

EV Charging Station Manual

Itis recommended to read the instructions before use

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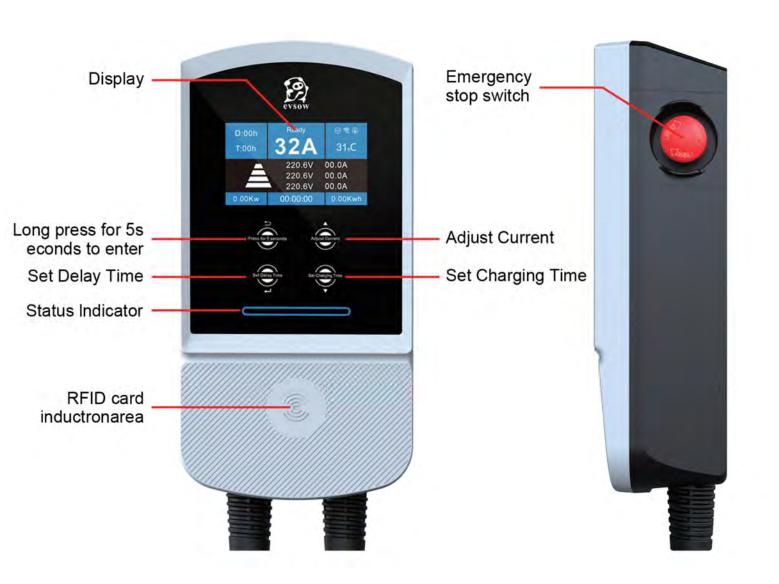
Safety instructions

- Marning: The charging station must be grounded (PE) in order to use it properly
- Warning: Do not place flammable, explosive or combustible materials, chemicals, combustible vapors or other hazardous materials near the charging station.
- Warning: Keep the charging plug head clean and dry, if dirty, please wipe it with a clean and dry cloth, it is strictly forbidden to touch the charging plug core by hand when it is charged
- Warning: It is strictly forbidden to use the charging station when the charging plug or charging cable is defective, cracked, worn, broken or when the charging cable is exposed
- Warning: Do not attempt to disassemble, repair or modify the charging station. If you need to repair or modify it, please contact the relevant staff. improper operation may cause the charging station damage, water leakage, leakage of electricity, short circuit, electric shock and other risks
- Marning: Use with caution during thunderstorms
- Warning: Children should not approach or use the charging station during the charging process to avoid electric shock
- Warning: Do not drive the car while it is charging. You can only start charging When the car is stationary. For hybrid Cars, please turn off the engine before charging
- Warning: In case of emergency during the operation of the product, press the emergency stop button immediately to cut off all input and output power
- ▲ Warning: The use of the charging post is prohibited in the following cases and the manufacturer should be contacted immediately:
 - * Charging Station shell is broken
 - * When the charging cable on the charging station is damaged, cracked, frayed, broken, etc.
 - * Lightning strikes charging station
 - * Accidents or fires near charging stations
 - * Water in the charging station
 - * The length of the charging cable on charging station is not long enough to connect to the car, an extension cable needs to be installed

Product Overview

Brief description:

This product is used for electric vehicle AC charging, the product design is highly simple, divided into Type2, Type1, GB/T, Tesla four kinds of specifications. It is equipped with swipe card and plug-and-play charging methods and multiple safety protection functions, with good dustproof and waterproof function, can be operated safely outdoor.



Type 2 Parameter introduction

					Type	2 1	EC6	18	51							
Power Rating		7.6KW						11	KW		22KW					
Load balancing	1 1 •					1 1 •			1 1			/	•			
APP	1			•	1					1		•		•		
RFID Card		1	- 0	•	•	1		-			- 1	1		•	•	
Type A RCD	•	1	•	1	1	•	1	•	1	1	•	1	•	1	1	
Type B RCD	1	•	1	•	•	1	•	1	•		1	•	1	•	•	
Power supply system	Single Phase				Three Phase					Three Phase						
Rated voltage	85V-264V					380V±20%					380V±20%					
Rated current	8-1	10-1	3-16	-20-2	25-32A	8-10-13-16A					8-1	0-1	3-16	-20-2	25-32A	
Input Frequency		5	0Hz	/60H	z	50Hz/60Hz						5	0Hz	/60H	z	
Protection level			IP	65		IP65					IP65					
Working temperature		-38	5℃ -	+55	5℃	-35°C ~ +55°C					-35℃ ~ +55℃					
Storage temperature		-4(o°C -	+80)°C	-40℃ ~ +80℃					-40℃ ~ +80℃					
Standby power	<3W					<3W					<3W					
Working humidity	5% ~ 95% non-condensation					5% ~ 95% non-condensation					5% ~ 95% non-condensation					
L*W*H	310*161*86 mm					310*161*86 mm					310*161*86 mm					
Cable Specification					5mm² 5mm²		5G 2.5mm ² +1*0.5mm ² 5G 2.5mm ² +2*0.5mm ²					5G 6mm ² +1*0.5mm ² 5G 6mm ² +2*0.5mm ²				

Control box function:

- 1.Earth leakage protection (restart recovery)
- 2.Overvoltage and undervoltage protection (self-test recovery)
- 3. Lightning protection
- 4. Overcurrent protection
- 5. Overheat protection
- 6.Grounding protection
- 7.RFID card function (can be set according to user needs)
- 8.Appointment Time
- 9.WIFI

- 1. Charging plug according to IEC 62196-2 standard
- 2.Charging control box in accordance with IEC 61851 control principle
- 3.Insulation resistance: >1000 Ω
- 4. Terminal temperature rise: <50K
- 5.Mechanical life: Charging Plug plugging and unplugging times (Non operating state)>10000 times
- External impact: Charging staion's Plug can withstand the 1-meter drop and 2 tons of vehicle crushing
- 7. With emergency stop function

Type 1 Parameter introduction

				Т	ype 1	S	AΕ	J 1 7	772									
Power Rating	7.6KW						9.6KW						12KW					
Load balancing	1 1				1 1			•	1		1		•					
APP	1 • •			•		/		•	•		1			•				
RFID Card	/ • •			- 5	1		•	•	4	1		•	•					
Type A RCD	•	1	•	1	1	•	1	•	1	1	•	1	•	1	1			
Type B RCD	1		1	•	•	1	•	1	•	•	1	•	1	•				
Power supply system	Level 1 and Level 2					Level 1 and Level 2					Level 1 and Level 2							
Rated voltage	85V-264V					85V-264V					85V-264V							
Rated current	8-10-13-16-20-25-32A					8-10-13-16-20-25-32-40A					8-10-13-16-20-25-32-40-50A							
Input Frequency		5	0Hz	/60Hz	2	50Hz/60Hz					50Hz/60Hz							
Protection level			IP	66		IP66					IP66							
Working temperature		-35	5°C -	+55	°C	-35℃ ~ +55℃					-35℃ ~ +55℃							
Storage temperature		-4()°C ~	+80)°C	-40℃ ~ +80℃					-40°C ~ +80°C							
Standby power	<3W					<3W					<3W							
Working humidity	5% ~ 95% non-condensation					5% ~ 95% non-condensation					5% ~ 95% non-condensation							
L*W*H	310*161*86 mm					310*161*86 mm				310*161*86 mm								
Cable Specification	3G 6mm ² +1*0.5mm ² 3G 6mm ² +2*0.5mm ² 3G10AWG+1*18AWG 3G10AWG+2*18AWG					3G 8mm ² +1*0.5mm ² 3G 8mm ² +2*0.5mm ² 2G8AWG+1*10AWG+1*18AWG 2G8AWG+1*10AWG+2*18AWG					3G 10mm ² +1*0.5mm ² 3G 10mm ² +2*0.5mm ² 2G6AWG+1*8AWG+1*18AWG 2G6AWG+1*8AWG+2*18AWG							

Control box function:

- 1.Earth leakage protection (restart recovery)
- 2.Overvoltage and undervoltage protection (self-test recovery)
- 3.Lightning protection
- 4. Overcurrent protection
- 5. Overheat protection
- 6. Grounding protection
- 7.RFID card function (can be set according to user needs)
- 8. Appointment Time
- 9.WIFI

- 1. Charging plug according to SAE J1772 standard
- 2. Charging control box in accordance with IEC 61851 control principle
- 3.Insulation resistance: >1000 Ω
- 4. Terminal temperature rise: <50K
- 5.Mechanical life: Charging Plug plugging and unplugging times (Non operating state)>10000 times
- External impact: Charging staion's Plug can withstand the 1-meter drop and 2 tons of vehicle crushing
- 7. With emergency stop function

GB/T Parameter introduction

						G B	/ T													
Power Rating	7.6KW					11KW						22KW								
Load balancing	1 1 •					/	-	/	•	1 1			/	•						
APP	/ • •			•	1		,	•	•	3	1	•		•						
RFID Card	/ • •		9	/		•	•		1		1		1		1		1			•
Type A RCD	•	1	•	1	1	•	1	•	1	1	•	1	•	1	1					
Type B RCD	1	•	1	•	•	1	•	1	•	•	1	•	1	•	•					
Power supply system	Single Phase				Three Phase					Three Phase										
Rated voltage	85V-264V					380V±20%					380V±20%				5					
Rated current	8-10-13-16-20-25-32A						8-10-13-16A					8-10-13-16-20-25-32A								
Input Frequency		5	0Hz	/60Hz	2	50Hz/60Hz						5	0Hz	60Hz						
Protection level			IP	66		IP66					IP66									
Working temperature		-3	5℃ ~	+55	s°C	-35°C ~ +55°C					-35℃ ~ +55℃									
Storage temperature		-40	ე℃ ~	+80)°C	-40℃ ~ +80℃					-40°C ~ +80°C									
Standby power	<3W					<3W					<3W									
Working humidity	5% ~ 95% non-condensation					5% ~ 95% non-condensation					5% ~ 95% non-condensation									
L*W*H	310*161*86 mm					310*161*86 mm					310*161*86 mm									
Cable Specification	3	G 6n G 6n	nm²+ nm²+	1*0.	5mm² 5mm²	5G 2.5mm ² +1*0.5mm ² 5G 2.5mm ² +2*0.5mm ²					5G 6mm ² + 1*0.5mm ² 5G 6mm ² + 2*0.5mm ²									

Control box function:

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- 2.Overvoltage and undervoltage protection (self-test recovery)
- 3.Lightning protection
- 4. Overcurrent protection
- 5. Overheat protection
- 6.Grounding protection
- 7.RFID card function (can be set according to user needs)
- 8. Appointment Time
- 9.WIFI

- 1.Charging plug according to GB/T 20234 standard
- 2.Charging control box in accordance with GB/T 18487 control principle
- 3.Insulation resistance: >1000 Ω
- 4. Terminal temperature rise: <50K
- 5. Mechanical life: Charging Plug plugging and unplugging times (Non operating state)>10000 times
- External impact: Charging staion's Plug can withstand the 1-meter drop and 2 tons of vehicle crushing
- 7. With emergency stop function

TS-NACS Parameter introduction

					T:	S-N	IAC	S									
Power Rating	7.6KW					9.6KW						12KW					
Load balancing	1 1 •				1		1	•	1		1						
APP	/ • •		•		/	,	•	•		1		•	•				
RFID Card	1	1	- 0	•	•		1	•		•		1		•	•		
Type A RCD	•	1	•	1	1	•	1	•	1	1	•	1	•	1	1		
Type B RCD	1	•	1	•	•	1	•	1	•	•	1	•	1	•			
Power supply system	-3	Leve	11 a	nd Le	vel 2	Level 1 and Level 2					Level 1 and Level 2						
Rated voltage	85V-264V				85V-264V					85V-264V							
Rated current	8-10-13-16-20-25-32A					8-10-13-16-20-25-32-40A					8-10-13-16-20-25-32-40-50A				2-40-50A		
Input Frequency		5	0Hz	/60Hz	ż	50Hz/60Hz						5	0Hz	/60Hz	z		
Protection level			IP	66		IP66					IP66						
Working temperature		-3	5℃ -	+55	°C	-35℃ ~ +55℃					-35°C ~ +55°C						
Storage temperature		-40	0℃ -	+ 80)°C	-40℃ ~ +80℃					-40℃ ~ +80℃						
Standby power	<3W					<3W					<3W						
Working humidity	5% ~ 95% non-condensation					5% ~ 95% non-condensation					5% ~ 95% non-condensation						
L*W*H	310*161*86 mm					310*161*86 mm					310*161*86 mm						
Cable Specification	3G 6mm ² +1*0.5mm ² 3G 6mm ² +2*0.5mm ² 3G10AWG+1*18AWG 3G10AWG+2*18AWG					3G 8mm ² +1*0.5mm ² 3G 8mm ² +2*0.5mm ² 2G8AWG+1*10AWG+1*18AWG 2G8AWG+1*10AWG+2*18AWG					3G 10mm ² +1*0.5mm ² 3G 10mm ² +2*0.5mm ² 2G6AWG+1*8AWG+1*18AWG 2G6AWG+1*8AWG+2*18AWG						

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- 2. Overvoltage and undervoltage protection (self-test recovery)
- 3.Lightning protection
- 4. Overcurrent protection
- 5. Overheat protection
- 6.Grounding protection
- 7.RFID card function (can be set according to user needs)
- 8.Appointment Time
- 9.WIFI

- 1. Charging plug according to TS-NACS standard
- 2.Charging control box in accordance with IEC 61851 control principle
- 3.Insulation resistance: >1000 Ω
- 4. Terminal temperature rise: <50K
- Mechanical life: Charging Plug plugging and unplugging times (Non operating state)>10000 times
- External impact: Charging staion's Plug can withstand the 1-meter drop and 2 tons of vehicle crushing
- 7. With emergency stop function

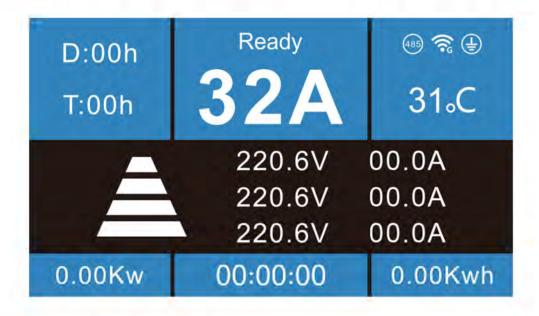
Operating Instructions

Pre-use preparation:

- Ensure that there are no open flames around the equipment and that the surrounding space is not blocked
- 2. Ensure that the equipment casing and charging cable are not damaged
- 3. Ensure proper maintenance of equipment
- 4. Make sure the emergency stop button is popped up, if it has been pressed, Please rotate the button clockwise to turn the button back.

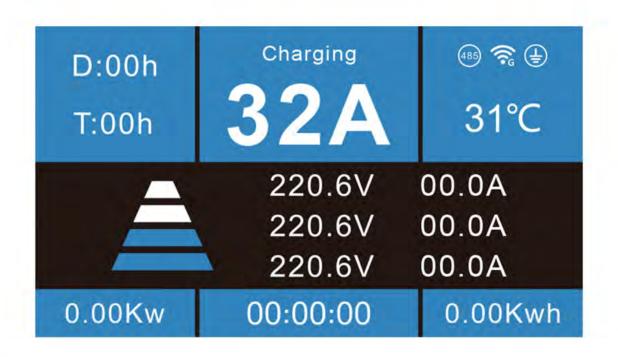
Charging steps:

- (1) Standby status
- 1. When the charging station is in standby mode, the interface shows that the device is ready for charging, as shown in the figure below:
- 2. The indicator light on the case (for Wi-Fi function only) is green and always on;



(2) Waiting for card swipe status

After park your car near the charging station, take the charging plug from the plug holder, set the charging current, then insert the charging plug into the connector of the electric vehicle. Please make sure that the plug is inserted in place and the connection is safe and reliable. When the charging plug monitors that the charging plug is inserted correctly, It will enter the status of identity verification, as shown in the following figure:



- (3) Start-up device
- 1. Use RFID cards to authorize the use of charging station

START



(4) Start charging

- 1. The device starts charging and the interface displays the charging status and information parameters as shown in the following figure:
- 2. The indicator light on the case (for Wi-Fi function only) is green breathing;



(5) Stop charging

1. When the vehicle is fully charged, the charging station will automatically stop charging; in case of emergency, you can manually press the Emergency stop button to cut off power:

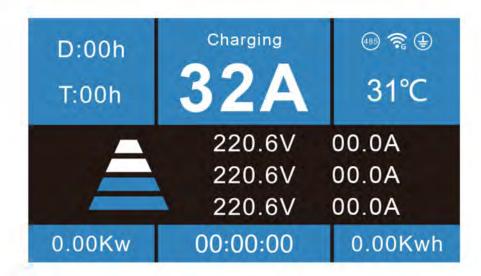
2. RFID card can also be used to authorize stopping the use of the charging station

during charging;

STOP



3. The display is as follows



4. The indicator light on the case (for Wi-Fi function only) is green flashing or green always on;

Key Operation Instructions:

- (1) How to set the charging current
- 1.When the charging plug is not inserted in the car, press the button A on the panel to modify the charging current, After use the RFID card to turn on the charging, the device will output the corresponding current. the current setting range is determined by the max charging power of charging station, 7KW and 22KW version can set the current of 8-10-13-16-20-24-32A, 11KW version can set the current of 8-10-13-16A.



(2) How to set the time delay charging

1. When the charging plug is not inserted in the car, touch the button on the panel shows below to modify the delayed charging time, after swiping the card and turn on the charger, the device will start charging after "X" hours according to the delayed time setted, which means the charger will start charging after "X" hours, and the range can be set from 0 to 15 hours (each touch increase an hour);



(3) How to set the timing charging

1.touch the button on the panel shows below to modify the timing charging, after swiping the card and turn on the charger, The device will keep charging for "X" Hours according to the time you setted, which means the charger will keep charging for "X" hours, after the time runs out, the charger will stop charging, you can set the time from 0 to 15 hours (each touch increase an hour);



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(4) How to access the menu page

- Press the area in the picture below for 5 seconds to enter the setting menu (without RFID function version charging station)
- Press the area in the picture below for 5 seconds , then swip the RFID card to enter the settings menu (with RFID function version charging station)

Long press for 5s econds to enter



(5) Menu page basic key operation

1. Touch the panel icon area to upward, downward, enter, back and increase or decrease the parameters of the menu.

Note: When the Charging plug is plugged in, it is not possible to enter the charging plan and load balance setting function. Need to pull out the charging plug to operate.



2.Menu - Charging plan

One-off Plan

Set Current : Adjust Current Delay Start : Set Delay Time

Charge Time: Set Charging Time

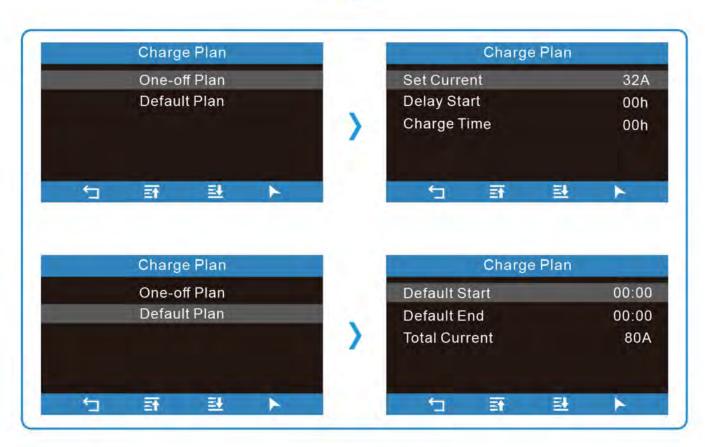
Default Plan

Default Start: Prohibit charging start time
Default End: Prohibit charging end time

Total Current: Load balancing, setting the total current value of the circuit.

This feature is only available for Dynamic Load Blancing Charging station.





3.Menu - Rfid Manage

Charge Verify: Cancel or restart the use of RFID cards.

ID List: Add a blank RFID card to the charging station that can be used.

Delete RFID that has already been added.



4.Menu - Charge Log Record the last 500 charging log Record the last 100 charging fault log



5.Menu - Setting

Basis Settings

Hotkeys: Turn on and off the lock button to prevent others from operating it Ground Check: To turn on and off the grounding (PE) detection, please use the charging station in the grounded (PE) state

Leakage Check: Turn on and off the Leakage detection. To ensure safe charging, please use the charger in a leakage-protected condition.

Net Settings

Wifi Info:Wireless network information Reset Wifi:Clear network configuration

Time Settings

Local Time: Local time Set Date: Set date Set Time: Set time

Set Timezone: Set the corresponding number of time zones according to your own time zone (e.g. East Zone 2, please set +2, West Zone 6, please set -6)



6. Menu - About Device





Load balancing function description

1. Introduction:

By connecting the meter to the home circuit, the current level of the home circuit is collected in real time, and the collected data information is transmitted remotely to the charging device through 485 communication. The charging equipment adjusts the current in real time by comparing the collected data with the rated current of the home circuit set by the user, when the available current is is less than 6A, the device will enter the load balancing protection state. When the available than 10A, the device will resume charging.

- 2. Prerequisites for the load balancing function to work properly:
 - (1) 485 communication is correctly and reliably connected
 - (2) The charging station is not on the same circuit with the smart meter but the smart meter should be on the same circuit with the household appliances
 - (3) The total current set on charging stations should be less or equal to household total current

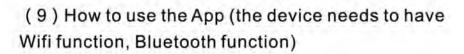
3. Set the home rated current level:

You need to follow the prompts for swipe RFID operation before entering the modification to open the home rated current setting, Settable in the range of 20A to 80A;

Total Current: Load balancing, setting the total current value of the circuit



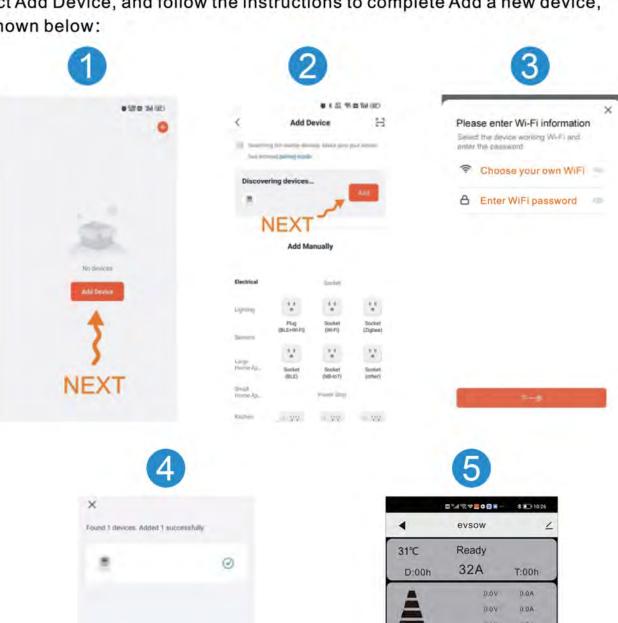
Rated current: Setting the home circuit current rating







- 1.Please download the "Tuya Smart " or "Smart Life"App on your cell phone, the APP icon as shown above
- 2. After downloading, open the app, turn on your phone WiFi and Bluetooth, select Add Device, and follow the instructions to complete Add a new device, as shown below:

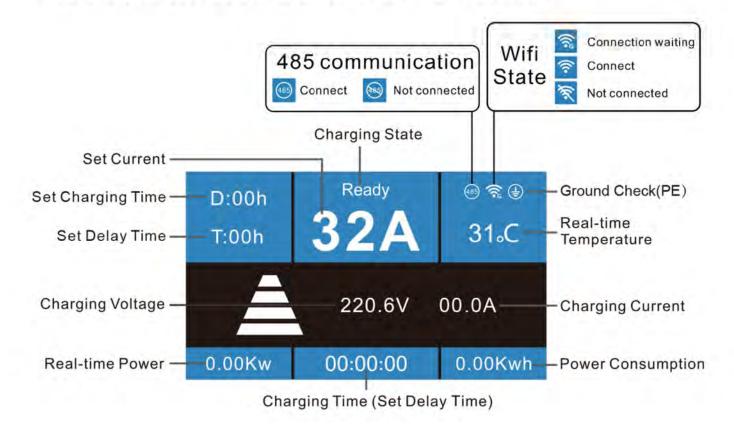


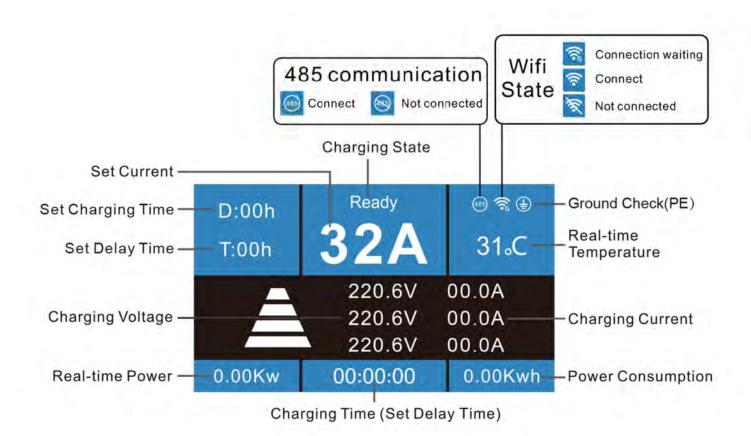




(10) Interface description (device should have Wifi or load balancing function, optional function)

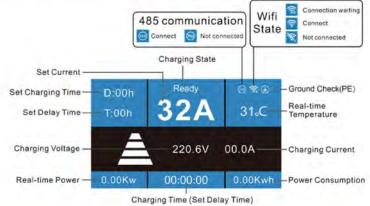
7.6KW/9.6KW/12KW interface as shown below





Control Box LCD Display

Single-phase

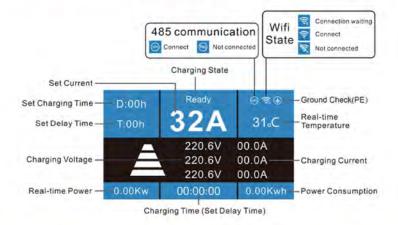




Relay self check

Control Box LCD Display

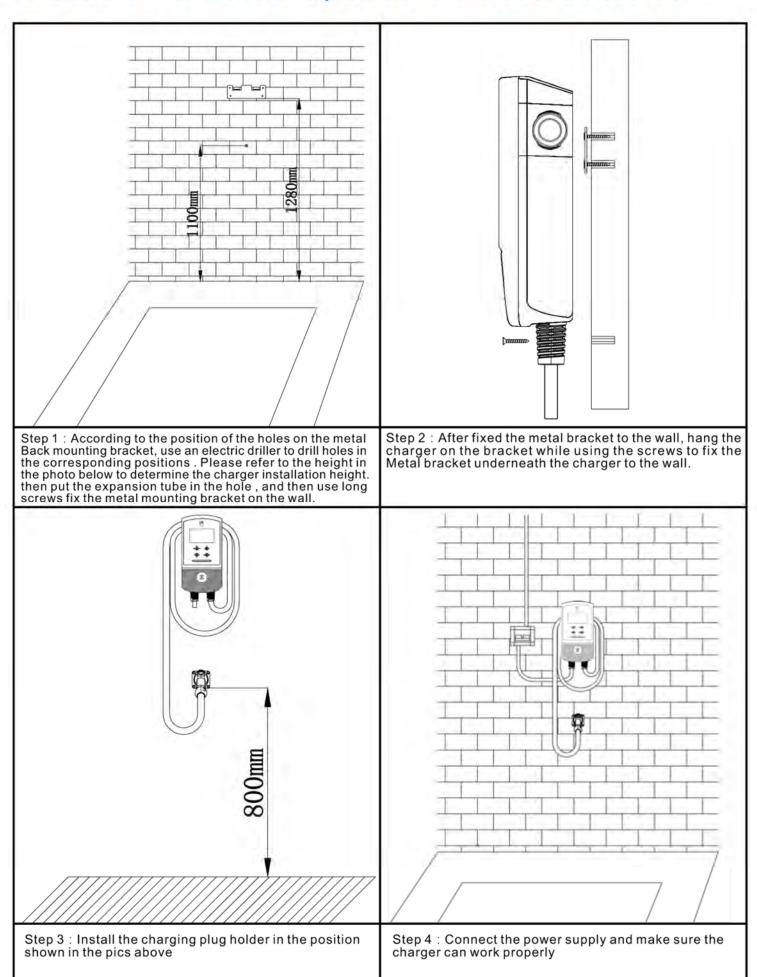
Three-phase





Relay self check

Installation and operation instructions



CommonTroubleshooting

Fault name	Possible causes of fault phenomena	Troubleshooting recommendations							
		Ask an electrician to test the input voltage of the switch							
AC	AC input voltage	2. If the actual voltage exceeds 264V AC for a short time, wait for the network to return to the normal voltage range on its own							
overvoltage	is too high	3. If the actual voltage is greater than 264V AC for a long time, please contact the power supply department							
		4. If the actual voltage is less than 264V AC, please contact us							
		Ask an electrician to test the input voltage of the switch							
AC	AC input voltage	2. If the voltage is below 176V AC for a short time, wait for the voltage to return to the normal range							
Undervoltage	is too low	3. If the actual voltage is less than 176V AC for a long time, please contact the power supply department							
		4. If the actual voltage is greater than 176V AC, please contact us							
		Immediately disconnect the power distribution box leakage / overcurrent protection switch							
AC Overcurrent	AC input current is too high	Check whether there is a low impedance connection between the two lines of the AC pile output line							
		3. After eliminating the above problems, reapply power, if the fault still exists, please contact us							
overheating	Internal temperature greater than	Check the AC pile installation environment, verify that there is no heat generating equipment or devices next to it, and ensure that the ambient temperatureneeds to be below 60°.							
	85 degrees	2. If the fault cannot be eliminated, please contact us							
Lookaga		Immediately disconnect the power distribution box leakage / overcurrent protection switch							
Leakage current exceeds	Leakage current greater than 30mA	Check whether the AC pile output line is broken or has a low impedance connection to ground							
the standard	greater than com/	3. After eliminating the above problems, and reset the leakage current protector reset switch, reapply power, if the faultstill exist please contact us							
Leakage		Immediately disconnect the power distribution box leakage / overcurrent protection switch							
current sensor Sensor	Sensor for detecting leakage current Abnormalities	Check whether the AC pile output line is broken or has a low impedance connection to ground							
anomaly	Abnormanties	3. After eliminating the above problems, reapply power, if the fault still exists, please contact us							
	2	Immediately disconnect the power distribution box leakage / overcurrent protection switch							
Ground fault	Poor input/output ground or input L/N reversed	Check whether the AC pile input/output line grounding is normal, and whether the input L/N is connected in normal order							
		3. After eliminating the above problems, reapply power, if the fault still exists, please contact us							
Charge gun	Charging gun CC/CP	Check whether the connection of the charging gun is correct and reliable							
Abnormal	connection abnormal	2. If the fault still exists, please contact us							

Charging Status and indicatorLight

Serial number	charging	Green	Blue	Red		Definition description
1	Ready	On	Off	Off		Power-on self-test or reset
2	Connect	Flash	Off	Off		The voltage of detection point 1 is $9\pm0.8V$,
3	Charging	Off	Breathe	Off		Detection point 1 voltage is $6\pm0.8\mathrm{V}$, the relay is closed
4	Finish	Off	On	Off		Charging complete
5	Err:CP	Off	Off	Fault (0.5s)	1 time	Detection point 1 voltage of 9.8V <u<11.2v. 6.8V<u<8.2v; 12.8v<u="" or="" u<5.2v.<br="">Relay is disconnected</u<8.2v;></u<11.2v.
6	Under Voltage	Off	Off	Fault (0.5s)	2 time	1 phase:voltage<85V;3 phase:voltage<147V
7	Over Voltage	Off	Off	Fault (0.5s)	3 time	1 phase:voltage>264V;3 phase:voltage>457V
8	Elec Leakage	Off	Off	Fault (0.5s)	4 time	The relay is disconnected, and it needs to be re-powered after the fault is removed before the relay is allowed to close
9	Over Current	Off	Off	Fault (0.5s)	5 time	When the line current is le+2 <l≤ 10s.="" 60s,="" after="" and="" automatically="" disconnected,="" disconnection.="" for="" i="" is="" it="" le+4,="" permanent="" relay="" repeat="" restart="" the="" three="" times="" when="" will=""> le+4, the relay is disconnected, and the charging ends</l≤>
10	Over Temp	Off	Off	Fault (0.5s)	6 time	Temperature>85 degrees, disconnect the relay, wait for the temperature <65 degrees, then turn on charging
11	Ungrounded	Off	Off	Fault (0.5s)	7 time	The ground wire is not connected, the relay is disconnected, and the relay is allowed to close after the fault is removed

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FCC Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following twoconditions:(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by tuming the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- —Reorient or relocate the receiving antenna.
- —Increase the separation between the equipment and receiver.
- —Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- -Consult the dealer or an experienced radio/TV technician for help.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.

The device has been evaluated to meetgeneral RF exposure requirement.

To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20cm between the radiator and your body, and fully supported by the operating and installation configurations of the transmitter and its antenna(s).



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