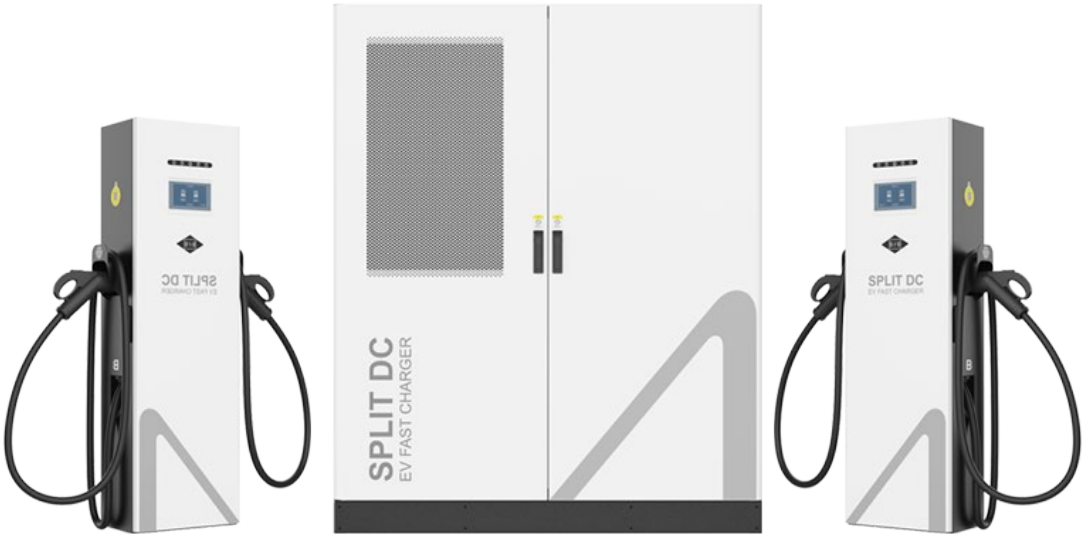


WZ12—480kW Split DC EV Charger Instruction Manual

catalogs

1

Equipment Installation

1.1 Pre-installation inspection

1.1.1 Checking the appearance

Before installing the equipment, check the case for visible damage such as holes, cracks or other signs of possible internal damage and check the equipment model number. If there are any cosmetic anomalies or if the equipment model number does not match, contact your supplier.

1.1.2 Inspection of deliverables

Check whether the delivery item is complete, whether there are any loose screws and whether there is any visible external damage. If any items are missing, if there are loose screws or any damage, please contact your supplier.

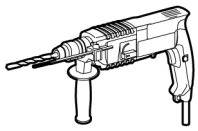
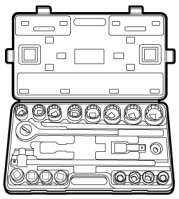
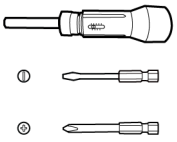
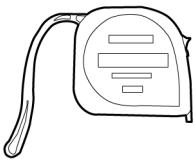
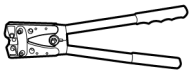
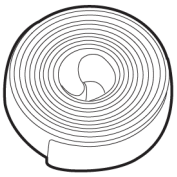
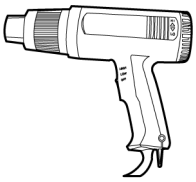
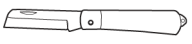
1.2 Preparation of installation tools

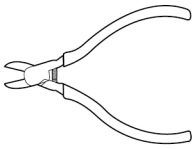
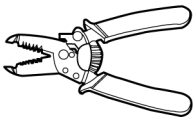
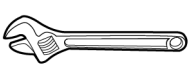
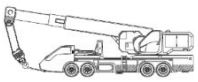
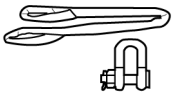
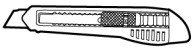
- Table 1-1 Tools Required for Charging Post Installation

serial number	name (of a thing)	use	quantities
1	wire nose (e.g. for noses)	Making cable end connectors	on demand
2	heat shrink tubing	Insulation wrapping	on demand
3	sling	Moving and handling (with crane)	2 volumes
4	Crane or forklift	DC charger equipment handling and installation	1 unit
5	multimeter	Check electrical connections and electrical parameters	1 unit
6	1000V Megohmmeter	Measurement of cable insulation resistance	1 unit
7	Ground Resistance Tester	Measurement of grounding resistance	1 unit

8	Tape measure (5m)	distance measurement	1 handle
9	wire stripper	Cable Stripping and Cutting	1 handle
10	an electric heat gun	Cable finger cots, heat shrink tubing shrinkage locking	1 handle
11	Manual hydraulic pliers	Cold crimping of cables to wire noses	1 set
12	art knife	Cable Cutting	1 handle
13	PVC insulating tape	Insulation wrapping	1 volume
14	Cable Five Finger Sleeve	Insulation wrapping	on demand
15	Phillips screwdriver (i.e. with cross slit)	Cable and module installation and fixing	1 handle
16	Allen wrench or adjustable wrench	Cable nose fixing	2 sets
17	Personal protection tools	Operator safety tools	on demand

- Table 1-2 Tools Required for Charging Post Installation (Legend)

kind	artifact			
mounting	 pneumatic drill	 socket wrench	 torque wrench	 torque
	 steel tape	 multimeter	 crimper	 heat shrink
	 heat gun	 zip ties	 tape measure	 electrician's

	 tweezers	 wire stripper	 adjustable wrench	 rubber mallet
	 cable cars	 sling	 utility knife	 escalator
Personal protective equipment	 Electrician's	 protective	 dust mask	 insulated shoes

说明

- The tools shown are for reference only, please refer to the real thing.
- Due to the different conditions on site, this tool list can not completely list a few tools that may be used, please installers and users on site according to the actual situation, to prepare the tools not listed.
- Some of the special tools and installation materials shipped with the product are not listed in this table.

1.3 Installation environmental requirements

- Collect information on the location of above and underground water, gas and heating pipelines within the red line of the installation site to determine whether the installation and operation safety distance meets the requirements, if conditions allow, should be obtained from the site of the original building site, installation, electrical related drawings.
- The installation site should not be located underneath a falling object.
- The installation site should not be located in a place where there are corrosive gases, bodies of water, should not be located on the downwind side of the prevailing winds of the source of pollution, and should not be located in a place where there is a possibility of water accumulation and violent vibrations.
- The installation site has good 4G communications and should be easily accessible to fire and rescue forces.
- The installation site has good lighting and ventilation.
- The location and installation of the charger should be in accordance with national laws, regulations and relevant standards.
- The installation site is spacious and convenient for parking of electric vehicles and charging operation by personnel.
- The distance of the selected site from high-voltage lines and towers meets the requirements of the Regulations on the Protection of Electric Power Facilities, i.e.,

all installation work activities should be outside the protection zone of electric power lines.

- The installation site provides the power supply required for the normal operation of the charging pile.

(1) Positive and negative deviation range of AC380V supply voltage: -15%~+15

(2) Positive and negative deviation range of AC220V supply voltage: -15%~+15

- The environmental conditions listed in Table 1-2 should also be considered when selecting a site for charging pile installation.

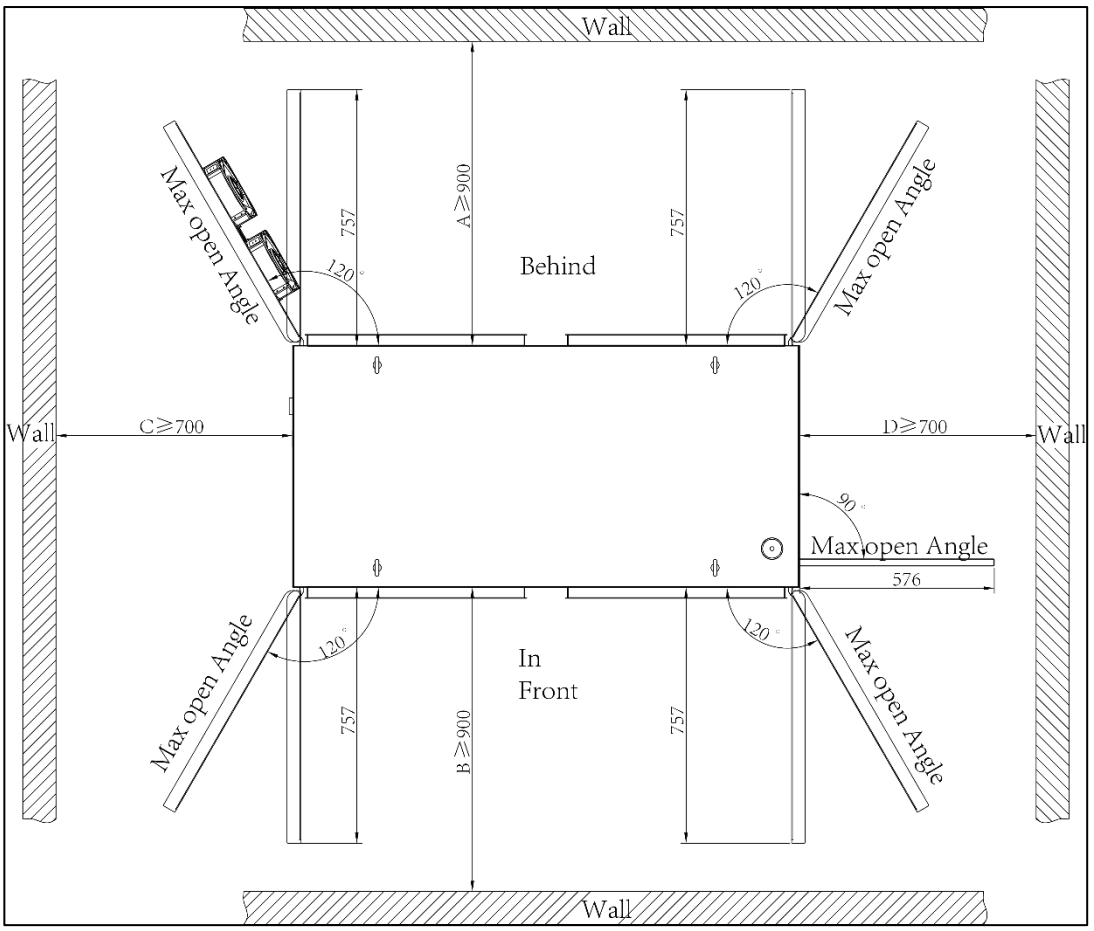
- Table 1-2 Installation environment of charging pile

environmental conditions	Scope of the proposal
environmental temperature	-20℃～"55℃
height above sea level	≤2000m
humidity level	5%～95%RH, no condensation
dustiness	≤1mg/m^3
corrosive substance	No pollutants such as salt, acid, smoke, etc.
strongly affect	≤1.5m/s^2
Insects, Pests, Pest Animals, Termites	not have
mould	not have
dampness	rainproof
fire protection	Cabinet top and bottom free of flammable materials

1.4 Rectifier cabinet layout requirements

- **Pile arrangement requirements**

  When mounting, 900 mm of space must be reserved on both sides of the pile and 900 mm on the back. The dimensions of the rectifier cabinet and the opening angle are shown in the diagram below:



- **Cable layout requirements**

  The input/output power lines of the system are brought in from the bottom of the DC pile, and the power cables should be laid through the cable trench.

- **Power requirements**

  The AC power supply of the split charger system should use utility power as the main power supply, and the AC power supply system adopts three-phase five-wire system. AC power line should use copper core line, power line cross-section area should be compatible with the load. Outdoor power line laying is recommended to use direct burial or casing buried, power line laying alignment as far as possible and signal line separation.

- **Grounding requirements**

  The grounding wire should be able to ensure reliable grounding.

1.5 Installation requirements

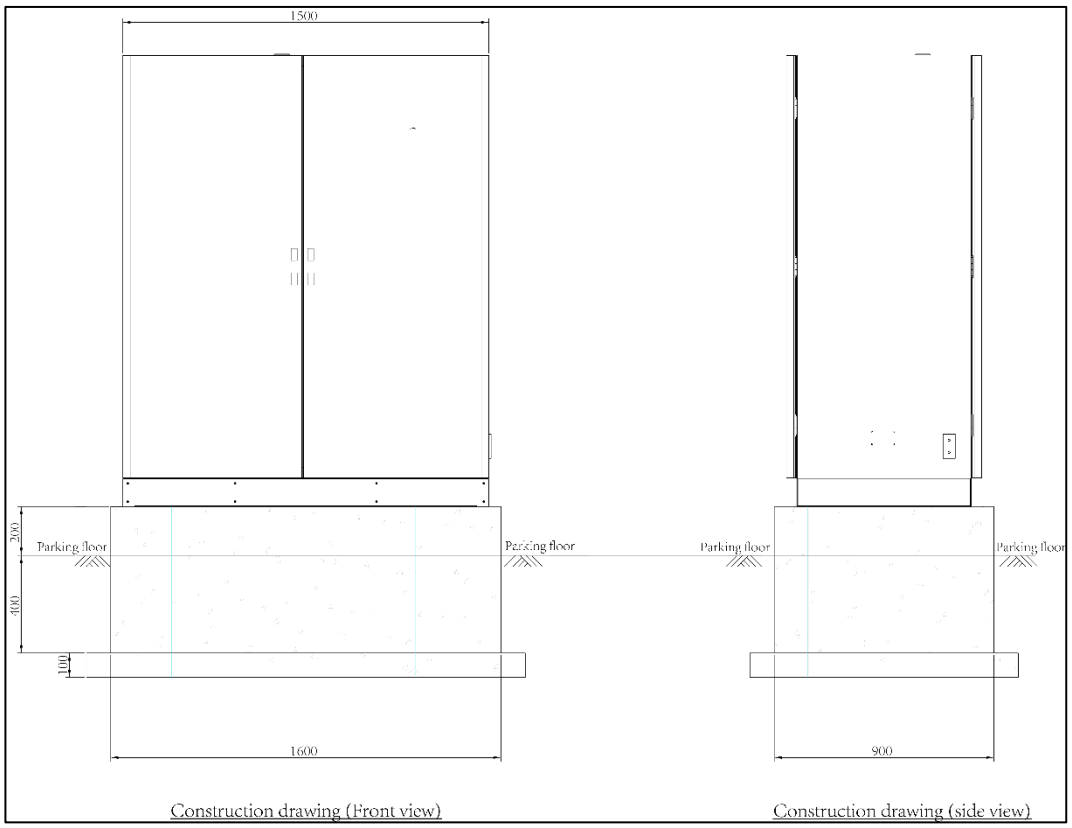
1.5.1 Concrete foundation requirements for rectifier cabinets

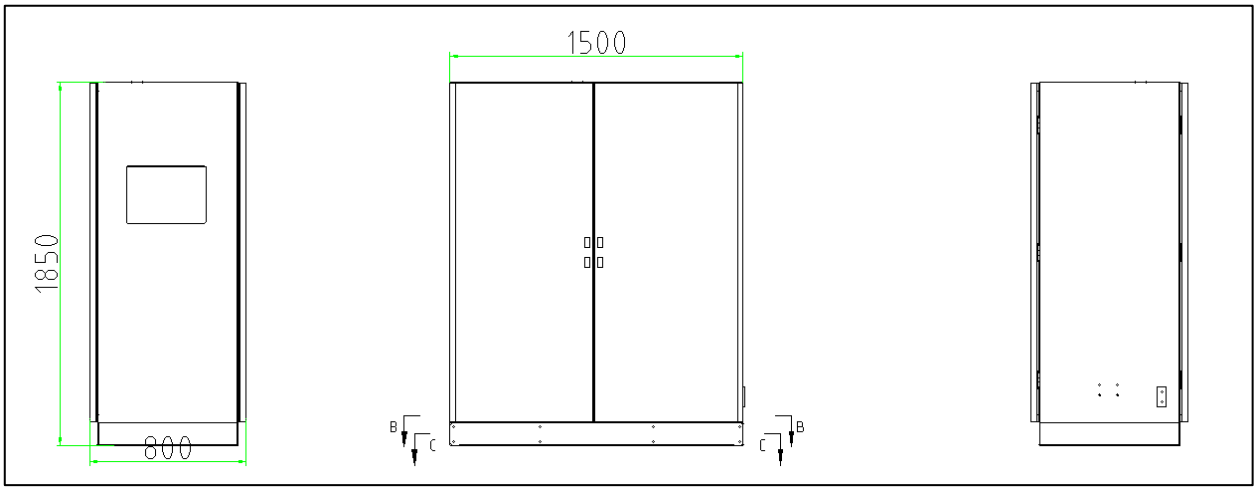
Rectifier cabinet installation location according to the site to determine the foundation excavation should be pit tamping treatment, if the installation location of soft soil should increase the depth of the pit or expand the foundation bedding, specific measures in accordance with the actual situation.

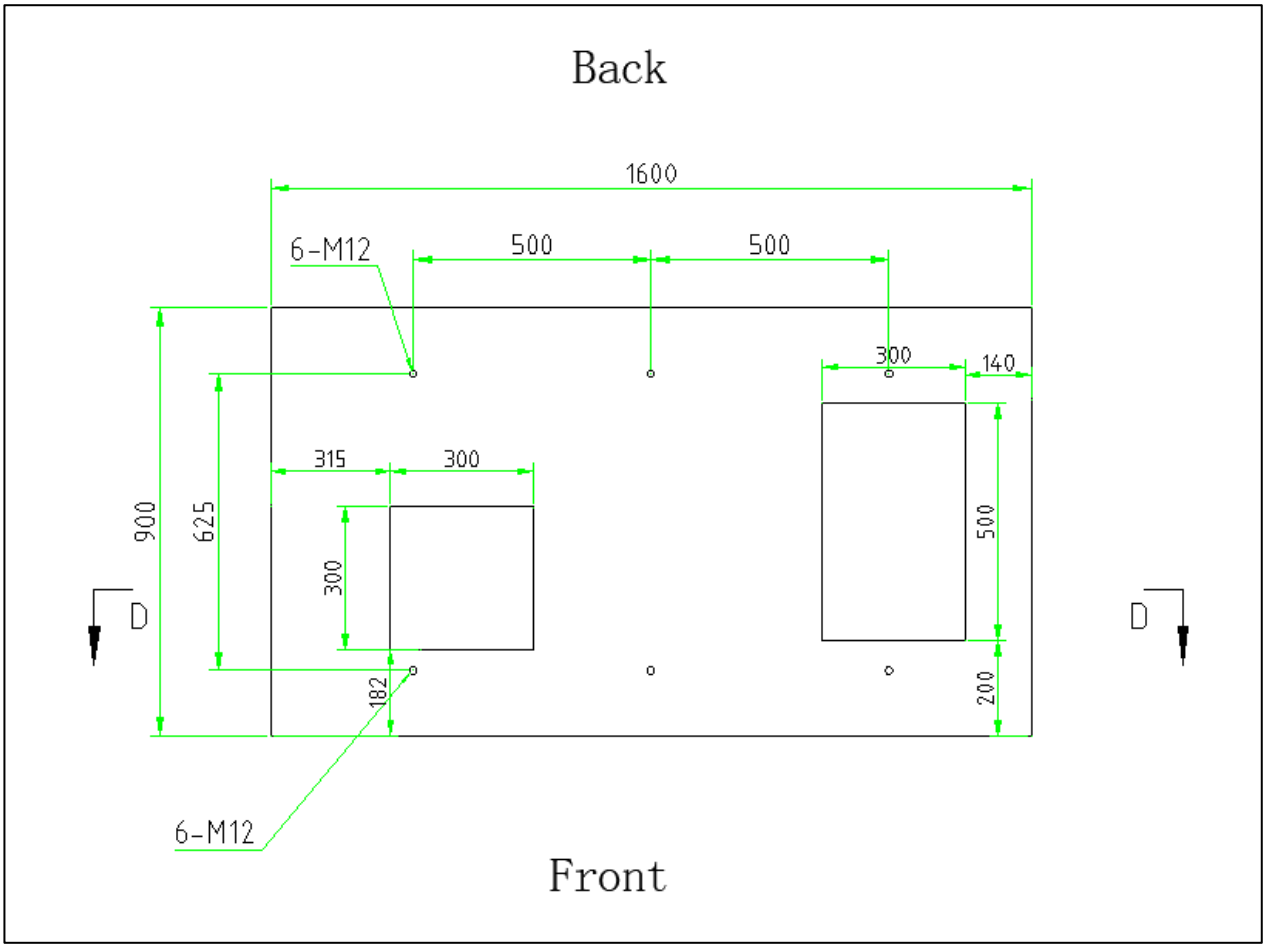
M12 bolts are made of stainless steel or hot-dip galvanized products, and are required to be perpendicular to the surface of the foundation, with the exposed length exceeding the foundation by 110mm.

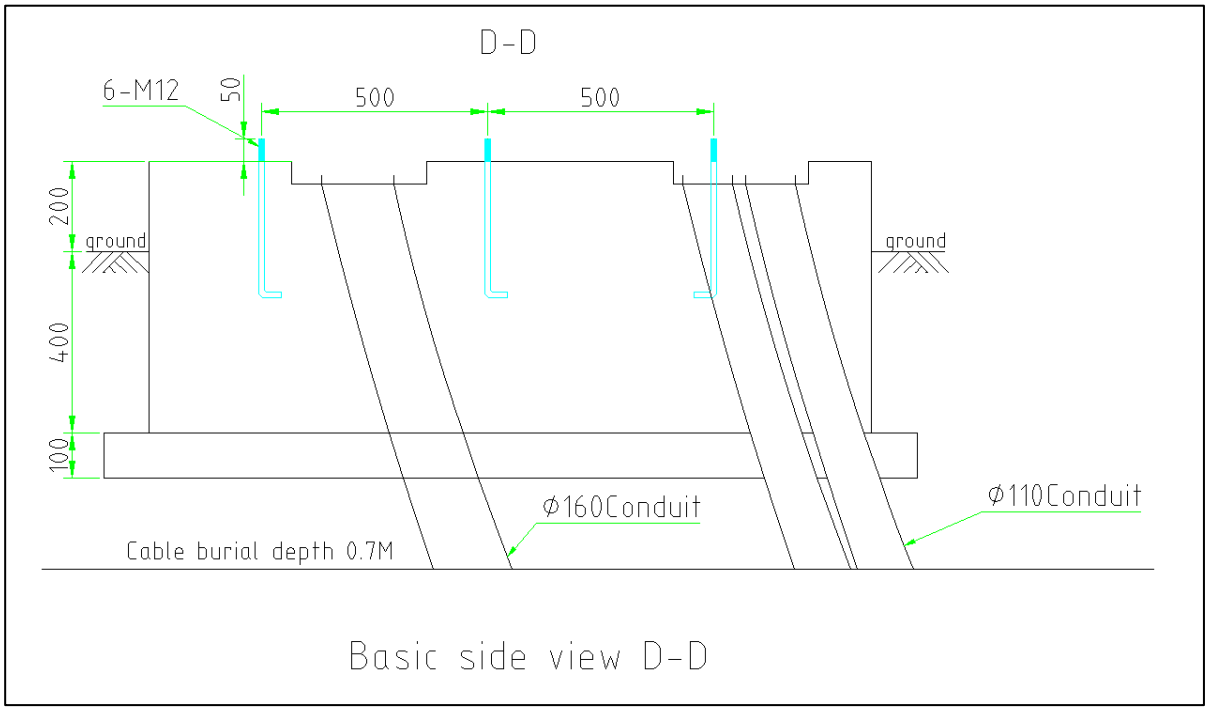
After the foundation masonry is completed, the level of the foundation surface should be reviewed to ensure that the surface of the foundation is level to prevent the foundation from tilting and causing equipment deformation.

Concrete grade is not less than C20, the height of underground part is not less than 400mm, the height of above ground part is not less than 200mm, the size of the concrete foundation is 1600*900 mm long*width, the appearance is complete, smooth, no cracks. The installation effect is as follows:




1500
1850
800
B
C
C
B


Back
1600
6-M12
500
500
300
140
315
300
900
625
300
500
D
D
182
200
6-M12
Front


D-D
6-M12
50
500
500
200
ground
ground
400
100
Φ160Conduit
Φ110Conduit
Cable burial depth 0.7M
Basic side view D-D

1.5.2 Rectifier cabinet fixing

1, the top of the rectifier cabinet is equipped with four lifting columns, designed to use the crane for lifting installation; according to the site conditions, you can also use a forklift to install, the rectifier cabinet base is designed with a forklift hole.

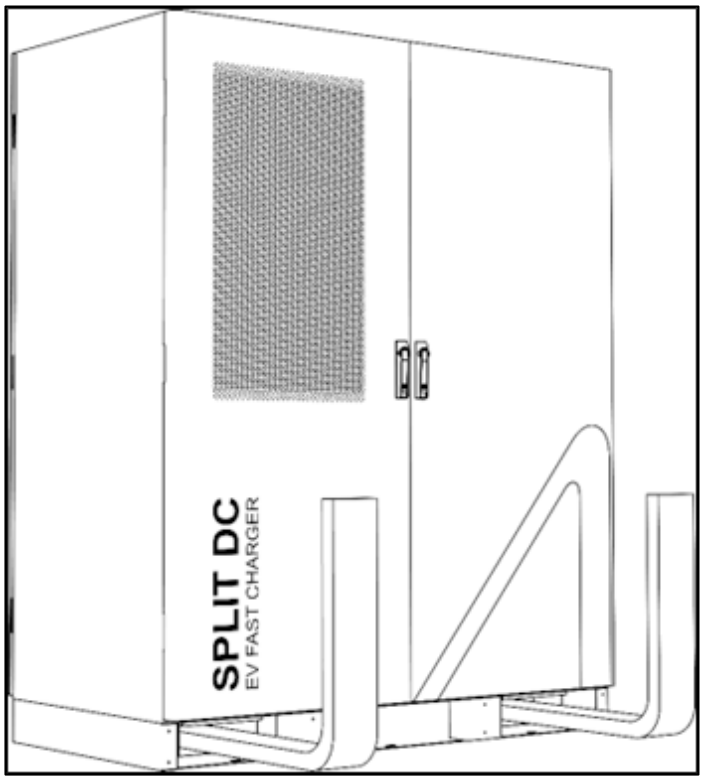
2, the charger should open the front and rear cabinet doors in the process of positioning, remove the bottom front and rear sealing plate, knock off the bottom plate at the threading holes in the knock-down plate, the charger will be moved to the base directly above, down to the bottom of the distance from the upper surface of the base of about 0.6 meters, slowly down, will be the cable from the threading holes up into the cabinet.

3. The charger is gradually lowered, the position of the cabinet is adjusted to ensure that the pre-embedded bolts are aligned with the fixing holes at the bottom of the cabinet, and the equipment is placed on the foundation.

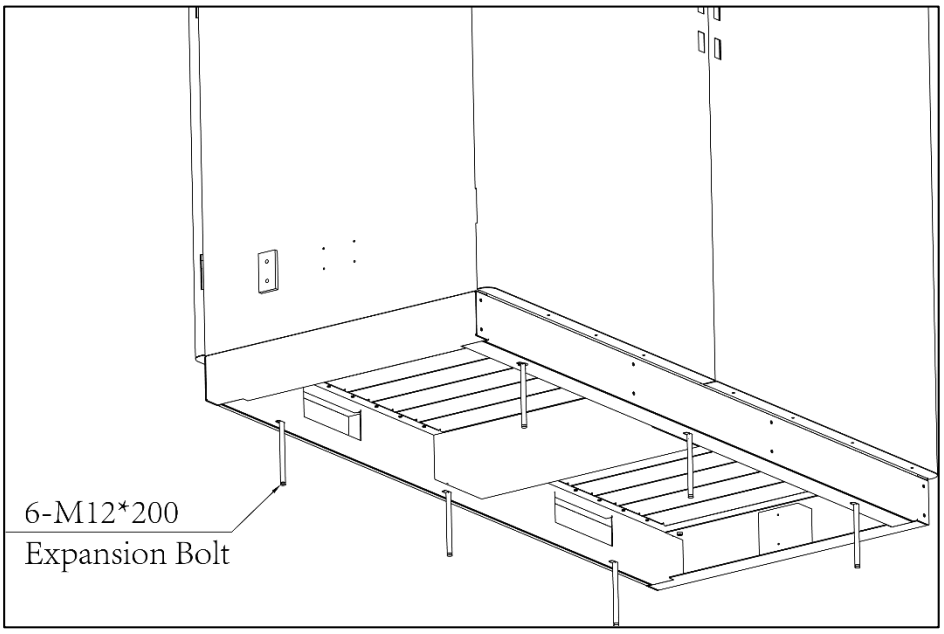
4. Fix the device on the foundation with 6 sets of M12 nuts + spring washers + flat washers.

5. It is strictly prohibited to use the top lifting ring directly to lift the equipment, and the sling must be used for lifting.

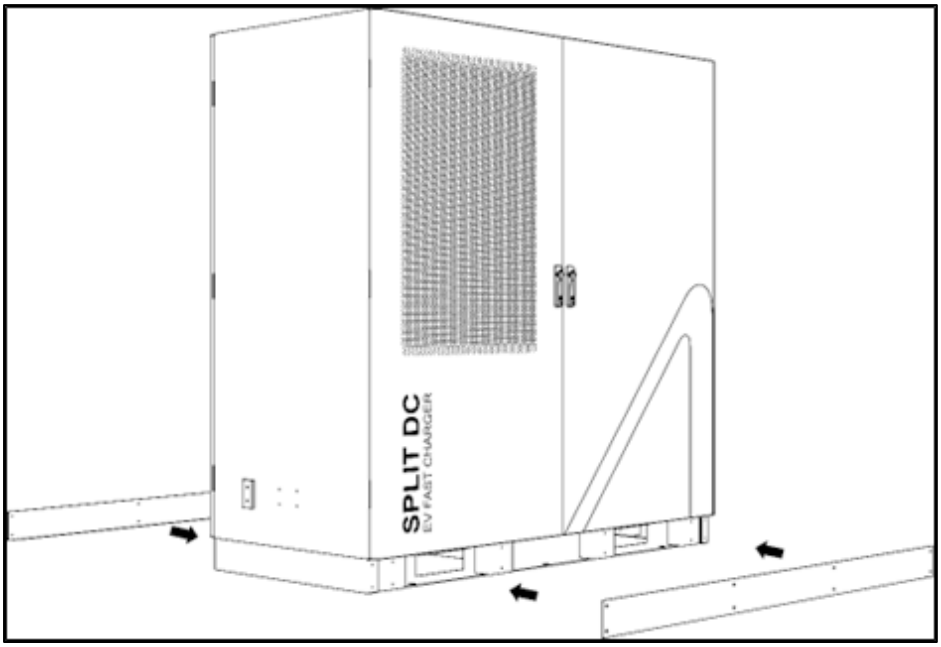
6, the rectifier cabinet with a forklift to the base mounting position, during transportation, please pay attention to protect the surface of the equipment from damage, as shown in the following figure.



7、Use 6 M12*120 stainless steel expansion screws to fix the charging pile. As shown in the figure below. After the pile is installed, shake the cabinet from different directions, you should not feel any obvious loosening and shaking.

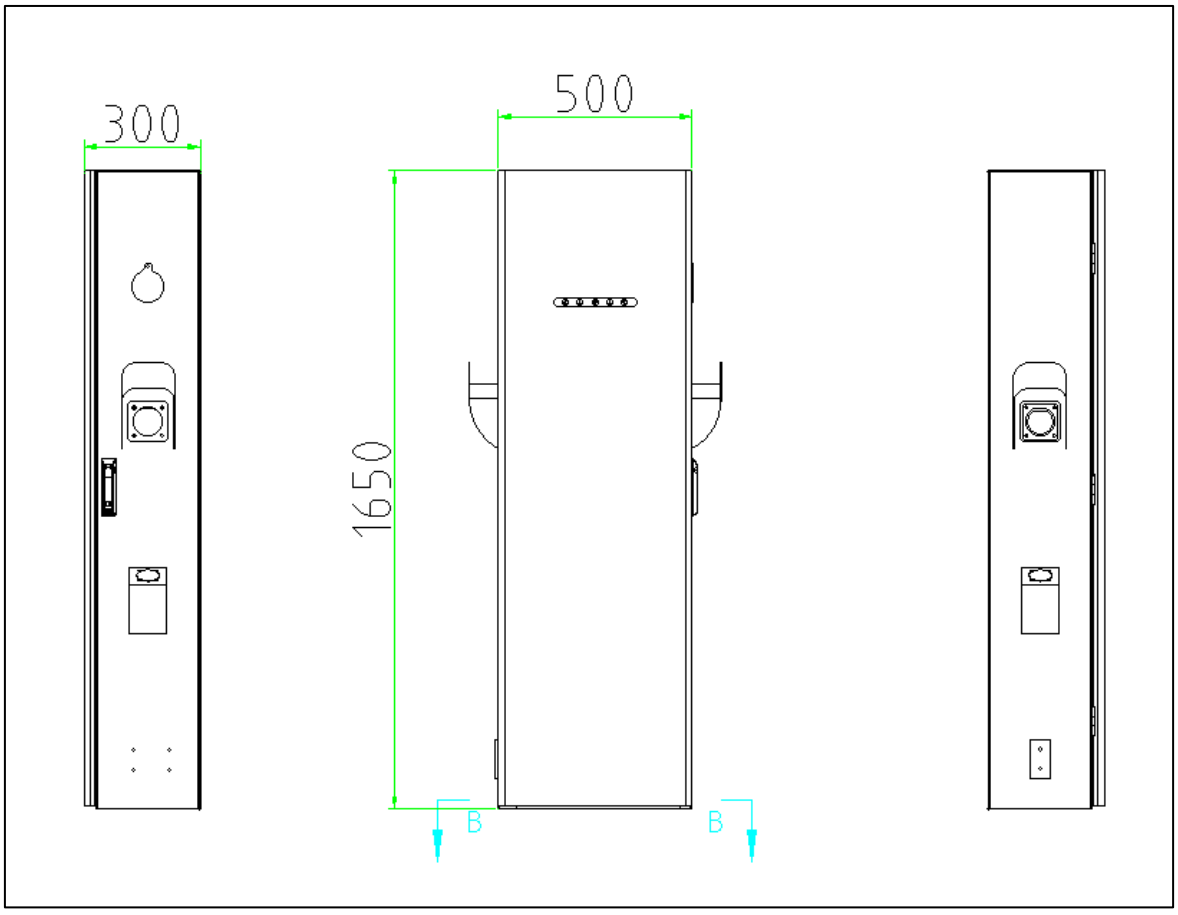


8. Re-attach the sealing plate to the base with screws. As shown in the figure below:

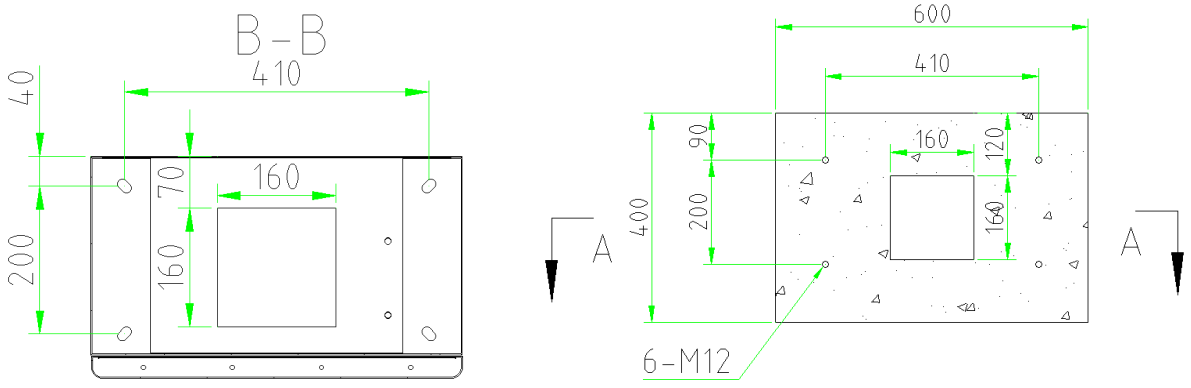


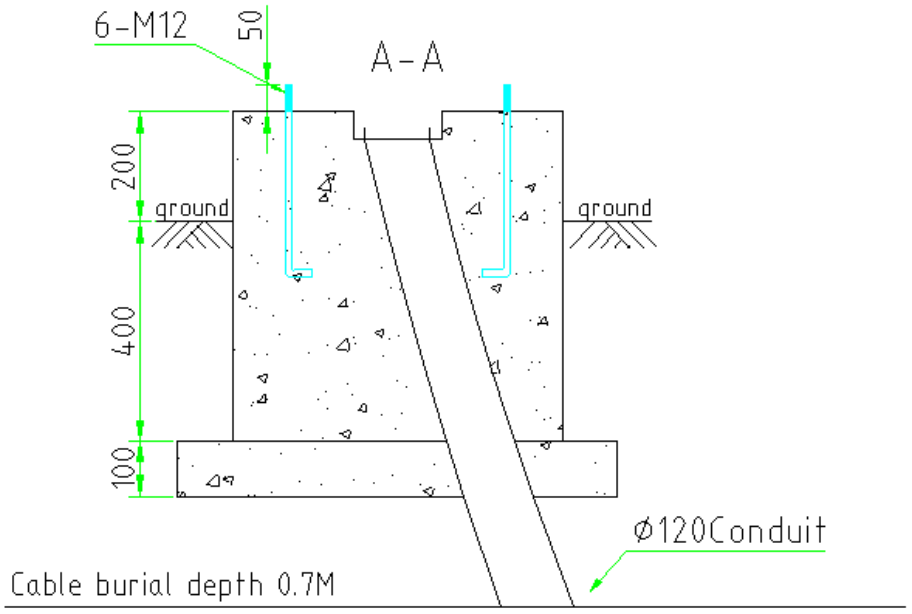
1.5.3 Charging pile terminal concrete requirements

The installation results are shown below:

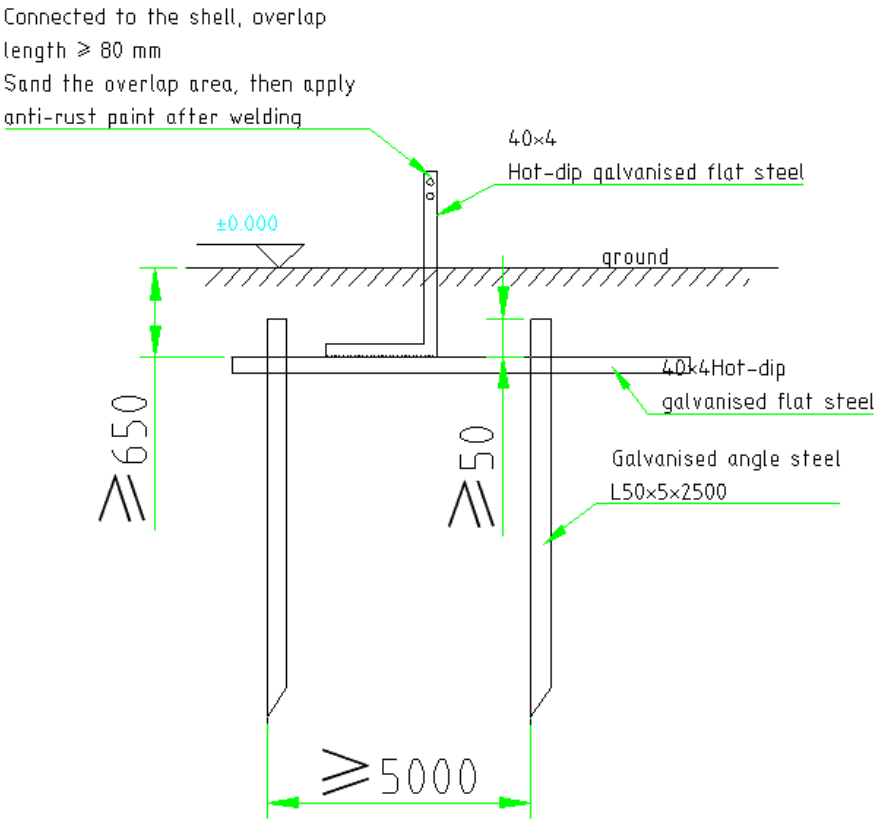


Use 4 x M10*120 stainless steel expansion screws to secure the charging post. As shown in the figure below. After installing the stake, shake the cabinet from different directions and you should not feel any obvious looseness or shaking.





WY13-1 Basic side view A-A

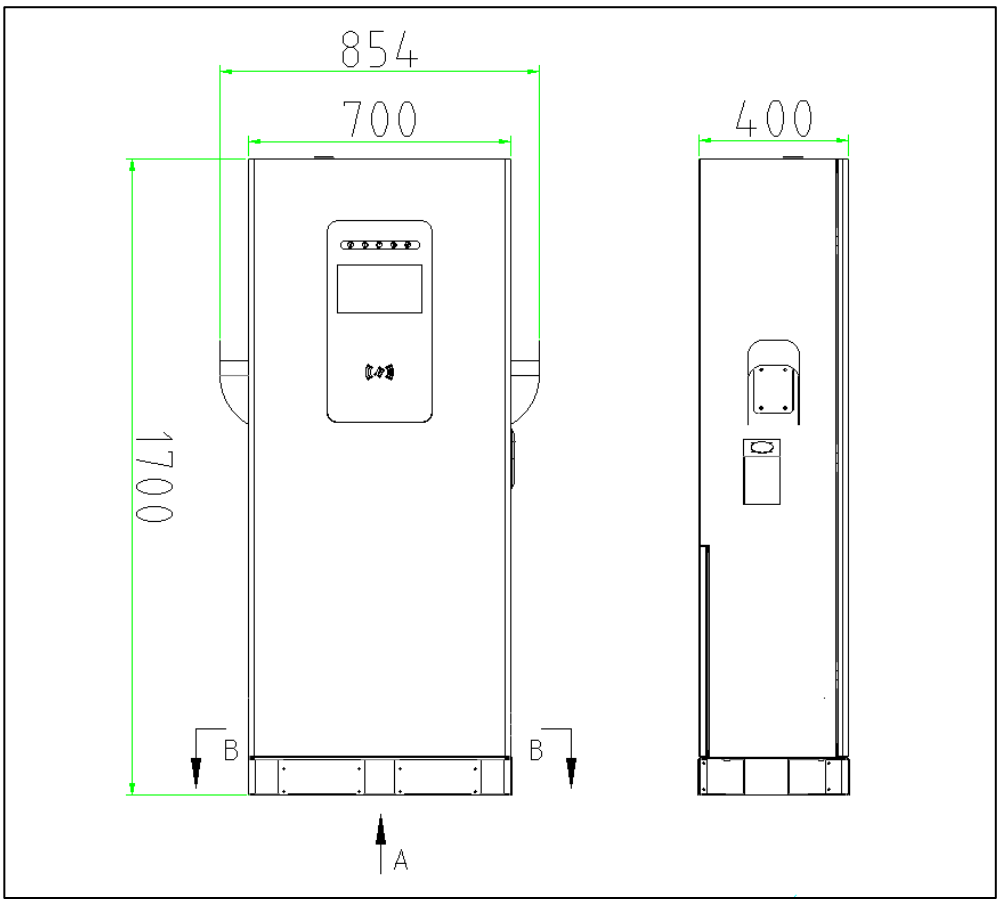


Grounding device elevation diagram

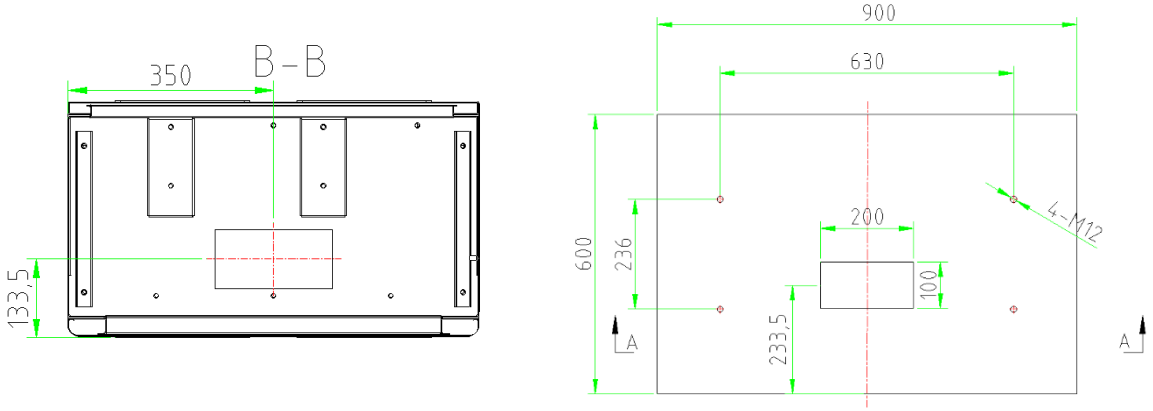
Resistance ⩽ 10Ω

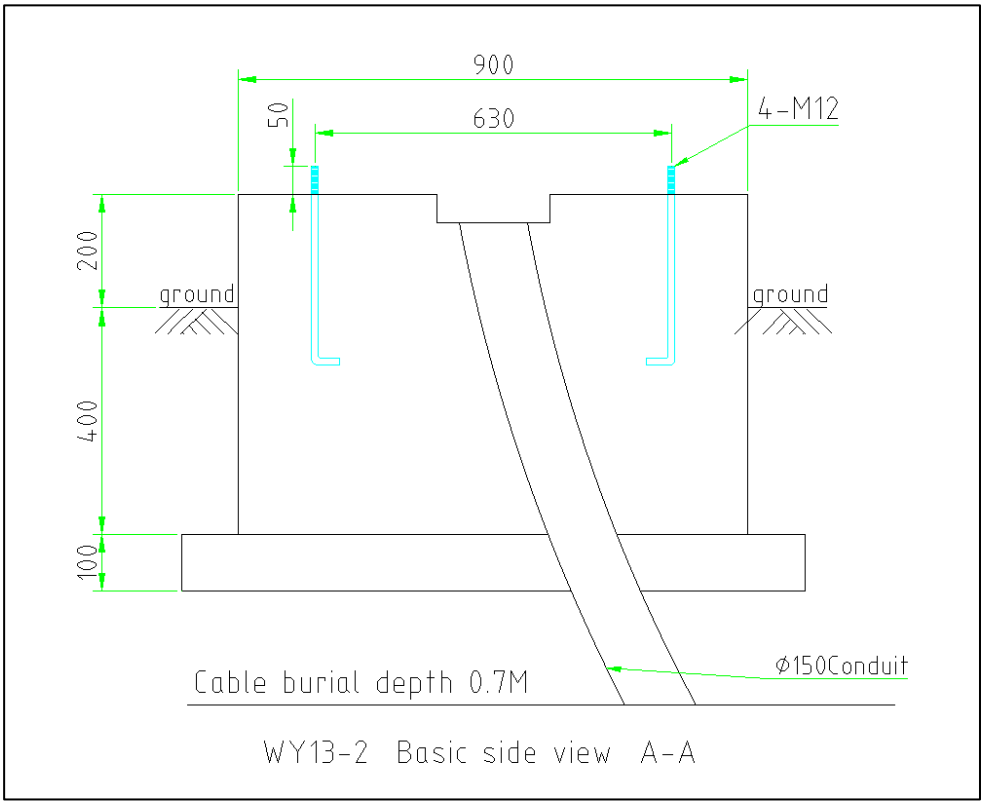
1.5.4 Liquid-cooled charging pile terminal concrete requirements

The installation results are shown below:

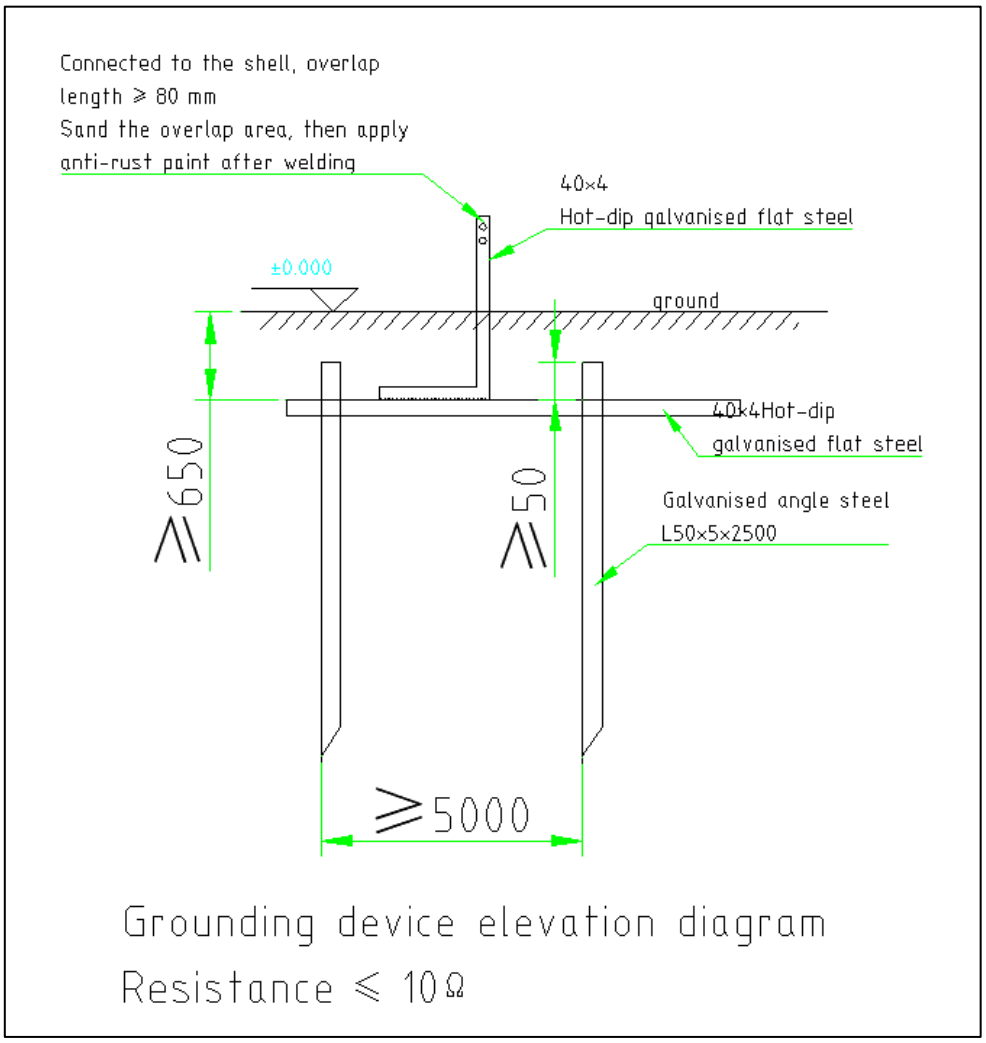


Use 4 x M10*120 stainless steel expansion screws to secure the charging post. As shown in the figure below. After installing the stake, shake the cabinet from different directions and you should not feel any obvious looseness or shaking.





WY13-2 Basic side view A-A



Grounding device elevation diagram

Resistance ≤ 10Ω

2

Electrical connections

2.1 Precautions

⚠警告

- Damage to the unit caused by incorrect wiring is not covered by the unit warranty.
- Only specialized electrical technicians with the corresponding qualifications are allowed to perform operations related to electrical connections.
- When making electrical connections, the operator must be equipped with personal protective equipment.

📖 说明

The cable colors in all electrical connection diagrams in this section are for reference only and should be selected in accordance with local cable standards (yellow and green wires may only be used for protective earthing).

2.2 Cable installation requirements

- The input power cable of the charging pile is introduced from the bottom of the DC pile, and the power cable should be laid through the cable trench and protection pipe, and the recommended cable types are as follows:

Split DC Charging Post					
Charging pile power	Input Current	Input Residual Current Operated Circuit Breaker	Mainframe Inlet	Host to Terminal	grounding cable
240KW	≤430A	500A, 3P/4P	zr-yjv-0.6/1-3*240+2*120	1、DC output: ZR-YJV-22-0.6/1-2*95 with one set of cable for each charging gun. 2、Auxiliary power supply: ZR- 2*2.5 mm², each charging	The connection of the rectifier grounding strip to each terminal
360KW	≤644A	800A, 3P/4P	2*(ZR-YJV-0.6/1-3*185+2*95)		
480KW	≤860A	2*500A, 3P/4P	2*(ZR-YJV-0.6/1-3*240+2*120)		
600KW	≤1072A	3*400A, 3P/4P	3*(ZR-YJV-0.6/1-3*185+2*95)		

720KW	≤1287A	3*500A, 3P/4P	3*(ZR-YJV-0.6/1-3*240+2*120)	terminal with a set of cables. 3、Communication cable: 2*(RVSP-500V2x1mm²). The terminals are connected in series and then connected to the rectifier cabinet.	grounding strip requires a copper cable larger than 35 mm².
960KW	≤1716A	4*500A, 3P/4P	4*(ZR-YJV-0.6/1-3*240+2*120)		

- The AC lead-in wire is routed from the user's distribution switch and is connected to the switch output terminals when finally ready to energize.
- The power distribution office should have protection devices for overcurrent, short circuit and lightning strike.
- The AC power line colors yellow, green, red, and light blue correspond to AC phases A, B, and C and the zero line, respectively.
- If the power line is only one color, attach a line number marking (or sleeve with marking).
- AC power lines shall be laid out separately from DC lines.
- No breaks, tears or scratches in power lines are allowed
- The order of connecting wires is generally protective earth first, then center, and finally AC phase wires.
- Place all switches, fuses, etc. in the OFF position before making electrical connections.
- The reserved length of the main feeder cable should be 800mm beyond the foundation in the corresponding position, and the reserved length of the matching terminal power cable, control and communication cable and network cable should be 800mm beyond the foundation in the corresponding position.

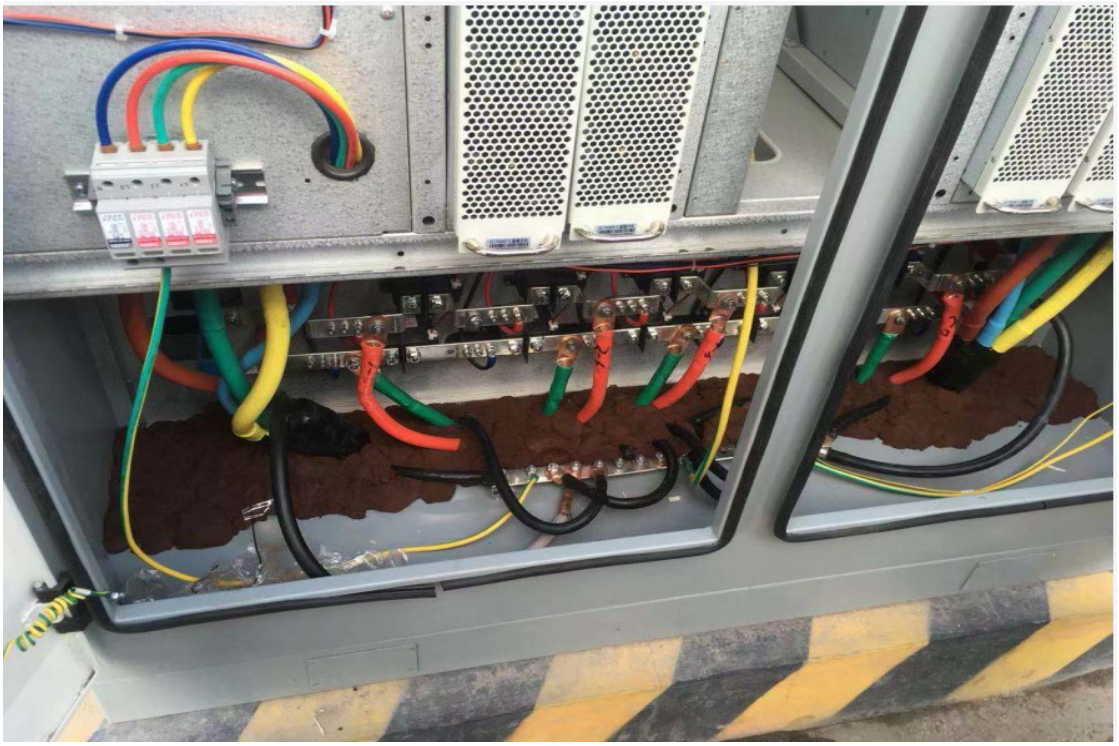
2.3 Safety and security requirements

- Lightning and surge protection.
- The lightning protection and grounding system complies with the provisions of the current relevant national or ministry standards.
- A corresponding lightning protection unit has been installed on the AC side of the unit to minimize the impact of lightning strikes on the equipment.

2.4 Fire blocking

- When sealing cable holes, the sealing should be tight and reliable, with no obvious cracks or visible voids.
- The surface of the plugging body is smooth, and the larger holes should be sealed with fire-resistant liner (made of epoxy, PC, ABS, nylon, bakelite, etc.).

- Organic plugging material blocking should not leak light, wind leakage, cracking, shedding, hardening phenomenon; inorganic plugging material blocking should not be chalking, cracking and other defects.



3

Commissioning

3.1 Pre-electrification checks

serial	checklist	Qualifying standards
1	Equipment Appearance	• Equipment appearance is in good condition, no damage, no rust or paint loss. • Equipment labels are clearly visible, and damaged labels should be replaced in a timely manner.
2	Cable Appearance	• The cable protection layer is well wrapped with no visible damage. • Insert the head of the charging gun into the gun holder of the DC charging terminal and check whether the charging gun is broken and whether the inside of the charging gun is clean and free of foreign matter .
3	cable connection	• Cable connections are in the same locations as designed. • The terminals are made in accordance with specifications, and the connection is firm and reliable. • Each cable is clearly labeled at both ends and the labels are oriented in the same direction.
4	Case cleaning	The box is clean and tidy, free of excess cables, wires, terminals and tools and other debris. No visible garbage outside the equipment.

3.2 Energization check

➢ After the line insulation and grounding meet the requirements, the charging pile is powered up, the charging pile should be able to power up and work, and the status indicator should indicate correctly.

➢ Ensure that the Charging Stack Power Point switch and the Charging Stack AC Input switch are disconnected.

➢ Power-up personnel should not wear rings, watches, or other metal objects that could cause short circuits.

➢ Measure the charger AC input A\B\C\N\PE with a multimeter without short circuit.

➢ Use a multimeter to measure the DC+\DC-\PE of all DC charging terminal heads corresponding to the charger respectively without short circuit.

3.3 Commissioning

➢ Close and lock the cabinet door after powering up and checking.

➢ Close the rectifier cabinet power point switch and use a multimeter to measure the voltage on the input side of the molded case switch in the rectifier cabinet to verify that the input power supply voltage is within the allowable operating voltage range of the system.

➢ Close the rectifier cabinet AC input switch and the micro disconnect switch in the electrostack system.

➢ On-screen entry of information and platform access.

4

Instructions for Charger

4.1 Power on the equipment

1. Confirm that the above inspection items meet the requirements;

2. Close switch JK1, JK2, JK3 and close the door;

3. Power on: The power-on self-test time is about 1 minute, and the screen is turned on;

4. After the power-on self-test is completed, observe the status of the indicator light.

- Normal standby: the blue light is always on
- Charging cable connection: green light flashes
- Normal charging: the green light is always on
- Device failure: the red light is always on

4.2 Charge Gun Instructions

- Before plugging and charging, observe whether there is any foreign matter inside the charging socket of the vehicle end, whether the reed of the socket is broken; whether there is any foreign matter inside the head of the charging gun, whether the terminals are complete, whether the gun wire is intact.
- Press the charging gun button to pull out the charging gun.
- Insert the charging gun into the socket of the vehicle, push it a little bit hard, and it will be qualified if the hook falls down to the horizontal state.
- If the screen shows “gun connected”, it means the gun is in place, if not, please re-insert the gun.
- Do not operate the charging gun during the charging process.
- After charging, press the button to unplug the charging gun only when the screen shows “Please unplug the gun”. If you are unable to unplug the charging gun, please contact the operator and do not force to unplug the charging gun to avoid damage.
- After unplugging the charging gun, put the charging gun back to its original position and store the cable on the lug.

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Daily Maintenance Methods of Charger

- The charging gun shall be put back after use and inserted into the gun seat in front of the cabinet to prevent rainwater from entering.
- Chargers without background management system need regular on-site maintenance.
- The dust-proof cotton shall be disassembled and cleaned after 6 months of system operation, and shall be installed and used after being dried. If the dust-proof cotton is not cleaned for a long time, it will cause difficulty in air inlet, increase the module load, and easily cause module damage.

Maintenance object	job content(Every 3 months)	job content(Once a year)
Cleaning of cabinet (External and internal base plates)	Check for dust and dirt	/
Terminal blocks	Check for dust and dirt	Check dust and dirt; Insulation and fastening
Wiring cable	Check for dust and dirt	Check dust and dirt; Insulation and fastening
Air outlet filter screen	Check the dust accumulation and replace the filter screen according to the operating conditions of the equipment	/
Component fastening	/	Check for looseness
Equipment function inspection	/	Charging control functions include man-machine interface, electrical control, safety protection, etc

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Appendix

The following documents are references to installation manuals for this product.

- GB 50966 Design Code for Electric Vehicle Charging Stations
- GB 50303 Code for Quality Acceptance of Construction of Electrical Works in Buildings
- GB 50254 Code for Construction and Acceptance of Low-voltage Electrical Appliances for Electrical Installation Works
- GB 50168 Specification for the Construction and Acceptance of Cable Lines for Installation of Electrical Installations
- GB/T 51313 Engineering Technical Standards for Decentralized Charging Facilities for Electric Vehicles
- GB/T 18487.1 Conductive charging system for electric vehicles Part I: General requirements
- GB/T 20234.1 Connection device for conductive charging of electric vehicles Part 1 General requirements
- GB/T 20234.2 Connection device for conductive charging of electric vehicles Part 2 AC charging interface
- GB/T 20234.3 Connection device for conductive charging of electric vehicles Part 3 DC charging interface