

Floor-mounted AC-DC DC Multi-gun charging Pile
Operation and Installation Manual



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1. Introduction and General Information

1.1 Disclaimer and Warranty Conditions

The equipment manufacturer shall not be liable for any damages, losses, costs or expenses resulting from improper handling, installation and use of the products described in this document, in particular losses resulting from failure to comply with the instructions of this document and other applicable regulations and standards, such as installation, transport, occupational health, digital safety and other safety standards.

1.2 The Features and Objectives of This Document

The document applies to these devices (including all variants and options): NEDF Ultra Series

The purpose of this document is to provide the safety information needed to accomplish the following tasks:

- Transportation and storage equipment
- Install the device
- Operate the equipment
- Perform basic maintenance tasks



Note:

This manual only covers the charging station itself, and does not include the part of other devices (e.g. external protective devices, electric vehicles, etc.) that are connected to it. Some of the component information provided in this manual was taken from the original supplier documentation. Please consult the supplier's website for complete and up-to-date documentation.

1.3 Language

The original description of this document was written in English (EN-US). All other language versions are translations of the original instructions and the manufacturer is not responsible for errors in the translation. If in doubt, please refer to the original English version.

1.4 How to Use This Document

Make sure you understand the structure and content of this document. Read the safety section and make sure you understand all the instructions. Follow the steps in the program exactly and in the correct order.

1.5 Abbreviation

Abbreviation	Description
EV	Electric car
EVSE	Electric vehicle power supply equipment
AC	Alternating current
DC	Direct current
CCS	Combination charging system, a standard charging method for electric
CPU	Central Processing Unit
HMI	Human-Machine Interface
MCB	Miniature circuit breakers
MID	Measuring Instruments Directive
NFC	Near-field communication
OCPP	Open Charging Pile Protocol
OR	Protective ground wire
PPE	Personal protective equipment
RCD	Residual current device
RFID	Radio Frequency Identification (RFID) technology
SPD	Surge protection devices

1.6 Term

Term	Description
Cabinets	The enclosure of the EVSE, including the internal components
Charging power	Converts alternating current (AC) to direct current (DC) for use by the charging
Grid suppliers	A company responsible for transporting and distributing electricity
Local rules	All rules that apply to the entire life cycle of EVSE, including local national laws and
Open Charging Pile	An open standard for communicating with charging stations
Protective equipment	Personal protective equipment to protect individuals from injury or electric shock when performing commissioning, operation, and maintenance activities. Guards
Site Operator	The entity responsible for the day-to-day control of the Electric Vehicle Supply
Qualified installers	An installer is a qualified person who has installed an electric vehicle charging equipment (EVSE) in accordance with applicable local regulations and has a good understanding of the device and its safe installation. Qualified installers follow all local regulations as well as instructions in operating and installation manuals.
Owner	The legal owner of electric vehicle charging equipment (EVSE).
User	People who use electric vehicle charging equipment (EVSE) to charge their electric

2. Safety Precautions

Before transporting, storing, installing, operating, and maintaining the equipment, please read this manual carefully, strictly follow the manual and equipment labels, and pay attention to relevant safety precautions.

The safety precautions mentioned in this manual are only valid when used in conjunction with the additional safety standard measures applicable to the installation site, and the instructions provided in the manual do not replace:

- Safety devices
- Technical and operational data labels on the product
- The current safety regulations of the country of installation



Note:

Operators must read and follow the technical information and instructions provided in the manual and any additional documentation.

2.1 Responsibilities and Qualifications of The Subject

Operators responsible for installation, operation, maintenance and service must:

- Comply with applicable local laws and regulations.
- Before starting work, identify any possible hazards and conduct risk assessment and elimination.
- Operate the appliance with the protective device installed and ensure that all protective devices are reinstalled after any installation or maintenance operation.
- Prepare and execute an emergency plan that instructs people on what to do in case of an emergency related to charging equipment or other on-site emergencies.
- Ensure that all employees, owners, and third parties are qualified to perform their jobs in accordance with applicable local laws and/or regulations.
- Ensure that there is enough space around the equipment for safe handling, commissioning, maintenance, and installation activities.

2.2 Environmental Conditions

This device has a fast charging function and is suitable for eligible indoor and outdoor environments.



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The manufacturer is not responsible for any risks and damages associated with any use other than those described in this manual. The device should only be used for its intended purpose as set forth in this manual.

2.2.1 Precautions

- Please do not place the charging pile in a flammable environment or under impermissible environmental conditions.
- The installation and use of equipment need to consider specific conditions such as temperature and humidity, and it is strictly forbidden to place it in a high humidity or high temperature environment, and it is strictly forbidden to smoke and fire (open flames), ensure smooth ventilation, and do not place it in places with corrosive gases or excessive dust.
- Avoid direct sunlight or near heat sinks. For outdoor use, it is recommended to install an awning on top of the charging pile to prevent direct sunlight, which may cause the charging pile to overheat during operation.
- Do not place any heavy objects on the charging pile.
- A short circuit inside the charging station may cause a risk of electric shock or fire, so do not place a container with liquid above the charging station to avoid such hazards.



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If the integrity of the charger is compromised, do not proceed with the installation. If you notice any abnormal operation, do not use the device.

2.2.2 Residual Risk

Despite warnings and safety systems, there are still some residual risks that cannot be eliminated. These risks are listed in the table below, with some recommendations to prevent them:

Risk Analysis and Description	Suggest Action
Noise pollution	Assess the environment or installation site in strict accordance with the standards of the relevant specifications
The electrical energy stored in the components can produce dangerous discharges	Wait at least 15 minutes after turning off the EVSE and perform the total power-down procedure before performing work on the charger's internal components
EVSE contains components and circuit boards that are sensitive to electrostatic discharge	ESD precautions are taken to protect electronic components from damage during installation and maintenance of EVSE
Overheating of components can cause burns	Use appropriate personal protective equipment (PPE). Before turning on the EVSE, make sure the parts have cooled
The EVSE cooling system air ducts are blocked, causing the equipment to overheat	Clean the cooling vents or radiators to ensure that sufficient air can enter the unit to cool
The security label cannot be read	Clean the EVSE, labels, and installation environment regularly
The installation is incomplete, and the EVSE or its components are installed temporarily	Prevent unauthorized access to the installation area by setting up obstacles and placing warning signs indicating the status of the EVSE
Inadequate staff training	Pre-job training is required and training is strengthened
Unless expressly stated by the vehicle manufacturer, no extension cords, adapters, Y-cables, or similar devices may be used	Manufacturer- and national guidelines and regulations regarding charging stations must be taken into account
User-owned AC cables may be damaged	Before connecting the cable to the electric vehicle charging equipment (EVSE), check the integrity of the cable and connector

2.3 General Signs and Signal Words

In manuals and on equipment, hazardous or hazardous areas, components are identified by symbols, icons, or labels to indicate the precautions to be followed during installation, operation, and maintenance of equipment. The safety symbols are shown in the following table:

Symbol	Description
	General Risks
	With the signal word "dangerous": failure to follow instructions could result in injury or death.
	With the signal word "warning": Failure to follow instructions may result in injury.
	With the signal word "Caution": Failure to follow instructions may result in damage to EVSE or other property.
	Voltage with a risk of electric shock
	Hot surfaces can lead to the risk of burn injury
	With the signal word "Attention": Caution provides more data and makes the step easier to perform
	Information about the condition of the EVSE before starting the program

	Requirements for the personnel required to perform a procedure
	General safety guidance for the procedure
	Make sure to disconnect the power supply to the EVSE
	Electrical technical expertise is required according to local regulations
	alternating current
	direct current
	Protective Ground (PE)
 	A sign indicating that the manual must be read before installing the EVSE
	Waste of electrical and electronic equipment
	Center of gravity (CoG)

2.4 Personal Protective Equipment

Personal protective equipment (PPE) refers to clothing or equipment designed to protect and reduce an employee's exposure to workplace hazards and injuries.

Symbol	Description
	Protect the garment
	Safety gloves
	Safety shoes
	Protect your eyes
	Work hard hats

2.5 Safety Instructions

- Follow the steps indicated in this manual to perform the procedure.
- You may perform any services as a qualified installer or for a user of the device only if you are fully qualified.



DANGER

In the event of any inconsistency or contradiction between any of the requirements or procedures in this manual and local laws and/or regulations, please observe the stricter conditions.

2.5.1 Safety Instructions - Transportation of Equipment



- Wear the correct personal protective equipment.
 - Lifting equipment should only be used to lift the equipment as specified in this manual.
- 
- Consider the weight and center of gravity of the charging station.
 - Follow the applicable safety instructions for lifting equipment or forklifts.

2.5.2 Safety Instructions - Installation of the Equipment



- Wear the correct personal protective equipment.
- Before proceeding with any installation activities, make sure that there is no voltage on the input cable.
- During installation, ensure that untrained personnel maintain a safe distance.
- Use sufficiently specifications and insulated wires to handle rated current and voltage needs.
- Ensure that the load capacity of the grid meets the requirements of the equipment.
- Adopt designated safety devices and protective equipment in accordance with local regulations.
- Ensure that the connection to the charging station complies with all applicable local regulations.



Additional instructions during ground operations:

- Ensure that the equipment used in the ground works has been certified.
- Comply with all applicable local regulations.

2.5.3 Safety Instructions - Maintenance of Equipment



- Wear the correct personal protective equipment.
- Make sure that there is no supply voltage on the input cable throughout the cleaning or maintenance process.
- During cleaning or maintenance, ensure that unauthorized personnel keep a safe distance.
- Cleaning with products that may corrode equipment parts or generate static electricity is strictly prohibited.
- If safety or protective devices must be removed for cleaning or maintenance, restore them to their original condition as soon as the work is complete.
- There is high voltage in the power switch cabinet and charging station, and it is strictly forbidden to open the charging pile cabinet at will.



2.5.4 Safety Instructions - Use of Charging Piles



- It is strictly forbidden to use equipment with faulty or disabled identification.
- Unless expressly stated otherwise, the appliance or parts of the appliance may not be connected to other machines or equipment.



- It is strictly forbidden to arbitrarily modify the operating parameters in order to change their performance or change their isolation.
- Do not use the device if it presents a safety hazard.
- This includes, but is not limited to, the following: severe weather such as thunderstorms; damage to the safety fence; The EV charging cable or connector is damaged; There is a risk of an accident or fire in the vicinity of the charging station; Water got into the device; The device shows signs of impact, lightning strike, or other damage.

2.6 Discard The Device or Part of The Device

Hazardous substances may be present in equipment and equipment parts, and improper waste disposal can have a negative impact on the environment and human health. Proper disposal of used equipment and parts helps to promote the reuse and recycling of materials and protect the environment.



- Comply with local laws and regulations when discarding parts, packaging materials, or charging stations.
- Electrical and electronic equipment is disposed of separately in accordance with the regulations for the disposal of waste electrical and electronic equipment.
- At the end of use, please do not mix or dispose of the device with household waste, and should hand over the device to a waste collection point in the local community for recycling.
- For more information, please contact your country's government waste management department.

2.7 Cybersecurity

Charging stations are connected and transmit information and data via a network interface, and it is the sole responsibility of the owner to provide and continuously ensure a secure connection between the charging station and the owner's network or any other network. The Owner uses the Embedded Software at its own risk and is responsible for the quality, accuracy and performance.

3. Product Overview

3.1 Overview

The NEDF-Ultra series floor-mounted AC-DC charging pile is a DC charging equipment that specializes in providing fast charging services for electric vehicles, integrating human-computer interaction, charging control, metering and billing, fee payment, remote communication and intelligent safety protection. The product series has a variety of power configurations, equipped with three or four gun charging connectors, and the charging interface has different standard configurations such as national standard (GB/T), European standard (CCS2), American standard (CCS1) and Japanese standard (CHAdeMO), which can be freely combined with different standard charging interfaces.

3.1.1 Product Model Description

Example: NEDF-Ultra-270K-T-G/1/2

NE: Vendor D:DC F: Floor-mounted Ultra: Multi-gun Series

Power: 270\320\360\480 kW

T/F:Three Guns/Four Guns G/1/2/C:GB/T CCS1 CCS2 CHAdeMO

3.1.2 Model nameplate - device identification

A	The model name of the electric vehicle power supply equipment
B	The internal number of the electric vehicle power supply device
C	The serial number of the electric vehicle power supply equipment
D	The date of manufacture of the electric vehicle power supply equipment
E	The main technical parameters of the power supply equipment of electric vehicles
F	Producer
G	manufacturer
H	CE marking

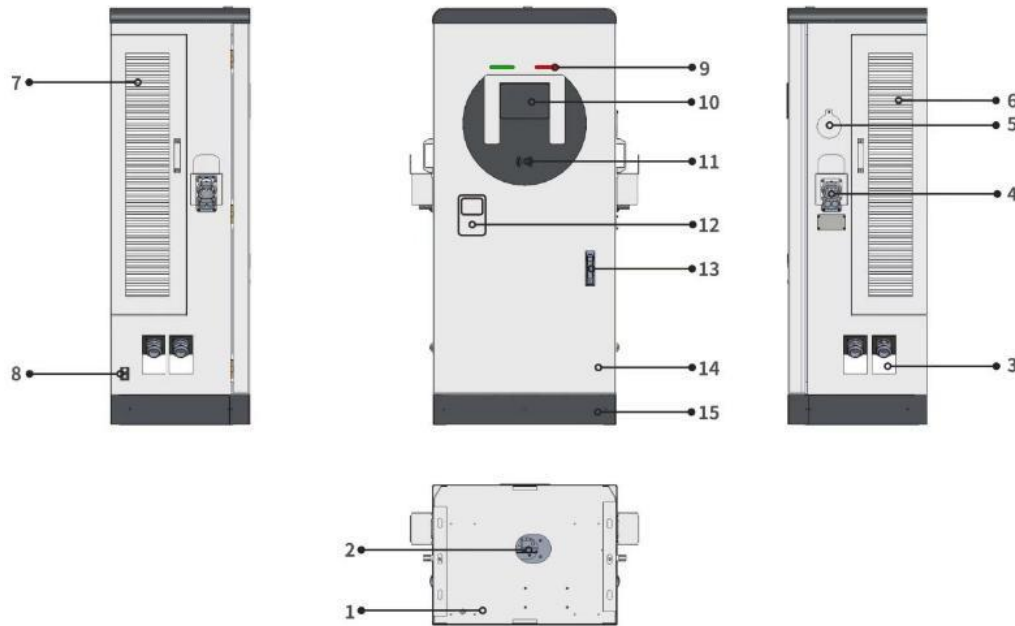


Note:

Please find the nameplate on your Electric Vehicle Charging Equipment (EVSE) to view the relevant data.

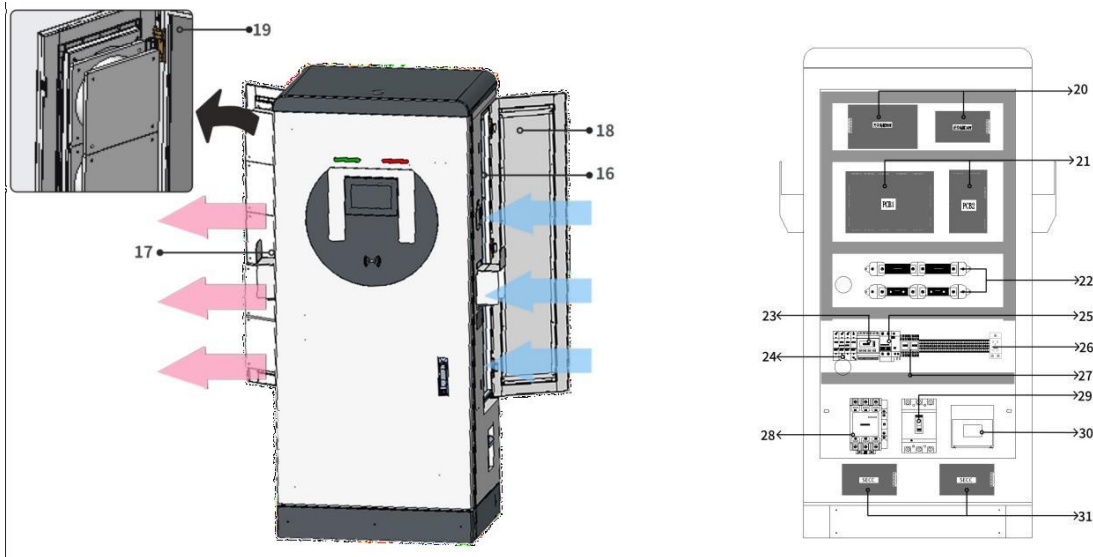
3.2 Product Overview

3.2.1 Appearance and Composition



Ref.	Parts	Function
01	Removable base	Cover the lower part of the EVSE
02	AC cable inlet	Grid AC cable entry
03	Connector cable outlet	The cable connection between the charging gun and the pile body
04	Charging cable socket	Standby placement location for the charging gun
05	Panic button	In an emergency, press the emergency stop button quickly to immediately stop the charger operation
06.07	Module compartment door	Enter the EVSE module compartment
08	Grounding Copper Plate	Effectively connect the EVSE equipment to the ground to form an electrical grounding system
09	Indicator light	Different colors and flashing patterns provide users with information about the status of the EVSE device
10	Touchscreen display	Control and monitor charging sessions
11	RFID readers	Read information from RFID cards
12	POS machine	For expense settlement
13	Front door handle	Manage the EVSE front door
14	Front door	Enter the inside of the EVSE
15	Base baffle	Closed base

3.2.2 Overview of Air Cooling System and Internal Structure



Ref.	Parts	Function
16	Air intake	Cooling air incomes to cool the EVSE internal module
17	Air outlets	The air flow ensures that the components inside the EVSE do not overheat
18	Air inlet filter cotton	Filter the air entering the EVSE
19	Exhaust fan	Hot air is discharged from the EVSE
20	Switching power supply box	It provides control power for the control system and low-voltage auxiliary power supply to the high-voltage distribution box
21	Core control board	The motherboard of the core control system for the work of the charging pile
22	AC access terminals	AC power access
23	DC meters are used for MRUs	Read the DC current value to be sent to the meter reading unit
24	AC surge protection device	Protects the AC input line from overvoltage
25	Auxiliary power circuit breakers	Protect and isolate AC auxiliary lines
26	Alternate AC outlets	AC power backup interface
27	Relays	Control the current interruption between the charging station and the electric vehicle
28	AC contactors	Control the on/off of the AC power supply of the charging circuit, start and stop the charging process of the charging pile
29	Molded case circuit breaker	Isolate the AC input voltage
30	AC meters	The AC current value is read to be sent to the meter reading unit
31	SECC	Communication protocol conversion box

3.3 Charging Indicator



- Solid red: Working status
- Flashing green: The corresponding charging cable is connected and ready to charge
- Solid green light: The corresponding charging terminal is working, do not pull it out
- Yellow light: The device is faulty and the service is suspended

3.4 Mode of Operation

This device can support local operation, RFID card swiping and remote APP authorization and other operation modes:

- Local mode: Enter a password to authorize
- Offline charging mode: RFID card authorization
- OCPP mode: remote control operation through the Internet background

3.5 Billing Features

The energy charged by an electric vehicle is metered, and a precision energy meter is configured to measure the total energy consumption of the charging pile and the electric vehicle. Metrological information is displayed via a display on the front panel.

3.6 Charging Features

The device can provide cloud payment authorization based on radio frequency identification (RFID), POS and OCPP for settlement and charging.

3.6.1 RFID - Authorized Payment

The device can be authorized to be used and charged based on radio frequency identification (RFID).

3.6.2 POS payment (Used in Some Regions)

Devices can optionally be equipped with POS payment terminals, enabling charging point operators to offer secure payment methods and enhance the customer experience.

3.6.3 Cloud Payments

Merchants can realize cloud payment through APP based on OCPP.

3.7 Communication Features

Support Ethernet, 4G wireless, WIFI and other network methods for communication. With support for the Open Charging Point Protocol (OCPP), merchants can integrate with their existing management systems.

3.8 Storage Recording Function

The charging equipment has the function of recording event information data, which can be selected to enter the query through the main menu of the touch screen.

3.9 Self-test and Self-recovery Functions

The equipment has self-test and fault alarm functions. After troubleshooting, the function can be automatically restored, but charging will not be automatically restored. The non-volatile memory charger is equipped with a power-off recording function for field data, which can prevent the loss of charging data in the event of an unexpected power failure.

3.10 Security Protection Features

It is equipped with functions such as emergency stop, reverse connection, anti-misoperation, over-voltage, under-voltage, abnormal charging, over-current, short circuit, leakage, over-temperature protection, lightning protection and other safety protection functions

4. Technical Parameter Standards

4.1 Detailed Technical Data

4.1.1 Power 90-160kW Equipment Detailed Technical Parameters

Power		90KW	120KW	160KW
Input characteristic	Voltage range	AC380V±20%		
	Enter the connection	3 phase + N + PE		
	Operating frequency	45-65HZ		
	Power factor	≥ 99% at normal output power		
	Input current	0-135A	0-180A	0-240A
Output characteristic	Output power	≤90KW	≤120KW	≤160KW
	Auxiliary power supply	GB standard: compatible with 12V European and American Japanese standard: 12V		
	Voltage range	DC200-1000V		
	Output current	0-250A	0-250A	0-300A
	Number of charging connectors	3	3 or 4	4
	Rated power distribution	Semi-flexible dispensing		
	The length of the charging cord	Standard 5 m (optional)		
	Cable type	Air cooling		
Environment condition	Temperature range	Operating: -20~50°C; 25°C (type); Storage: -40~85°C; 25°C (type); Intelligent derating of shell temperatures over 70°C		
	Humidity range	5~90RH%; No condensation		
	altitude	≤2000M		
	Working environment	Indoor/Outdoor		
	Ingress protection	IP54		
Size weight	Machine size	700x500x1650mm (excluding stock, charging gun and other protruding parts).		
	Housing material	Galvanized sheet 1.5/2.0		
	Net weight of the product	About 280KG		
	Package size	1020 x 680 x 1980mm		
	Product weight	About 320KG		
Screen	Screen size	7-inch color touchscreen		
	Screen languages	Chinese, English, Russian, Indonesian, Portuguese (other languages can be customized)		
Charge standard	GB/T	GB/T 18487, GB/T 20234, GB/T 27930		
	CCS1 / CCS2	EN61851 、 EN62196 、 ISO15118 、 DIN70121		
	HAdeMO	CHAdeMO		
Protection features		Emergency stop protection; Input over/under voltage protection; Output overvoltage protection; Over-temperature protection; Overcurrent protection; Short-circuit protection; leakage protection; Integrated surge protection; Reverse battery polarity protection; insulation monitoring and protection;		
Charging method		Password initiation, swiping permission card, OCPP remote initiation		
Charging mode		Local mode, offline mode, OCPP network mode		
Charging Method		RFID; POS machines; Cloud charges		
Networking		WIFI/Ethernet/4G		
Installation:		Floor		

4.1.2 Power 180-240Kw equipment detailed technical parameters

power		180KW	240KW
Input characteristic	Voltage range	AC380V±20%	
	Enter the connection	3 phase + N + PE	
	Operating frequency	45-65HZ	
	Power factor	≥ 99% at normal output power	
	Input current	0-280A	0-360A
Output characteristics	Output power	≤180KW	≤240KW
	Auxiliary power supply	GB standard: compatible with 12V European and American Japanese standard: 12V	
	Voltage range	DC200-1000V	
	Output current	0-300A	0-300A
	Number of charging connectors	3	3 or 4
	Rated power distribution	Semi-flexible dispensing	
	The length of the charging cord	Standard 5 m (optional)	
	Cable type	Air cooling	
Environmental conditions	Temperature range	Operating: -20~50°C; 25°C (type); Storage: -40~85°C; 25°C (type); Intelligent derating of shell temperatures over 70°C	
	Humidity range	5~90RH%; No condensation	
	altitude	≤2000M	
	Working environment	Indoor/Outdoor	
	Ingress protection	IP54	
Dimensional weight	Machine size	700x600x1800mm (excluding protruding parts such as butt and charging gun).	
	Housing material	Galvanized sheet 1.5/2.0	
	Net weight of the product	About 380KG	
	Package size	1020 x 780 x 2030mm	
	Product weight	About 420KG	
screen	Screen size	7-inch color touchscreen	
	Screen languages	Chinese, English, Russian, Indonesian, Portuguese (other languages can be customized)	
Charging standards	GB /T	GB/T 18487, GB/T 20234, GB/T 27930	
	CCS1 / CCS2	EN61851 、 EN62196 、 ISO15118 、 DIN70121	
	HAdEMO	CHAdEMO	
Protection features		Emergency stop protection; Input over/under voltage protection; Output overvoltage protection; Over-temperature protection; Overcurrent protection; Short-circuit protection; leakage protection; Integrated surge protection; Reverse battery polarity protection; insulation monitoring and protection;	
Charging method		Password initiation, swiping permission card, OCPP remote initiation	
Charging mode		Local mode, offline mode, OCPP network mode	
Charging Method		RFID; POS machines; Cloud charges	
Networking		WIFI/Ethernet/4G	
Installation:		Floor	

4.1.3 Power 270-360kW Equipment Detailed Technical Parameters

Power		270KW	320KW	360KW	480KW
Input	Voltage range	AC380V±20%			
	Enter the connection	3 phase + N + PE			
	Operating frequency	45-65HZ			
	Power factor	≥ 99% at normal output power			
	Input current	0-410A	0-485A	0-545A	0-720A
Output characteristics	Output power	≤270KW	≤320KW	≤360KW	≤480KW
	Auxiliary power supply	GB standard: compatible with 12V European and American Japanese standard: 12V			
	Voltage range	DC200-1000V			
	Output current	0-300A	0-300A	0-300A	0-300A
	Number of charging connectors	3	4	3 or 4	3 or 4
	Rated power distribution	Semi-flexible dispensing			
	The length of the charging cord	Standard 5 m (optional)			
	Cable type	Air cooling			
Environmental conditions	Temperature range	Operating: -20~50°C; 25°C (type); Storage: -40~85°C; 25°C (type); Intelligent derating of shell temperatures over 70°C			
	Humidity range	5~90RH%; No condensation			
	altitude	≤2000M			
	Working environment	Indoor/Outdoor			
	Ingress protection	IP54			
Dimensional weight	Machine size	800x700x1800mm (excluding protruding parts such as butt and charging gun).			
	Housing material	Galvanized sheet 1.5/2.0			
	Net weight of the product	About 440KG			
	Package size	1120 x 880 x 2030mm			
	Product weight	About 490KG			
screen	Screen size	7-inch color touchscreen			
	Screen languages	Chinese, English, Russian, Indonesian, Portuguese (other languages can be customized)			
Charging standards	GB /T	GB/T 18487, GB/T 20234, GB/T 27930			
	CCS1/ CCS2	EN61851 、 EN62196 、 ISO15118 、 DIN70121			
	Japanese Standard (J)	CHAdeMO			
Protection features		Emergency stop protection; Input over/under voltage protection; Output overvoltage protection; Over-temperature protection; Overcurrent protection; Short-circuit protection; leakage protection; Integrated surge protection; Reverse battery polarity protection; Insulation monitoring protection			
Charging method		Password initiation, swiping permission card, OCPP remote initiation			
Charging mode		Local mode, offline mode, OCPP network mode			
Charging Method		RFID; POS machines; Cloud charges			
Networking		WIFI/Ethernet/4G			
Installation:		Floor			

4.2 Charging Interface Standards and Combinations

Combination mode of different ports



5. Instructions

5.1 Storage and Transportation

5.1.1 Storage

Please store the charging pile equipment in accordance with the relevant specifications of this manual. Do not expose the charging pile equipment to places with adverse weather conditions (such as rain, snow or high humidity environments) and avoid storing in environments containing alkaline or other corrosive or explosive gases.

5.1.2 Transport and Handling

The equipment must be packaged in complete condition before leaving the factory, and must be operated in accordance with the requirements of the specification during transportation, loading and unloading, so as to avoid strong shock and vibration to prevent damage to the outer packaging of the product. It is the sole responsibility of the transporter to deliver the charging station equipment to the vicinity of the site and move the equipment to its final location.

Note



The manufacturer shall not be liable for any damage caused by improper storage, handling and transportation of the equipment, in particular as a result of failure to comply with these instructions and other applicable regulations and standards, such as transport, occupational health and other safety standards.



DANGER

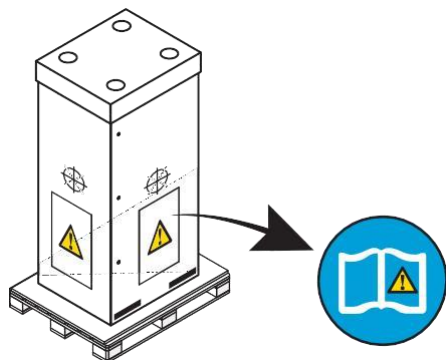
Handling personnel must wear all appropriate and applicable personal protective equipment (PPE) and comply with all applicable health and safety measures applicable to the work area.

5.1.3 Packing Specification Inspection

- Check and follow the instructions of the symbol on the package:

Symbol	Description
	Handle with care
	fragile
	Keep dry
	barycenter
	This is the upward side
	Do not stack
	Do not pour

- Read and follow the handling and safety instructions marked on the package.



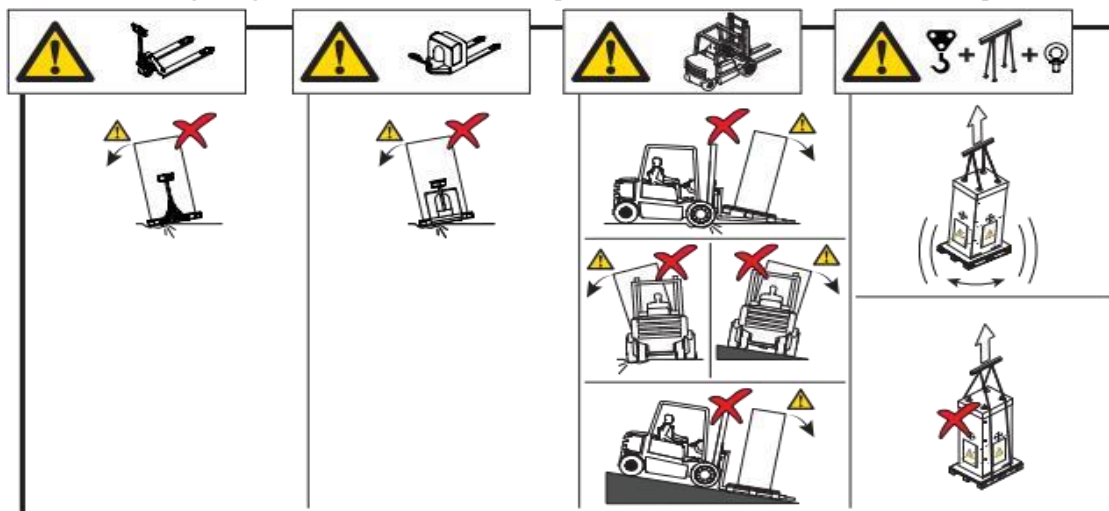
- Inspect the outer packaging of the product for damage or scratches.

After receiving the goods, if you find that the outer packaging of the equipment is damaged or crushed, please do the following:

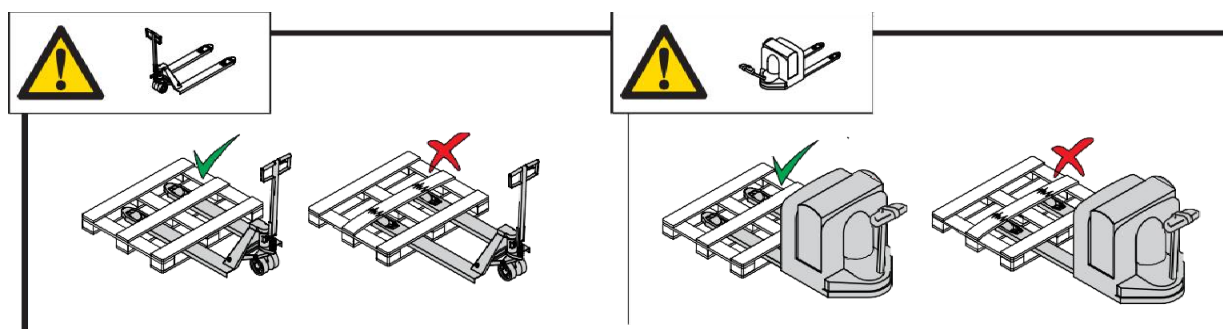
- Inspect the equipment, unpacking it if necessary to check the extent of damage to the equipment, and take photos as evidence.
- Record the damage on the shipping documents (e.g. CMR/bill of lading or AWB/air waybill) before receiving the goods.
- Accept the equipment with the reservation and return the shipping documents with the reservation of the damage indication to the carrier.

5.1.4 Equipment Loading and Unloading Specifications

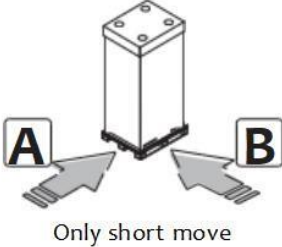
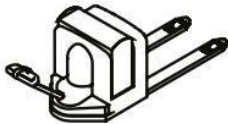
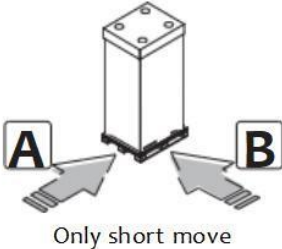
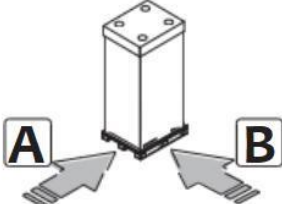
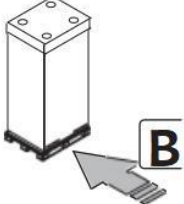
- Before handling the goods, ensure that the workplace conditions are suitable for safe operation.



- The pallet must be intact to ensure the safety of the product during transportation and handling.

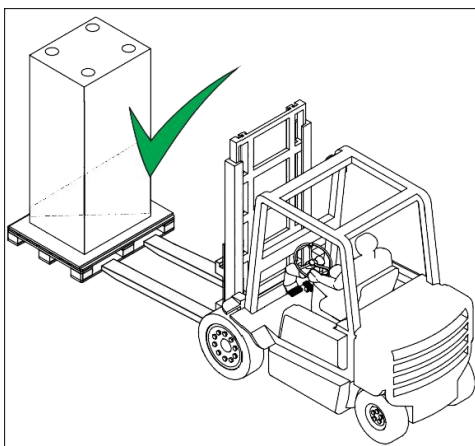


- Check the weight on the shipping documents.
- Check the center of gravity position before lifting the device to avoid tipping over.
- Check that the equipment used to move or lift the charging station is suitable.

Equipment		Movement	Lifting
• Pallet Jack			
• Pallet Stacker			
• Forklift Truck • Wheel loader • pallet fork			

5.1.5 Short-distance Movement of The Device

- Move the forks of the forklift into the gap on the side of the cabinet.
- Move the cabinet to the correct position.



5.2 Unpack and Check

5.2.1 Check Content

- Check whether all product accessories are complete, and the packing list is as follows:

Serial number	Name	Quantity	Remark
1	DC charging pile	1	The contents of this packing list refer to the equipment and materials included in the box
2	Factory Report (Certificate of Conformity)	1	
3	Instructions	1	
4	Key	1	

- Inspect the appearance of the product for abnormalities such as scratches, rust, cracks, or deformation.
- Check that the display and charging connector are in good condition, and that the charging connector cable is not damaged or scratched.
- Open the front door and check if the electrical parts are damaged and if the cable connections are loose or detached.
- Open the left and right side doors and check whether the charging module in the module compartment has fallen off or been damaged.

5.2.2 Execution after inspection

If the inspection finds that the device is damaged or the accessories don't match the list, do the following:

- Notify the transporter immediately and contact the local dealer or manufacturer's service department.
- Take photos as evidence of damage.

5.3 Prepare for Installation

5.3.1 Precautions

There is high voltage and high current inside the charging equipment, in order to ensure personal safety, the relevant regulations should be complied with when installing:

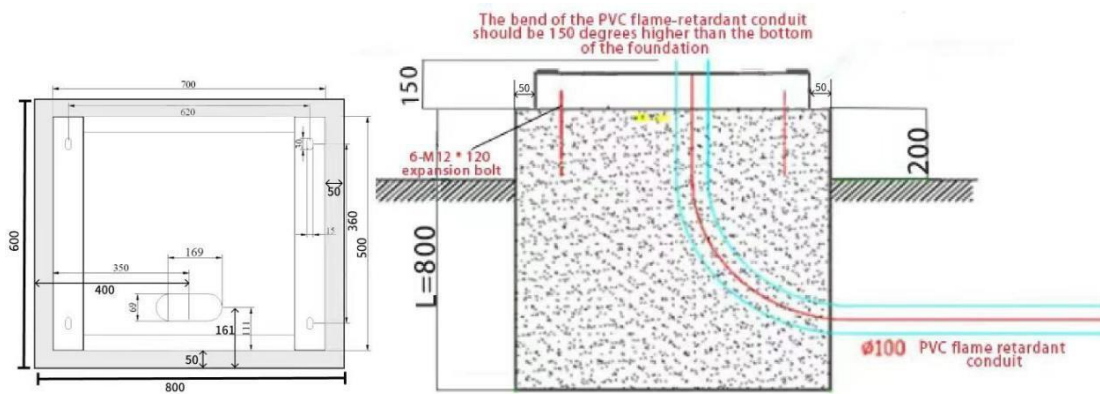
- Only those who have been trained in charging equipment and have sufficient knowledge of DC chargers should install this equipment.
- Safety precautions and local safety regulations should always be observed during installation.
- Ensure that the operating area is not open to unauthorized persons and that those involved in handling the EV charger are fully aware of the safety measures to be taken when handling the EV charger and keep a sufficient distance away from the moving EV charger.
- If operating inside the charger, make sure that the device is not charged.

5.3.2 Foundation Construction

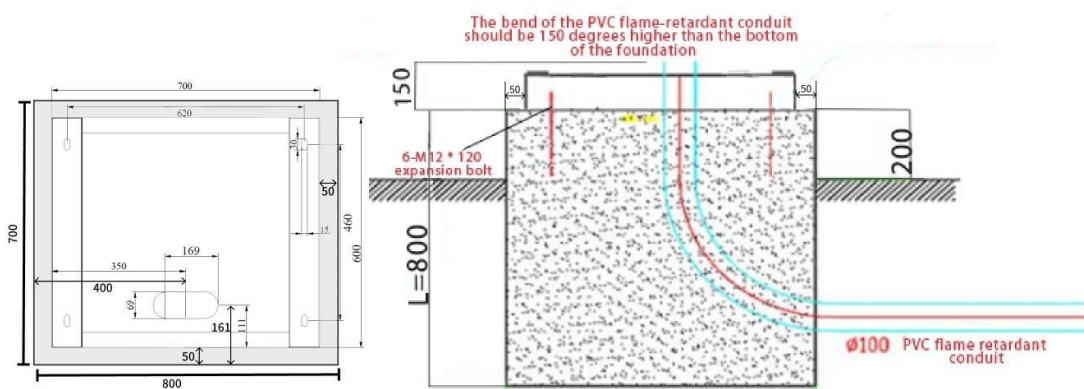
The equipment must be installed on a cement base suitable to support the weight of the equipment, and suitable space needs to be reserved for the construction of the cement base. After the charging pile is installed, there is no obstacle on the front, 100mm away from the obstacle behind the back, and 1000mm away from the obstacle on the left and right sides.

The thickness of the cement base shall not be less than 800mm, the size of the platform shall be greater than the length and width of the charging equipment by more than 50mm, and the base shall be 200mm higher than the floor.

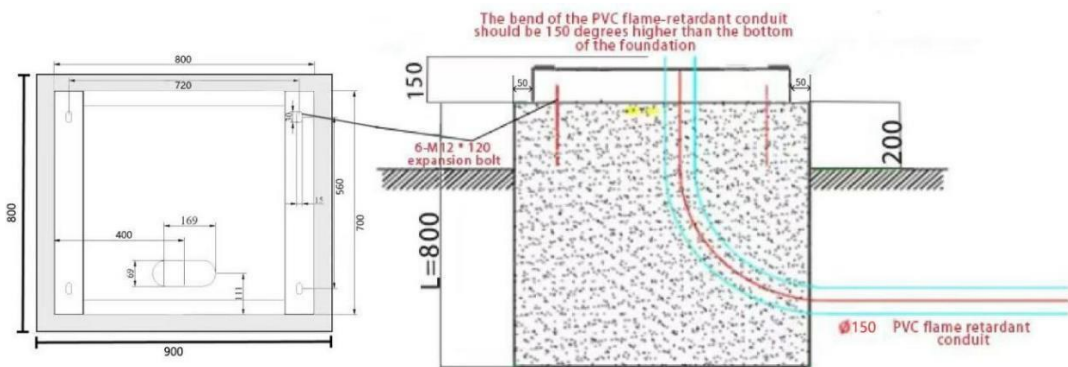
- Schematic diagram of construction specifications for 90-160KW concrete pedestal:



- Schematic diagram of construction specifications for 180-240KW concrete pedestal:



- Schematic diagram of construction specifications for 270-480KW concrete pedestal:



5.3.3 Prepare The Cables

The selection of cables should comply with the relevant specifications of the electrical industry.

Please refer to the following table to determine the cable, the cable selection in the table is for reference only, please refer to the judgment of the professional construction qualification unit:

Power	Enter the cable		
	The Name of the cable	Location	Cable specifications
90kw	AC three-phase A	MCCB L1	$\geq 50\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 50\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 50\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 16\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 16\text{mm}^2$
120kw	AC three-phase A	MCCB L1	$\geq 95\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 70\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 70\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 35\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 25\text{mm}^2$
160kw	AC three-phase A	MCCB L1	$\geq 95\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 95\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 95\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 50\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 35\text{mm}^2$
180kw	AC three-phase A	MCCB L1	$\geq 120\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 120\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 120\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 50\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 35\text{mm}^2$
240kw	AC three-phase A	MCCB L1	$\geq 185\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 185\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 185\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 70\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 35\text{mm}^2$
270KW	AC three-phase A	MCCB L1	$\geq 240\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 240\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 240\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 95\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 50\text{mm}^2$
320KW	AC three-phase A	MCCB L1	$\geq 300\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 300\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 300\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 120\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 70\text{mm}^2$
360kw	AC three-phase A	MCCB L1	$\geq 300\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 300\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 300\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 120\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 70\text{mm}^2$
480kw	AC three-phase A	MCCB L1	$\geq 480\text{mm}^2$
	AC three-phase B	MCCB L2	$\geq 480\text{mm}^2$
	AC three-phase C	MCCB L3	$\geq 480\text{mm}^2$
	AC input N	N rows of copper bar	$\geq 185\text{mm}^2$
	AC PE wire	Grounding copper bar	$\geq 120\text{mm}^2$

5.3.4 Preparation Tools

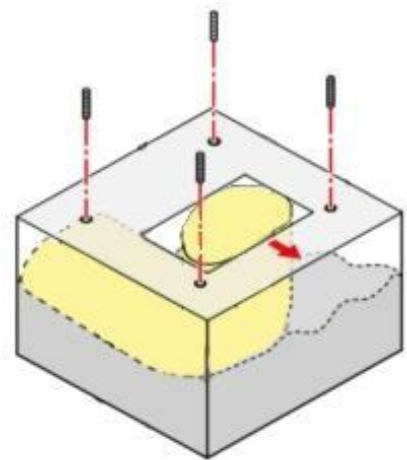
The tools needed to install the charger are shown in the following table, and the tools should be insulated and anti-static before use.

The Name of The Tool	
Adjustable wrench	Sleeve
Steel tape measure	Screwdriver (Phillips), (slotted)
Electrician's knives	Spring pads, flat pads
Cable cutters	Hydraulic crimping pliers
Power socket row	Digital multimeter
Percussion drills	Four M12*120 expansion screws

5.4 Install The Connection

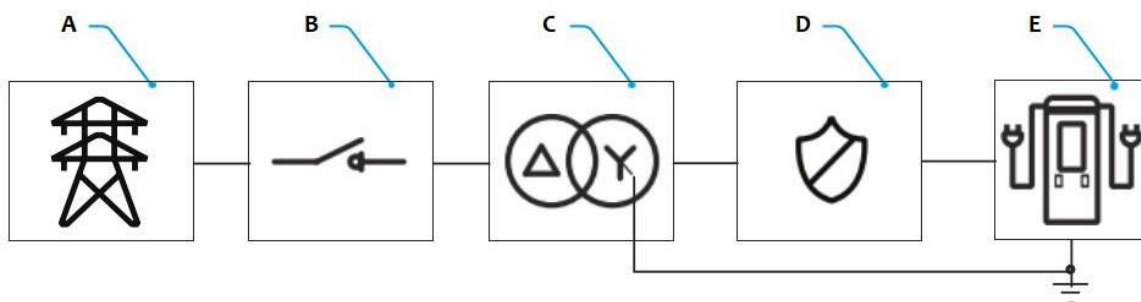
5.4.1 Cabinet Installation

- Open the necessary cable glands for the cable through the cable duct inlet: AC input cables L1, L2, L3 and neutral, protective ground (PE) cables with 700 mm of slack per cable and 2000 mm of slack for Ethernet or signal cables.
- Open the wooden box: remove the top cover and the surrounding sealing plate, pick up the base, unscrew 4 screws, and remove the base cover;
- Use a forklift/crane to move the charger to the cement base, and adjust the position so that the fixing hole of the charger is aligned with the embedded stud of the cement base.
- Fine-tune the charging pile so that it stands upright in the middle of the cement base.
- Pass the cable through the cable inlet at the bottom of the device, and block the incoming wire with rat mud to ensure tightness.
- Install bolts, fix the device.



5.4.2 Electrical Connections

Schematic diagram of AC input and safety protection device:

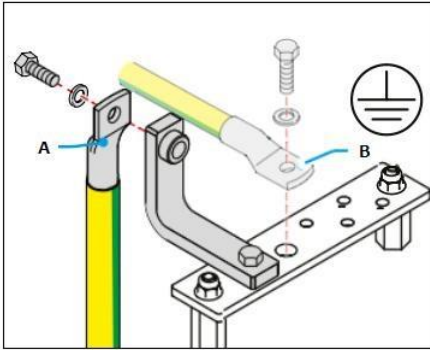


Parameter	Description
A	Medium-voltage power grids
B	Medium voltage circuit breakers
C	Medium/low voltage transformers
D	Low voltage protection device: overcurrent protection, residual current protection (RCD), surge protection device (SPD).
E	EVSE

5.4.3 Connecting Ground and Input Cables

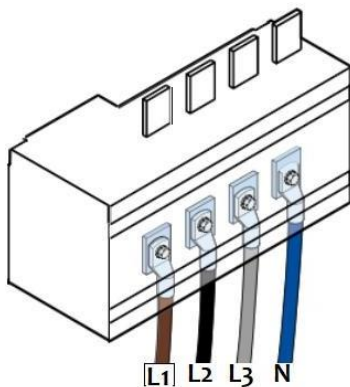
- Open the cabinet door; Thread the grounding cable through the wire jacket on the cabinet baseplate, and reliably connect one end of the grounding cable to the grounding copper bar.
- Connect the input cables and put all switches in the disconnected position before electrically connecting. The installation of the input cable can only be carried out by qualified personnel. Note: It is strictly forbidden to reverse the input (N) and (PE), otherwise the charging equipment will be damaged.

PE wiring diagram:

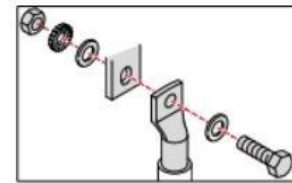


- The equipment is reserved for two grounding protection (PE) copper bars, which are located on the lower bezel inside the chassis and the lower right position on the outside of the chassis.
- Cut the cable to the correct length and install the cable terminals.
- Install the primary protective grounding (PE) cable (A) to the PE busbar (identified by the PE symbol).
- Install a second protective grounding (PE) cable (B) to the PE busbar (identified by the PE symbol) if required or required by local regulations.

Schematic diagram of the wiring position of the live wire and the neutral wire:



Connect the AC cable to the main switch terminal and secure it in the order of the components shown in the diagram.



Please note that the three live wires are not in phase order, but the neutral wire and the ground wire must not be reversed, otherwise there will be a risk of burning out the equipment!!

5.4.4 Internet Connection

Ethernet connection: Internet connection to the field via an Ethernet port.

4G connection: You need to purchase an industrial router that meets the local telecom communication standards and a SIM provided by the local telecom operator, and insert the SIM into the router card slot; Connect the router to the device via the Ethernet port.

5.5 Check and Finish After Installation

After the charger is installed, it needs to be inspected as follows:

5.5.1 Appearance Inspection and Finishing

- Check that the cabinet installation is horizontal, vertical and stable;
- Check whether all bolts are tightened (especially pay attention to the electrical connection part), whether the flat pad and elastic pad are complete, whether they are reversed, etc.;
- Check whether there are unwanted materials in the equipment and remove all excess materials;
- Check whether the cabinet is damaged or painted. If there is paint loss, the paint part needs to be repaired immediately with anti-rust paint to prevent corrosion;
- cleaning the cabinet;
- Check whether the cabinet door opens and closes flexibly, and whether the door lock is normal;
- Check whether the charging gun head can be easily plugged and unplugged;
- Check whether the air inlet filters on both sides of the cabinet are normal.

5.5.2 Electrical Inspection and Finishing

- Check whether all the empty openings and cable models of the charger are correct;
- Check that all cable connections are strong and reliable;
- Check the AC introduction and power distribution: check whether the color of the AC wire is standardized, whether the original wiring of the equipment is fastened, and whether the safety signs of the AC power distribution part are complete;
- Check if the surge protector circuit breaker is reliably closed, and ensure all other switches are in the off position.
- Check whether the wiring is neat and whether the cable binding meets the process specifications.

5.6 Preparation Before Production

Confirm that the equipment is properly installed so that it can be scheduled for commissioning and that the site meets the following requirements:

- The premises of the operation meet the requirements of safety regulations
- The device is properly installed
- AC input power from the grid supplier is available
- During the start-up process, a qualified installer must be present to assist and power the EV charging station on the switchboard.
- Internet access is available via cellular (default) or wired Ethernet connection.

5.7 Query System Parameter Settings

5.7.1 Go to System Settings

- On the main page,click the system settings icon located at the bottom left of the screen to enter the password verification interface.
- Enter the password management password to access the management main interface.The default system password is:77777777.
- Click the corresponding function icon to set the system parameters.
- Under normal circumstances,we will configure the parameters before the product leaves the factory.



5.7.2 Parameter Configuration

• CCU (Charge Control Unit)



- Number of charging cables, display size, language, LOGO, time zone setting



• PCU (Power Control Unit)



- Charge Gun Type Setting: CCS1、CCS2、CHAdemo、GBT



- OCPP and network settings

5.7.3 Data Query

- Charging record inquiry

No.	CardNo.	Starting Time	Ending Time	CostTime	KWH	bSOC	eSOC
1	d3f9130b	24-02-19 07:35	24-02-19 07:41	00:05:20	0.120	10	40

5.7.4 Charge Verification Account Settings

No.	CardNo.	Starting Time	Ending Time	CostTime	KWH	bSOC	eSOC
-----	---------	---------------	-------------	----------	-----	------	------

5.8 Pre-production Testing

5.8.1 Power-on Test

An electric vehicle with a compatible connection entrance must be provided to test the functionality of the charging station. If the charging station has more than one charging connector type, an electric vehicle with each type of charging socket must be available.

5.8.2 Conduct Emergency Shutdown Tests

The emergency shutdown test is a necessary test before going into production.



DANGER: Dangerous voltage

No one other than qualified professionals is authorized to configure or debug the equipment.

- Rate settings

Time	Rate	Time	Rate	Service Fee
00:00	1.00000	12:00	1.00000	Rate: 0.00000 COM
00:30	1.00000	12:30	1.00000	Monetary unit: COM
01:00	1.00000	13:00	1.00000	
01:30	1.00000	13:30	1.00000	
02:00	1.00000	14:00	1.00000	
02:30	1.00000	14:30	1.00000	
03:00	1.00000	15:00	1.00000	
03:30	1.00000	15:30	1.00000	
04:00	1.00000	16:00	1.00000	
04:30	1.00000	16:30	1.00000	

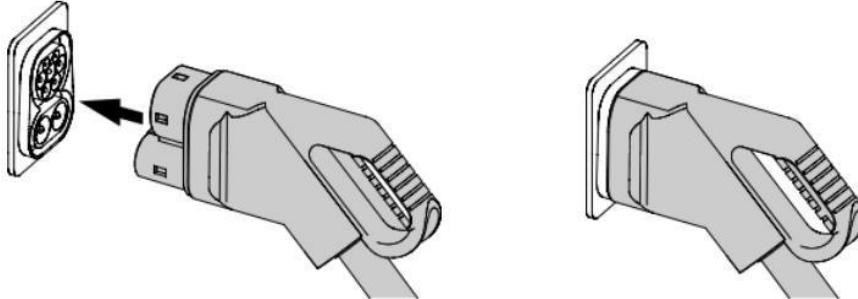
- Alarm record inquiry

No.	Description	Occurrence time
1	Device restart	2024/02/19 07:25
2	Device restart	2024/02/19 07:25
3	Device restart	2024/02/19 07:27
4	1#Screen communication timeout error	2024/02/19 07:27
5	Successful login of the operating platform!	2024/02/19 07:27
6	ManageMent Server Com Failed	2024/02/19 07:31
7	Successful login of the operating platform!	2024/02/19 07:31
8	ManageMent Server Com Failed	2024/02/19 07:32
9	Successful login of the operating platform!	2024/02/19 07:32
10	ManageMent Server Com Failed	2024/02/19 07:33

5.9 Operation and Proper Use

5.9.1 Start Charging Session

- Park your EV where the charging station has access to the connector.
- Turn off the electric car.
- Unplug the EV charging connector from the charging station and plug it into the EV charging socket.



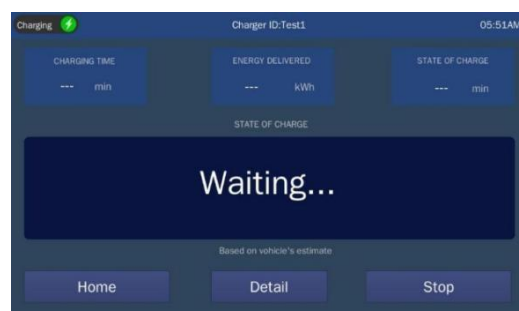
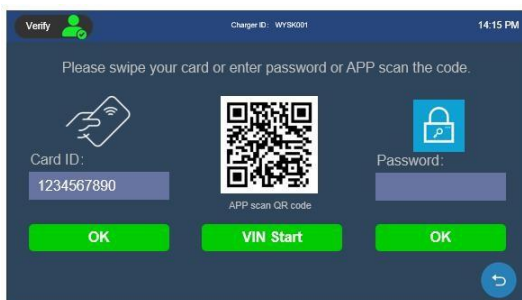
DANGER: Dangerous voltage

During the charging phase, the charging connector will be locked in place to prevent unplugging.

- After plugging in the gun, the icon corresponding to the charging cable on the touch screen turns yellow.



- Select the charging method: swipe the card, operate the APP, or enter the password to authorize the charging.

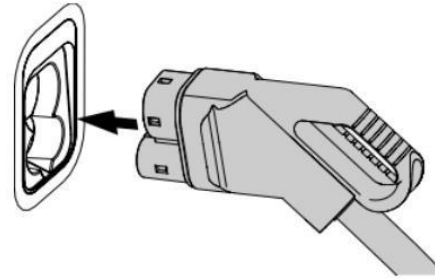


- The device charges the electric car and displays the charging status and charging data on the display.



5.9.2 Stop Charging Session

- Stops automatically when fully charged.
- Stop by swiping the card, entering the password, or authorizing the APP operation, and complete the payment as required.
- Remove the connector from the vehicle and place it back in the connector bracket on the charging station.



5.9.3 Emergency Stop of The Charging Session

The manufacturer has installed an emergency stop button on the right side of the charging station, if there is an emergency, please do the following:

- Press the emergency stop button. The device stops running and the display will turn red.
- Contact the website operator.

If the emergency stop button is accidentally pressed:

- Confirm that the situation is safe.
- Pull the emergency stop button out by twisting the button. The device reactivates and returns to normal operation after a few seconds.

5.10 Precautions for Use

- It is strictly forbidden to directly plug and unplug the charging gun head during charging.
- Never use brute force to pull a locked gun out of the socket to avoid electrical conductors such as metal foreign objects from entering the device.
- Do not open the charging cabinet door while it is in operation to avoid danger.
- It is forbidden to pull or twist the charging cable too hard.
- When plugging in or unplugging the charging gun, pay attention to the force and avoid using excessive force.
- In non-emergency situations, please do not press the panic button at will.
- In the event of abnormal noise, vibration, sparks, smoke or other serious conditions during operation, the emergency button should be pressed immediately.
- When charging is complete, remember to put the charging gun back in place.
- If any of the following emergencies occur during use, immediately cut off the power supply and notify a professional for repair or contact the dealer's service station:
 - There is an abnormal noise inside the charging pile
 - Odors or smoke emit from inside the charging pile
 - The charging station display is not displayed or does not respond
 - The charging pile has an irreversible fault alarm

6. Maintenance and Troubleshooting

6.1 Maintenance

During the use of the equipment, regular maintenance should be carried out on the equipment to increase the life and reduce the possible downtime.

6.1.1 Inspection Methods

In daily equipment inspection, the general method is to use the direct sensory diagnosis method for fault diagnosis, which can be summarized as: asking, observing, listening, smelling, touching, trying.

- Viewing: Observation, e.g. observing the color of the charging pile indicator light, the display on the human-machine interface.
- Listening: Listen to the sound and judge whether the charging pile is working properly according to the sound of the internal contactor when the charging pile is running.
- The diagnosis is based on the smell emitted by the charging station.
- Touch: Feel the surface of the charging pile with your hands for overheating, and check whether there is condensation inside.
- Test: Experimental verification, such as pressing the leakage test button of the internal circuit breaker on the charging pile to see if the circuit breaker can be automatically disconnected.

6.1.2 Routine Maintenance Tables

Inspection Contents	Inspection Method	Maintenance intervals
The system is roughly Operational status and the environment	1. Listen to whether there is any abnormal sound during the operation of the charging pile; 2. Check whether the heating of the charging pile shell is normal; 3. Observe whether the inlet and outlet air is normal; 4. Check the humidity and dust of the surrounding environment of the charging pile. Note! The ventilation of the air intake must be checked. If the module is not cooled effectively, it will fail due to overheating.	1 time every 6 months
External inspections clean	1. Observe whether the shell structure of the charging pile, the charging gun, and the connecting cable are damaged or deformed; 2. Clean the equipment shell and vent; 3. Check whether the touch screen data display is normal; 4. Check the status of the LED strip light; 5. Radio Frequency Identification Technology, Payment Terminals (if any).	Every 3 months
Internal inspections clean	1. Check the cleanliness of circuit boards and components; 2. Check the internal charging module and if necessary, remove the module for cleaning; 3. Check whether the fan blades are damaged, and maintain them in time to make them worse; 4. Check whether the internal instrument display is normal; 5. Do routine inspection of the corrosion of all metal components.	1 time every 6 months
Circuit connection safety check	1. Check whether the power cable and control cable are in good condition, especially whether the skin in contact with the metal surface is damaged; 2. Check whether the switch, contactor, circuit breaker and fan are normal; 3. Check whether the insulation and wrapping of the power cable terminal are intact, whether the insulation of the parts and cables is discolored or mechanically damaged, and whether the contact force of the fuse is normal.	Half a year after the first commissioning, and then every six months to 1 year
Security and other system functions	1. Check the emergency stop button and whether the stop button function is normal; 2. Simulate operation tests such as start-up charging, shutdown, and card swiping, and observe whether the functions of each system such as power allocation, safety control function, and billing are normal.	1 time every 6 months

6.2 Troubleshooting

If you're having trouble with your device, the following troubleshooting methods can help fix the problem:

Issue	Possible causes	Solution
The display goes black and doesn't light up when the display button is pressed	The primary AC voltage is missing	Check if the main AC voltage exists
	The upstream AC protection trips	Check and reactivate upstream alternating current (AC) protection
	EVSE internal issues	Contact the dealer's service station
The display displays this message: The connector could not be locked	The EV charging cable is not properly connected to the EV	Remove the charging connector and reconnect it to properly connect the EV charging cable to the EV
	You are not authorized to charge	Make sure you are authorized to charge your electric vehicle
The display displays this message: Cannot be unlocked	There is a dangerous voltage on the EV charging cable	Wait for 5 minutes and try to remove the charging connector again. If there is a dangerous voltage, press the stop button.
The display displays this message: Insulation detection error	There are insulation issues on electric vehicles or EVSE	Try restarting the charge, and if the problem is from EVSE, contact the service station that contacted the dealer for support
The display displays this message: The vehicle behaves abnormally	There is a communication problem between electric vehicles and EVSE	Contact the dealer's service station for support
The display displays this message: Equipment failure	The owner disabled EVSE	Check if EVSE is disabled on-site or via the OCPP backend and enable it if needed
	EVSE internal issues	Contact the dealer's service station

6.3 List of Device Fault Codes

If you're having trouble with your device, you can check the following fault codes to help resolve the issue:

NO.	Definition description
1	Emergency stop is pressed!
2	RFID communication fault!
3	Over temperature fault!
4	Lightning protection fault!
5	Power module communication fault!
6	Meter communication fault!
7	DC output overvoltage fault!
8	DC output overcurrent fault!
9	Waiting for BMS communication timeout!
10	Insulation detection timeout!
11	Insulation detection fault!
12	Battery voltage reverse fault!
13	DC+ Contactor sticking fault!
14	DC- Contactor sticking fault!
15	Plug line disconnection fault!
16	Plug head connection over temperature fault!
17	AC Contactor sticking fault!
18	AC Input Overvoltage!
19	AC Input Undervoltage!
20	BMS communication fault!

6.4 Device Fully Powered Off

- Before implementation, it is necessary to confirm whether the weather conditions and the place are available.
- Electrical blackout operations of equipment must be carried out by professionals, wearing mandatory personal protective equipment and using safety equipment, tools and equipment.
- The operator must follow the procedures required by this manual or other relevant mandatory specifications: turn off the external AC main circuit breaker and perform the locking mark operation; Turn on the device and turn off the main AC circuit breaker inside the device.



DANGER: Dangerous Voltages

No operation can be performed on the charger until at least 15 minutes have been turned off.

Once the mission is complete, restore the previously removed protective barriers and warning signs to their original state.



Note : if any malfunction occurs, please contact our representative in your country !

7. Appendix

7.1 Quality Assurance

Please keep the invoice, warranty card and other information of the purchased equipment, which are valid proof of equipment warranty.

During the warranty period, if the equipment has non-human failure, the manufacturer, dealer or designated after-sales service provider will provide free accessories and remotely guide the maintenance service or replace the new equipment. Reasonable time should be reserved for maintenance services according to the distance and equipment damage. If the equipment is replaced with a new one, the unqualified equipment after replacement shall be disposed of by the manufacturer or distributor.

If the equipment fails or is damaged due to the following circumstances, the manufacturer has the right not to carry out quality assurance, and the manufacturer can provide paid maintenance services if the customer has maintenance needs:

- The whole machine and parts have exceeded the free warranty period.
- A valid warranty certificate cannot be provided.
- Failure to transport, store, install, use, and maintain in accordance with the specifications and standards required by this manual.
- Failure to operate and use in accordance with the safety specifications and standards applicable to the installation site.
- Storage and operation in an environment beyond the scope permitted by the provisions of this manual.
- Repairing, altering, or disassembling the device without the manufacturer's authorization.
- Damage caused by abnormal natural environment.

7.2 Precautions

- The manufacturer shall not be liable for any damages caused by the configuration software product supplied with the product.
- It is forbidden to use part or all of the data of the firmware or software developed by the manufacturer for commercial purposes in any way.
- It is forbidden to decompile, decrypt or otherwise destroy the original program design of the software developed by the manufacturer.
- Any modification, manipulation or alteration of the hardware or software without the express consent of the manufacturer will result in the immediate cancellation of the warranty.
- Failure to strictly follow the instructions set forth in this manual will result in the immediate cancellation of any warranty policies applicable to this charging station.