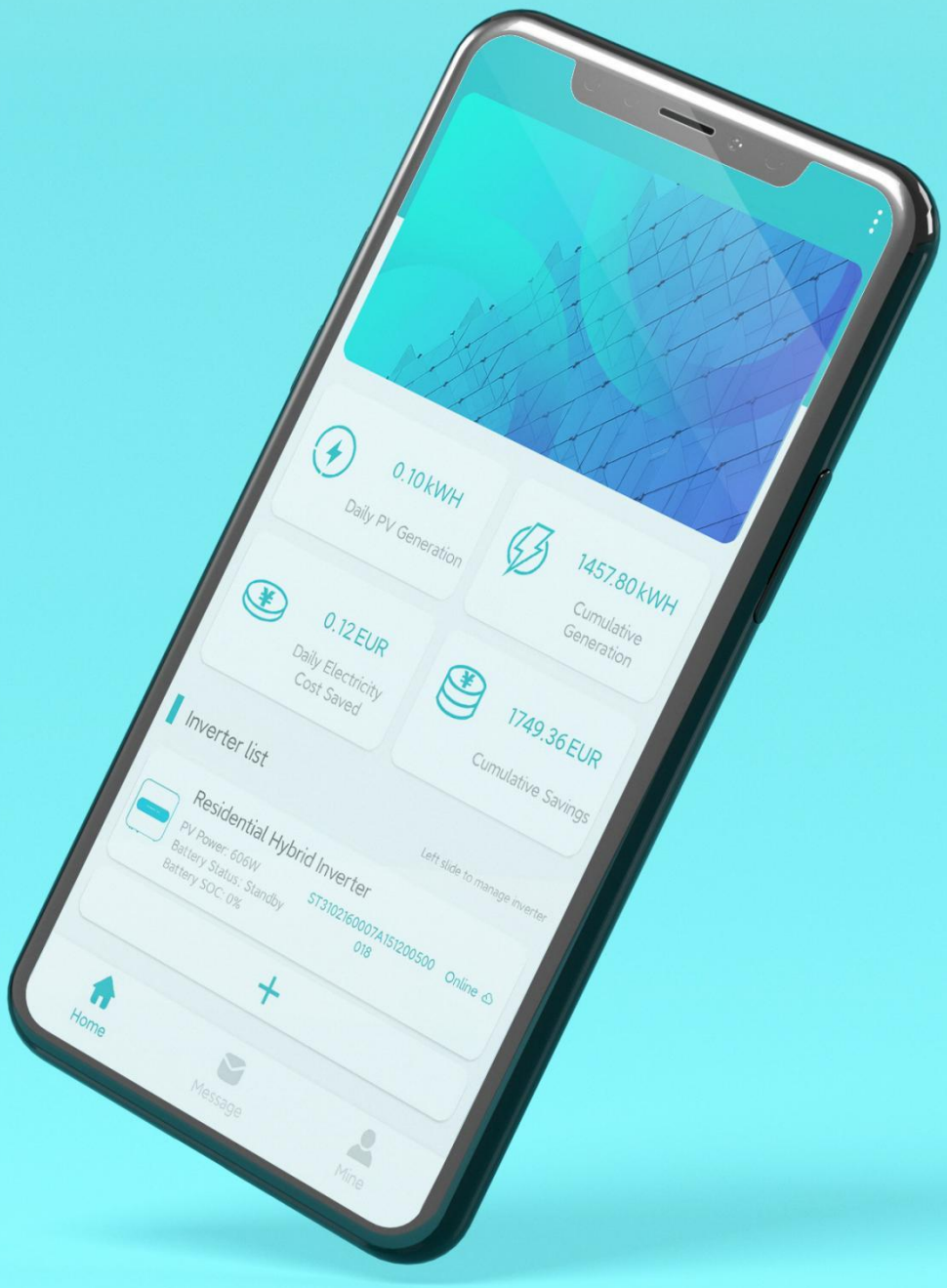
SERMATEC

Sermatec APP User Manual



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1. Description

1.1. Brief Introduction

Sermatec App is used to check and control inverter parameters. There are two modes: Local Connection Mode and Web Cloud Mode.

(1) Local Connection Mode, use your phone to connect to device WiFi, then use APP to connect to device (No need to have access to the Internet), you can check device parameters and issue orders.

(2) Web Cloud Mode, you can use Internet to check and control. Input account name, password in the APP log-in page, and when you select server(Select Asian or European server based on your location) to log-in, you can use Web Cloud related functions: Check device parameters, issue orders online (Require Access to the Internet. Add Device to Cloud System please see chapter 3.5.1).

1.2. Download

(1) Android User please visit Google Play, search 'Sermatec' to download.

(2) iOS User please visit App Store, and search 'Sermatec' to download and install.

(3) Android User please download in Sermatec Official Site:

https://www.sermatec-ess.com/download-center/

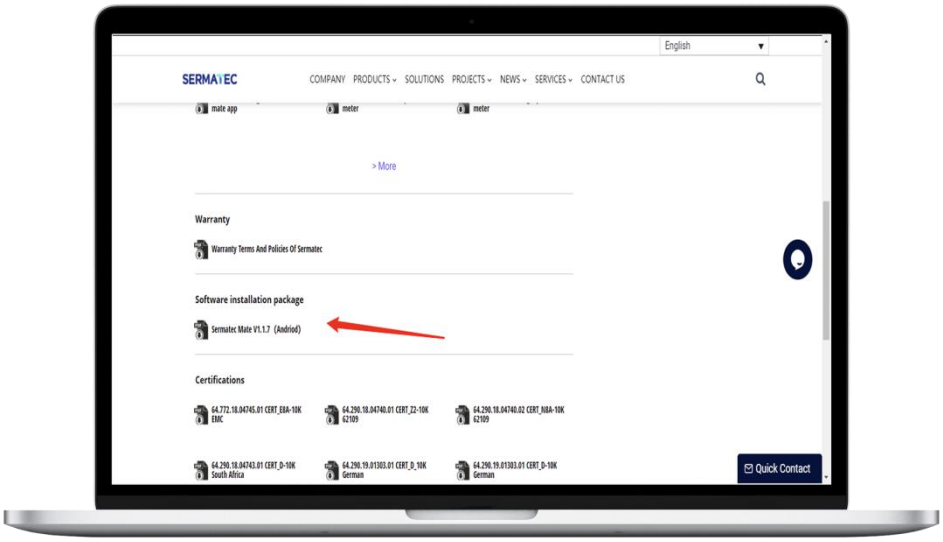

Fig.1-1

2. Local Connection Mode

In Local Connection Mode, please connect your inverter to the App with Inverter WiFi, access to the Internet is not required. Please click the 'Local Connection Mode' button to go to Local Connection Mode. (When you are using Local Connection Mode, if you have connected your device to the Cloud, you will first need to turn off 'Whether to Connect to Cloud'. (refer to chapter 2.4.1)).

Fig.2-1

2.1. Home Page Description

Local Connection Mode, includes Home Button, Device Running Status and related data.

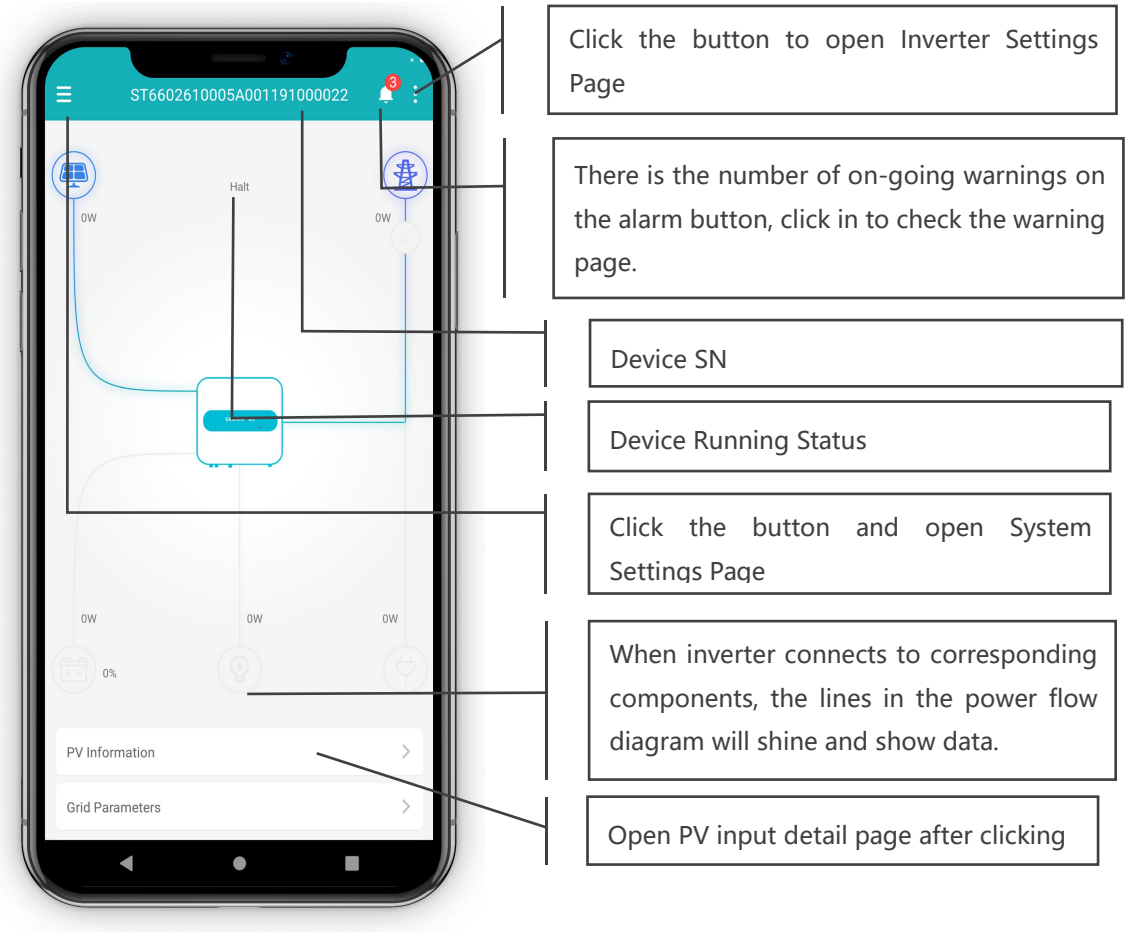

Fig.2-2

2.2. Connect to Device

Firstly, please use the phone to connect to the Inverter WiFi, and then please click the button on the toolbox to see the side menu. And click the 'Connect' Button. After connecting to the inverter successfully, the homepage will show some data, and the number of warnings will be shown on the alarm button on the toolbox.

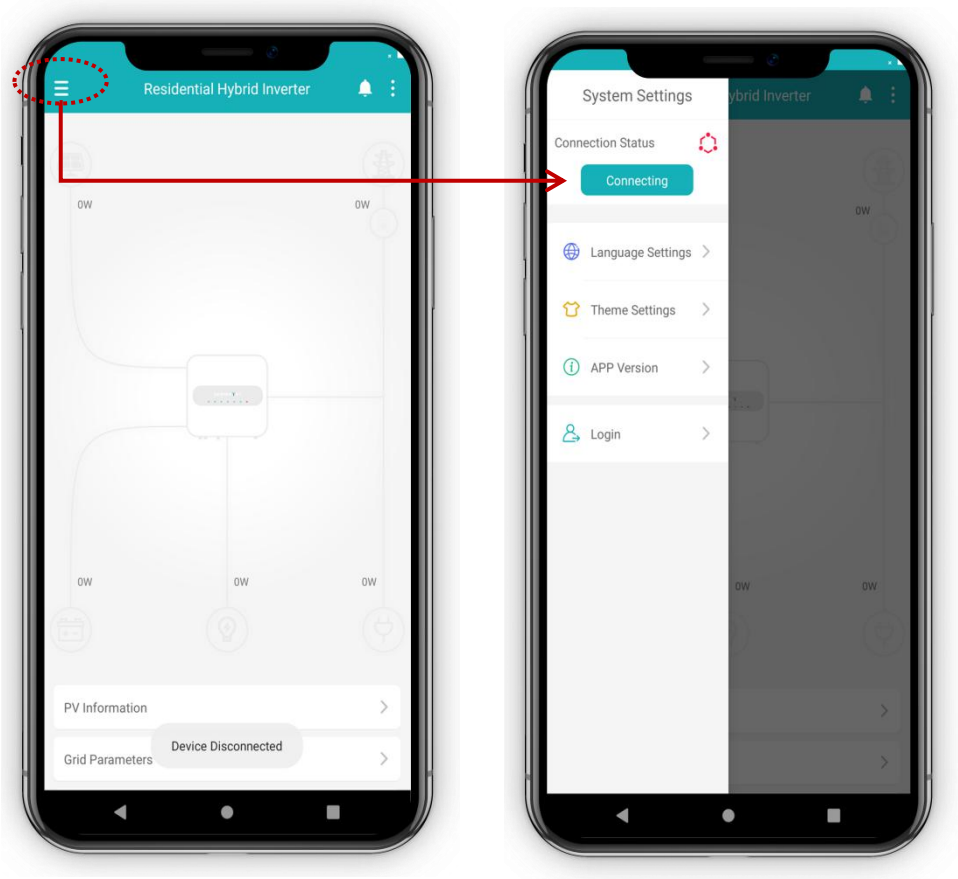

Fig.2-3

2.3. Detail Data

There are detail data lists below in the flow diagram, including: PV information, grid information, Back-up Loads, Battery Parameters, System Information, Parallel Information. Click in to see the corresponding data page.

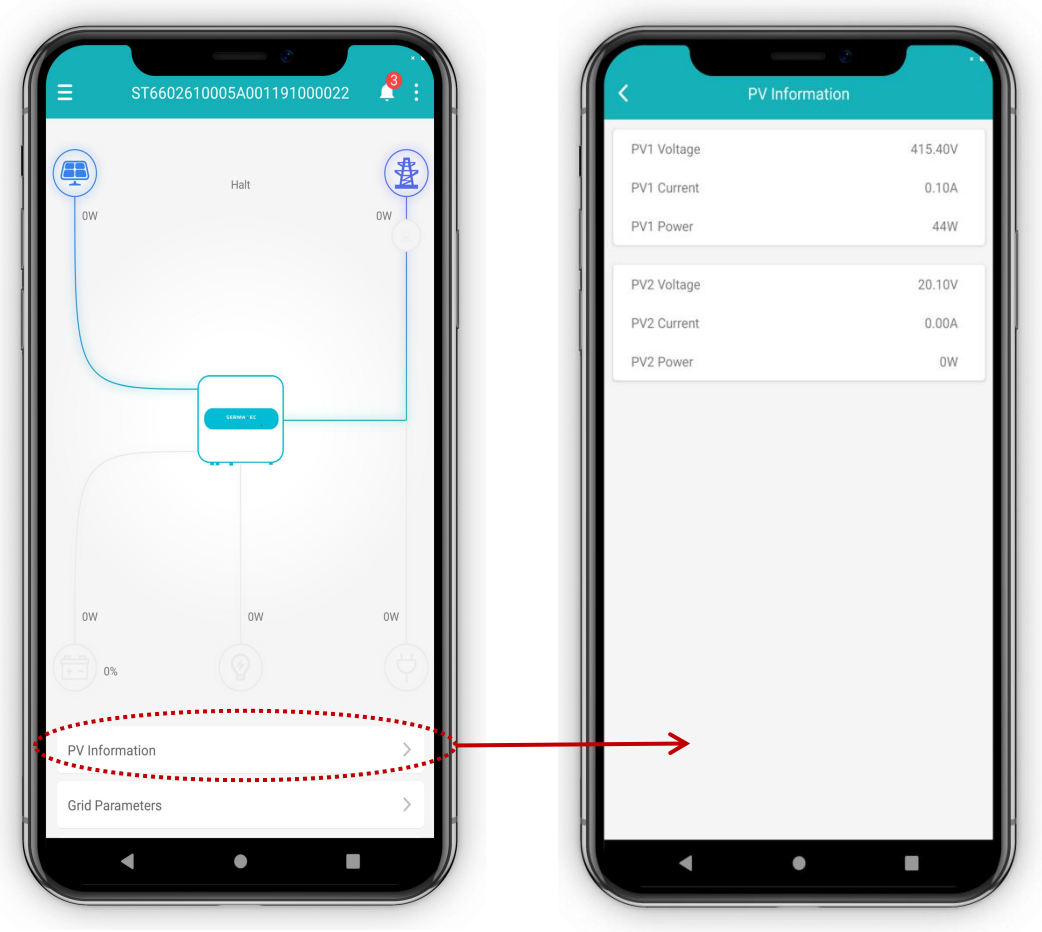

Fig.2-4

2.4. Inverter Settings (Local Connection Mode)

Settings include: Router Settings, Server Settings, Shutdown&Startup, Working Parameters Settings, Working Mode Setting, Advanced Setting. Advanced Settings need dealer's password to do the settings.

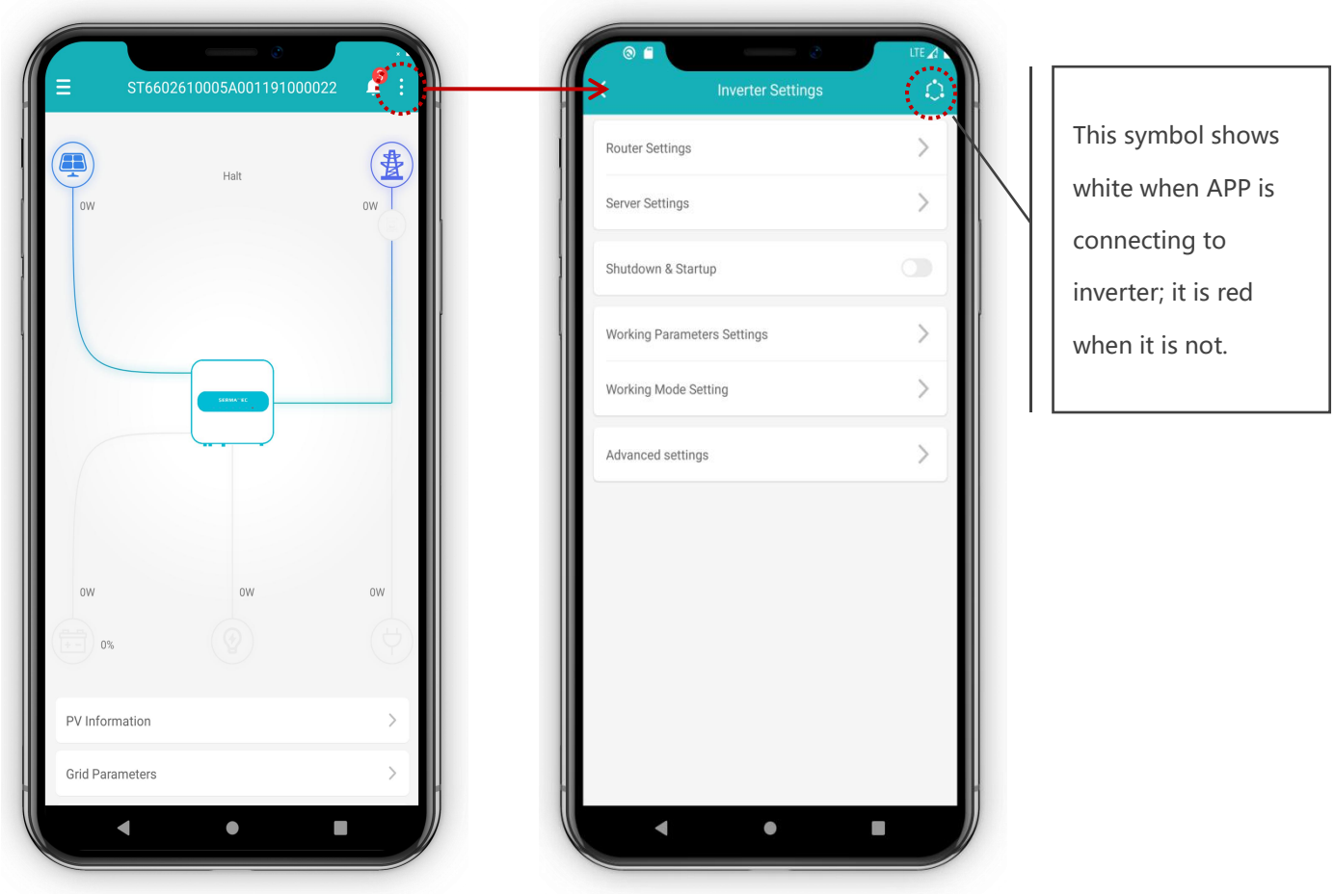

Fig.2-5

2.4.1. Router Settings

(1) Router Settings can make the inverter connect to available Internet, so that the device can connect to the Web Cloud Monitoring System.

(2) If PCU software version is higher than 601, open the page to check all of the parameters that have been set before.

(3) Enable 'Whether to Connect to Cloud Monitoring', and then input Router SSID and Password and then click 'Setting' button. The inverter will restart after setting succeeds. (After the inverter restarts, phone may not be able to connect to the inverter WiFi shortly, please try again after 2-10 minutes).

(4) If disable 'Whether to connect to Cloud Monitoring', then the inverter will disconnect from the Cloud.

(5) Before upgrading PCU or DSP, please firstly disable 'Whether to connect to Cloud Monitoring'.

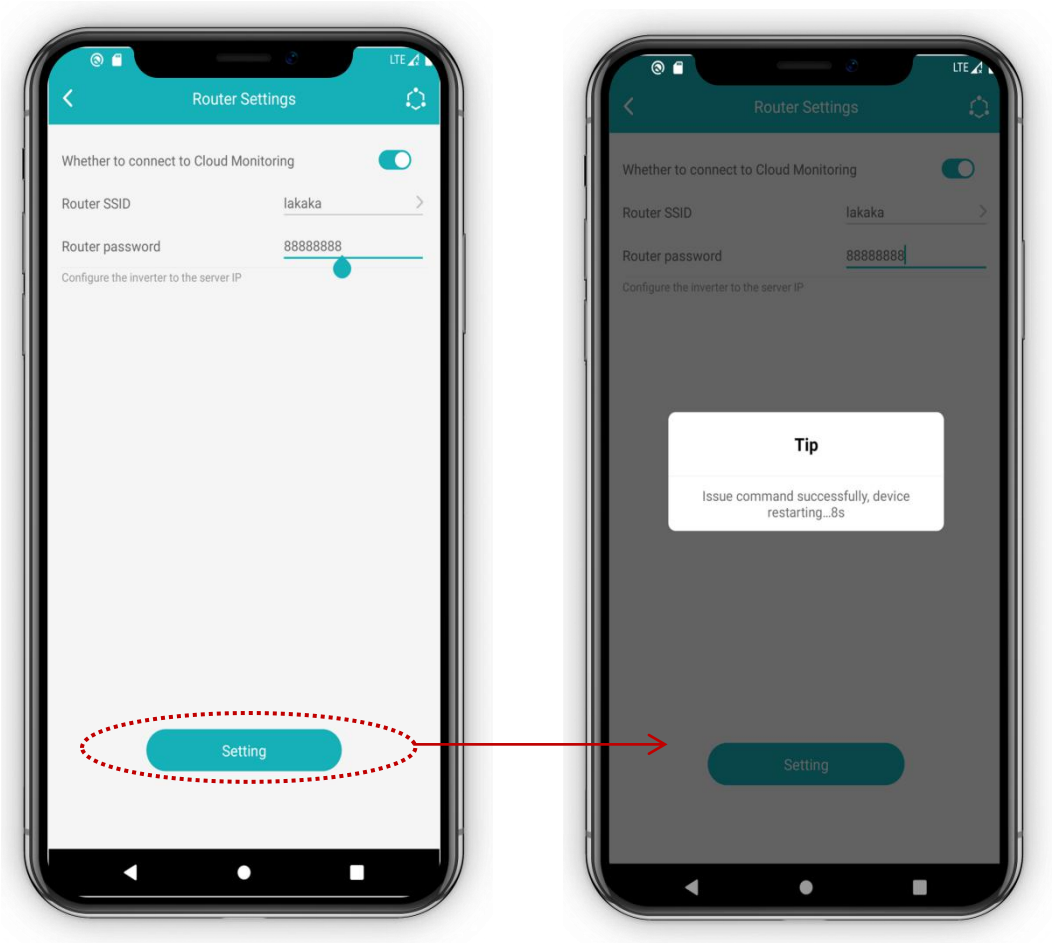

Fig.2-6

2.4.2. Server Settings

(1) Server Settings are used for the inverter to connect to the Cloud Monitoring System Server.

(2) Choose Server IP, and then click 'Setting' button, and the inverter will restart after setting succeeded.

(3) If PCU software version is higher than 601, open the page to check all of the parameters that have been set before.

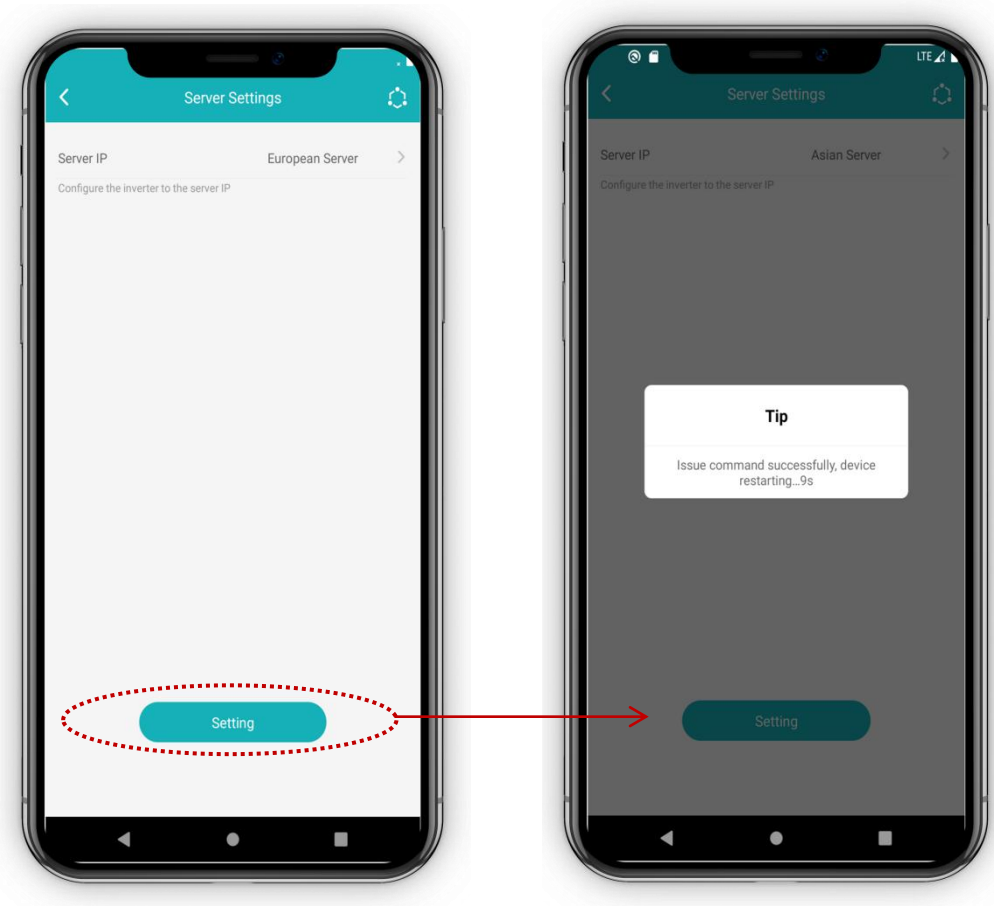

Fig.2-7

2.4.3. Shutdown&Startup

Please click the button on the right of 'Shutdown&Startup', could issue Shutdown or Startup order to the inverter.

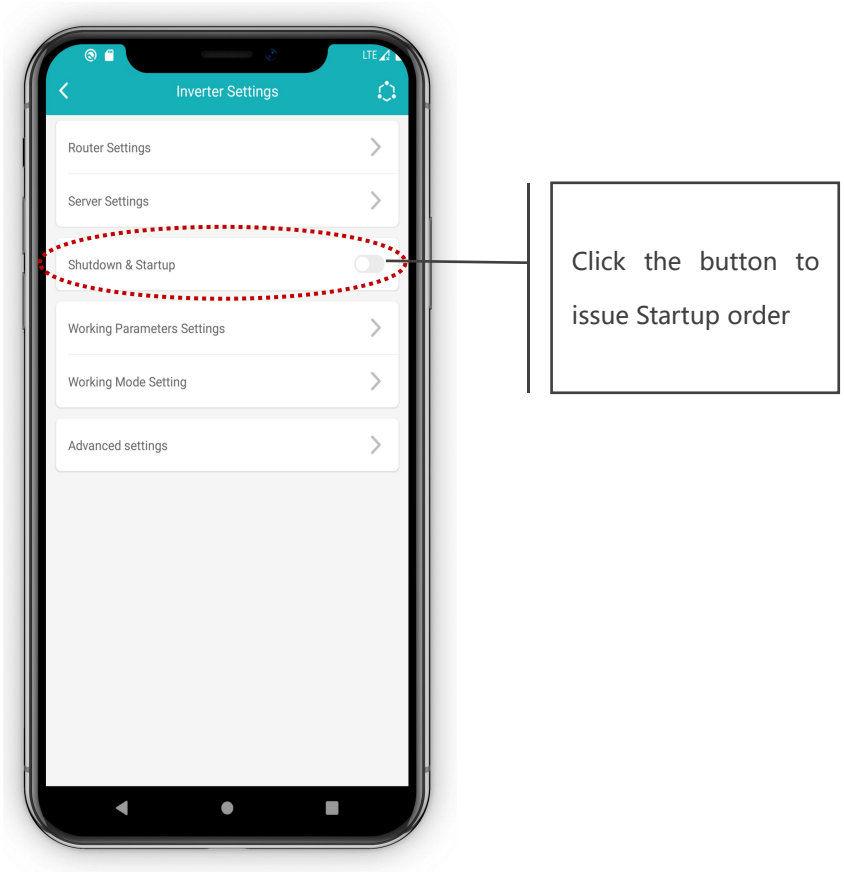

Fig.2-8

2.4.4. Working Parameters Settings

(1) If the PCU software version is higher than 259, can set Meter Detection, Lower Limit of Off-grid SOC.

(2) 10kW inverter cannot set the battery type to lead-acid battery.

(3) Need to shutdown the inverter before setting Grid Code, Battery Type, Lead-acid Battery Ah Value, Meter Detection Function.

(4) Change Battery Protocol or Smart Meter Protocol will let the device restart, and App will disconnect.

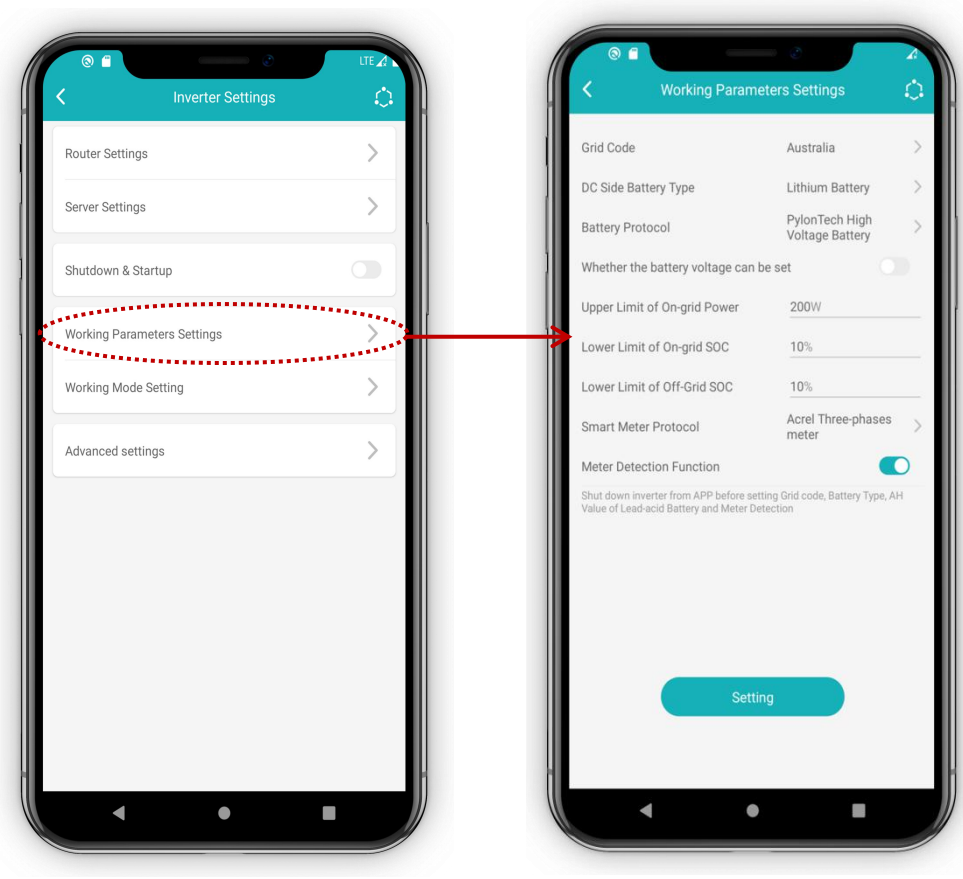

Fig.2-9

2.4.5. Working Mode Setting

Set the Working Mode of the device, including General Mode, Micro-grid Mode, Energy Storage Mode, Peak and Bottom Mode and AC Coupling Mode. (When PCU software version is higher than 603 and DSP version higher than V142A02D00 for 10K or V124A02D00 for 5K, AC Coupling Mode is available).

（1）After selecting the working mode(None Peak and Bottom Mode), click the 'Setting' button.

（2）If it is 'Peak and Bottom' Mode, need to set time periods for 'Peak and Bottom Mode'. All the time periods must add up to exactly 24 hours.

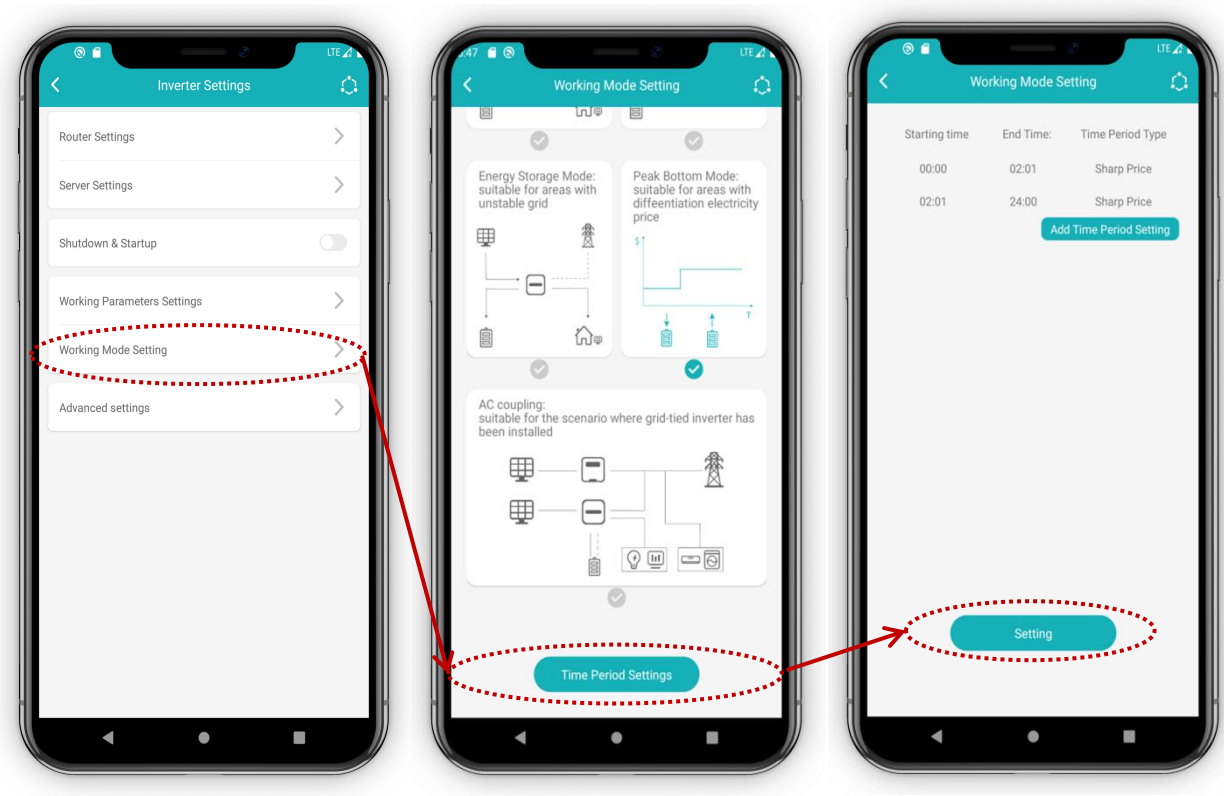

Fig.2-10

2.4.6. Advanced Settings

This settings need to input the correct dealer's password (sermatec2021). These settings got risk if mistake, please let installers or dealers do it but not any end users. Advanced Settings include: WiFi Password Settings, Forced Charging/Discharging Settings, Reactive Scheduling, Derating Setting for Overvoltage, Derating Setting for Overfrequency & Underfrequency, Grid Protection Value Setting, Grid Reconnection Value Setting, Adjusting Method with Grid Voltage Dropping, Parallel Configuration, Anti-backflow, Three-phase Unbalanced Output, Shadow Scan, Backup Output, Backup Load Supply Sequence, Battery Activation, Upgrade PCU, Upgrade DSP, Restore Factory Settings.

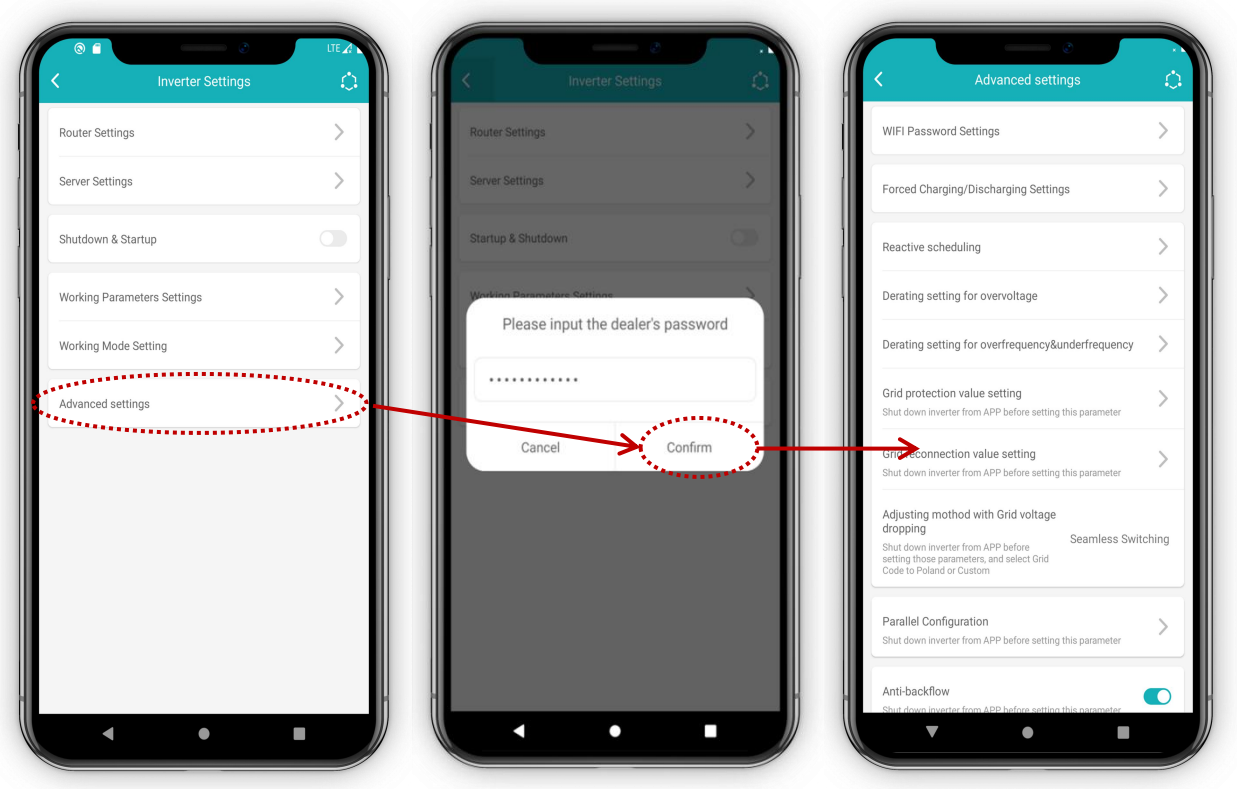

Fig.2-11

2.4.6.1. WIFI Password Settings

Set Inverter WIFI Password (default gsstes123456), password is supposed to be 8-16 characters.

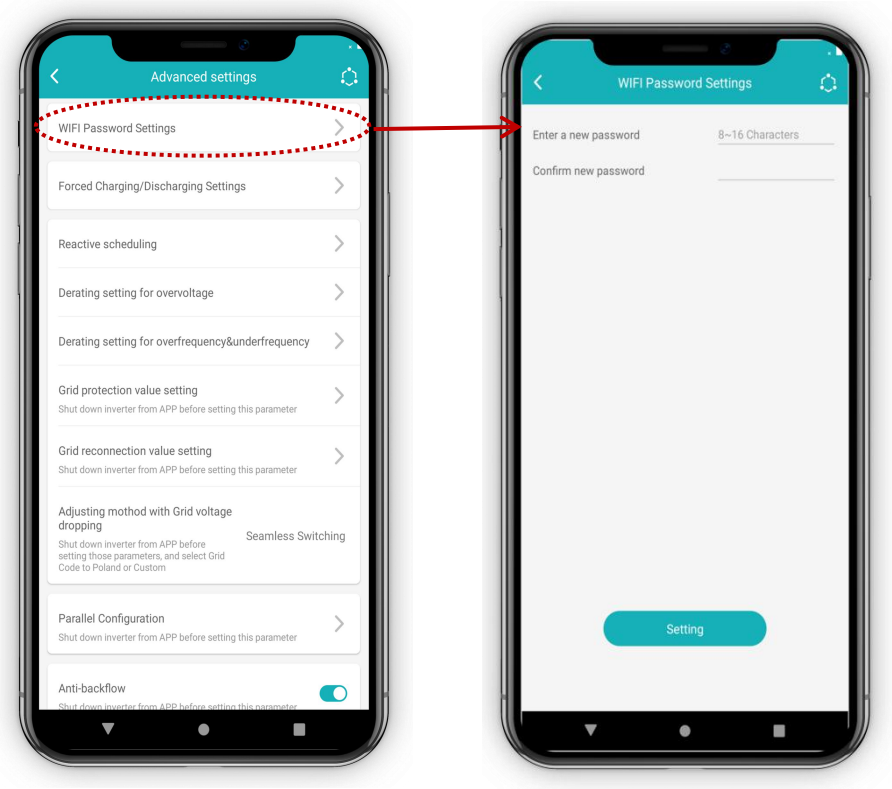

Fig.2-12

2.4.6.2. Forced Charging/Discharging Settings

This function is only available when PCU software version is higher than 601. Enable Battery Power Manual Limit, will be able to set the Upper Limit of Charging Power and Discharging Power, Upper Limit of Charging Current from the Grid; Enable Forced Charging /Discharging, will be able to set the date and time period for Forced Charging /Discharging.

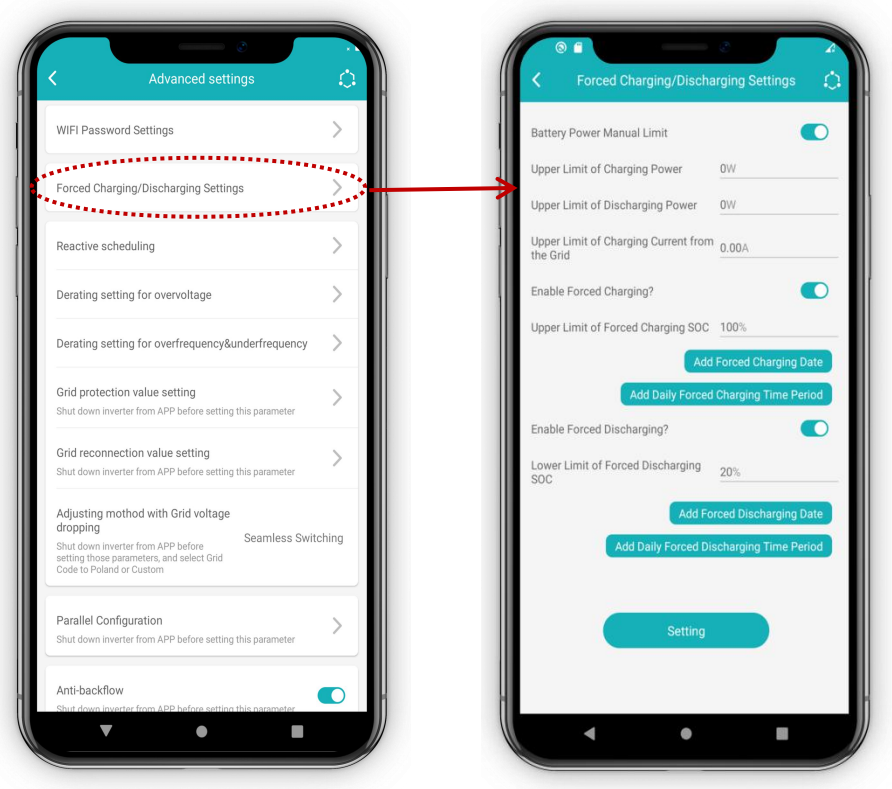

Fig.2-13

2.4.6.3. Reactive Scheduling

When PCU software version is higher than 603(including), DSP version higher than V144A06D00 (including) for 10K and V125A21D00 (including) for 5K, this setting is available. This setting is related to the Grid Code.

(1) Grid Code is Custom: The Settings can be read or set.

(2) Grid Code is Poland: cos ϕ (P) can be read but cannot be set.

(3) Grid Code is other country(except Custom and Poland): cos ϕ (P) and Q(U) can be read but cannot be set.

(4) When you do the settings for both Q Point and cos ϕ Point, the one that is set later will be effective.

(5) When you do the settings for both cos ϕ (P) and Q(U), the one that is set later will be effective.

(6) When cos ϕ (P) or Q(U) mode is on, Q Point setting and cos ϕ Point mode setting are ineffective.

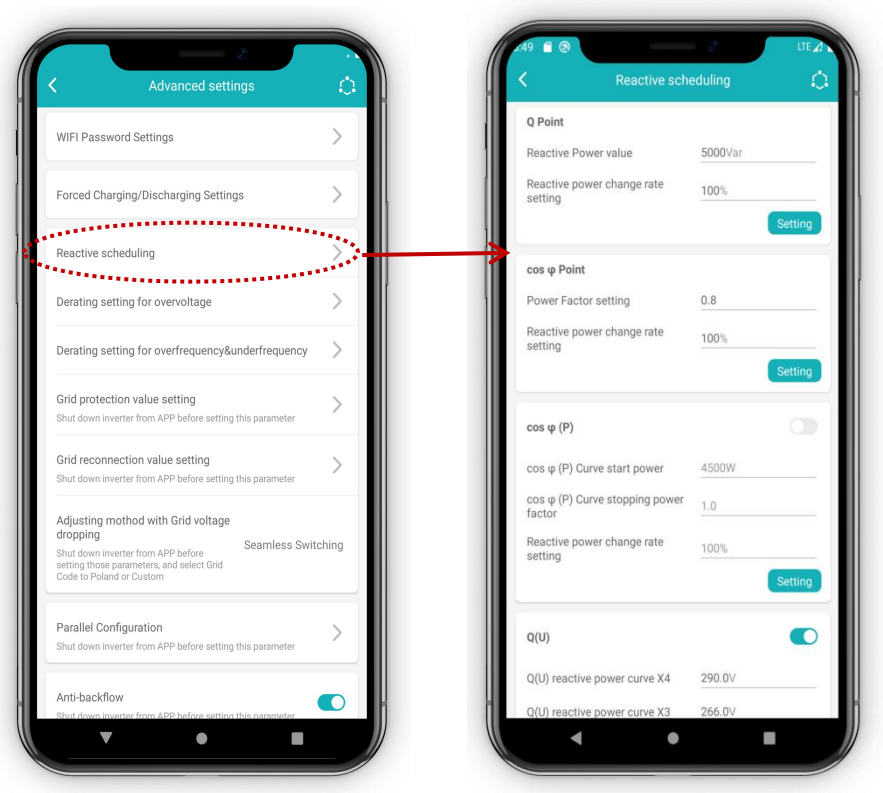

Fig.2-14

2.4.6.4. Derating Setting for Overvoltage

When PCU software Version is higher than 603(including), DSP version higher than V144A06D00 (including) for 10K and V125A21D00 (including) for 5K, this setting is available. This setting is related to Grid Code.

(1) When the Grid Code is Custom: The settings can be read and set.

(2) When the Grid Code is Poland or other country(except Custom and Poland): The settings can be read but cannot be set.

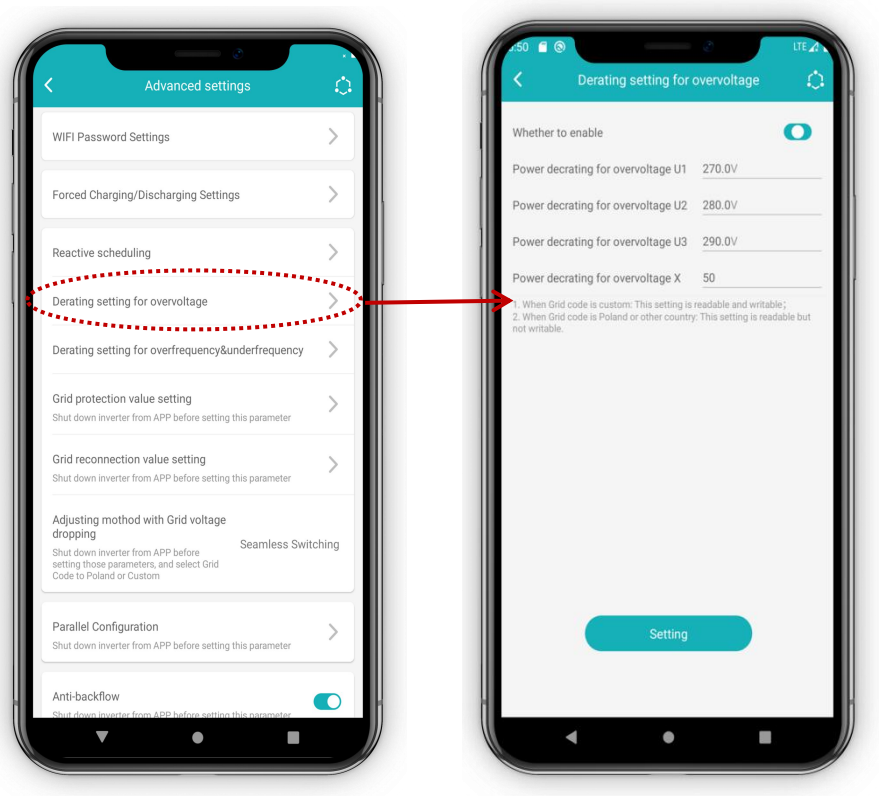

Fig.2-15

2.4.6.5. Derating Setting for Overfrequency & Underfrequency

When PCU software version is higher than 603(including), DSP version higher than V144A06D00 (including) for 10K and V125A21D00 (including) for 5K, this setting is available. This setting is related to the Grid Code.

(1) Grid Code is Custom or Poland: The setting can be read and set.

(2) Grid Code is other country(except Custom and Poland): The setting can be read but cannot be set.

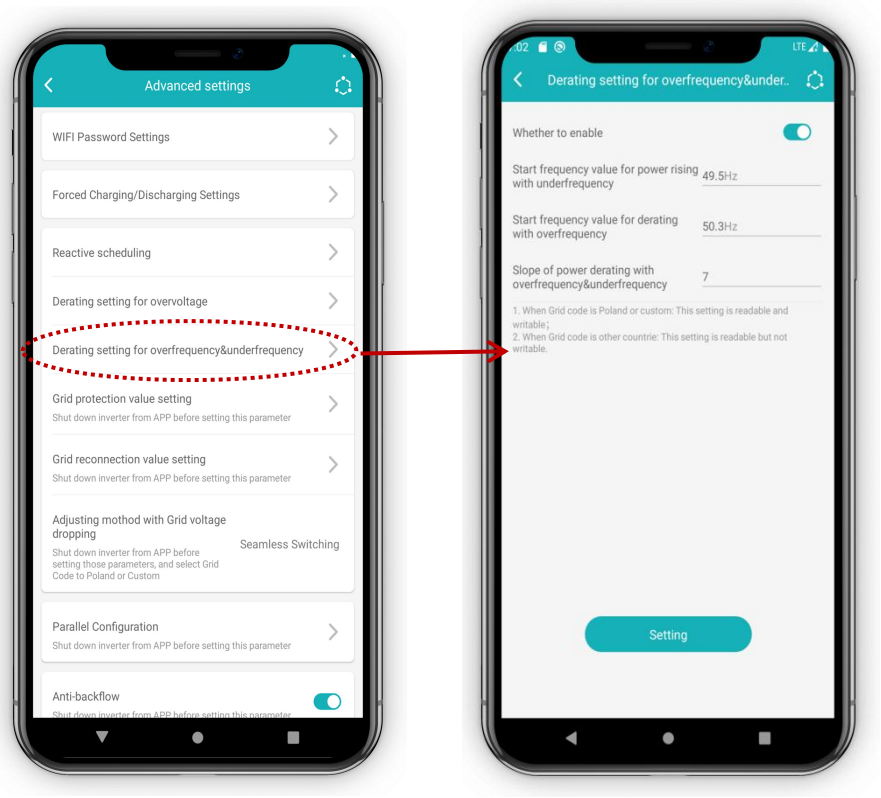

Fig.2-16

2.4.6.6. Grid Protection Value Setting

When PCU software version is higher than 603(including), DSP version higher than V144A06D00 (including) for 10K and V125A21D00 (including) for 5K, this setting is available. You will need to shutdown the inverter before do this setting. This setting is related to Grid Code.

(1) Grid Code is Custom or Poland: This setting can be read and set.

(2) Grid Code is other country(except Custom and Poland): This setting can be read but cannot be set.

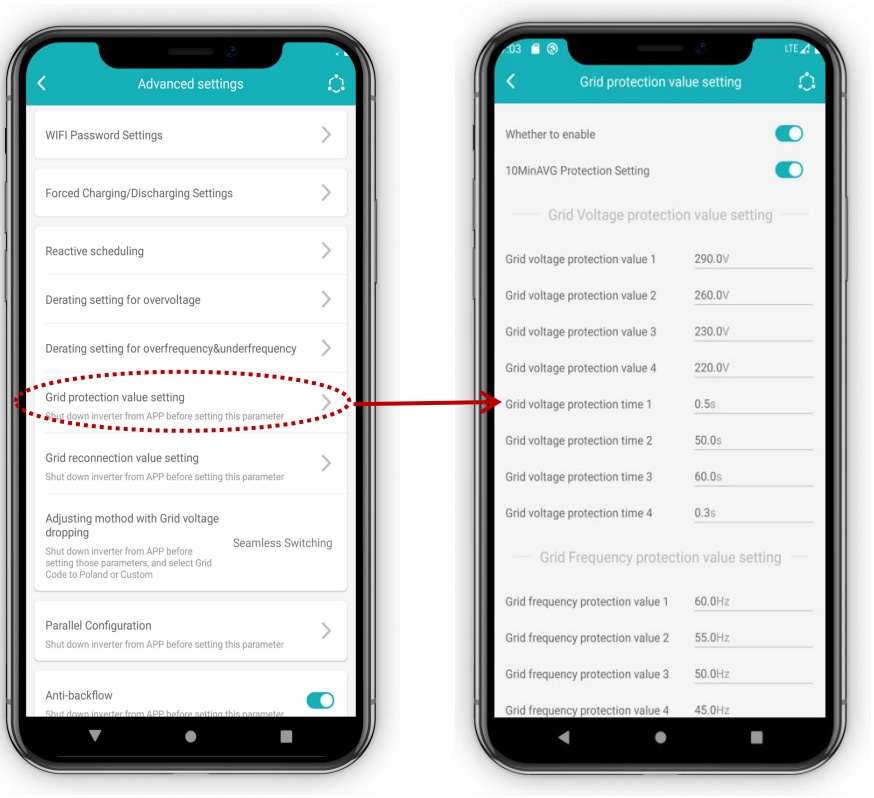

Fig.2-17

2.4.6.7. Grid Reconnection Value Setting

When PCU software version is higher than 603(including), DSP version higher than V144A06D00 (including) for 10K and V125A21D00 (including) for 5K, this setting is available. You will need to shutdown the inverter before do this setting. This setting is related to Grid Code.

(1) Grid Code is Custom or Poland: This setting can be read and set.

(2) Grid Code is other country: This setting can be read but cannot be set.

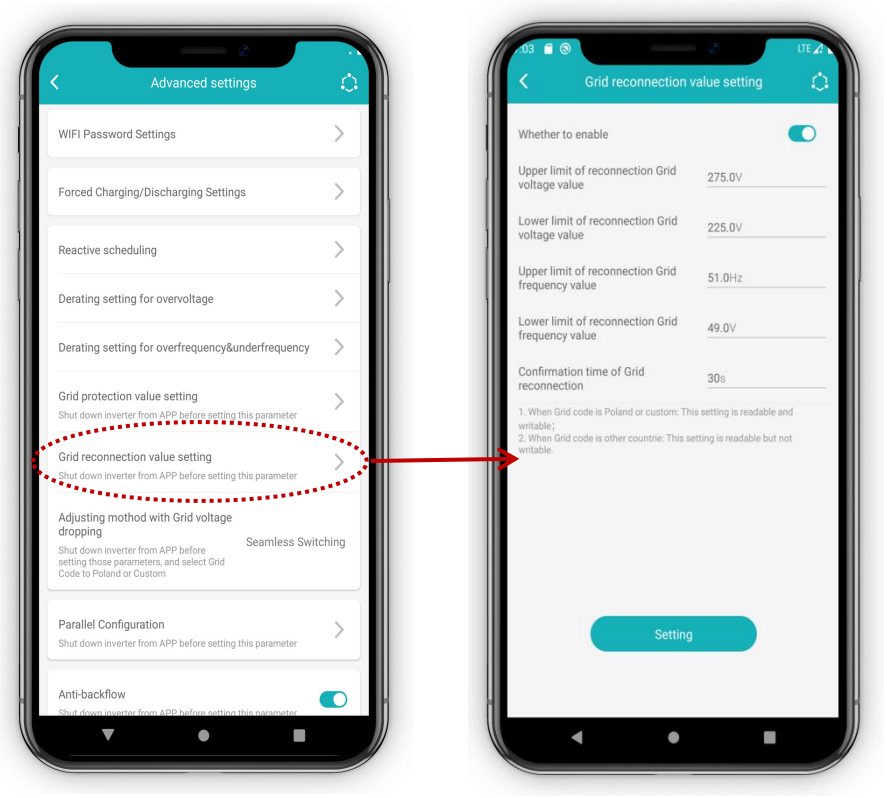

Fig.2-18

2.4.6.8. Adjusting Method with Grid Voltage Dropping

When PCU software version is higher than 603(including), DSP version higher than V144A06D00 (including) for 10K and V125A21D00 (including) for 5K, this setting is available. You will need to shutdown before doing this setting. This setting is related to the Grid Code.

(1) Grid Code is Custom or Poland: This setting can be read and set.

(2) Grid Code is other country(except Custom and Poland): This setting can be read but cannot be set.

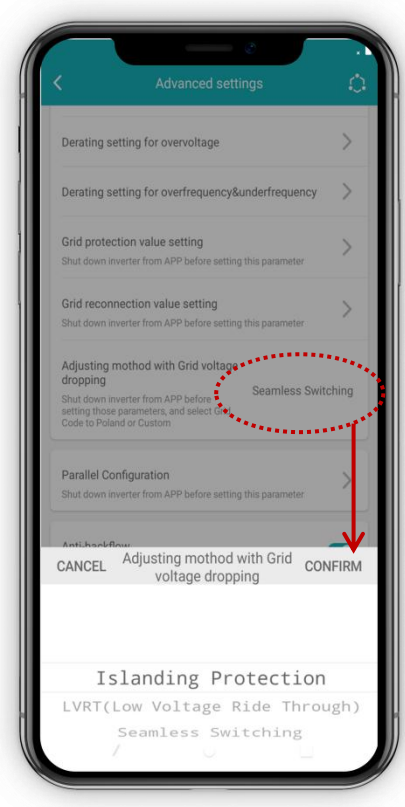

Fig.2-19

2.4.6.9. Parallel Configuration

This function can only be used for Parallel Connection. Device should be 10K, and when PCU software version is higher than 603(including), DSP version higher than V144A02D00(including), this setting is available. Need to shutdown inverter by APP before doing this setting.

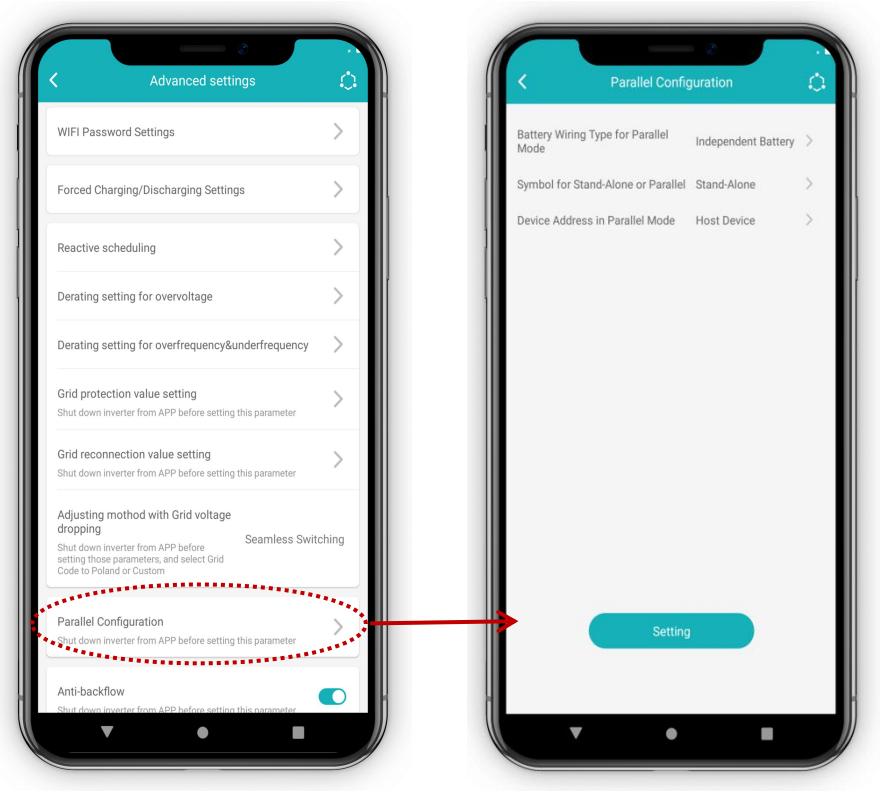

Fig.2-20

2.4.6.10. Anti-backflow

Need to shutdown the inverter before doing this setting. When Anti-backflow is enabled, inverter cannot send electricity to the grid.

2.4.6.11. Three-phase Unbalanced Output

This function only available for three phases inverters,such as 6KW,8KW and 10KW. PCU software version should be higher than 259 and DSP higher than V142A05D01. Need to shutdown the inverter before doing this setting. Take 10K inverter as example: When Three-phase Unbalanced Output is enabled, each phase (when loads are not inductive loads) cannot be more than 3.3kW (10kW/3).

2.4.6.12. Shadow Scan

When PCU software version is higher than 601 and DSP higher than V142A02D00 for 10K, V124A02D00 for 5K, this setting is available. Enable Shadow Scan, the inverter will scan on the MPPT to find if there are any shadow on the PV modules and then optimize on the PV output power.

2.4.6.13. Backup Output

When PCU software version is higher than 601 and DSP higher than V142A02D00 for 10K, V124A02D00 for 5K, this setting is available.

2.4.6.14. Backup Load Supply Sequence

When PCU software version is higher than 601 and DSP higher than V142A02D00 for 10K, V124A02D00 for 5K, this setting is available.

2.4.6.15. Battery Activation

This function only for 5 inverter, when PCU software version is higher than 601 and DSP higher than V124A02D00, this setting is available. The availability of this function is decided by the battery (Only specific batteries have this function). When the battery is left there for too long, the battery will be dormant, and can use this function to activate the battery.

2.4.6.16. Upgrade PCU

During the upgrade process, you need to be careful with:

(1) Please shutdown the inverter from APP before upgrading PCU software, and disable 'Whether to connect to Cloud Monitoring' in the Router Settings (refer to chapter 2.4.1).

(2) If PCU and DSP version both need to be upgraded, please upgrade PCU first, and then upgrade DSP. PCU and DSP software versions should be matched to each other. The match relationship please contact dealers or Sermatec to get.

(3) It is recommended to upgrade when the inverter is connected to the grid or PV (to make sure the power supply of the inverter is stable enough).

(4) The inverter will be reboot automatically after the upgrading process. Please power off the inverter and power on again after upgrading.

Steps to upgrade PCU are given below:

(1) Please click Upgrade PCU button, and select the PCU software file in the File Management Page.

(2) Please click Confirm to upgrade. Note: During the upgrading process, please don't go back, close the app or disconnect local WiFi connection.

(3) After Upgrading Successfully, please reconnect the App to the device.

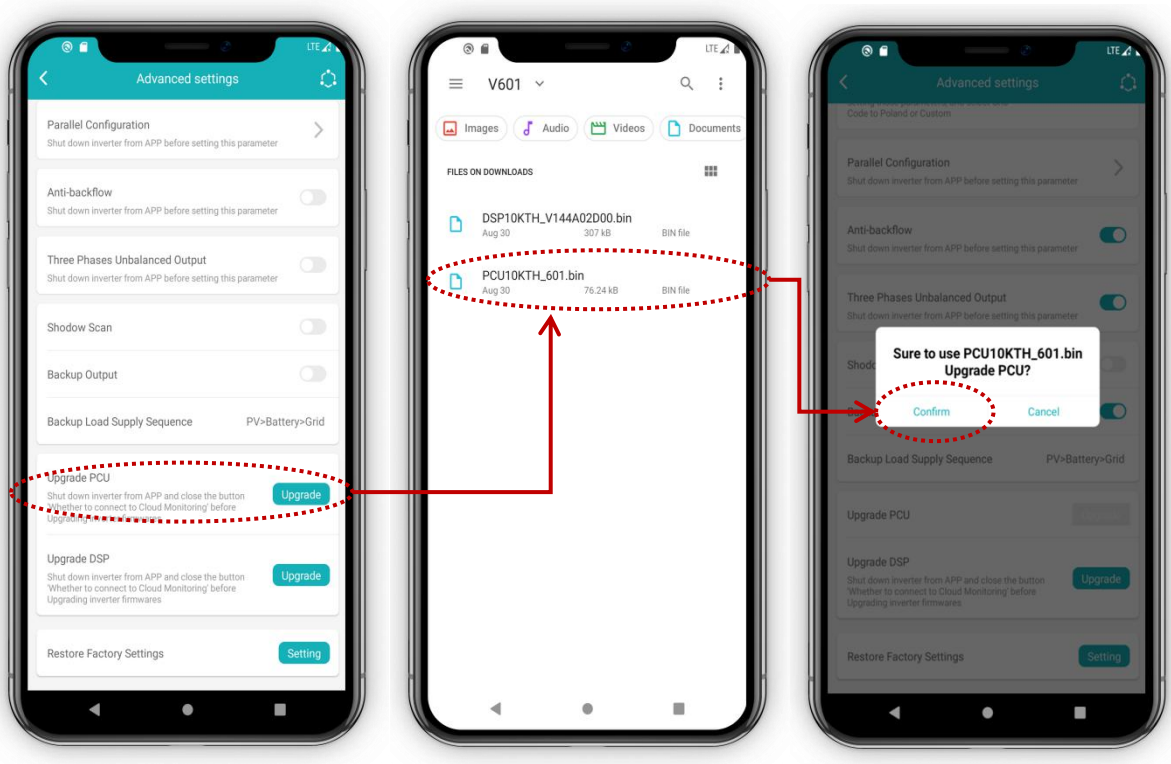

Fig.2-21

2.4.6.17. Upgrade DSP

During the upgrade process, you need to be careful with:

(1) Before upgrading DSP, you will need to shutdown the inverter, and disable 'Whether to connect to Cloud Monitoring' in Router Settings(refer to chapter 2.4.1).

(2) If PCU and DSP software version both need to be upgraded, please upgrade PCU first, and then upgrade DSP. PCU and DSP software versions should be versions matched to each other. The match relationship please contact dealers or Sermatec to get.

(3) It is recommended to upgrade when the inverter is connected to the grid or PV (to make sure the power supply of the inverter is stable enough).

(4) Please power off the inverter and power on again after upgrading. If the upgrade failed, please upgrade once again until the upgrade succeeds.

Steps to upgrade DSP are given below:

(1) Please click Upgrade DSP button, and select the DSP software file in the File Management Page.

(2) Please click Confirm to upgrade. Note: During the upgrading process, please don't go back, close the app or disconnect WiFi connection.

(3) DSP Upgrading process takes relatively longer, after upgrading successfully, please power off the inverter and power on, please reconnect the App to the device.

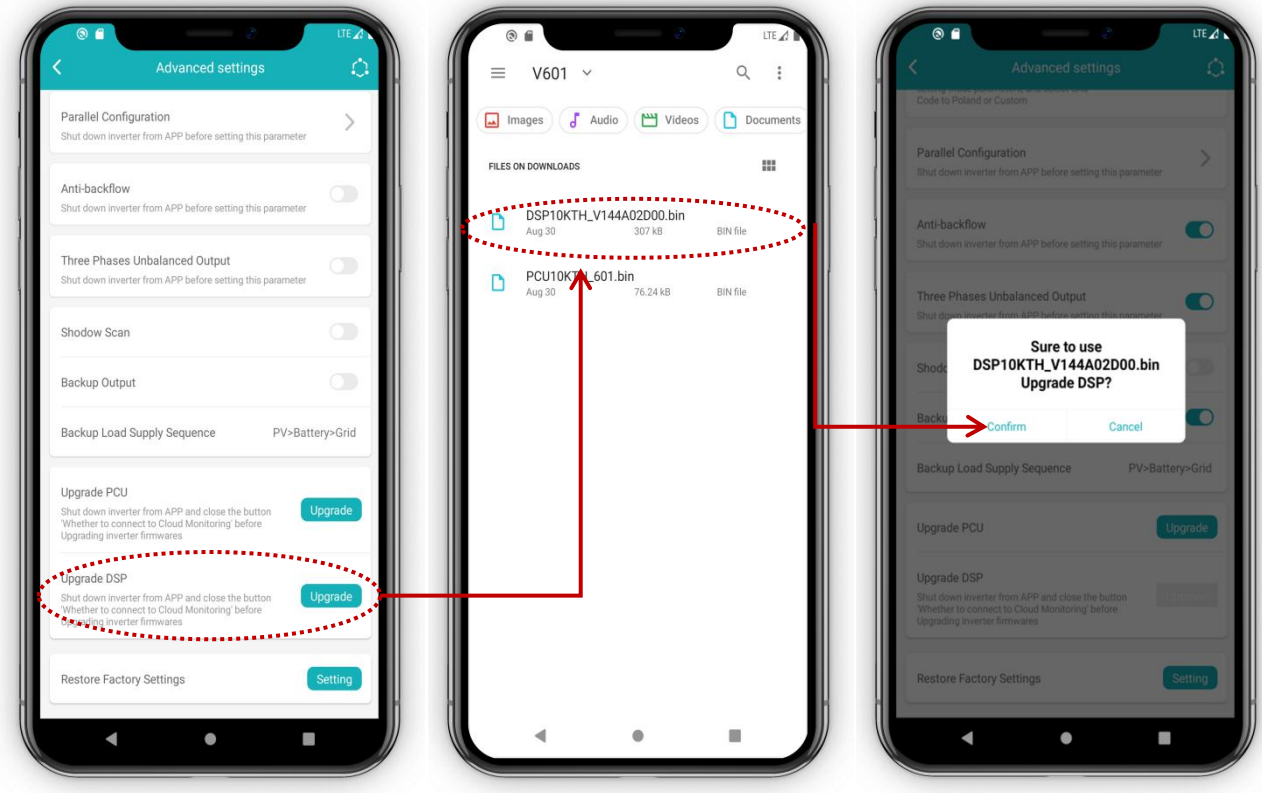

Fig.2-22

2.4.6.18. Restore Factory Settings

Click the 'Setting' button on Restore Factory Settings, the device will restart and restore the settings back to factory setting (Will also clear inverter statistical data).

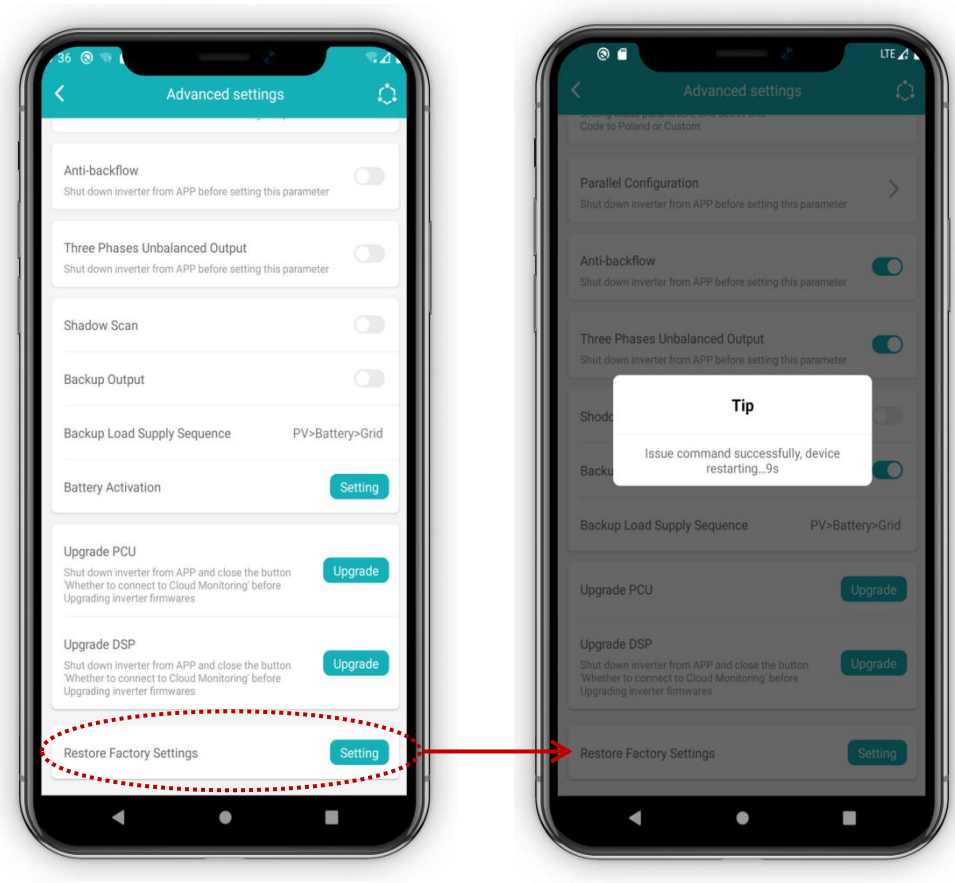

Fig.2-23

2.5. Alarm

In the Home Page of 'Local Connection Mode', when clicking the Alarm button on the right top corner of the page, will be able to go into the alarm page. Alarms include System Error and Battery Warning. Left or right slide can alter between the two alarm pages. Drag can refresh the page.

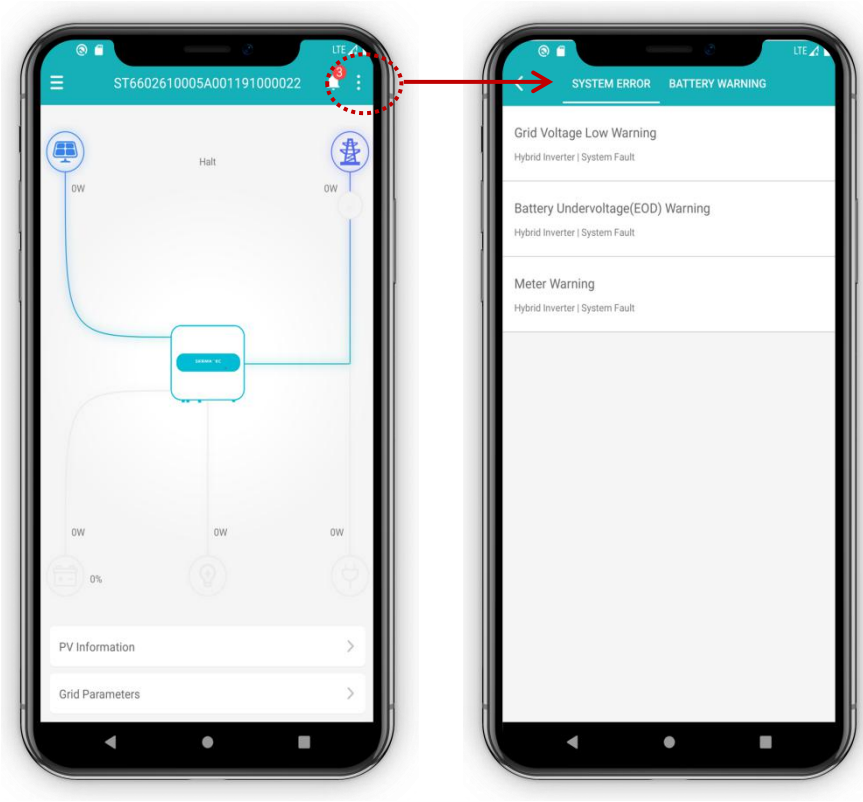

Fig.2-24

2.6. Login

In Local Connection Mode, left slide to open the setup menu, click login to enter login page.

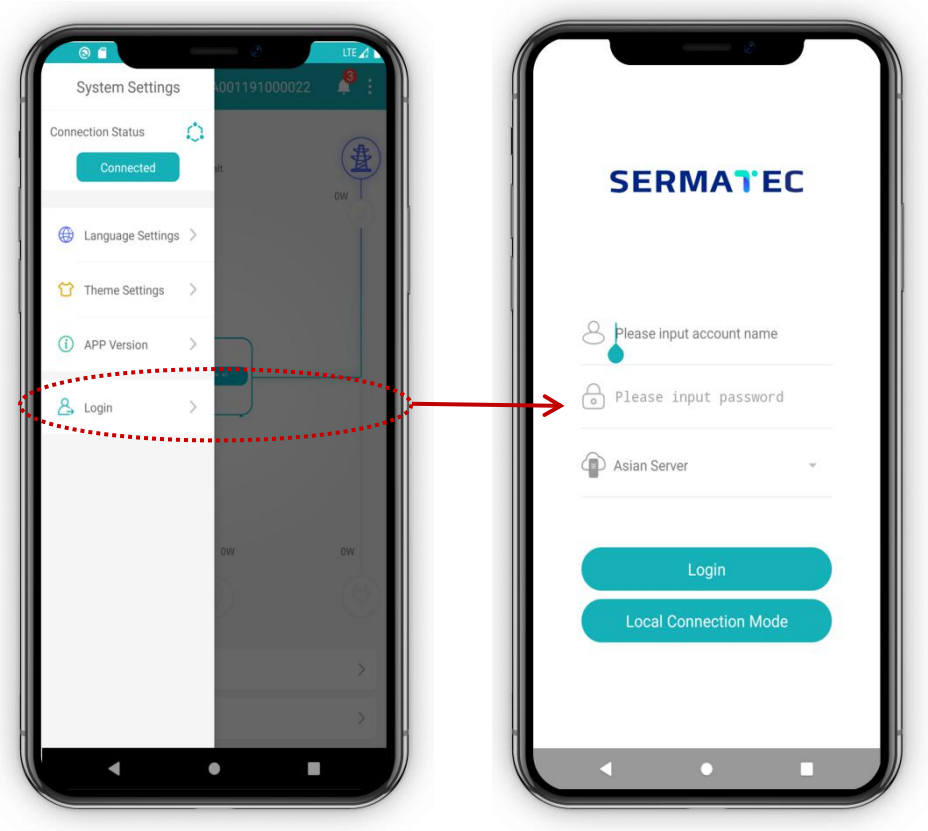

Fig.2-25

3. Remote Monitoring Mode

3.1. Authority Management

There are following roles of accounts which have different authorities for remote monitoring.

(1) Common user account has authority to check power station and inverter parameters.

(2) Super user account has authority to create power station, add device, check power station and inverter parameters.

(3) Dealer account has authority to create power station, add device, check power station and inverter parameters, remote control inverters.

(4) Dealer account and super user account only can read but cannot write(delete,edit,modify) the power station or inverter created by the other party.

3.2. User Login

Smart phone needs to connect to a valid network, input account and password in login page, select the corresponding server(Asian or European server), click 'Login'.

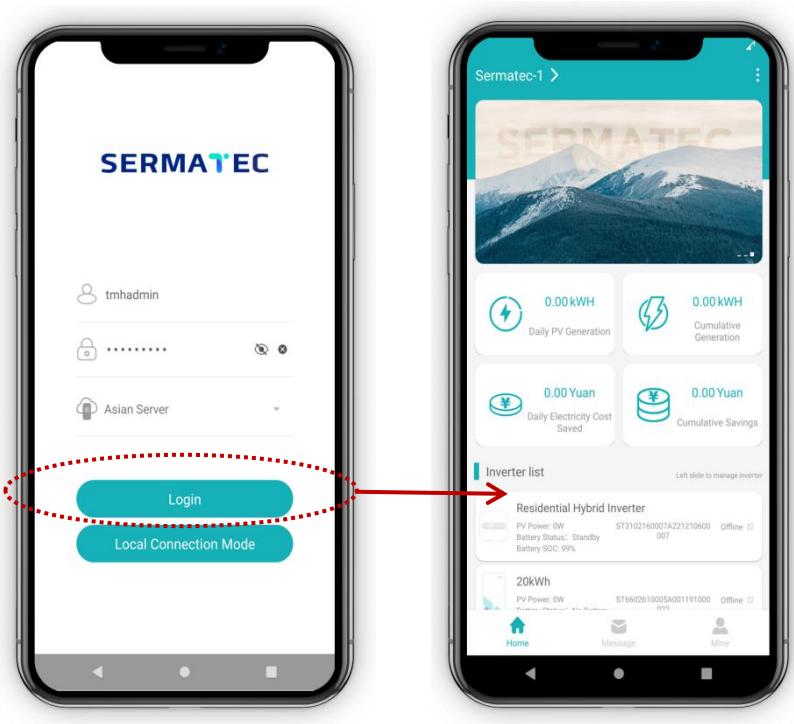

Fig.3-1

3.3. Homepage introduction

After login, the homepage will display with plant information and device list.

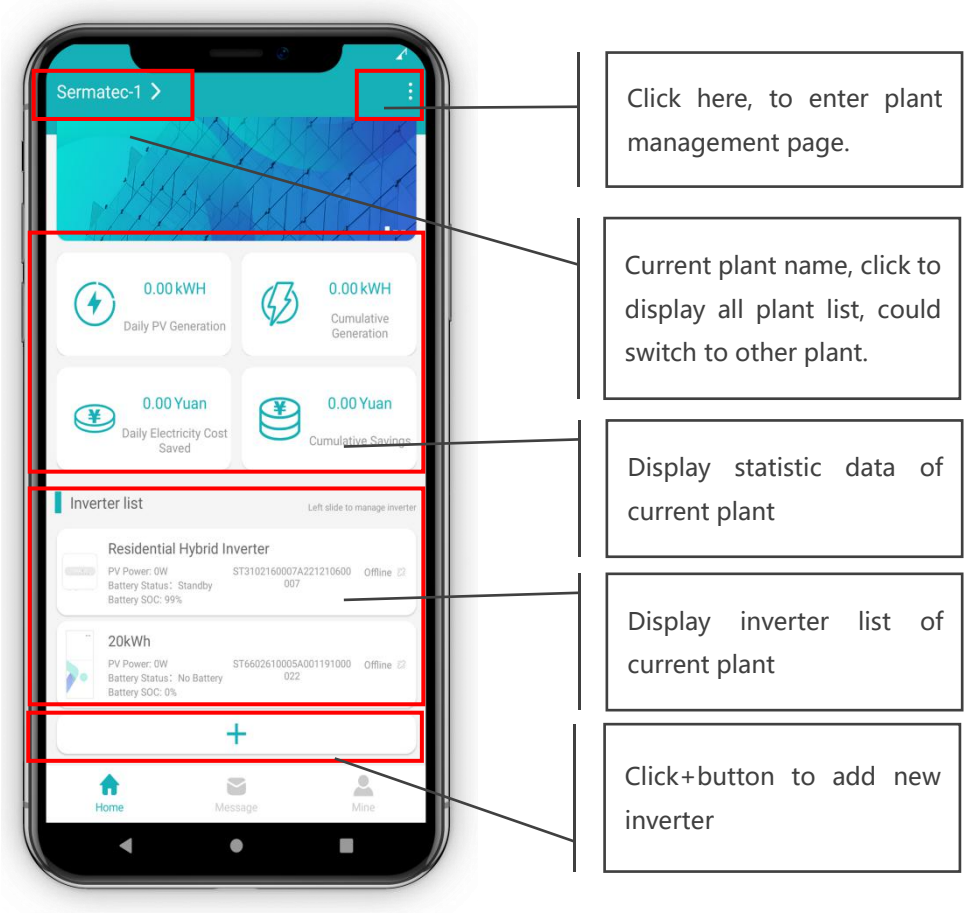

Fig.3-2

3.4. Plant Management

Plant management page will show all plants of current account, click the plant to switch between plants, left slide to edit or delete the plant, click'Create Plant'at bottom to create new plant.

Notes: Only dealer account the super user account have authority to create,edit,delete plants, dealer account and super user account only can read(check data) but cannot write(create,edit,modify) the plant or inverter created by the other.

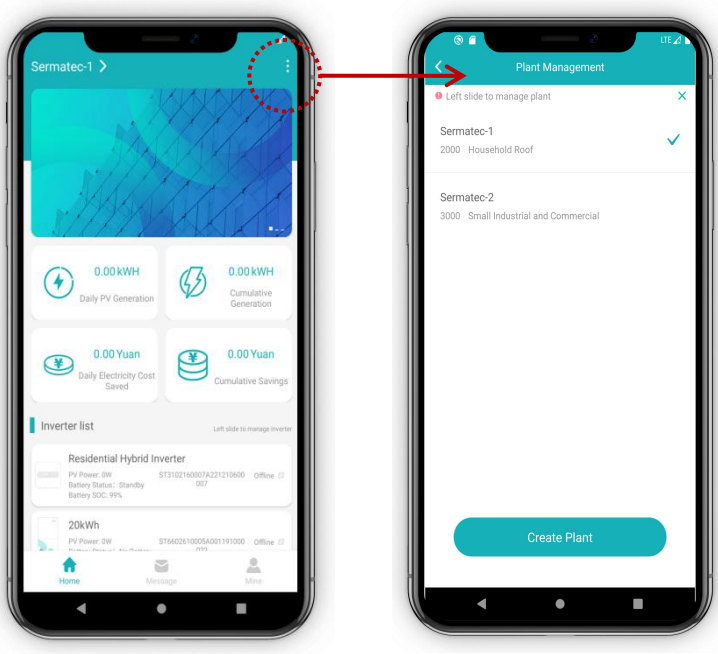

Fig.3-3

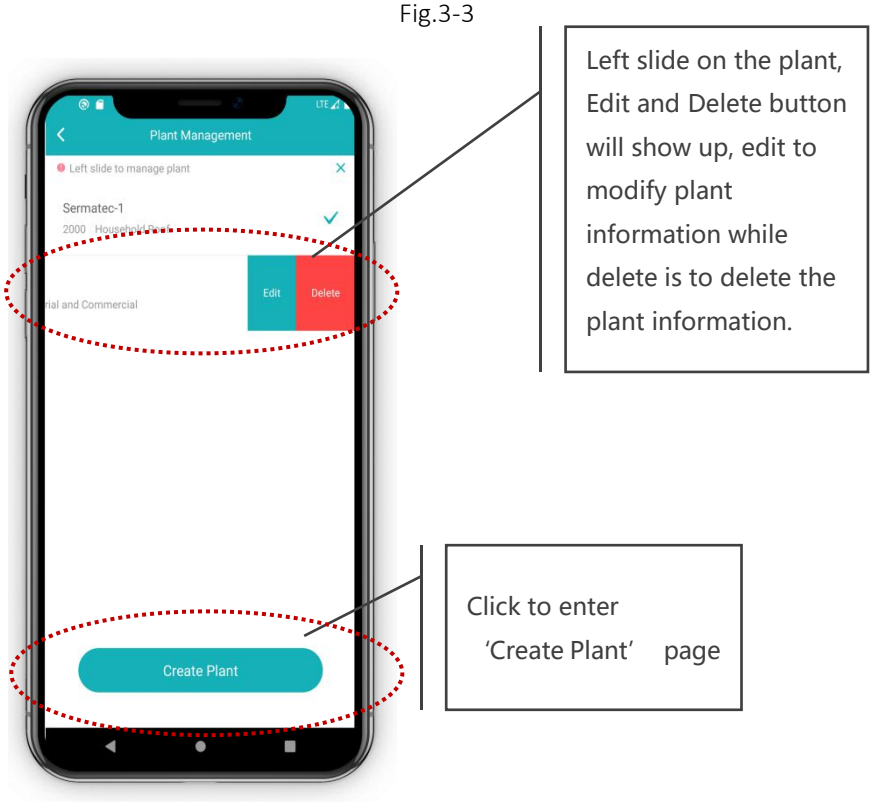

Fig.3-4

3.4.1.Create Plant

Click'Plant Management' button to create new plant. Allow the APP to locate according to smart phone, input plant name, affiliated user, time zone, plant type, address, longitude,latitude, and confirm,it will automatically return to plant management page.

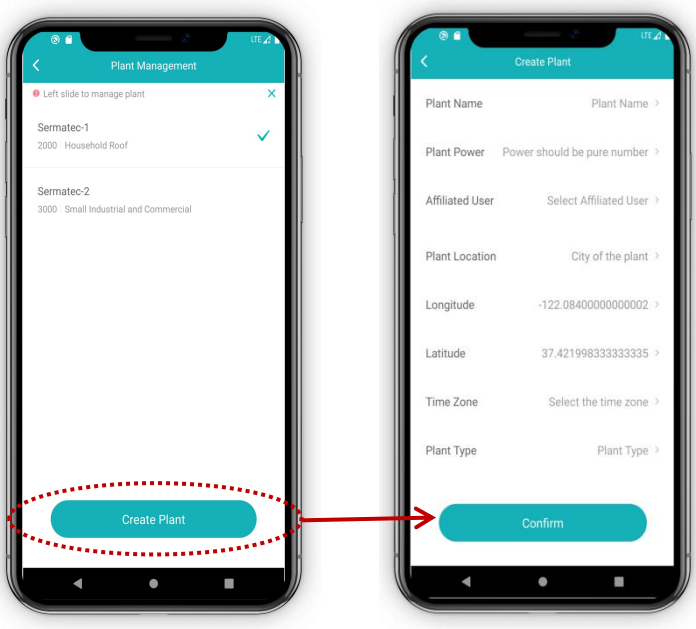

Fig.3-5

3.4.2. Edit Plant

Left slide at the plant list,the plant edit button will show up, plant information could be modified here.

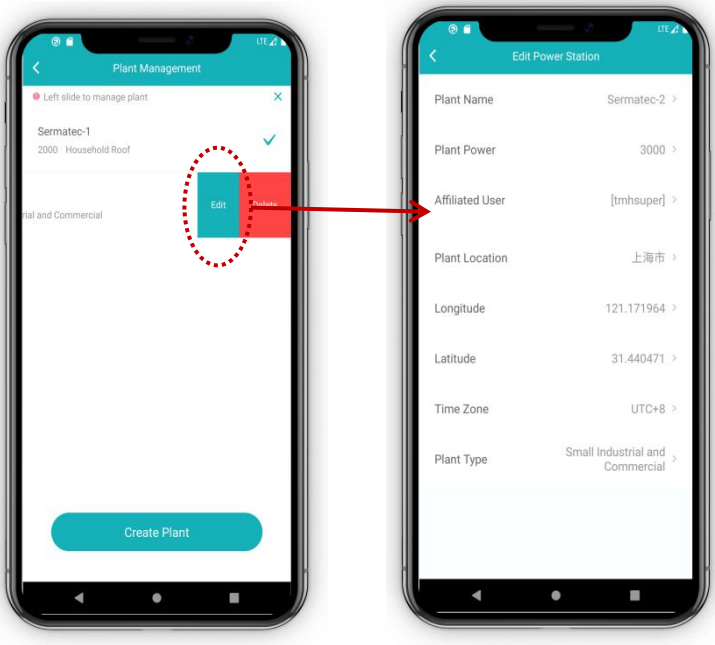

Fig.3-6

3.4.3. Delete Plant

Left slide at the plant list,the plant deletion button will show up, Click'Delete' the plant will be deleted.

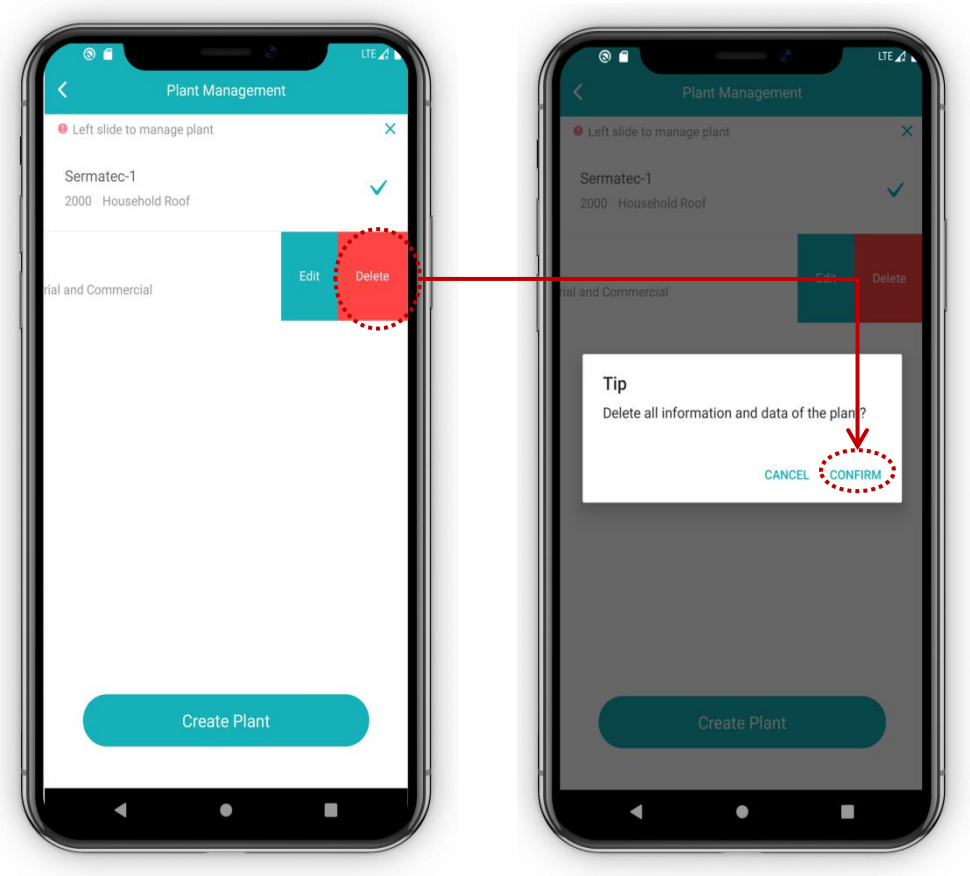

Fig.3-7

3.5. Inverter Management

Homepage will display inverter list of current plant, left slide at inverter list, the edit and delete buttons will show up. Click 'Edit' to modify inverter information; Click'Delete' to delete the inverter. Click+ button to add new inverter.

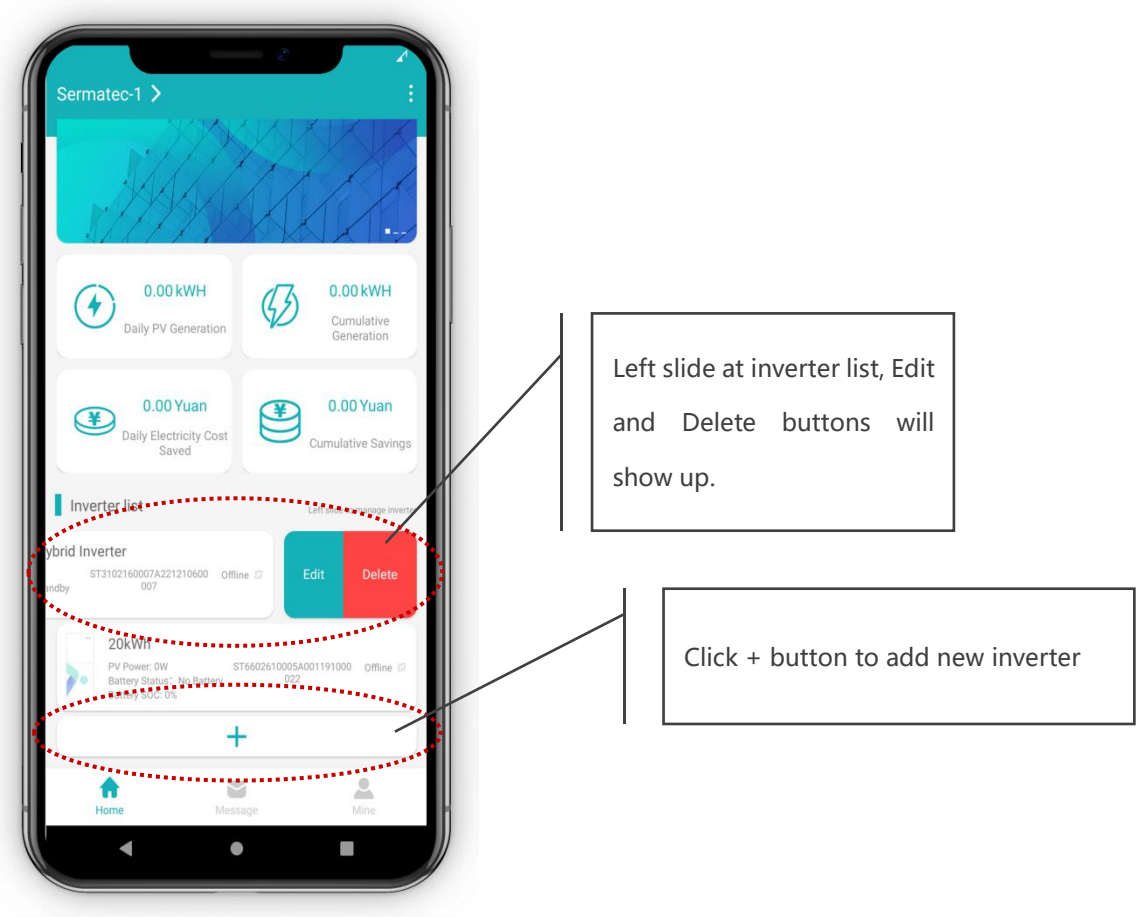
Sermatec-1
0.00 kWH
Daily PV Generation
0.00 kWH
Cumulative Generation
0.00 Yuan
Daily Electricity Cost Saved
0.00 Yuan
Cumulative Savings
Inverter list
Edit
Delete
20kWH
Home
Message
Mine
Left slide at inverter list, Edit and Delete buttons will show up.
Click + button to add new inverter

Fig.3-8

3.5.1 Add Device

Click the device list bottom **+** icon to add device, there are two ways with or without guide to add device.

(1) If inverter PCU version is higher than 601, recommend that to use guide to add device, after adding device will be online of cloud.

(2) If inverter PCU version lower than 601, skip the guide to add device, need to set router and server in local connection mode separately(refer to chapter 2.4.1,2.4.2).

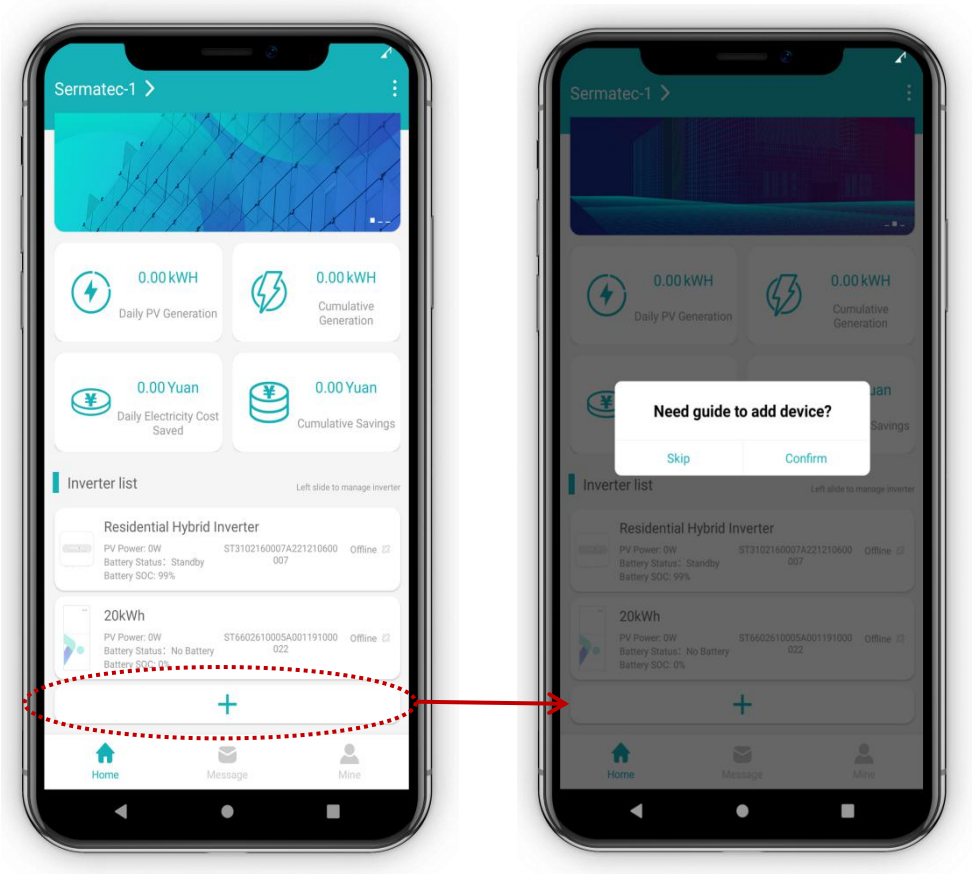

Fig.3-9

3.5.1.1. Need Guide to add device

Need guide to add device, steps are as following.

(1) As the APP's tips, input a valid router's WIFI name and password.

(2) Scan WIFI QR code at the inverter side label.

(3) Inverter WIFI name and default password will be there automatically, click'WIFI Connection' to connect the inverter to the router, inverter will reboot automatically.

(4) Click'Add device', when smart phone is connecting to valid network, input the inverter SN and location, then submit.

(5) After adding device to cloud, wait 1-5 minutes, the inverter will connect to cloud and become online on cloud monitoring.

Notes: If inverter PCU version is lower than 601, once the device is added with guide, still need to set router and server in local connection mode.(refer to chapter 2.4.1,2.4.2)

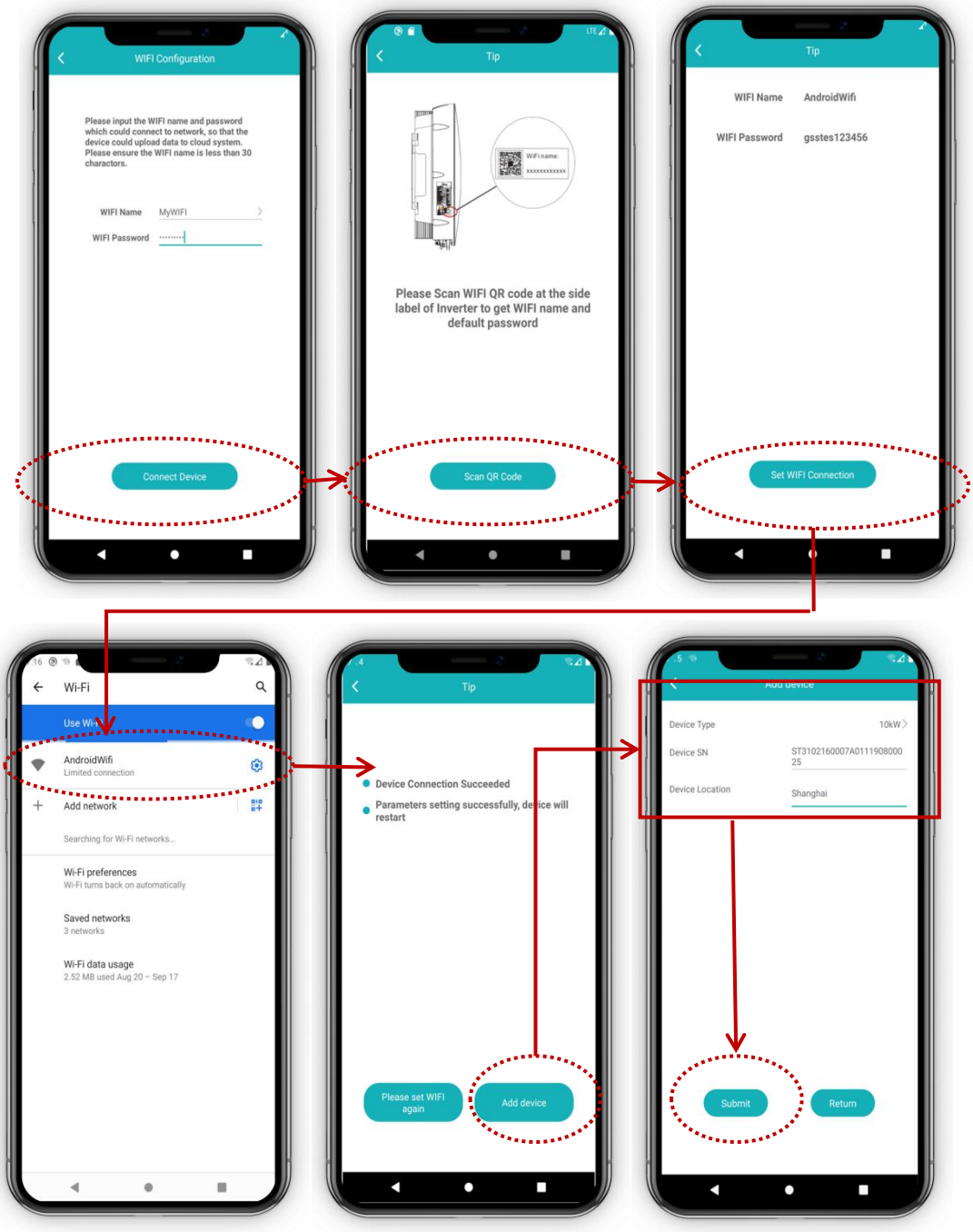
WIFI Configuration
Please input the WIFI name and password which could connect to network, so that the device could upload data to cloud system. Please ensure the WIFI name is less than 30 charactors.
WIFI Name
MyWIFI
WIFI Password
Connect Device
Tip
Please Scan WIFI QR code at the side label of Inverter to get WIFI name and default password
Scan QR Code
Tip
WIFI Name
AndroidWifi
WIFI Password
gsstes123456
Set WIFI Connection
Wi-Fi
AndroidWifi
Limited connection
Add network
Searching for Wi-Fi networks...
Wi-Fi preferences
Wi-Fi turns back on automatically
Saved networks
3 networks
Wi-Fi data usage
2.52 MB used Aug 20 – Sep 17
Tip
Device Connection Succeeded
Parameters setting successfully, device will restart
Please set WIFI again
Add device
Device Type
10kW
Device SN
Device Location
Shanghai
Submit
Return

Fig.3-10

3.5.1.2. Skip the guide

Click'Skip' button when it pops up'Need guide to add device', input the inverter SN and location, and submit. Then it will enter router settings and server setting in local connection mode. Please refer to chapter 2.4.1 and 2.4.2 to know how to connect the inverter to cloud monitoring.

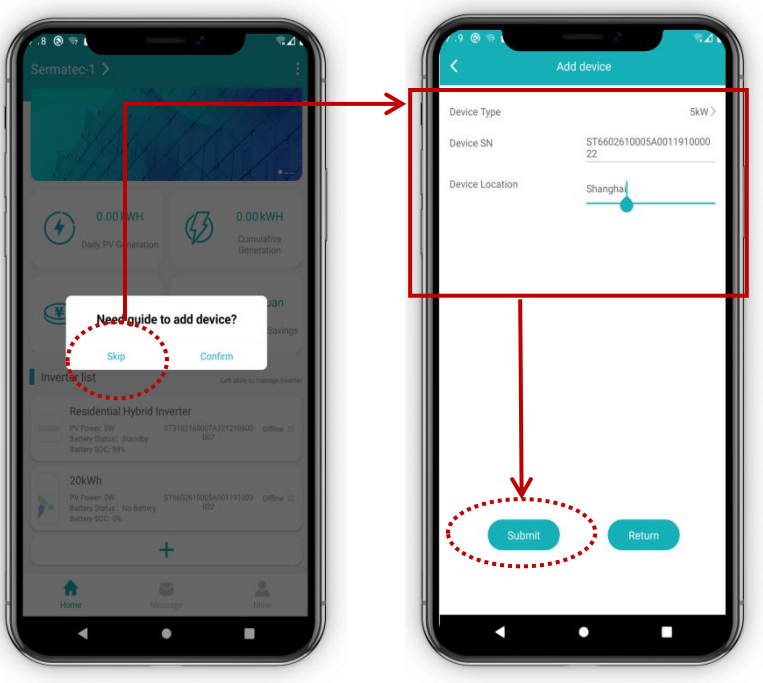

Fig.3-11

3.5.2. Edit Device

Modify inverter information, Left slide in device list, click'Edit' to edit the inverter information.

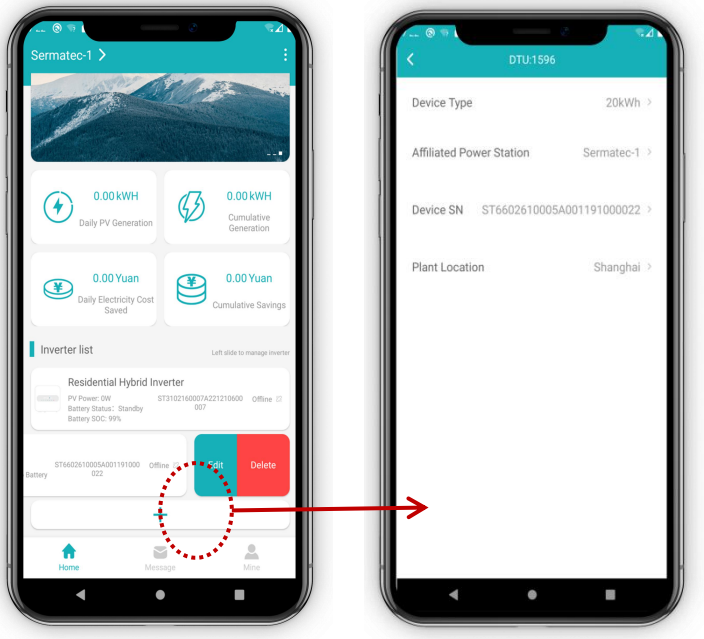

Fig.3-12

3.5.3. Delete Device

Delete all data from cloud about the device. Left slide in device list, click'Delete' to delete all information or data about the inverter.

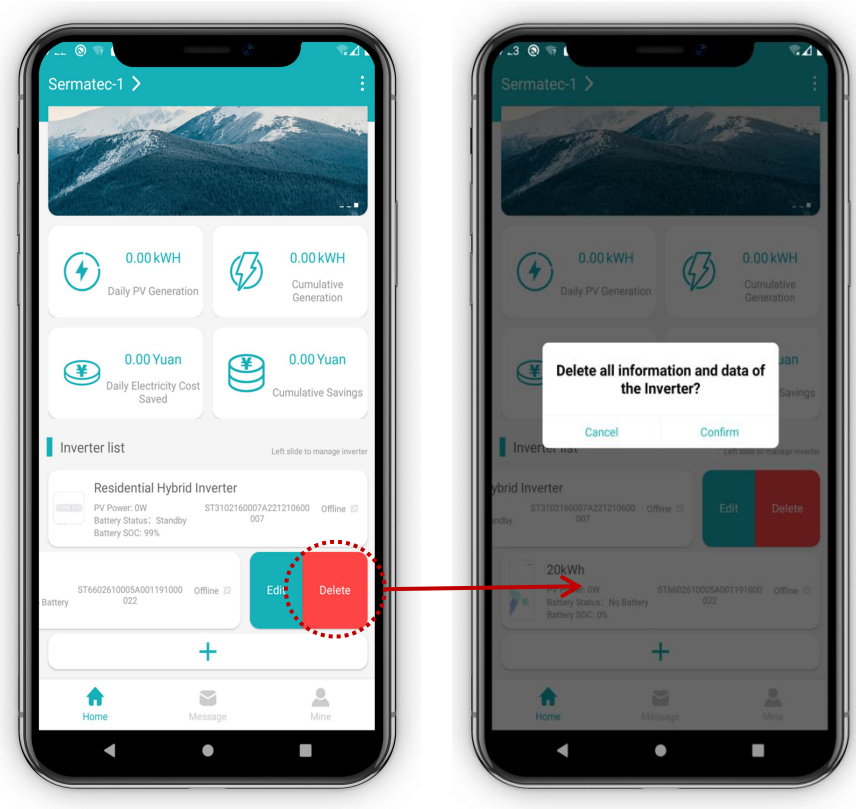

Fig.3-13

3.6. Device Details

(1) Click on the device list to enter device details page.

(2) Device running data could be seen in device details page

(3) The list is displayed and click >, the curve of the data could be fetched.

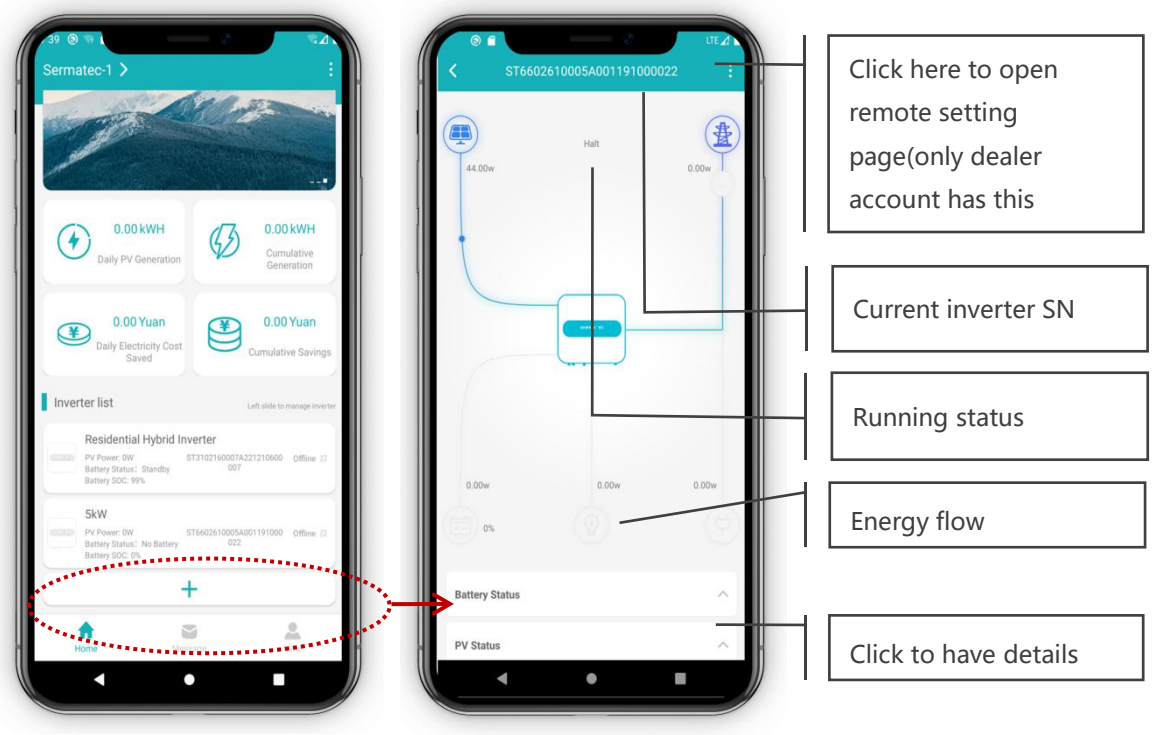

Fig.3-14

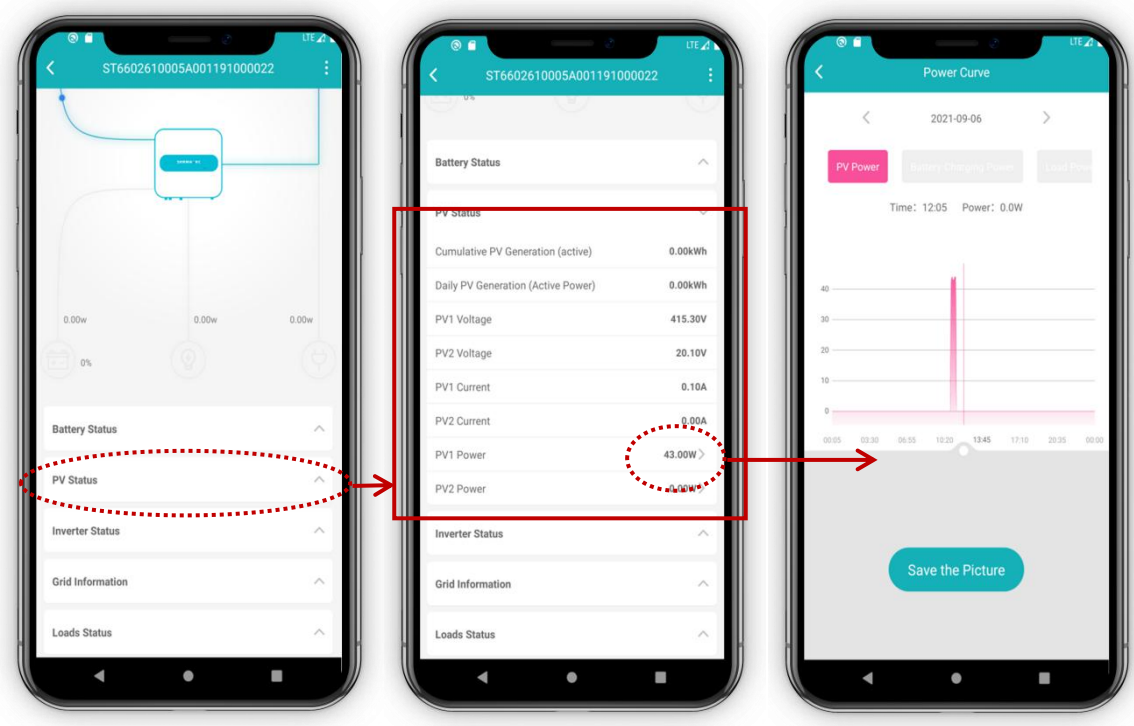

Fig.3-15

3.7. Remote Settings(only available for dealer account)

Click the right top area at device details page, there will be remote settings page(inverter needs to connect to network). This page includes: Startup&Shutdown,Working parameters settings, Working mode settings,advanced setting and Force Charging/Discharging Settings, after setting here please pull down to let the APP refresh the device status.

Note: Only dealer account has right for remote settings.

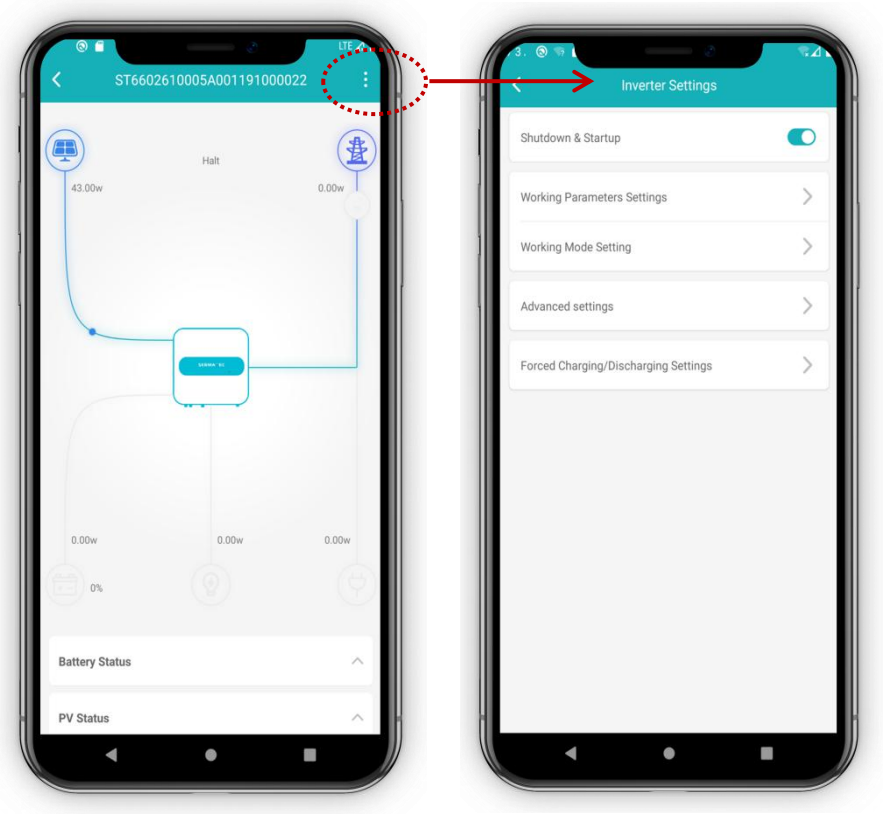

Fig.3-16

3.7.1. Startup&Shutdown

Startup is used to let inverter start to work, shutdown is used to let inverter go to standby status.

3.7.2. Working Parameters Settings

(1) When inverter PCU version is higher than 259 (including 259), meter detection, lower limit of off-grid SOC could be set.

(2) Three-phases inverter(6K,8K,10K) does not support lead acid battery.

(3) Please shutdown the inverter from APP before settings of Grid Code,Battery Type, AH value of lead acid battery and meter detection.

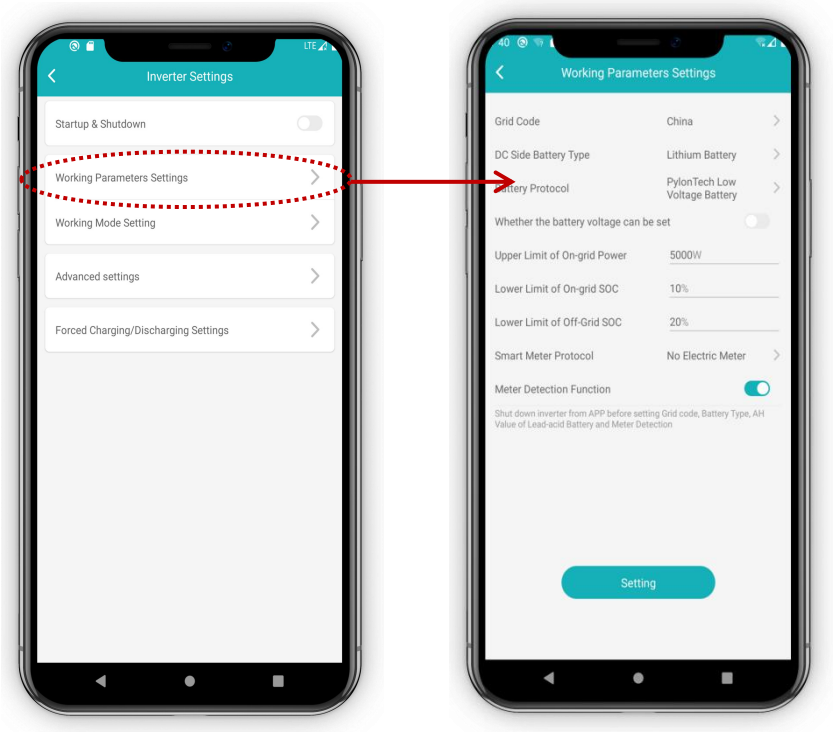

Fig.3-17

3.7.3. Working Mode Settings

Enter'Working Mode Settings', different working modes could be selected, and the electricity price and peak/tip/flat/bottom price time period could be set.(When PCU version is higher than 603, DSP higher than V142A02D00 for 10K and V124A02D00 for 5K, AC Coupling work mode is available)

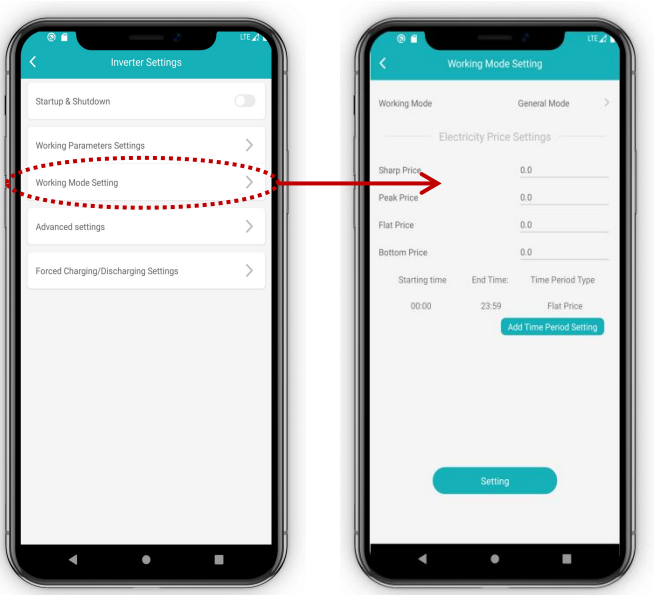

Fig.3-18

3.7.4. Advanced Settings

Advance Settings include anti-backflow, unbalance output, battery activation,backup output, backup load supply sequence.

Notes: Please shutdown the inverter from APP before setting anti-backflow and unbalanced output(refer to chapter 2.4.6).

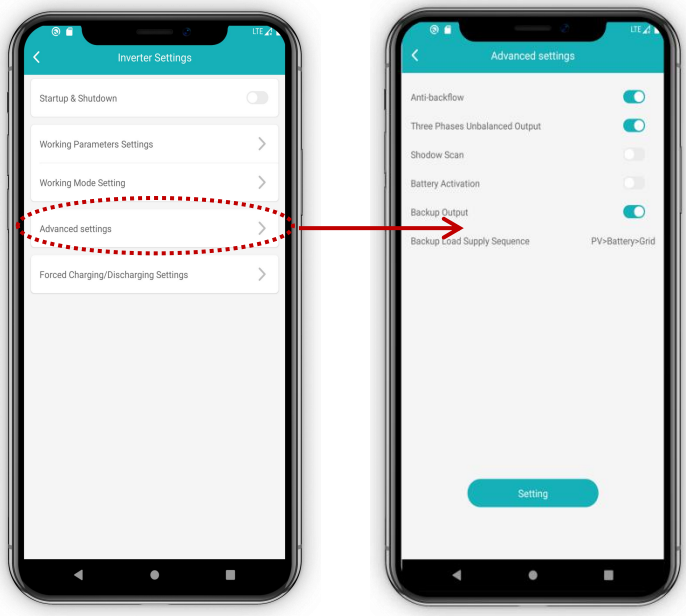

Fig.3-19

3.7.5. Force Charging/Discharging Settings

This function is valid when the inverter PCU version higher than 601. Enable'Battery Power Manual Limit' to set up 'upper limit of charging/discharging power' and 'upper limit of charging current from grid', and the force charging/discharging date&time period.

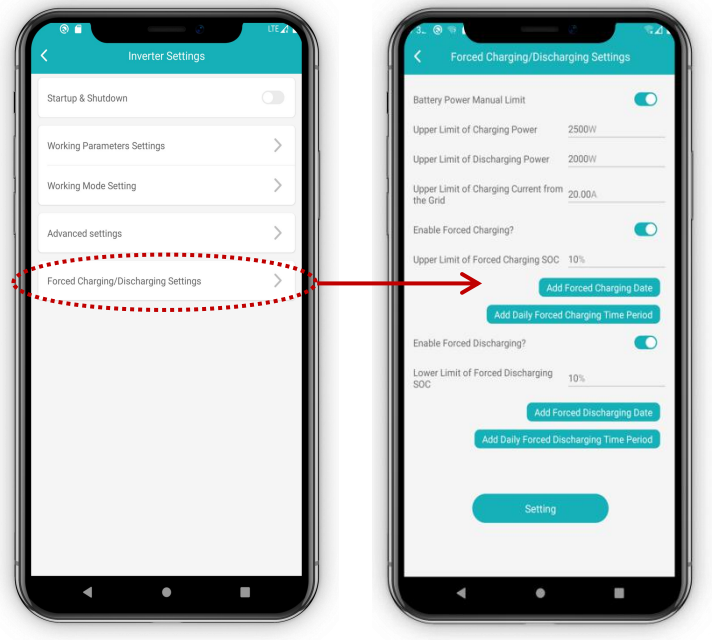

Fig.3-20

3.8. Message

APP Homepage, at bottom there Message button, Alarm in progress and History Alarm are included. Click it the details will be seen.

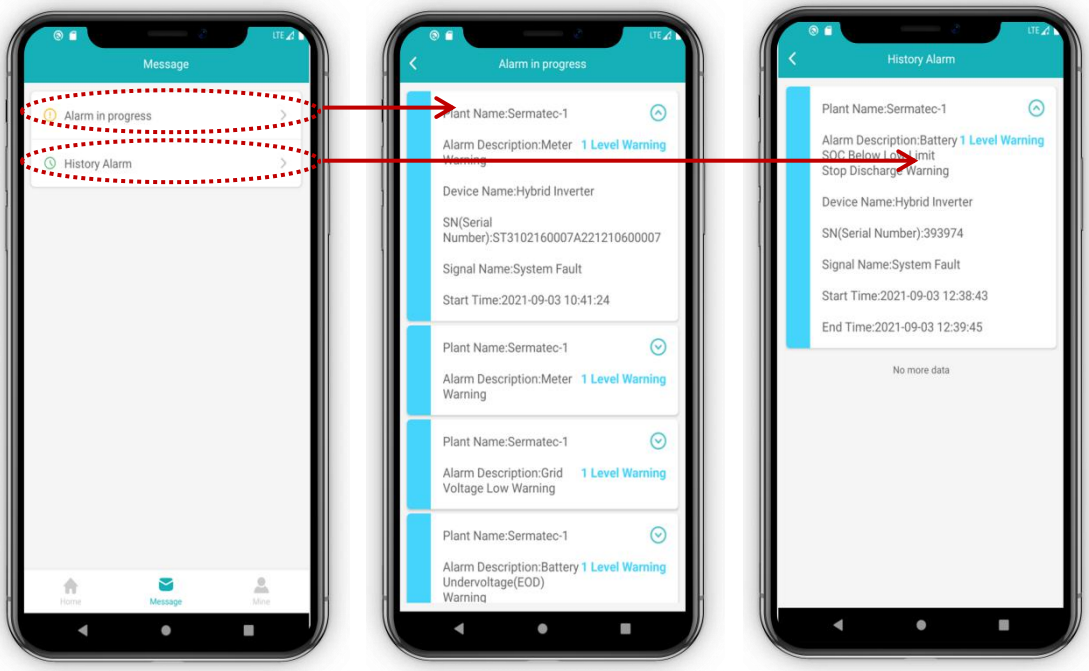

Fig.3-21

3.9. Mine

APP homepage, Mine button is at the bottom, there are Language Settings, Theme Settings, Change Password and so on. Profile and account name is displaying at top.

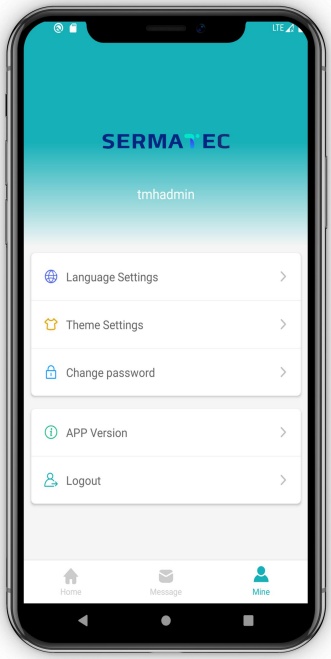

Fig.3-22

3.9.1. Language Settings

Language Setting could switch APP Language between English and Chinese.

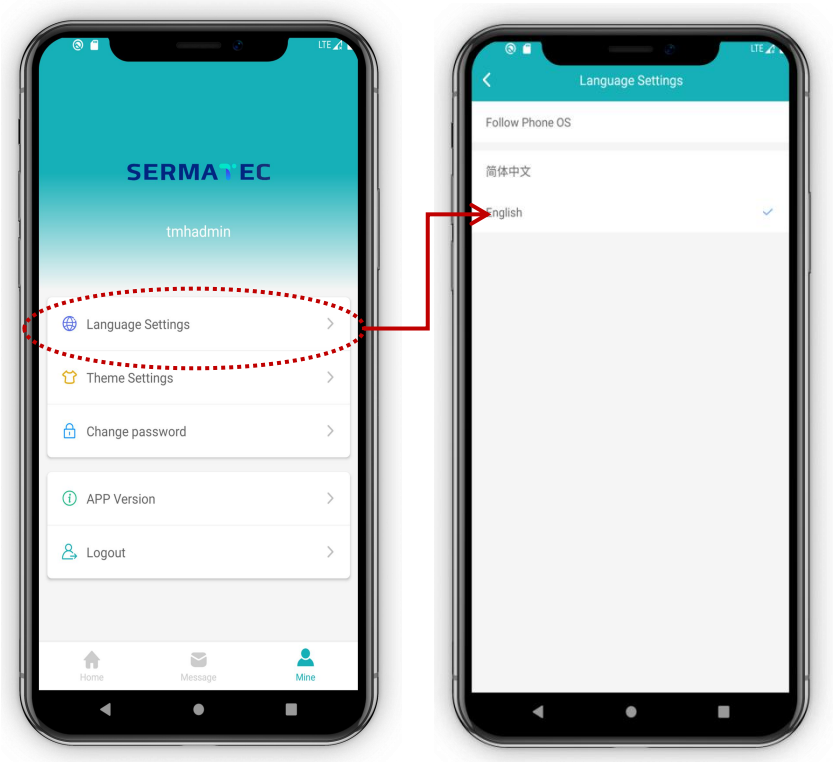

Fig.3-23

3.9.2. Theme Settings

Theme settings include Light color background, Dark color background and Follow phone OS, if you choose Dark color background, the APP theme will change to dark color background.

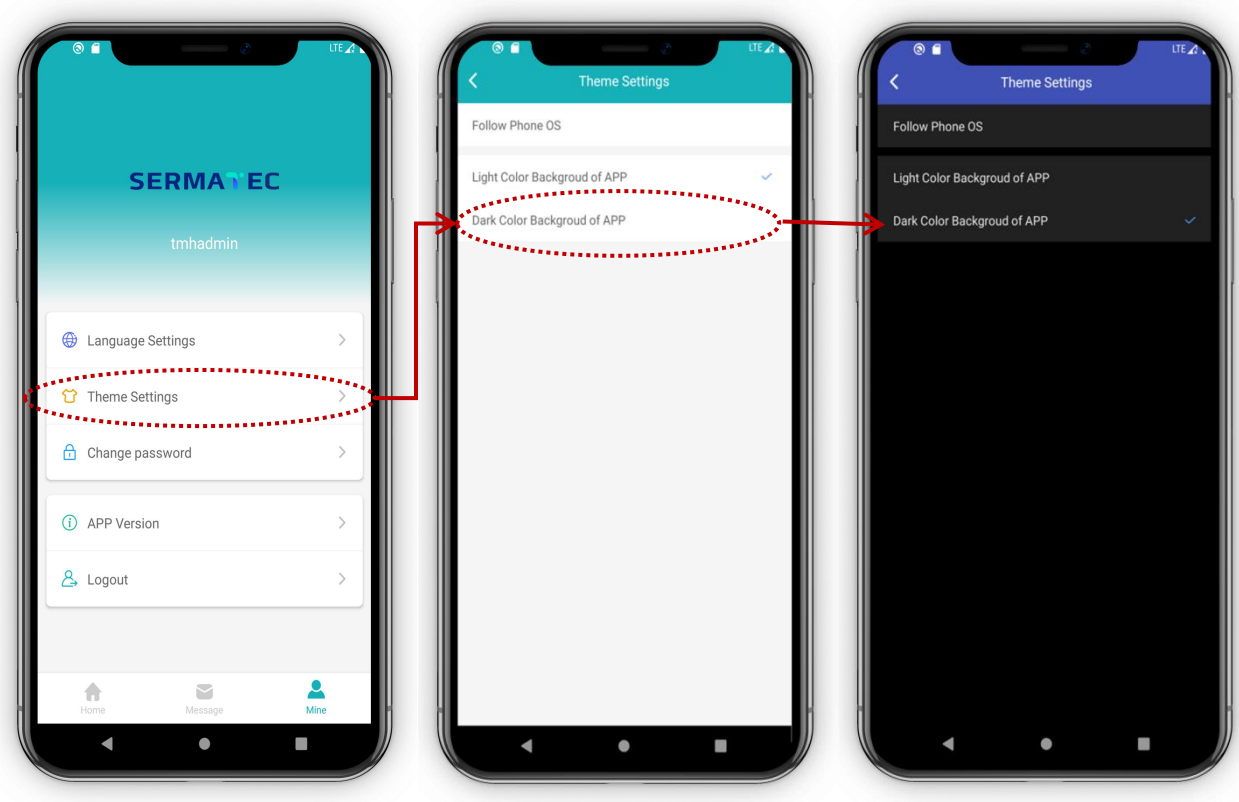

Fig.3-24

3.9.3. Change Password

This function is used to change the account login password, is supposed to be 8~16 characters.

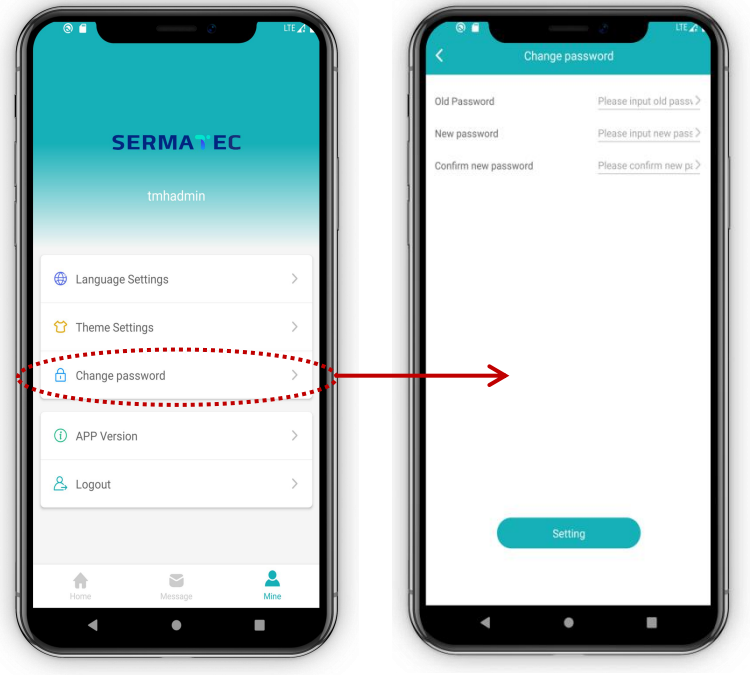

Fig.3-25

3.9.4. APP Version

Display the APP version.

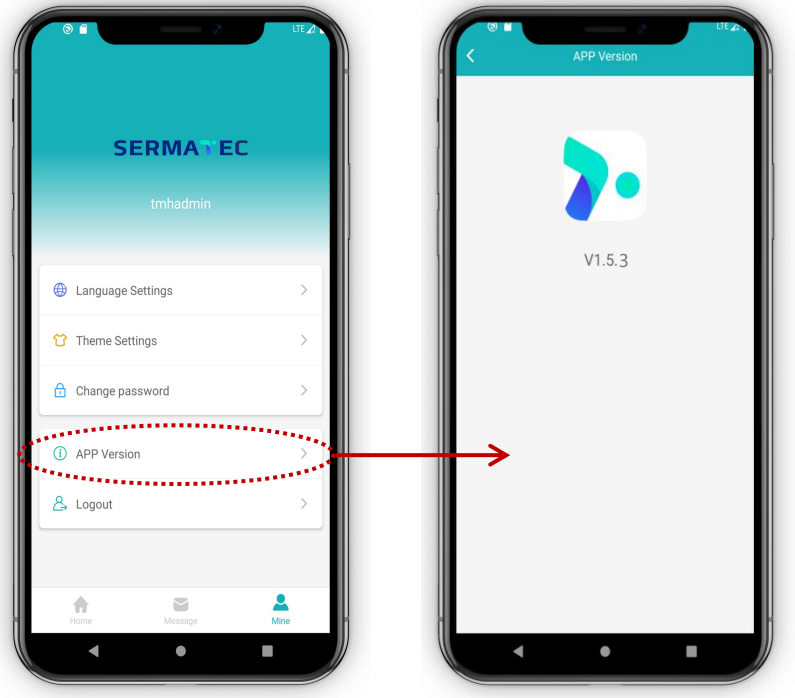

Fig.3-26

3.9.5. Logout

Click'Logout' button, confirm to logout and back to login page.

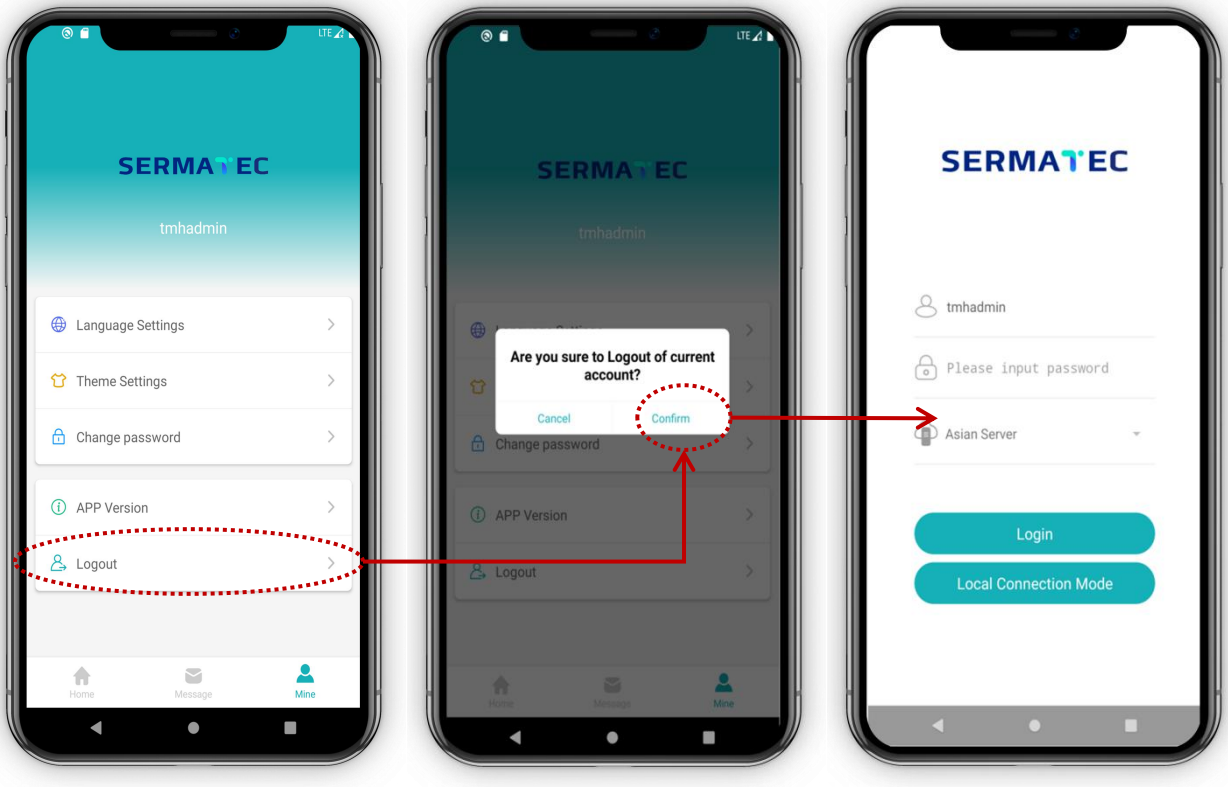

Fig.3-27