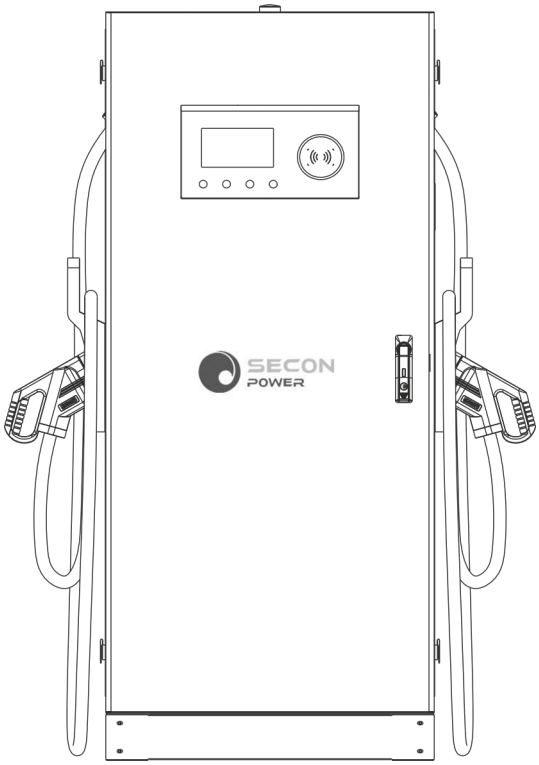
Super DC Series

120-240KW DC Fast Charger

User Manual & Installation Instructions



CONTENT

Introductions

The Seconpower DC Fast Charger is the ideal solution for charging battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs). Designed for high-power, efficient charging, it is perfect for public and private locations such as commercial parking lots, highway service areas, fleet charging depots, workplace facilities, and residential communities.

Featuring a standalone, robust design, this large-scale DC fast charger supports a wide range of charging applications with a focus on durability and performance. Its modular architecture ensures scalability and easy maintenance, making it a cost-effective choice for long-term use.

Equipped with advanced network communication capabilities, the charger integrates seamlessly with remote management systems, offering real-time updates to users. Drivers can easily locate nearby charging stations, monitor charging progress, and access billing details through a user-friendly interface.

With certifications for safety, waterproof, and dustproof performance, this DC fast charger is built to withstand outdoor environments. Its clear display and intuitive controls make it the reliable choice for businesses and operators seeking to provide top-tier charging services.

Features

- Offers customers the convenience of start/stop charging control from an authorized RFID smart card or mobile APP.
- Built on latest industry standards for DC charging.
- Carries an outdoor rating capable of withstanding solid and liquid intrusions in outdoor settings making the unit more stable and highly reliable.
- Provides a high-contrast, screen interface with multi-function buttons.

Applications

- Public and private parking areas
- Community parking areas, Workplace parking areas
- Parking areas of hotels, supermarkets and shopping malls
- Charging stations
- Highway rest are

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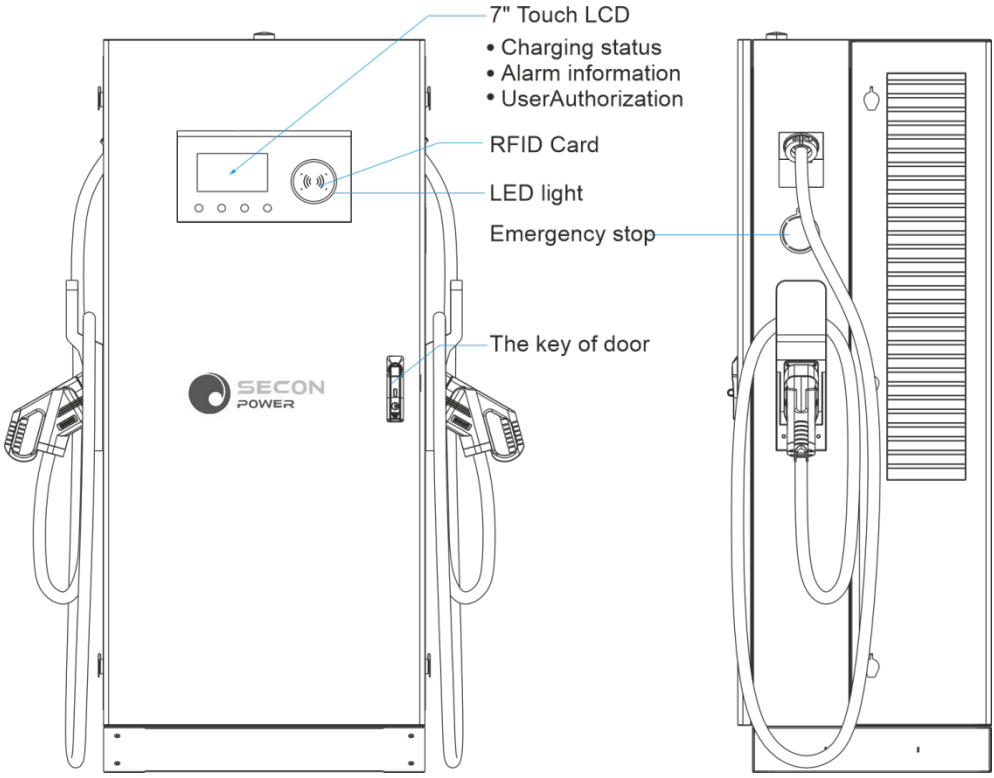
Basic User Interface



1. Specification

1.1 Product Specification

Model	SEC120K-D5	SEC160K-D6	SEC180K-D7	SEC240K-D8
Technical features				
Max Power	Up to 120KW	Up to 160KW	Up to 180KW	Up to 240KW
Input Voltage	400VAC±10%-50/60Hz-3phase(CCS2 and GB/T) 480VAC±10%-50/60Hz-3phase(CCS1+NACS)			
Power factor	≥0.98			
Efficiency	>95%			
Measuring accuracy	Level 0.5			
Output voltage range	CCS2 CCS1 NACS GB/T: 150~1000VDC			
Output current range	0-250A 0-300A(optional)	0-250A 0-300A(optional)	0-250A 0-300A(optional)	0-250A 0-300A(optional)
Communication	ISO15118 / DIN70121(between charger & vehicle) Ethernet/4G/OCPP 1.6J			
User interface	LCD 7 inch Touch Screen /RFID card and APP			
Versatility	EN/IEC 61851-1: 2019, EN/IEC 61851-23: 2014 ,UL 2202, UL2594			
Security design	Over/under voltage protection, overload protection, current leakage protection, grounding protection,lightening surge protection			
DC Plugs	Cable 5M			
Energy Meter	CE certified			
RCD	Type A			
Load balancing	Load balancing meter and CT(optional)			
Physical properties				
Warranty	2 years			
Cooling	Air cooled			
IP Level	IP55			
Sound noise	<70DB in all directions			
Operating temperature	-20℃ to +50℃			
Humidity	Max.95%(non-regulating)			
Dimensions	750*570*1750mm			
Package Dimension	800*650*1950(L*W*H)mm Wooden packing			

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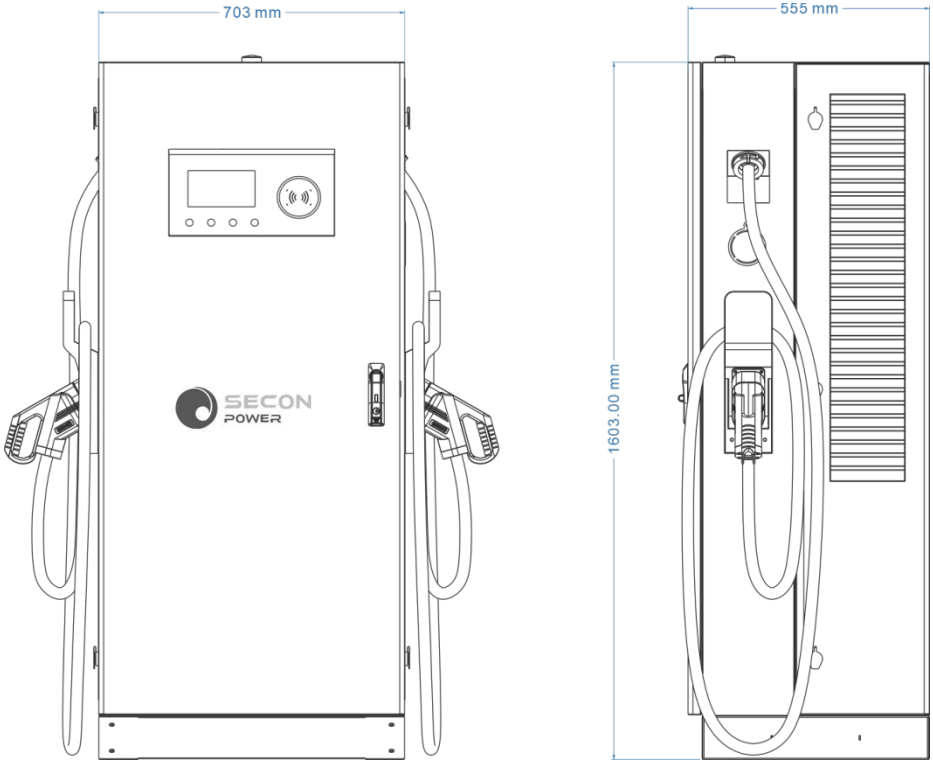
1.2 Dimmensions (Unit: mm)



2. Installation Instruction

2.1 Before Installation

- Read all the instructions before using and installing this product.
- Do not use this product if power cable or charging cable have any damage.
- Do not use this product if the enclosure or charging connector are broken or open or if there is damage.
- Do not put any tool, material, finger or other body part into the charging connector or EV connector.

Warning: The product should be installed only by a licensed contractor and/or licensed technician in accordance with all building codes, electrical codes and safetystandards.

Warning: The product should be inspected by a qualified installer prior to initial use. Under no circumstances will compliance with the information in this manual relieve user of his /her responsibilities to comply with all applicable codes and safety standards.

- Power feed must be 3 Phase Wye configuration with TN(-S)/ IT/ TT grounding systems.
- In the installation of TN(-S) system: the neutral (N) and the PE of the power distribution are directly connected to the earth. The PE of the charger equipment is directly connected to the PE of power distribution and separate conductor for PE and neutral (N).
- In the installation of IT system: the neutral of the power distribution system is isolated from the earth. The PE of the charger equipment is isolated to the PE of power distribution to the earth.
- In the installation of TT system: the neutral (N) and the PE of the power distribution are directly connected to the earth. The PE of the charger equipment is isolated to the PE of power distribution to the earth.
- The capacity of power supply should be higher than 33.0kVA in order to function correctly.
- The product should be installed in free air area and keep at least 30cm clearance distance to all air vent of the product.
- Need sufficient space for product installation and maintenance, please keep not less than 60cm clearance distance from all around the product.he product should be installed in free air area and keep at least 30cm clearance distance to all air vent of the product.

2.2 Grounding and Safety Requirement

- The product must be connected to a grounded, metal, permanent wiring system. Connections shall comply with all applicable electrical codes.
- Ensure no power is connected at all times when installing, servicing, or maintaining the charger.
- Use appropriate protection when connecting to main power distribution network.
- Use appropriate tools for each task.

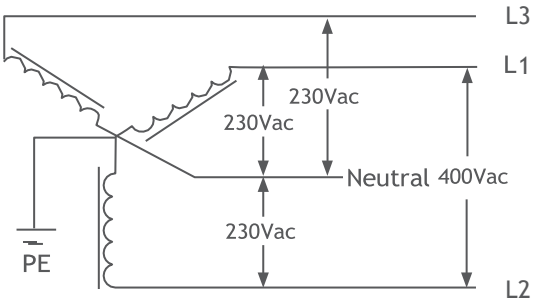
CAUTION: The disconnect switch for each ungrounded conductor of AC input shall be provided by installation contractor or technician.

CAUTION: A cord extension set or second cable assembly shall not be used in addition to the cable assembly for connection of the EV to the Seconpower EV.

2.3 Service Wiring

- Ground Connection
  Always connect the Neutral at the service to Earth Ground. If ground is not provided by the electrical service then a grounding stake must be installed nearby. The grounding stake must be connected to the ground bar in the main breaker panel and Neutral connected to Ground at that point.
- 400Vac(Line to Line) Three-Phase

CAUTION!
This is feed from Wye-connection power grid, the Wall Mount DC Fast Charger can connect to L1, L2 or L3, and Neutral. Earth ground must be connected to neutral at only one point, usually at the breaker panel.



400V Three-Phase Wiring Connection

DANGERS
Be Aware of High Voltage!

WARNING!
Earth Connection is Essential!

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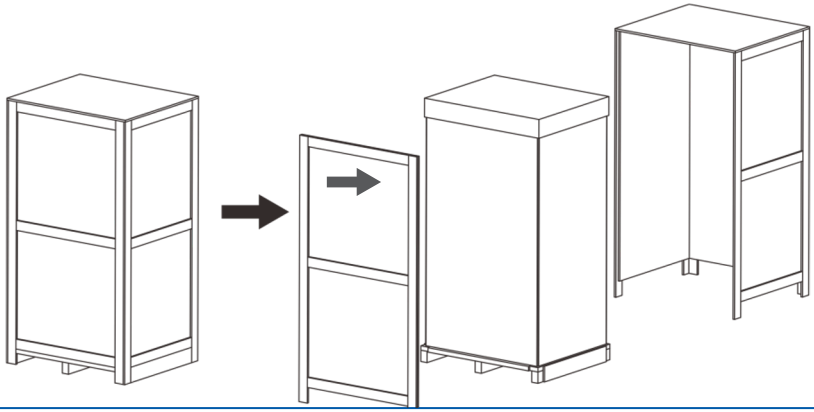
2.4 Unpack the charger

WARNING!
Charger weight might >350Kg!
Be careful during unpack process.

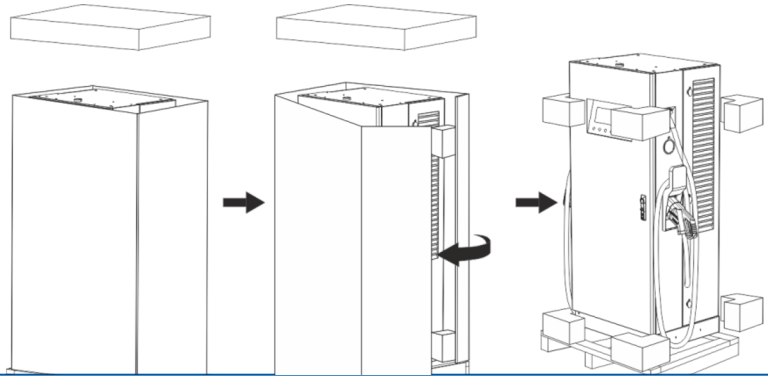
STEP 1.

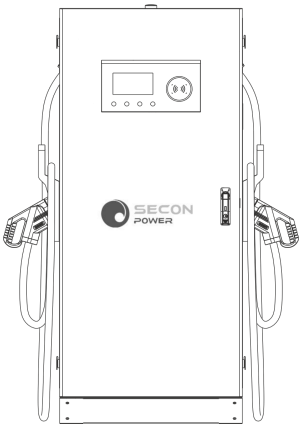
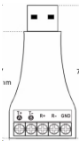
Remove the surrounding boards



STEP 2.

Remove the packaging film and the paper cover. Accessories are packed in a carton.



			
	User Manual (x1)	test tools (x1)	Expansion bolt (×4) M12*80mm
			
DC Charger	RFID CARD (x2)	Key (x2)	SD card(x1)

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2.5 Recommended Tools for Installation and Inspection

2.5.1 Recommended Tools for Installation

Type	Description
Philips Screwdriver	No. 2 and 3
Shifting Wrench	8" (24mm)
Ball-Head Hex Key	2.5mm and 5mm
Socket Screwdriver	No. 8 ,10 and 17
Electrical Tape	Black / 15mm Width
AC Input Cable of 120KW	**100mm^2 Cable x 4 (L1,L2,L3,N,)+50 mm^2 PE**
AC Input Cable of 150KW	**120mm^2 Cable x 5 (L1,L2,L3,N)+50 mm^2 PE**
AC Input Cable of 180KW	**150mm^2 Cable x 5 (L1,L2,L3,N)+70 mm^2 PE**
AC Input Cable of 240KW	**185mm^2 Cable x 5 (L1,L2,L3,N)+70 mm^2 PE**
Crimping Pliers for Ring Terminal	Applied for 100- 185mm^2
Machine Drill	
Wire Cutters	
Level Ruler	

2.5.2 Recommended Tools for Inspection & Commissioning

Type	Description
EV or EV Simulator	Meet CCS2 standard
Multiple Meter	1000V
Current Probe	600Amp
RFID Authorized Card	
RFID No Valid Card	
Door Key	
Needle-Nose Plier	
Laptop or PC & CAT6 cable	For Charger Configuration

2.6 Installation Procedure

STEP 1.

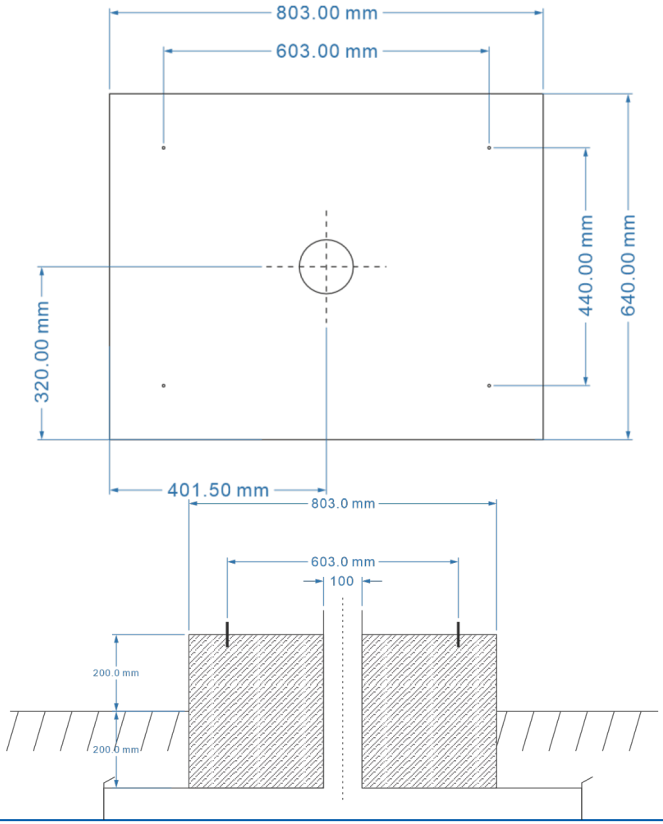
1. Build 1090mm x 750mm x 200mm (42.91” x 29.53” x 7.87”) concrete base on the level to stand charger in advance.

2. Implant AC input cable conduit less than Φ102mm(eg.4” PVC conduit),and SFTP Ethernet cable conduit less than Φ34mm (eg. 1 1/4” PVC conduit).

3. And implant 4 pcs of M12 screw stick out the concrete base for 40 mm (1.57”) to fix the charger. The positioning of these 4 pcs of M12 screws should be within ± 2 mm (0.08”) in short axis, ± 8 mm (0.32”) in long axis according to screw holes of charger.

4. To fit this positioning requirement, a steel plate fixture be suggested. Please create the fixture by the following drawing or order this fixture from your vendor.

5. The other way to fix the charger on concrete base is install 2 of L-brackets accessories outside of charger and drill the screw holes (Φ16 mm (0.63”)) on the cement base as drawing below.



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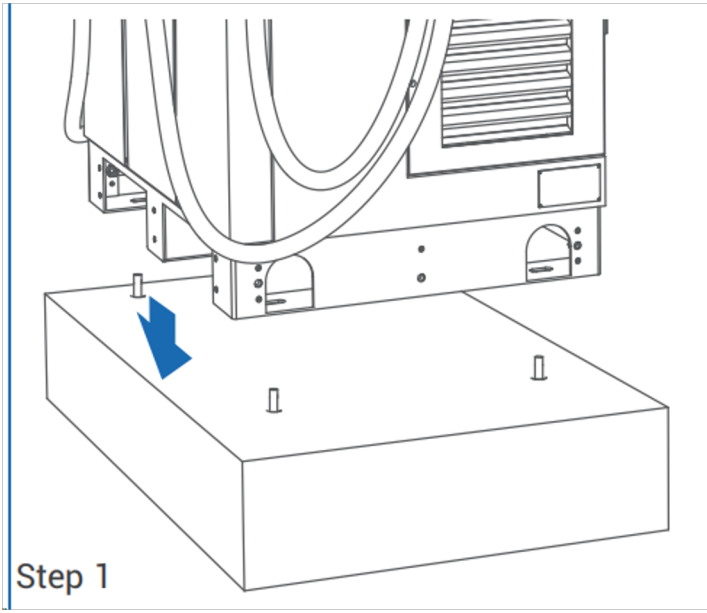
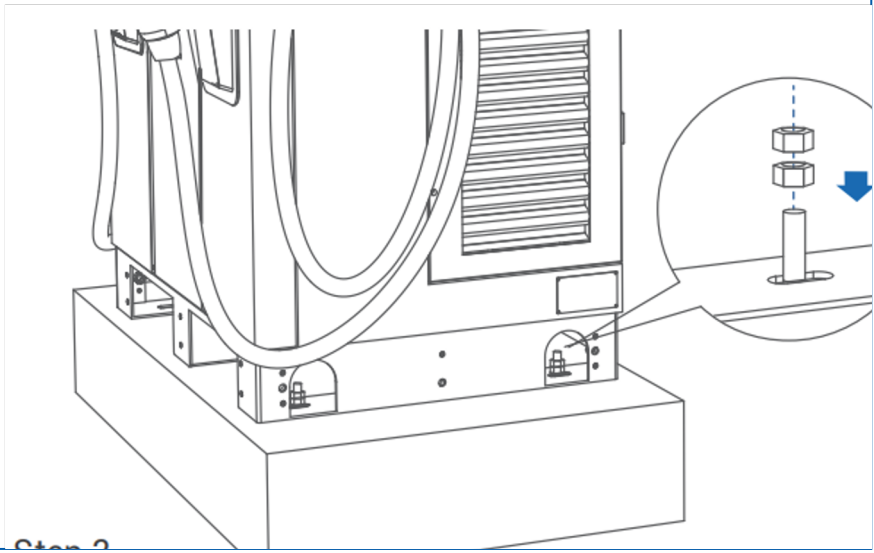
STEP 2.

1. Lift the charger on concrete base, pull the input cable through bottom hole of charger; fasten 8 pcs of M12 screw nuts and 4 pcs M12 washers on 4 pcs of M12 screw of concrete base (2 nuts for each screw) to secure the chargers. Then fix the base cover(in the accessory pack) in charger base.



STEP 3.



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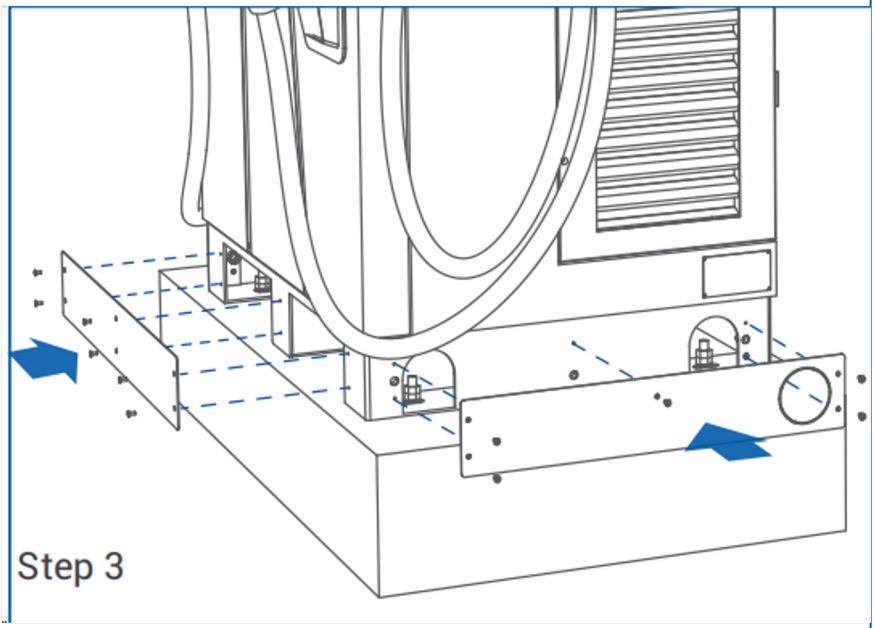
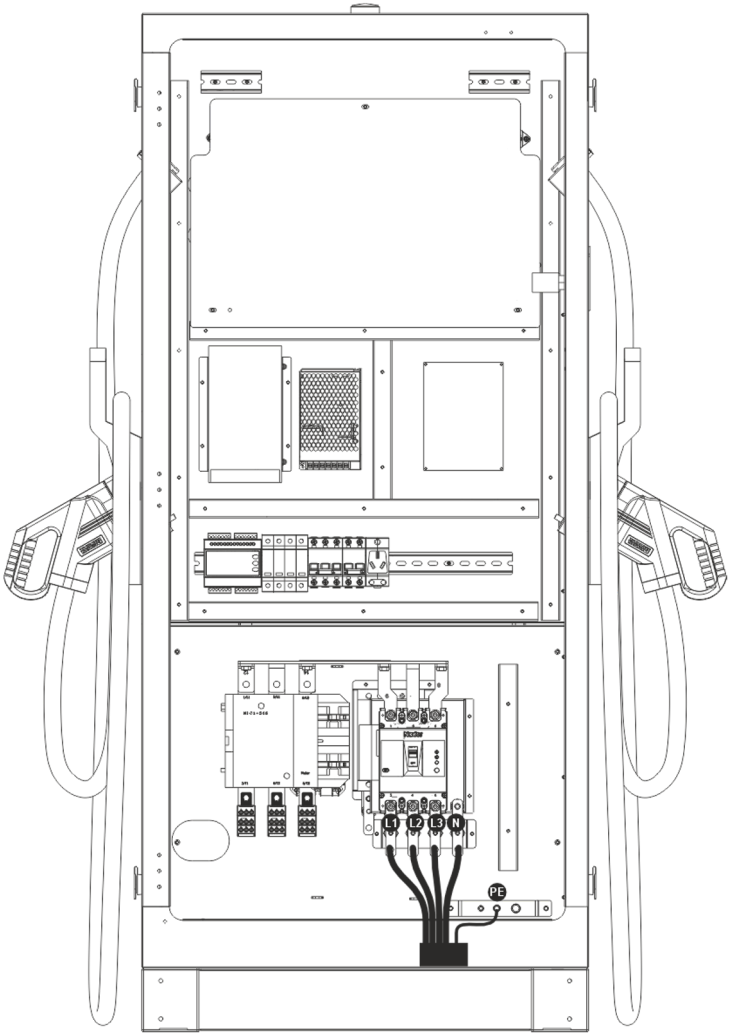
STEP 4.



Installing the AC Input Connect

STEP 5.

Connect L1, L2, L3 and N of AC power to 4P terminal. Fasten each wire with proper screw and torque number- 120Kgf.cm/5-15 secs. Connect the PE wire (green with yellow) to Grounding position of Charger and torque number- 220Kgf.cm. Keep proper length of each wires then fasten cable grand.



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2.7 Installation Inspection & Commissioning

2.7.1 Environmental Check

Item	Status	Remark
Ambient Temperature		
Ambient Humidity		
Sunshade		Recommended but not required.
Rain Canopy		Recommended but not required.
Air Circulation / Drafty		
Dust Level		
Anti-Vandalism Measures		

2.7.2 External Infrastructure Readiness & Check

Item	Status	Remark
Input Wirings & Terminals		Type/ Length/ Cross Section
Key & Lock of Cabinet Door		
Fixing Screws		Type / No
No Fuse Breaker (NFB)		Notice: Current rating of NFB shall be higher than 63 Amp
Residual Current Device (RCD)		Notice: Maximum RCD residual current shall not excess 30mA
Input Electricity Capacity		
Input Electricity Configuration		Wye
Grounding Resistance		<50Ω
Grounding System		
Input Voltage & Frequency		
Network Connection & Quality		LAN/ Wi-Fi/4G

2.7.3 Seconpower EV Check – Static (Non-Powered)

Item	Status	Remark
Outlook		
Labeling & Warning Signs		
Package (Accessory) List		
Robustness of Input Wirings		

2.7.4 Seconpower EV Check - Power On

Item	Status	Remark
Screen On		
Acoustic Noise		
Screen Display & Function		
Time Display Correctly		
Network Connection Quality		
Cooling Fans Operation & Noise		
Led Status Indication		
Seconpower EV Setting		
Function of Engineer Mode		
Version of H.W. & F.W.		
Remote Control & Monitoring		
Backend Server Connection		

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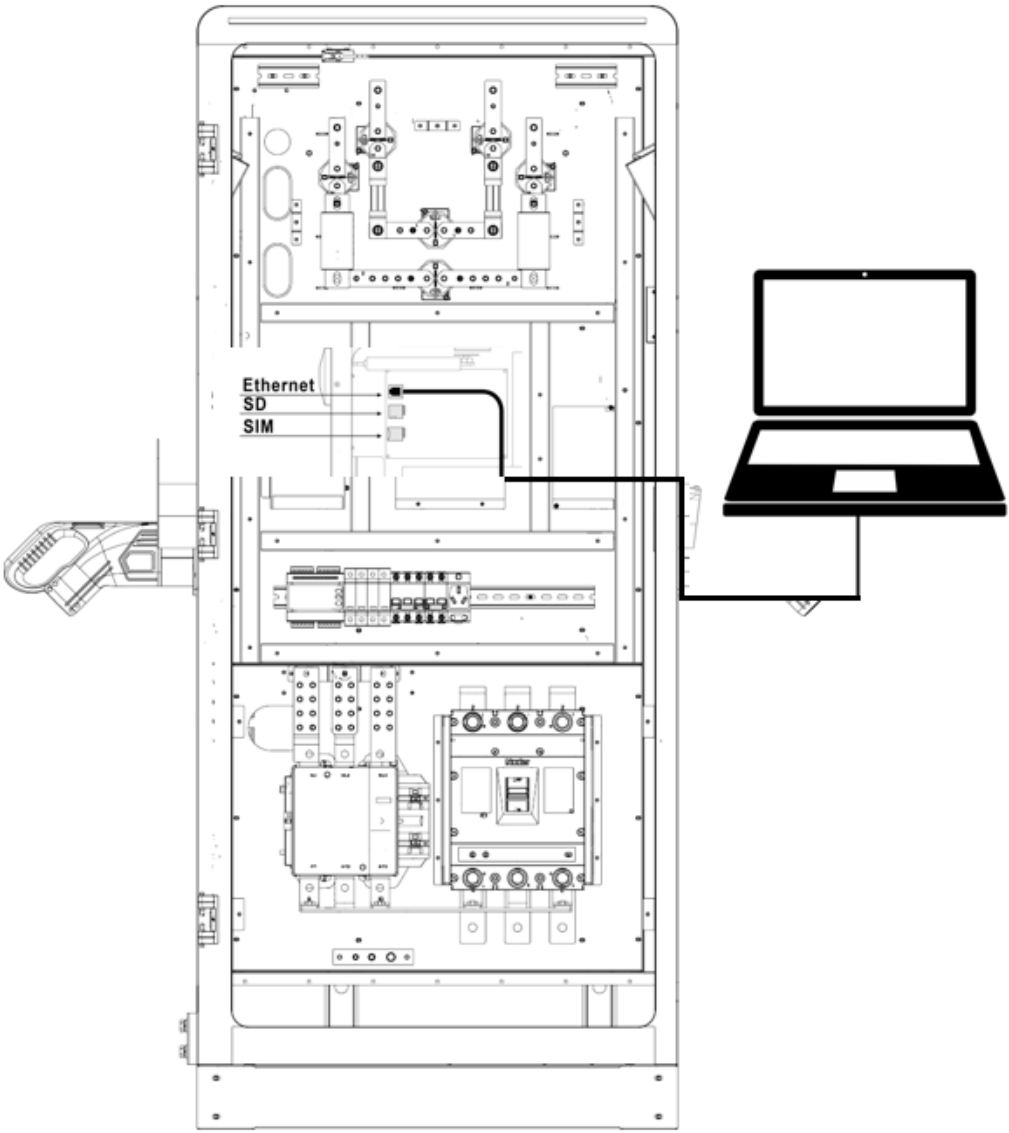
2.7.5 Seconpower EV Check - Charging

Item	Status	Remark
User Authorization –RFID		
User Authorization –QR Code		
User Authorization –Others.		
Waiting Time of Connection Check		
Reading of Each Display Item		
Full Charge Test		
Function of Electronic Lock		
Reading of Engineer Mode		
Airflow & Noise of Cooling Fan		
Charging Record (log) Upload		
Remote Control & Monitoring		

2.7.6 Seconpower EV Check –System Power Button

Item	Status	Remark
Emergency Stop Button		

3. Network Setting



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3.1 Wi-Fi Network Setting

Laptop with RJ45 interface.

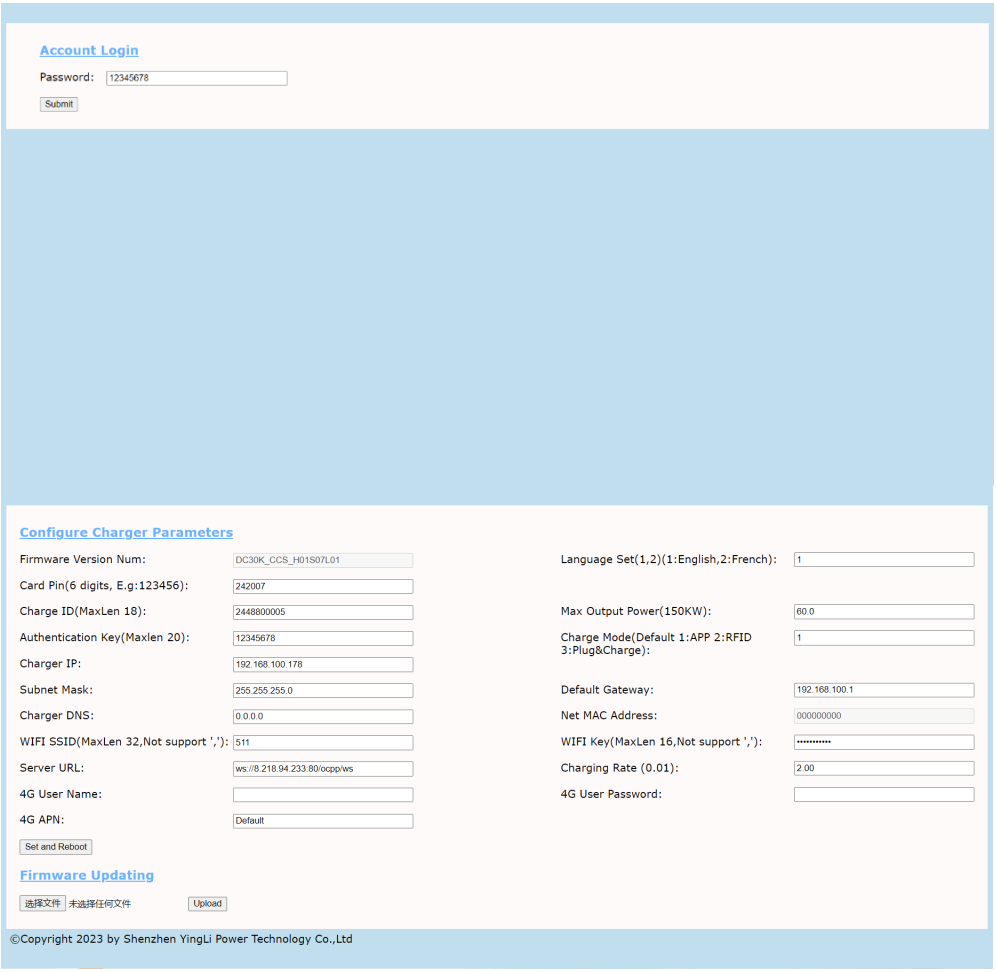
Connect RJ45 cable from Laptop to charger's RJ45 port.

Setup parameters in the Webservice.

Step 1.

Open web service browser, type the IP address of charger "192.168.2.5:8080" into the URL bar to access the web
page of charger.

Password: 12345678



Step 2.

Select Wi-Fi Module

Select Wi-Fi modes and fill in SSID and Password according to your application, if not required, just keep default

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4. Operation Process

4.1 RGB LED indicators

Charger status	LED performance
Standby	green blink
plug in	yellow
swipe/punch a card	yellow
charging	Light green breath
Fault status	Red flashing

4.2 LCD indicators

the EMN series config a 7-inch LCD screen, which is mainly used to display various status information of the charging station.

- **Icons or instructions in each display area**

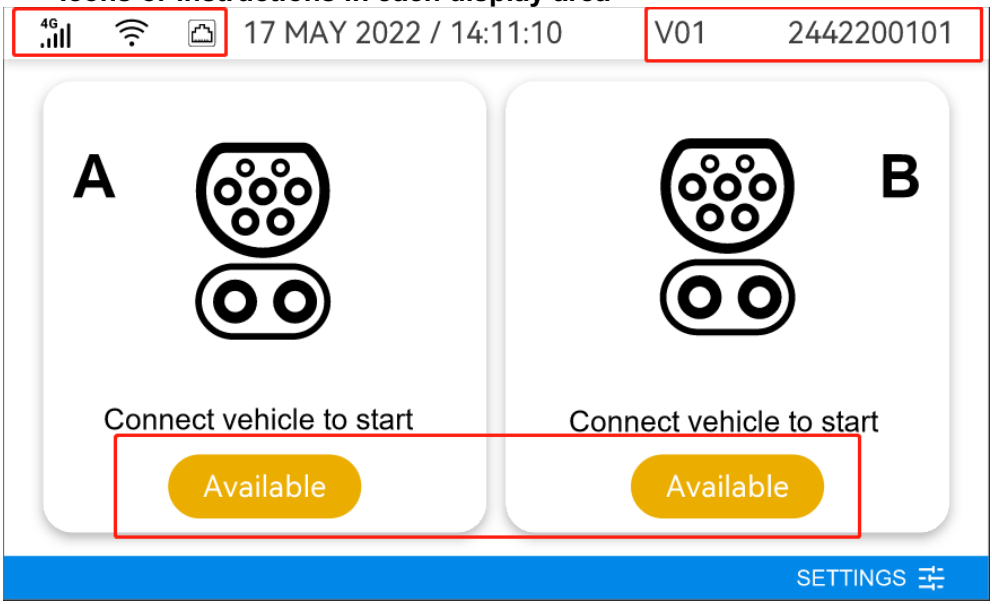

Fig. 1-2 Display of icons and instructions

In Fig. 1-2, there are three areas to display icons or instructions, with the specific meanings as follows:

No.	Icon	Description
Area ①		
1		Connected a network through 4G cellular
2		Connected a network through WIFI
3		Connected a network through Ethernet
Area ②		
4	Version	Software version
5	SN	Serial number of Seconpower EV
Area ③		
5	status	Seconpower EV status information
Area 4		
6	**Settings**	**Set charging station parameters**

- As shown in Fig. 1-3,1-4,1-5,1-6, the LCD screen displays 4 types picture in normal state.

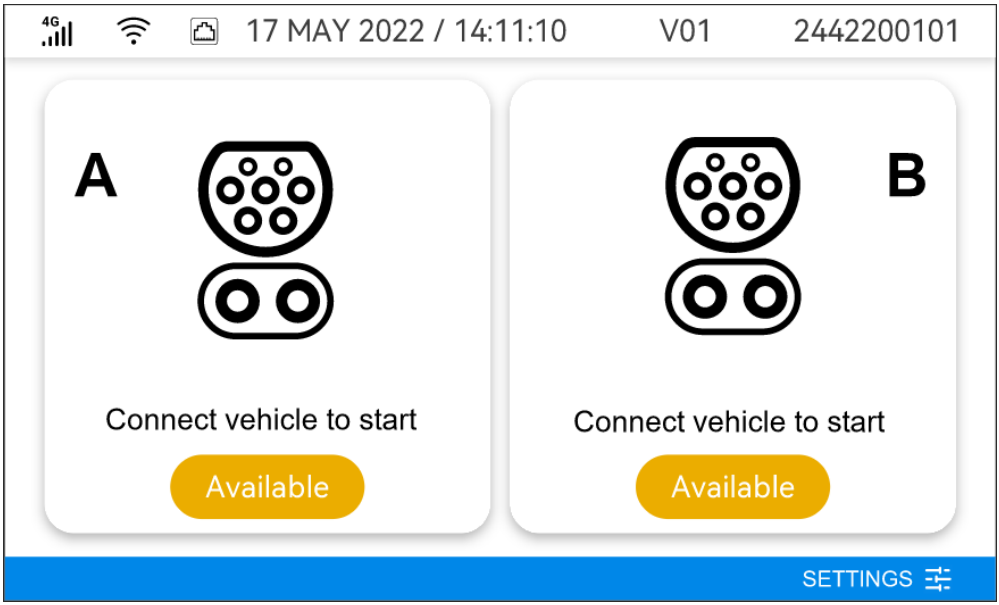

Fig. 6-3 Display of Preparing

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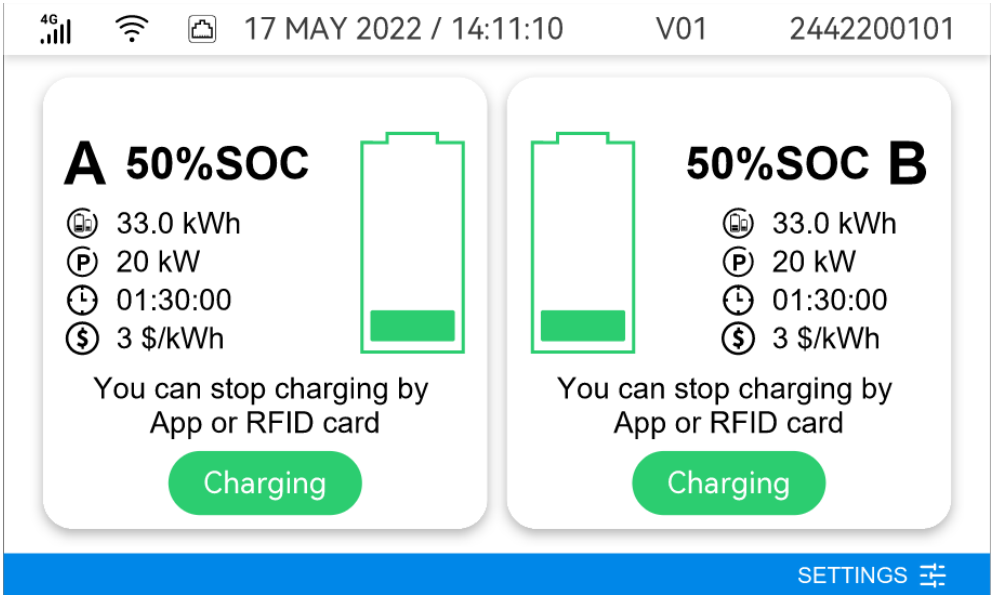

Fig. 6-4 Display of Charging

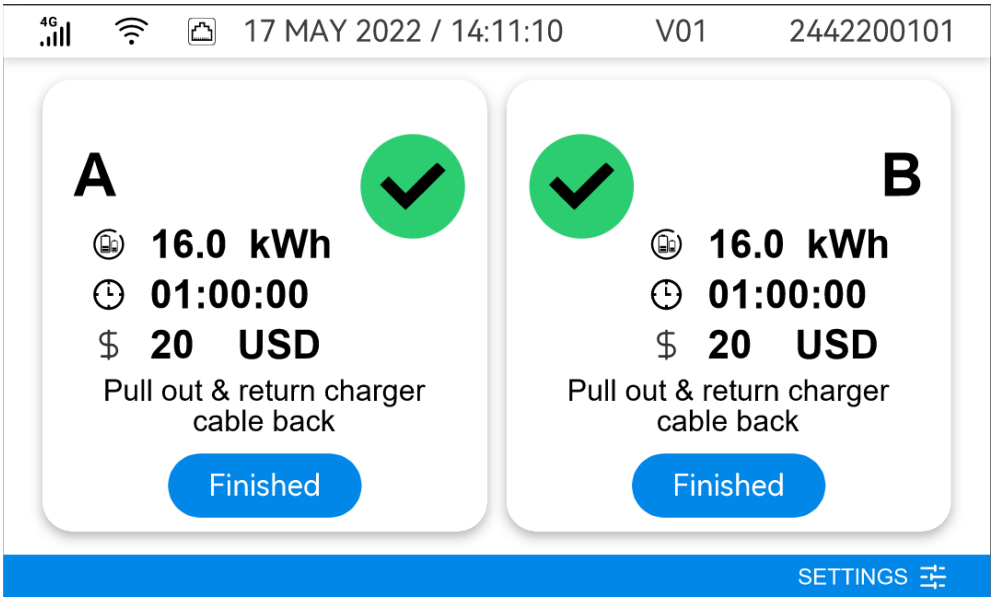

Fig. 6-5 Display of Finished

- Click the settings icon three times to enter the settings interface, the picture displayed on the LCD screen is shown in Fig. 6-6.
- Enter password: 1234

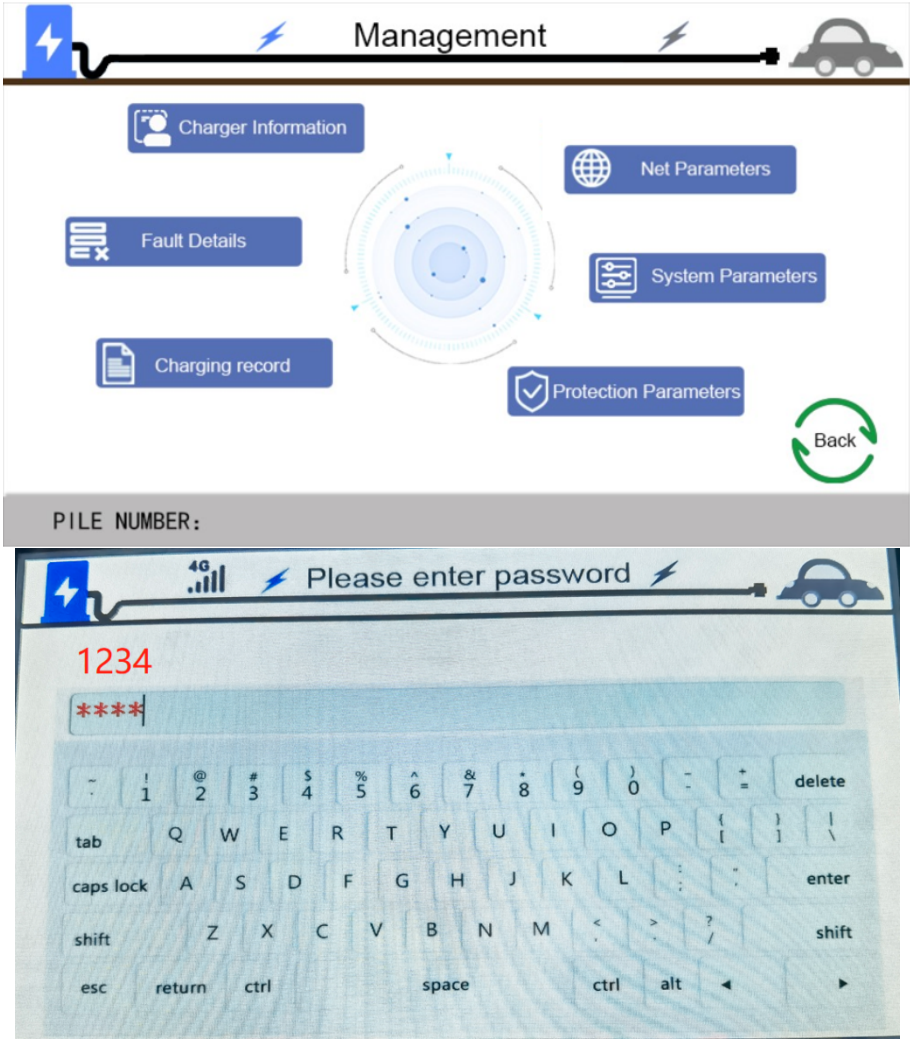

Fig. 6-6 Display of Management

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- If the charging process fails or the equipment fails, the picture displayed on the LCD screen is shown in Fig. 6-7.

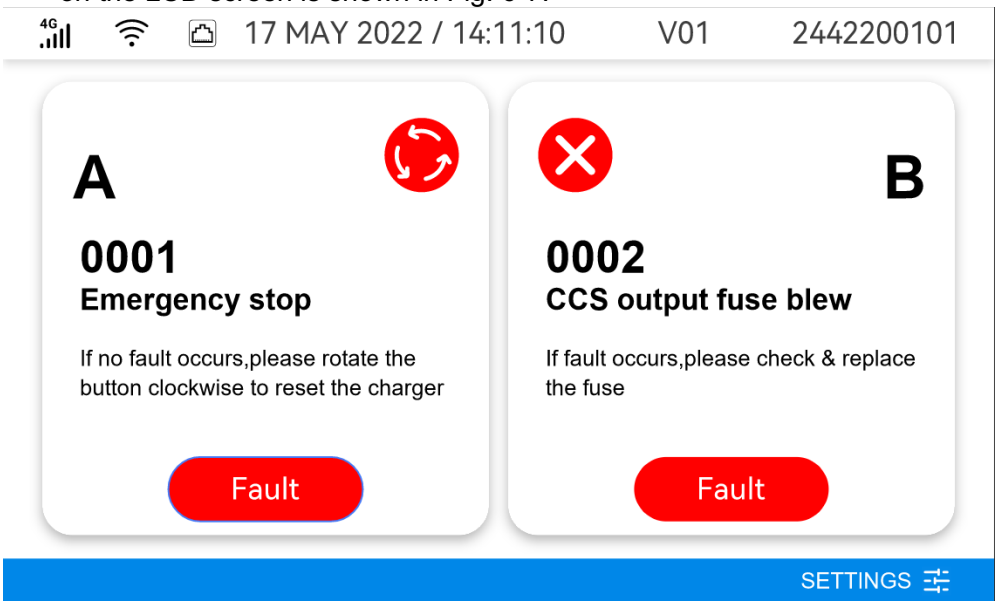

Fig. 6-7Display of fault state

4.3 Troubleshooting

- Please follow the instruction in the table when errors occur during the charging process.
- Or please contact the DC Quick Charger provider for further instructions.
- If an emergency occurs push the Emergency Stop Button to stop charging immediately.

4.4 Status Codes

*For latest status code, please visit our website.

Status Code	Description	Solution
0001	Emergency stop	If no fault occurs,please rotate the button clockwise to reset the charger.
0002	CCS output fuse blew	If fault occurs,please check&replace the fuse.
0003	AC input contactor 1 welding	If fault occurs,please check&replace the contactor.
0004	CCS output relay welding	If fault occurs,please check&replace the Relay.
0005	CCS connector temperature sensor broken	If fault occurs,please check&replace the sensor.
0006	Relay control module /smart box broken	If fault occurs,please check&replace the Relay control module.
0007	CCS Power module fault	If fault occurs,please replace the CCS Power module.
0008	Maximum Output Current setup error	If fault occurs,please reset the correct value.
0009	Maximum Output Voltage setup error	If fault occurs,please reset the correct value.
0010	BLE module broken	If fault occurs,please replace the BLE module.
0011	4G module broken	If fault occurs,please replace the 4G module.
0012	Ethernet BLE module broken	If fault occurs,please replace the Ethernet BLE.
0013	wifi module broken	If fault occurs,please replace the wifi module.
0014	CCS connector OTP	If fault occurs,please check&reset the OTP value.
0015	SPD trip	If fault occurs,please replace the SPD Module.
0016	CCS ground fault detection timeout (GFD)	If fault occurs,please check the Ground line.
0017	RFID module communication fail	If fault occurs,please check Communication line with RFID.
0018	Power module communication fail	If fault occurs,please check can line with power module.
0019	Door open	If fault occurs,please closed the door &recharge with vehicle.
0020	System fan decay	If fault occurs,please replace the fan.
0021	AC Ground Fault	If fault occurs,please check the Ground line.
0022	CCS EV communication Fail	If fault occurs,please check Connecting wire with vehicle.

5. Maintenance

5.1 General Maintenance

- The DC Fast Charger is cooled by forced air. Please keep charger in a ventilated location and do not block the air vents of the DC Fast Charger .
- Please clean or replace the air filters regularly to ensure the DC Fast Charger works properly.
- Clean the DC fast Charger at least three times a year, keep the exterior clean at all times.
- Clean the outside of the cabinet with damp cloth or wet cotton towel, only use low-pressure tap water and cleaning agents with PH level between 6 to 8.
- Do not apply high-pressure water jets.
- Do not use cleaning agents with abrasive components and do not use abrasive tools. Improper cleaning agents might spoiled coating, painting, surface, brightness and durability of all exterior parts.
- If there is water intruding into the DC Fast Charger then please cut off the power source immediately and contact the DC Fast Charger provider for repair.
- Please make sure the charging connector is returned to the holder of the charging connector after charging to prevent damage.
- If there is damage to the charging connector, charging cable or holder of the charging connector then please contact the DC Fast Charger provider.
- When using the DC Fast Charger please handle properly. Do not strike or scrape the cabinet or touchscreen.
- If the enclosure or touch screen is broken, cracked, open or shows any other indication of damage then please contact the Standalone DC Fast Charger provider.

WARNING: Danger of electrical shock or injury. Turn OFF power at the panelboard or load center before working on the equipment or removing any component. Do not remove circuit protective devices or any other component until the power is turned OFF.

- Disconnect electrical power to the DC Fast Charger before any maintenance work to ensure it is separated from the supply of AC mains. Failure to do so maycause physical injury or damage to the electrical system and charging unit.

Note:

- Before switching off main breaker to begin maintenance, please record the status code number on the LCD monitor.
- After switching off the key switch the circuit before the main terminal is still hazardous. Only visual inspection can be operated.
- Maintenance of the DC Fast Charger shall be conducted only by a qualified technician.
- After opening the front door of the DC Fast Charger, turn off the main breaker and auxiliary breaker before any maintenance work.
- Replace the ventilation filter every six to twelve months.

Limited Product Warranty

The warranty period for this charger is two years.

Any spare parts provided by Seconpower Technology and used as replacements for repair are covered by a five-year guarantee.

Replacement and repair parts manufactured by alternative manufacturers to those on the maintenance parts are only allowed if authorized by Seconpower.

Warranty Exclusions:

- Damage or rendered non-functional as a result of power surges, lighting, earthquake, fire
- flood, pest damage, abuse, accident, misuse, negligence or failure to maintain the product or other event beyond Seconpower's reasonable control or not arising from normal operating condition.
- Cosmetic or superficial defect, dents, marks or scratches after use.
- Components which are separate from the product, ancillary equipment and consumables, such as door key, RFID card, air filter, fuse, cable, wires and connectors.
- Damage as a result of modifications, alterations or disassembling which were not pre-authorized in writing by Seconpower.
- Damage due to the failure to observe the applicable safety regulations governing the proper use of the product.
- Installed or operated not in strict conformance with the documentation, including without limitation, not ensuring sufficient ventilation for the product as described in Seconpower installation instruction.

If a defect in the product arises and valid claim is received within the warranty period, your sole and exclusive remedy will be for Seconpower, at its sole discretion and to extent permitted by law, to

1. Repair the defect in the product at no charge, using new or refurbished parts.
2. Exchange the product with new or refurbished product that is functionally equivalent to the original product.

Any remedy hardware product will be warranted for the remainder of the original warranty period or 90 days from delivery to the customer, whichever is longer.

In order to receive the remedy set for above, you must contact Seconpower during the warranty period and provide the model number, series number, proof of purchase, and date of purchase

Appendix - Package list

Item	Description	Quantity	Remark
1	Seconpower EV	1	
2	User Manual	1	
3	SD card	1	
4	RFID Card	2	
5	Key of Cabinet	2	
7	12/80″ Expansion Screw	4	
8	test tools	1	