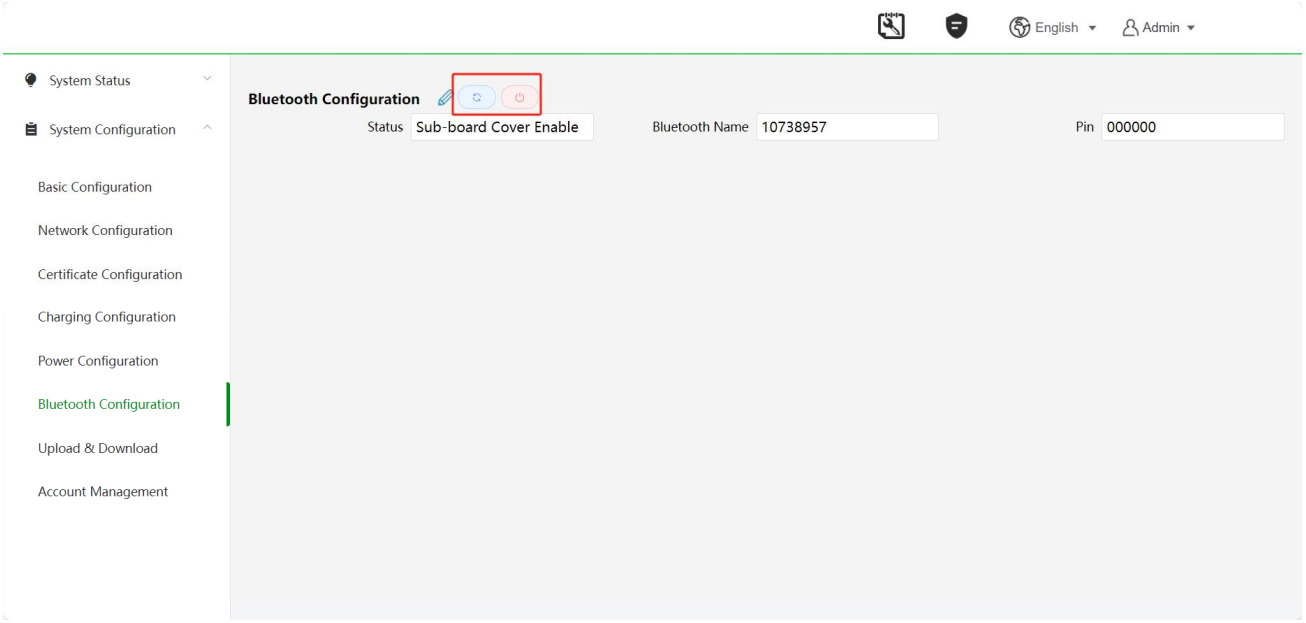
(6) Click “save” to complete the operation.



If you want to restore the default pin code: 000000, just do the following.

(1) Click on the red button "Reset".

(2) Then click on the blue button "Refresh".



5.6.7 Upload & Download

5.6.7.1 Firmware Upgrade

(1) Click “Upload & DownLoad”.

(2) Here you have two ways to do it,drag the zip upgrade package into the firmware upgrade box or click to upload it.

(3) Then the “Update Infotips” prompting frame will pop up, click “save” to start uploading upgrade packages.

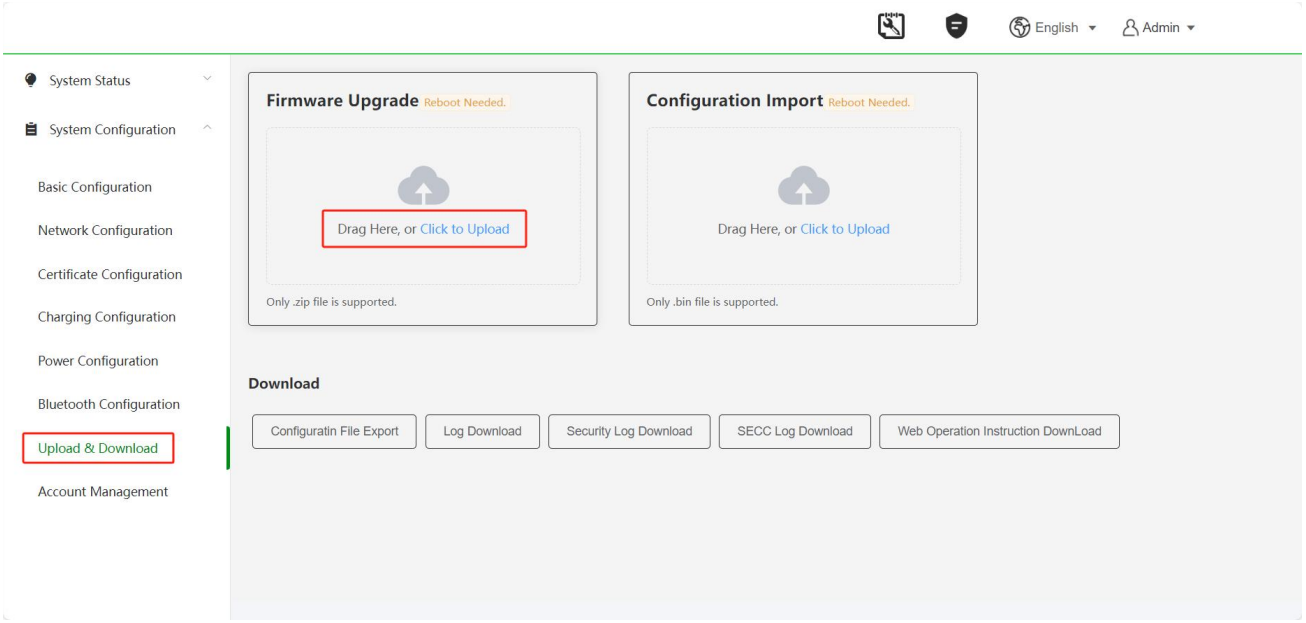
(4) Wait for the progress bar to load to 100%, and at this halfway station, whenever you want to cancel the upload, just click the ‘×’.

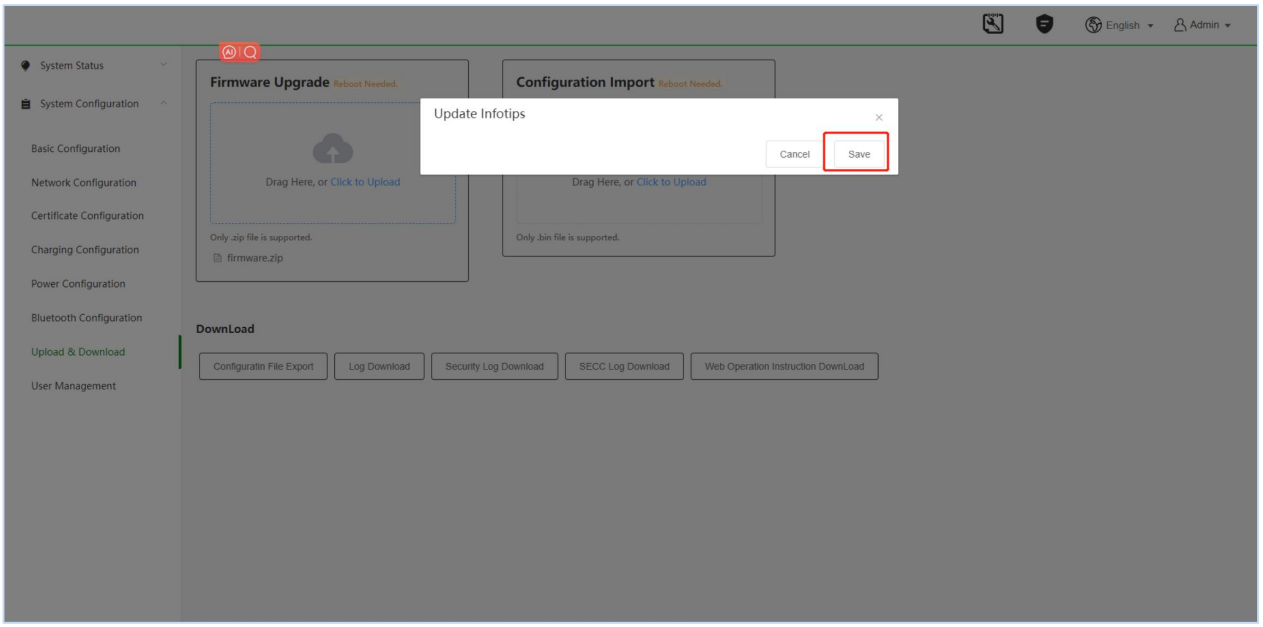
(5) Once loaded, it will start verifying and will be upgraded if the verify is successful.

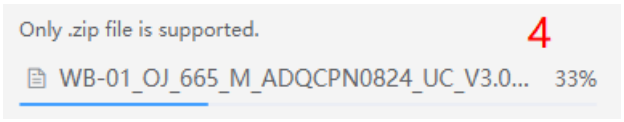
(6) During the update process, the charging station will restart and the network connection will be disconnected.You can try to refresh the page of the web configuration and check the version information after you enter the web page. If the version number changes, the firmware upgrade is complete.

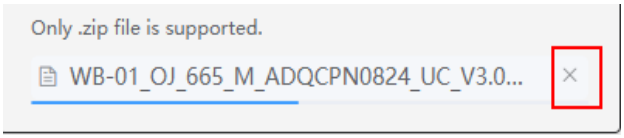
Note:

- Only .zip file is supported.
- Firmware package is not allowed to be upgraded during charging.


English
Admin
System Status
System Configuration
Basic Configuration
Network Configuration
Certificate Configuration
Charging Configuration
Power Configuration
Bluetooth Configuration
Upload & Download
Account Management
Firmware Upgrade Reboot Needed.
Drag Here, or Click to Upload
Only .zip file is supported.
Configuration Import Reboot Needed.
Drag Here, or Click to Upload
Only .bin file is supported.
Download
Configuratin File Export
Log Download
Security Log Download
SECC Log Download
Web Operation Instruction DownLoad


English
Admin
System Status
System Configuration
Basic Configuration
Network Configuration
Certificate Configuration
Charging Configuration
Power Configuration
Bluetooth Configuration
Upload & Download
User Management
Firmware Upgrade Reboot Needed.
Drag Here, or Click to Upload
Only .zip file is supported.
firmware.zip
Configuration Import Reboot Needed.
Drag Here, or Click to Upload
Only .bin file is supported.
Update Infotips
Cancel
Save
DownLoad
Configuratin File Export
Log Download
Security Log Download
SECC Log Download
Web Operation Instruction DownLoad


Only .zip file is supported.
4
WB-01_OJ_665_M_ADQCPN0824_UC_V3.0...
33%


Only .zip file is supported.
WB-01_OJ_665_M_ADQCPN0824_UC_V3.0...

5.6.7.2 Configuration import

(1) Click “Upload & Download”.

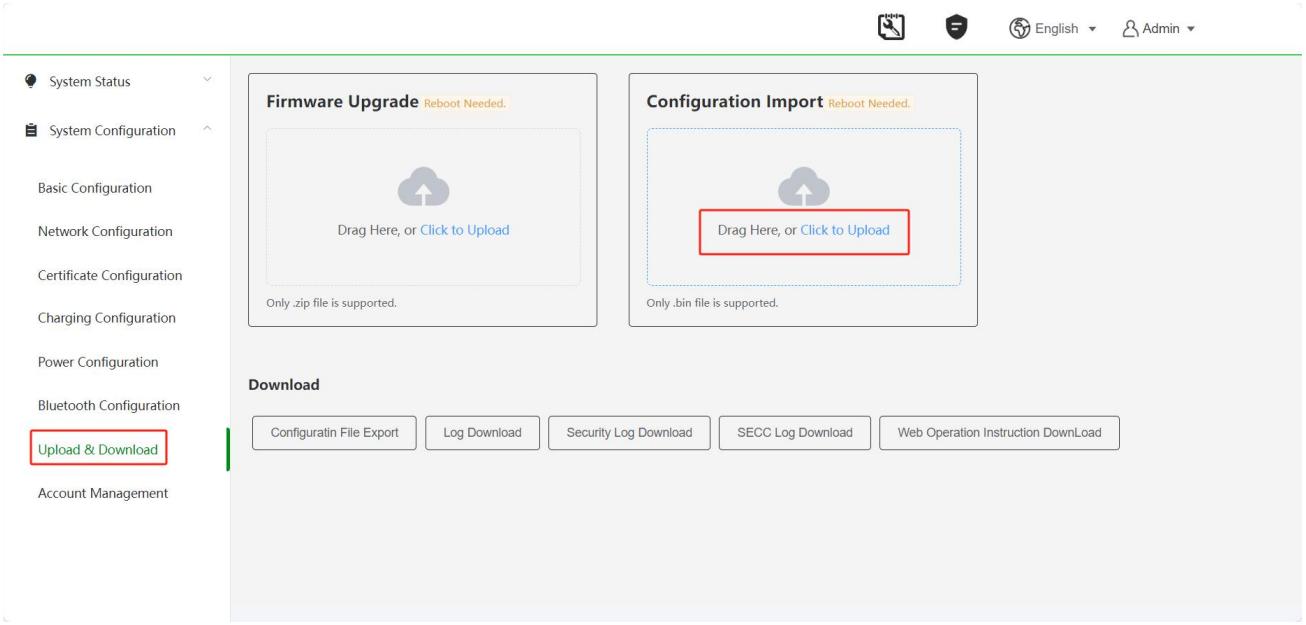
(2) Here you have two ways to do it,drag the configuration file into the configuration import box or click to upload it.

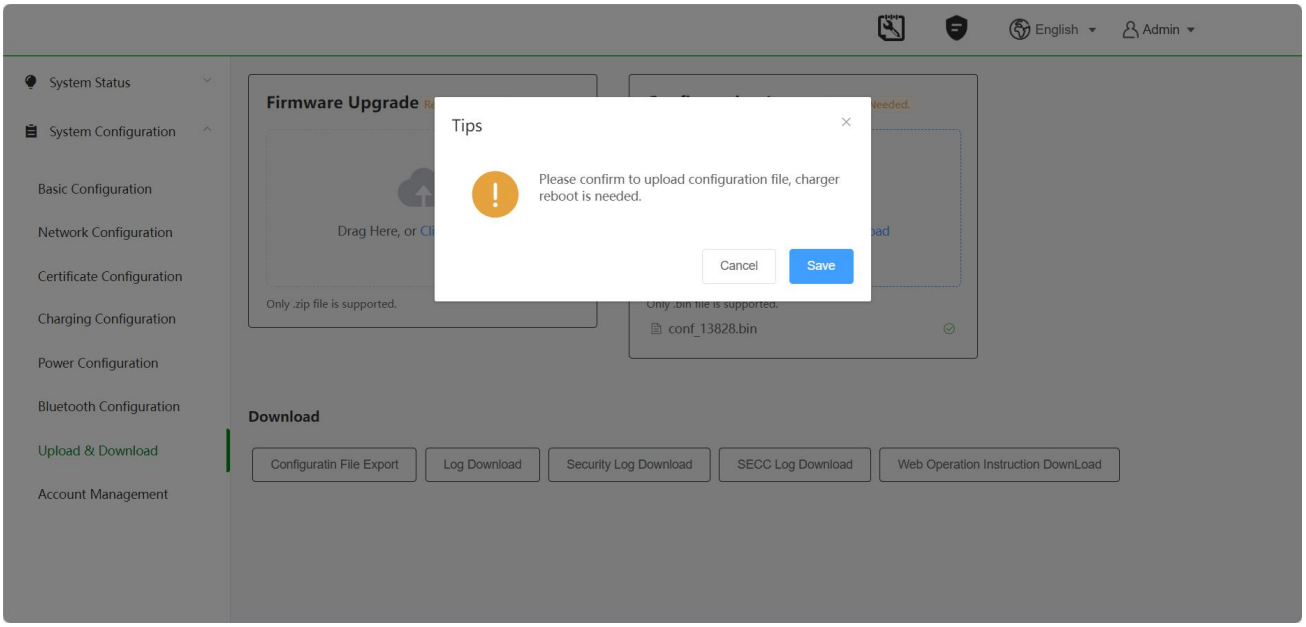
(3) Then the “Tips” prompting frame will pop up, click “save” to confirm to upload it.

(4) Because the configuration file is usually small, if the upload is successful, the system will restart immediately, and then the page will jump to the login page.

Note:

- This file refers to the OCPP Configuration File (not related to the charging station configuration).
- Only .bin file is supported.
- Configuration files can still be released during the charging process.



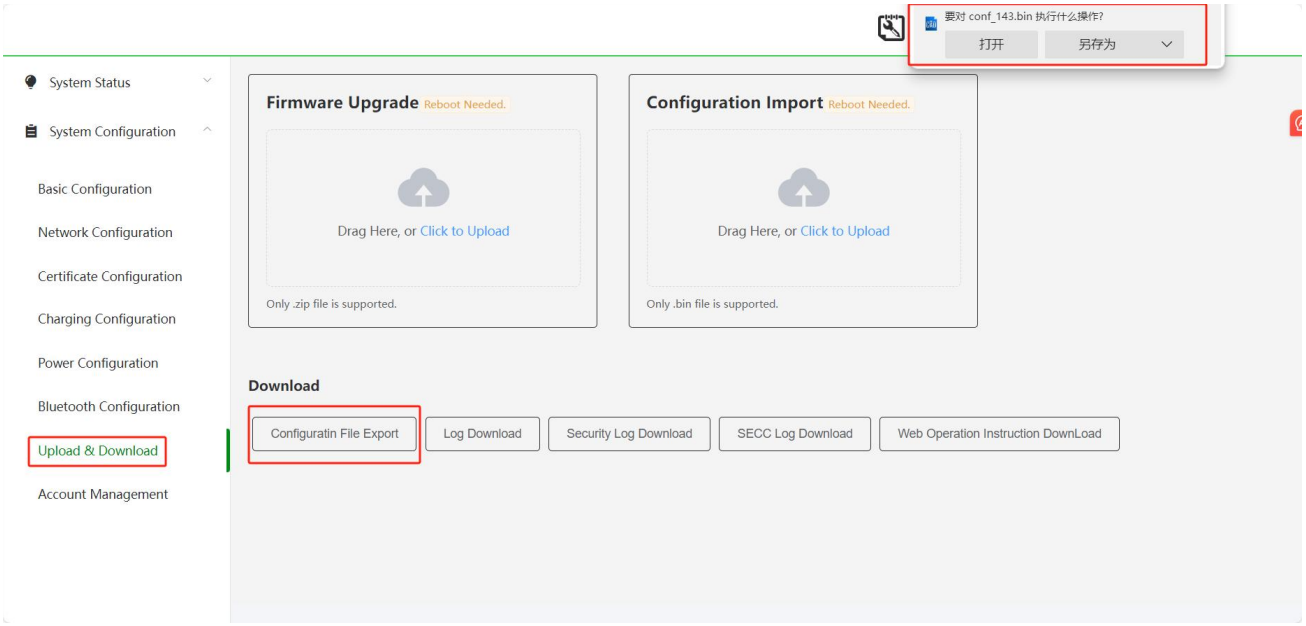


5.6.7.3 Download

Configuration File Export

(1) Click “Upload & Download”.

(2) Click “Configuration File Export”,and then configuration file (bin file) will be immediately downloaded to local.



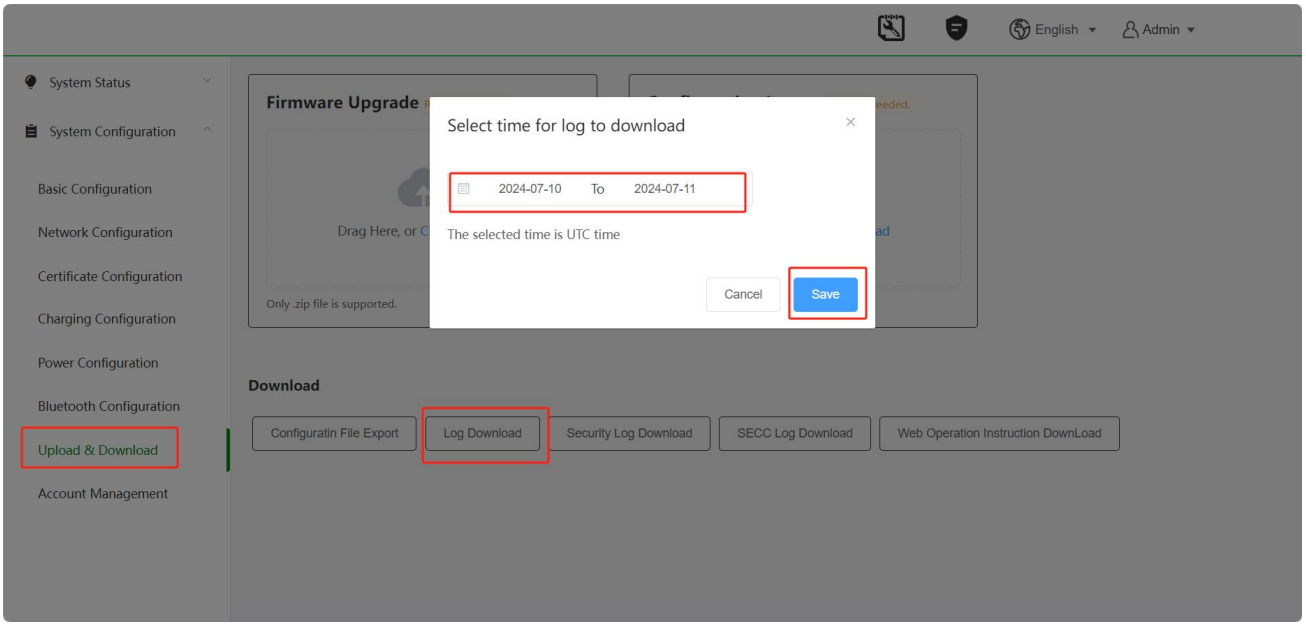
Log Download

(1) Click “Upload & Download”.

(2) Click “Log Download”.

(3) Enter the "Select time for log to download" page to set the date you want to get the log, note that you can only select 1 day here, not a period of time.

(4) Click “Save” button and the log will begin to download, and subsequently you can find it in the download centre.



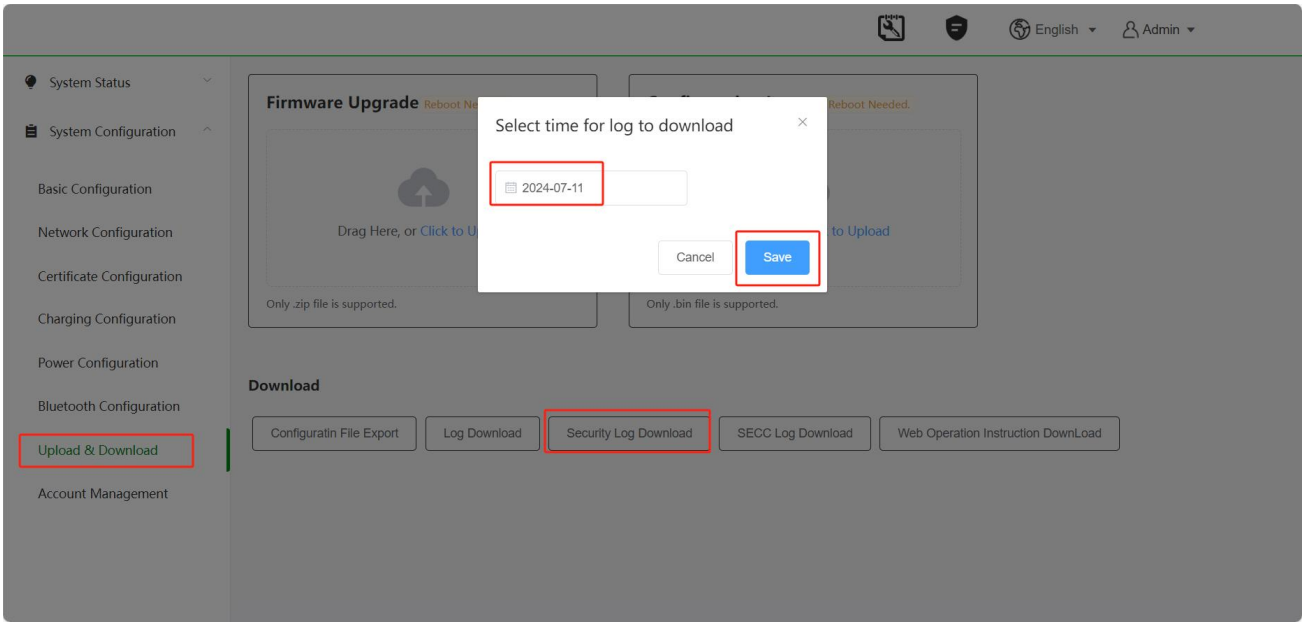
Security Log Download

(1) Click “Upload & Download”.

(2) Click “Security Log Download”.

(3) Enter the "Select time for log to download" page to set the date you want to get the security log, note that you can only select 1 day here, not a period of time.

(4) Click “Save” button and the security log will begin to download, and subsequently you can find it in the download centre.



SECC Log Download

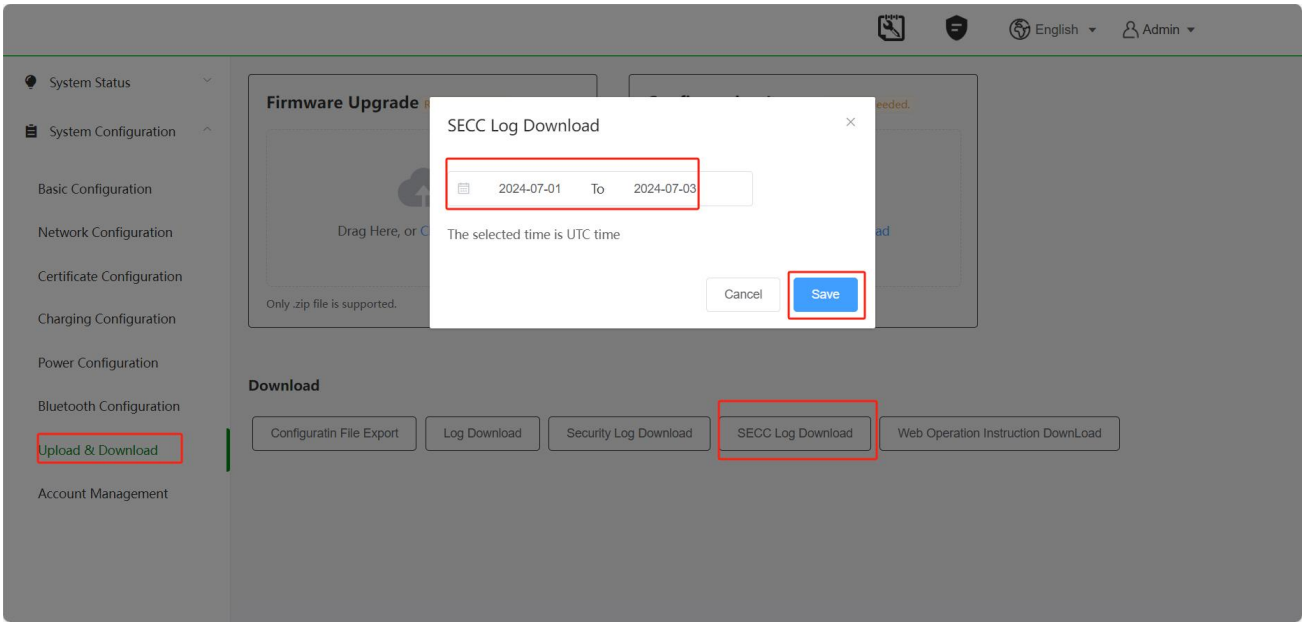
Applicable objects：Only for Charging stations with the 15118 function.

(1) Click “Upload & Download”.

(2) Click “SECC Log Download”.

(3) Go to the “SECC Log Download” page to set the time range you want to view the log for.

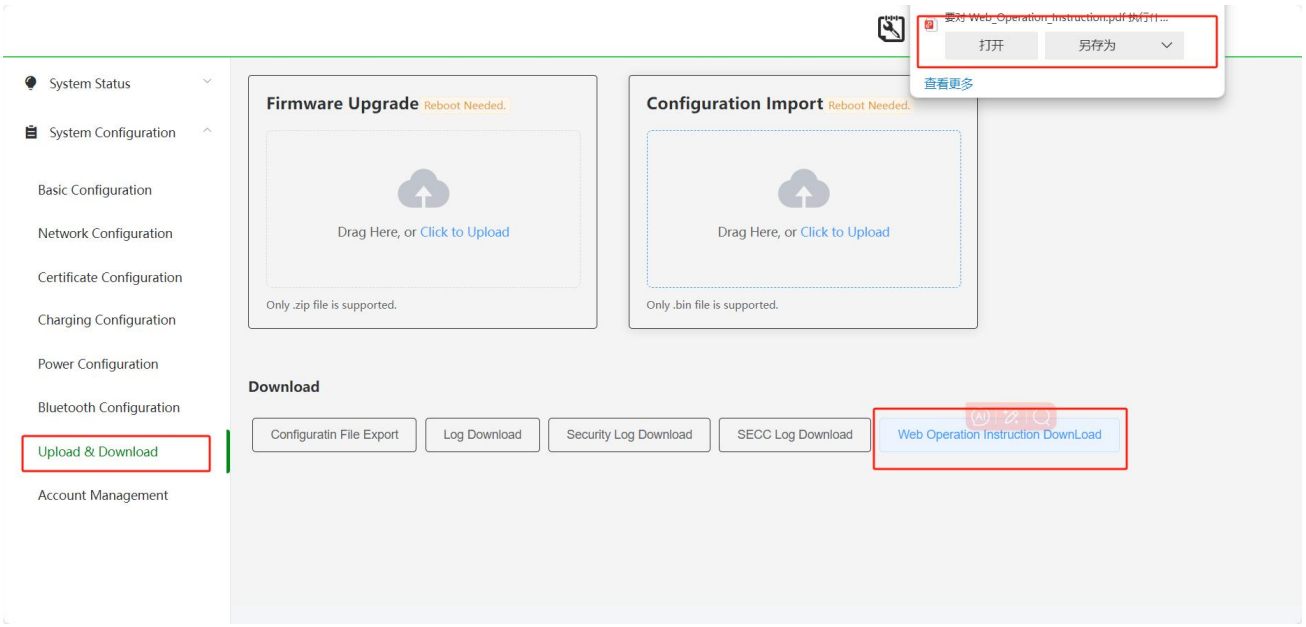
(4) Click "save" and wait for the download to start, then you can view it locally.



Web Operation instruction Download

(1) Click “Upload & Download”.

(2) Click “Web Operation instruction Download”, and then Instruction will be immediately downloaded to local.



5.6.8 User management

There are three roles set up, which are: Super Administrator, General Administrator, O&M Specialist, and each role corresponds to different permissions. As the name suggests, super administrator (only one) privileges are the highest.

5.6.8.1 User list

Add/remove users and change passwords (you can only change your own).

(1) Click “User Management”.

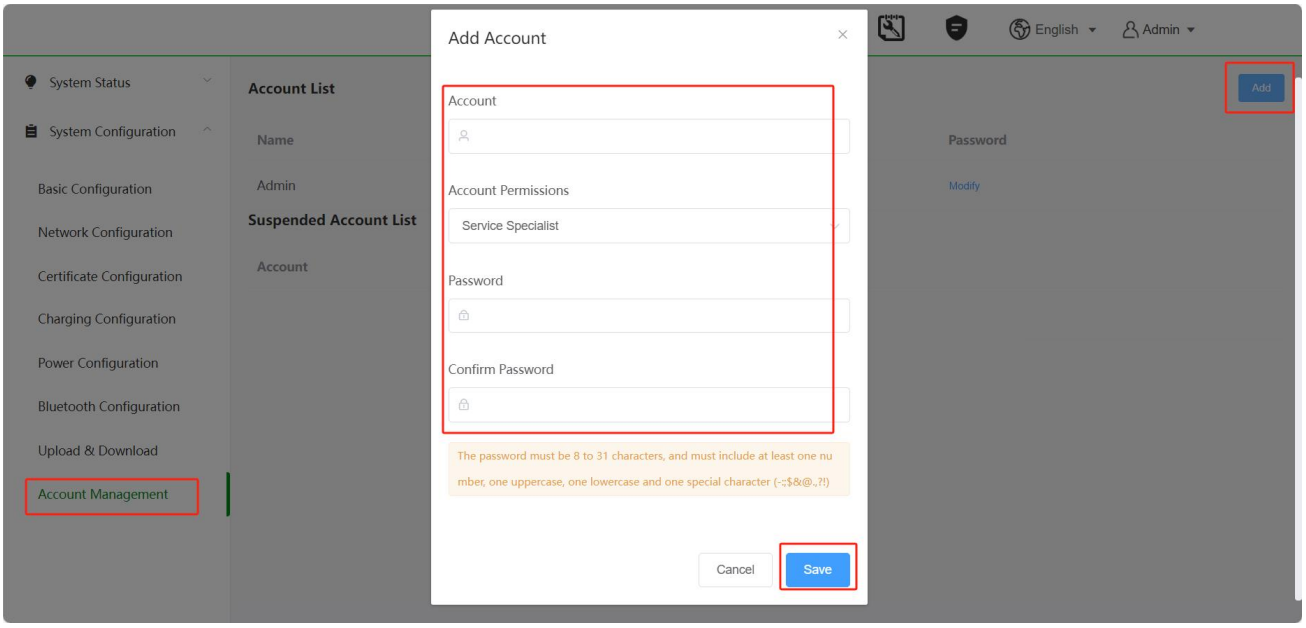
(2) Click “Add”.

(3) Fill in the username, user rights, and password.

(4) Click “save” to complete the operation.

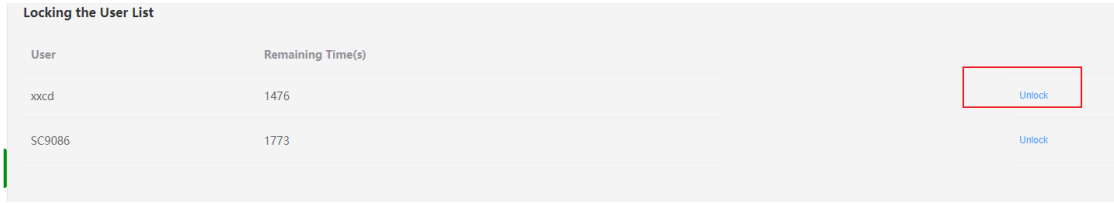
Note:

- The password must be 8 to 31 characters, and must include at least one number, one uppercase, one lowercase and one special character (-:;$&@.,?!).
- Username and password cannot be the same.



5.6.8.2 Locking the user list

If your account is locked, you can unlock your account through administrator account.



5.7 Other notes

5.7.1 About login

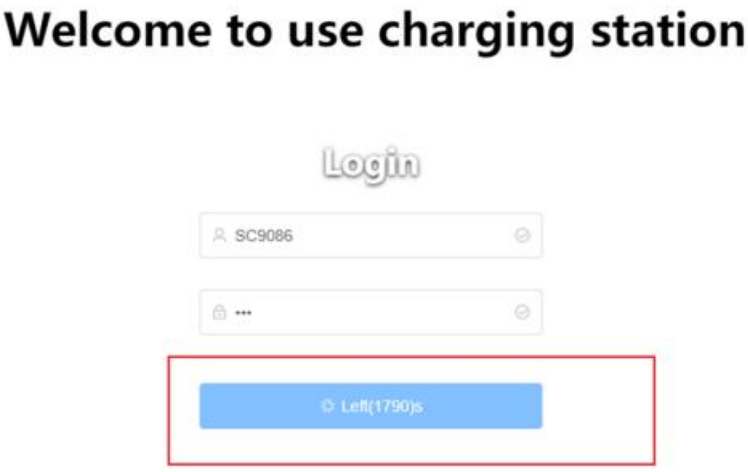
(1) Default user name & password:

User name: Admin

Password: Starcharge123!

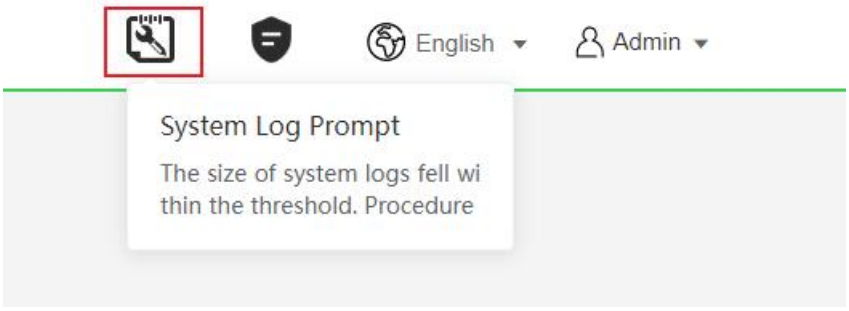
(2) Maximum number of login errors: 6

Note: Once the limit is exceeded, your account will be locked for 1800s.



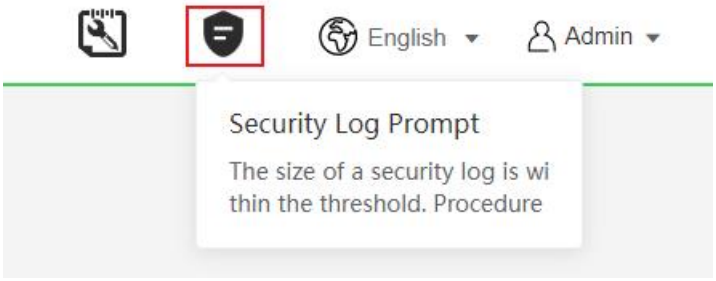
5.7.2 System log notification

Prompts if the size of the system log remains within the designated threshold.



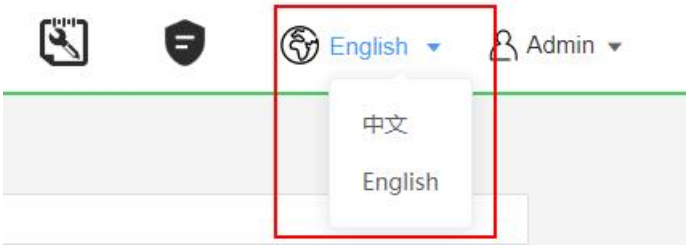
5.7.3 Security log notification

Prompts if the size of the security log remains within the designated threshold.



5.7.4 Language settings

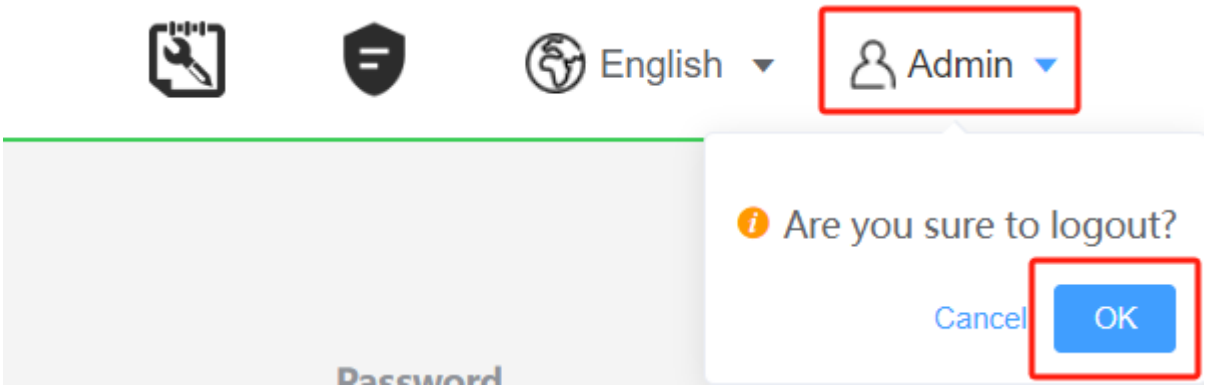
Currently only Chinese and English switching is supported.



5.7.5 Logout page

See the diagram below for specific steps.

Note: For security reasons, the web page will also exit the page from time to time, and you can log in again.



5.8 Customer Training

Following EVSE commissioning, the engineer should provide basic user training on the EVSE's key features. This training can be delivered in document form or through a practical on-site explanation. The training content should cover safety knowledge, basic charging procedures, and other relevant topics.

Refer to Appendix 1, "Customer Training Record Sheet," for further details.

5.9 Appendix

Appendix 1 Customer Training Record Sheet

Customer Training Record Sheet

Customer:

Product		Trainer	
Training method		Training Date	
Training Department			
Training Content			
Training Purpose			
Outline of Training handout	1. Basic charging operation procedure □ 2. Common sense of safety and emergency □ 3. Troubleshooting process □		
Trainee Signature			
Customer feedback			
Customer :		Project manager :	

Appendix 2 Commissioning Report

Commissioning Report

Date:

Commissioning Engineer:

Charging Station:

Address:

1 Details of the EVSE

ID	Specification	Installation	Charging cable length	Firmware version	Backend

2 Appearance inspection

Item	Content	Conclusion	Comments
Surface	• Clean and free of debris • Charging cable undamaged • EVSE positioned upright	□ Pass □ Fail	
Safety Markings	• All safety warnings present and legible • Nameplate information clear and intact	□ Pass □ Fail	
Requirements	• Meets all installation specifications • All accessories included	□ Pass □ Fail	
Other	• Fire-resistant material installed (if applicable)	□ Pass □ Fail	

3 Check the internal circuit

Object	Content	Conclusion	Remark
Input L1 and L2	Open Circuit	□ Pass □ Fail	
Input L1 and L3	Open Circuit	□ Pass □ Fail	
Input L2 and L3	Open Circuit	□ Pass □ Fail	
Input L1 and N	Open Circuit	□ Pass □ Fail	
Input L2 and N	Open Circuit	□ Pass □ Fail	
Input L3 and N	Open Circuit	□ Pass □ Fail	
Input L1 and PE	Open Circuit	□ Pass □ Fail	
Input L2 and PE	Open Circuit	□ Pass □ Fail	
Input L3 and PE	Open Circuit	□ Pass □ Fail	
N and PE	Open Circuit	□ Pass □ Fail	
Input and Output PE	Closed Circuit	□ Pass □ Fail	

4 Working environment

Object	Content	Conclusion	Remark
Temperature	-30℃ ~ +50℃	□ Pass □ Fail	
Relative Humidity	5% ~ 95%	□ Pass □ Fail	
Altitude	≤ 3000m	□ Pass □ Fail	

5 Voltage check before power on

Object	Content	Conclusion	Remark
Input voltage of the main breaker	230/400V (±10%)	□ Pass □ Fail	

6 Voltage check after power on

Object	Content	Conclusion	Remark
Input voltage of the main breaker	230/400V (±10%)	□ Pass □ Fail	

7 Charging testing

Object	Content	Conclusion	Remark
Charging via APP	Start and stop charging via APP	□ Pass □ Fail	
Charging via swiping the RFID card	Start and stop charging via swiping the RFID card	□ Pass □ Fail	
Free charge	Plug in and charge	□ Pass □ Fail	

8 Hardware function

Object	Content	Conclusion	Remark
Meter	The meter could calculate during the charging process.	□ Pass □ Fail	
Charging Cable	The surface of charging cable is normal. Plug in and out smoothly.	□ Pass □ Fail	

Conclusion	Remark
□ Pass □ Fail	

Commissioning Engineer: **Customer:**

6 Maintenance

6.1 Engineer qualifications

Installers/Maintenance engineers must receive safety training and pass a competency assessment before working on the EVSE. They are responsible for operating and maintaining the EVSE in accordance with safety and usage instructions. Additionally, engineers are responsible for:

- Safe operation of the charging station
- Enhancing the station's safety system
- Conducting regular safety inspections
- Monitoring and reporting the station's safety status

6.2 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.

Object	Maintenance cycle	Working hours	Remark
Appearance inspection	Yearly	5min/unit	
Internal inspection		10min/unit	
Functional inspection		15min/unit	
Cleaning		20min/unit	

6.2.1 Appearance check

Note: The inspection 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: Every year

Check Item	Content and specification	Method	Conclusion	Remark
Appearance Inspection	The EVSE is intact and complete.	Visually	□ Pass □ Fail	
	All components of the equipment are free from stains, scratches, deformations	Visually	□ Pass □ Fail	
	Name plate and other symbols including safety warning signs are accurate, clear, and complete	Visually	□ Pass □ Fail	
	The charging cable is complete without damage.	Visually	□ Pass □ Fail	
	No water or dust in the charging connector.	Visually	□ Pass □ Fail	
	The insulation cap of the charging connector is complete.	Visually	□ Pass □ Fail	

6.2.2 Internal check

Requirements: input power is off

Working hours: 10min/unit

Frequency: Every year

Check Item	Content and specification	Method	Conclusion	Remark
Internal Inspection	Ensure the wiring connection and its screws on MCB	Visually/ Manual	□ Pass □ Fail	
	L1 connections at the AC input and output terminal are tight.		□ Pass □ Fail	
	L2 connection		□ Pass □ Fail	
	L3 connection		□ Pass □ Fail	
	N connection		□ Pass □ Fail	
	PE connection		□ Pass □ Fail	

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

6.2.3 Function check

Requirements: the EVSE is on

Working hours: 15min/unit

Frequency: Every year

Check Item	Content and specification	Method	Conclusion	Remark
Functional Inspection	During standby, LED indicator is functional with color codes.	Visually	□ Pass □ Fail	
	Measure the voltage between L1/L2/L3 and N; N and PE; L1/L2/L3 and PE in the switch box.	Visually/ Measure-ment	□ Pass □ Fail	
	During charging, LED indicator is functional with color codes.	Visually	□ Pass □ Fail	
	During charging, the App(EU only) status appears to be working consistent with the EVSE.	Visually	□ Pass □ Fail	

6.2.4 Cleaning

Requirements: input power is off

Working hours: 20min/unit

Frequency: Every year

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

- 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

7 Troubleshooting

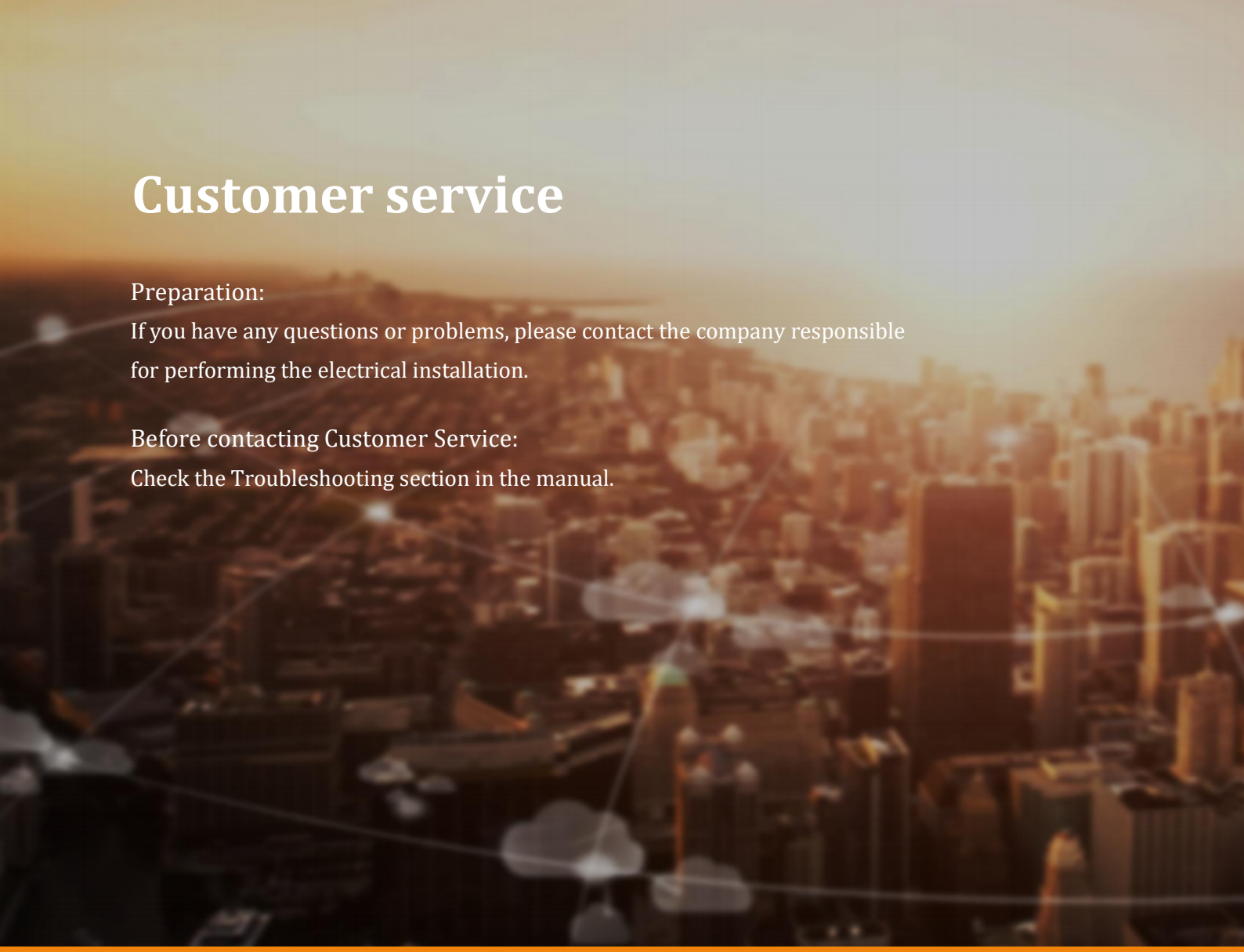
Failure	Possible causes and troubleshooting
The power LED is not on	● No power supply ○ Check if the parent MCB+ Type A RCD or Type A RCBO have been turned off. ○ Make sure that the input power cable is intact and has been properly and securely connected to the EVSE. ○ Check whether the power voltage on the grid side is within the operating range (230/400±10%Vac) of EVSE with a voltage tester. ○ Turn off the EVSE by shutting off the parent circuit breaker and restart the EVSE in about 20s. ○ When the incoming cable is affected by the surge or wrong wiring sequence, the device will out of power for protection. Searching the support from the professional for the wiring sequence checking or other abnormal interference. Power on after above checking finished.
Failure to start charging process	● The connector is not inserted correctly. ○ Plug and unplug the charging connector again and confirm that the connector connection has succeeded. ● Failure to execute charging process correctly. ○ Please follow the instructions in “4.2 Charging process” of user manual. ● The connector may be stained or damaged in the locking area. ○ Clean or replace the connector
Failure to start charging flow by scanning QR code	● The EVSE is still in starting process. ○ Wait for about 2-5 minutes until the EVSE starts. ● There is a problem or bug in the special charging APP. ○ Restart the special charging App. Force the App to stop running and ensure that the App is not running in the background. ○ If the problem still exists, delete the special charging App from the mobile device and reinstall the App. ○ If the problem still exists, restart the device using the special charging App. ● 4G or Wi-Fi connection failure ○ Re-connect the 4G or Wi-Fi on in place with a better signal.

Failure	Possible causes and troubleshooting
Failure to start charging flow by swiping the RFID card	● The EVSE is still in starting process. ○ Wait for about 2-5 minutes until the EVSE starts. ● The RFID card account is not activated. ○ Please contact your dealer or service provider to activate the RFID card account.
The vehicle is not fully charged or the charging time increases	● The current decreases due to high temperature of vehicle or EVSE. ○ Visually check whether the connectors are stained, worn or damaged. ○ When necessary, please contact your dealer or service provider. ● Power is limited due to external control devices (power supply device, PV device).
The failure status LED becomes red	● Red color is always on: CP fault/Electric meter failure/NO ID ○ Please contact your dealer or service provider. ● The red color is cycle flashing (1 times): The emergency button is pressed ○ Please release the emergency button by turning counterclockwise it. ● The red color is flashing (2 times): Ground fault ○ Check whether the grounding of device is loose, damaged or removed. ○ Measure whether the grounding resistance of EVSE exceeds the standard (the grounding resistance is generally within 100Ω) with a tester (e.g. multimeter). ● The red color is flashing (3 times): Under-voltage ○ Check whether under-voltage (≤161Vac) happens to the power voltage on the grid side with a voltage tester. ● The red color is flashing (4 times): Over-voltage ○ Check whether over-voltage (≥275Vac) happens to the power voltage on the grid side with a voltage tester. ● The red color is flashing (5 times): Relay welding fault ○ Please contact your dealer or service provider. ● The red color is flashing (6 times): Over-temperature ○ Power off the EVSE. ○ Turn on the EVSE when the temperature returns to normal. ● The red color is flashing (7 times): Leakage current fault ○ Please contact your dealer or service provider. ● The red color is flashing (8 times): The upper cover is opened ○ Please check if the upper cover is installed completely. ● The red color is flashing (10 times): Over-current ○ Please check if the current is within the recommended range.

Note: If the problem still exists, please contact your dealer or service provider for help.

For the newest version of the document, please feel free to check www.starcharge.com

Many thanks for your attention.



Customer service

Preparation:

If you have any questions or problems, please contact the company responsible for performing the electrical installation.

Before contacting Customer Service:

Check the Troubleshooting section in the manual.

Star Charge