
# ATESS EVA-11/22/44S

## 3-phase AC charger Quick installation guide

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# Disclaimer



ATESS has the final right to interpret this user manual. The information in this manual is subject to change without notice.

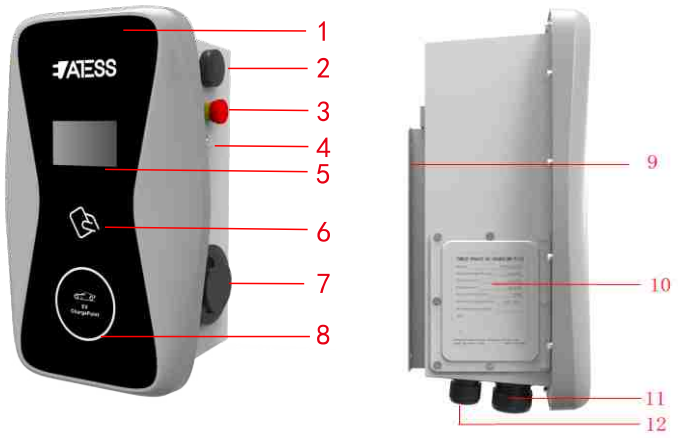
## Thank you for using ATESS EVA charging equipment!

EVA series intelligent three-phase AC charger is a power supply device that uses professional and advanced technology to provide energy supply to electric vehicles, it also has friendly man-machine interface and versatile functions of control, billing, and communication. The charger can be connected to a back-office server to realize the functions of reservation and payment via Mobile phone APP. Diversified communication options, including wired Ethernet, WIFI, 4G is available for back-office server connection.

We sincerely hope that this product can meet your needs and will continuously improve the quality of our products.

# Menu

# I. Product description




1.LOGO and logo backlight;

2.WIFI/4G Antenna;

3.Emergency stop button;

4.Forced On/Off button;

5.LCD display;

6. RFID reader;

7.Socket outlet (plug holder for cabled version)

8.Status indictor;

9.Mounting bracket;

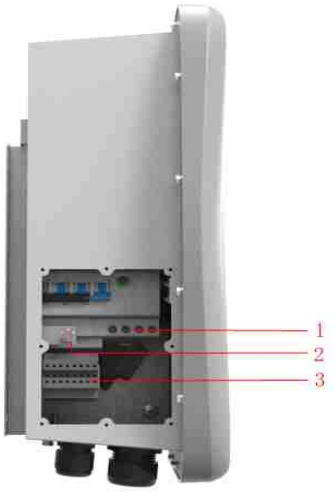
10.Side window and nameplate;

11.Waterproof cable gland for AC input

12.Waterproof cable gland for c ommunication wires ;



Wiring definition in the side window




If there is terminal definition on the rear side of the side window cover, please use the definition on the cover for CT and meter wiring.

If not, please use the following:

1.AC input terminals. Terminal definition is (①N;②L1;③L2;③L3).

2.PE terminal

3.Terminal block for CT/meter wiring. The terminal definition is:
(①Ia+;②Ia-;③Ib+;④Ib-;⑤Ic+;⑥Ic-;⑦A;⑧B )
①② ③ ④ ⑤ ⑥ is for CT connection.
⑦ and ⑧ is RS485 terminal for meter connection;

# II. Packaging list

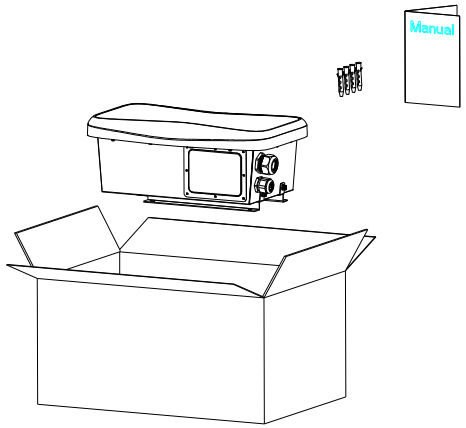
| No. | Name | Qty | Remark |
|---|---|---|---|
| 1 | Charger | 1 | |
| 2 | User manual | 1 | |
| 3 | Quality certificate | 1 | |
| 4 | Mounting bracket | 1 | |
| 5 | Cable hook | 1 | For cabled version |
| 6 | ST6.3X40<br>Stainless steel hex-head self-drilling screws | 4-7 | 4 for socket version, 7 for cabled version(3 of the 7 screws is for cable hook fixing) |
| 7 | 12X46<br>Plastic expansion plugs | 4-7 | 4 for socket version, 7 for cabled version(3 of the 7 plugs is for cable hook fixing) |
| 8 | User card | 1 | RFID function will be equipped with user card |



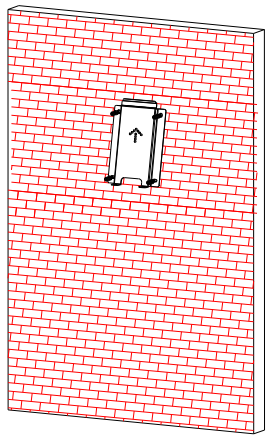
# III. Installation and wiring

## 3.1 Mount on a wall

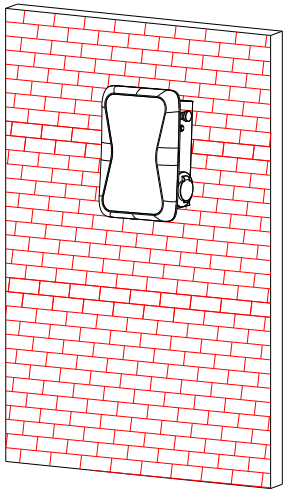
3.1.1 Open the packaging, you'll see a charge point,  a mounting bracket, a user manual and a bag of mounting accessories. There is also an RFID card if the charge point is RFID version. For cabled version, a cable hooker is also included inside.



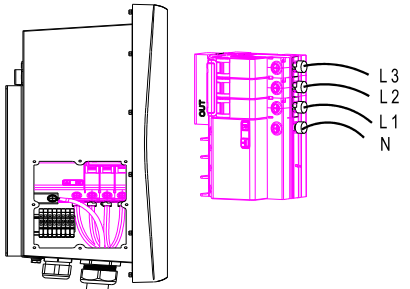

3.1.2 Remove the mounting bracket from the charge point, use it as a template to mark the position of the drill holes. Drill the holes and hammer the expansion bolts in the accessories bag into the holes. Then fix the mounting bracket onto the wall.



3.1.3 Put the charge point onto the bracket, and fix it with the 2 screws at the bottom of the charge point. The installation is done.



3.1.4 Crimp the below shown insulated ferrule or ring terminals on the end of the AC input wires. Connect the wires into the terminal block of the charge point as below. Check the wiring and then close the RCBO in the side window. Close the side window with the cover, then the wring is done.

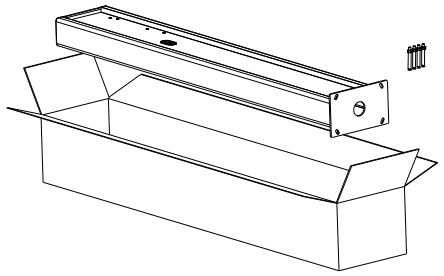



| | Model | L1/ L2/ L3/ N | PE |
|---|---|---|---|
| Terminal | 11K | | |
| | 22K | | |
| | 44K | | |
| Wire | 11K | ≥2.5mm² ≥AWG12 | ≥2.5mm² ≥AWG12 |
| | 22K | ≥6mm² ≥AWG9 | ≥6mm² ≥AWG9 |
| | 44K | ≥16mm² ≥AWG5 | ≥16mm² ≥AWG5 |

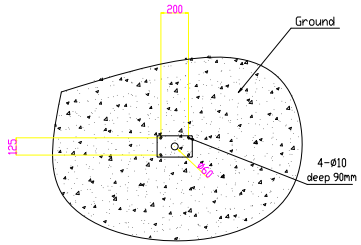


## 3.2 Mount on a pole

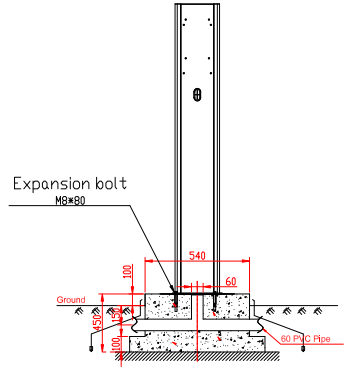
3.2.1 Open the packaging of the pole, take out the pole and mounting accessories.



3.2.2 The pole must be installed on a hard surface, concrete surface is recommended, it can also be mounted on a solid ground. Drill hols according to the requirements marked on the illustration for fixing expansion bolts.

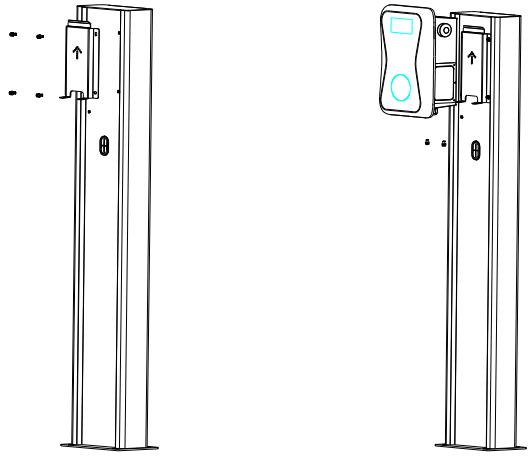



3.2.3 Fix the pole onto the holes with expansion bolts. The input cables shall go into the pole from the bottom middle area and come out of it from the area below the cable hooker.

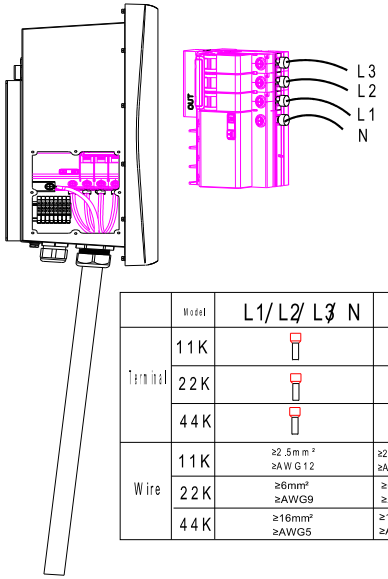


3.2.4 Fix the mounting bracket onto the pole.

3.2.5 Position the charge point onto the bracket and secure it on the bracket with the 2 screws.



3.2.6 Crimp the below shown insulated ferrule or ring terminals on the end of the AC input wires. Connect the wires into the terminal block of the charge point as below. Check the wiring and then close the RCBO in the side window. Close the side window with the cover, then the wring is done.




| | Model | L1/L2/L3 | N | PE |
|---|---|---|---|---|
| Terminal | 11K | | | |
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| Wire | 11K | ≥2.5mm² ≥AWG12 | | ≥2.5mm² ≥AWG12 |
| | 22K | ≥6mm² ≥AWG9 | | ≥6mm² ≥AWG9 |
| | 44K | ≥16mm² ≥AWG5 | | ≥16mm² ≥AWG5 |



# IV. Parameter setting

After the installation and wiring is done, connect the Charger to a computer and configure parameters via the web browser of the computer, then the Charger can be ready for use.

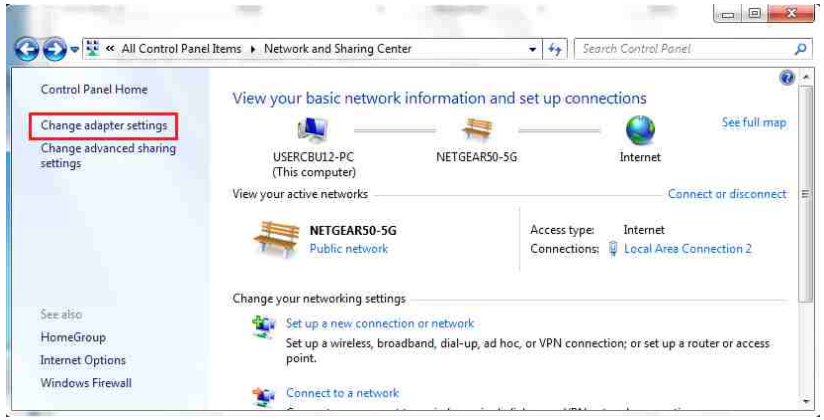
## 4.1 Set computer's IP

The Charger's default IP address is 192.168.1.5. To access the parameter setting interface, you'll need to first set the computer's IP to 192.168.1.x(x can be any value between 1 and 255 except for 5, e.g. 192.168.1.10).

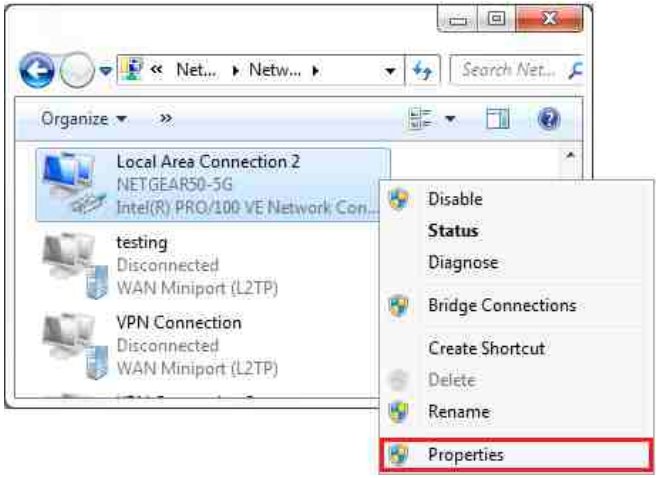
To set a static IP on your Windows computer:

1.Click Start Menu > Control Panel > Network and Sharing Center. (For Windows 8 and higher, search for and open Control Panel and select Network and Internet).

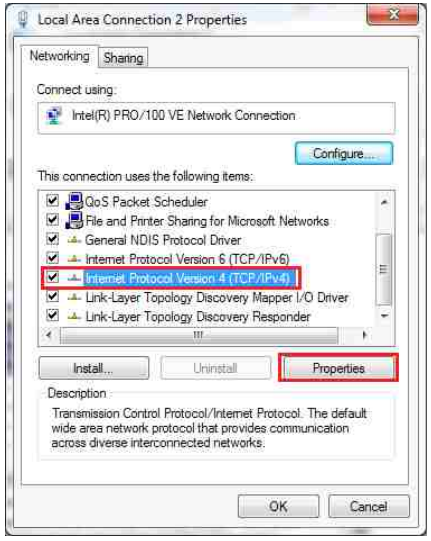
2.Click Change adapter settings.



3.Right-click on **Local Area Connection** and click on **Properties**.

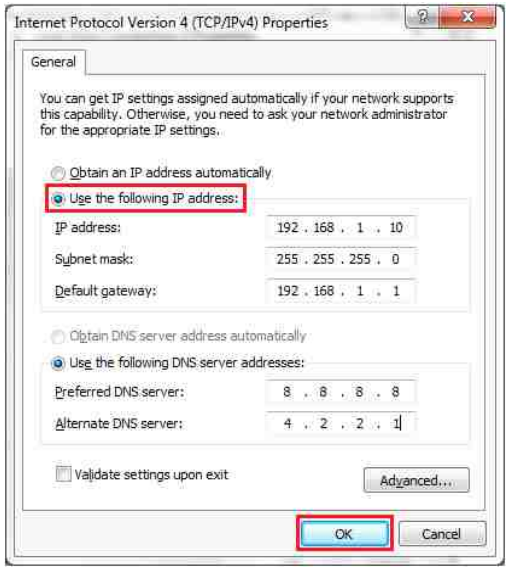



4.Select **Internet Protocol Version 4 (TCP/IPv4)** and click on **Properties**.





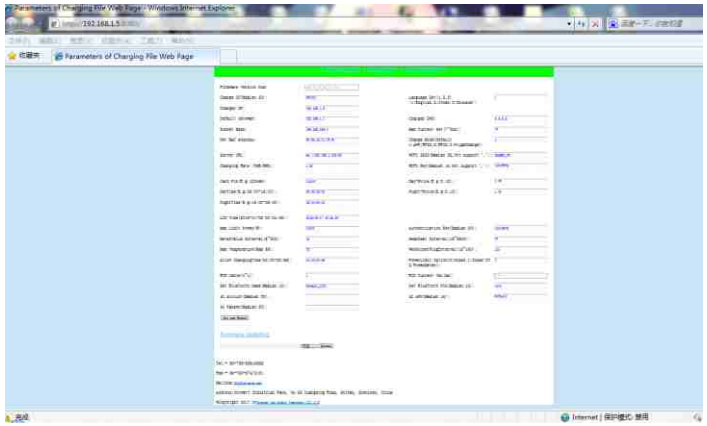

5.Select "Use the following IP address" and enter the IP address, Subnet Mask, Default Gateway. Click **OK** and close the Local Area Connection properties window.



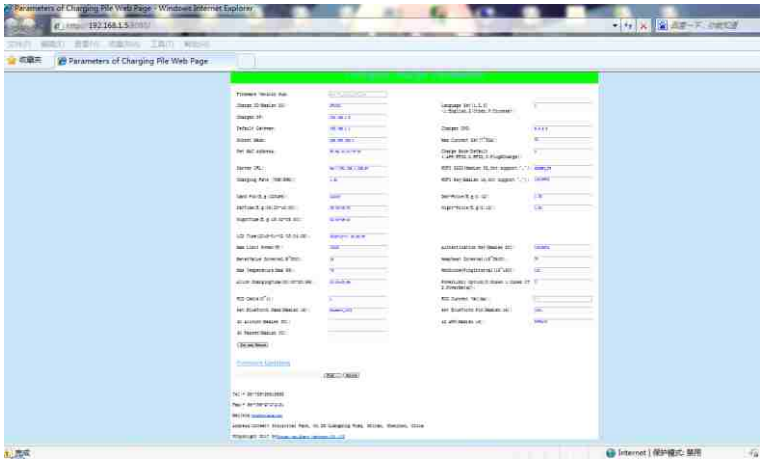

## 4.2 Configure parameters

Connect the charger to a computer via a network cable. Open the web browser and type in http://192.168.1.5:8080/ in the address field and click enter, then the parameter setting page of the charger will open up.

Parameter setting can only be done via web browser on a computer. It is suggested to use IE or Firefox, other browser might have compatibility problem.

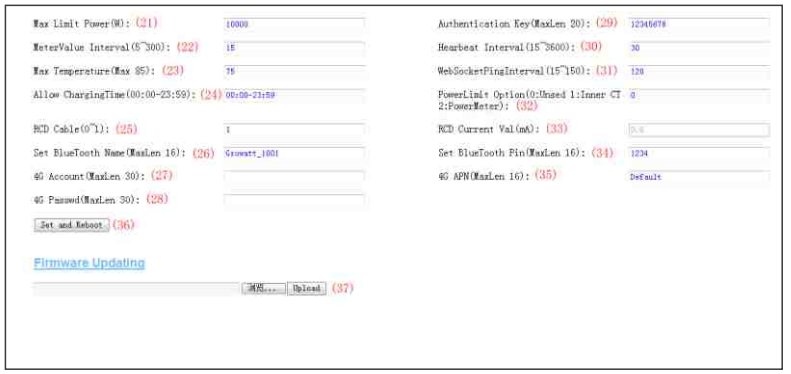


Overview of Parameter setting page



Overview of Parameter setting page


Enlarged view of parameter setting page_1




Enlarged view of parameter setting page_2



## Explanation of parameters:

(1) Firmware version of the Charger. This item cannot be modified here on the setting page.


Fig.1

(2) Charger ID, this is the unique identification of the Charger. If the charger is to be connected to ATESS back-office server, this ID must be set as the serial number on the nameplate of the Charger. Otherwise the Charger cannot be registered on the server.


Fig.2

(3) Charger IP. The default IP is 192.168.1.5. It is not suggested to change the default IP. If you have changed the default IP and forgot the new IP, you can reset the charger to factory setting by long press the reset button(the reset button on control board, not the red emergency stop button) until the charger reboot. Then you can use the default 192.168.1.5 for access.

**Please note:** After restoring the charger to factory setting, you'll need to reset the charger ID(same as serial number, can be found on the nameplate sticker) and server url, otherwise the charger won't be connected to the back-office server.


Fig.3

(4) Charger gateway. The default value is 192.168.1.1. It is not suggested to change. If the gateway has been reset to other value and you have forgotten the new value, you can restore the charger to factory setting by long press the reset button.


Fig.4

(5) Charger Subnet mask. The default value is 255.255.255.0. It is not suggested to change. If the subnet mask has been reset to other value and you have forgotten the new value, you can restore the charger to factory setting by long press the reset button.


Fig.5

(6) MAC address. This is the MAC address used for LAN cable connection. If the charger is connected to ATESS back-office server via LAN cable and the router has MAC access control, then you can put this MAC in the router to allow the charger to access server


Fig.6

(7) Server URL is to set the domain name or IP address of the back office server to be connected.

The domain name of ATESS server is "ws://ess-charge.atesspower.com:80/ocpp/ws";

IP address is "ws://47.56.208.172:80/ocpp/ws".

Authentication Key and Heartbeat Interval is used for testing and no need to reset.


Fig.7

(8) Charging fee per unit of electricity.


Fig.8



(9) PIN of the charger, used to verify the PIN of user card. To use a RFID card with the charger, their PIN must be consistent. If the user card has a different PIN, then it cannot be used on this charger. The default PIN setting of the charger is 242007.


Fig.9

(10) Peak time period. Set the time period of peak tariff.


Fig.10

(11) Off-peak time period. Set the time period of off-peak tariff.


Fig.11

(12) Time of the charger. Set according to the local time. After the charger is connected to back-office server, the time will be synchronized with the server's time. If the charger has no server connection, then you'll have to reset the time every time you turn off and back on the charger.


Fig.12

(13)Language of LCD screen.

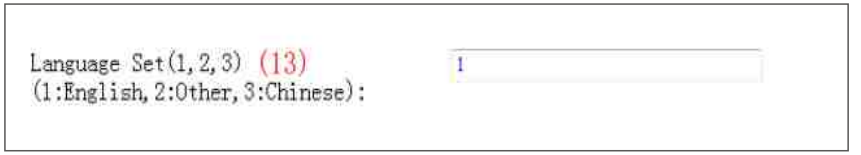



Fig.13

(14) Charger DNS setting, this only needs setting when the charger is to connect to server via LAN cable.


Fig.14

(15) Set the max output of the charger.


Fig.15

(16) Charging mode setting. 1: APP/RFID mode; 2: RFID mode; 3: Plug&Charge mode.

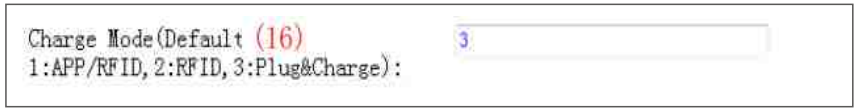



Fig.16

(17) (18) WiFi SSID(wireless network name) and WiFi Key(WiFi password) is used for WiFi connection.

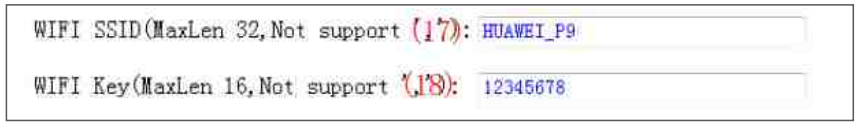



Fig.17

(19) (20)Set peak tariff and off-peak tariff.


Fig.18

(21) (32) (22) Max power import to the property, Power sampling device selection, meter value collection interval. These 3 parameters are used for power management setting.

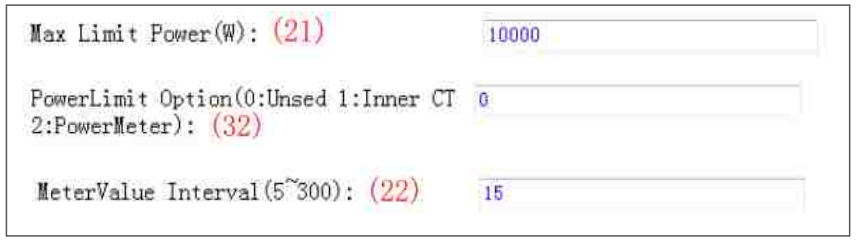



Fig.19



(23) Over temperature protection value, not suggested to change.


Fig.20

(24) Charging-allowed time. Charging can only start within this time period. This is used for off-peak charging setting.

If you want to charge out of this period, just press the forced on/off button at the side of the charger.


Fig.21

(25) DC residual current sampling value calibration. Enter 0 and press "Set and Reboot" to calibrate the DC RCD ring.

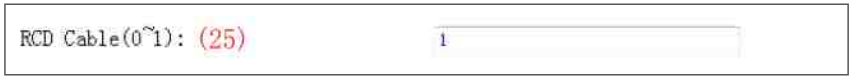



Fig.22

(26) (34) Bluetooth setting. Only needs setting when the charger is equipped with Bluetooth.

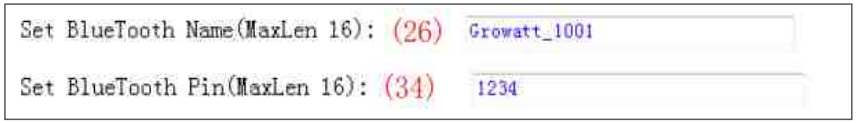



Fig.23

(27) (28) (35) 4G connection setting.

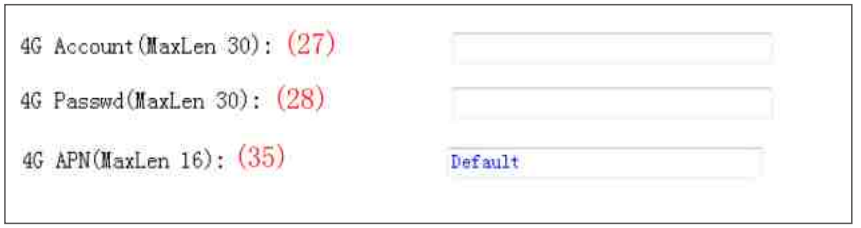



Fig.24

(31) This is for communication testing, no need to reset.


Fig.25

(33) DC residual current real-time detection value.


Fig.26

(36) Press this button for the parameter change to take effect.


Fig.27

(37) This is used to upgrade firmware.

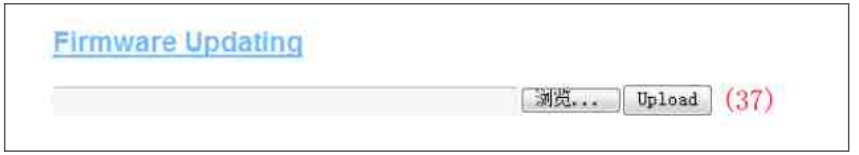



Fig.28

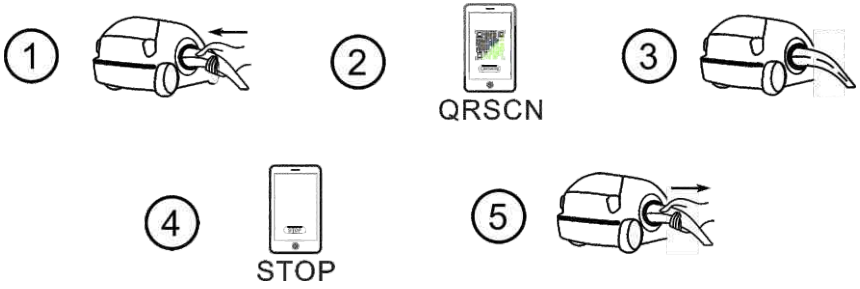


# V. Operation instruction and LCD description

## 5.1 Charging mode and Operation

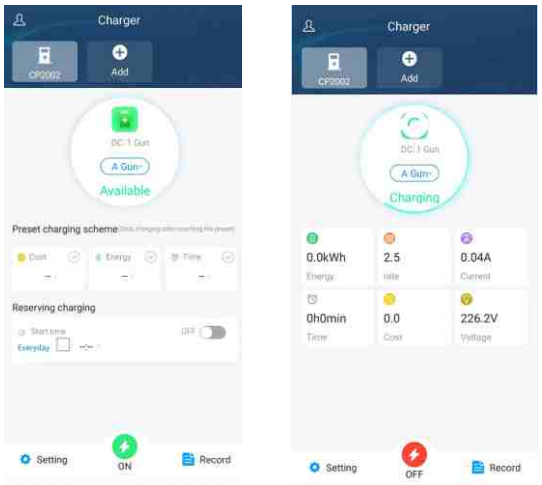
APP/RFID mode:

Initiate or cease charging by scanning QR code using APP or by swiping RFID card. You can also use APP for reservation and payment provided that the back-office server supports such functions.



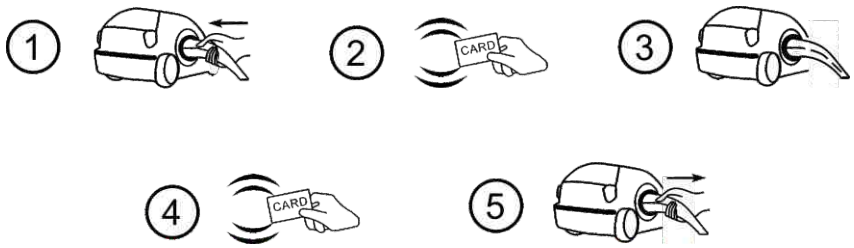

APP/RFID mode operation process flow

If you are using the ATESS APP, Charging can be started/stopped by pressing the ON/OFF button on the APP.



RFIDmode:

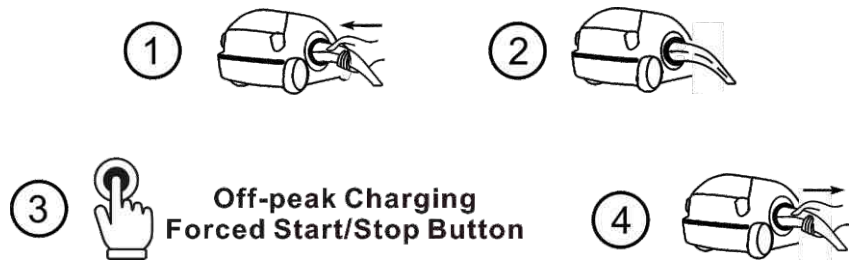
Charging can only be initiated orceased by swiping RFID card.




RFID mode operation process flow

Plug&Charge:

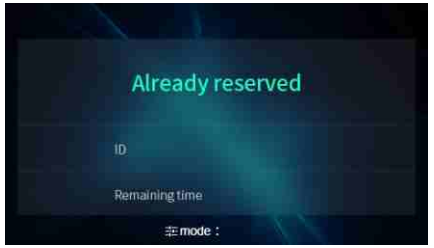
Charging will start automatically after EV plugged in.If you want to stop the charging,just press the forced on/off button on the side of the charger.




Plug&Charge mode operation process flow

## 5.2 LCD interface introduction

| | |
|---|---|
|  | Interface of standby status.<br>Charging mode is displayed at the bottom centre of the screen. |
|  | Interface of user card information<br>Displayed for user to check card ID and balance when swiping RFID card while EV is not connected |
|  | Interface of charging status.<br>Displayed when the charging is being carried out. There is charging time, consumed electricity, charging cost on it, as well as real-time charging voltage and charging current. |
|  | Interface of charging complete.<br>Displayed when the EV stops charging, or forced on/off button is pressed on charger side. |

| | |
|---|---|
|  | **Interface of billing.**<br>After scanning QR code or swiping RFID card for billing, this interface will open up to display user ID/charging time/cost/balance, etc.This interface will also come out when you stop charging on the ATESS APP or when you press the forced on/off button or unplug the gun at Plug&Charge mode. |
|  | **Interface of fault status.**<br>Displayed with fault code and fault description when fault occurs. |
|  | **Interface of reserved status.**<br>If the back-office server and APP support reservation function and the charger is reserved, this interface will come out showing user ID and remaining time to reserved time. |



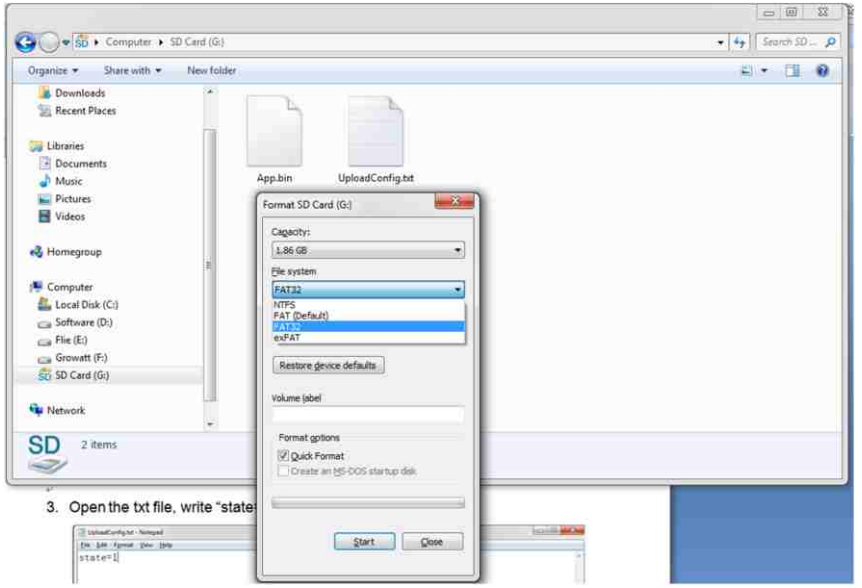
# VI. Firmware update

There are 2 ways to update firmware for EV charger
1. Update by SD card
2. Update on parameter setting page

## 6.1 Update by SD card

The firmware file must be named as "App.bin".

1. Prepare a microSD card with capacity not greater than 4G. Format the SD card using FAT32.




2. In the root directory of the SD card, rename the firmware file as "App.bin". And create a txt file with name of "UploadConfig.txt".

3. Open the txt file, write “state=1” in it and save the file.


4. Insert the SD card into the charger, turn off and back on the charger, the update will start automatically. The indicator will first flash red and then flash green with a long beep as the end of the update(sometimes the beep sound may not be clearly heard). After the update is done, turn off the charger and remove the SD card.

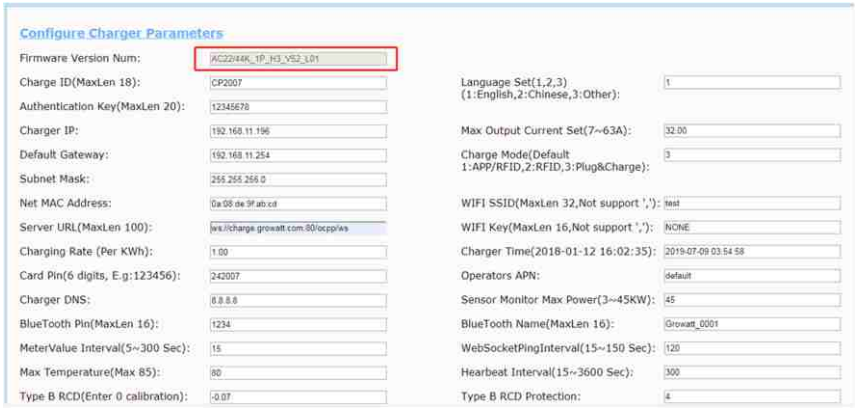
Micro SD slot of 22kW charger

5. Check the current FW version on LCD or the parameter setting page.

To check FW version on the paramete setting page

Connect the charger to computer via a network cable, the computer’s IP must be within the 192.168.1.x segment(x is any value between 1 and 255 except 5).Open the web browser, type in the charger’s default IP of “http://192.168.1.5:8080” and click enter, then you can check the firmware version on the appeared parameter setting page.






## 6.2 Update on parameter setting page

Using this method for update doesn’t require any specific name for the firmware file.

1. Connect the charger to a computer with IP address set as 192.168.1.x(x can be any value between 1 and 255 except 5) via a network cable. Open web browser and type in the charger’s default IP address–http://192.168.1.5:8080, click enter then you’ll get into the parameter setting page.


2. Scroll down to the below field.

3. Click the upload button and select the firmware file. Click "Upload", then update will start automatically.


During the update, the LED indicator will behave as below,

First flash red and goes out with a short beep sound, during this period the firmware file is transmitted to the charger's flash memory from the computer;

Then flash red again for some seconds and quickly change to green light flashing. During this period, the charger is updating the firmware to its micro controller.

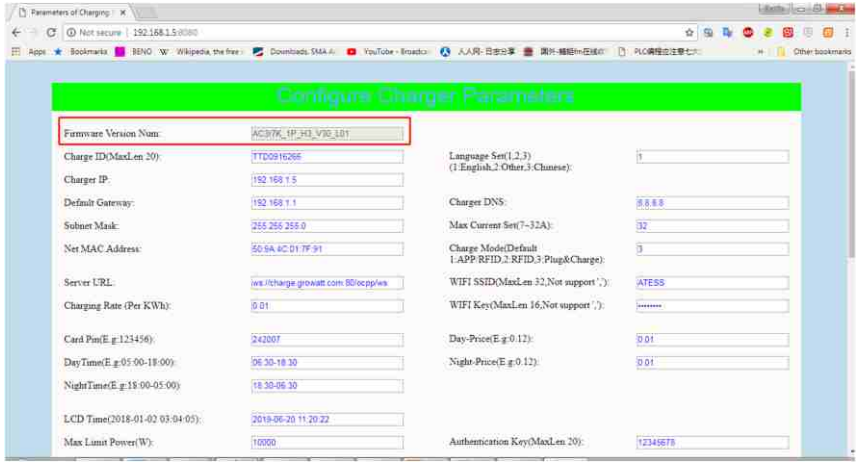
When the greenlight goes out, there will be a long beep sound. That means the firmware is successfully updated.

The beep sound may not be audible with the front cover fixed on the charger.

If the update doesn't start after click "Upload", Turn off and back on the charge to try again.

4. You might see below content. If the charger is already successfully reboot after the firmware update, close the browser and open it again to check the current firmware version.








# VII. Troubleshooting

## 7.1 Troubleshoot by LED behavior or LCD display

If fault occurs, users can check the fault information on the LCD or by the number of blinks of the LED indicator light. Each fault is indicated with a sequence of different numbers of LCD blinking. A pause of 3 seconds between each sequence indicates the beginning or end of a sequence. If multiple faults happen at the same time, each sequence of blinking shows in chronological order at an interval of 3 seconds.

Please see the table below for detail information

| No. | Fault code on LCD (if available) | Number of blinks of the LED | Fault description |
|---|---|---|---|
| 1 | 100 | 3 | The red emergency stop button is pressed or broken |
| 2 | 101 | 1 | Over voltage on phase L3 |
| 3 | 102 | 2 | Under voltage on phase L3 |
| 4 | 103 | 1 | Over voltage on phase L2 |
| 5 | 104 | 2 | Under voltage on phase L2 |
| 6 | 105 | 1 | Over voltage on phase L1 |
| 7 | 106 | 2 | Under voltage on phase L1 |
| 8 | 107 | 2 | Under voltage on all 3 phases |
| 9 | 108 | 4 | Over current |
| 10 | 109 | 5 | Over temperature |
| 11 | 110 | 6 | DC leakage current detected |
| 12 | 111 | 7 | RS485 communication fault |
| 13 | 112 | | Reserved |
| 14 | 113 | | Reserved |
| 15 | 114 | 10 | Relay fault |
| 16 | 115 | | Reserved |
| 17 | 116 | | Reserved |
| 18 | 117 | | Reserved |
| 19 | 1000 | | Other faults |

## 7.2 Firmware update fails

7.2.1 Firmware update failure with SD card:

a. Check if the capacity is over 4G bytes,please use a SD card of less than 4G to retry;

b. Check if the SD card is formatted with FAT32;

c. Check if the firmware file is renamed as App.bin;

d. Check if you have filled in "state=1" in the UploadConfig.txt file.

7.2.2 Firmware update failure with laptop:

Please try with IE browser. Or reboot the laptop to retry.

## 7.3 WiFi connection&APP issue

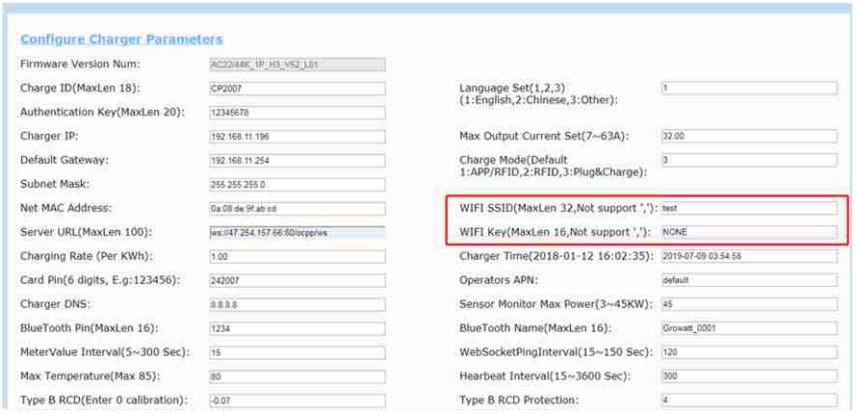

a. Check WiFi signal strength;

Signal strength on PC:

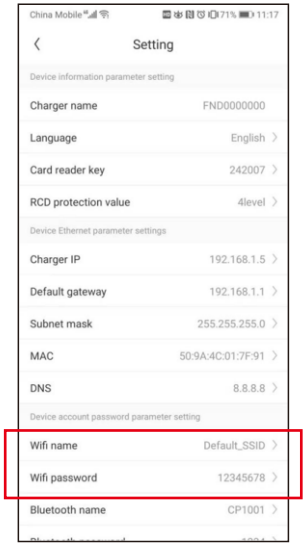
Signal strength on mobile:



b. Please check and input the correct WiFi SSID and password to retry;



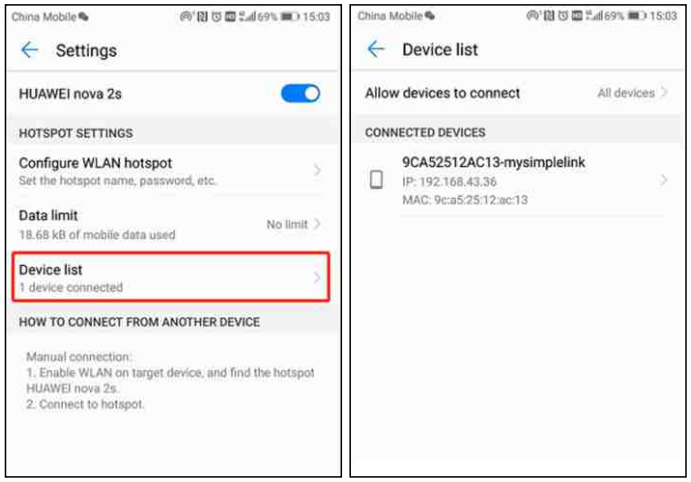

If you check the WiFi setting on the APP, please turn off and back on the charger and connect your mobile to the WiFi emitted by the charger for checking and setting.




c. Check if there is access control in the router, e.g. MAC filtering, port blocking, etc.

To verify this, you can use your mobile phone to create a hotspot and try to connect the charger to this mobile hotspot. If charger can connect to the hotspot, but cannot connect to the router, there must be access control in the router, please check with the site owner for this.

Check if charger is connected on Device list of the hotspot setting page

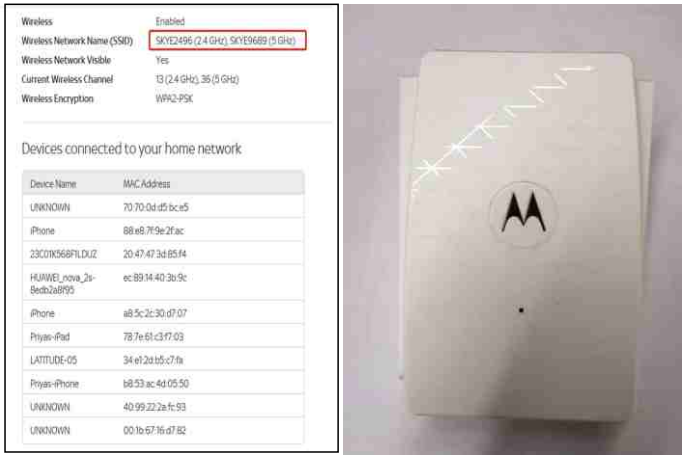



d. 1. Some routers have 2 WiFi, one is 2.4GHz, the other is 5GHz. Most homes just use the 5GHz WiFi as their default WiFi. But the charger can only connect to the 2.4GHz WiFi. So if the charger can connect to your mobile phone hotspot, but cannot connect to the home WiFi. Please check with the home owner or check on their router to see if you are using the 5GHz WiFi. Please do use the 2.4GHz WiFi for charger connection.

2.When the WiFi signal strength is lower than - 75dbm, the charging point will not be able to connect with WiFi.

(1)Download the WiFi signal strength test tool from the app store to check whether the WiFi signal strength connected to the charging point is greater than - 75dbm.

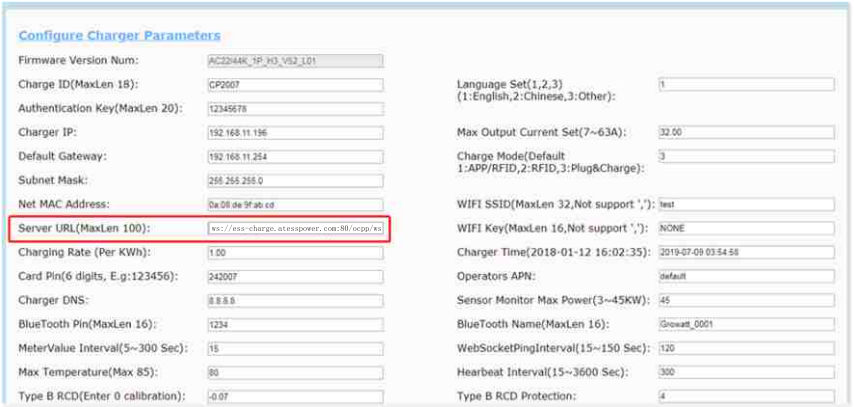
(2)If the WiFi signal strength is weak, it is recommended to use AP repeater to increase the signal strength, which can enlarge the WiFi signal range.






e. Check if the charger is still connected to the computer. Please unplug it from computer otherwise the charger won't connect to the back-office server.

f. Check if server address is correct in the"Server URL" field. The correct setting is : ws://ess-charge.atesspower.com:80/ocpp/ws




## 7.4 Cannot accessparameter setting page

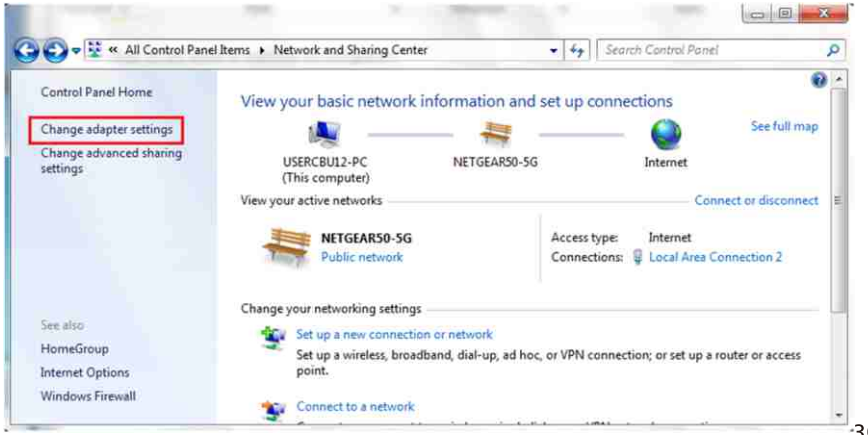
a. Check if you have connected the charger to your computer,

b. Check if you have change the computer's IP to 192.168.1.x(x can be any value between 1 and 255 except 5).

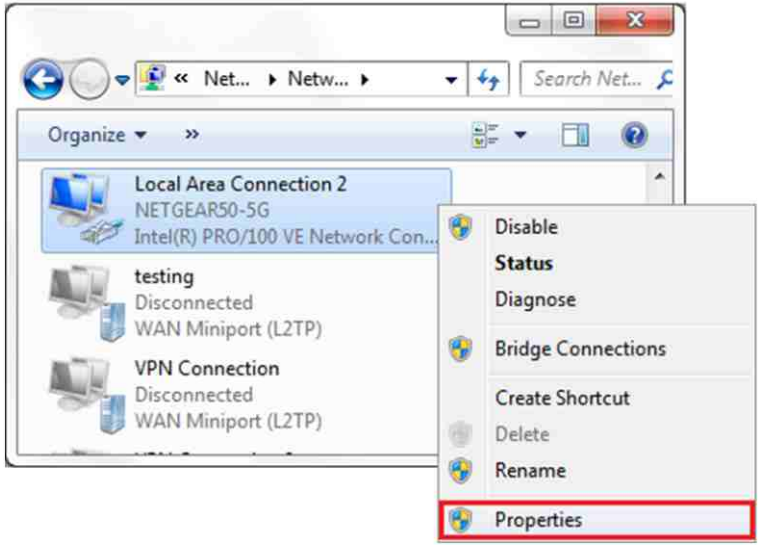
To set a static IP on your Windows computer:

(1). Click Start Menu>Control Panel>Network and Sharing Center. (For Windows 8 and higher, search for and open Control Panel and select Network and Internet).

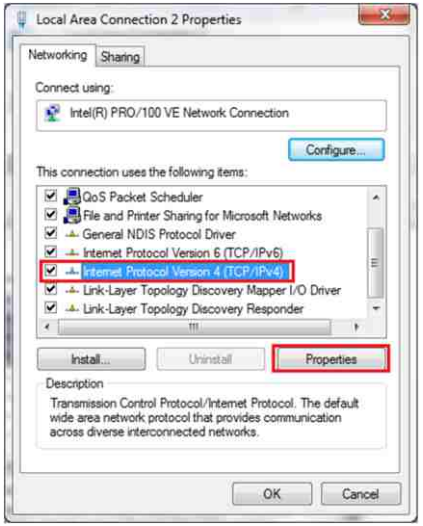
(2). Click Change adapter settings.



(3). Right-click on Local Area Connection and click on Properties.

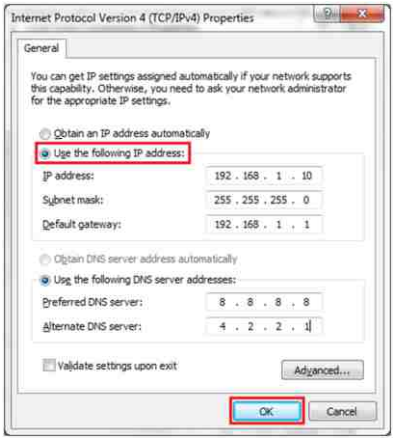



(4). Select Internet Protocol Version 4 (TCP/IPv4) and click on Properties.




(5). Select "Use the following IP address" and enter the IP address, Subnet Mask, Default Gateway. Click OK and close the Local Area Connection properties window.






c. Check what web browser is being used, it's suggested to use Firefox or IE, Chrome cannot be used to update firmware.

d. Check if you have input the complete content, which is http://192.168.1.5:8080, in the address field, do not leave out the http:// or the":8080".

e. Sometimes you may need to restart the charger to access its parameter setting page.

f. If you have changed the charger's IP to other value and cannot remember, you can restore the charger to factory setting by long press the reset button. Then you can access it using http://192.168.1.5:8080


**Please note:** After restoring the charger to factory setting, you'll need to reset the charger ID and server url, otherwise the charger won't be connected to the back-office server.

## 7.5 Charging issue

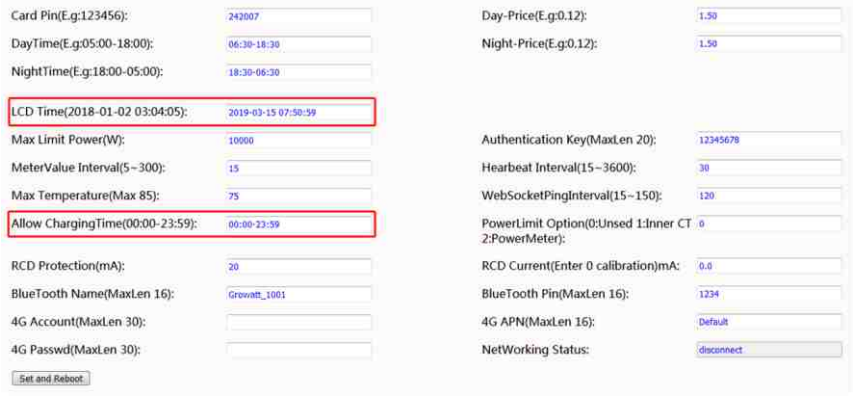
If charging cannot start after the car is plugged in,
a. Check if the red emergency stop button is pressed.
b. Check what charge mode is being used

**APP/RFID:** Charge can only be started/stopped by APP or RFID card, and the charger must be connected to the back office server already;

**RFID:** Charge can only be started/stopped by RFID card;

**Plug&Charge:** Charge will start automatically when car is plugged in.


c. Check if off-peak charging is set and if charger's time is correct.
If off-peak charging is set, charge can only start within the charging allowed time period.






# VIII. Use excess solar power to charge your car

The charge point can work with grid-tied solar system, to detect and use the residual solar power to charge your car that otherwise would be fed back to grid. This can help increase the self-usage rate of the solar system and reduce electricity bill for the household.

The charge point supports 3 charge modes with grid-tied PV system: FAST, ECO and ECO+.

## 8.1 Introduction to the 3 modes for solar charge

**FAST Mode:** Charge at the rated power, the car can be fully charged in the shortest time at this mode.

**ECO Mode:**

（1）solar function set the power p range：Pe stands for rated power, P1 stands for Power Transferred to Power Grid by Photovoltaic.

1. The power of three-phase charger belongs to（5.3kW-Pe）.
2. The power of single-phase charger belongs to（1.8kW-Pe）.

（2）The condition of changing duty cycle of charger：P2

1. The power of three-phase charger P2=1000W
2. The power of single-phase charger P2=500W

（3）Operation mode：

1. when Initial charging,Permissible output power of charger p3(P3=P)
2. If P1 ＜P2, Permissible output power of charger P3.(Pe≥P3≥P)
3. IF P1≥P2, Charger will Increase Permissible Output Power, When detected during this process P1＜P2 or P3=Pe.Charger will stop increasing allowable output power, now the allowable output power of charger P3.(Pe≥P3≥P)

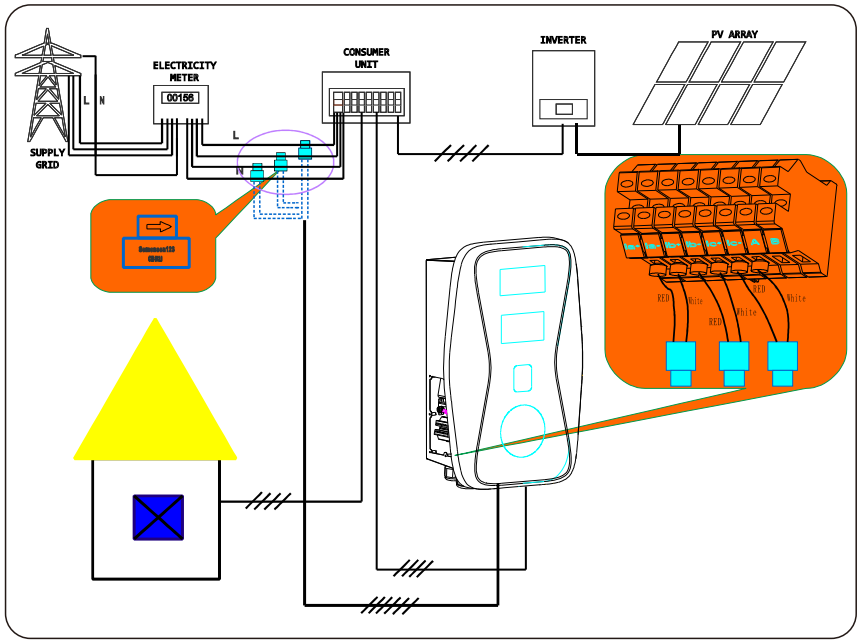
**ECO+ Mode:**

In this mode, the charging point only uses the electricity sent by the photovoltaic inverter to charge the electric vehicle. When the current sent by the inverter is less than 6A, the charging point will stop charging. Please choose this mode carefully.

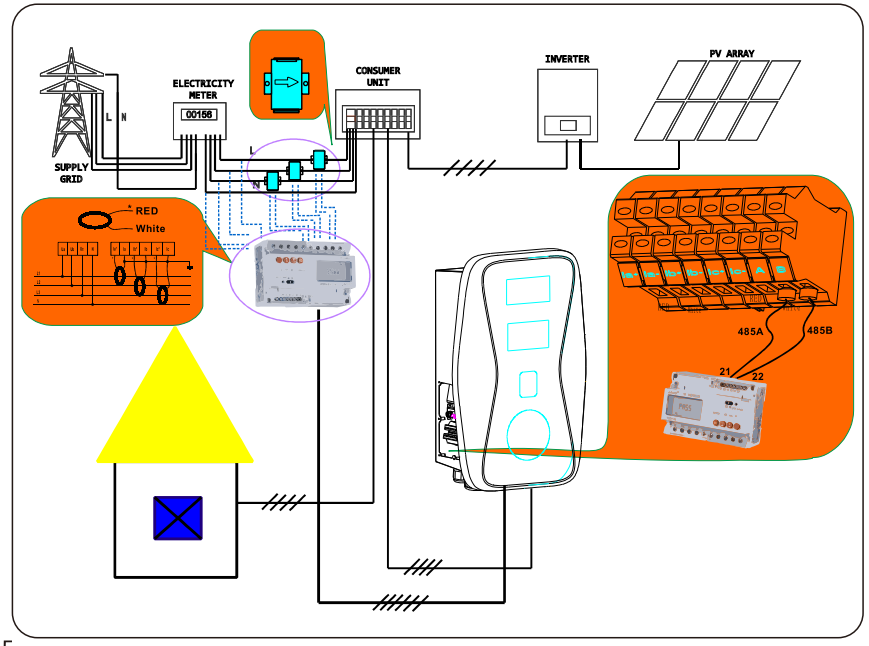
## 8.2 Wiring

To monitor the real-time power import and export, a CT or meter is needed for this function to work properly.

If CT is used, the wiring will be as below.



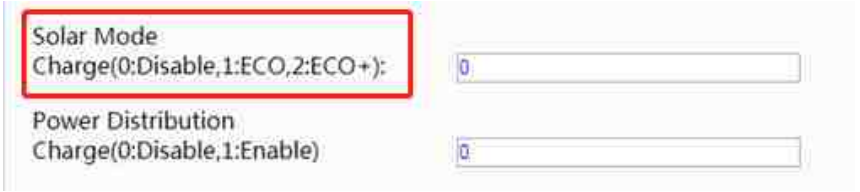

## 8.3 If meter is used, please wire it as below



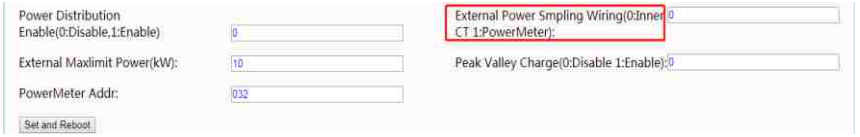

## 8.4 Parameter configuration for this function

(1) Connect the charge point to a laptop with a network cable, access the parameter setting page on the web browser of the laptop.

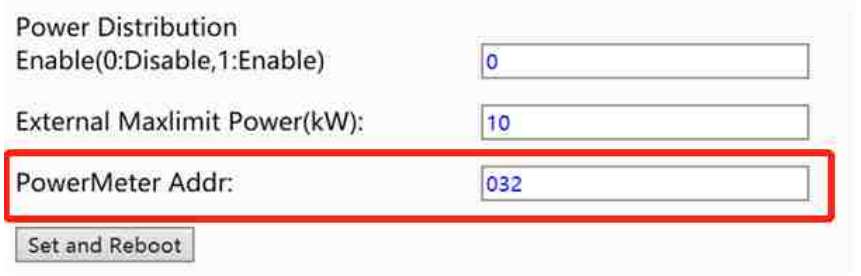
(2) Scroll down to find the following parameters Solar Mode, choose FAST, ECO or ECO+.




(3) Select CT or meter as sampling device of this solar charge function. Scroll down to find the option: External Power Sampling Wiring(0:Inner CT 1:PowerMeter). If CT is used, please set it to 0; if meter will be used, please set it to 1.




(4) If you choose the PowerMeter.Plesae change PowerMeter Addr to the address shown on the meter.

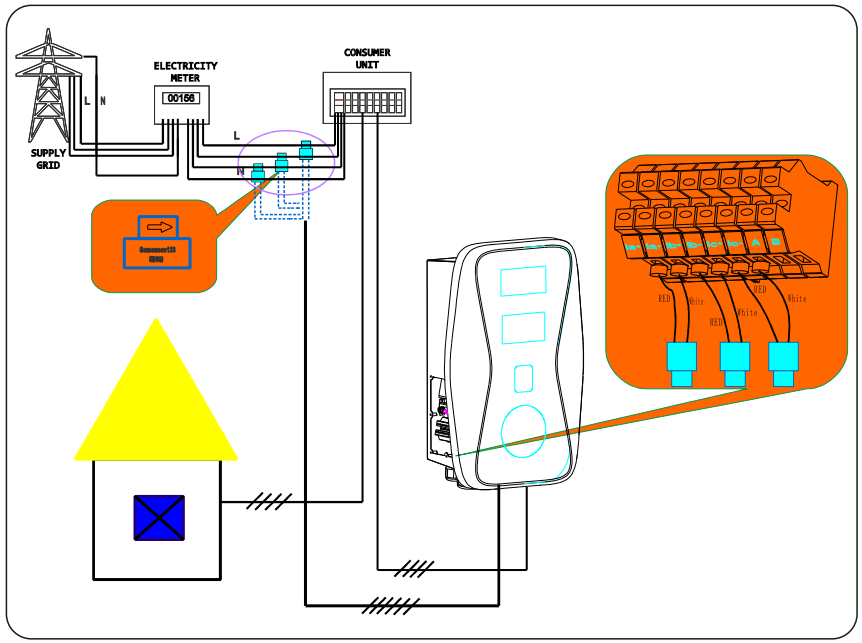


# IX. Intelligent power modulation

### Introduction

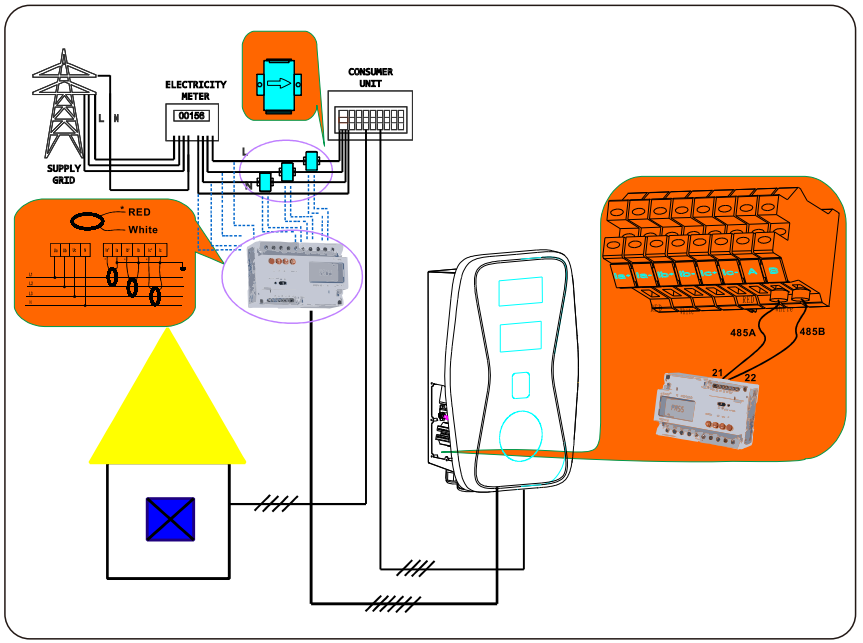
The charge point can monitor the total power consumption of the household during charging. If the power consumption approaches the preset max value, the charge point will reduce charge power to avoid the situation of main breaker trip due to overload. It will adjust the charging power dynamically and in real-time thus the car can always be charged with the maximum allowable power.

9.1 Similar with the solar charge function, a CT or meter is needed to detect the power import. If a CT is used, please wire it as below,





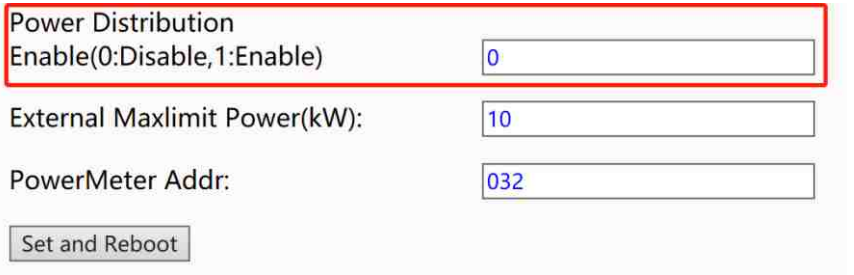

## 9.2 If a meter is used, the wiring will be as the following



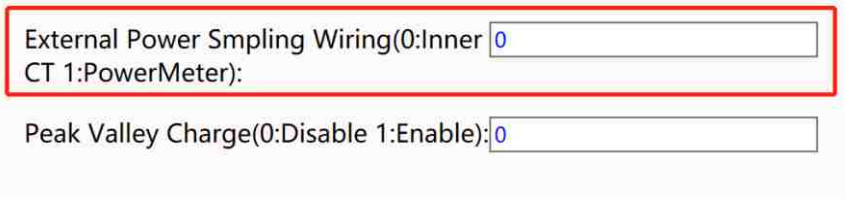

## 9.3 Parameter configuration for this function

(1) Connect the charge point to a laptop with a network cable, access the parameter setting page on the web browser of the laptop.

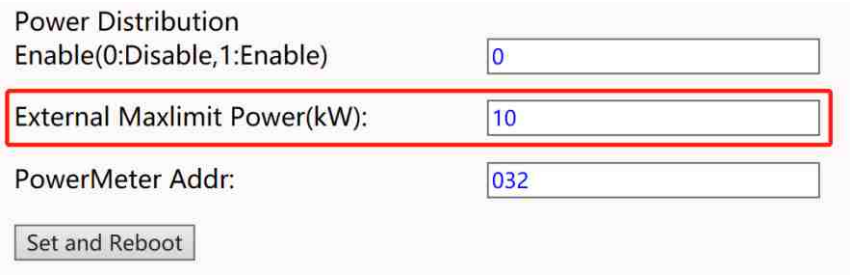
(2) Scroll down to find the following parameter: Power Distribution Enable(0:Disable, 1:Enable) and set it to 1 to activate the power modulation function.



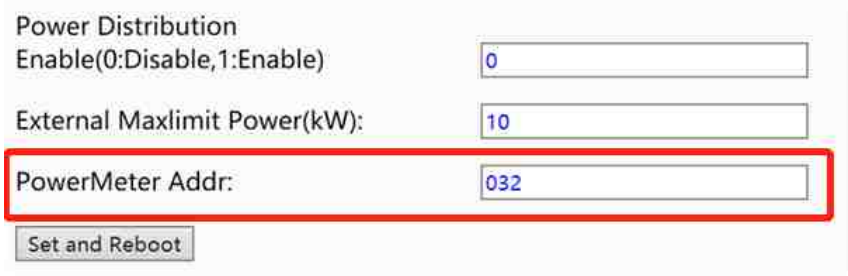
(3) Select power sampling device in the field of the parameter: External Power Sampling Wiring(0: Inner CT 1: PowerMeter). 0 means CT while 1 stands for meter.




(4) Set the maximum power import value in the field of External Maxlimit Power(kW). To avoid nuisance tripping of the main breaker, it is suggested to set this parameter slightly lower than the max supply power of the property. e.g. the max supply power is 15kW, you can set the max power import to 13kW or 14kW.




(5) If you choose the PowerMeter.Plesae change PowerMeter Addr to the address shown on the meter.






# X. Specification

| Model | EVA-11/22/44S |
|---|---|
| Dimension (mm) | 295/466/189(W*H*D) |
| Weight (kg) | <16 |
| Display | LCD |
| Casing Material | Stainless steel& Engineering plastics& Tempered glass |
| Input | |
| Voltage | AC 400V |
| Frequency | 50 Hz |
| Output | |
| Voltage | AC 400V |
| Max current | 16/32/63A |
| IP Protection degree | IP65 |
| Working environment temperature | -20℃~+50℃ |
| Relative humidity | 5%~95% |
| Altitude | <2000m |
| Communication | Ethernet/WIFI/4G |
| Payment | RFID/APP |
| Standby power | <8W |
| Standard | IEC-62196-2;EN61851 |
| Mounting | Wall/Pole |
| Certificate | CE |
| Protection features | |
| Over voltage | 457V |
| Under voltage | 310V |
| Over current | 20A/40A/78.75A |
| Short circuit | Yes |
| Leakage protection | Yes |
| Over temperature | Yes |
| Lightning protection | Type II |

# XI. Annex

## 11.1 Electrical diagram

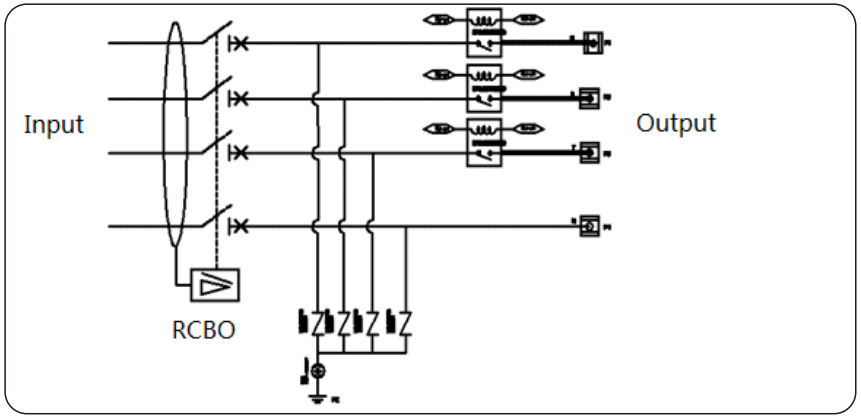



Fig11-1. Main circuit diagram

## 11.2 Contact

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