



AC CHARGER

E-series

Operating instructions
and installation instructions



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1 Introduction

This manual mainly introduces E-series AC charger of LINCHR, and guides installation and commissioning. Please read the instructions carefully before use, and follow the relevant steps of the instructions.

E-series AC charger is a smart charger series, it has four models to meet your different using. The E-series AC charger has 6 digital tubes display and 4 state indicator lights, which invisible under the front cover when there is no need to display, when at the charging mode it can easily to read out the charging information from the charger. The appearance of the E-series charger has the strong future and technical feeling. it has a halo atmosphere lamp surround the charger. It can connect to TN, TT, IT (Only single-phase) power supply system to meet lots of application scenarios, very suitable for household or charging station.

E-series smart charger can run offline or online. When running offline, you can query and configure the charging parameters through the AP's WLAN-assisted AP mode. You can easily check the current running status of the charger, historical charging records, and fault occurrence records. When running online, the E-series smart charger supports the OCPP1.6 protocol. It can easily connect to the operator's server through the Internet to configure parameter settings, such as load balancing and reading charging data.

Basic electrical information	Model	ES-07-B	ES-07-C	ES-22-B	ES-22-C
	Rated power	7KW(Single phase)	7KW(Single phase)	22KW(Three phase)	22KW(Three phase)
	Connection mode	Socket(IEC 62196-2)	Cable-5m(IEC 62196-2)	Socket(IEC 62196-2)	Cable-5m(IEC 62196-2)
	Grid system	TN-S,TN-C-S,TT,IT	TN-S,TN-C-S,TT,IT	TN-S,TN-C-S,TT	TN-S,TN-C-S,TT
	Power supply system	1P+N+PE or 2P+PE	1P+N+PE or 2P+PE	3P+N+PE	3P+N+PE
	Rated voltage	230VAC	230VAC	400VAC	400VAC
	Voltage range	196~264 VAC	196~264 VAC	380~415VAC	380~415VAC
	Rated output current	32A	32A	32A	32A
	Frequency Range	50 Hz±1%/60 Hz±1%	50 Hz±1%/60 Hz±1%	50 Hz±1%/60 Hz±1%	50 Hz±1%/60 Hz±1%
	Ambient temperature	-25C° ~ +50C°	-25C° ~ +50C°	-25C° ~ +50C°	-25C° ~ +50C°
	Storage temperature	-40 ~ +70C°	-40 ~ +70C°	-40 ~ +70C°	-40 ~ +70C°
	Protection level	IP54	IP54	IP54	IP54
	Standby power	< 15W	< 15W	< 15W	< 15W
	Relative humidity of use environment	≤95%	≤95%	≤95%	≤95%

1.1 Representation of safety instructions

In this manual, you will find symbols used for warnings. The symbols used have the following meanings:

Read these instructions carefully and examine the equipment to use.

All the applicable local, regional and national regulations must be followed when you install, repair or maintain this equipment.

Do not operate a damaged product. Refer to the support for more information.



DANGER!

Indicates a hazardous situation, which will result in death or serious bodily injury if the corresponding precautions are not taken.

This equipment must only be installed, repaired and maintained by qualified personnel.



WARNING!

Indicates a potentially situation, which will result in serious bodily injury or charger damaged if the corresponding precautions are not taken.

This equipment must only be installed, repaired and maintained by qualified personnel

1.2 Requirements for installers

This document contains information for persons with the following requirements:

- Electrician certification
- Current valid safety information
- The mode of operation of the charging station
- The displays and operating elements of the charging station
- Basics of network technology
- Systematic fault analysis and rectification
- The setting options on the charging station

1.3 Guarantee

Our charger warranty period is 1 year. Within 1 year, we will repair it free. After 1 year, the repair service need for charge. You can also extend the warranty period by the different sales policy.

Only the maintenance work expressly permitted by LINCHR may be performed. Any other manipulations to the device will also result in loss of warranty.

A device with broken warranty seals may no longer be put into operation. The necessary steps for replacement or repair of the charging station by the specialist dealer or service partner must be initiated.



WARNING!

Danger! Do not screw off !

Risk of electric shock and fire hazard



Fig.1-3: Screws on the cover

As shown in the figure, drawing the × position means do not screw off. Opening this inner cover will break the warranty seal and void the warranty. If the warranty seal is broken, this proof can no longer be provided, whereby the warranty claim expires.

1.4 Notes on this manual

The manual is part of the product. It should be stored throughout the product's life cycle and read before any user uses the product.

This manual will be updated as the product is upgraded.

2 Installation

This chapter mainly describes how to install the E-series charger. Please read it carefully. When installing, please install it in the manner specified in the manual, otherwise it may cause personal injury and equipment damage.

2.1 Accessory list

- A user manual.
- A certificate of conformity.
- Four expansion screws. (For mounted the charger on the wall)
- A mounting template for bracket
- An Anti-theft stainless screw. (Fixed on the wall mounting bracket at the back of the charger.)
- Optional : Ground fixed post (not include in the product).

2.2 Environmental requirements

The charger can be used outdoors. Pay attention to the operating environment to meet the equipment operation, otherwise it will affect the service life of the equipment.

- Operation temperature: $-25\text{ }^{\circ}\text{C} \sim 50\text{ }^{\circ}\text{C}$;
- Operation humidity $\leq 95\%$;
- Avoid of the strong vibration and shock place to install the charger;
- Keep away of the explosive dangerous media, conductive media and harmful gases those can damage the electrical insulation;
- The use environment should be kept clean, no mold is allowed, and it should be kept away from moisture, dust, flammable gas, flammable liquid, etc., away from heat sources and corrosive environments;
- The altitude of the use environment does not exceed 2000 meters;

2.3 Short circuit protection

The charger itself does not have a short-circuit protection function, and a short-circuit protection device needs to be installed at the upper level for short-circuit protection. It is recommended that the rated current of the supply circuit short-circuit protection device matching with the current used by the charger. If it is used at full load, the rated current should be 40A, otherwise the charger will not work properly. We recommend using circuit breaker with curve C or curve B .

If you do not know how to choose the appropriate short-circuit protection device, please contact us.



DANGER!

The supply circuit of the charger must be equipped with a short-circuit protection device, otherwise the charger cannot be used.

2.4 Lightning protection

The charger meets the overvoltage level III.

2.5 Supported power supply system

Both single-phase and three-phase chargers support the following power supply systems.

- TN-S
- TN-C-S
- TT
- IT(Only single-phase products are supported.)

For single-phase charger, in a power supply system with a neutral line, the voltage between the phase line and the neutral line cannot be higher than the rated voltage requirement (240VAC). In a power supply system without a neutral line, the voltage between the phase line and the phase line cannot be higher than the constant voltage requirement (240VAC).

For three-phase charger, in a power supply system with a neutral line, the voltage between the phase line and the neutral line cannot be higher than the rated voltage requirement (240VAC).

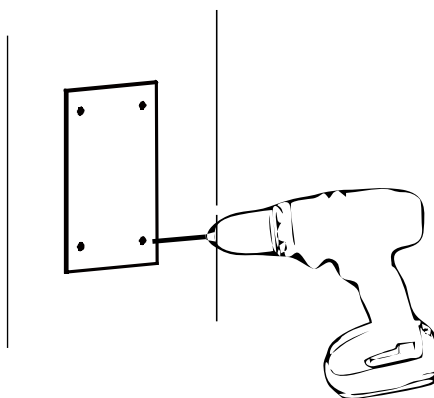
2.6 Installation steps

- The mounting template is in the packing case easy for you to determine the position of bracket . Closed the mounting template to the wall. The height from the center of the template to the ground is determined according to your ideal height (1500mm is recommended).

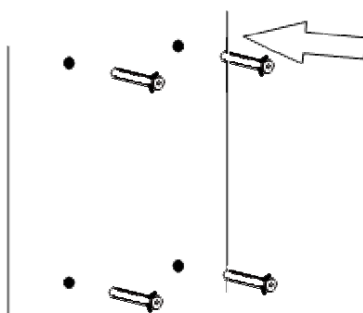


WARNING!

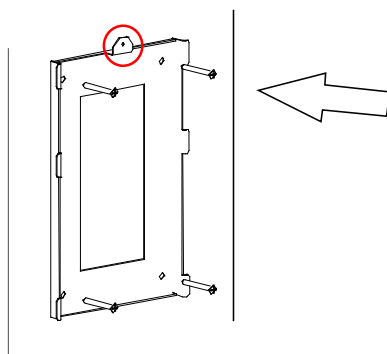
The wall should be able to support the weight of the charger.



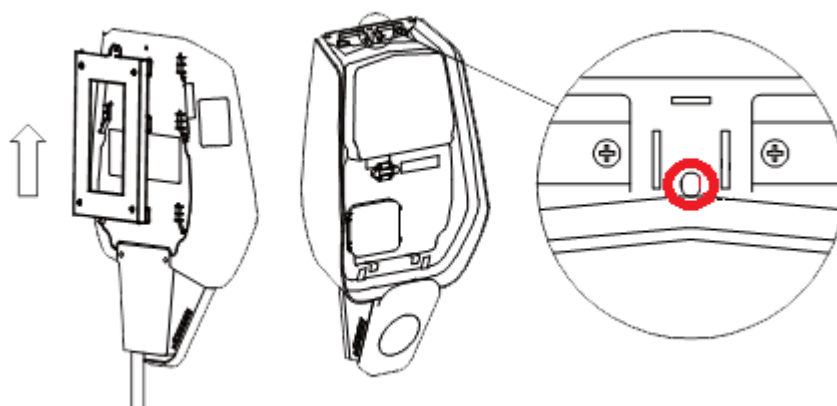
- The four expansion bolts correspond to the four blind holes just punched into the wall. (It is recommended to use a tool such as a hammer)



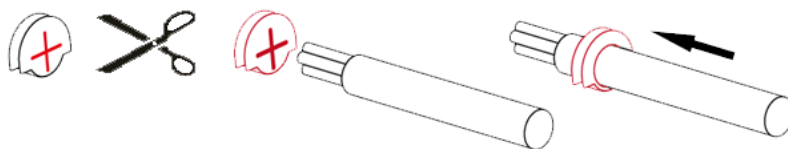
- Open the black front cover of the charger, remove the anti-theft screw located on the top of the mounted bracket and fix the wall mount bracket on the wall with the expansion screws.



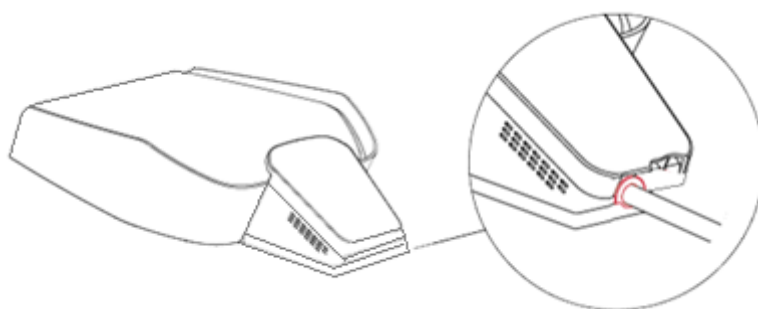
- Hang the charger on the wall mounted bracket, and then screw up the anti-theft screw.



- Use scissors to cut the cross line of the rubber stopper and pass the cable through the rubber stopper.



- Place the cable through the hole in the bottom of the charger into the wiring position inside the charger and then put the rubber stopper in the hole position at the bottom..



- Open the wire cover , insert the power supply cables into the bottom hole , and connect the cables according to the signs which on the wire cover. (The cables should be wrapped in a bundle with tape for easy handling.) It should be noted that there is no device for fixing the cable at the position of the cable entry, so you must leave enough space for the cable to avoid the cable from being pulled by external forces, or you can add a cable fixing device to the cable entry to fix cable.

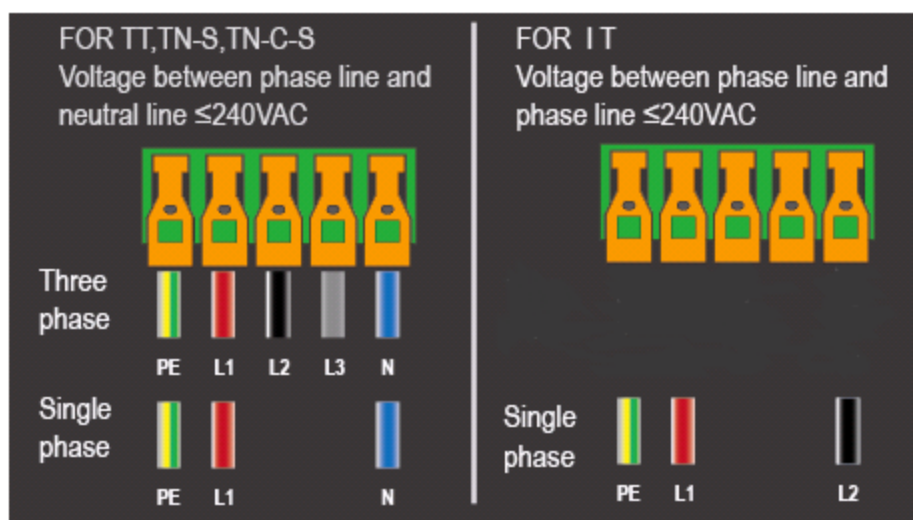
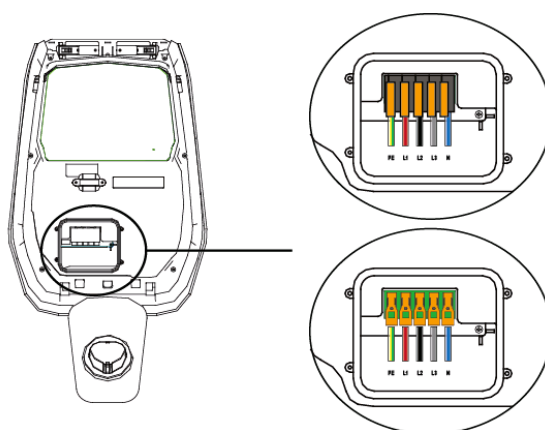


DANGER!

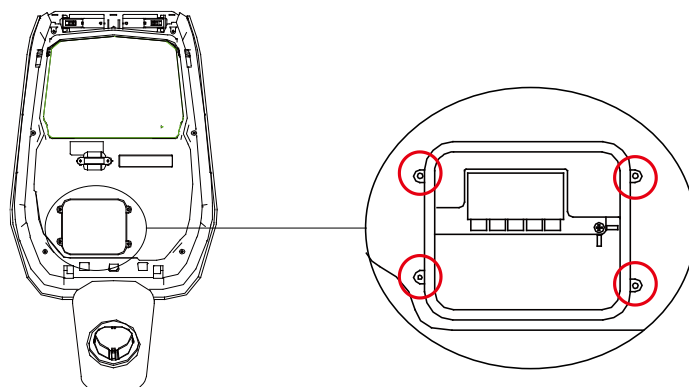
Do not supply power during wiring. Be careful of electric shock.

The wire diameter must be $\leq 16\text{mm}^2$.

The terminal must ensure reliable connection.



- Close the wire cover and screw up the wire cover with 4 screws.

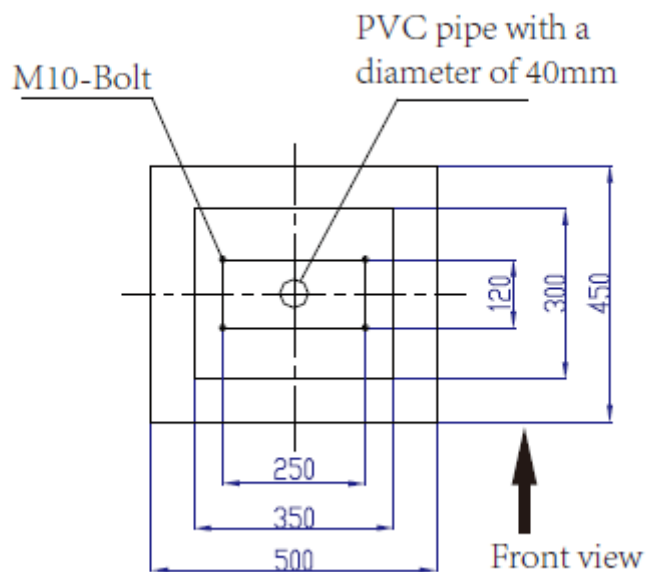


- Close the front cover and the installation is finished.

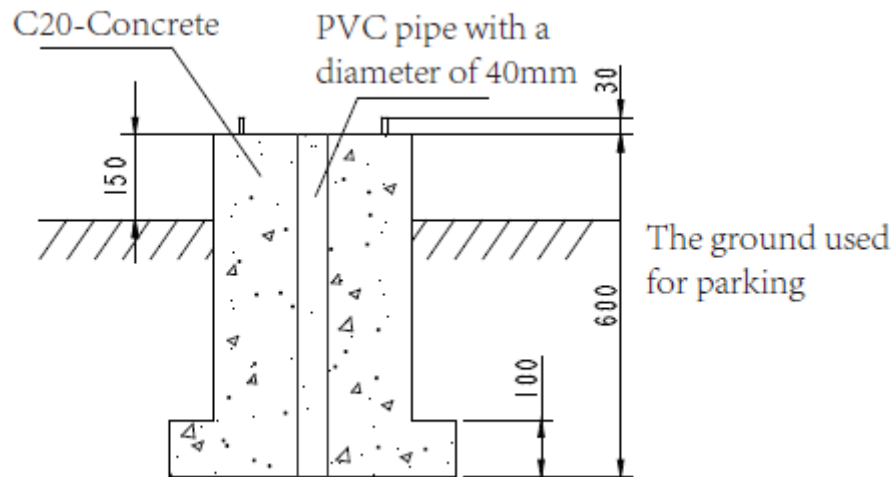


*If you have purchased a grounding post. You need to follow the steps below to install the grounding post. The installation screws and accessories are provided by the installer due to the different conditions on the construction site. These parts are not included in your purchase.

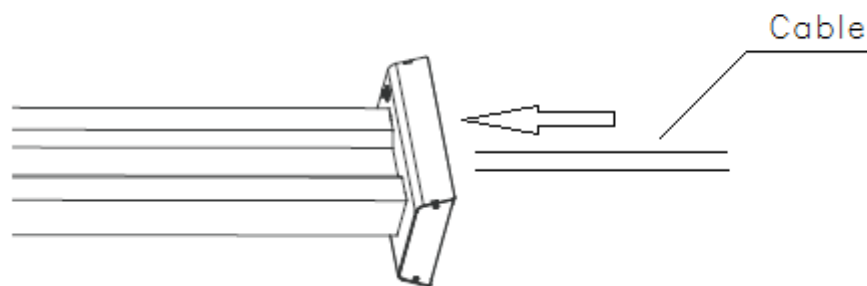
■ Pour a concrete platform to fix the post. Before the concrete platform is poured, M10 bolts and 40mm diameter PVC conduits are pre-embedded. Among them, M10 bolts are used to fix the posts, and 40mm diameter PVC conduits are used to pull the power cables to the ground. 。



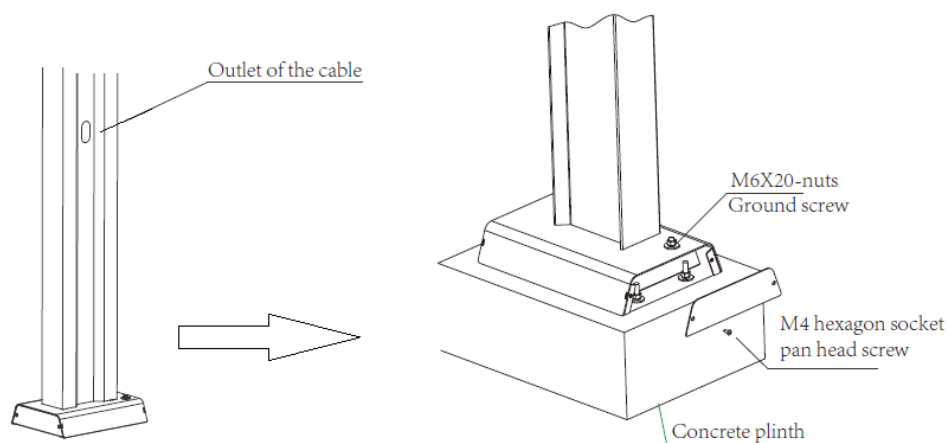
■ The depth of the bolts buried in the concrete is not less than 150mm, and the exposed length is recommended to be 15 to 30mm (maximum does not exceed 50mm). At the same time, the top of the concrete platform must be flat, otherwise the strength of the post will be affected after installation, and the post will break in serious cases. The power cable needs to be pulled out more than 1.3m from the ground, and the exposed length of the cable can be easily installed (the exposed length of the cable here is based on the installation surface on the top of the concrete platform).



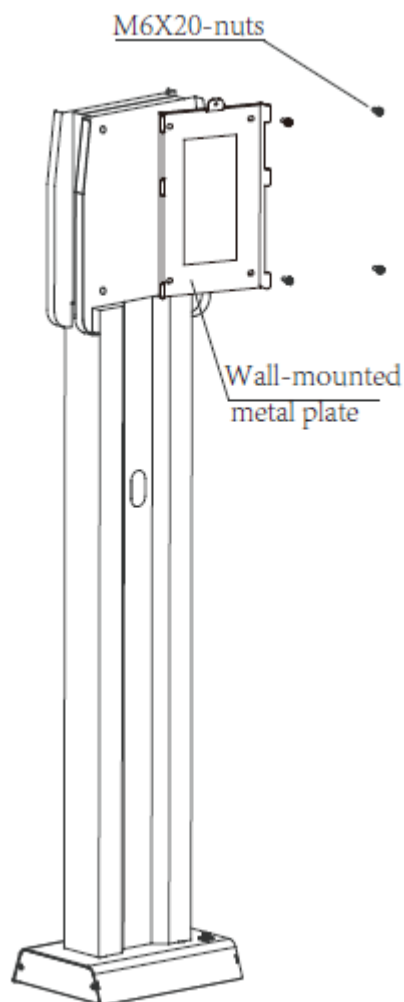
■ Wait for the concrete platform to fully solidify before installing the post. First put the post down, pass the reserved cable with a length of about 1.3m through the bottom of the post, and then pull out the power cable from the outlet in the middle of the post.



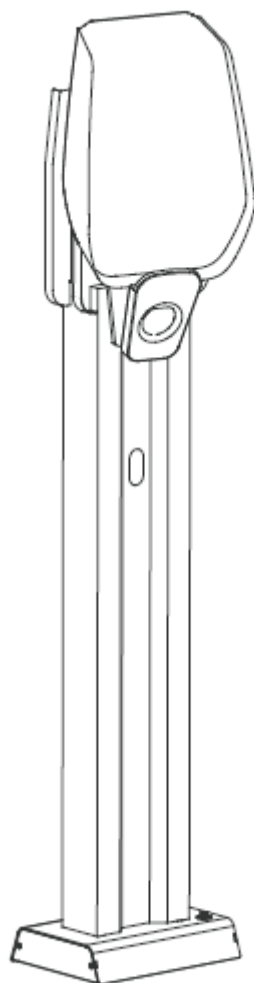
■ Stand the post upright, and use M10 nuts and flat washers to secure the post base to the concrete platform. In this way, the post is installed. At the same time, an M6×20 bolt needs to be added to the stainless steel nut at the bottom of the base of the post to provide ground protection for the post.



■ When preparing to hang the charger, you need to first remove the wall-mounted metal plate that comes with the charger, and then remove the four M6×20 bolts on the post hanging plate. Finally, align the holes of the two metal plates and install M6×20 bolts.



- Finally, hang the charger on the post, and each post can hang up to 2 chargers.



3 System overview

With E-series, several chargers can be connected to the Internet using the same router. This makes every charging order can be easily watching and controlling at anytime, anywhere.



Fig.3-1: Example for network setup

①···Charger connected to router via WLAN	②···Router connected to the Internet
③···The Internet communicates with the server of the charging station	④···The server controls and receives the parameters of the charger

E-series can only be connected via WLAN. If the router is connected to the Internet, a connection to an OCPP backend can be made.

3.1 WLAN

E-series connected to the Internet via WLAN. E-series WLAN has two working modes, one is Access Point (AP) mode and the other is Station (STA) mode.

The charger can be parameterized only when the charger is running in AP mode.

In STA mode, the charger can communicate with the operation server through the OCPP protocol

3.2 WLAN Access Point

E-series can be connected to a mobile phone or computer via the build-in WLAN access point. With the device, the web interface can be easily accessed and the configuration of the charging station can be performed.



Fig.3-2: Phone connection

The following steps are necessary to perform the configuration via a mobile phone or a computer:

(1) The charger is in WLAN AP mode by default. When the WLAN is in AP mode, the charger display panel will light up the WI-FI sign to blue (the sign can not be saw at first)



(2) Connect a mobile phone or a computer to the WLAN access point. When the mobile phone or computer is connected to the WLAN access point, the WI-FI sign will blink in blue. (When the device is connected to the charger's AP access point, it needs to disconnect its own data flow, otherwise it is easy to be unable to enter the background of the web interface due to browser jump problems.)

(3) After connecting to the access point, you can perform two operations. One operation can be performed by the user, please refer to "3.2.1. User viewing interface" The other operation is performed by professional maintenance personnel, please refer to "3.2.2. Installer view interface" .

3.2.1 User viewing interface

Remove the black cover, open the browser and scan the QR code on the display panel, you can see the current running status of the charger and the main configuration parameters. This can help you make a simple judgment when something goes wrong with the charger.

You can also open the mobile browser and enter the following URL in the browser to enter the charger background.

<http://192.168.1.1>

(You can find how to remove the black cover through “2.6 Installation steps” .)

Serial Number	
Software Version	V201B01D00
Grid Voltage	221.80V
Grid Frequency	50.00Hz
Output Current	0.00A
Active Power	0.000kW
Charging Duration	0 Min
System Time	02:12:59
Relay Temperature	25 Degree
Environment Temperature	29 Degree
CP Voltage	11.89V
Fan Status	Stop
Gun Temperature	25 Degree
E-lock Status	Open
Charger Status	Idle

Return

Fig.3-3: The current running status of the charger

3.2.2 Installer view interface

This step requires a professional to perform, there is no need to remove the black cover. Professional installers need to open a browser and enter the following URL: <http://192.168.1.1/admin>.

In order to protect the security of the user, the configuration webpage needs a random key matching to enter. The random key is calculated by the "check_sum_tools" which provided by LINCHR. ("Check_sum_tools" needs to be run on a computer, and the maintenance staff configured on site need to use the computer for authentication confirmation.)

This web interface is a login page. You need to enter the verification code to enter the configuration web page.

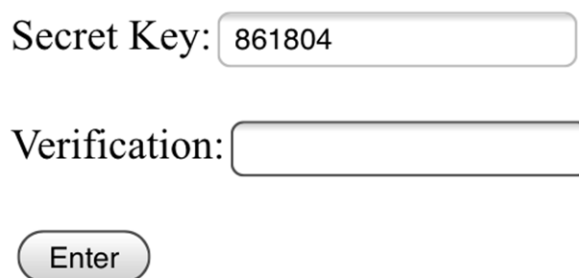


Fig.3-4: The login page

First of all, you need to enter the secret key displayed on the interface in the schematic diagram 1 of "check_sum_tools", and then click the "calc" button. A row of numbers will appear in the "Verification". Enter this row of numbers into the web login page and you will be logged into the configuration web interface.

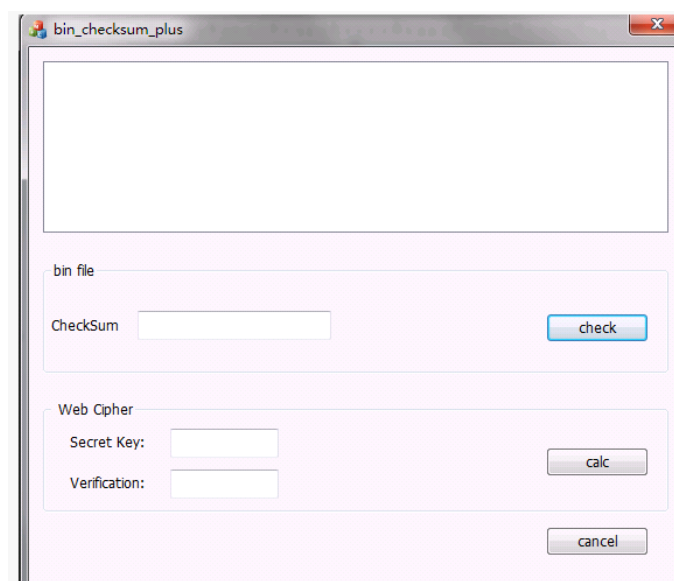


Fig.3-5: "Check_sum_tools" software interface



WARNING!

Non-professionals, do not configure the device, otherwise the device will not work properly

There are 10 configurable items on the configuration page. Select the item to be set and click the "Confirm" button to enter the setting submenu.

- ☒ 1-WIFI Access-Point Setting
- ☐ 2-Networking parameter Setting
- ☐ 3-RFID Setting
- ☐ 4-System Parameter Setting
- ☐ 5-System Time Setting
- ☐ 6-Fault Record Report
- ☐ 7-Charging Record Report
- ☐ 8-System Parameter Report
- ☐ 9-Run Data Report
- ☐ 10-System Upgrade

Confirm

Fig.3-6: The configuration web interface

Serial number	Configuration item name	Description
1	WI-FI Access-Point Setting	In the Wi-Fi configuration interface, select "1-WI-FI Access-Point Setting" to enter the access point setting configuration group, which is used to set the SSID and password settings of the access point in STA mode.
2	Networking parameter Setting	In the Wi-Fi configuration interface, select "2-Networking parameter Setting" to enter the charger networking parameter configuration group, which is used to configure the information of the charger connected to the server.

3	RFID Setting	In the Wi-Fi configuration interface, select "3-RFID Setting" to enter the RF card parameter configuration group. This setting group consists of "RFID setting interface", "card number reading interface" and "RFID parameter report" interface.
4	System Parameter Setting	In the Wi-Fi configuration interface, select "4- System Parameter Setting" to enter the system parameter setting group, which is used to set the type of charger, applicable grid type, RFID card type, connection methods, current limit point, and product serial number.
5	System Time Setting	In the Wi-Fi configuration interface, select "5- System Time Setting" to enter the system time setting group. This setting group will automatically recognize and read the time of the connected device and set it into the charger.
6	Fault Record Report	In the Wi-Fi configuration directory interface, select "6-Fault Record Report" to view the fault records of the charger. The fault record group is used to display the fault records of the charger.
7	Charging Record Report	In the Wi-Fi configuration directory interface, select "7-Charging Record Report" to view the charging record of the charger. The charge record group is used to display the historical charge record of the charger.
8	System Parameter Report	This item is mainly used to view the current configuration parameters of the system.
9	Run Data Report	View the current charger status.
10	System Upgrade	For system firmware upgrade.

●1- WI-FI Access-Point Setting

NO.	TYPE	SSID	RSSI
1	WPA	<input type="radio"/> TEST 001	-76dbm
2	WPA	<input type="radio"/> TEST 002	-72dbm
3	OPEN	<input type="radio"/> TEST 003	-57dbm
4	OPEN	<input type="radio"/> TEST 004	-74dbm
5	WPA	<input type="radio"/> TEST 005	-79dbm
6	WPA	<input type="radio"/> TEST 006	-62dbm
7	WPA	<input type="radio"/> TEST 007	-66dbm
8	WPA	<input type="radio"/> TEST 008	-81dbm

[Next](#)

Password:

Connect

Return

Fig.3-7: WI-FI Access-Point Setting interface

The charger will show the Wi-Fi hotspot SSID name in this space on this page. You can select the hotspot name you want to access through the radio button, enter the password and click the "Connect" button to connect. (The RSSI on the page represents the strength of the Wi-Fi hotspot. The lower the value, the higher the Wi-Fi strength. For example, in the screenshot above, the "-57dbm" space has the strongest WI-FI intensity.)

When the configuration is completed, a confirmation interface will pop up. After confirming that the connected SSID and password are correct, click "Confirm" to configure successfully. When the charger is set to STA mode again, it will automatically connect to the Wi-Fi hotspot that has been set.



WARNING!

By pressing the switch button of AP mode and STA mode, you can refresh the SSID of Wi-Fi in the area

●2- Networking Parameters Setting

OCPP Address:

Confirm

Return

Fig.3-8: Networking parameter Setting interface

On this page, you can configure information about the server used for the OCPP protocol connection, including what is shown in the table below.

Setting item	Description
OCPP Address	<div>The address of the server to be connected, which can be an IP address or a domain name, the charger will automatically recognize. Supports "WS" and "WSS", which need to be filled in according to the following format.</div> <div><div><div>eg: "ws://xx.xx.xx:80/xxx/.../xxx"</div><div>The port number</div><div>Domain Name or IP</div><div>CPID</div></div><div><div>"wss://xx.xx.xx:443/xxx/.../xxx"</div><div>The port number</div><div>Domain Name or IP</div><div>CPID</div></div></div>

●3- RFID Setting

The image shows a two-part interface for RFID settings. The top section, labeled 'BANK1' in red, contains three input fields for 'Card No.1', 'Card No.2', and 'Card No.3', each with a value starting with '600319330000'. Below these are 'Confirm' and 'Read' buttons. The bottom section, labeled 'BANK2' in red, features a 'Read RFID' input field, three buttons for 'Write Card 1', 'Write Card 2', and 'Write Card 3', and a 'Return' button.

Section	Field/Label	Value/Text
BANK1	Card No.1	6003193300001682
	Card No.2	6003193300001769
	Card No.3	6003193300001682
	Buttons	Confirm, Read
	Label	BANK1
BANK2	Read RFID	[Empty Field]
	Buttons	Write Card 1, Write Card 2, Write Card 3, Return
	Label	BANK2

Fig.3-9: RFID Setting interface

The setting interface consists of two areas, BANK1 and BANK2. The BANK1 area displays the card numbers of the three built-in RFID cards, and the card number read only.

The BANK2 area is used to set and modify the built-in card number. The "Read" button is used to read the card number. When the charger is in the standby state, click the "Read" button to attach the written card to the RFID card reading area. At this time, the "Read RFID" post will show the card number that has been read.

Click "Write Card 1", "Write Card 2" or "Write Card 3" below to write it to the RFID card number position of BANK1.

After the modification of the overall card number is completed, click the "Confirm" button of BANK1 in the "RFID card setting interface", and the system will output the set RFID parameter information in the form of a report. After confirming that the user is correct, press the "confirm" button again to complete the setup.

When adding a new RFID card, you first need to ensure that there is already a 16-

digit card number in the card. Then, in the standby state, click "Read RFID" and follow the steps described above to write the card.

●4- System Parameter Setting

Charger Power	7kW <input type="radio"/>	22kW <input checked="" type="radio"/>
Grid Type	IT <input type="radio"/>	Other <input checked="" type="radio"/>
RFID Type	CPU <input type="radio"/>	M1 <input checked="" type="radio"/>
Charging Mode	Case B <input type="radio"/>	Case C <input checked="" type="radio"/>
CP Type	0.8V <input checked="" type="radio"/>	1.0V <input type="radio"/>
Max Current	21.0	A

Confirm

Return

Fig.3-10: System Parameter Setting interface

Configuration item	Function	Note
Charger Power	The maximum power of the charger also represents whether the charger power supply is single-phase or three-phase.	The optional rated is 7KW or 22KW, single-phase power is up to 7KW, and three-phase power is up to 22KW.
Grid Type	Access grid type	Optional for IT (Only single-phase) and Other (TN-S,TN-C-S,TT) .
RFID Type	RFID card type	Optional for CPU card and M1 card.
Connect Mode	Charger connection methods	Optional for CASE B and CASE C
Max Current	Charger maximum output	Setting range is 6A to 32A.

	current.	
--	----------	--

After clicking the "Confirm" button in the "System Settings Interface", the set charger system parameter information will be output in the form of a report. After confirming that the user is correct, click the "confirm" button again to complete the setting.

●5- System Time Setting

Current Time 2020-03-10 11:14:51

Confirm

Return

Fig.3-11: System Time Setting interface

This interface can directly read the current time of the device being operated, such as the current time of the mobile device, and then press the "Confirm" button to write the current time into the charger system. The time cannot be manually modified.

●6- Fault Record Report

Fault Table

No.	Fault	Satrt Time	End Time
1	E-Lock Fault	2020-03-09 18:40:25	2020-03-09 18:41:41

Total:1 Pages:1 Now:1

Return

Fig.3-12: Fault Record Report interface

This page is used to display the current fault and historical fault records of the charger. You can see the time and type of the fault. For the fault type, please refer to "4.1 Display" in the next chapter.

●7- Charging Record Report

Charging Record

No.	Start	End	Start Mode	Stop Mode	Energy	Id
3	2020-03-13 11:04:03	Charging	RFID		0.000kWh	0
2	2020-03-13 11:03:43	11:03:53	RFID	RFID	0.000kWh	0
1	2020-03-13 11:03:34	11:03:36	RFID	PULL	0.000kWh	0

Total:3 Pages:1 Now:1

[Return](#)

Fig.3-13: Charging Record Report interface

This page is used to display the current charging status and historical charging history of the charger. You can check the charging start time, end time, charging capacity and end reason.

●8- System Parameter Report

Serial Number	xxxxxxxxxxxxxxxxxxxxxxxx
Charger Power	7kW
Grid Type	Other
Charging Mode	Case C
Max Current	32.0 A
Software Version	V204B00D00
Server Address:	
AP SSID	teld_visit_net
AP Password	teld@20150805
RFID Type	M1 Card
RFID1	6002194800000390
RFID2	6002194800000390
RFID3	6002194800000390
Meter Serial Number	0131A20A
Meter Code	0020
HMI Version	V102B00D00
WINC1500 Firmware	19.6.1

Return

Fig.3-14: System Parameter Report interface

This page mainly displays all the current configuration items of the current charger, and is used to check whether the configuration items are configured as required.

●9- Run Data Report

Serial Number	
Software Version	V201B01D00
Grid Voltage	221.80V
Grid Frequency	50.00Hz
Output Current	0.00A
Active Power	0.000kW
Charging Duration	0 Min
System Time	02:12:59
Relay Temperature	25 Degree
Environment Temperature	29 Degree
CP Voltage	11.89V
Fan Status	Stop
Gun Temperature	25 Degree
E-lock Status	Open
Charger Status	Idle

[Return](#)

Fig.3-15: Run Data Report interface

This page mainly displays the current charger status and key parameters.

●10- System Upgrade

Instructions for upgrading

Please read this document carefully before upgrading.

1. Make sure not to disconnect the network during the upgrade.
2. Please enter the verification code in the correct format, otherwise the upgrade will fail.
3. The upgrade results refer to the table below.

LED display	Meaning	Remarks
100 UP	Upgrade success	Wait for the device to restart automatically
E01 UP	Upgrade failed	Failed to write flash
E02 UP	Checksum error	Checksum not match
E03 UP	Upgrade timeout	No valid data received within 15s
E04 UP	Bin File Mismatch	Upgrade file does not match the AC Charger

4. After the upgrade is successful, the device will restart automatically. Please wait for the device to restart.

Upgrade file checksum

Fig.3-16: System Upgrade interface

This page is mainly used to upgrade the local system firmware. Use the mobile phone or computer to perform local upgrades. Please follow the instructions on the page during the upgrade. Otherwise, the upgrade may fail.

- First you need to get the upgrade program from the manufacturer, the program is named "xxx.bin"
- Secondly, you need to use "check_sum_tools", drag the program to be upgraded to the red box shown in the figure, and then click the "check" button. At this time, a set of MD5 codes will appear in the "checksum" box.
- Finally, enter this set of MD5 codes into the "Upgrade file checksum" at the bottom of the web page. Click the "continue" button to enter the file selection page, select the program to be upgraded, click the "upgrade" button and wait for the charger to upgrade (Before clicking Upgrade, please be patient for 15s to ensure the file loading is completed). After the upgrade is complete, the charger will automatically restart.

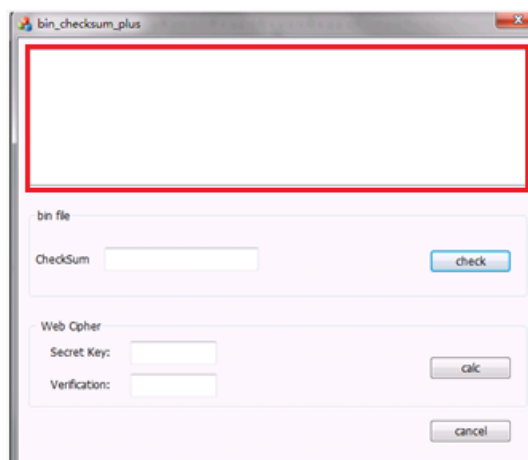


Fig.3-17: Program upgrade verification box

When we upgrade the program or configure the background, we support the browsers in the following list.

Browser	Background configuration	Program upgrade
IE	Support	Not support
Firefox	Support	Support
Chrome	Support (Recommend)	Support (Recommend)
Safari	Support	Support

We recommend using a computer to upgrade.



WARNING!

Do not turn off the power during the upgrade

3.3 WLAN Station

E-series can be networked, and networked control can be achieved through a server that supports the OCPP protocol. Currently the E-series only supports OCPP 1.6. If you want to connect the charger to the OCPP protocol, you need to configure a wireless router near the use of the charger, and not too far away from the charger. After setting the charger through the following steps, the charger can automatically connect to an available network.

(1) The charger is in WLAN AP mode by default. When the WLAN is in AP mode, the display light on the charger will be blue.



Fig.3-18: The WLAN display light

(2) Follow the steps in 3.2.2 WLAN Access Point to set the "1- WI-FI Access-Point Setting" and "2- Networking parameter Setting" in the list.

(3) When the setting is completed, you need to press the mode switch button in the black display area of the charger, and continuously press it for more than 3s, you will hear a "beep" sound from the charger(About 1 second). The indicator light will turn green at this time, which means the charger has switched to STA mode.

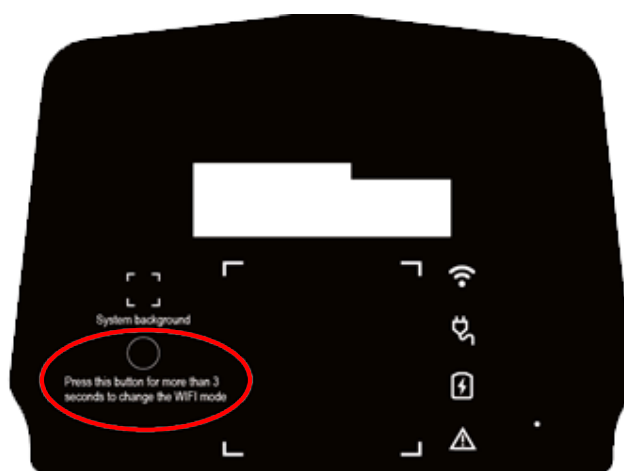


Fig.3-19: The WLAN switch button position

(4) After the charger is switched to STA mode, you need to close the black cover of the charger. After completing the above steps, the charger will automatically

connect to the configured hotspot for network operation. (You can find how to install the black cover in the 2.6 Installation steps “)

- E-series charger OCPP communication protocol can support the following messages. If you have other needs, please contact us.

Supported messages	Type	Charger feedback
Remote Start Transaction	The server sends a request	Send response and execute
Remote Stop Transaction	The server sends a request	Send response and execute
Get Configuration	The server sends a request	Send response and execute
Reset	The server sends a request	Send response and execute
Get Diagnostics	The server sends a request	Send response but not execute
Update Firmware	The server sends a request	Send response but not execute
Change Availability	The server sends a request	Send response and execute
Change Configuration	The server sends a request	Send response but not all are executed
Clear Cache	The server sends a request	Send response and execute
Reserve Now	The server sends a request	Send response and execute
Cancel Reservation	The server sends a request	Send response and execute
Clear Charging Profile	The server sends a request	Send response and execute
Get Composite Schedule	The server sends a request	Send response but not execute
Set Charging Profile	The server sends a request	Send response and execute
Unlock Connector	The server sends a request	Send response but not execute
Boot Notification	The charger sends a request.	Interpret information and execute
Status Notification	The charger sends a request.	Interpret information and execute
Heartbeat	The charger sends	Interpret information

	a request.	and execute
Authorize	The charger sends a request.	Interpret information and execute
Start Transaction	The charger sends a request.	Interpret information and execute
Stop Transaction	The charger sends a request.	Interpret information and execute
Meter Values	The charger sends a request.	Interpret information

4 Function

The following chapters describe special functions of the charger.

4.1 Display

The charger has three display area, box1, box2, box3 as shown below, which are used to display the current status and charging status of the charger.



Fig.4-1: The Display position

Display position	Display mode	Function
Area 1	Digital tube character display	It can display information such as voltage, current, charging capacity, and fault code
Area 2	Signs display light	It can display four states of charger connection, plug insertion, charging, and failure.
Area 3	Tap card area prompt light	Indicates whether the RFID

		card is currently operational.
Around the charger	Atmosphere remind light	It used to display the current charger status

● Character display in normal state of charger

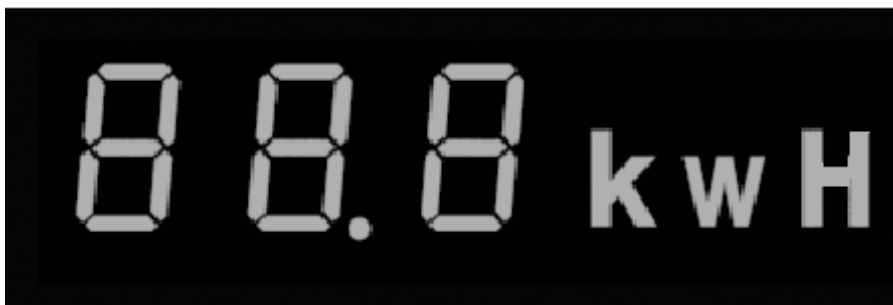


Fig.4-2: The character display

Character style displayed in normal state	Meaning of characters
HEL LO	Displayed after power on
XXX.0 V	Input voltage value
XX.X A	Charging current value
XX.X Hz	Frequency of input voltage
XX.X kWH	Charged capacity
XXX Min	Charged time(min)

● Character display in case of electrical fault





Character style showing in fault state	Meaning of characters
ERR OCP	Overcurrent fault
ERR OVP	Overvoltage fault
ERR LVP	Under voltage fault
ERR MET	Meter or metering communication fault
ERR PE	Ground fault
ERR CP	CP voltage error fault
ERR R12	Relay 1 sticking fault
ERR R3N	Relay 2 sticking fault
ERR ROT	Relay over-temperature fault
ERR ELK	Electronic lock abnormal fault
ERR OCT	Plug holder over temperature fault
ERR IRD	Leakage fault
ERR FAN	Fan stall fault(It will not stop charging, it will reduce the charging current to protect the

	device from high temperature.)
ERR PP	Unreliable connection fault
ERR MIS	Missing power phase fault

● Character display in charger program upgrade status

Character style displayed during program upgrade	Meaning of characters
100 UP	Update successful
E01 UP	Upgrade unsuccessful
E02 UP	The captcha does not match
E03 UP	Upgrade timed out
E04 UP	File error

● Signs display light

Signs	Application	Function
	Networking indicator	<ul style="list-style-type: none"> ● Steady blue: the charger is in AP mode. ● Blinking blue: the charger is in AP mode and there are devices; connected to the charger background. ● Steady green: the charger is in STA mode. ● Blinking green: The charger is connected to the Internet. ● Solid red: the built-in networking module of the charging pile is damaged.
	Plug light	<ul style="list-style-type: none"> ● Solid white: The plug is inserted and connected well.
	Charging indicator	<ul style="list-style-type: none"> ● Solid white: charging is in progress. ● White flashing: charging is suspended.
	Fault indicator	<ul style="list-style-type: none"> ● Steady red: the charger has failed.

- Tap card area indicator light

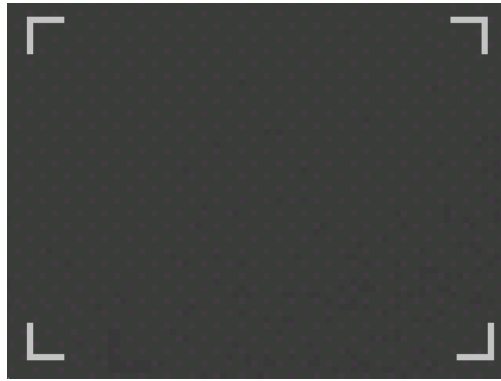


Fig.4-3: tap card area

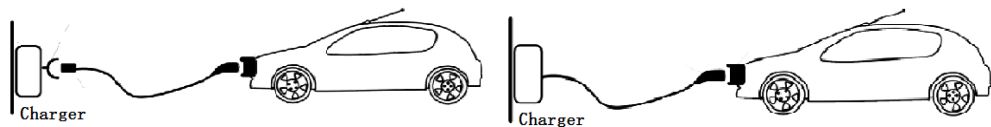
This is used to indicate the RFID card reader is currently available, for start/stop charger or for writing card operation.

4.2 RFID and how to use

E-series charger supports tap RFID card to start and stop charging. When the charger is connected to the vehicle, the tap card area four corners will light up, indicating that the charger can use the RFID card to working.

Using the RFID card for charging, follow these steps:

- (1) Pull the plug off the charger, then push the plug all the way into the vehicle inlet. For the socket mode of the charger, first, connect the plug to the charger, then connect to the vehicle.



- (2) When the indicator of the card reader area is light on, hold the RFID card close to the indicator area for seconds meanwhile try to stay as close to the area as possible.



(3) When you hear a “DI” sound (About 1 second), and the ambient light changes from blue to flashing, it means the charger is active by the card.

(4) If you want to stop charging, repeat step 2 and 3 .To stop charging, you can unplug the plug for stop charging. For the socket mode of the charger, first unplug the vehicle side then unplug the charger side.

- The RFID card can be configured locally and used locally. A charger can be configured with up to three RFID cards. When the card is successfully swiped, the charger will emit a beep, and when the card is unsuccessful, the charger will emit two beeps (The interval is about 0.5 seconds.). Failure to swipe the card may be due to unrecognized cards, unauthorized cards, damaged cards, etc. If you are unable to swipe the card during use, please contact our after-sales service team.
- When using OCPP protocol for communication, the RFID card used must be a card approved by the server. The charger connected to the server will emit two beeps (The interval is about 0.5 seconds.) when performing a card swipe operation. The first beep (About 1 second.) represents the charger accepting the card swipe request, and the second beep (About 1 second.) represents the server responding to the user operation. If the card swipe fails, when the server returns a response, it will emit two beeps (The interval is about 0.5 seconds.). At this time, you need to confirm with the operator whether the card is authorized successfully, or contact the after-sales service team to help you confirm whether the card is normal.

WARNING!



For the case B charger, there is an electronic lock inside the charger to keep the charger connected stabilization during the charging process. When charging is completed or a fault occurs, the electronic lock will automatically unlock, please do not pull it forcibly.

4.3 Current limiting

E-series charger supports charging current adjustment, adjustable from 6A to 32A, you can refer to "3.2.2 WLAN Access Point --- 4- System Parameter Setting" after installation.

- For single-phase charger, the current is the current between L and N.
- For a three-phase charger, the current is the current between L1 or L2 or L3 and N.
- After the current is set, for a case-B charger, the maximum actual current depends on the rated cable current carrying capacity of the connection line. (Differentiated by the PP resistance value in the plug)

4.4 Load balance

E series chargers can achieve load balance through OCPP. The server can control the charger's current through OCPP's Charging Profile. During the charging process, when the server changes the current of the charger, the PWM communication of the charger will be changed at the same time.

In this way, the current of each charger can be adjusted according to the requirements, so that the entire charging station can achieve load balance (the current adjustment range is 6~32A).

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