SKBAC Series
AC EV Charging Station

User Manual

About this User Manual

Read carefully before installation, maintenance and operation!

- Failure to read this manual carefully may lead to improper operation.
- Failure to follow the safety notes may lead to a danger of death, injury and damage to the device, supplier cannot accept any liability for claims resulting from this.

Thank you very much to use our AC EV Charging Station.

- This manual describes the installation, use and maintenance of AC EV Charging station. This manual is intended for installation and maintenance personnel.

Article	Model Number	Product Number
1-phase, 3.5kW, Case C	SKBAC003-230	SKBAC003EN9001LWYDQ001
1-phase, 7kW, Case C	SKBAC007-230	SKBAC007EN9001LWYDQ001
3-phase, 11kW, Case C	SKBAC011-400	SKBAC011EN9001LWYDQ001
3-phase, 22kW, Case C	SKBAC022-400	SKBAC022EN9001LWYDQ001
1-phase, 3.5kW, Case B	SKBAC003-230-1	SKBAC003EN9001LWYDQ002
1-phase, 7kW, Case B	SKBAC007-230-1	SKBAC007EN9001LWYDQ002
3-phase, 11kW, Case B	SKBAC011-400-1	SKBAC011EN9001LWYDQ002
3-phase, 22kW, Case B	SKBAC022-400-1	SKBAC022EN9001LWYDQ002

- The text and illustrations in this user manual are general explanations of these type of equipment, and the actual product may be inconsistent with this manual in detail.

CONTENTS

1. ABBREVIATIONS

S/N	Abbreviations	Description
1	IEC	International Electrotechnical Commission
2	EV	Electrical Vehicle, this can be BEV (battery EV) or PHEV (plug-in hybrid EV)
3	EVSE	Electric Vehicle Supply Equipment **[IEC61851-1]**
4	kW	Kilo Watt (unit of Power)
5	A	Ampere (unit of Current)
6	V	Volt (unit of Voltage)
7	Hz	Hertz (unit of Frequency)
8	LCD	Liquid Crystal Display
9	LED	Light-emitting Diode
10	RFID	Radio Frequency Identification
11	CMS	Central Management System *Manages EVSE and has the information for authorizing users for using its EVSE.*
12	OCPP	Open Charge Point Protocol *A standard open protocol for communication between EVSE and a Central System and is designed to accommodate any type of charging technique.* (www.openchargealliance.org)
13	IP	Ingress Protection
14	PE	Protective Earthing
15	HMI	Human-Machine Interface
16	RCCB	Residual Current Circuit Breaker
17	OBC	On-board charger (of an EV)
18	RoHS	Restriction of Hazardous Substances
19	REACH	Registration, Evaluation and Authorization of Chemicals

2. SAFETY NOTES

2.1. Safety signs used

The following warning signs, mandatory signs and information signs are used in this manual, on and in the AC EV Charging station.

CAUTION: Warning of electrical hazards.
This sign is intended to alert the user that severe personal injury or substantial property damage can result if the device is not operated as requested.

ATTENTION: Warning of a danger spot or dangerous situation.
This sign is intended to alert the user that minor personal injury or material damage can result, if the device is not operated as requested.

CAUTION: Do not touch by hands in case of ESD.
Indicates the possible consequences of touching electrostatically sensitive components.

CAUTION: Warning of combustion.

No access for unauthorized persons.

No access for persons wearing pacemakers.

Use protective footwear.

Must wear a safety helmet.

Indicates important texts, notes or tips.

Indicates recycling information.

Indicates assemblies or parts that must be disposed of properly.

Do not dispose of them in the household waste.

2.2. Environment

- EV Charging station should be installed on the incombustible such as concrete; otherwise, hazardous fire may result.
- EV Charging station should not be installed in the area that contains explosive gas; otherwise, hazardous blast may result.
- Leave no inflammable or explosive substances near the EV Charging station; otherwise, hazardous blast may result.

- EV Charging station should be installed in a place with no conductive dust and insulation-destructive gas or vapor.
- EV Charging station should be installed in a place with no violent vibration and impact; for good ventilation, mount the charging station vertically.
- The installation foundation shall be higher than the ground level, and drainage ditch shall be set around the EV Charging station, otherwise the equipment may be damaged.

2.3. Installation

Safety protection must be done when installing the EV Charging station.

- Installation and wiring should be done by personnel with professional qualification, otherwise, hazardous electric shock may result.
- Make sure input power supply is entirely disconnected before wiring; otherwise, hazardous electric shock may result.
- Earth terminal of the EV Charging station must be grounded securely; otherwise, hazardous electric shock may result.
- The lead nose of the charging station must be securely attached or there is a risk of damaging the equipment.
- Leave no metals such as bolts, gaskets into the inside of the EV Charging station; otherwise, hazardous blast and fire may result.

- Main loop terminal of the EV Charging station should be firmly connected with the wiring ends; otherwise, damage to property may result.
- Bare parts of wiring ends of electrical cables must be wrapped with insulating tape; otherwise, hazardous fire and property loss may result.

2.4. Operation

- Strictly forbidden for minors or persons of restricted capacity to approach the charging station to avoid injury.
- Forced charging is strictly forbidden when the electric vehicle or charging station fails.

- At any time, in case of any emergency (such as fire, smoke, abnormal noise, water inflow, etc.), on the premise of ensuring personal safety, please press the red "emergency stop" button of the charging station, and immediately stay away from the charging station. And then contact the supplier.
- It is strictly prohibited to use the charging station when the charging adapter or charging cables are defective, cracked, worn, broken or the charging cables is exposed. If you find any, please contact the supplier in time.
- EV can only be charged with the engine off and stationary.

- Do not charge in rainy and thunderous weather.

2.5. Maintenance


Personnel must always use protective footwear when maintenance work. Caution ESD to avoid damaging electronic devices, especially to protect microchips on PCBA.

- Accessory replacement must be done by qualified personnel, thrums or metals are prohibited to be left in the controller; otherwise, hazardous blast and fire may result.

- After replacing main PCBA, parameters must be adjusted and matched before operation; otherwise, property loss may result.
- It is recommended that routine safety inspection visits to charging station be conducted at least once a week.
- Keep the charging connector clean and dry and wipe with a clean, dry cloth if soiled.

3. STANDARDS COMPLIANCE

3.1. Charging mode

- Conformed to EN IEC 61851-1:2019

Charging mode: Method for connection of an EV to the supply network to supply energy to the vehicle

- The Charging mode of Sunnic AC products are Mode 3.

Mode 3 is a method for the connection of an EV to an AC EV supply equipment permanently connected to an AC supply network, with a control pilot function that extends from the AC EV supply equipment to the EV.

3.2. Charging connection

- According to EN IEC 61851-1:2019, Sunnic Case B series products meet the Case B connection.

Case B:

Connection of an EV to a supply network with a cable assemble detachable at both ends.

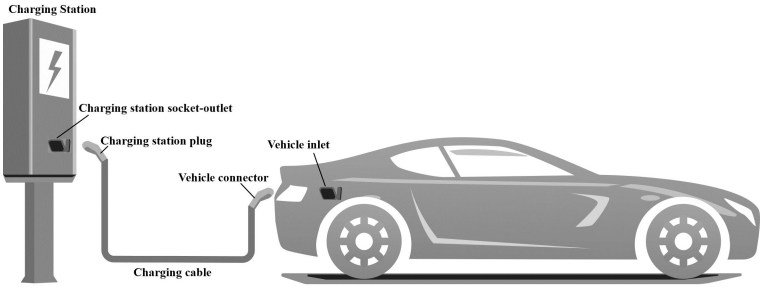


Fig. 3-1 Schematic diagram of CASE B connection

■ According to EN IEC 61851-1:2019, Sunnic Case C series products meet the Case C connection.

Case C:

Connection of an EV to a supply network utilizing a cable and vehicle connector permanently attached to the EV charging station.

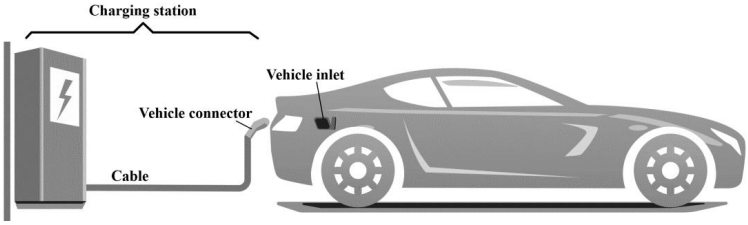


Fig. 3-2 Schematic diagram of CASE C connection

3.3. Charging interface

3.3.1. Sunnic Case B series

■ The charging interface of Sunnic Case B series products meet IEC 62196-2, Type 2 socket (without

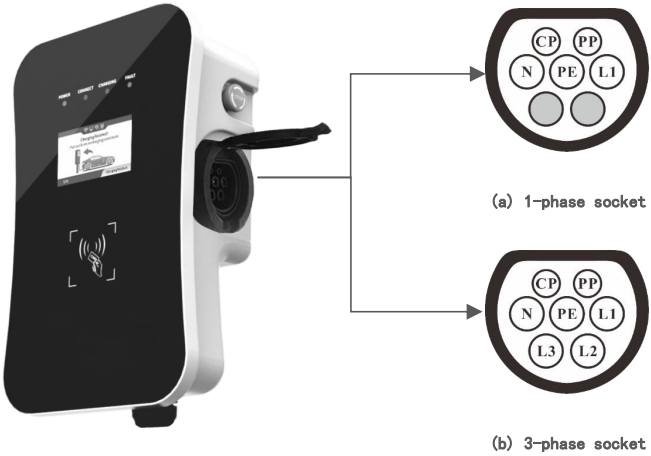


Fig. 3-3 Schematic diagram of Type 2 socket

charging cable).

■ Sunnic Case B series can charge an EV with a Type 2 vehicle inlet. Users should extra purchase a dual-connector charging cable (shown as Fig. 3-4), according to the vehicle charging inlet of their EV. One connector of the charging cable must be a Type 2 male plug, and another is a Type 2 female plug to EV.

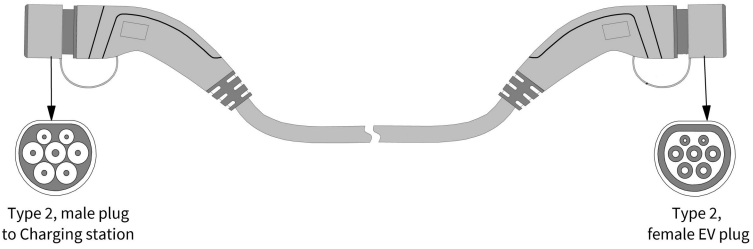


Fig. 3-4 Dual-connector charging cable

3.3.2. Sunnic Case C series

■ The charging connector of Sunnic Case C products meet IEC 62196-2, Type 2 plug (with charging cable).

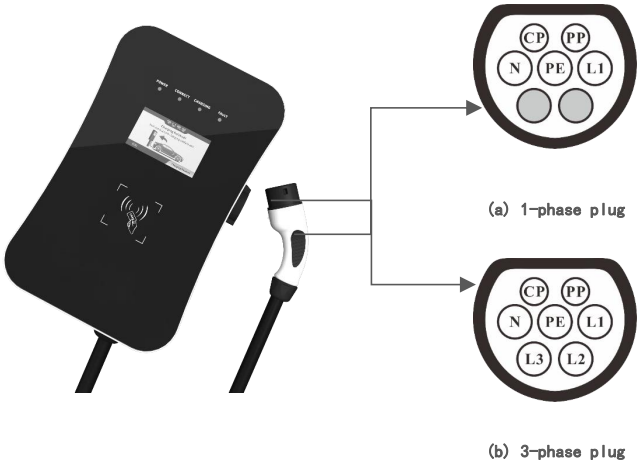


Fig. 3-5 Schematic diagram of Type 2 plug

■ Sunnic Case C series products provide a Type 2 female plug with charging cable, it only charge an EV with a Type 2 vehicle inlet.

4. PRODUCT INFORMATION

4.1. General

Welcome to use AC EV Charging station produced by our company.

- Sunnic Case B and Case C series products share the same wallbox shell. The shape & dimensions of AC EV charging station shown as Fig. 4-1.

(a) Sunnic Case B product (b) Sunnic Case C product

Fig. 4-1 The shape & dimensions of product

- Sunnic AC EV charging station provides a 4.3-inch LCD screen, with the corresponding control, metering and communication functions, belongs to the special AC power supply device for EV. The block diagram is shown as Fig. 4-2.

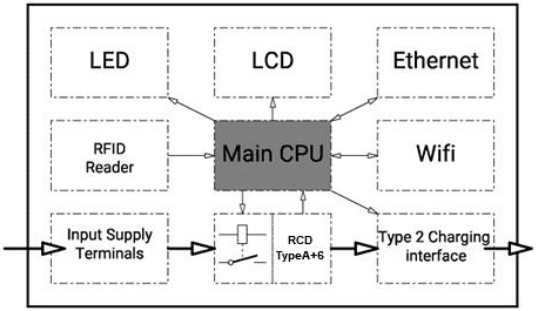


Fig. 4-2 Block diagram of products

- It is widely used in all kinds of household electric vehicle charging, as well as various charging stations, parking lots, community garages and public electric vehicle charging places.

4.2. Specifications

4.2.1. Electrical specifications of Sunnic Case B series

Phase Number	1-Phase		3-Phase	
Model Number	SKBAC003-230-1	SKBAC007-230-1	SKBAC011-400-1	SKBAC022-400-1
Product Number	SKBAC003EN 9001LWYDQ001	SKBAC007EN 9001LWYDQ001	SKBAC011EN 9001LWYDQ001	SKBAC022EN 9001LWYDQ001
Rated Voltage	230V, 50/60Hz		400V, 50/60Hz	
Rated Current	16A	32A	16A	32A
Rated Power	3.5Kw (@230V)	7kW (@230V)	11kW (@400V)	22kW (@400V)
Recommended power supply cable	3×4mm², copper	3×6mm², copper	5×4mm², copper	5×6mm², copper
Input Terminal	L1/ N/ PE		L1/ L2/ L3/ N/ PE	
Charging interface	IEC 62196-2, Type 2, 1-phase socket		IEC 62196-2, Type 2, 3-phase socket	

4.2.2. Electrical specifications of Sunnic Case C series

Phase Number	1-Phase		3-Phase	
Model Number	SKBAC003-230	SKBAC007-230	SKBAC011-400	SKBAC022-400
Product Number	SKBAC003EN 9001LWYDQ001	SKBAC007EN 9001LWYDQ001	SKBAC011EN 9001LWYDQ001	SKBAC022EN 9001LWYDQ001
Rated Voltage	230V, 50/60Hz		400V, 50/60Hz	
Rated Current	16A	32A	16A	32A
Rated Power	3.5kW (@230V)	7kW (@230V)	11kW (@400V)	22kW (@400V)
Recommended power supply cable	3×4mm², copper	3×6mm², copper	5×4mm², copper	5×6mm², copper
Input Terminals	L1/ N/ PE		L1/ L2/ L3/ N/ PE	
Charging interface	IEC 62196-2, Type 2,1-phase plug with 5m cable		IEC 62196-2, Type 2, 3-phase plug with 5m cable	

4.2.3. Functional description

Model series	Sunnic AC Charger
Charging Mode	Mode 3
Charging Control	Remote: smart phone APP control
Display Screen	4.3-inch LCD screen (display charging current, voltage, energy, charging time, state & fault information, etc.)
Indicator Lights	4 LED lights, indicate 4 statuses include power, connect, charging and fault
Communication Interface	Ethernet (RJ-45 interface), RS-485 (Internal debug interface)
Communication Protocol	OCPP 1.6J
Safety Protection	Emergency stop button, Surge protection, over temperature, over/under voltage, over current, ground protection
RCMU Built-in	Yes, RCMU (Type A 30mA + DC 6mA) built-in

4.2.4. Ambient conditions

Model series	Sunnic AC Charger
Altitude	≤ 2000m
Storage temperature	-40 ~ 75℃
Operation temperature	-30 ~ 55℃
Relative humidity	≤ 95%RH, No water droplet condensation
Vibration	< 0.5G, No acute vibration and impaction
Installation location	Indoor or outdoor, good ventilation, no flammable, explosive gases

4.2.5. Mechanical parameters

Model series	Sunnic Case B series	Sunnic Case C series
Charging cable	Case B, without cable	5m (Standard configuration)
Net Weight	1-Phase: ≤ 9kg; 3-Phase: ≤ 10kg	1-Phase: ≤ 10kg; 3-Phase: ≤ 12kg
Dimension	H×W×D = 410mm × 260mm × 140mm	
Mounting	Wall-mounted or pole-mounted (mounting pole is optional)	
Color & Material	Front panel: Black, Tempered Glass; Back cover: Gray, Metal Plate	
IP Code	IP65	

4.3. Nameplate

On the left side of wallbox shell, there is a nameplate identifying the model and specification of the charging station. As the Fig. 4-3 shown, taking SKBAC022-400 as an example, the location and content of the nameplate are illustrated.

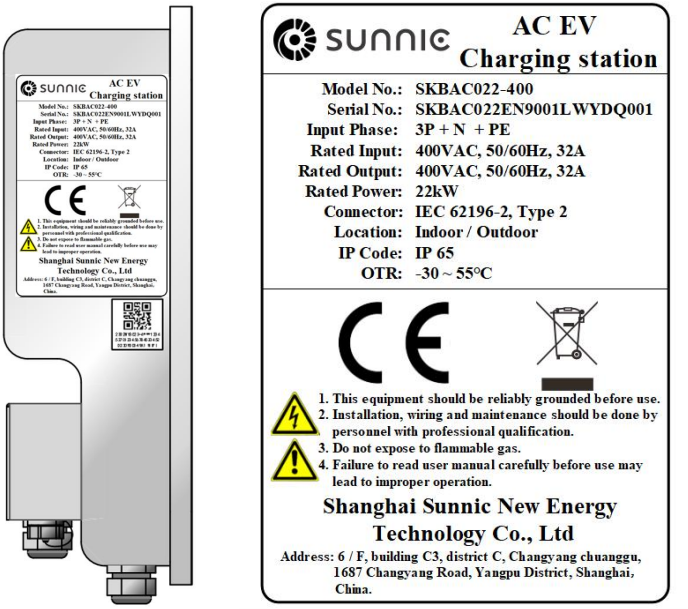


Fig. 4-3 The location and content of the nameplate

5. INSTALLATION

5.1. Unpacking

5.1.1. Packing list

Package	Quantity
AC EV Charging Station	1 pc
RFID card	2 pcs
Wall-mounting accessories (including A+B+C+D+E as Fig. 5-1 shown)	1 set
User manual	1 pc
Quality certificate.	1 pc

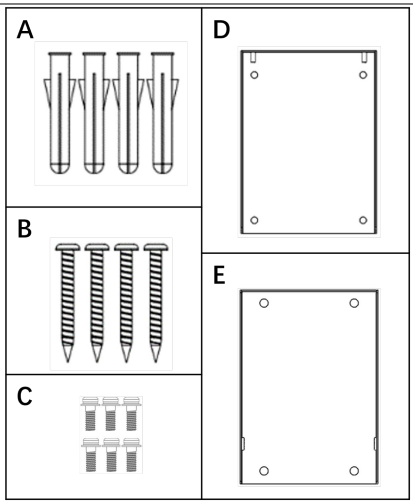


Fig. 5-1 Wall-mounting accessories

5.1.2. Inspection & confirm

When unpacking, please carefully confirm the following points:

- Whether the accessories are missing according to the packing list.
- Whether there is any damage during transportation.
- Whether the model and specification of the machine's nameplate are consistent with the order requirements.

- If any damage or missing parts are found, please do not start the machine and contact the supplier as soon as possible.
- Please keep the packing box and packing materials 1 month for future handling.

- The paper packaging is recyclable.

5.2. Prepare

- When transporting or moving the charging station, pay attention to the following points to ensure product safety:

- This product is electrical equipment. It should be handled with care to avoid violent vibration and impact.
- The front panel of the product is a glass panel, which cannot be used as a stressed part for handling.
- The charging station shall not be transported by dragging the charging connector and its charging cable.

- In order to ensure the long-term stable operation of the product, it is recommended to avoid installing charging stations in extreme weather as far as possible, especially low or high ambient temperature may affect the installation effect due to thermal expansion and cold contraction.
- The electrical power supply cable must be prepared. Please refer to Clause 4.3.2 to select the power cable.
- Space requirement: When the charging station is fixed on the wall, the minimum space requirements are shown in Fig. 5-2.

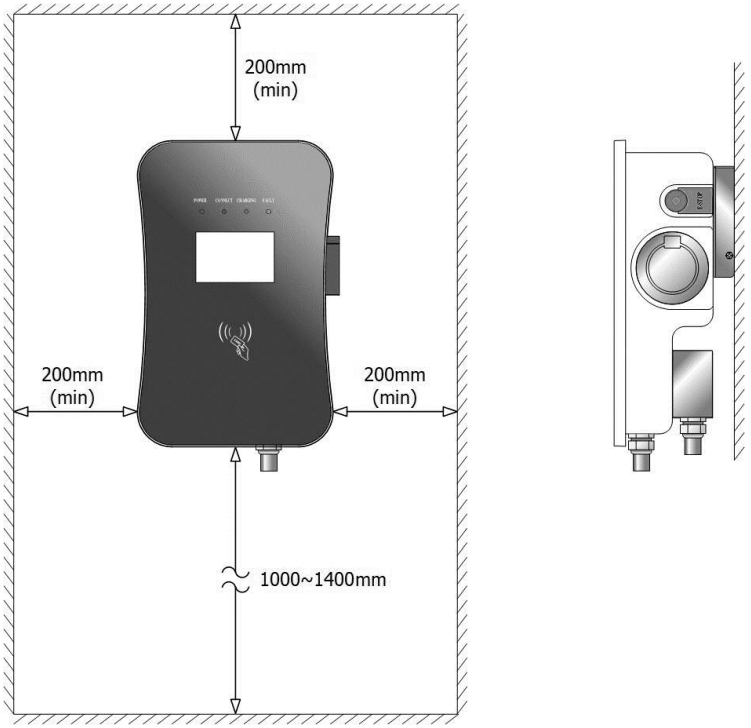


Fig. 5-2 Minimum space requirements for wall mounting

- It is suggested that the charging station should be installed in a place with good ventilation, no direct sunlight and shelter from wind and rain. In order to ensure good ventilation condition, you should mount the charging station vertically and leave enough space.
- Tools for installation

Prepare the following tools at least before installing the AC EV charging station.

Sr No.	Tools' Name	Schematic Picture	Main Uses
1	Multimeter		Check the electrical connection and measure the voltage
2	Electric Impact drill		Drill fixing holes in the wall
3	Wrench		Fastening bolt
4	Diagonal plier		Cut the cable
5	Wire stripper		Peeling cables
6	Crimping plier		Pressed cable terminal
7	Cross screwdriver		Fastening screw

5.3. Installation steps

Install the wallbox on the wall follow the steps as below.

- **Step 1: install the accessories**

  As the Fig. 5-3 shown, drill 4 mounting holes of 6mm diameter and 50mm depth at the appropriate height, spaced 130mm×70mm apart, and secure the mounting accessories to the wall with the expansion screw which contain in package.

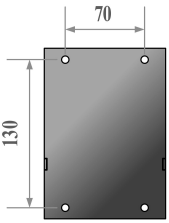


Fig. 5-3 Install the accessories on the wall

■ **Step 2: Fix the Wall-hanging accessories**

As the Fig. 5-4 shown, Fix the wall-hanging accessories on the wallbox with 4 screws(M5×8).

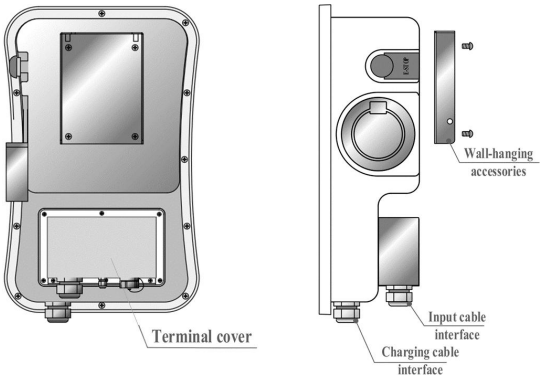


Fig. 5-4 Fix the wall-hanging accessories

■ **Step 3: Wiring**

As shown in Fig. 5-5, peel off the insulation layer of the prepared cable with wire stripper, then insert the copper conductor into the crimping area of ring tongue terminal, and press the ring tongue terminal with crimping plier.

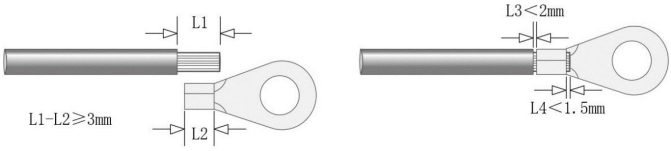


Fig. 5-5 Peeling cables and press terminals

Suggestions on cable size selection as below:

Sr No.	Model	Rated current	Input terminals	Suggestion cable size
1	SKBAC003-230 SKBAC003-230-1	16A	L1/N/PE	Copper, 3×4mm^2
2	SKBAC007-230 SKBAC007-230-1	32A	L1/N/PE	Copper, 3×6mm^2
3	SKBAC011-400 SKBAC011-400-1	16A	L1/L2/L3/N/PE	Copper, 5×4mm^2
4	SKBAC011-400 SKBAC011-400-1	32A	L1/L2/L3/N/PE	Copper, 5×6mm^2

As shown in Fig. 5-6, open the terminal cover, pass the prepared power cable through the input cable interface, connect each cable to the input terminals according to the terminal label.

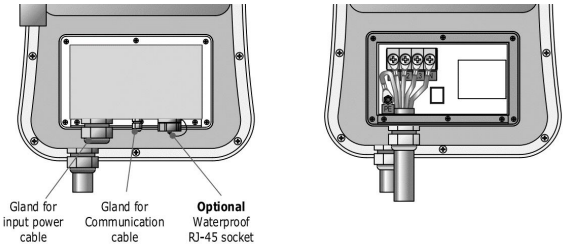


Fig. 5-6 Wiring the input power cable

Reset the terminal cover after wiring the input power cable.

Note: if you need the Ethernet to connect the CMS, you can pass a network cable with RJ-45 header, plug it into the Waterproof RJ-45 socket.

■ **Step 4: Fix the wallbox**

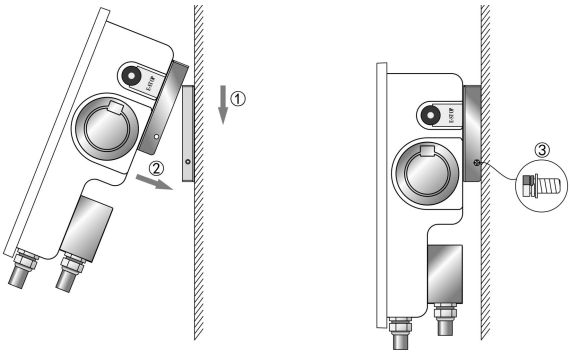


Fig. 5-7 Fix the wallbox on the wall

As shown in Fig. 5-7, hang the wallbox on the wall hanging accessories, and then fix the locking screws on the left and right sides to complete the installation.

5.4. Installation of 4G charging station

If you purchase a 4G version charging station, insert the 4G NANO SIM card to the SIM card socket before wiring. The installation steps are as follows:

a) Make sure there is no AC power input to the charging station.

b) Open the back cover of the charging station with screws. And you should see the PCBAs (shown as Fig. 5-8).

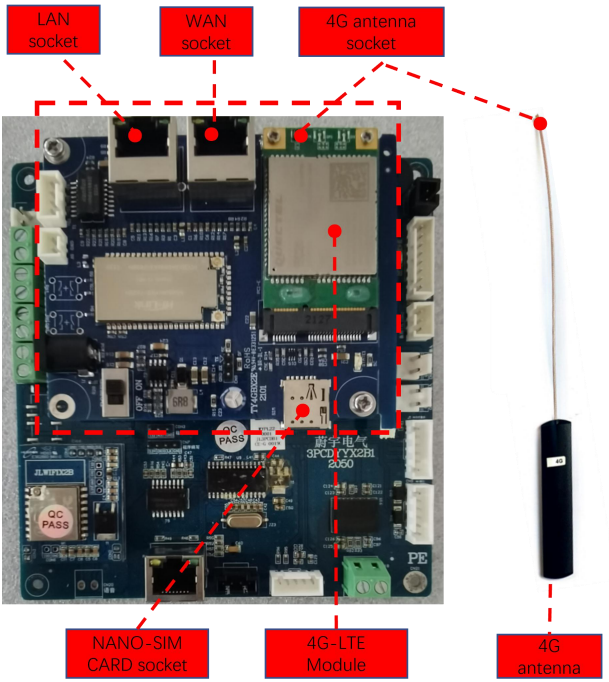


Fig. 5-8 4G PCBA in the charging station

c) Insert the 4G NANO SIM card to the SIM card socket. Stick the 4G antenna to a proper position on the inner wall of the shell or the upper cover. And then reset the back cover of the charging station with screws.

6. OPERATION

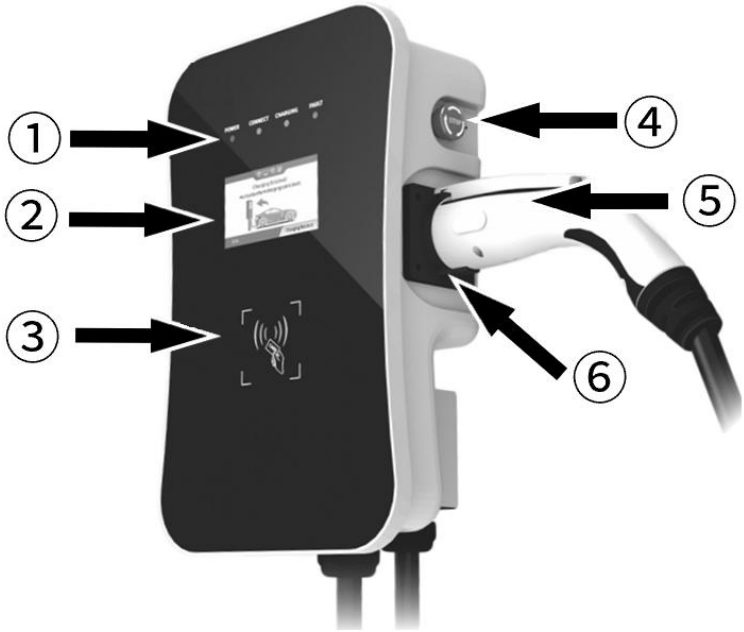
6.1. Power on

After the charging station has been installed and confirmed, switch on the power supply. The "POWER" indicator light lights up and the charging station switches to standby state.

6.2. Human-Machine Interface

6.2.1. Overview

As shown in Fig. 6-1, the Sunnic is configured with multiple human-machine interfaces.



①	LED indicators	④	Emergency stop button
②	LCD screen	⑤	Charging connector
③	RFID reader	⑥	Empty connector socket

Fig. 6-1 HMI of AC EV Charging Station

6.2.2. LED indicators

The LED indicators on the panel are used to indicate the status of the charging station and the various combinations of indicators are described as below.

No.	Power	Connect	Charging	Fault	Connotation
	GREEN	GREEN	RED	YELLOW	
1	ON	OFF	OFF	OFF	Standby State
2	OFF	ON	OFF	OFF	Charging connector is properly connected to EV.
3	OFF	Twinkle	OFF	OFF	Starting
4	OFF	OFF	Twinkle	OFF	Charging
5	OFF	OFF	OFF	Alternatel Twinkle	Fault. Get the fault code by the cycle flashing of the fault indicator.

In any state, the Power indicator is twinkle, indicating that the charging station is Exchange data with CMS via network.

6.2.3. LCD screen

Sunnic config a 4.3-inch LCD screen, which is mainly used to display various status information of the charging station, shown as Fig. 6-2.

■ **Icons or instructions in each display area**

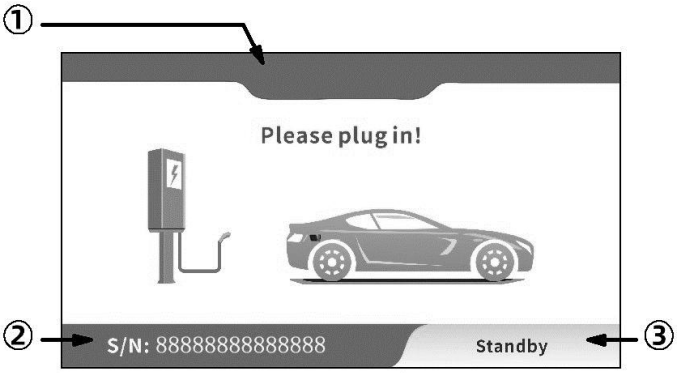


Fig. 6-2 Display of icons and instructions

In Fig. 6-2, there are three areas to display icons or instructions, with the specific meanings as

follows:

NO.	Icon	Connotation
Area ①		
1	No icon	Off-line or no network
2		Connect to router via Wifi
3		Exchange data with CMS via Wifi
4		Connect to router via Ethernet
5		Exchange data with CMS via Ethernet
Area ②		
6	S/N: 88888888888888	The serial number of the charging station
Area ③		
7	Standby	Current state of the charging station
8	Connect successful	Charging connector is properly connected to EV
9	Charging	Charging state
10	Charging finished	Finished, please follow the instructions on the screen
11	E-stop state	The emergency stop button is pressed
12	Failure to start	Failure to start, please follow the instructions on the screen
13	System failure	Fault state, please follow the instructions on the screen

■ As shown in Fig. 6-3, the LCD screen displays 4 types picture in normal charging process.

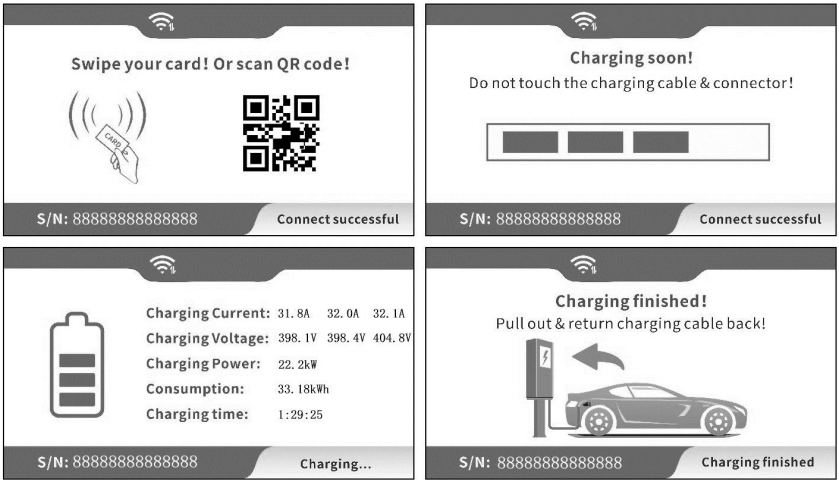


Fig. 6-3 Display of normal charging

■ If the charging process fails or the equipment fails, the picture displayed on the LCD screen is shown in Fig. 6-4.

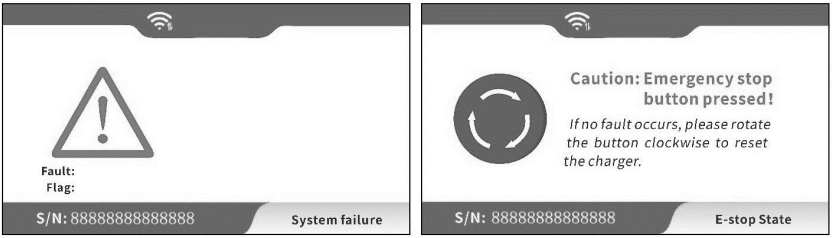


Fig. 6-4 Display of fault state

6.2.4. RFID reader

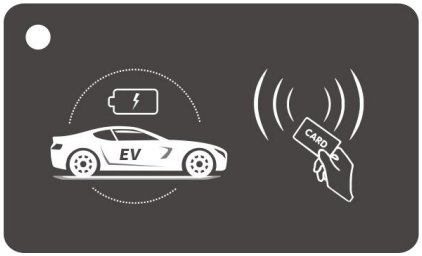


Fig. 6-5 RFID card

In general, the charging station is equipped with RFID card reader as standard, and the charging process

can be started and stopped by using the RFID card (shown as Fig. 6-5) configured with the host. The special customized card swiping function is not separately described here.

6.2.5. Emergency stop button

This button is used to stop charging in case of emergency. At any time, in case of any emergency (such as fire, smoke, abnormal noise, water inflow, etc.), on the premise of ensuring personal safety, please press this button, and immediately stay away from the charging station. And then contact the supplier.

6.2.6. Charging connector & empty socket

AC EV charging station config a type 2 charging connector. When the charging station is in standby state, please plug the charging connector into the empty socket in order to protect the charging connector.

6.3. Configure parameters

Taking the configuration of charging station parameters by laptop as an example, it is introduced as follows (the method of setting parameters by mobile phone is similar and will not be repeated):

■ Step 1: connect to WiFi hotspot

Keep your laptop in a state where it can connect to WiFi hotspots. Within ten minutes after power on, the charging station provides a WiFi hotspot as the access entrance for parameter configuration. Connect a WiFi hotspot with a name is similar to "EVSE-12345678" in the "WiFi network" of the laptop. It is no password to connect the hotspot.

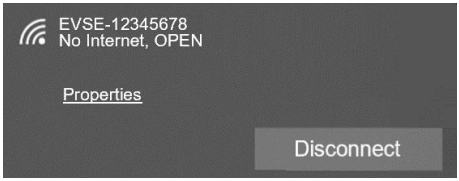


Fig. 6-6 Connect the WiFi in Windows OS

■ Step 2: login to setting

Enter 192.168.4.1 in the address bar of Google Chrome or Microsoft Edge, you can access the EVSE CONFIGURATION shown in Fig. 6-7, and Microsoft IE cannot access this IP address.

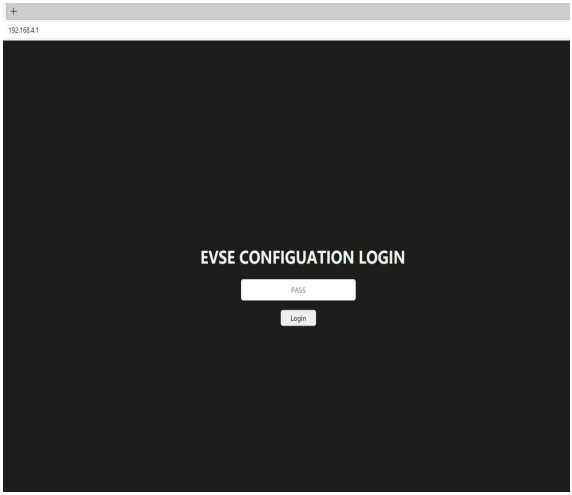


Fig. 6-7 Login of EVSE CONFIGURATION

■ Step 3: Config your EV Charging station

Enter the correct login password to enter the page shown in Fig. 6-8. The factory default password is **12345678**. Please change the password upon your first login. As shown in Fig. 6-8, set the parameters on this page. Sunnic only supports WiFi 2.4GHz frequency band.

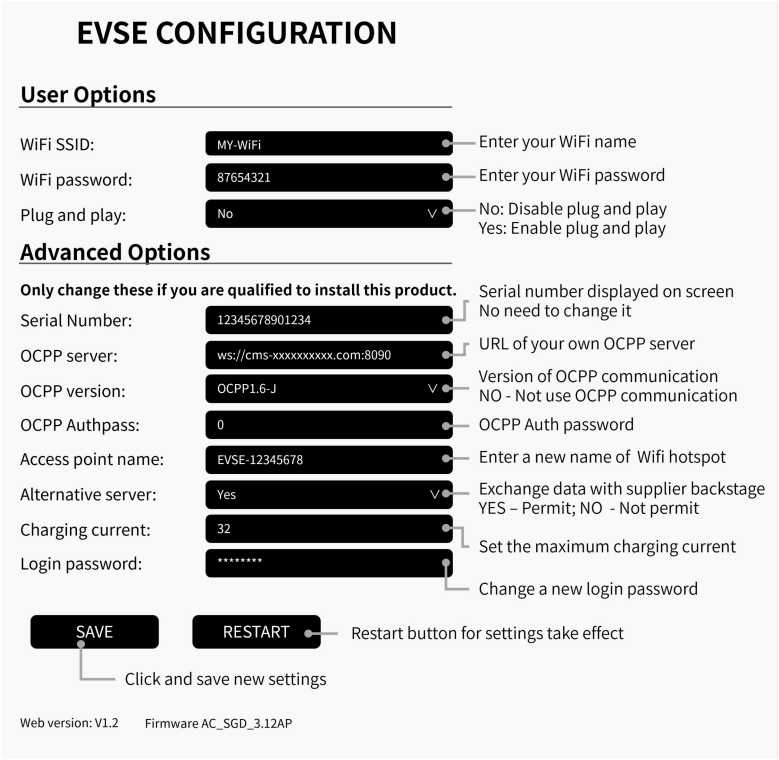


Fig. 6-8 Set parameters to config the Sunnic

After setting, click the "SAVE" button to save the settings, and click the "RESTART" button to restart charging station for settings take effect. Enter your WiFi name and password in the page. After it takes effect, the charging station can access Internet via your WiFi.

6.4. Start Charging

a) Park your EV into place, turn off, and put the EV under braking.

b) Pick off the charging connector form empty socket of EV charging station.

c) As shown in Fig.6-9, plug the charging connector into the AC charging socket of the EV, and the "Connect" LED of the charging station lights up.

d) For the mode of "Plug-and-play" charging station, the charging process will start automatically after plug in.

Fig. 6-9 Plug into EV socket

e) For the mode of “swipe card” or “scan QR code” charging station, follow the instructions on the LCD screen after charging connector plug in, you can start charging process by swipe RFID card or scan QR code.

Fig. 6-10 Display of LCD screen after plug in

▷ If you want to start charging, please scan QR code

▷ The user manual of APP please refer to the FAQ of APP.

6.5. Normally stop charging

a) The charging station will automatically stop when the electric vehicle is fully charged.

b) For the mode of “Plug-and-play” charging station, you can manually stop charging as follow: press the unlock button of the remote key of the EV, the vehicle will stop charging (requires the support of the EV); if the charging does not stop, you may try to unplug the charging connector directly. When “Charging” indicator turns off, the charging process is end.

c) For the mode of “swipe card” charging station, swipe your RFID card again, when “Charging” indicator turns off, the charging process is end.

d) For the mode of “scan QR code” charging station, click the stop button on your APP, the charging will stop.

e) When the charging is end, please unplug the charging connector and plug back to the empty socket of charging station.

6.6. Abnormally stop charging

a) Emergency stop: At any time, in case of any emergency (such as fire, smoke, abnormal noise, water inflow, etc.), on the premise of ensuring personal safety, please press the red "Emergency Stop" button of the charging station to stop the charging process.

b) Forced fault stop: A fault stop initiated by the onboard charger of vehicle.

c) Automatic fault stop: A fault stop initiated by the charging station.

7. FAULT HANDLING AND MAINTENANCE

7.1. Fault Handling

The charging station is automatically protected in the event of the fault. The fault information and handling methods are as follows.

Fault information	Fault code	Handling method
Both the LED and LCD are not on	—	● Check whether the power supply and distribution are normal; ● Check whether the branch breaker is tripped, and close the breaker after troubleshooting; ● Check whether the connection is correct, if the cable comes off, should be properly connected to tighten the cable.
LED on, and LCD not on	—	● May be no fault, the LCD will turn off automatically when the charging station is standby, and the LCD will light up when charging; ● LCD connection cable is loose or LCD is damaged.
Fault LED flashes: ● 1×slow, 1×fast	**Fault code 11:** CP voltage anomaly	● Check the charging connector and charging socket of EV. ● Disconnect and reconnect the charging connector.
Fault LED flashes: ● 1×slow, 2×fast	**Fault code 12:** Emergency stop	● The E-stop button has been pressed. ● After troubleshooting, rotary the button clockwise to reset.
Fault LED flashes: ● 1×slow, 3×fast	**Fault code 13:** Undervoltage input	● Check whether the input cable is reliably connected. ● Check whether the input voltage is abnormal.
Fault LED flashes: ● 1×slow, 4×fast	**Fault code 14:** Overvoltage input	● Check whether the input cable is connected correctly. ● Check whether the input voltage is abnormal.

Fault information	Fault code	Handling method
Fault LED flashes: ● 1×slow, 5×fast	**Fault code 15:** Over-temperature protection	● Check whether the charging station is covered or installed in a high temperature environment.
Fault LED flashes: ● 1×slow, 6×fast	**Fault code 16:** Metering fault	● Power off and restart the device.
Fault LED flashes: ● 1×slow, 7×fast	**Fault code 17:** Leakage protection	● Check whether the charging connector and its cable are damaged or wet. ● Recover after pulling out the adapter.
Fault LED flashes: ● 1×slow, 8×fast	**Fault code 18:** Output shortage	● Check whether the charging adapter and its cables are damaged or wet.
Fault LED flashes: ● 1×slow, 9×fast	**Fault code 19:** Output overcurrent	● Check whether the charging connector is correctly connected. ● check whether the OBC is normal.
Fault LED flashes: ● 2×slow, 1×fast	**Fault code 21:** EV response timeout	● Battery of EV is full. Or the charging connector is not properly connected. ● Disconnect and reconnect the charging connector.
Fault LED flashes: ● 2×slow, 2×fast	**Fault code 22:** EV not supported	● This EV does not meet the IEC standards and cannot be charged.
Fault LED flashes: ● 2×slow, 3×fast	**Fault code 23:** Relay sticking	● The device is damaged and needs to be returned to the factory for repair.
Fault LED flashes: ● 2×slow, 4×fast	**Fault code 24:** RCD fault	● The RCD is damaged and needs to be returned to the factory for repair.
Fault LED flashes: ● 2×slow, 5×fast	**Fault code 25:** Earth fault	● Charging station is not grounded; input power cable needs to be checked.

7.2. Maintenance

To ensure the long-term stable operation of the equipment, please maintain the equipment regularly (usually every month) according to the operating environment.

a) The equipment is maintained by professionals.

b) Check whether the equipment is well grounded and safe.

c) Check whether there are potential safety hazards around the charging pile, such as whether there are high temperature, corrosion or inflammable and explosive articles close to the charging station.

d) Check whether the join point of the input terminal is in good contact and whether there is any abnormality. Check whether other terminal points are loose.

WARRANTY AGREEMENT

1. The scope of warranty refers to the product itself.
2. The warranty period is 24 months. During the warranty period, the company will repair the product free of charge in case of failure or damage (determined by the company's technical personnel) under normal use.
3. The starting time of warranty period is the date of product manufacture.
4. Even in the warranty period, a certain maintenance fee will be charged in case of the following situations.
   ① Equipment failure caused by not following the user's manual.
   ② Equipment damage caused by fire, flood, abnormal voltage, etc.
   ③ Equipment damage caused by using the product for abnormal functions.
   ④ Equipment damage caused by foreign matter entering.
   ⑤ Equipment damage caused by other human external factors.
5. The service fee shall be calculated according to the actual cost. If there is another contract, the contract shall prevail.
6. Please be sure to keep this card and show it to the maintenance personnel during the warranty period.
7. If you have any questions, please contact the agent or our company directly.

After sales service center