INSTALLATION & OPERATION MANUAL

ROLEC*EV* | SINEXCEL

ULTRACHARGE 30

Intelligent rapid EV charging station

Stocked in the UK by ROLEC*EV*

Disclaimer

Manufacturer shall not be liable for any consequence caused by any of the following events:

- Warranty expiration of the warranty service.
- Failure to follow the operation instructions and safety precautions in this document,and the resulting equipment malfunction, component damage, personal injuries, or property damage are beyond the warranty scope.
- Installation or use in environments which are not specified in related international standards.
- Incorrect transportation, removal, storage, installation, or use.
- Unauthorized modifications to the product or software code or removal of the product.
- Device damage due to force majeure (such as lightning, earthquakes, fire, and storms).
- Unauthorized modifications to the product nameplate or serial number or product appearance.
- Storage conditions that do not meet the requirements specified in this document, unused products should be stored in packing cases and placed in a dry (After delivery shall be started and test equipment operation status within 6 months, otherwise it shall be return to manufacturer for aging test and payable the shipping cost).
- Ensure that the area required for heat dissipation, Otherwise, the equipment may become faulty, and the resulting equipment malfunction, component damage, personal injuries, or property damage are beyond the warranty scope.
- Installation or use by unqualified personnel.
- This document content here is indicative only. If there is inconsistency between the content and the actual product, the actual product shall govern.

Notice

Before connecting to the power supply, ensure that electrical connections are correct. Do not connect or disconnect power cables during startup.

Anyone who operates the equipment, including operators, trained personnel, and professionals, should possess the local national required qualifications in special operations such as high-voltage operations, working at heights, and operations of special equipment.

Foreword

Reader Object

This document (this guide) is primarily intended for the following engineers:

- Technical Support Engineer
- Maintenance Engineer
- Engineering installation team

Symbol Conventions

The following symbols may appear in this document and their description are as follows.

Symbol	Description
	***DANGER*** Dangerous Voltage Dangerous voltages can cause death or injury.
	***WARNING*** Hazard Warning May cause equipment damage and personal injury.
	***ATTENTION*** Cause of Hazard Failure to comply may result in equipment damage or functional failure.

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1 Safety Precautions

1.1 Special symbols for warnings and dangers

Symbol	Symbol word	Description
	***Danger***	Since some parts of this power system are under high voltage during operation, it is fatal for direct contact or indirect contact with these parts.
	***Danger***	Construction operation of high voltage lines may cause fire or electric shock. The wiring area and the area where the line passes through for AC cables must comply with National regulations and norms. Only personnel who are qualified to work with high DC and AC voltage are allowed to install and maintain the DC Charger.
	***Danger***	It is strictly forbidden to carry out live installation and maintenance work during thunderstorms.
	***Danger***	During operation, it is strictly forbidden to short-circuit the positive and negative of the DC Charger DC distribution or short-circuit any DC distribution polarity to Ground. The DC Charger is a high voltage DC power supply, and short circuits may cause damage to the DC Charger and personal safety hazards.
	***Warning***	Special tools must be used during various operations of high DC and AC voltages.
	***Warning***	During the handling of equipment by hand, it is necessary to wear protective gloves to prevent injuries caused by sharp objects.
	***Attention***	Make sure that the cable label is correct before the connection of cables.
	***Attention***	Signal cables should be kept away from power cables, protection from interference.

	***Attention***	Unable to relate to household's environment.

1.2 Safety instructions for use

- The SEC (SEC Series DC fast charger) is an integrated charger that you can use to supply electricity to an EV either outdoor or indoor.
- The SEC is a high-power and high voltage electric power equipment, only qualified professionals are allowed to construction and maintenance.
- Follow local laws and regulations when installing, operating, or maintaining the equipment.
- Follow the procedures of installation, operation, and maintenance. And make sure this document and accessories provided by the manufacturer.
- Follow related safety standards on R&D, production, inspection, certification and filed at local.
- To ensure safety of humans and the equipment, pay attention to the safety symbols on the equipment and all the safety instructions in this document. Otherwise, the equipment may become hidden danger or faulty.
- During operating, the equipment has encountered any problems or faults, please consult the manufacturer after-service center directly. If unauthorized found third party to maintenance under warranty, the manufacturer will not be liable.
- Installation conditions faraway from fire hazards or other dangerous environment.
- Make sure that the space around the equipment cannot get blocked.
- This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

1.3 Safety instructions for operation

- Before using for the first time you must read this document carefully, make sure that the equipment is installed and commissioned according to the instructions in the installation manual.
- Without the manufacturer permission, do not unauthorized modifications to the product or removal of the product. The manufacturer will not be liable for any consequence caused by the violation of the safety operation regulations and design, production, and usage standards.

- Do not touch the EV charging connector or vehicle inlet, keep it dry and clean.
- Do not use this product if the power cord or connector is frayed, has broken insulation, or shows any other signs of damage.
- In case of any abnormal condition, press the emergency button immediately, which will turn off all input and output to ensure safety.
- If the emergency button is pressed, the system operator should be informed. The charging station shall not be restarted until the system operation technician reset the operation system.
- To make sure that no foreign bodies residues in EV charging connector or vehicle inlet.
- Do not connect or disconnect power cables with power on. When maintenance, turn off the power switch, ensure that electrical connections are correct, and put warning board around.
- Pay attention to the copper wire carries dangerous voltage of equipment, even all circuit breakers of the charger are disconnected.
- During maintenance, prepare the lighting. The interior of equipment has no lighting.
- Connect protective earth wire (PE) before connecting neutral line and phase line.
- After installation or maintenance, ensure that door are locked correct.
- The adapters or conversion adapters are not allowed to be used.
- The extension cords are not allowed be used.

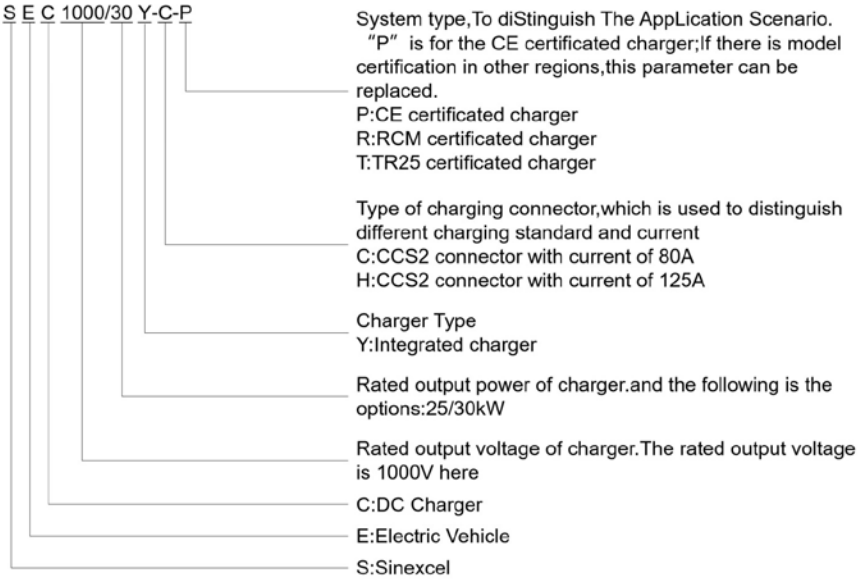
2 Product Overview

2.1 Brief description

The SEC30 is an integrated DC fast charger that features high efficiency and flexible configured. It supports the CCS2 connector charging .

The Charger used in centralized fast charging station, it adopts the charging power module of the manufacturer, and meet the charging demand of larger capacity and high endurance electric on the market.

2.2 SEC series products model

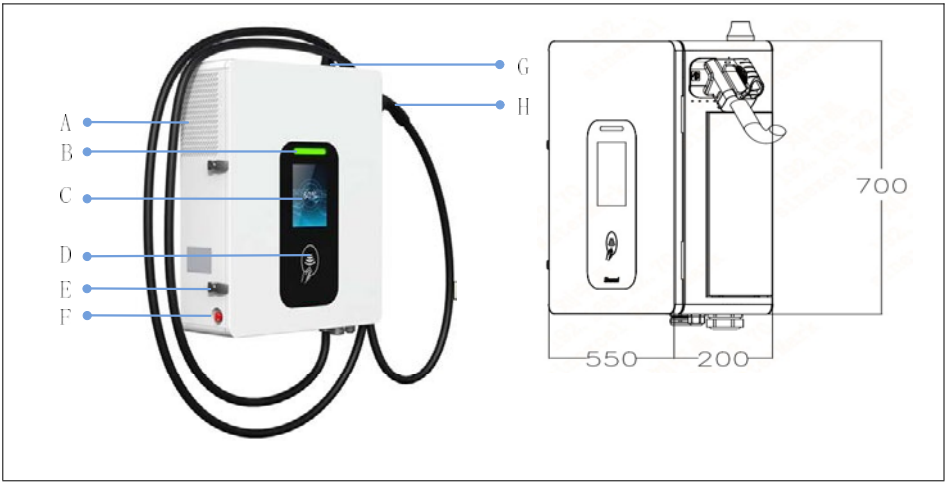


2.3 Product types description

Specification	Power distribution	Maximum current
SEC1000/25Y-C-P	25kW	80A
SEC1000/25Y-C-R	25kW	80A
SEC1000/25Y-C-T	25kW	80A

Specification	Power distribution	Maximum current
SEC1000/25Y-H-P	25kW	125A
SEC1000/25Y-H-R	25kW	125A
SEC1000/25Y-H-T	25kW	125A
SEC1000/30Y-C-P	30kW	80A
SEC1000/30Y-C-R	30kW	80A
SEC1000/30Y-C-T	30kW	80A
SEC1000/30Y-H-P	30kW	125A
SEC1000/30Y-H-C	30kW	125A
SEC1000/30Y-H-T	30kW	125A

2.4 Product views



A	Air outlet	E	Door lock
B	Status LED	F	Emergency button
C	Human machine interface	G	Antenna
D	Pay card reader	H	Charging connector

2.5 Product characteristics

- A variety of power configurations from 25kW to 30kW can meet the customized requirements of customers. The charger can automatically switch the power according to the vehicle demand, which can optimize the usage of the charger.
- The constant current and constant power charging methods have the advantages of high charging efficiency, simple operation and reliable performance.
- Ultra wide output voltage range, the highest output voltage can reach DC1000V. It can not only meet the low-voltage charging of small cars, but also meet the charging requirements of Vans and high-voltage vehicles.
- User experience is highly considered by the manufacturer. Cable management design is in this charging system, which make it easier for the customer to charge and protect the cable. And the 8 inches touchable screen can show more information about charging and also support show the advertisement (Please contact the manufacturer for this function).
- With overload, short circuit, leakage, lightning protection, overcharge, over voltage, under voltage, anti-reverse connection, over temperature and other multiple protection functions.
- The intelligent standby mode can effectively reduce the operation cost of customers in the whole project life cycle, and improve the return rate of charging station.
- The cabinet shell is made of stainless steel with protection grade of IP55, which can be applied to various outdoor environments.

2.6 Product specifications

Specification		
Category	Item	Parameter
Input Characteristic	Input	3P+N+PE
	Input Voltage	AC 380~400V
	Input Current	Max. 55A
	Frequency	50Hz/60Hz
	Power Factor	0.99
	THDi	≤5%

Specification		
Category	Item	Parameter
Output Characteristic	Output Voltage	50~1000V
	Rated power	25 or 30kW
	Max Current	CCS2 : 80A HCCS2:125A
	Peak Efficiency	≥95% @half load
	Connector Type	IEC 62196
Standards	System Standards	IEC 61851
Others	Energy meter	High precision meter
	Network Interface	4G/LAN
	Size	W550*D200*H700 mm
	Protection level	IP55/IK10
	Gross Weight	87kg
	Net Weight	65kg
	Cable length	5m (Exposed cable length is 4.5m) Optional 8m(Exposed cable length is 7.5m)
	Communication protocol	OCPP1.6J
	Display Screen	8 inches
	Method of payment	QR Code/RFID
	Language	English
Environmental conditions	Cooling method	Forced air cooling
	Full power operating temperature	-25 ~ 50 ℃
	Temperature derating	Up to 50 °C: 100% output power, 50-65 °C interval, linear power limit, 65 °C or more, module shutdown protection.

Specification		
Category	Item	Parameter
	Humidity	5%~95%
	Altitude	≤2000m
Protection		DC Over current protection Surge Protection Device Emergency Stop Protection Overload protection Short circuit protection RCD type A protection Overcharge protection Over voltage protection Under voltage protection Reverse connect protection Over temperature protection

3 Installation instructions

3.1 Equipment dimensions

1. The shape and dimension of the charger are shown in ***Figure 3.1-A***.

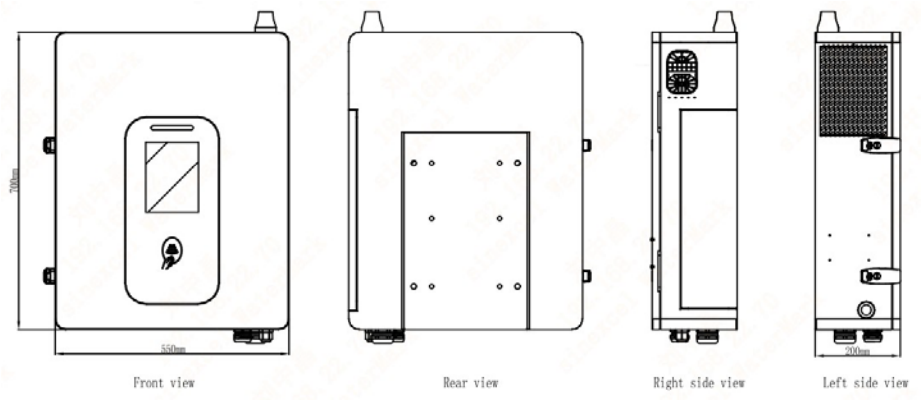


Figure 3.1-A Outline and dimension of charger

2. The shape and dimension of the charging column are shown in ***Figure 3.1-B***.

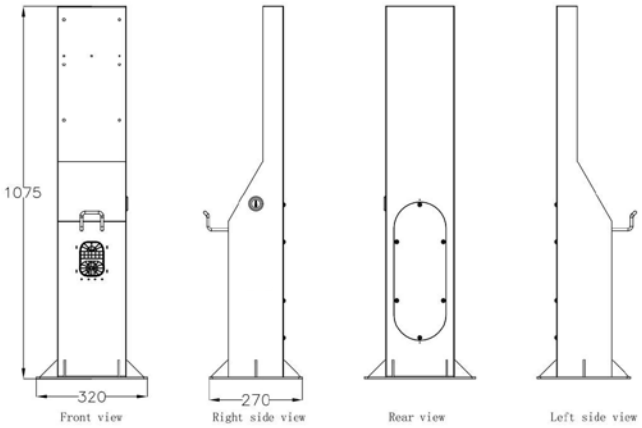


Figure 3.1-B Outline and dimension of charging pedestal

3.2 Equipment installation requirements

3.2.1 Wall-mounted

1. The charger is opened in front . Space should be reserved around. See ***Figure 3.2.1-A*** for the reserved size.The height of the bottom of the charging from the ground during wall hanging is determined by the customer.

2. The foundation is of channel steel or concrete; The cable shall be embedded in advance, and the reserved length of Ethernet cable should not be less than (H+700)mm; the reserved length of power cable reserved shall be （H+300）mm±20mm. The length of H is determined by customers.

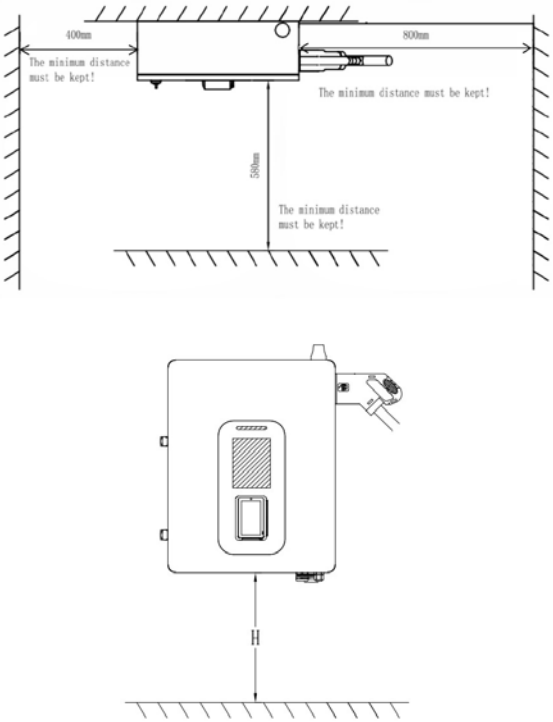


Figure 3.2.1-A Requirement of Charger wall-mounted placement

3.2.2 Ground-mounted

1. The charger is opened in front . Space should be reserved around. See ***Figure 3.2.2-A*** for the reserved size;

2. The foundation is of channel steel or concrete; The cable shall be embedded in advance,the reserved length of Ethernet cable should not be less than 1800mm; the reserved length of power cable reserved shall be 1200 mm, shown in ***Figure 3.2.2- B***;

3. The height of the installation foundation is recommended to be 200 mm ± 20 mm, and the vertical inclination of the installation shall not exceed 5 °. See ***Figure 3.2.2-B*** for details;

4. Install 4 stainless steel M10 * 80mm expansion bolts between the base and the cabinet. Note that the bolts need to be equipped with M10 stainless steel flat gasket.

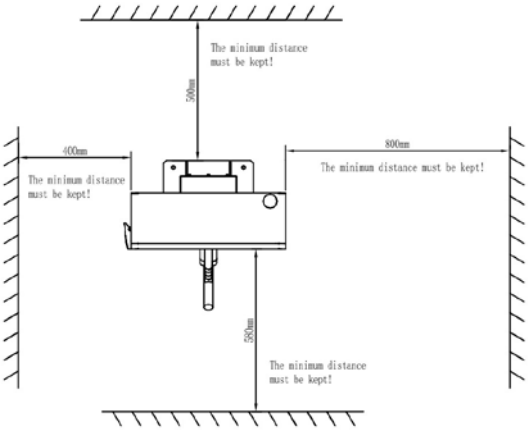


Figure 3.2.2-A Requirement of ground-mounted placement

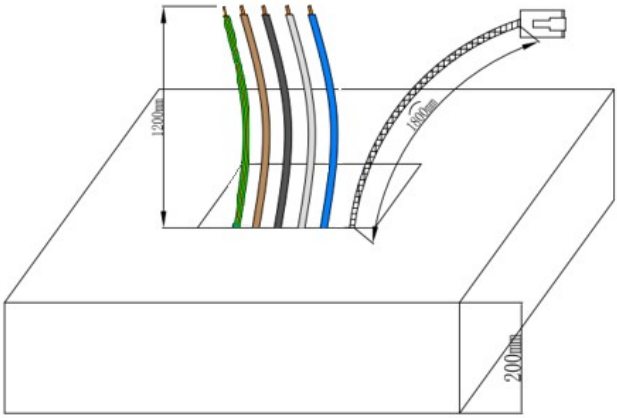


Figure 3.2.2-B Base and cable reservation requirements

3.3 Construction of distribution cables

3.3.1 Layout requirements of distribution cables

1. The input cable of the system is introduced from the inlet hole at the bottom of the charger, and the cable shall be laid through the cable trench.

2. The AC cable adopts copper core wire, and the cross-sectional area of the cable shall adapt to the load.

3. The outdoor power cable shall be laid according to the power specification. The power cable and the signal cable must be separated, and the signal cable should be put through the tube separately to avoid the pressure loss and interference of the communication signal.

4. The cable shall not be laid in the area easily damaged by mechanical damage, corrosive medium emission, humidity, strong magnetic field and strong electrostatic field interference. If necessary, please take corresponding protection or shielding measures.

5. The AC input cable starts from the user's distribution switch and connects to the copper bar of the charger's inlet cable switch. Protection devices shall be provided at the user's power distribution.

6. The color of AC input cable is brown (L1), black (L2), gray (L3), blue (N), yellow green (PE). If the input cable has only one color, it is necessary to paste cable number identification (or tube with mark).

3.3.2 Process requirements of distribution cables

1. Cable laying shall be free from external force, distortion and damage of insulation layer.
2. It is strictly forbidden to twist, flatten, break the protective layer and wear the protective layer seriously.
3. The protective pipe shall be cleaned before the cable passes through the pipe, and the wire shall not be damaged.
4. The cable arrangement shall be tidy. The binding should be neat and should not be crossed.
5. Sufficient allowance shall be reserved for each wire of the cable, and the bending degree shall be consistent.
6. Crimp the terminal of the cable head, and there should be no gap on the penetration surface of the terminal after crimping.
7. When pressing the lug of inlet cable, the heat shrinkable tube should be set between the cable and the lug, and the inside and outside of the tube should be smooth without damage and crack. Before setting the heat shrinkable tube, the sundries on the cable shall be removed, and there shall be no burr and iron filings on the surface to prevent damage to the tube. The color of the tube shall be in accordance with the phase sequence. When the tube is heat shrinkable, the flame should be avoided to spray on the inside of the cabinet to prevent burning the internal components and cables of the cabinet. The appearance of heat shrinkable casing should be flat, smooth, uniform shrinkage, no dust and crack.
8. Attention should be paid to the wiring sequence when pressing RJ45 connector for Ethernet cable. Check whether the pressing is qualified after plug-in.

3.3.3 Cable specifications for AC input (Recommended)

Capacity (kW)	**Cable specification (Copper cable)**	**Capacity of superior distribution switch**	**Screw specification (diameter: mm)**	**Cable terminal**
25kW	4*16mm²+1*16mm²	63A	/	L1/L2/L3/ N: EN16-12 or E16-12 PE:SC16-6
30 kW	4*16mm²+1*16mm²	63A	/	L1/L2/L3/ N: EN16-12 or E16-12 PE:SC16-6

3.3.4 Internal wiring diagram of equipment

The internal input cables are PE, L1, L2, L3, N from the left to the right, as shown in ***Figure 3.3.4-A***.

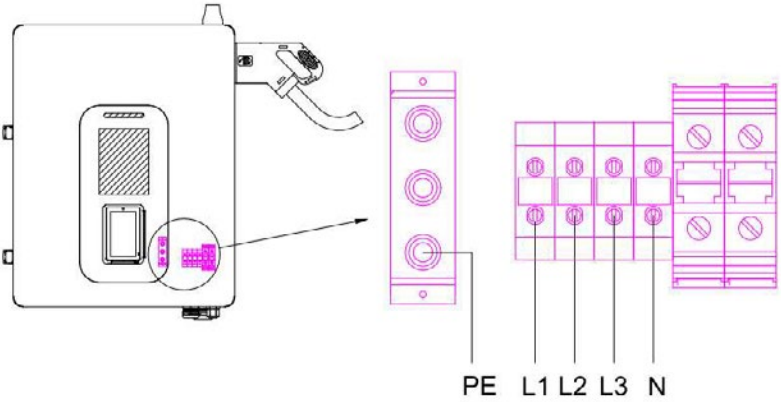
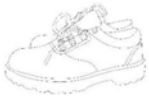


Figure 3.3.4-A Internal wiring diagram of charger

3.4 Installation steps of charging equipment

Tools required

S/N	Tools	Qty.	Drawing	S/N	Tools	Qty.	Drawing
1	Claw hammer	1		6	Cross screwdriver	1	
2	Flat screwdriver	1		7	Electric drill Equipped with φ 12.5mm drill bit	1	
3	Insulating gloves	1		8	Cable clipper	1	
4	Insulation shoes	1		9	Hydraulic clamp	1	
5	Adjustable wrench	1		10	Art knife	1	

3.4.1 Unpacking the outer package of the cabinet

Tools required: claw hammer, art knife, protective gloves

- Straighten the metal card on the top of the packing material with a claw hammer, and remove the upper cover plate. As shown in ***Figure 3.4.1-A***.

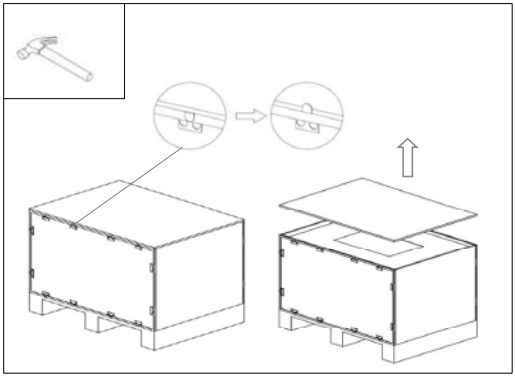


Figure 3.4.1-A

- Straighten the top metal cards with a claw hammer, remove the surrounding wood boards, cut the PE bags wrapped around the cabinet with the art knife, and remove the PE bags and foam. As shown in ***Figure 3.4.1-B***.

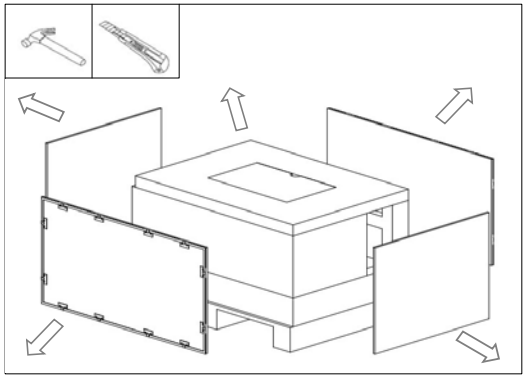


Figure 3.4.1-B

- Lift the charging pile out of the packing box

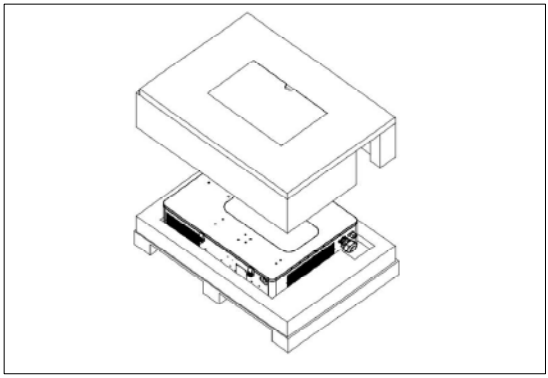


Figure 3.4.1-C

3.4.2 Installation procedure

Tools required: electric drill, φ12.5mm drill bit, protective gloves.

3.4.2.1 Wall-mounted

- **Installation dimensions**

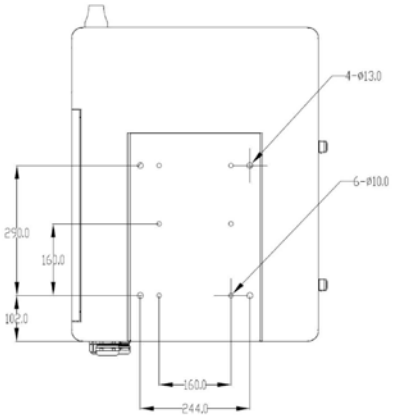


Figure 3.4.2.1-A Back diagram

- **Installation procedure**

Step 1:Fix the wall-mounted plate on the wall with 4 expansion screws (M 10*80mm). Refer to ***Figure 3.4.2.1-B***

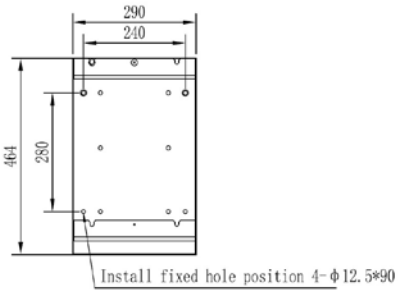


Figure 3.4.2.1-B Hole locations of the plate

Step 2：Hang the charging station on the wall and lock the captive screw, Refer to ***Figure 3.4.2.1-C***

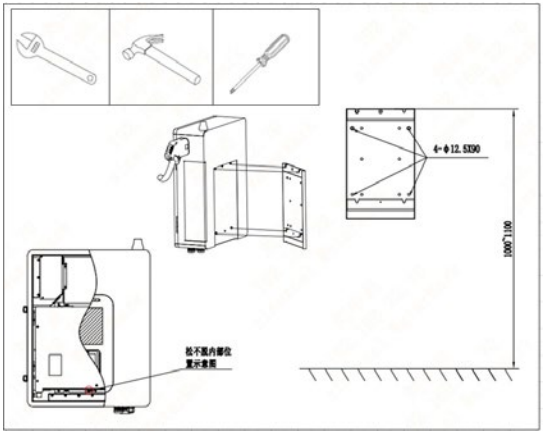


Figure 3.4.2.1-C Wall-mounted diagram

Step 3：Connect the Ethernet cable as shown in the figure.Unscrew the waterproof connector and insert the Ethernet cable through the middle inlet hole, and plug it into the WAN port of the router. Finally, tighten the waterproof connector with the monkey wrench to ensure that the cable cannot be pulled out. Please refer to ***Figure 3.4.2.1-D.***

Step4：Connect the AC input cable as shown in the figure. Unscrew the waterproof connector , insert the incoming wire and connect the cable connector to the terminal block , screw the wire rope with a screwdriver. Finally, tighten the waterproof connector with the wrench to ensure that the incoming cable cannot be pulled out. Please refer to ***Figure 3.4.2.1-D***

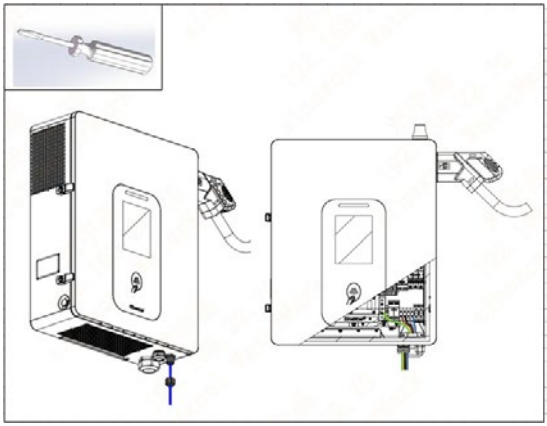


Figure 3.4.2.1-D Wall-mounted threading diagram

3.4.2.2 Ground-mounted

- **Installation dimensions**

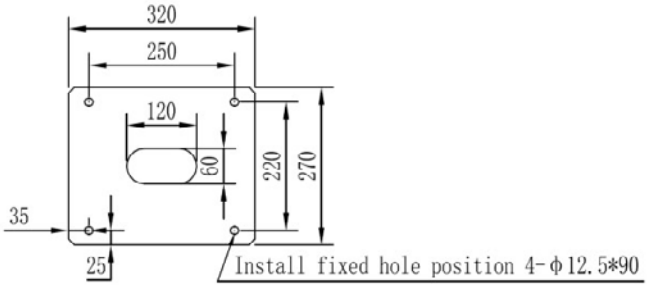


Figure 3.4.2.2-A Hole locations of pedestal

- **Installation steps**

Step 1：According to the drilling hole locations of the pedestal as shown in ***Figure 3.4.2.2-A***，get the installation position and install the cable in advance. Make sure that the length of the embedded cables out of the ground is meet the requirements of ***3.2.2*** .

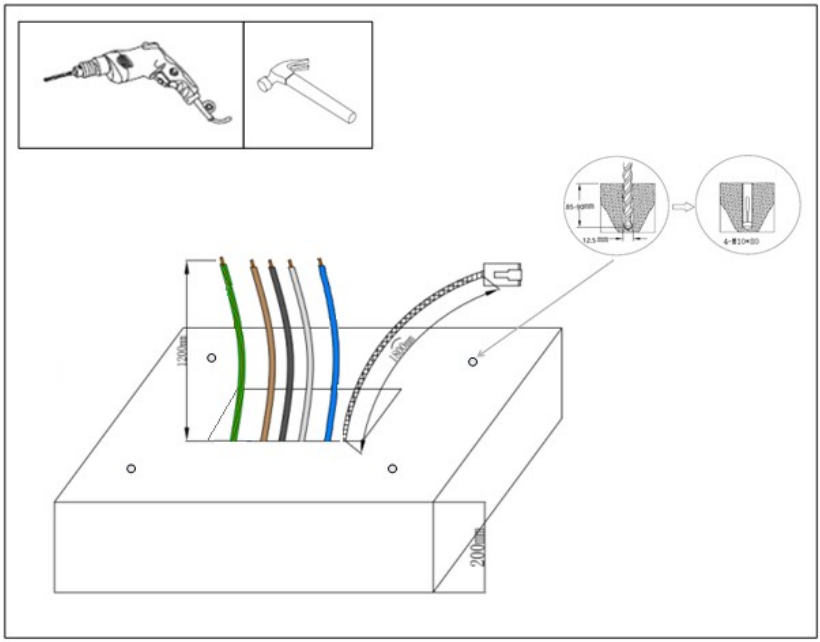


Figure 3.4.2.2-B Hole locations of the template

Step 2：Use the percussion drill to drill four holes on the ground,Install the M10*80 expansion screw as shown in ***Figure 3.4.2.2-B.***

Drill four mounting holes with a diameter of φ12.5 mm and a depth of 90 mm on the cement mounting base with an electric drill corresponding to the hole position.

Knock four M10 * 80 expansion bolts into the holes with a claw hammer, and then screw out the screw part, so that the expansion bolt casing is embedded in the base mounting hole.

Step 3：Lay the charger as shown in ***Figure 3.4.2.2-C.***

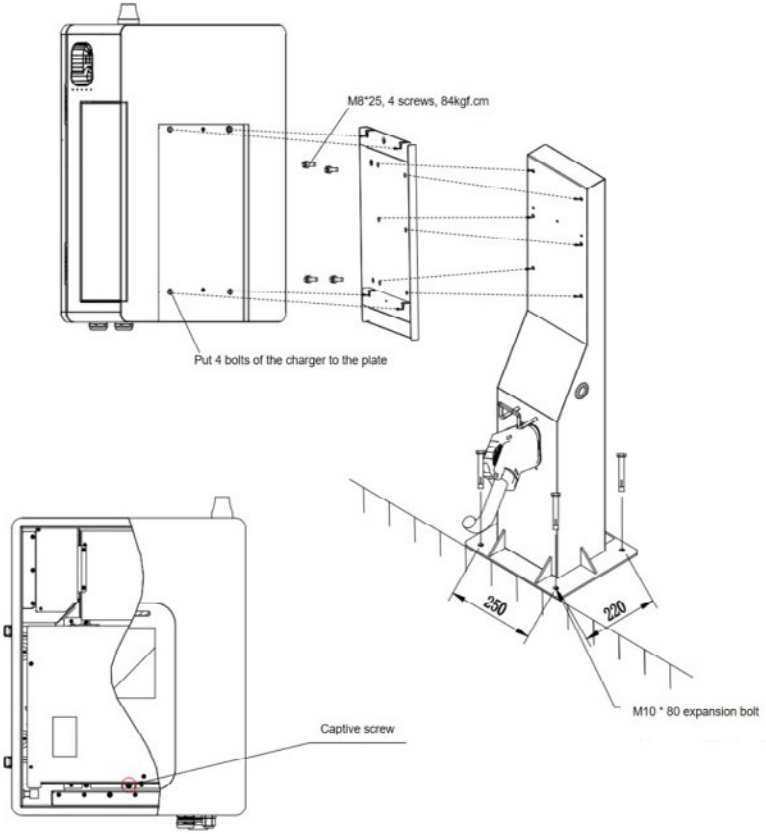


Figure 3.4.2.2-C Charger fixation

3.5 Inspection after installation

Stability

After the charger is installed, shake the cabinet from different directions, and there should be no obvious loosening and shaking.

Clean up

- Dispose of all transportation and packaging materials in accordance with local regulations.
- Clean up the sundries inside and around the cabinet, such as small section of cable, binding tape, screw / nut, desiccant, etc. Do not leave installation tools on site or in the cabinet (record the type and quantity of tools to prevent omission).
- Wipe the insulation with anti-static cloth. Do not use any corrosive solvent.
- Inspection
- Check whether the base is fixed and sealed.
- Check whether the internal components of the equipment are tight and reliable.
- Check whether the electrical connection and wiring are correct and complete, whether the connection is reliable, and whether the grounding is reliable.
- Check whether the cable terminal is loose, and calibrate the screw fixing the terminal.
- Check whether the cable is broken, damaged and scratched.
- Check whether the protection level of the equipment meets the requirements, especially the cable entrance at the bottom of the pile.
- Check appearance, marking, integrity, cleanliness.
- Check the installation of the equipment according to the foundation installation drawing.

4 Operation interface

4.1 Charging process

Note: when the charger is in standby mode, the screen is in the energy-saving mode. Before operation, touch the screen with your finger to light up the screen! The screen has been split, which can be used for advertising below the operation interface.

4.1.1 Standby interface

Tip:

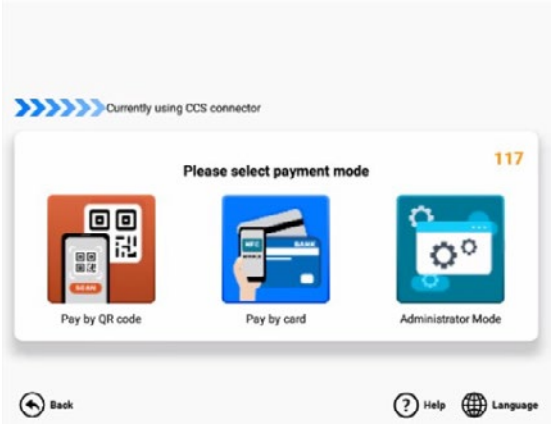
1. Click “language”in any interface to switch the language mode of the UI.

4.1.2 Waiting for connector insertion interface

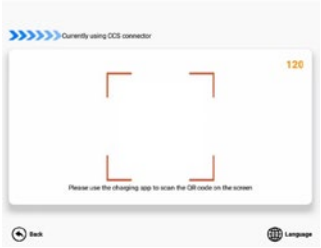
Tip: connecting the connector to the car will jump to the connector insertion interface.

4.1.3 Select charging mode interface

Notice: click the payment method you want to enter the next charging operation.

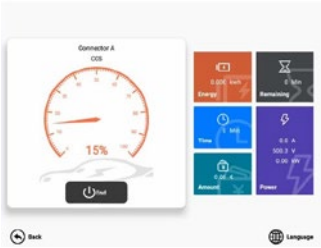


Code scanning charging interface process



Scan the QR to enter the start charging interface .

Charging interface



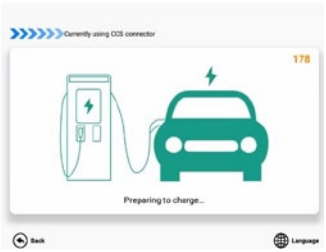
Click "End" to end charging and enter the settlement interface .

Tip: after charging, click back

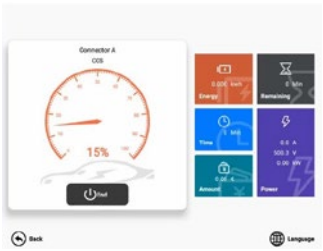
Bank card charging process

Select or enter the precharge amount to enter the card swiping interface.

Pay by card according to the interface prompt to enter the charging start interface.



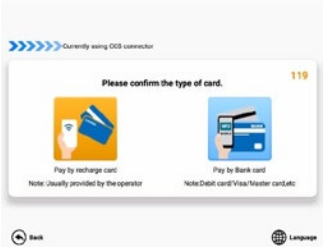
Charging interface.



Click "End" to end charging and enter the pay by card interface.

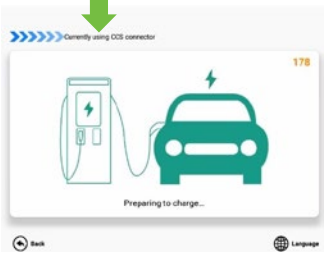
Enter the settlement interface after paying by card according to the interface prompt.

Recharge card charging process

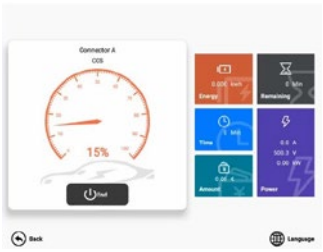


Select the recharge card to charge and enter the card swiping interface.

Swipe the card to enter the charging start screen.



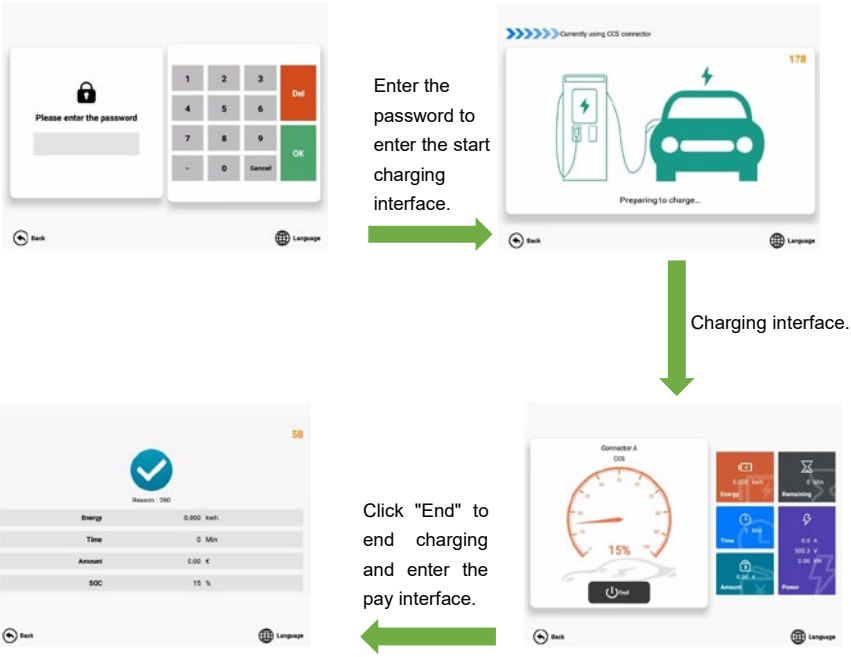
Charging interface.



Click "End" to end charging and enter the pay by card interface.

Enter the settlement interface after paying by card according to the interface prompt.

Password charging interface process



Tip: click the input box to pop up a small keyboard. Enter the complete password through the keyboard and click OK to verify the password. After passing the verification, it will jump to the password start charging interface. For the password, please consult the manufacturer.

5 Simple troubleshooting

Analysis and treatment of common faults.

Refer to the maintenance manual for detailed treatment.

Error code	Name of alarm or fault	Processing method
7	Lightning protection failure	● Check the status of lightning arrested. If the visual window of lightning protection is red, it means it is damaged, please replace it.
1	Emergency stop fault	● Please check whether the emergency stop button is pressed and not pulled out. If the fault has been solved, please pull up the emergency stop button.
11	Over temperature protection of air outlet	● Please check whether the air duct of the system is blocked and whether there is too much dust on the dust screen. ● Please check whether the air outlet fan of charger works normally. If the fan fails, please replace the fan.
32	Access protection	● Please check whether the cabinet door is completely closed; ● Confirm that the door is closed, but the alarm still appears. Please check the status of the micro switch. If it is damaged, please replace it.
20	Charging module failure	● Check the module fault code, confirm the fault type and find the fault cause. ● Pull out the fault module and replace the spare module. ● Check whether the alarm light of RCD device is on. If the lamp is on, it indicates that the system has leakage fault,

Notice: in order to prevent personal electric shock accident, all switches of the equipment and front-end power distribution switch of the equipment shall be disconnected during fault detection and treatment, and protective measures shall be taken.

6 After-sales service

If you have any questions, please contact the equipment supplier.

Before contacting the equipment supplier:

- Please check the troubleshooting measures in the chapter "5. Simple troubleshooting".
- Please record the model and serial number of the equipment (name plate of the equipment) and the failure time.

INSTALLER
Please attach
charge point ID
label here

CUSTOMER, please
find your charge point
ID label here

EVUC30M-V01-R0 UltraCharge 30 Installation & Operation Manual

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