

Energy-Mate APP User Manual

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1. Introduction

Energy-Mate is a new inverter monitoring APP, available for both iOS and Android based device. It allows users to have complete and remote monitoring and controlling experience for solar inverters. All data loggers and parameters are saved in iCloud.

The major functions of this APP:

- Delivers device status during normal operation.
- Allows to configure device settings after installation.
- Notifies users when a warning or alarm occurs.
- Allows users to query inverter history data.



2. Energy-Mate App

2-1. Download and install APP

Operating system requirement for your smart phone:

 iOS system supports iOS 9.0 and above

 Android system supports Android 5.0 and above

Please scan the following QR code with your smart phone and download Energy- mate App.



Android system





iOS system

Or you may find "Energy-mate" app from the Apple® Store and Google® Play Store.



2.2 Initial Setup

Step 1: Registration at first time

After the installation, please tap the shortcut icon  to access this APP on your mobile screen. In the screen, tap "Register" to access "User Registration" page as shown in below chart. Enter the account registration interface to access registered page as shown in the Figure 2. Fill in all required information and scan the remote box PN by tapping  icon. Or you can simply enter PN directly, as shown in Figure 3. The PN number is 14 digits, which can be obtained from the bottom side of the inverter. Refer to the Figure 4. Then, tap "Sign up now" button.

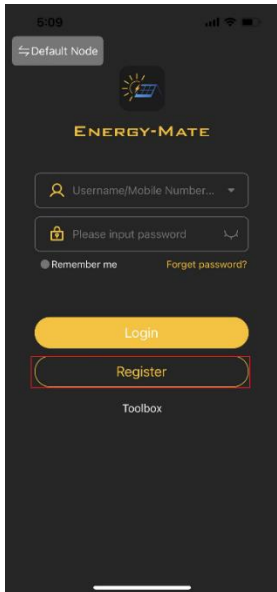


Figure 1

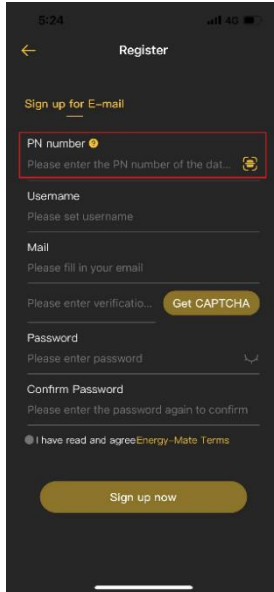


Figure 2

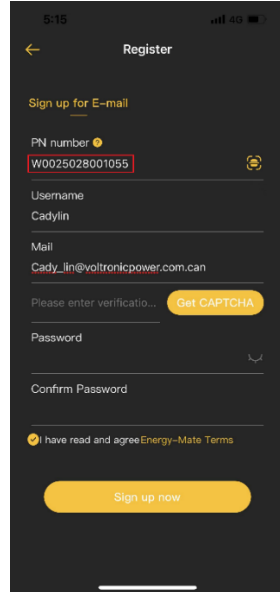


Figure 3



Figure 4

After successful registration, it automatically enters the access "device" page. the account login interface is shown in Figure 5. The registered device has not been configured for networking and is not online.

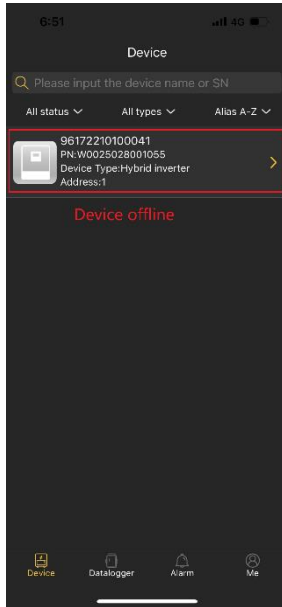


Figure 5

Step 2: Local Wi-Fi Configuration

Click bottom menu "Me" (Personal Center) to access Networking Configuration as shown in Figure 6.

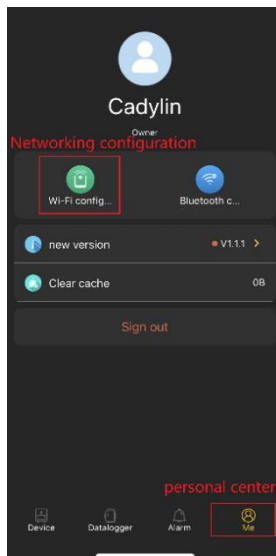


Figure 6

The networking configuration page is displayed as shown in Figure 7. The device networking configuration requires the device to be powered on and connected to the device hotspot using the mobile phone, as shown in Figure 8. The connected Wi-Fi name is the same to your Wi-Fi PN number. Enter default password "12345678" as shown in.

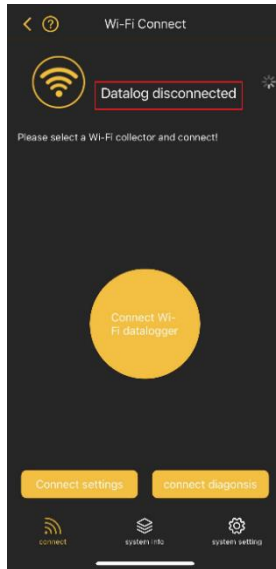


Figure 7

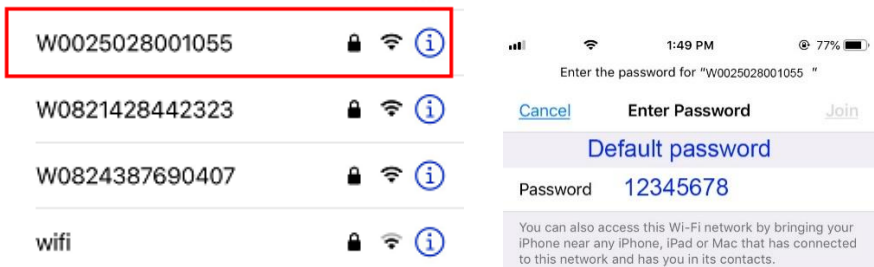


Figure 8

After connecting the device WiFi successfully, enter the network settings and select local WiFi name and enter the password as shown in Figure 9. and Figure 10. The setting is successful as shown in Figure 11.

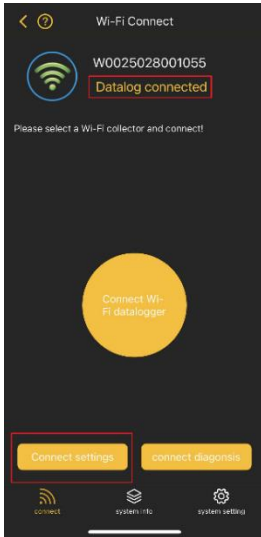


Figure 9

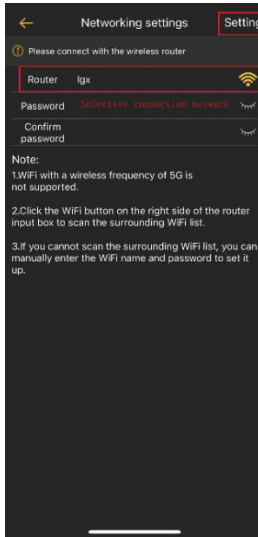


Figure 10

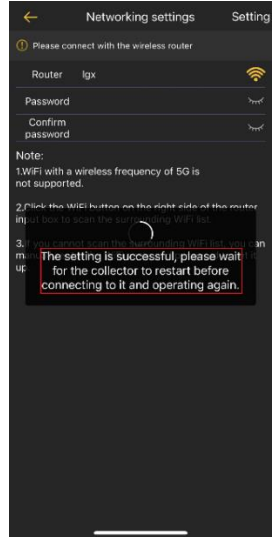


Figure 11

Tips:

1. Please ensure that the signal connected to the network is good and the network is unblocked.
2. Currently, routers in 5G band are not supported. Please use routers in 2.4G Band.
3. Make sure that the router password is correct.

Step 3: View the distribution results

Go back to the main interface of networking configuration and select networking diagnosis, as shown in Figure 12.



Figure 12

Network diagnosis is successfully as shown in Figure 13. If network diagnosis fails, it will show as in Figure 14. If the network connection fails, reconfigure the network or restart the device.

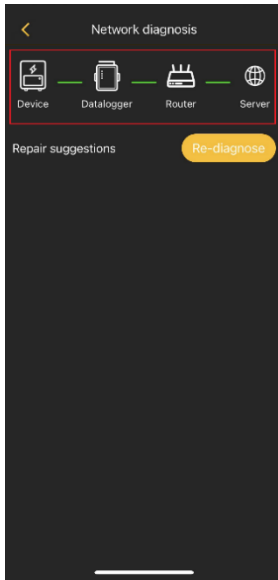


Figure 13

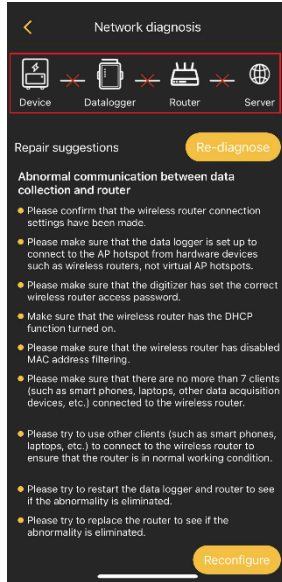


Figure 14

After network configuration is successfully, you can view the device status as shown in Figure 15.

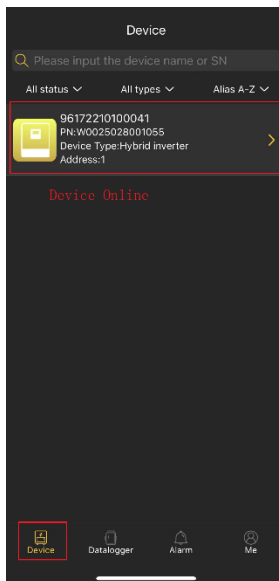


Figure 15

Tips:

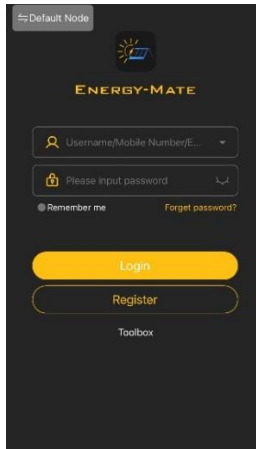
1. If the network configuration fails, troubleshoot the problem according to the repair suggestions on the actual page.
2. Bluetooth pairing: Turn on "Bluetooth" in the "Settings" page of the mobile phone, return to the Energy-mate APP, and select the Bluetooth device with the device PN to connect. (Currently, this feature is not supported.)

2-3. Login and APP Main Function

Login to the APP

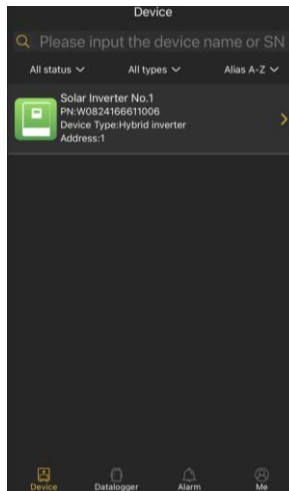
After finishing the registration and local Wi-Fi configuration, enter registered name and password to login.

Tips: Tick "Remember me" for your login convenience afterwards.




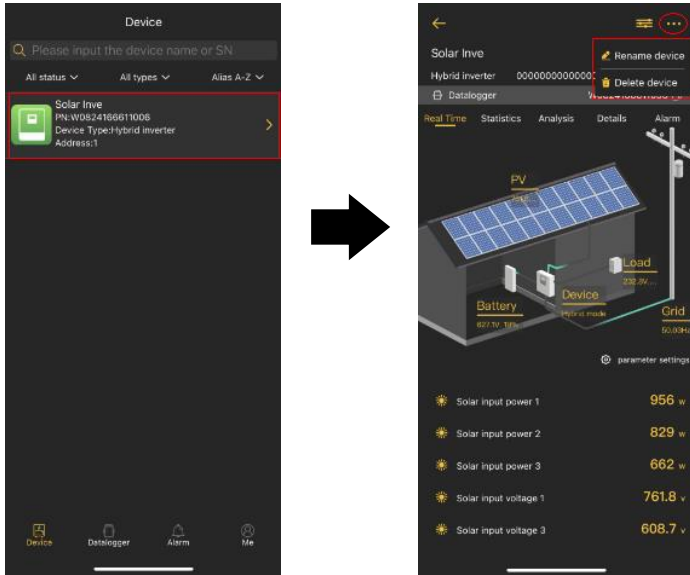
After login is successfully, you can access "device" page to see device status in device list under this registered account.

Tips: Tap the input text box (located on the top) to enter the PN number on the device or scan the QR code to Search Device.





Delete device and Name Modification

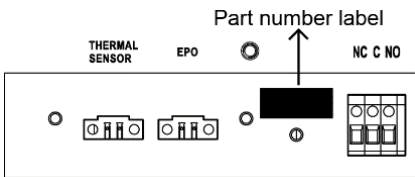
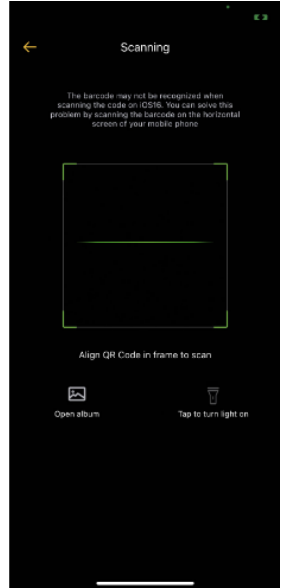
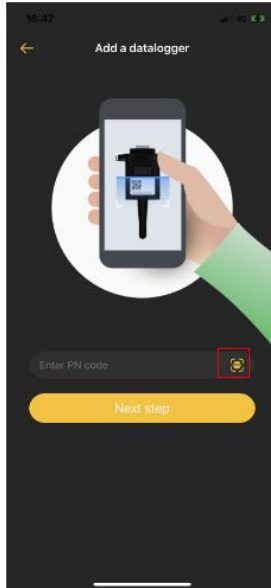
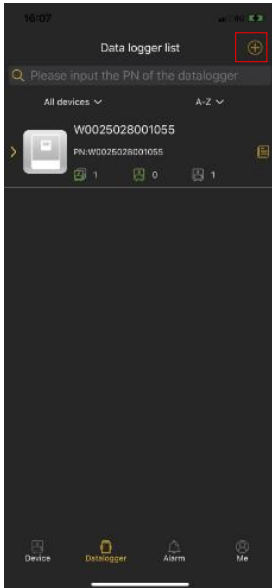
Click "device name" to access the main page of monitored device. After tapping the  icon on the top right corner, two options will pop up: edit name and delete device. When you click on the edit name, a blank input box will pop out. Then, you can edit the name for your device and tap "Confirm" to complete name modification. When you click to delete device, a dialog box will pop up asking if you really want to delete the device, and click "Delete" to complete it.



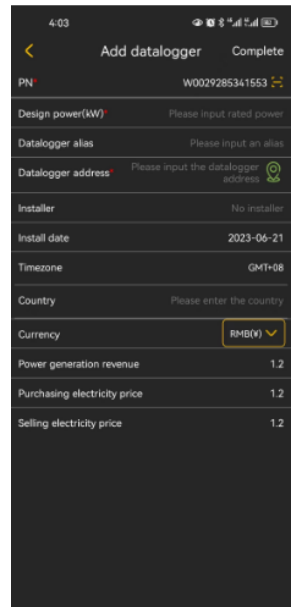
Add device

Tap the icon  (Datalogger located on the bottom) to enter Device List page. You can review all devices here by adding or deleting Wi-Fi Module in this page.

Tap  icon on the top right corner and manually enter part number to add device. This part number label is pasted on the bottom of inverter. After entering part number, tap "Confirm" to add this device in the Device list shown as below figures.



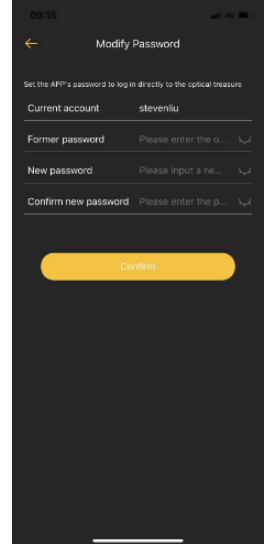
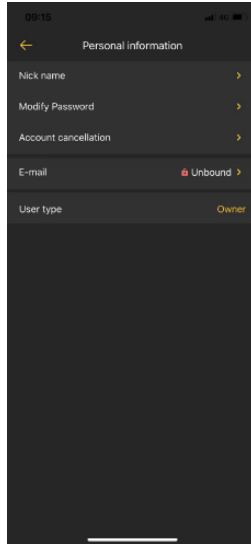
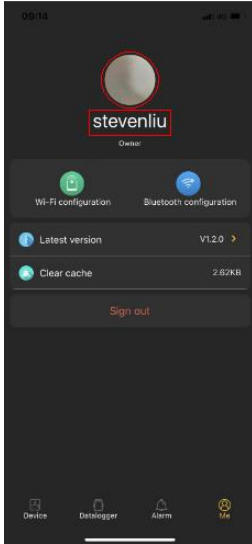
Part number label is pasted on the bottom of inverter.



Tips: For more information about Device List, please refer to section 2.4.

ME

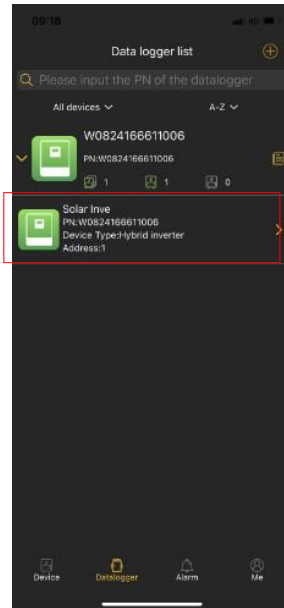
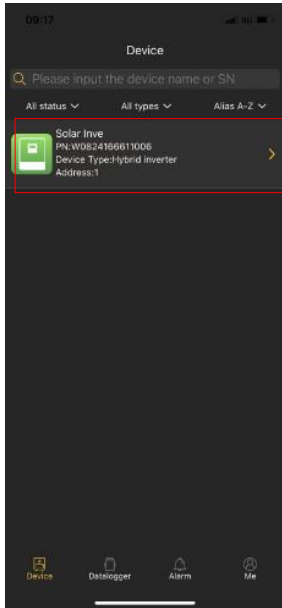
In ME page, users can modify “My information”, including **【Clear cache】**, and **【Log-out】**. You can also update and upgrade the version of the APP, and perform network settings. Click on the profile picture to replace User’s Photo, and click on the nickname to modify your “personal information”, including **【Nick name】**, **【Modify password】**, **【Account cancellation】**, **【E-mail】**, shown as below figures.



2-4. Device List

In Device list page, you can pull down to refresh the device information and then tap any device you want to check up for its real-time status and related information as well as to change parameter settings. Please refer to the parameter setting list.

Note: From both the device list and the data collector list, you can access to view device energy and related parameters.



2-5. Device Management

Device List

Displays all devices under the account, and displays the status and basic parameters of the devices.

Green icon indicates that the equipment is normal;

Gray icon indicates that the device is offline;

Red icon indicates equipment failure;

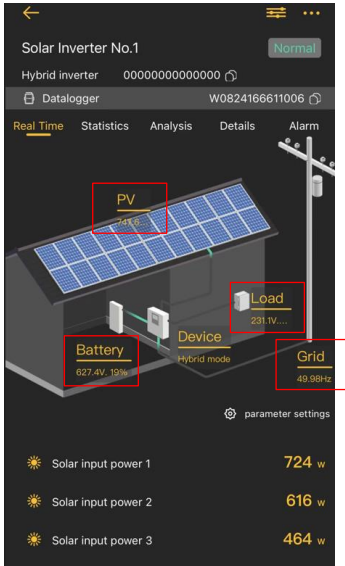
Yellow icon indicates device alerts;

Blue icon indicates the standby of the device.

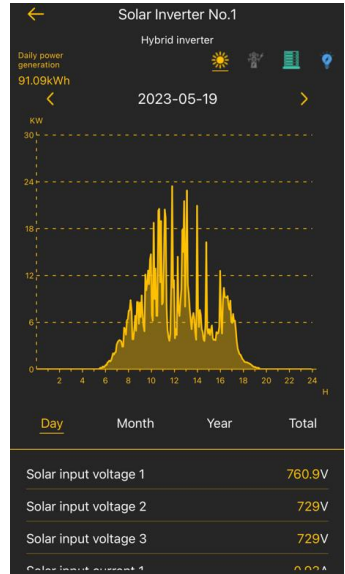
Device Details

1. Real-Time power flow

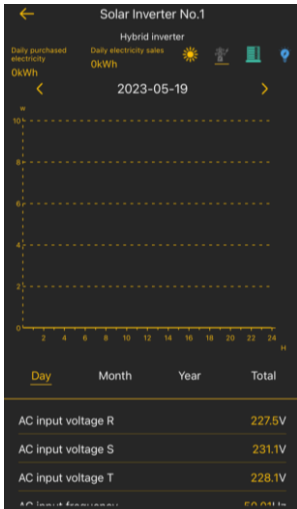
On this page, you can view dynamic power flow chart of monitored device. It contains five icons to present PV power, Device, load, Grid and battery. Click these icons to view the related parameters shown as below figures.



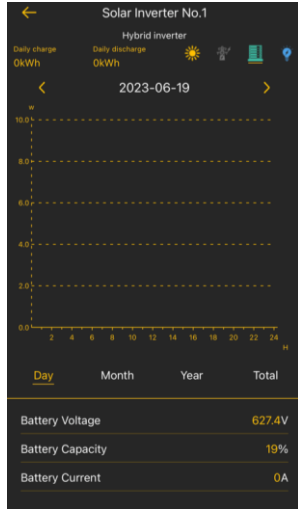
Power flow



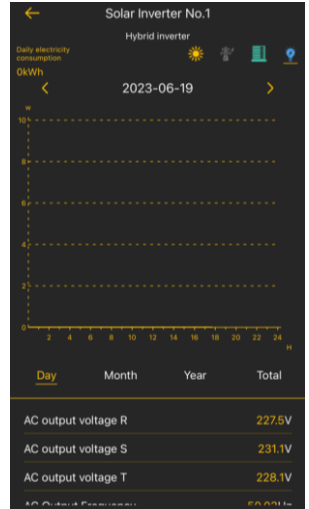
PV screen



Grid screen

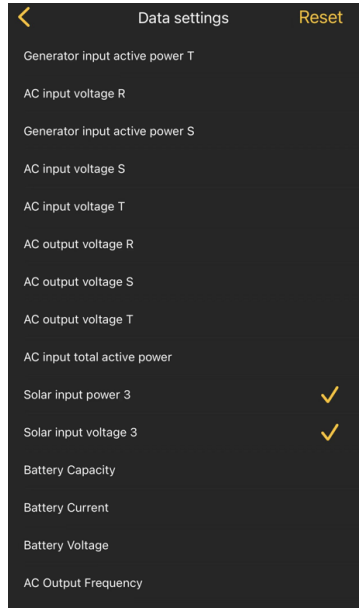
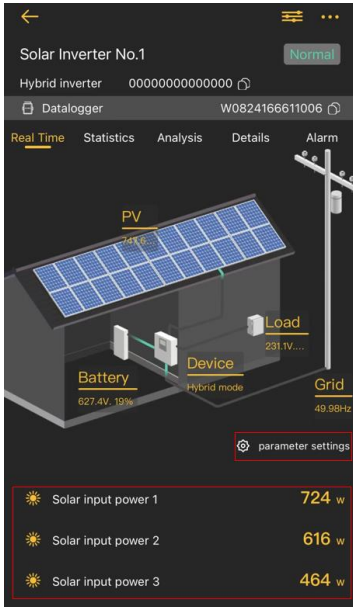


Battery screen



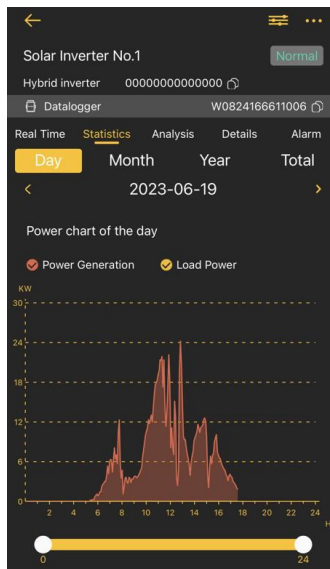
Load screen

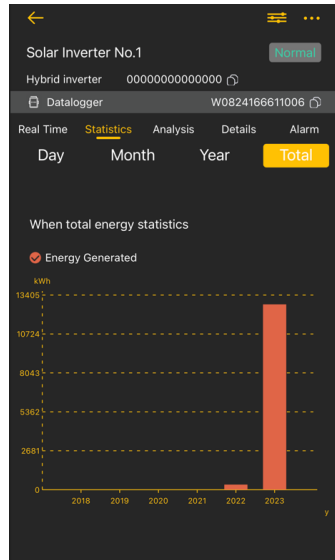
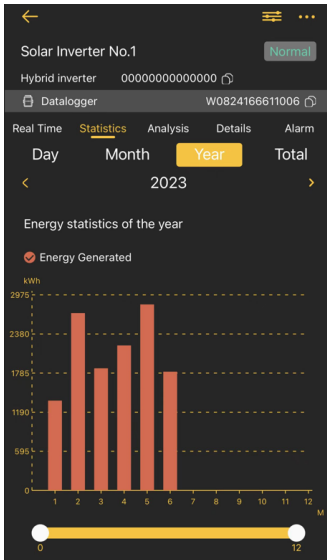
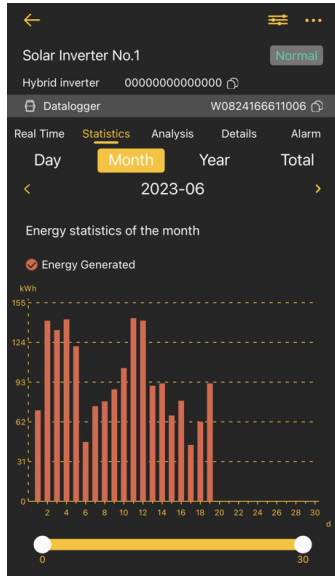
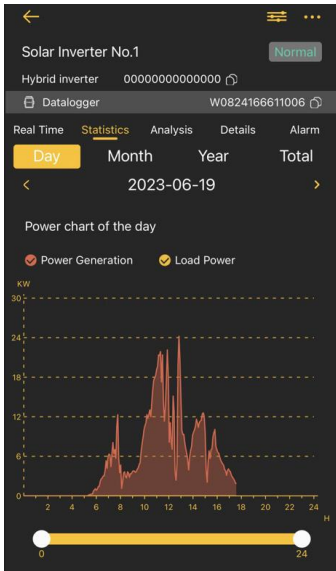
On this page, you also can modify the parameter settings according to your needs. Click the Parameter settings icon to enter the parameter setting page. After setting the parameters, the monitoring homepage will display the parameters you have set.



2. Statistics

You can view graphic chart representing the power generation, grid electricity, battery capacity, load, as well as daily, monthly, annual, and total power generation, electricity consumption, power purchase, power sale, and charging/discharging.

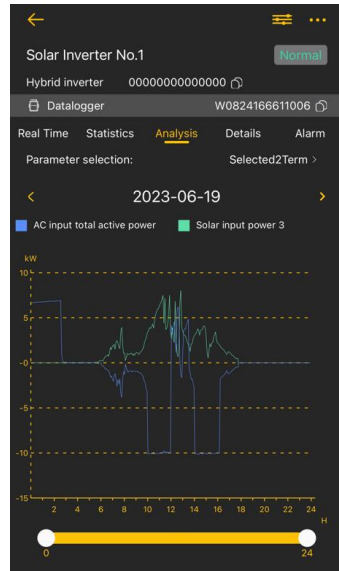
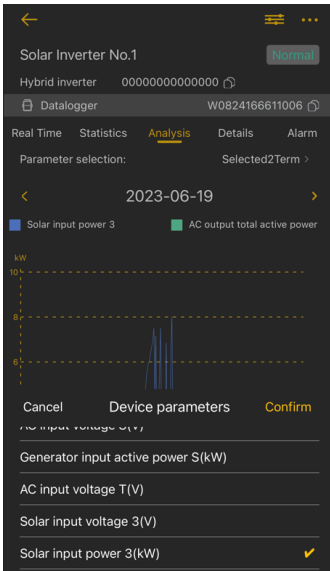
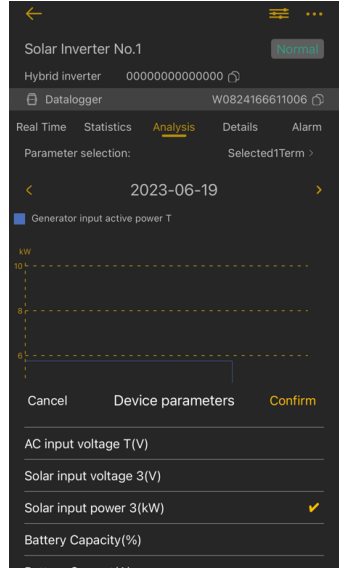
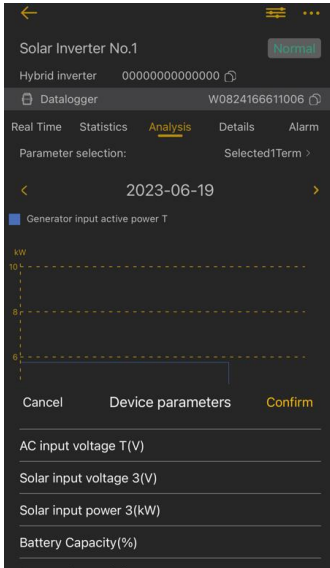




3. Analysis

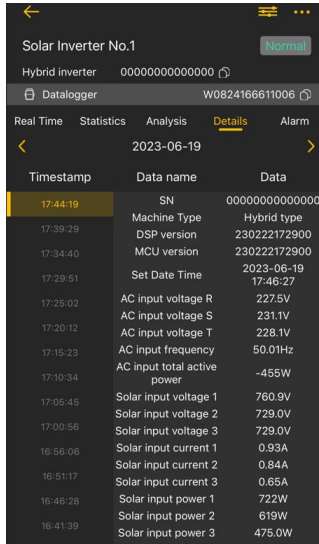
You can select one or more parameters of the device to view the power chart for analysis and comparison.

Tips: On the parameter analysis page, you can select one or more device parameters for analysis, shown as below figures.



4. Details

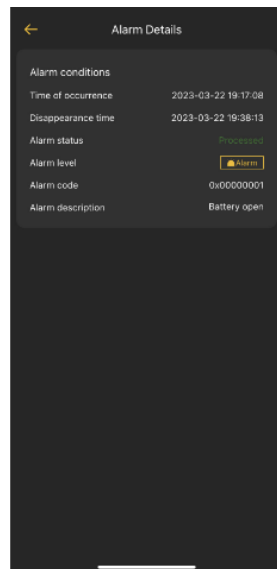
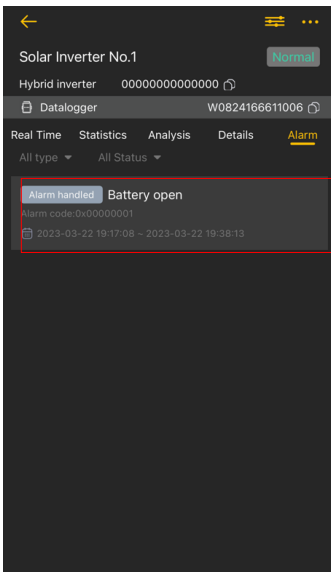
You can view the data details recorded by the device every five minutes.





Timestamp	Data name	Data
17:44:19	SN	0000000000000
17:39:29	Machine Type	Hybrid type
17:34:40	DSP version	230222172900
17:29:51	MCU version	230222172900
17:25:02	Set Date Time	2023-06-19 17:46:27
17:20:12	AC input voltage R	227.5V
17:15:23	AC input voltage S	231.1V
17:10:34	AC input voltage T	228.1V
17:05:45	AC input frequency	50.01Hz
17:00:56	AC input total active power	-455W
16:56:08	Solar input voltage 1	760.9V
16:51:17	Solar input voltage 2	729.0V
16:46:28	Solar input voltage 3	729.0V
16:41:39	Solar input current 1	0.93A
	Solar input current 2	0.84A
	Solar input current 3	0.65A
	Solar input power 1	722W
	Solar input power 2	619W
	Solar input power 3	475.0W

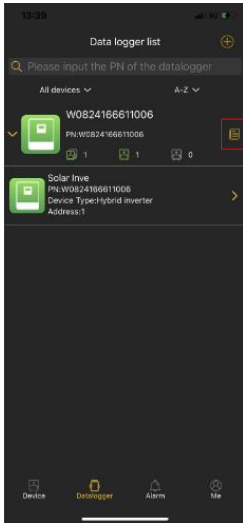
5. Alarm

Tap the "Alarm" on the top to enter the device alarm page. You can view all alarms and alarm details generated by the device. Displays all alert information of an account, which can be filtered by time.



6. Device Information Data

Tap  on device list or click  in device homepage, you can view information about the digital collector and the digital collector connected to the device. Browse **【Basic Info】** and **【Basic parameter】** by swiping up and down. You can modify the basic information of the device on this page and restart, debug, and delete the data collector.



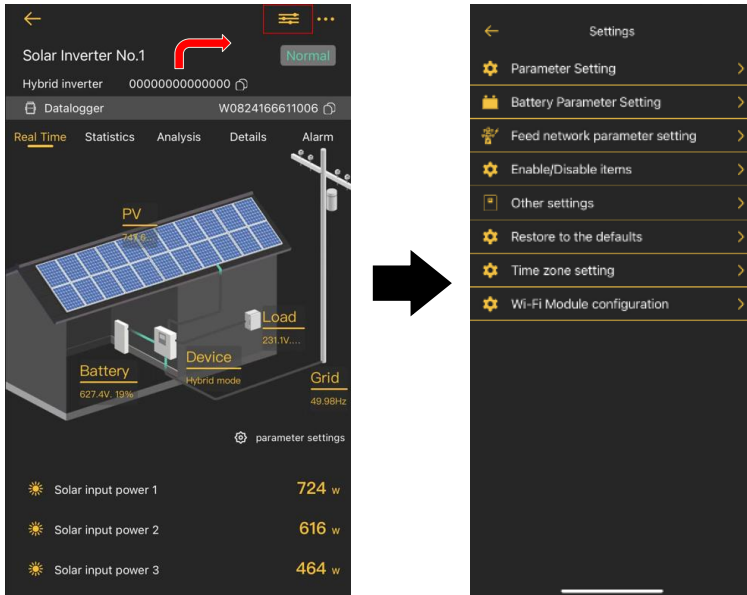
Tips: If you cannot view the real-time device data all the time, the possible reasons are as follows:

1. Incorrect device model selection: you can change the device model.
2. Incorrect device address: you can click to modify next to the device address to modify the device address.

Basic information: Displays basic information of the PV inverter: inverter power rating, installer information, installed date, country, installed address, time zone, currency setting, calculated generation income, buying electricity price and selling price.

Basic parameter: Displays information of datalogger model, datalogger PN, datalogger status, firmware version, device quantity, online device quantity.

7. Parameter Setting



This page is to activate some features and set up parameters for PV inverters. Please be noted that the listing in "Parameter Setting" page in below diagram may differ from the models of monitored inverter.

There are 8 submenus: **【Output setting】**, **【Battery Parameter Setting】**, **【Feed network parameter setting】**, **【Enable/ Disable items】**, **【Other Settings】**, **【Restore to the defaults】**, **【Time zone setting】**, **【Wi-Fi Module configuration】** to illustrate.

There are two ways to modify setting.

a) Listed options to change values by tapping one of it.

b) Changing values by clicking arrows or entering the numbers directly in the column. Each function setting is saved by clicking "Issued" button.

Please refer to below parameter setting list for an overall description and be noted that the available parameters may vary depending on different models. Please always see the original product manual for detailed setting instructions.

Parameter setting list

Item		Description
Output setting	Machine working mode setting	Query working mode
	Solar Supply Priority	Solar energy distribution of priority
Battery parameter setting	Max pv input voltage	Solar input highest voltage
	Min pv input voltage	Solar input lowest voltage
	Set Solar input highest MPPT voltage	Solar input highest MPPT voltage
	Set Solar input lowest MPPT voltage	Solar input lowest MPPT voltage
	Maximum Charging Current	Battery maximum charge current
	Max. AC Charging Current	Max. AC charging current
	C.V voltage	Battery constant charge voltage(C.V.)
	Float charge voltage	Battery float charge voltage
	Battery Cut-off Voltage when grid is available	Battery weak voltage in hybrid mode
	Battery Cut-off back Voltage when grid is available	Battery weak back voltage in hybrid mode
	Battery Cut-off Voltage when grid is unavailable	Battery under voltage
	Battery Cut-off back Voltage when grid is unavailable	Battery under back voltage
	Max battery discharge current in hybrid mode	Battery discharge max current
	LCD screen-saver start time	LCD sleep wait time
	Battery under back SOC	Battery under back SOC
	Battery under SOC	Battery under SOC
Battery weak back SOC in hybrid mode	Battery weak SOC in hybrid mode	
Battery weak SOC in hybrid mode	Battery weak back SOC in hybrid mode	
Feed network Parameter Setting	Max grid-connected voltage	AC input highest voltage
	Min grid-connected voltage	AC input lowest voltage
	Max grid-connected Frequency	AC input highest frequency
	Min grid-connected Frequency	AC input lowest frequency
	Wait time before grid-connection	Wait time for feed power
	Set feed-in reactive power	Feed-in reactive power

	Max Grid-connected average Voltage	AC input long-time highest average voltage
	Max feed-in power	Max power of feeding grid
	feed-in power factor	Feed-in power factor
Enable/Disable Functions	Auto-adjust PF with powers	Auto-adjust PF with power
	Auto-adjust PF when power rate reaches	Start power percentage of auto-adjusting
	Min PF value when power is 100%	Minimum PF value when power percentage reach 100%
	Activate Li-Fe battery	Li-Fe battery self-test by charged at a time
	Reactive power Auto-control Enable	Reactive power Auto-control Enable
	Mute buzzer alarm	Mute buzzer beep
	Mute buzzer in the standby mode	Mute buzzer beep in standby mode
	Mute alarm in battery mode	Mute buzzer beep only on battery discharged status
	Output N-line grounding in battery mode	N/G relay close in battery mode
	Over voltage derating	De-rating power for Grid voltage
	Over frequency derating	De-rating power for Grid frequency
	Generator as AC input	Generator as AC input
	Wide AC input range	Wide AC input range
	Parallel for output	Parallel for output
BMS Battery Connect	BMS battery connect	
Other Settings	Charging source	Charging source
	Remote turn on/off machine load	Remote turn on/off machine load
	Load supply(PV is available)	Load supply(PV is available)
	Load supply(PV is unavailable)	Load supply(PV is unavailable)
	Allow to feed-in to the Grid	Allow to feed-in to the Grid

	Allow battery to be connected to the grid when PV is available	Allow battery to be connected to the grid when PV is available
	Allow battery to be connected to the grid when PV is unavailable	Allow battery to be connected to the grid when PV is unavailable
	Start Time For Enable AC Charge Working	Start Time For Enable AC Charge Working
	Ending Time For Enable AC Charge Working	Ending Time For Enable AC Charge Working
	Start Time For Enable AC Charge Working 2	Start Time For Enable AC Charge Working 2
	Ending Time For Enable AC Charge Working 2	Ending Time For Enable AC Charge Working 2
	Start Time For Enable AC supply the load	Start Time For Enable AC supply the load
	Ending Time For Enable AC supply the load	Ending Time For Enable AC supply the load
	Set Date Time	
Restore to the default	This function is to restore all settings back to default settings.	
Time zone setting	This function is used to modify the time zone.	
Wi-Fi Module configuration	This function is used to reconfigure the network or change the connection router.	