



ATESS EVA-03/07S
Single phase AC charging equipment
Quick user manual

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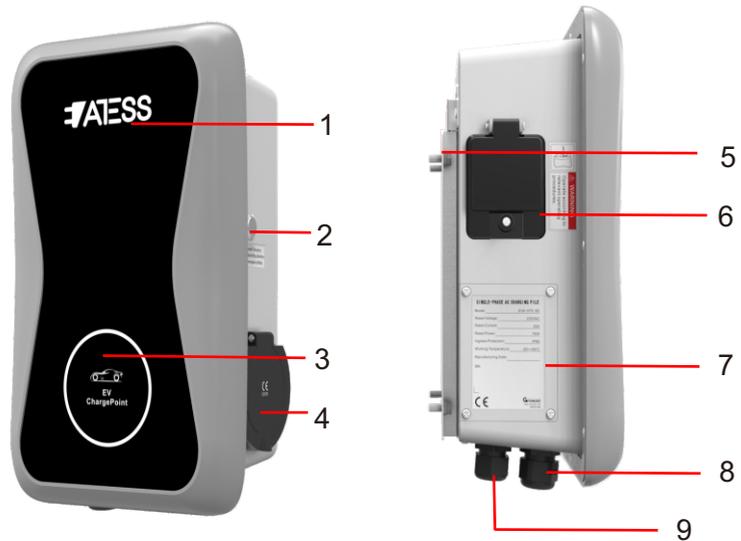
Thank you for using ATESS EV charging equipment!

EVA series intelligent single-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.

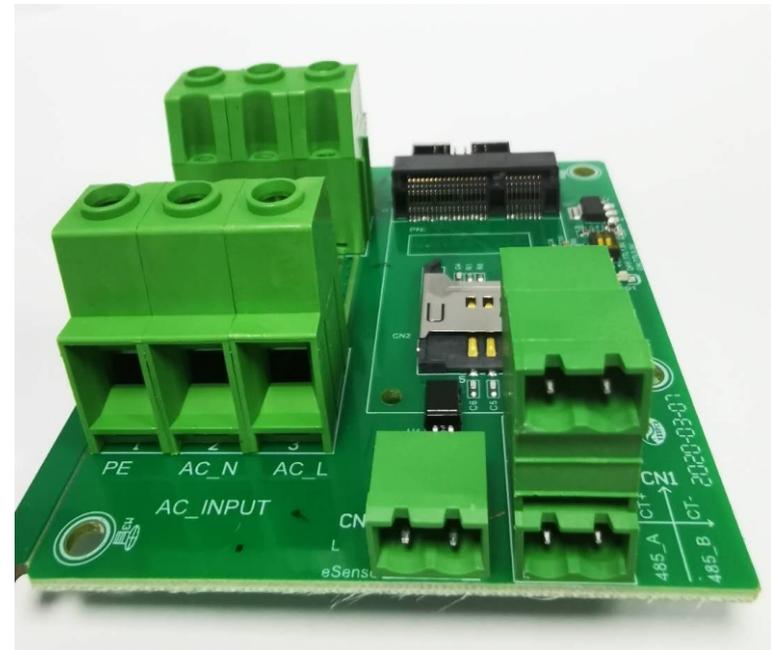
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I. Product description



Wiring definition in the side window



1. Terminal block for CT/meter wiring. The terminal definition is:
485-A/485-B is RS485 terminal for meter connection;
CT+ /CT- is for CT connection
2. AC input terminals. Terminal definition is:
AC-L/AC-N/PE
3. Peak&Off Peak Charging Enable signal is:
eSense L/N

- | | |
|--|--|
| 1.LOGO and LOGO backlight; | 5.Mounting bracket; |
| 2.Forced on/off button; | 6.Side window/RCD |
| 3.Status indicator
(Indicator flashes when charging); | 7.Side window nameplat; |
| 4.Socket outlet(plug holder for
cabled version); | 8.Waterproof cable gland for
communication wires; |
| | 9.Waterproof cable gland for
AC input cables |

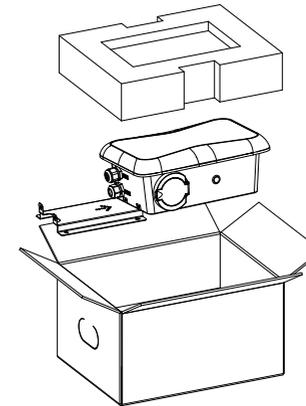
II. Packaging list

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 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 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

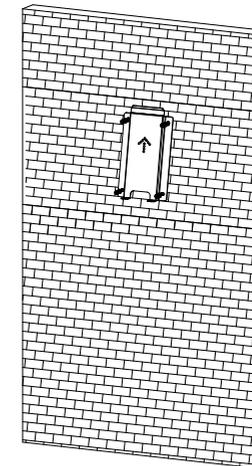
III. Installation and wiring

3.1 Mount on a wall

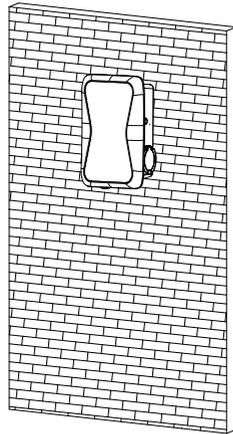
3.1.1 Open the packaging, you'll see a charge point, a mounting bracket, a user manual and a bag of mounting accessories. There is also an RFID card if the charge point is RFID version. For cabled version, a cable hook is also included inside.



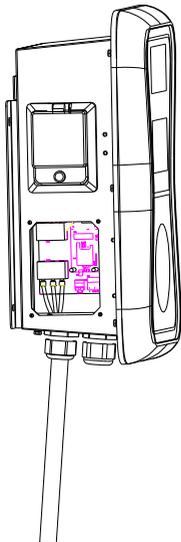
3.1.2 Remove the mounting bracket from the charge point, use it as a template to mark the position of the drill holes. Drill the holes and hammer the expansion bolts in the accessories bag into the holes. Then fix the mounting bracket onto the wall.



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.



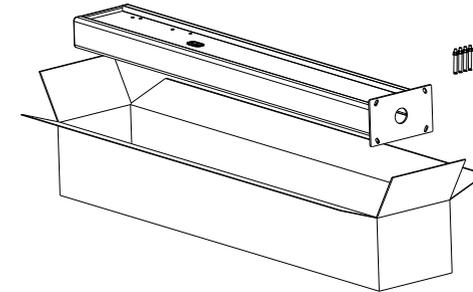
3.1.4 Crimp the below shown insulated ferrule or ring terminals on the end of the AC input wires. Connect the wires into the terminal block of the charge point as below. Check the wiring and then close the RCD in the side window. Close the side window with the cover, then the wiring is done.



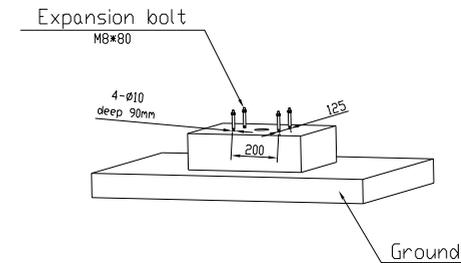
	Model	L	N	PE
Terminal	3K			
	7K			
Wire	3K	≥2.5mm ² ≥AWG12	≥2.5mm ² ≥AWG12	≥2.5mm ² ≥AWG12
	7K	≥6mm ² ≥AWG9	≥6mm ² ≥AWG9	≥6mm ² ≥AWG9

3.2 Mount on a pole

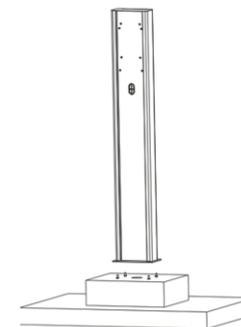
3.2.1 Open the packaging of the pole, take out the pole and mounting accessories.



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 holes according to the requirements marked on the illustration for fixing expansion bolts.



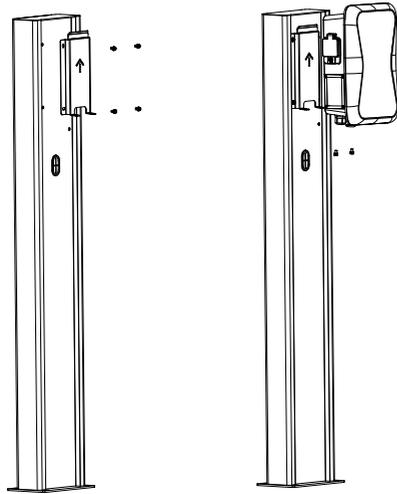
3.2.3 Fix the pole onto the holes with expansion bolts. The input cables shall go into the pole from the bottom middle area and come out of it from the area below the cable hooker.



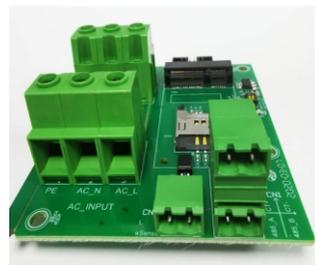
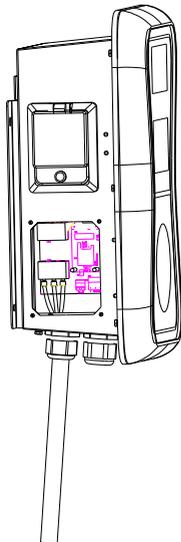
IV. Parameter setting

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 RCD in the side window. Close the side window with the cover, then the wiring is done.



	Model	L	N	PE
Terminal	3K			
	7K			
Wire	3K	≥2.5mm ² ≥AWG12	≥2.5mm ² ≥AWG12	≥2.5mm ² ≥AWG12
	7K	≥6mm ² ≥AWG9	≥6mm ² ≥AWG9	≥6mm ² ≥AWG9

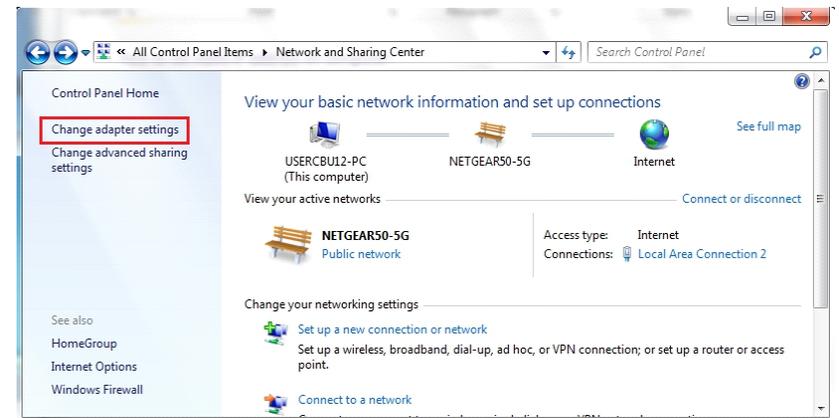
After the installation and wiring is done, connect the Charger to a computer and configure parameters via the web browser of the computer, then the Charger can be ready for use.

4.1 Set computer's IP

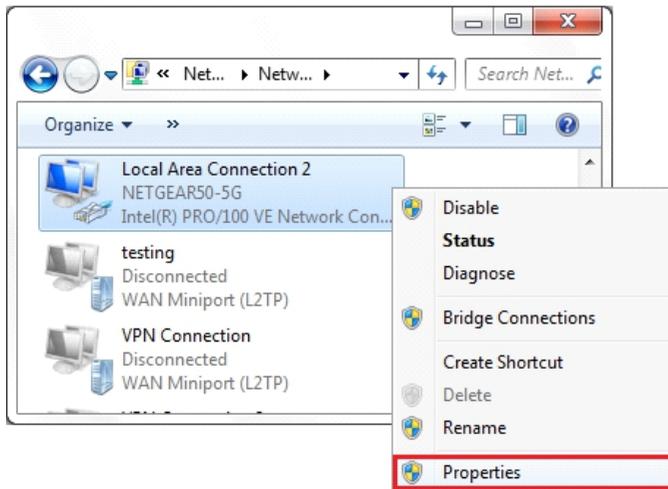
The Charger's default IP address is 192.168.1.5. To access the parameter setting interface, you'll need to first set the computer's IP to 192.168.1.x(x can be any value between 1 and 255 except for 5, e.g. 192.168.1.10).

To set a static IP on your Windows computer:

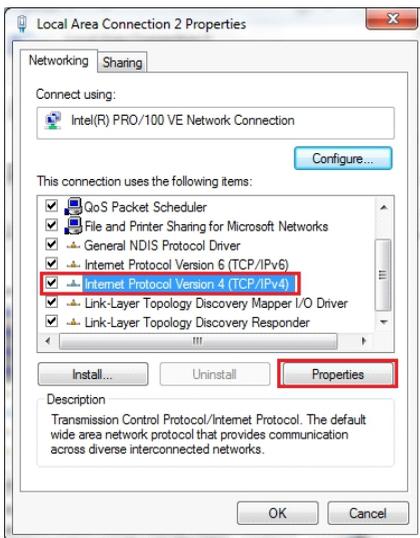
1. Click Start Menu > Control Panel > Network and Sharing Center. (For Windows 8 and higher, search for and open Control Panel and select Network and Internet).
2. Click Change adapter settings.



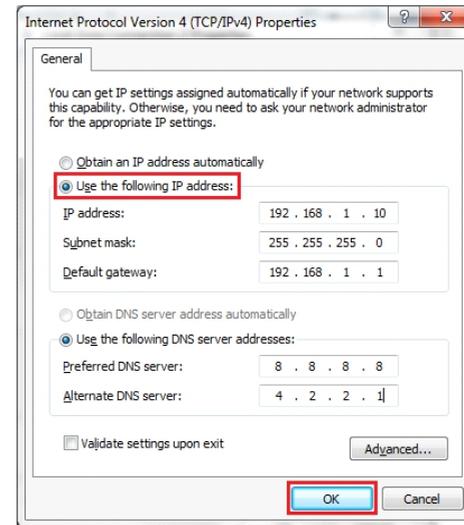
3.Right-click on Local Area Connection and click on Properties.



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



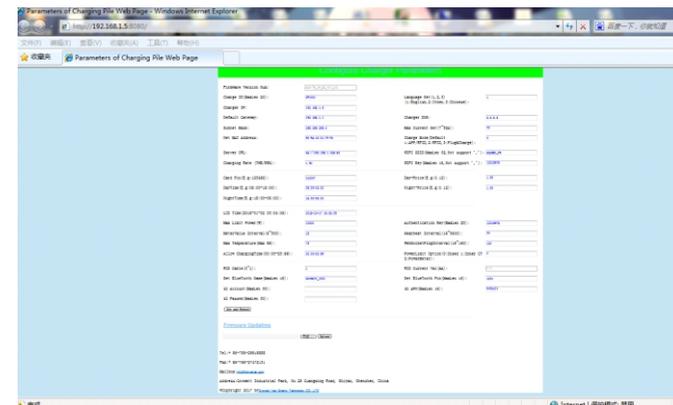
5.Select "Use the following IP address" and enter the IP address, Subnet Mask, Default Gateway. Click OK and close the Local Area Connection properties window.



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

Configure Charger Parameters

Firmware Version Num: (1)	AC3/TK_IP_H2_V17_L01	Language Set(1,2,3) (13)	1
Charge ID(MaxLen 20): (2)	CP1001	(1:English, 2:Other, 3:Chinese):	
Charger IP: (3)	192.168.1.5	Charger DNS: (14)	8.8.8.8
Default Gateway: (4)	192.168.1.1	Max Current Set(7~32A): (15)	32
Subnet Mask: (5)	255.255.255.0	Charge Mode(Default) (16)	3
Net MAC Address: (6)	60:9A:4C:01:7F:91	1:APP/RFID, 2:RFID, 3:Plug&Charge):	
Server URL: (7)	ws://192.168.1.228:80	WiFi SSID(MaxLen 32,Not support (17):	SHOWEIP9
Charging Rate (THB/kWh): (8)	1.50	WiFi Key(MaxLen 16,Not support (19):	12345678
Card Pin(E.g:123456): (9)	242007	Day-Price(E.g:0.12): (19)	1.50
DayTime(E.g:05:00-18:00): (10)	06:30-18:30	Night-Price(E.g:0.12): (20)	1.50
NightTime(E.g:18:00-05:00): (11)	18:30-06:30		
LCD Time(2018-01-02 03:04:05): (12)	2018-12-17 16:08:09		

Enlarged view of parameter setting page_1

Max Limit Power(W): (21)	10000	Authentication Key(MaxLen 20): (29)	12345678
MeterValue Interval(5~300): (22)	15	Hearbeat Interval(15~3600): (30)	30
Max Temperature(Max 85): (23)	75	WebSocketPingInterval(15~150): (31)	120
Allow ChargingTime(00:00-23:59): (24)	00:00-23:59	PowerLimit Option(0:Unsed 1:Inner CT 2:PowerMeter): (32)	0
RCD Cable(0~1): (25)	1	RCD Current Val(mA): (33)	0.0
Set Bluetooth Name(MaxLen 16): (26)	Growatt_1001	Set Bluetooth Pin(MaxLen 16): (34)	1234
4G Account(MaxLen 30): (27)		4G APN(MaxLen 16): (35)	Default
4G Passwd(MaxLen 30): (28)			
Set and Reboot: (36)			

Firmware Updating

浏览... Upload (37)

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.

Firmware Version Num: (1) AC3/TK_IP_H2_V17_L01

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.

Charge ID(MaxLen 20): (2) CP1001

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.

Charger IP: (3) 192.168.1.5

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.

Default Gateway: (4) 192.168.1.1

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.

Subnet Mask: (5)	<input type="text" value="255.255.255.0"/>
------------------	--

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

Net MAC Address: (6)	<input type="text" value="50:9A:4C:01:7F:91"/>
----------------------	--

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.

Server URL: (7)	<input type="text" value="ws://192.168.1.228:80"/>
Authentication Key(MaxLen 20): (29)	<input type="text" value="12345678"/>
Hearbeat Interval(15~3600): (30)	<input type="text" value="30"/>

Fig.7

(8) Charging fee per unit of electricity.

Charging Rate (THE/KWh): (8)	<input type="text" value="1.50"/>
------------------------------	-----------------------------------

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.

Card Pin(E. g:123456): (9)	<input type="text" value="242007"/>
----------------------------	-------------------------------------

Fig.9

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

DayTime(E. g:05:00-18:00): (10)	<input type="text" value="06:30-18:30"/>
---------------------------------	--

Fig.10

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

NightTime(E. g:18:00-05:00): (11)	<input type="text" value="18:30-06:30"/>
-----------------------------------	--

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.

LCD Time(2018-01-02 03:04:05): (12)	<input type="text" value="2018-12-17 16:08:09"/>
-------------------------------------	--

Fig.12

(13) Language of LCD screen.

Language Set(1, 2, 3) (13) (1:English, 2:Other, 3:Chinese):	<input type="text" value="1"/>
--	--------------------------------

Fig.13

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

Charger DNS: (14)	<input type="text" value="8.8.8.8"/>
-------------------	--------------------------------------

Fig.14

(15) Set the max output of the charger.

Max Current Set(7~32A): (15)

Fig.15

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

Charge Mode(Default (16)
1:APP/RFID, 2:RFID, 3:Plug&Charge):

Fig.16

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

WiFi SSID(MaxLen 32, Not support (17):
WiFi Key(MaxLen 16, Not support (18):

Fig.17

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

Day-Price(E. g:0.12): (19)
Night-Price(E. g:0.12): (20)

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.

Max Limit Power(W): (21)
PowerLimit Option(0:Unused 1:Inner CT 2:PowerMeter): (32)
MeterValue Interval(5~300): (22)

Fig.19

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

Max Temperature(Max 85): (23)

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.

Allow ChargingTime(00:00-23:59): (24)

Fig.21

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

RCD Cable(0~1): (25)

Fig.22

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

Set BlueTooth Name(MaxLen 16): (26)
Set BlueTooth Pin(MaxLen 16): (34)

Fig.23

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

4G Account(MaxLen 30): (27)
4G Passwd(MaxLen 30): (28)
4G APN(MaxLen 16): (35)

Fig.24

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

WebSocketPingInterval (15~150): (31)

Fig.25

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

RCD Current Val (mA): (33)

Fig.26

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

(36)

Fig.27

(37) This is used to upgrade firmware.

[Firmware Updating](#)
 (37)

Fig.28

V. Operation instruction

5.1 Charging mode and Operation

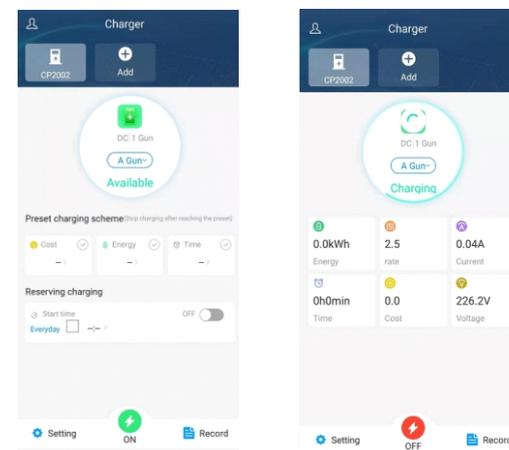
APP/RFID mode:

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.



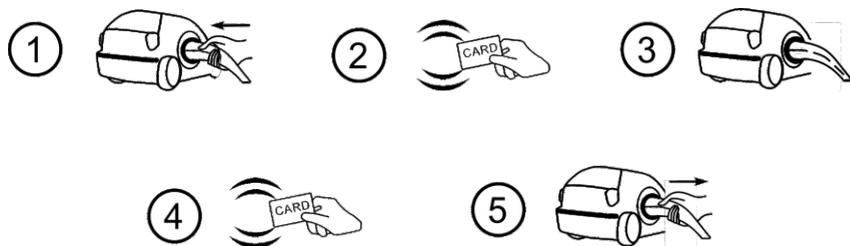
APP/RFID mode operation process flow

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



RFID mode:

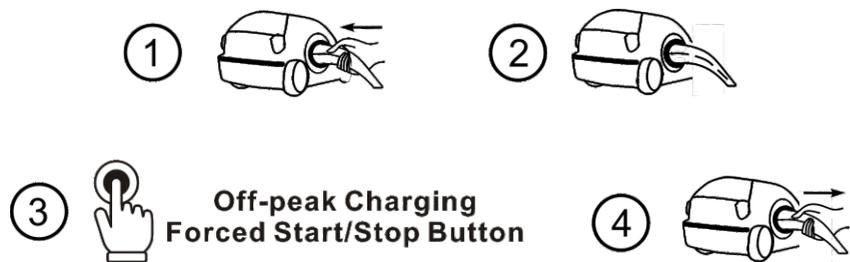
Charging can only be initiated or ceased by swiping RFID card.



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

VI. Firmware update

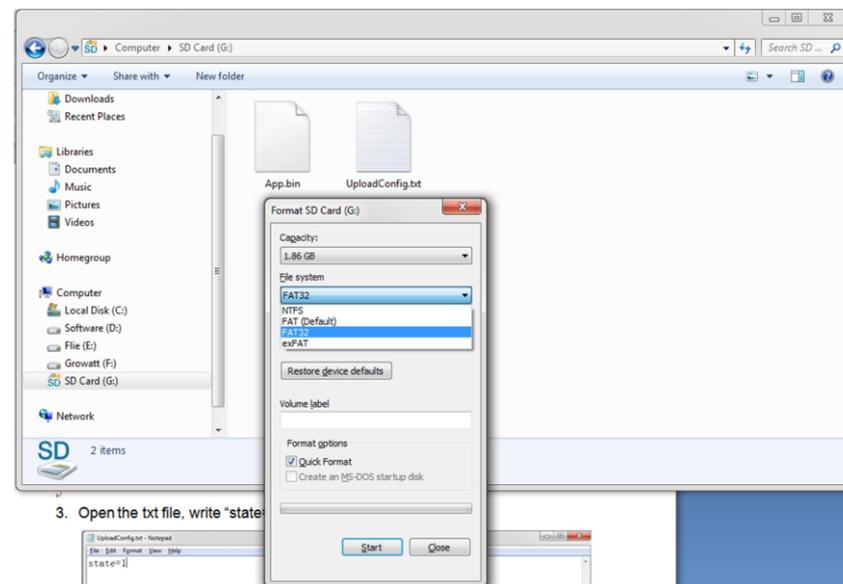
There are 2 ways to update firmware for EV charger,

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.



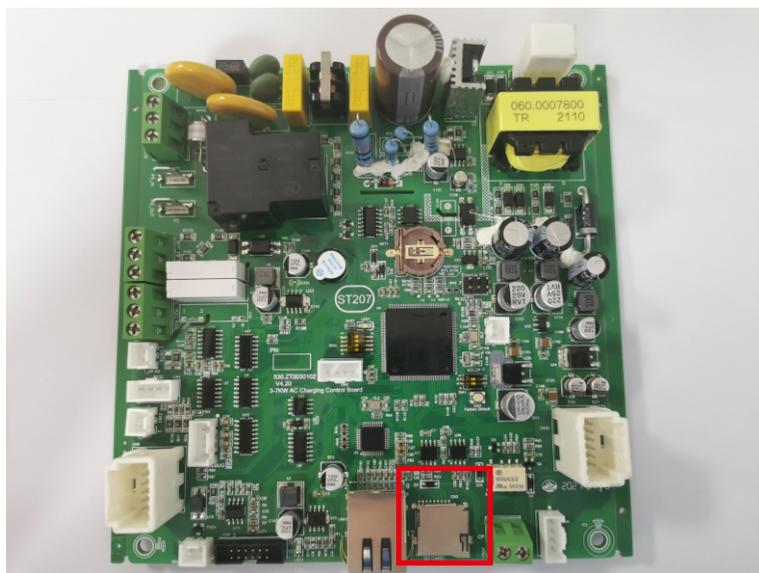
2. In the root directory of the SD card, rename the firmware file as "App.bin". And create a txt file with name of "UploadConfig.txt".

App.bin	2018/12/5 15:58	BIN 文件	168 KB
UploadConfig.txt	2018/12/6 15:04	文本文档	0 KB

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.

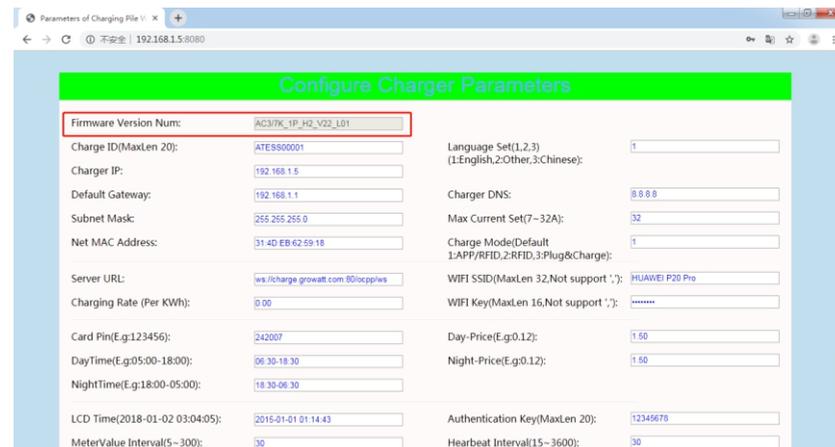


MicroSD slot of 7kW charger

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

To check FW version on the parameter 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.



VII. Troubleshooting

3. Click the “browse” 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;

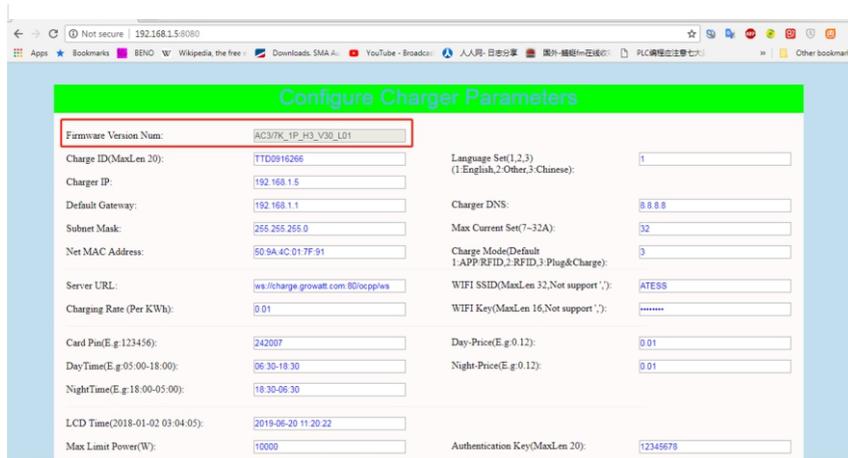
Then flash red again for some seconds and quickly change to green light flashing. During this period, the charger is updating the firmware to its micro controller.

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.



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	105	1	Over voltage on phase L1
3	106	2	Under voltage on phase L1
4	108	4	Over current
5	109	5	Over temperature
6	110	6	DC leakage current detected
7	111	7	RS485 communication fault
8	112		Reserved
9	113	9	Type A switch fault
10	114	10	Relay fault
11	115	11	PE fault
12	116	12	PEN fault
13	117		Reserved
14	1000		Other fault

7.2 Firmware update fails

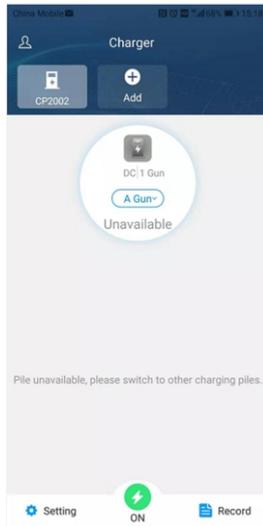
7.2.1 Firmware update failure with SD card:

- Check if the capacity is over 4G bytes, please use a SD card of less than 4G to retry;
- Check if the SD card is formatted with FAT32;
- Check if the firmware file is renamed as App.bin;
- 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



- Check WiFi signal strength;

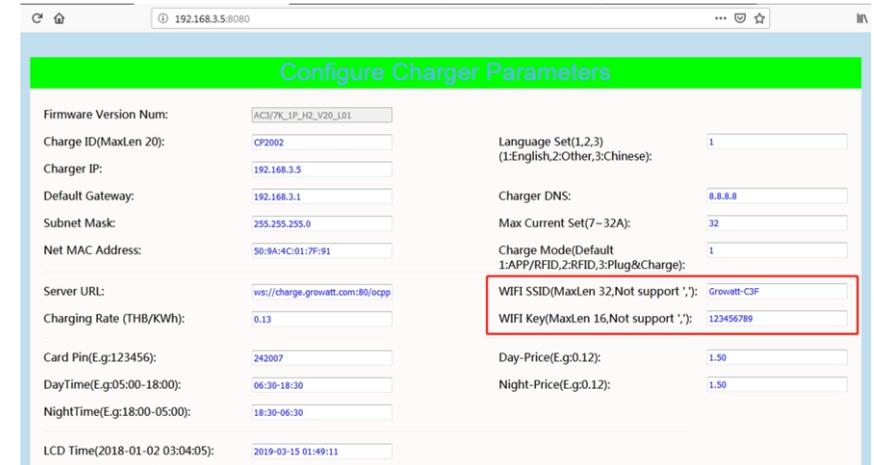
Signal strength on PC:



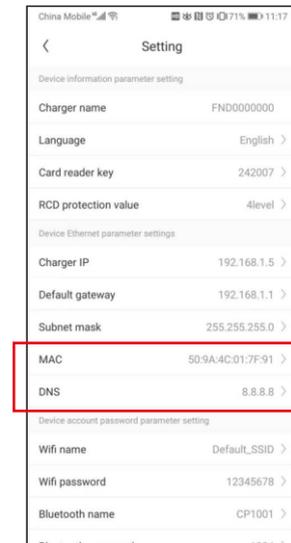
Signal strength on mobile:



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



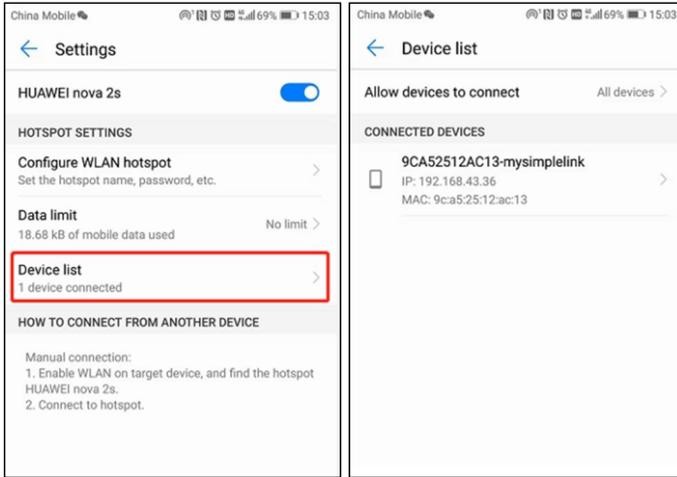
If you check the WiFi setting on the APP, please turn off and back on the charger and connect your mobile to the WiFi emitted by the charger for checking and setting.



- 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

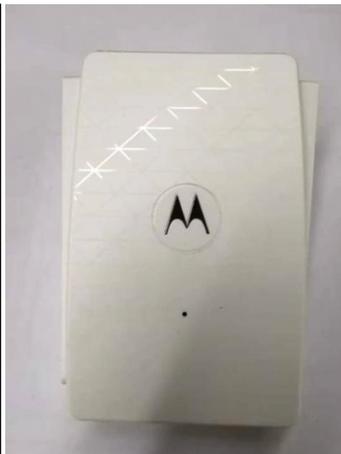


d. 1. Some routers have 2 WiFi, one is 2.4GHz, the other is 5GHz. Most homes just use the 5GHz WiFi as their default WiFi. But the charger can only connect to the 2.4GHz WiFi. So if the charger can connect to your mobile phone hotspot, but cannot connect to the home WiFi. Please check with the home owner 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 access parameter setting page

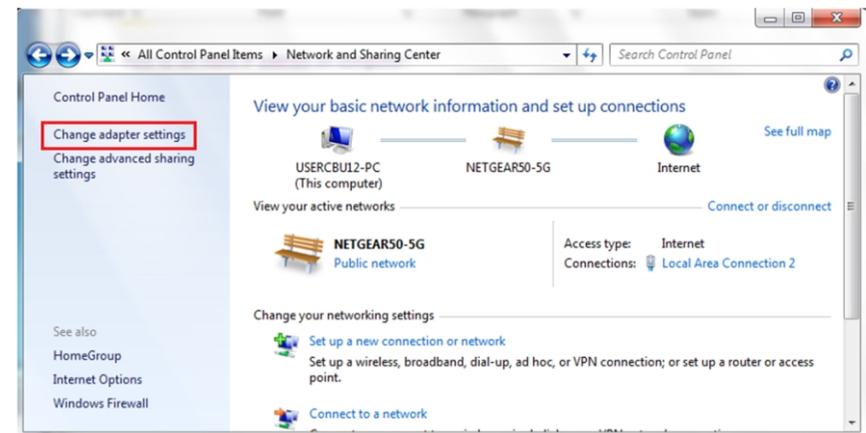
a. Check if you have connected the charger to your computer,

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).

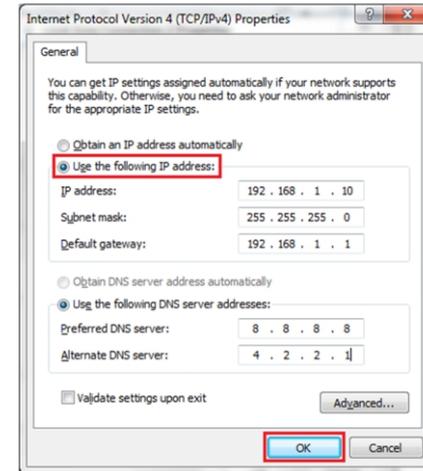
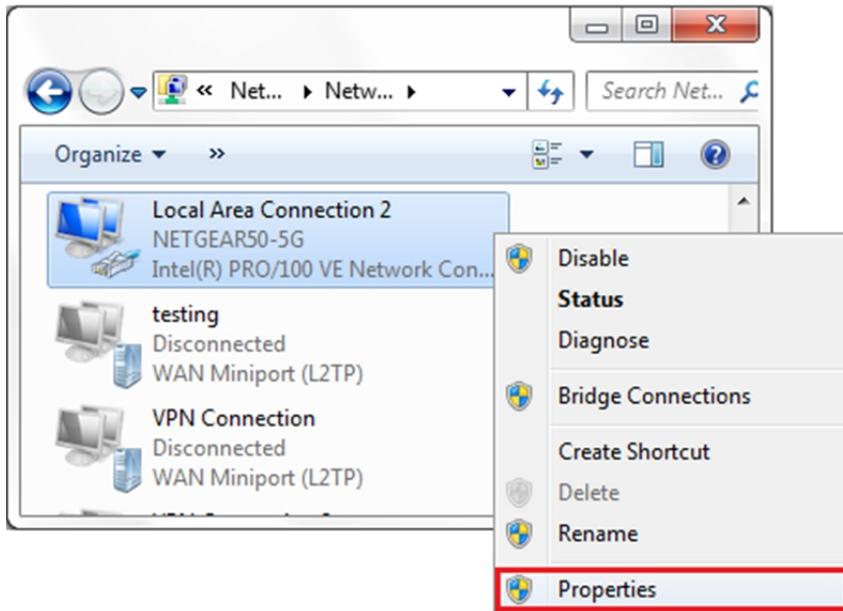
To set a static IP on your Windows computer:

(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.



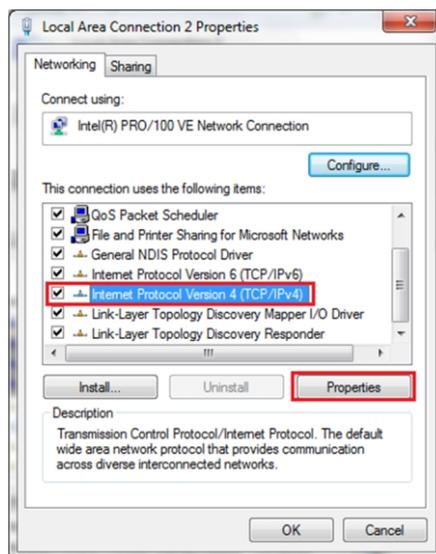
c. Check what web browser is being used, it's suggested to use Firefox or IE, Chrome cannot be used to update firmware.

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`.

(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.

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,

- Check if the red emergency stop button is pressed.
- 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.

Configure Charger Parameters			
Firmware Version Num:	AC3/TK_1P_H2_V21_1.01	Language Set(1, 2, 3) (1:English, 2:Other, 3:Chinese):	1
Charge ID(MaxLen 20):	ATESS00001	Charger DNS:	8.8.8.8
Charger IP:	192.168.1.5	Max Current Set(7~32A):	32
Default Gateway:	192.168.1.1	Charge Mode(Default 1:APP/RFID, 2:RFID, 3:Plug&Charge):	1
Subnet Mask:	255.255.255.0	WIFI SSID(MaxLen 32, Not support ','): HEMWEI P20 Pro	
Net MAC Address:	31:4D:EB:02:59:18	WIFI Key(MaxLen 16, Not support ','): 12345678	
Server URL:	ws://charge.growatt.com:80/ecpp	Day-Price(E.g:0.12):	1.50
Charging Rate (Per kWh):	0.00	Night-Price(E.g:0.12):	1.50
Card Pin(E.g:123456):	242007		
DayTime(E.g:05:00-18:00):	06:30-18:30		

- 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.

Card Pin(E.g:123456):	242007	Day-Price(E.g:0.12):	1.50
DayTime(E.g:05:00-18:00):	06:30-18:30	Night-Price(E.g:0.12):	1.50
NightTime(E.g:18:00-05:00):	18:30-06:30		
LCD Time(2018-01-02 03:04:05):	2019-03-15 07:50:59	Authentication Key(MaxLen 20):	12345678
Max Limit Power(W):	10000	Hearbeat Interval(15~3600):	30
MeterValue Interval(5~300):	15	WebSocketPingInterval(15~150):	120
Max Temperature(Max 85):	75	PowerLimit Option(0:Unused 1:Inner CT 2:PowerMeter):	0
Allow ChargingTime(00:00-23:59):	00:00-23:59	RCD Current(Enter 0 calibration)mA:	0.0
RCD Protection(mA):	20	BlueTooth Pin(MaxLen 16):	1234
BlueTooth Name(MaxLen 16):	Growatt_1001	4G APN(MaxLen 16):	Default
4G Account(MaxLen 30):		NetWorking Status:	disconnect
4G Passwd(MaxLen 30):			

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:

- Solar function set the power p range : P_e stands for rated power, P_1 stands for Power

Transferred to Power Grid by Photovoltaic.

- The power of three-phase charger belongs to $(5.3kW-P_e)$
- The power of single-phase charger belongs to $(1.8kW-P_e)$

- The condition of changing duty cycle of charger : P_2

- The power of three-phase charger $P_2=1000W$
- The power of single-phase charger $P_2=500W$

- Operation mode :

- When Initial charging, permissible output power of charger $P_3(P_3=P)$
- If $P_1 < P_2$, permissible output power of charger $P_3.(P_e \geq P_3 \geq P)$
- If $P_1 \geq P_2$, charger will Increase Permissible Output Power, when detected $P_1 < P_2$ or $P_3=P_e$, charger will stop increasing allowable output power, at this time the allowable output power of charger is $P_3.(P_e \geq P_3 \geq P)$

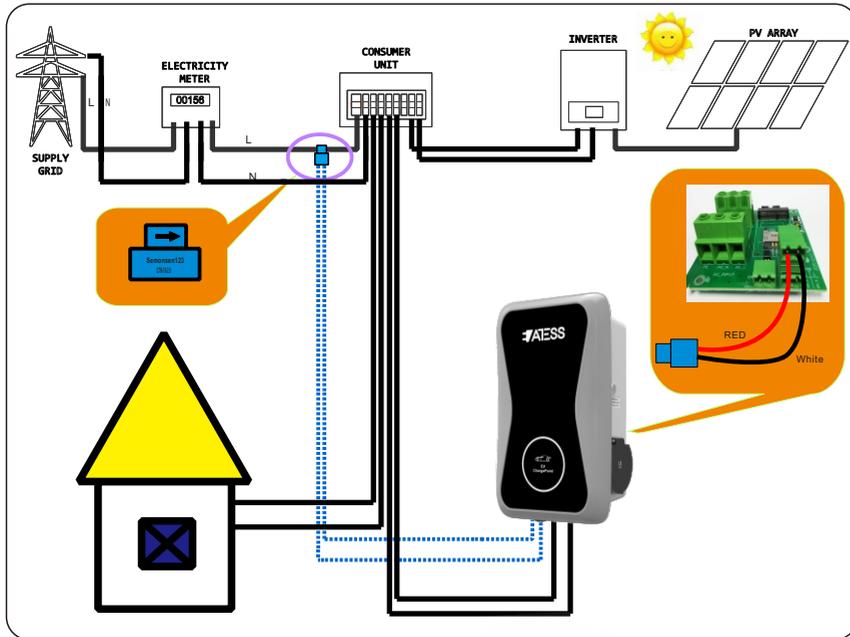
ECO+ Mode:

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.

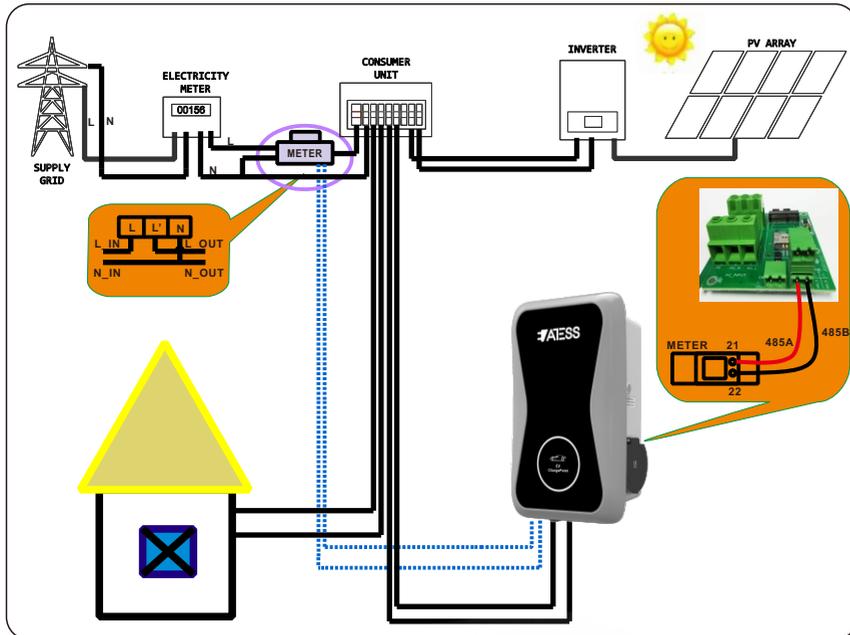
8.2 Wiring

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 of solar mode charge: FAST, ECO and ECO+.

Solar Mode Charge(0:Disable,1:ECO,2:ECO+):	<input type="text" value="0"/>
Power Distribution Charge(0:Disable,1:Enable)	<input type="text" value="0"/>

- (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.

Power Distribution Enable(0:Disable,1:Enable)	<input type="text" value="0"/>	External Power Sampling Wiring(0:Inner CT 1:PowerMeter):	<input type="text" value="0"/>
External Maxlimit Power(kW):	<input type="text" value="10"/>	Peak Valley Charge(0:Disable 1:Enable):	<input type="text" value="0"/>
PowerMeter Addr:	<input type="text" value="032"/>		
<input type="button" value="Set and Reboot"/>			

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

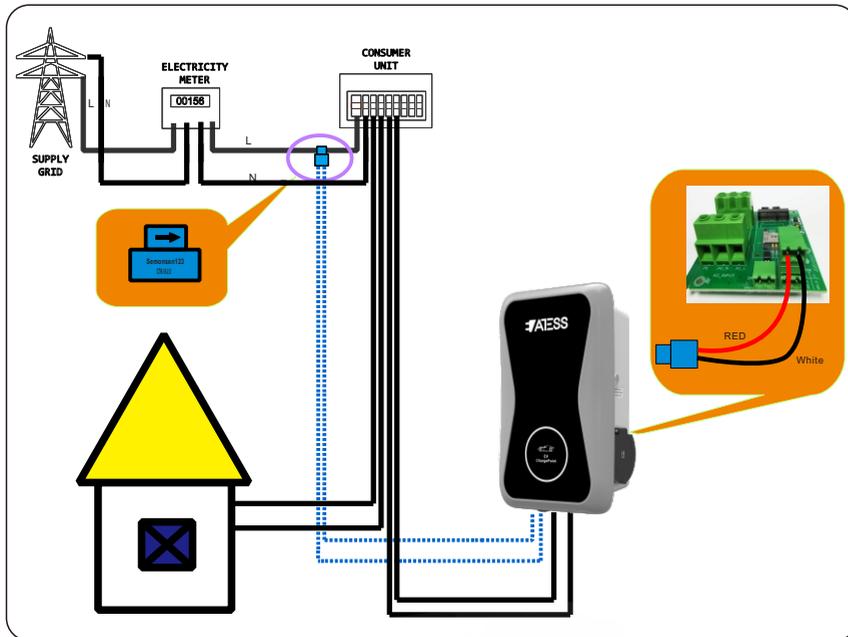
Power Distribution Enable(0:Disable,1:Enable)	<input type="text" value="0"/>
External Maxlimit Power(kW):	<input type="text" value="10"/>
PowerMeter Addr:	<input type="text" value="032"/>
<input type="button" value="Set and Reboot"/>	

IX. Intelligent power modulation

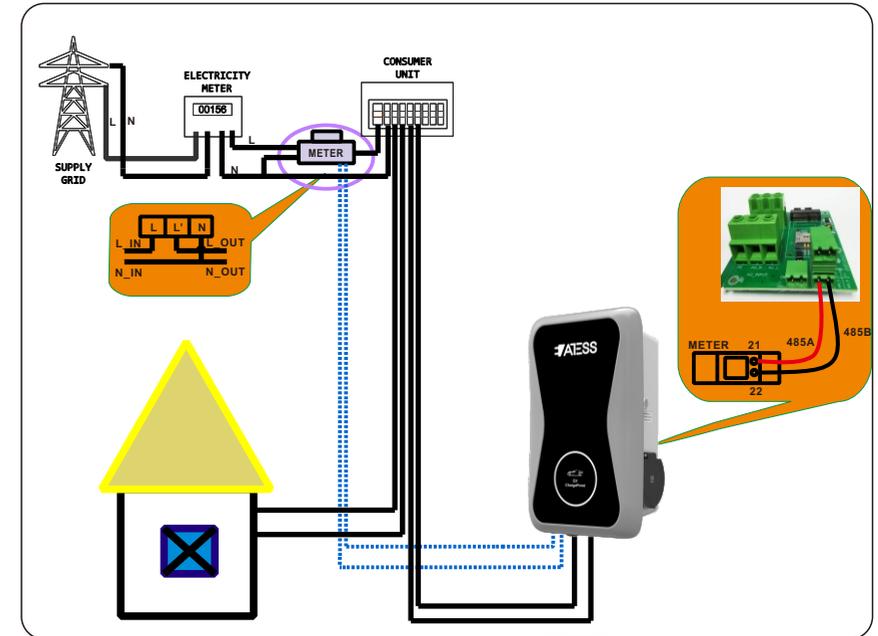
Introduction

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.

Power Distribution Enable(0:Disable,1:Enable)	<input type="text" value="0"/>
External Maxlimit Power(kW):	<input type="text" value="10"/>
PowerMeter Addr:	<input type="text" value="032"/>
<input type="button" value="Set and Reboot"/>	

X. Specification

(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.

External Power Smplng Wiring(0:Inner
CT 1:PowerMeter):

Peak Valley Charge(0:Disable 1:Enable):

(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.

Power Distribution
Enable(0:Disable,1:Enable)

External Maxlimit Power(kW):

PowerMeter Addr:

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

Power Distribution
Enable(0:Disable,1:Enable)

External Maxlimit Power(kW):

PowerMeter Addr:

Model	EVA-03/07S
Dimension (mm)	380*240*145(L*W*H)
Weight (kg)	7
Display	LCD
Casing Material	Stainless steel& Engineering plastics& Tempered glass
Input	
Voltage	AC 230V
Max current	16A/32A
Output	
Voltage	AC 230V
Max current	16A/32A
Working environment	-25°C ~ +50°C
Relative humidity	5% ~ 95%
Altitude	2000m
Frequency	50 Hz ±1Hz
Communication	Ethernet/WIFI/4G/485
Payment	RFID/APP
Standby power	<8W
Standard	IEC-62196-2;EN61851
Mounting	Wall/Pole
Certificate	CE
Protection features	
IP Protection degree	IP65
Over voltage	2 60V
Under voltage	1 90V
Over current	20A/40A
Short circuit	Yes
Leakage protection	No/Type A/Type A+6mA DC RCD
Over temperature	Yes
Lightning protection	Type II

XI. Annex

11.1 Electrical diagram

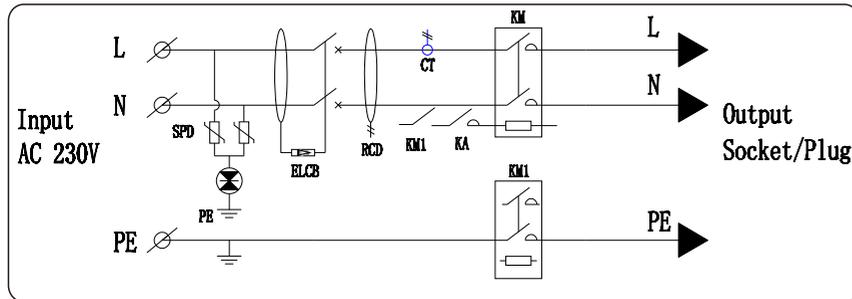


Fig11-1. Main circuit diagram

11.2 Contact

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