Electric Vehicle
DC Charging Station
20kW / 30kW / 40kW

Instruction Manual

Note: Please read this instruction manual carefully before using the product.

Contents

Chapter 1 Product Overview

A nuclear-safe high-power power module platform is adopted, Higher safety and reliability;

Adopt a new high-efficiency three-phase PFC circuit topology, The power factor is greater than 0.99, Harmonic distortion rate is low ≤5%;

The high-frequency switching power supply module adopts the full-bridge phase-shift soft switching technology; High execution efficiency;

Advanced digital current sharing technology, Effectively improve current sharing accuracy and anti-interference;

The first module sleep technology and rotation technology, to ensure the efficient operation of the system;
Intelligent charging process control and perfect charging process monitoring and protection, Ease of use;
With timing charging, Quantitative charging, A variety of charging methods such as fixed amount charging and automatic charging are available;
Real-time display of the charged amount, Charging time, Current electricity price, Information such as charging price and operating status;
Provide optional GPRS networking mode; Module hot swap technology, Make maintenance more convenient;
The housing is made of stainless or galvanized steel sheet and structural parts made of ABS plastic.
Working environment temperature: -35℃～+55℃.

Chapter 2 Protection Function

The input and output of the EV Charger Station are electrically isolated;
The output has a device to prevent the battery pack from charging the output filter capacitor of the EV Charger station, prevent instantaneous high current at the output terminal of the EV Charger station when the battery pack is connected;

The voltage rating of the charging station, Insulation class, Electric Vehicle Conductive Charging Device Regulations;
Design according to the functions of: EN IEC 62196-1:2022; EN IEC 62196-3:2014; EN IEC 61851-1:2019; EN IEC 61851-23:2014; EN IEC 61851-21-2:2021; EN IEC 61000-6-1:2019; EN IEC 61000-6-3:2021; TÜV (DIN SPEC 70121/12.14, DIN SPEC 70122/11.18).

CE certified

Chapter 3 Scope Of Application

Integrated DC EV Charger Station is suitable for city-specific charging stations (Bus, taxi, official vehicle, sanitation vehicle, logistics vehicle, etc.), City public charging station (Private car, commuter car, bus), Various parking lots in urban residential quarters, shopping plazas, power business places, etc.;

Inter-city expressway charging stations and other occasions that require DC fast charging, it is especially suitable for rapid deployment under limited site conditions.

Chapter 4 Product Parameters

EV Charging Station Parameter Table

Model No.		AF-DC-20-B/L-A-O-2/3/4/5-H	AF-DC-30-B/L-A-O-2/3/4/5-H	AF-DC-40-B/L-A-O-2/3/4/5-H
		Home and Commercial Use		
Specification	Rated Power	20KW	30KW	40KW
Charging Device	Installation Method	Wall mounted / Floor stand mounted		
	Feeding Method	Bottom in and out		
	Equipment Dimension	450*660*240 (mm)		
	Input Voltage	AC380V±15%		
	Input Frequency	50±10Hz		
	Output Voltage	200-(750)1000 VDC		
	Single Gun Output Current	CCS2: 0-67 A	CCS2: 0-100 A	CCS2: 0-133 A
	Cable Length	5m (optional)		
	Metering Accuracy	1.0 Level		
Electrical Indicators	Current Limit Protection Value	≥110%		
	Voltage Stabilization Accuracy	≤±0.5%		
	Current Stabilization Accuracy	≤±1%		
	Ripple Ratio	≤±0.5%		
	Efficiency	≥95%		
	Power Factor	≥0.99 (above 50% load)		
	Harmonic Content THD	≤5% (above 50% load)		
Functional Design	HMI	4.3- inch highlight color touch screen		
	Charging Mode	Plug and Charge/ Automatic full charge/ Fixed energy/ Fixed amount/ Fixed time		
	Charging Method	NFC (Swipe to charge), scan QR code to charge, Password		
	Mode Of Payment	RFID, scan QR code, Credit card, Password, APP		
	Network Way	Ethernet, 4G, LTE, WiFi 802.11 b/g/n (Optional, 2.4/5 GHz)		

Safety Design	Operative Norm	EN IEC 62196-1:2022; EN IEC 62196-3:2014; EN IEC 61851-1:2019; EN IEC 61851-23:2014; EN IEC 61851-21-2:2021; EN IEC 61000-6-1:2019; EN IEC 61000-6-3:2021; TÜV (DIN SPEC 70121/12.14, DIN SPEC 70122/11.18)
	Safety Function	Charging gun temperature detection, overvoltage protection, under voltage protection, overload protection, short circuit protection, grounding protection, over temperature protection, low temperature protection, insulation monitoring protection, polarity reverse protection, lightning protection, emergency stop protection, leakage protection.
Environmental Indicators	Working Temperature	-35℃ ~ +55℃
	Working Humidity	5%~95% non-condensing frost
	Working Altitude	＜2000m
	Ingress Protection	IP54
	Cooling Method	Air-cooled
	Noise Control	≤60dB
	MTBF	30,000 hours

Chapter 5 Installation Method And Drawing

5.1 Overall Dimensions Of The Equipment

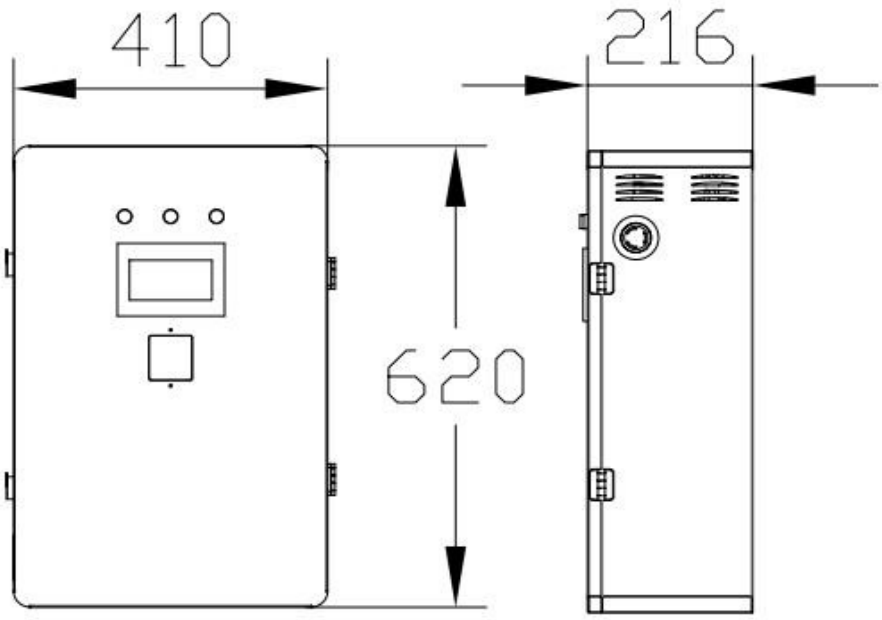


Figure 5-1-1 Overall Dimensions Of The Device

5.2 Installation of Equipment

5.2.1 Packing List

Check the packing box for the following items before installation (subject to the packing list)

1. Wall mounted or Floor stand mounted type EV DC charging Station (1 set)
2. Test card (2 pieces) [with card reader or not]
3. Installation manual (1 set)
4. Certificate of quality (1 piece)
5. Key (2 pieces)

5.2.2 Installation Environment Requirements

1. This series EV DC charging station are the outdoor type, Ingress Protection: IP54;
2. Ambient temperature: -35℃ to +55℃;
3. If in the construction basement, the ventilation duct is not opened, please put back the packaging nylon bag after the installation of the charging Station to enter with waterproof vapor and damage the charging Station.

5.2.3 Installation Method

5.2.3.1 Wall Mounted

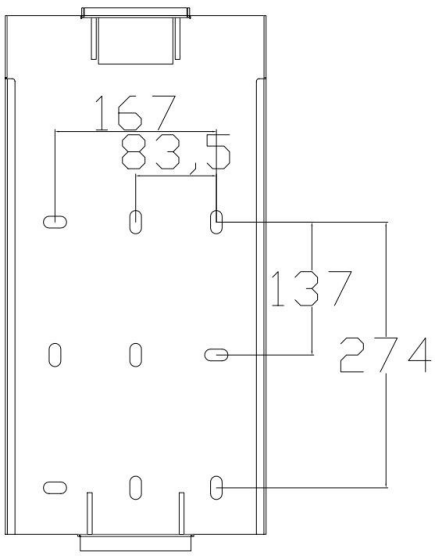


Figure 5-2-1 Overall Dimensions Of The Wall-Mounted Device

Using 12 large impact drills to punch 6 holes and plug in 10 large expansion screws.

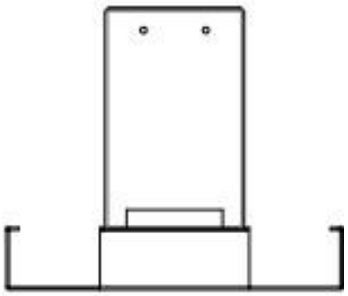


Figure 5-2-2 Overall Dimensions Of The Wall-Mounted Device

The bottom is fixed with M4*12 bolts.

5.2.3.2 Floor Stand Mounted

1.This series DC charging Station can be installed vertically according to the requirements Installation size, Figure 5-2-3、 Figure 5-2-4 and Figure 5-2-5.

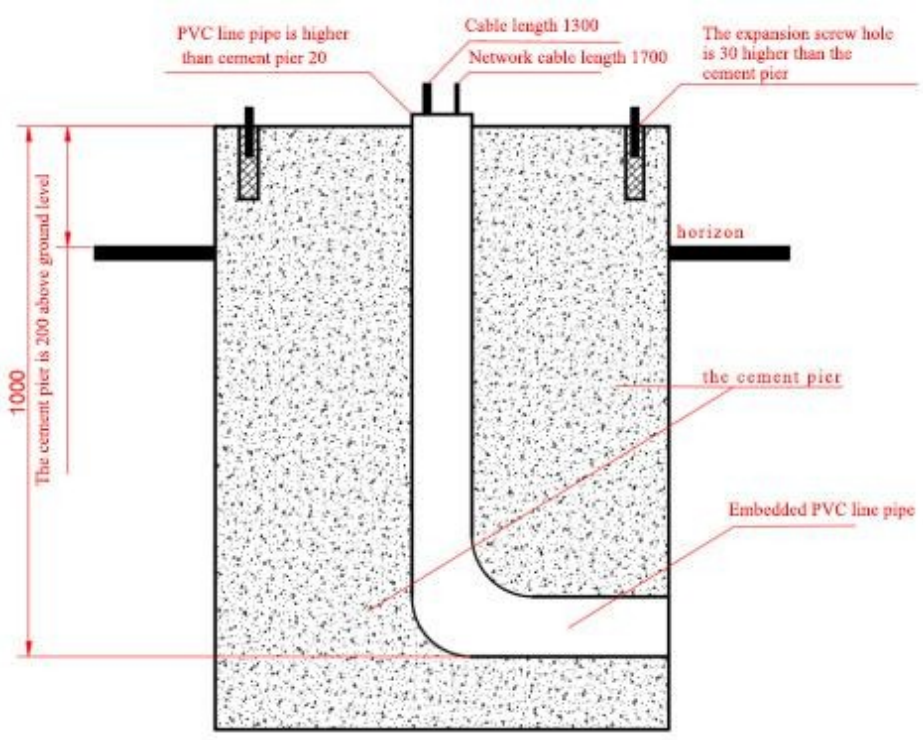


Figure 5-2-3 Schematic diagram size recommendation of foundation 300*300*200

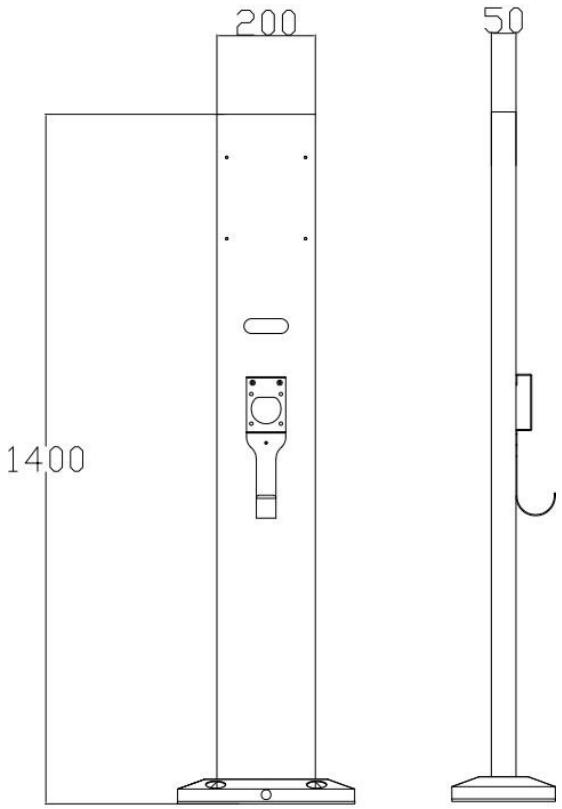


Figure 5-2-4 Floor Stand Mounted Size

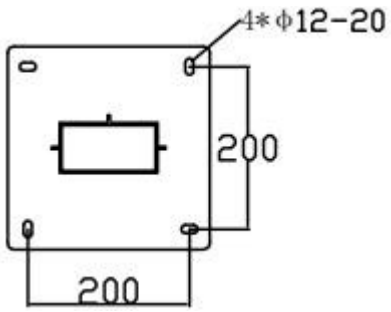
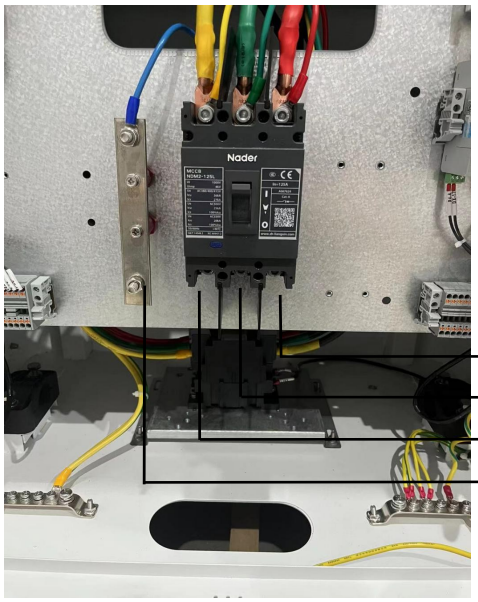


Figure 5-2-5 Floor Stand Mounted Bottom Installation Size

The bottom is fixed with M10*80 expansion and landing.

5.3 Cable Access

Cable recommended cable size YJV3*16+YJV2*10 or VV3*25+VV2*16



The ground wire is externally connected to the ground bar enter N phase A phase B phase C phase

Chapter 6 Operation Instructions

6.1 Operation Area

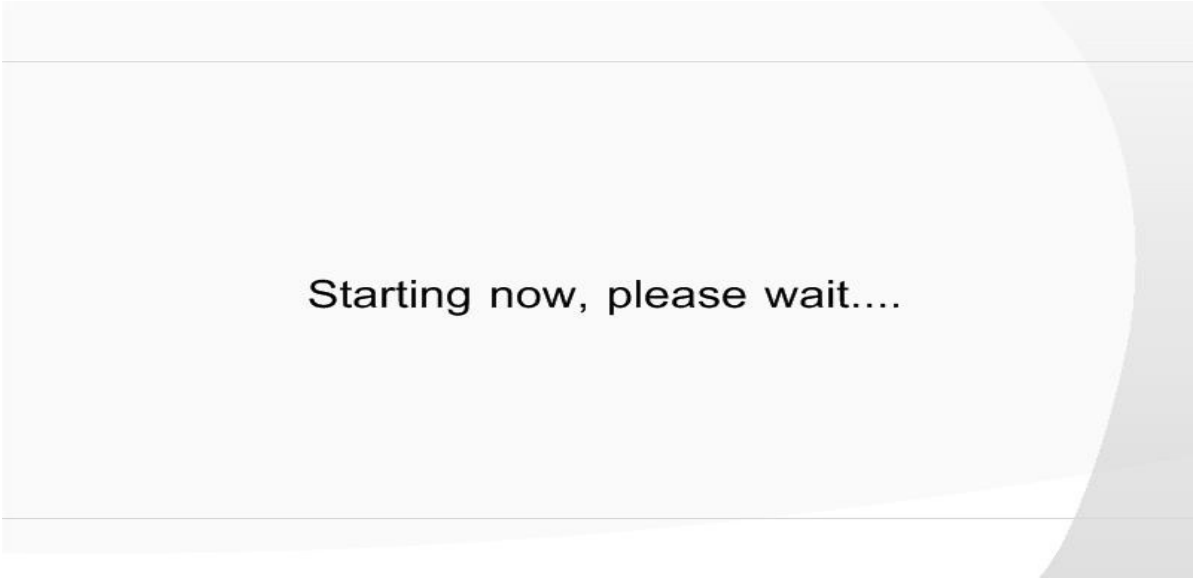


Figure 6-1-1 Starting Interface

The operation area mainly includes LCD, Card reading area.
The 800x480 resolution color touch screen displays the charging parameters and the operation prompt information, card reader area used to identify the ID and user information.

6.2 Operation Instructions

1. Click other charging methods to enter the charging interface.

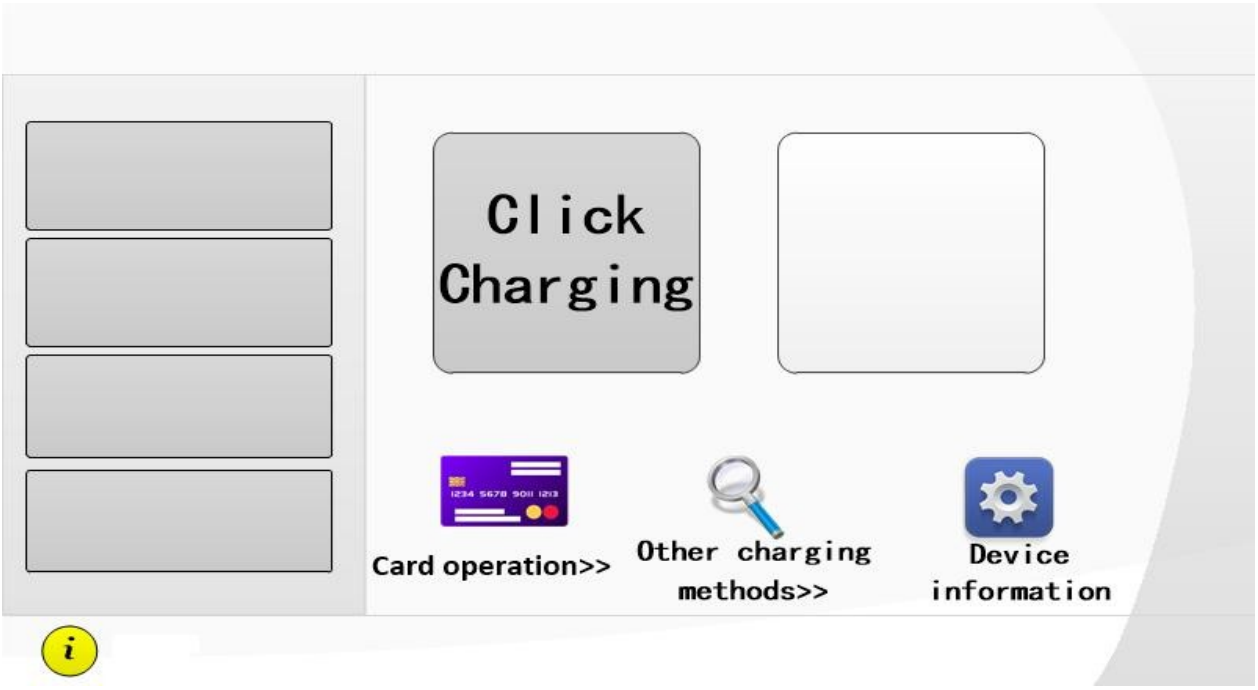


Figure 6-2-1 Home Page

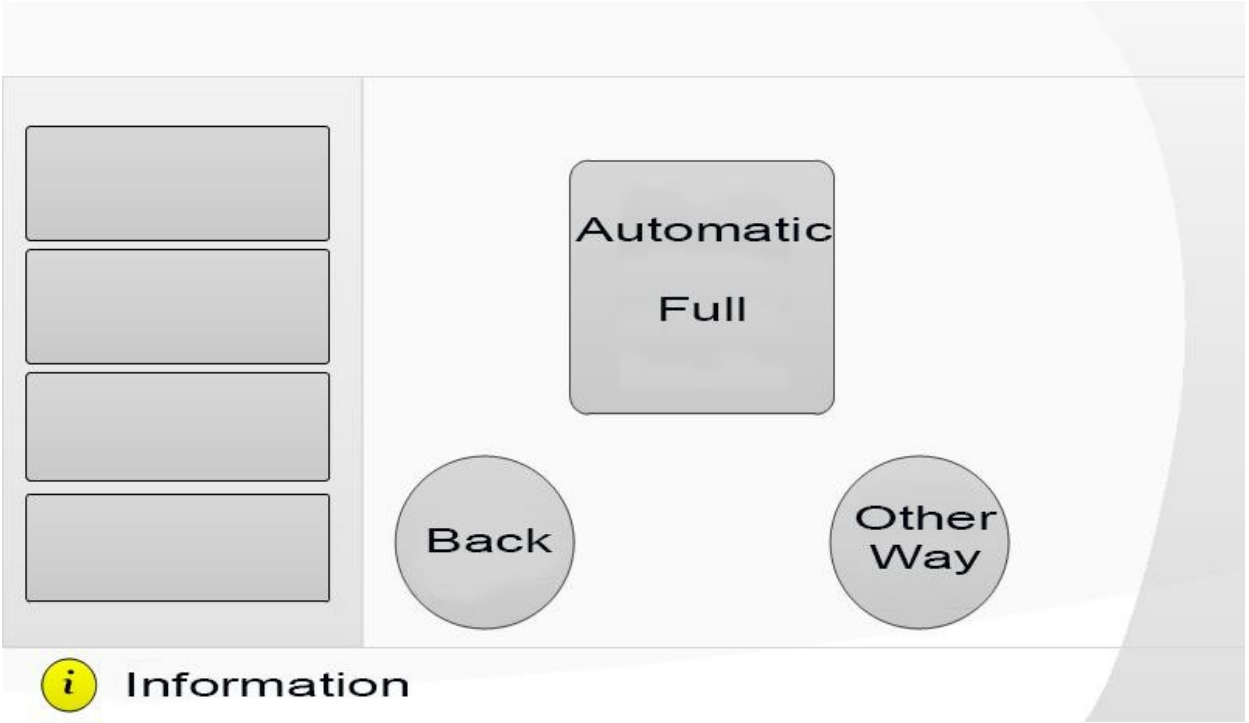


Figure 6-2-2 Select Charging Mode

2. Card swiping charging interface

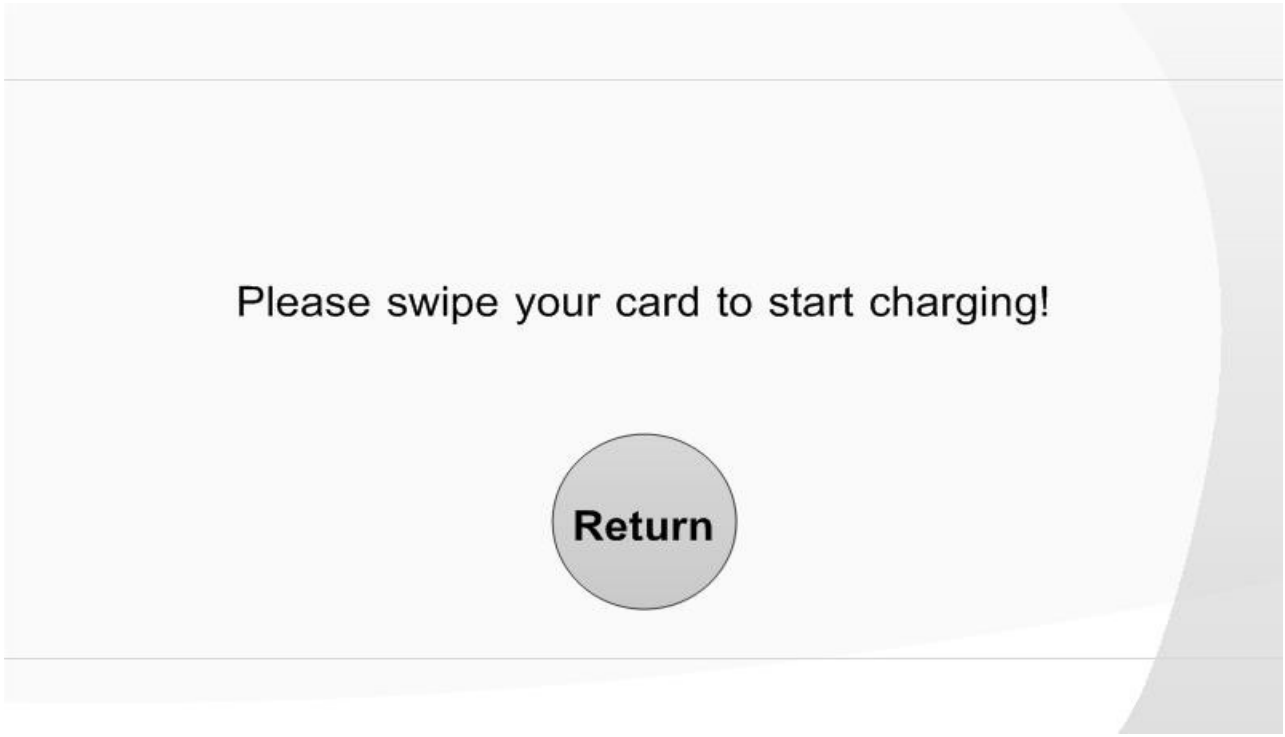


Figure 6-2-3 Swipe Card Interface

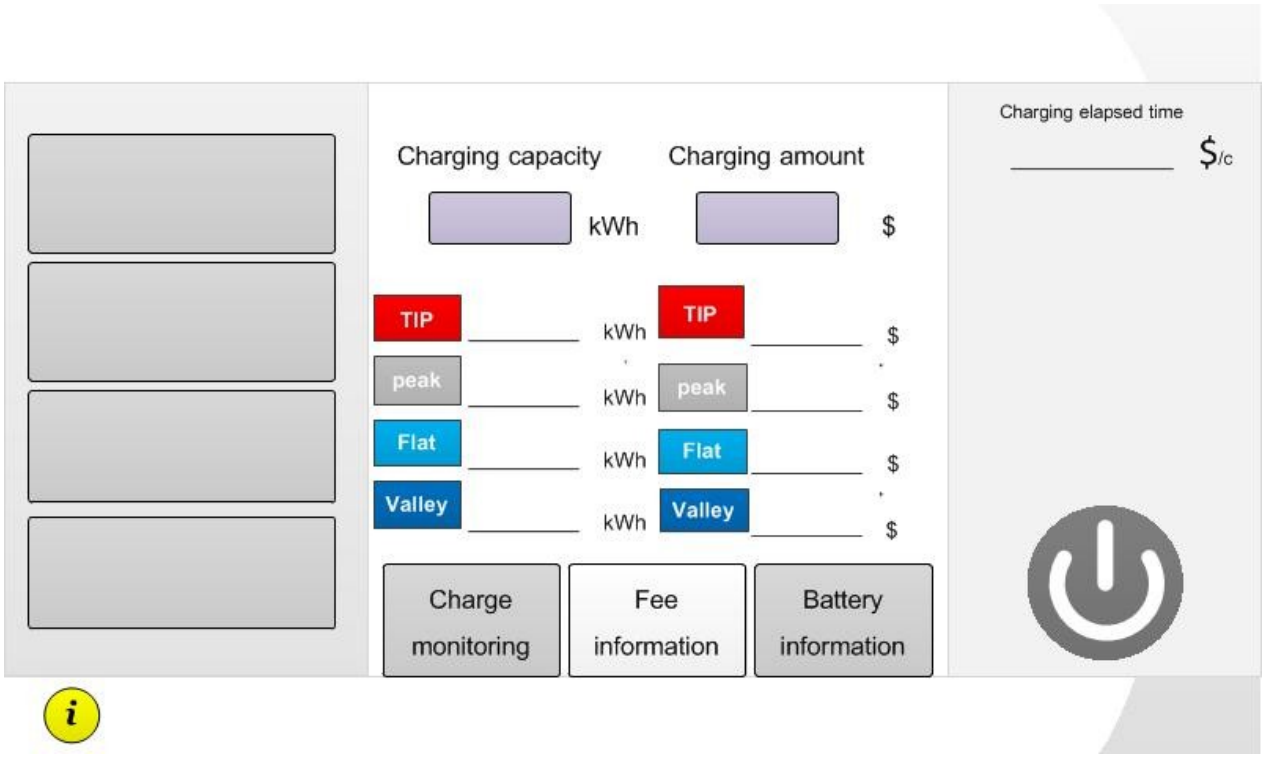
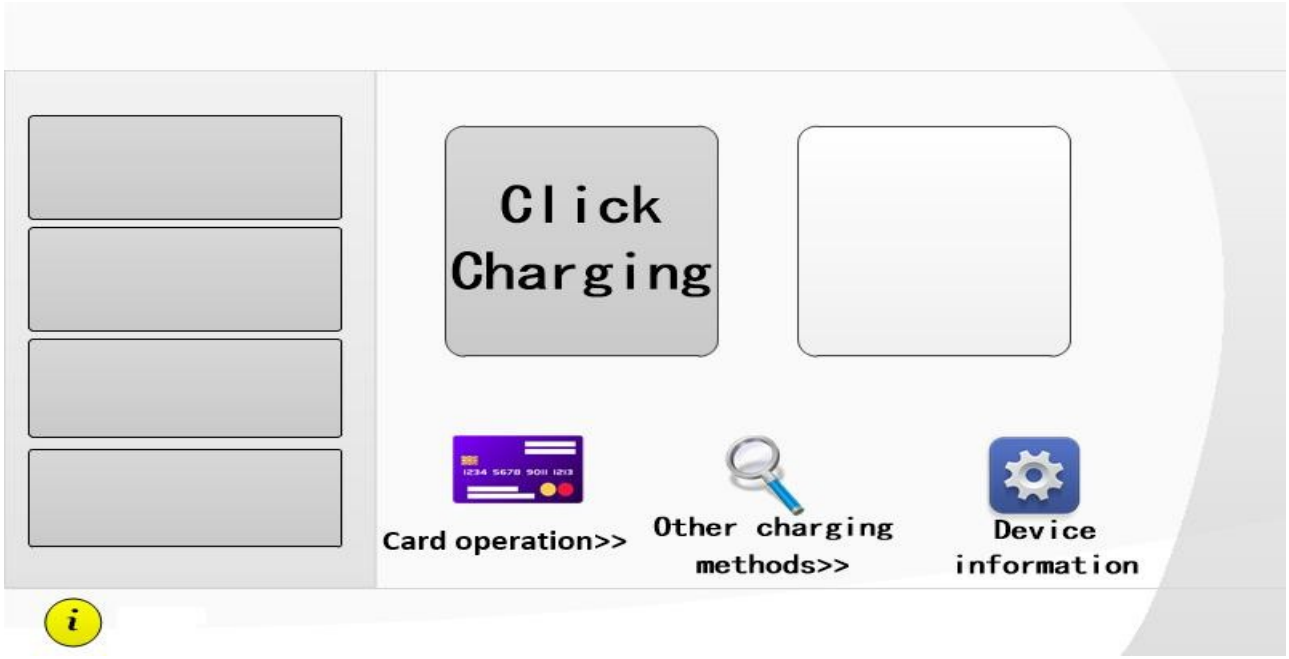


Figure 6-2-4 Charging Interface

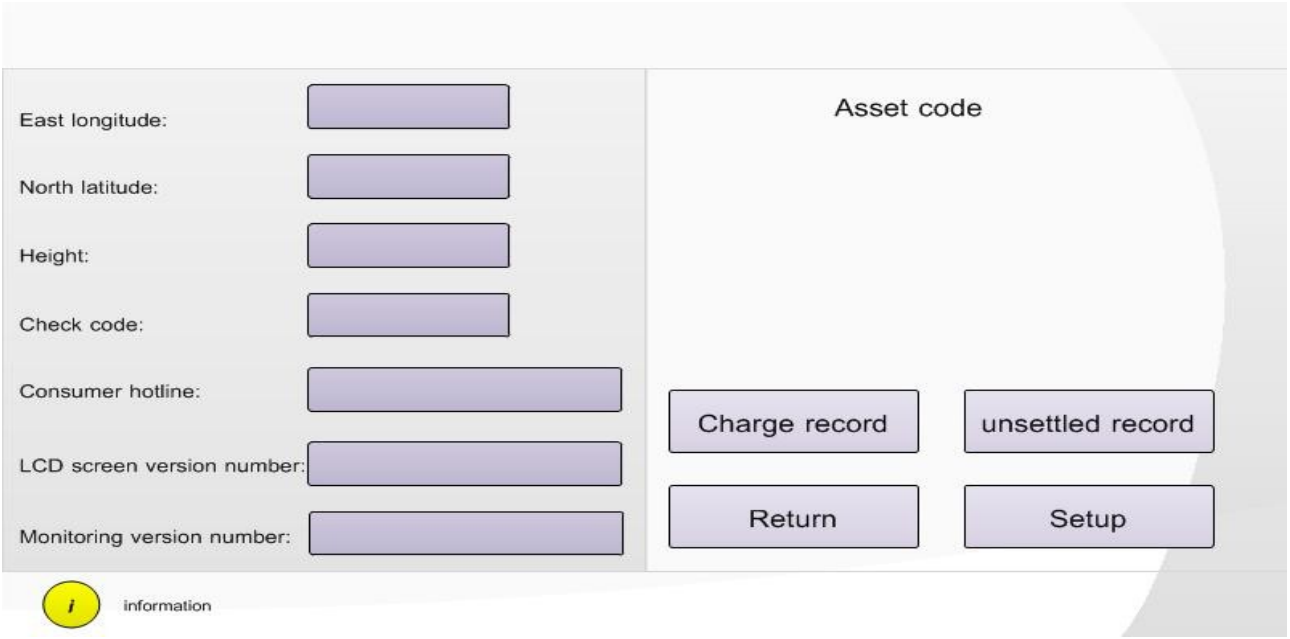
Figure 6-2-5 Settlement Interface

6.3 System Settings

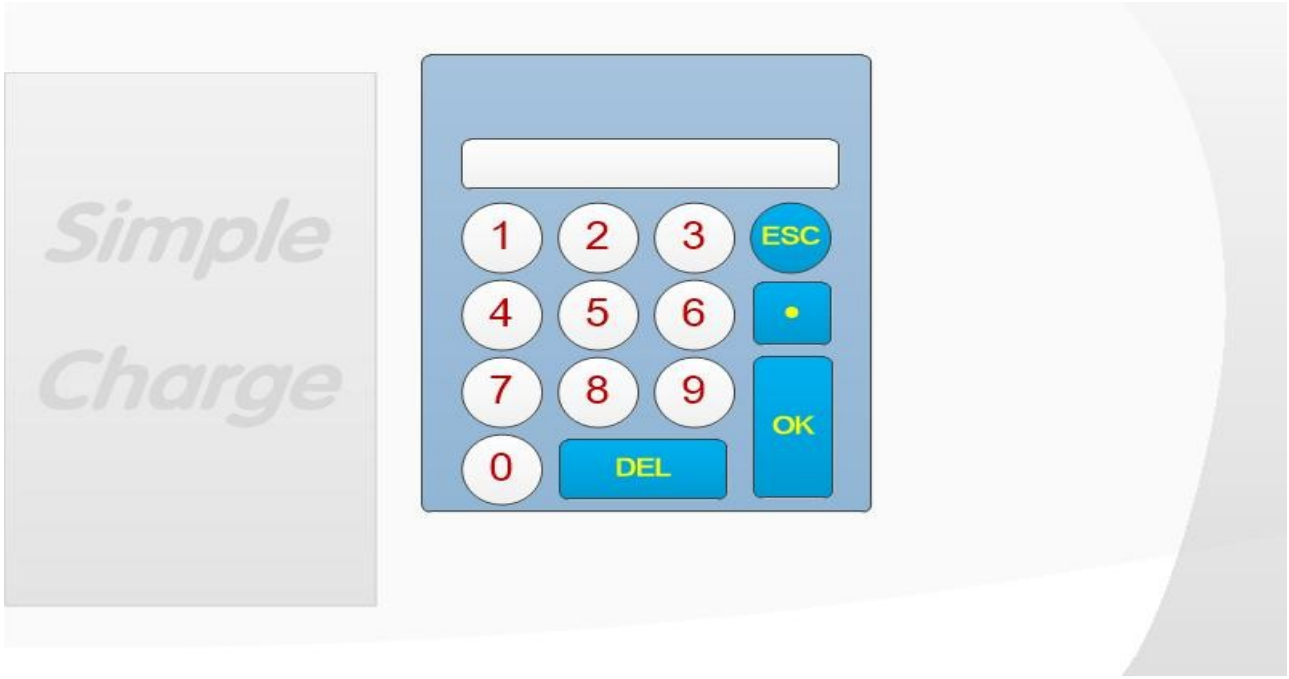
1. Click Set button, enter password, then enter the set interface.



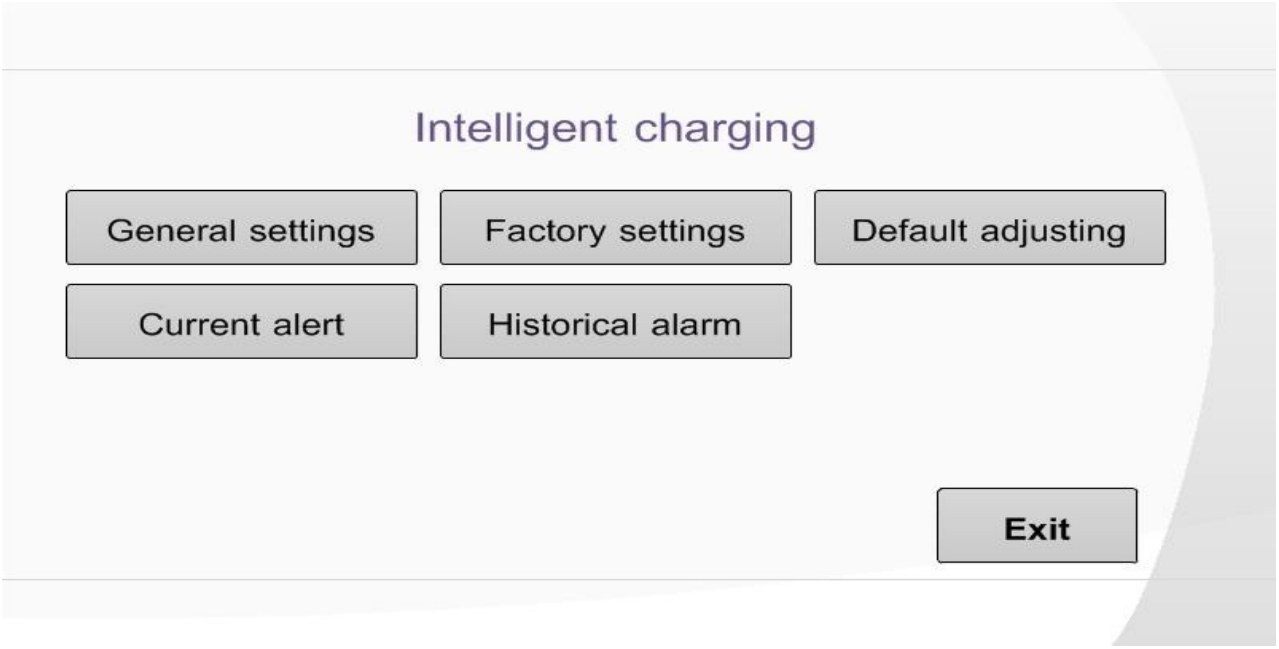
Home Page



Click the [Set] button to enter the password input interface

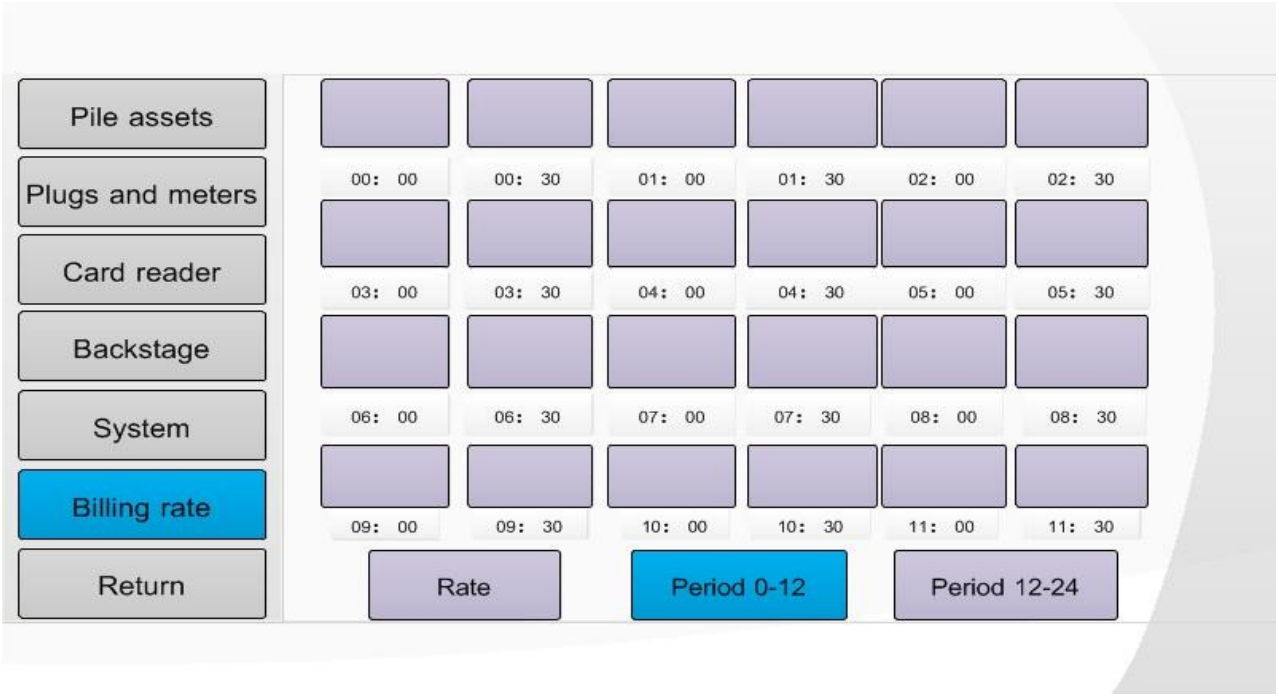


Password Page (Password Input Interface)

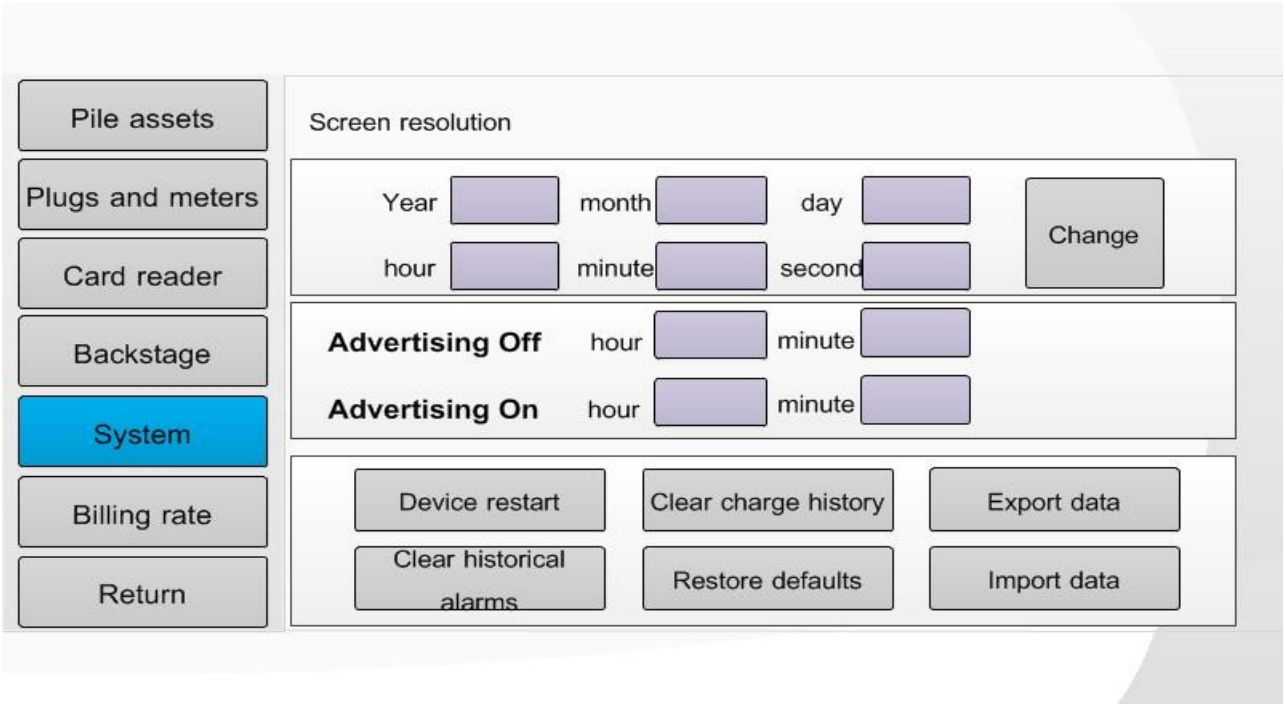


Main Operation Setting Interface

2. Click general settings to enter the setting interface

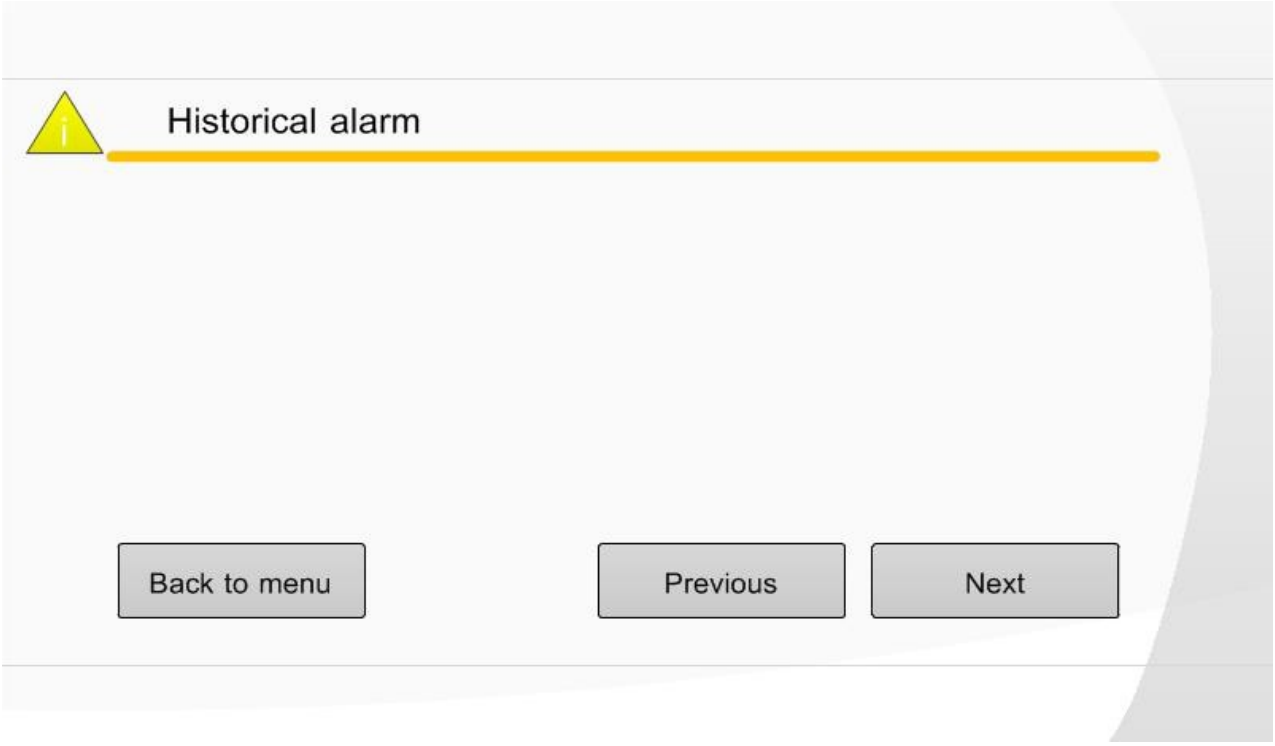


Time Of Use Tariff Setting Interface



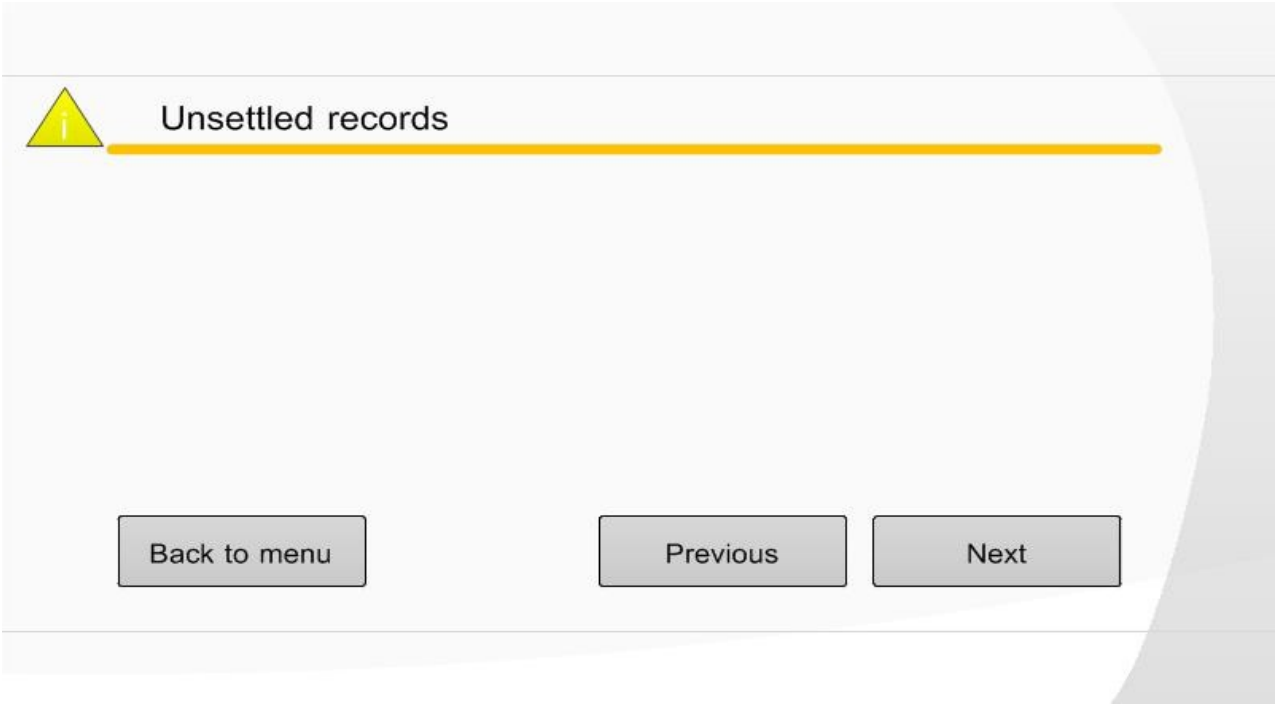
World Setting Interface

3. Click the Historical alarm button in the settings interface



Historical Alarm Interface

4. Click the order record button in the setting interface



Order Record Interface

Chapter 7 Storage And Transportation

7.1 Storage And Transportation Of Equipment

During transportation, it is necessary to use a sturdy wooden box to pack the charging Station body firmly and intact and mark the direction of loading and unloading, and it is forbidden to store and transport the charging Station upside down. There should be corresponding fastening measures during transportation to avoid damage to the outer packaging of the equipment caused by strong vibration and bumps. After arrival, check whether the charging Station is damaged, and if there is any transportation damage, it should be solved by negotiation with the transporter and our company in time. After unpacking, check that the contents of the box match the packing list immediately.

Packaged equipment should be stored in a room with a relative humidity of ≤80% and an ambient air temperature of -10°C ～ +40°C. The storage place should be kept dry, clean and well ventilated, and can prevent the intrusion of various harmful gases. It is strictly forbidden to store it in the same place with corrosive items.

Note: Non-professionals are strictly prohibited from dismantling equipment components.

Chapter 8 Common Faults and Solutions of EV DC Charger Station

Serial Number	Common Malfunctions	Method Of Exclusion
1	Air switch burnt out	Replace the air switch.
2	The information acquisition board is burned out	Contact the manufacturer: replace the information acquisition board.
3	Module damage	Contact the manufacturer: replace the module.
4	Report system failure	It may be caused by various reasons such as the module and the collection board. It is recommended to contact the manufacturer.
5	The platform can't connect to the Internet	Check the network cable interface, whether the network cable is plugged in properly. The network communication board is faulty and replaced.
6	DC undervoltage	Check whether the fuse is burned and whether the relay is closed.
7	AC undervoltage	Check the wiring and switch of the power distribution cabinet for any abnormality.
8	The power meter on the charging Station shows zero	Unplug and plug the wires on the circuit board again, the monitoring board is faulty and replace it.
9	Locking card phenomenon	When the charging is complete, remember to swipe the card to pay, if the card lock phenomenon occurs, please go to the last charging machine to swipe the card and pay the fee to unlock it.
10	Jumping the gun phenomenon	Confirm that the IC card balance is sufficient when swiping the card, otherwise it will automatically stop charging during the charging process
11	After charging is complete, the gun is locked and can't be pulled out	Restart the charging process and wait for it to jump after the power is off. If this method still can't pull the gun, immediately contact the manufacturer for repair.
12	Display password error when charging	The inconsistency between the institution code when opening an account with the charging card and the institution code of the charging Station will cause this problem, and the default institution code of the charging Station is 080808.
13	When the gun is plugged in, the interface doesn't show the connection or no display	Please activate "Information" for charging by swiping.
14	Swipe the card to start charging, and it will stop after a while	Here is generally the communication problem between the battery BMS and the Station, so at the end of the card to record and change the gun to try again, if it appears repeatedly, report it to the manufacturer in time.
15	Cano bus error	Check whether the red and black dual-core communication cable is loose and replace the monitoring board.
16	System Insulation fault	Check whether the modules are grouped and burned out.

Serial Number	Common Malfunctions	Method Of Exclusion
17	The grid is reverse sequence, the AC grid phase is reverse in sequence, and the power on and off operation can't be performed	Connecting to the correct phase sequence can solve the problem.
18	The EV charging Station is overheated	The heat dissipation temperature of the charging Station is too high, please check whether all the fans of the charging Station rotate normally. Whether the ambient temperature is too high, whether the ventilation is good, the heat sink can automatically return to normal after cooling to a certain temperature.
19	Faulty fan	There may be fan stall or damage, if it is stalled, clean the fan, the output voltage of the charging Station is greater than the overvoltage value, and the fault will be automatically eliminated after the output voltage returns to normal.
20	EV Charging Station output overvoltage	The output voltage of the charging Station is greater than the overvoltage value, and the fault is automatically eliminated after the output voltage returns to normal.
21	EV Charging Station overcurrent	If the output current of the charging Station is greater than the output current setting value or the internal components are damaged, and the repeated failure still exists, it can be determined that there is hardware damage and needs to be repaired.
22	EV Charging Station ground fault	The positive or negative output of the charging Station is grounded. Please check whether the insulation of the output cable is damaged.
23	Emergency shutdown	EPO action, emergency shutdown.
24	The input and output air switch can't be closed	Please check whether the EPO is pressed, release the EPO, and try to close after the input voltage is normal.

Symptoms of common faults of the indicator lights on the module panel:

There are three indicator lights on the module panel, which are the power indicator (green light), the protection indicator (yellow), and the fault indicator (red), and the fault indicator is as follows:

Indicator Light	Normal Status	Abnormal State	Abnormal Problem
Power Indicator (Green)	On	Off	No input voltage to the module internal auxiliary power supply doesn't work
Protection Indicator	Off	On	AC input overvoltage, undervoltage,

(Yellow)			overtemperature
	Off	On	Communication interruption, manual mode
Fault Indicator (Red)	Off	On	Output overvoltage, module address duplication, module severe uneven current
	Off	Flashing	Faulty fan
Note: When the module is in manual mode, the yellow light flashes.			

Chapter 9 Maintenance and Preservation of EV DC Charging Station

9.1 Maintenance

Charging Stations should be shaded and rainproof, and it is recommended to install a canopy outdoors.

Regularly check whether all bolts in the charging Station are tightened, whether the connection line is loose, and the connection is not firm. Check for short circuits.

Pay attention to lightning protection to ensure effective shielding and reliable grounding of charging Stations.

Try to control the output voltage and current of the charging Station within the nominal range when used to ensure that the charging Station works in the state of maximum efficiency.

When the charging Station stops in use, stop the charging output first, and then wind the cable back to its original position.

Note: During the transportation of the charging Station, the charging Station is firmly packed and marked with the direction of loading and unloading, and it is forbidden to store and transport the charging Station upside down; and there are corresponding fastening measures to avoid strong vibration and bumps that damage the outer packaging of the equipment.

Note: Non-professionals are strictly prohibited from dismantling equipment components.

Chapter 10 Warranty Card

Warranty Regulations

1. The warranty period of this product is 3 years.

2. The 7x24-hour service hotline (400-805-5677) to respond at any time.

3. The customers make an appointment for door-to-door repair service within 48 hours of warranty.

4. During the warranty period, the faults (judged by the official staff of the company) that occur under normal use according to the instructions for use will be repaired free of charge.

5. Except for the following problems, the charging equipment can enjoy the above-mentioned relevant warranty terms:

5.1 Unable to provide this warranty card and valid purchase certificate;

5.2 Beyond the warranty period stipulated by the manufacturer;

5.3 There is no warranty card and valid purchase certificate, or the content on the warranty order is inconsistent with the physical identification of the repaired product or has been altered;

5.4 Damage caused by use, maintenance, and customs declaration doesn't meet the standards of the product instruction manuals;

5.5 Damage or malfunction due to entry of foreign objects;

5.6 Malfunction caused by products not manufactured by our company;

5.7 Damage caused by dismantling by those who are not responsible for the three-guarantee repair;

5.8 Damage caused by force majeure (such as lightning, overvoltage, earthquake, fire, flood and other natural disasters);

5.9 Damage or malfunction caused due to unavoidable external factors;

5.10 Damage caused by water ingress or other solutions of the equipment due to improper use;

5.11 Damage caused by using a power supply or voltage other than the specified one.

6. The foregoing warranty is made only and without any other express or implied warranty (including implied warranties of merchantability, reasonableness and fitness for a particular application), whether in contract, civil negligence, or otherwise, the Company shall not be liable for any special incidental or consequential damages.

7. This letter of guarantee is only valid in China and the country where the contract is signed.

For Customer

Product name: _____Serial number:_____

Product type: _____

Date of manufacture: _____ (Subject to commissioning and acceptance)

Stamp of Manufacturer:

Customer name: _____Tel: _____

Customer signature: _____

Customer ADD: _____

1. Warranty content: _____After-sales service: _____

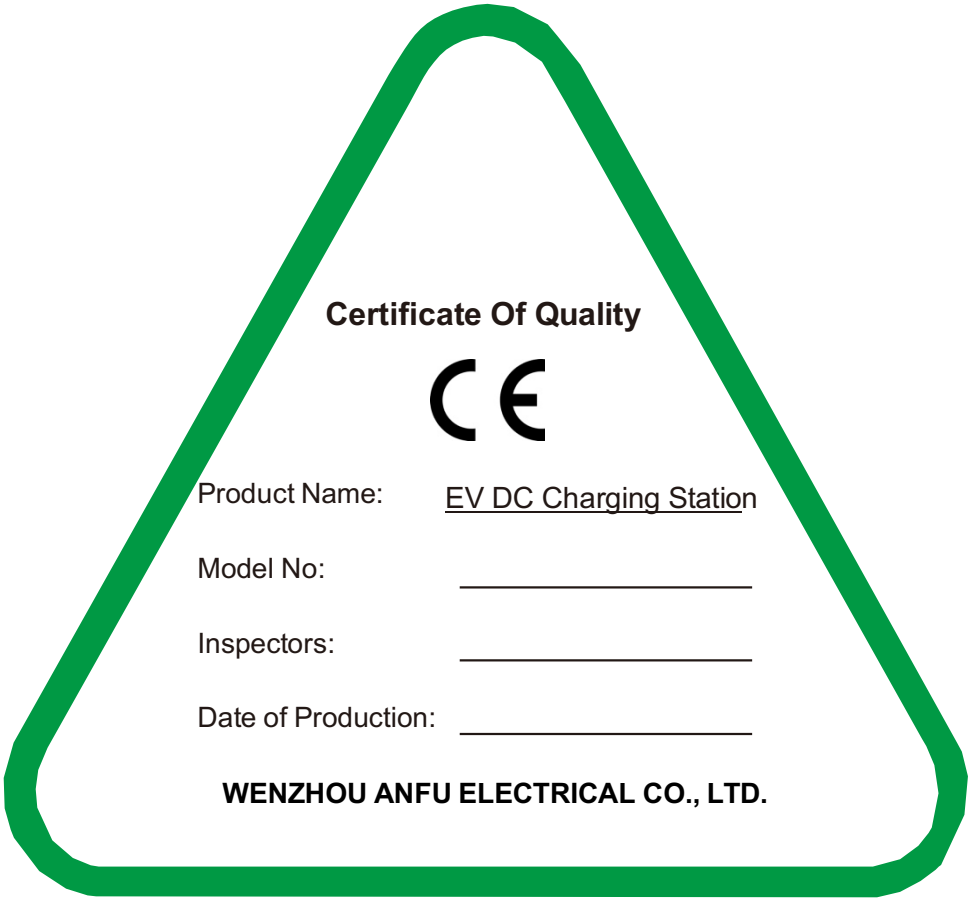
Customer signature: _____

2. Warranty content: _____After-sales service: _____

Customer signature: _____

3. Warranty content: _____After-sales service: _____

Customer signature: _____



Assembly and testing of the equipment are carried out by DOBRATEH, d.o.o. under the supervision of WENZHOU ANFU ELECTRICAL CO., LTD.

(date_____).

Specialist responsible for assembly and control_____