ADAYO

SOLARMAN Smart APP

User Manual

Version: 01

Date: 2023-1 2-02

CONTENT

1 About Manual

1.1 Manual Content

- The manual mainly introduces the common operations of hybrid inverter app, making it convenient for users to operate and manage.
- Before setting parameters, please carefully read the manual and the corresponding device operating manual, familiarize yourself with the functions and characteristics of the product. Incorrect parameter settings may affect the use of the device.
- The document will be updated periodically, please get the latest version manual and more product information from office website.

1.2 Application People

Only applicable to user who have purchased the product can use the logger to operate and visually analyze on the device. Operators should be professionally trained, familiar with local regulation, electrical systems, and the relevant knowledge of the product.

1.3 Symbol Explanation

To better use this manual, the following symbols are used to highlight important information. Please read the symbols and Instruction carefully.

Danger
Indicates a highly potentially dangerous situation that would result in death or serious injury if not avoided.
Warning
Indicates a moderate potentially dangerous if a situation that would result in death or serious injury if not avoided.
Caution
Indicates a low potentially dangerous that would result in death or serious injury if not avoided.
Notice
Emphasis and additions to the content may also provide tips or tricks to optimize the use of the product, which can help you solve a problem or save you time.

2 APP Introduction

Intelligent Control APP is a mobile application software that can communicate with the device through Bluetooth and 2.4G Wi-Fi. The following are common function：

1. View device running data, software version, warning information, etc.
2. Set the grid parameters, battery parameter, power confine, communication parameter, etc.
3. Set the operating mode of the inverter.

2.1 Accessory Product

Intelligent Control APP for energy storage series inverter.

2.2 Download And Install

Mobile Phone Requirement:

- Phone OS requirement：Android 4.3 and above，iOS 9.0 and above. To ensure the stability of various functions, it is recommended to use phones with versions of Android 8.0, iOS 13.0 and above.
- Phone support web browser meanwhile can connect Internet.
- Phone support WLAN or Bluetooth function.
- The router supports the 2.4GHz wireless frequency band, and WLAN signals cover the location of the device.
- Routers are recommended to use WPA, WPA2, or WPA/WPA2 encryption mode; Not supporting enterprise encryption mode such as airport WLAN and other public hotspots requiring authentication; It is not recommended to use WEP and WPA TKIP as they have serious security flaws. If WEP cannot connect, please log in to the router and change the router encryption to WPA2 or WPA/WPA2.

Download Procedure:

Option 1：Download and install through app store.

- Android or Apple users: Search for “SOLARMAN” in the app store.
- If the application cannot be found in the app store: Please choose option two.

Option 2：Scan the following QR code to download and install. Either Android or Apple.

Instruction

After entering the download page, choose browser at the top right corner of phone to download.

Select the Browser Download way, and if there are prompts such as “This application is from an unofficial APP store...” during the installation process, please click “Go on”.

3 Routine Operations

If you are using energy storage product for the first time, please open the installed APP and follow the steps blow to complete the routine operation such as new user registration, adding power plants, adding a logger, configuring the networks.

3.1 New User Registration

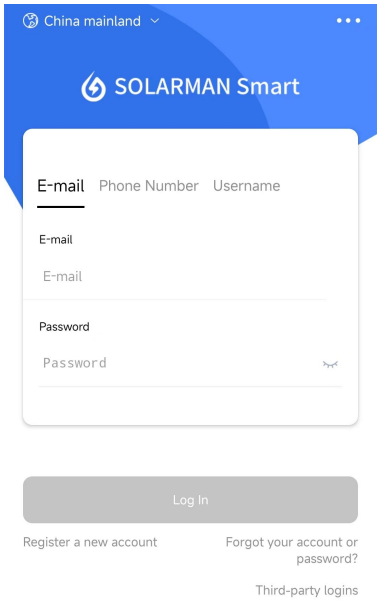
Steps

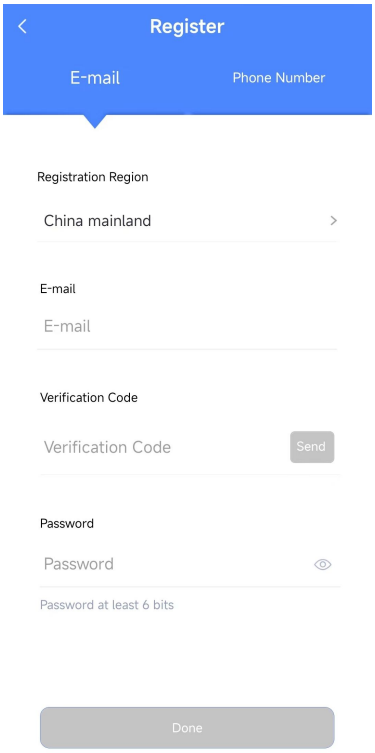
1. Click “Register a new account” at the bottom left of the login page.

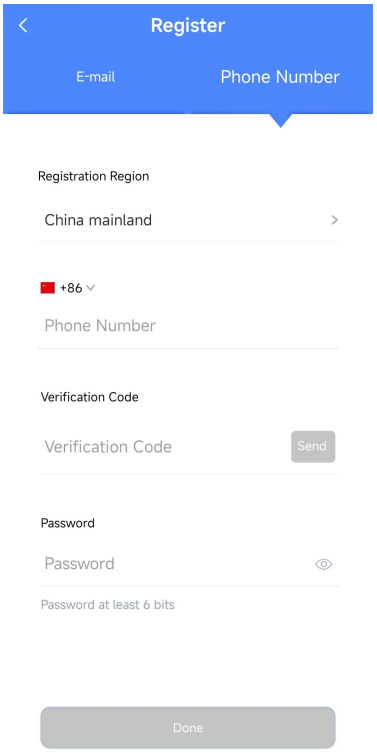
2. After entering “Register a new account”, you can choose “E-mail Registration” or “Phone Number Registration”, “Phone Number Registration” is recommended. Fill in the registration interface information to complete the registration.

Instruction

- When setting the login password for a new users, the password should be complex. The combination of letters and numbers is recommended.
- If the user enters incorrect passwords for five consecutive times within five minutes, the account will be locked for 30minutes.







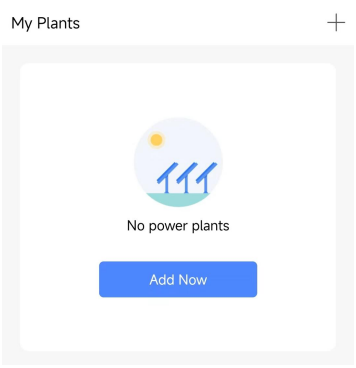
3.2 Adding Plant

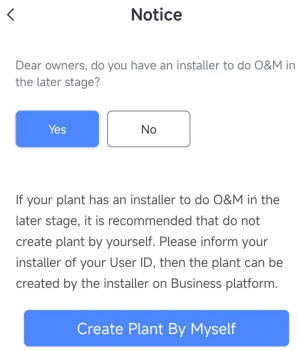
Steps

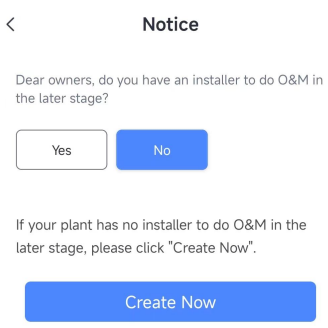
1. Click “Add Now” on the “My Plants” page.
2. Click “No” on the “Notice” page, then click “Create Now”.
3. “Confirm Plant Location”, turn on the phone GPS, the system will automatically lock the current location. If the location is wrong, you can manually modify it.
4. “Plant Info”, fill in the plant information as prompted. **Note: The name of the power plant should be unique to facilitate the background to distinguish.**
5. Created.

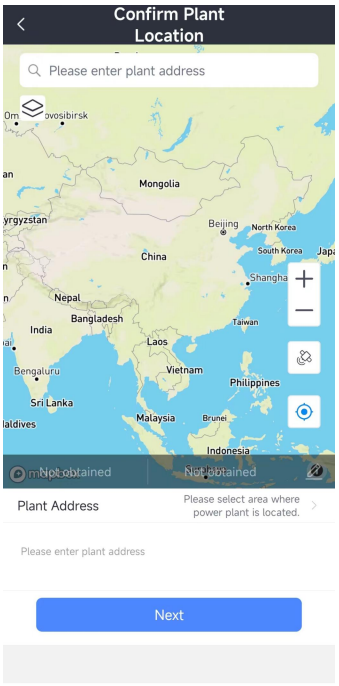
Instruction

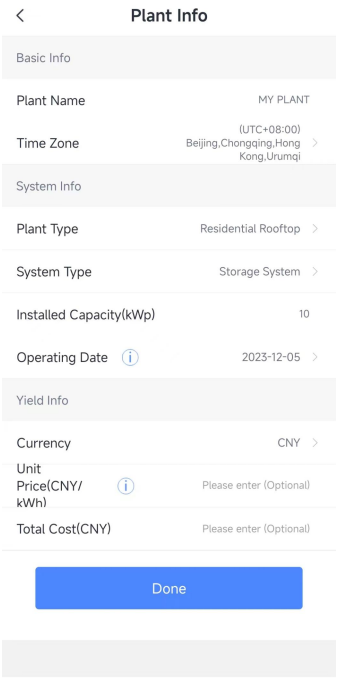
- Notice: If your plant has an installer responsible, you do not need to create a new power plant, just inform the installer of the logger information.
- Plant Name: Company users can use the company name, individual users can use any name, do not use only “Inverter”, “Energy storage” and other name without distinction.











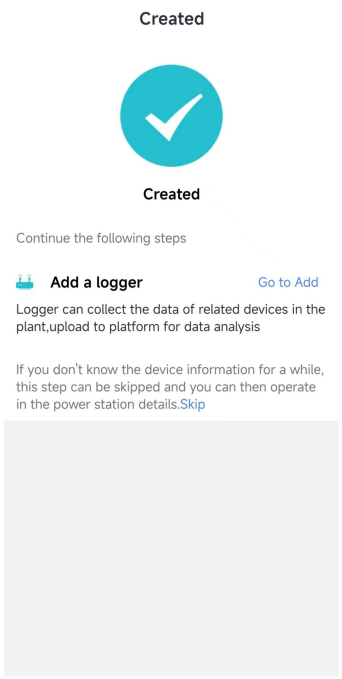
3.3 Adding A Logger

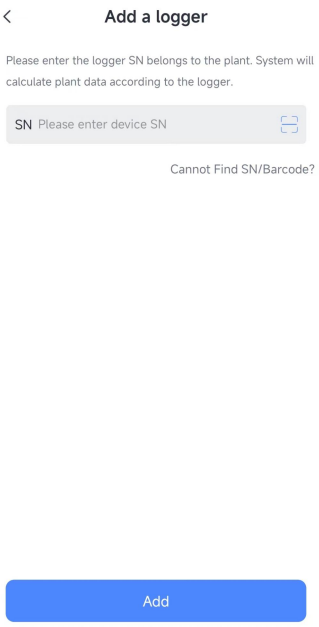
Steps

1. Click “Add a logger” on the “Created” page.
2. Enter manually device SN on the “Add A Logger” page,or click “scanner” icon to scan the QR code of the logger.
3. After the addition is completed, it will tips “Added”.

Instruction

- When adding the logger, the logger should be power on.





3.4 Configure Network

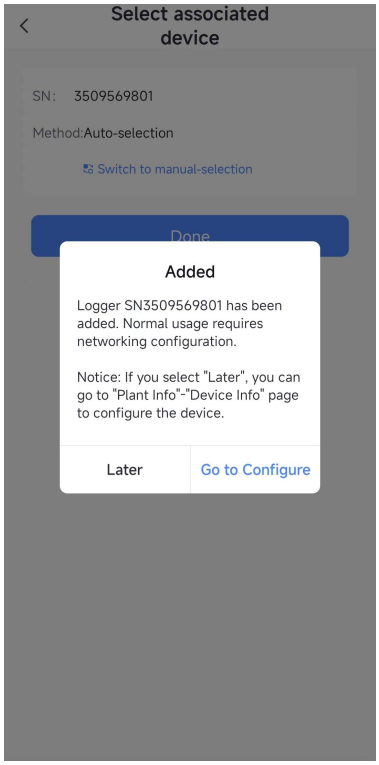
Steps

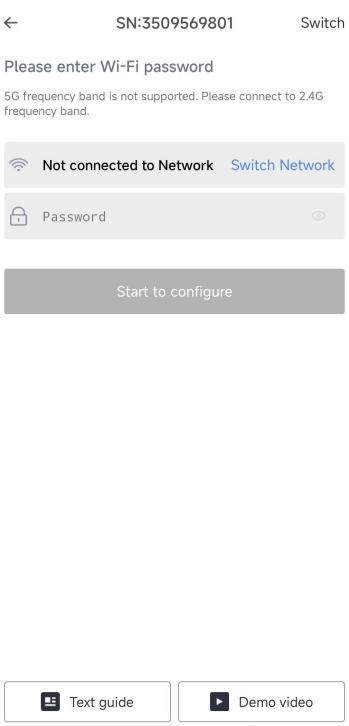
1：Confirm Wi-Fi information

Please ensure that the phone is already connected to the Wi-Fi network in your home is consistent with the network displayed on the page, and enter the password for the network. After completing the input and confirming that the information is correct, click the “Start to configure” button.

Instruction

- The Wi-Fi network only supports 2.4G frequency band, not 5G band. Please confirm before connecting.
- If there is no WiFi signal around the device, try to use the phone hotspots as a Wi-Fi signal.

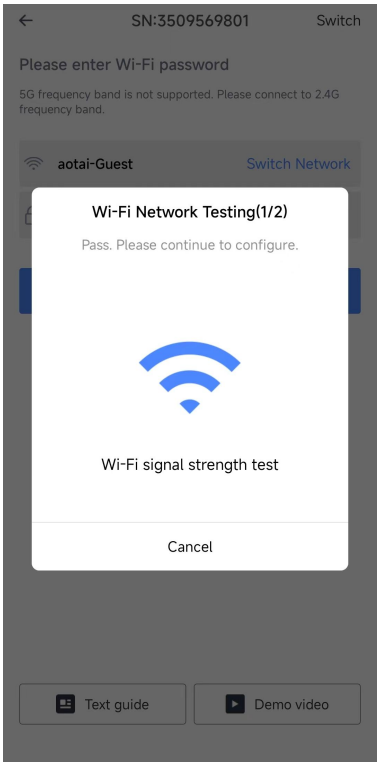


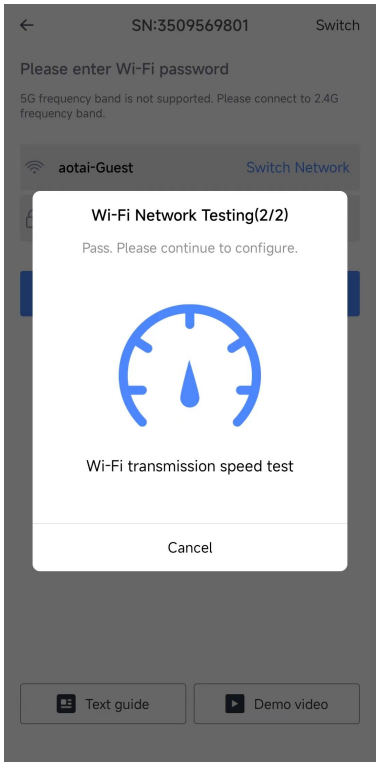


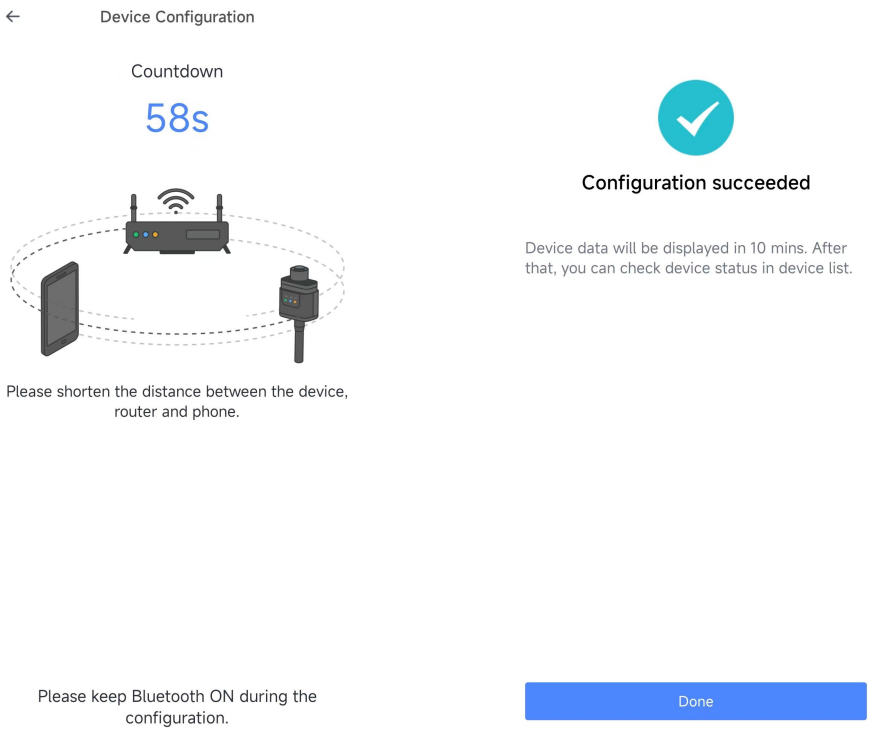
2: Wait for configuration to complete

After the configuration starts, the following page will be displayed, please wait until the configuration completes automatically. Please turn on the switch of Wi-Fi and Bluetooth during the configuration process.

If the configuration is successful, the logger still is “Offline” after you return to “Device” list, the device will communicate normally within 10 minutes and collect the data of the device, the status will be update from “Offline” to “Online”, please wait patiently.







Instruction

- If the page tips configuration failed, please check and retry for the following possible reasons:
  1. Ensure your phone's Bluetooth is turned on;
  2. Ensure your home Wi-Fi network is working;
  3. Ensure that the wireless router does not enable the blacklist;
  4. Try to shorten the distance between phone and device;
  5. Try to connect with other Wi-Fi network and configure again;
  6. Try to remove the special characters such as (, ; " = ') from the Wi-Fi network name.

4 Function Description

After installing APP correctly on the phone, registering a new user, adding the plant, adding the logger, configuring network. The following of common function:

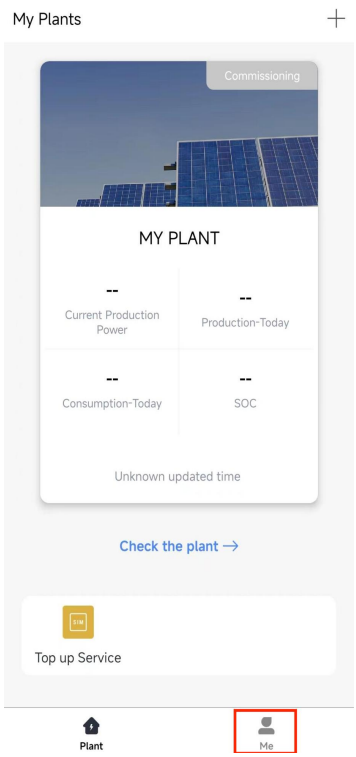
Local mode setting: switch, running parameters, system parameters, common power mode setting, etc.

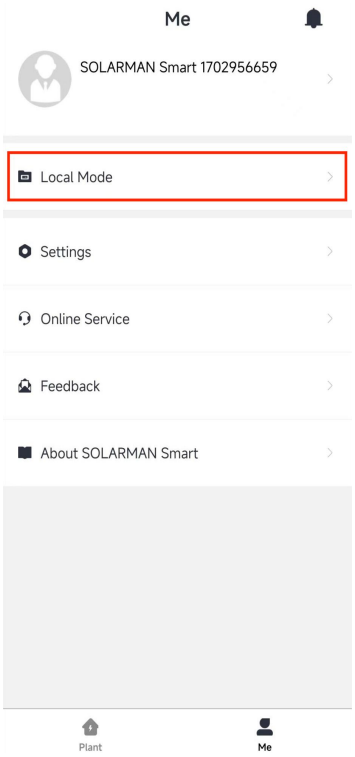
Local mode data checking: Check the information such as device's running parameters in real time, fully learn device status.

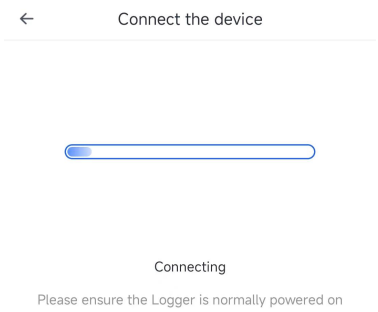
Local mode data monitoring: Remotely monitor the running status of the device, learn the information such as the production.

4.1 Local Mode Setting

1. Click "Me" at the bottom right corner of the home page.
2. Turn on the phone Bluetooth, choose "Local Mode"on the "Me"page.
3. Scan the QR code of the logger to connect the device.







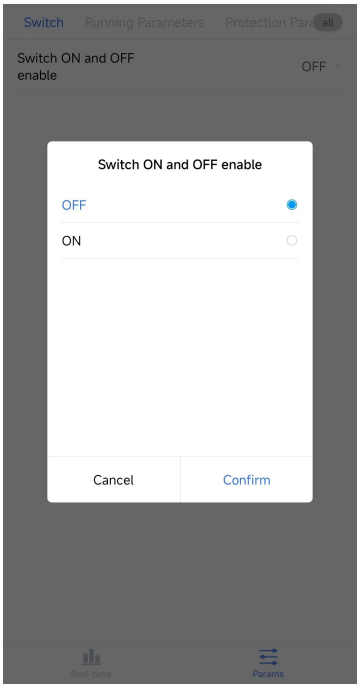
4.1.1 Switch

Steps

1. Click “Params” at the bottom right corner of the setting page.
2. Click “Switch” at the top menu bar.
3. Select “ON” or “OFF” form “Switch ON and OFF enable” dialog that appears.
4. Click “Confirm” after the selection is completed, and the device can execute the corresponding operations.

Instruction

- The device is turned off by default, and the first boot must be done manually through the above steps.



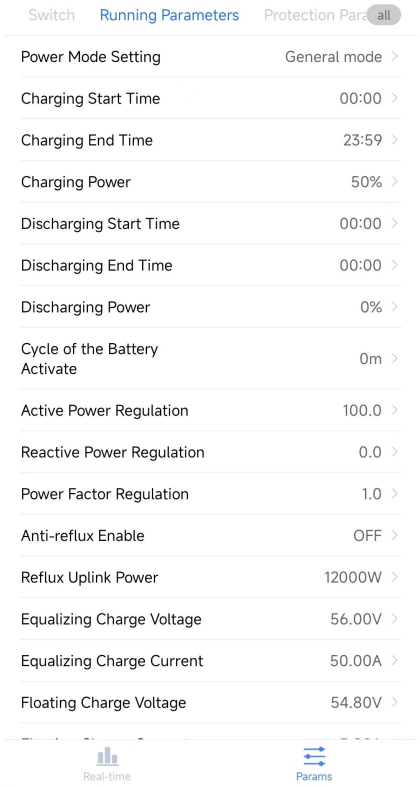
4.1.2 Running Parameters

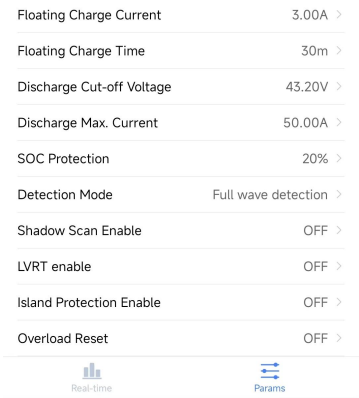
Steps

1. Click “Params” at the bottom right corner of the setting page.
2. Select the “Running Parameters” at the top menu bar.
3. Click “Confirm” after the selection is completed, and the device can execute the corresponding operations.

Instruction

- Running parameters item is more, so please fully learn the function of each parameter before setting.





Number	Parameter	Description
1	Power Mode Setting	General mode, off-grid mode, economical mode, each mode is introduced in 4.1.5.
2	Charging Start Time	Charging start time in economical mode, the time can be set anywhere from 00:00 to 23:59.
3	Charging End Time	Charging end time in economical mode, the time can be set anywhere from 00:00 to 23:59.
4	Charging Power	According to the battery capacity or user requirement, the percentage of battery charging power in economic mode can be set from 0% to 100%.
5	Discharging Start Time	Discharging start time in economical mode, the time can be set anywhere from 00:00 to 23:59.
6	Discharging End Time	Discharging start time in economical mode, the time can be set anywhere from 00:00 to 23:59.
7	Discharging Power	According to the battery capacity or user requirement, the percentage of battery discharging power in economic mode can be set from 0% to 100%.
8	Cycle of the battery Activate	Set to 1 to activate the battery when it runs low.
9	Active Power Regulation	Adjust the output active power, 0%-100% can be set.
10	Reactive Power Regulation	Adjust the output reactive power, 0%-100% can be set.
11	Power Factor Regulation	Adjust the output power factor, -0.8 to 0.8 can be set.
12	Anti-reflux Enable	By the power bureau unified dispatch, to prevent the device from working with the grid.
13	Reflux Uplink Power	Set the on-grid power of device.
14	Equalizing Charge Voltage	Voltage value during equalized charging period, default 56.8V.
15	Equalizing Charge Current	The maximum current during equalizing charge period, default 20A. This parameter needs to be adjusted according to the different power devices.
16	Floating Charge Voltage	Voltage value during float charging period, default 54.8V.
17	Floating Charge Current	Current value during floating charge period, default 3A. This parameter needs to be adjusted according to the different power devices.

Number	Parameter	Description
18	Floating Charge Time	The duration of the battery float charging, default 30 minutes.
19	Discharge Cut-off Voltage	The stop voltage during the battery discharging period, default 43.2V.
20	Discharge Max. Current	The max current during the battery discharging period.
21	SOC Protection	When the device is running off-grid, the battery DOD protection.
22	Detection Mode	Reservation function.
23	Shadow Scan Enable	Reservation function.
24	LVRT Enable	Reservation function.
25	Island Protection Enable	After this function is enabled, the device will be timely shut down for protection when island effect occurs.
26	Overload Reset	Clear the overload fault after overload.

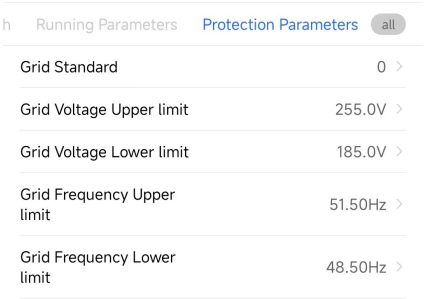
4.1.3 Protection Parameters

Steps

1. Click “Params” at the bottom right of the setting page.
2. Select “Running Parameters” at the top menu bar.
3. Change the parameters on the “Running Parameters” page.
4. Click “Confirm” after the selection is completed, and the device can execute the corresponding operations.

Instruction

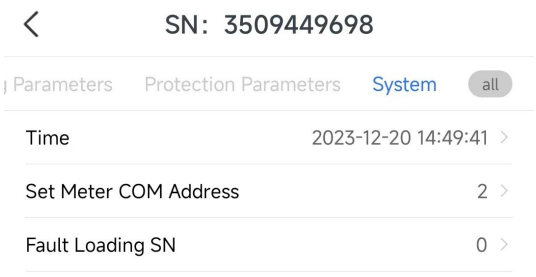
- Protection Parameters only include parameter related to the power grid such as upper and lower limit of voltage and frequency; if the grid voltage or frequency exceeds the range, the device will work off -grid. Please set value as required, the default value is recommended.



4.1.4 System Parameters

Steps

1. Click “Params” at the bottom right of the setting page.
2. Select “System” at the top menu bar.
3. Change the parameters in the “System” page.
4. Click “Confirm” after the selection is completed, and the device can execute the corresponding operations.



Number	Parameter	Description
1	Time	System time of the device.
2	Set Meter COM Address	In parallel mode, the address need to be set in sequence such as “1,2,3,...”, with 1 as the host and the rest as the slave.
3	Fault Loading SN	After setting the number from 0 to 100, the historical fault can be check through the warning information.

4.1.5 Common Mode Setting

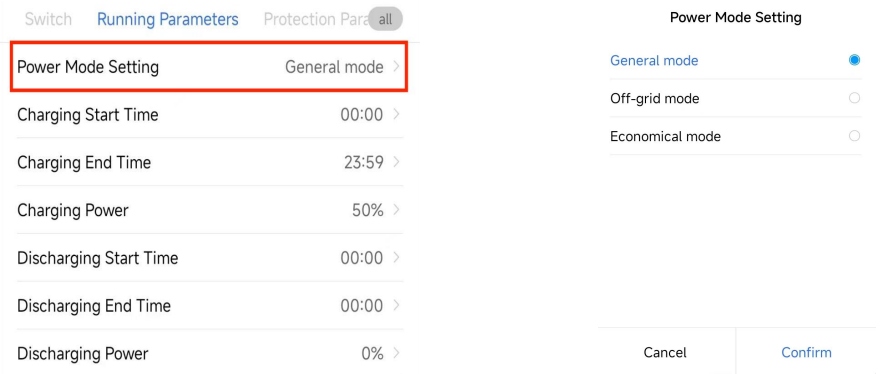
1. General mode: The priority of load energy source in this mode: PV> Grid> Battery.
2. Off-grid mode: The priority of load energy source in this mode: PV> Battery.
3. Economical mode: The priority of load energy source in this mode: PV> Grid> Battery or PV> Battery> Grid.
4. Custom mode: PV> Battery> Grid.
5. Parallel mode: Support muti-device parallel operation to improve the load capacity.

Instruction

- Please read carefully and understand fully the characteristics of each mode, then set the working mode as required.

Mode Setting:

1. Click “Power Mode Setting” on the “Running Parameters” page.
2. Select “General Mode” from the pop-up dialog.



(1) General Mode

1. The priority of load energy source in this mode: PV> Grid> Battery.
2. When the PV power is normal, the device preferentially use PV power to supply energy to the load, excess power can charge the battery, and if there is more, it can be sold to the grid.

3. When the PV power is abnormal or insufficient, the power grid supply energy to the load.

4. When the PV and grid are abnormal, the battery provides energy for the load.

🕮 Instruction

In general mode, the battery can be charged by PV, and the battery energy can only supply to the load, can not be sold to the power grid.

(2) Off-grid Mode

1. The priority of load energy source in this mode: PV> Battery.

2. In off-grid mode, the inverter outputs the standard sine-wave 230 voltage to ensure the purity of the load power.

3. When the PV power is normal, the device preferentially use PV power to supply energy to the load.

4. When the PV power is abnormal or insufficient, the battery provides energy for the load.

🕮 Instruction

- In this mode, if only PV supply and no battery, the device does not start.
- In this mode, the battery can only be charged by PV. And in order to ensure the purity and sinusoidal output waveform, the power grid will not be able to by pass.

(3) Economical Mode

The priority of load energy source in this mode: PV> Grid> Battery or PV> Battery> Grid. The priority depends on the parameters setting.

① **During the battery charging period:** The priority of load energy source: PV> Grid> Battery.

1. When the PV power is normal, the device preferentially use PV power to supply energy to the load, excess power can charge the battery, and if there is more, it can be sold to the grid.

2. When the PV power is abnormal or insufficient, the power grid supply energy to the load, while charging the battery at the set power.

Note: Only in this mode, the power grid may charge the battery, so it is recommended to set this period in the electricity price the valley.

② **During the battery discharging period:** The priority of load energy source: PV> Battery> Grid.

1. When the PV power is normal, the device preferentially use PV power to supply energy to the load, excess power can be sold to the grid.

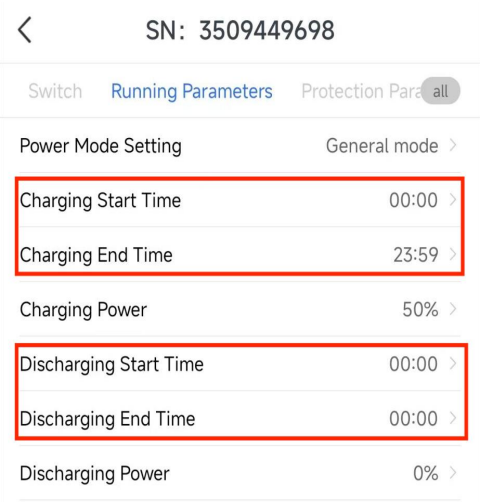
2. When the PV power is abnormal or insufficient, the battery supply energy to the load.

3. When the battery voltage is lower than the discharge cut-off voltage, the power grid will supply energy to the load.

Note: In this mode, if the battery discharge power is set to a large value and the load power is small, the excess power will be sold to the power grid.

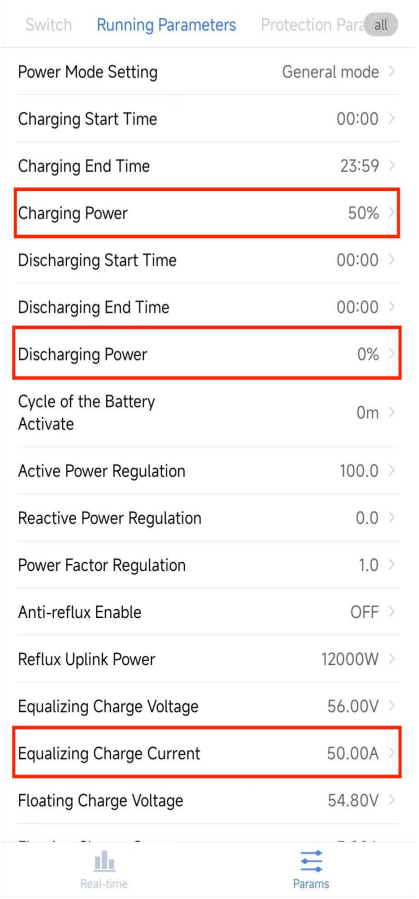
Charge or discharge period setting

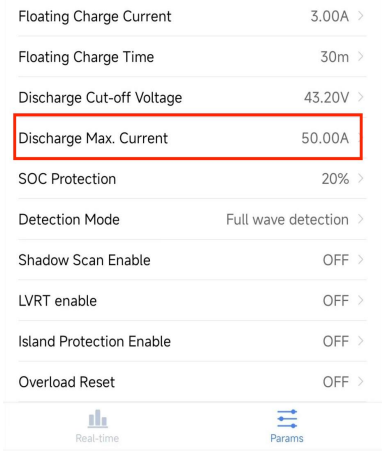
Set the economical mode and the charge or discharge period. (Note: **The charge period and the discharge periods cannot coincide** such as the charge period set 00:00-00:59, the discharge period set 01:00-23:59.)



Current and power of charge or discharge setting

Set the economical mode, and set the current and power of charge or discharge, the power is displayed by device power percentage.





(4) Custom mode

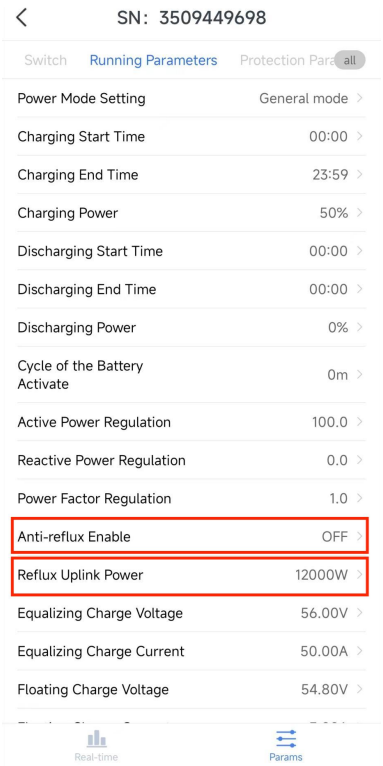
- This mode is one of the more commonly mode for users, and is suitable for areas with the good grid quality and not obvious step electricity price.
- The priority of load energy source: PV> Battery> Grid.

Instruction

There is no APP direct option in this mode, which can be realized by the corresponding APP settings and external CT.

Custom mode setting

1. Install the external CT with reference to the device manual.
2. Set the economic mode in the APP.
3. Set the device in the discharge period.
4. Turn on “Anti-reflux Enable”.
5. Set “Reflux Uplink Power” to 0W.



Instruction

Set the device to always operate during the discharge period. The charge period can be set 00:00-00:00, the discharge period can be set 00:01-23:59.

(5) Parallel mode

- This mode is one of the more commonly mode for users, this mode supports anti-device parallel operation to improve the load capacity.

Instruction

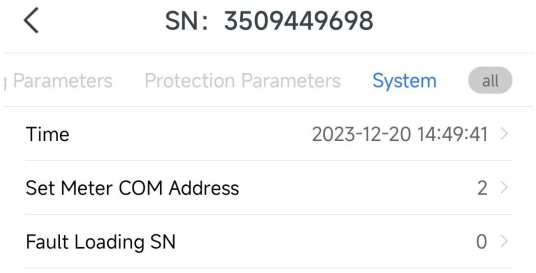
There is no APP direct option in this mode, which can be realized by the corresponding APP settings and parallel wiring of muti-device.

Parallel Mode Setting

1. Connect the parallel power line and the parallel communication line by referring to the device manual.

2. Set the “Set Meter COM Address” for each device respectively on the “System” page, with 1 as the host and the rest as the slave.

3. After setting, power off the entire system and reset it, then power it again.



Instruction

When running in the parallel mode, the parameters still need to be set separately for each device. Please check that the power mode of each device is the same before starting, otherwise the device may not work normally.

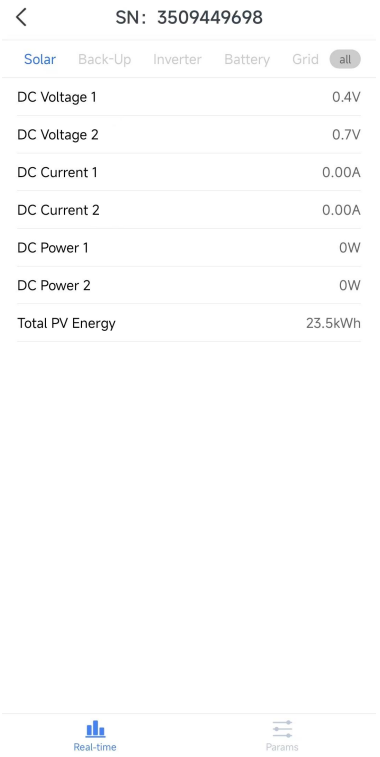
4.2 Local Mode Data

Instruction

- All parameters are real-time data in the local mode, and can only be checked, without any modification or setting, just for users to check the status of the device.

4.2.1 “Real-time” Page

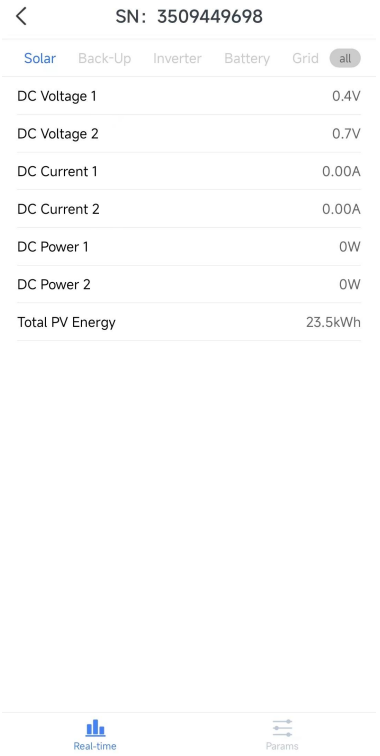
Select “Real-time” at the bottom left corner to enter the real-time data page.

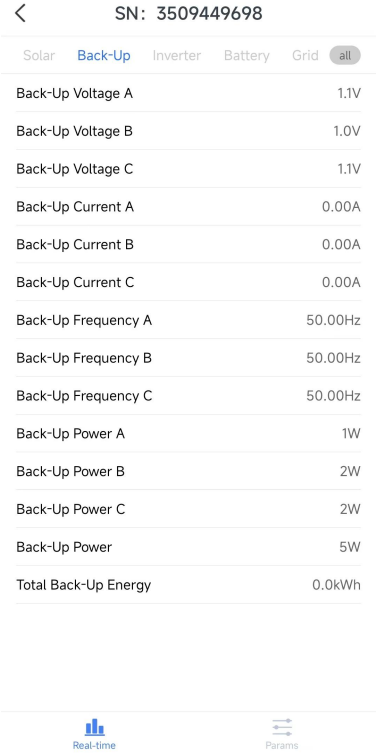


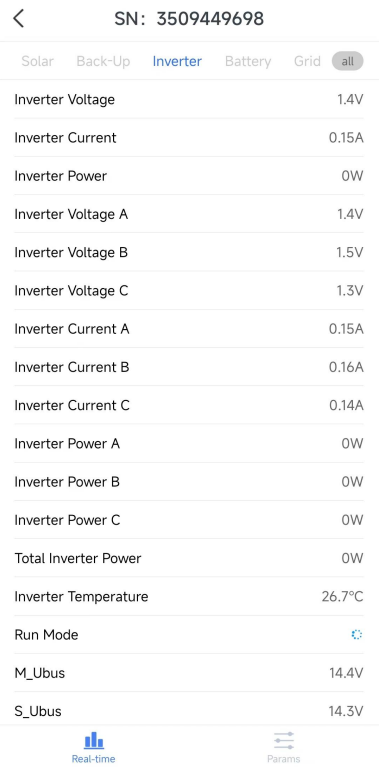
4.2.2 Checking Data

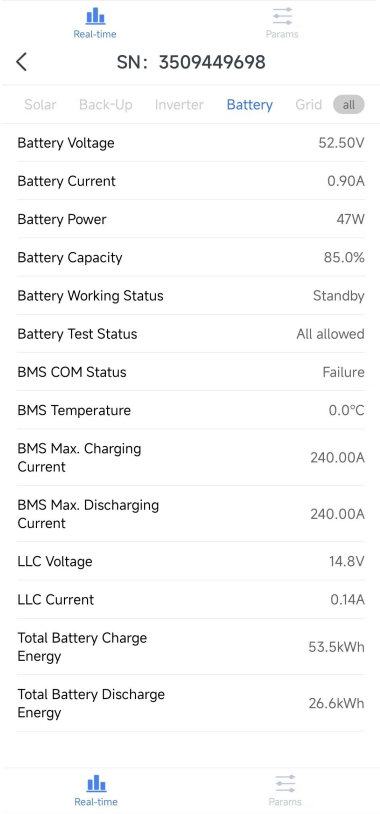
Instruction

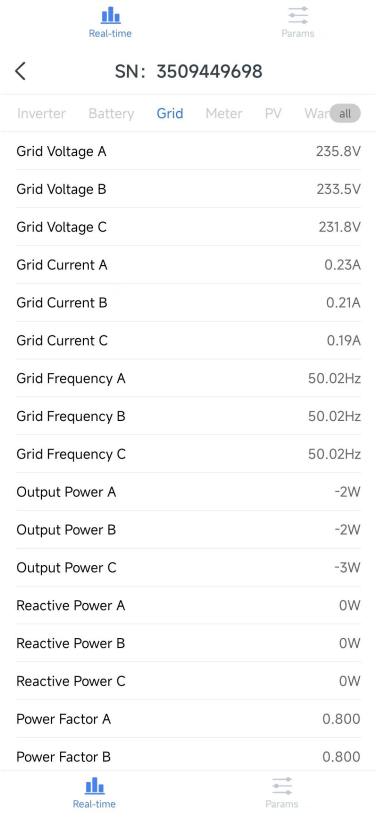
- All parameters in this page are real-time data and can only be viewed, not modified or set, just for users to check the status of the device.

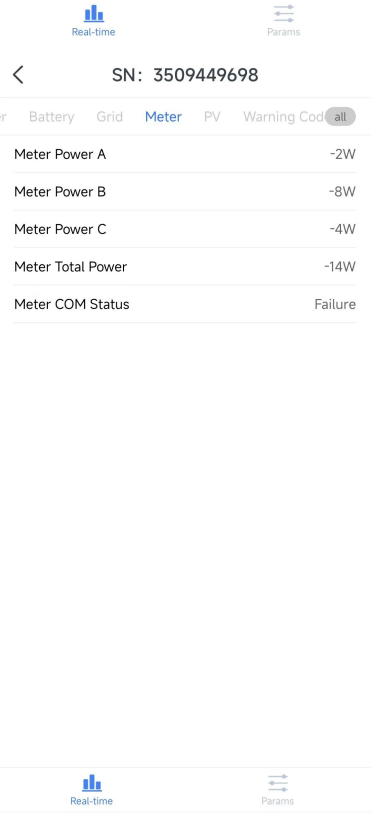


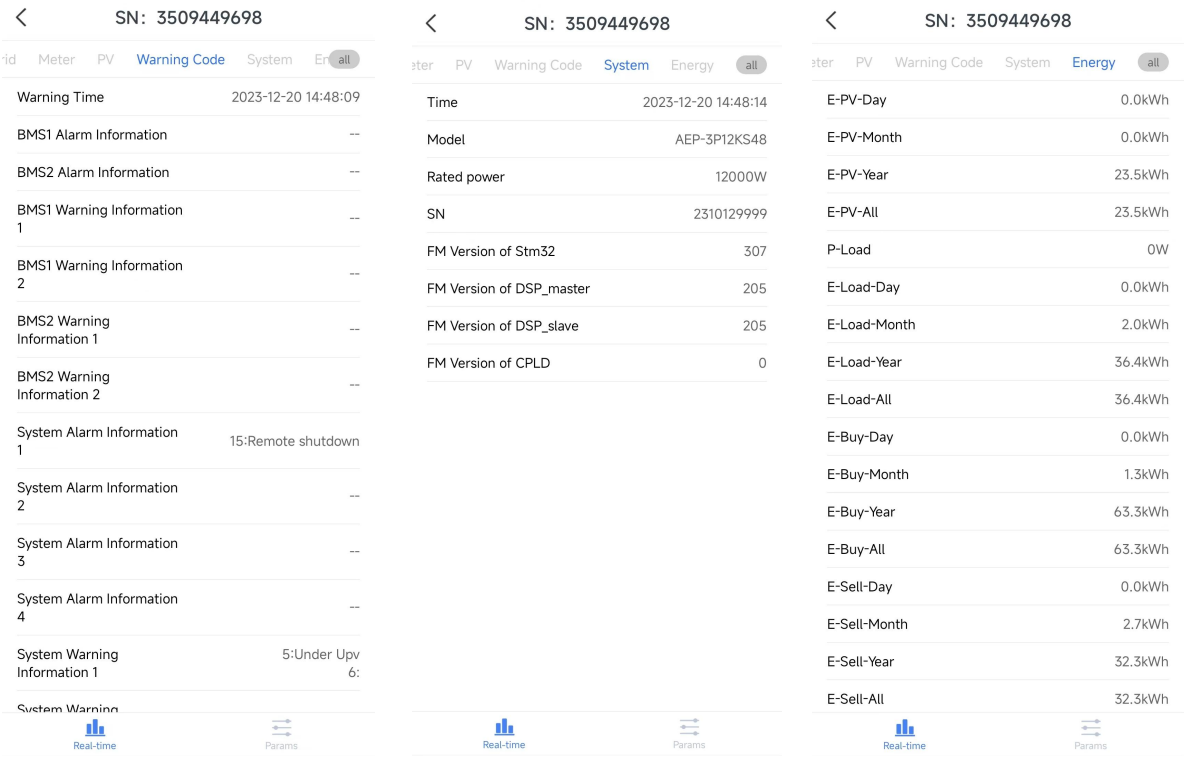












4.3 Remote Monitoring

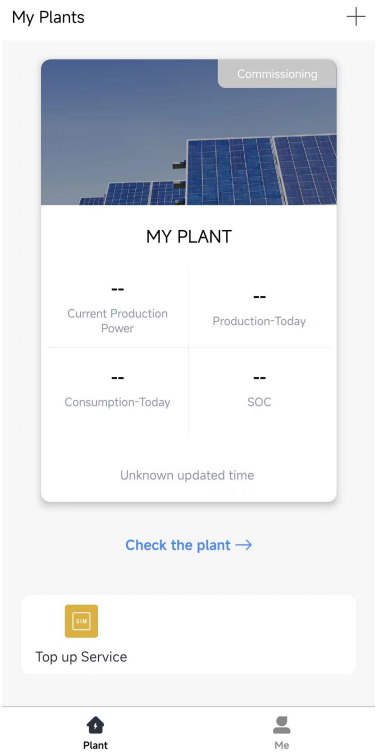
Instruction

- Remote monitoring data in the APP from the storage cloud.
- Considering the capacity limitations of the storage cloud, the data is updated every 5 minutes.
- The plant data is always saved, the device's daily data is generally saved for half a year.
- The remote monitoring data is only for viewing, just to facilitate users to understand information such as power production, you can not make any changes or settings to the device.

4.3.1 Remote Monitoring Page

Steps

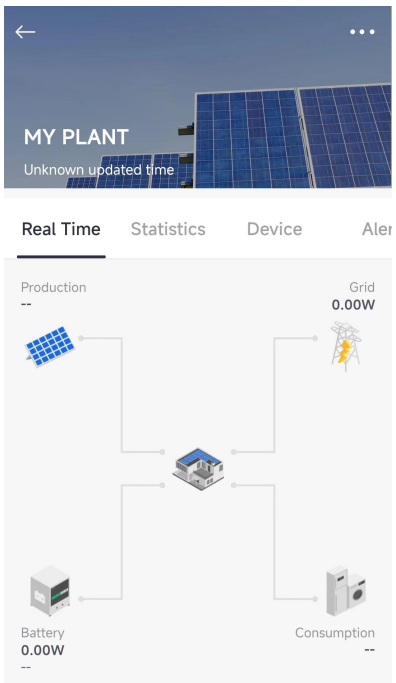
1. Click "Plant" at the bottom left of the home page.
2. Click "Check the plant" at the "Plant" page to enter "Plant Details" page.
3. There are four parts of "Plant details" page, "Real Time", "Statistics", "Device", "Alarm".

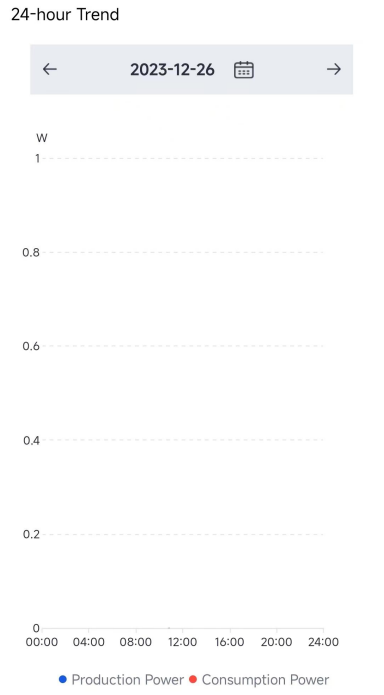


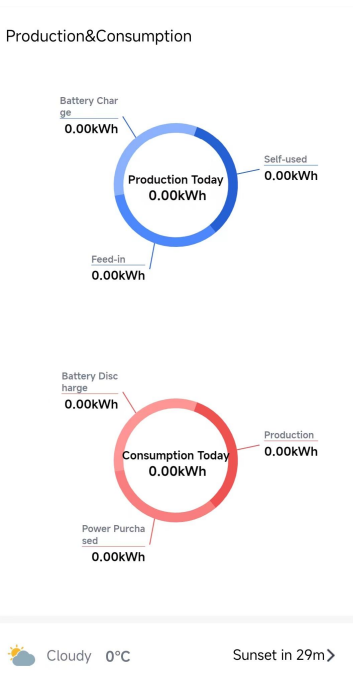
4.3.2 Monitoring Parameters

Real Time

- Status diagram shows the latest data of the operation, the data is updated every five minutes.
- “Production&Consumption” shows the latest data of electric quantity for various mode of the day, the data is updated every five minutes.

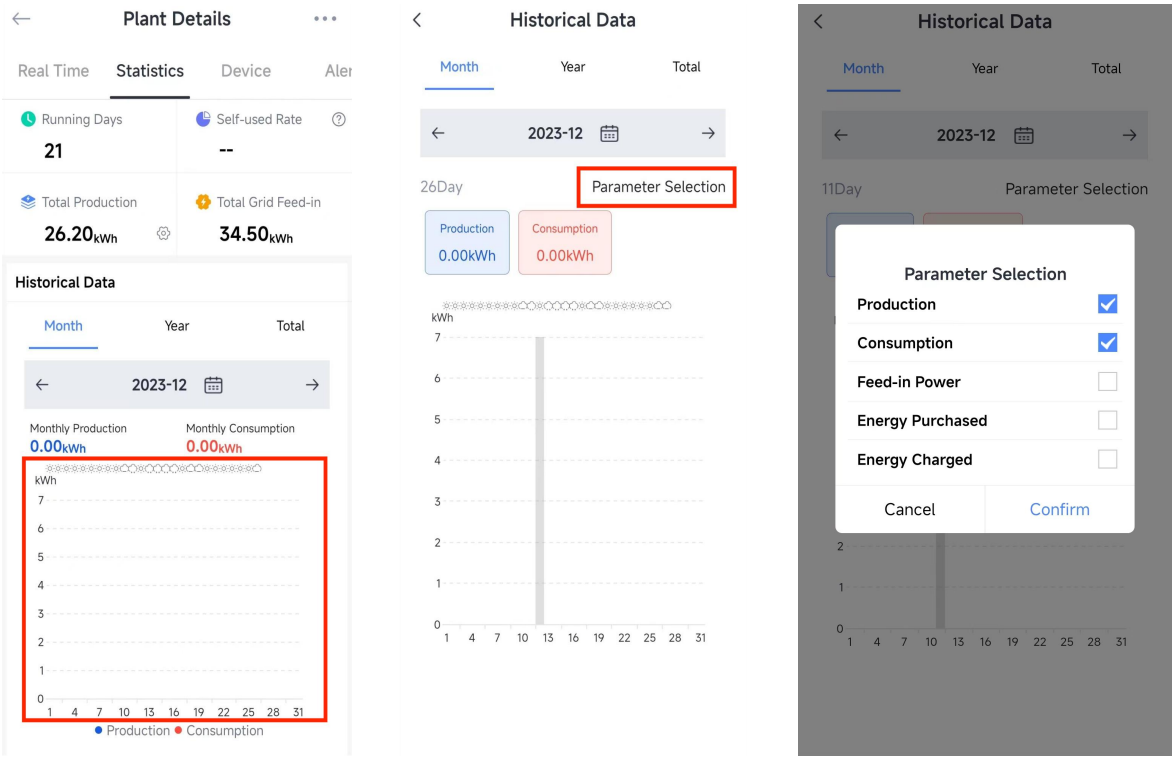






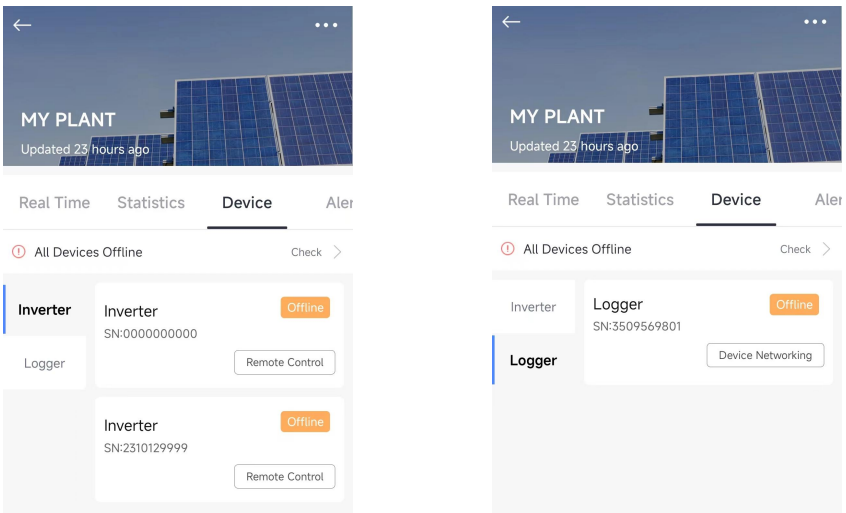
Statistics

- “Statistics” shows the historical data, including month, year, total.
- Click on the chart area to view more parameters information.
- The plant data is always saved, the device’s daily data is generally saved for half a year.

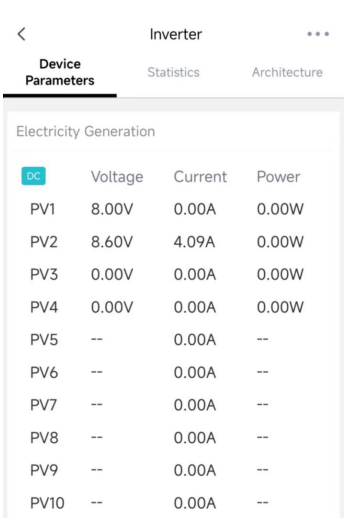


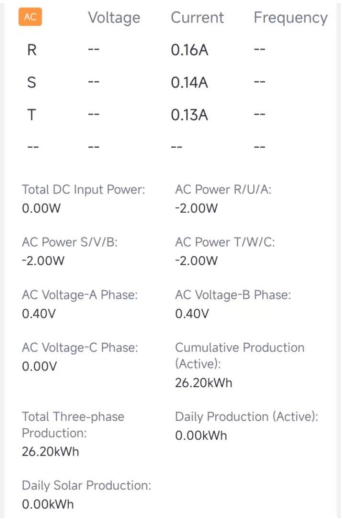
Device

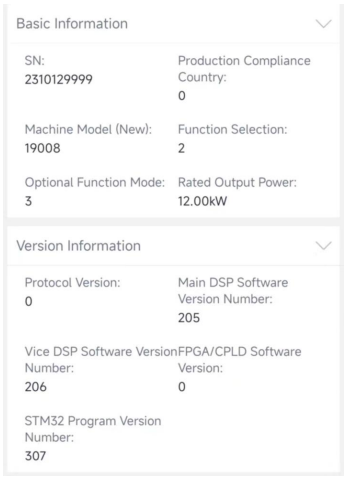
- “Device” includes “Inverter” and “Logger”, the inverter and logger data contain all electrical data during the operation of the device.

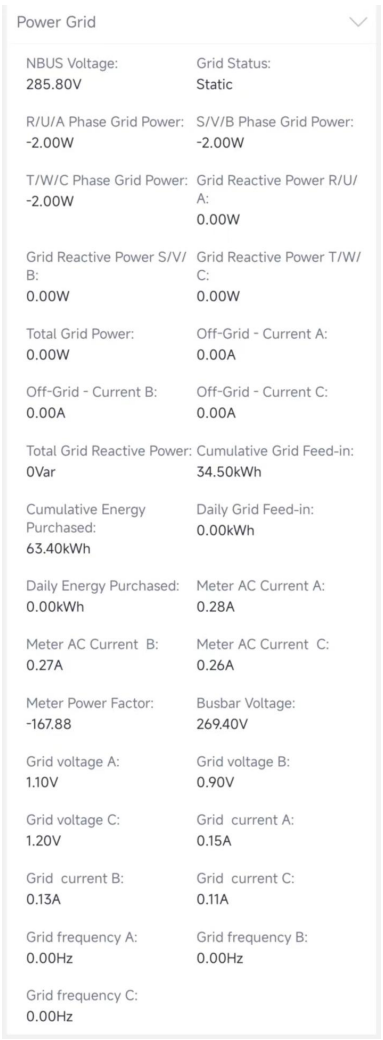


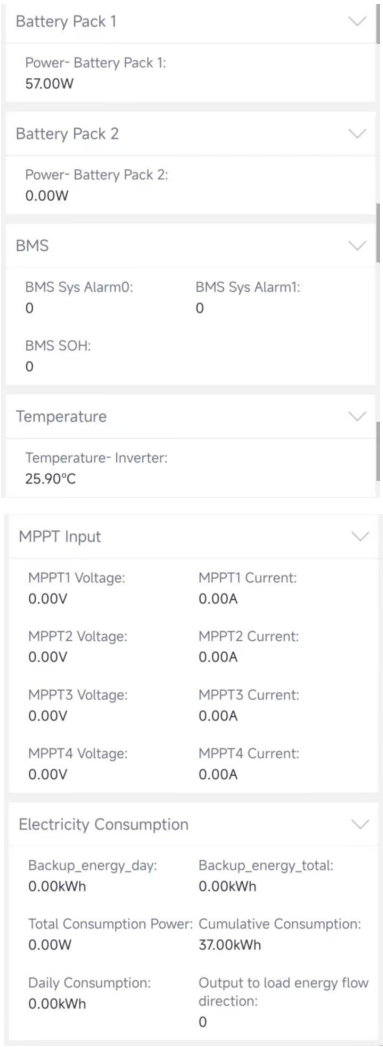
Inverter Data

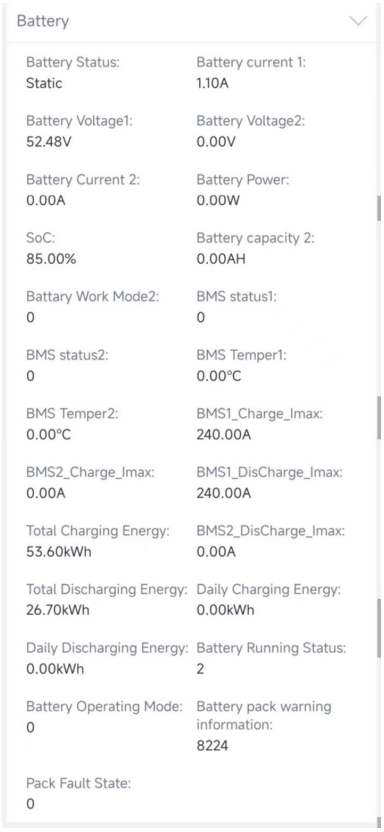


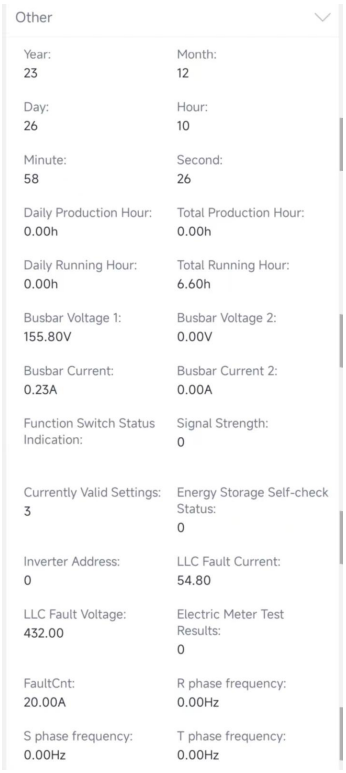


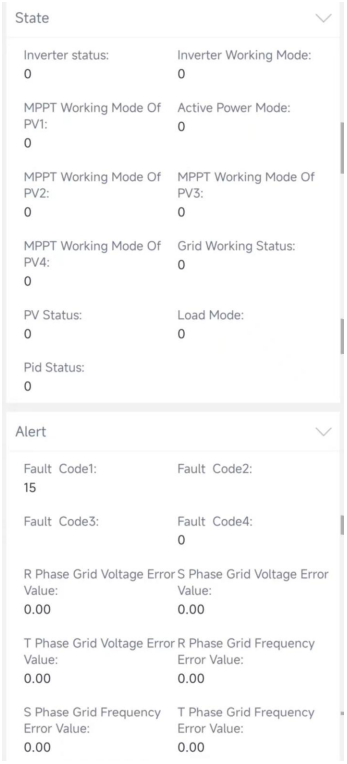


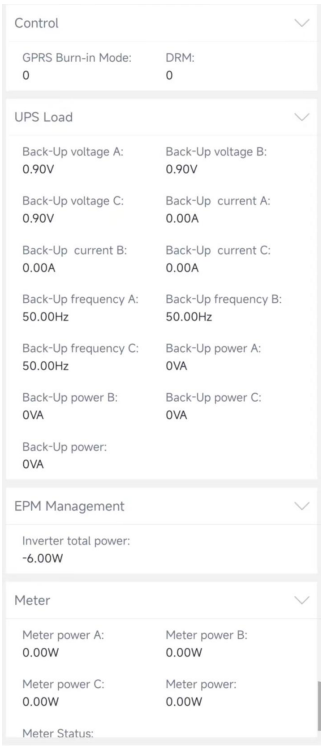




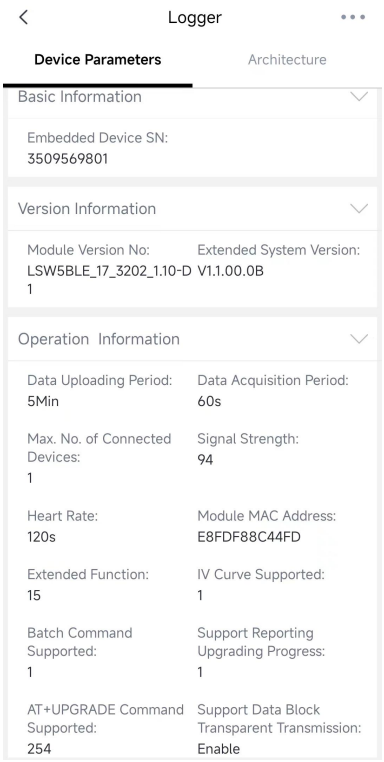



Other
Year: 23
Month: 12
Day: 26
Hour: 10
Minute: 58
Second: 26
Daily Production Hour: 0.00h
Total Production Hour: 0.00h
Daily Running Hour: 0.00h
Total Running Hour: 6.60h
Busbar Voltage 1: 155.80V
Busbar Voltage 2: 0.00V
Busbar Current: 0.23A
Busbar Current 2: 0.00A
Function Switch Status Indication:
Signal Strength: 0
Currently Valid Settings: 3
Energy Storage Self-check Status: 0
Inverter Address: 0
LLC Fault Current: 54.80
LLC Fault Voltage: 432.00
Electric Meter Test Results: 0
FaultCnt: 20.00A
R phase frequency: 0.00Hz
S phase frequency: 0.00Hz
T phase frequency: 0.00Hz


State
Inverter status: 0
Inverter Working Mode: 0
MPPT Working Mode Of PV1: 0
Active Power Mode: 0
MPPT Working Mode Of PV2: 0
MPPT Working Mode Of PV3: 0
MPPT Working Mode Of PV4: 0
Grid Working Status: 0
PV Status: 0
Load Mode: 0
Pid Status: 0
Alert
Fault Code1: 15
Fault Code2:
Fault Code3:
Fault Code4: 0
R Phase Grid Voltage Error Value: 0.00
S Phase Grid Voltage Error Value: 0.00
T Phase Grid Voltage Error Value: 0.00
R Phase Grid Frequency Error Value: 0.00
S Phase Grid Frequency Error Value: 0.00
T Phase Grid Frequency Error Value: 0.00

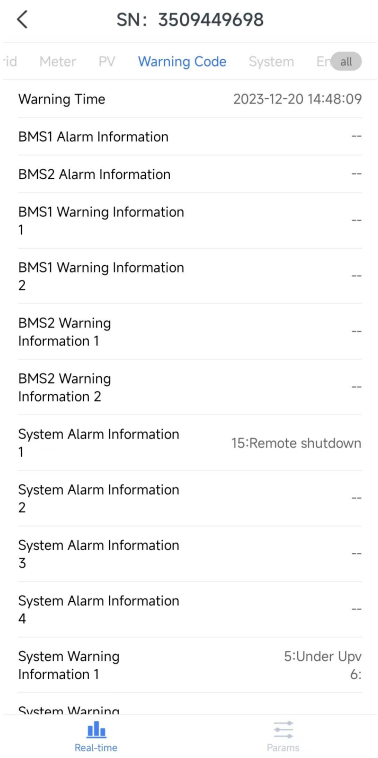

Control
GPRS Burn-in Mode: 0
DRM: 0
UPS Load
Back-Up voltage A: 0.90V
Back-Up voltage B: 0.90V
Back-Up voltage C: 0.90V
Back-Up current A: 0.00A
Back-Up current B: 0.00A
Back-Up current C: 0.00A
Back-Up frequency A: 50.00Hz
Back-Up frequency B: 50.00Hz
Back-Up frequency C: 50.00Hz
Back-Up power A: 0VA
Back-Up power B: 0VA
Back-Up power C: 0VA
Back-Up power: 0VA
EPM Management
Inverter total power: -6.00W
Meter
Meter power A: 0.00W
Meter power B: 0.00W
Meter power C: 0.00W
Meter power: 0.00W
Meter Status:

Logger Data


Logger
Device Parameters
Architecture
Basic Information
Embedded Device SN: 3509569801
Version Information
Module Version No: LSW5BLE_17_3202_1.10-D1
Extended System Version: V1.1.00.0B
Operation Information
Data Uploading Period: 5Min
Data Acquisition Period: 60s
Max. No. of Connected Devices: 1
Signal Strength: 94
Heart Rate: 120s
Module MAC Address: E8FDF88C44FD
Extended Function: 15
IV Curve Supported: 1
Batch Command Supported: 1
Support Reporting Upgrading Progress: 1
AT+UPGRADE Command Supported: 254
Support Data Block Transparent Transmission: Enable

5 Warning Code

If you find the abnormal operation of the inverter during use, please check according to the following fault code information and possible causes.



5.1 System Warning Information

The “System Warning Information” includes “System Warning Information 1” and “System Warning Information 2”, which is usually issued when voltage, frequency and other anomalies are detected before starting up, and the device is generally not damaged at this time. The warning can be automatically eliminated after the fault is relieved.

Instruction

- When “System Warning Information” appears, please check the warning information and description in the table blow.
- After understanding the fault, determine the possible causes of the fault through “Solutions” and rectify the fault the solution in time.

System Warning Code 1	Warning Event	Description	Solution
0	Over Ugrid	The grid voltage is higher than the setting value, or the high voltage duration exceeds the setting value of HVRT.	1.Check whether the AC voltage is within the standard voltage specification; 2.Check whether grid AC cables are firmly and correctly connected; 3.If the error message still remains, please contact your installer.
1	Under Ugrid	The grid voltage is lower than the setting value, or the low voltage duration exceeds the setting value of LVRT.	1.Check whether the AC voltage is within the standard voltage specification; 2.Check whether grid AC cables are firmly and correctly connected; 3.If the error message still remains, please contact your installer.
2	Over Fr	Abnormal grid, the grid frequency is higher than the setting value.	1.Check whether the frequency is within the specified range; 2.Check whether grid AC cables are firmly and correctly connected; 3.If the error message still remains, please contact your installer.
3	Under Fr	Abnormal grid, the grid frequency is lower than the setting value.	1.Check whether the frequency is within the specified range; 2.Check whether grid AC cables are firmly and correctly connected; 3.If the error message still remains, please contact your installer.
4	Line Check	The Grid is Loss when the inverter is running.	1.Check whether grid AC cables are firmly and correctly connected; 2.Restart the inverter 2-3 times; 3.If the fault still existing, please contact us for help.
5	Under Upv	The PV voltage is lower than 120V when turn on the PV switch.	1.Check the PV is in the range of specification or not; 2.Check whether PV cables are firmly and correctly connected; 3.If the error message still remains, please contact your installer.
6	Reserved		
7	Reserved		
8	Reserved		
9	Reserved		
10	Reserved		
11	Reserved		

12	Reserved		
13	Reserved		
14	Reserved		
15	Reserved		

System Warning Code 2	Warning Event	Description	Solutions
0	UBATTERY_LOW	The battery voltage is lower than 44V or lower than the SOC that you setting.	1. Check the battery voltage; 2. Check whether Battery cables are firmly and correctly connected; 3. Restart the inverter 2-3 times; 4. If the fault still existing, please contact your installer.
1	UBATTERY_LOSS	The battery is lower than 25V.	1. Check the battery voltage; 2. Check whether Battery cables are firmly and correctly connected; 3. Restart the inverter 2-3 times; 4. If the fault still existing, please contact your installer.
2	Reserved		
3	Reserved		
4	Fault FAN	The FAN isn’t working.	1. Restart the inverter 2-3 times; 2. if the fault still existing, please contact your installer.
5	Reserved		
6	Battery Transient under voltage	The battery voltage is lower than 40V at one moment.	1. Check the battery voltage; 2. Check whether Battery cables are firmly and correctly connected; 3. Restart the inverter 2-3 times; 4. if the fault still existing, please contact your installer.
7	Reserved		
8	Reserved		
9	DC Stop	The DC side isn’t working.	1. The BUS voltage can't be built from PV or battery; 2. Check whether Battery cables are firmly and correctly connected; 3. Restart the inverter 2-3 times; 4. If the fault still existing, please contact your installer.
10	Reserved		
11	Reserved		
12	Reserved		
13	Reserved		
14	Reserved		
15	Reserved		

5.2 System Alarm Information

"System Alarm Information" includes "System Alarm Information 1", "System Alarm Information 2" and "System Alarm Information 3", generally, over-voltage and over-current are detected during the operation of the device, resulting in emergency shutdown protection, at this time the device may have been damaged. In this case, power off the device and check the cause to ensure that the device is not damaged before powering it on.

Instruction

- When "System Warning Information" appears, please check the warning information and description in the table blow.
- After understanding the fault, determine the possible causes of the fault through "Solutions" and rectify the fault the solution in time.

System Alarm Code 1	Fault Event	Description	Solutions
0	Under Upv1	The PV voltage is lower than 20V ,and the current is higher than 2A	1. Check the PV is in the range of specification or not; 2. Check whether PV cables are firmly and correctly connected; 3. If the error message still remains, please contact your installer.
1	Over Ipv1	The PV current is higher than 30A	1. DC side over current fault 2. Check PV module connect and battery connect; 3. Turn off the DC switch and AC switch and then wait one minute, then turn on the DC/AC switch again; 4. If the error message still remains, please contact your installer.
2	Over Upv1	The PV voltage is higher than 900V	1. Check the PV is in the range of specification or not; 2. Check whether PV cables are firmly and correctly connected; 3. If the error message still remains, please contact your installer.
3	Over Ipv2	The PV current is higher than 30A	1. DC side over current fault 2. Check PV module connect and battery connect; 3. Turn off the DC switch and AC switch and then wait one minute, then turn on the DC/AC switch again; 4. If the error message still remains, please contact your installer.
4	Over temp	The temperature is higher than 100℃	1. Check whether the work environment temperature is too high; 2. Turn off the inverter for 10mins and restart; 3. If the fault still existing, please contact us for help.

System Alarm Code 1	Fault Event	Description	Solutions
5	Over Iac	AC over current fault	1. AC side over current fault 2. Please check whether the backup load power and common load power are within the range; 3. Restart and check whether it is in normal; 4. Check the backup load connected, make sure it is in allowed power range 5. If the fault still exists, please contact us for help 6. If the error message still remains, please contact your installer.
6	Over Ugrid	The Grid Voltage is Higher than the setting value when the inverter isn't running	1. Grid voltage fault 2. Check the AC voltage is in the range of standard voltage in specification; 3. Check whether grid AC cables are firmly and correctly connected; 4. If the error message still remains, please contact your installer.
7	Over Fr	The Grid Frequency is Higher than the setting value when the inverter isn't running	1. Grid frequency out of range 2. Check the frequency is in the range of specification or not; 3. Check whether AC cables are firmly and correctly connected; 4. If the error message still remains, please contact your installer.
8	Under Backup	The backup is connected with the Grid	1. Check the backup terminal; 2. Detect the backup voltage with the multimeter; 3. Restart the inverter 2-3 times; 4. If the fault still existing, please contact us for help.
9	Over Ubus	The BUS Voltage is Higher than 980V	1. Check the total power of the inverter; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
10	Over Ileak	AC leakage current fault	1. Leakage current fault 2. Check the PV side cable ground connection; 3. Restart the inverter 2-3 times; 4. If the fault still existing, please contact us for help.
11	Fault Relay	The Relay isn't working	1. Restart the inverter 2-3 times; 2. If the fault still existing, please contact us for help.

System Alarm Code 1	Fault Event	Description	Solutions
12	Fault GFD	DC insulation failure	1. PV isolation resistance is too low 2. Check the connection of PV panels and inverter is firmly and correctly; 3. Check whether the PE cable of inverter is connected to ground; 4. If the error message still remains, please contact your installer.
13	Over Backup Voltage	The Backup Voltage is high.	1. Check the backup terminal; 2. Detect the backup voltage with the multi-meter; 3. Restart the inverter 2-3 times; 4. If the fault still existing, please contact us for help.
14	XINT Iac	The inverter current is high and touch the protection.	1. check the power of the backup load; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
15	Remote Shutdown	Turn off the inverter	1. Check the other fault code of the inverter and according to the solution to solve the problem. 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.

System Alarm Code 2	Fault Event	Description	Solutions
0	Fault SPI	The upper computer communicates with the lower computer fault.	1. Restart the inverter 2-3 times; 2. If the fault still existing, please contact us for help.
1	Under Ugrid	The Grid Voltage is lower than the setting value when the inverter is not running.	Grid voltage fault: 1. Check whether the AC voltage is within the specification; 2. Check whether AC cables are firmly and correctly connected; 3. If the error message still remains, please contact your installer.

System Alarm Code 2	Fault Event	Description	Solutions
2	Under Fr	The Grid Frequency is lower than the setting value when the inverter is not running.	Grid frequency out of range 1. Check whether the frequency is within the specification; 2. Check whether AC cables are firmly and correctly connected; 3. If the error message still remains, please contact your installer.
3	Under Upv2	The PV voltage is lower than 20V, and the current is higher than 2A.	1. Check whether the AC voltage is within the specification; 2. Check whether PV cables are firmly and correctly connected; 3. If the error message still remains, please contact your installer.
4	Over Upv2	The PV voltage is higher than 900V.	1. Check whether the AC voltage is within the specification; 2. Check whether PV cables are firmly and correctly connected; 3. If the error message still remains, please contact your installer.
5	Reserved		
6	Under Ubus	The BUS voltage is lower than 300V.	1. Check the total power of the inverter; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
7	Reserved		
8	Fault Temper	The temperature is fault.	1. Check whether the work environment temperature is too high or too low; 2. Turn off the inverter for 10 minutes and restart; 3. If the fault still existing, please contact us for help.
9	Over Load		1. Check the total power of the inverter; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
10	Reserved		
11	Parallel Data Loss	Parallel data loss.	1. In parallel mode, check the parallel communication cable connection and hybrid inverter communication address setting; 2. Restart the inverter 2-3 times; 3. If the fault still exists, please contact us for help.

System Alarm Code 2	Fault Event	Description	Solutions
12	Parallel Phase Loss	Parallel phase loss.	1. In parallel mode, check the parallel communication cable connection and hybrid inverter communication address setting; 2. Restart the inverter 2-3 times; 3. If the fault still exists, please contact us for help.
13	Parallel Stop	Parallel system stop.	1. Check the hybrid inverter work status. According to the fault code to solve the problem. 2. If the fault still existing, please contact us for help.
14	XINT Ipv	The PV boost current is high trigger protection.	1. Check the PV voltage and the power of the back-up load; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
15	Reserved		

System Alarm Code 3	Fault Event	Description	Solutions
0	UBUS_OVER	The BUS voltage is higher than 560V.	1. Check the total power of the inverter; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
1	UBUS_LOW	The BUS voltage is lower than 300V.	1. Check the total power of the inverter; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
2	UBATTERY_OVER	The Battery voltage is Higher than 60V.	1. Check the battery voltage; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
3	Reserved		

System Alarm Code 3	Fault Event	Description	Solutions
4	ILLC_OVER	The LLC current is high.	1. Check the total power of the inverter, the charging and the discharging current; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
5	IBuckBoost OVER	The Buck-boost voltage is high and trigger protection.	1. Check the total power of the inverter, the charging and the discharging current; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
6	ULLC_OVER	The LLC voltage is high and trigger protection.	1. Check the total power of the inverter, the charging and the discharging current; 2. Check the battery voltage; 3. Restart the inverter 2-3 times; 4. If the fault still existing, please contact us for help.
7	Fault data SPI	The upper computer communicates with the lower computer fault.	1. Restart the inverter 2-3 times; 2. If the fault still existing, please contact us for help.
8	Over time SPI	The upper computer communicates with the lower computer fault.	1. Restart the inverter 2-3 times; 2. If the fault still existing, please contact us for help.
9	Over Ibat	The battery current is higher than 1.5 multiples of the setting value.	1. Check the setting value of discharging current; 2. Check the total power of the inverter; 3. If the fault still existing, please contact us for help.
10	Reserved		
11	Reserved		
12	Reserved		
13	Reserved		
14	ILLC_XINT	The LLC current is high and trigger protection.	1. Check the total power of the inverter, the charging and the discharging current; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.
15	IBuckBoost_ XINT	The Buck-boost current is high and trigger protection.	1. Check the total power of the inverter, the charging and the discharging current; 2. Restart the inverter 2-3 times; 3. If the fault still existing, please contact us for help.

6 Contact Us

Installers or users can create user accounts and control device operation through SOLARMAN APP. User can remotely monitor the status of the inverter. Installer can monitor the operating status of power plants, manage the device, check the alarms, operate and maintenance, etc.

If you still can not make the device run correctly according to the above operations, please contact our after-sales team in time, we will solve your problem in first time.