
High Protection Series Power Quality Products SVG

Power-On Operation Instructions

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I Power-On Operation Instructions

1.1 Module Power-On and Power-Off

1.1.1 Power-On Procedure

This power-on procedure applies to powering on the module when it is completely powered off. Follow the steps below:

1. Secure the module casing and connect power and signal cables.

Warning: During the power-on process, the module's output terminals may already be live. If there are loads connected to the module's output terminals, ensure it is safe to supply power to the load. If the load is not ready to receive power, ensure the load is safely isolated from the module's output terminals.

2. Close the isolation switch between the grid and the module.

At this point, the LCD display screen will start up. The front panel **indicator lights** will show as follows:

Fault (red)

Operation (green)

Power-On (yellow)

Indicator light behavior:

Power-on process: Green light blinks rapidly.

Normal operation: Green light remains steady on.

Fault state: Red light is illuminated, and the module cannot power on.

Yellow light on: Indicates the module is in a power-on state.

1.1.2 Power-Off Procedure

There are two methods to power off the module:

1. Completely Power Off by Disconnecting the Isolation Switch

This is a full power-off mode where the internal energy of the module is discharged slowly after the isolation switch is turned off.

Warning: The yellow light turning off does not indicate that the module is completely disconnect from the mains. Wait 15 minutes to ensure the module's internal bus line is fully discharged before performing any maintenance. This operation should only be performed by qualified engineer.

2. Standby Power-Off via the LCD Control Panel or External Button

This method only shuts down the power components in the system, leaving the module in standby mode.

1.2 4.3-Inch LCD Display and Settings

When powered on, the LCD screen will light up and enter the "Parameter Settings" interface. Enter the password "123456", as shown in Figure 4.1.

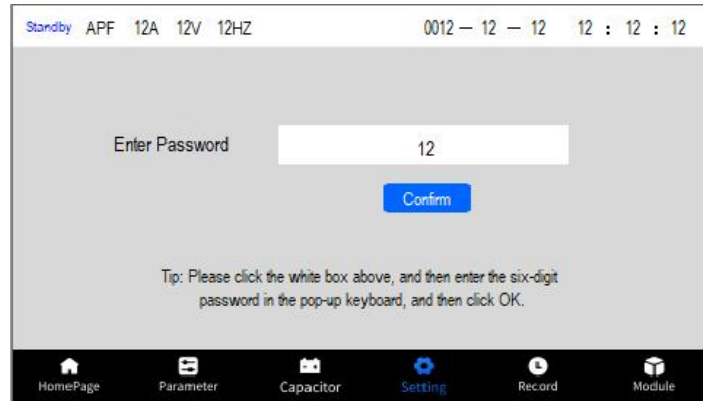


Figure 4.1: Parameter Settings - Password Input

The parameter settings interface consists of two pages. The first page of parameter settings is the same for APF, SVG, and ASVG modules. The settings mainly include—Starting Mode, Target $\text{COS}\Phi$, CT Location, CT Ratio, CT Direction, Phase Order Adapt, PV Mode (Solar Power Mode) and Wire System Selection. After selecting the desired parameter, click the "Confirm" button on the right head side of the screen to apply the changes to take effect.

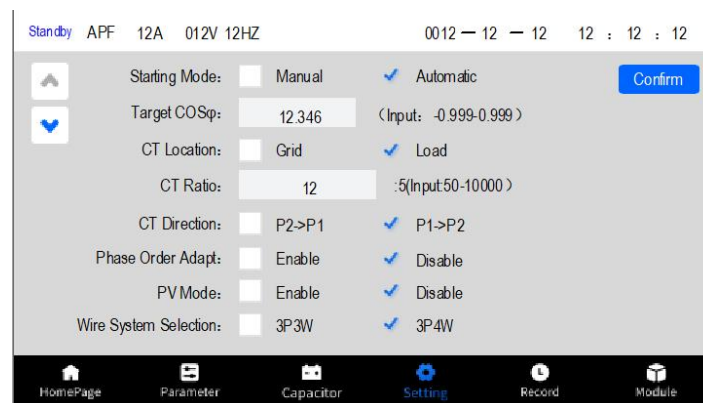


Figure 4.2 Parameter Setting First Page Common Interface

The second page of parameter settings mainly include—Function Selection, Compensating Harmony Number, Compensation Mode, Current Loop Ratio

and Reactive Set. After selecting the desired parameter, click the "Confirm" button on the right hand side of the screen to apply the changes to take effect.

The second page of parameter setting for APF, SVG and ASVG models is shown in Figure 4.3 to Figure 4.5.

Figure 4.3 Parameter Settings for APF Interface

Figure 4.4 Parameter Settings for SVG Interface

Figure 4.5 Parameter Settings for ASVG Interface

If the purchased module is intended for capacitor control, the screen will display capacitor information, as shown in Figure 4.6 ~ Figure 4.7. After setting the capacitor

switching method, users need to click "Confirm" to activate the configuration. To protect the capacitor, any settings made during the capacitor switching delay time will not take effect.

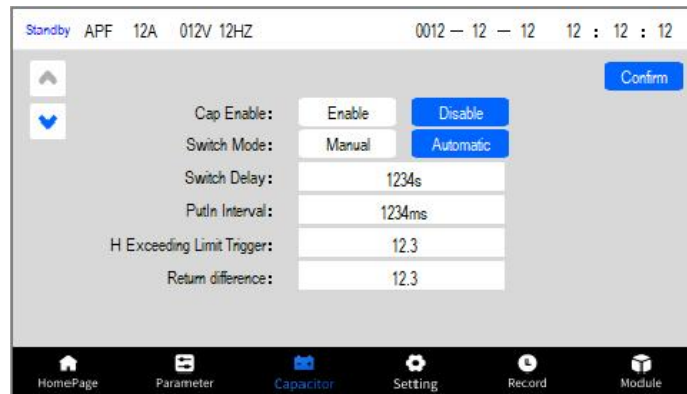


Figure 4.6 Capacitor Switching Interface First Page



Figure 4.7 Capacitor Switching Interface Second Page

1.3 7-Inch LCD Display and Settings

When powered on, the 7-inch LCD screen will light up and enter the "Parameter Settings" interface. Enter the password "123456", as shown in Figure 4.8. For multiple modules connected in parallel distribution, parameters need to be set individually for each module, ensuring consistency across all modules.

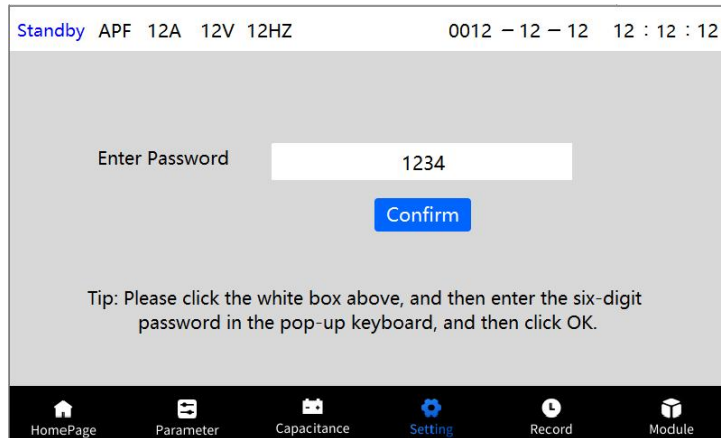


Figure 4.8: Parameter Settings - Password Input

The parameter settings interface consists of two pages. The first page of parameter settings is the same for APF, SVG, and ASVG modules. The settings mainly include—Starting Mode, Target $\text{COS}\Phi$, CT Location, CT Ratio, CT Direction, Phase Order Adapt, PV Mode (Solar Power Mode) and Wire System Selection. After selecting the desired parameter, click the "Confirm" button on the right hand side of the screen to apply the changes.

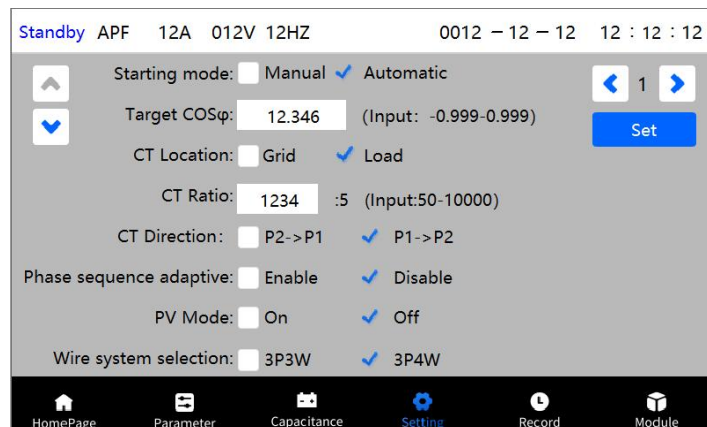


Figure 4.9: Common Parameter Settings Interface

The second page of parameter settings mainly include—Function Selection, Compensating Harmony Number, Compensation Mode, Current Loop Ratio and Reactive Set. After selecting the desired parameter, click the "Confirm" button on the right hand side of the screen to apply the changes to take effect. **(Note: In most cases, settings on this page are not required.)**

The second page of parameter setting for APF, SVG and ASVG models is shown in Figure 4.10 to Figure 4.12.

Standby APF 12A 12V 12HZ 0012 - 12 - 12 12 : 12 : 12

Function: Harmonic Reactive Unbalance

Number: 3th 5th 7th 9th 11th 13th
 15th 17th 19th 21th 23th 25th
 27th 29th 31th 33th 35th 37th
 39th 41th 43th 45th 47th ≥49th

Compen Mode:

Current Loop Coefficient:

Reactive Set:

HomePage Parameter Capacitance **Setting** Record Module

Figure 4.10: Parameter Settings for APF Interface

Standby SVG 12A 12V 12HZ 0012 - 12 - 12 12 : 12 : 12

Function: Reactive

Current Loop Coefficient:

Reactive Set:

HomePage Parameter Capacitance **Setting** Record Module

Figure 4.11: Parameter Settings for SVG Interface

Standby ASVG 12Kvar 012V 12HZ 0012 - 12 - 12 12 : 12 : 12

Function: Harmonic Reactive Unbalance

Number: 3th 5th 7th 9th 11th 13th

Compen Mode:

Current Loop Coefficient:

Reactive Set:

HomePage Parameter Capacitance **Setting** Record Module

Figure 4.12: Parameter Settings for ASVG Interface

If the module is intended for capacitor control, the screen will display capacitor information, as shown in Figure 4.13 ~ Figure 4.14. After setting the capacitor switching method, users need to click "Confirm Settings" to activate the configuration.

During the capacitor switching delay time, any changes will not take effect to ensure protection.

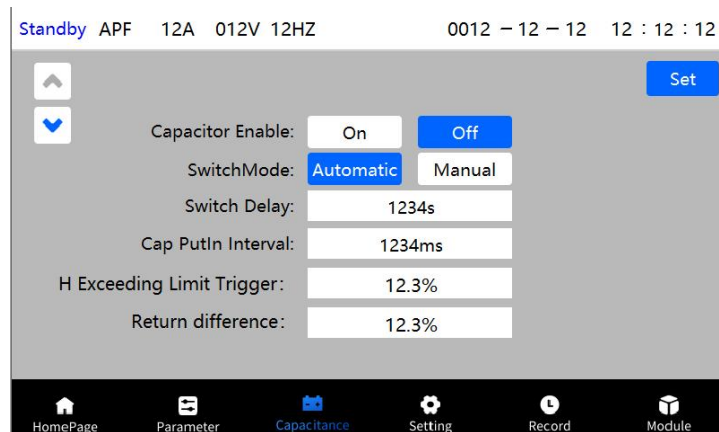


Figure 4.13 Capacitor Switching Interface First Page

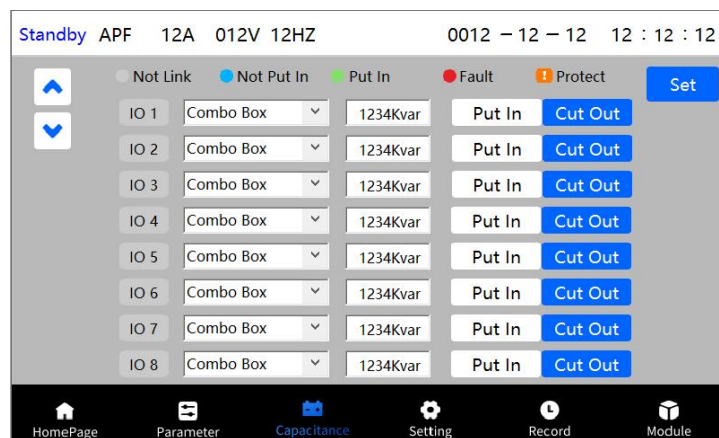


Figure 4.14 Capacitor Switching Interface Second Page

The 7-inch screen supports up to 16 modules in parallel distribution. The "Home" and "System Parameters" interfaces display system-level parameters, while the "Capacitor Information" interface shows details of the controlled capacitors. The "Module Information" interface provides specific information for each module, as shown in Figure 4.15.

Standby		APF	12A	12V	12HZ	0012 - 12 - 12			12 : 12 : 12	
Machine Type: APF										
Module Capacity: 12A										
DSP Version: V 0012 B 012 D 012										
FPGA Version: V 0012 B 012 D 012										
	S(KVA)	Load(%)	I(A)	INV(V)	BUS(V)	IGBT(°C)	AMBI(°C)	N Line(A)		
A	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3		
B	12.3	12.3	12.3	12.3						
C	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3		

Figure 4.15: Module Parameter Information

1.4 Display and Setting of 4G Module APP and Website

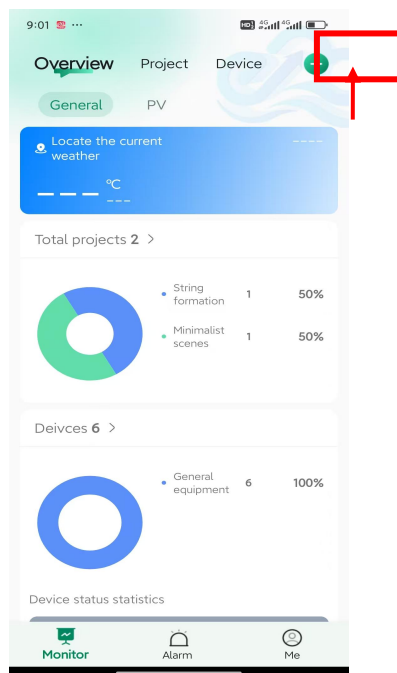
4G module APP: Download via QR code in Section 3.3.4.

4G module website: www.valueclouds.com

Both allow you to view electrical data, set device parameters, and perform simple remote debugging.

1.4.1 Logging Into and Selecting a Device

APP: Log into the APP and enter the overview interface, as shown in Figure 4.16 (1); Tap the "Device" option at the top to enter the device selection interface, as shown in Figure 4.16 (2); Tap the device name you want to view, for example, "My Device-06", then the device information screen is displayed.



(1)



(2)

Figure 4.16 APP Overview interface

Website: Log into the website and enter the overview interface, as shown in Figure 4.17; Click "Device" - "Device List" on the left to enter the device selection interface, as shown in Figure 4.18; Click the device name you want to view, for example, " My Device-06", then the device information screen is displayed.

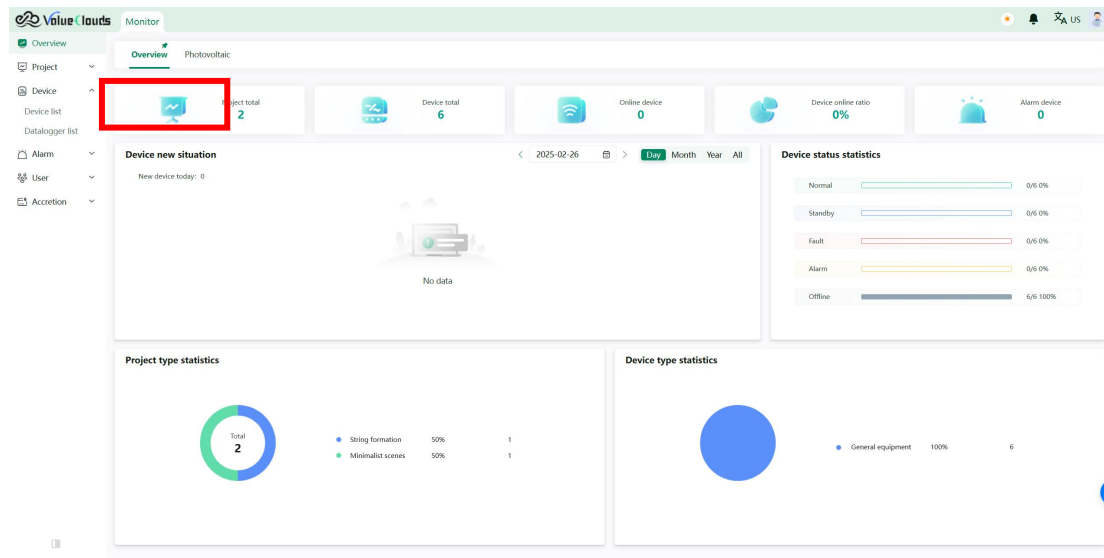


Figure 4.17 Web overview interface

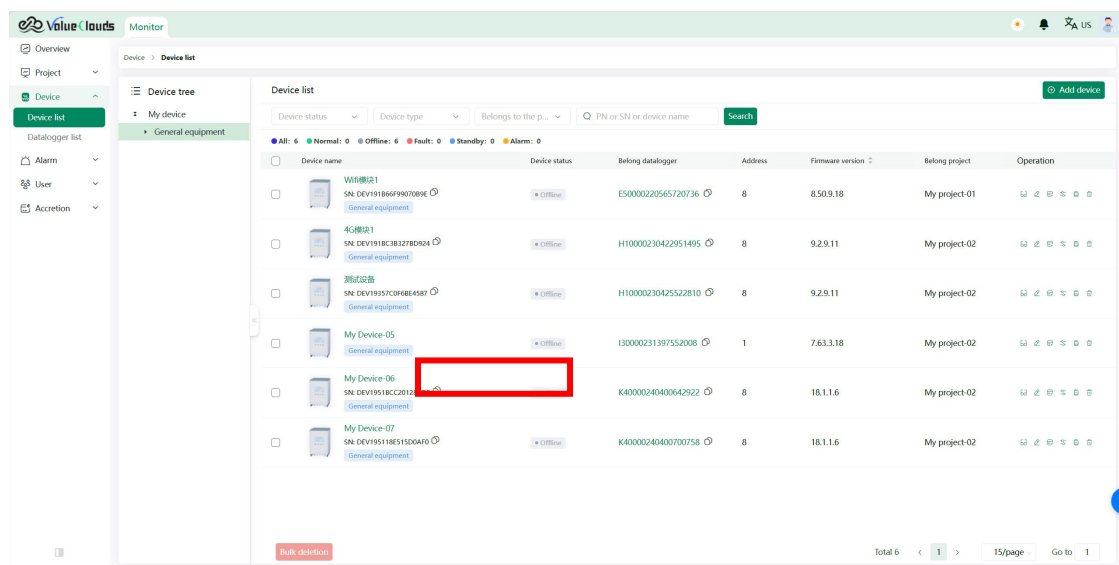


Figure 4.17 Web device selection interface

1.4.2 Viewing Device Data

APP: Enter the device information interface, as shown in Figure 4.19 (1). You can slide the option bar in the box to select different options; Tap "Real-time Data", as

shown in Figure 4.19 (2), to view the latest device information (refresh every 5 minutes); Tap "Historical Data", as shown in Figure 4.19 (3), to view the data chart of the selected parameters within 24 hours. Tap "Selected 3 items" to select and switch the data chart to be displayed.

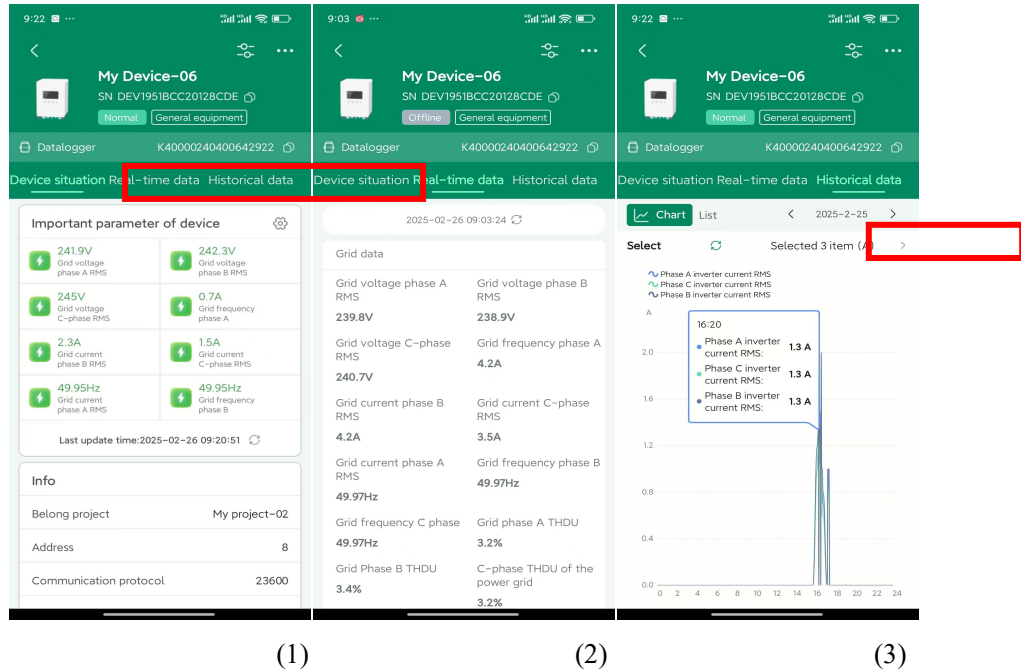


Figure 4.19 APP device selection interface

Tap 4.20 (1) "List" to view all historical data, tap the time under "Timestamp" to view data at a specific moment; Slide the option bar in box 4.19 (2) and tap the "Alarms" option to enter the alarm display interface shown in the figure.

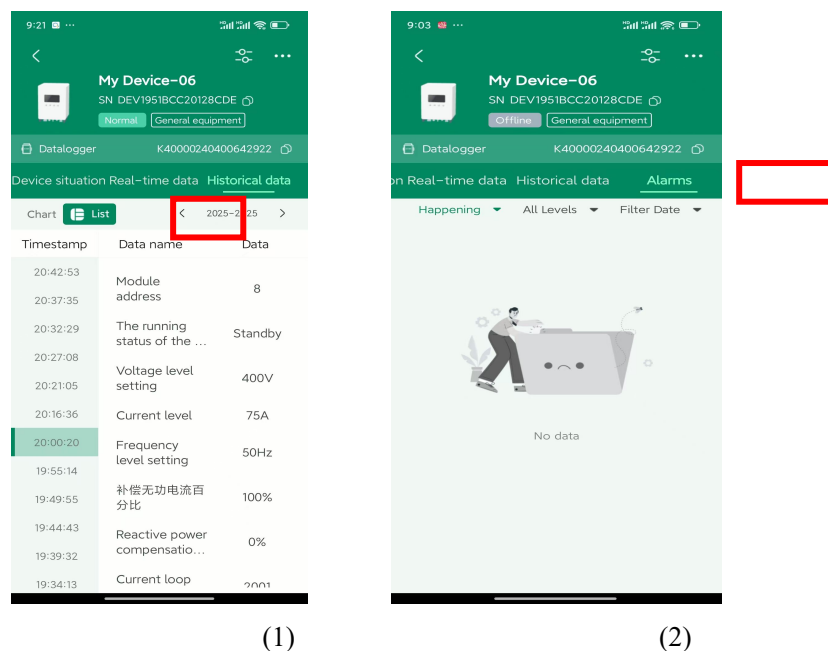


Figure 4.20 Historical data and Alarms interface

Website: The device information page is displayed, as shown in Figure 4.21. Click 1- "Button" ,2- "Data dashboards – the gear icon" according to the sequence shown in the figure to collect device information and display key data.

Click "Historical Data" - "Table View" interface, as shown in Figure 4.22. 1-3 illustrates the buttons and slider bars for "Exporting data to excel", "Showing/hiding parameters", and "dragging to view all data in this period respectively".

Click the "Device alarm" interface, as shown in Figure 4.23. Device alarm interface default display "Occurring", you can view the current alarm; Click the drop-down box, select "Recovered", you can view the historical alarm. Users can choose to view the current alarm and historical alarm.

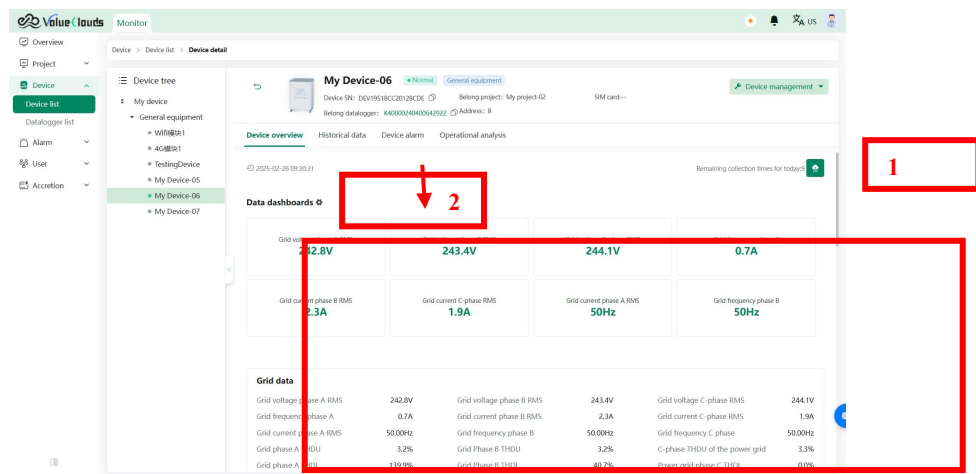


Figure 4.21 Equipment information overview interface

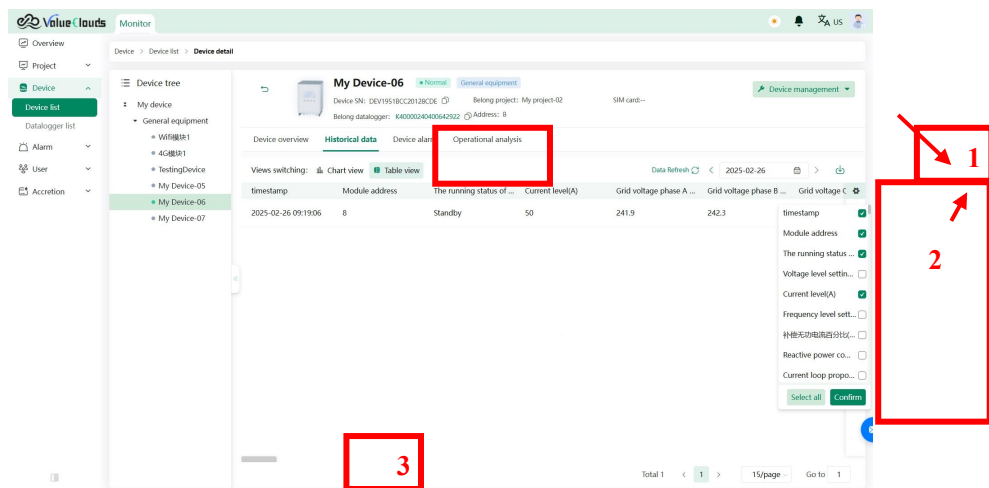


Figure 4.22 Historical data interface

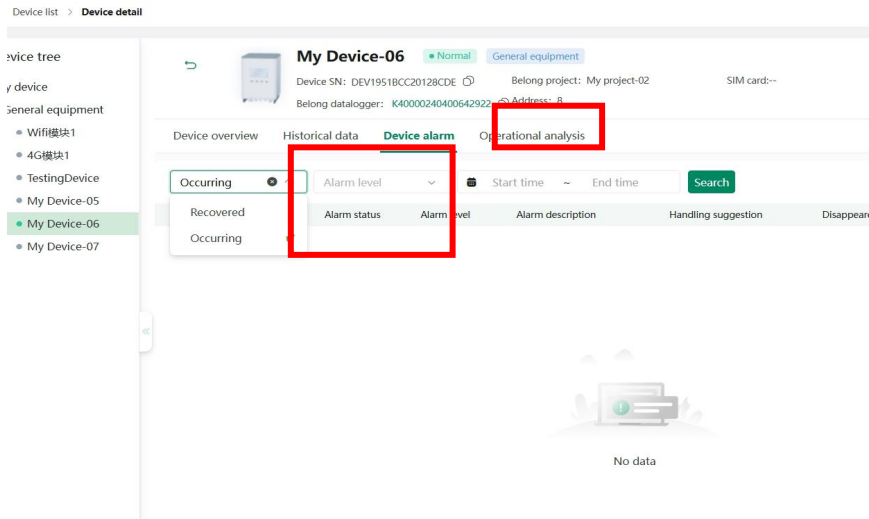
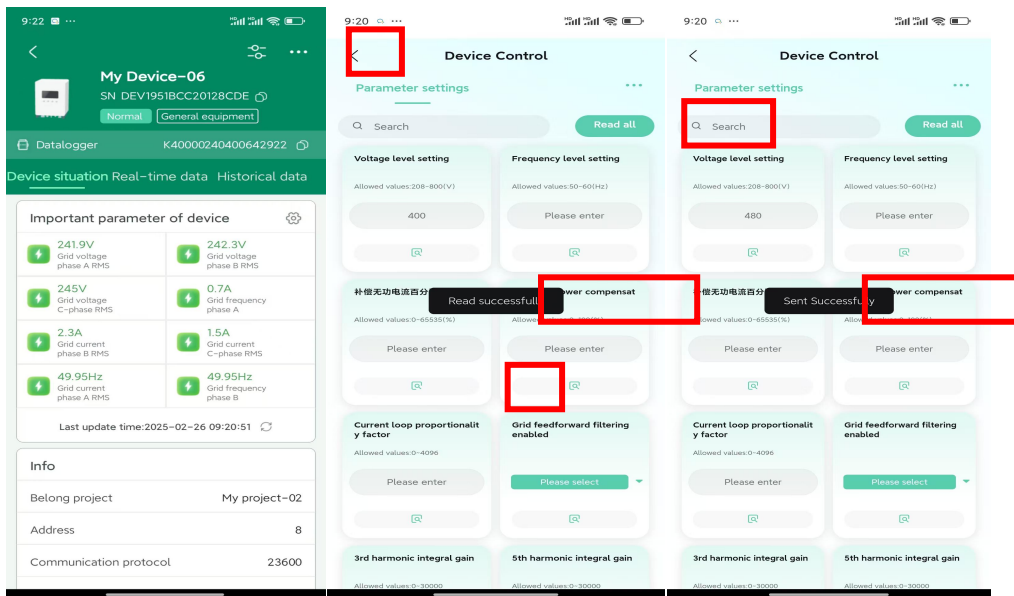


Figure 4.23 Device alarm interface

1.4.3 Setting Device Parameters

APP: In the device information interface, tap the icon in the upper right corner of Figure 4.24 (1) to enter the parameter setting interface. Tap "Read all" in Figure 4.24 (2) to read the current values of all configurable parameters; Tap the "magnifying glass" icon in the single parameter box to read the current value of a single parameter; Enter the setting value in the parameter setting input box - Tap "Confirm"- The pop-up window "Read/Sent successfully" appears, indicating that the parameter has been successfully read/modified. Users can tap the "Read all"/" Magnifying glass "icon again to read and confirm whether the parameter has been successfully modified.



(1)

(2)

(3)

Figure 4.24 Device Control interface 1

Website: Click "Device Management" - "Device Control" in the upper right corner of the device information page to enter the parameter setting screen. Click "One click reading" in the parameter setting interface to read the current values of all configurable parameters; Click "Read" in the single parameter box to read the current value of a single parameter; Enter the setting value in the parameter setting input box - click "Setting" - The pop-up window "Successful delivery" appears, indicating that the parameter has been successfully modified, as shown in Figure 4.25. Users can click the "One click reading"/"Read" again to read and confirm whether the parameter has been successfully modified.

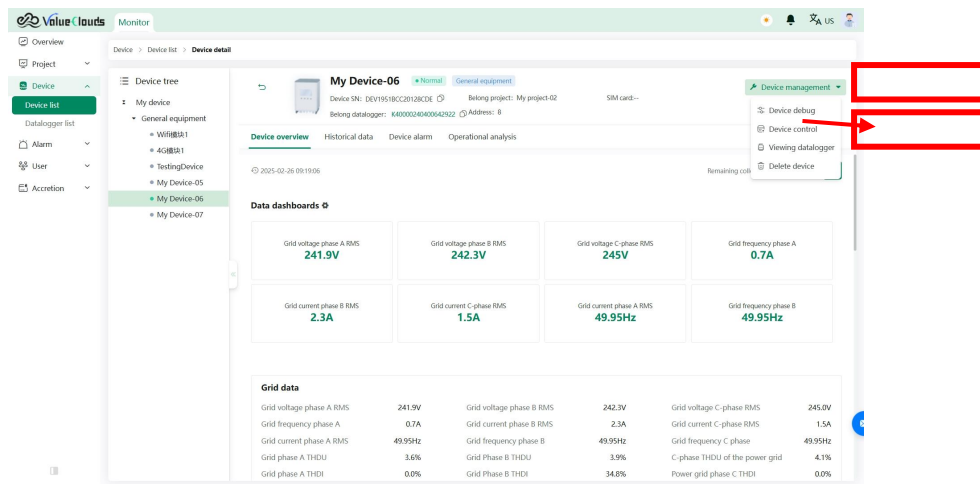


Figure 4.24 Device Control interface entry

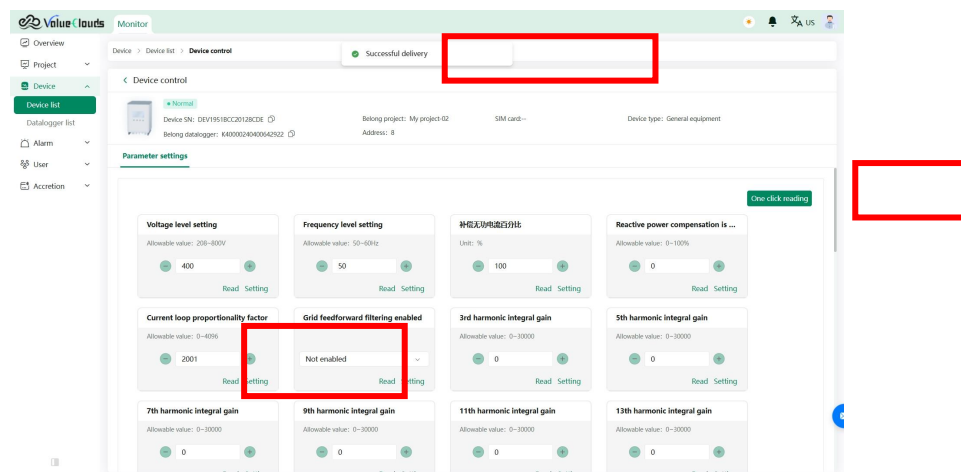


Figure 4.25 Device Control interface