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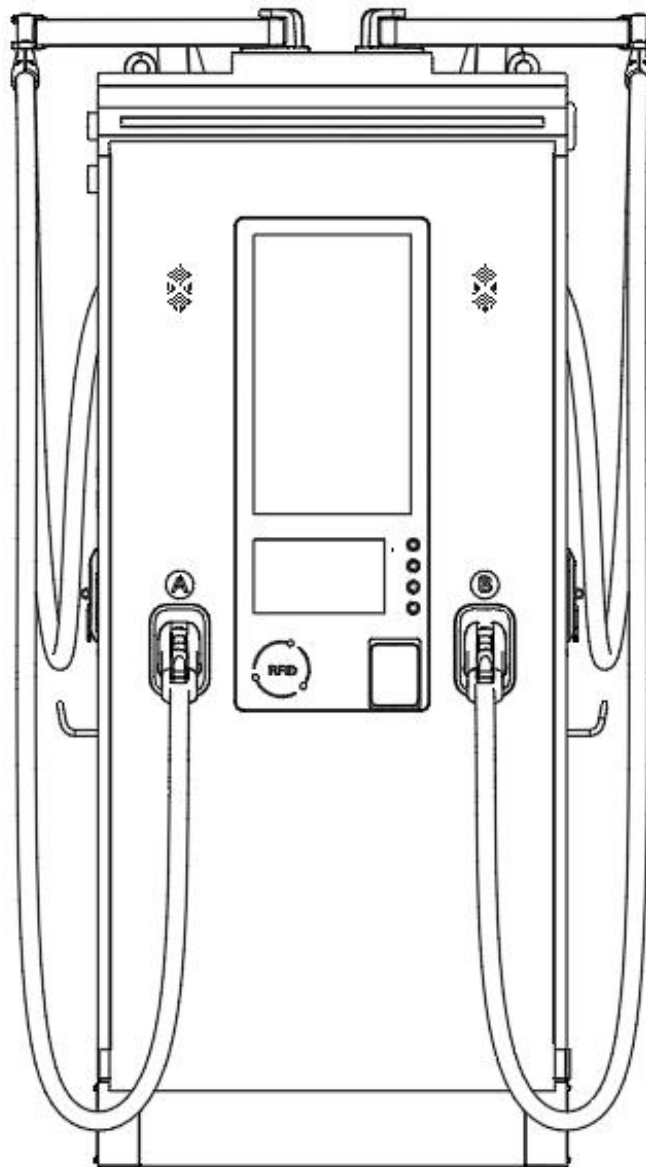
UL Standard EVSE Installation Manual and User Manual

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1. General

1.1 Purpose

The purpose of this document is to guide the construction personnel to complete the on-site installation of the MT_UFC-80~240 American standard all-in-one DC charging station.

1.2 Scope of Application

1.2.1 Equipment Types

MT_UFC-80~240 American standard all-in-one DC charging station, Model Identification Table:

Model Designations	Connector A	Connector B	Power Distribution-Connector A	Power Distribution-Connector B	Maximum Current-Connector A	Maximum Current-Connector B
MT_UFC-240/US-CC	CCS1	CCS1	240kW Max	240kW Max	300A	300A
MT_UFC-240/US-CN	CCS1	NACS	240kW Max	240kW Max	300A	300A
MT_UFC-240/US-NN	NACS	NACS	240kW Max	240kW Max	300A	300A
MT_UFC-240/US-C	CCS1	/	240kW Max	/	300A	/
MT_UFC-240/US-N	/	NACS	/	240kW Max	/	300A
MT_UFC-200/US-CC	CCS1	CCS1	200kW Max	200kW Max	300A	300A
MT_UFC-200/US-CN	CCS1	NACS	200kW Max	200kW Max	300A	300A
MT_UFC-200/US-NN	NACS	NACS	200kW Max	200kW Max	300A	300A
MT_UFC-200/US-C	CCS1	/	200kW Max	200kW Max	300A	/

Model Designations	Connector A	Connector B	Power Distribution-Connector A	Power Distribution-Connector B	Maximum Current-Connector A	Maximum Current-Connector B
MT_UFC-200/US-N	/	NACS	/	200kW Max	/	300A
MT_UFC-160/US-CC	CCS1	CCS1	160kW Max	160kW Max	300A	300A
MT_UFC-160/US-CN	CCS1	NACS	160kW Max	160kW Max	300A	300A
MT_UFC-160/US-NN	NACS	NACS	160kW Max	160kW Max	300A	300A
MT_UFC-160/US-C	CCS1	/	160kW Max	/	300A	/
MT_UFC-160/US-N	/	NACS	/	160kW Max	/	300A
MT_UFC-120/US-CC	CCS1	CCS1	120kW Max	120kW Max	300A	300A
MT_UFC-120/US-CN	CCS1	NACS	120kW Max	120kW Max	300A	300A
MT_UFC-120/US-NN	NACS	NACS	120kW Max	120kW Max	300A	300A
MT_UFC-120/US-C	CCS1	/	120kW Max	/	300A	/
MT_UFC-120/US-N	/	NACS	/	120kW Max	/	300A
MT_UFC-80/US-CC	CCS1	CCS1	80kW Max	80kW Max	200A	200A
MT_UFC-80/US-CN	CCS1	NACS	80kW Max	80kW Max	200A	200A
MT_UFC-80/US-NN	NACS	NACS	80kW Max	80kW Max	200A	200A
MT_UFC-80/US-C	CCS1	/	80kW Max	/	200A	/

Model Designations	Connector A	Connector B	Power Distribution-Connector A	Power Distribution-Connector B	Maximum Current-Connector A	Maximum Current-Connector B
MT_UFC-80/US-N	/	NACS	/	80kW Max	/	200A

1.2.2 User

MT_UFC-80~240 American standard all-in-one DC charging station installer

1.3 Definition of Relevant Warning Symbols

No.	Mark	Meaning
1		A "WARNING" sign indicates a hazard. Pay attention to procedures, practices, or incorrect execution that may result in personal injury or death. Actions following the WARNING mark should only be performed if the indicated conditions are fully understood and met.
2		A "CAUTION" sign indicates a hazard. Be aware of product damage or destruction that may result from operating procedures, experiments or incorrect execution, and operations following the "CAUTION" mark should only be performed when the indicated conditions are fully understood and met.
3		Indicates a burn hazard arising from hot areas or areas with high component temperatures
4		protective earth connection
5		AC current
6		Indicates that the described operations must be performed using employer-supplied clothing and/or personal protective equipment

Table 1 Definitions of Related Warning Symbols

1.4 Safety Precautions

SAVE THESE INSTRUCTIONS – This document contains important instructions for operating the company's products and equipment that shall be followed during operation to reduce accidents.

The statements "CAUTION", "WARNING", and "DANGER" in the product and product manual do not represent all safety items that should be observed, but only supplements to various operational safety precautions.

When operating the company's products and equipment, you must abide by the safety regulations of the relevant industry, and strictly abide by the relevant equipment precautions and special safety instructions provided by the company.

 Warning	This equipment is not intended for use in a residential environment and may not provide adequate protection for radio reception in such environments.
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Safety instructions

The internal working voltage of the charging system is high and the current is large. In order to ensure personal safety, the following regulations should be observed at all times:

1. Only personnel who have received training and sufficient knowledge of charging systems may install charging systems. During installation, always follow the safety precautions at the end of the catalog and local safety regulations.
2. To work inside the charging system, make sure the charging system is not live. The mains input of the charging system must be disconnected.
3. Power distribution cables should be properly routed and protected to avoid accidental contact when operating power supply equipment. It is strictly forbidden to wear them on the wrist during operation.

High pressure

 Danger	When the power supply system is running, some components have high voltage. Direct contact with these components or indirect contact with them through non-insulating objects will pose a fatal danger.
 Warning	Construction operations on high-voltage lines may cause fire or electric shock accidents. AC cables must be erected and routed in accordance with the local regulations and specifications. Only personnel qualified for high-voltage and alternating current

operations can perform various high-voltage operations.

Thunderstorm

 Danger	It is strictly forbidden to use high voltage and alternating current in thunderstorm weather.
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During thunderstorms, strong electromagnetic fields are generated in the atmosphere. Therefore, to prevent lightning damage to the equipment, it is necessary to ensure proper grounding of the equipment in a timely manner.

Static Electricity

 Notice	The static electricity generated by the human body can damage electrostatically sensitive components on the circuit board, such as large-scale integrated circuits (ICs). Before touching the equipment, handling plug-in boards, circuit boards, IC chips, etc., you must wear an anti-static bracelet and ground the other end of the anti-static bracelet to prevent static electricity from damaging sensitive components.
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Short Circuit

 Danger	It is strictly forbidden to short-circuit the positive and negative poles of the power distribution system or short-circuit the non-grounded poles to the ground during operation. A short circuit will cause equipment burns and personal safety hazards.
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When performing live work, the polarity of cables and interface terminals must be strictly checked. The power distribution operation space is limited, so please pay attention to select an appropriate operation space before any operation.

Insulated tools must be used for operations.

When working live, you must keep your hands, wrists, and arms in a stable state to prevent accidents caused by excessive movement of the tool or your body if the tool slips.

Other

Object Sharp Corner

 Warning	When carrying the equipment by hand, wear protective gloves to prevent cuts from sharp objects.
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Power Cable


Notice

Before connecting the cables, verify that the cable labels are correct.

Signal Line


ce
Noti

Signal cables should be bundled separately from power cables, with a spacing of at least 15mm.

FCC Note

This device complies with Part 15 of the FCC Rules / Industry Canada licence-exempt

RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

MPE Requirements

To satisfy FCC / IC RF exposure requirements, a separation distance of 20 cm or more should be

maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.

Les antennes installées doivent être situées de façon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de façon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l'antenne.

La FCC des États-Unis stipule que cet appareil doit être en tout temps éloigné d'au moins 20 cm des personnes pendant son fonctionnement.

1.5 Moving and Storage

Moving:

1. **Pre-Move Power Isolation:** Disconnect the charger from the main circuit breaker and lock out/tag out the power; never move the unit while energized.
2. **Designated Lifting Positions Only:** Use only the manufacturer-approved lifting positions (e.g., top lifting lugs) for hoisting or moving; never lift by charging cables, plugs, or external panels.
3. **Cable Protection During Transit:** Secure charging cables to EVSE's cable hooks or storage compartments; ensure cable bending radius does not exceed the minimum specified (typically $\geq 50\text{mm}$ for DC cables).
4. **Shock and Vibration Mitigation:** Use shock-absorbing pads or dunnage during transportation; secure the unit to the transport vehicle to prevent shifting, impacts, or tipping.
5. **Environmental Shielding for Outdoor Movement:** Cover EVSE with a waterproof, dustproof tarp during outdoor moving; avoid exposure to direct sunlight, heavy rain, or sandstorms.

Storage:

1. **Environmental Temperature Range:** Store the unit within the manufacturer-specified temperature range (typically -40°C to $+80^{\circ}\text{C}$ for outdoor-rated DC chargers); avoid extreme temperature fluctuations.
2. **Humidity and Corrosion Control:** Keep the storage area dry (relative humidity $\leq 85\%$ non-condensing) and free of corrosive gases (e.g., sulfur dioxide, chlorine); use desiccants if

stored in high-humidity regions.

3. **Cable and Connector Preservation:** Cap all charging connectors with manufacturer-provided dust caps; coil cables neatly (per minimum bending radius) and secure them to avoid pressure or abrasion.
4. **Pre-Commissioning Inspection After Long-Term Storage:** For storage periods ≥ 6 months, perform a pre-use inspection: check insulation resistance of power cables, verify ground continuity, and inspect for internal moisture or component damage before energization.

2. Preparations Before Installation

2.1 Environmental Conditions

When selecting an installation site for charging equipment, the environmental conditions listed in the table below should be considered.

Environmental Conditions	Recommended Range
Ambient temperature	-30°C ~ + 50°C, use with derating above 50°C
Altitude	$\leq 2000\text{m}$
Humidity	5% ~ 95%RH, no condensation inside the product;
Dust	$\leq 1\text{mg/m}^3$
Corrosive substances	Free from pollutants such as salt, acid, smoke, etc.
Shock	$\leq 1.5\text{mm/s}$
Insects, pests, vermin, termites	None
Mold	None
Damp	Rainproof

Table 2 Installation Environment Confirmation Form

2.2 Conventional Construction Tools

No.	Category	Name	Use	Picture
1	Wire preparation tool	Electrician's knife	Peeling of insulating sheath	
2	Tools for Installation	Wire stripper	Peeling of insulating layer	
3	Tools for Installation	Crimping Tool	Terminal crimp	
4	Tools for Installation	Impact Drill	Component tube clip installation	
5	Tools for Installation	Electric air pick machine	Slotted	
6	Tools for Installation	Cutting Machine	Cut the tube	
7	Tools for Installation	Heat plug	Heat shrinking of insulating materials	
8	Tools for Installation	Hot melt machine	Welded PE water pipe	
9	Tools for Installation	Allen key (full set)	Install and remove screws	
10	Tools for Installation	Open-end wrench (full set includes No. 13)	Install and remove the nut	
11	Tools for Installation	Angle Grinder	Grinding of Materials	

No.	Category	Name	Use	Picture
12	Tools for Installation	Phillips screwdriver (full set)	Remove and Install screws	
13	Tools for Installation	Laser level	Level measurement	
14	measuring instrument	Level	Level measurement	
15	Measuring Instrument	Multimeter	Measure voltage, current, etc.	
16	Measuring Instrument	Megohmmeter	Measuring insulation resistance	
17	Assistive Device	Insulating floor mat	Placing the disassembled parts	
18	Lifting Tools	Manual crane	Equipment lifting	

Table 3 List of Conventional Construction Tools

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

2.3 Construction materials

2.3.1 Cables

Refer to the table below to select the corresponding terminals according to different wire

diameters.

Wire Diameter	Terminal Model
6AWG (13.3mm²)	SC16-6/SC16-8
4AWG (21.15mm²)	SC25-6/SC25-8
3AWG (26.67mm²)	SC25-6/SC25-8
2AWG (33.62mm²)	SC35-8
1AWG (42.41mm²)	SC50-8
1/0AWG (53.49mm²)	SC50-8
2/0AWG (67.43mm²)	SC70-8/SC70-10
3/0AWG (85.01mm²)	SC95-8/SC95-10
4/0AWG (107.22mm²)	SC120-10/SC120-12

Table 4 Cable Diameter Comparison Terminal Table

2.3.2 Network Cable

If you need to use the Ethernet communication function, it is recommended to use a shielded twisted-pair network cable (Cat6a) and an RJ45 modular plug. The length of the network cable shall not exceed 75 meters. If this length is exceeded, the customer shall customize the construction plan according to on-site conditions.

2.3.3 Other Materials

Heat-shrinkable tubes, insulating tapes and other auxiliary materials required for making cables. If the fuse is damaged, it is necessary to replace the model with the same specification, the fuse specification is 350A, AC1250V/DC1000V

2.4 Installer Requirements

(1) Anyone entering the construction site shall abide by the construction site safety management regulations.

- (2) When entering the construction site, you must wear a safety helmet correctly (fasten the chin strap, and ensure the safety helmet is in good condition). Do not wear unsafe clothing such as loose garments or slippers. Drinking before working and smoking on the construction site are strictly prohibited.
- (3) Workers engaged in high-altitude operations must wear safety helmets, fasten safety belts, wear non-slip shoes, and secure their work tools properly.
- (4) If there is dust at the construction site or painting work is in progress, protective masks must be worn.
- (5) Do not enter hazardous areas such as hoisting zones or areas directly below vertical operation sites, and avoid being hit by falling objects.
- (6) Keep away from various mechanical equipment and electrical circuits as much as possible to prevent mechanical and electrical injuries.
- (7) Those who use portable power tools must master their operation skills and precautions, wear insulating shoes and gloves whenever possible, and ensure the metal housing of the tools is grounded or connected to a neutral wire.
- (8) For temporary electricity use on-site, the electrical box must be kept intact, and damaged electrical components must be replaced in a timely manner.
- (9) Rubber cables shall be used for temporary on-site wires; plastic cord wires are prohibited, and wires are not allowed to be inserted directly into sockets.
- (10) Live work shall be avoided as much as possible.
- (11) When entering edge areas such as foundation pits and roofs, as well as various openings, you must stay focused to prevent falling from heights.
- (12) Pay attention to ground hazards such as iron nails and steel bars to prevent injuries caused by pricking, touching, snagging, or tripping.
- (13) On-site construction protection facilities, safety signs, warning signs, etc., shall not be removed without authorization.
- (14) Strengthen on-site maintenance of construction equipment to maintain its intact rate. Operating equipment with faults and overloading operations are prohibited.

2.5 Handover of Construction Drawings

After the installer arrives at the site, first ask the store staff to check the installation location drawings of the equipment, and check to confirm that the cables and cement foundations of each equipment meet the requirements.

2.6 Spacing Requirements for Equipment

2.6.1 Maintenance Distance Requirements

When the back or side of the EVSE to be installed is close to a wall or other obstacles, a certain maintenance distance must be reserved. Please refer to Figure 1 below for the base installation

distance, and refer to Figure 2 for the maintenance distance when the door is open. The EVSE adopts left-right ventilation for heat dissipation, with air entering from the right and exiting from the left (see Figure 3 for details).

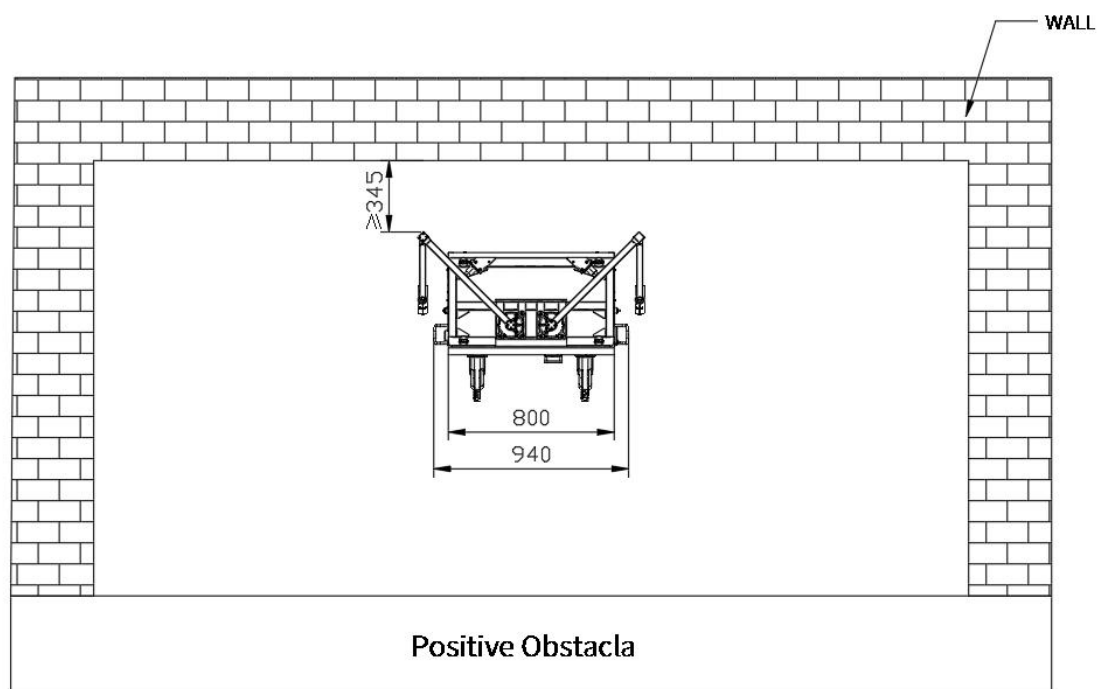


Figure 1 Base Installation Distance Diagram

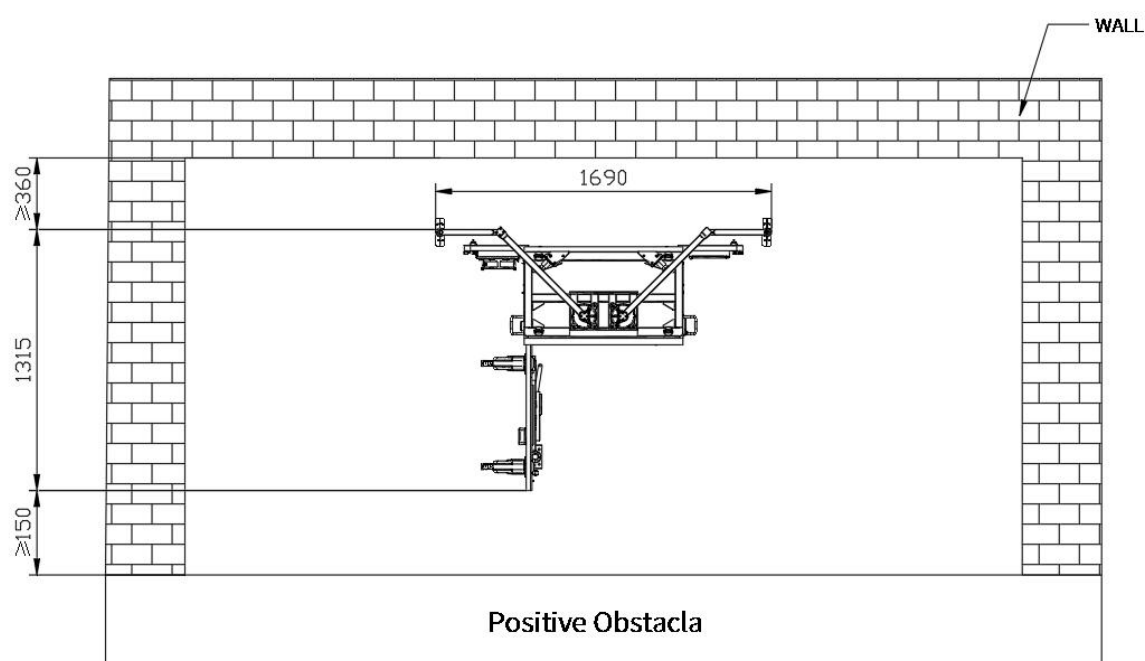


Figure 2 Maintenance Distance Map

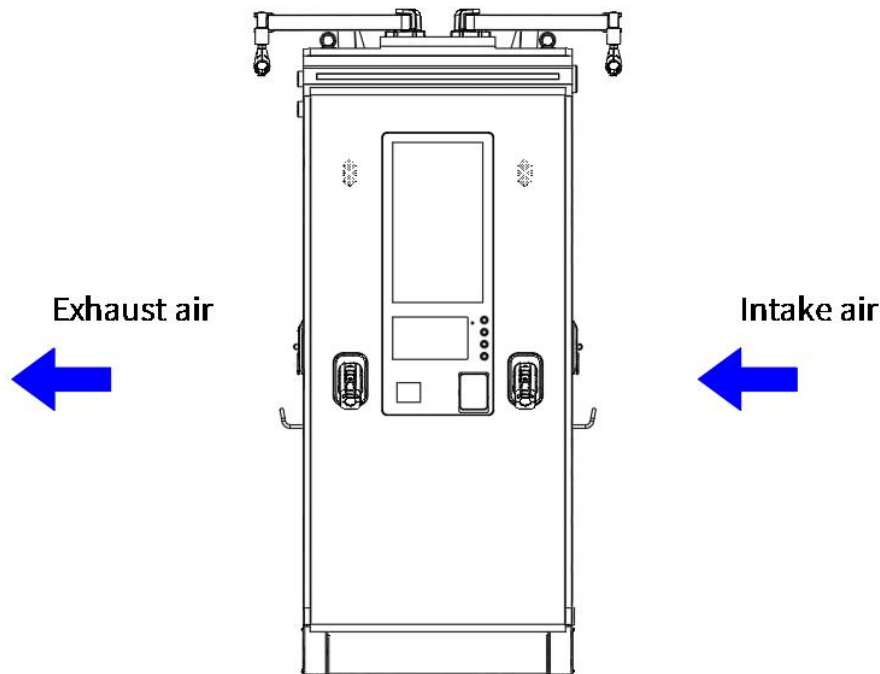


Figure 3 Schematic Diagram of Wind Direction

2.6.2 Parking Space Requirements

When the charging station is installed in the middle of a parking space or between back-to-back parking spaces, it is recommended to leave a 1200mm gap between the wheel stop and the charging station to facilitate the use of the EVSE, as shown in Figure 4.

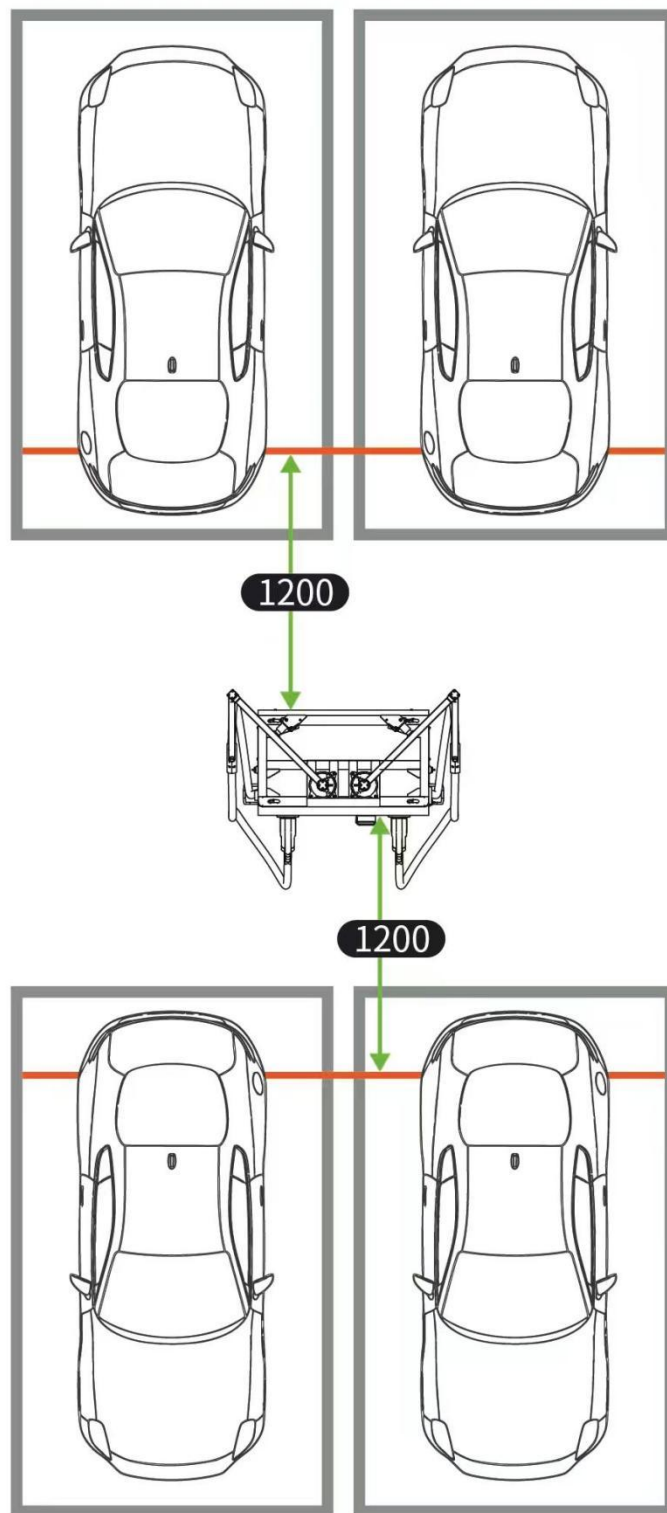


Figure 4 Parking Distance Requirements

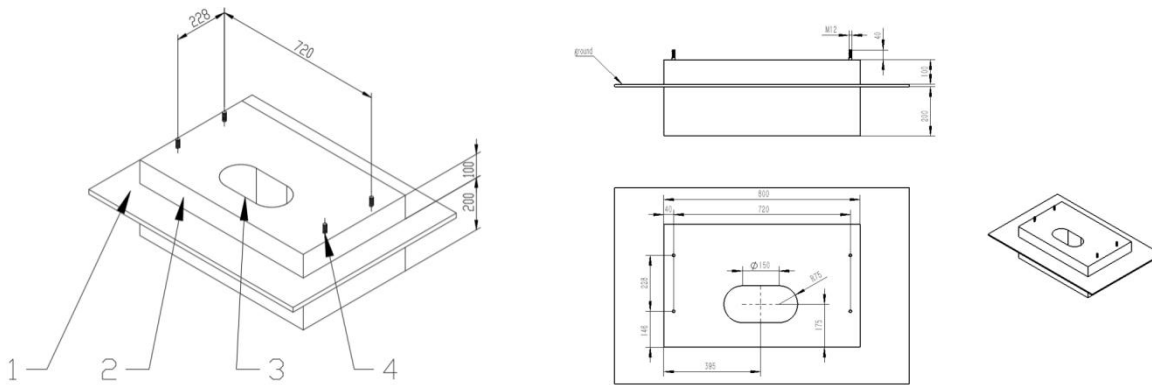
2.7 Power Cable Recommendation

MT_UFC-80~240 American standard DC EVSE recommends using cables with a voltage level of 0.4/1kV or higher, Use Copper Conductors Only , and the cables should reach a temperature resistance level of at least 90°C. The installer confirms whether shielding is required according to local laws or regulations. If there is a shielding layer, both ends of the shielding network must be connected to the PE wire.

2.8 Requirements for Cement Foundation

The cement foundation must be poured before installing the EVSE. The dimensions of the cement foundation shall be no smaller than W1000mm × D700mm × H600mm, with a foundation depth of 600mm. The design of the cement foundation can be adjusted according to user requirements and on-site actual conditions. The schematic diagram of the cement foundation is shown in Figure 5, and the basic inspection requirements are as follows:

- (1) Pay attention to leveling and calibration when pouring the foundation.
- (2) The installed foundation shall be higher than the ground level, and necessary maintenance passages shall be reserved on-site based on the specific space.
- (3) The drainage outlet on the foundation surface shall have a slight slope to prevent water accumulation.
- (4) The foundation shall be filled with C25 concrete.
- (5) A wire outlet hole with a diameter of not less than 200mm shall be reserved on the foundation, and the size shall be adjusted according to the actual wire diameter (as shown in Figure 4).
- (6) After the foundation is completed, use a level to test its flatness.
- (7) Four M12 screws shall be used for pre-embedded fixing; they shall be embedded into the concrete foundation according to the drawing positioning, with 30-40mm of thread exposed above the concrete foundation surface.
- (8) BONDING/GROUNDING INSTRUCTIONS – This unit is to be connected to a bonded/grounded, metal, permanent wiring system; or an equipment-bonding/grounding conductor is to be run with circuit conductors and connected to the equipment-bonding/grounding terminal or lead on the battery charger. Connections to the battery charger shall comply with all local codes and ordinances.



1	Ground	3	Cable Outlet
2	Cement Base	4	M12 Threaded Rod

Figure5: Schematic Diagram of the Cement Base of the Charging station

2.9 Current and Distribution Capacity Requirements

Please confirm the relevant information requirements of the distribution network according to the table below, and proceed according to the recommended circuit breaker selection requirements.

Charging station specification	Distribution grid voltage	Wiring form	Grid capacity	Rated current	Circuit breaker selection	Remark
80kW	480Vac,50/60Hz	L1+L2+L3+PE	$\geq 100\text{kVA}$	103A	Ue=480V, $\geq 150\text{A}$, Icu $\geq$ Ics $\geq 50\text{kA}$, 3P	
120kW	480Vac,50/60Hz	L1+L2+L3+PE	$\geq 150\text{kVA}$	154A	Ue=480V, $\geq 200\text{A}$, Icu $\geq$ Ics $\geq 50\text{kA}$, 3P	
160kW	480Vac,50/60Hz	L1+L2+L3+PE	$\geq 200\text{kVA}$	205A	Ue=480V, $\geq 250\text{A}$, Icu $\geq$ Ics $\geq 50\text{kA}$, 3P	
200kW	480Vac,50/60Hz	L1+L2+L3+PE	$\geq 250\text{kVA}$	256A	Ue=480V, $\geq 350\text{A}$, Icu $\geq$ Ics $\geq 50\text{kA}$, 3P	
240kW	480Vac,50/60Hz	L1+L2+L3+PE	$\geq 300\text{kVA}$	307A	Ue=480V, $\geq 400\text{A}$, Icu $\geq$ Ics $\geq 50\text{kA}$, 3P	

3 Installation Steps

3.1 Unpacking and Unpacking Inspection

3.1.1 Equipment Packing List

Name	Package	Configure	Random Document	Parts List
Device body	Wooden box	Standard	- certificate - Certificate of Qualification-Factory inspection report -Installation manual (electronic version)	- key - RFID card - Module solid - screw - U disk - print line
Rectifier module	Carton	Standard		The quantity will be configured according to the actual power

Table 5 Equipment Packing List

3.1.2 Unpacking Inspection

- (1) Check the packing list number and equipment quantity.
- (2) Check the equipment nameplate information.
- (3) Check whether the random files are complete.
- (4) Check whether the spare parts and accessories are complete.
- (5) Check the factory inspection report and certificate of conformity.
- (6) Check whether the appearance of the equipment is good, and whether there is deformation, bumps, stains, etc.

3.1.3 Unpacking Precautions

- (1) The installer shall unpack in the presence of the owner, and fill in the unpacking record in detail. See Appendix 1 for the unpacking record sheet.
- (2) After unpacking and checking, please ask the owner's representative to confirm and sign on the equipment unpacking record sheet.
- (3) If problems are found during the unpacking and acceptance of the equipment, in addition to making records, wait for the negotiation between the owner and the supplier.

3.1.4 Product Parts Introduction

- (1) The components of the product facade are shown in Figure 6 and Figure 7
- (2) The internal structure diagram of the product is shown in Figure 8

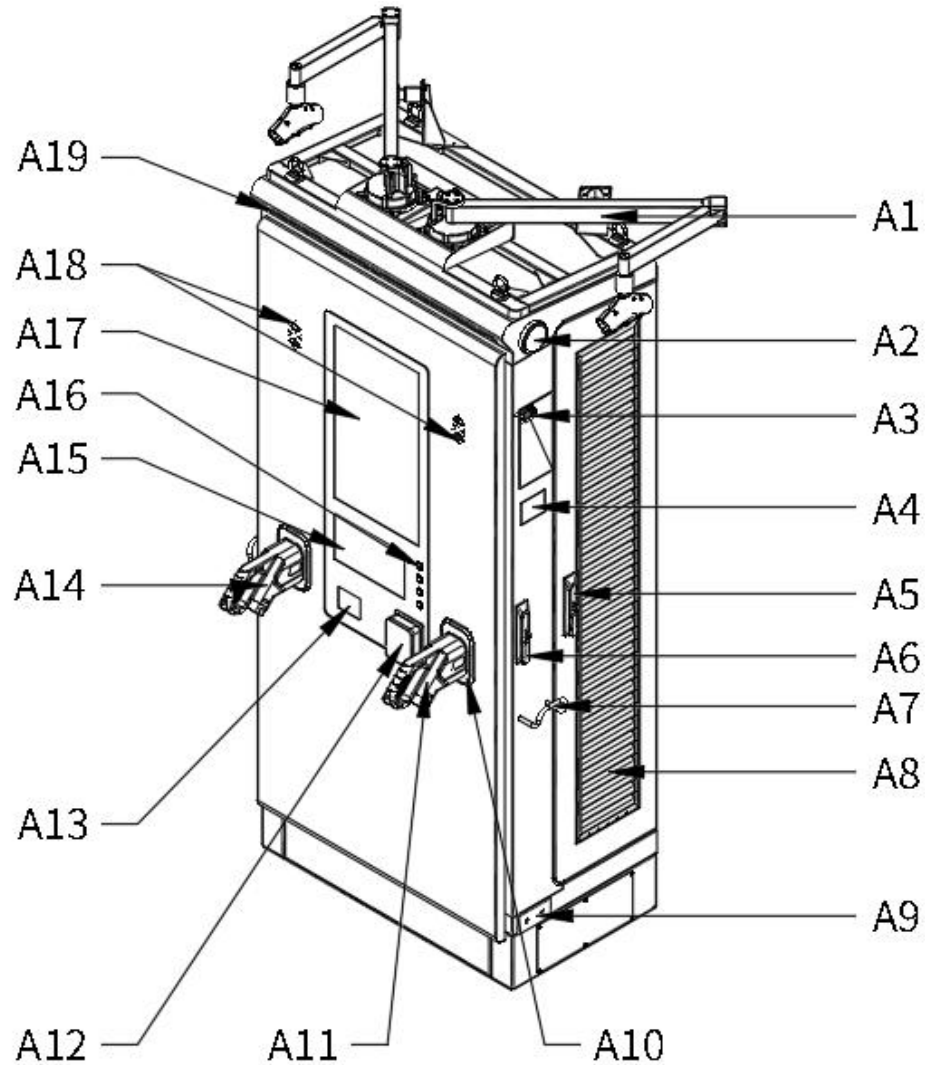


Figure 6 Front View of Component

A1	Swing arm assembly*	A2	4G/WIFI/GPS antenna	A3	Waterproof gland B	A4	DC meter
A5	Right door lock	A6	Front door lock	A7	Hanging wire rack	A8	Louvre
A9	PE	A10	Plug holder	A11	Plug B	A12	POS machine
A13	RFID	A14	Plug A	A15	Touch Screen	A16	Touch button
A17	Advertising Screen(21.5")	A18	Loudspeaker A/B	A19	Ambient light		

Note: A1, A15, are Optional

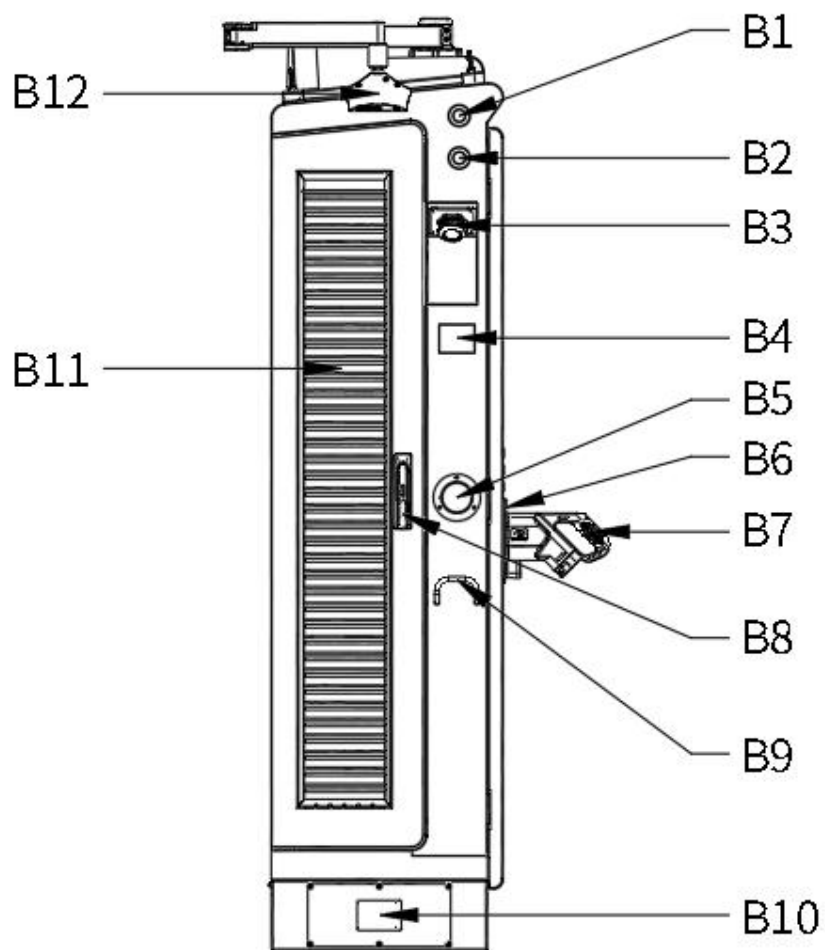


Figure 7 Side Member View

B1	4G Moduleantenna	B2	POS machine antenna	B3	Waterproof gland A	B4	DC meter
B5	Emergency Button	B6	Plug Holder	B7	Plug	B8	Left door lock
B9	Hanging wire rack	B10	Nameplate	B11	Louvre	B12	Cable support

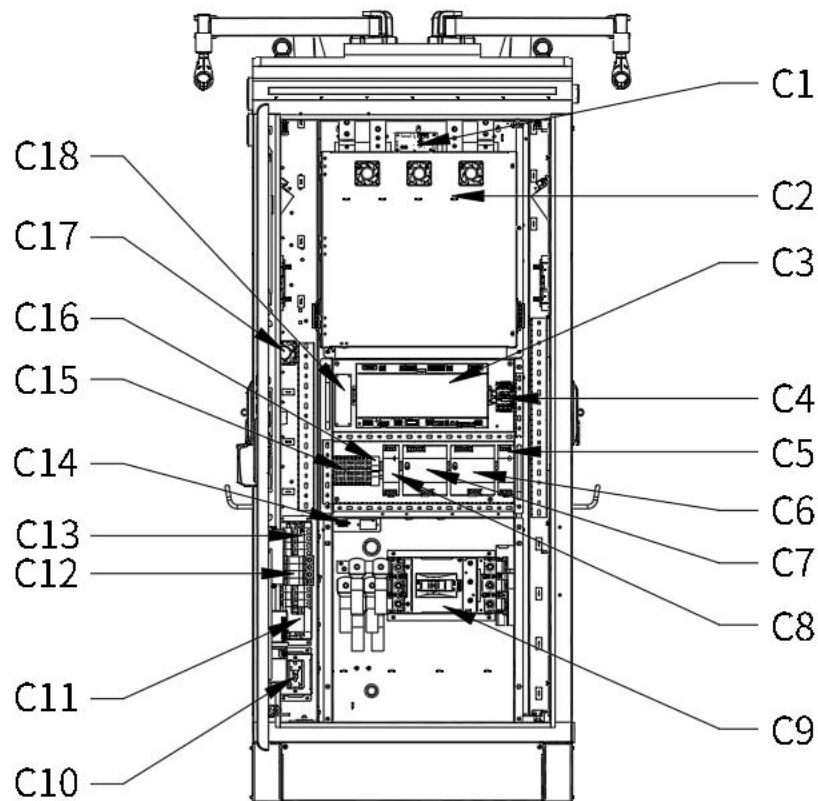


Figure 8 Internal Component Diagram

C1	SCU	C2	PDU module	C3	DCFU	C4	AC contactor
C5	UP2-12V	C6	UP4-24V	C7	UP5-24V	C8	UP1-12V
C9	MCCB	C10	AC socket	C11	Surge protector	C12	MCB
C13	RCBO	C14	Connectors	C15	Connectors	C16	Connectors
C17	FAN	C18	Adapter board				

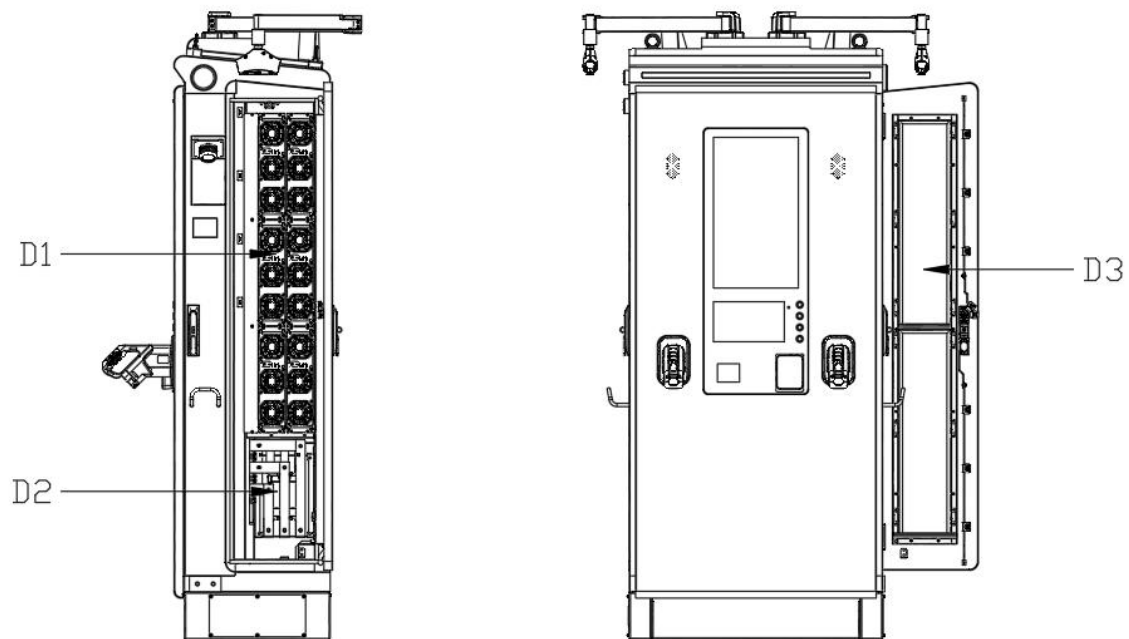


Figure 9 Right Component Diagram

D1	Power Module	D2	AC Contactor	D3	Filter
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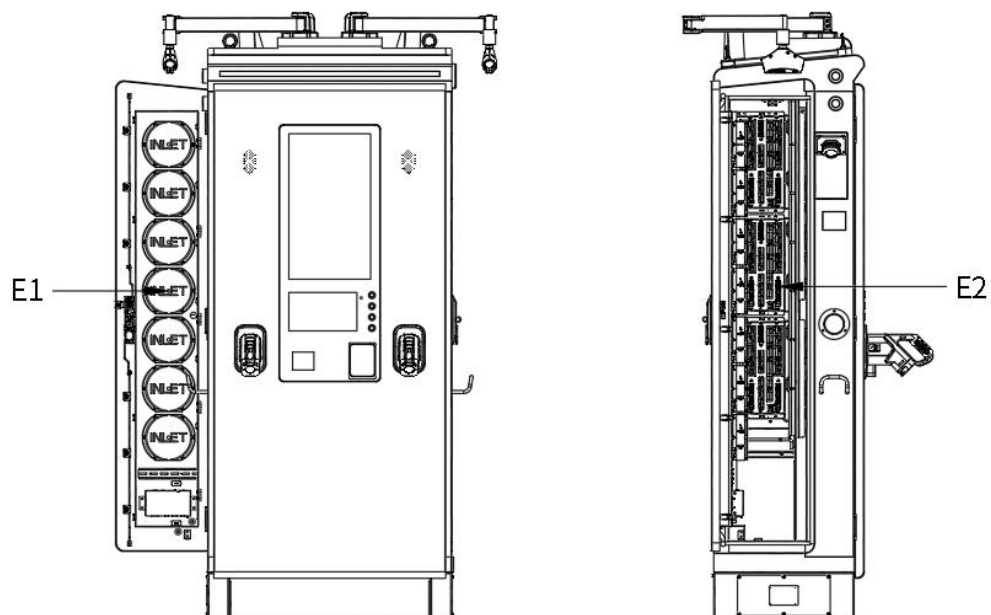


Figure 10 left Component Diagram

E1	Cooling fan for power module	E2	Terminals for power module
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3.2 Equipment Installation, Fixing and Wiring

3.2.1 Installation Dimensions

The installation size of the equipment is: 800mm(W) × 2000 mm(H) × 495mm(D), and the external dimensions are shown in below Figure.

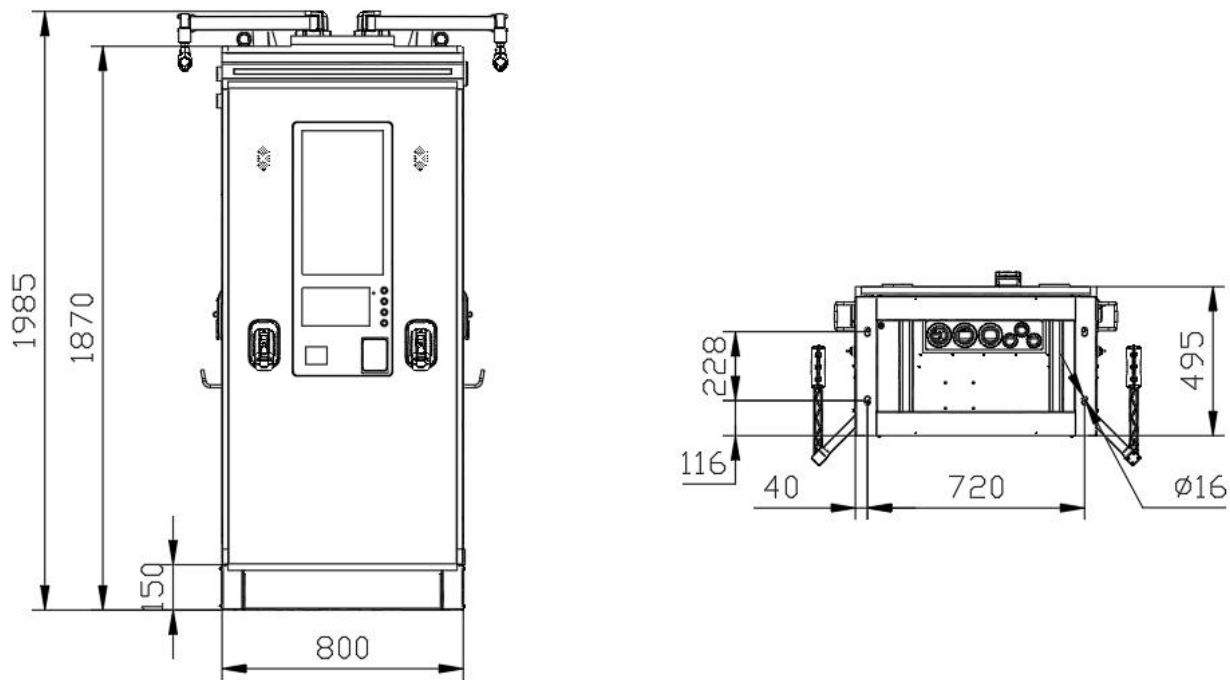


Figure11. Schematic Diagram of Installation Dimensions

3.2.2 Unboxing

3.2.2.1 Remove the Top Cover

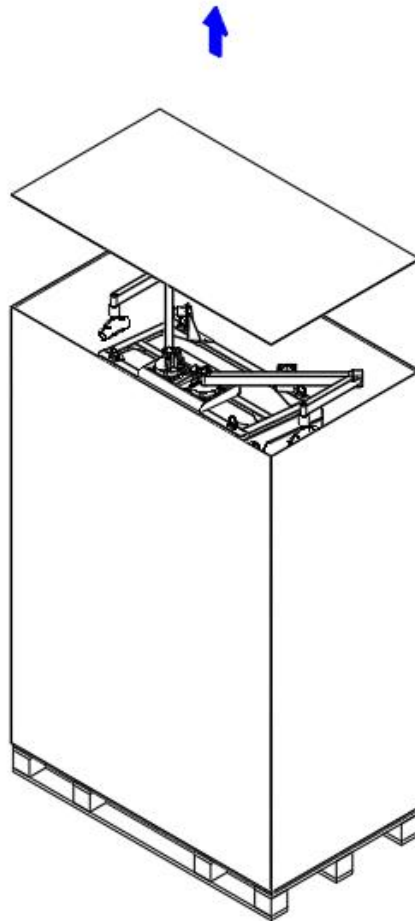


Figure 12: Remove the Top Cover

3.2.2.2 Remove the Left and Right Side Boards

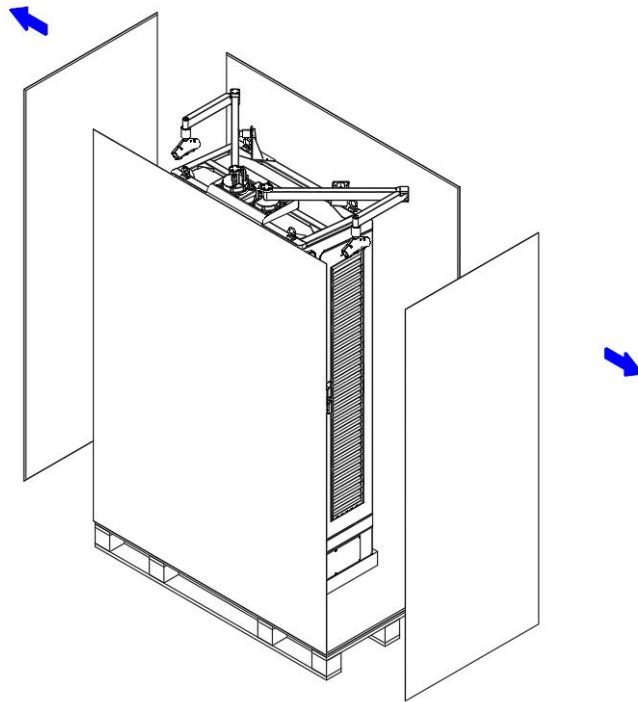


Figure 13: Remove the Left and Right-side Boards

3.2.2.3 Remove the Front and Rear Planks

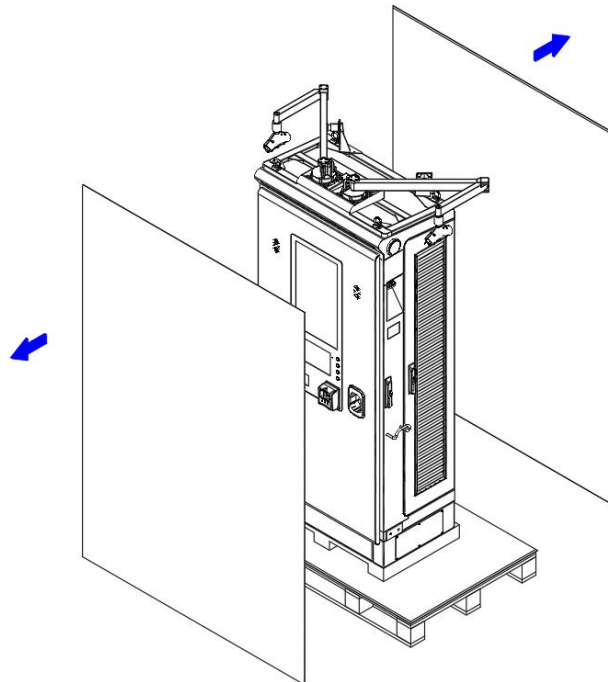


Figure 14: Remove the Front and Rear Planks

3.2.3 Unloading

There are two ways of unloading, you can choose to use the hoisting method or the liftable forklift method to transport the charging station

- (1) Remove the tray, and use a No.19 socket wrench to loosen the M12 screws on the cabinet and tray

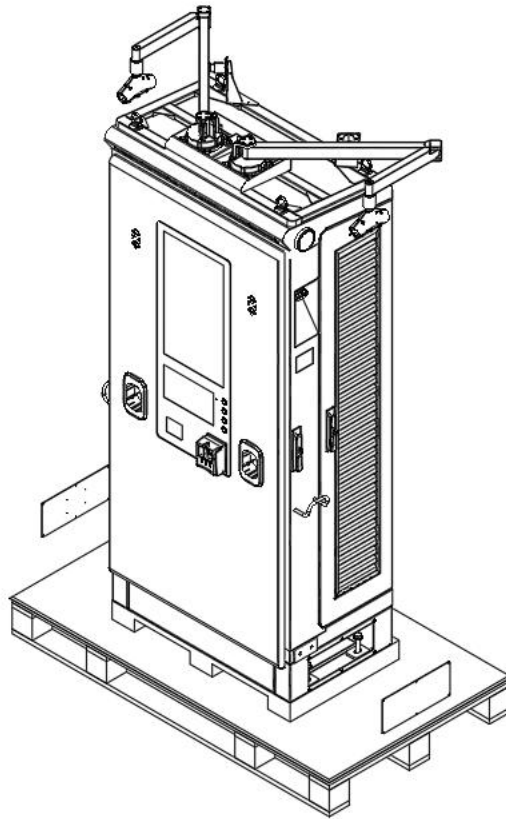


Figure 15: Lifting the Device

- (2) Lift the charging station with a crane and confirm that the four lifting rings are in a tightened state

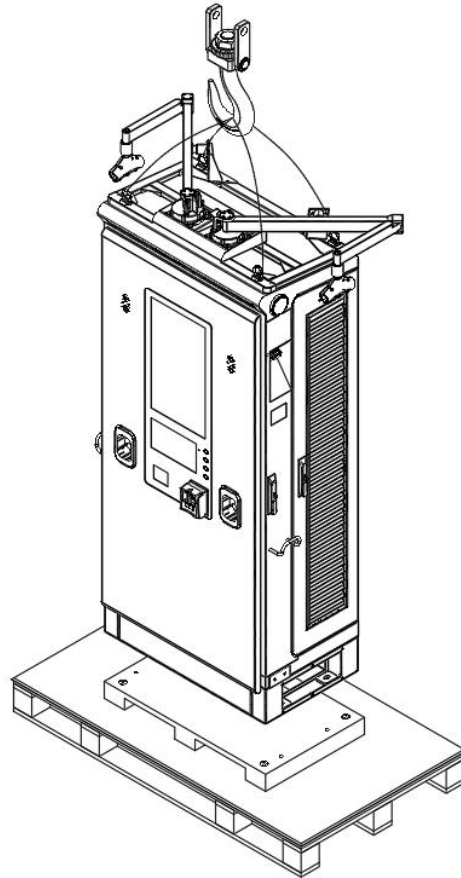


Figure 16: Diagram of Removing the Tray

(3) Confirm that the four lifting rings are tightened, passing the rope through the rings, and lift the EVSE with a crane.

Note: If you need to install the swing arm, please remove the lifting ring after lifting.

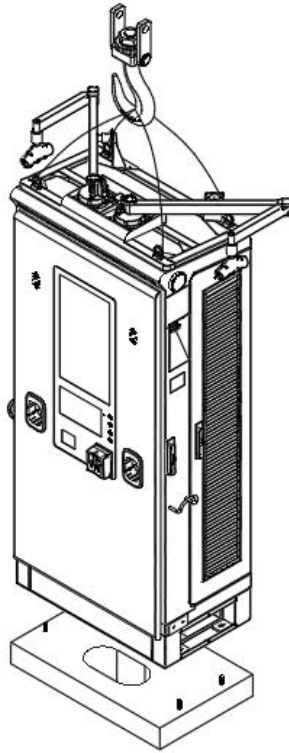


Figure 17 Lifting the Device

- (4) Lift the EVSE, make it fall steadily and slowly, align with the pre-embedded threaded rod, until it falls to the installation base. Make sure that the cables have entered the cabinet along the cable protection cover.

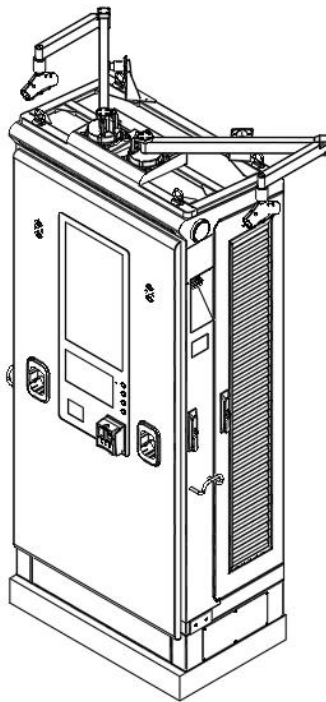


Figure 18 Schematic Diagram of Cabinet Placement

- (5) Use M12 nuts and flat and spring washers to fix the EVSE, lock these nuts, and the recommended torque is 95.5N·m.
- (6) Lead the cables into the cabinet through the cable glands.

1.5.1 Wiring

- (1) Open the cabinet doors on both sides, insert the module into the module compartment, make sure that the module identification corresponds to the label attached to the module compartment, and lock the power module with 4 M4×12 combination screws, the recommended torque is 8.8N·m.

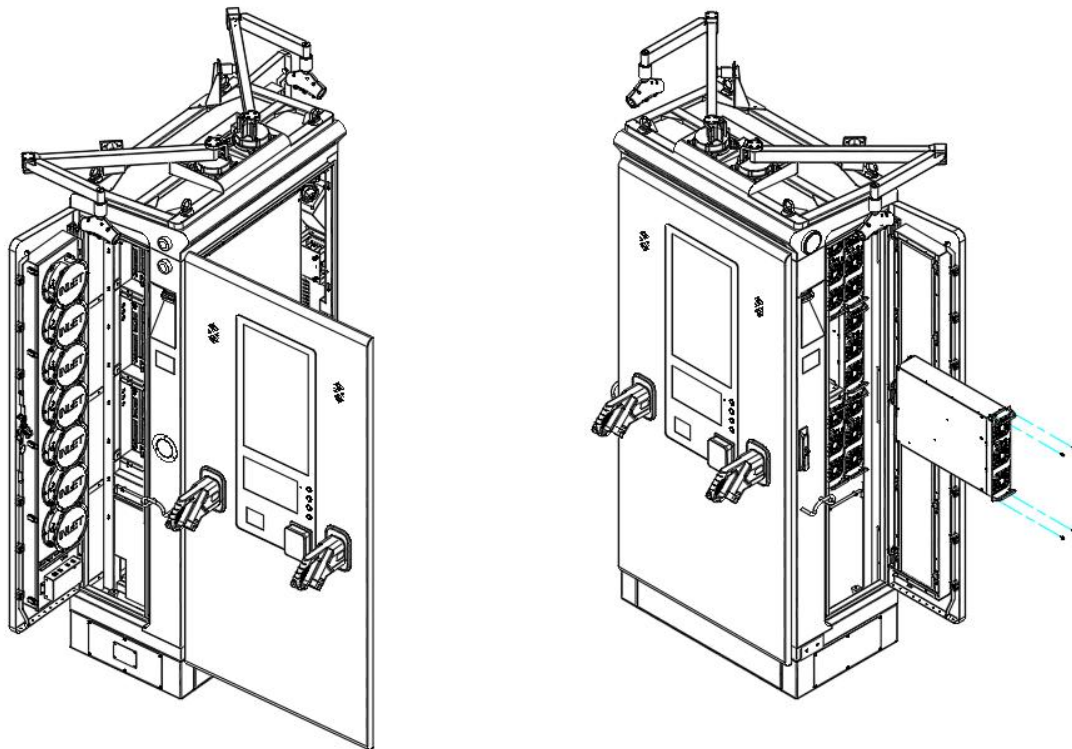


Figure 19 Power Module Installation Diagram

- (2) Before wiring, confirm that the leakage protection of the circuit breaker and the all switch should be in the OFF position.

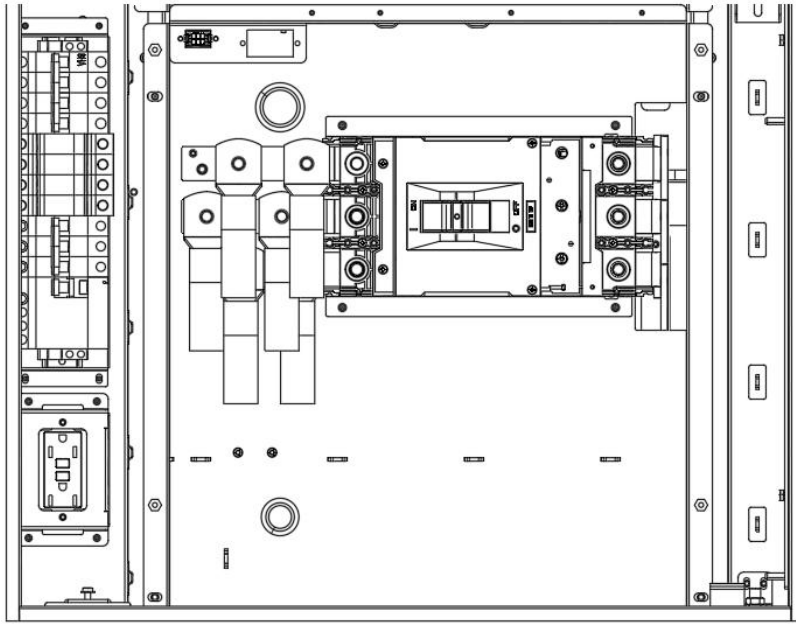


Figure 20 Leakage Protection and All switch

(3) Access the power cord

Please select the power cable according to the requirements in Chapter 2.3, and connect it with reference to Figure 21. At the same time, make sure that the cable is not broken, damaged or scratched.

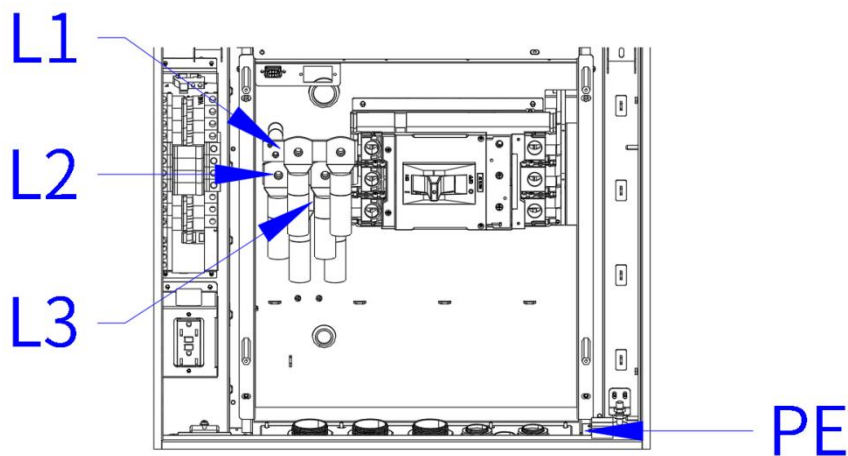


Figure 21 Wiring Diagram

Note: PE needs to be connected to the grounding copper bar.

The multimeter selects the resistance on-off position (),

Check whether there is a short circuit between +12V and -12V, between L1, L2, L3, and N , PE.

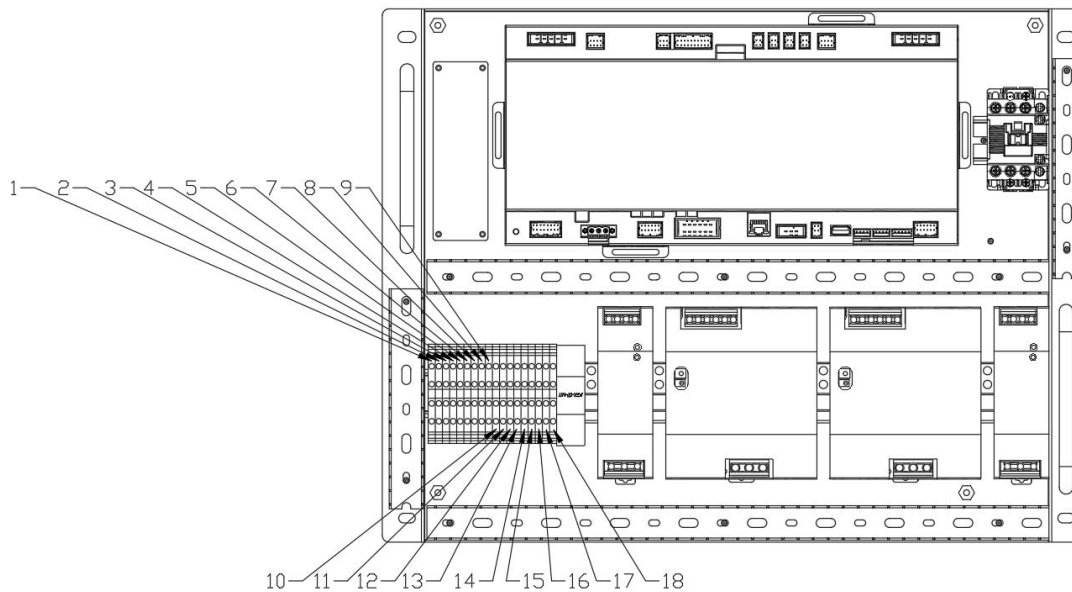


Figure 22 The Multimeter Detects Whether There is a Short Circuit

(1) IT system firmware requirements

The IT system needs to refresh the new firmware to turn off the input PE detection.



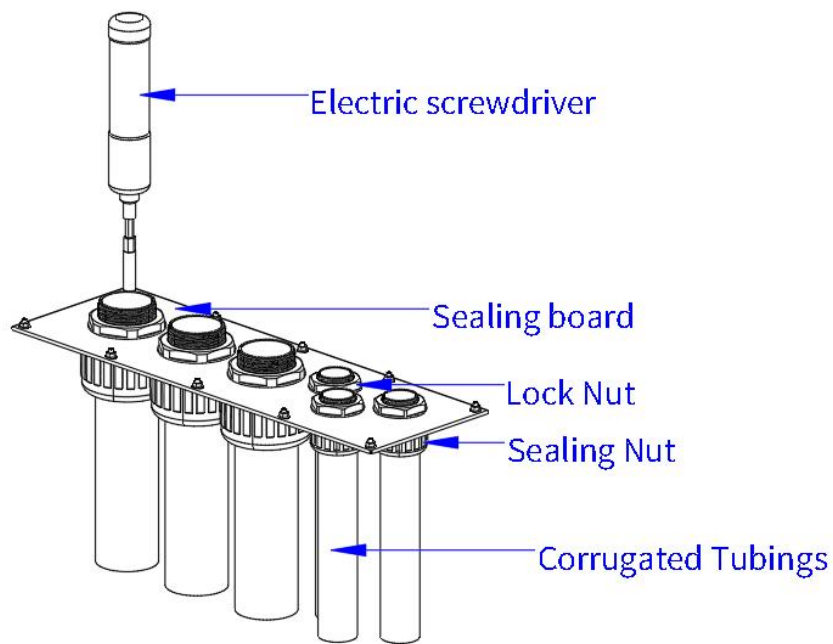
Warning: Must be carried out in accordance with the specifications and correct operation steps. Improper execution may result in personal injury or death.

3.3 Description of Cable Inlet at the Bottom

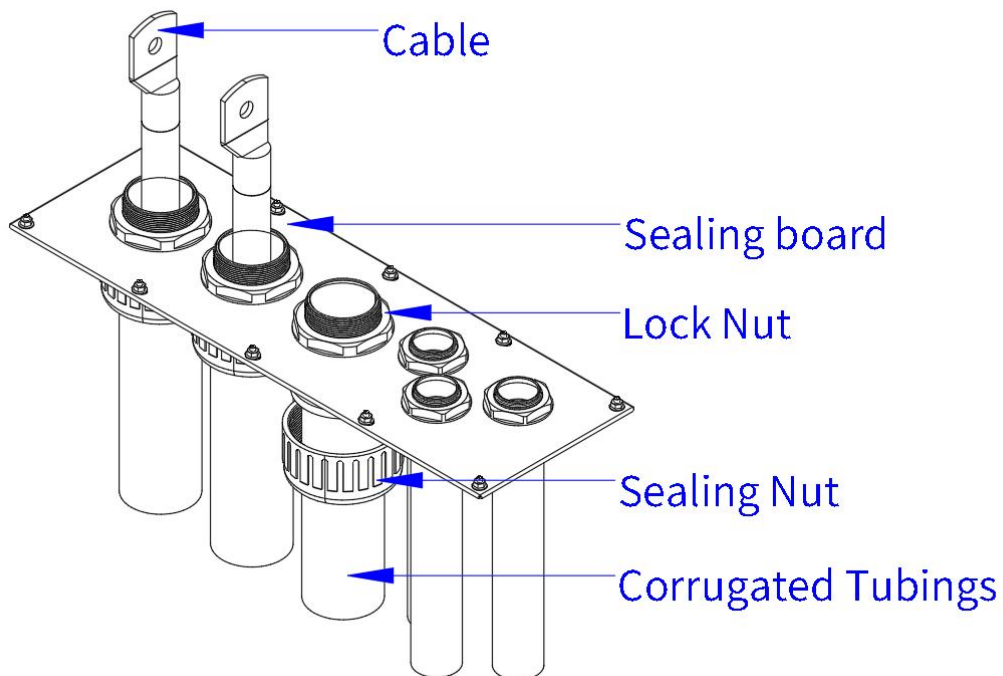
3.3.1 Equipped with the joint of corrugated conduit (with corrugated conduit / without corrugated conduit)

The installation steps of the corrugated conduit are as follows:

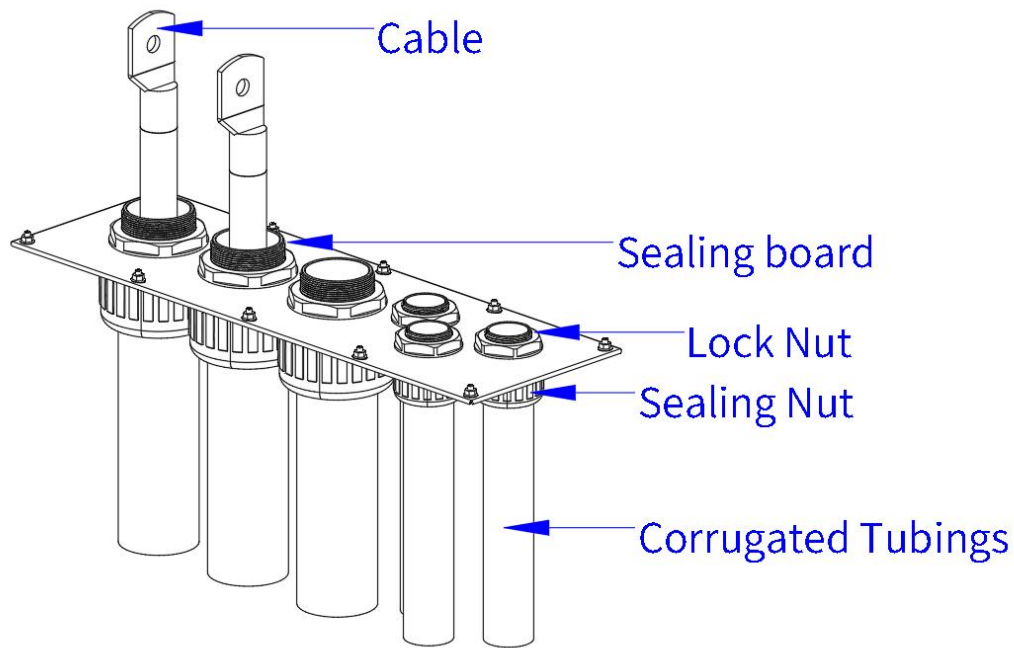
- (1) Use Electric screwdriver to unscrew the Sealing board and Multi-function wrench to remove the Sealing Nut.



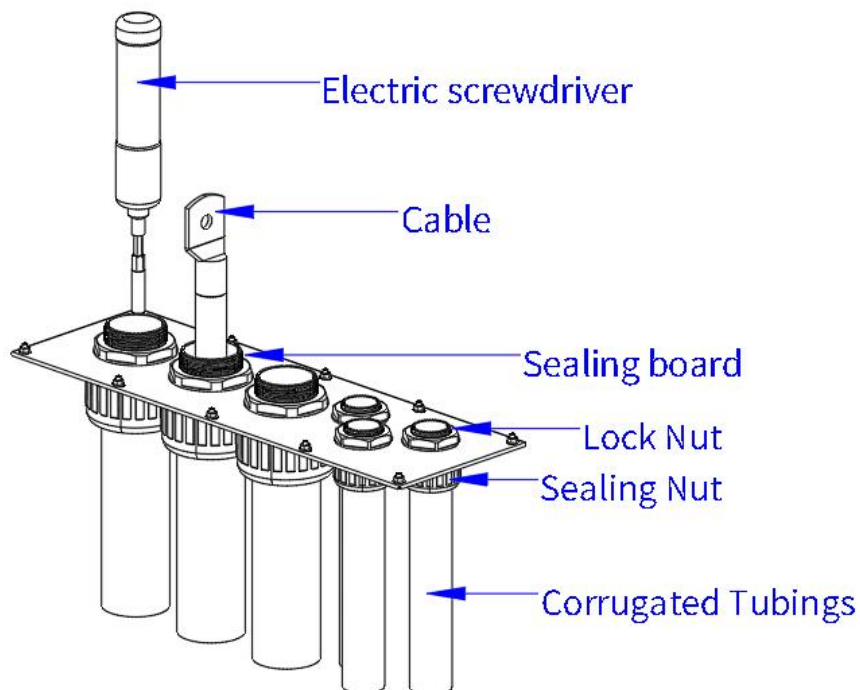
(2) Thread the corrugated conduit and cable into the Sealing nut and Lock Nut in turn.



(3) After tightening the Sealing nuts, place the cable inlet cover plate back to the bottom of the EVSE.

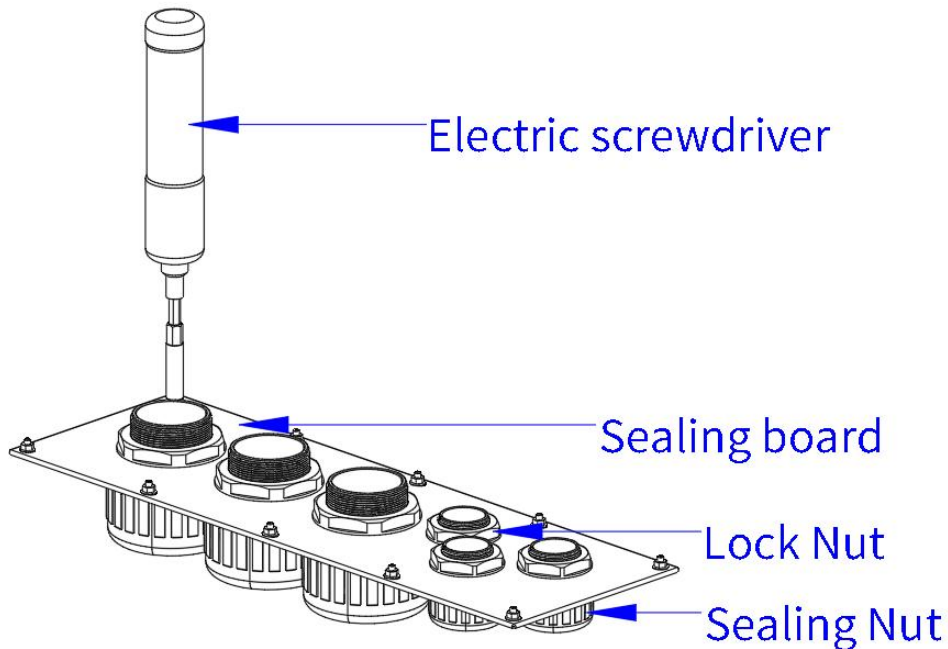


(4) Assemble the cable inlet cover nut with a Electric screwdriver.

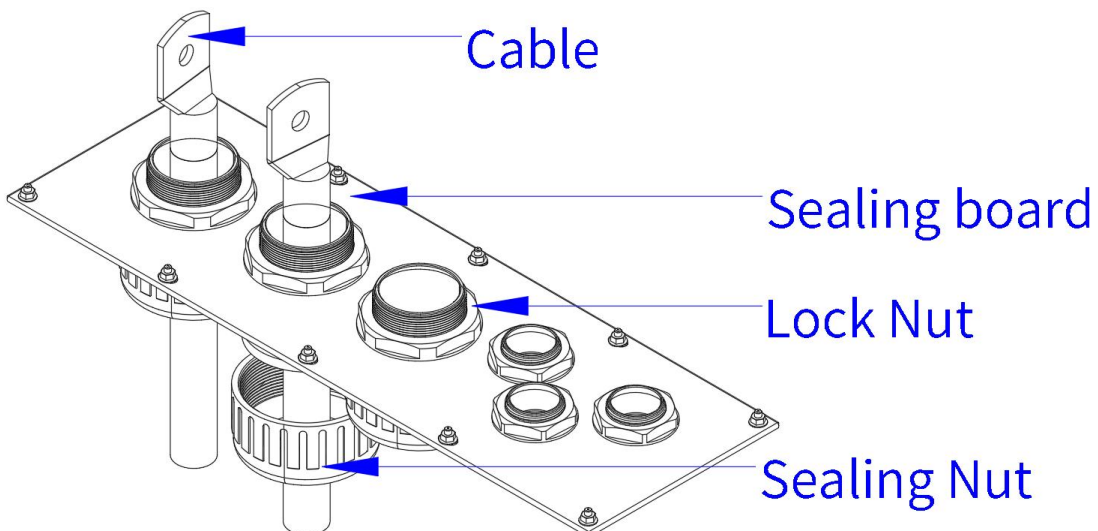


The installation steps of the non-corrugated conduit are as follows:

- (1) Use Electric screwdriver to unscrew the Sealing board and Multi-function wrench to remove the Sealing Nut.

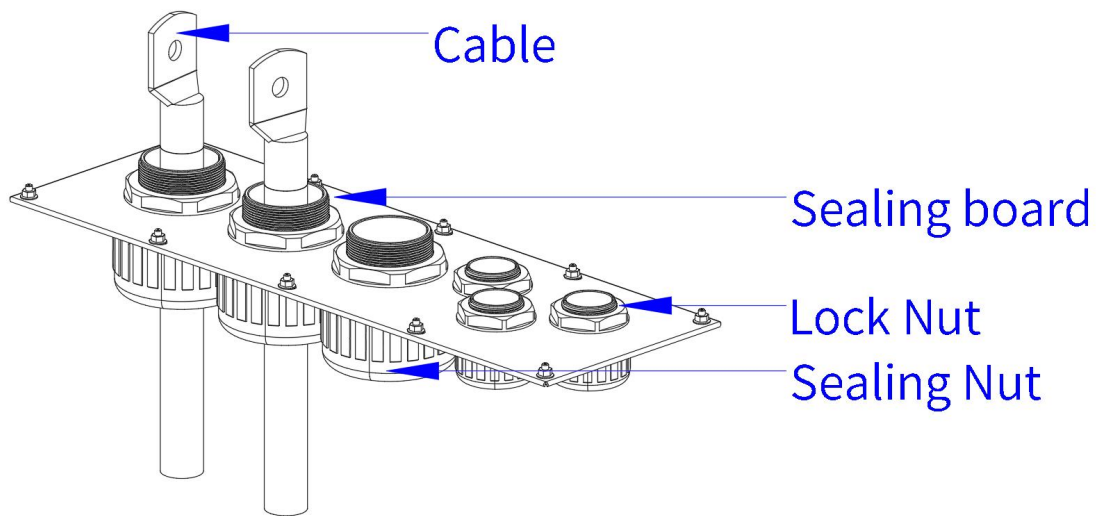


- (2) Thread the cable into the corrugated conduit nut and corrugated conduit joint in turn.

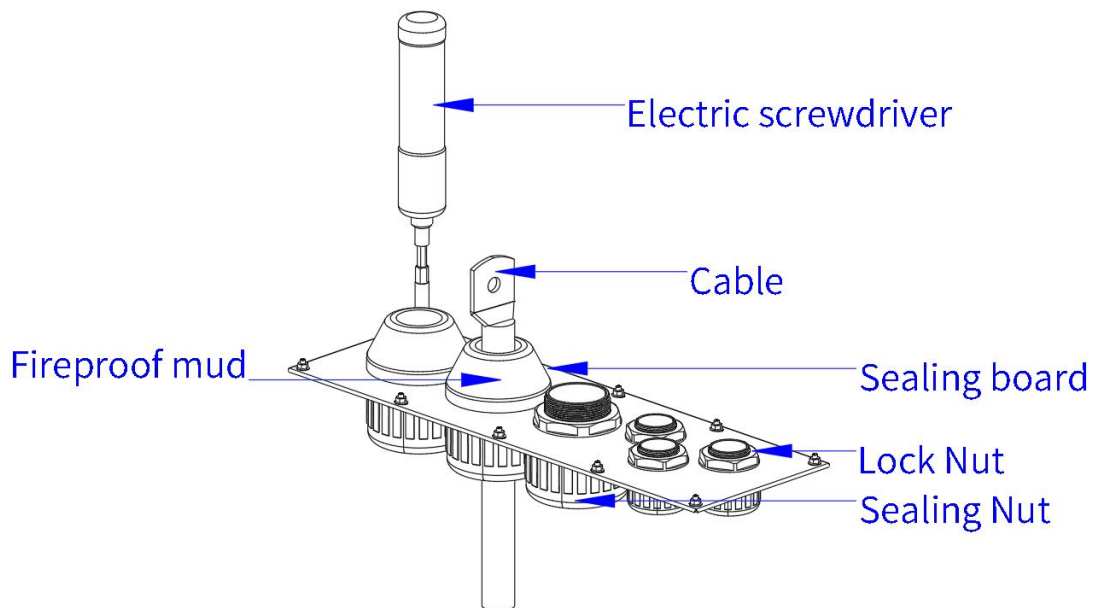


- (3) After tightening the Sealing nuts, place the cable inlet cover plate back to the bottom of the

EVSE.



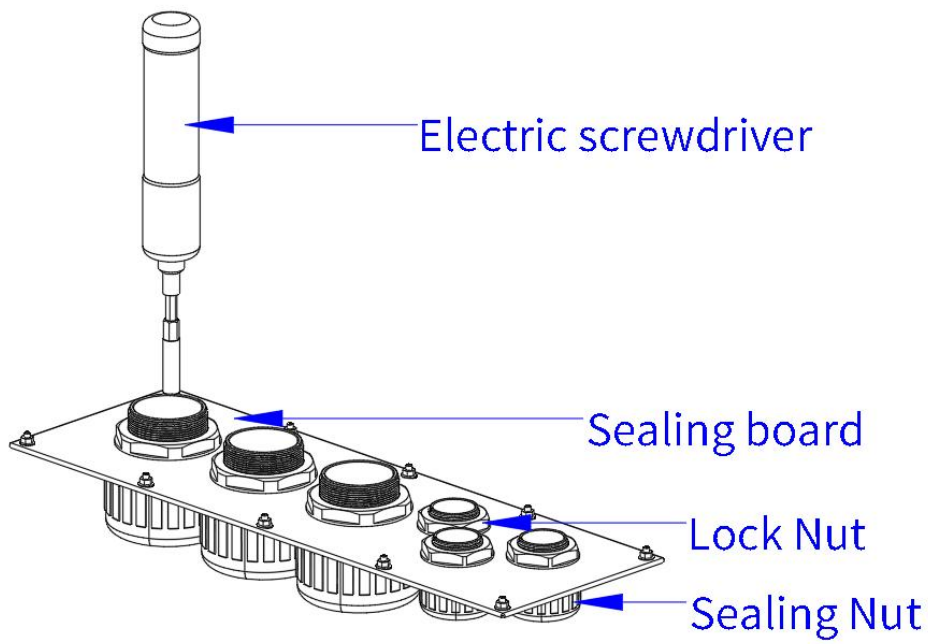
(4) After assembling the cable inlet cover nut with a Electric screwdriver, seal the cable inlet with fireproofing mud.



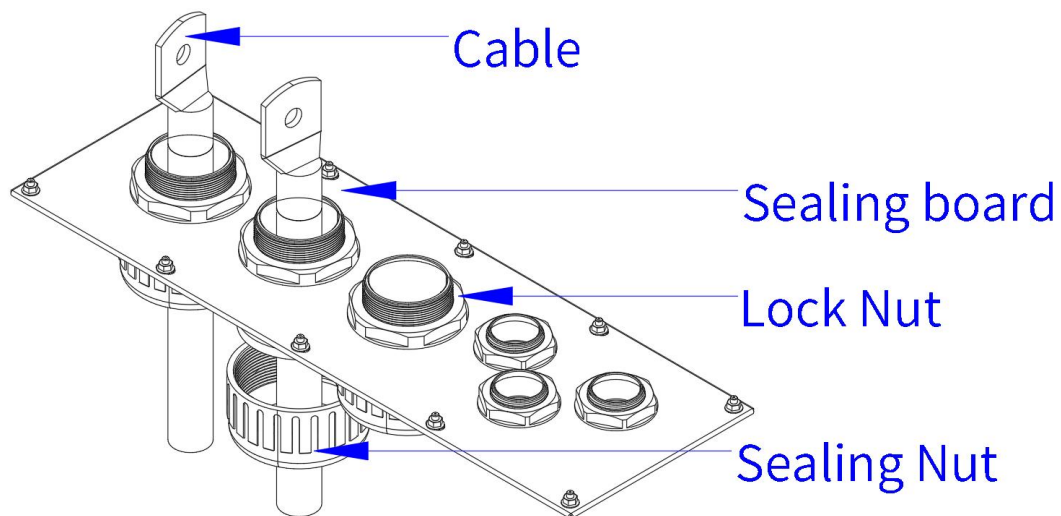
3.3.2 Equipped with Cable Gland

The installation steps are as follows:

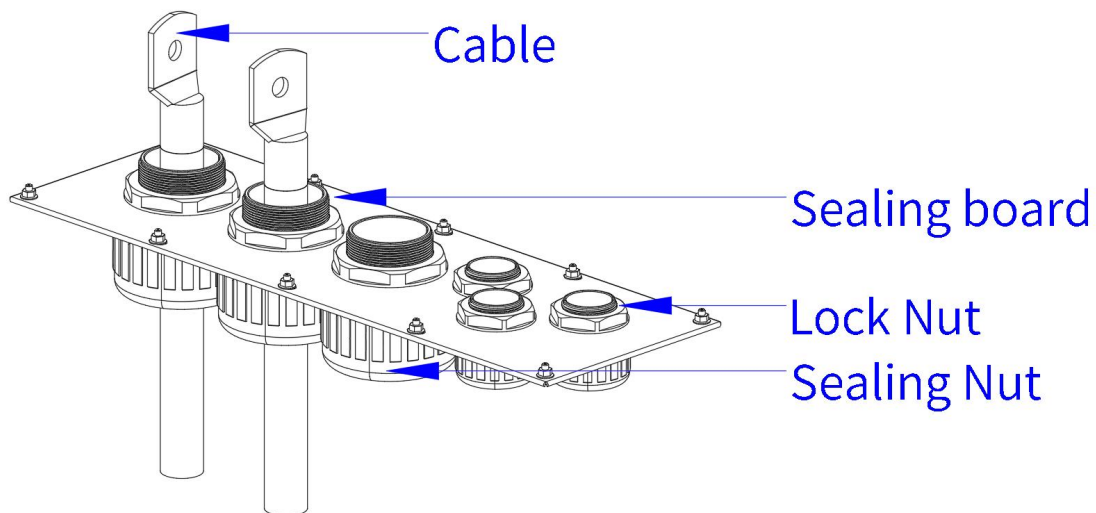
(1) Use Electric screwdriver to unscrew the Sealing board and Multi-function wrench to remove t Sealing Nut.



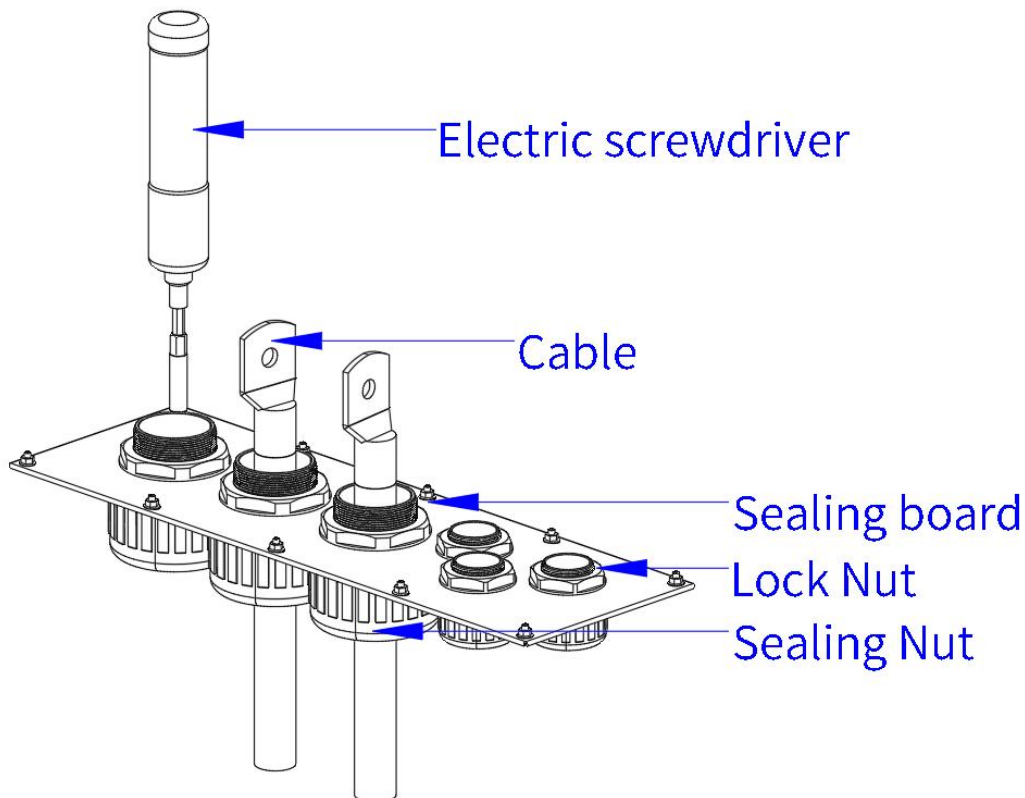
(2) Thread the cable into the cable gland nut and cable gland in turn.



(3) After tightening the cable gland nut, place the cable inlet cover back to the bottom of the EVSE.



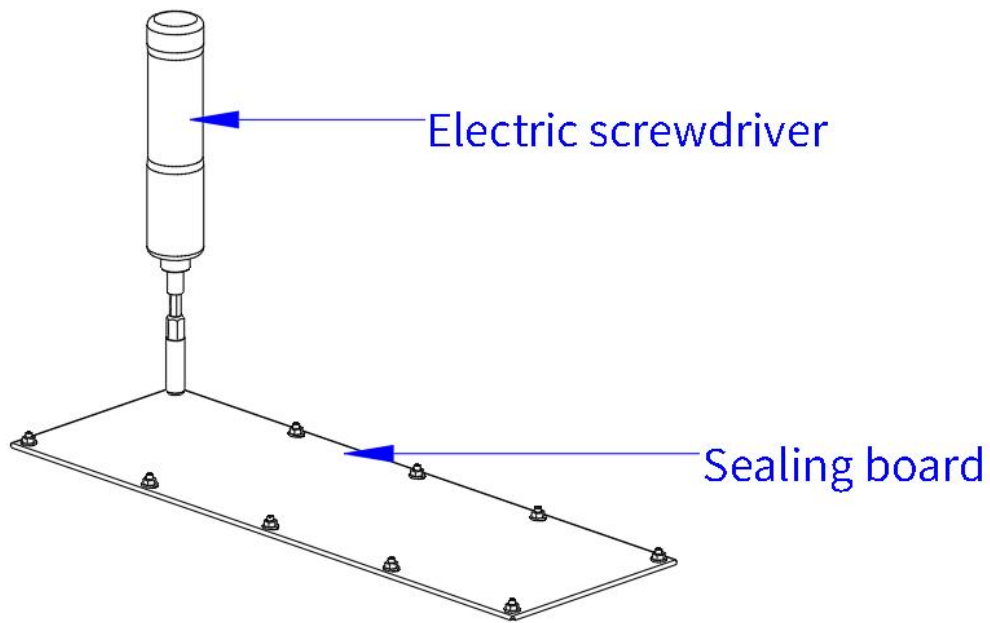
(4) Assemble the cable inlet cover nut with a socket spanner or ratchet wrench.



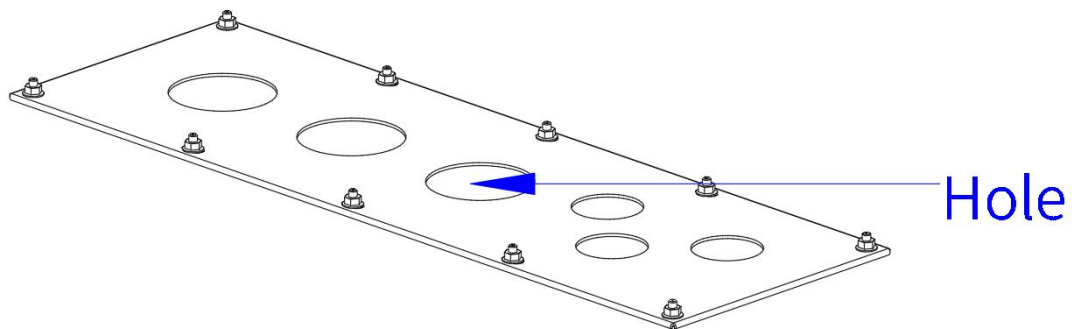
3.3.3 Only Equipped with Wire Cover Plate, the Customer's Own Drilling.

The installation steps are as follows:

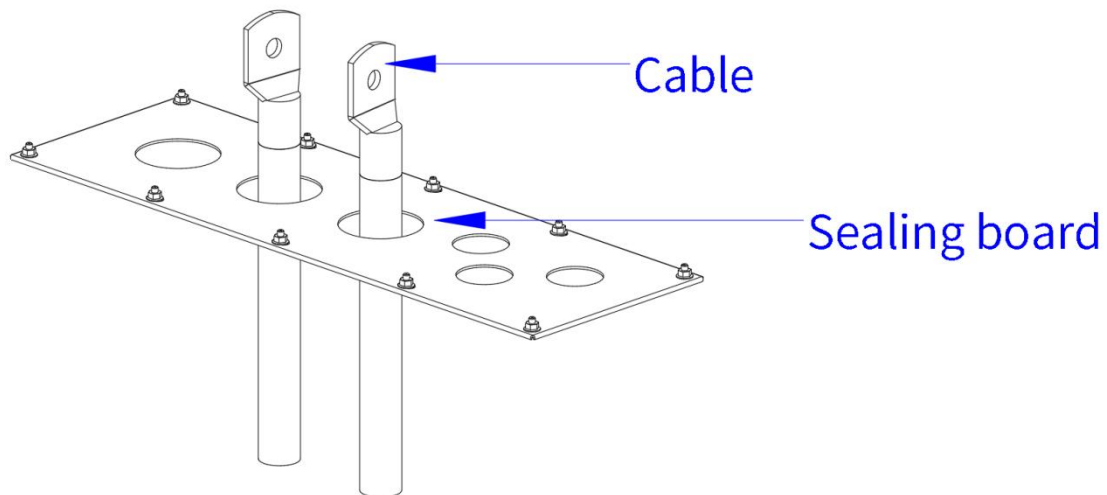
(1) Use Electric screwdriver to unscrew the Sealing board and Multi-function wrench to remove the Sealing Nut.



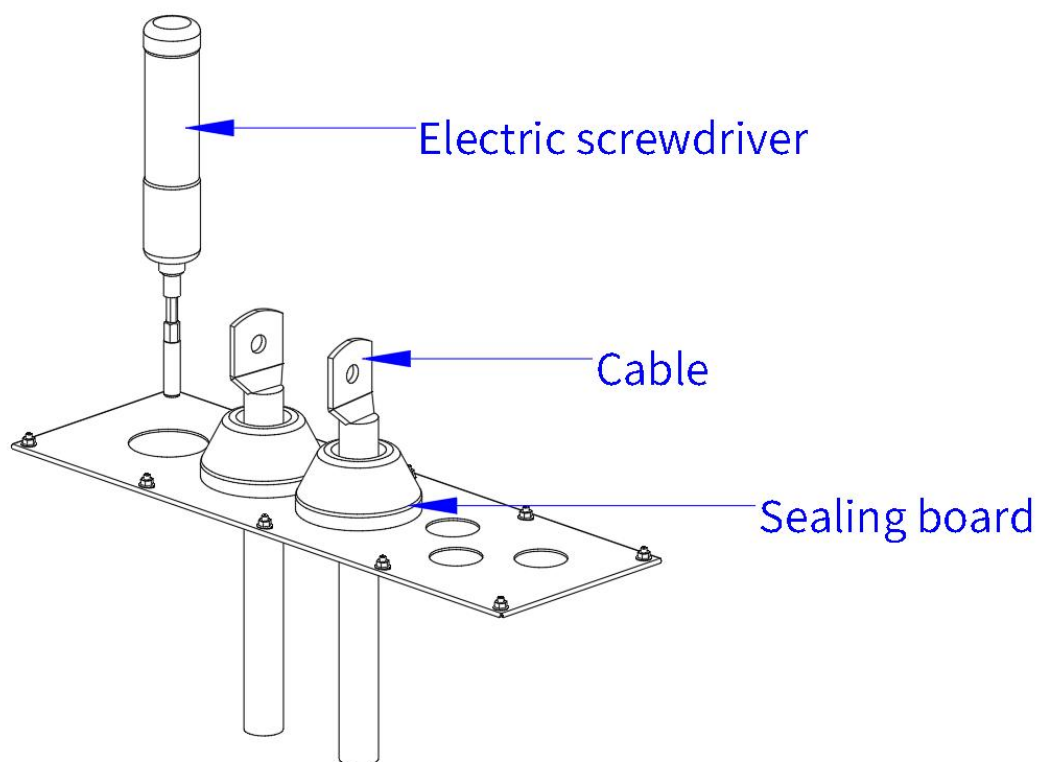
- (2) According to the equipped inlet cable diameter, the customer can drill the corresponding size of the cable hole.



- (3) After threading the cable into the cable hole, place the cable inlet cover plate back to the bottom of the EVSE.



- (4) After assembling the cable inlet cover nut with a socket spanner or ratchet wrench, seal the cable inlet with fireproofing mud.



4. Inspection After Installation

4.1 Installation Wiring Check

4.1.1 Equipment and Equipment Fixing Inspection

- (1) The appearance of the EVSE is clean and tidy, there is no bump damage, the position is consistent with the base, and it is firmly fixed without loosening.
- (2) The orientation of the equipment meets the installation standards.
- (3) There is no leakage of equipment installation accessories.
- (4) The book review of the level measuring equipment meets the specified 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 compliant and the wiring is firm.
- (3) Check that the communication cable terminals are correct and not loose.
- (4) Check for hanging cable labels.
- (5) Check whether the cable bending radius meets the requirements.
- (6) Check whether the electrical grounding is reliable.

4.2 Check Before Power-On

Before powering on the equipment, check whether the power supply voltage at the upper end of the plastic-cased air circuit breaker at the low-voltage power distribution cabinet is normal, and there are no abnormalities such as phase loss, overvoltage, undervoltage, and phase sequence. The circuit breaker, leakage protection and all switch should be in the OFF position, as shown in the figure below

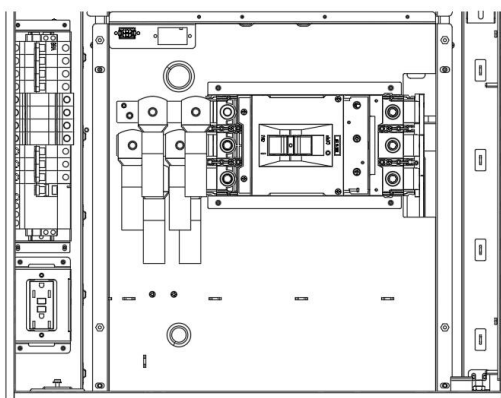


Figure 23 Turn off the Circuit Breaker, Leakage Protection, all Switch

After ensuring that the EVSE is installed stably and the wire connection is reliable, etc., the charging station can be powered on.

4.3 Power-on Check

Connect the main switch of the external AC power supply of the EVSE.

- Turn on the circuit breaker, leakage protection and air switch.
(The door is open, the fault light is on, and the buzzer sounds.)

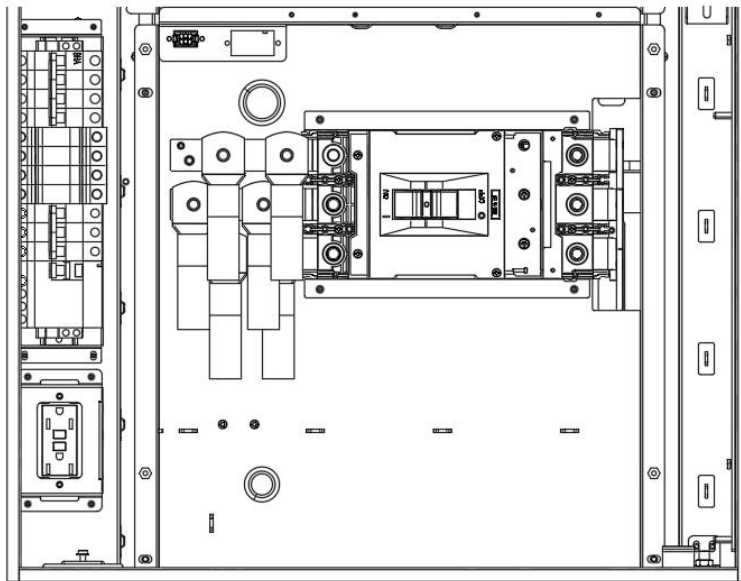


Figure 24 Open Circuit Breaker, Leakage Protection, Air Switch

- Close the cabinet door (the fault indicator light is off at this time, and the buzzer stops beeping.)

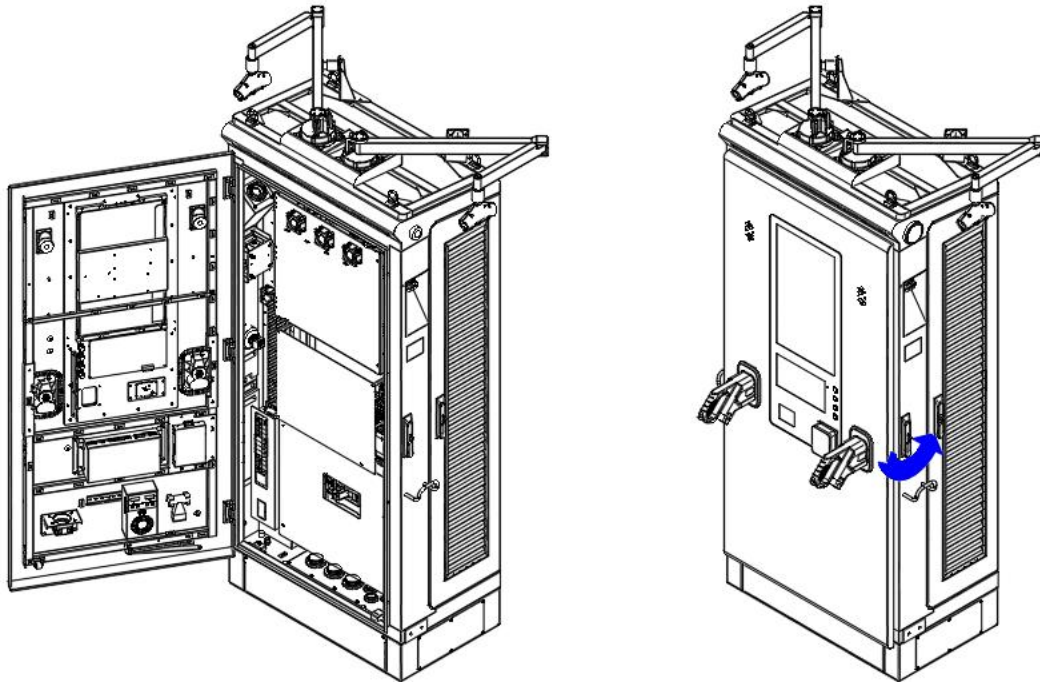


Figure 25 Close the Cabinet Door

- The screen enters the startup interface, and the green light is on. (Note: Please refer to the table below for the detailed description of the indicator lights on the light board)

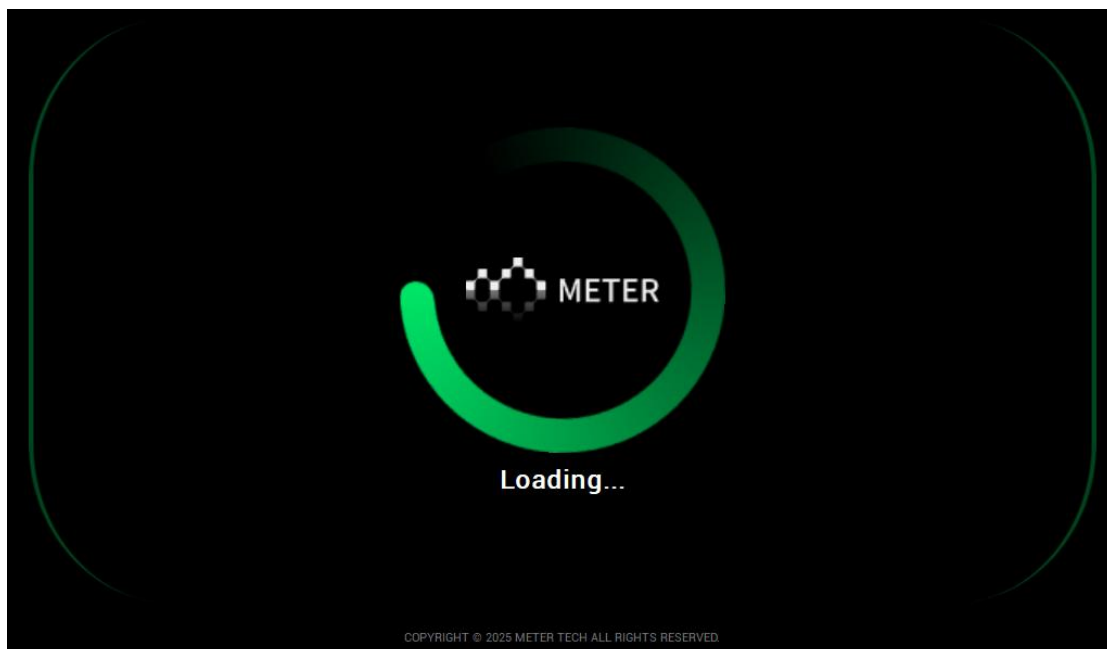


Figure 26 The Screen Display After Power On

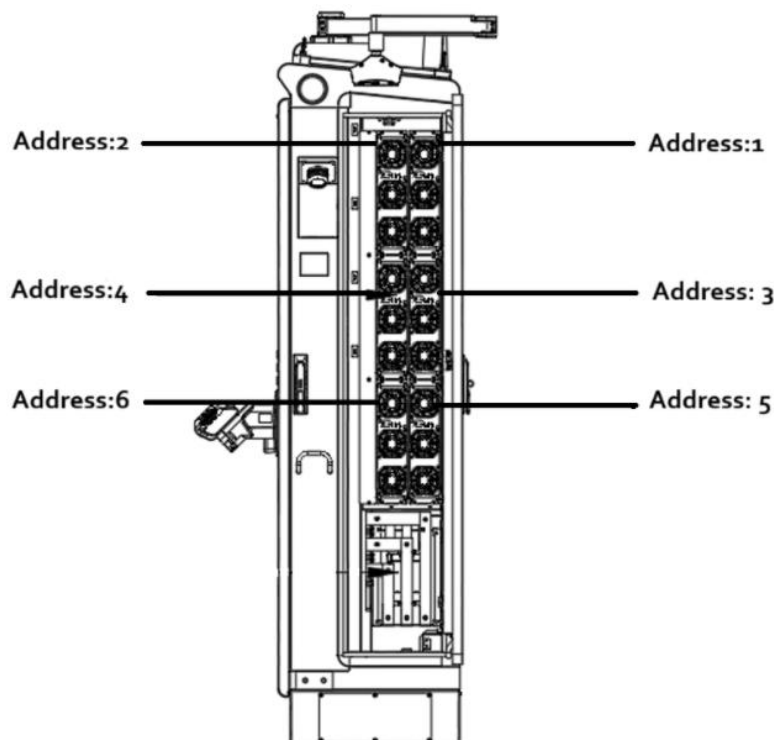
Indicator Light	Standby	Charge	Error
DC1	Green Steady	Blue Steady	Red Steady
DC2	Green Steady	Blue Steady	Red Steady
Other:			
DC connector plug-in light: white constant light			
Atmospheric light at the top: Available: green, unavailable: blue			

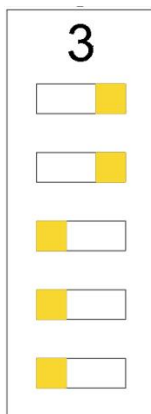
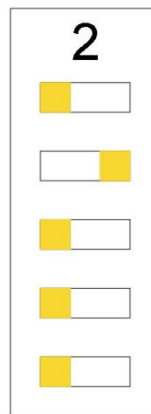
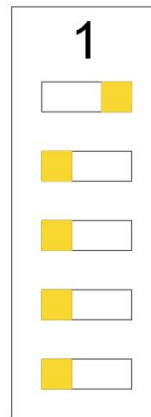
Table 6: Comparison Table of EVSE Status Indicators

5 Power Module Address Settings

Before setting the address, power off the charger, place the power module in the power supply slot, follow the sticker instructions to set the DIP switch to the address of 1-6 (as show Figure 27 the DIP switch corresponding to addresses 1-6), then you can power on the charger.

Under normal circumstances, all power modules can be found within 2 minutes, otherwise, a fault code will be displayed on the screen. If fail repeatedly, start again from the first step or call for help from the manufacturer.





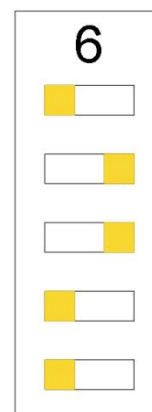
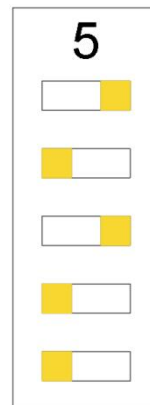
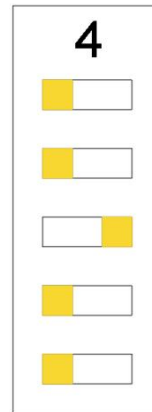


Figure 27 The DIP Switch Corresponding to Addresses 1-6

6.Charging

6.1 Display Introduction

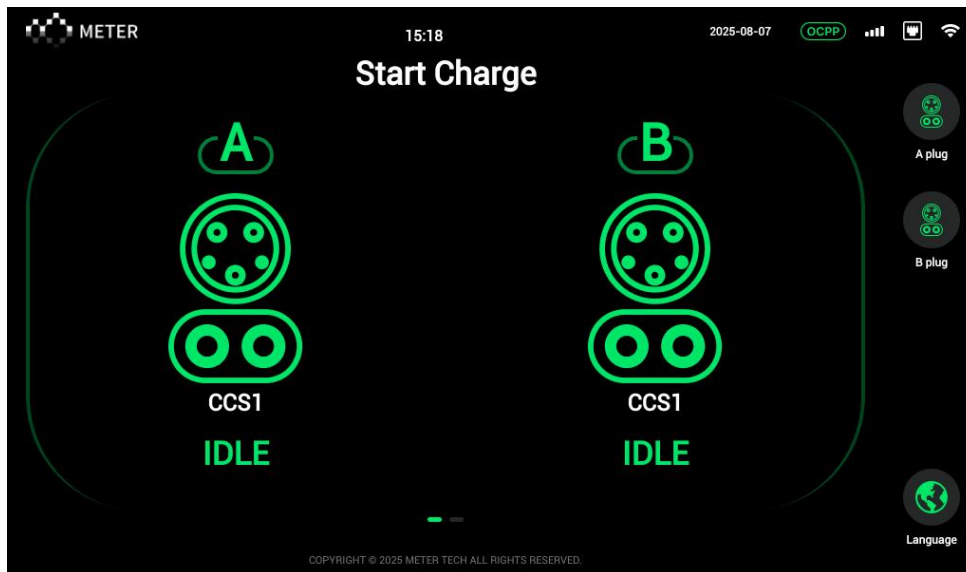


Figure 28 Display Introduction

6.2 Initial Setup

6.2.1 The Administrator Interface Configures the Network

Step1: Click the "Logo" button 3 times on the homepage

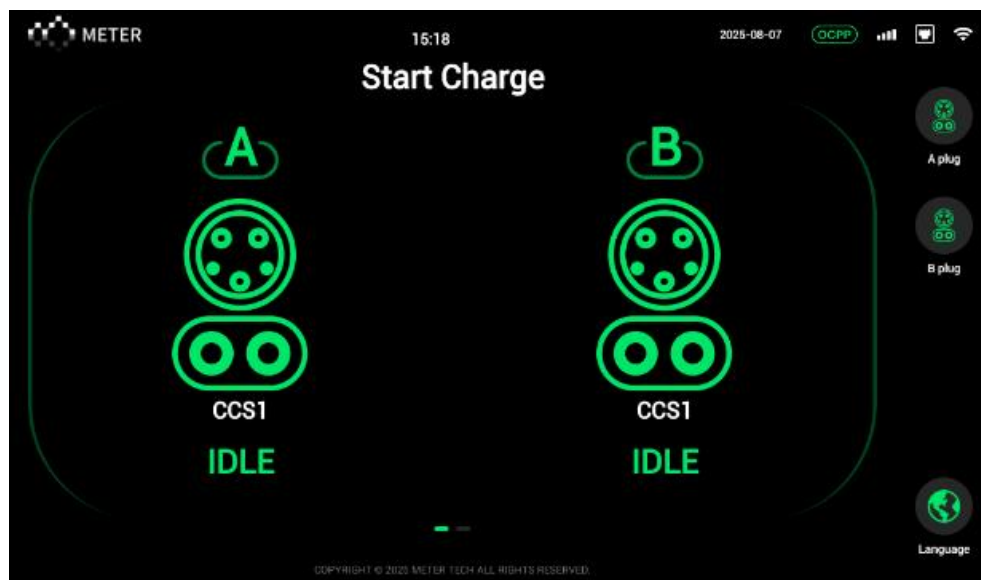


Figure 29. Home Page "Settings"

Step2: Enter password to enter



Figure 30. Password Input

6.2.2 Network Configuration

After entering the management interface, select "Network"

Support WIFI, 4G, Ethernet

The signal icon in the upper right corner of the screen is displayed as the corresponding networking mode (as shown in Figure 33), that is, the network connection is successful.

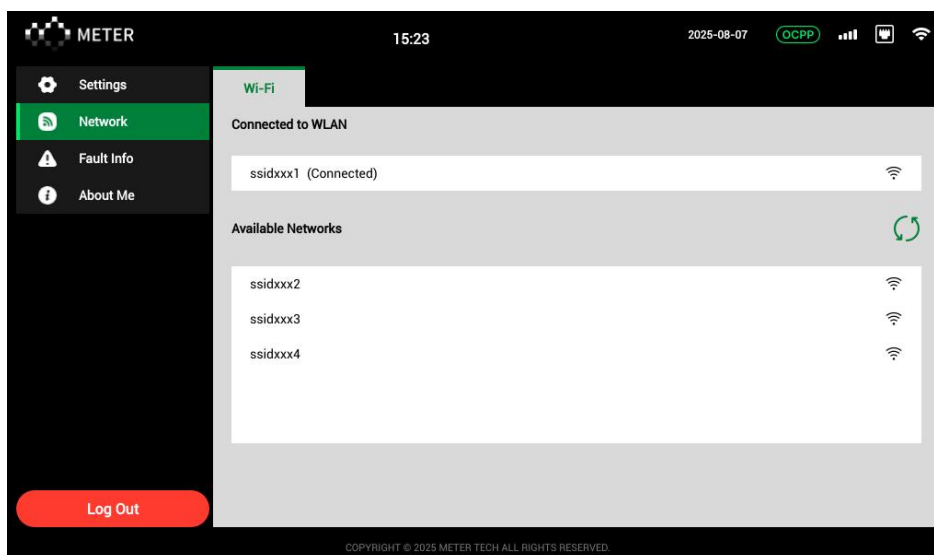


Figure 33. Network Configuration Success Signal Icon

WIFI Set

Step1: Select Wi-Fi > Click Refresh Icon

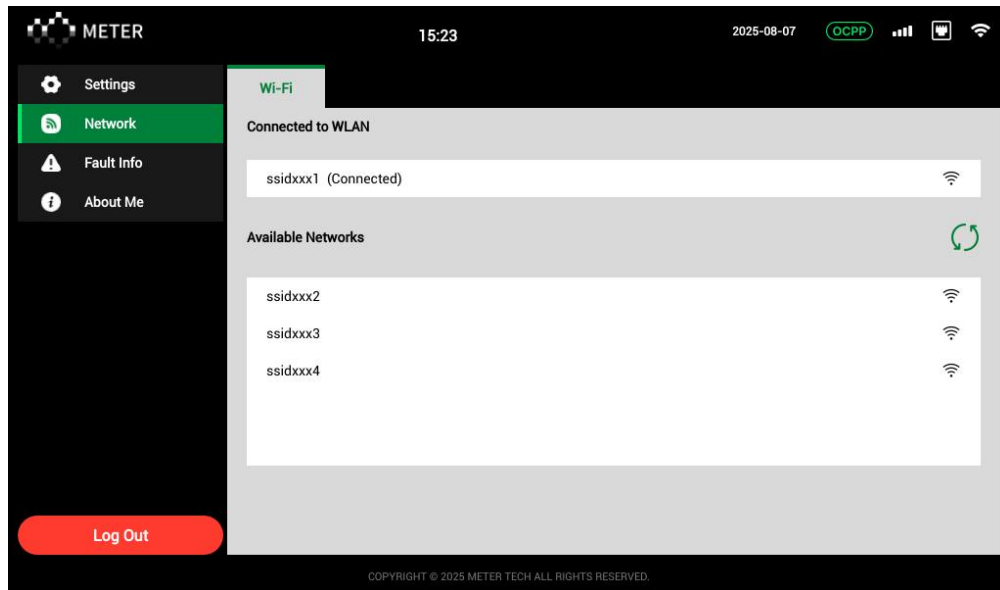


Figure 34. Select WIFI

Step2: Enter WIFI password > Next to confirm

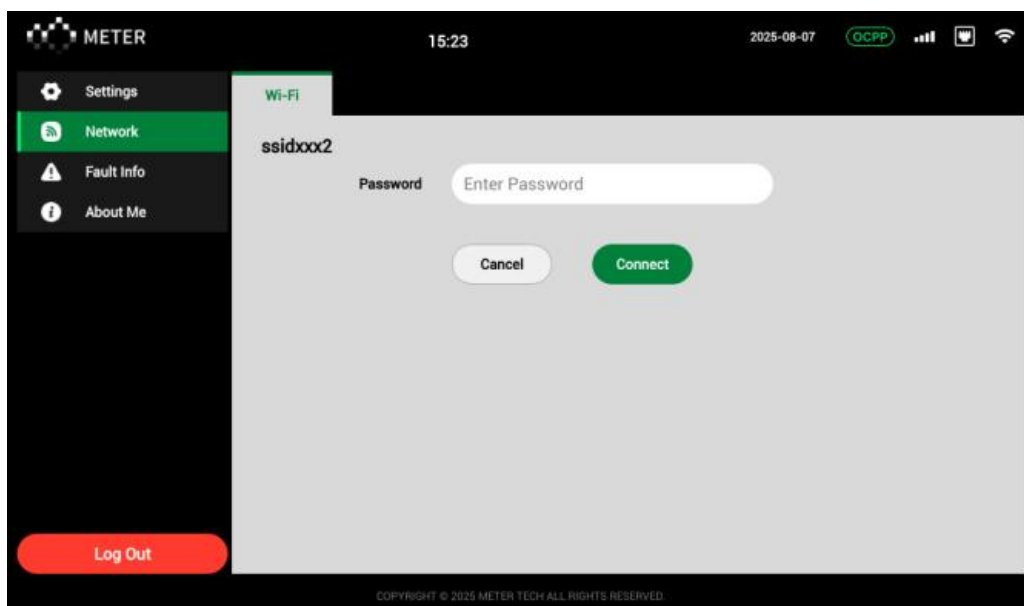


Figure 35. Enter WIFI Password

6.2.3 OCPP Platform Connection

After the configuration of the EVSE network is completed, it will automatically connect to the OCPP platform within 60s. After the connection is successful, the OCPP icon on the screen will light up (as shown in Figure 36)



Figure 36. OCPP Connection Successful

6.3 Charging Process

6.3.1 Click A or B to Start the Charging

Click the button within the red box (as show in Figure 37) or press the corresponding physical button to start charging.

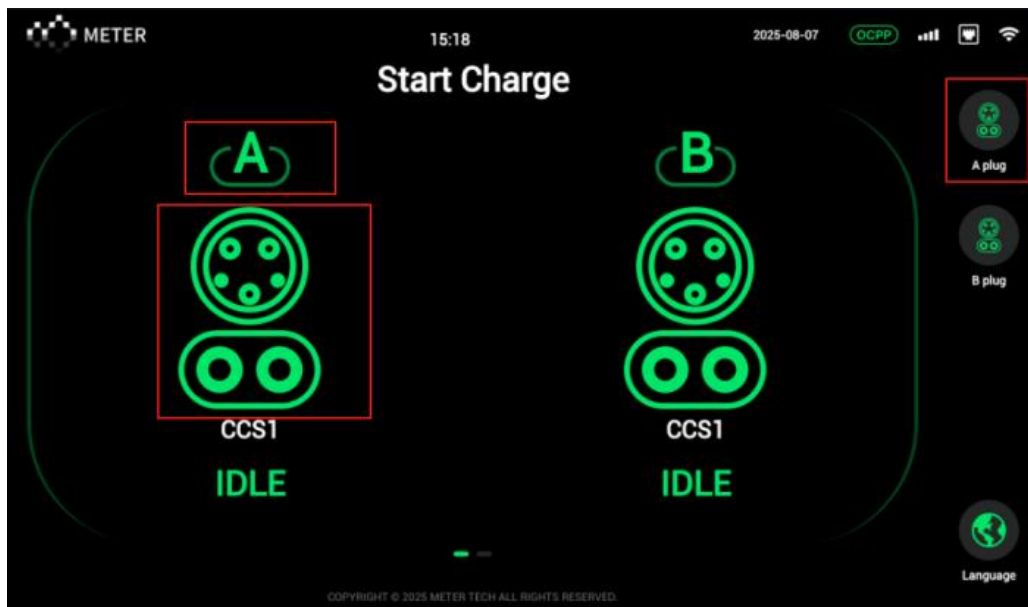


Figure 37. The Starting Position of A Plug

6.3.2 After Click the Plug Button and Select the Payment Method

- Support RFID activation, APP scanning code activation, POS credit card activation (optional)

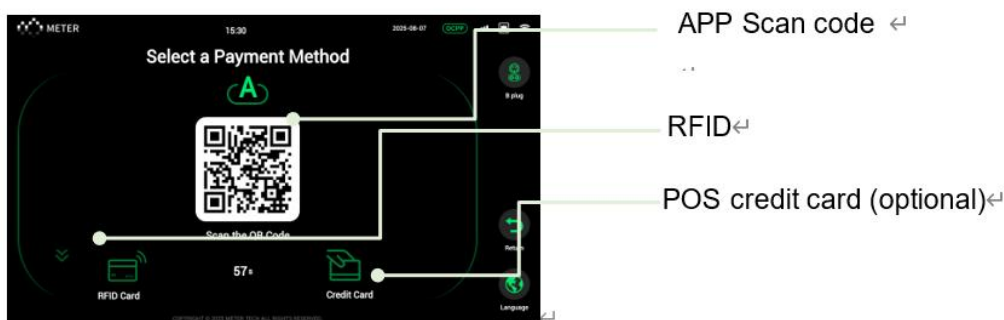


Figure 38. Payment Method Selection Interface

6.3.3 After Swiping the RFID Card/Credit Card, the System Initiates Authentication

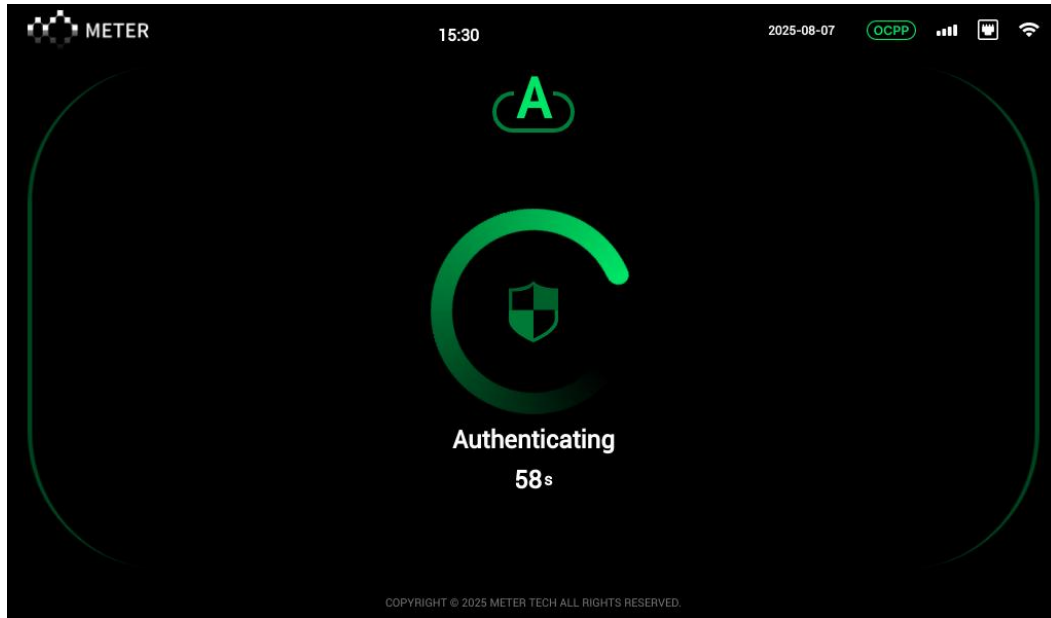


Figure 39. Authenticating Interface

6.3.4 After Authentication, Wait for the Plug to Be Inserted

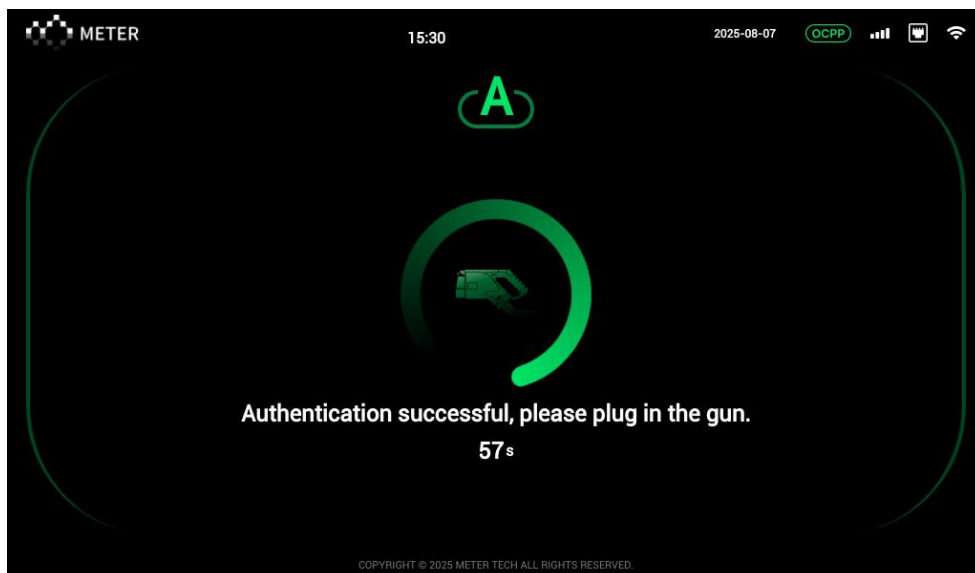


Figure 40. Wait for The Plug to Be Inserted

6.3.5 After Inserting the Plug, Wait to Start Charging

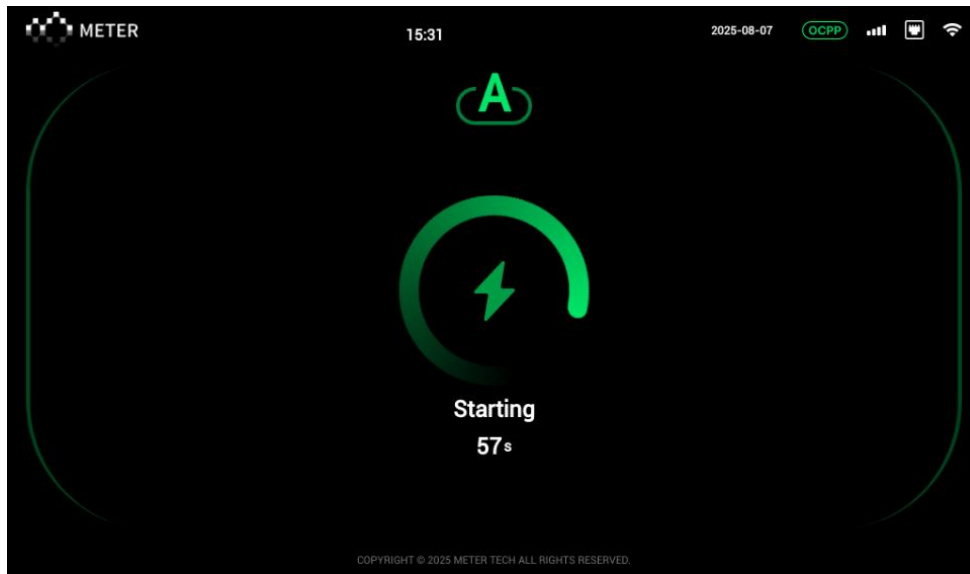


Figure 41. Wait to Start Charging

6.3.6 Charging

- Check vehicle charging details in real time (as shown in Figure 42)

Charging will end automatically after it is fully charged / click the "STOP" button to end charging in advance

(Note: When using the App to charge, you need to operate the "STOP" button on the App)

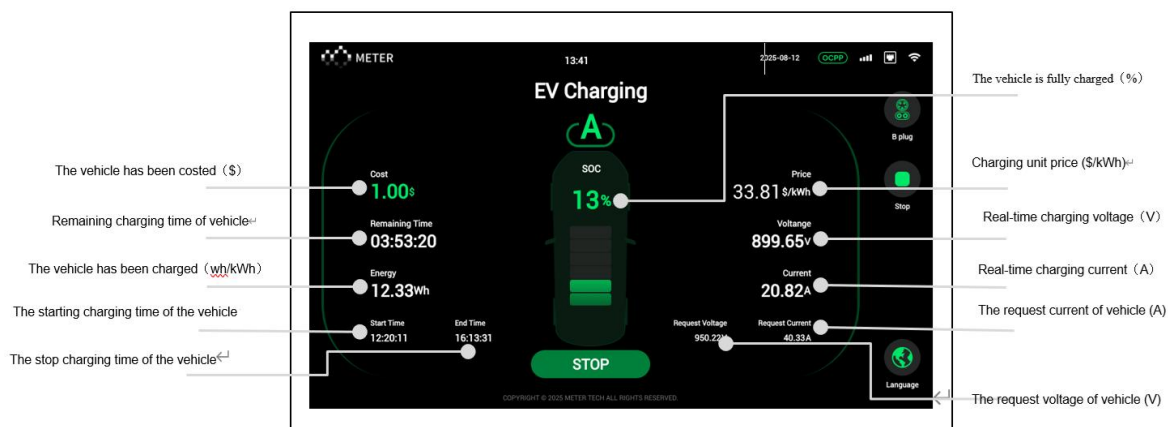


Figure 42. Chargin Interface

6.3.7 Stop Charging (as shown in Figure 43-44)

- When choosing an RFID card, you need to swipe the card again to pay (as shown in Figure 43)
- When choosing an app, the payment will be automatically completed in the credit card/debit card bound to the app in the app
- When choosing a POS credit card, you need to swipe the card again to pay (as shown in Figure 44)

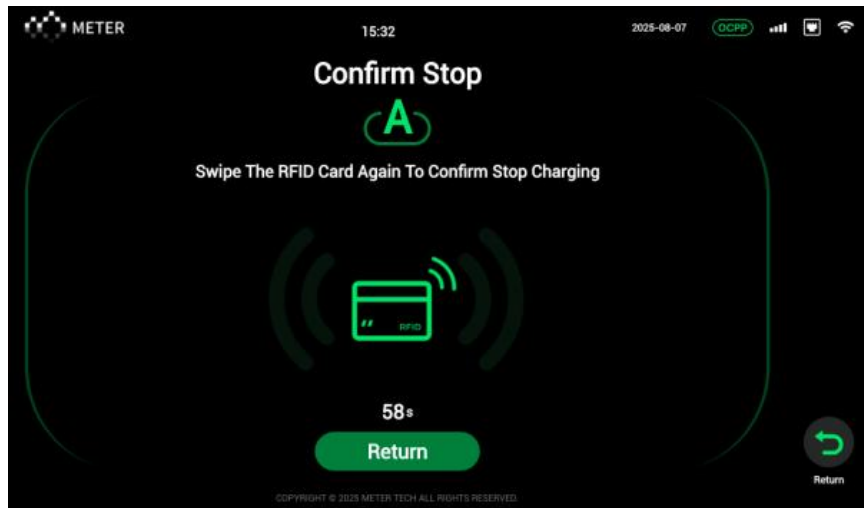


Figure 43. RFID Card Settlement Interface

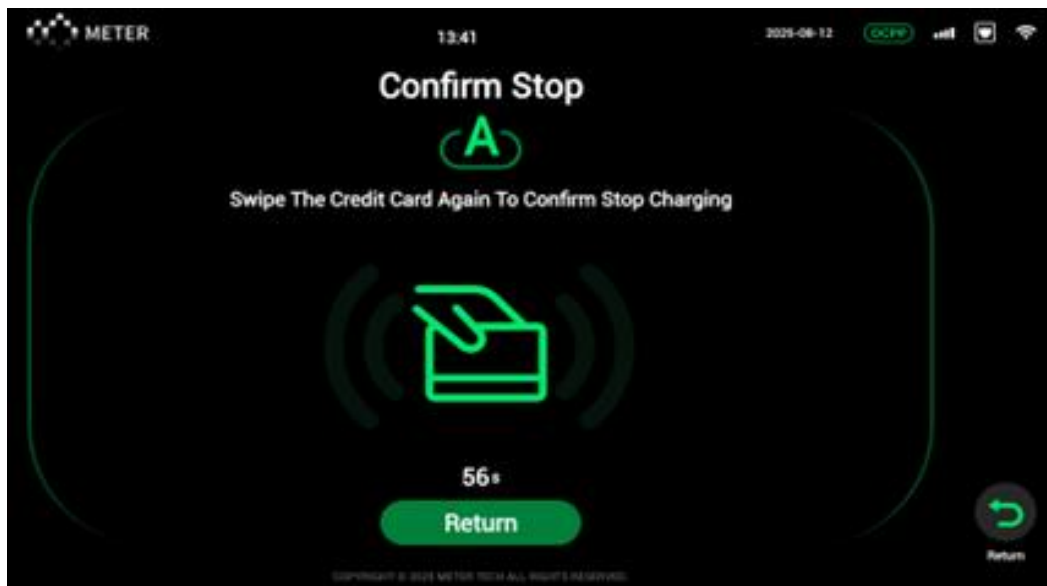


Figure 44. Credit Card Settlement Interface

6.3.8 After Swiping the RFID Card/Credit Card, the System Initiates Authentication

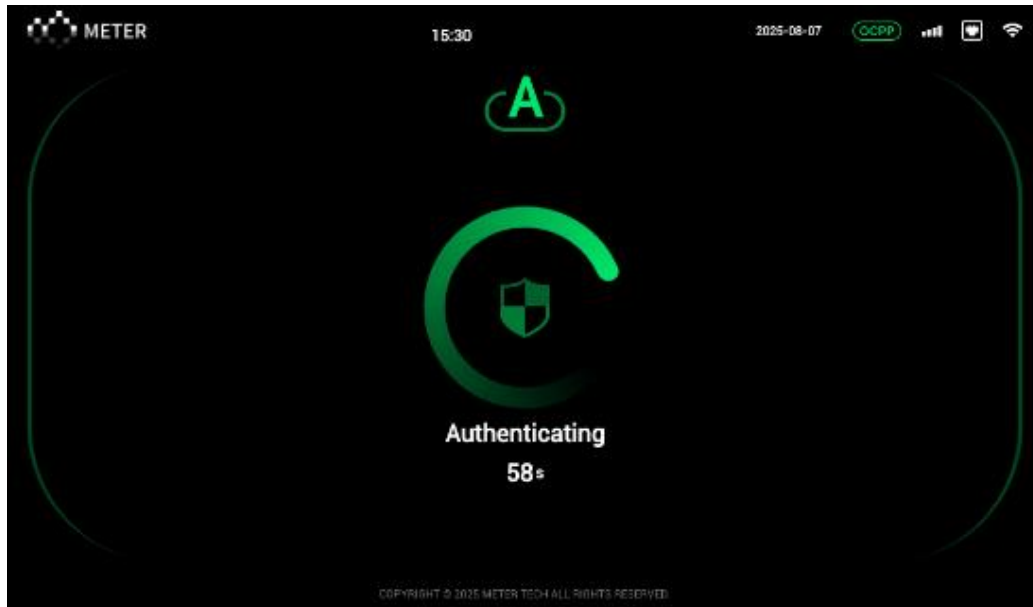


Figure 45. Authenticating Interface

6.3.9 After authentication, Wait to Stop Charging



Figure 46. Wait to Stop Charging

6.3.10 View the Order Details

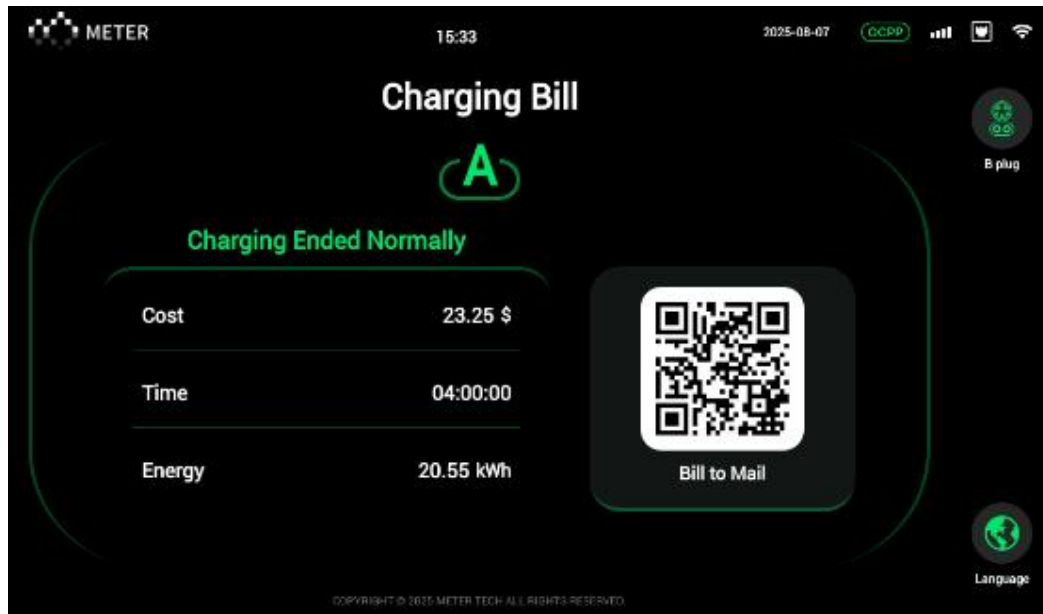


Figure 47. Order Details Interface

6.3.11 After Charging is Complete, Pull Out the Charging Plug and put it in its original position (as shown in Figure 48)

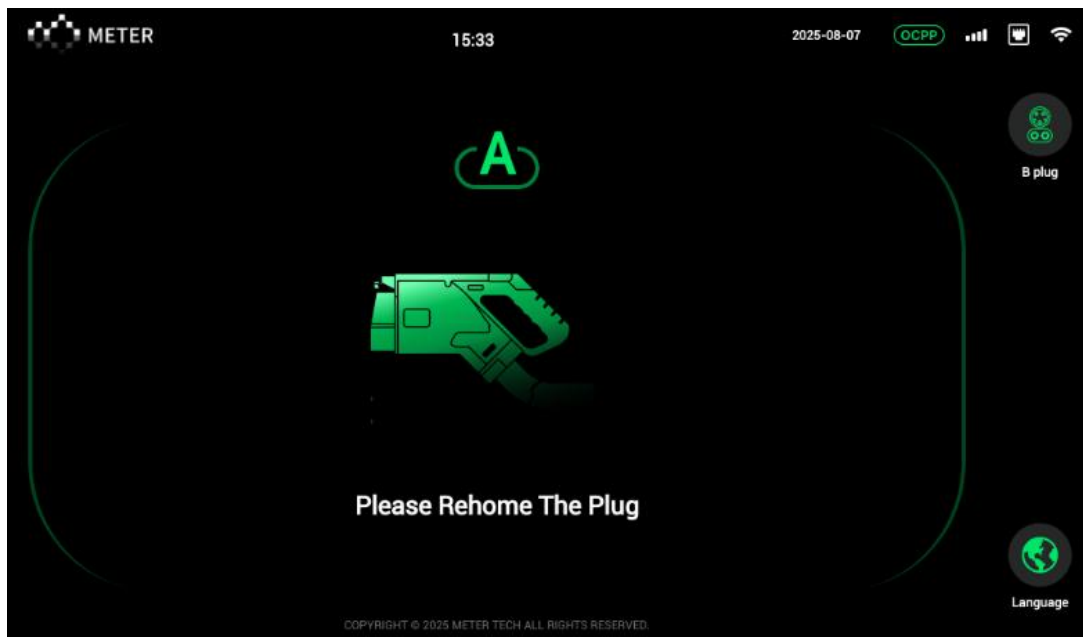


Figure 48. Reminder for Rehome the Plug

6.3.12 After Charging is complete, Pull Out the Charging Plug and Put it in Its Original Position

6.4 Power Off & Shutdown

After charging, disconnect the leakage protection and the air switch, and then power off the main brake.

6.4.1 Turn the Door Lock Handle to the Left to Open the Cabinet Door.

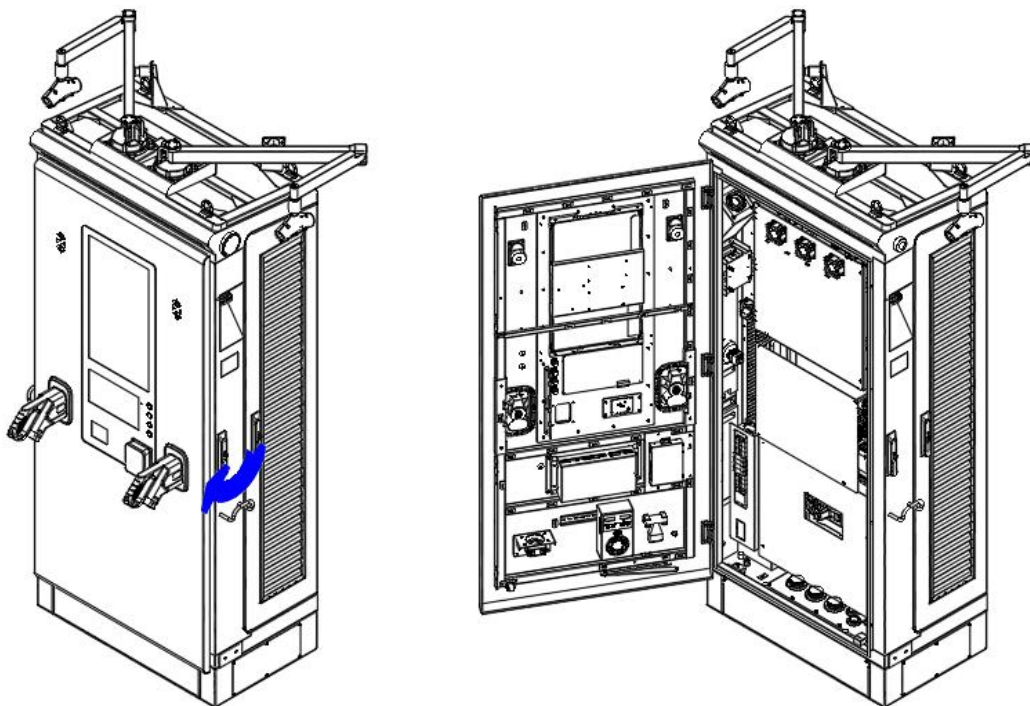


Figure 51 Open the Cabinet Door

6.4.2 Turn off the Circuit Breaker and Air Switch.

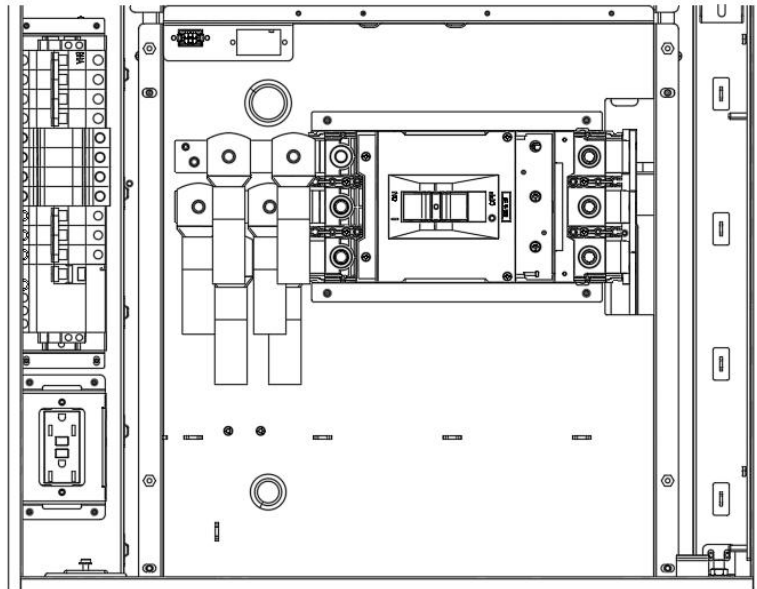


Figure 52 Off Switch

6.4.3 Close the Cabinet Door, Turn the Door Lock Handle to the Right, and Lock the Cabinet Door.

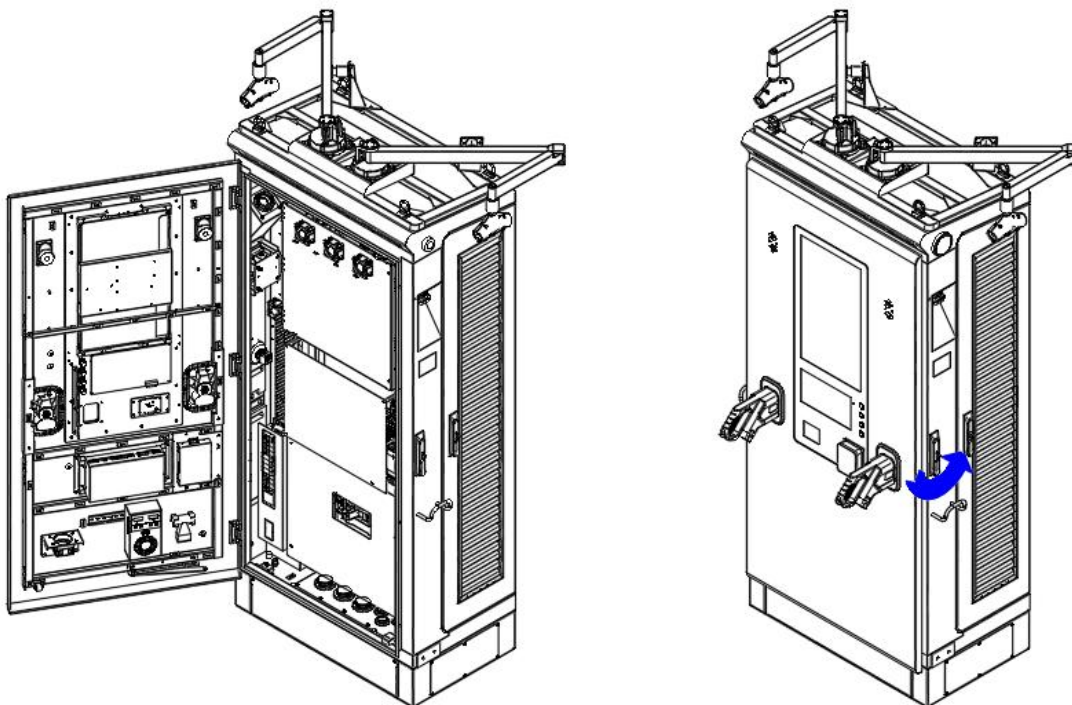


Figure 53 Close the Cabinet Door

6.5 Emergency Operation

6.5.1 Emergency Stop Function

Refer to this section only when there is an abnormality or mis-operation.

In case of emergency, quickly remove the transparent protective cover, press the red "emergency stop button", and the system will cut off the output power. Do not use the "emergency stop button" during normal shutdown

6.5.2 Position of Emergency Stop Button

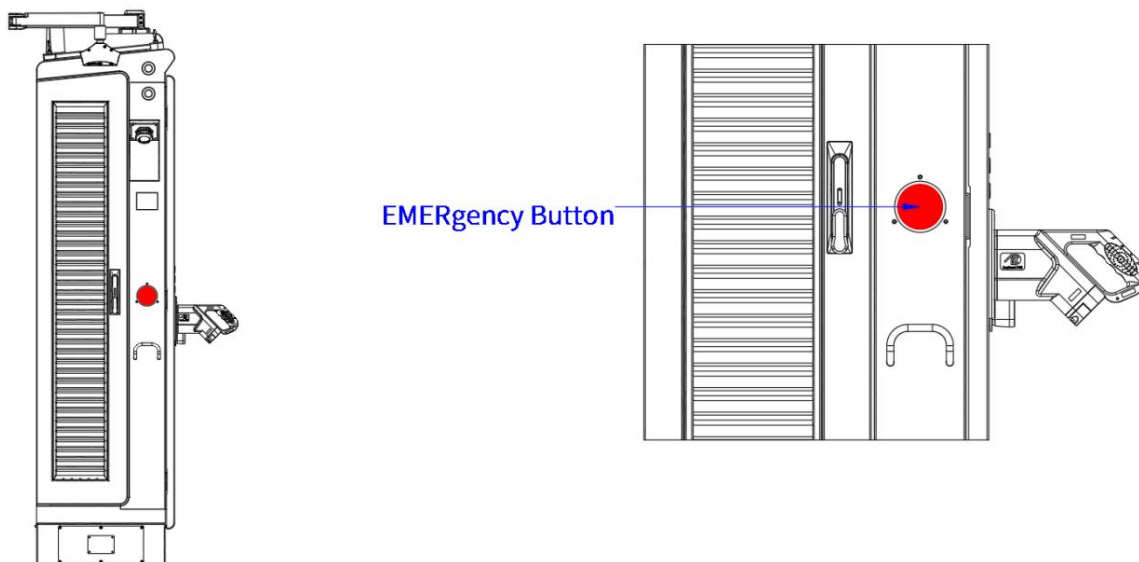


Figure 54 Emergency Stop Button

6.5.3 Emergency Stop Reset

Turn the emergency stop button clockwise to reset

7. Product Transportation and Storage

Our products will be shipped with the charging post fixed on a pallet, using pearl cotton and wrapped tightly around any parts that may come into contact with it. During the transportation process, please take it lightly, do not drop it, do not make violent impact on it.

When storing the product, please put it in a dry environment and store it in an ambient

temperature between -40°C~85°C. The storage place should be kept clean and ventilated.

8. Completion Data

No.	File name	Page	Document Necessity
1	Unpacking Record Sheet	1	√
2	Pre-Installation Checklist	1	√

1. Parts introduction

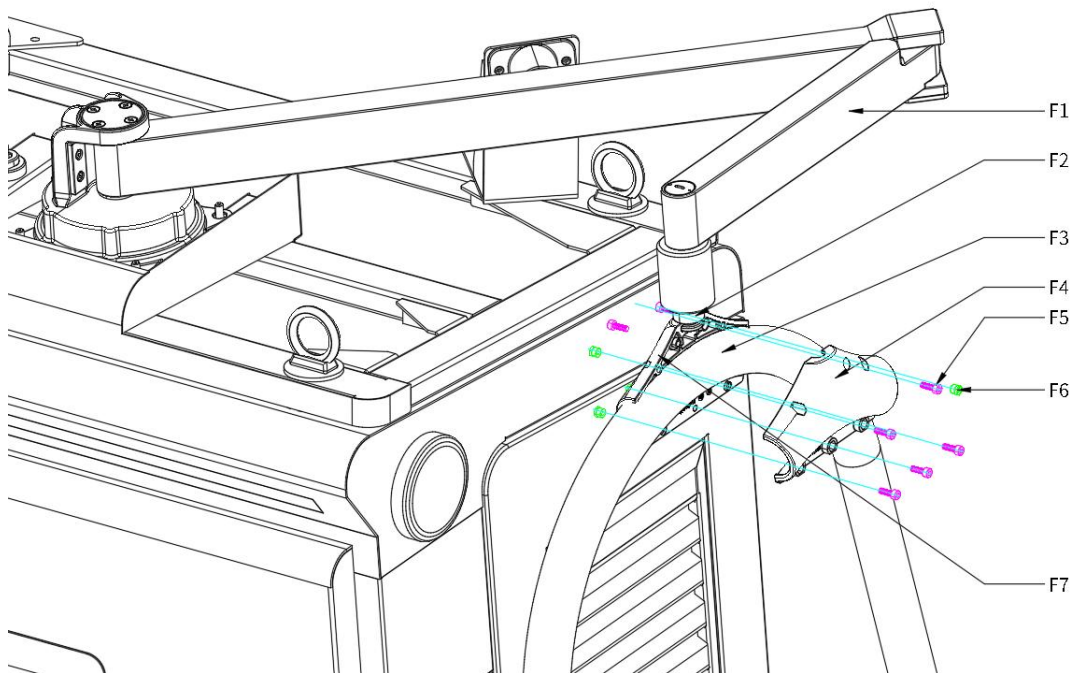


Figure 1 Introduction to Swing Arm Assembly Components

F 1	Swing arm minor axis	F 2	Cardan shaft fixing bracket	F 3	Cable	F 4	Cable support right bracket
F 5	Screw	F 6	Anti-loosening nut	F 7	Cable support left bracket	F 8	

2. Connect the components with the body according to the figure below, and fasten 4 screws (M12*35). Use 95.5N·M torque.

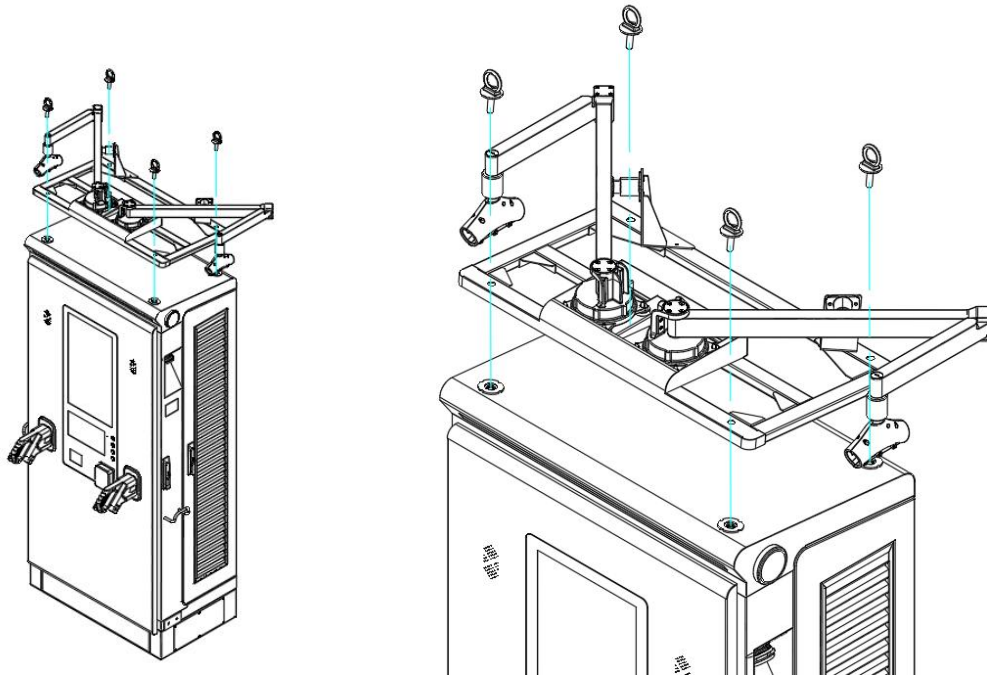


Figure 2 Installation Drawing of Swing Arm Assembly and Cabinet

Fix the Plug line to The Swing Arm Line Card.

2.1 Use the cardan shaft fixing bracket to fix the cardan shaft to the short shaft of the swing arm.

2.2 Fix the 2 chucks to the cardan shaft with pins.

2.3 Put the plug line rubber ring on the plug line about 2m away from the plug line outlet, and snap the plug line rubber ring to the left bracket of the line holder.

2.4 Hang the left bracket of the wire support on the chuck.

2.5 Close the right bracket and the left bracket of the wire support, and lock them with M4 screws and M4 nuts.

3. The plug line is fixed.

Recommended distance: the distance from the cable outlet at the cabinet end to the line card of the swing arm is 2 meters, and the distance from the plug head to the line card of the swing arm is 3 meters.

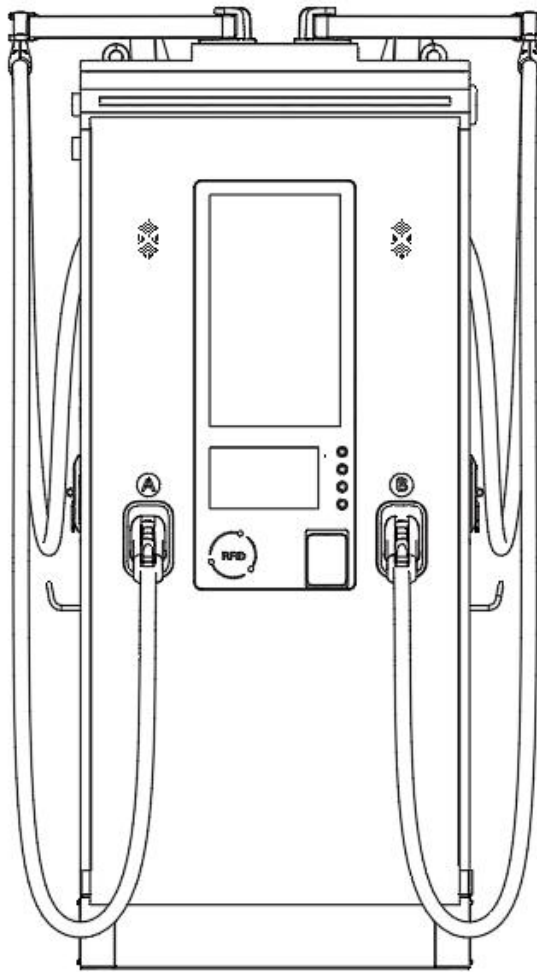


Figure 3 is a Diagram of The Cable Position and Distance of The Line Card

Appendix 2 Unpacking record sheet

Unpacking Record Sheet						
Dealer Store Name		Unpacking Cate				
Serial No.	Name of	Actual	Qty	Certificate	Equipment	Remarks

	Goods	goods		No.		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
Unpacking Conclusion						
signature Field	Installation Unit				Owner Unit	

Appendix 3 Pre-installation checklist

Pre-installation Checklist				
Project Name:				
Civil Construction:			Equipment Installation Unit:	
Sub-Project	No.	Main Acceptance Items	Acceptance Record	Treatment Measures
Installation Plan	1	Whether the installation of on-site equipment conforms to the design drawings of the construction plan		
Distribution Box Circuit Breaker	1	Meet the equipment installation requirements (the minimum input		

		current of the equipment is 384A)		
Cable Type Cement Foundation	1	AWG 4/0 * 4 + AWG 2/0 * 1		
	2	Network cable cat6a (if Ethernet communication is required)		
Maintenance Channel Sub-Project	1	Dimensions Meet the Requirements		
	2	The foundation bolts meet the requirements of chapter 2.6 in the installation manual		
Installation Plan	1	Maintenance access meets the equipment spacing requirements in Section 2.7		
Conclusion:				
Note: (1) The acceptance record is filled with "√" or "x" according to the on-site situation; (2) The conclusion is filled with "qualified" or "required rectification" according to the on-site situation				
Signature of the person in charge of inspection: _____				
Date: _____				

Appendix 4 List of Toxic and Hazardous Substances and Elements

Part Name	Toxic and Hazardous Substances or Elements					
	Lead	Hg	Cadmium	Hexavalent chromium	PBB	Polybrominated Diphenyl Ethers
	Pb	Hg	Cd	Cr6+	PBB	PBDE
Cabinet/subrack/copper bar	○	○	○	○	○	○
Charging Module	○	○	○	○	○	○
Monitoring Module	○	○	○	○	○	○
Power Distribution Device	○	○	○	○	○	○
Made Board	○	○	○	○	○	○
Hardware	○	○	○	○	○	○
Cable	○	○	○	○	○	○
○: Indicates that the content of the toxic and hazardous substance in all homogeneous materials of the part is below the limit requirement stipulated in SJ/T-11363-2006 ×: Indicates that the content of the toxic and hazardous substance in at least one homogeneous material of the part exceeds the limit requirement stipulated in SJ/T11363-2006						
The following components or applications contain toxic and hazardous substances, which cannot be reliably replaced or mature solutions are limited by the current technical level: 1. Solder Contains Lead 2. Copper alloys contain lead 3. The contacts of the switch contain cadmium 4. Mercury in backlight tubes; lead in glass						
Explanation on the environmental protection use period: the environmental protection use period of this product (marked on the product body) refers to the toxic and harmful substances contained in this product from the date of production under normal use conditions and compliance with the safety precautions of this product. The period during which a substance or element will not have serious effects on the environment, persons and property						
Scope of application: integrated connector charging station						

