

Star Charge®



Charging infrastructure  
**Jupiter 60kW V3 Installation Manual**

---

Version Number/Document Number: 1.0/DCY0551TYAZEN

## Legal Notices

Wanbang Digital Energy Co., Ltd.

39 Longhui Road, Wujin High-tech Zone, Changzhou, China

Customer service: +86 400-8280-768

[www.starcharge.com](http://www.starcharge.com)

Wanbang Digital Energy Co., Ltd. reserves all rights

This document is part of the "Charging Infrastructure" technical document and is protected by copyright.

Without written consent, any use outside the strict limits of copyright law is prohibited.

This also applies to files that are copied, translated, and photographed, and files that are stored and processed using electronic media.

Any party who violates this regulation is obliged to compensate for the loss!

## Content

Legal Notices .....	2
1. General.....	5
1.1 Document purpose.....	5
1.2 Scope of application .....	5
1.2.1 Types of charger applicable to this manual .....	5
1.2.2 Personnel applicable to this manual.....	5
1.3 Definition of related warning symbols.....	5
2 Preparation before installation.....	6
2.1 General construction tools.....	7
2.2 Construction materials.....	7
2.2.1 Connector of cable .....	7
2.2.2 Other materials .....	7
2.3 Installer requirements.....	7
2.4 Handover of construction drawings.....	8
2.5 Inspection of electric power cables .....	8
2.6 Requirements for concrete foundation .....	8
2.7 Equipment spacing requirements .....	9
2.8 Current and distribution capacity requirements .....	11
2.9 Grounding/insulation resistance requirements.....	11
3. Installation procedure.....	12
3.1 Unpacking and unpacking inspection.....	12
3.1.1 Unpacking list.....	12
3.1.2 Inspection of unpacking.....	12
3.1.3 Notes for unpacking.....	12
3.1.4 Check before installation .....	12
3.2 Charger fixing .....	13
3.3 Elctricical wiring.....	15
3.4 Fire-proof mud seal .....	16
3.5 Installation of power module.....	16
4. Inspection after installation (Live parts shall be operated by local qualified engineer).....	20
4.1 Installation and wiring check.....	20

---

4.1.1 Equipment and equipment fixed inspection.....	20
4.1.2 Cable laying and connection inspection .....	20
4.2 Check before power on.....	20
4.3 Check on power-on .....	20
5.Installation enviroment .....	21
6. Completion information .....	21
Appendix 1 .....	22
Appendix 2.....	23

## 1. General

### 1.1 Document purpose

This document aims to guide the construction personnel to complete the on-site installation of Jupiter 60kW V3 AC/DC integrated charger.

### 1.2 Scope of application

#### 1.2.1 Types of charger applicable to this manual

Jupiter 60kW V3 AC/DC integrated charger.

#### 1.2.2 Personnel applicable to this manual

Professional electrical equipment installers.

### 1.3 Definition of related warning symbols






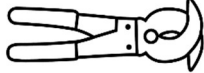
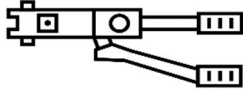
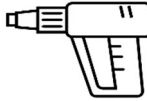

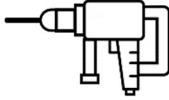

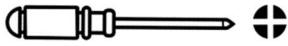



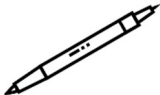



No.	Symbol	Content
1		<b>“Electrical hazard” symbol indicates danger</b> Failure to pay attention to the procedures, practices or improper implementation may cause installer injuries and death. Only after the conditions referred to are fully understood and fulfilled, the operation accompanied the "electrical hazard" symbol can be performed.
2		<b>"Caution" symbol indicates danger</b> Failure to pay attention to the procedures, practices or improper implementation may cause product damaged. Only after the conditions referred to are fully understood and fulfilled, the operation accompanied the "caution" symbol can be performed.
3		<b>“Prompt” indicates usage skill or useful information</b> Skills and useful information are marked as ‘Prompt’. It does not contain information to warn about dangerous or harmful functions.
4		<b>“Garbage disposal” symbol indicates electrical and electronic waste</b> This symbol is located on the product, in the instruction manual, or on the packaging, indicating that electrical and electronic equipment and its accessories should be separately disposed from ordinary household waste. Materials can be reused according to this symbol. By reusing old equipment, materials and other forms of reuse, you can make a significant contribution to the environment.

Table1 Definition of warning symbol

## 2 Preparation before installation

### 2.1 General construction tools

No.	Category	Name	Uses	Picture
1	Cable preparation tools	Electrician knife	Stripping of insulation sheath	
2	Cable preparation tools	Cable cutter	Cable cutting	
3	Cable preparation tools	Hydraulic tongs	Crimping cable lug	
4	Cable preparation tools	Heat gun	Thermal shrinkage of insulating materials	
5	Cable preparation tools	RJ45 Network crimping pliers	Crimping RJ45 connector	 RJ45
6	Installation tools	Percussion drill	Hole drilling	
7	Installation tools	Open end wrenches(full set)	Nut installing and removing	
8	Installation tools	Screw driver (PH2)	Screw installing and removing	
9	Installation tools	Hammer	Striking	
10	Measuring instruments	Spirit level	Horizontal measurement	
11	Measuring instruments	Tape measure	Distance measurement	
12	Marking tools	Marker pen	Marking of position	
13	Transporting tools	Forklift	Equipment moving	
14	Hoisting tools	Crane	Hoisting	
15	Measuring instruments	Multimeter	Measurement of voltage, current, etc.	

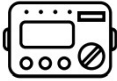
16	Measuring instruments	Megger	Measurement of resistance	
----	-----------------------	--------	---------------------------	---

Table 2 General construction tools

Note: The above tools should be selected according to the actual situation on site.

## 2.2 Construction materials

### 2.2.1 Connector of cable

- (1) 50 square cable corresponding terminal: DT-50 copper terminal.
- (2) 25 square cable Corresponding terminal: DT-25 copper terminal.
- (3) Network cable (cat6a): RJ45 connector (if Ethernet communication is required).

### 2.2.2 Other materials

- (1) Some fireproof mud or other fireproof sealing materials.
- (2) Heat-shrinkable tube, insulating tape and other auxiliary materials.

## 2.3 Installer requirements

- (1) Entering the construction site shall comply with the construction site safety management regulations.
- (2) Entering the construction site must wear a safety helmet (fasten your jaw strap, and the helmet is intact), do not wear unsafe clothes such as loose clothing, slippers, etc. It is strictly forbidden to drink to work and smoke at the construction site.

(3) Operators at high altitude must wear safety helmets, hang up safety belts, wear non-slip shoes, and fasten labor tools.

(4) If the work site is dusty or has spray paint work, protective masks must be worn.

(5) Do not enter dangerous areas such as the hoisting area and below the vertical operation to prevent objects from striking.

(6) Keep as far away as possible from various mechanical equipment, electrical circuits, and prevent mechanical and electrical injuries.

(7) Those who use mobile power tools must master their use skills and precautions. Wear insulated shoes and insulated gloves as much as possible. Metal shell must have protective grounding connection.

(8) Temporary on-site electricity, electricity box should be kept intact, damaged electrical components must be replaced in time.

(9) Rubber cable shall be used for the temporary electric wires on the site. No plastic splines are allowed. No wires shall be directly inserted into the socket.

(10) Do not do electrical installation and wiring when power on about temporary power supply on site.

(11) Enter the edge of foundation pits, roofs, and other openings, and concentrate to prevent falls from falling.

(12) Pay attention to the ground environmental conditions such as nails and steel bars, and prevent sticking, bumping, hanging, falling and other injuries.

(13) The on-site construction protective facilities, safety signs, warning signs, etc. cannot be removed without authorization.

(14) Strengthen on-site maintenance of construction equipment to maintain intact rate, and prohibit operation with problems and overloading.

#### **2.4 Handover of construction drawings**

After the installer arrives at the site, first ask the store staff for a drawing of the installation location of the equipment, and check that the cables and concrete foundation of each equipment meet the requirements.

#### **2.5 Inspection of electric power cables**

The recommended cable model is YJV-0.6/1kV-3\*50mm<sup>2</sup>+2\*25mm<sup>2</sup>. Please check and verify the cable model before installation.

#### **2.6 Requirements for concrete foundation**

If there isn't a suitable place to install the charger, it is recommended to construct a concrete foundation on site. The concrete foundation needs to be poured before the charger is installed. The size of the concrete foundation is 800mm\*600mm\*500mm, the buried depth of the foundation is 400mm, and the height above the ground is 100mm. The top view is shown in Figure 1. The design of concrete foundation can be adjusted according to the customer's requirements and actual conditions. The inspection requirements are as follows:

- (1) Pay attention to the level correction when pouring the foundation.
- (2) The foundation installation is higher than the ground level, and necessary maintenance walkway are reserved on site depending on the specific space.
- (3) The drainage outlet on the foundation surface is slightly inclined to avoid accumulation of water.
- (4) The foundation is filled with C20 concrete.
- (5) Reserve an outlet hole or PVC tube in the foundation for cable.
- (6) After the foundation is completed, use a spirit level to check the levelness.
- (7) According to the drawing positioning, 4 screws of M10 are pre-embedded in the concrete foundation in advance and expose 30-40mm on the upper surface of the concrete foundation.



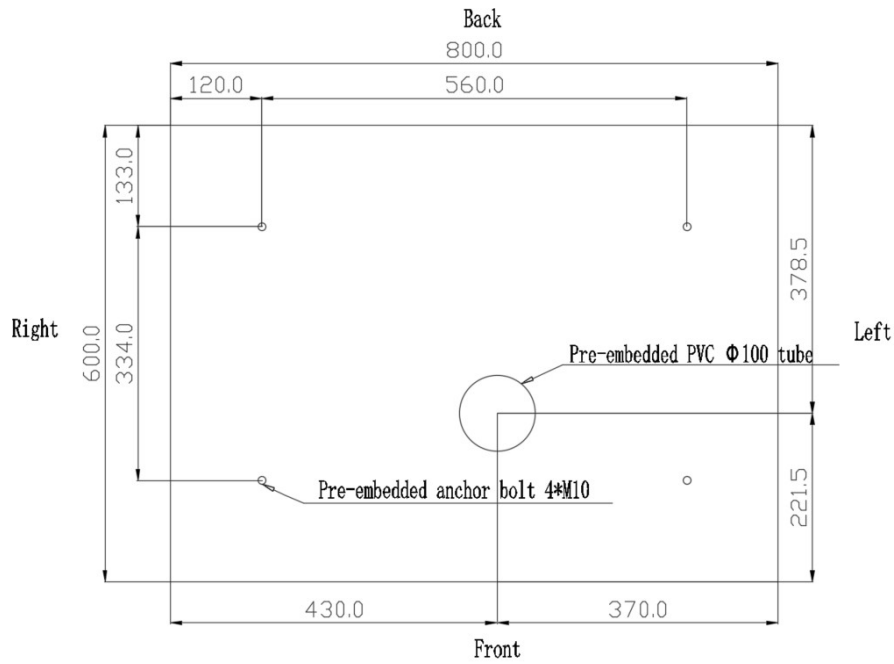


Figure 1 Top-view drawing of concrete foundation

The three-view drawing of construction is as follows:

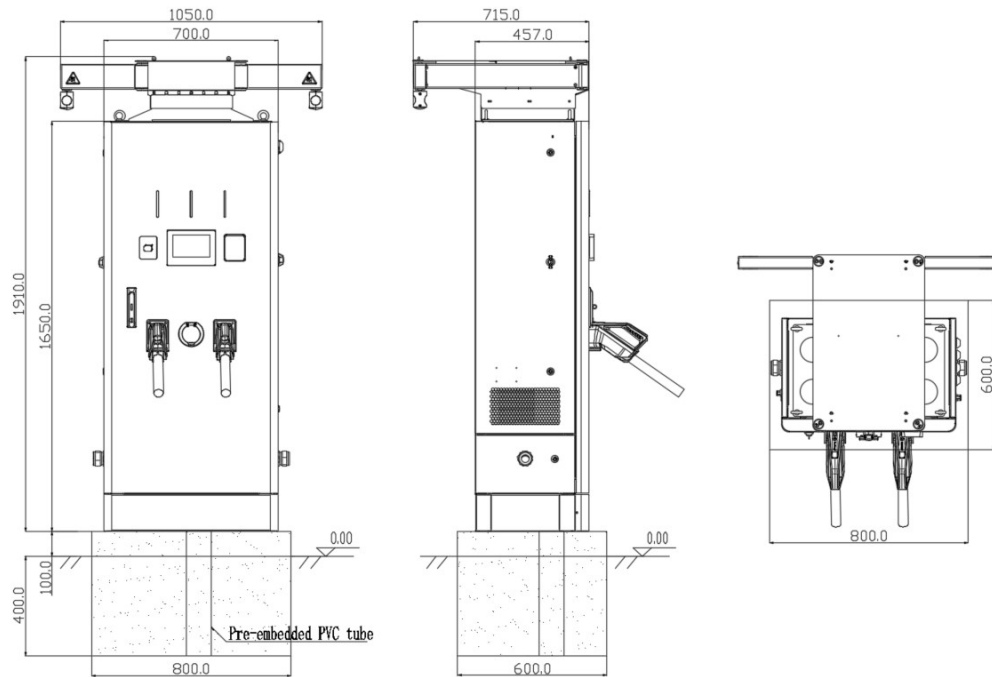


Figure 2 The three-view drawing of construction

## 2.7 Equipment spacing requirements

### (1) Maintenance distance requirements.

When the back or side of the charger to be installed is near a wall or other obstacles, a certain maintenance distance needs to be left, please refer to Figure 3 below:

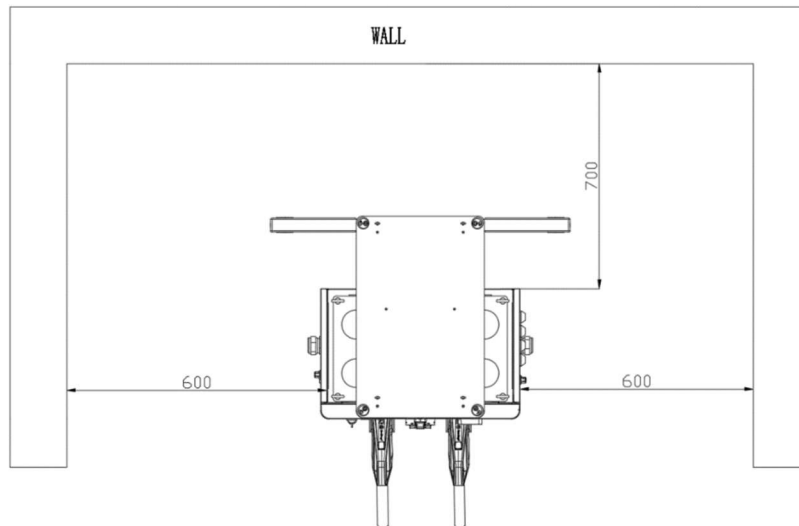


Figure 3 Charger maintenance distance diagram

### (2) Single or back-to-back parking spaces distance requirements

When the charger is installed in the middle of a parking space or back-to-back parking space, it is recommended to leave a space of 1200mm / 4 feet between the wheel stopper and the charger, as shown in Figure 4.

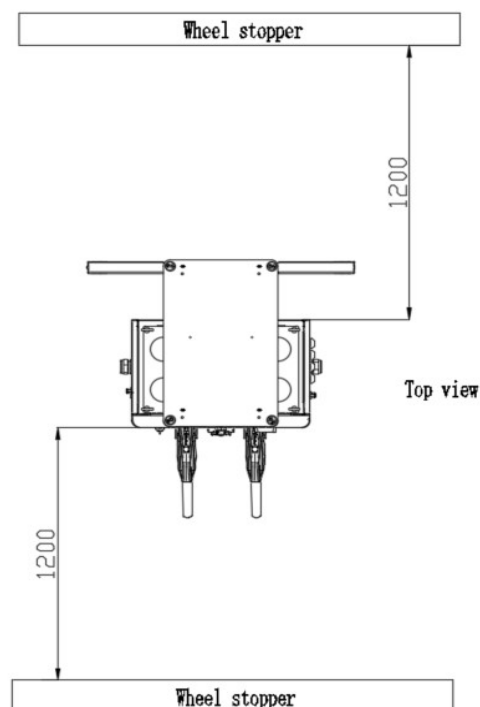


Figure 4 Single or back-to-back parking space distance diagram

### (3) Multiple adjacent parking spaces distance requirements

When the charger is installed between two parking spaces, in order to ensure sufficient distance between the car and the charger, it is recommended that the minimum distance from the bottom center of the charger to the wheel stopper is 1100mm / 3.6 feet, as shown in Figure 5.

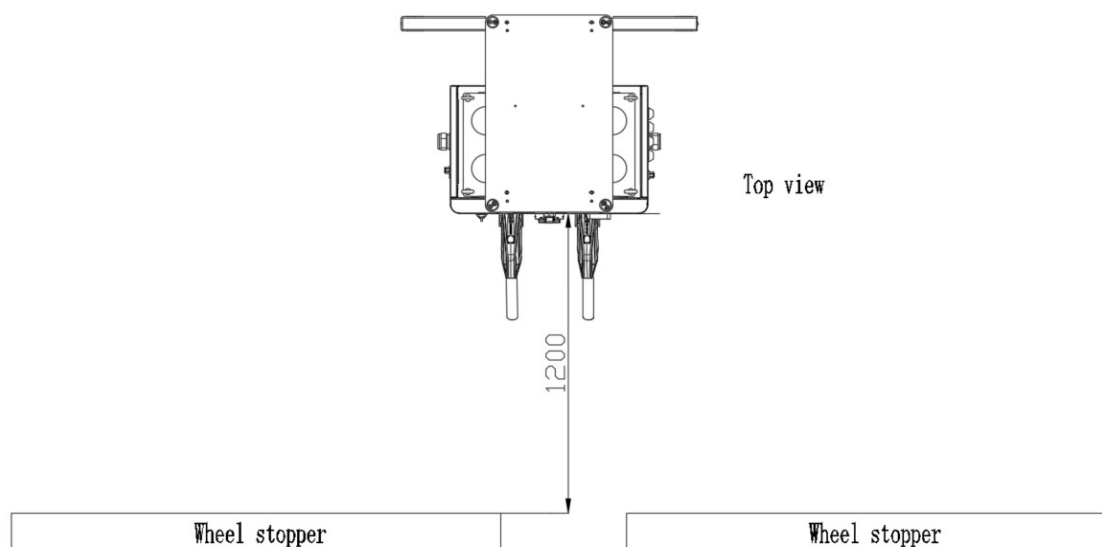


Figure 5 Multiple adjacent parking space distance requirements diagram

## 2.8 Current and distribution capacity requirements

The power grid capacity should be  $\geq 85\text{kW}$  and the rated input current of the charger is 130A. It is recommended that the power supply MCCB:  $U_e=400\text{V}$ ,  $I_n \geq 160\text{A}$ , thermo-magnetic,  $I_{cu} \geq 52.5\text{kA}$ ,  $I_{cs} \geq 35\text{kA}$ , 4P.

## 2.9 Grounding/insulation resistance requirements

(1) Check the civil grounding resistance test report to ensure that the resistance of the grounding grid produced on site must be  $\leq 4\Omega$ .

(2) Check the civil insulation resistance test report to ensure that the insulation resistance of the cable is  $\geq 10\text{M}\Omega$ .



**Note:** The above requirements are the minimum requirements. The specific standards shall be subject to local laws and regulations.

### 3. Installation procedure

#### 3.1 Unpacking and unpacking inspection

##### 3.1.1 Unpacking list

Name	Package	Package Size(mm)	Weight	Attached documents	Parts List
DC charger	Wooden box	1170*870*2080 (W*D*H)	293kg	Certificate of conformity Factory inspection report User manual	DC charger*1 Key*3 Key of triangle lock*1 IC card*2 Power module*2

Table 3 Unpacking list

##### 3.1.2 Inspection of unpacking

- (1) Check the packing list number and equipment quantity.
- (2) Check equipment nameplate information.
- (3) Check whether the attached documents are complete.
- (4) Check whether the spare parts and accessories are complete.
- (5) Check the delivery inspection report and certificate.
- (6) Check the appearance of the equipment is good, whether there is deformation, knock, stains and other conditions.

##### 3.1.3 Notes for unpacking

- (1) The installer shall unpack the container in the presence of the owner and fill in the unpacking record in detail. See appendix 1 for the unpacking record.
- (2) After unpacking, please ask the owner's representative to confirm and sign on the equipment unpacking record sheet.
- (3) If any problem is found in the process of unpacking and acceptance of the equipment, it shall not only record the accident, but also wait for the negotiation between the owner and the supplier.

##### 3.1.4 Check before installation

The installer needs to complete the pre-installation confirmation check before installation, see Appendix 2.

### 3.2 Charger fixing

- (1) First use a Phillips screwdriver to remove the front, rear sealing plates of the base, as shown in Figure 6.

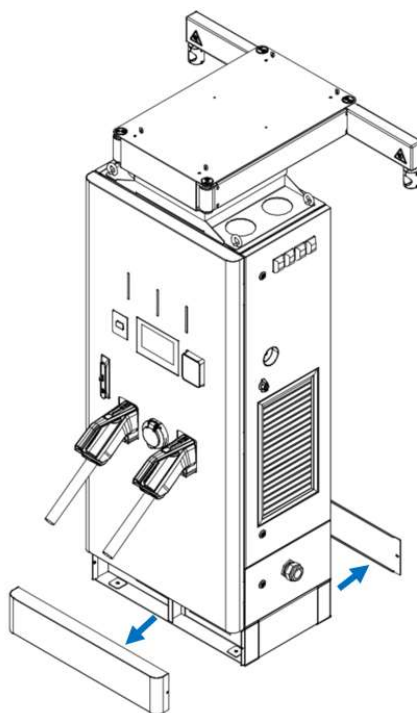


Figure 6 Schematic diagram of sealing plates on charger

- (2) Move the charger to the installation location. Forklift or crane can be selected.

Forklift instructions: Lift up the charger with a forklift truck, move it onto the concrete foundation, and lower the 4 holes to the anchor bolts.

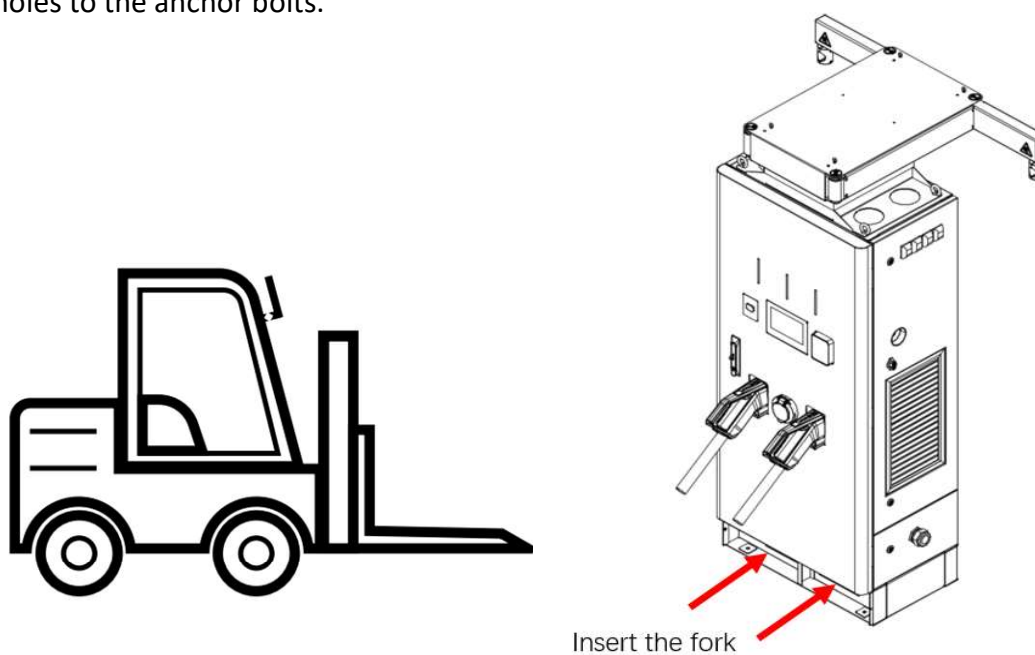


Figure 7 Schematic diagram of installation with forklift

Crane instructions: Select the appropriate crane and lifting sling according to the weight. Each eyebolt on the top shall be provided with a lifting sling. The height of the lifting sling from the eyebolts to the hook shall not be less than 1m. The force center of the hook shall be located at the symmetrical force center, as shown in Figure 7. Lift the charger according to the lifting operation specification, align the four holes of the base with the anchor bolts.

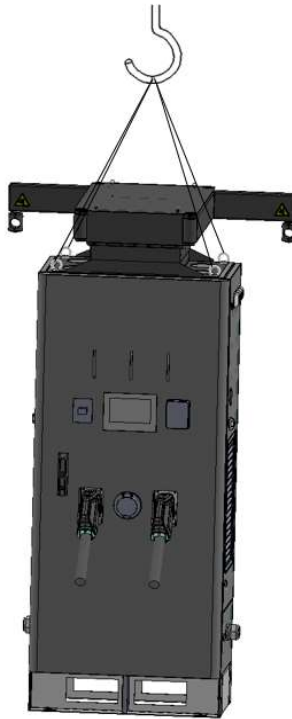


Figure 8 Schematic diagram of charger lifting

- (3) Fix the charger with nuts.
- (4) Install the base sealing plate. Make sure the screw is tightened enough
- (5) Fix the charging cable on the cable management system by cable clamp, as shown in Figure 9 and the length of the charging cable from the gland to the clamp is 2.0 m. During the whole installation process, keep the charging cable sagging naturally to avoid knotting and torsion caused by external force.

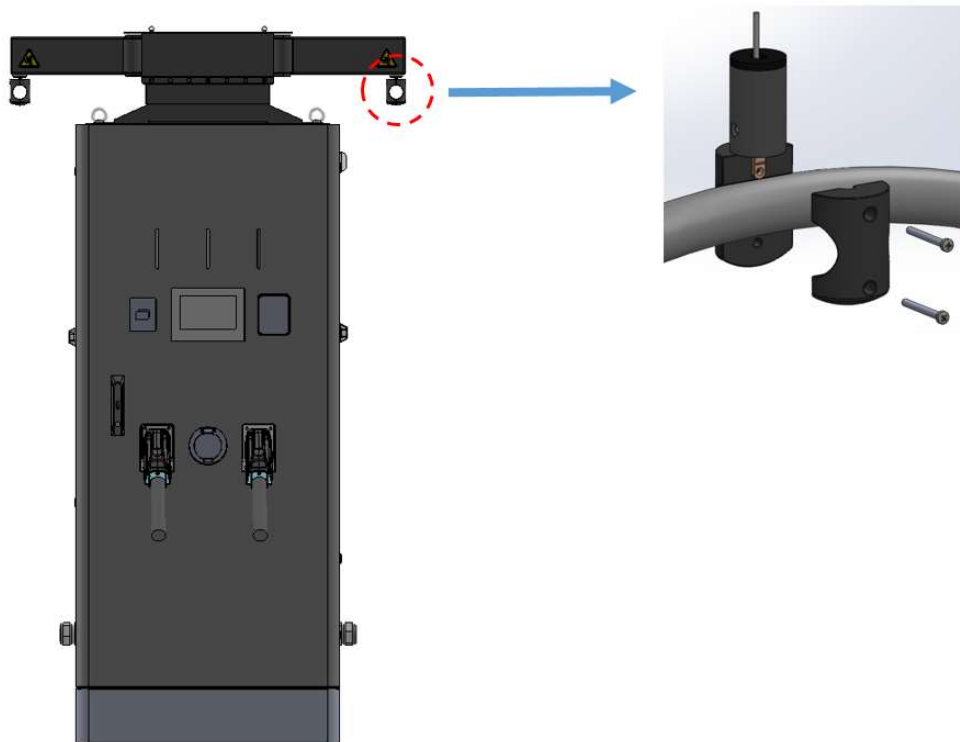


Figure 9 Schematic diagram of charging cable fixing

### 3.3 Electrical wiring

(1) Open the front door of the charger and introduce the power cable from the bottom.

(2) Connect the power cable to the copper busbar as shown in Figure 10, and ensure that the screws are tight enough; throughout the wiring process, avoid scratching and damage of the cable insulation to cause short circuit.

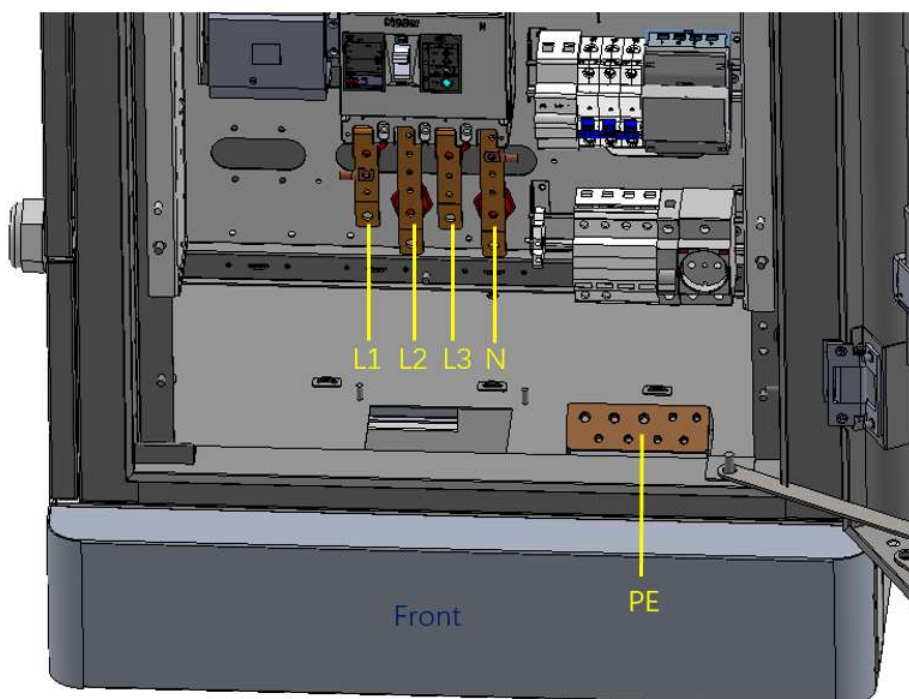


Figure 10 Terminal wiring diagram

(3) If the Ethernet communication is required, put the network cable go through the bottom of the charger, and connect it to the Ethernet port. The location of the Ethernet port is shown in Figure 11.

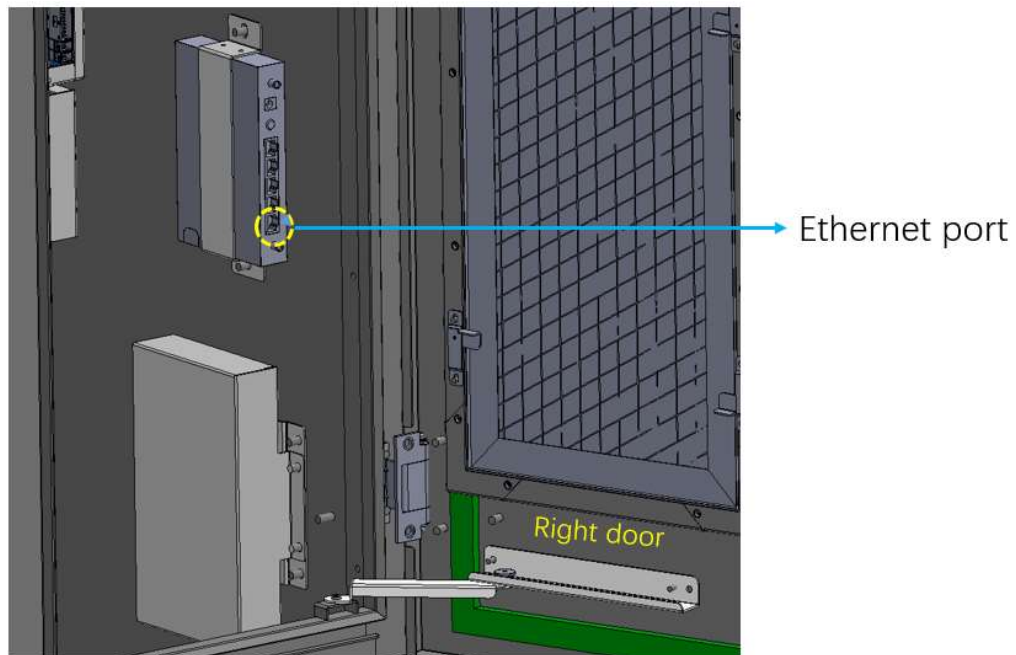


Figure 11 Ethernet port diagram

### 3.4 Fire-proof mud seal

(1) Clean the dirt and debris at the cable inlet hole.

(2) Fill and block the cable inlet hole at the bottom with fire-proof mud (as shown in Figure 12, Figure 13), and make it into a regular shape.

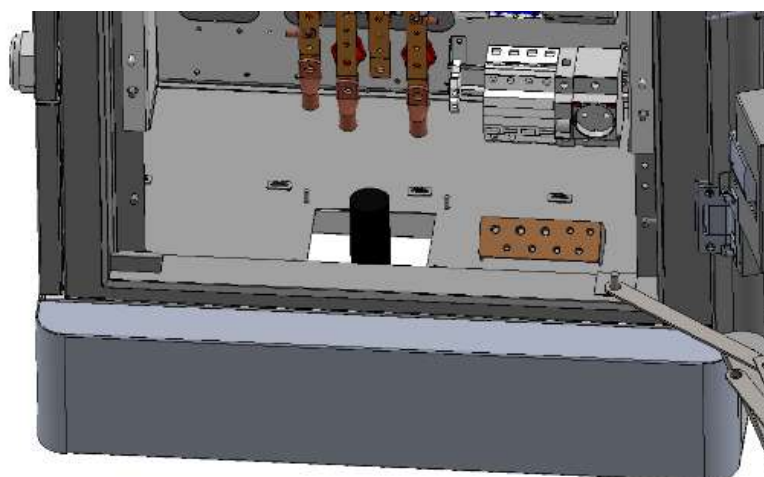


Figure 12 Hole before sealing



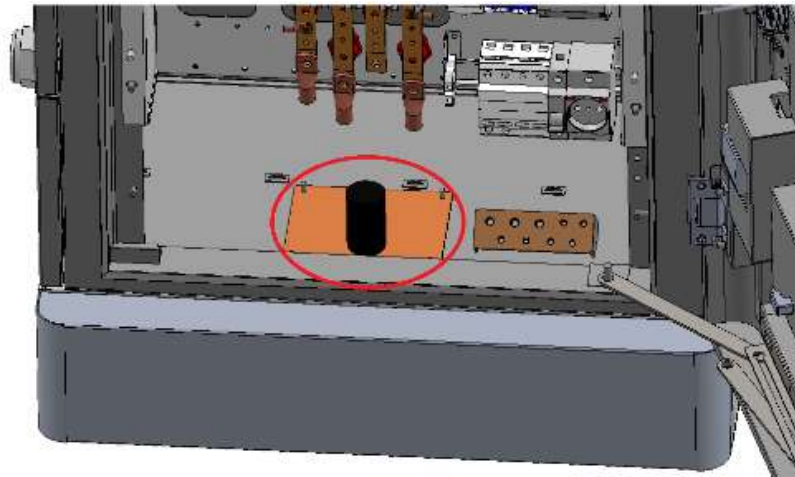


Figure 13 Hole after sealing

(3) Make the sealing tight, and the appearance clean and tidy.

### 3.5 Installation of power module

(1) Open the left door of the charger, and remove the two screws, then open the right door and pull the latch of the power module slot out as shown in Figure 14.

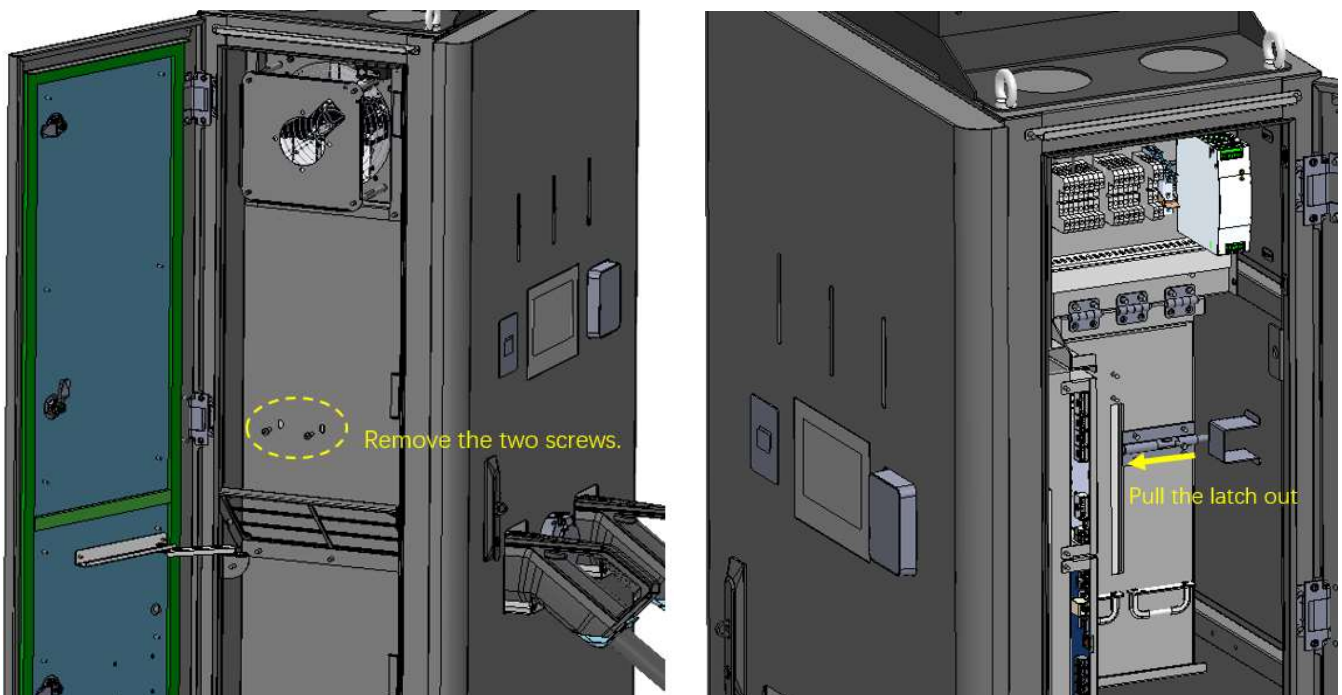


Figure 14 Remove the screws and unplug the latch

(2) Rotate the module slot up 90° and insert the latch.

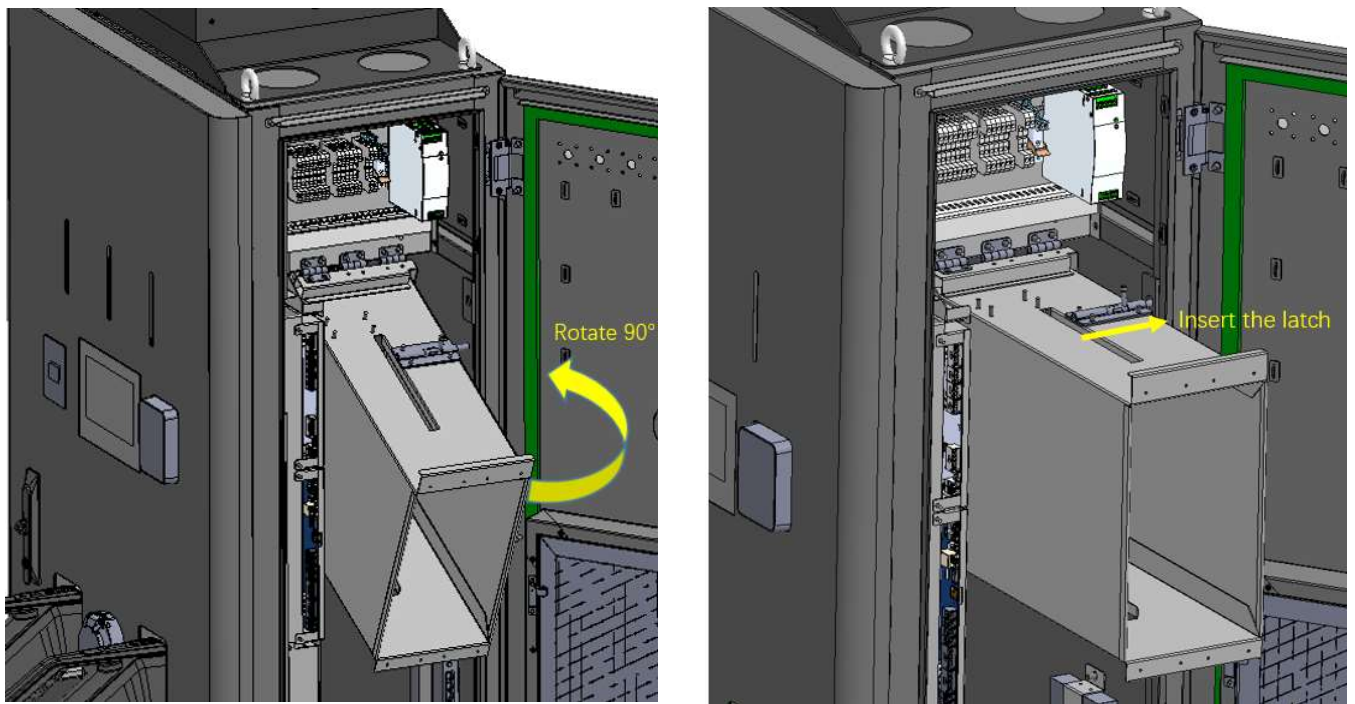


Figure 15 Rotate the module slot up 90° and insert the latch.

(2) Insert the modules into the module slot and fix them with screws.

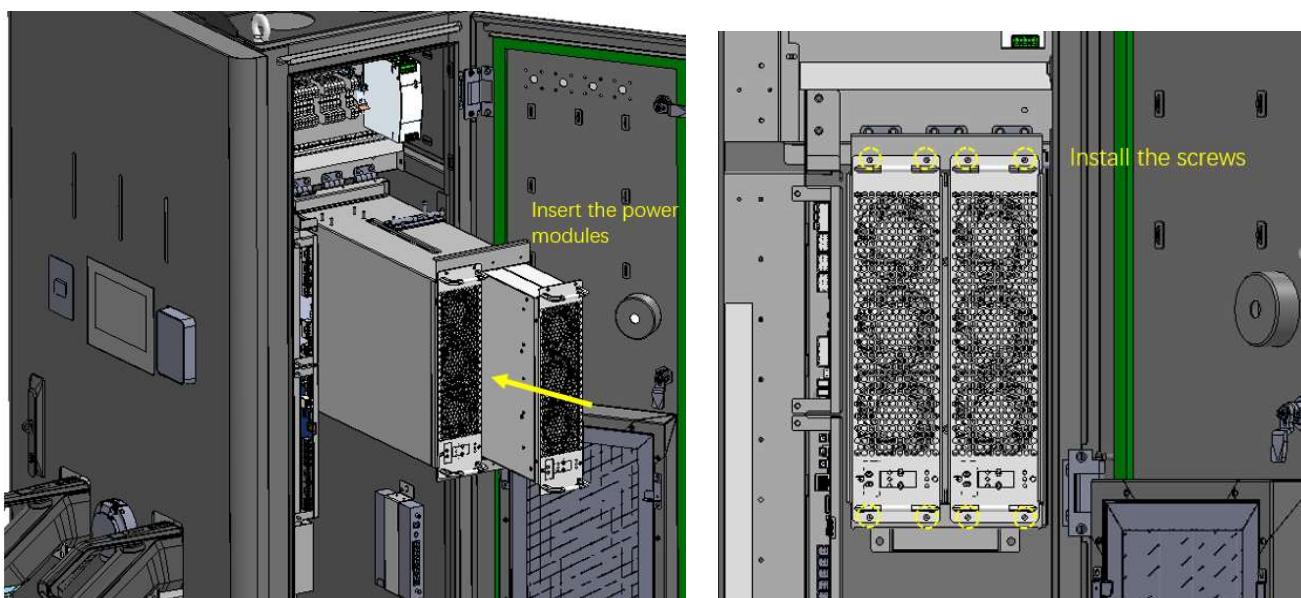


Figure 16 Install the power modules

(3) Pull the latch out and rotate the module slot down 90° . Then insert the latch to keep the module slot in that position.

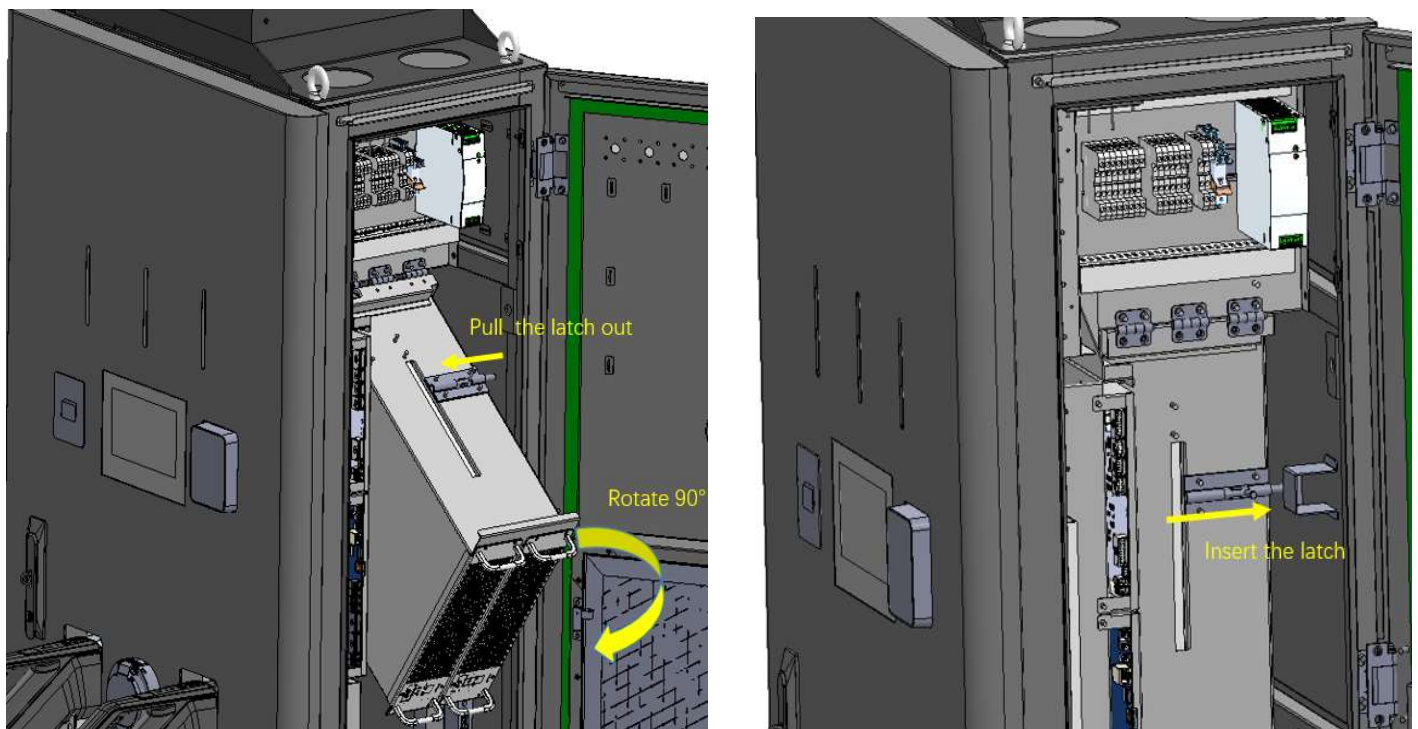


Figure 17 Restore the module slot to its original position

(3) Reinstall the screws on the right side.



Figure 18 Install the two screws



**Warning:** Be sure to follow the specifications and correct operation steps, otherwise personal injury or death may be caused.

## 4. Inspection after installation (Live parts shall be operated by local qualified engineer)

### 4.1 Installation and wiring check

#### 4.1.1 Equipment and equipment fixing inspection

(1) The charger has a neat appearance, no knock and damage. Also, the position is consistent with the concrete foundation and firmly fixed without looseness.

(2) Equipment orientation meets installation criteria.

(3) No installation accessories are omitted.

(4) Measure the levelness of charger by spirit level, ensure it meets the requirements.

#### 4.1.2 Cable laying and connection inspection

(1) Check whether the cable insulation is scratched or damaged.

(2) Check whether the power cable terminals are in compliance and whether the wiring is secure.

(3) Check that the connection terminals of the communication cable are correct and there is no looseness.

(4) Check whether there are hanging cable signs.

(5) Check whether the cable bending radius meets the requirements.

(6) Check whether the ground wire is introduced into the grounding grid in each box.

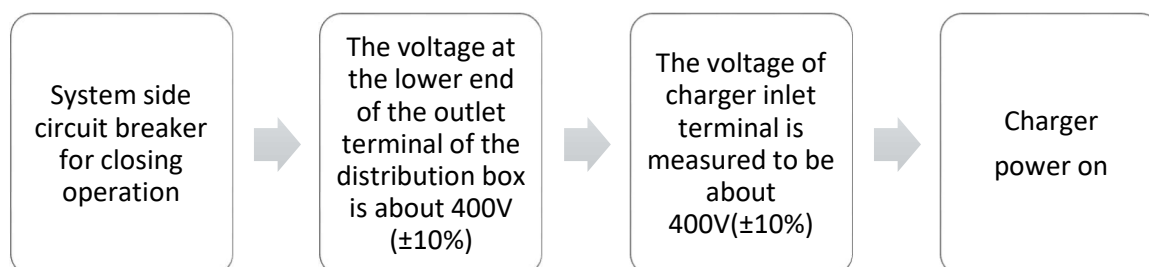
### 4.2 Check before power on

(1) Circuit short circuit: check whether the low-voltage power distribution cabinet is connected to the power inlet of the charging equipment, and whether there is a short circuit between the three-phase wire, the neutral wire and the ground wire.

(2) Power supply voltage before power-on: before power-on of equipment, please check whether the power supply voltage on upper end of MCCB in low-voltage distribution cabinet is normal, ensure there are no lack-phase, over voltage, under voltage, phase-sequence anomaly and other abnormalities.

### 4.3 Check on power-on

(1) After confirming that the wiring is complete and correct, power up the charger. The power operation is as follows:



(2) Complete the overall installation.

## 5. Installation environment

The environmental conditions listed in the table below should be taken into consideration when selecting the installation site of the high-power charger. The accumulation of dust or sand in the equipment may cause premature damage to the equipment.

Environmental conditions	Recommended range
Ambient temperature	-30℃ ~ 55℃
Altitude	≤2000m
Humidity	5%~95%RH, no condensation
Dust level	≤1mg/m <sup>3</sup>
Corrosive substance	No pollutants, such as salt, acid, smoke, etc.
Vibration	≤1.5mm/s <sup>2</sup>
Insects, pests, vermin animals, termites	None
Mold	None
Damp	Water-proof
Fire prevention	No flammable material on top and bottom of cabinet

Table 4 Installation environment

## 6. Completion information

No.	File name	Page	Document Necessity
1	Unpacking record sheet	1	√
2	Pre-installation checklist	1	√

**Appendix 1**

Unpacking record sheet					
Name of dealership				Unpacking date	
No.	Name of commodity	Quantity	Qualified number	Equipment situation	Note
Unpacking conclusion	Installation unit			Owner unit	
Signature block					

**Appendix 2**

Pre-installation checklist				
Project name: _____				
Civil construction unit: _____			Equipment installation unit: _____	
Sub-project	No	Main acceptance items	Acceptance record	Treatment measures
Installation plan	1	Whether the on-site equipment installation complies with the construction plan design drawings		
Distribution box circuit breaker	1	Meets the requirements in section 2.8.		
Cable type	1	YJV-0.6/1kV-3*50 mm <sup>2</sup> +2*25mm <sup>2</sup>		
	2	Network cable cat6a (if Ethernet communication is required)		
Concrete foundation	1	Meets the requirements in section 2.6.		
Maintenance distance	1	The maintenance distance meets the equipment spacing requirements in section 2.7.		
In conclusion: _____				
Note: (1) In the acceptance record, fill in "√" or "×" according to the on-site situation; (2) At the conclusion, fill in "qualified" or "need to rectify" according to the on-site situation				
Signature of person in charge of inspection: _____				