



All-in-One RESS App User Manual

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1. Download App

Scan the following QR code to download the APP (Solarman Smart is for End-User, Solarman Business is for Installers or Distributors).



Solarman Smart



Solarman Business

Fig. 1-1

2. Account Registration in Solarman Business

Registration can be done by using your phone number or email address, email address is recommended as the phone number of some country or region is not available. The registration process via email is demonstrated below.

Step 1: Open the App, click “**Register**” button at the bottom of the page, and the registration page will be prompted.

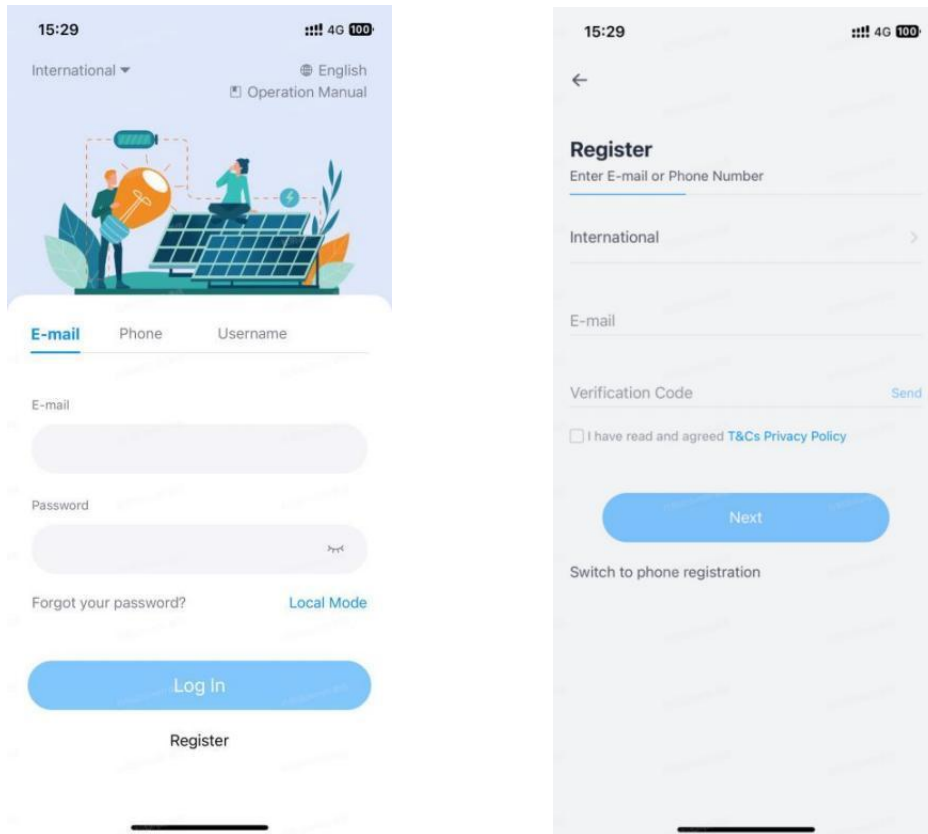


Fig. 2-1

Step 2: Click “*Switch to E-mail registration*” at the bottom of the page.

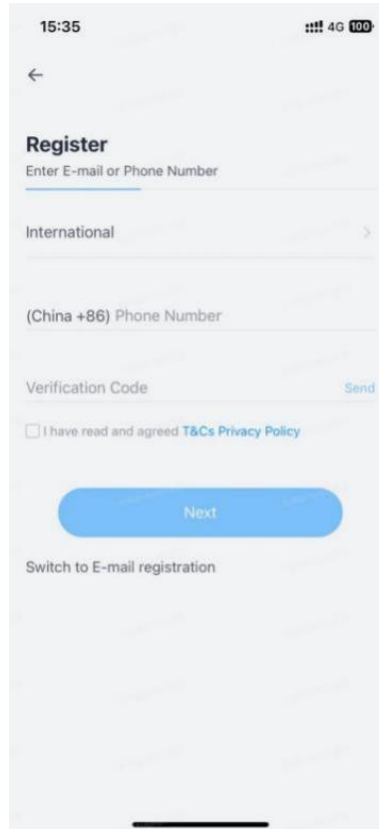


Fig. 2-2

Step 3: Click on “>” at the international section to select your specific region according to your location. Ensure the same region is selected in your future login.

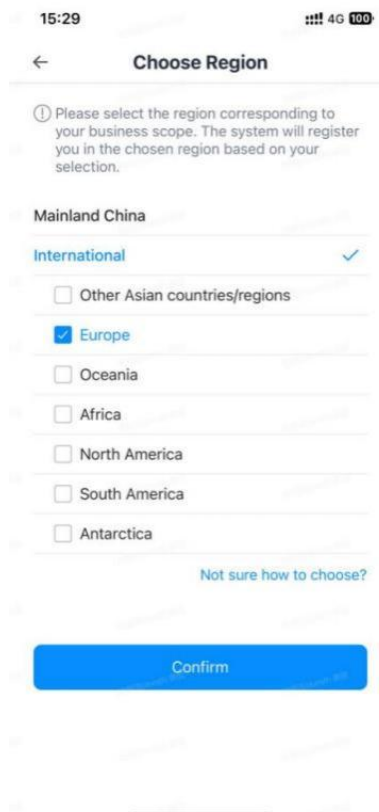


Fig. 2-3

Step 4: Enter your email address, click **“Send”** to obtain the verification code. Enter the code and check the box of **“I have read and agreed T&C’s Privacy Policy”**. Click Enter in the end.

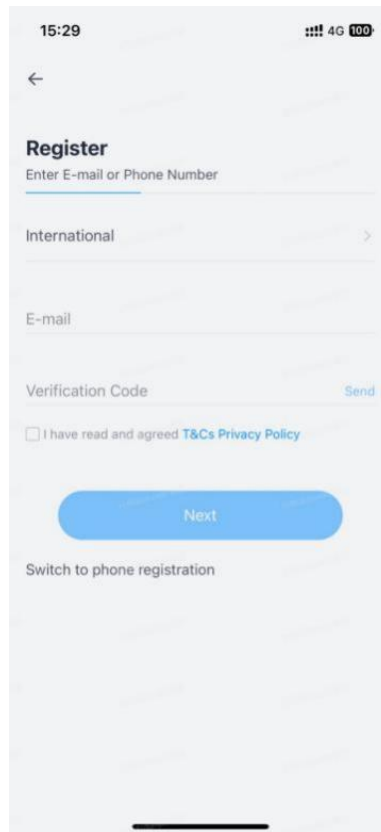


Fig. 2-4

Step 5: Enter the information of business.

a). Choose Business Type: Enterprise or Individual.

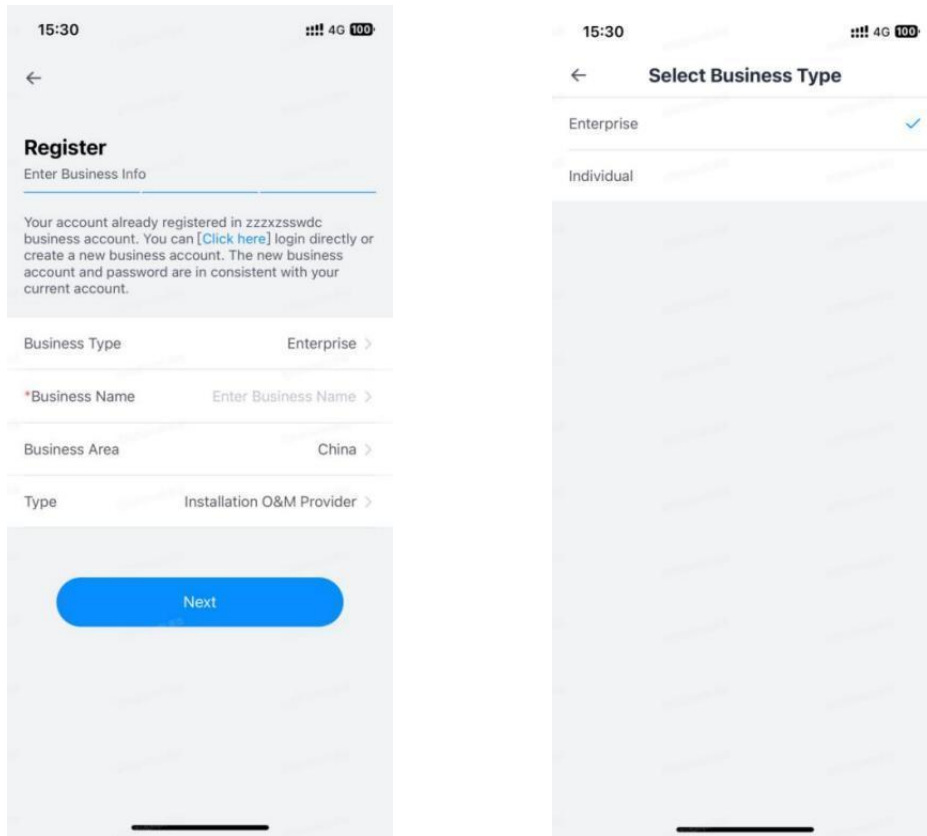


Fig. 2-5a

b). Enter the business name in one language. (Multiple language choices are available.)

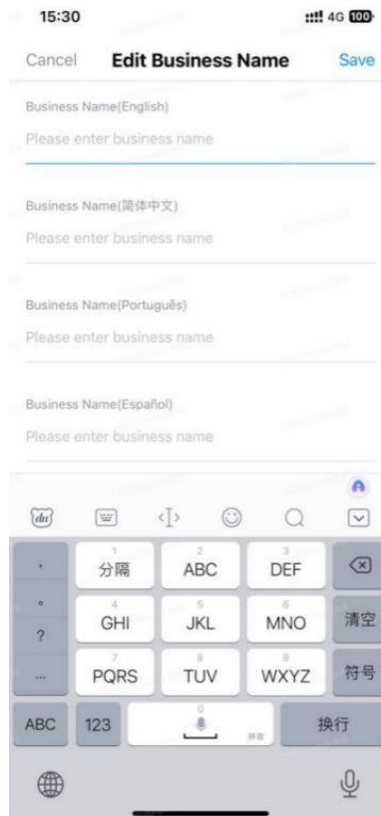


Fig. 2-5b

c). Choose the region of the business.

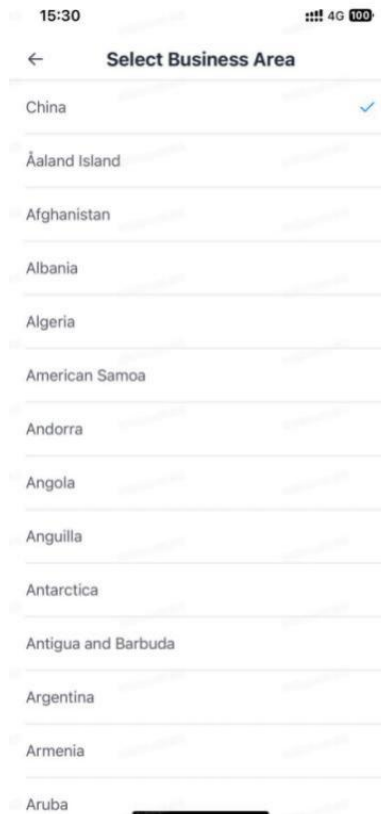


Fig. 2-5c

d). Choose the Type from one of the following: Installation O&M Provider, Investors, Distributor, and Manufacturer.

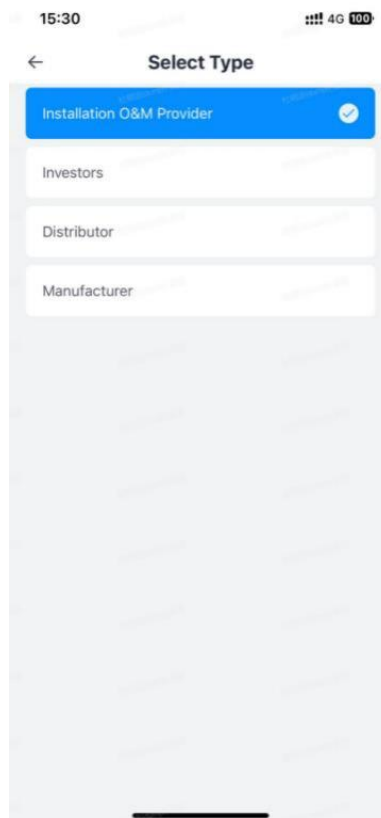


Fig. 2-5d

e). Click **“Next”**.

Step 6: Complete the registration and return to the login page.

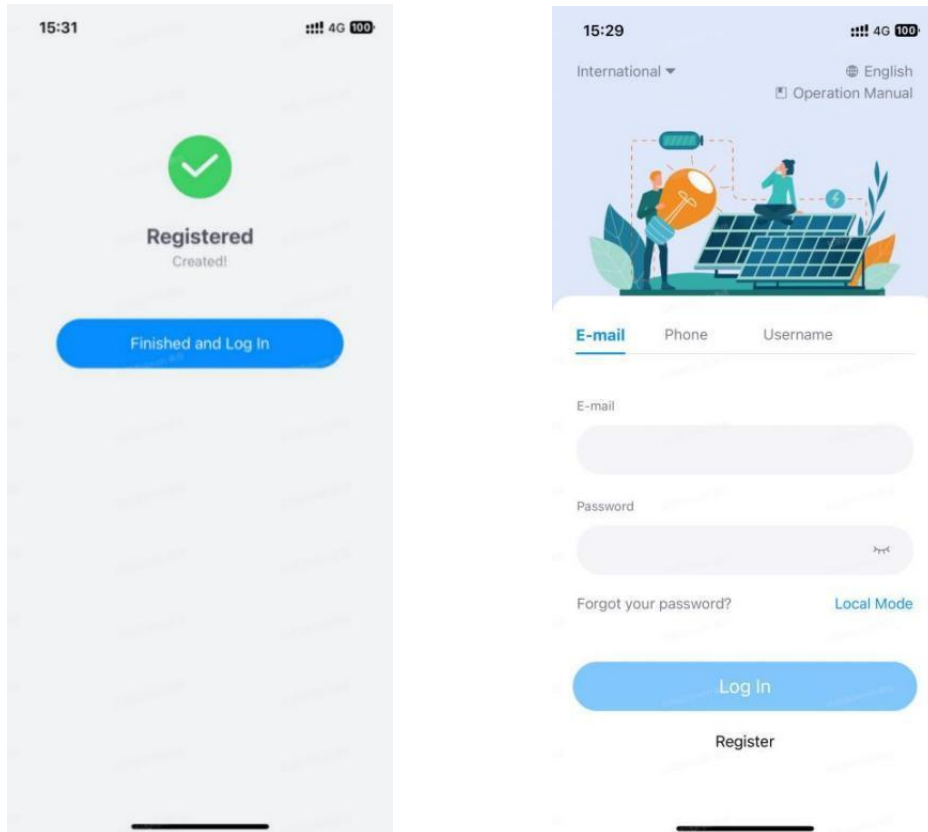


Fig. 2-6

3. Logging into the App

There are 3 ways to login, email is the most recommended method.

Input your email address and password, and click enter. The main page will be prompted after logging in.

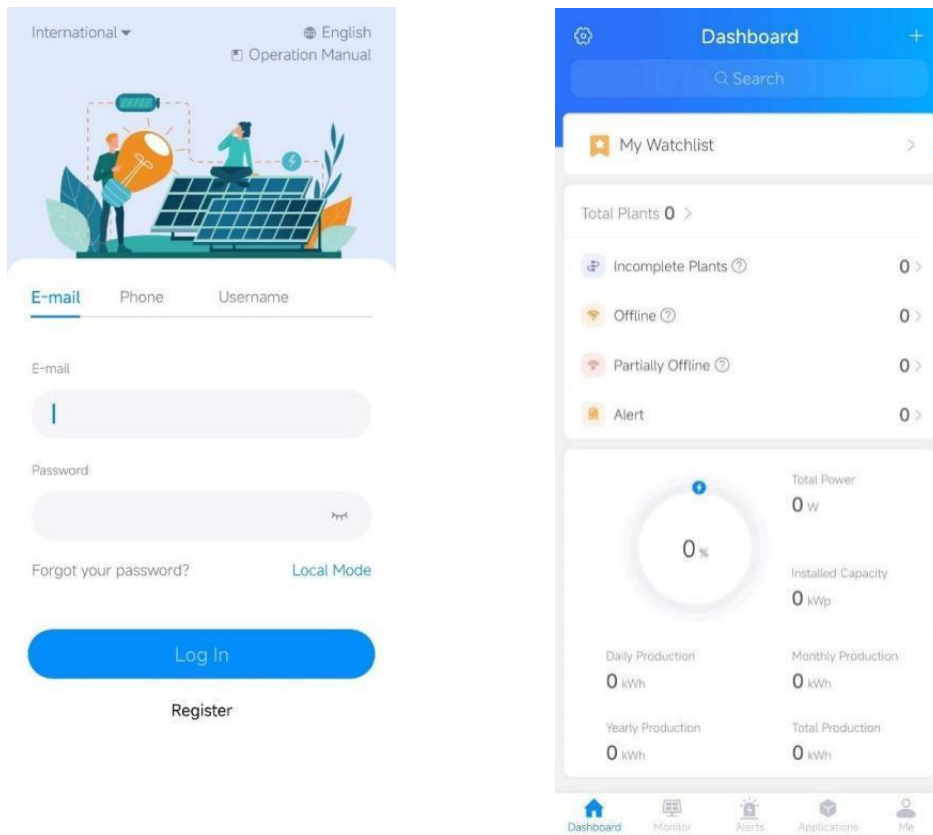


Fig. 3-1

4. Creating a Plant

There are two ways to create a plant.

Method 1: Click the “+” at the top right of screen, then click “**Create a Plant**”.

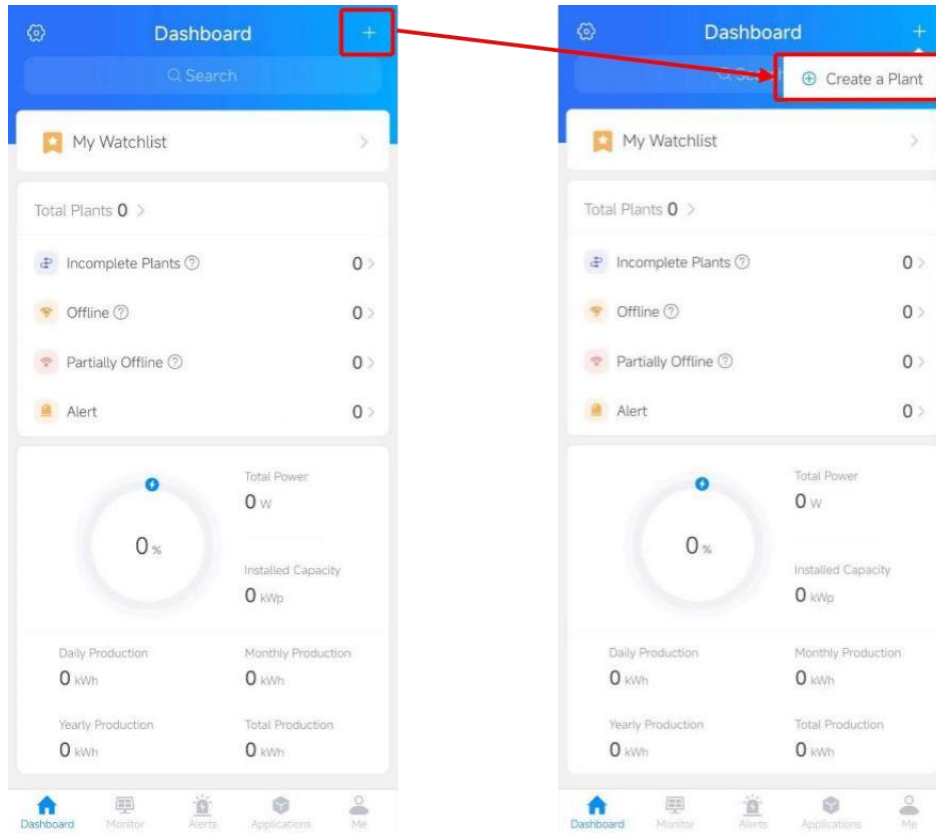


Fig. 4-1a

Method 2:

- Click the **"Total Plants"** or **"Monitor"** icon go to the plants list.
- Choose **"Plants"** and click the **"+"** at the top right of screen go to **"Create a Plant"** page.

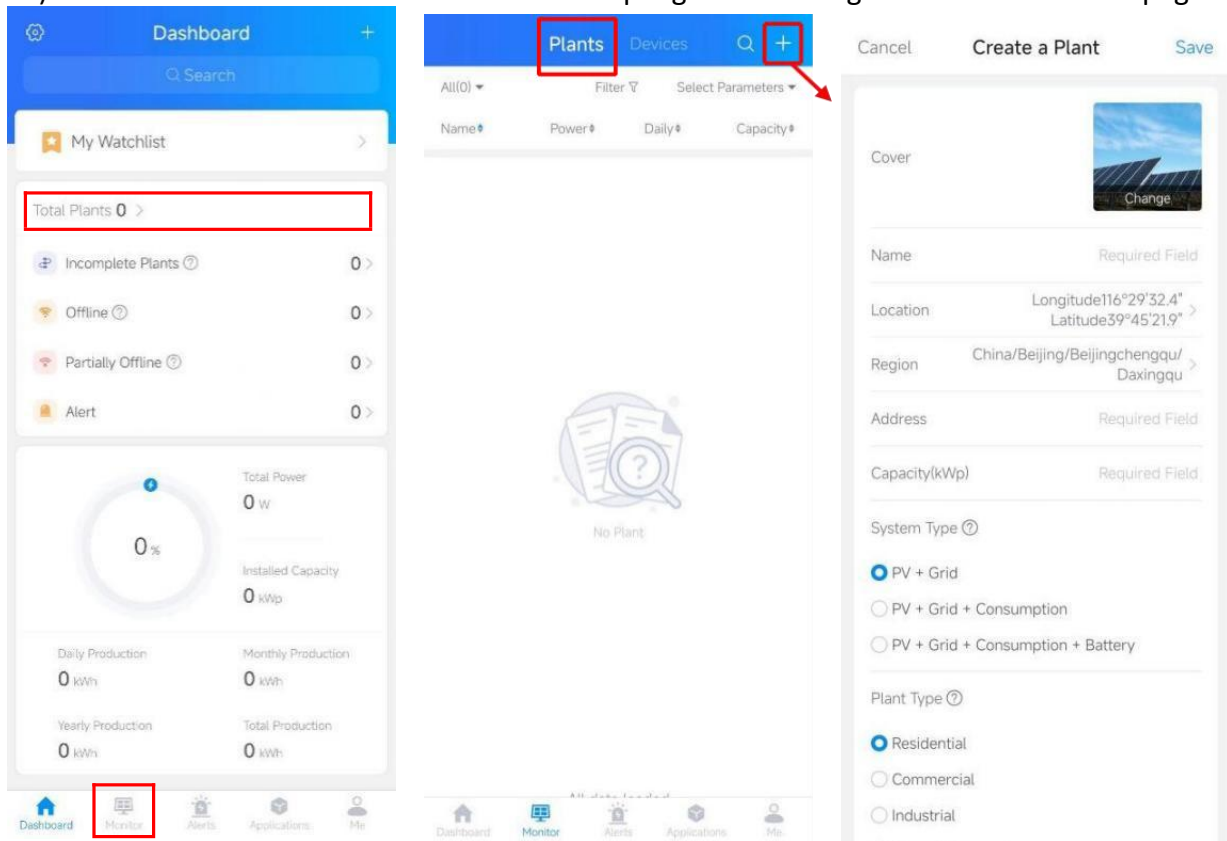


Fig. 4-1b

Enter plant info accordingly when creating a plant:

- Name: Choose your plant name at your discretion
- Location & Region: will be automatically set when GPS is enabled in this APP
- Address: Enter the plant address.
- Capacity: It means the total power of PV panels which are installed in this plant, please input the correct value, which should be at least one digit after radix point.
- System Type: Choose **"PV + Grid + Consumption + Battery"**.
- Plant Type: Choose **"Residential"**.
- Enter other information in the optional field.
- Click **"Save"**.

When finishing creating the plant, the follow page will be prompted. Click “Done” to proceed.

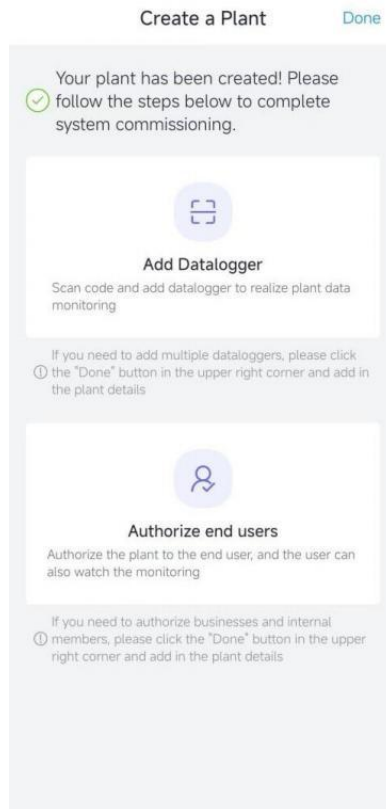


Fig. 4-1c

5. Adding Datalogger

The datalogger can be added at the main page of the plant.

- 1) Click “...” at the top right corner of the screen.



Fig. 5-1

2) Click **“Add Datalogger”**.

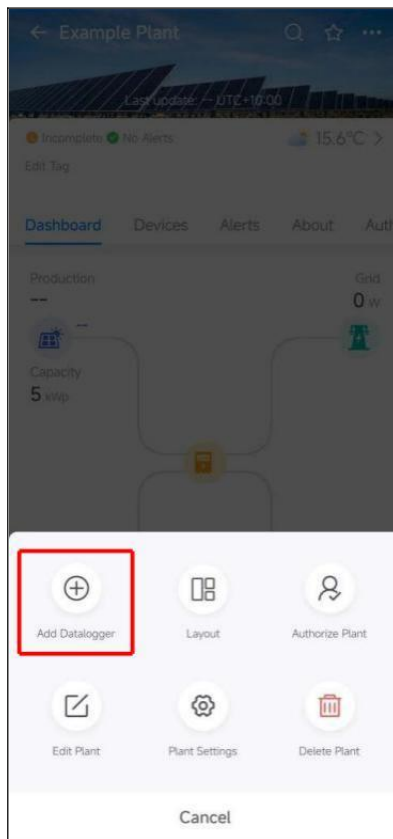


Fig. 5-2

3) The scan SN page will be prompted. Scan the QR code on the dongle or manually enter the SN of the dongle. Click **“Add”**.

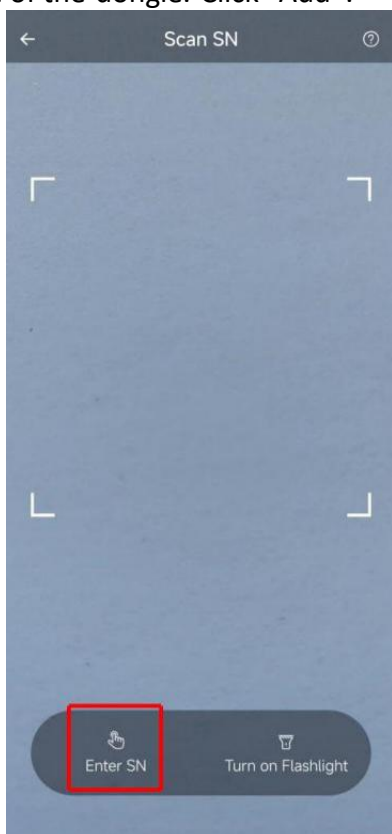


Fig. 5-3

- 4) Click "**Done**" to successfully add a datalogger to your plant.

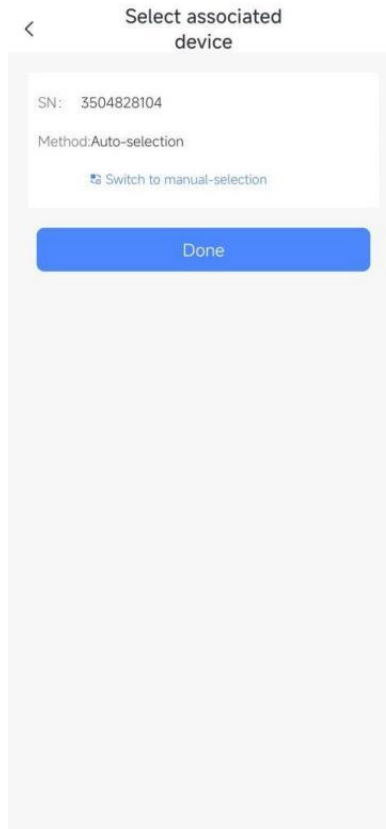


Fig. 5-4

- 5) Click "**Go to Configure**" to connect your datalogger to the internet.

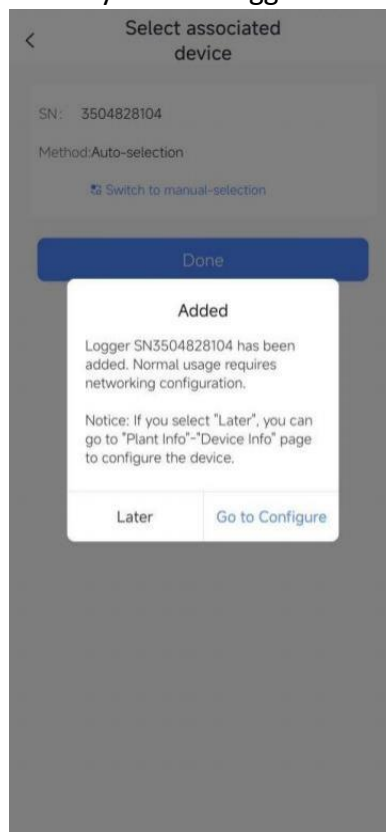


Fig. 5-5

- 6) Pick your Wi-Fi and make sure its signal is strong.

- 7) Enter the Wi-Fi and password in the following page, and make sure your cell phone is connected to the same Wi-Fi network.

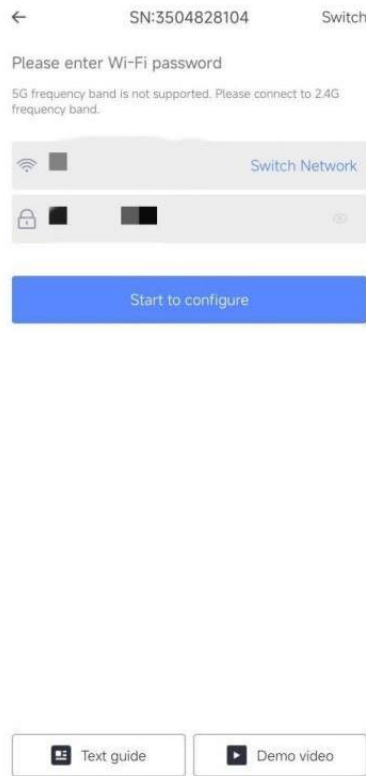


Fig. 5-6

- 8) Click **“Start to configure”**, and the internet connecting process will start automatically.

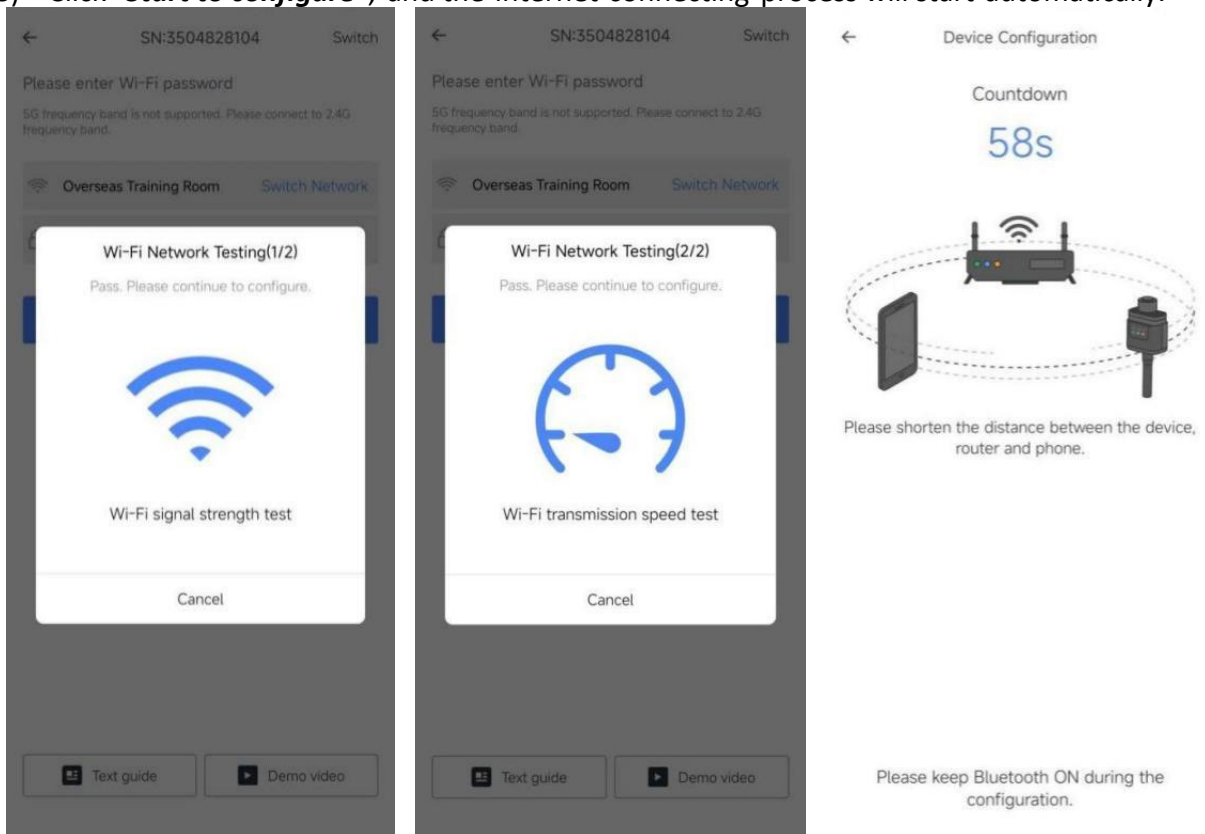


Fig. 5-7

- 9) Click "**Done**" when Configuration succeeded page is prompted.

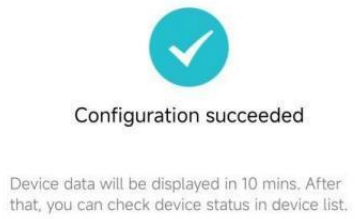


Fig. 5-8

- 10) If the Wi-Fi connection is failed, the following page will be prompted. Check the datalogger connection and Wi-Fi signal and repeat the previous steps.



Fig. 5-9

6. Bluetooth Control (Local Only)

The following steps describe the Bluetooth control setup process.

Step 1: Download the Smart SetApp by scanning the QR code below:



Fig. 6-1

Step 2: Turn on the Bluetooth.

Step 3: Open the Smart SetApp.

Step 4: Choose Local Mode.

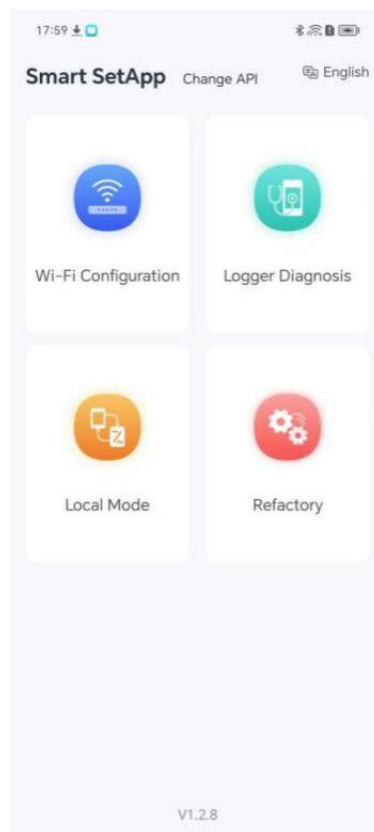


Fig. 6-2

Step 5: Chose “While Using the App” to allow Smart SetApp to access this device’s location.

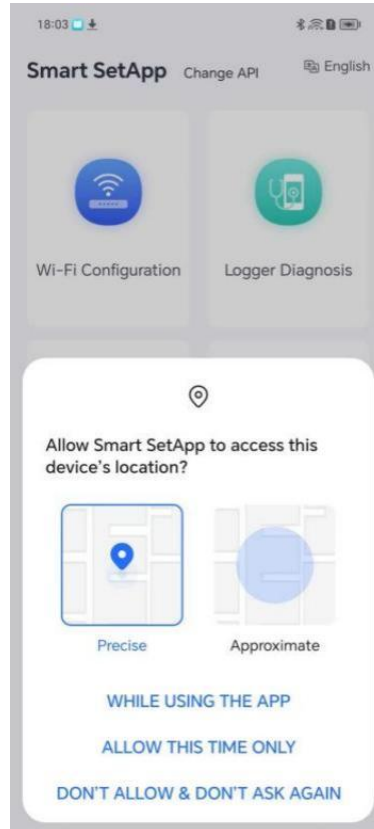


Fig. 6-3

Step 6: Chose “While Using the App” to allow Smart SetApp to take pictures or record videos.

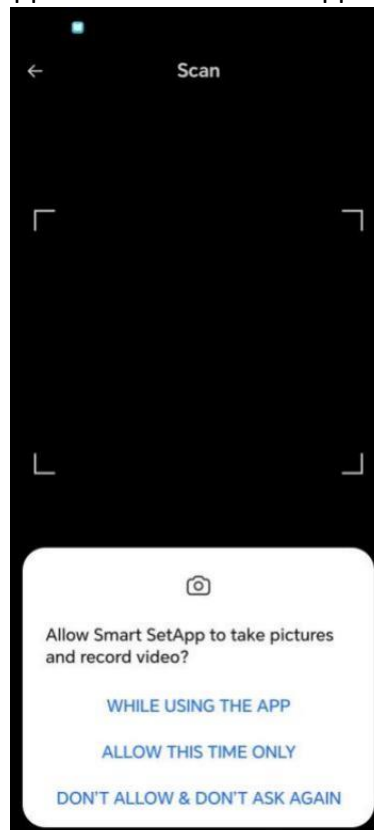


Fig. 6-4

Step 7: Scan the QR code on the dongle for SN or manually input the SN number after

ensuring the Wi-Fi dongle is connected to the internet.

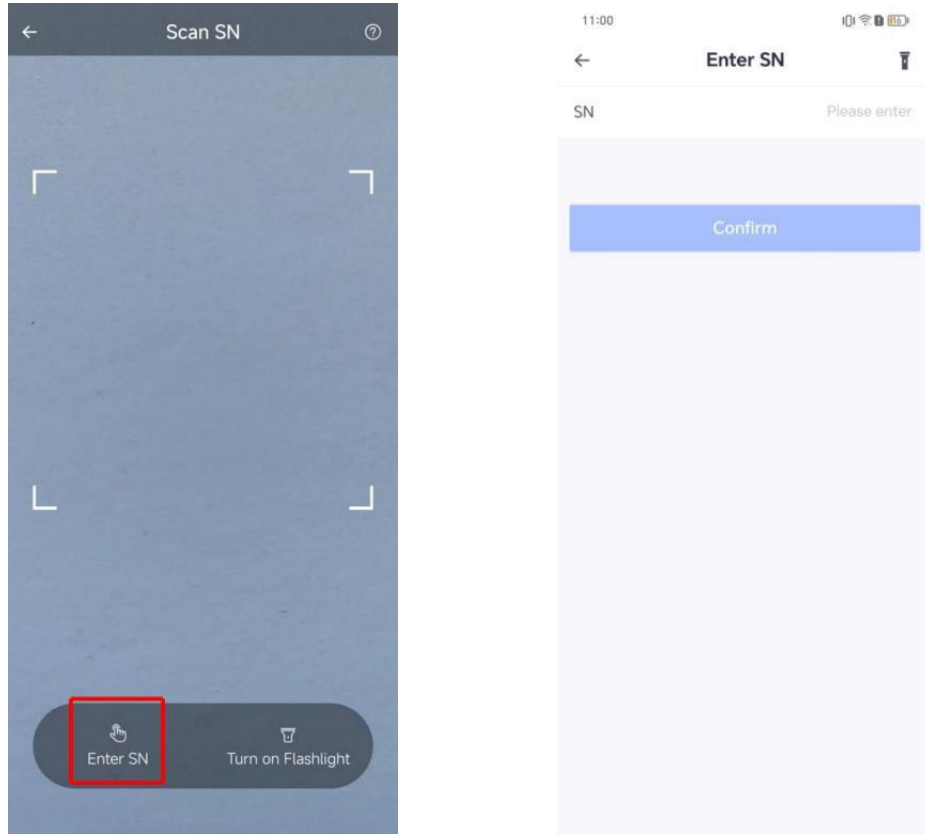


Fig. 6-5

Step 8: Click “*Turn on Bluetooth*”. If the attempt fails, please be patient and try again. If the Bluetooth connection is established, the Local Mode page will be prompted.

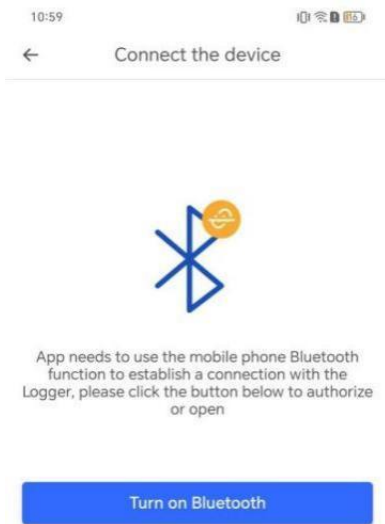


Fig. 6-6

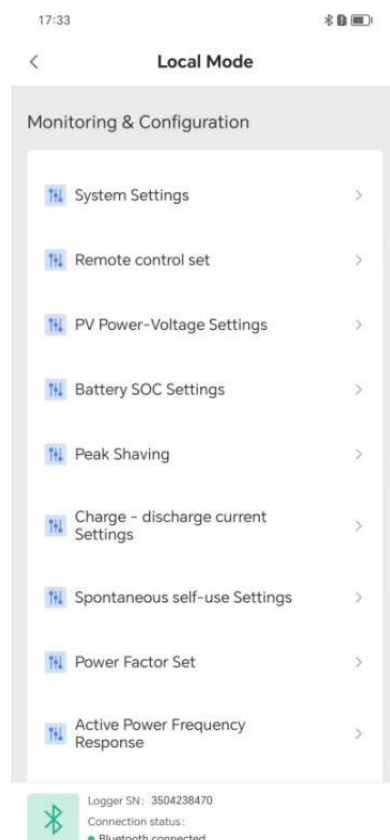


Fig. 6-7

7. Device Status and Operating Data

The following steps describe how to look up operating data in a specific plant:

- Open the APP, and click "**Monitor**" at the bottom.

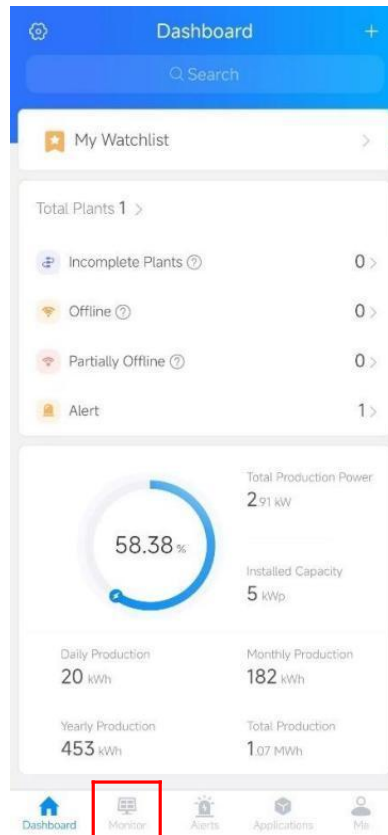


Fig. 7-1

b) The plant list will be prompted, and click the specific site for its detail operating data.

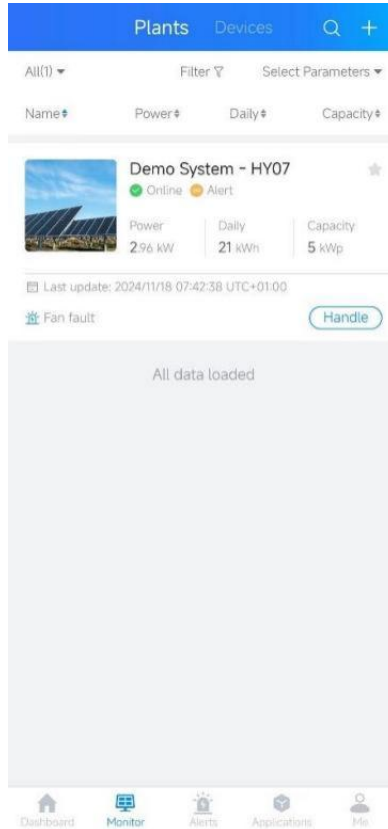


Fig. 7-2

c) The plant dashboard page of the plant will be prompted. Click “Devices” at the bottom.



Fig. 7-3

- d) The device main page will show the device type, SN, production power and daily production.

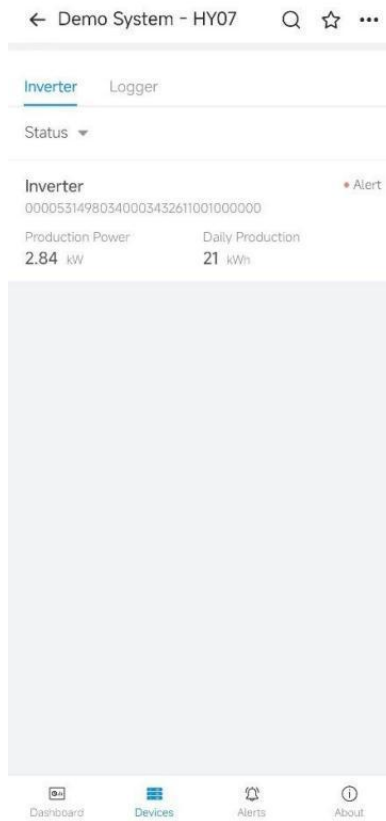


Fig. 7-4

e) Click “**Inverter**” tab to enter the detail data page of this device. There are 4 tabs in detail data page: **Device Parameters**, **Statistics**, **Alerts** and **Architecture**. All tab detail is shown below:

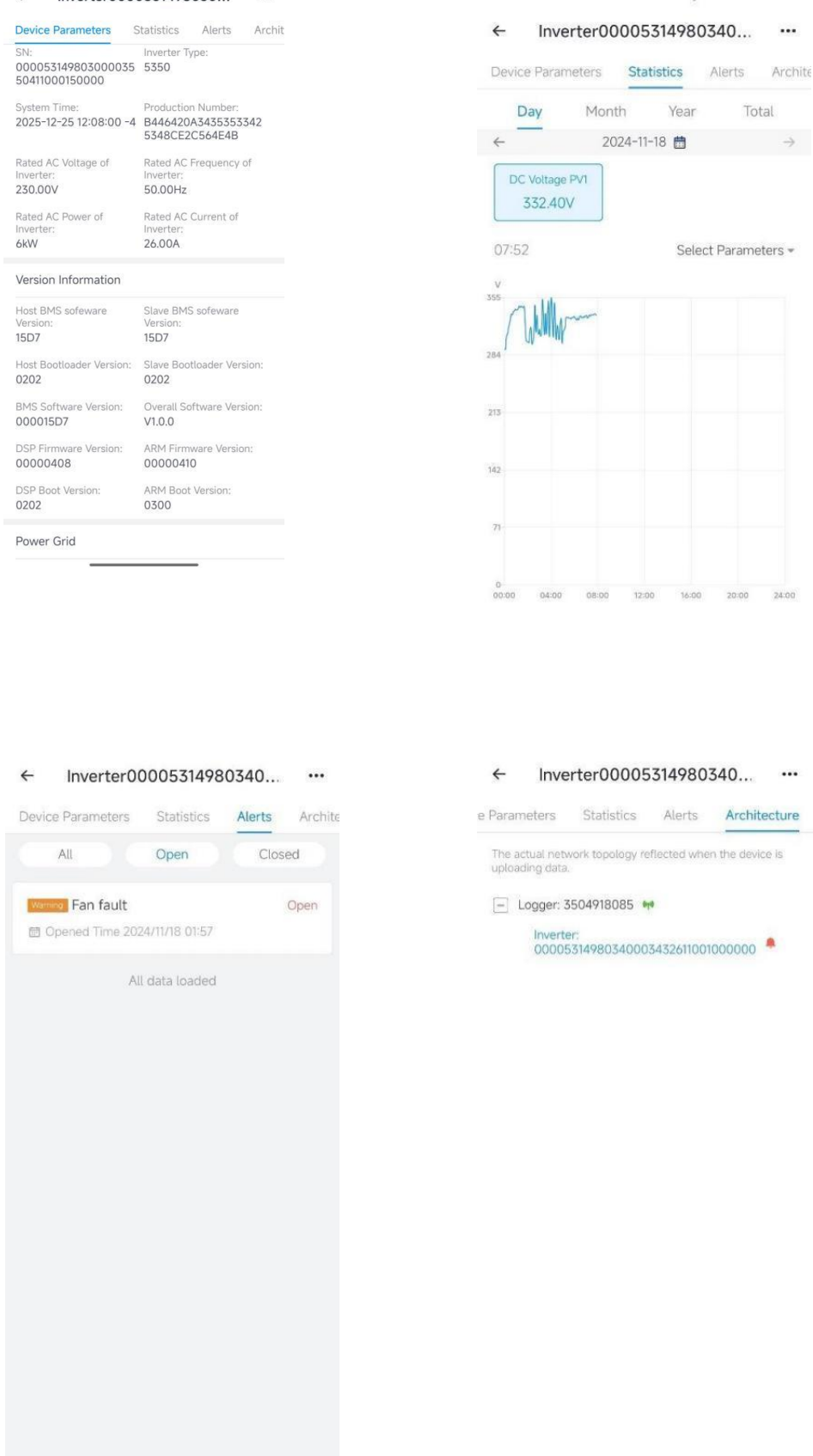


Fig. 7-5

8. Remote Control

In the detail data page of the device, remote control setup can be performed via the following steps:

- a) Follow the previous steps to enter the “**Device Parameters**” tab in the detail data page of the device; Click “...” at the top right corner of the screen.



Fig. 8-1

b) Choose **“Remote Control”** to enter remote control page.

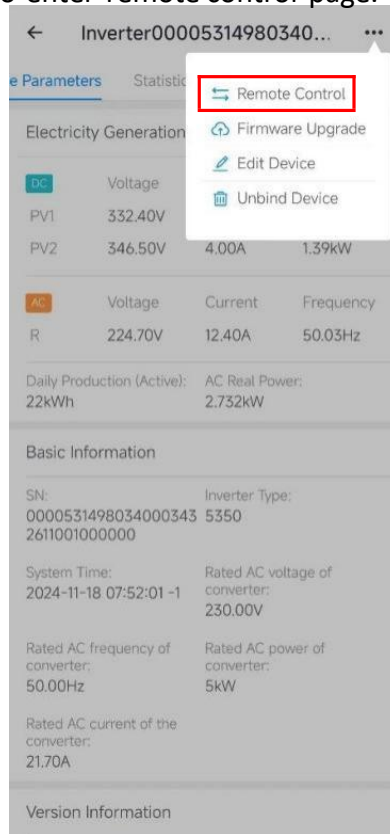


Fig. 8-2

c) There are **“Batch Command”** and **“Customized Command”** in the **“Classification”** tab, remote control adjustment can be made based on your demand. All remote-control activities will be recorded in the **“Control Log”** tab.

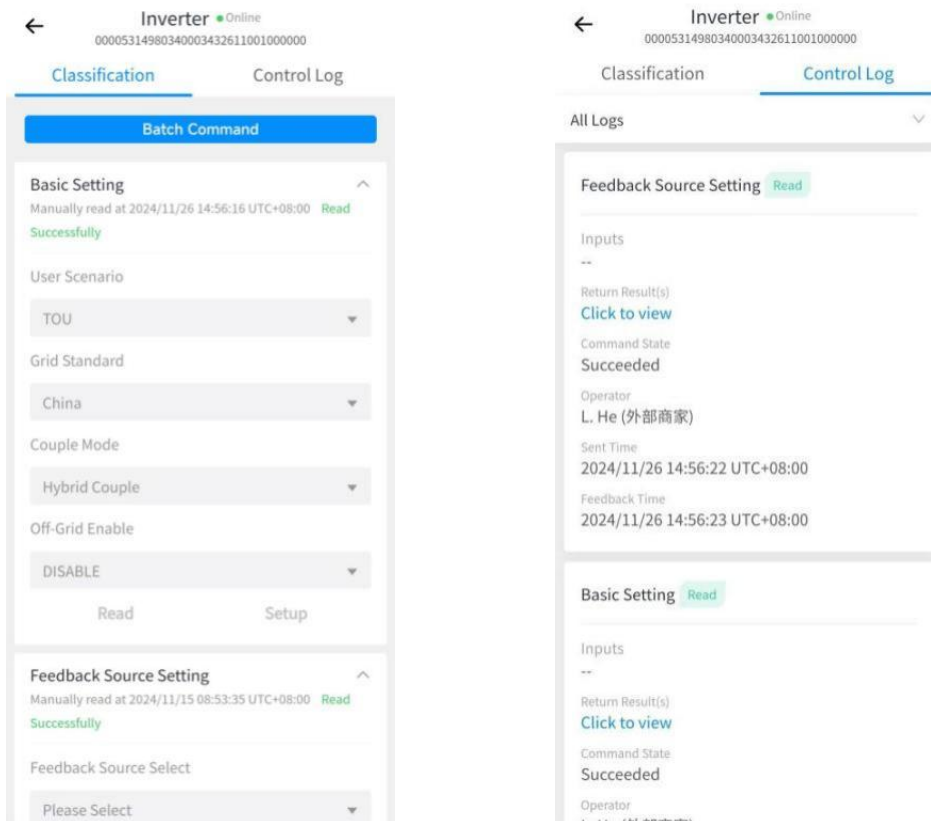


Fig. 8-3

9. Parameter Setting

9.1. Operating Mode

Step 1: Follow the previous steps to enter “**Batch Command**” tab in remote control page

Step 2: In the **User Scenario**, four operating modes are available: **Manual**, **Self-use**, **Backup** and **TOU**. Select the operating mode based on your demand.

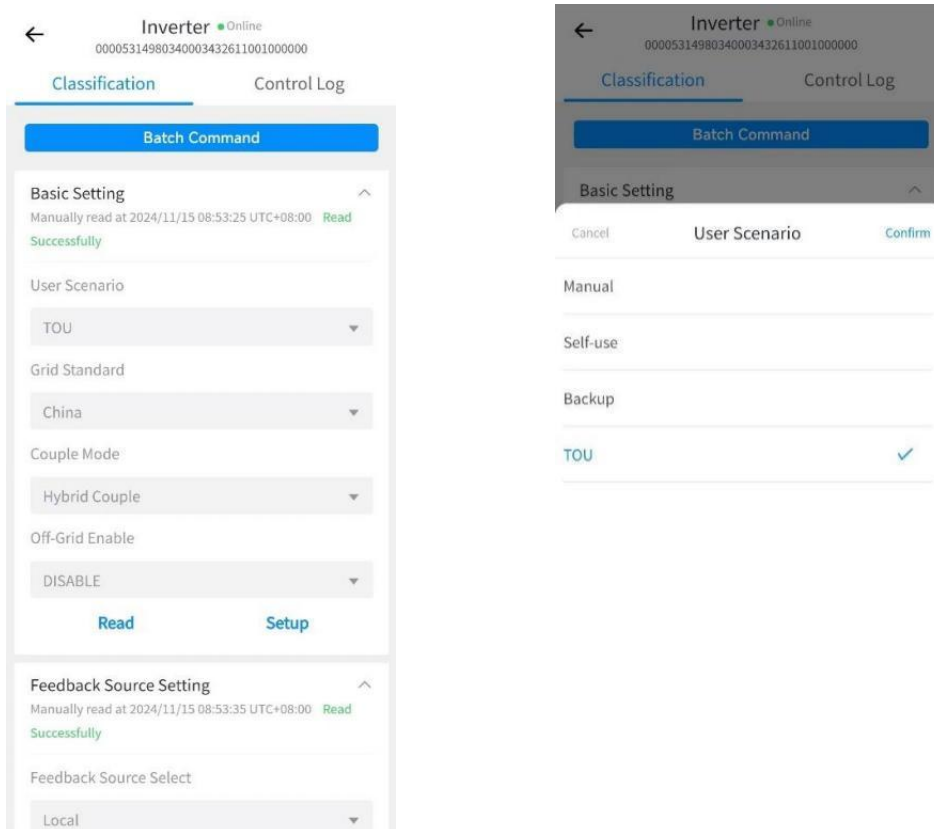


Fig. 9-1a

9.1.1. Manual Mode

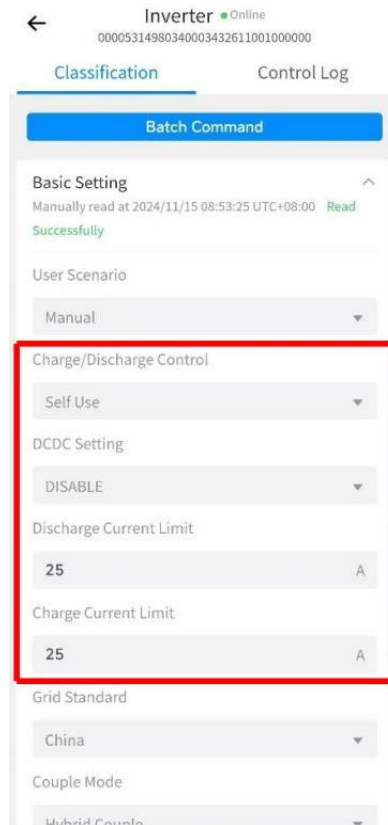


Fig. 9-1b

The following parameters can be set in the Manual Mode

Table 9-1.1

	Parameter	Description
1.	Charge/Discharge Control	Battery will mandatorily charge or discharge.
2.	DCDC Setting	The DCDC should be enabled before operate charging or discharging status.
3.	Discharge Current Limit	The max discharge current to which the system is restricted.
4.	Charge Current Limit	The max charge current to which the system is restricted.

9.1.2. Self-use Mode

In **Self-use** Mode, the power priority and power flow mechanism are described as below.

- a) **Priority 1 - Load:** The output power of both PV and battery will supply the load with the highest priority.
- b) **Priority 2 - Battery:** When the load cannot consume all the power generated by PV, excessive power will prioritize charging the battery over exporting power directly to the grid if battery SOC is chargeable.
- c) **Priority 3 - Grid:** When there is excessive PV power and battery cannot be charged anymore, this portion of solar power will be exported to the grid.

Step 1: Follow the previous steps to enter “*Batch Command*” tab in remote control page.

Step 2: In the “*User Scenario*” section, choose “*Self-use*” mode. Then find the “*Self-use Priority Setting*” in the “*Power Grid Setting*”, Select the self-use priority based on your need.

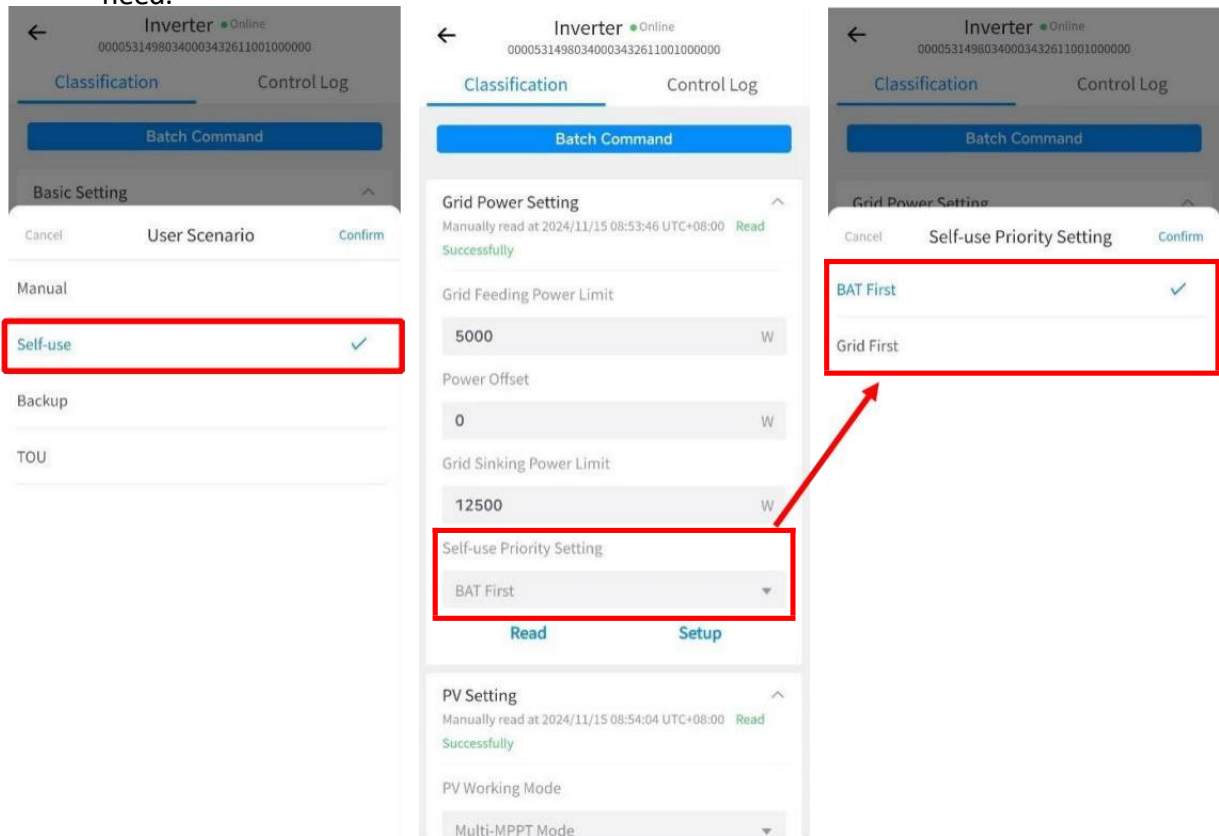


Fig. 9-1c

Table 9-1.2

	Parameter	Description
1.	Grid Feeding Priority Setting	The electricity generated by the PV system can be prioritized to charge the battery packs or to feed the grid, and end users can choose according to their actual needs.

9.1.3. TOU Mode

Self-use and peak-shaving Function are integrated in the TOU mode.

In TOU Mode, the battery will perform charging/discharging/standby based on user preset schedule if the SOC is in the range between minimum SOC and maximum SOC. The battery will stop charging if the battery SOC is over maximum SOC, and it will stop discharging if the battery SOC is under minimum SOC. During the time gap between the two-time period, battery will in standby status normally, also end user can do the settings to let inverter operate Self-use logic at the time gap.

Step 1: Follow the previous steps to enter “*Batch Command*” tab in remote control page.

Step 2: In the “*User Scenario*” section, choose “*TOU*” mode. Then find the “*TOU Setting*” and do the settings based on your need.

The following parameters can be set in the **TOU** mode.

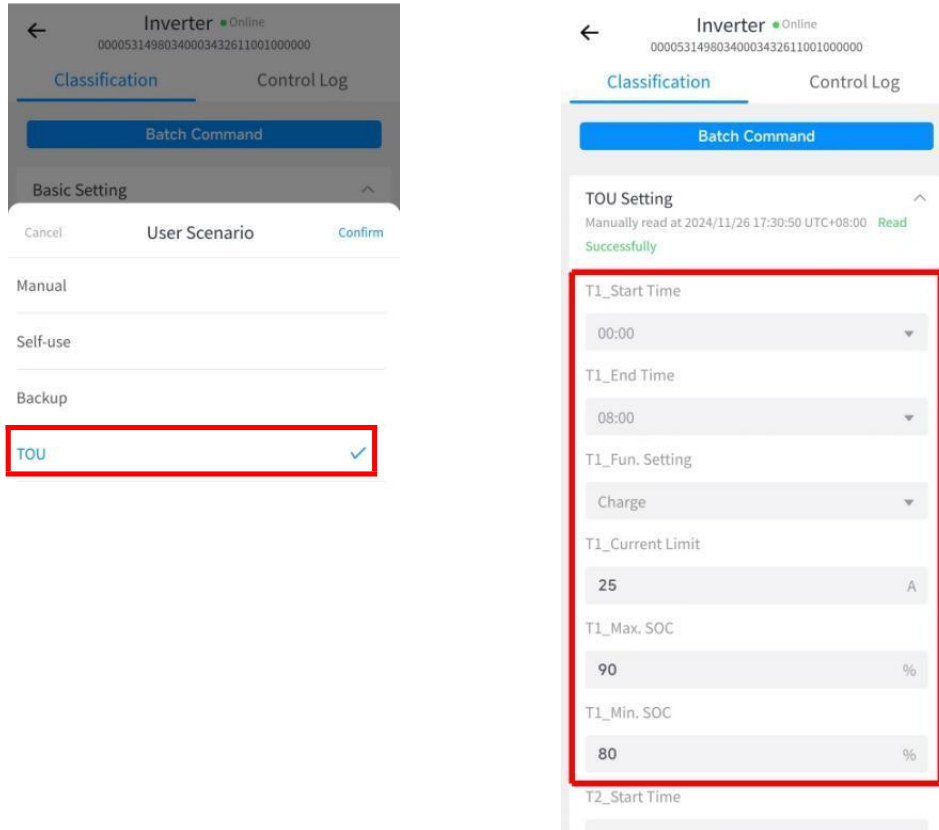


Fig. 9-1d

Table 9-1.3

	Parameter	Description
1.	T1_Start Time	The start time and the end time of a charging or discharging operation. The battery will be charged or discharged in between the start time and the end time under the maximum charging or discharging current limit. Up to 6 charging or discharging periods can be set by the user.
2.	T1_End Time	
3.	T1_Max. SOC	In each time period, the battery will stop charging if the battery SOC reach the Max. SOC.
4.	T1_Min. SOC	In each time period, the battery will stop discharging if the battery SOC reach the Min. SOC.
5.	T1_Fun. Setting	The charging or discharging status can be defined during each time period.
6.	T1_Current Limit	The max charging or discharging current can be limited under the setting value in each time period.
7.	Peak-shaving-to-Self-use (TOU mode)	<p>If enable this function, in each time period, the battery will stop charging if the battery SOC reaches Max. SOC and stop discharging if the battery SOC reach the Min. SOC., and then the working mode will transfer into Self-use mode automatically. Also, during the time gap between the two-time period, working mode will follow the Self-use mode logic.</p> <p>If disable this function, the battery will stop charging/discharging when the SOC reaches the Max./Min.</p>

Parameter	Description
	SOC in each time period, and then the battery switches into standby mode.

For Example (Peak-shaving-to-Self-use function is enabled.):

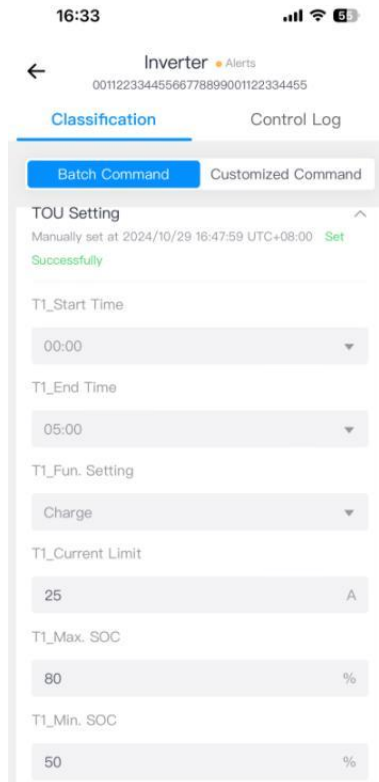


Fig. 9-1e

Table 9-1.4

T1_Start Time	T1_End Time	T1_Fun. Setting	T1_Current Limit	T1_Max. SOC	T1_Min. SOC
00:00	05:00	Charge	25A	80%	50%

During 00:00-05:00, if the battery SOC is lower than 80%, the battery is charged at the max. charging current of 25A by using power from the grid (PV is not available) until the battery SOC reaches 80%. When the battery SOC reaches 80%, the working mode will automatically switch into self-use logic. In this case, if the power consumption of load is big onsite, the battery will discharge until the battery SOC reaches 50%. The working mode will switch back to Peak-shaving mode when the battery SOC is lower than 50%, the inverter will charge the battery again until the battery SOC reaches 80% in the time period of T1.

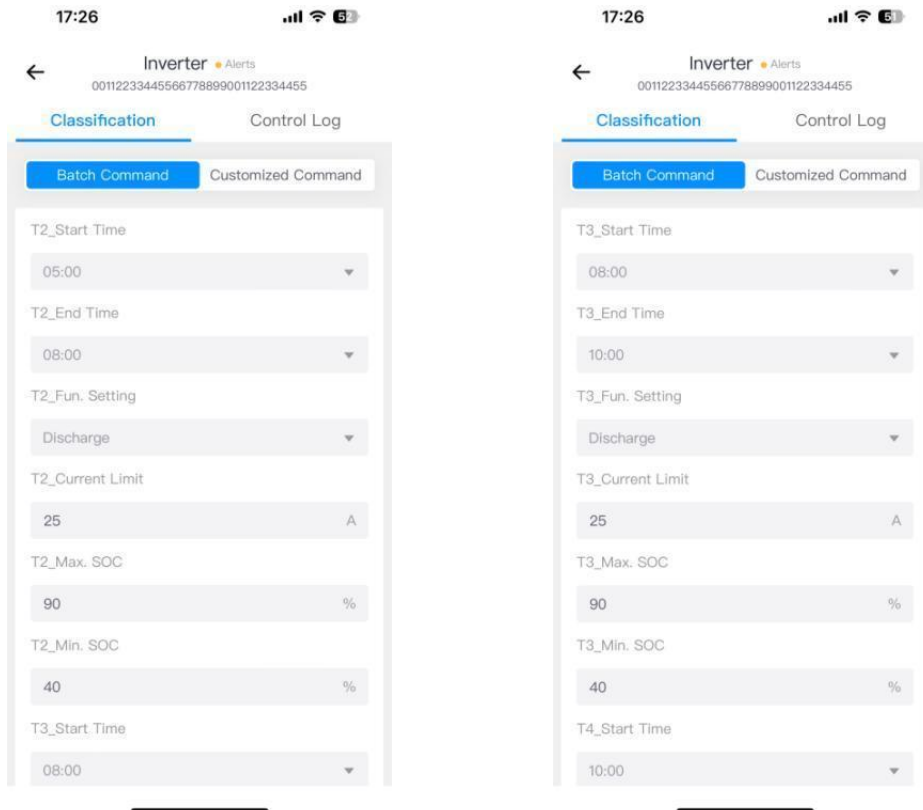


Fig. 9-1f

Table 9-1.5

T2_Start Time	T2_End Time	T2_Fun Setting	T2_Current Limit	T2_Max SOC	T2_Min SOC
05:00	08:00	Discharge	25A	90%	40%
T3_Start Time	T3_End Time	T3_Fun Setting	T3_Current Limit	T3_Max SOC	T3_Min SOC
08:00	10:00	Discharge	25A	90%	40%

During 05:00-08:00 and 08:00-10:00, if the battery SOC is higher than 40%, the battery is discharged at the max. charging current of 25A until the SOC reaches 40%. When the battery SOC reaches 40%, the working mode will automatically switch into Self-use logic. If the power consumption of load is big onsite, the battery will continue to discharge to supply power to load until reaches On-grid Min. SOC of Battery and then stop discharge. If the power consumption of load is small on site (PV power is sufficient), the battery will be charging from PV power until the battery SOC reaches 90% then switches back to Peak-shaving mode to discharge in these periods of time.

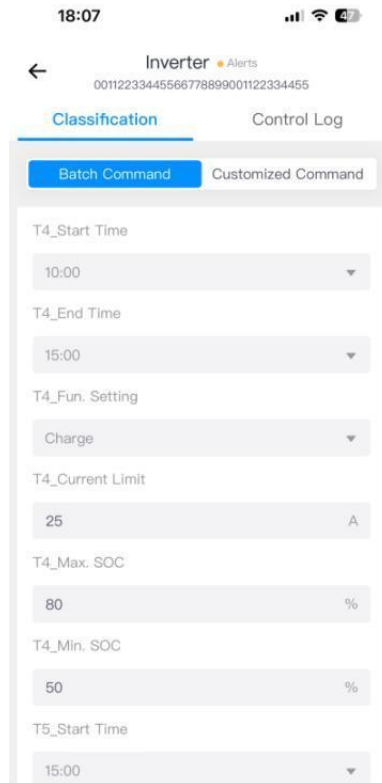


Fig. 9-1g

Table 9-1.6

T4_Start Time	T4_End Time	T4_Fun. Setting	T4_Current Limit	T4_Max. SOC	T4_Min. SOC
10:00	15:00	Charge	25A	80%	50%

During 10:00-15:00, if the battery SOC is lower than 80%, the battery is charged at the max. charging current of 25A until the SOC reaches 80%. When the battery SOC reaches the 80%, the working mode will transfer into Self-use mode automatically.

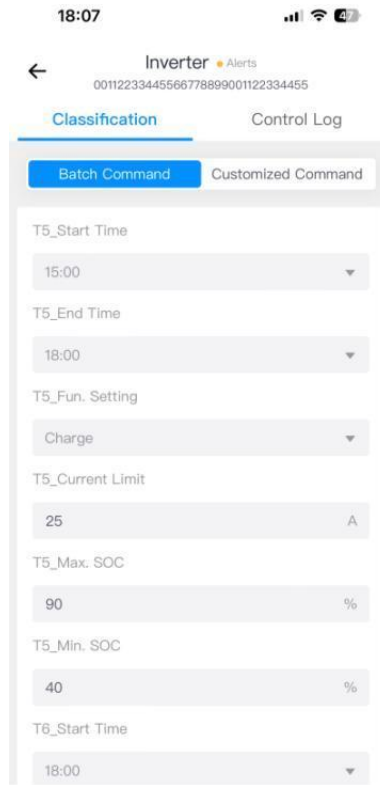


Fig. 9-1h
Table 9-1.7

T5_Start Time	T5_End Time	T5_Fun. Setting	T5_Current Limit	T5_Max. SOC	T5_Min. SOC
15:00	18:00	Discharge	25A	90%	40%

During 15:00-18:00, if the battery SOC is higher than 40%, the battery is discharged at the max. charging current of 25A until the SOC reaches 40%, then the working mode will transfer into Self-use mode.

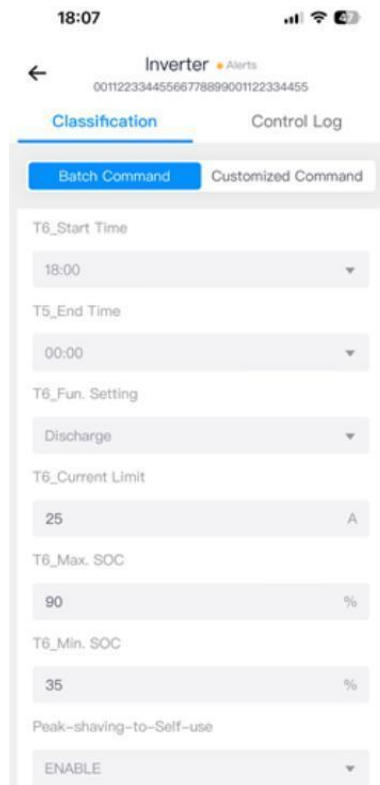


Fig. 9-1i

Table 9-1.8

T6_Start Time	T6_End Time	T6_Fun. Setting	T6_Current Limit	T6_Max. SOC	T6_Min. SOC
18:00	00:00	Discharge	25A	90%	35%

During 18:00-00:00, if the battery SOC is higher than 35%, the battery is discharged at the max. charging current of 25A until the SOC reaches 35%, then working mode will transfer into Self-use mode automatically.

Note: The time format has to be 24-hour when setting peak-shaving schedule. If there is time overlap between two schedules, then the lower Period Number has higher priority.

9.1.4. Backup Mode

In **Backup** mode, if the **Backup-to-TOU** is set as DISABLE.

The battery will start charging when SOC meets the following relation:

$$SOC < \text{On-grid Max. SOC of Battery} - \text{On-grid SOC Hysteresis Value}$$

And the battery will stop charging when SOC meets the following relation:

$$SOC > \text{On-grid Max. SOC of Battery}$$

The charging energy is either from PV or battery, and PV has higher priority.

Step 1: Follow the previous steps to enter “Batch Command” tab in remote control page.

Step 2: In the “User Scenario” section, choose “Back up” mode, and do the settings based on your demand.

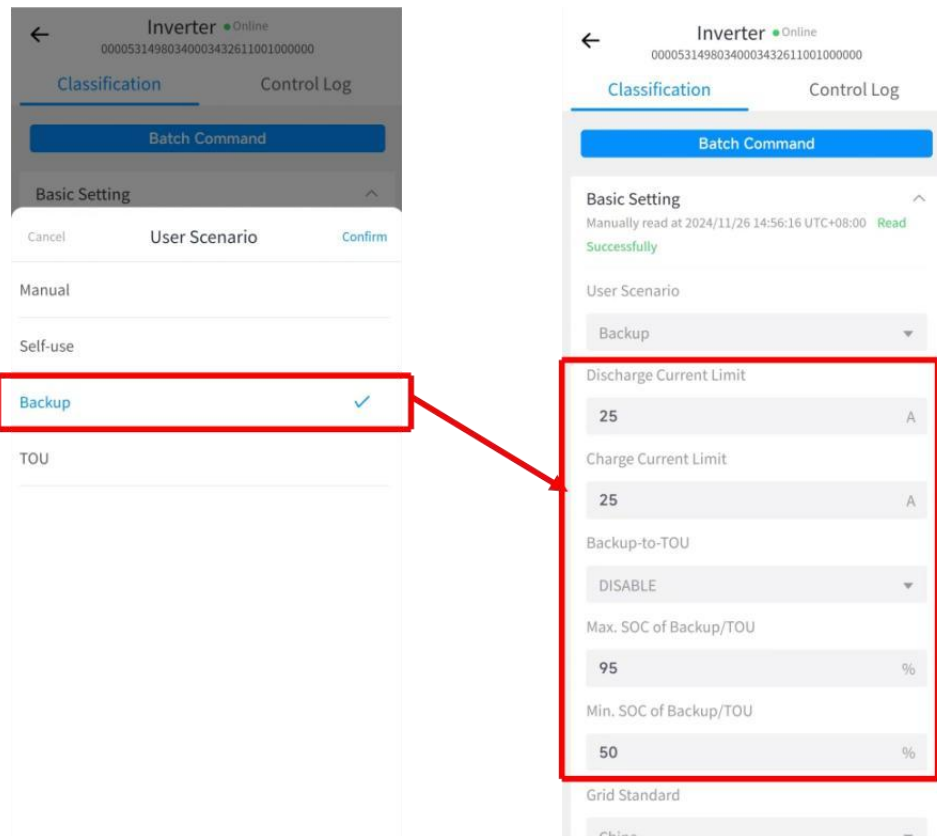


Fig. 9-1f

The following parameters can be set in the Backup Mode:

Table 9-1.9

	Parameter	Description
1.	Discharge Current Limit	The maximum discharge current to which the system is limited.
2.	Charge Current Limit	The maximum charge current to which the system is limited.
3.	Backup-to-TOU	If the Backup-to-TOU is set as ENABLE, working mode will automatically switch between the Backup mode and TOU mode under these conditions as below: > The battery SOC reaches Max. SOC of Backup/TOU. (Backup mode ---> TOU mode) > The battery SOC reaches Min. SOC of Backup/TOU. (TOU mode ---> Backup mode)
4.	Max. SOC of Backup/TOU	The maximum battery SOC in Backup Mode
5.	Min. SOC of Backup/TOU	The minimum battery SOC in Backup Mode

9.2. Grid Standard Setting

The Grid Standard is pre-programmed into the device based on the region availability. Only Countries/Regions are required to be selected, and all the parameters for the requirements of grid-connected and safety regulation are not needed to set manually.

Step 1: Follow the previous steps to enter “**Batch Command**” tab in remote control page.

Step 2: In the **Basic Setting** section, select the country or region to which grid the device is connected.

Note: The device should not be sold in any country or region where the corresponding grid standard is not available.

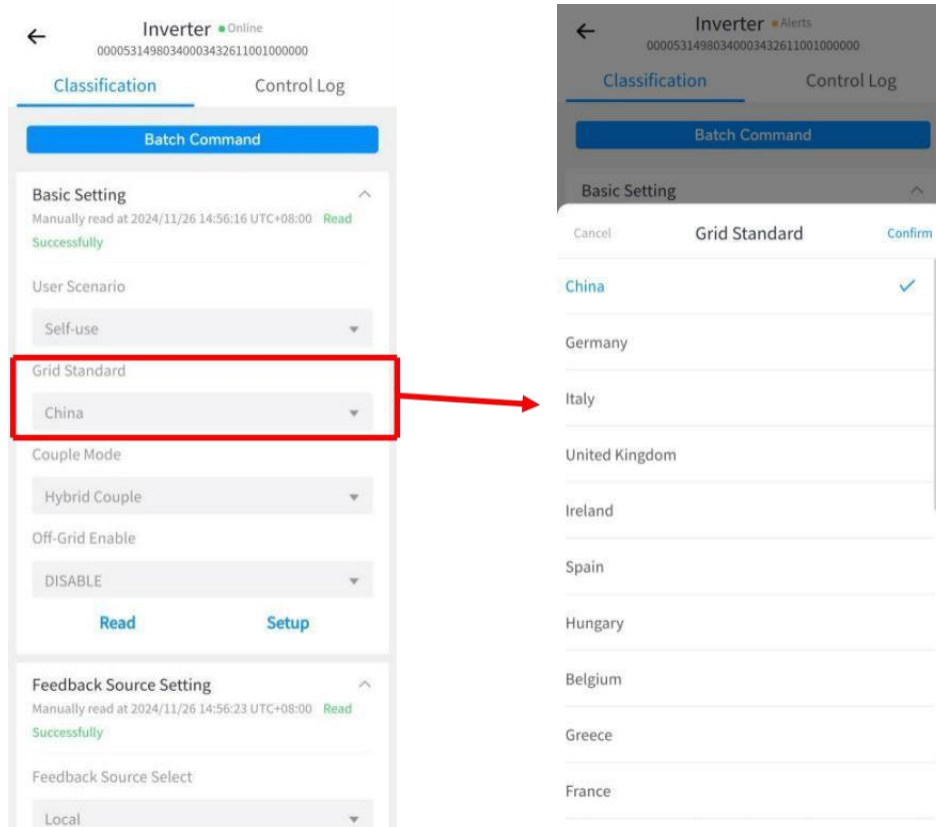


Fig. 9-2

9.3. Couple Mode Setting

Based on different PV-ESS configuration, there are various couple modes: AC Couple, DC Couple and Hybrid Couple. Both AC Couple and Hybrid Couple setting are available in the App, and DC Couple does not need to specifically configure.

Step 1: Follow the previous steps to enter “*Batch Command*” tab in remote control page.

Step 2: In *Basic Setting* section, select the appropriate couple mode based on the actual PV connection.

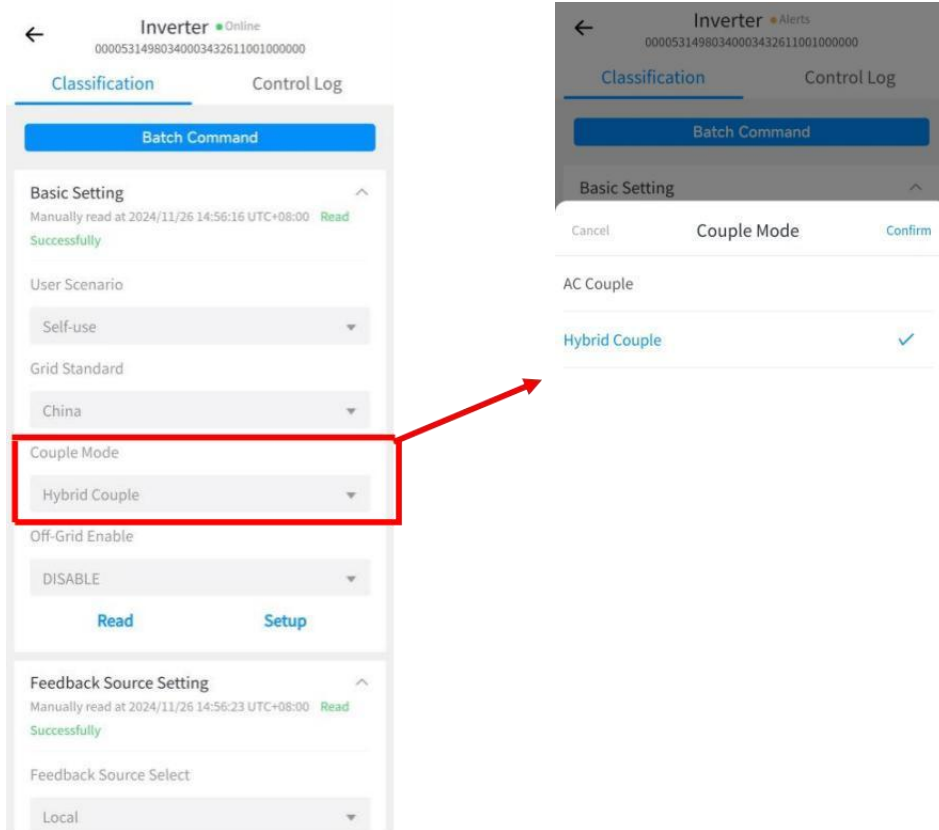


Fig. 9-3

Table 9-3

	Parameter	Description
1.	AC Couple	PV is connected to ESS system through its own inverter, which is suitable with existing solar when installing ESS system. After select AC Couple mode, the MPPT of ESS inverter will not work.
2.	Hybrid Couple	The coexistence of AC Couple and DC Couple at the same ESS system, which is suitable with existing solar but looking to add more PV when installing ESS system.

Note: DC Couple is defined as PV connecting to ESS directly via PV terminals on the hybrid inverter, this form of coupling mechanism is suitable for customers who wants to install both solar and storage at the same time. DC Couple does not require any configuration process in the APP.

9.4. Off-grid Mode Setting

In some off-grid installation scenarios, users can set the Off-grid Mode.

Step 1: Follow the previous steps to enter “**Batch Command**” tab in remote control page.

Step 2: In “**Basic Setting**” section, do the setting based on your demand. If set ENABLE, the alarms about off-grid will not appear when system works in an off-grid situation.

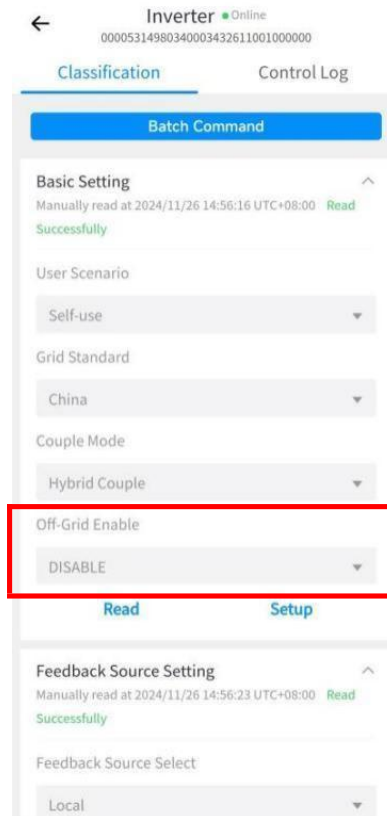


Fig. 9-4

9.5. Feedback Source Setting

Step 1: Follow the previous steps to enter “*Batch Command*” tab in remote control page and locate Grid Setting section.

Step 2: Choose feedback source (*CT/Meter/Local*) based on the actual installation situation.

Note: When CT or Meter is selected, additional meter setting is required to fill in.

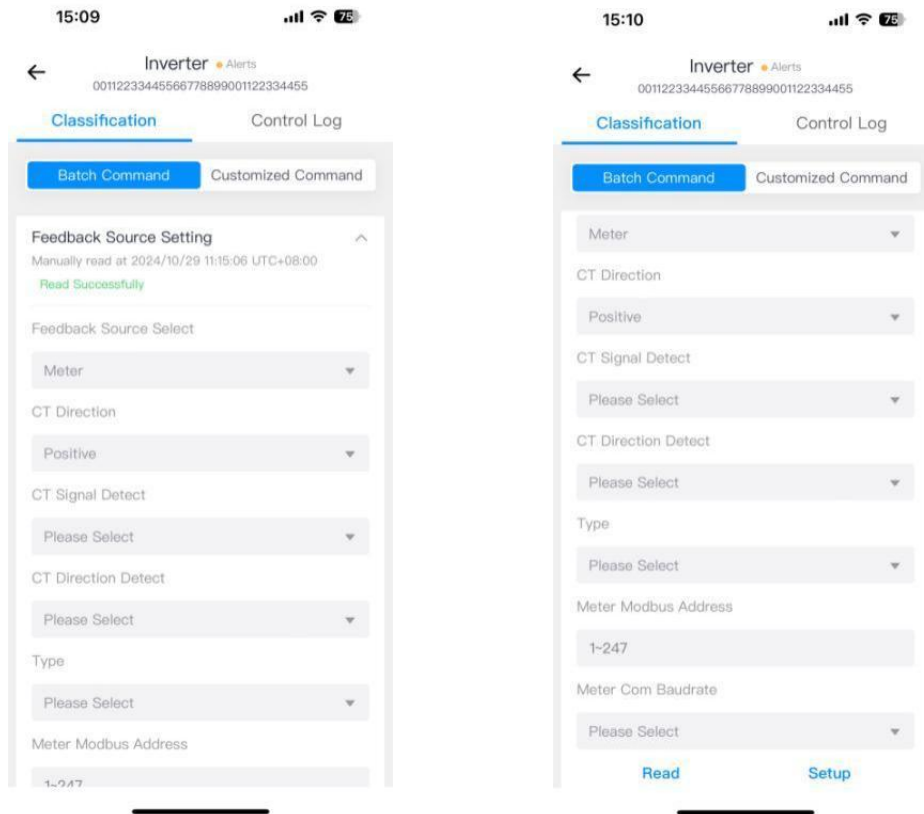


Fig. 9-5

The following parameters can be set in Feedback Source Setting.

Table 9-4

	Parameter	Description
1.	Feedback Source Select	Three options are available. <ul style="list-style-type: none"> • CT • Meter Local (The data is captured at GRID port of the inverter.)
2.	CT Direction	Set the direction of CT, the CT Direction set as Positive when the arrow on CT points grid, otherwise set as Negative.
3.	CT Signal Detect	When the Grid Standard Setting selects UK, CLS function is enabled in UK Grid Code Setting sector and this function enables, the inverter will test the CT signal is normal or not, if the CT wiring is not properly, like loose or disconnected, there will be a fault message (CT Fault).
4.	CT Direction Detect	When this function enables, the inverter will automatically test the CT direction which will take around 50s. If the CT direction is set wrongly, the inverter will switch into Local

	Parameter	Description
		(feedback source) and report a fault message (CT Direction Fault). If the CT Fault occurs, user needs to change the setting of CT Direction.
5.	Type	Three options are available. <ul style="list-style-type: none">• Slow Type• Fast Type• CHINT METER The default setting is Slow Type (Acral brand).
6.	Meter Modbus Address	The default Modbus address is 1
7.	Meter Com Baudrate	The default value is 9600bps

9.6. Grid Power Setting

This function allows the inverter to control the amount of power output to the grid or input from grid. User can set battery parameters according to actual demands.

Step 1: Follow the previous steps to enter “*Batch Command*” tab in remote control page.

Step 2: In the “*Grid Power Setting*” section, do the settings according to actual demands.

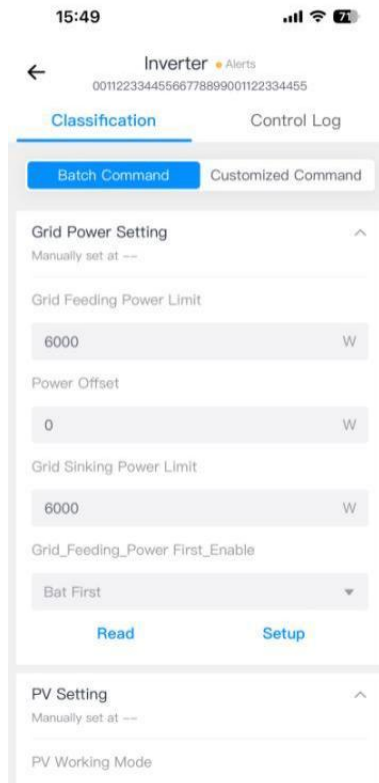


Fig. 9-6

Table 9-5

	Parameter	Description
1.	Grid Feeding Power Limit	The inverter will limit the maximum power output to the grid by the value what you have set.
2.	Grid Sinking Power Limit	The inverter will limit the maximum power input from the grid by the value what you have set.
3.	Power Offset	The inverter will try to achieve the value what you have set by controlling the Grid Feeding/Sinking Power based on actual operating conditions at the site. Note: the default value is 0. (“0” means power offset function is disabled) The range of values is from minus to plus of inverter rated power.
4.	Self-use Priority Setting	This setting is used in Self-use mode to set the priority of power generated by PV supply to. There are two options, BAT First or Grid First. The default setting is BAT First, which means the power generated by PV used to charge battery first and then feed

	Parameter	Description
		into grid.

9.7. PV Setting

Two PV connection modes are available to configure according to the actual PV connection so as to avoid PV connection error.

Step 1: Follow the previous steps to enter “*Batch Command*” tab in remote control page.

Step 2: Choose *Multi-MPPT Mode* or *Constant MPPT Mode* based on actual connection.

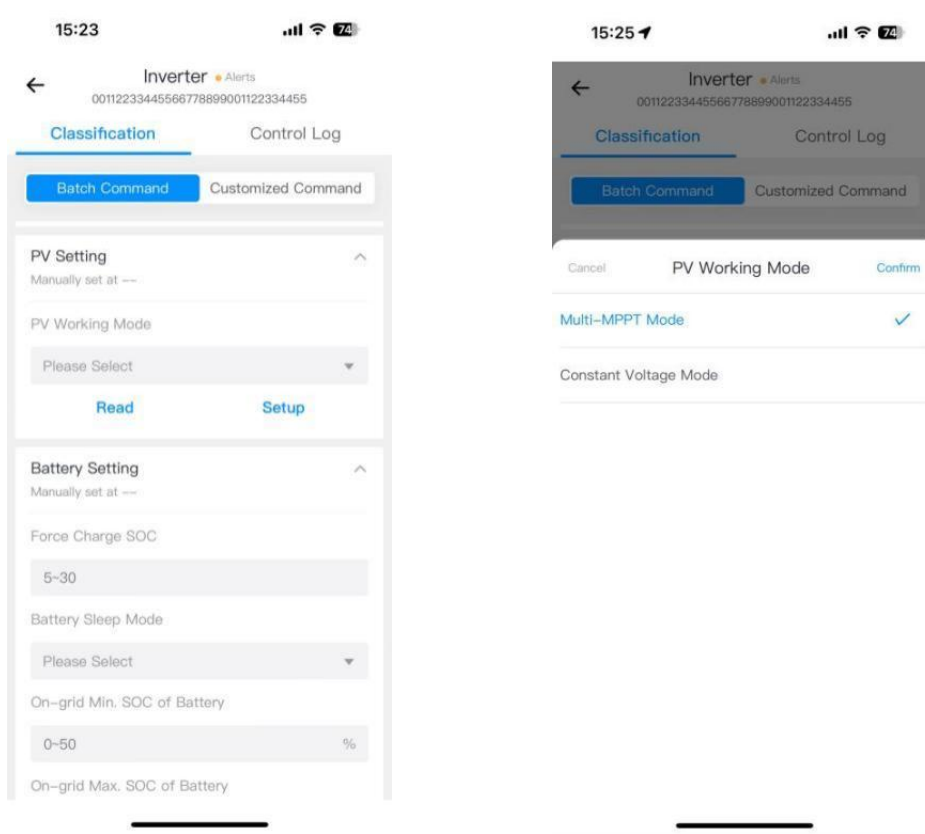


Fig. 9-7
Table 9-6

	Parameter	Description
1.	Multi-MPPT Mode	One set of male and female connector on inverter corresponds to one MPPT
2.	Constant Voltage Mode	Constant Voltage Mode is not used for user application but test purposes.

9.8. Battery Setting

User can set battery parameters according to actual demands.

Step 1: Follow the previous steps to enter “*Batch Command*” tab in remote control page.

Step 2: In the “*Battery Setting*” section, do the settings according to actual demands.

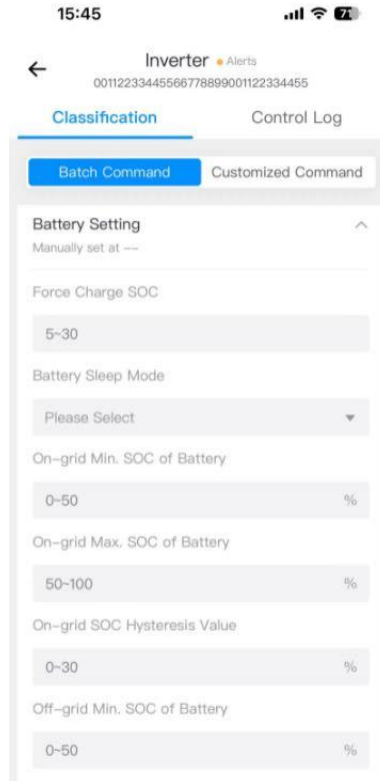


Fig. 9-8

Table 9-7

	Parameter	Description
1.	On-grid Min. SOC of Battery	The minimum SOC of the battery when the inverter is operating in an on-grid situation.
2.	On-grid Max. SOC of Battery	The maximum SOC of the battery when the inverter is operating in an on-grid situation.
3.	On-grid SOC Hysteresis Value	This is the tolerance value for charging and discharging momentum in on-grid operation. <ul style="list-style-type: none"> The actual Max SOC = On-grid Max SOC of Battery – On-grid SOC Hysteresis Value The actual Min SOC = On-grid Min SOC of Battery + On-grid SOC Hysteresis Value
4.	Off-grid Min SOC of Battery	The minimum SOC of the battery when the inverter is operating in an off-grid situation
5.	Off-grid Max SOC of Battery	The maximum SOC of the battery when the inverter is operating in an off-grid situation
6.	Off-grid SOC Hysteresis Value	The tolerance value for charging and discharging momentum in off-grid operation. <ul style="list-style-type: none"> The actual Max. SOC = Off-grid Max SOC of Battery – Off-grid SOC Hysteresis Value

	Parameter	Description
		<ul style="list-style-type: none"> The actual Min. SOC = Off-grid Min SOC of Battery + Off-grid SOC Hysteresis Value
7.	Force Charge SOC	The default value is 5%, when battery SOC bellows 5%, the inverter will force charge the battery by using PV or grid power first, until the SOC reaches the setting value + 15%.
8.	Battery Sleep Mode	<p>When the battery SOC bellows the Force Charge SOC and the absence of PV and grid power lasts for 5min, the Battery Sleep Alarm will occur and the battery will switch in to Sleep mode extra 7 minutes later (The BMS main relay will disconnected).</p> <p>When the inverter detects the PV power is available, the system will automatically quit from Battery Sleep Mode and operate the force charging logic. And if there is grid power, user needs to power on the battery manually to let the system quit from Battery Sleep Mode and charge the battery.</p>

9.9. Load Setting

The backup function is designed for providing energy to loads in the off-grid situation.

Step 1: Follow the previous steps to enter “**Batch Command**” tab in remote control page.

Step 2: In the “**Backup Load Setting**” section, select ENABLE if backup function is needed, and select DISABLE if backup function is not needed.

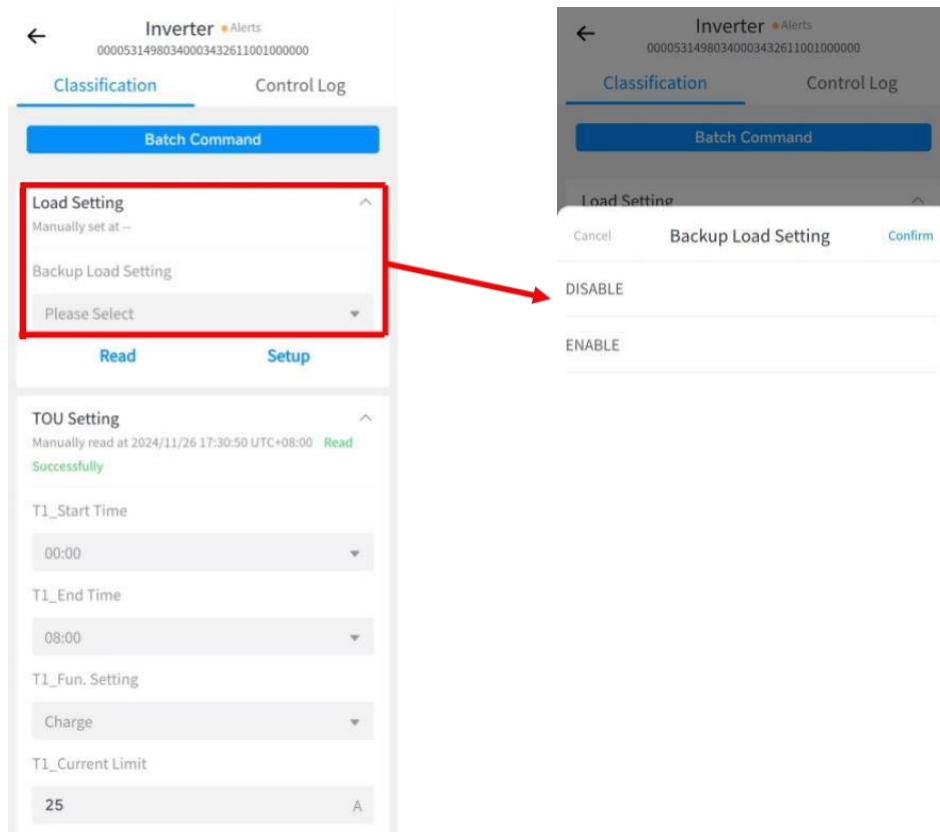


Fig. 9-9

9.10. On-grid Control Mode Setting

The On-grid Control Mode Setting is used to control the output active and reactive power of inverter when the ESS product connect to grid without load. In general case, these parameters do not need to set, the products will operate well under default value.

These parameters are not allowed to change except professional technician. Otherwise, the product cannot work normally.

9.11. Remote Control Setting

Some countries or regions require third party DRM/Remote Control for control functionality.

Step 1: Follow the previous steps to enter “**Batch Command**” tab in remote control page.

Step 2: In “**Remote Control Setting**” section,

- a) For Remote Control, select ENABLE if Remote Control is needed, and select DISABLE if Remote Control is not needed.
- b) For Remote Power On/Off, select Power On if Remote Power On is needed, and select Power Off if Remote Power Off is not needed.

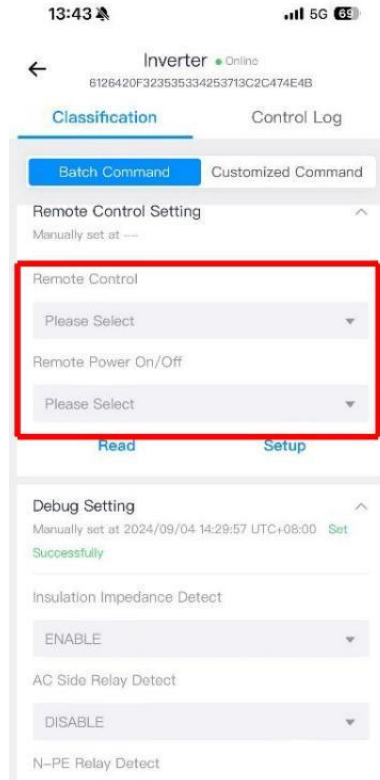


Fig. 9-10

9.12. Modbus RTU Setting

You can control the inverter Modbus communication through this function.

Step 1: Follow the previous steps to enter “Batch Command” tab in remote control page.

Step 2: In “Modbus RTU Setting” section, do the setting as required.

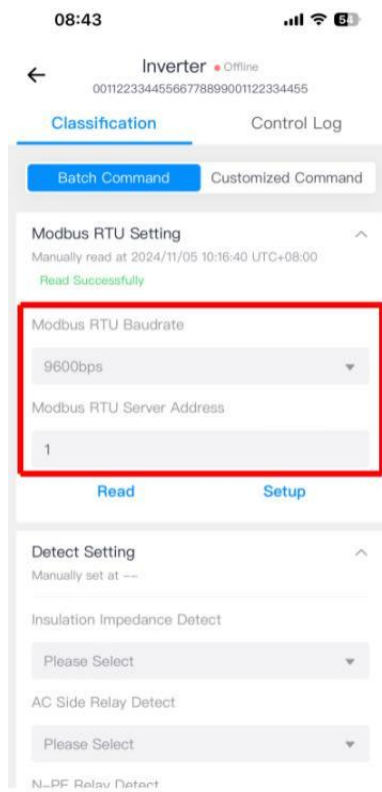


Fig. 9-11

9.13. Detect Setting

In this section, three detect function can be set to make the system works safer for the user. In general case, the user does not need to change these settings, just makes the system work under default settings.

Step 1: Follow the previous steps to enter “Batch Command” tab in remote control page.

Step 2: In Detect Setting section, select ENABLE if these detect function are requested, and select DISABLE if these detect function are not requested.

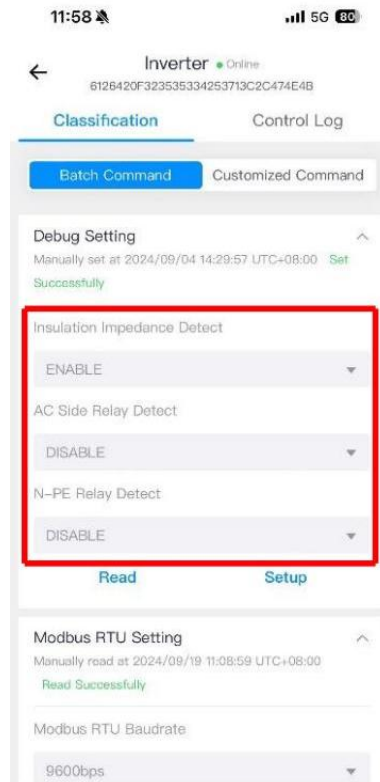


Fig. 9-12

9.14. Fault Reset and Factory Reset

Fault Reset and Factory Reset should only be done with proper guidance from the manufacturer. Any operation without manufacturer's advice may result in data loss of the system.

Step 1: Follow the previous steps to enter "Batch Command" tab in remote control page.

Step 2: In Fault Reset section, select ENABLE if Fault Reset is needed, and select DISABLE if Fault Reset is not needed.

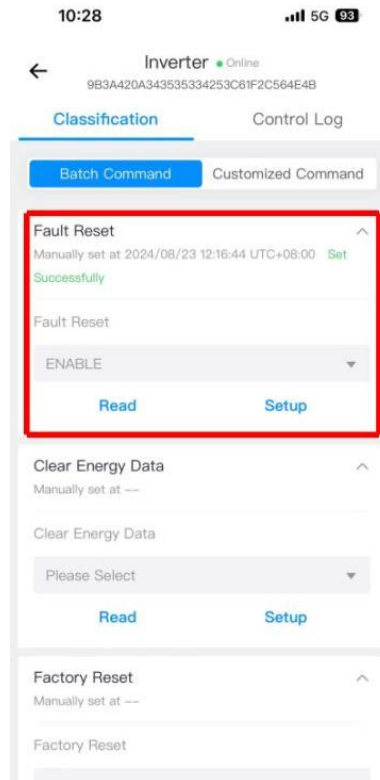


Fig. 9-13a

Step 3: In Factory Reset section, select enable if Factory Reset is needed, and select disable if Fault Reset is not needed.

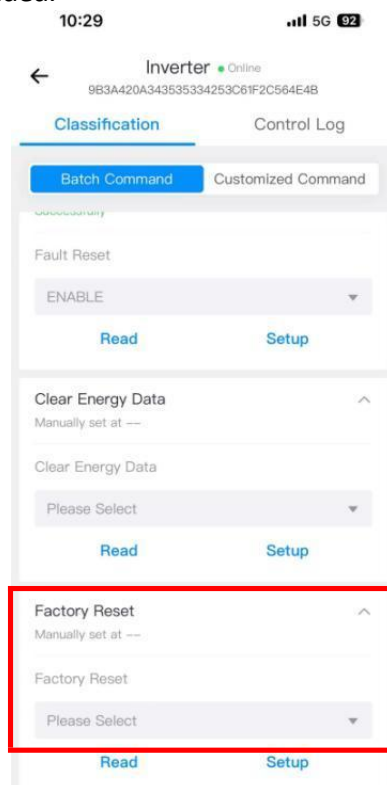
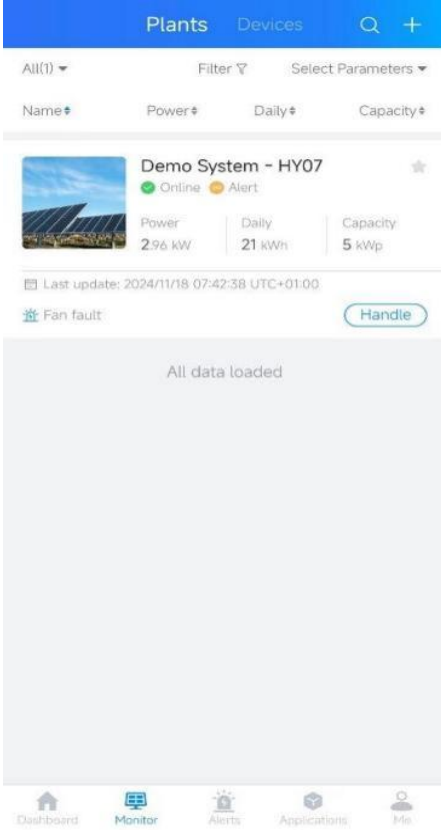


Fig. 9-13b

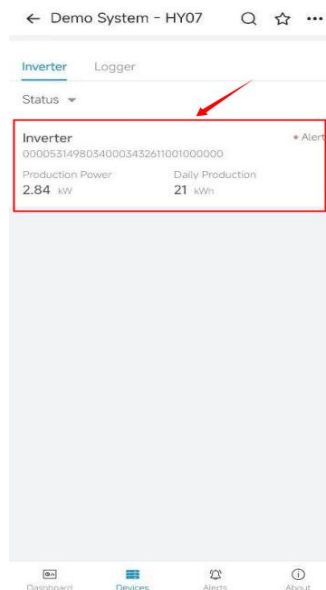
10. Firmware query and Firmware upgrade

10.1 Firmware query

Step 1: After click the specific plant, The plant dashboard page of the plant will be prompted, Click **“Devices”** at the bottom



Step 2: The device main page will show the device type, SN, production power and daily production.



Step 3: Click “*Inverter*” tab to enter the detail data page of this device, Then you can view the firmware version information of the inverter.

Device Parameters		Statistics	Alerts	Archit
SN: 000053149803000035 5041000150000	Inverter Type: 5350			
System Time: 2025-12-25 12:08:00 -4	Production Number: B446420A343535342 5348CE2C564E4B			
Rated AC Voltage of Inverter: 230.00V	Rated AC Frequency of Inverter: 50.00Hz			
Rated AC Power of Inverter: 6kW	Rated AC Current of Inverter: 26.00A			
Version Information				
Host BMS software Version: 15D7	Slave BMS software Version: 15D7			
Host Bootloader Version: 0202	Slave Bootloader Version: 0202			
BMS Software Version: 000015D7	Overall Software Version: V1.0.0			
DSP Firmware Version: 00000408	ARM Firmware Version: 00000410			
DSP Boot Version: 0202	ARM Boot Version: 0300			

10.2 Firmware upgrade

Except get permission from Hiconics, the operation of Firmware Upgrade is not allowed for the installer and end user, which may lead to damage the device. Firmware Upgrade operation is available under “*Device Parameters*” tab, follow the steps below to perform firmware upgrades:

Step 1: Follow the previous steps to enter the “*Device Parameters*” tab in the detail data page of the device, click “...” at the top right corner of the screen.

Step 2: Choose “*Firmware Upgrade*” to enter firmware upgrade page.

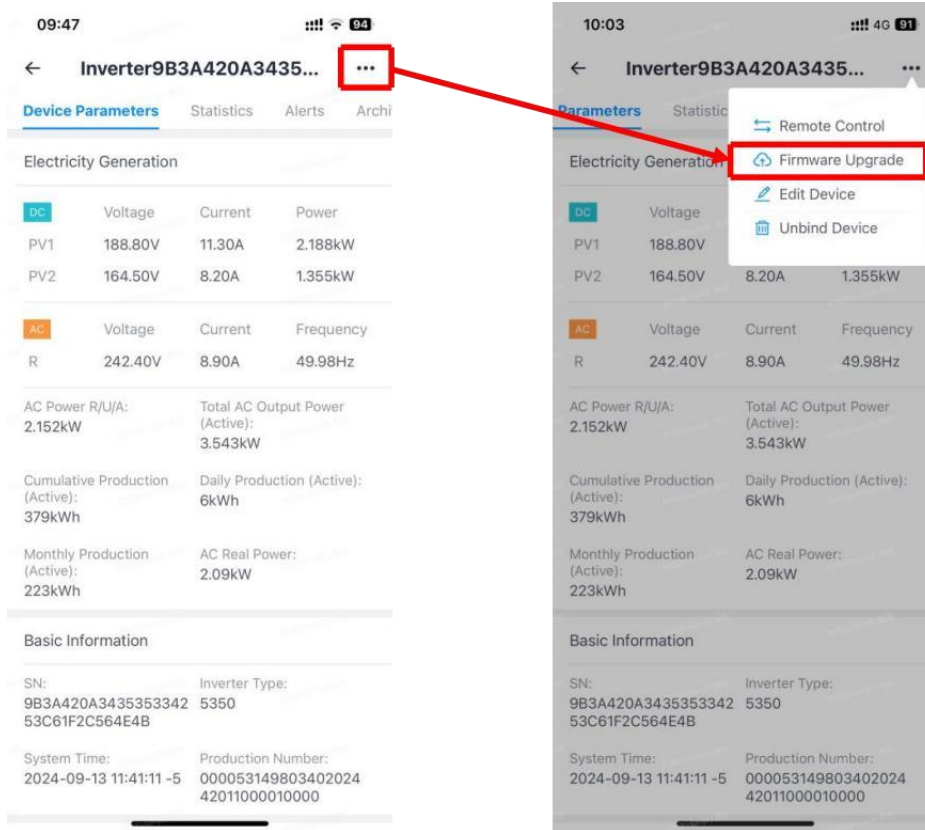


Fig. 10-1

Step 3: Choose the firmware package that needs upgrade, and click **“Start to Upgrade”**.

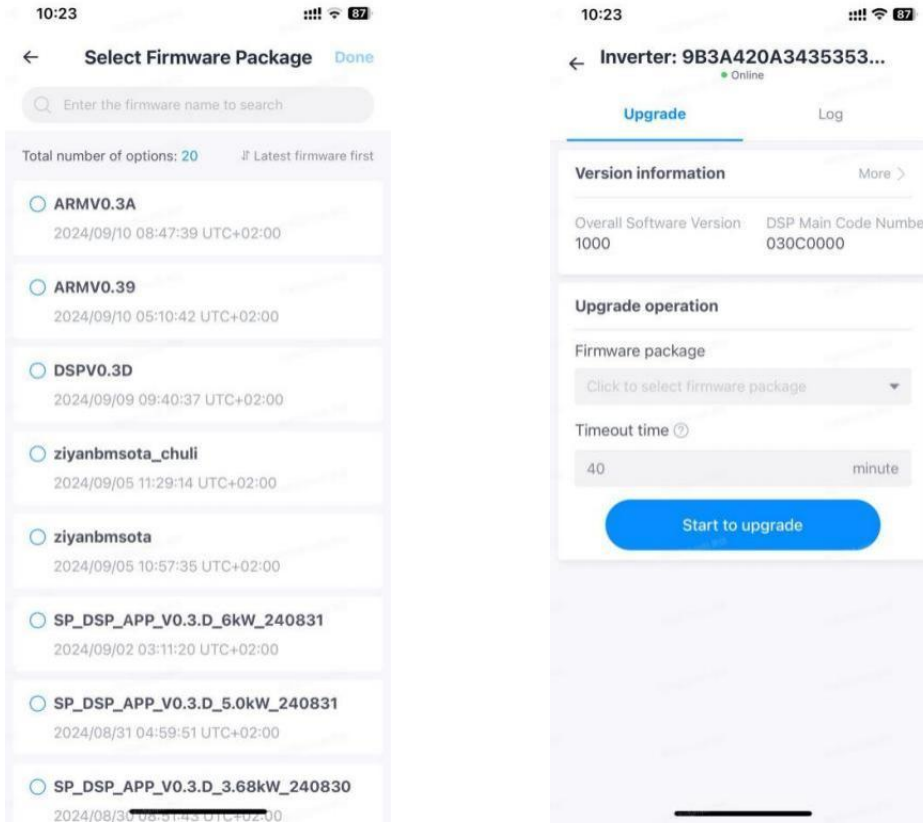


Fig. 10-2

Step 4: Upgrade will begin and may take a while.

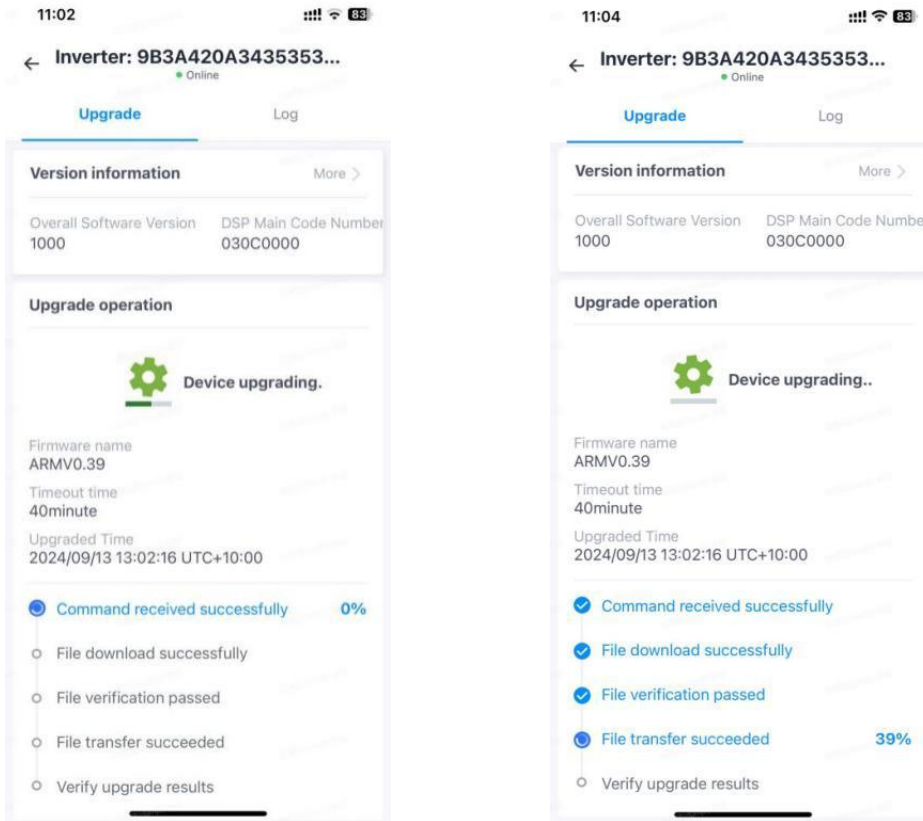


Fig. 10-3

Step 5: Upgrade completes, and click **OK** to finish the firmware upgrade process.

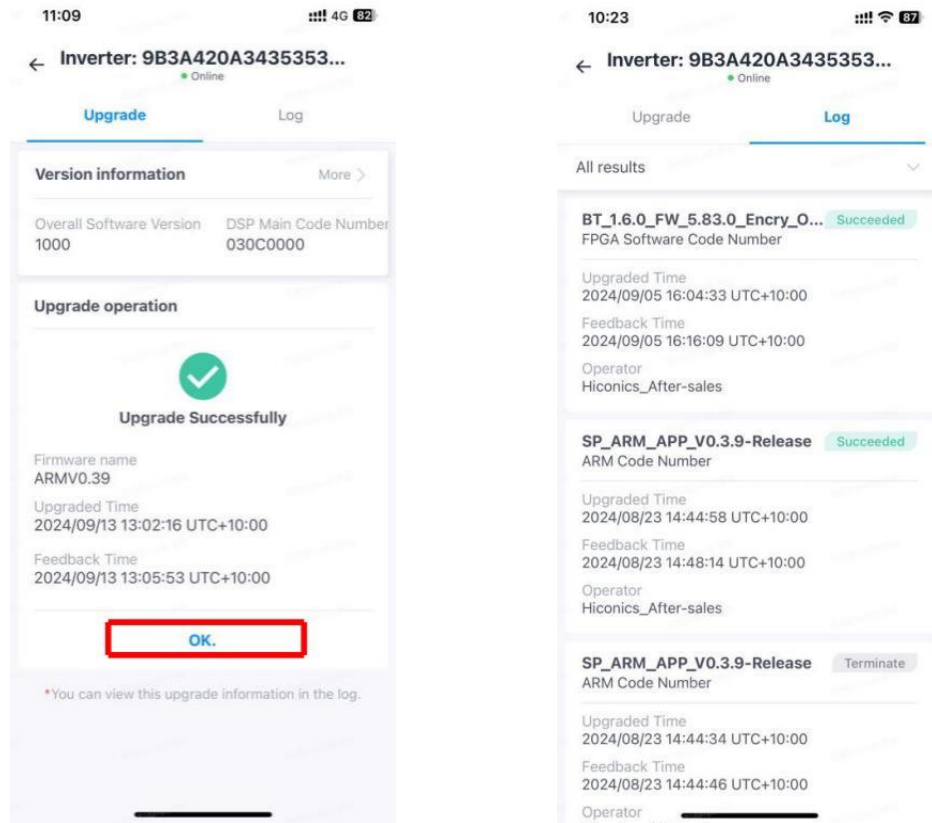


Fig. 10-4

11 Remote Setup for Installers

Permission to operate commands and firmware is only granted by the authorized account. Installers get the authorized accounts from distributor that has super admin account. The super admin was authorized by Hiconics. Unauthorized accounts do not have access to commands or firmware.

Once settings are selected at commissioning they are locked to view only.

11.1 Grid Regional Standard

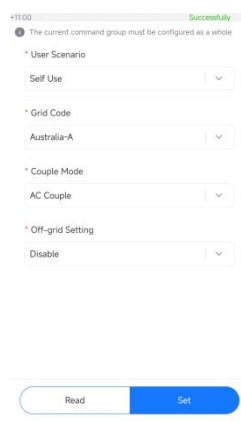
Click "Device control" to move corresponding options. "Read" is for downloading the data of current device, "Setup" is for uploading the set-up value.

Under "Grid Code", here are several standards for selection, including China, Germany, Australia, Italy, Spain and U.K. (Continuing to add)

After set up "Australia", you can continue to select grid subdivide AUS_A, AUS_B or AUS_C, New Zealand. And then click "Setup" to upload the selection.

Notice: The grid-connected relay will not engage until Australia Region A, B, C is selected

according to the section 4.1 of AS 4777.2.



The screenshot shows a configuration screen with a green 'Successfully' message at the top. Below it, a warning icon and text state: 'The current command group must be configured as a whole'. There are four dropdown menus: 'User Scenario' (Self Use), 'Grid Code' (Australia-A), 'Couple Mode' (AC Couple), and 'Off-grid Setting' (Disable). At the bottom, there are two buttons: 'Read' and 'Set'.

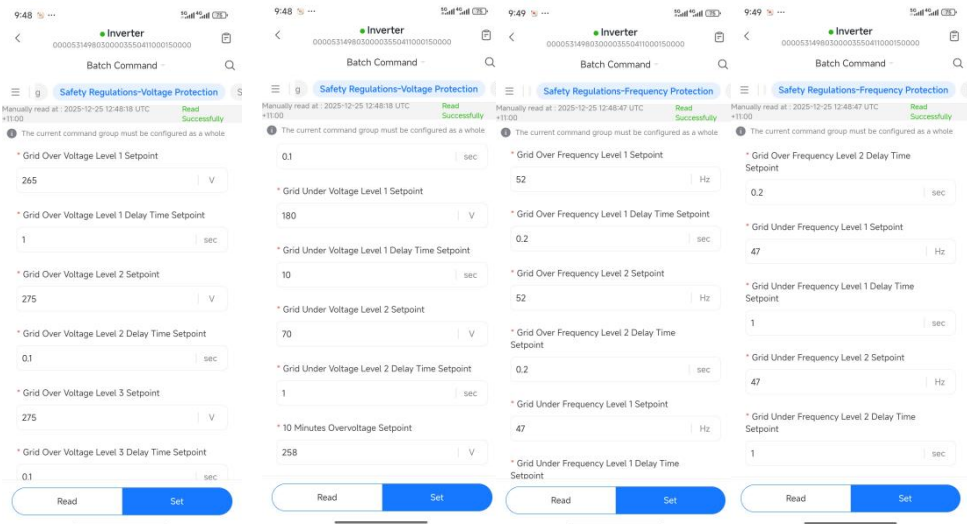
11.2 Grid Protection Value

When you completed the selection of grid standard, the grid setting will be automatically adjusted to the values what corresponding grid standard requires.

After selecting the regional standard, you can also set the protection values (if required)- like grid over-frequency, under-frequency, over-voltage and under-voltage protection- points etc.

In the command, you can set the "over frequency derating enable" to enable, write the "over frequency derating frequency" value and the "power retardation" value, so that when the grid frequency exceeds the over frequency derating frequency, the device will derate the active power in accordance with a certain gradient.

Notice: Once the power quality and grid settings have been selected at commissioning these settings will be locked automatically locked. from editing (unless using super admin account)



11.3 Advanced Function

-Export output limit

Limiting inverter power to be injected into the grid, disable by default.

When export limiting is required by local grid standards and requirements, click "Export output Limit Enable" and enable this function and then enter detailed value of export output limiting. This function is controlled completely by soft limiting.

Soft limit: Reducing power output by software when the feed-grid current is higher than the limit value.

Hard limit: After enabling this function, the inverter and the utility grid will automatically disconnect when the power feeds into the grid exceeds the required limit. (hard export limit control is not currently available and will be enabled in the future).

9:48 5G 76

Inverter
00005314980300003550411000150000

Batch Command

setting Australia Grid Code Setting UK Grid

Manually read at : 2025-12-25 12:47:29 UTC +11:00 Read Successfully

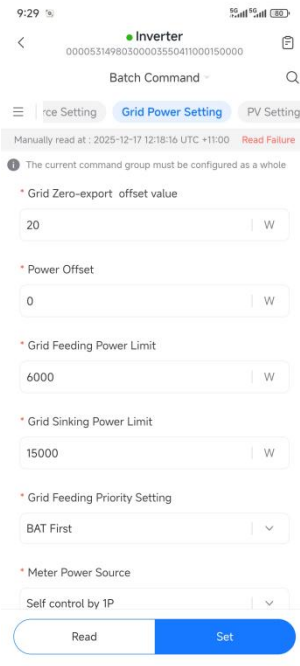
The current command group must be configured as a whole

- * Soft Export Limit Control
Disable
- * Limit Value Setpoint
100 %
- * Delay Time Setpoint
15 sec
- * Hard Export Limit Control
Disable
- * Limit Value Setpoint
100 %
- * Delay Time Setpoint
5 sec

Read Set

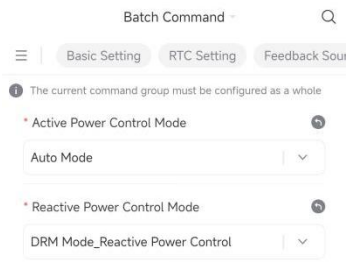
Grid power limit

Just set percent value depends on nominal AC power to limit generation power.



-DRM (Demand Response Mode)

Only applicable in Australia and New Zealand. Default option is disabling.



11.4 Power Quality Response Mode

(a) Volt-var response mode

Voltage-related voltage control mode Q (U) controls reactive power output as a function of voltage. There are four adjustable coordinate points, the difference between non-hysteresis control and hysteresis control in the curve is as shown below.

The screenshot displays the 'Q-U Curve Setting' interface for an inverter. It is divided into two main sections for configuration. The left section includes:

- High Voltage Start Setpoint: 240.0 V
- High Voltage End Setpoint: 258.0 V
- Low Voltage Start Setpoint: 220.0 V
- Low Voltage End Setpoint: 207.0 V
- QPwr Setpoint1: 73 %Qmax
- QPwr Setpoint2: 0 %Qmax

 The right section includes:

- QPwr Setpoint2: 0 %Qmax
- QPwr Setpoint3: -100 %Qmax
- QPwr Setpoint4: 0 %Qmax
- LPF Coefficient Setpoint: 1 sec
- Response Delay Time Setting: 1.0 sec
- Function Lock Setting: Enable

 At the bottom of each panel are 'Read' and 'Set' buttons.

(b) Volt-watt response mode

Overvoltage active power reduction P (U)

The inverter can enable the active power overvoltage response at a programmable voltage threshold having programmable droop.

The screenshot displays the 'P-U Curve Setting' interface for an inverter. It is divided into two main sections for configuration. The left section includes:

- Voltage Setpoint1: 253.0 V
- Voltage Setpoint2: 260.0 V
- Voltage Setpoint3: 215.0 V
- Voltage Setpoint4: 207.0 V
- Power Setpoint1: 100 %Pn
- Power Setpoint2: 20 %Pn

 The right section includes:

- Power Setpoint2: 20 %Pn
- Power Setpoint3: 100 %Pn
- Power Setpoint4: 20 %Pn
- LPF Coefficient Setpoint: 1 sec
- Response Delay Time Setting: 1.0 sec

 At the bottom of each panel are 'Read' and 'Set' buttons.

(c) Fixed power factor

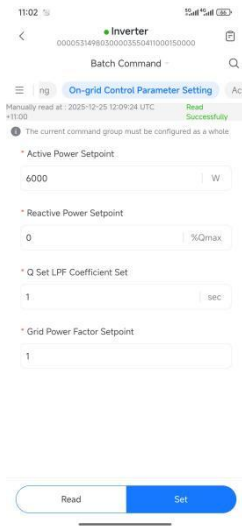
Can set fixed displacement coefficient $\cos\phi$

The screenshot displays the 'Austria Grid Code Setting' interface for an inverter. It includes the following settings:

- Fixed Power Factor Control: Enable
- Fixed Power Factor Setting: 1.00
- Reactive Power Support K Value: 2

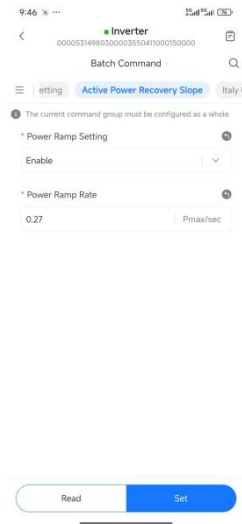
 At the bottom are 'Read' and 'Set' buttons.

(d) Reactive power mode
Fixed reactive power setting is as shown



(e) Power rate limit

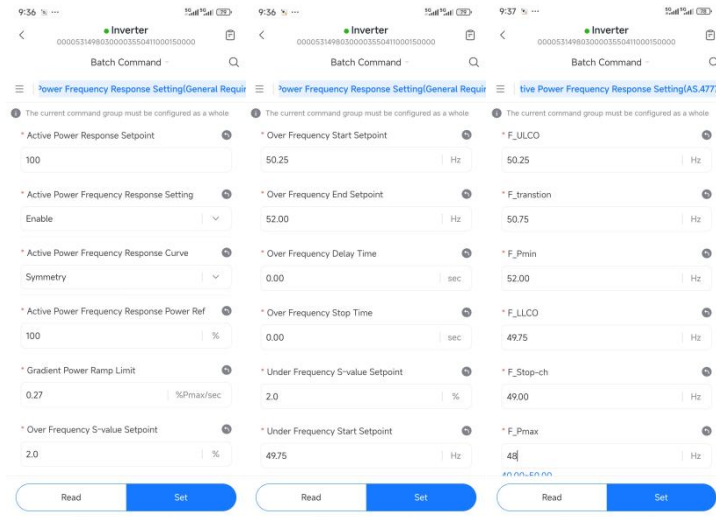
After connection or reconnection, the active power generated by the inverter shall not exceed the prescribed gradient, expressed as a percentage of the nominal active power of the inverter per minute.



11.5 Overfrequency response settings

Overfrequency active power reduction P (f)

The inverter can enable the active power overfrequency response at a programmable frequency threshold having programmable droop.



11.6 Overvoltage response settings

Overvoltage active power reduction P (U)

The inverter can enable the active power overvoltage response at a programmable voltage threshold having programmable droop.

11.7 Startup and Reconnection parameter settings

11.8 LVRT/HVRT Mode Setting



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