Ruivanda®

Level 2 EVSE

User's Manual

*Please read the instructions carefully before using.

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Safety Caution (*Please save these instructions)

IMPORTANT SAFETY INFORMATION
Save these important safety instructions. This document contains important instructions and warnings that must be followed when using this product.

WARNINGS

- Do not install or use this product near flammable, explosive, corrosive, or combustible materials, chemicals, or vapors.
- Please unplug the plug of the device when not in use for a longtime.
- Read all the instructions before using this product.
- This device should be supervised when used around children.
- Do not put fingers into the electric vehicle connector.
- Do not use this product if the flexible power cord or EV cable is frayed, has broken insulation, or any other signs of damage.
- Do not use this product if the enclosure or the EV connector is broken, cracked, open, or shows any other indication of damage.
- Do not attempt to disassemble, repair, tamper with, or modify this product. This product is not user serviceable. This product must be grounded through a permanent wiring system or an equipment grounded conductor.
- Never spray water or any other liquid directly at the wall mounted control box,
- Never spray any liquid onto the charge handle or submerge the charge handle in liquid, Store the charge handle in the dock to prevent unnecessary exposure to contamination or moisture.
- Do not forcefully fold or apply pressure to any part of the product or damage it with sharp objects.
- The internal circuit has a high voltage, and the internal circuit must not be touched by hand.

Storage

- Do not use private power generators as a power source for charging.
- Do not operate this product in temperatures outside its operating range of - 22℉ to 122℉ (- 30℃ to ~50℃).
- Store this product in a clean dry place in temperatures between-40℉ and 185℉ (- 40℃ ~ 85℃).

User Maintenance Instructions

- In order to ensure the applicable life of the product, such as use a dry rag to clean up surface stains.
- Check the product regularly for damage.
- This product does not support users to repair it themselves. In case of abnormal situations such as shell damage or wire damage, please contact your local after-sales service.

Product Introduction

The product is a single-phase Level 2 EVSE, mainly used for AC charging. The product works by swiping card or Wi-Fi, and contains charging protection, etc. The equipment adopts the principle of industrial design, to ensure the safety of equipment operation. The protection grade of the whole machine reaches IP65, with good dust-proof and water-proof functions, and can be operated and maintained safely outdoors.

Product Appearance

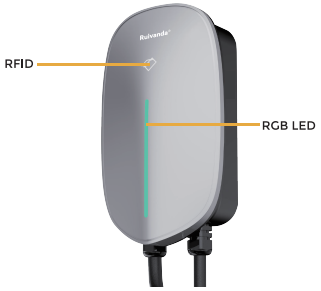


Fig 1 Appearance

Functional Block Diagram

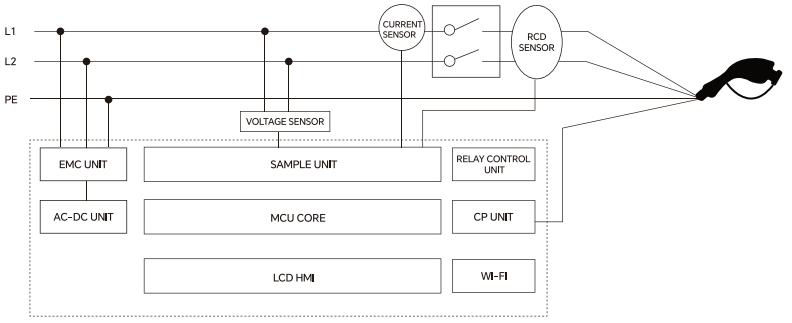


Fig.2 Electrical schematic diagram

Product Features

Modular design, stable and reliable

the equipment adopts modular design principle, flexible configuration, convenient maintenance.

All-round protection, safe operation

with over-voltage protection,over-current protection, leakage protection, grounding protection, over-temperature protection, lightning protection, CP abnormal detection to ensure the safe and reliable operation of equipment, effectively prevent accidents.

Convenient use

convenient installation and more convenient use.

High protection grade

IP65 protection grade, supports the outdoor environment, but indoor using environment is recommended for a longer life span.

Low power consumption

low standby power consumption to 5W, low energy consumption.

Compatibility

The device is a simple home version that can be software-configured to operate in "Auto start" mode, requiring only software set-up and no hardware modification.

Compact structure

small space and light.

Main Parameters

Structure	Model	PEV-48A09US
	Size	13.7×8.2×4.1 in (L*W*H)
	Method	Wall-mounted / Column installation
	Net Weight	~6.2 kg
	Cable Length	25ft
Electrical Indicators	Input/Output Voltage	240V AC
	Input/Output Current	48 A Max
	Frequency	50/60 Hz
	Output Power	11.5 kW Max
	Standby Power	<5 W
	Charge Interface	Type 1 Connector SAE J1772
	User Interface	LED(RGB)/LCD(4.3'')/RFID
Environmental Indicators	Operating ambient temperature	-22°F ~122°F (-30℃~ 50℃)
	Humidity	5%-95% RH
	Altitude	≤6561 ft（2000m）
	IP Degree	IP65
	Cool mode	Natural cooling
Safety Design	Over Voltage Protection Under Voltage Protection Over Current Protection Residual Current Protection Over Temperature Protection CP Protection Lightning Protection	

Installation Instruction

Step1 (Fig.4)

Fix the wall bracket (included) on the wall and keep the height from the groud at about 1280mm(4ft).

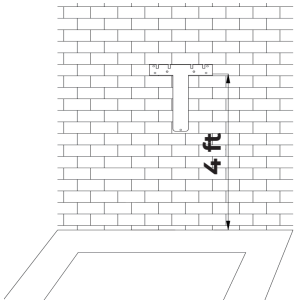


Fig. 4

Step2 Wiring(Fig.5)

1） Plug-in. Plug the cable in the socket and power the device.
2） Hard wiring. A professional electrician is required to operate hard wiring.

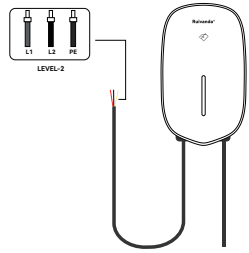


Fig. 5

Step3 (Fig.6)

Wall-mounted installation and fixation： Mount the rear mounting hole of the device from the front side to the wall fixing screw, and fix it.

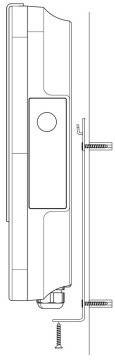


Fig.6

Step4 (Fig.7)

Mounting the charging holster under the equipment and keep the height from the groud at about 800mm(2.6ft).

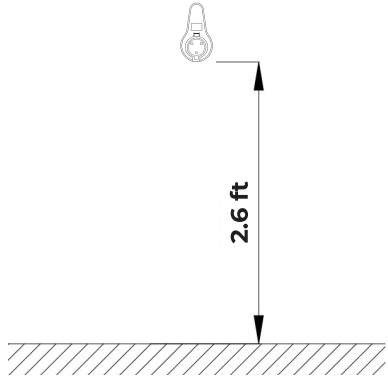
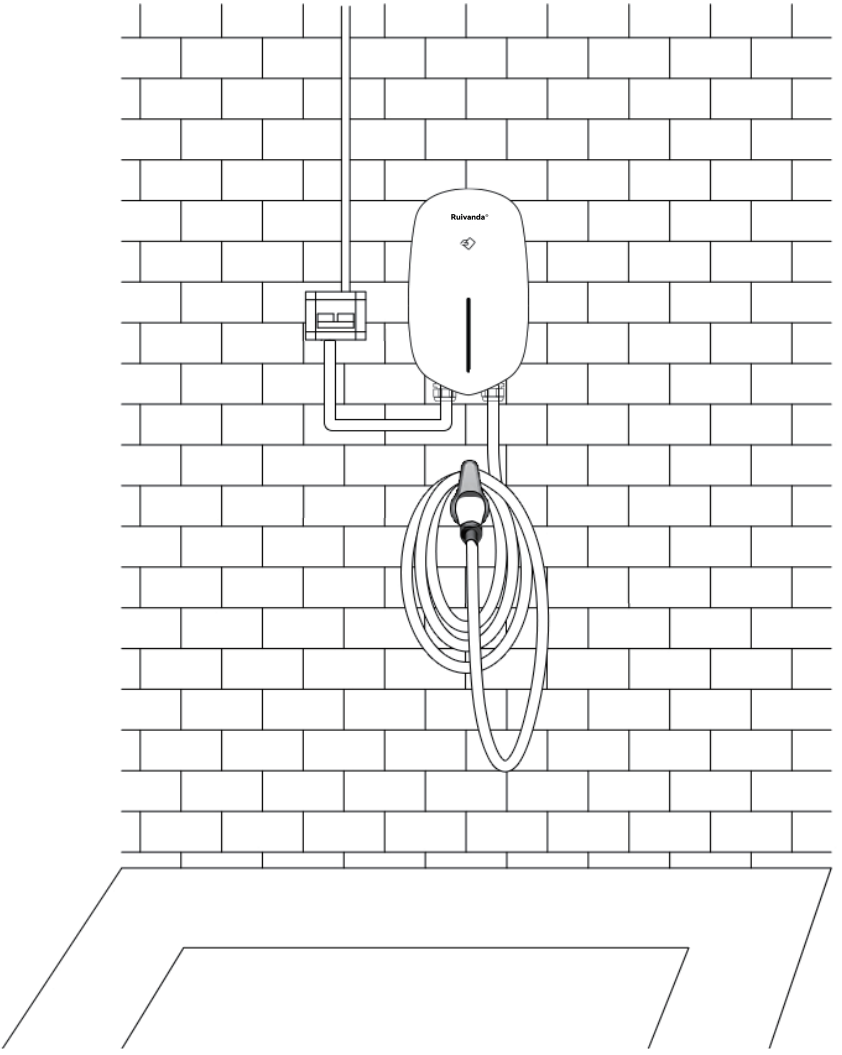


Fig. 7

After installation, the effect is as follows:



Check and Debug the Device

1. Pre-operation check

Before running, please carefully check and ensure the following:
1) Ensure the EV charger is installed in a position to facilitate operation and maintenance.
2) Ensure the EV charger are connected to accessories properly and installed securely.
3) Ensure the selection of leakage protection switch of AC incoming line is reasonable.
4) No external objects or parts are left on top of the EV charger.

2. Power on the device

1) Confirm that the above pre-operation check items meet the require ments.
2) Close the power input leakage protection circuit breaker.
3) Power on, about 3 seconds startup self-check time, The blue indicator light turn on.
4) After the power-on self-test is complete, observe the LED indicator status and screen display.

Charging Operation

1）Charging connection

After the EV is parked, pull the cap of the vehicle connector lightly and completely, then insert the vehicle connector's head into your vehicle's outlet. Ensure the vehicle connector's head is fully inserted until it's locked.

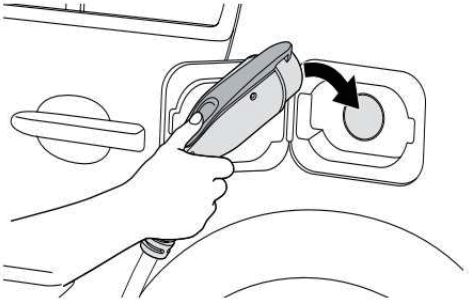
2）Charge control

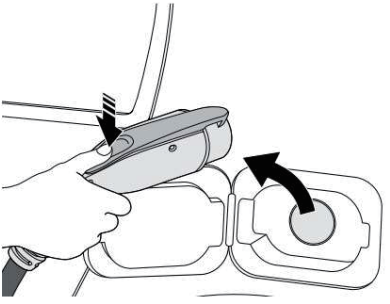
Stay for about 3 seconds to charge the electric car, in the card swiping area on the device panel, and the distance between the card and the card swiping area should be less than 2 mm.

* The device starts charging automatically, If "Auto-Start" is on (no small lock icon in the top right corner of the screen), charging starts automatically when the vehicle connector is inserted; If Auto-Start is switched off (there is a small lock icon in the top right corner of the screen), the phone needs to be connected to Wi-Fi for authorization to start charging.

3）Stop charging

Press the button and disconnect the vehicle connector from the vehicle inlet. then close the protective cap of EV and put on the protective cap of vehicle connector.





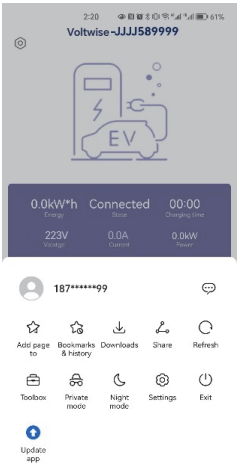
Wi-Fi Function Usage

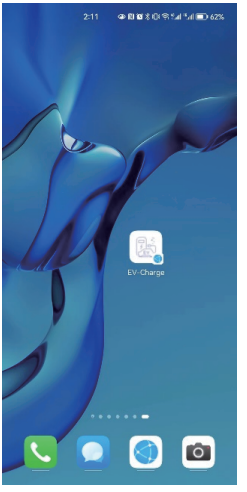
1) Connect to Wi-Fi, turn on mobile Wi-Fi, search and connect to Wi-Fi name starting with Voltwise-, initial password: 12345678 (Note: the mobile phone cannot access the Internet after connecting to Wi-Fi);

Note: If your phone prompts you that this network is not available, whether to use it or whether to switch, please choose to continue using it or not to allow switching.

2) Open the mobile browser (Mobile phone's own browser is recommended) and enter the "**http://192.168.4.1**" or use the browser scan code to open the web page;

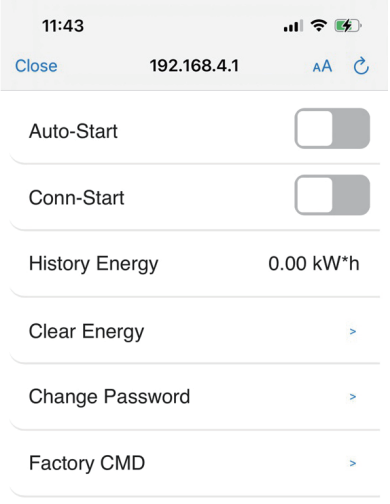
Tip: You can save this website as a bookmark, and next time you use it, open the browser after connecting to the charger Wi-Fi and click on the bookmark to open the web page; Some browsers also support adding bookmarks to the desktop. After connecting to the Charger Wi-Fi, we can simply click on the icon on the desktop to open the web page, just as convenient as using an APP.





3）Setting

Click the setting icon in the upper left corner of the main page to enter the setting page, which can be set to charge, view/clear accumulated electricity, modify Wi-Fi connection password, etc.



Auto-Start

①Turn on Auto-Start, you can plug and charge immediately.

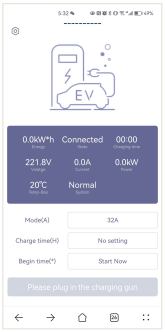
②Set "Auto-start" off, the anti-theft charging function will be turned on. Then, plugging in the vehicle connector to start charging automatically is banned, you have to click the"Start" button in the web-control page to start charging.

Conn-Start

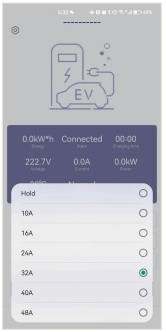
When the Conn-Start is opened, the mobile phone is connected to the charger hotspot **(required)**, and the charging can be started automatically after inserting the charger.

AUTO-START	CONN-START	CARD	FUNCTION
ON	OFF	OFF	No need to enter the web and no need to share the same Wi-Fi with the charger, just plug & go immediately.
OFF	OFF	OFF	Need to go to the web page and manually click "START" to turn on the charging.
OFF	ON	OFF	Share the same Wi-Fi with your charger, and you can charge without going to the web page.
OFF	OFF	ON	Swipe the card and start charging according to the parameters set in the previous charge.

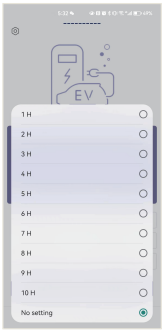
4）Start charging with your phone:



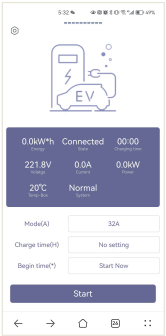
Home page



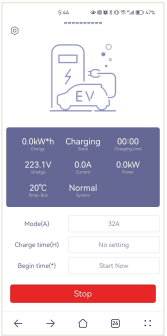
Current mode setting



Set the charging limit time



Start charging



Charging

Stop charging

*Note: If you need to use your mobile phone to start or stop charging, please turn off "Auto-Start".

5）Reservation

You can realize the reservation function by setting the "Begin time". The setting steps are as follows:

①First insert the connector into the charging port.

②Then select the "Begin time" as required on the website.

③When the countdown appears, the reservation is successful.

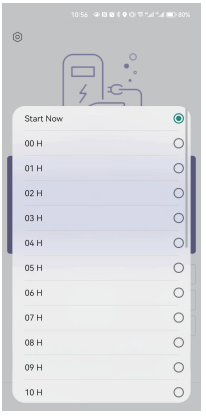
*Note:

To use the reservation function, you need to turn off "Auto-Start" and "Conn-Start".

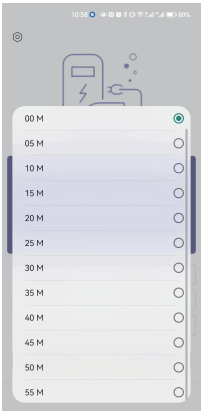
Some cars may not support the reservation function. If the reservation cannot be used normally, please set the "Begin time" to "Start Now".

There is no need to swipe the card after setting the reservation.

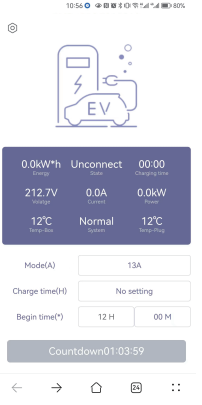
The setting is only valid for a single time. The device will record the setting time. If you need to charge at the same time next time, click "Start" on the web page.



Set hours



Set minutes

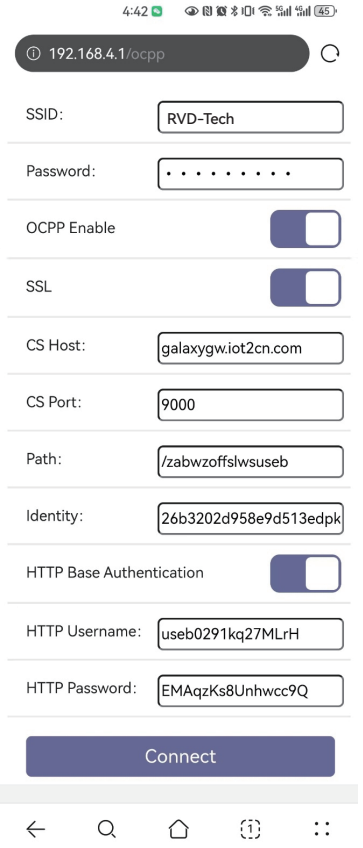


Reservation in progress

OCPP Configuration

1.OCPP Web Page

1.1 Connect the charging station Wi-Fi hostpot.
1.2 Open the browser provided with the phone, and enter RVD address 192.168.4.1/ ocpp in the address bar, then you will open the OCPP Configuration webpage.



2.OCPP Configuration

The Charge Point supports OCPP 1.6 JSON and Support TLS, and can be connected to any open OCPP server through parameter configuration.

Parameter Description:

Parameter	Explain
SSID	Home WiFi hotspot name (Note: only 2.4G band is supported), The Charge Point can connect to the Internet after connecting to this network
Password	Home WiFi hotspot password
OCPP Enable	Whether to use OCPP function
SSL	Whether the communication is encrypted. If it is enabled, The websocket for OCPP server so is wss: //. Otherwise is ws: //
CS Host	The host address of the central system, which can be the primary domain name or IP address, eg: baal.tyyacn.com or 161.117.183.142
CS Port	The port of the central system,eg: 9000
Path	The path of the central system, Null if there is no path under the primary domain name, eg: /steve/websocket/CentralSystem Service
Identity	The Charge Point's unique identifier, The operator may need to apply to the cooperative OCPP service platform
HTTP Base Authentication	Whether to use HTTP base authentication, According to the requirements of the server side, If yes, you need to enter the user name and password
HTTP Username	Auathorization Username
HTTP Password	Authorization Password

Parameters configured in the figure above ,The Central System's OCPP-J endpoint URL is wss: //galaxygw.iot2cn.com: 9000/ zabwzoffslwsuseb / 26b3202d958e9d513edpk

After entering the information, click the Connect button and wait. the page will prompt that the connection is successful when connecting to the server.

Charging Status & Indicators

Serial	charging state	Green	Blue	RED
1	UNCONNECT	OFF	NORMALLY ON	OFF
2	TAP CARD	NORMALLY ON	OFF	OFF
3	CARD PASS	NORMALLY ON	OFF	OFF
4	CHARGING	BREATHING	OFF	OFF
5	EV STOP	NORMALLY ON	OFF	OFF
6	FINISHED	NORMALLY ON	OFF	OFF
7	CP	OFF	OFF	NORMALLY ON
8	OV	OFF	OFF	NORMALLY ON
9	UV	OFF	OFF	NORMALLY ON
10	LEAK	OFF	OFF	NORMALLY ON
11	OC	OFF	OFF	NORMALLY ON
12	OT	OFF	OFF	NORMALLY ON

Troubleshooting

Error Codes	Reasons	Recommendation
CP	CP connection of vehicle connector is abnormal	1. Check whether the vehicle connector is connected correctly and reliably. 2. Power on the device again. 3. If the fault persists, contact us.

Error Codes	Reasons	Recommendation
OV	The AC input voltage is too high	1. Please ask the electrician to test the input voltage. 2. If the input voltage is over 270±3VAC , wait for the voltage to drop below 270±3VAC.
UV	The AC input voltage is too low	1. Please ask the electrician to test the input voltage. 2. If the input voltage is below 90±3VAC , wait for the voltage to rise above 90±3VAC.
OC	The AC input current is too large	1. Immediately cut off the input power supply 2. Keep the vehicle connector disconnected from the vehicle. 3. Power on the charger again.
OT	The internal temperature is greater than 185°F	1. Check the installation environment of AC piles. Check whether there are heating devices or devices nearby. Ensure that the ambient temperature is below 122°F. 2. If the fault cannot be rectified, please contact us.

Make The Car Charging Safer