TOMMATECH GmbH

GERMAN-based company

60-180KW
DC EV Charger

User Manual

Version: 1.0

Table of Contents

1. Safety Instructions

Read and follow the instructions and warnings in this Manual before attempting to install this product. Keep this Manual for future reference.

Please follow the below safety precautions to prevent bodily injuries and property damages.

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH	
	**WARNING:** Damaging fumes
	**WARNING:** Explosive mixtures of dust or gases, corrosive gases, or conductive or radiant heat from other source.
	**WARNING:** Moisture, abrasive dust, steam or in an excessively damp environment.
	**WARNING:** Fungus, insects, vermin.
	**WARNING:** Salt-laden air or contaminated cooling refrigerant.
	**WARNING:** Pollution degree higher than 2 according to IEC 60664-1.
	**WARNING:** Exposure to abnormal vibrations, shocks, and tilting.
	**WARNING:** Exposure to direct sunlight, heat sources, or strong electromagnetic fields.
	**WARNING:** When the product is running, it should pay attention to ventilation, heat dissipation and keep the environment clean. Avoid installation in places with frequent occurrence of storm, rainstorm, lightning and other severe weather.
	**WARNING:** During installation, if any abnormal phenomena such as cracking, loose case lock, water leakage are showing up, all operations shall be stopped immediately and professionals shall be informed in time to deal with them.
	**WARNING:** Do not put inflammable, explosive or combustible materials, chemicals, combustible steam and other dangerous goods near the charger.
	**WARNING:** Please keep the nozzle clean and dry. If there is any dirt, please wipe it with a cleaning cadre. It is strictly prohibited to touch the charging core with hands when it is powered.
	**WARNING:** It is strictly prohibited to use the charger when the nozzle or charging cable is defective, cracked, worn, and the nozzle line is exposed. If any, please contact the staff in time.

	**WARNING:** In case of rain and thunder, please use electricity carefully. It is better to stop charging.
	**WARNING:** Do not attempt to disassemble, repair or modify the charger. For repairs or modifications, please contact the staff. Improper operation may result in damage, water leakage, electricity leakage, etc.
	**WARNING:** It is forbidden to insert and unplug the plug during the charging process to ensure the safety of life and the vehicle during the charging process.
	**WARNING:** It is strictly prohibited to continue to use this product for charging in case of failure.
	**WARNING:** If any leakage or insulation failure occurs during the operation of the product, please press the emergency power off button immediately.
	**WARNING:** Obvious maintenance marks shall be set up. Isolation and protection measures shall be added to live parts that may be near by operators to avoid contact.

CAUTIONS	
	CAUTION: Wrong installation and testing of the charger will cause potential damage to the vehicle battery, assembly, and the charger itself.
	CAUTION: To reduce the risk of fire, connect only to a circuit provided with 100 amperes maximum branch circuit overcurrent protection in accordance with the National Electrical Code, ANSI/NFPA 70 and the Canadian Electrical Code, Part I, C22.1.
	CAUTION: Do not operate the charger in temperatures outside its operating range of -35°C to + 55°C.

NOTE:
Electrical equipment should only be installed, operated, serviced, and maintained by qualified personnel. No responsibility is assumed by our company for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

2. Technical Specifications

MODEL		EVA 5460S	EVA 5490S	EVA 54120s	EVA 54180S
Charging Type		DC fast charging			
Outlet Options		C: CCS2 cable			
AC Input Power		93 A, 64 kVA @ 400V 50 Hz	139 A, 96 kVA @ 400V 50 Hz	185 A, 128 kVA @ 400V 50Hz	278 A, 192 kVA @ 400V 50Hz
Input Voltage Range		400 VAC or 380 VAC ± 10%			
Input Frequency		50 Hz or 60 Hz			
DC Output Power Rating		60 kW	90 kW	120 kW	180 kW
DC Output Voltage		200-1000 Vdc (Constant power from 300-1000 Vdc)			
Number of EV Served		Up to 2 (CC, AA, JC, JJ ,GG models) Up to 1 (C, A, J, G models)			
Cable Length		5 m default, optional 6.0 m/ 7.0 m			
Output Current Range	CCS Cables	4-200 A	6-200 A	8-200 A	12-200 A
Electro-Magnetic Compatibility		Class A (optional Class B) according to EN 61000-6-3:2007			
Network Type		TN-S. TN-C, TN-C-S, TT (required external RCD)			
Connector Type		3P + N + PE			
Protection		Overcurrent, overvoltage, undervoltage, integrated surge protection, grounding fault including DC leakage protection, door opening protection			
Overvoltage Category		Type II			
Power Factor (Full Load)		≥ 0.99			
THDi		≤ 5%			
Efficiency		94% (peak)			95% (peak)
Standby Power		< 35W			
Short Circuit Current		10 kA			
Pre-charge Current		< 1 A			
Inrush Current		< 100 A			
Leakage Current		0.8 mA			
Energy Metering		Standard: Meter for DC outlet, Optional: AC inlet			
Cellular Communication		GSM, 4G, LTE			
USER INTERFACE					

Connectivity	Internet access via 4G/3G/Ethernet (RJ45)			
User Authentication	RFID, QR code			
User Interface	7” LCD high-contrast touchscreen			
Communiation Protocols	Proprietary and OCPP 1.6J			
RFID Reader	ISO/IEC 14443 A Mifare RFID reader			
Emergency Button	Yes			
CONFIGURATION				
Software Upgrade	Over-The-Air (OTA)			
Language System	English, Chinese, French, Spanish, Türkçe			
GENERAL CHARACTERISTICS				
Protection Rating	IP54 and IK10 (cabinet) / IK08 (touchscreen)			
Housing Material	SGCC, Optional: SUS430			
Operating Altitude	Up to 2000m			
Operating Temperature	-35 °C to 55 °C			
Storage Temperature	-40 °C to 70 °C			
Humidity	< 95%, non-condensing			
Mounting	Free-standing cabinet			
Dimensions (D x W x H) mm	750 x 740 x 1830			
Net Weight (kgs)	295	335	355	395
COMPLIANCE STANDARDS				
Codes & Standards	IEC 61851-1 ed 3, IEC 61851-21-2 ed 1, IEC 61851-23 ed 1, IEC 61851-24 ed 1, IEC 62196-2, IEC 62196-3, IEC 61000			
Communication to the EV	DIN 70121, ISO/IEC 15118 ed 1			

* Product specifications are subject to change without further notice

3. Introduction

3.1. Brief Introduction

It takes only 30 minutes at most to fill a car to 95% capacity through the charging plug of the DC electric vehicle charger. Provide green energy solutions for smart cities.

The electric vehicle charger adopts intelligent power distribution system design to meet different application requirements. The maximum power is 180kW, which is compatible with different BMS systems.

Matching application fields:

- Expressway charging service
- Parking lot
- Shopping center
- Commercial fleet
- Residential area

For ease of operation, the electric car charger is equipped with a 7-inch industrial touch screen, a standard Ethernet connection and an embedded RFID reader with WI-FI features to communicate with LAN routers, vehicles, action devices, and other chargers. (WIFI communication is optional)

3.2. Nozzle Specification

CCS

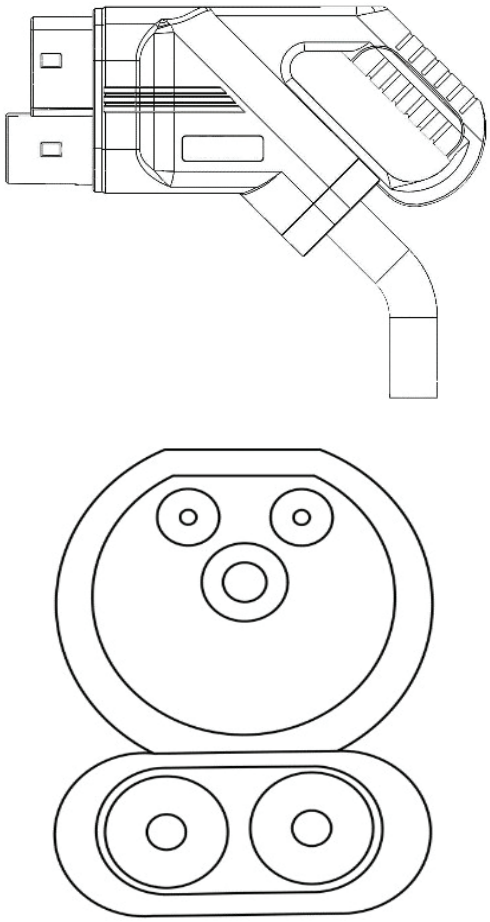


Figure 3.1 Charging plug, CCS structure

3.3. Product Overview

1. Touch screen
2. Charging nozzle (cable)
3. Emergency stop button
4. Door lock
5. Operation indication panel (nozzle insertion indication, card swiping indication, work indication)

4. Packaging & Transport

4.1. Packaging

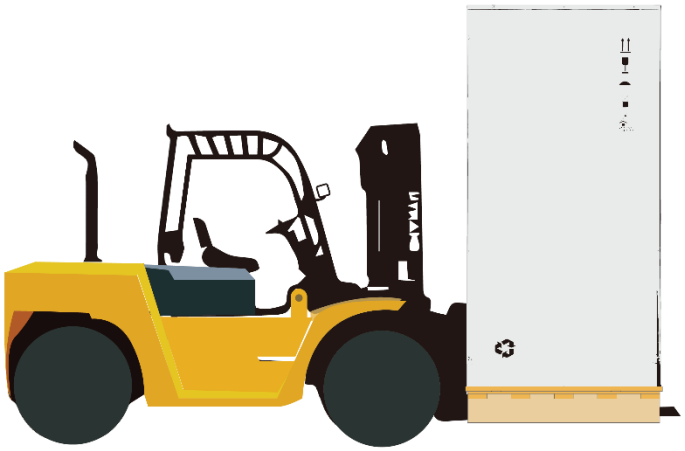
The Charger is delivered in a specialized wood packaging. The following figure shows the packaging, and size information for the Charger.

Model Name	W [mm]	D [mm]	H [mm]
180kW	819	848	2000

4.2. Transport

Move the charger to the required installation location with a forklift truck.

Please move the Charger with the utmost caution!



NOTE: The Charger must be stored in its original packaging in a dry environment from -40 °C to 70 °C.
It is recommended to transport the Charger to its final destination in its original packaging and unpack it there.

5. Installation

5.1. Pre-Installation

	• Danger to life due to improper installation! • Ignoring environmental conditions when handling electricity can lead to hazardous situations.

Before performing any installation activities, carefully read each item listed in this chapter that is critical to the installation process.

[Location Selection]

Consider before choosing where to install:

- Meets all criteria regarding charger placement and location
- Accessible Design Standards
- Make sure the installation location complies with cellular signal strength standards

[Local Conditions]

- Area is dry and well ventilated
- The area is not exposed to dust, high temperatures, explosive gases, flammable materials or corrosive fumes
- Wiring and conduit needed to connect the charger to the board
- The location of the charging port when the vehicle is parked
- Space clearance requires minimum dimensions for airflow and service channels.

5.2. Cable Reach

In default configuration, the Charger comes with a cable length of 500cm. The figure5.1 below shows the operating radius (5m) of the Charger.

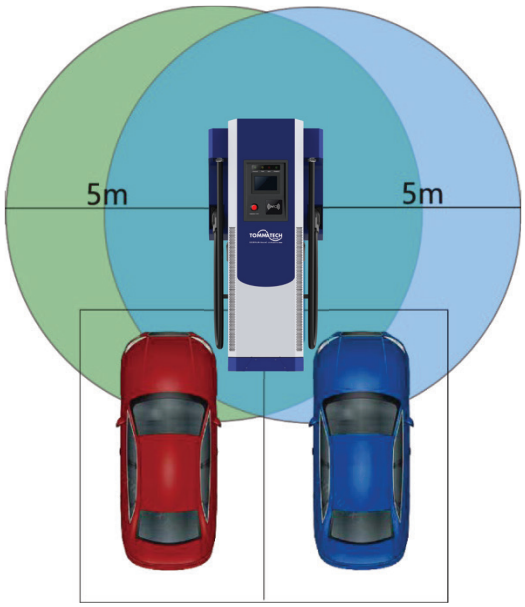


Figure 5.1

5.3. Construct Foundation

- The charger can be built on a concrete foundation, the flat surface of foundation should not be less than the dimension of 530 mm * 750 mm.
- When preparing the foundation base and cabling pay regard to positions of cable through holes and expansion bolts, which was dimensioned in Figure 5.2.

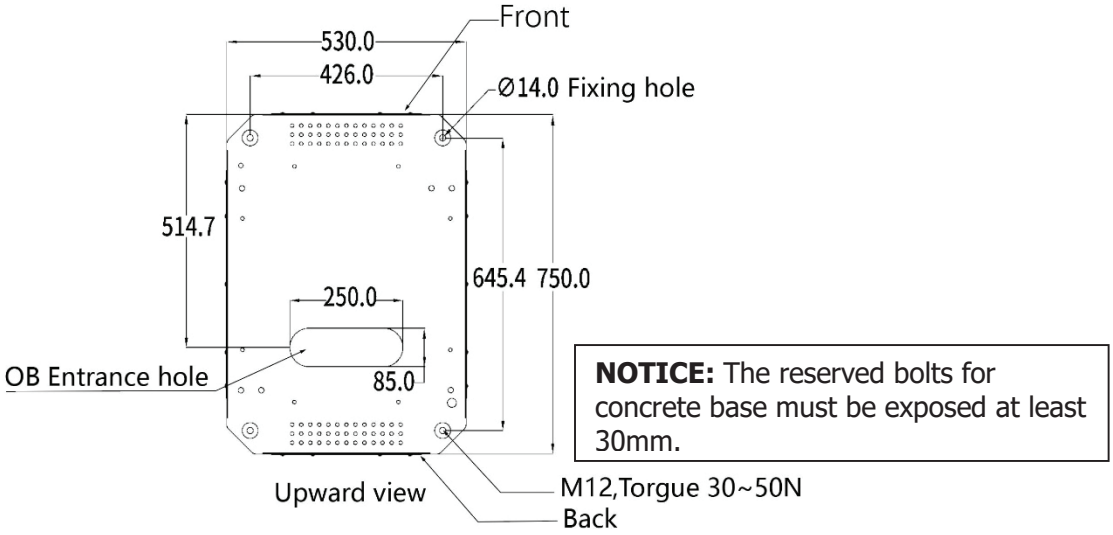


Figure 5.2

The height of the foundation is determined by the topography and natural environment

of the site. Depending on rainfall and drainage a height between 15 cm and 30 cm above the ground is recommended. Because of frost-proof the foundation has to be about 80 cm deep under the ground.

NOTE:

- The unit must be mounted on solid and flat stone slabs.
- Different types of stone slabs require the use of expansion bolts, or choose suitable screw installation, in some conditions require drilling.
- The laying of power cables shall be in accordance with relevant national and industrial standards, specifications.
- Cable selection specification shall be selected according to the number of equipment and the type, power, voltage and current level of the equipment installed.
- When cables are laid, they are strictly forbidden to be exposed.
- When the cable is buried directly, the buried depth should not be less than 0.8m in order to prevent freezing.
- The selection of power cable specifications should be selected according to the installation environment and fire requirements.

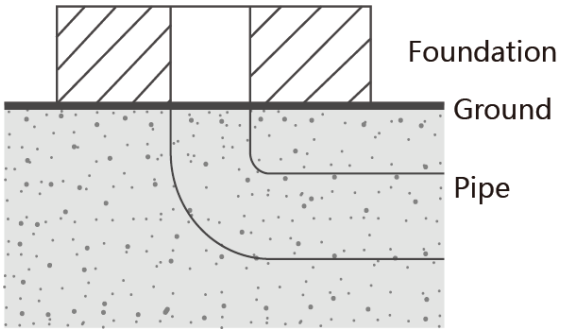


Figure 5.3

5.4. Standard Wiring

To connect the charger to the electrical panel, a professional installer or qualified electrician should consider the following guidelines and consult the table below.

- Overview of parameters for dimensioning of the protective devices and power supply line

Charger rating	60kW	90kW	120kW	180kW
Input phases (mm^2)	35	70	95	150
Input Neutral (mm^2)	16	35	50	95
Input PE (mm^2)	16	35	50	95

Breaker With RCD Type A Breaker 3Pole (A)	125	200	250	400

- Specification requirements for fixing bolts

Charger rating	60kW	90kW	120kW	180kW
Input Phases terminal block	M8	M8	M8	M8
Input Neutral terminal block	M8	M8	M8	M8
Input PE terminal block	M8	M8	M8	M8

The Cable sizes is based on table B.52.12 of IEC 60364-5-52 with the following assertions:

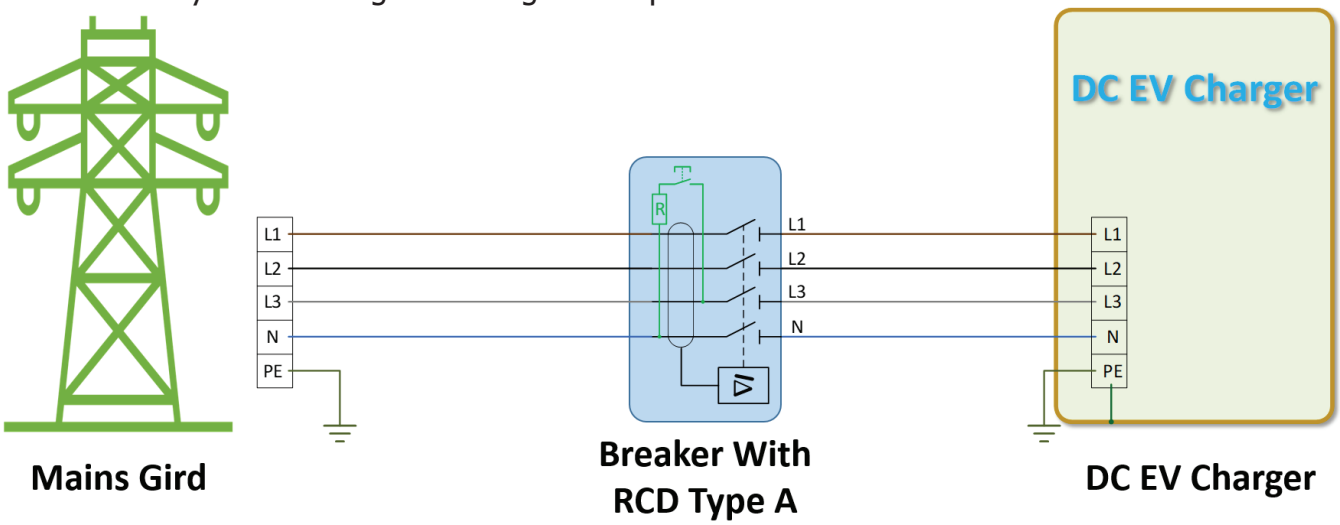
- 90 °C conductors
- An ambient temperature of 30 °C
- Use of copper conductors
- Installation method F

PE cable size is based on table 54.2 of IEC 60364-4-54.

If the ambient temperature is greater than 30 °C, larger conductors are to be selected in accordance with the correction factors of the IEC.

Standard wiring considerations:

- Certified Type A RCD should be installed upstream close to the charger.
- In accordance with the electrical installation standard IEC60364-7-722. Refer to local regulation.
- The circuit breakers and the power cable minimal cross-sections are overvalued to ensure the functionality of the charger with higher temperatures.



5.5. Space Requirement

When installing the charger, ensure a minimum distance from possible objects around the charger to allow sufficient airflow， and secondly, to leave room for possible service or maintenance operations.

The following figure shows the recommended minimum distance to be maintained during the site installation:

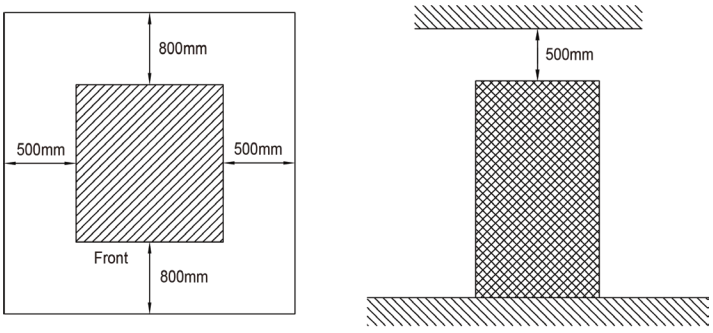


Figure 5.4

NOTE: Clearance dimensions are published for airflow and service access only. Consult with the local safety codes and standards for additional requirements in your local area.

5.6. DC Charger Installation

Recommended Tools

(1x) Gloves for installation work, insulating gloves for commissioning test

(1x) Voltmeter or digital multi-meter

(1x) Water level

(1x) Hammer

(1x) Concrete drilling machine

(1x) Wire cutters / strippers

(1x) Slotted screwdriver

(1x) Phillips screwdriver

(1x) Hex wrench socket 8mm (No. 8 socket wrench)

(1x) Hex wrench socket 19mm (No. 19 socket wrench)

(1x) Extension rod

(1x) Torque wrench

(1x) 19mm ratchet wrench

Step 1：Demolition of steel belt box and foam

- Use slotted screwdriver  to remove the steel belt box then remove the foam; See Figure 5.5

Step 2：Remove the top four ring hole screws

- Using No. 8 socket wrench  , remove the top four M12 round head hex screws; See Figure 5.6

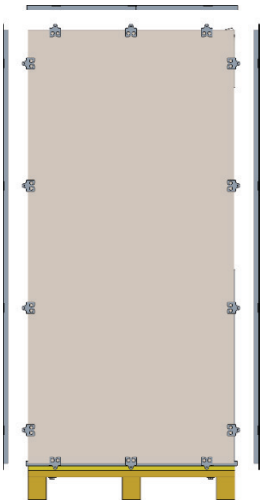


Figure 5.5

Figure 5.6

Step 3：Fix the lifting ring on the screw hole

- Fix the lifting ring (M12) onto the screw hole using No. 8 socket wrench  ; See Figure 5.7

Step 4：Remove the fixing screws between the charger and the base

There are two cases when removing the fixing screws between the charger and the base

- When the screw position of the base has a large hole：open the front and rear doors, and use No. 19 socket wrench,  extension rod,  and torque wrench  to remove the fixing screws (M12) between the charger and the base; See Figure 5.8
- When the opening of the base screw position is small and the sleeve cannot enter：open the front and rear doors, use phillips screwdriver  to remove the baffle next to the base screws, and then use 19mm ratchet wrench  to extend to the bottom to loosen the fixing screws (M12) between the charger and the base.

Figure 5.7

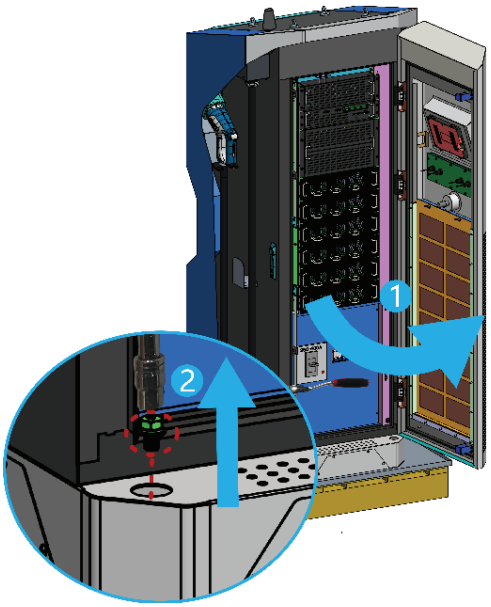


Figure 5.8

Step 5：Lift the charger to the cement fixing platform

- Use the mounting plate and level tools to mark the mounting position in cement platform
- Close the front and back doors, and then lift the chassis to the cement fixing platform with steel wire ropes through lifting rings; See Figure 5.9

Step 6：Attach the charger to cement platform

There are two cases when assembling the fixing screws between the charger and cement platform

- When the screw position of the base has a large hole：open the front and rear doors, use No. 19 socket wrench  , extension rod  , and torque wrench  to fix the screws (M12) to the fixing hole between the charger and the cement platform. See Figure 5.10
- When the opening of the base screw position is small and the sleeve cannot enter：open the front and rear doors, use 19mm ratchet wrench  to extend to the bottom to secure the fixing screws (M12) between the charger and the base ， then use phillips screwdriver  to secure the baffle.

Figure 5.9

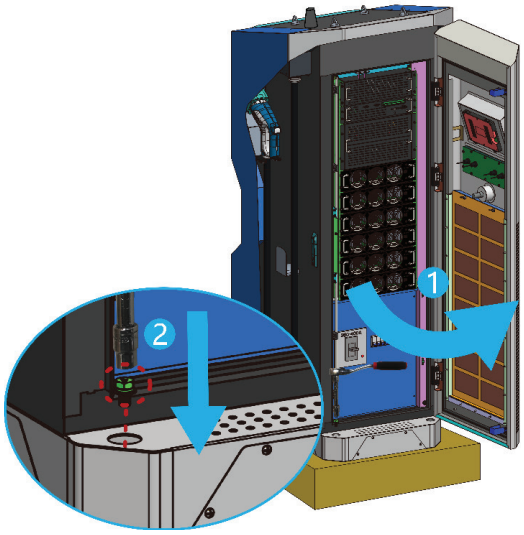


Figure 5.10

Step 7：Connect the Charger

- Open the front door and use phillips screwdriver  to remove the front switch bezel, See Figure 5.11
- Connect L1, L2, L3, N, PE wires to the circuit breaker, and use No. 8 socket wrench  to secure the screws. See Figure 5.12

(Take 180kw as an example, the wiring mode of other models is the same as 180kw)

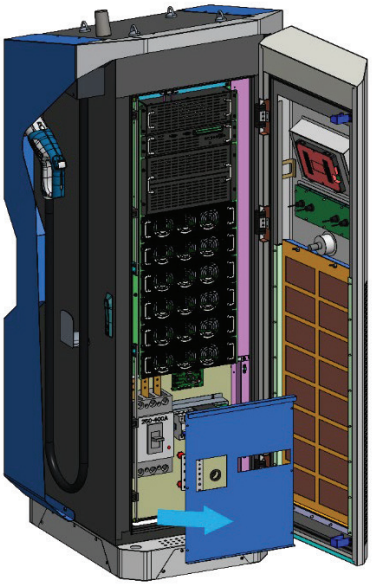


Figure 5.11

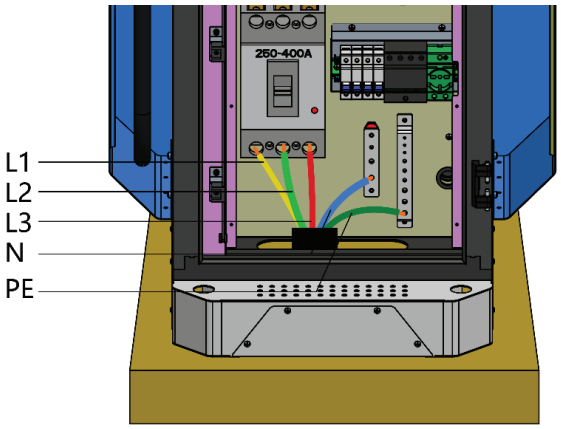


Figure 5.12

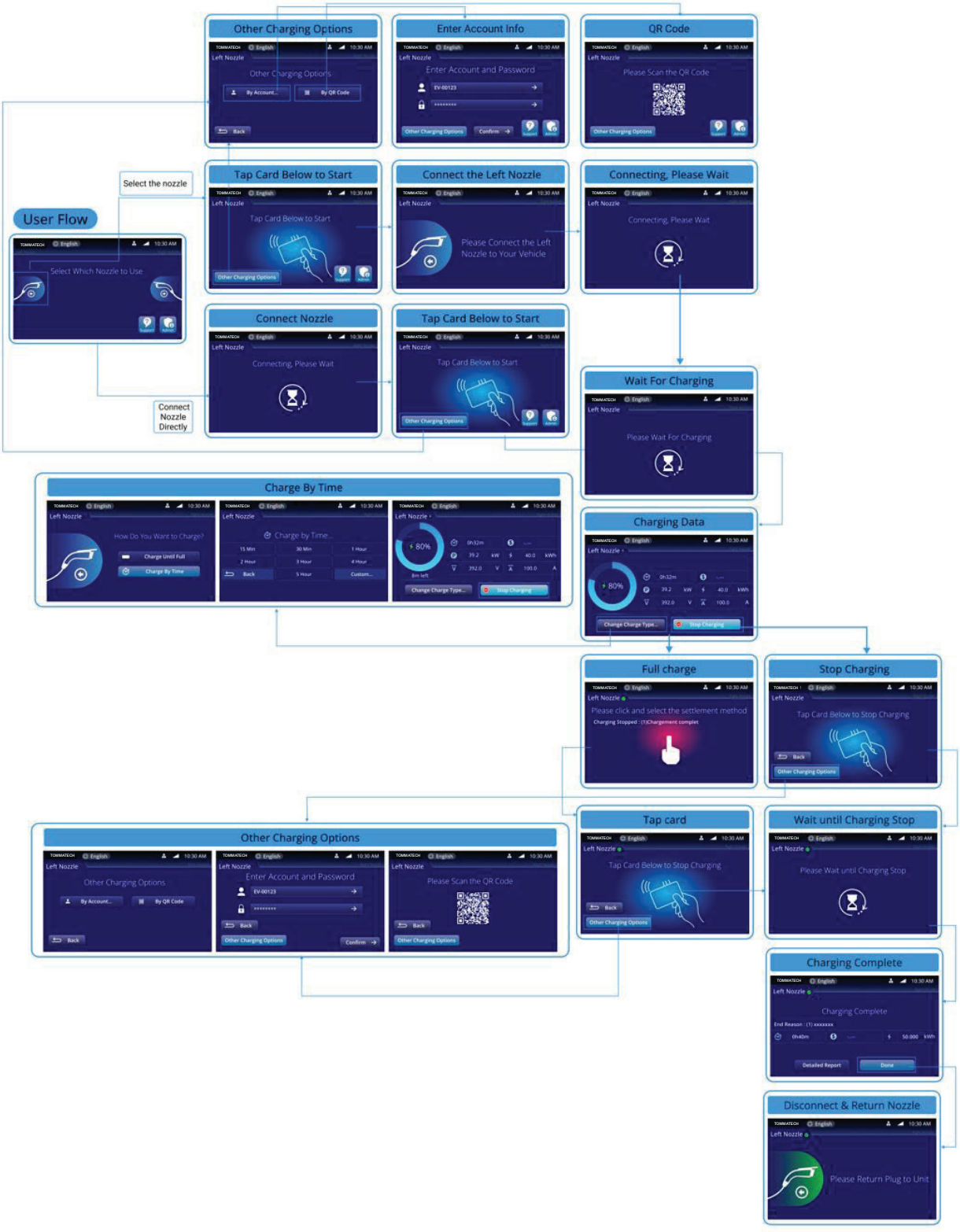
NOTE：

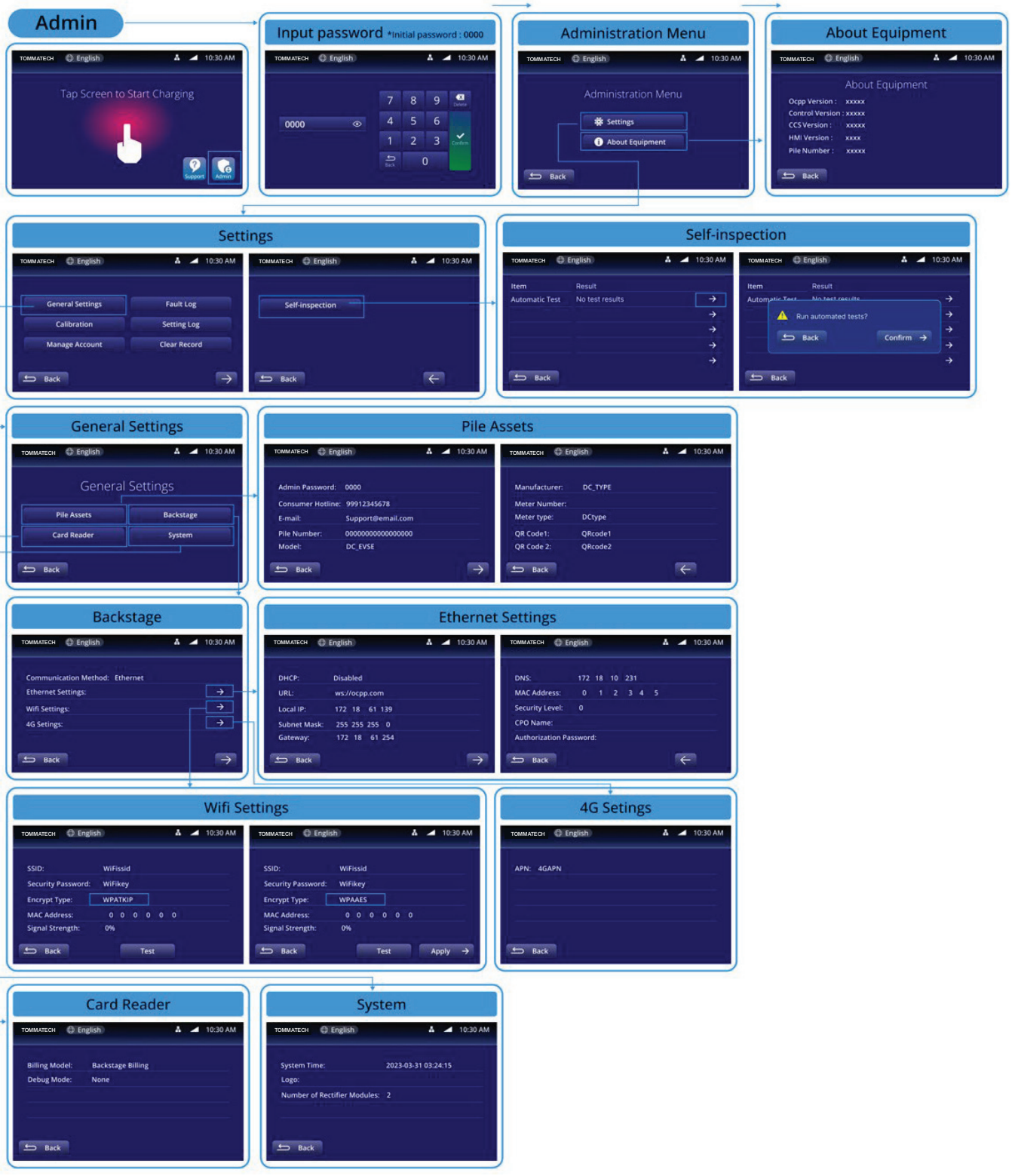
- Before charging the charger, recheck all electrical connections after all wiring is complete.
- After the charger is powered on, the LCD screen will display the status of the charger.

6. Charging Process

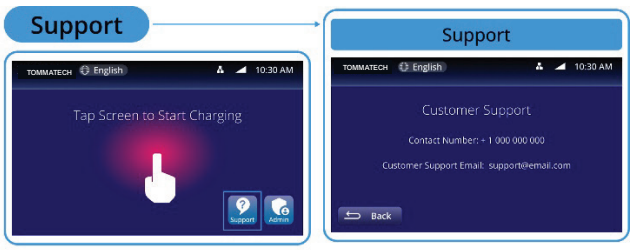
6.1. Operation Interface

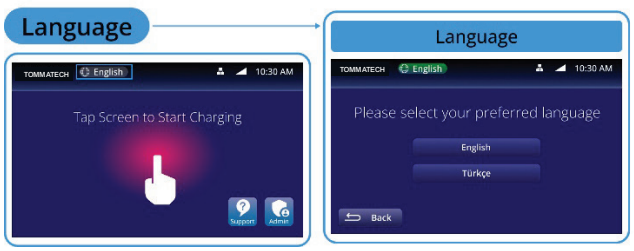
6.1.1. Display Menu Tree



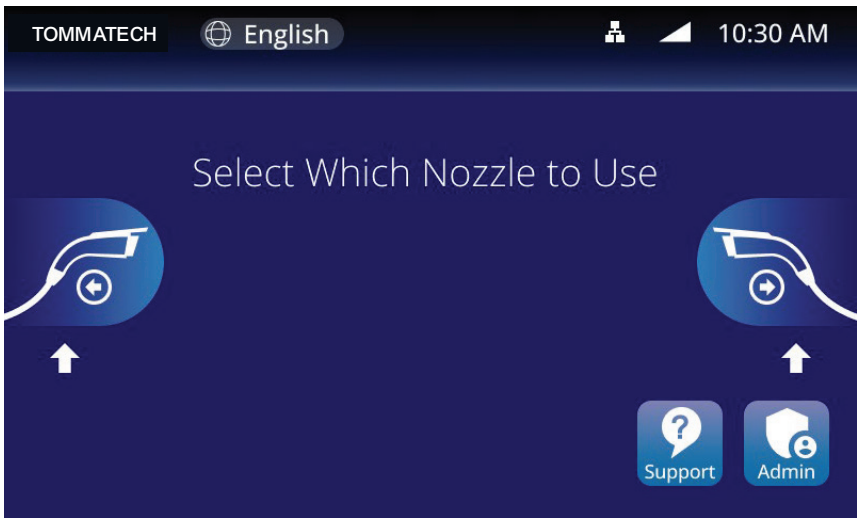
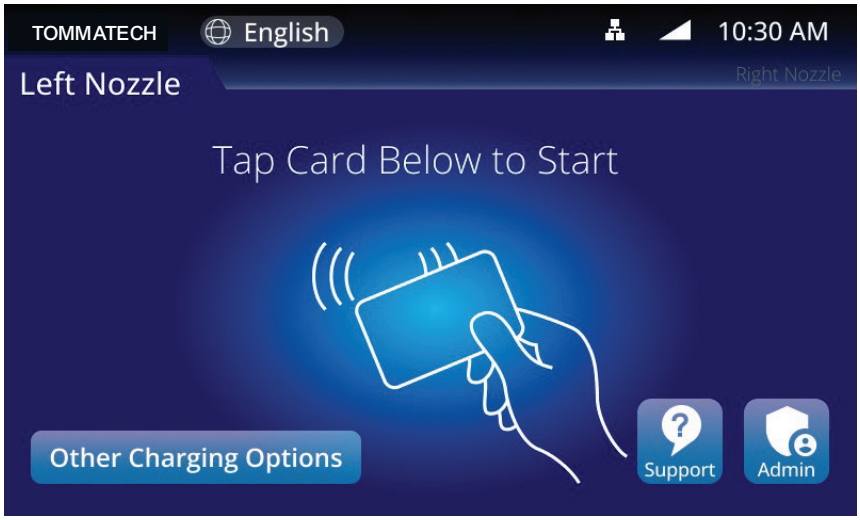
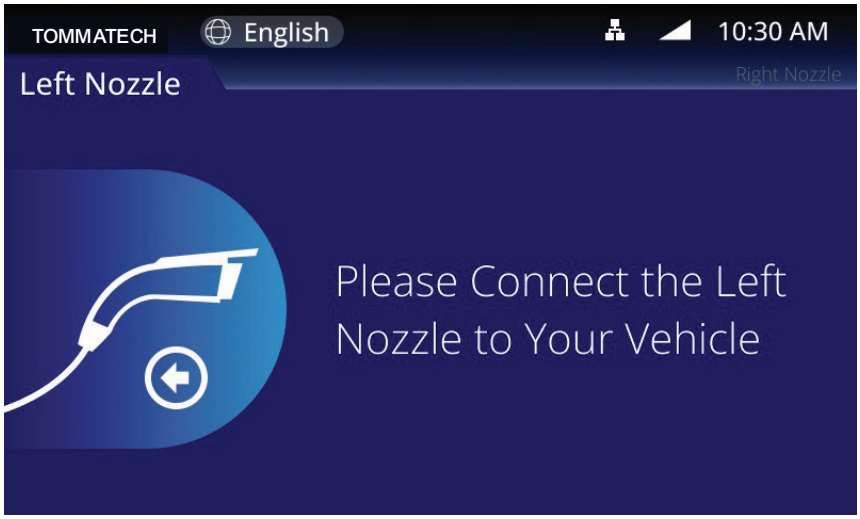

Admin
Tap Screen to Start Charging
Input password *Initial password : 0000
0000
Administration Menu
Settings
About Equipment
About Equipment
Ocpp Version : xxxxx
Control Version : xxxxx
CCS Version : xxxxx
HMI Version : xxxx
Pile Number : xxxxx
Settings
General Settings
Fault Log
Calibration
Setting Log
Manage Account
Clear Record
Self-inspection
Item
Result
Automatic Test
No test results
Run automated tests?
Confirm
General Settings
Pile Assets
Backstage
Card Reader
System
Admin Password: 0000
Consumer Hotline: 9991234567 8
E-mail: Support@email.com
Pile Number: 00000000000000000
Model: DC_EVSE
Manufacturer: DC_TYPE
Meter Number:
Meter type: DCtype
QR Code1: QRcode1
QR Code 2: QRcode2
Backstage
Communication Method: Ethernet
Ethernet Settings:
Wifi Settings:
4G Setings:
Ethernet Settings
DHCP: Disabled
URL: ws://ocpp.com
Local IP: 172 18 61 139
Subnet Mask: 255 255 255 0
Gateway: 172 18 61 254
DNS: 172 18 10 231
MAC Address: 0 1 2 3 4 5
Security Level: 0
CPO Name:
Authorization Password:
Wifi Settings
SSID: WiFissid
Security Password: WiFikey
Encrypt Type: WPATKIP
MAC Address: 0 0 0 0 0 0
Signal Strength: 0%
Test
Encrypt Type: WPAAES
Apply
4G Setings
APN: 4GAPN
Card Reader
Billing Model: Backstage Billing
Debug Mode: None
System
System Time: 2023-03-31 03:24:15
Logo:
Number of Rectifier Modules: 2
Back

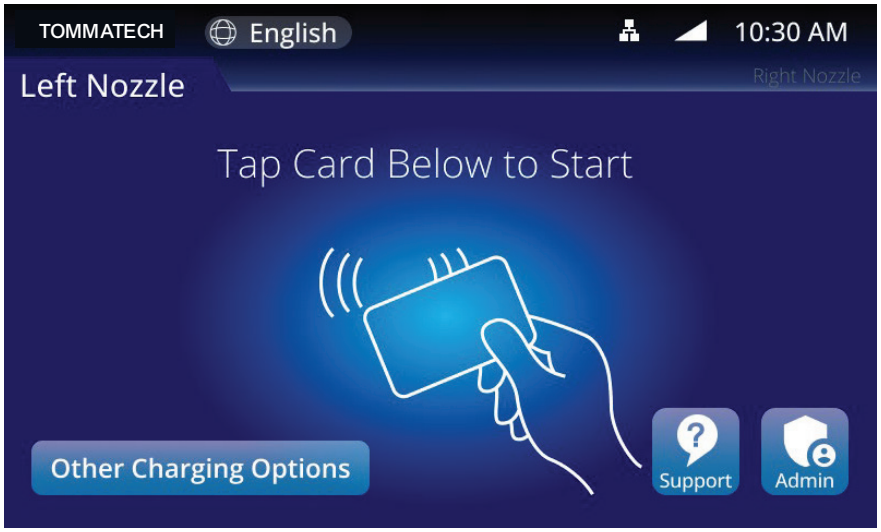
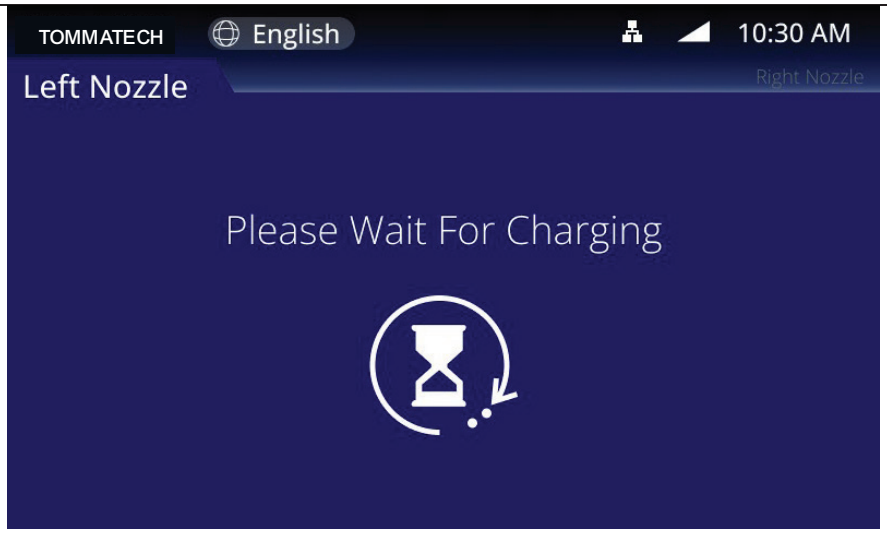
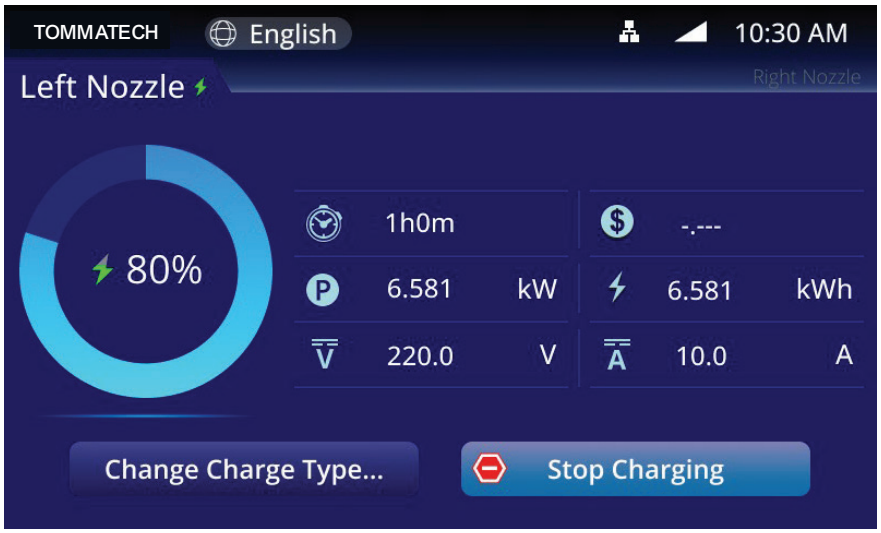

Settings
General Settings
Fault Log
Calibration
Setting Log
Manage Account
Clear Record
Back
Calibration
Ratio
Date
Uab :
Ia:
Ubc:
Ib :
Uac:
Ic:
Frequency:
Input energy:
Manage Account
EV-00123
EV-00132
EV-00142
Admin
Add
Manage Account
Change Password
Delete Account
Change Password
Enter password Number
Enter a New password
Enter a New password Again
Confirm
Delete Account
Add a New Account
Enter a New Account
Fault Log
No
Location
Status
Event Details
Time
Setting Log
Code
Setting Details
1/12
Clear Record
Clear Fault Record
Clear Setting Record
Clear Fault Record
Do You Want to Clear Fault Records?
The Record is Being Cleared...
Records Cleared Successfully
Clear Setting Record
Do You Want to Clear Setting Records?


Support
Tap Screen to Start Charging
Support
Customer Support
Contact Number: + 1 000 000 000
Customer Support Email: support@email.com
Back

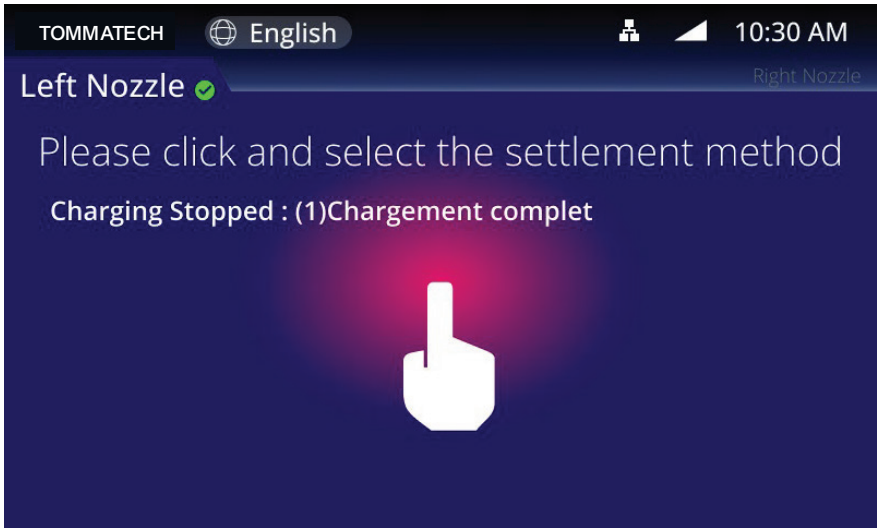

Language
Tap Screen to Start Charging
Language
Please select your preferred language
English
Türkçe
Back

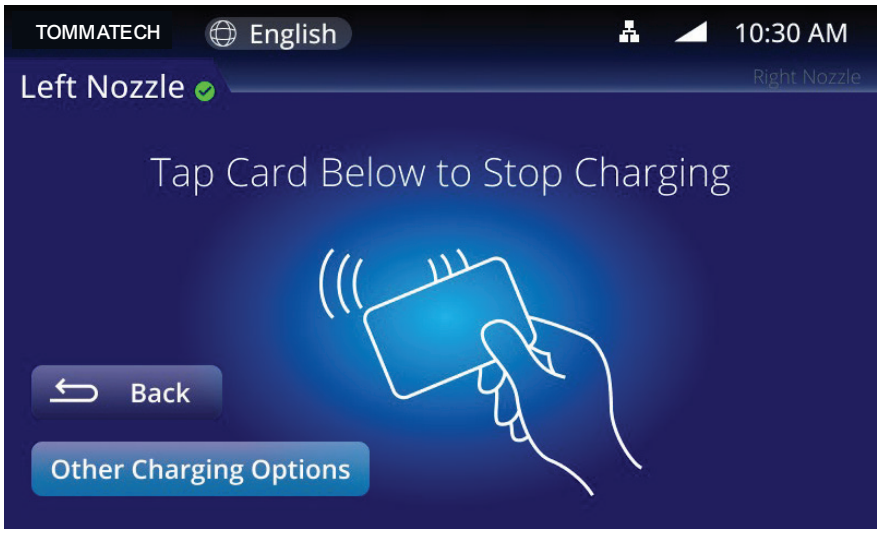
6.1.2. User Operation Steps

Operating steps	Operating interface
Step 1: ● Select a nozzle on the screen (step 2-1) ● Insert the nozzle directly (step 2-2)	
Step2-1: Tapping the card then connect the nozzle.	 

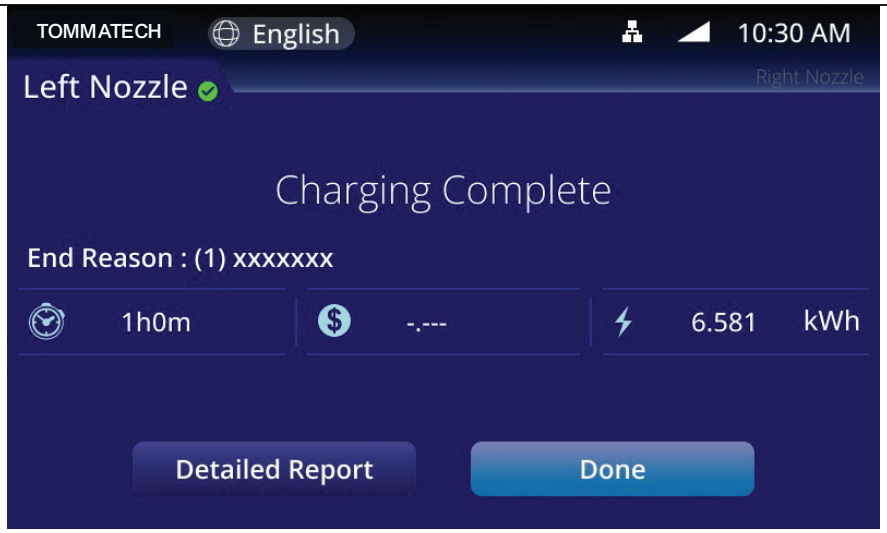
Step 2-2: If the nozzle has been connected, please tap the card.	
Step 3: Once the authorization is complete, this charger will start charging.	
Step 4: While the vehicle is charging, charging data can be viewed on the LCD screen via the touchscreen.	

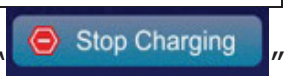
Step 5:
After the charging is completed, it will pop up message to click the screen and select the settlement method.





Step 6:
It will display the charging time and charging capacity as the final screen.
When charging is complete, put the nozzle back in place.



NOTE: During charging period, if it's necessary to stop charging, simply touch " 

" icon on the right bottom corner.

6.1.3. Charging Page Description

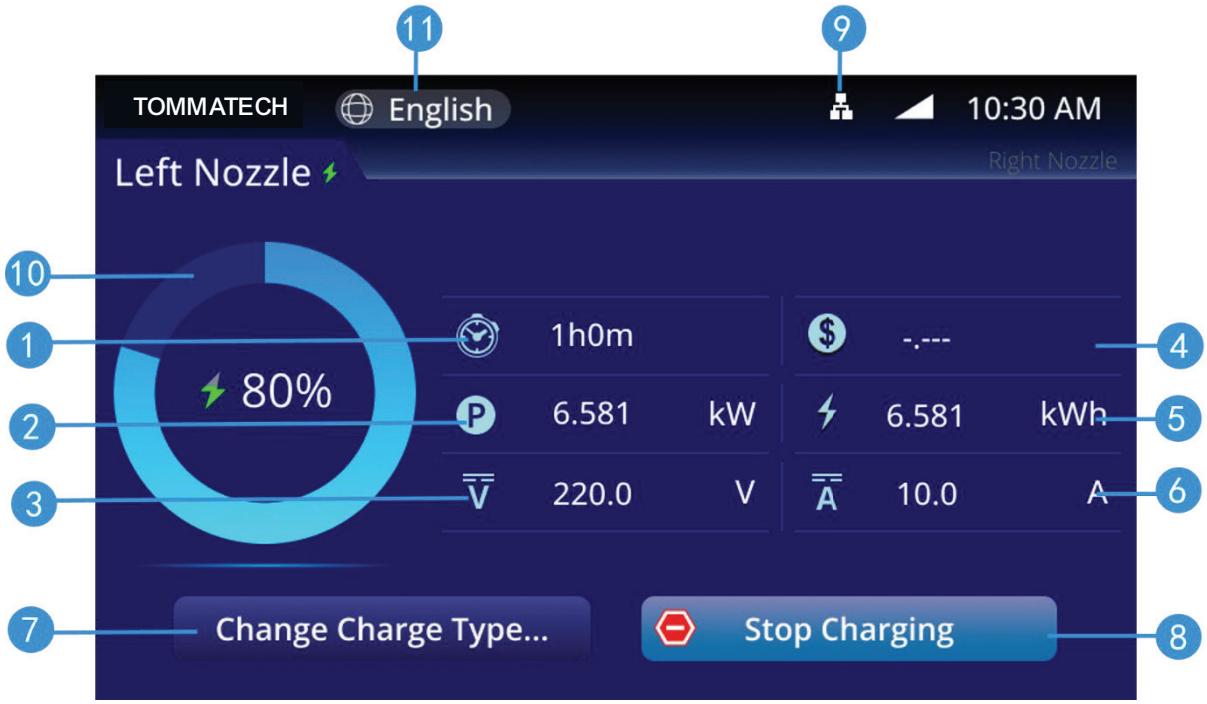


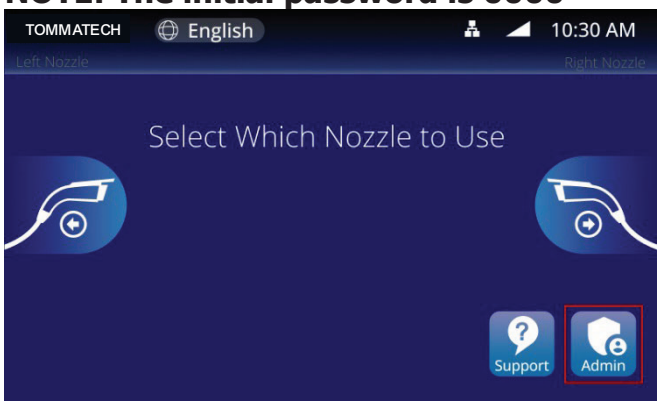
Figure 6-1 Real-time charging interface

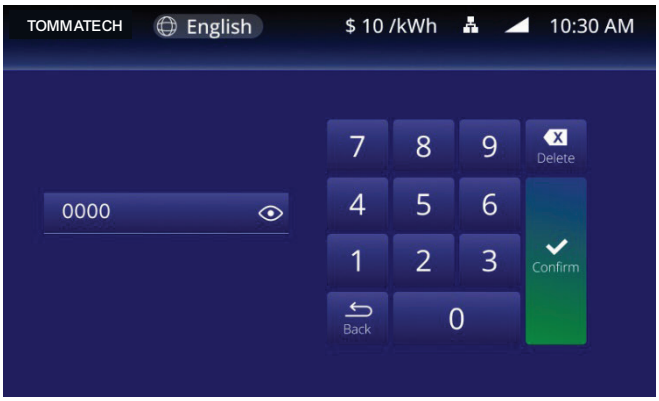
1. Charging time
2. Charging power
3. Charging voltage
4. Charging cost
5. Charging capacity
6. Charging current
7. Change charge type
8. Stop button
9. Network status
10. Charging capacity of charged vehicle
11. Language selection

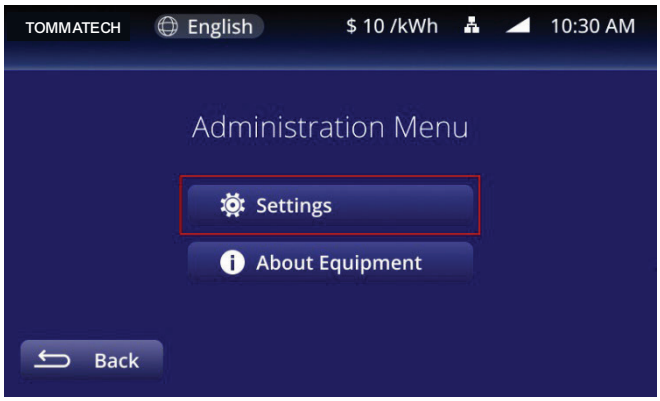
6.1.4. LCD Password Settings

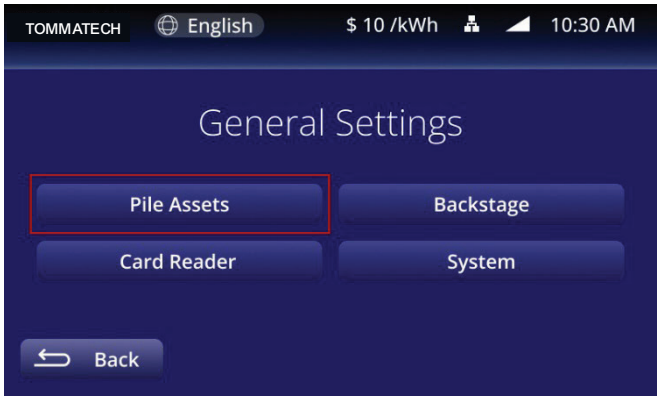
Admin> Enter Password >Settings> General Settings>Pile Assets>Password

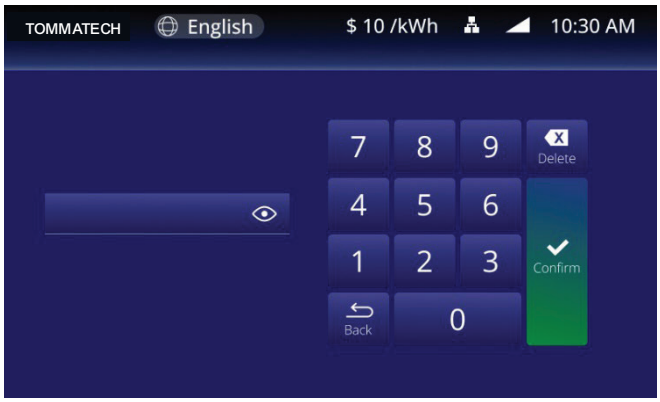
NOTE: The initial password is 0000





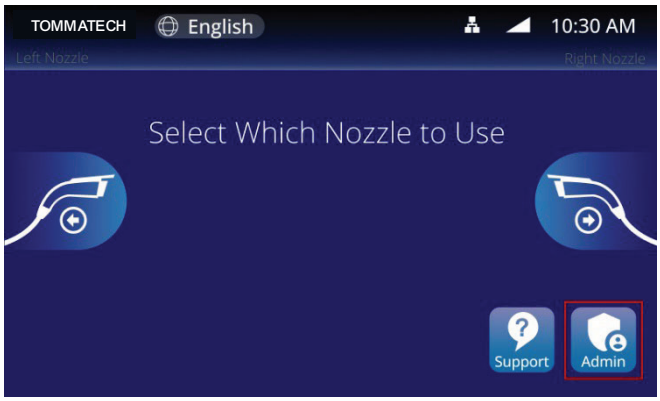


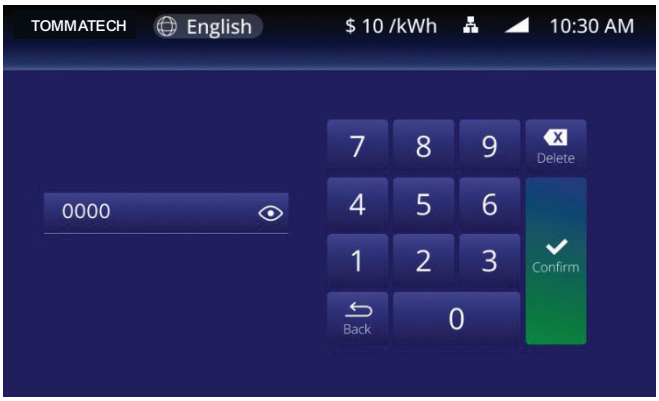


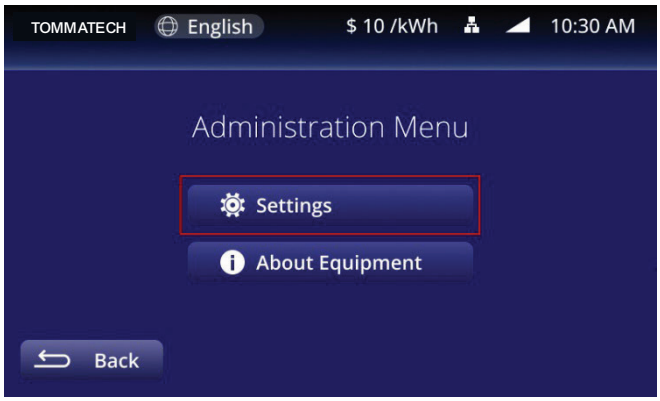


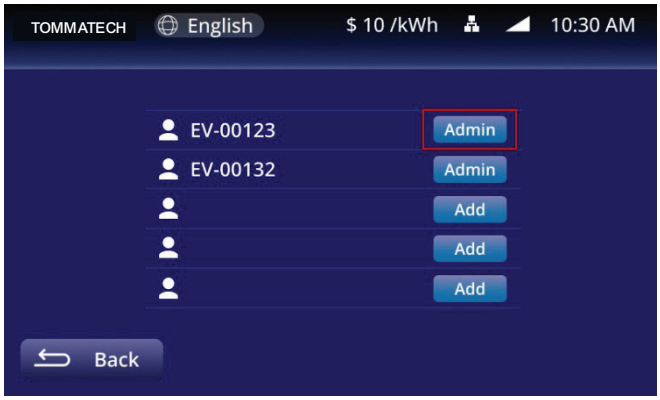
6.1.5. Manage Account

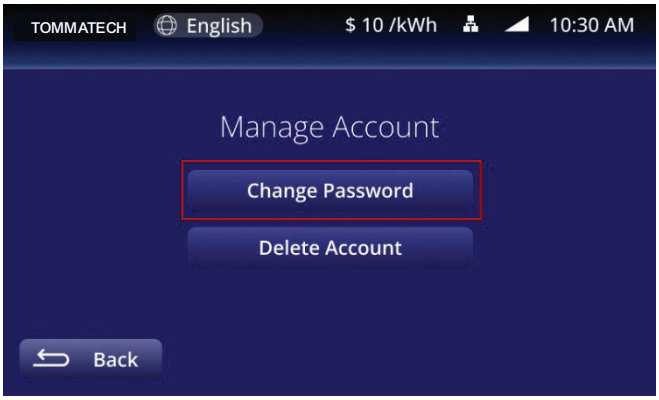
Admin> Enter Password >Settings>Manage Account>Admin>Change Password

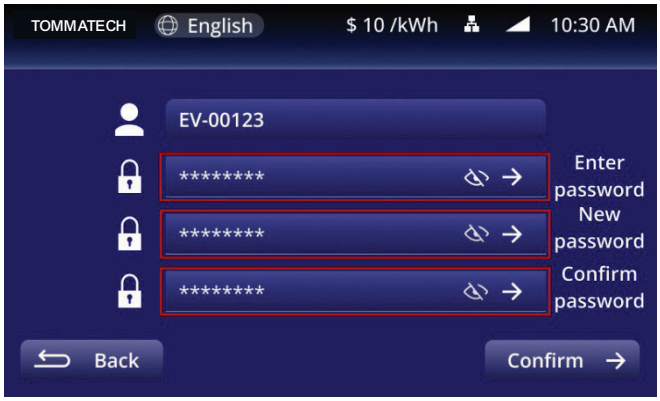






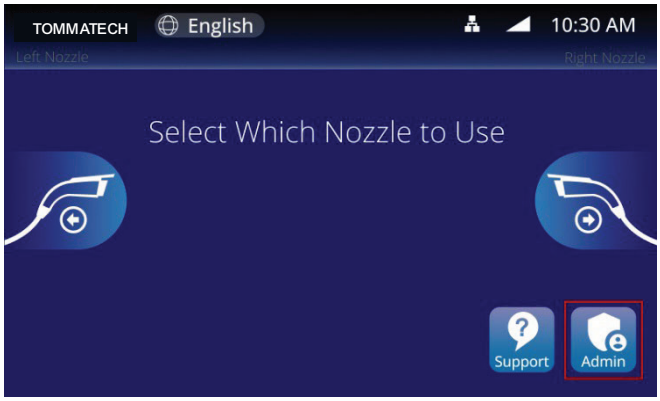


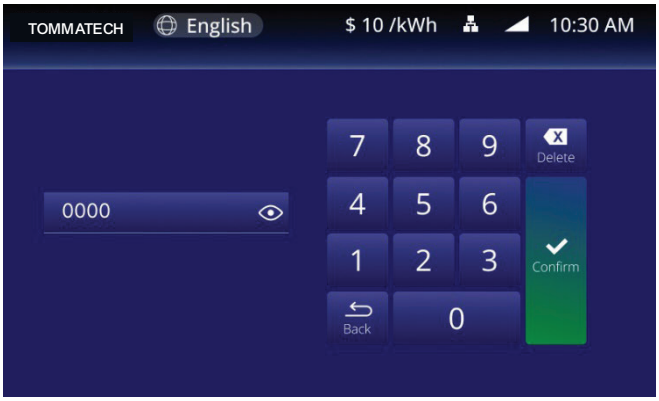


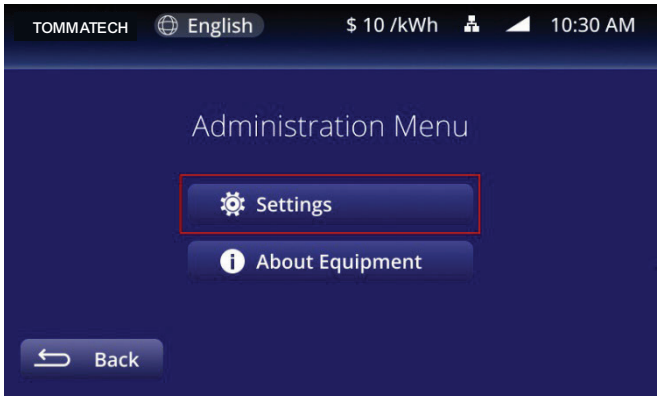


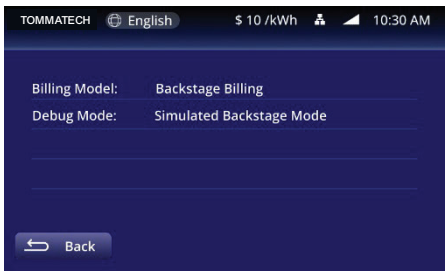
6.1.6. Startup Model

Admin> Enter Password >Settings> General Settings> Card Reader

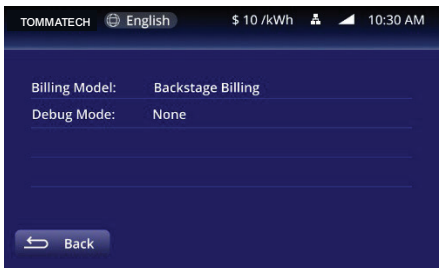




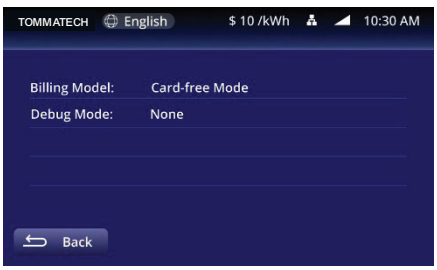




Local swipe Mode



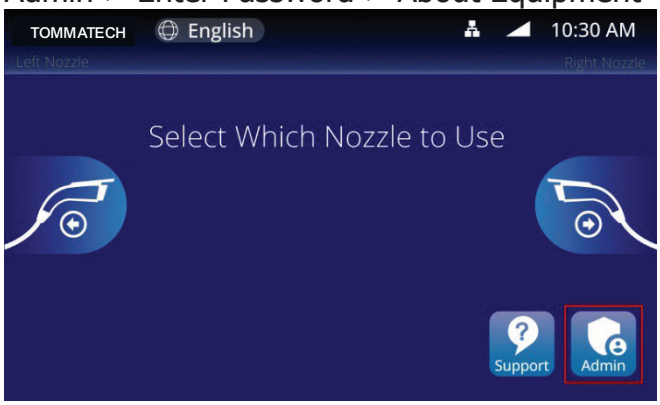
Backstage Mode

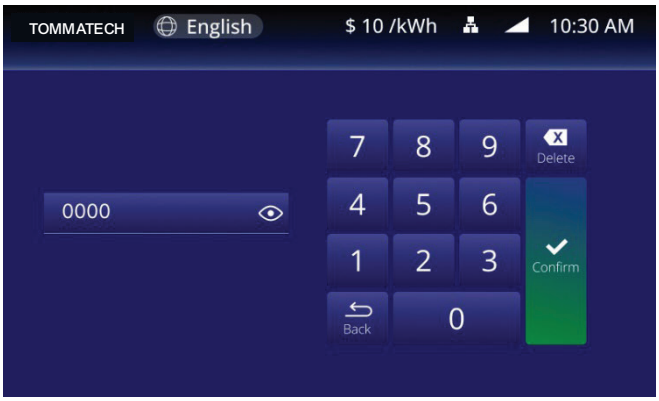


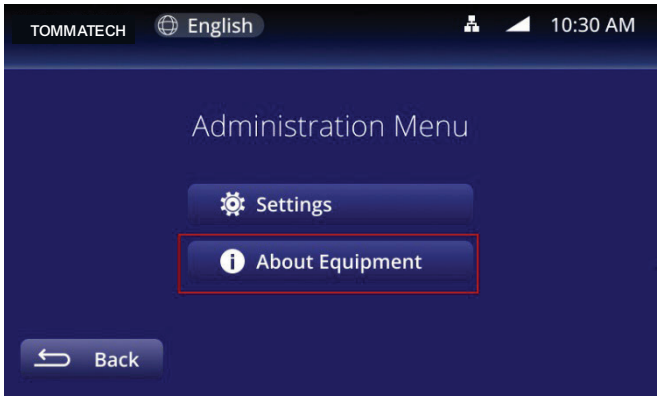
Card-free Mode

6.1.7. Querying the Version Number

Admin > Enter Password > About Equipment







6.2. LED Operation

The front panel of the charger has an operation indication area to display the charger status.

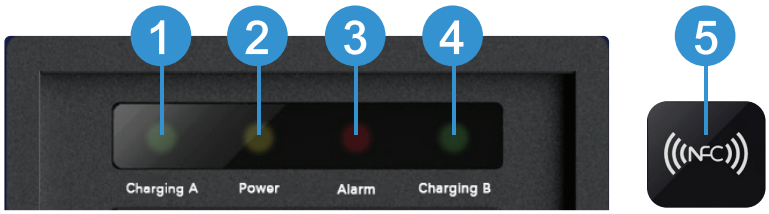


Figure 6.4 LED Front Panel

1. Insertion indicator power LED of nozzle A
   When hung on the nozzle A, the power LED (green) lights up.

   When nozzle A is charged, the power LED (green) flashes.

2. Power LED
   When the charger is powered on, the power LED (yellow) will light up.

   When the charger is turned off, the power indicator will fade out.

3. When there is any fault or error in the charger, the fault LED (red) will light up.
   At this point, for safety reasons, the charger will stop running.

4. Insert nozzle indicating power LED of nozzle B
   When hung on the nozzle B, the power LED (green) will light up.

   When nozzle B is charged, the power LED (green) flashes.

5. NFC sensing area
   To start or stop charging, please place the NFC card near this area.

6.3. Precautions

- If the screen shows a machine failure, do not operate, please contact the staff.
- When the charging light (green light) blinks, it is charging. At this time, please do not plug or unplug the nozzle to avoid electric shock.
- If it needs to be fully charged, please confirm that the balance of the IC card is sufficient when swiping the card. Charging will be automatically terminated if the balance is insufficient during the charging process.
- Follow the charger's operating instructions when operating.
- Be careful not to overexert when unplugging the charging cable.
- In case of emergency, please press the emergency stop switch. Charging can not be carried out at this time.

6.4. EPO Operation

When any of the following situation occurs, please press EPO button to forcibly disconnect the AC contactor, and the control receives the EPO information to forcibly stop the charging processing, and provides a warning on the screen.

- Fire alarm, electric shock or leakage occurs on this charger
- Internal fault, can’t stop charging, internal wiring problem occurs on this charger
- It’s necessary to move charger location

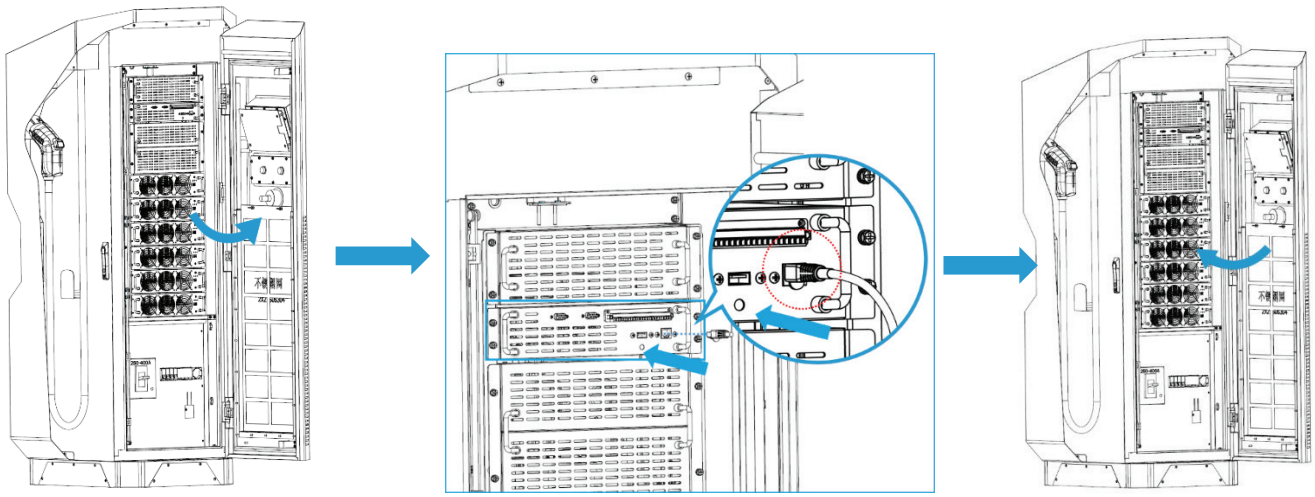
NOTE: If you press the button by mistake, simply turn the button to the right to resume this action.

7. System Configuration

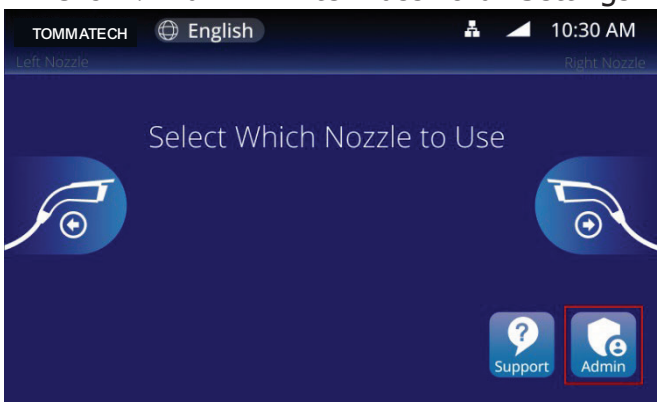
⚠	**WARNING:** Configure the charger only when it is not in charging mode to avoid interrupting the charging session.

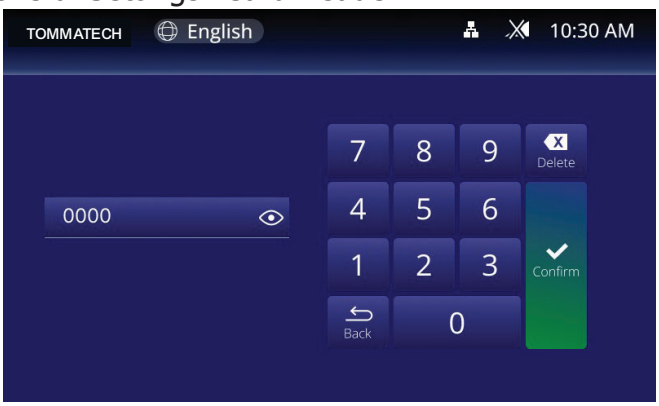
7.1. OCPP Connection

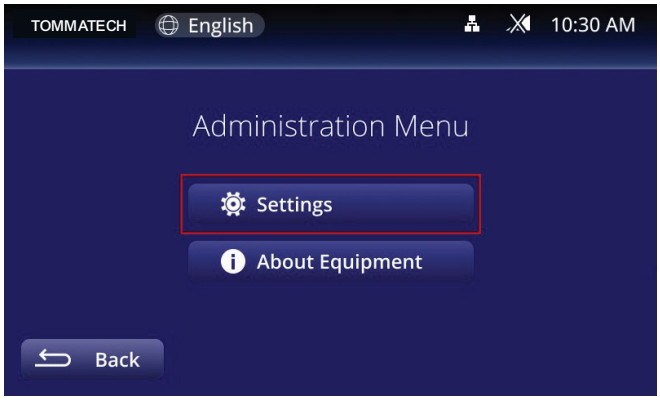
1. Open the front door.
2. Insert the network cable to use RJ45.
3. Close the front door.

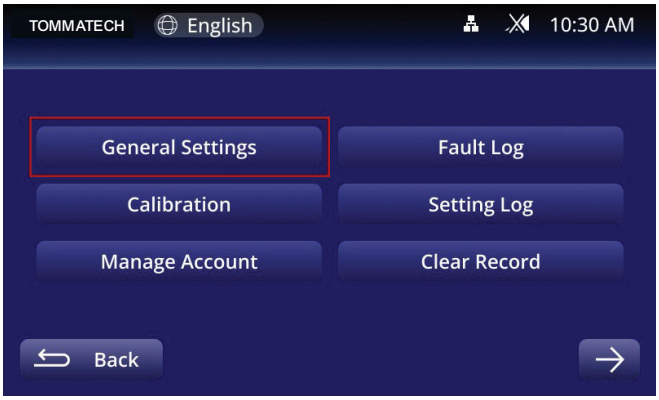


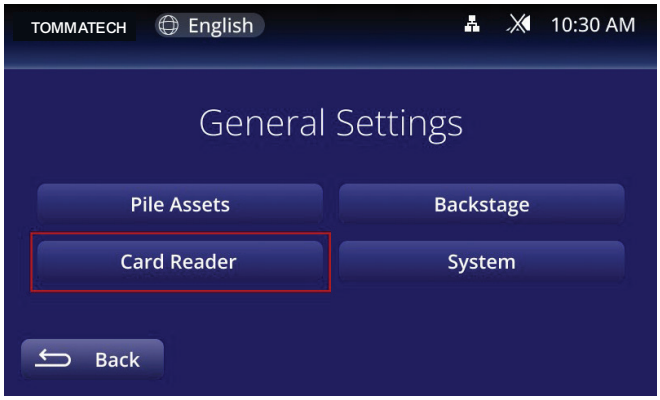
4. Click ： Admin>Enter Password>Settings>General Settings>Card Reader



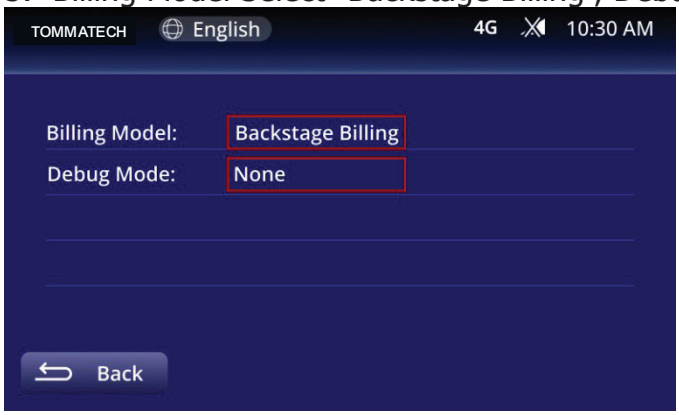




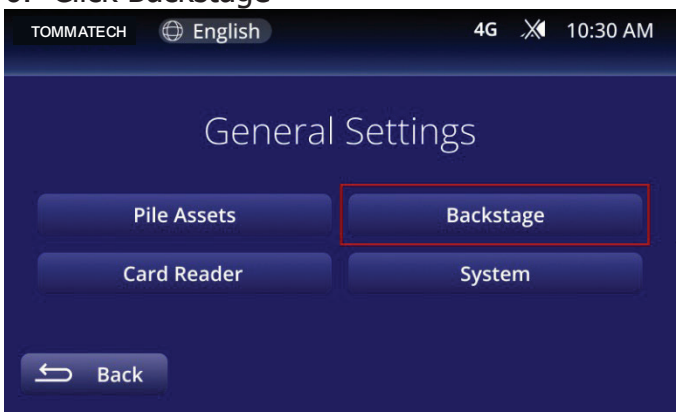




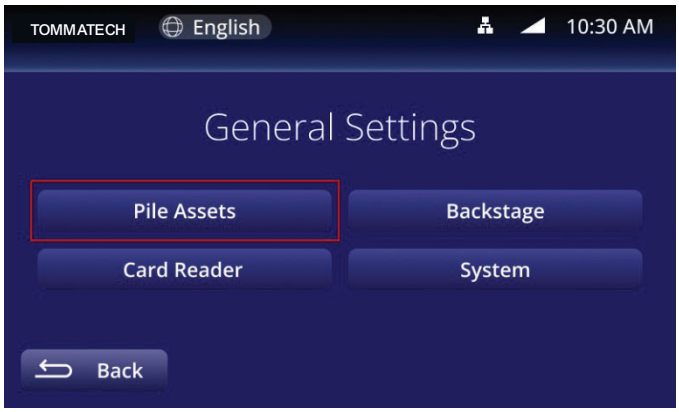
5. Billing Model Select "Backstage Billing", Debug Mode select "None", set it up and click Back



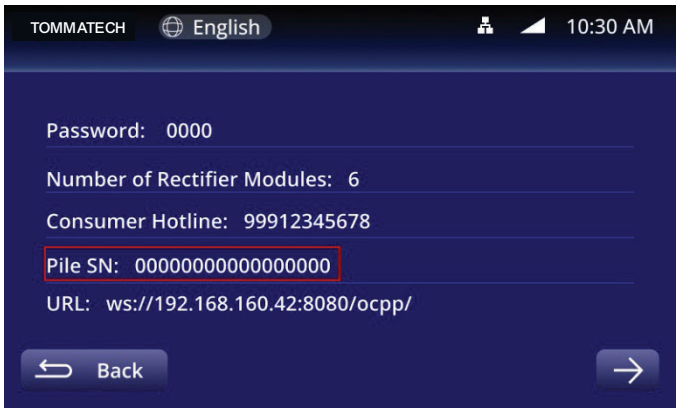
6. Click Backstage



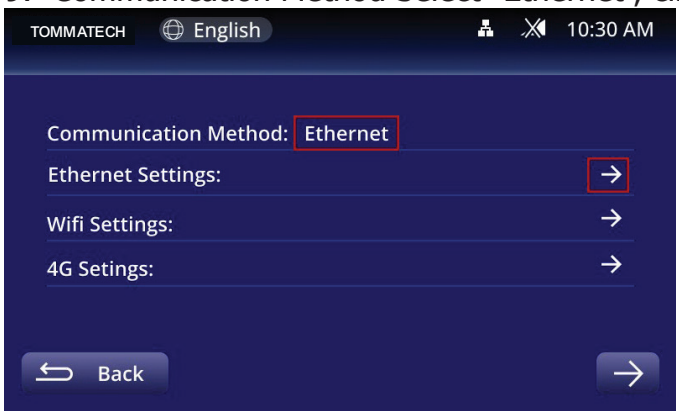
7. Click Pile Assets



8. Set the ID

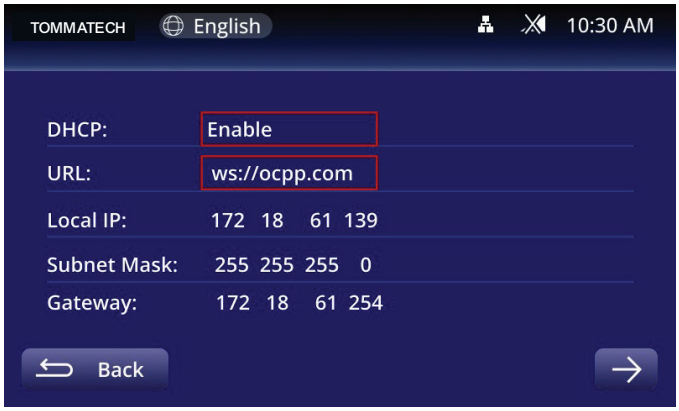


9. Communication Method Select "Ethernet", click "Ethernet Settings"



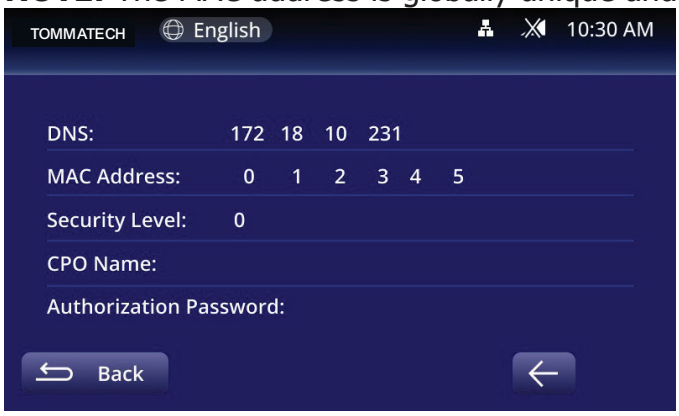
10. DHCP selects "Enable", and the URL is filled in with the cloud platform address obtained by the customer.

NOTE: The URL of the cloud platform and the charger must be consistent, and the URL of each platform is inconsistent, so you need to fill in the URL according to the platform used by the user.

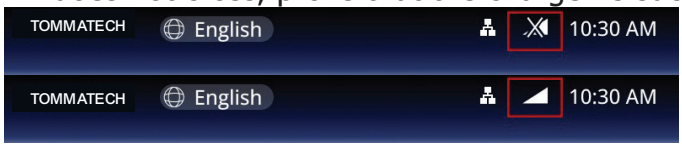


11. The MAC address does not need to be modified, and each charger has been modified by the manufacturer before leaving the factory.

NOTE: The MAC address is globally unique and cannot be set repeatedly.



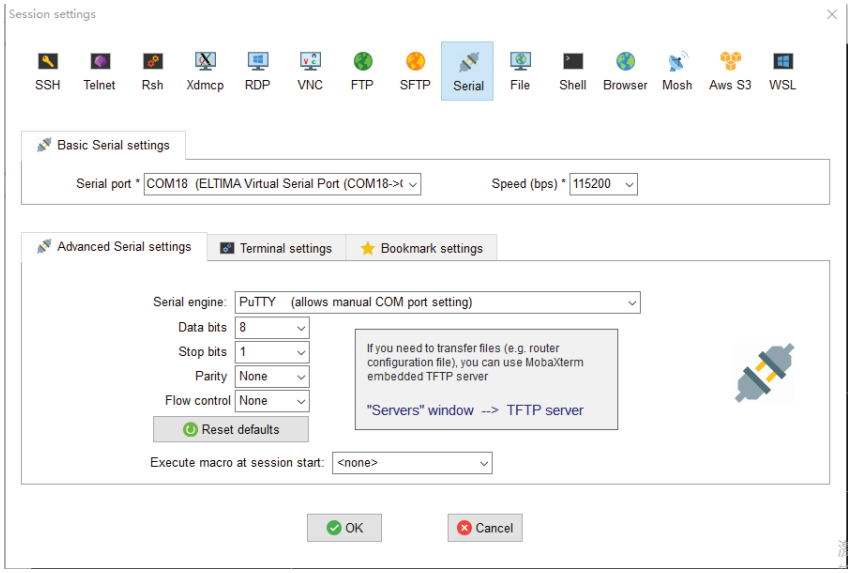
12. After the customer cloud platform is created, reboot, wait 1~2 minutes and the signal icon does not cross, prove that the charger is successfully connected to the cloud platform.



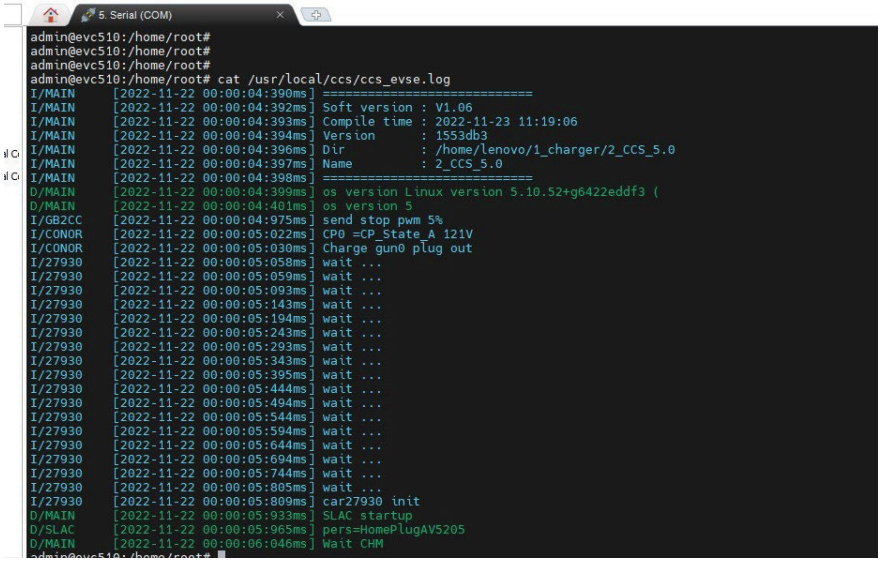
7.2. Charger Log Download

7.2.1. Serial Port Mode

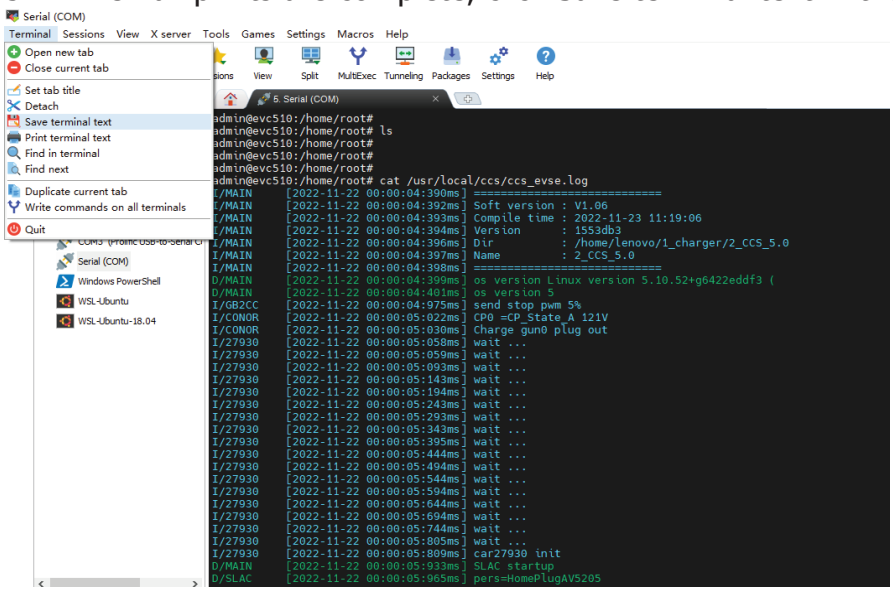
1. Use a serial cable to connect the charger.
2. In MobaXterm, create a new session, select Serial mode, and set it as shown below.



3. Enter the account root and password root login.
4. Enter the command cat /usr/local/ccs/ccs_evse.log and wait for the serial port to print all records.

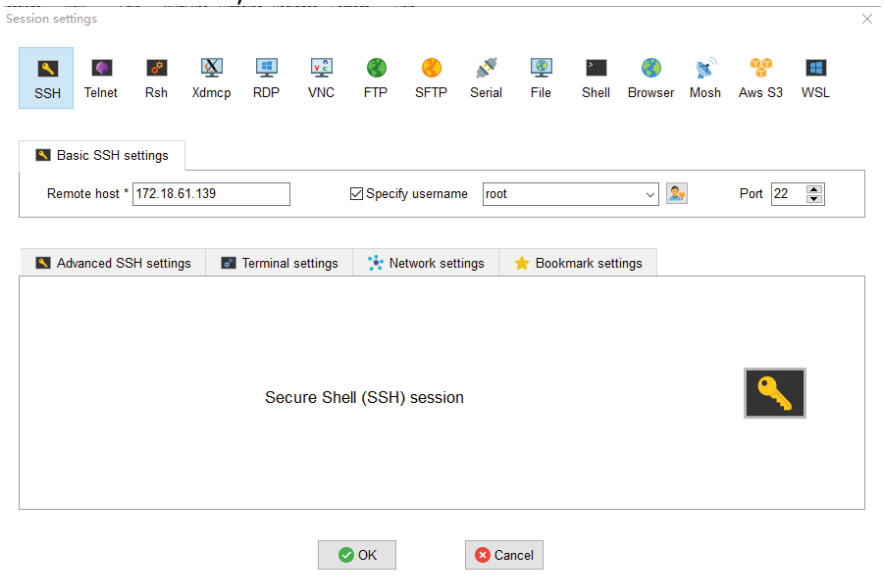


5. When all prints are complete, click Save terminal text in the upper left corner.

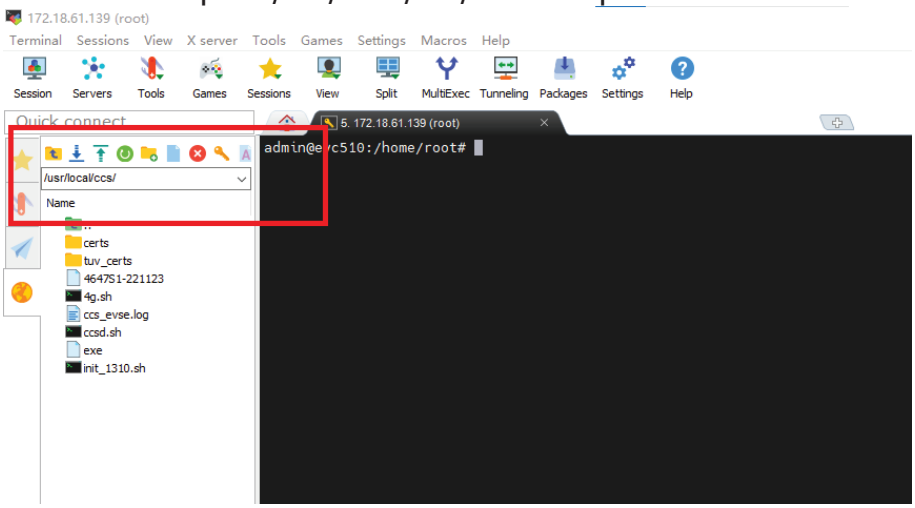


7.2.2. Network Mode

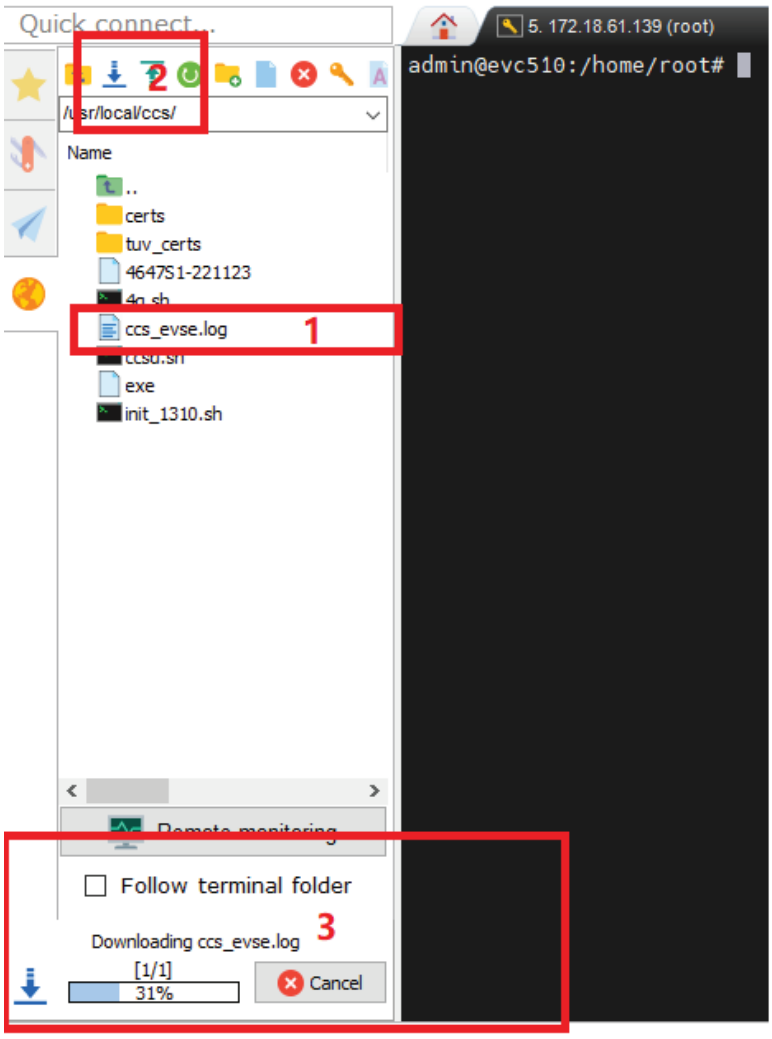
1. Connect the charge to the same network as the computer, and obtain the charger IP address on the charger screen or the router management page.
2. In MobaXterm, create a new session, select SSH and fill in the IP address of the charger, account root, and click OK to start the connection.



3. Enter the account root and password root.
4. Enter the path /usr/local/ccs/ in the input box on the left.



5. Select the CCS file _evse.log and CCS _evse.log.0, click the download button to download, the download progress will be displayed in the lower right corner, wait for the progress bar to complete.


Quick connect...
5. 172.18.61.139 (root)
admin@evc510:/home/root#
/usr/local/ccs/
Name
..
certs
tuv_certs
4647S1-221123
4g.sh
ccs_evse.log
1
ccsd.sh
exe
init_1310.sh
2
Follow terminal folder
3
Downloading ccs_evse.log
[1/1]
31%
Cancel

8. Routine Maintenance

Due to the influence of ambient temperature, humidity, dust and vibration, the internal devices of the charger will wear out, which leads to the potential failure of the charger. Therefore, it is necessary to carry out daily and regular maintenance of charger to ensure their normal operation and its service life.

- Regularly check if the cabinet structure is loose and sliding.
- Check if the connecting wire is worn and the charging connector is connected firmly.
- Regularly check if any internal components is damage, loose or burned out.
- Regularly check if AC incoming line and ground wire are firmly connected.
- Check the dust accumulation in the cabinet once a month and clean it in time to ensure the heat dissipation.
- Please be sure to keep the cabinet door closed and locked when nobody is on duty.

NOTE: Only professional electricians or persons with professional qualifications can operate the contents of this chapter.

	**CAUTION:** Do not leave screws, washers and other metal parts in the charger for maintenance, otherwise the equipment may be damaged. After the completion of equipment maintenance, it is necessary to check the cabinet to ensure the normal operation of the charger.
	**Warning:** During equipment maintenance and overhaul, please be sure to cut off the AC power supply of the charger.
	**Warning:** During equipment maintenance, necessary measures shall be taken to prevent the charger from being energized by mistake.

Maintenance Projects	Maintenance Cycle
Check the function of each fan regularly: check whether there is abnormal noise and whether the fan turns smoothly.	3 months
Regularly check the function of switches: switches, contactors and other switching devices in the circuit should be regularly checked to see if there is any damage or metal corrosion.	3 months
Clean regularly: clean front and back door strainers and dustproof cotton.	3 months
Check the cable and connection regularly, check whether all the cable connection is loose, if loose, must be tightened; Check connection terminals and insulation for discoloration or peeling, replace damaged or corroded terminals, and replace damaged cables.	3 months
Check whether the warning label is firm or clear, and replace it accordingly.	3 months
Regularly check whether there is abnormal sound during the operation of the charger.	3 months
Check the emergency stop function regularly: check whether the emergency stop switch is normal.	3 months

NOTE: If the charger is used in a harsh environment, please carry out routine cleaning according to the actual usage.

9. Trouble Shooting

Fault Code	Fault Description	Possible cause & What to do
E015	Charging gun is not in place	After charging, put the gun wire back in place
E017	Failed to send bill	The charger is connected to the background, and the bill is uploaded after charging, but no reply is received from the background, please contact the background.
E018	Bill delivery timed out	The charger is connected to the background, and the bill is uploaded after charging, but no reply is received from the background, please contact the background.
E026	The charging condition reaches the user set value	When the charging condition reaches the set value (such as set time, set fee, set time, etc.), please pull out the gun and return to the original position.
E038	BMS Demand Voltage Abnormal	BMS demand voltage exceeds its own maximum allowable charging voltage, please check the vehicle
E039	Background Communication Abnormal	The charger is set to background charging mode, but communication with the background is lost. Check network equipment.
E041	Arrester failure	The arrester is damaged. Contact Customer Service
E042	Overhaul of arrester	The arrester is damaged. Contact Customer Service
E043	Emergency stop switch action	Please turn the E-STOP knob to enable the charger. If the second attempt to start fails, please call the customer service.
E044	AC power loss	The AC circuit breaker has been disconnected. Check if the input is tripped.
E050	Charging module AC overvoltage	Check if the AC input voltage is normal
E051	AC undervoltage of charging module	Check if the AC input voltage is normal
E062	Account does not exist	The card number (account number) is not recorded in the background, please record again.
E064	The card has an unclosed record	Please return to the original charger for settlement, or reissue the card.
E065	Service password error	Please enter the correct password.
E080	Vehicle Control Guidance Failure in Charging	The gun was pulled out during charging.
E100	Active stop of vehicle	The Charger received the BST message and thought that the vehicle stopped voluntarily.
E102	Insufficient maximum output capacity of charger	The BMS required voltage exceeds the maximum output voltage of the charger. Replace the module with a higher voltage level