User manual

DC EV Charger

PEVC3302E

Zhuhai Sino Energy Technology Co.,Ltd.

Address: Building 10, No. 81, Dingye Road, High-tech Zone, Zhuhai City

Postal Code: 519085

Website: www.sinoevse.com

Official Email: info.sino@pmac.com.cn

Service Hotline: +86 15361531855

SINO
Subsidiary of Pilot

Version: V1.00

Safety and Compliance

Save these instructions. Read the manual before installation or usage of device.

- 1) Do not put tools, material or body parts into the electric vehicle connector.
- 2) Do not use the DC EV charger if the cabinet, power cord or charging cable are frayed, have broken insulation or show any other signs of damage.
- 3) Do not install or use the DC EV charger if the enclosure is broken, cracked, opened or shows any other indications of damage.
- 4) The DC EV charger should be installed only by a qualified technician.
- 5) Make sure that the materials used and the installation procedures follow local building codes and safety standards.
- 6) The information provided in this manual in no way exempts the user of responsibility to follow all applicable codes or safety standards.
- 7) The manufacturer is not responsible for physical injury, damage to property or damage to equipment caused by the installation of this device.
- 8) This document provides instructions for the DC EV charger and should not be used for any other product. Before installation or use of this product, you should review this manual carefully and consult with a licensed contractor, licensed electrician or trained installation expert to make sure of compliance with local building codes and safety standards.

Warning

Hazardous voltage that gives risk of electrocution

General risk

PE

The input and output voltages of this device are high voltage, which threaten human life safety. Please strictly observe all warnings on the device and user manual. Unauthorized and non-professional service personnel are forbidden to remove the cover of this device.

CONTENT

1 Product Introduction

1.1 Product Description

The DC EV charger is the top choice for powering battery electric vehicles (BEV) and plug-in electric vehicles (PHEV) today.It is designed for quick charging in both public and private locations, such as retail and commercial parking spaces,fleet charging stations, highway rest areas,workplaces,residences, etc. The DC EV charger is a dispenser high-power charging system designed for high-power charging stations.The charger modules is based on the principle of on-demand distribution, overall optimization and flexible customization, providing a variety of distribution methods to improve operational efficiency The DC EV charger also features network communication capability; It is able to connect with remote network systems and provide drivers of electric vehicle real-time information,such as the locations of charging stations, charging progress information and billing information.The DC EV charger has a friendly user interface with HMI, a power supply safety system and excellent waterproof and dustproof technology to provide the best choice for outdoor environments.

1.2 Product Characteristic

Split design
Flexible distribution of power between terminals,The power cabinet covers a small area, and the charging terminal can be flexibly deployed and installed near the parking space, with low noise.

7 Inch LCD Display
Straightforward user interface with 7 inch panel,which display the real-time charging status,including time, voltage, current, power and temperature.

Convenient operation
Easy installation with modular design,adapt to indoor and outdoor environment.Ingress protection up to IP55.

Super fast charge
Multi-gun design, single gun can be maximum power output, conventional charging gun maximum output 250A.

Simultaneous charging output
Multiple charging terminals charge simultaneously,smart Charging model to adjust the power loading,Load sharing to ensure the best utilization.

High intelligence
Powerful information collection, transmission and communication functions, compatible to OCPP backend office,support user authentication options.

Easy to install and use
The installation process is simple, payment is convenient and fast, supports mobile application software or IC card swiping. Fully compatible with all EV in the market.

1.3 Product Technical Specifications

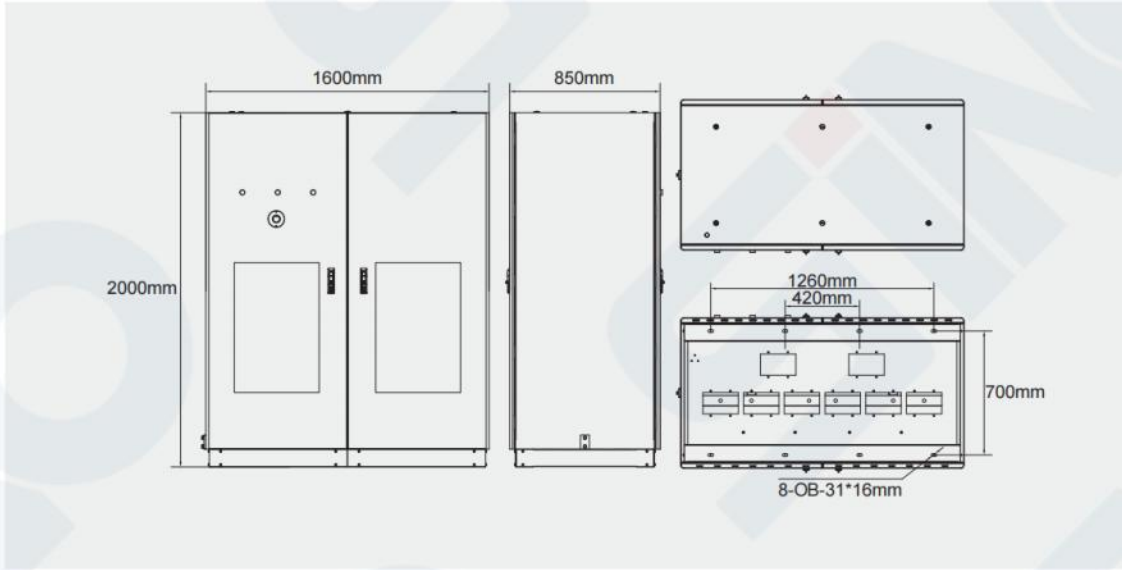
Power cabinet		
Parameter type	**Description**	**PEVC3302E-RCAB-480KW**
Input parameters	AC Power supply	3P+N+PE
	AC Voltage	400VAC±10%
	Frequency	50/60Hz
	THDi	≤5%
	Efficiency	≥95%(load: 50%–100%)
	Power factor	≥0.99(load: 50%–100%)
Output parameters	Number of Output Ports	8(max)
	Voltage	150-1000VDC
	Output power	480kW
	Voltage accuracy	≤0.5%
	Current accuracy	≤1%
Environmental parameters	Operating temperature	–20°C~+50°C
	Storage temperature	–40°C~+75°C
	Lightning protection	Level C
	IP and IK rating	IP55/IK10
	Operating altitude	≤2000m
	Humidity	5%–95% RH non-condensing
Safety protection	Insulation resistance	≥10MΩ
	Impulse voltage	≥2500VDC
Protection functions	Over current	√
	Under voltage	√
	Over voltage	√
	Short circuit	√
	Emergency stop	√
	Over temperature protection	√
	Surge protection	√
	RCD	√
Others	Cooling system	Forced air cooling
	Operational noise level	≤65dB
	Power distribution mode	Dynamic flexibility distribution
	Interface protocol	CAN(alternative:RS485)
	Enclosure type	Galvanized sheet steel
	Dimensions (D x W x H)	1600x850x2000mm
	Weight	700kg
	Compliance	IEC61851-1,IEC61851-23, IEC61851-21-2

Charge station			
Parameter type	**Description**	**PEVC3302E-SPOT-N1**	**PEVC3302E-SPOT-D2**
Input parameters	DC Voltage	150-1000VDC	
	AC Power supply	1P+N	
	AC Voltage	230V(±10%)	
	Frequency	50/60Hz	
Output parameters	Number of Output Ports	1	2
	Connector	CCS1/CCS2	
	Voltage	150-1000VDC	
	Maximum current per channel	250A	
	Maximum power per channel	250kW	
	Voltage accuracy	≤0.5%	
	Current accuracy	≤1.0%	
Environmental parameters	Operating temperature	–20°C~+50°C	
	Storage temperature	–40°C~+75°C	
	Lightning protection	Level C	
	IP and IK rating	IP55/IK10	
	Operating altitude	≤2000m	
	Humidity	5%–95% RH non-condensing	
Protection functions	Over current	√	
	Under voltage	√	
	Over voltage	√	
	Short circuit	√	
	Emergency stop	√	
	Over temperature protection	√	
	Surge protection	√	
	RCD	√	
	Insulation monitoring	√	
	Reverse polarity protection	√	
Others	HMI	7-inch touchscreen	
	Payment support	IC Card/APP	
	Power meter	Accuracy Class 1.0 energy meter	
	DC Cable length	5m	
	Operational noise level	≤45dB	
	Communication	Ethernet/4G	
	Interface protocol	CAN(alternative:RS485)	
	Enclosure type	Galvanized sheet steel	
	Dimensions (D x W x H)	450x200x1450mm	
	Weight	70kg	85kg
	Compliance	IEC61851-1,IEC61851-23, IEC61851-24,IEC62196-1,IEC62196-3	

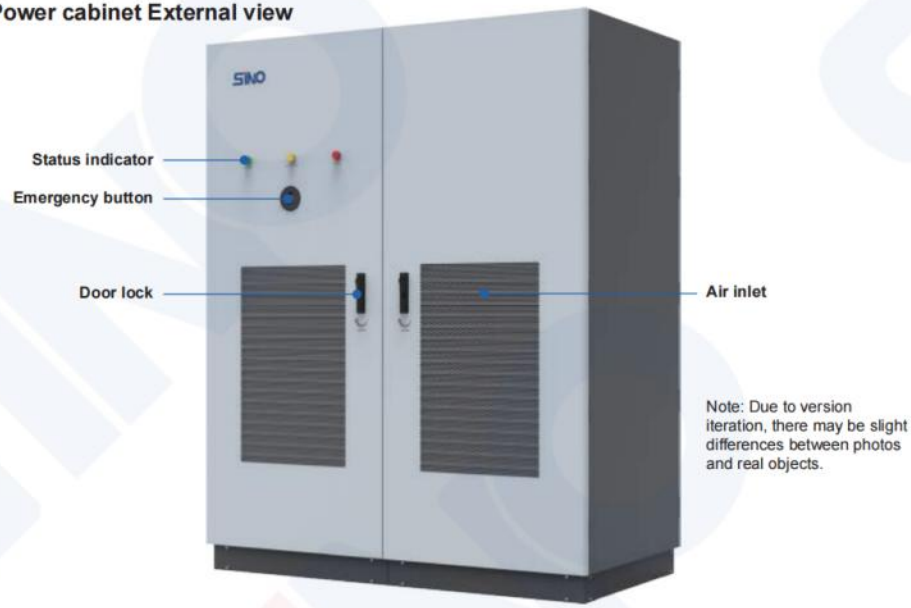
HPC Charge station		
Parameter type	**Description**	**PEVC3302E SPOT-N1**
Input parameters	DC Voltage	150-1000VDC
	AC Power supply	1P+N
	AC Voltage	230V(±10%)
	Frequency	50/60Hz
Output parameters	Number of Output Ports	1
	Connector	CCS1/CCS2
	Voltage	150-1000VDC
	Maximum current	500A
	Maximum power	480kW
	Voltage accuracy	≤0.5%
	Current accuracy	≤1.0%
Environmental parameters	Operating temperature	–20°C~+50°C
	Storage temperature	–40°C~+75°C
	Lightning protection	Level C
	IP and IK rating	IP55/IK10
	Operating altitude	≤2000m
	Humidity	5%–95% RH non-condensing
Protection functions	Over current	√
	Under voltage	√
	Over voltage	√
	Short circuit	√
	Emergency stop	√
	Over temperature protection	√
	Surge protection	√
	RCD	√
	Insulation monitoring	√
	Reverse polarity protection	√
Others	HMI	7-inch touchscreen
	Payment support	IC Card/APP
	Power meter	Accuracy Class 1.0 energy meter
	DC Cable length	5m
	Operational noise level	≤60dB
	Communication	Ethernet/4G
	Interface protocol	CAN(alternative:RS485)
	Enclosure type	Galvanized sheet steel
	Dimensions (D x W x H)	450x400x1600mm
	Weight	120kg
	Compliance	IEC61851-1,IEC61851-23, IEC61851-24,IEC62196-1,IEC62196-3

1.4 External Structure

Power cabinet Dimension drawing

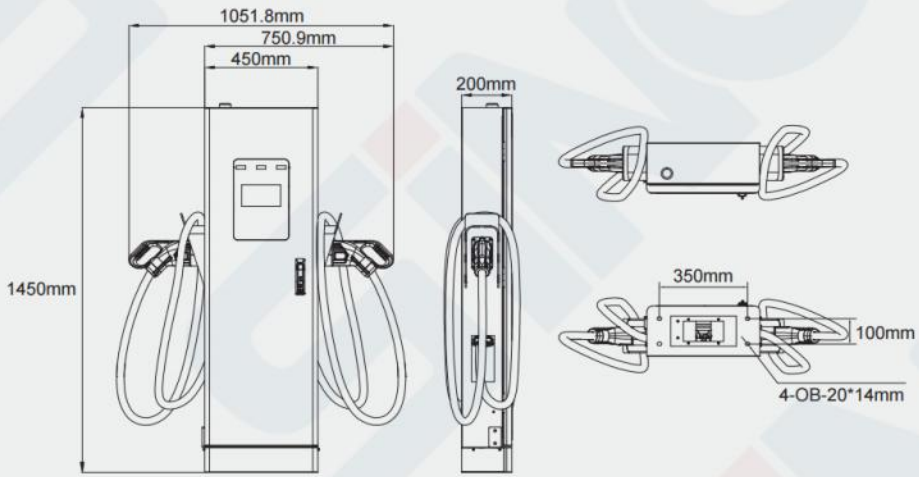


Power cabinet External view

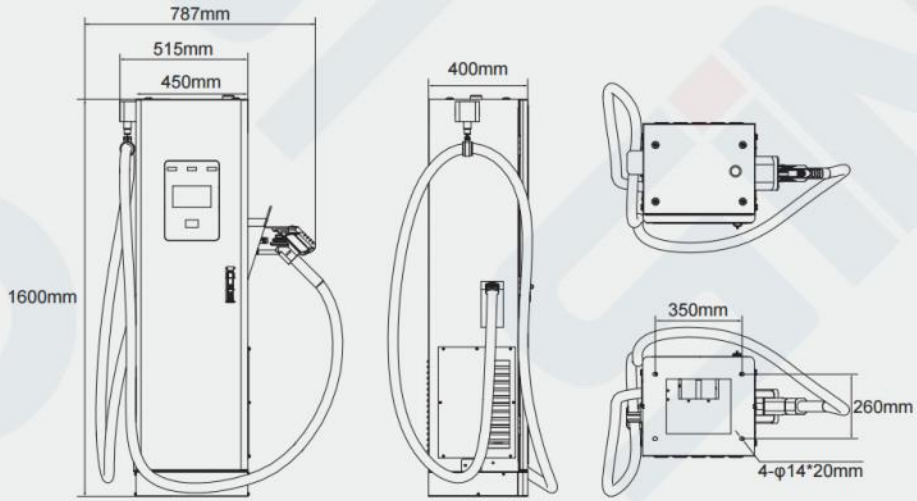


Note: Due to version iteration, there may be slight differences between photos and real objects.

Charge station Dimension drawing



HPC Charge station Dimension drawing



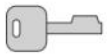
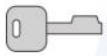
Charge station External view

HPC Charge station External view

1.5 Package Contents

Unpack the product. Please check and verify following items after receiving the charger:

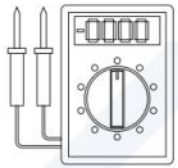
- 1) Visual inspection on charger's external appearance. If there is any breakage or other damage, please notify the seller immediately.
- 2) Check type and quantity of all accessories as follows. If there is a shortage in the quantity of any items or if any items are missing, please contact the seller at once.

Power cabinet General parts		
		
User manual (x1)		Certificate (x1)
		
Key (x4)	Expansion bolt M12×100 (x8)	Emergency button protection(x1)
Charge station General parts		
		
User manual (x1)	RFID card (x2)	Certificate (x1)
		
Key (x2)	Expansion bolt M12×100 (x4)	Emergency button protection(x1)

2 Installation Instruction

2.1 Installation Preparation

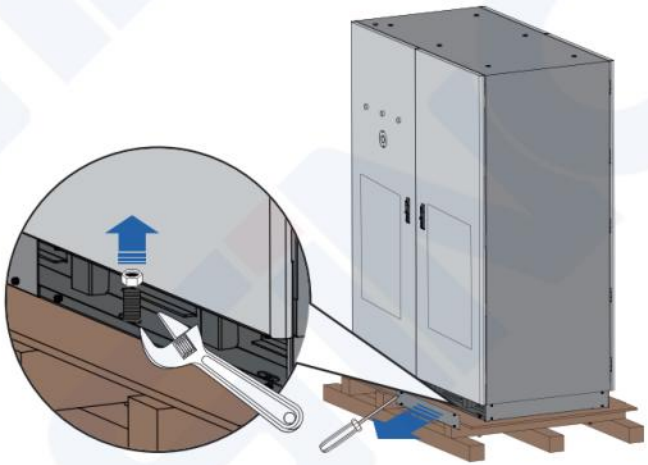
Please prepare the following tools before installation:

			
Hammer drill and drill bit(φ 22mm,7/8 inch)	Electric drill	Multimeter	Hammer
			
Phillips screwdriver M4(length)<100mm	Adjustable wrench	Diagonal Pliers	Measuring tape (5m)

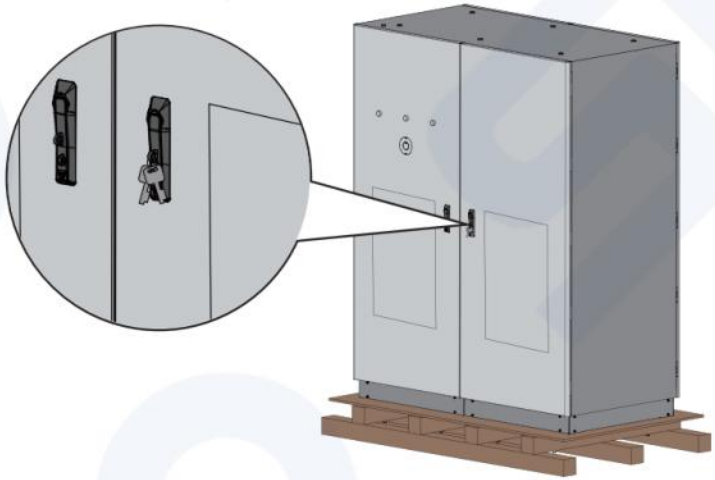
⚠ Installation Notice

- Electrical devices should only be installed, operated, and maintained by qualified technician. No responsibility is assumed by the manufacturer for any consequences arising out of the use of this device.
- When installing wires, do not turn on the power supply.
- The length of the power cable and communication cable should be properly reserved to facilitate installation and connection.
- Pay attention to protect the charger enclosure during installation to prevent bumping, scratching the surface, etc.
- The charger must be installed vertically, and the deviation of any direction from the vertical position should not exceed 5°.

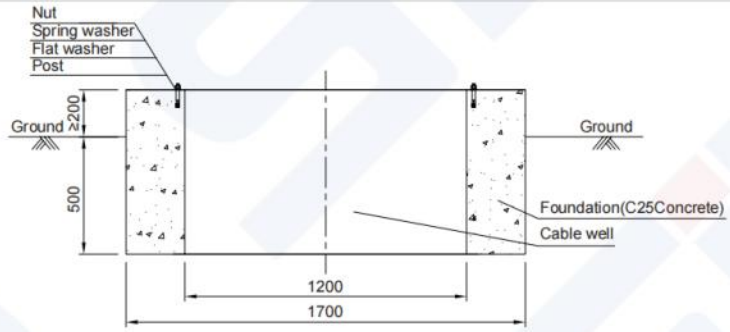
2.2 Power cabinet Mounting Process



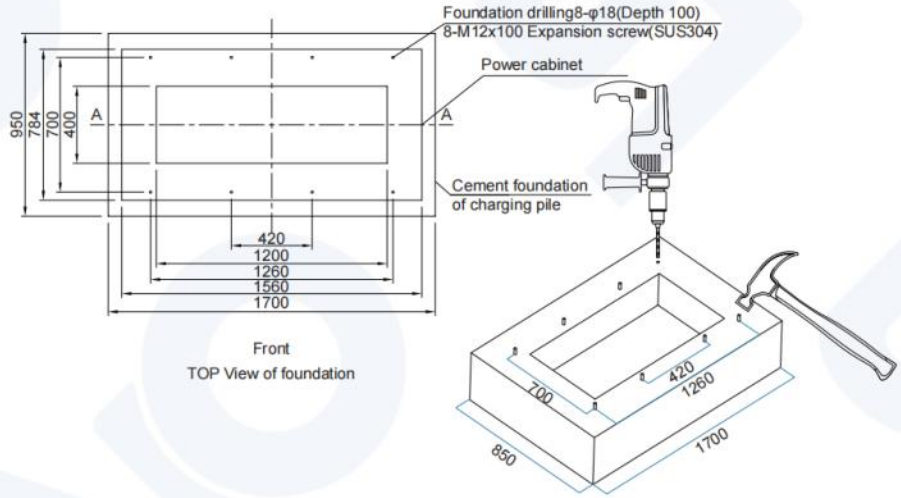
1) Remove the base cover, expose the wooden bracket fixing screw and remove it to separate the charging stake from the wooden bracket.



2) Take the key and open the front door to remove the accessory bag.

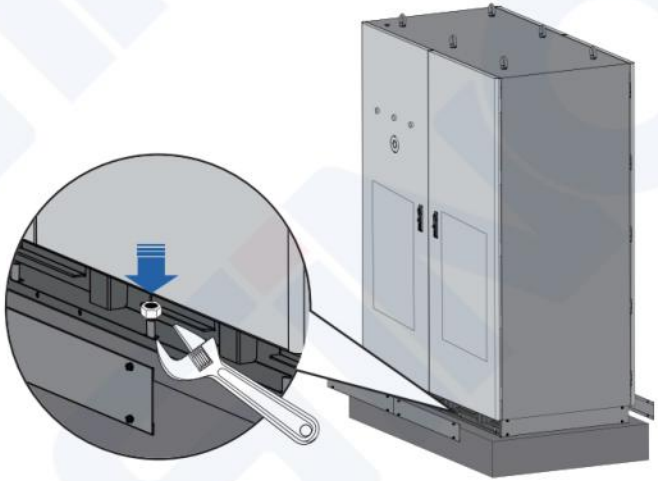


A-A (Foundation profile)

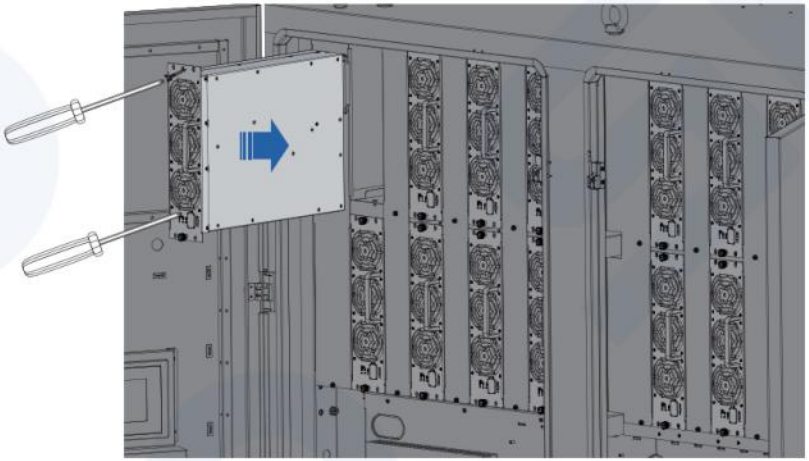


TOP View of foundation

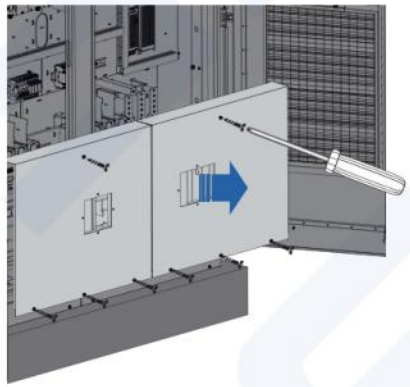
3) Foundation fabrication requirements: the ground height of the foundation is ≥200mm, the underground depth is 500mm, the length is 1700mm, the width is 950mm, eight M12 holes with a depth of 100mm are drilled at the designated position of the cement base, and expansion screws are installed at the holes. The embedded conduit shall be 50~80mm higher than the foundation, and the conduit shall be replaced during foundation pouring.
Installation distance requirements: The distance between the upper part of the charging stake and the obstacle is not less than 150mm, the distance between the two sides of the charging stake and the obstacle is not less than 800mm, the distance between the back side and the obstacle is not less than 50mm, and the distance between the frontobstacle should ensure that the front door is opened smoothly and maintained internally. When there is a parking line, the horizontal distance between the parking line and the stake should not be less than 400mm.



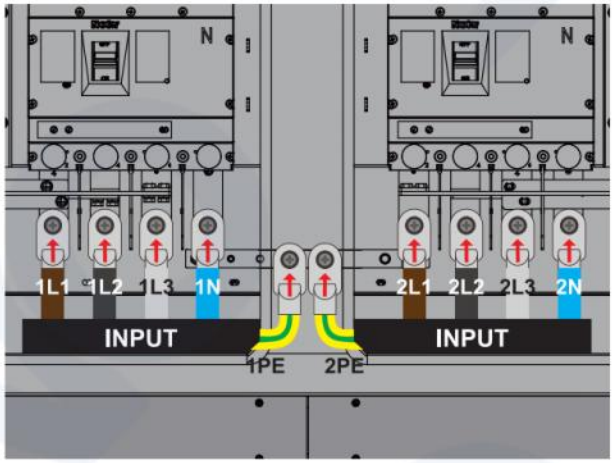
4) Use a crane or forklift to transport the charging stake to the mounting position and align the four corner reserved screw posts. Use a wrench to tighten the four corner nuts to secure the charging stake to the base.



5) Open the right door, insert the module into the corresponding numbered module slot, and tighten the upper and lower screws.



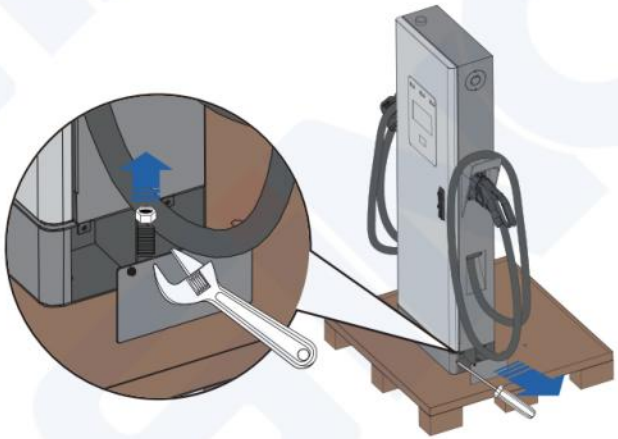
6) Open the front door and release the input PC shield with a screwdriver.



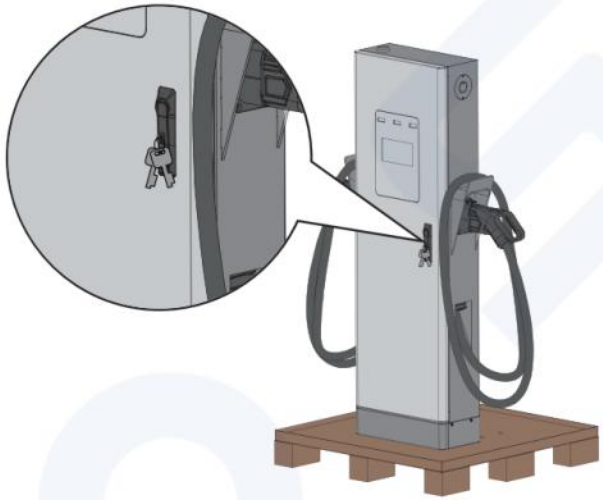
Model	Recommended cable	Stripping Length	Screw	Recommended Torque
240kW	L1/L2/L3:120mm²;N70mm²;PE70mm²	250mm	M10	19.1N·m
360kW	L1/L2/L3:240mm²;N120mm²;PE120mm²	250mm	M12	32.6N·m
480kW	L1/L2/L3:300mm²;N150mm²;PE150mm²	250mm	M12	32.6N·m

7) Connect the power cord L1/L2/L3/N/PE according to the legend. Load back the PC shield and close the front door after wiring is completed.

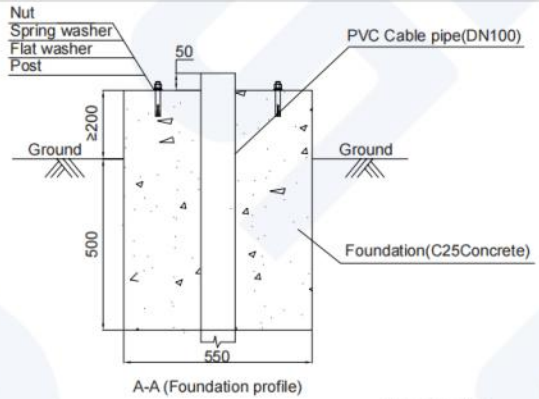
2.3 Charge station Mounting Process



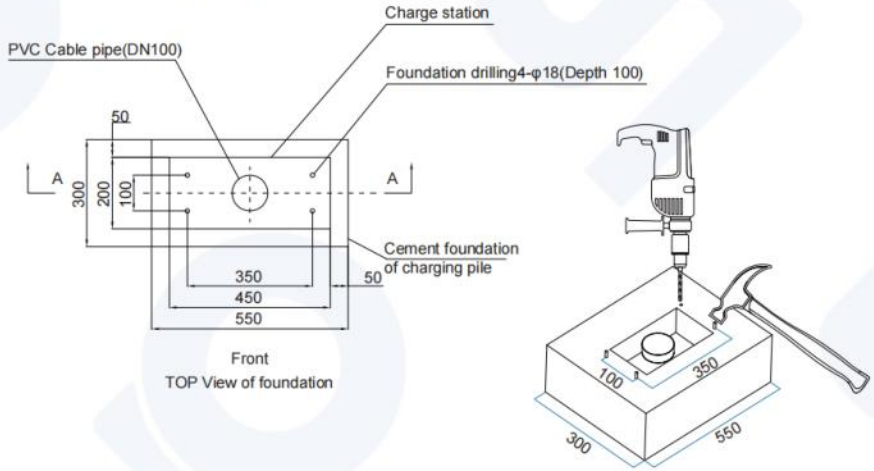
1) Remove the base cover, expose the wooden bracket fixing screw and remove it to separate the charging stake from the wooden bracket.



2) Take the key and open the front door to remove the accessory bag.



A-A (Foundation profile)

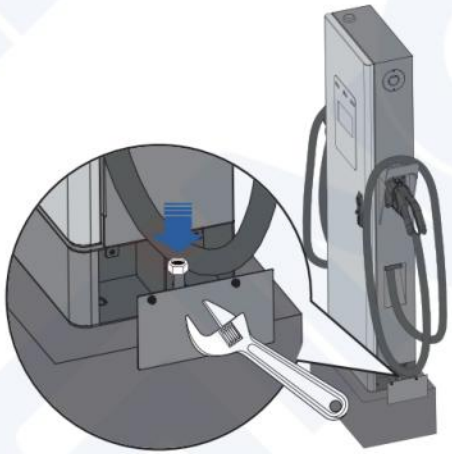


Front

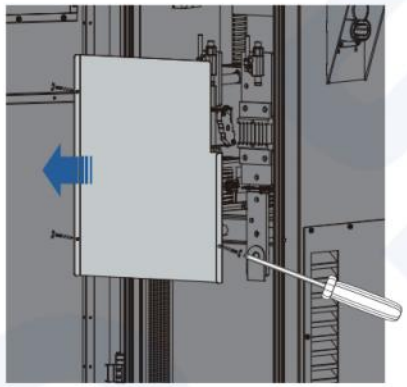
TOP View of foundation

3) Foundation fabrication requirements: the ground height of the foundation is ≥200mm, the underground depth is 500mm, the length is 550mm, the width is 300mm, four M12 holes with a depth of 100mm are drilled at the designated position of the cement base, and expansion screws are installed at the holes. The embedded conduit shall be 50~80mm higher than the foundation, and the conduit shall be replaced during foundation pouring.

Installation distance requirements: The distance between the upper part of the charging stake and the obstacle is not less than 150mm, the distance between the two sides of the charging stake and the obstacle is not less than 800mm, the distance between the back side and the obstacle is not less than 50mm, and the distance between the front obstacle should ensure that the front door is opened smoothly and maintained internally. When there is a parking line, the horizontal distance between the parking line and the stake should not be less than 400mm.

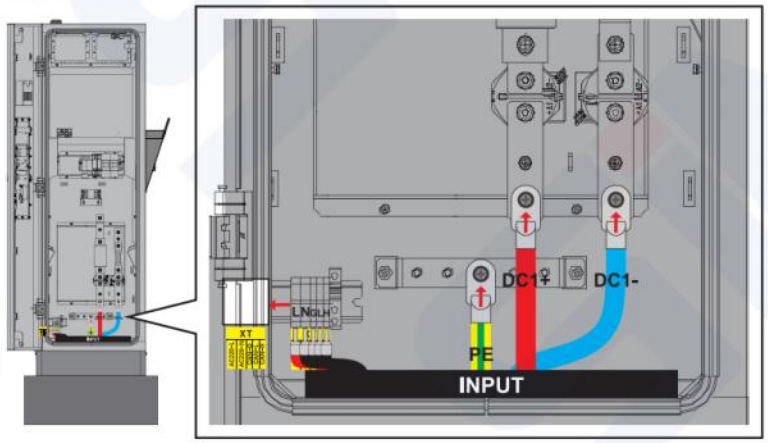


4) Use a crane or forklift to transport the charging stake to the mounting position and align the four corner reserved screw posts. Use a wrench to tighten the four corner nuts to secure the charging stake to the base.

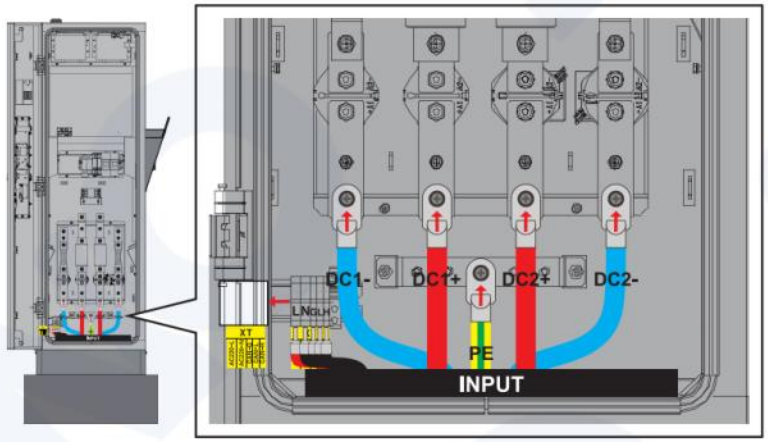


5) Open the front door and release the input PC shield with a screwdriver.

Single connector



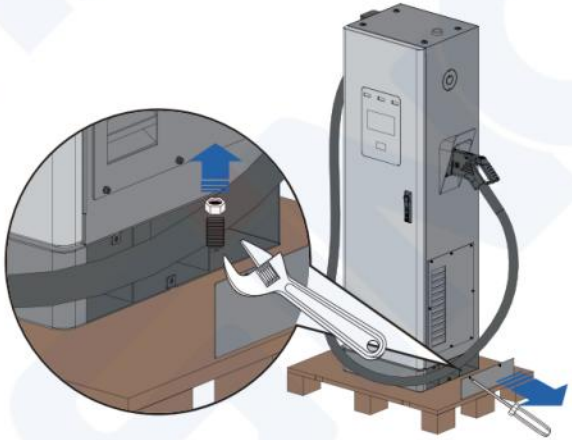
Double connectors



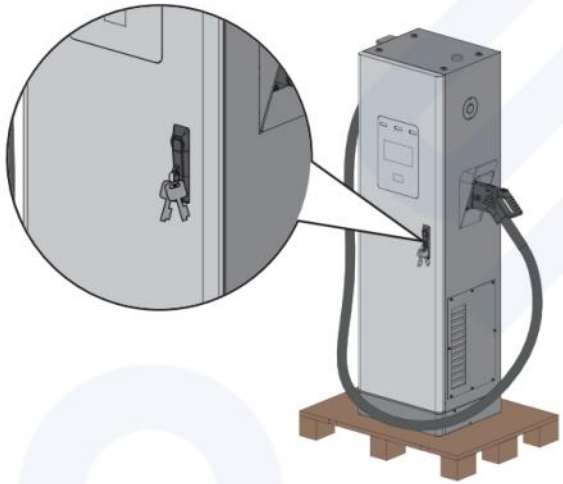
Recommended cable	Stripping Length	Screw	Recommended Torque
DC+/DC-:120mm²;PE70mm²	250mm	M10	19.1N·m
AC220-L/N:6mm²;CAN-L/H:1mm²	300mm	/	/

6) Connect the power cord L1/L2/L3/N/PE according to the legend. Load back the PC shield and close the front door after wiring is completed.

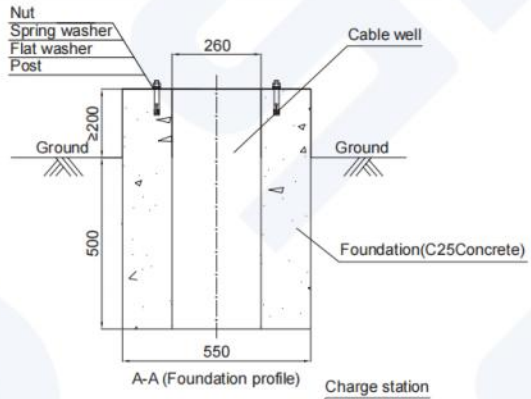
2.4 HPC Charge station Mounting Process

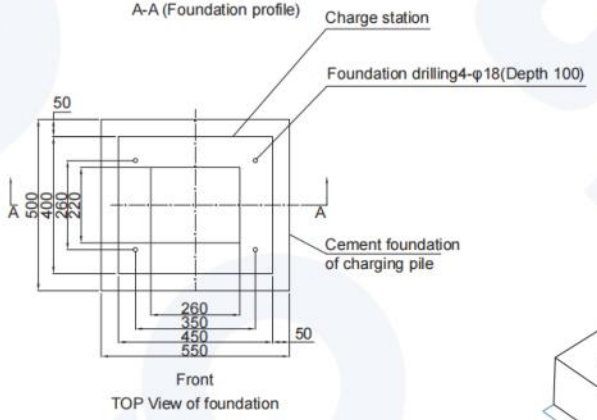


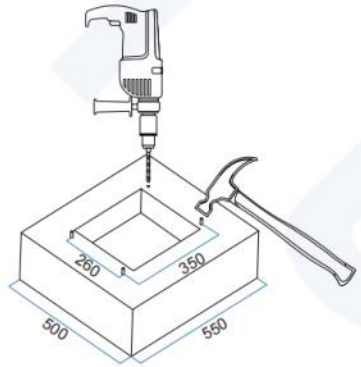
1) Remove the base cover, expose the wooden bracket fixing screw and remove it to separate the charging stake from the wooden bracket.



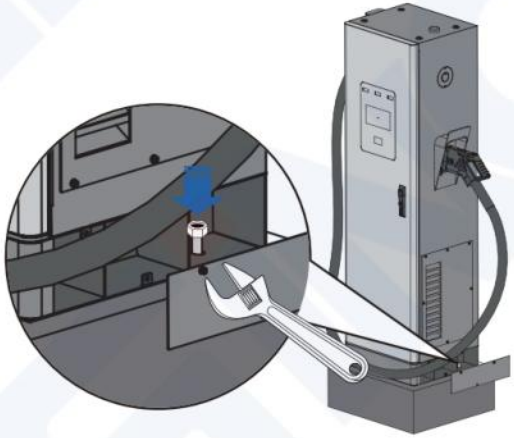
2) Take the key and open the front door to remove the accessory bag.



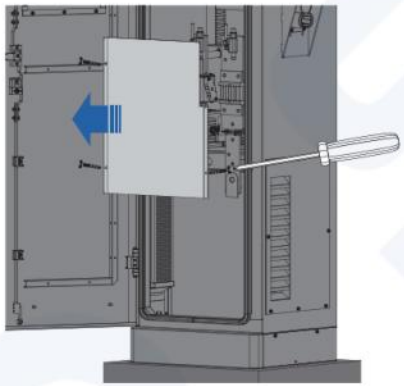




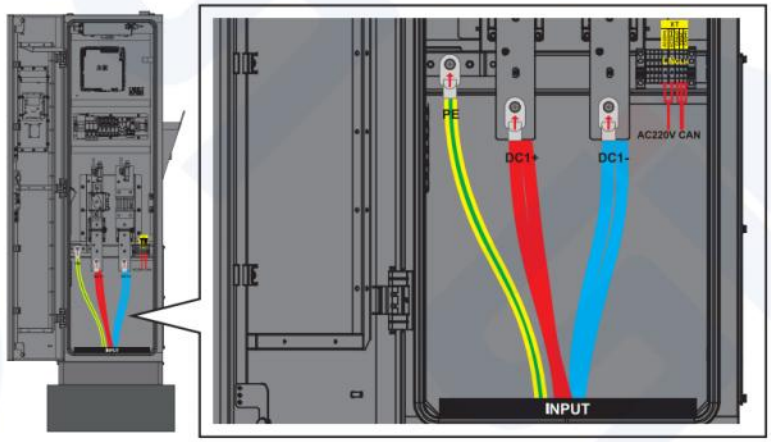
3) Foundation fabrication requirements: the ground height of the foundation is ≥200mm, the underground depth is 500mm, the length is 550mm, the width is 300mm, four M12 holes with a depth of 100mm are drilled at the designated position of the cement base, and expansion screws are installed at the holes. The embedded conduit shall be 50~80mm higher than the foundation, and the conduit shall be replaced during foundation pouring.
Installation distance requirements: The distance between the upper part of the charging stake and the obstacle is not less than 150mm, the distance between the two sides of the charging stake and the obstacle is not less than 800mm, the distance between the back side and the obstacle is not less than 50mm, and the distance between the front obstacle should ensure that the front door is opened smoothly and maintained internally. When there is a parking line, the horizontal distance between the parking line and the stake should not be less than 400mm.



4) Use a crane or forklift to transport the charging stake to the mounting position and align the four corner reserved screw posts. Use a wrench to tighten the four corner nuts to secure the charging stake to the base.



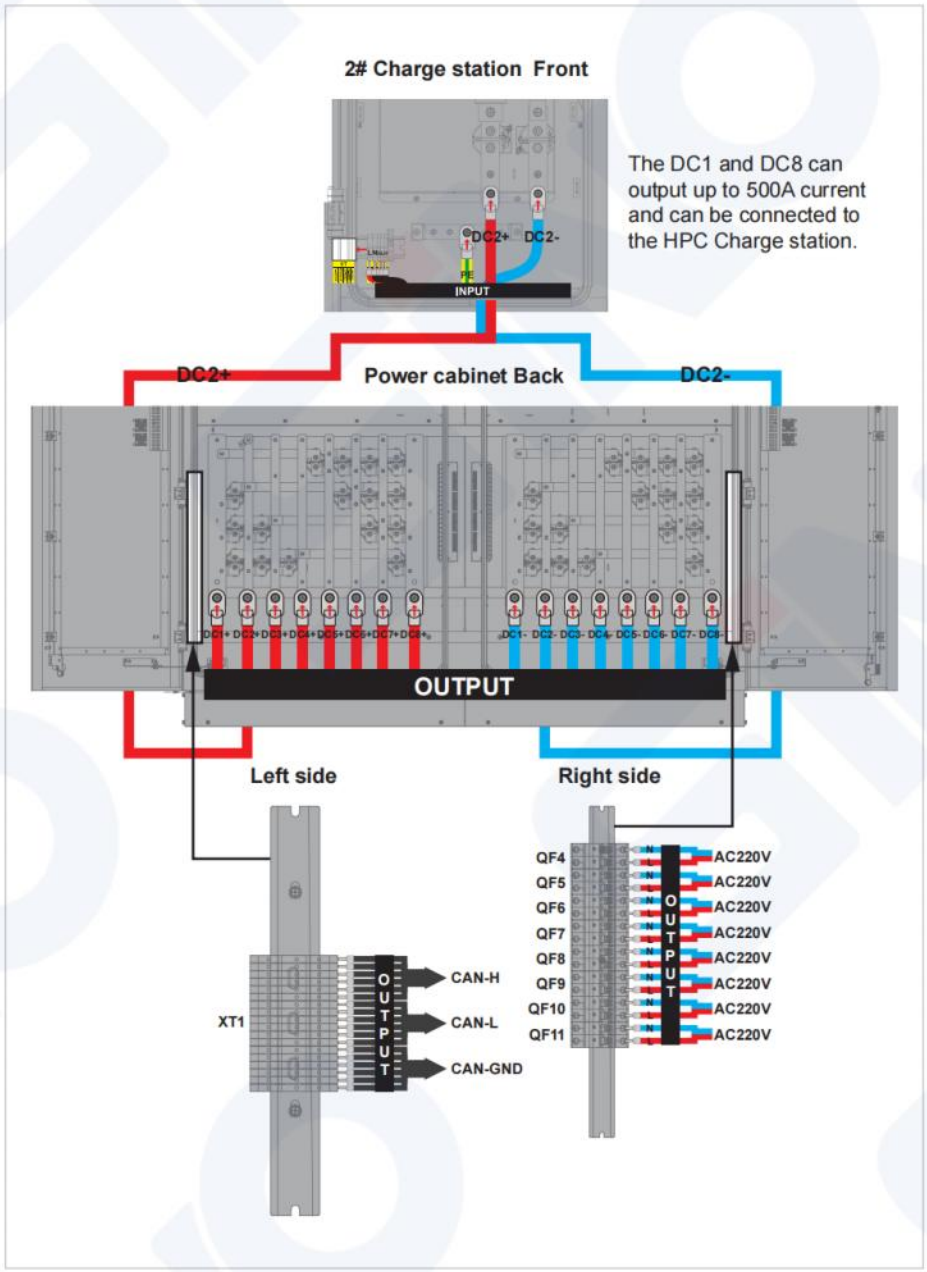
5) Open the front door and release the input PC shield with a screwdriver.



Recommended cable	Stripping Length	Screw	Recommended Torque
DC+-:2×150mm²;DC-:2×150mm²	550mm	M12	32.6N·m
PE:150mm²	550mm	M10	19.1N·m
AC220-L/N:6mm²;CAN-L/H:1mm²	600mm	/	/

6) Connect the power cord L1/L2/L3/N/PE according to the legend. Load back the PC shield and close the front door after wiring is completed.

2.5 Cable connections to the Power cabinet



3 Configuration and Operation

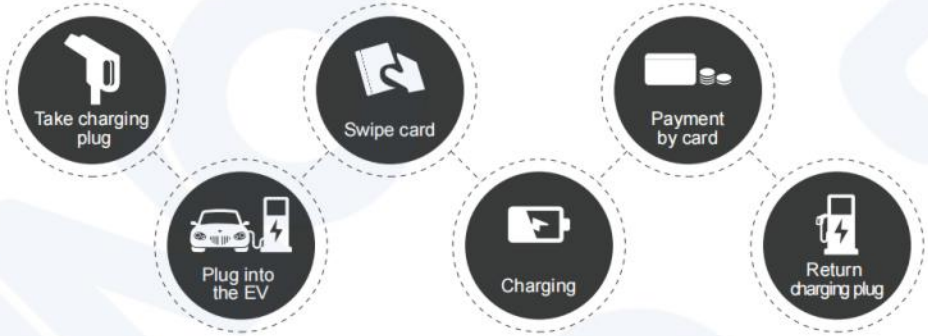
3.1 Power-on Checking

Please check / re-check the following items prior to initial Power-on:

- 1) The location of the charger should be convenient for operation and maintenance.
- 2) Before installation of the charger, ensure that the AC input component in the power supply is properly installed with the required protection.
- 3) Double confirm the charger is installed properly.
- 4) No components or other items have been left inside of the charger.

3.2 Start and stop charging by your charge card

Operation



1) Choose a compatible plug.

2) Connect the plug to the EV.

3) Swipe the authorized RFID card to start charging. The authorized RFID can be used directly without any activation or setting.

4) Once charging commences, status information is displayed on the screen. The following illustrations demonstrate the start to near complete charging procedure.

5) Swipe the authorized RFID card to stop.

6) Return the plug to the holder.

4 Indication and Fault

4.1 Indicator Status

	LED Light Status	Description of Charging status
	Green light on	The Charger is power on.
	Yellow light on	The charger is working for EV.
	Red light on	Failure or alarm status, unable to charge.

4.2 Fault Code and Resolution(LCD display)

Power cabinet fault	
Fault Status	**Troubleshooting suggestion**
Circuit breaker Status	Check whether the circuit breaker of power cabinet is opened.
Smoke sensor status	Check whether the device in the power cabinet is damaged and burning.In this situation,must cut off the power of power cabinet immediately.
Water sensor	Check the bottom of power cabinet is wet or not,whether the charge station will leak water.
Input undervoltage	Check whether the input voltage of the power cabinet is too low.
Communication of Charge Module	Communication with the AC/DC module of the power cabinet is broken.
Over-Temperature of Equipment	Stop using for a period of time and wait for the charge station to return to the normal temperature range and restart.
AC Contactor status	Check whether the AC connector of the power cabinet is broken that could not close or open.
Cabinet Door	The access door of charge station is opened.
Input overvoltage	Check whether the input voltage of the power cabinet is too high.
Input phase loss	Check whether the input voltage that three phase of the power cabinet is normal.
Switching module	Check whether switch board is working well by working LED of it.

Charge station fault	
Fault Status	**Troubleshooting suggestion**
Over voltage of Power Supply	Check whether the connecting cable of the card reader is loose.
Under voltage of Power Supply	Check whether the input voltage of the power cabinet is too low.
Temperature of Equipment	Stop using for a period of time and wait for the charge station to return to the normal temperature range and restart.
Circuit breaker Status	Check whether the connecting cable of the card reader is loose.
Emergency	Reset emergency stop button of power cabinet.
Card Detector	Check whether the connecting cable of the card reader is loose.
Control System	Please contact professional after-sales personnel to deal with it.
Cabinet Door	The access door of charge station is opened.
SPD	Check whether the SPD of charge station is abnormal.
Water sensor	Check the bottom of charge station is wet or not,whether the charge station will leak water.
Storage state	Please contact professional after-sales personnel to deal with it.
Communication of Charge Module	Communication with the AC/DC module of the power cabinet is broken.

Power cabinet alarm	
Alarm Status	**Troubleshooting suggestion**
SPD	Check whether the SPD of power cabinet is abnormal.

HPC Charge station fault	
Fault Status	**Troubleshooting suggestion**
High Coolant Level	Drain according to the instruction manual.
Low Coolant Level	Refueling according to the instruction manual.
Liquid Level Sensor Fault	Check according to the instruction manual.
NTC Sensor Fault	Check according to the instruction manual.
Other Fault: Please contact the manufacturer.	

5 Warranty and Service

5.1 Customer Service

We can provide customers with professional product advice and purchase options. All emails will be responded within 48 hours during working days. We provide online customer service in multiple languages. You can communicate with ease, or contact us through email anytime.

5.2 After Service

Please refer to the contract for the warranty period.The specific after-sale plan will be free for replacement or charging a certain maintenance cost according to the specific situations. During the warranty period, customers can apply for replacement or free maintenance for the fault damage caused by product quality. For the fault damage caused by other reasons (human factors, natural factors, etc.), we will provide paid maintenance services.

5.3 Contact Us

SINO is a subsidiary of Zhuhai Pilot Technology Co.,Ltd.If you need to report for repair or inquire about charging product service, please call the company's customer service hotline +86 15361531855 or through the official email info.sino@pmac.com.cn contact us.