AION

120KW Split DC Charger

Product User Manual

Dear user,

Thank you very much for choosing our products. We will do better with your attention. For convenient and safe use of this product, please read the User Manual carefully before using.

During using this device, please strictly comply with and implement the requirements including but not limited to this user manual. For all personal injuries, accidents, property losses, legal disputes, and other adverse events that cause conflicts of interest caused by the use behavior or irresistible factors in violation of safety tips, the user shall bear the relevant responsibilities and losses.

Due to the upgrade of the product, the product you purchased may not be exactly as described in the manual. We sincerely apologize for any inconvenience might cause

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Chapter I Product overview

High-power DC charging pile is a kind of electric vehicle charging system that can be directly used outdoors. For the main components, they are circuit breaker, AC contactor, ACDC charging module, charge control unit (CCU), centralized control unit and others.

This product is suitable for a variety of complicated outdoor environments, and can meet charging demands of all electric vehicles with battery voltage between 150V to 1,000V.

1.1 Reference standards

Standard number	Standard name
IEC 61851-1(2010)	Electric vehicle conductive charging system general requirements
IEC 61851-21	Electric vehicle requirements for conductive connection to an a.c./d.c. supply
IEC 61851-22	AC electric vehicle charging station
IEC 61851-23(2014)	DC electric vehicle charging station
IEC 62196-1	Plugs, socket-outlets, vehicle plugs and vehicle inlets - conductive charging of electric vehicles part 1: general requirements
IEC 62196-2 part 2:	Dimensional compatibility and interchangeability requirements for a.c. pin and contact tube accessories

IEC 62196-3 part 3	Dimensional compatibility and interchangeability requirements for pin and contact-tube vehicle couplers with rated operating voltage up to 1000 V d.c. and rated current up to 400A for dedicated d.c. charging
ISO 15118-1-2013	General information and use-case definition
ISO15118-2-2014	Network and application protocol requirements
ISO 15118-3-2015	Physical and data link requirements

1.2 Product name and model number

Product name	Model No.
120kW Split DC charging pile	LCEFC-1.00/120C2

1.3 Product appearance and configurations

1.3.1 Product appearance

Figure 1.1 Outline of DC pile and terminal

1.3.2 Structure parameters

External dimensions(mm)	Width x Depth x Height （W×D×H）	800×800×1700
Weight(kg)	Gross weight (including module)	≤400
Packaging method	Wooden box package	
Product nameplate	Stainless steel nameplate	
System operation	Front (closed door)	
System maintenance	Front, left and right sides. When the cabinet door is opened at an angle of at least 100°, it will	
Grounding mode	It is ground copper bar in the cabinet, and ground bolts outside the cabinet.	
Installation way	Floor-standing type, and anchor bolt fixed installation	
Cooling solution	Forced air cooling heat dissipation	
Handling mode	Lifting or forklift handling	
Inlet/outlet air position	Air inlet: the right side of the cabinet	
Inlet position	Bottom of the right rear of the cabinet	
Outlet position	Bottom of the front side of the cabinet	

1.3.3 Product configurations

Name	Description	Quantity	Remarks
Rectifier module	Charger module	4	
Monitoring and control unit	CCU production board	2	
Centralized control unit	Centralized control unit, and all-netcom	1	
Guangzhou Automobile Group terminal	Guangzhou Automobile Group Aion terminal	2	
Access control card reader	M1 card		
Display screen	7-inch color LCD touch screen	1	
Charging tip	200A 6m	2	Terminal length 5m

1.4 Product performance

1.4.1 Input parameter

Parameter type	Minimum	Rated	Maximum	Remarks	Standard requirement
Input voltage	360Vac	400Vac	440Vac	AC three-phase five-wire system: L1+L2+L3+N+PE	/
Input frequency	45Hz	50/60Hz	65Hz	/	/
Maximum input current	/	/	≤210A	Corresponds to the input voltage 360Vac	/

1.4.2 Output parameter

Parameter type	Parametric description	Remarks/Test conditions
Voltage range	150～1000VDC	
Current range	0～400A @120kW	System with two plugs, and 200A for each.
Tip cable length	5m	External cabinet length
Interface standard for tip	European standard CCS2 DC charging plug	Conform to IEC62196 standard

1.5 Product functions

The main features of the product are as follows:

1)Starting mode

- Password start charging.
- Swipe the card to start charging.
- Scan QR code, and use Guangzhou Automobile Group APP to start charging.

2)Measurement function

- The charging system has the function of individual power measurement for each charging plug, and the power measurement is on the DC output side of the charging system. For the measuring accuracy of the whole machine, it is 1 level.

3)Charging requirements

- For the maximum output of any terminal, it is 120kW. The system can realize the automatic power distribution and full power output of any two A/B plugs according to the actual charging demands. Regarding the minimum power unit of the charging system, it is 60kW.

4)Display function

- The system is configured with 7-inch color LCD touch screen, with system charging status, charging report, charging information, charging parameter setting, charging data operation and other display functions.

5)Detection function

- For the cabinet, it can detect power failure, contactor status, fuse status, and water leakage and so on.

6)Protection function

- The cabinet and terminal are equipped with the quick-stop device, so as to cut off the communication between the power supply equipment and the electric vehicle in the emergent situation.
- The cabinet has input short circuit protection, input overload protection, over and under voltage protection, output short circuit protection, connection abnormal protection, and tip overtemperature protection and other functions.

7)OCPP Platform monitoring

- For the wireless communication function between the charging system and the OCPP platform, it can realize the remote monitoring and management of the charging system.
- Charging order information can be recorded and uploaded, so as to do real-time monitoring of charging voltage, current and vehicle demand comparison.
- Monitor device status information and fault information.
- Be able to do the monitoring and the centralized control remote software upgrade maintenance.
- Support the local storage of charging records.
- BMS historical information storage.
- Run record keeping.
- After the charger is powered on, it performs the self-check, including the clock, power supply, storage space, and various peripherals. If there is the fault, the fault information can be recorded and uploaded to the upper-level monitoring and management system.

8) Safety protection

- Lightning protection: the device can be protected against lightning.
- When there is quick stop charging and emergent situation, press the red quick stop button to disconnect the charging circuit immediately.
- Overvoltage and undervoltage protection: in the input power supply voltage overvoltage and undervoltage state, the charger actively disconnects the charging circuit.
- Overload, short circuit and leakage protection: in the case of overload, short circuit and leakage situation for DC charger, immediately disconnect the DC charger power supply input.
- The charger has the functions of over current, over voltage and short circuit protection on the DC side.
- Can set DC output voltage/current limiting value. During the charging process, the charger can make sure that the charging voltage and charging current of the battery do not exceed the allowable value.
- The protection function such as the active protection if the battery pack temperature is too high.
- The DC charger has overheating protection. When the temperature exceeds the set temperature value, cut off the output of the DC charging module.
- DC charger has insulation detection function to monitor the insulation status of the charging loop, so as to guarantee the charging safety.

- When the charger is properly connected to the vehicle battery system, the charger can be allowed charging. When the charger detects that the connection with the electric vehicle battery system is abnormal, cut off the DC output immediately.

Chapter II Product installation

2.1 Environment and requirements

Conventional temperature and humidity conditions
◆ Operating temperature range: -30 ~ + 65℃, and the derated operation at 50 ~ 65℃. (The LCD screen cannot be operated at -20℃.) ◆ Storage temperature range：-40 ~ + 70℃ ◆ Transport temperature range：-40 ~ + 70℃ ◆ Humidity range：5% ~ 95%
Altitude and salt spray
◆ The maximum altitude: 2,000 m (for 2,000 m -4,000 m derated operation) ◆ 14 kilometers out to sea
Handling, shipping and packaging

◆ Forklift handling ◆ Crane lifting ◆ Shipped without modules ◆ Carton packing
Installation method
◆ Floor-standing
IP level of protection
◆ IP 54

2.2 Installation preparation

2.2.1 Unpack and receive the goods

Unpack and check the goods only after the goods arrive at the installation site. During the examining the goods, open the product packing box, take out the packing list, and check the accessories quantity, type and integrity one by one with the packing list.

2.2.2 Cable preparation

For the specifications of the 120kW cabinet cable and terminal, they are based on the design drawing of the Design institute. The recommended cable specifications are as follows:

<table>
<tr><td rowspan="2">Product model</td><td colspan="3">AC input cable</td></tr>
<tr><td>Cable name</td><td>Location</td><td>Cable specifications</td></tr>
<tr><td rowspan="8">120kw split type CCS2
DC charger</td><td>AC three-phase A</td><td>Molded case circuit breaker L1</td><td rowspan="5">Copper wire：4*95mm²+1*50mm²
(Aluminum wire：4X150mm²+1*70mm²)</td></tr>
<tr><td>AC three-phase B</td><td>Molded case circuit breaker L2</td></tr>
<tr><td>AC three-phase C</td><td>Molded case circuit breaker L3</td></tr>
<tr><td>AC input N</td><td>Molded case circuit breaker N</td></tr>
<tr><td>AC PE wire</td><td>Ground copper bar</td></tr>
<tr><td colspan="3">DC output/host to single terminal cable</td></tr>
<tr><td>Charging plug DC+</td><td>Charging plug DC+copper bar</td><td>Copper wire：≥95mm²</td></tr>
</table>

	Charging plug DC-	Charging plug DC-copper bar	Copper wire：≥95mm²
	PE wire	Ground copper bar	Copper wire：≥50mm²
	Lamp panel power supply	Single terminal power/signal cable	2*1.5mm ²(N2XY)
	Quick-stop		4*1.5mm ²(N2XY)
	Plug line communications and signals		2*(3*0.75mm ²)(LIYCY)
	Lamp panel RS485 communication		2*0.75mm ²(LIYCY-TP)

2.3 Complete machine installation

2.3.1 Cabinet installation

It is recommended that the length of the reserved cable should be greater than 0.6m (exposed to the cement table).

If use other specifications or materials, please confirm with our sales staff.

After cables are connected to the cabinet, must use fireproof mud to seal the cable inlet holes. The dimensions of the cement base are shown in Figure 2.1 and Figure 2.2.

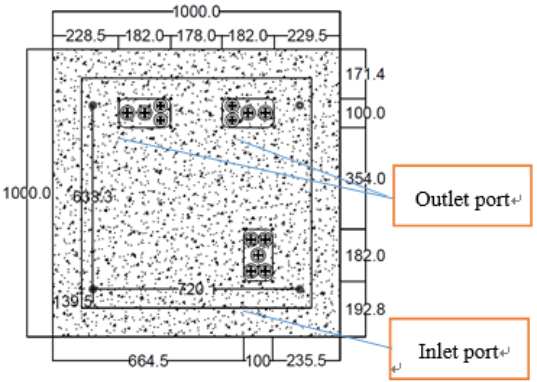


Figure 2.1 Host device installation foundation construction 1

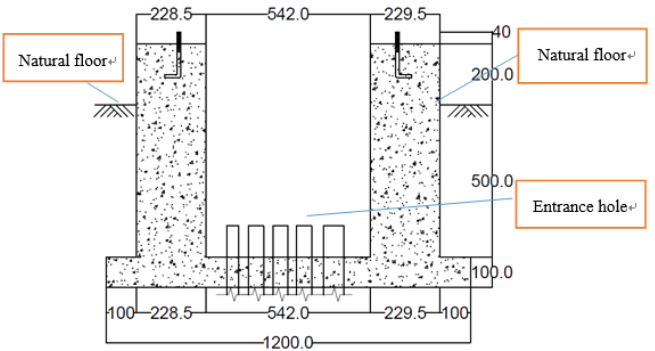


Figure 2.2 Host device installation foundation construction

It is recommended to determine the installation position of the charging system according to the reserved space shown in the following table. For the rear of the cabinet, reserve 200mm of space, so as to avoid interference between the cabinet door and the wall.

	Front	Rear	Left side	Right
Reserve space (distance from obstacles)	≥1000mm	100mm	1000mm	1000mm
Reserved space (between adjacent cabinets)	≥1000mm	100mm	2000mm	2000mm

Remove the front and rear covers of the cabinet base, use the crane or forklift to lift the charging pile from the top, make the AC cable pass through the inlet port, align the inlet port, and secure the cabinet to the cement table, as shown in Figure 2.3. After installing the cabinet, shake the cabinet from different directions without obvious loosening or shaking.

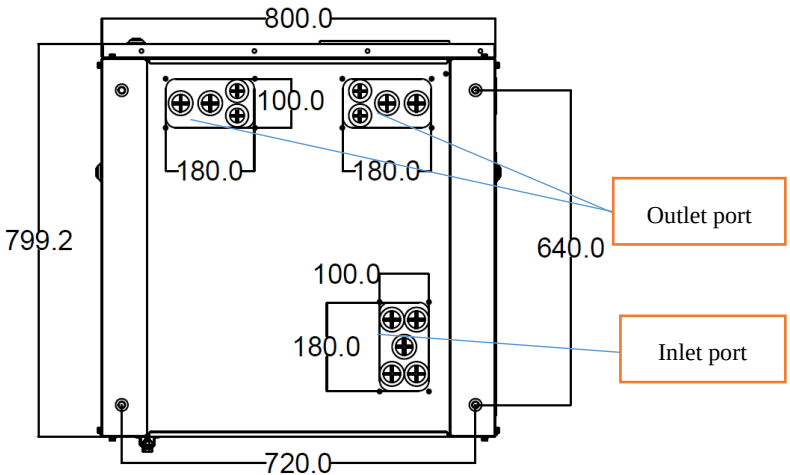


Figure 2.3 AC cable inlet port at the bottom of the cabinet

2.3.2 The display screen sunshade installation

When the charger is shipped, it contains the display screen sunshade with the cabinet. Customers can fix the sunshade refer to Figure 2.4.

Step 1: At an angle of 15 °, first clamp the two small hooks around the sunshade in the grooves of the front panel.

Step 2: Push the sunshade upward until you hear a “click”, indicating that the sunshade is installed, as shown in Figure 2.5.

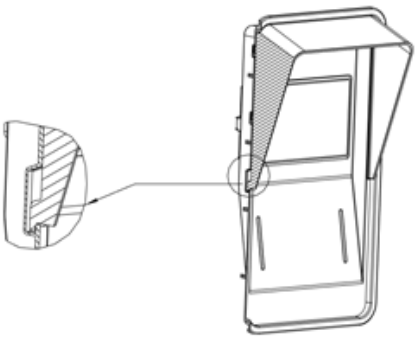


Figure 2.4 Installation of sunshade hook

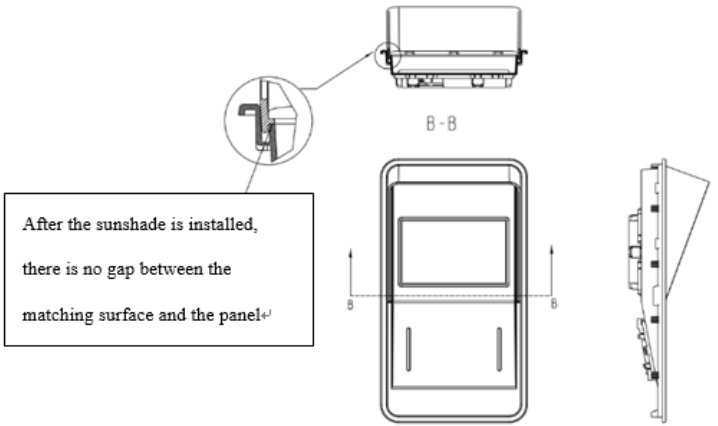


Figure 2.5 The sunshade is installed

2.3.3 Power module installation

After the power module is installed in place according to the slot orientation, remove the transparent cover on the front of the module and set the module address.

Set dial-up for the R1, R2, R3, and R4 modules.

For the dial-up setting, shown as Figure 2.6. After the configuration is complete, recover the dial-up transparent cover installation.

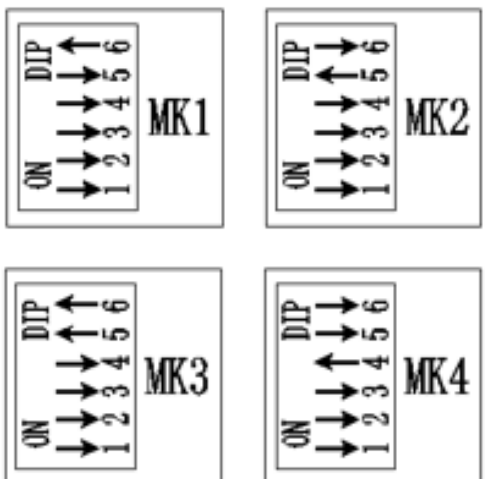


Figure 2.6 Power module dial-up settings

2.3.4 Terminal installation

As shown in Figure 2.7, there should be the gap between the terminal and the wall, so as to safeguard the good heat dissipation of the terminal. For the site, the cement base should be prepared in advance, and the corresponding screws should be embedded. (In the installation position diagram, the distance from the wall is the minimum value, which is conducive to heat dissipation of the charger).

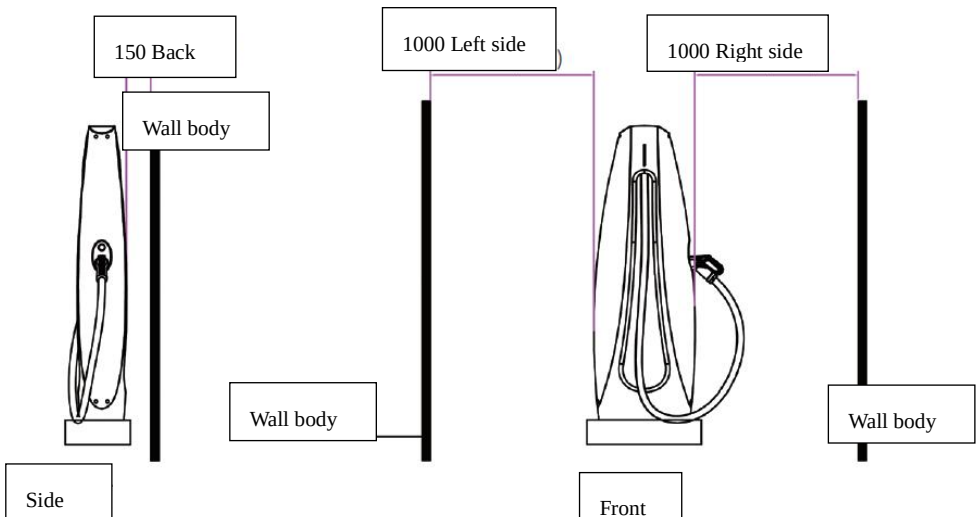


Figure 2.7 Schematic diagram of terminal installation position

As shown in Figure 2.8, insert the four holes around the inlet ports of the piles into the embedded M10*150 screws, and then fine-tune the direction to make the terminal orientation as positive as possible. On both sides of the pile body, place the flat gasket and spring gasket on the screw in advance of the nut, the flat gasket is under, and the spring gasket is between the flat gasket and the nut. Use the adjustable wrench or φ10 sleeve to tighten the nut to a torque of about 42±2N·m. Fix the terminal silver shell back to the pile body with the hex socket screw.

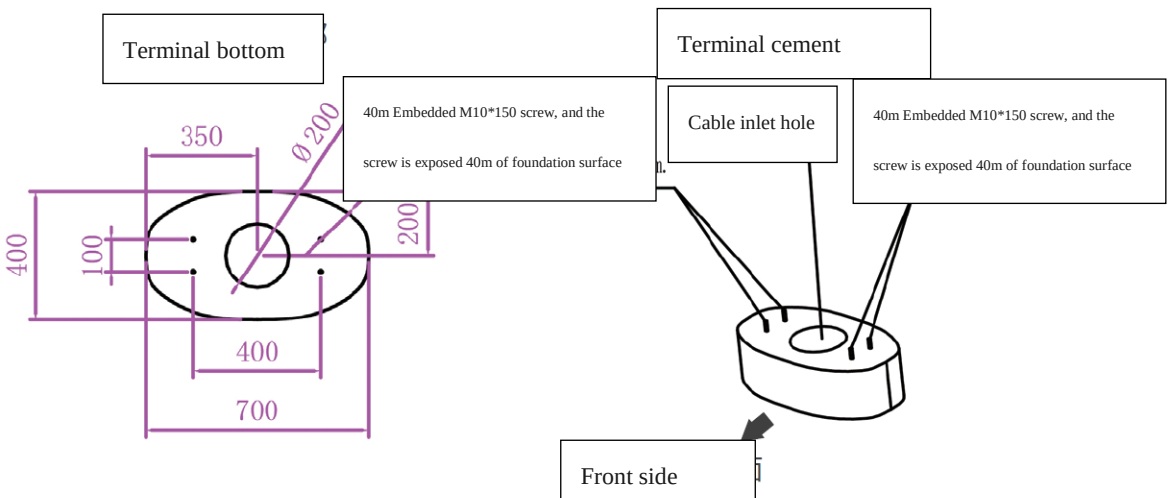


Figure 2.8 Schematic diagram of the terminal cement base

Remove the silver shell of the terminal. As shown in Figure 2.9, pull out the rubber plugs corresponding to the 12 screw mounting holes in the red circle on the terminal, and remove the hex screws in the mounting holes with the hex screwdriver (in order to avoid damage to the silver shell of the terminal when removing the hex screws, one colleague should hold the two sides of the terminal firmly).

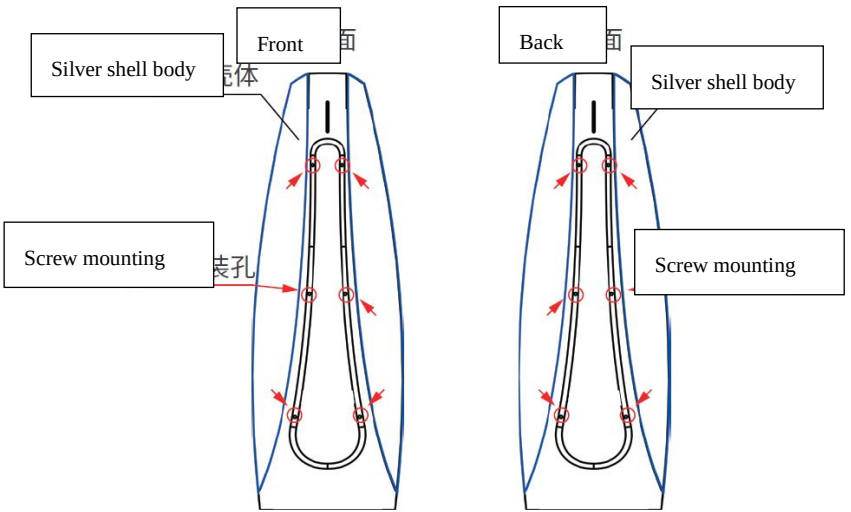


Figure 2.9 Schematic diagram of terminal structure installation

The default terminal number is 2, with jumper cap and dial-up switch status (as shown in Figure 2.10, Figure B: "1,000" from left to right). According to the on-site product configuration requirements, the construction personnel can adjust the dial-up switch status and remove the jumper cap to set the corresponding charging terminal number. The setting rules are as follows: Terminal 1: without jumper cap and dial-up switch status (as shown in Figure A: "0000" from left to right) Terminal 2: with jumper cap and dial-up switch status (as shown in Figure B: "1,000" from left to right).

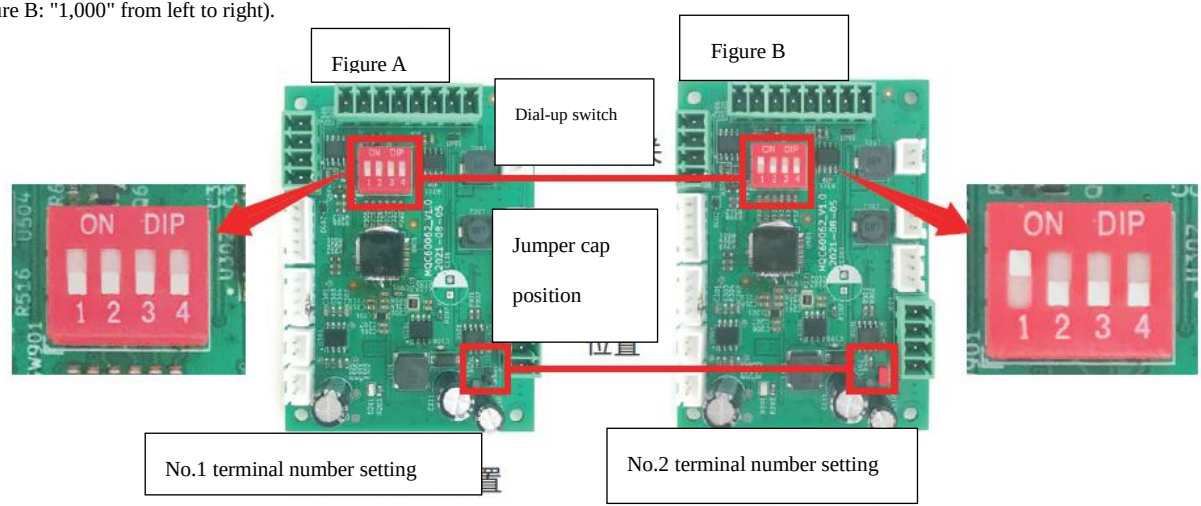


Figure 2.10 Terminal dial-up setting

2.3.5 Check the device after installation

After installing the terminal structure, shall carry out the following checks:

e) Check whether the cabinet is installed horizontally, vertically, and securely or not.

f) Check whether all bolts are tightened, flat washers and spring washers are complete, and whether they are installed backwards.
g) Check whether there are unnecessary materials in the device and remove all excess materials.
h) Check whether the cabinet is damaged or has peeled-off paint. If there is peeled-off paint, use anti-rust paint to repaint the part immediately, so as to prevent corrosion.

2.3.6 Electrical installation

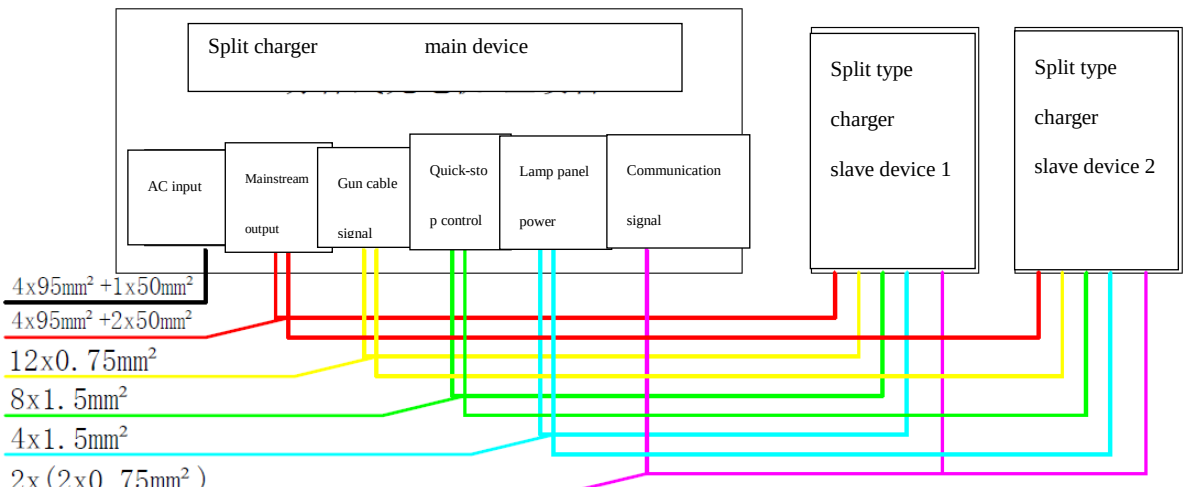


Figure 2.11 Schematic diagram of cable connections

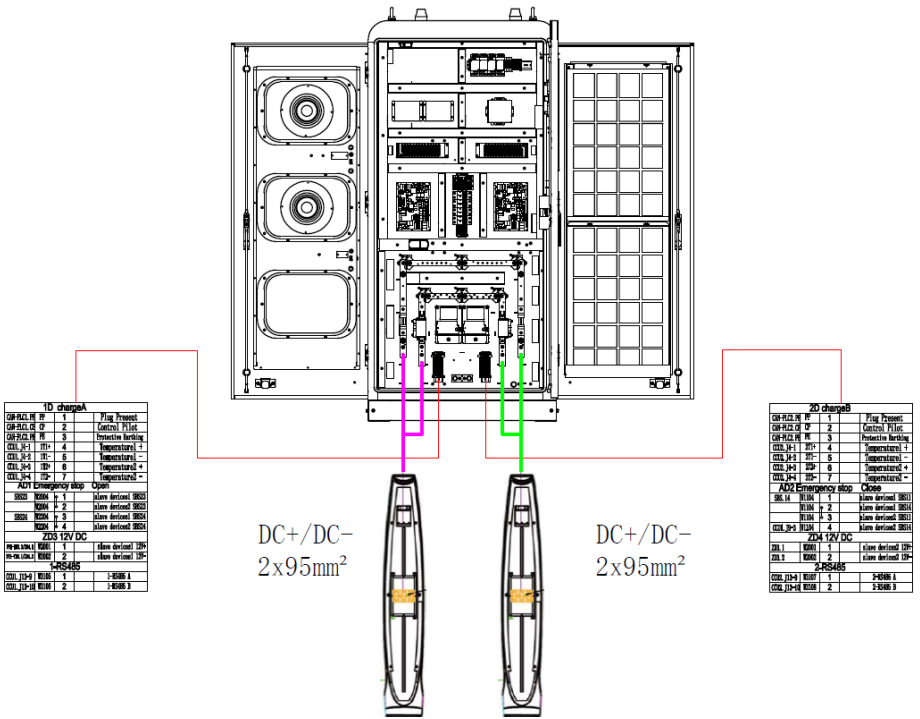
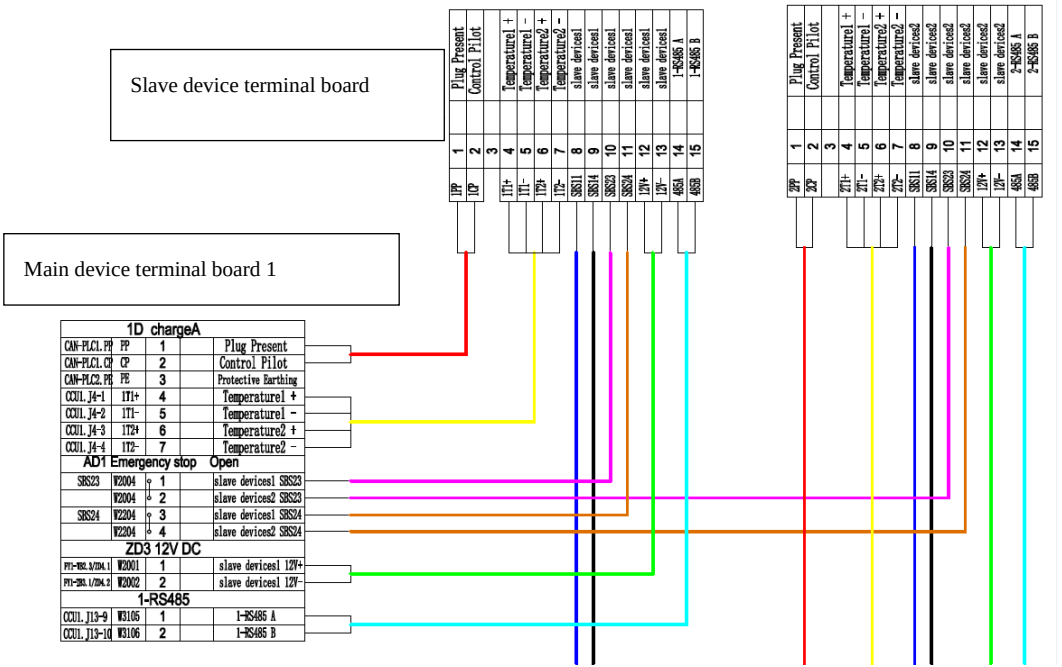


Figure 2.12 DC output power cable between the host and the terminal


Slave device terminal board
Main device terminal board 1
1D chargeA
CAN-PLC1.PE PE 1 Plug Present
CAN-PLC1.CP CP 2 Control Pilot
CAN-PLC2.PE PE 3 Protective Earthing
CCU1.J4-1 1T1+ 4 Temperature1 +
CCU1.J4-2 1T1- 5 Temperature1 -
CCU1.J4-3 1T2+ 6 Temperature2 +
CCU1.J4-4 1T2- 7 Temperature2 -
AD1 Emergency stop Open
SRS23 W2004 1 slave devices1 SRS23
W2004 2 slave devices2 SRS23
SRS24 W2204 3 slave devices1 SRS24
W2204 4 slave devices2 SRS24
ZD3 12V DC
PE1-RES.3/DM.1 W2001 1 slave devices1 12V+
PE1-RES.1/DM.2 W2002 2 slave devices1 12V-
1-RS485
CCU1.J13-9 W3105 1 1-RS485 A
CCU1.J13-10 W3106 2 1-RS485 B
Plug Present
Control Pilot
Temperature1 +
Temperature1 -
Temperature2 +
Temperature2 -
slave devices1
slave devices1
slave devices1
slave devices1
slave devices1
slave devices1
1-RS485 A
1-RS485 B
1PP 1
1CP 2
1T1+ 4
1T1- 5
1T2+ 6
1T2- 7
SRS11 8
SRS14 9
SRS23 10
SRS24 11
12V+ 12
12V- 13
485A 14
485B 15
Plug Present
Control Pilot
Temperature1 +
Temperature1 -
Temperature2 +
Temperature2 -
slave devices2
slave devices2
slave devices2
slave devices2
slave devices2
slave devices2
2-RS485 A
2-RS485 B
2PP 1
2CP 2
2T1+ 4
2T1- 5
2T2+ 6
2T2- 7
SRS11 8
SRS14 9
SRS23 10
SRS24 11
12V+ 12
12V- 13
485A 14
485B 15

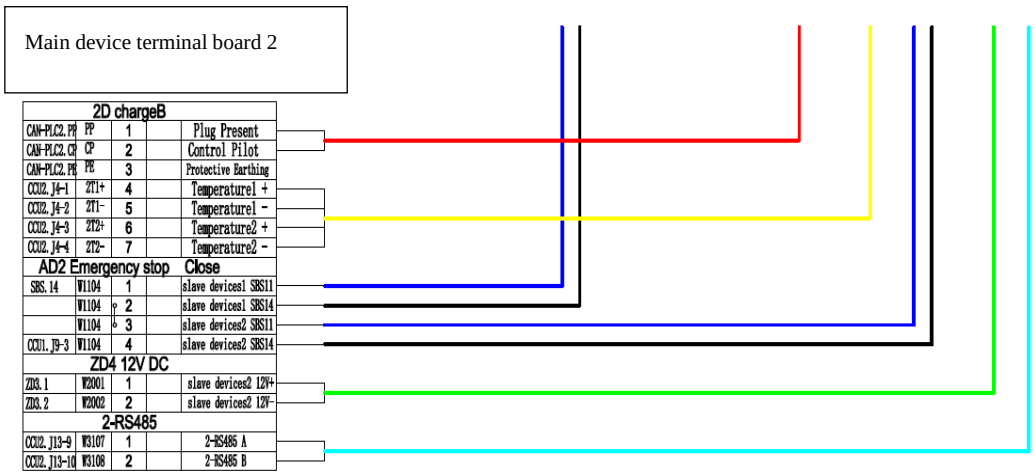


Figure 2.13 Signal cable between host and terminal

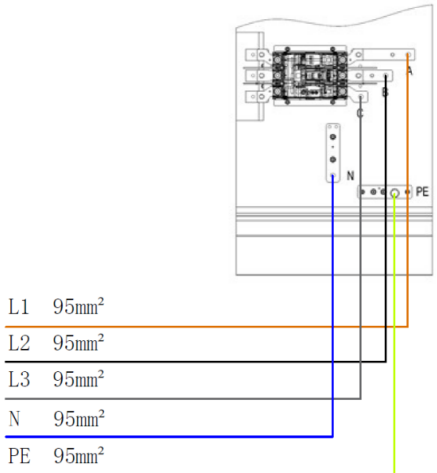


Figure 2.14 Host AC input power supply wiring

The steps to connect the cable are as follows:

f) Make sure that the cable pre-stage is powered off to prevent electric shock.

g) Open the protective panels on both sides of the terminal device and the internal waterproof box

h) Connect the power cable to the DC+, DC-, and PE copper bar, and connect the power cable and signal cable to the terminal bar to restore the terminal.

i) Open the front of the cabinet, remove the protective cover, and cut the protective sheath into the cross shape according to instructions.

j) Connect the power cable to the DC+, DC-, and PE copper bar of the host, connect the power cable and signal cable to the terminal bar, and restore the protective cover.

f) Open the right door of the cabinet.

g) Remove the baffle plate in front of the molded case circuit breaker (MCCB).

h) Connect the PE cable to the ground copper bar.

i) Connect the N cable to the N phase copper bar.

j) Connect the three L1, L2, and L3 three-phase cables with AC input to copper bars A, B, and C respectively, as shown in Figure 2.14.

k) Use the fireproof mud delivered with the cabinet to seal the empty space of the AC inlet cable through the inlet cable sheath of the cabinet, so as to prevent foreign bodies from entering the cabinet.

l) Restore the front baffle plate of the MCCB.

m) Connect the grounding position of the cabinet shell, as shown in Figure 2.15.

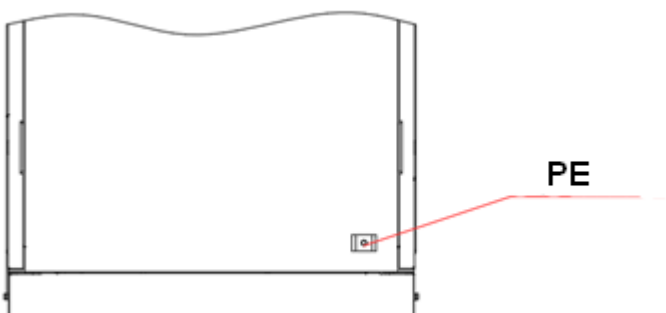


Figure 2.15 Position of the cabinet ground point

2.3.7 Check after electrical installation

a) Cable check

- Check whether all cable connections are firm and reliable or not.
- Check the AC input and power distribution: check whether the color of the AC cables conforms to specifications or not, whether the original cabling of the device is secured or not, and whether the safety labels for the AC power distribution part are complete or not.
- Check whether the surge protection device (SPD) circuit breaker is reliably closed and other switches are in the off position or not.
- Check whether the cables are neatly routed and bundled according to the process specifications.
- Check whether the AC input and DC output terminals of the charging module are connected reliably or not.

b) Leak-proofness

- Check whether the openings of AC inlet cables at the bottom of the cabinet are sealed with fireproof mud or not.

c) Installation check

- Check that electrical connections and cables are correct and complete, that connections are reliable, and the grounding is reliable or not.
- Check appearance, marking and cleanliness.

d)Clean

- Clean up the debris inside and around the cabinet, such as cables, binding tapes, and screws and so on. Do not leave installation tools onsite or in the cabinet.

Chapter III Operation instructions

3.1 The cabinet is powered on

During operation, pay attention to high pressure hazards, so as to avoid personal injury and property damage. For the system, it should be properly grounded before powering. Check the installation before commissioning. Make sure that AC input main switch QF1 and circuit breakers Q1, Q2 and Q3 are off, and that the charging plug tip is on the cabinet body. Make sure that all devices are properly installed.

Check the charging system item by item according to the items listed below.

Start-up preparation

7) Ensure that the pre-stage switch of the charging pile system is off.
8) Make sure that the lightning arrester pre-stage switch Q4 in the charging pile is closed.
9) Use the multimeter to check that there is no short circuit between AC input A\B\C\N\PE.
10) Use the multimeter to measure and confirm that there is no short circuit between the DC+\DC-\PE of the two terminal charging plug tips.
11) Close the pre-stage power switch of the system.
12) Use the multimeter to measure the three-phase input power supply voltage in the charging system cabinet within the operating voltage range allowed by the system (360VAC ~ 440VAC).

Start-up and power-on

2) Close the charging system AC input total plastic-case circuit breaker QF1.
3) Close the circuit breakers Q1, Q2 and Q3 of the front cabinet door of the charging system, and close the cabinet door.
4) After the system self-test is normal, automatically pull-in the AC input contactor and the power module is charged.

3.2 Pre-charge operation

1. Before connecting the plug: before the charging plug tip is connected to the DC charging port of the charged vehicle, the display displays the state of "Connect plug", and the charging cannot be started, as shown in Figure 3.1 below.

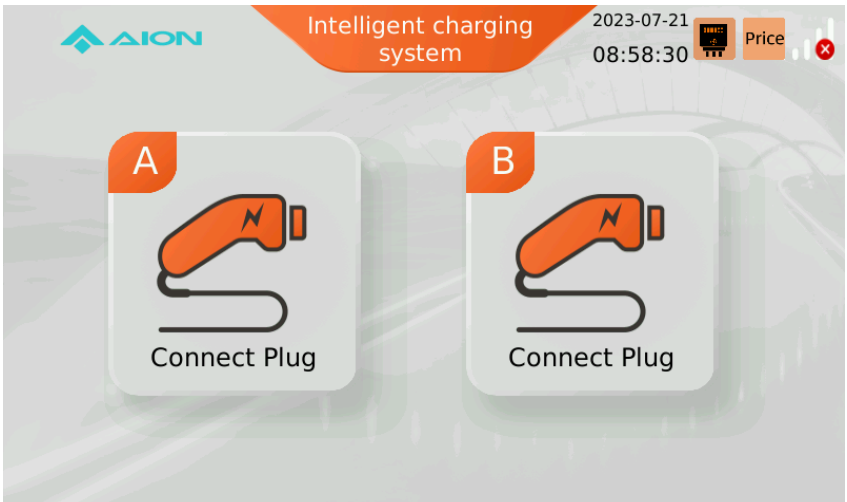


Figure 3.1 Unplugged charging plug

3.3 Start-stop charging

3.3.1 Start charging

There are two ways to start charging: swipe card or scan code.

1. Swipe card charging: After the charging tip is connected, click the state of "Please scan code" on the corresponding charging terminal (A/B plug) on the screen, and switch to the state of "Please swipe card", as shown in Figure 3.2.

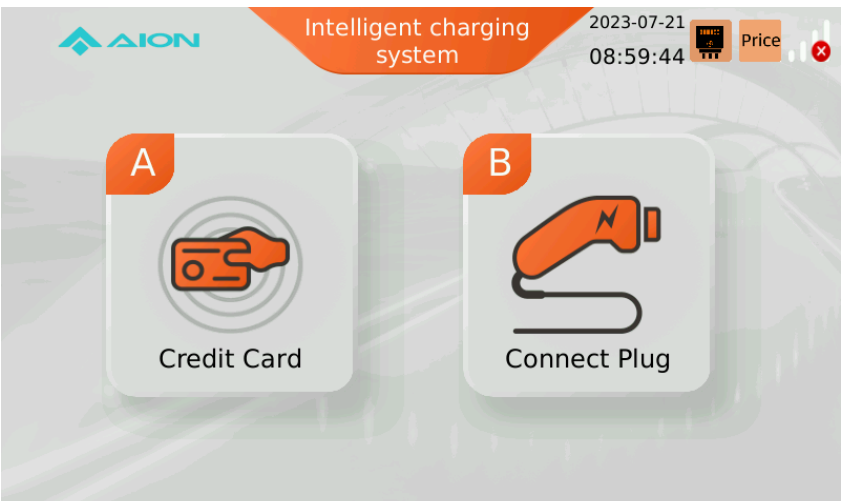


Figure 3.2 Charging interface of "Swipe card charging"

2. Scan the QR code: After connecting the charging tip, the QR code of the corresponding charging terminal (A/B plug) is displayed on the screen, and the user opens the Guangdong Automobile Group APP on the mobile phone and scans the QR code. After the user scans the code and answers, the charging starts.

After the charging is started by swiping the card or scanning the code, the charging system will start charging immediately, and the display will display "Starting charge", as shown in Figure 3.3.

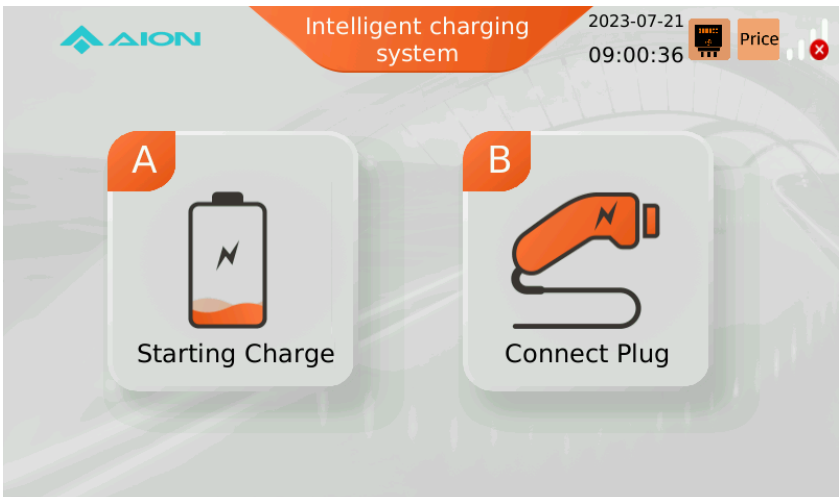


Figure 3.3 Starting charging

If the application for charging is successful, it will display "Charging", as shown in Figure 3.4.

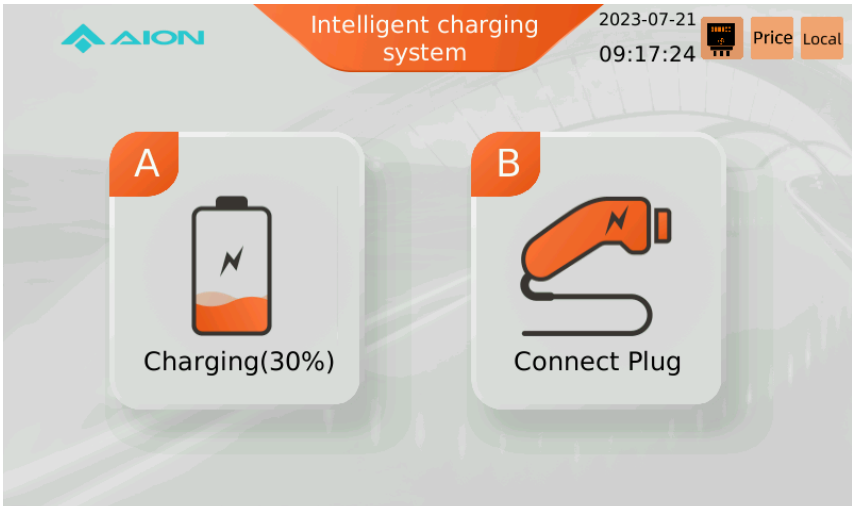


Figure 3.4 In charging

3.3.2 Information query during charging

During the charging process, if the user wants to check the current charging situation, can click the "Charging" status of the interface charging terminal (A/B plug) to check the current charging situation, such as the charged time, charging capacity, charging amount, electricity charge and other information, as shown in Figure 3.5.

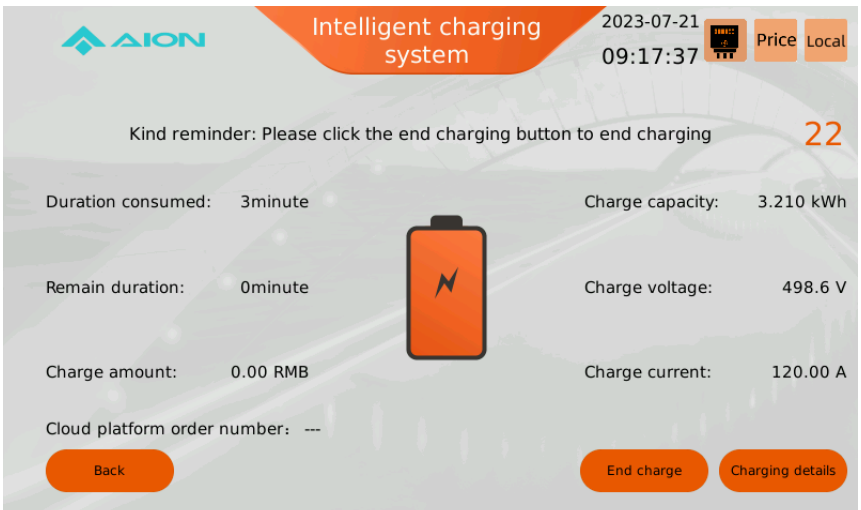


Figure 3.5 Information in charging

3.3.3Stop charging

3、 Swipe card charging stop: If the user wants to actively end the charge, can click the corresponding charging terminal (A/B plug) "Charging" state, make the card close to the card reader, and then stop the charge. The interface for stopping the charge and swiping card is shown in Figure 3.5 above.

4、 Scanning code charging stop: User can take the initiative to stop the charging in the mobile phone Guangzhou Automobile Group APP interface.

If end the charging application is successful, "Complete " will be displayed on the display screen, as shown in Figure 3.6.

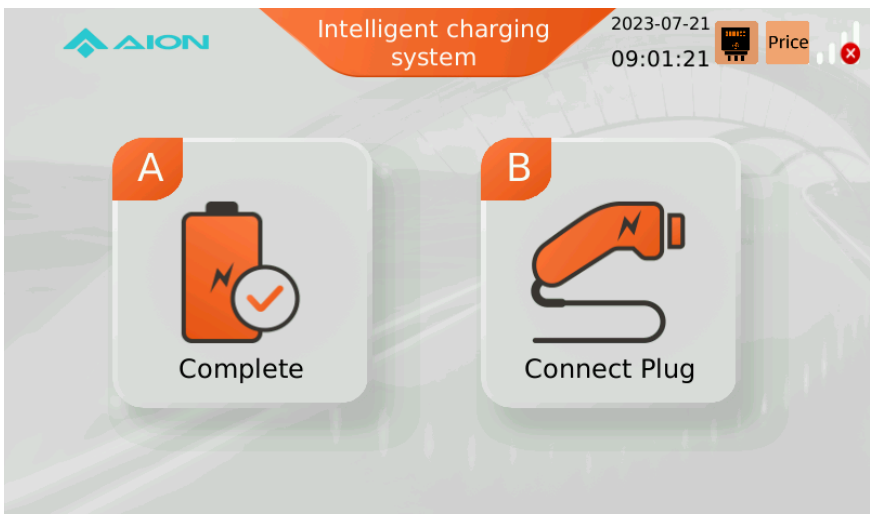


Figure 3.6 Complete charging

3.3.4 Information query after charging

After completing the charging, if the user wants to check the charged status, can click the "Charging completed" status of the interface charging terminal (A/B plug) , so as to check the current charging status, such as the charging start and end time, charging capacity, charging money, electricity charge and other information, as shown in Figure 3.7.

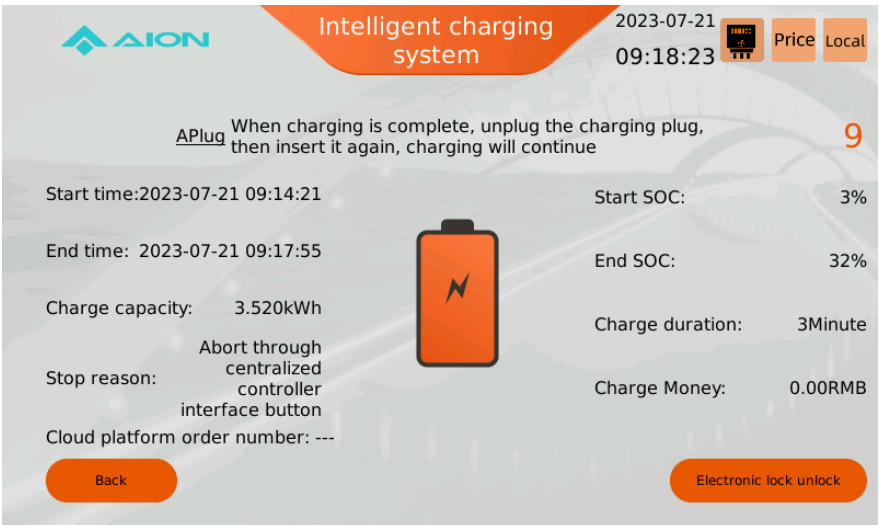


Figure 3.7 Information after charging

3.4 Status indication and cause of fault termination query

When charging, not only the current working status of the charging terminal (A/B plug) according to the state of the corresponding indicator light of the charging terminal (A/B plug) can be known, but also the charging and stopping status and fault causes on the display screen can be visually viewed.

3.4.1 Charging indicator light display

4 indicators are corresponding to two plugs of charging system A and B:

- After the charging system is powered on, for the indicators at the bottom of the display screen and on the terminal, they can display different colors and actions according to the working status of the cabinet.

No.	Function status	Display color	Display mode
1	Standby	Green	Always light on
2	Connection ready or charge complete	Blue	Always light on
3	In charging	Blue	Breathing
4	Fault	Red	Always light on

3.4.2 Query the cause of fault termination

When the system fails or stops charging abnormally (the indicator light turns red), you can check the fault and the cause for the stop charging on the display screen, as shown in Figure 3.8.

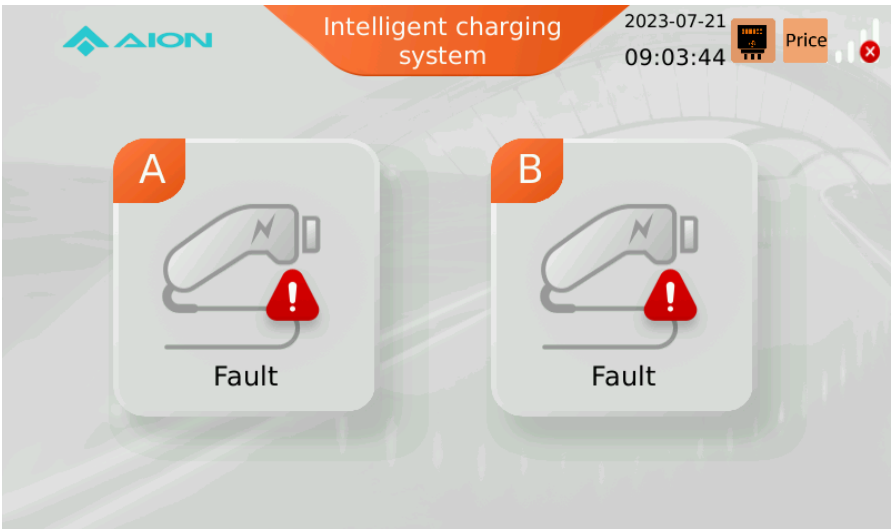


Figure 3.8 Fault home page display

Click the interface charging terminal (A/B plug) "Fault" status, you can query "fault information" and "charge report".

For the fault information, you can view the real-time faults in the charging process and record the faults, as shown in Figure 3.9.

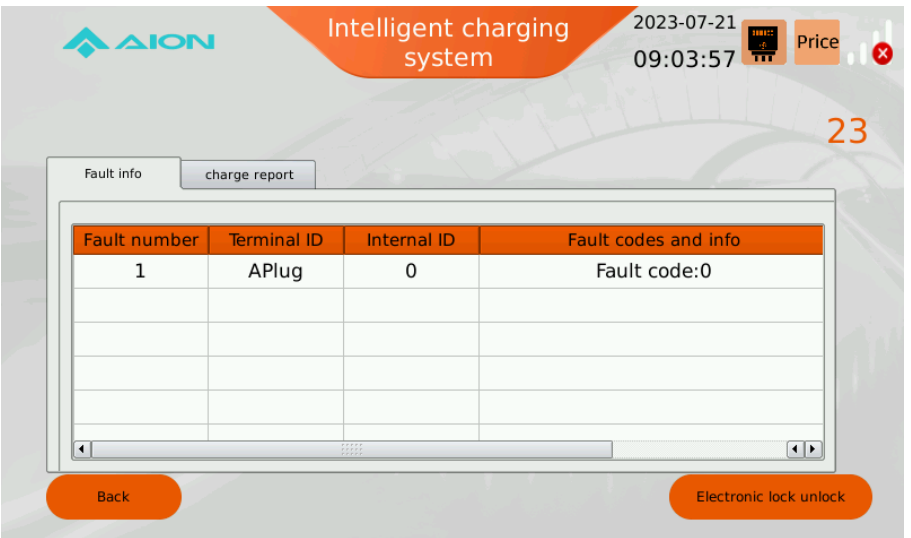


Figure 3.9 Fault information

For the charging report, it can display information such as the start time, SOC of the charging process and so on, as shown in Figure 3.10.

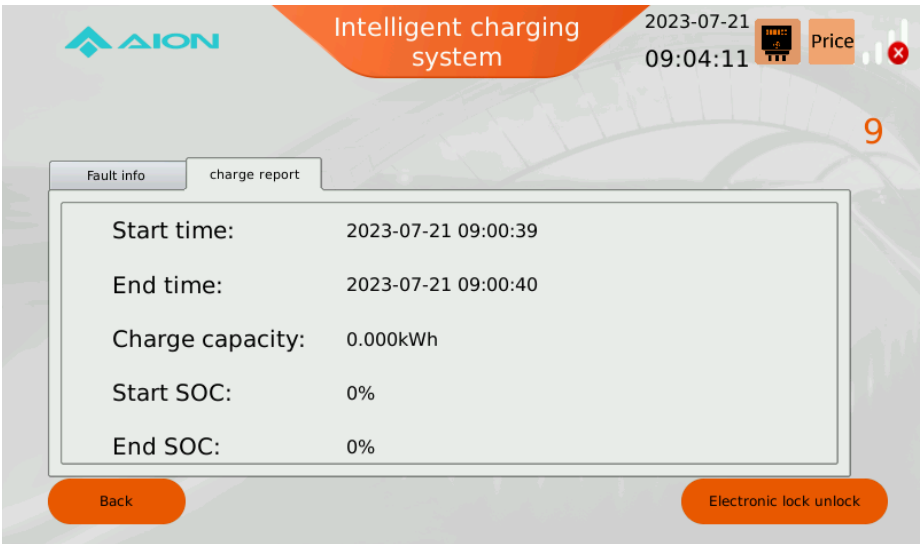


Figure 3.10 Charging report

Chapter IV Product maintenance

4.1 Periodical maintenance

The charging system should be inspected regularly and handled in time when there are faults. For the maintenance period, it is recommended time. If the environment is harsh (for example, the environment with a lot of sand and catkins and so on), should shorten the maintenance period as appropriate.

It is required to have the trained, qualified, and authorized electrical personnel to maintain the device. For maintaining the device, it is not allowed to be done by non-professionals.

During the maintenance of the device, must turn off the customer pre-stage switch as required, and the maintenance board. At the same time, must disconnect all switches of the device, including the plastic-case circuit breaker and all air switches, so as to safeguard the safe operation.

No.	Check item	Period	Manner	Operation guidance
1	Check whether the air intake filter is normal	Clean the filter regularly every month, and replace the new filter half a year later	Visual inspection	Check whether the air flow of the air inlet filter screen is smooth or not. If the filter is clogged seriously, replace the system air inlet filter assembly.
2	Quick stop button	Semiyearly	Press	When the charging pile is free and ready for testing, 1. Press the quick stop button, check whether the quick stop button is self-locking or not, the indicator is red at the same time, and the display screen shows the quick stop fault. 2. After pressing the quick stop button, turn it to the right, check whether the quick stop button is reset or

				not, and the indicator is blue or green, and the quick stop fault disappears on the display.
3	Check whether the heat dissipation fan of the charging module works properly or not	Semiyearly	Visual inspection	Check the LCD screen of the charging system and check whether the cooling fan of the charging module is normal or not.
4	Check whether the charging module works properly or not	Semiyearly	Visual inspection	Check the LCD screen of the charging system and whether the charging module is running normally or not.
5	Whether the charging system indicator is normal or not.	Semiyearly	Visual inspection	Check whether the charging system status indicator is normal or not under standby, charging and fault states.
6	Whether the cable of charging plug tip is worn or not	Semiyearly	Visual inspection	Check whether there is worn, copper leakage and other problems for the charging plug tip and the connection cable.
7	For the cabinet paint and electroplating layer, there are no peeling and scratches.	Semiyearly	Visual inspection	If there is any peeled off paintings or scratches, it should be repainted immediately for the peeled off painting.