VERDEXON

BORN FROM EARTH, BUILT FOR TOMORROW

Instruction Manual

Infinity Ultra Series DC Charger

60kw-240kW

CATALOGUE

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Safety precautions

1) Do not put flammable, explosive or combustible materials, chemicals, flammable steam and other dangerous goods near the charging pile;

2) Children are not allowed to approach or use the charging pile during charging to avoid injury;

3) In case of rain and thunder, please charge carefully;

4) It is strictly forbidden to use the charging pile when the charging gun or charging cable has defects, cracks, wear, cracks, or the charging cable is exposed. If any, please contact the staff in time;

5) Please keep the charging gun head clean and dry. If there is any dirt, please use a clean dry cloth to wipe it. It is strictly forbidden to touch the charging gun core with your hands when it is electrified;

6) Do not attempt to disassemble, repair or refit the charging pile. If there is a need for repair or refit, please contact the staff. Improper operation may cause equipment damage, water leakage, electric leakage, etc;

7) In case of any abnormality during use, press the emergency stop button immediately to cut off all input and output power;

8) During the charging process, the vehicle shall not be driven and can only be charged when it is stationary;

9) Please turn off the hybrid electric vehicle before charging.

Chapter 1 Basic Introduction

1.1 Basic parameters

- AC input voltage: 260V-530V（ L1，L2，L3，N，PE）
- Grid frequency：45 Hz-60Hz
- Power factor：≥0.99
- Relative humidity:≤95%
- Altitude：≤2000m
- Ambient temperature: -40℃~70℃
- Protection grade： IP54
- Size (H * W * D)：1800mm*966mm*690mm
- Output current and voltage

Power	Combination	Output current Max	Output voltage
60kW	DC 30kW + DC 30kW	GBT：250A CCS2:250A	DC 200-1000V
80kW	DC 40kW + DC 40kW		
120kW	DC 60kW + DC 60kW		
160kW	DC 80kW + DC 80kW		
180kW	DC 90kW + DC 90kW		
240kW	DC 120kW + DC 120kW		

1.2 Normal service conditions

- The altitude shall not exceed 2000m.
- The ambient air temperature during equipment operation shall not be higher than 70 ℃ and not lower than - 40 ℃.
- Daily average relative humidity is not more than 95%, and monthly average relative humidity is not more than 90%.
- The installation and use site shall be free of strong vibration, impact and strong electromagnetic interference, and the induction intensity of external magnetic field shall not exceed 0.5mT.
- The vertical inclination of installation shall not exceed 5%.
- The place of use shall be free of explosive hazardous media, and the surrounding media shall be free of harmful gases and conductive media that corrode metals.
- Three phase five wire system shall be adopted for AC input, and the voltage asymmetry shall not exceed 5%.
- AC input voltage shall be sine wave with non sine content not exceeding 5%.
- The equipment can be installed indoors and outdoors, and pay attention to the ambient temperature of equipment operation. If it is built outdoors, it is recommended to build a rain cover for the charger.

Chapter 2 Installation and Opening Method

2.1 Installation method of charger

2.1.1 Unpacking inspection

- After receiving the goods, open the box to check whether the cabinet is damaged or not, and whether the module package is damaged or not. If it is damaged or damaged, immediately contact the logistics company and our company.
- Check whether the packing list corresponds to the actual goods. If there is any difference, please contact our company for verification.

- **Installation preparation**

- **Cable preparation**
- Recommended cable specifications for power supply are as follows：

The power of the charger	Recommended incoming cable model	Note
60kW	3*50mm²+2*25mm²	L1，L2，L3，N，PE
80kW	3*70mm²+2*35mm²	L1，L2，L3，N，PE
120kW	3*95mm²+2*35mm²	L1，L2，L3，N，PE
160kW	3*120mm²+2*50mm²	L1，L2，L3，N，PE
180kW	3*150mm²+2*70mm²	L1，L2，L3，N，PE
240kW	3*185mm²+2*95mm²	L1，L2，L3，N，PE

2.2 Charging machine opening method

2.2.1 System wiring

- The system wiring is three-phase five wire system. Connect the input line to the input terminal and the ground bar according to the system wiring diagram. During wiring, ensure that the circuit breaker at the power supply end and all circuit breakers in the cabinet are in the disconnected position.
- Check the upper left corner of the display, no fault codes are displayed. If a fault code is displayed, please contact the manufacturer immediately.

2.2.2 Power on operation

- Check whether the internal fasteners are loose and whether the electrical components are intact.

- Whether the system is well grounded, and all switches are in the off position.
- Use a multimeter to measure whether the input power is 260V-530V.
- Close AC circuit breaker, air switch.
- The inspection indicator light should only have a blue light on.
- There is no fault code in the upper left corner of the display.

2.3 HMI configuration mode of charger

The charger is already configured at the factory and can be used without special configuration

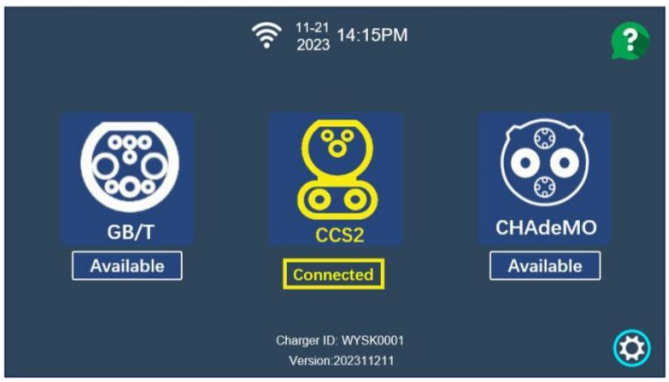
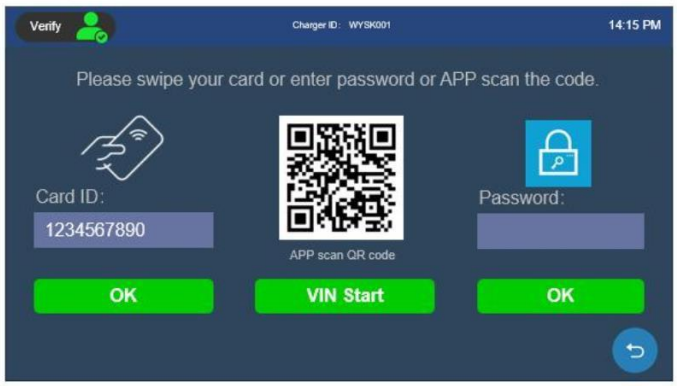
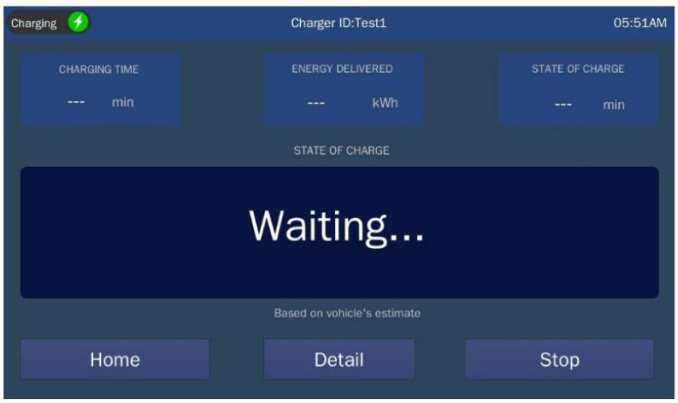
Chapter 3 Instructions

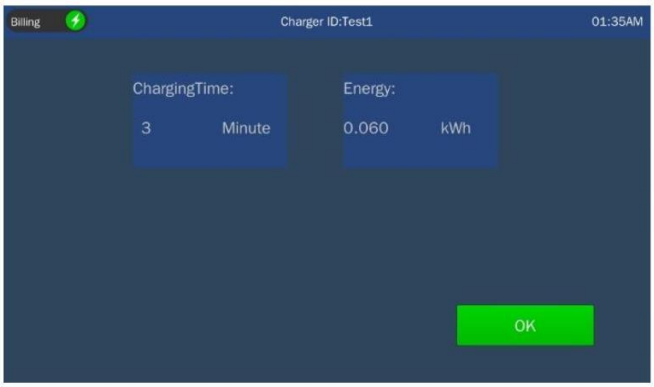
3.1 EV charger Indicator status

The 3 colors of indicators represent the different states of the charging pile.

No	Indicator definition	Colour	Function
1	Standby mode	Blue	Normally off: charging is completed or the gun is not inserted, in standby mode
2	CHARGE	Green	Always on: charging gun is connected and ready for charging
			Flashing: charging state
3	FAULT	Red	Always on: equipment alarm or fault status

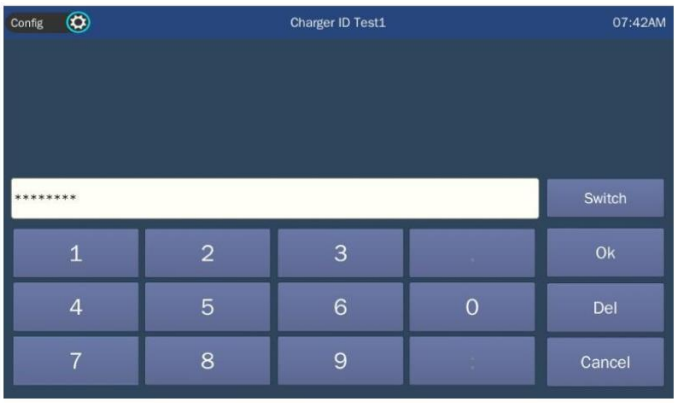
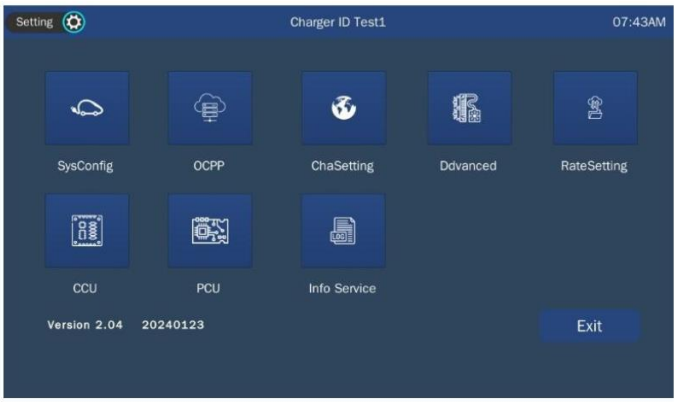
3.2 Charging steps

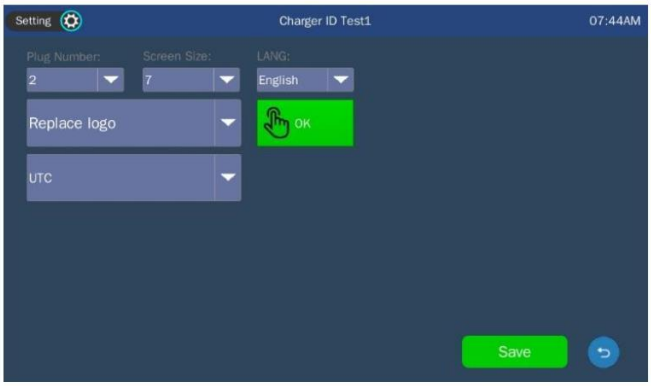
Charging pile idle interface Network status, time, charger ID, program version number	
The charging cable is connected The color of the plug changes to yellow	
Select the charging method Swipe the card, scan the QR code on the APP, and enter the password	
Preparation before starting	

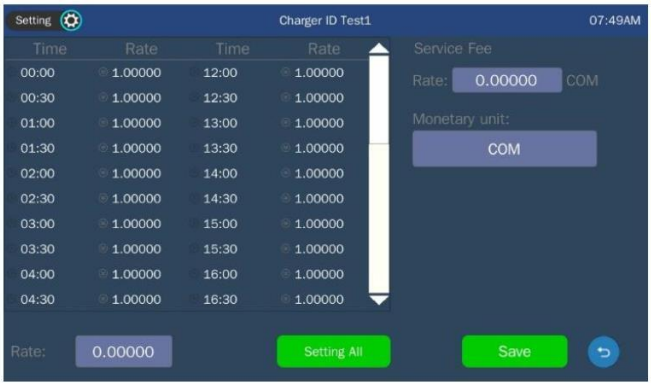
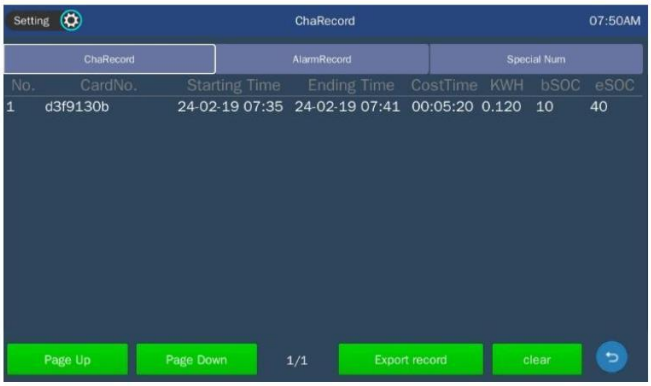
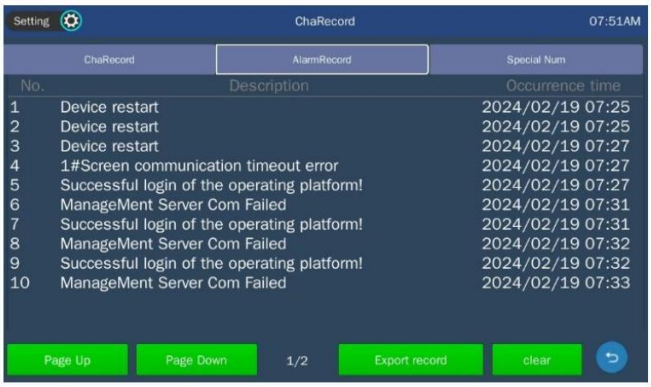
Charging interface	
Detailed charging information	 
Bill Record charging time and energy	
Failure the icon will turn red, The fault indicator icon in the lower left corner flashes	

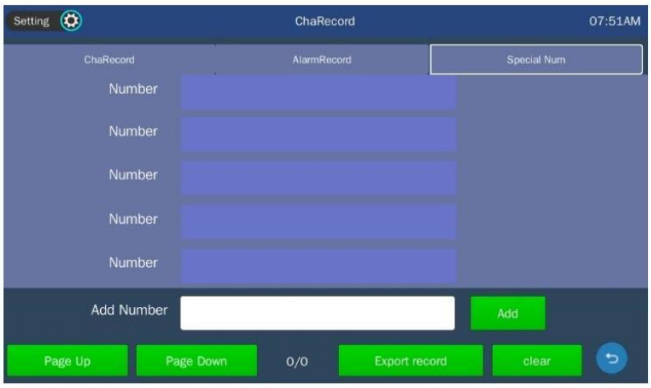
Failure interface	

3.3 Parameter settings

Click the settings icon in the lower left corner	
Enter the password：77777777，Go to settings	
Main interface Not all need to be set, we will set the parameters before leaving the factory.	

CCU (Charge Control Unit) settings	
PCU (Power Control Unit) settings	
Number of charging guns, display size, language, LOGO, time zone settings	
OCPP and Network settings	

Charging gun type setting: CCS1, CCS2, CHAdeMO, GBT	
Rate settings	
Charging record	
Alarm record	

Add charging verification account, you can enter the account to start charging	

3.4 Fault list

NUM	Definition description
1	Emergency stop is pressed!
2	RFID communication fault!
3	Over temperature fault!
4	Lightning protection fault!
5	Power module communication fault!
6	Meter communication fault!
7	DC output overvoltage fault!
8	DC output overcurrent fault!
9	Waiting for BMS communication timeout!
10	Insulation detection timeout!
11	Insulation detection fault!
12	Battery voltage reverse fault!
13	DC+ Contactor sticking fault!
14	DC- Contactor sticking fault!
15	Plug line disconnection fault!
16	Plug head connection over temperature fault!
17	AC Contactor sticking fault!
18	AC Input Overvoltage!
19	AC Input Undervoltage!

20	BMS communication fault!

Chapter 4 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