



**HiSolar APP**

# **User Manual**

**Date**      **2023-08-14**

# Contents

<b>1 Downloading and Installing the App</b>	<b>1</b>
<b>2 Distributed Solar Inverter</b>	<b>2</b>
2.1 Login the APP	2
2.2 Alarm Management	6
2.3 Quick Settings	6
2.4 Monitor	7
2.5 Maintenance	8
2.6 Settings	10
2.7 Power Adjustment	29
<b>3 Commercial Solar Inverter</b>	<b>37</b>
3.1 Connection Modes	37
3.2 Login the APP	38
3.3 Query	43
3.4 Quick Settings	45
3.5 Settings	46
3.5.1 Setting Grid Parameters	47
3.5.2 Setting Protection Parameters	48
3.5.3 Setting Feature Parameters	49
3.5.4 Time setting	49
3.5.5 Setting Communications Parameters	50
3.5.6 Setting a Tracking System	52
3.5.7 Setting a File Save Path	52
3.6 Power Adjustment	52
3.7 Maintenance	53
3.7.1 Device Inspection	54
3.7.2 License Management	55
3.7.3 Subdevice management	56
3.7.4 PV String Access Detection	56
3.7.5 Startup and Shutdown	58
3.7.6 Restoring Factory Settings	58
3.7.7 Performing an AFCI Self-Check	58
3.7.8 Resetting a Solar Inverter	59

3.7.9 Clearing Alarms.....	59
3.7.10 Clearing Historical Energy Yield Data.....	59
3.7.11 Importing and Exporting Configuration Files.....	60
3.7.12 Spot-Check .....	60
3.7.13 O&M via WLAN connection.....	60
3.7.14 Device Upgrade.....	60
3.7.15 Log management.....	61
3.7.16 Changing the WLAN Password .....	62
<b>4 SmartLogger.....</b>	<b>64</b>
4.1 Login the APP .....	64
4.2 Query.....	67
4.3 Device Monitoring.....	68
4.3.1 Query .....	68
4.3.2 Settings.....	69
4.3.3 Maintenance.....	69
4.3.3.1 Log Download .....	70
4.3.3.2 Solar Inverter Maintenance.....	70
4.3.3.3 MBUS Maintenance .....	70
4.3.3.4 PID Module Maintenance .....	71
4.4 Maintenance.....	71
4.4.1 System Maintenance .....	71
4.4.1.1 Changing a User Password .....	71
4.4.1.2 Offline Configuration .....	72
4.4.1.3 Resetting the System .....	73
4.4.1.4 Clearing Data.....	74
4.4.1.5 Importing and Exporting All Files .....	75
4.4.1.6 Restoring Factory Settings.....	75
4.4.2 Solar Inverter Inspection.....	76
4.4.3 Device Management .....	76
4.4.3.1 Changing a Device Name .....	76
4.4.3.2 Deleting Devices .....	77
4.4.3.3 Automatically Searching for Devices .....	77
4.4.3.4 Manually Adding a Device .....	77
4.4.3.5 Automatically Allocating Addresses.....	78
4.4.3.6 Importing Configuration .....	78
4.4.3.7 Exporting Configuration.....	79
4.4.3.8 Resetting Alarms.....	79
4.4.3.9 Starting, Shutting down, and Resetting Solar Inverters in Batches .....	79
4.4.3.10 Setting Access Parameter.....	80
4.4.4 Managing the Device List .....	80
4.4.5 Exporting Device Logs.....	81
4.4.6 Device Upgrade.....	81

4.4.7 Spot-Checking Solar Inverters.....	82
4.5 Settings.....	83
4.5.1 Setting the System Date and Time.....	84
4.5.2 Setting Plant Information.....	85
4.5.3 Setting Revenue Parameters.....	86
4.5.4 Setting Ethernet Parameters.....	86
4.5.5 Setting RS485 Parameters.....	87
4.5.6 Setting Modbus-RTU Power Meter Parameters.....	88
4.5.7 Setting Management System Parameters.....	88
4.5.8 Setting Modbus TCP Parameters.....	89
4.5.9 Setting IEC103 Device Parameters.....	89
4.5.10 Setting IEC104 Device Parameters.....	90
4.5.11 Remotely Shutting Down Solar Inverters in Dry Contact Mode.....	91
4.5.12 Setting FTP Parameters.....	91
4.5.13 Setting Email Parameters.....	93
4.5.14 Setting a File Save Path.....	94
4.6 Power adjustment.....	94
4.6.1 Active Power Control.....	95
4.6.2 Setting Reactive Power Control.....	95
<b>5 Smart Dongle.....</b>	<b>96</b>
5.1 Alarm Management.....	96
5.2 Maintenance.....	96
5.2.1 Subdevice Management.....	96
5.2.2 Device Upgrade.....	97
5.2.3 Log Management.....	98
5.2.4 Device Performance.....	99
5.2.5 Minimum System.....	99
5.3 Settings.....	99
5.3.1 Setting Communications Parameters.....	99
5.4 Power Adjustment.....	100
5.4.1 Active Power Control.....	100
5.4.2 Reactive Power Control.....	100
5.4.3 Shutdown at High Feed-in Power.....	101
5.4.4 Dry Contact Scheduling Settings.....	102

# Downloading and Installing the App

Visit the following link to download and install the HiSolar App.

iOS: <https://apps.apple.com/us/app/hisolar/id6447599228>

Android: <https://play.google.com/store/apps/details?id=com.solar.pv>



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## NOTICE

- Mobile phone operating system: Android 8.0, iOS 11.0, or later versions.
  - To ensure the stability of each function, you are advised to use mobile phones running Android 8.0, iOS 13.0, or later versions. (For the mobile phones running iOS, iPhone 6 and later versions are supported, but iPhone SE is not supported.)
  - Use mobile phones that support the access to the Internet.
  - Use mobile phones that support the WLAN function.
  - The router supports WLAN (IEEE 802.11 b/g/n, 2.4 GHz) and the WLAN signal reaches the devices.
  - The WPA, WPA2, or WPA/WPA2 encryption mode is recommended for routers. The Enterprise mode is not supported (such as airport WLAN and other public hotspots that require authentication). WEP and WPA TKIP are not recommended because they have serious security vulnerabilities. If the access fails in WEP mode, log in to the router and change the encryption mode of the router to WPA2 or WPA/WPA2.
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# 2 Distributed Solar Inverter

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**NOTICE**

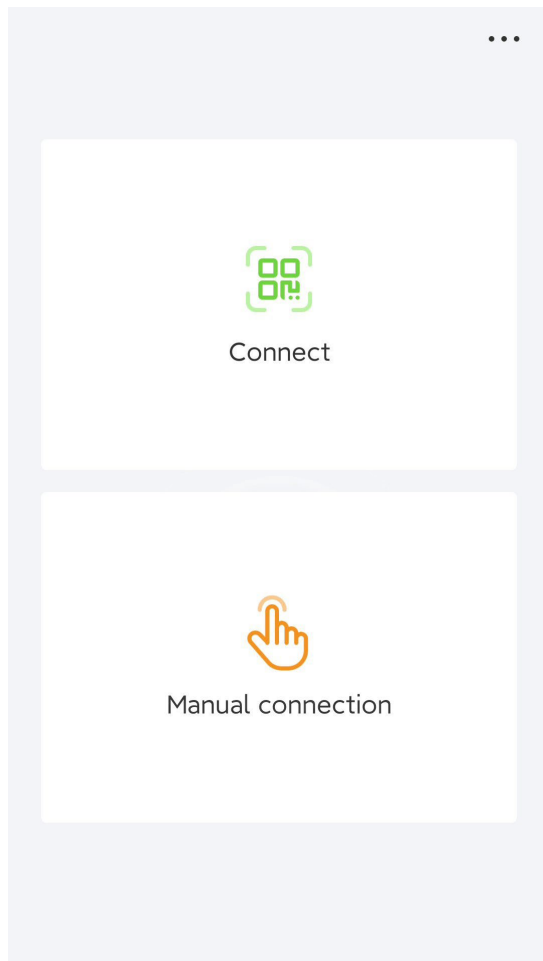
- The figures and data displayed in this chapter are for reference only.
  - The parameters displayed on the screen vary according to the solar inverter model connected to the app.
  - Delivering a reset, factory reset, shutdown, or upgrade command to the solar inverters may cause power grid connection failure, which affects the energy yield.
  - Only professionals are allowed to set the grid parameters, protection parameters, feature parameters, power adjustment parameters, and grid-tied point control parameters of the solar inverters. If the grid parameters, protection parameters, and feature parameters are incorrectly set, the solar inverters may not connect to the power grid. If the power adjustment parameters and grid-tied point control parameters are incorrectly set, the solar inverters may not connect to the power grid as required. In these cases, the energy yield will be affected.
- 

## 2.1 Login the APP

### Procedure

- Step 1** Connect the solar inverter.

**Figure 2-1 Connect**



- Code scanning: Tap **Connect** to access the scanning screen, place the QR code or bar code of the solar inverter in the scan frame. The device will be automatically connected after the code is identified.
- Manual connection: Tap **Manual Connection** and select a connection mode.

**Figure 2-2** Manual connection



- Select **WLAN** and connect to the corresponding WLAN in the WLAN connection list of the APP. The initial name of the WLAN hotspot is **solar inverter SN**, and the initial password is **Changeme**.

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**NOTICE**

- Use the initial password upon first power-on and change it immediately after login. To ensure account security, change the password periodically and keep the new password in mind. Not changing the initial password may cause password disclosure. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, devices cannot be accessed. In these cases, the user is liable for any loss caused to the PV plant.
- If the **This WLAN network has no Internet access. Connect anyway?** message is displayed when you connect to the built-in WLAN, tap **CONNECT**. Otherwise, you cannot log in to the system. The actual UI and messages may vary with mobile phones.

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**Step 2** Select a login user and enter the password.



**Figure 2-3 Login**

← Login

SN: [REDACTED]

Installer ▾

[REDACTED] [Eye Icon]

login

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**NOTICE**

- For the initial power-on, set the password as prompted and then log in to the system. If not prompted, log in with the initial password **00000a**.
- To ensure account security, change the password periodically and keep the new password in mind. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, devices cannot be accessed. In these cases, the user is liable for any loss caused to the PV plant.
- During the login, if five consecutive invalid password entries are made (the interval between two consecutive entries is less than 2 minutes), the account will be locked for 10 minutes. The password should consist of six characters.

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**Step 3** After successful login, the **Quick Settings** or **Function Menu** screen is displayed.

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**NOTICE**

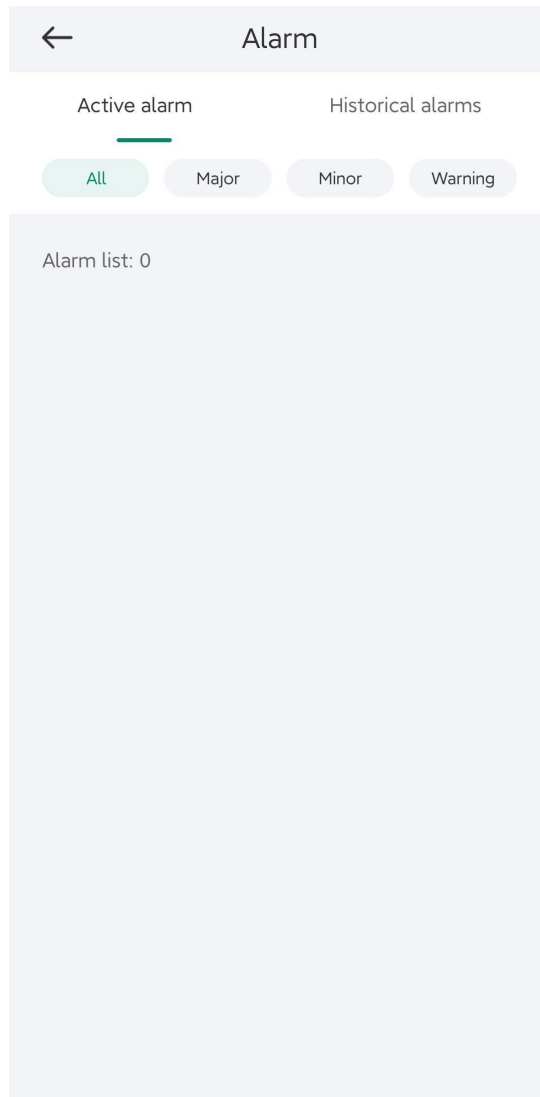
If you log in to the app after the device powers on for the first time or factory defaults are restored, the **Quick Settings** screen will be displayed. If you do not set the basic parameters for the solar inverter on the **Quick Settings** screen, the screen is still displayed when you log in next time.

---

----End

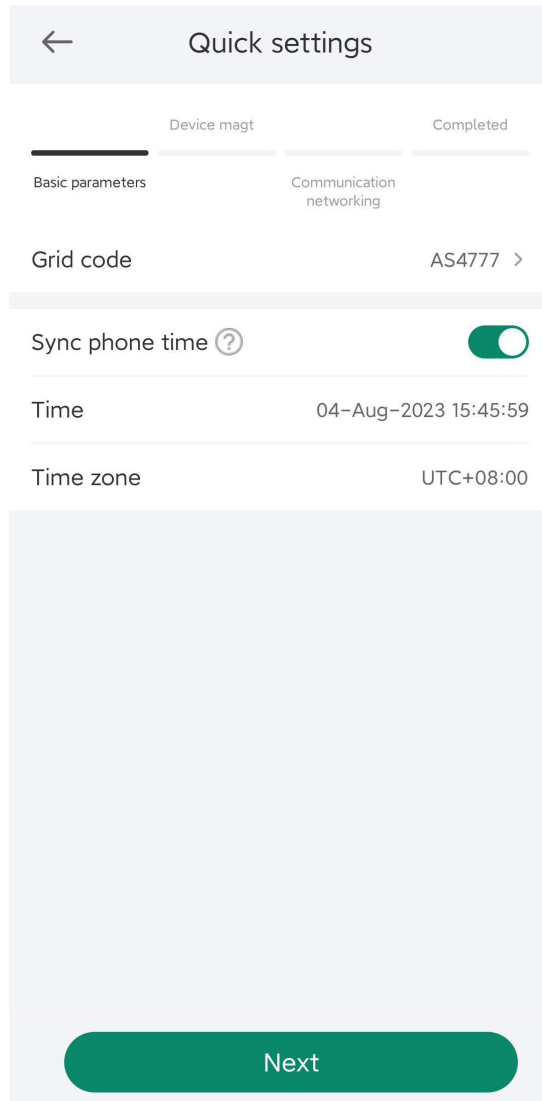
## 2.2 Alarm Management

On the home screen, tap **Alarm**. You can query active and historical alarms.



## 2.3 Quick Settings

On the home screen, tap **Quick Settings**. Set parameters as prompted.



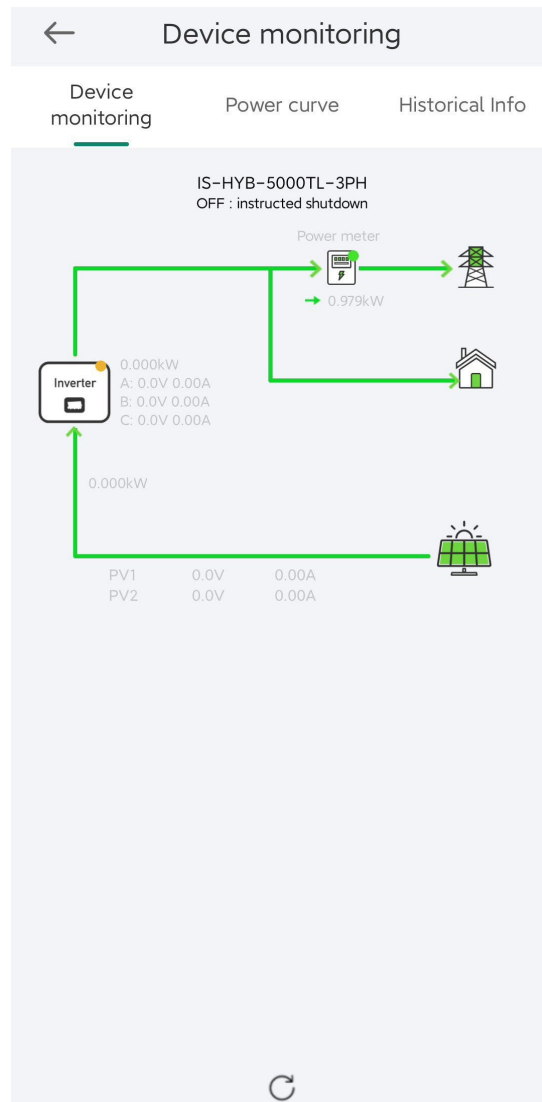
 **NOTE**

The UI is for reference only. The UI varies with associated devices. The actual UI prevails.

## 2.4 Monitor

On the home screen, tap **Monitor**. Then tap a tab in the lower part of the screen as required to view related information.

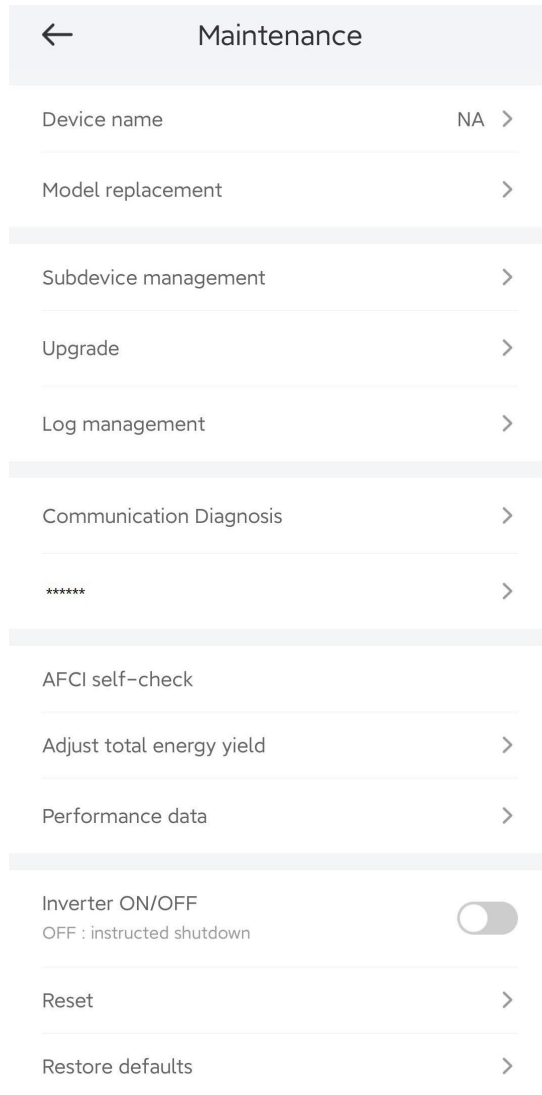
**Figure 2-4** Device information



## 2.5 Maintenance

On the home screen, tap **Maintenance** to set device parameters.

**Figure 2-5 Maintaining devices**



**NOTE**

The parameter list provided in this document includes all configurable parameters that vary with the device model and grid code. The actual screen prevails.

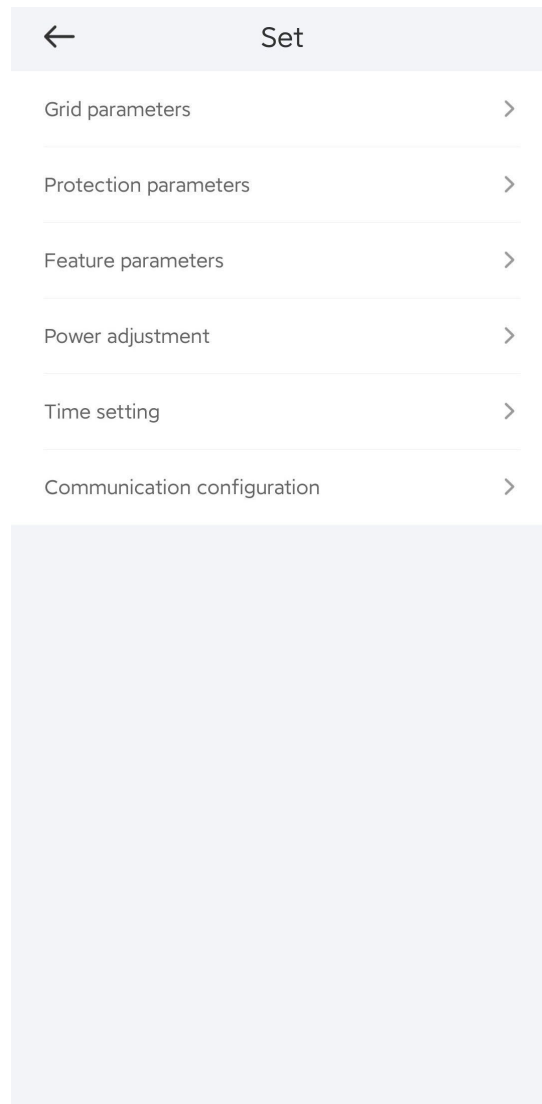
Parameter	Description	Parameter	Description
Add/ Delete device	Adds power meters, batteries, optimizers, or safety shutdown boxes as required.	IPS test	Performs IPS self-check and generates a self-check report.
Physical Layout of PV Modules	Specifies the physical location of the optimizer.	Inverter ON/OFF Detection	Sends a command to start or shut down the solar inverter based on its current startup or shutdown status.

Parameter	Description	Parameter	Description
Upgrade device	Upgrades the software version of devices such as the solar inverter as required.	Restore defaults	Restores the solar inverter parameters to factory settings.
Log Management	Downloads the logs of the solar inverters, batteries, optimizers, or the app.	Clear alarms	Clears historical alarms of the solar inverter.
Performance data	Views the performance data of devices such as power meters.	Clear historical energy yield	Clears historical energy yields of the solar inverter.
Alarm beacon	If this parameter is enabled, the alarm beacon produces audible and visual signals when the solar inverter generates an alarm.	Adjust total energy yield	Specifies the initial energy yield of the solar inverter. This parameter is used in solar inverter replacement scenarios. Set the initial energy yield of the new solar inverter to the total energy yield of the old solar inverter to ensure continuous statistics of cumulative energy yield.
AFCI (Arc-Fault Circuit-Interrupter) self-test	Performs the AFCI self-test.	Restart	Restarts the solar inverter.
Optimizer Disconnection Detection	Detect the disconnection point of the optimizer and determine the physical location of the fault point.	O&M via WLAN connection	You can enable or disable the WLAN. <ul style="list-style-type: none"> <li>● <b>Always ON:</b> The WLAN is always on.</li> <li>● <b>OFF when idle:</b> The WLAN is automatically turned off after being idle for four hours.</li> </ul>

## 2.6 Settings

On the home screen, tap **SettingsSet** to set solar inverter parameters.

**Figure 2-6 Set**



**NOTE**

- The parameter list provided in this document includes all configurable parameters that vary with the device model and grid code. The actual screen prevails.
- The parameters are for reference only. The configurable parameters vary with the device model and grid code. The actual configurable parameters prevail.
- The parameter names, value ranges, and default values are subject to change.

## Grid Parameters

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)
Grid Code	Set this parameter based on the grid code of the country or region where the inverter is used and the inverter application scenario.	N/A
Isolation settings	Set the working mode of the inverter based on the grounding status at DC side and the connection to the power grid.	<ul style="list-style-type: none"> <li>● Input ungrounded, without TF</li> <li>● Input ungrounded, with TF</li> </ul>
Output mode	Specifies whether the inverter output has a neutral wire based on the application scenario.	<ul style="list-style-type: none"> <li>● Three-phase three-wire</li> <li>● Three-phase four-wire</li> <li>● L/N</li> <li>● L1/L2/N</li> <li>● L1/L2</li> </ul>
Automatically start upon grid recovery	Specifies whether to allow the inverter to automatically start after the power grid recovers.	<ul style="list-style-type: none"> <li>● Disable</li> <li>● Enable</li> </ul>
Grid connected recovery time from grid faults (s)	Specifies the time after which the inverter begins connecting after the power grid recovers.	[0, 7200]
Grid reconnection voltage upper limit (V)	The standards of certain countries and regions require that after the inverter shuts down for protection due to a fault, if the power grid voltage is higher than <b>Grid reconnection voltage upper limit</b> , the inverter is not allowed to reconnect to the grid.	[100% Vn, 136% Vn]
Grid reconnection voltage lower limit (V)	The standards of certain countries and regions require that after the inverter shuts down for protection due to a fault, if the power grid voltage is lower than <b>Grid reconnection voltage lower limit</b> , the inverter is not allowed to reconnect to the grid.	[45% Vn, 100% Vn]



Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)
Grid reconnection frequency upper limit (Hz)	The standards of certain countries and regions require that after the inverter shuts down for protection due to a fault, if the power grid frequency is higher than <b>Grid reconnection frequency upper limit</b> , the inverter is not allowed to reconnect to the grid.	[100% Fn, 120% Fn]
Grid reconnection frequency lower limit (Hz)	The standards of certain countries and regions require that after the inverter shuts down for protection due to a fault, if the power grid frequency is lower than <b>Grid reconnection frequency lower limit</b> , the inverter is not allowed to reconnect to the grid.	[80% Fn, 100% Fn]
Reactive power compensation (cosφ-P) trigger voltage (%)	Specifies the voltage threshold for triggering reactive power compensation based on the cosφ-P curve.	[100, 136]
Reactive power compensation (cosφ-P) exit voltage (%)	Specifies the voltage threshold for exiting reactive power compensation based on the cosφ-P curve.	[70, 100]

## Protection Parameters

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)
Insulation resistance protection threshold (MΩ)	To ensure device safety, the inverter detects the insulation resistance of the input side with respect to ground when it starts a self-check. If the detected value is less than the preset value, the inverter does not connect to the grid.	[0.02, 1.5]
Voltage unbalance protection threshold (%)	Specifies the inverter protection threshold when the power grid voltage is unbalanced.	[0, 50]

<b>Parameter</b>	<b>Description</b>	<b>Value Range (Vn: Rated Voltage; Fn: Rated Frequency)</b>
Phase protection point (°)	The Japanese standard requires that during passive islanding detection, protection should be triggered if an abrupt voltage phase change is detected.	[0.5, 15]
Phase angle offset protection	The standards of certain countries and regions require that the inverter needs to be protected when the phase angle offset of the power grid three phases exceeds a certain value.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>
10-min overvoltage protection threshold (V)	Specifies the 10-minute overvoltage protection threshold.	[1 * Vn, 1.5 * Vn]
10-min overvoltage protection duration (ms)	Specifies the 10-minute overvoltage protection duration.	[50, 7200000]
Level-1 overvoltage protection threshold (V)	Specifies the level-1 overvoltage protection threshold.	[1 * Vn, 1.5 * Vn]
Level-1 overvoltage protection duration (ms)	Specifies the level-1 overvoltage protection duration.	[50, 7200000]
Level-2 overvoltage protection threshold (V)	Specifies the level-2 overvoltage protection threshold.	[1 * Vn, 1.5 * Vn]
Level-2 overvoltage protection duration (ms)	Specifies the level-2 overvoltage protection duration.	[50, 7200000]
Level-3 overvoltage protection threshold (V)	Specifies the level-3 overvoltage protection threshold.	[1 * Vn, 1.5 * Vn]
Level-3 overvoltage protection duration (ms)	Specifies the level-3 overvoltage protection duration.	[50, 7200000]
Level-4 overvoltage protection threshold (V)	Specifies the level-4 overvoltage protection threshold.	[1 * Vn, 1.5 * Vn]
Level-4 overvoltage protection duration (ms)	Specifies the level-4 overvoltage protection duration.	[50, 7200000]
Level-5 overvoltage protection threshold (V)	Specifies the level-5 overvoltage protection threshold.	[1 * Vn, 1.5 * Vn]
Level-5 overvoltage protection duration (ms)	Specifies the level-5 overvoltage protection duration.	[50, 7200000]
Level-6 overvoltage protection threshold (V)	Specifies the level-6 overvoltage protection threshold.	[1 * Vn, 1.5 * Vn]
Level-6 overvoltage protection duration (ms)	Specifies the level-6 overvoltage protection duration.	[50, 7200000]

<b>Parameter</b>	<b>Description</b>	<b>Value Range (Vn: Rated Voltage; Fn: Rated Frequency)</b>
Level-1 undervoltage protection threshold (V)	Specifies the level-1 undervoltage protection threshold.	[0.15 * Vn, 1 * Vn]
Level-1 undervoltage protection duration (ms)	Specifies the level-1 undervoltage protection duration.	[50, 7200000]
Level-2 undervoltage protection threshold (V)	Specifies the level-2 undervoltage protection threshold.	[0.15 * Vn, 1 * Vn]
Level-2 undervoltage protection duration (ms)	Specifies the level-2 undervoltage protection duration.	[50, 7200000]
Level-3 undervoltage protection threshold (V)	Specifies the level-3 undervoltage protection threshold.	[0.15 * Vn, 1 * Vn]
Level-3 undervoltage protection duration (ms)	Specifies the level-3 undervoltage protection duration.	[50, 7200000]
Level-4 undervoltage protection threshold (V)	Specifies the level-4 undervoltage protection threshold.	[0.15 * Vn, 1 * Vn]
Level-4 undervoltage protection duration (ms)	Specifies the level-4 undervoltage protection duration.	[50, 7200000]
Level-5 undervoltage protection threshold (V)	Specifies the level-5 undervoltage protection threshold.	[0.15 * Vn, 1 * Vn]
Level-5 undervoltage protection duration (ms)	Specifies the level-5 undervoltage protection duration.	[50, 7200000]
Level-6 undervoltage protection threshold (V)	Specifies the level-6 undervoltage protection threshold.	[0.15 * Vn, 1 * Vn]
Level-6 undervoltage protection duration (ms)	Specifies the level-6 undervoltage protection duration.	[50, 7200000]
Level-1 overfrequency protection threshold (Hz)	Specifies the level-1 overfrequency protection threshold.	[1 * Fn, 1.2 * Fn]
Level-1 overfrequency protection duration (ms)	Specifies the level-1 overfrequency protection duration.	[50, 7200000]
Level-2 overfrequency protection threshold (Hz)	Specifies the level-2 overfrequency protection threshold.	[1 * Fn, 1.2 * Fn]
Level-2 overfrequency protection duration (ms)	Specifies the level-2 overfrequency protection duration.	[50, 7200000]
Level-3 overfrequency protection threshold (Hz)	Specifies the level-3 overfrequency protection threshold.	[1 * Fn, 1.2 * Fn]
Level-3 overfrequency protection duration (ms)	Specifies the level-3 overfrequency protection duration.	[50, 7200000]

<b>Parameter</b>	<b>Description</b>	<b>Value Range (Vn: Rated Voltage; Fn: Rated Frequency)</b>
Level-4 overfrequency protection threshold (Hz)	Specifies the level-4 overfrequency protection threshold.	[1 * Fn, 1.2 * Fn]
Level-4 overfrequency protection duration (ms)	Specifies the level-4 overfrequency protection duration.	[50, 7200000]
Level-5 overfrequency protection threshold (Hz)	Specifies the level-5 overfrequency protection threshold.	[1 * Fn, 1.2 * Fn]
Level-5 overfrequency protection duration (ms)	Specifies the level-5 overfrequency protection duration.	[50, 7200000]
Level-6 overfrequency protection threshold (Hz)	Specifies the level-6 overfrequency protection threshold.	[1 * Fn, 1.2 * Fn]
Level-6 overfrequency protection duration (ms)	Specifies the level-6 overfrequency protection duration.	[50, 7200000]
Level-1 underfrequency protection threshold (Hz)	Specifies the level-1 underfrequency protection threshold.	[0.8 * Fn, 1 * Fn]
Level-1 underfrequency protection duration (ms)	Specifies the level-1 underfrequency protection duration.	[50, 7200000]
Level-2 underfrequency protection threshold (Hz)	Specifies the level-2 underfrequency protection threshold.	[0.8 * Fn, 1 * Fn]
Level-2 underfrequency protection duration (ms)	Specifies the level-2 underfrequency protection duration.	[50, 7200000]
Level-3 underfrequency protection threshold (Hz)	Specifies the level-3 underfrequency protection threshold.	[0.8 * Fn, 1 * Fn]
Level-3 underfrequency protection duration (ms)	Specifies the level-3 underfrequency protection duration.	[50, 7200000]
Level-4 underfrequency protection threshold (Hz)	Specifies the level-4 underfrequency protection threshold.	[0.8 * Fn, 1 * Fn]
Level-4 underfrequency protection duration (ms)	Specifies the level-4 underfrequency protection duration.	[50, 7200000]
Level-5 underfrequency protection threshold (Hz)	Specifies the level-5 underfrequency protection threshold.	[0.8 * Fn, 1 * Fn]
Level-5 underfrequency protection duration (ms)	Specifies the level-5 underfrequency protection duration.	[50, 7200000]
Level-6 underfrequency protection threshold (Hz)	Specifies the level-6 underfrequency protection threshold.	[0.8 * Fn, 1 * Fn]
Level-6 underfrequency protection duration (ms)	Specifies the level-6 underfrequency protection duration.	[50, 7200000]

## Feature Parameters

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
MPPT multi-peak scanning	When the inverter is used in scenarios where PV strings are greatly shaded, set this parameter to <b>Enable</b> , and then the inverter will perform MPPT scanning at regular intervals to locate the maximum power.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
MPPT multi-peak scan interval (min)	Specifies the MPPT scanning interval.	[5, 30]	This parameter is displayed when <b>MPPT multi-peak scan interval</b> is set to <b>Enable</b> .
Automatic OFF due to communication interrupted	The standards of certain countries and regions require that the inverter must shut down after the communication is interrupted for a certain time.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	If <b>Automatic OFF due to communication interrupted</b> is set to Enable and the inverter communication is interrupted for a specified time (set by <b>Communication interruption duration</b> ), the inverter will automatically shut down.
Communication interruption duration (min)	Specifies the duration for determining communication interruption. Used for automatic shutdown for protection in case of communication interruption.	[1, 120]	N/A

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Automatic ON due to communication resume	If this parameter is set to <b>Enable</b> , the inverter automatically starts after communication recovers. If this parameter is set to <b>Disable</b> , the inverter needs to be started manually after communication recovers.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	This parameter is displayed when <b>Automatic OFF due to communication interrupted</b> is set to <b>Enable</b> .
Soft start/boot time (s)	Specifies the duration for the power to gradually increase when the inverter starts.	[1, 1800]	N/A
AFCI	The North American standard requires that the inverter should have DC arc detection function.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
AFCI detection adaptation mode	This function is used to adjust the sensitivity of arc detection.	<ul style="list-style-type: none"> <li>• High</li> <li>• Moderate</li> <li>• Low</li> </ul>	This parameter is displayed when <b>AFCI</b> is set to Enable.
OFF due to abnormal ground	This function is used to check whether the solar inverter is properly grounded before the solar inverter starts, or check whether the solar inverter ground cable is disconnected when the solar inverter is running. By default, this parameter is set to <b>Enable</b> . If the solar inverter cannot be grounded properly, it shuts down.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	For certain power grid types, if the output side of the solar inverter is connected to an isolation transformer, grounding detection is not required. Ensure that the solar inverter is properly grounded and set the parameter to <b>Disable</b> to enable the solar inverter to run properly.

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Delay upgrade	This parameter is mainly used in the upgrade scenarios where the PV power supply is disconnected at night due to no sunlight or unstable at dawn or dusk due to poor sunlight.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	After the inverter starts to upgrade, if <b>Delay upgrade</b> is set to <b>Enable</b> , the upgrade package is loaded first. After the PV power supply recovers and the activation conditions are met, the inverter automatically activates the upgrade.
Unlock optimizer	When replacing the optimizer, you need to disable the binding relationship between the optimizer and the MBUS master solar inverter. Set this parameter to <b>Enable</b> , and then unlock optimizer .	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
Heartbeat period at application layer (min)	Specifies the timeout period for the solar inverter to connect to the management system.	[1, 65535]	N/A
TCP frame length	Specifies the maximum length of the TCP frame sent by the northbound device to the solar inverter.	[320, 1500]	N/A
TCP heartbeat interval (s)	Specifies the TCP link timeout period for the solar inverter to connect to the management system.	[0, 65535]	N/A
LVRT	LVRT is short for low voltage ride-through. When the grid voltage is abnormally low for a short time, the inverter cannot disconnect from the power grid immediately and has to work for some time.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Threshold for triggering LVRT (V)	Specifies the threshold for triggering LVRT. The threshold settings should meet the local grid standard.	[50% Vn, 100% Vn]	This parameter is displayed when <b>LVRT</b> is set to <b>Enable</b> .
LVRT reactive power compensation factor	During LVRT, the inverter needs to generate reactive power to support the power grid. This parameter is used to set the reactive power generated by the inverter.	[0, 10]	<ul style="list-style-type: none"> <li>This parameter is displayed when <b>LVRT</b> is set to <b>Enable</b>.</li> <li>For example, if this parameter is set to <b>2</b>, the reactive power generated by the inverter is 20% of the rated power when the AC voltage drops by 10% during LVRT.</li> </ul>
LVRT characteristic curve	Specifies the low voltage ride through curve.	N/A	This parameter is displayed when <b>LVRT</b> is set to <b>Enable</b> .
HVRT	HVRT is short for high voltage ride-through. When the grid voltage is abnormally high for a short time, the inverter cannot disconnect from the power grid immediately and has to work for some time.	<ul style="list-style-type: none"> <li>Disable</li> <li>Enable</li> </ul>	N/A
Threshold for triggering HVRT (V)	Specifies the threshold for triggering HVRT. The threshold settings should meet the local grid standard.	[100% Vn, 136% Vn]	This parameter is displayed when <b>HVRT</b> is set to <b>Enable</b> .
Grid voltage protection shield during VRT	Specifies whether to apply voltage protective shielding to the power grid when HVRT or LVRT is enabled.	<ul style="list-style-type: none"> <li>Disable</li> <li>Enable</li> </ul>	This parameter is displayed when <b>LVRT</b> is set to <b>Enable</b> or <b>HVRT</b> is set to <b>Enable</b> .
Active islanding protection	Specifies whether to enable the active islanding protection function.	<ul style="list-style-type: none"> <li>Disable</li> <li>Enable</li> </ul>	N/A



Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Passive islanding protection	Specifies whether to enable the passive islanding protection function.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	This parameter is displayed if the Japanese grid code is selected.
Voltage rise suppression	The standards of certain countries and regions require that when the output voltage exceeds a certain value, the inverter must suppress voltage rise by outputting reactive power and reducing active power.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
Voltage rise suppressing reactive power adjustment point (%)	The standards of certain countries and regions require that the inverter generate a certain amount of reactive power when the output voltage exceeds a certain value.	[100, 115)	<ul style="list-style-type: none"> <li>• This parameter is displayed when <b>Voltage rise suppression</b> is set to <b>Enable</b>.</li> <li>• The value of <b>Voltage rise suppressing active power derating point</b> must be greater than that of <b>Voltage rise suppressing reactive power adjustment point</b>.</li> </ul>
Voltage rise suppressing active power derating point (%)	The standards of certain countries and regions require that the active power of the inverter be derated according to a certain slope when the output voltage exceeds a certain value.	(100, 115]	
Voltage rise suppression P-U curve	The standards of certain countries and regions require that the P-U curve be set.	<ul style="list-style-type: none"> <li>• U (V): [176, 1500]</li> <li>• U device verification (V) : [0.8 Un, 1.36 Un]</li> <li>• P/Pn (%): [0, 100]</li> </ul>	This parameter is displayed when <b>Voltage rise suppression</b> is set to <b>Enable</b> .
Voltage rise suppression Q-U curve	The standards of certain countries and regions require that the Q-U curve be set.	<ul style="list-style-type: none"> <li>• U (V): [176, 1500]</li> <li>• U device verification (V) : [0.8 Un, 1.36 Un]</li> <li>• Q/S: [-0.6, 0.6]</li> </ul>	

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Soft start time after grid failure (s)	Specifies the time for the power to gradually increase when the inverter restarts after the power grid recovers.	[1, 1800]	N/A
PID running mode	Specifies the operation mode of the inverter built-in PID.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Suppress</li> <li>• Repair</li> <li>• Suppress + Repair</li> </ul>	N/A
PID nighttime off-grid repair	Specifies whether to enable the PID nighttime off-grid repair.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	This parameter is displayed when <b>PID running mode</b> is set to <b>Repair</b> .
Closed-loop controller	<ul style="list-style-type: none"> <li>• Set this parameter to <b>SDongle/SmartLogger</b> when the SmartLogger1000A is connected.</li> <li>• If multiple inverters are cascaded, set this parameter to <b>SDongle/SmartLogger</b>.</li> <li>• If there is only one inverter, set this parameter to <b>Inverter</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• SDongle/ SmartLogger</li> <li>• Solar inverter</li> </ul>	N/A
Active power output limit for fail-safe (%)	When the communication between the SDongle/ SmartLogger, power meter, and solar inverter is interrupted, the solar inverter output is limited.	[0, 100]	N/A
Off-grid mode	If this parameter is set to <b>Enable</b> , the ESS switches to the off-grid mode when the grid fails.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	-

## Power Adjustment

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Remote power schedule	If this parameter is set to <b>Enable</b> , the inverter responds to the scheduling instruction from the remote port. If this parameter is set to <b>Disable</b> , the inverter does not respond to the scheduling instruction from the remote port.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
Schedule instruction valid duration (s)	Specifies the time for maintaining the scheduling instruction.	[0, 86400]	When this parameter is set to 0, the scheduling instruction takes effect permanently.
Apparent power baseline (kVA)	Adjust the apparent output baseline of the inverter.	[ $P_{max}$ , $S_{max\_real}$ ]	N/A
Active power baseline (kW)	Adjusts the active output baseline of the inverter.	[0.1, $\text{Min}(P_{max\_real}, S_{max})$ ]	N/A
Maximum apparent power (kVA)	Specifies the output upper threshold for the maximum apparent power to adapt to the capacity requirements of standard and customized inverters.	[ $P_{max}$ , $S_{max}$ ]	N/A
Maximum active power (kW)	Specifies the output upper threshold for the maximum active power to adapt to different market requirements.	[0.1, $P_{max}$ ]	N/A
OFF at %0 power limit	If this parameter is set to <b>Enable</b> , the inverter shuts down after receiving the 0% power limit command. If this parameter is set to <b>Disable</b> , the inverter does not shut down after receiving the 0% power limit command.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Active power change gradient (%/s)	Specifies the change speed of the inverter active power.	[0.1, 1000]	N/A
Derated by fixed active power (kW)	Adjusts the active power output of the inverter by fixed value.	[0, P <sub>max</sub> ]	N/A
Active power percentage derating (%)	Adjusts the active power output of the inverter by percentage.	[0, 100]	If this parameter is set to <b>100</b> , the solar inverter generates power based on the maximum output power.
Reactive power change gradient (%/s)	Specifies the change speed of the inverter reactive power.	[0.1, 1000]	N/A
Reactive power compensation (Q/S)	Specifies the reactive power output by the inverter.	[-1, 1]	N/A
Power factor	Specifies the power factor of the inverter.	[-1.000, -0.800] U [0.800, 1.000]	N/A
Overfrequency derating	If this parameter is set to <b>Enable</b> , the active power of the inverter will be derated according to a certain slope when the grid frequency exceeds the frequency that triggers overfrequency derating.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
Frequency for triggering overfrequency derating (Hz)	The standards of certain countries and regions require that the output active power of inverters be derated when the power grid frequency exceeds a certain value.	<ul style="list-style-type: none"> <li>• 50Hz: [40, 60]</li> <li>• 60Hz: [48, 72]</li> </ul>	<ul style="list-style-type: none"> <li>• This parameter is displayed when <b>Overfrequency derating</b> is set to <b>Enable</b>.</li> <li>• When setting this parameter, ensure that the following condition is met: <b>Frequency for exiting overfrequency derating</b> ≤ <b>Trigger frequency of overfrequency derating</b> &lt; <b>Cutoff frequency of</b></li> </ul>
Frequency for exiting overfrequency derating (Hz)	Specifies the frequency threshold for exiting overfrequency derating.	<ul style="list-style-type: none"> <li>• 50Hz: [40, 60]</li> <li>• 60Hz: [48, 72]</li> </ul>	

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Cutoff frequency of overfrequency derating (Hz)	Specifies the frequency threshold for cutting off overfrequency derating.	<ul style="list-style-type: none"> <li>• 50Hz: [40, 60]</li> <li>• 60Hz: [48, 72]</li> </ul>	<b>overfrequency derating.</b>
Cutoff power of overfrequency derating (%)	Specifies the power threshold for cutting off overfrequency derating.	[0, 100]	
Power recovery gradient of overfrequency derating (%/min)	Specifies the recovery rate of the overfrequency derating power.	[1, 6000]	
Dry contact scheduling	The standards of some countries and regions require that this parameter be set to <b>Enable</b> when power scheduling through dry contacts is required.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
Dry contact scheduling settings	Specifies the dry contact power scheduling parameters.	N/A	This parameter is displayed when <b>Dry contact scheduling</b> is set to <b>Enable</b> .
cosφ-P/Pn characteristic curve	After this parameter is set, the solar inverter can adjust the power factor cosφ in real time based on the P/Pn.	<ul style="list-style-type: none"> <li>• P/Pn (%): [0, 100]</li> <li>• cosφ: (-1, -0.8]U[0.8, 1]</li> </ul>	N/A
Q-U characteristic curve	Specifies the voltage reactive power scheduling curve.	<ul style="list-style-type: none"> <li>• U/Un (%): [80, 136]</li> <li>• Q/S: [-0.6, 0.6]</li> </ul>	N/A
Q-U hysteresis curve	Specifies the voltage reactive power scheduling hysteresis curve.	<ul style="list-style-type: none"> <li>• U/Un (%): [80, 136]</li> <li>• Q/S: [-0.6, 0.6]</li> </ul>	Associated with the Italian standard code.

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Underfrequency rise power	The standards of certain countries and regions require that if the power grid frequency is lower than <b>Frequency for triggering of underfrequency rise power</b> , the inverter needs to increase the active power output to help increase the power grid frequency. In this case, set this parameter to <b>Enable</b> .	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
Frequency for triggering of underfrequency rise power (Hz)	Specifies the frequency threshold of <b>Underfrequency rise power</b> .	<ul style="list-style-type: none"> <li>• 50Hz: [40, 60]</li> <li>• 60Hz: [48, 72]</li> </ul>	<ul style="list-style-type: none"> <li>• This parameter is displayed when <b>Underfrequency rise power</b> is set to <b>Enable</b>.</li> <li>• When setting this parameter, ensure that the following condition is met: <b>Cutoff frequency of underfrequency rise power</b> &lt; <b>Frequency for triggering of underfrequency rise power</b> &lt; <b>Frequency for exiting of underfrequency rise power</b>.</li> </ul>
Power recovery gradient of underfrequency rise (%/min)	Specifies the recovery rate of <b>Underfrequency rise power</b> .	[1, 6000]	
Cutoff frequency of underfrequency rise power (Hz)	Specifies the cutoff frequency of <b>Underfrequency rise power</b> .	<ul style="list-style-type: none"> <li>• 50Hz: [40, 60]</li> <li>• 60Hz: [48, 72]</li> </ul>	
Cutoff power of underfrequency rise power (%)	Specifies the cutoff power of <b>Underfrequency rise power</b> .	[0, 100]	
Frequency for exiting of underfrequency rise power (Hz)	Specifies the exit frequency of <b>Underfrequency rise power</b> .	<ul style="list-style-type: none"> <li>• 50Hz: [40, 60]</li> <li>• 60Hz: [48, 72]</li> </ul>	

## Time Setting

Parameter	Description	Value Range (Vn: Rated Voltage; Fn: Rated Frequency)	Remarks
Time zone	Specifies the time zone.	N/A	N/A
Time setting	Specifies the time.	N/A	N/A
Daylight saving time	Specifies whether to enable daylight saving time (DST).	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
Offset time	Specifies the DST offset.	[-240, 240]	This parameter is displayed when <b>Daylight saving time</b> is set to <b>Enable</b> .
Start date	Specifies the DST offset start date.	[01-01, 12-31]	
Start time	Specifies the DST offset start time.	[00:00:00, 23:59:59]	
End date	Specifies the DST offset end date.	[01-02, 12-30]	
End date	Specifies the DST offset end time.	[00:00:00, 23:59:59]	
NTP time synchronization	Specifies whether to enable NTP time synchronization.	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Enable</li> </ul>	N/A
NTP server address	Specifies the NTP server IP address or domain name.	N/A	This parameter is displayed when <b>NTP time synchronization</b> is set to <b>Enable</b> .
NTP server port	Specifies the server port.	[0, 65535]	
NTP time synchronization interval	Specifies the NTP time synchronization interval.	[1, 1440]	

## Communication Configuration

Parameter	Description	Parameter	Description
Inverter WLAN settings	Changes the WLAN password for the solar inverter.	Inverter's connection to a router	When using WLAN for communication, enter the information about the connected router.

Parameter	Description	Parameter	Description
Dongle parameter settings	If the solar inverter is configured with a Dongle, view and set communication addresses to the solar inverter.	4G	When using a 4G Dongle, enter the SIM card information.
RS485 settings	Specifies the RS485 communications parameters of the solar inverter.	Management System Configuration	Enter information about the management system to which the solar inverter connects.

**Table 2-1** RS485 settings

Parameter	Description	Value Range
Protocol	Set the RS485 baud rate to be consistent with the baud rate of the devices on the same bus.	<ul style="list-style-type: none"> <li>● 4800</li> <li>● 9600</li> <li>● 19200</li> </ul>
Baud rate	The solar inverter can connect to the upper-layer management unit over the Modbus RTU, SunSpec, or AVM protocol.	<ul style="list-style-type: none"> <li>● MODBUS RTU</li> <li>● Sunspec</li> <li>● AVM</li> </ul>
Com address	Set the communications address of the device when it connects to the upper-level management unit, which should not conflict with the addresses of other devices on the same bus.	[1, 247]

### Off-grid/grid-tied control parameters

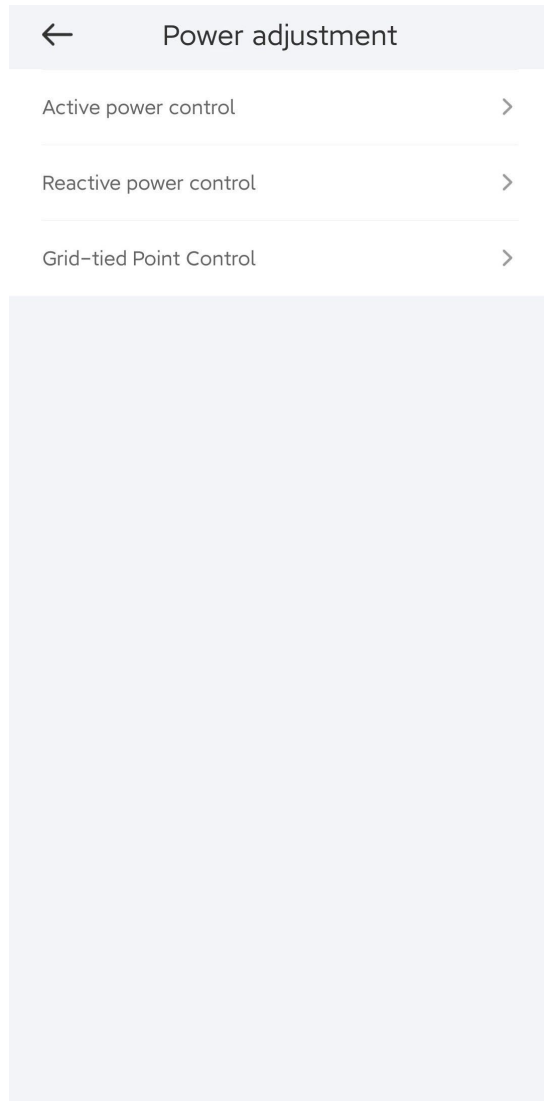
Parameter	Settings	Value
Off-grid mode	If this parameter is enabled, the Backup Box switches to the off-grid mode when the grid fails. This parameter can be set only when the Backup Box is configured. If the Backup Box is not configured, this parameter cannot be enabled. Otherwise, an alarm is generated.	<ul style="list-style-type: none"> <li>● Enable</li> <li>● Disabled (default)</li> </ul>



Parameter	Settings	Value
Backup power SOC	Sets the backup power SOC. In grid-tied mode, the battery does not discharge when it is discharged to the backup power SOC. When the grid fails, the battery supplies power to loads in off-grid mode until it reaches the end-of-discharge capacity.	[20%, 100%] Default value: N/A
Grid-tied/ Off- grid mode switching	If this parameter is set to Automatic switching, the system switches to the off-grid mode when the grid fails, and switches to the grid-tied mode when the grid recovers. If this parameter is set to Manual switching, you need to log in to the app and connect the inverter to enable the off-grid mode when the grid fails.	<ul style="list-style-type: none"> <li>• Automatic switching (default)</li> <li>• Manual switching</li> </ul>

## 2.7 Power Adjustment

On the home screen, tap **Power Adjustment** and set power parameters as required.



 **NOTE**

- The UI is for reference only. The UI varies with associated devices. The actual UI prevails.
- The parameter list provided in this document includes all configurable parameters that vary with the device model and grid code. The actual screen prevails.

**Table 2-2** Grid-tied Point Control Parameters

Parameter			Description
Active power	Unlimited	N/A	If this parameter is set to <b>Unlimited</b> , the output power of the solar inverter is not limited and the solar inverter can connect to the power grid at the rated power.

Parameter		Description
Grid connection with zero power	Closed-loop controller	<ul style="list-style-type: none"> <li>When the SmartLogger1000A is connected, set this parameter to <b>SDongle/SmartLogger</b>.</li> <li>When multiple solar inverters are cascaded, set this parameter to <b>SDongle/SmartLogger</b>.</li> <li>When there is only one solar inverter, set this parameter to <b>Inverter</b>.</li> </ul>
	Limitation mode	<ul style="list-style-type: none"> <li><b>Total power</b> indicates export limitation of the total power at the grid-tied point.</li> <li><b>Single-phase power</b> indicates export limitation of the power in each phase at the grid-tied point. (Note: COUNTIS E43 does not apply to this scenario.)</li> </ul>
	Power adjustment period	Specifies the shortest interval for a single export limitation adjustment.
	Maximum protection time	Specifies the time for detecting power meter data. If the Dongle does not detect any power meter data within the preset time, the Dongle delivers the preset value of the <b>Fail-safe power threshold</b> to the solar inverter for protection.
	Power control hysteresis	Specifies the dead zone for adjusting the inverter output power. If the power fluctuation is within the power control hysteresis, the power is not adjusted.
	Communication disconnection fail-safe	In the solar inverter export limitation scenario, if this parameter is set to <b>Enable</b> , the solar inverter will derate according to the active power derating percentage when the communication between the solar inverter and the Dongle is disconnected for a period longer than <b>Communication disconnection detection time</b> .
	Communication disconnection detection time	Specifies the time for determining the communication disconnection between the solar inverter and the Dongle. This parameter is displayed only when <b>Communication disconnection fail-safe</b> is set to <b>Enable</b> .
	Active power output limit for fail-safe	Specifies the derating value of the solar inverter active power by percentage. If the Dongle does not detect any power meter data or the communication between the Dongle and the solar inverter is disconnected, the Dongle delivers the derating value of the solar inverter active power by percentage.

Parameter		Description
Grid connection with limited power (kW)	Closed-loop controller	<ul style="list-style-type: none"> <li>For a single inverter, set <b>Closed-loop controller</b> to <b>Inverter</b> or <b>SDongle/SmartLogger</b>. <ul style="list-style-type: none"> <li>When <b>Closed-loop controller</b> is set to <b>Inverter</b>, the duration of export limitation control is less than 2s.</li> <li>When <b>Closed-loop controller</b> is set to <b>SDongle/SmartLogger</b>, the duration of export limitation is less than 5s.</li> </ul> </li> <li>For multiple inverters, <b>Closed-loop controller</b> can only be set to <b>SDongle/SmartLogger</b>. The duration of export limitation control is less than 5s.</li> </ul>
	Limitation mode	<ul style="list-style-type: none"> <li><b>Total power</b> indicates export limitation of the total power at the grid-tied point.</li> <li><b>Single-phase power</b> indicates export limitation of the power in each phase at the grid-tied point. (Note: COUNTIS E43 does not apply to this scenario.)</li> </ul>
	PV plant capacity	Specifies the total maximum active power in the solar inverter cascading scenario.
	Maximum grid feed-in power (kW)	Specifies the maximum active power transmitted from the grid-tied point to the power grid.
	Power adjustment period	Specifies the shortest interval for a single export limitation adjustment.
	Maximum protection time	Specifies the time for detecting power meter data. If the Smart Dongle does not detect any power meter data within the preset time, the Smart Dongle delivers the preset value of the <b>Fail-safe power threshold</b> to the inverter for protection.
	Power control hysteresis	Specifies the dead zone for adjusting the inverter output power. If the power fluctuates within the power control hysteresis, the power is not adjusted.
	Communication disconnection fail-safe	In the inverter export limitation scenario, if this parameter is set to <b>Enable</b> , the inverter will derate according to the active power derating percentage when the communication between the inverter and the Smart Dongle is disconnected for a period longer than <b>Communication disconnection detection time</b> .
	Communication disconnection detection time	Specifies the time for determining the communication disconnection between the inverter and the Smart Dongle. This parameter is displayed when <b>Communication disconnection fail-safe</b> is set to <b>Enable</b> .

Parameter		Description
	Active power output limit for fail-safe	Specifies the derating value of the inverter active power by percentage. If the Smart Dongle does not detect any power meter data or the communication between the Smart Dongle and the inverter is disconnected, the Smart Dongle delivers the derating value of the inverter active power by percentage.
Grid connection with limited power (%)	Closed-loop controller	<ul style="list-style-type: none"> <li>For a single inverter, set <b>Closed-loop controller</b> to <b>Inverter</b> or <b>SDongle/SmartLogger</b>. <ul style="list-style-type: none"> <li>When <b>Closed-loop controller</b> is set to <b>Inverter</b>, the duration of export limitation control is less than 2s.</li> <li>When <b>Closed-loop controller</b> is set to <b>SDongle/SmartLogger</b>, the duration of export limitation is less than 5s.</li> </ul> </li> <li>For multiple inverters, <b>Closed-loop controller</b> can only be set to <b>SDongle/SmartLogger</b>. The duration of export limitation control is less than 5s.</li> </ul>
	Limitation mode	<ul style="list-style-type: none"> <li><b>Total power</b> indicates export limitation of the total power at the grid-tied point.</li> <li><b>Single-phase power</b> indicates export limitation of the power in each phase at the grid-tied point. (Note: COUNTIS E43 does not apply to this scenario.)</li> </ul>
	PV plant capacity	Specifies the total maximum active power in the inverter cascading scenario.
	Maximum grid feed-in power (%)	Specifies the percentage of the maximum active power of the grid-tied point to the PV plant capacity.
	Power adjustment period	Specifies the shortest interval for a single export limitation adjustment.
	Maximum protection time	Specifies the time for detecting power meter data. If the Smart Dongle does not detect any power meter data within the preset time, the Smart Dongle delivers the preset value of the <b>Fail-safe power threshold</b> to the inverter for protection.
	Power control hysteresis	Specifies the dead zone for adjusting the inverter output power. If the power fluctuates within the power control hysteresis, the power is not adjusted.
	Communication disconnection fail-safe	In the inverter export limitation scenario, if this parameter is set to <b>Enable</b> , the inverter will derate according to the active power derating percentage when the communication between the inverter and the Smart Dongle is disconnected for a period longer than <b>Communication disconnection detection time</b> .

Parameter		Description
		<p>Communication disconnection detection time</p> <p>Specifies the time for determining the communication disconnection between the inverter and the Smart Dongle. This parameter is displayed when <b>Communication disconnection fail-safe</b> is set to <b>Enable</b>.</p>
		<p>Active power output limit for fail-safe</p> <p>Specifies the derating value of the inverter active power by percentage. If the Smart Dongle does not detect any power meter data or the communication between the Smart Dongle and the inverter is disconnected, the Smart Dongle delivers the derating value of the inverter active power by percentage.</p>
Reactive power	Power factor closed-loop control	<p>Target power factor</p> <p>Specifies the target power factor of the power meter.</p>
		<p>Reactive power adjustment period</p> <p>Specifies the interval for sending adjustment commands.</p>
		<p>Reactive power adjustment deadband</p> <p>Specifies the adjustment power factor precision.</p>
		<p>Fail-safe power factor</p> <p>When the communication between the SDongle/ SmartLogger, power meter, and solar inverter is interrupted, the solar inverter outputs power based on this threshold.</p>
		<p>Communication disconnection fail-safe</p> <p>When this parameter is set to <b>Enable</b>, and the communication between the solar inverter and the SDongle/SmartLogger is interrupted for a certain period (set by <b>Communication disconnection detection time</b>), the solar inverter outputs power based on <b>Fail-safe power</b>.</p>
		<p>Communication disconnection detection time</p> <p>Specifies the protection duration to determine whether the communication between the SDongle/SmartLogger and the solar inverter is interrupted.</p> <p>This parameter is displayed only when <b>Communication disconnection fail-safe</b> is set to <b>Enable</b>.</p>
	No Output	N/A

 NOTE

The duration for export limitation control is as follows:

- For a single solar inverter, set **Closed-loop controller** to **Inverter** or **SDongle/SmartLogger**.
  - When **Closed-loop controller** is set to **Inverter**, the duration of export limitation control is less than 2s.
  - When **Closed-loop controller** is set to **SDongle/SmartLogger**, the duration is less than 5s if the controller is the SDongle. The duration is less than 2s if the controller is the SmartLogger.
- For multiple solar inverters, **Closed-loop controller** can only be set to **SDongle/SmartLogger**.
  - The duration is less than 5s if the controller is the SDongle.
  - The duration is less than 2s if the controller is the SmartLogger.
- Battery Control Parameters

Parameter	Description	Value Range
Working mode	For details, see the description on the App screen.	<ul style="list-style-type: none"> <li>● Maximum self-consumption</li> <li>● Time-of-use</li> <li>● Fully fed to grid</li> </ul>
Maximum charge power (kW)	Retain this parameter to the maximum charge power. Additional configuration is not required.	● Charge: [0, Maximum charge power]
Maximum discharge power (kW)	Retain this parameter to the maximum discharge power. Additional configuration is not required.	● Discharge: [0, Maximum discharge power]
End-of-charge SOC (%)	Set the charge cutoff capacity.	90%-100%
End-of-discharge SOC (%)	Set the discharge cutoff capacity.	0%-20% (When no PV module is configured or the PV modules have no voltage for 24 hours, the minimum value is 15%.)
Charge from grid	If <b>Charge from grid</b> function is disabled by default, comply with the grid charge requirements stipulated in local laws and regulations when this function is enabled.	<ul style="list-style-type: none"> <li>● Disable</li> <li>● Enable</li> </ul>
Grid charge cutoff SOC	Set the grid charge cutoff SOC.	[20%, 100%]

- Peak Shaving

Parameter	Description	Range
Capacity control	<ol style="list-style-type: none"> <li>1. Before enabling <b>Capacity control</b>, set <b>Charge from grid</b> to <b>Enable</b>.</li> <li>2. Before disabling <b>Charge from grid</b>, set <b>Capacity control</b> to <b>Disable</b>.</li> </ol>	<ul style="list-style-type: none"> <li>• Disable</li> <li>• Active capacity limit</li> </ul>
Backup power SOC for peak shaving (%)	The value of this parameter affects the peak shaving capability. A larger value indicates stronger peak shaving capability.	[0.0, 100.0] Backup power SOC for peak shaving > Backup power SOC (when BackUp is enabled) > End-of-discharge SOC
Start date	<ul style="list-style-type: none"> <li>• Set the peak power range based on the start time and end time. The peak power is configured based on electricity prices in different time segments. You are advised to set the peak power to a low value when the electricity price is high.</li> <li>• A maximum of 14 time segments are allowed.</li> </ul>	-
End date		
Peak power (kW)		[0.000, 1000.000]

 NOTE

- The capacity control function is unavailable when the energy storage working mode is set to **Fully fed to grid**.
- When capacity control has been enabled, you must first disable capacity control and then set the energy storage working mode to **Fully fed to grid**.



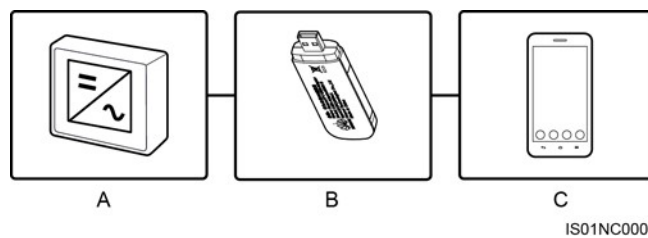
# 3 Commercial Solar Inverter

## 3.1 Connection Modes

After the DC or AC side of a solar inverter is energized, the app can connect to the solar inverter in two methods:

1. Connect over a WLAN module.

**Figure 3-1** WLAN connection



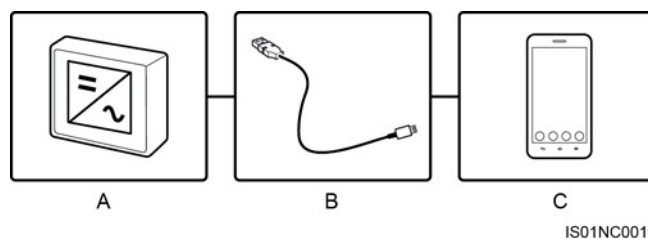
(A) Solar inverter

(B) WLAN module

(C) Mobile phone

2. Connect over a USB data cable.

**Figure 3-2** USB data cable connection



(A) Solar inverter

(B) USB data cable

(C) Mobile phone

## 3.2 Login the APP

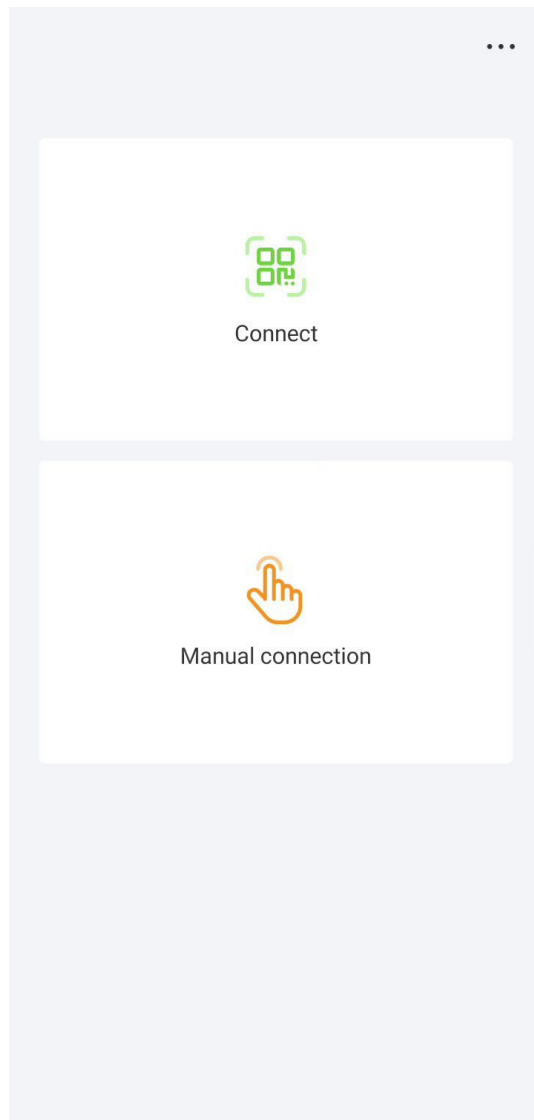
### Prerequisites

- The DC or AC side of the solar inverter has been energized.
- Connect over a WLAN module:
  - a. The WLAN module is connected to the **USB** port at the bottom of the solar inverter.
  - b. The WLAN function is enabled on the mobile phone.
  - c. Keep the mobile phone within 5 m from the solar inverter. Otherwise, communication between them would be affected.
- Connect over a USB data cable:
  - a. The USB data cable is connected from the USB port at the bottom of the solar inverter to the USB port on the mobile phone.
  - b. The USB data cable has been successfully connected and **Connected to USB Accessory** is displayed on the screen. Otherwise, the connection is invalid.

### Procedure

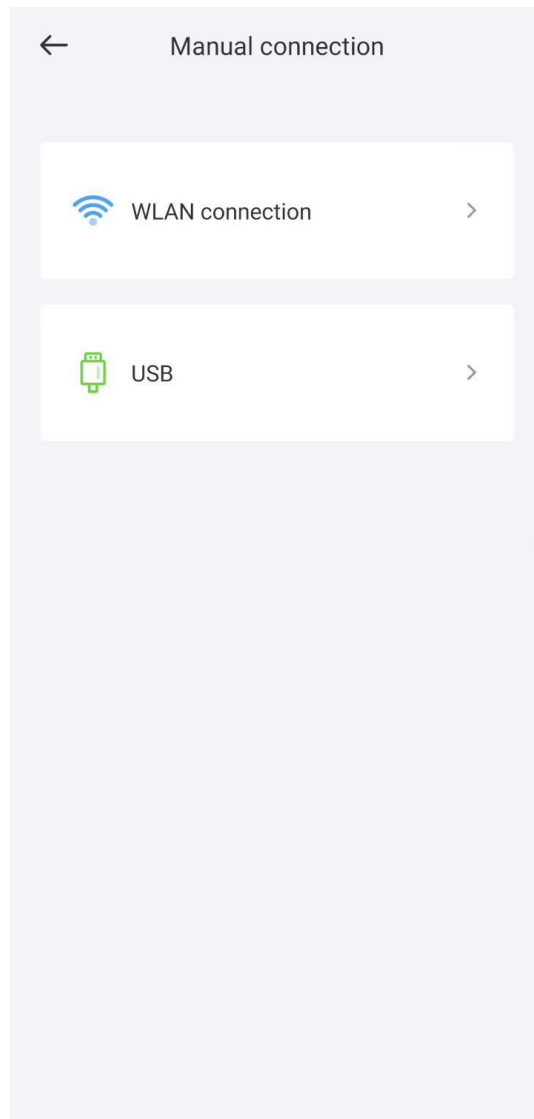
- Step 1** Connect the solar inverter.

**Figure 3-3** Connect

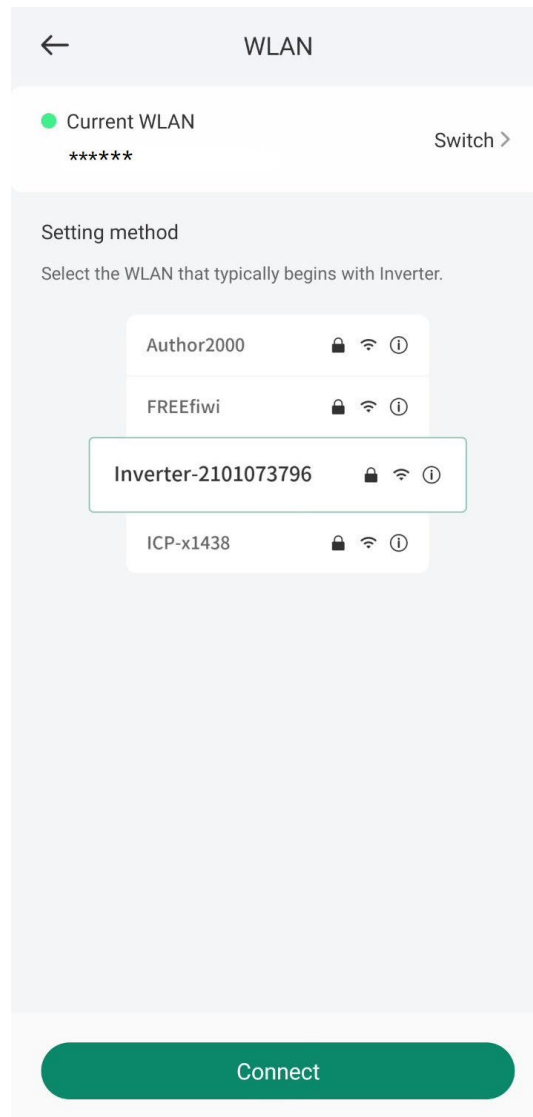


- Code scanning: Tap **Connect** to access the scanning screen, place the QR code or bar code of the WLAN module in the scan frame. The device will be automatically connected after the code is identified.
- Manual connection: Tap **Manual Connection** and select a connection mode.

**Figure 3-40** Manual



**Figure 3-41** Manual



- Select **WLAN** and connect to the corresponding WLAN in the WLAN connection list of the APP. The initial name of the WLAN hotspot is **Adapter-WLAN module SN**, and the initial password is **Changeme**.

---

**NOTICE**

- Use the initial password upon first power-on and change it immediately after login. To ensure account security, change the password periodically and keep the new password in mind. Not changing the initial password may cause password disclosure. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, devices cannot be accessed. In these cases, the user is liable for any loss caused to the PV plant.
  - If the **This WLAN network has no Internet access. Connect anyway?** message is displayed when you connect to the built-in WLAN, tap **CONNECT**. Otherwise, you cannot log in to the system. The actual UI and messages may vary with mobile phones.
- 
- Select **USB**, and tap **OK** to allow the app to access the USB accessory. After you select **Use by default for this USB accessory**, the message will not appear if you log in to the app again without removing the USB data cable.

**Step 2** Select a login user and enter the password.

---

**NOTICE**

- For the initial power-on, set the password as prompted and then log in to the system. If not prompted, log in with the initial password **00000a**.
- To ensure account security, change the password periodically and keep the new password in mind. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, devices cannot be accessed. In these cases, the user is liable for any loss caused to the PV plant.
- During the login, if five consecutive invalid password entries are made (the interval between two consecutive entries is less than 2 minutes), the account will be locked for 10 minutes. The password should consist of six characters.

---

**Step 3** After successful login, the **Quick Settings** or **Function Menu** screen is displayed.

---

**NOTICE**

If you log in to the app after the device powers on for the first time or factory defaults are restored, the **Quick Settings** screen will be displayed. If you do not set the basic parameters for the solar inverter on the **Quick Settings** screen, the screen is still displayed when you log in next time.

---

**Table 3-1** Quick settings

Parameter	Description
Grid code	Set this parameter based on the grid code of the country or region where the inverter is used and the inverter application scenario.
Date	Specifies the system date.
Time	Specifies the system time.
Baud rate (bps)	Set the RS485 baud rate to be consistent with the baud rate of the devices on the same bus.
RS485 protocol	<ul style="list-style-type: none"><li>• The solar inverter can connect to the upper-layer management unit over the Modbus RTU, SunSpec, or AVM protocol.</li><li>• When the solar inverter connects to the support tracking system, only the Modbus RTU protocol is supported.</li></ul>
Com address	Set the communications address of the device when it connects to the upper-level management unit, which should not conflict with the addresses of other devices on the same bus.

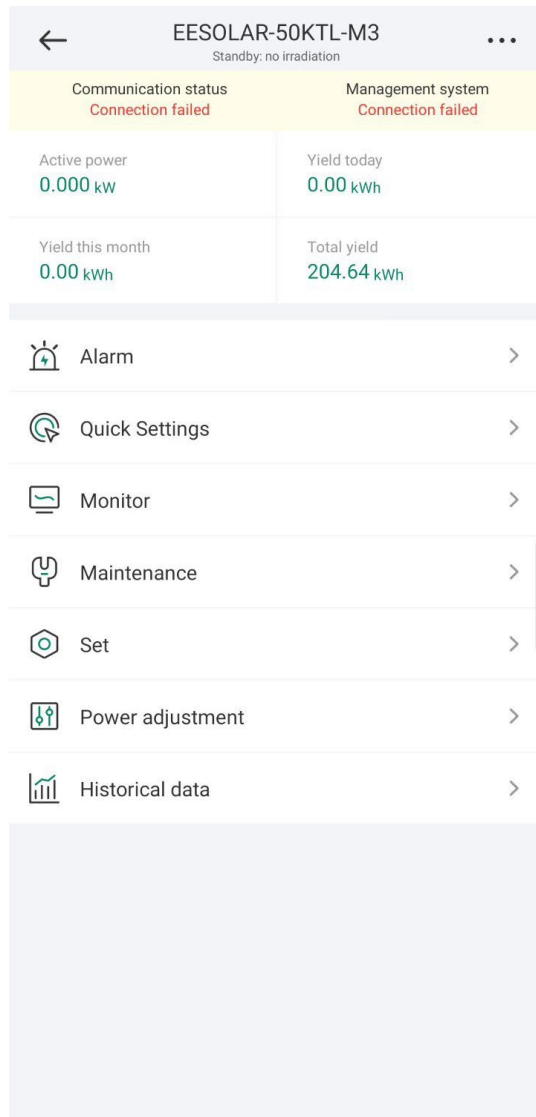
----End

## 3.3 Query

### Procedure

- Step 1** After logging in to the app, you can view the active power and energy yield of solar inverters on the home screen.

**Figure 3-6** Home screen



**Step 2** Tap **Alarm** or **Device Monitoring** to view active alarms, historical alarms, and running information of the solar inverters.

You can view the following information on the **Alarm** screen:

- Tap an alarm record and view the alarm details.
- Swipe right or left on the screen or tap either **Active Alarm** or **Historical Alarm** to display a list of active alarms or historical alarms.
- Select the alarms that can be manually cleared, and tap **Delete** on the right of the alarm to manually clear the alarms.

**NOTE**

- Alarms that have been manually cleared can be viewed on the **Historical Alarm** screen.
- Only the **AFCI Self-Check Failure** and **DC Arc Fault** alarms can be manually cleared. Only the products whose technical specifications contain AFCI supports manual alarm clearance.

----End



## 3.4 Quick Settings

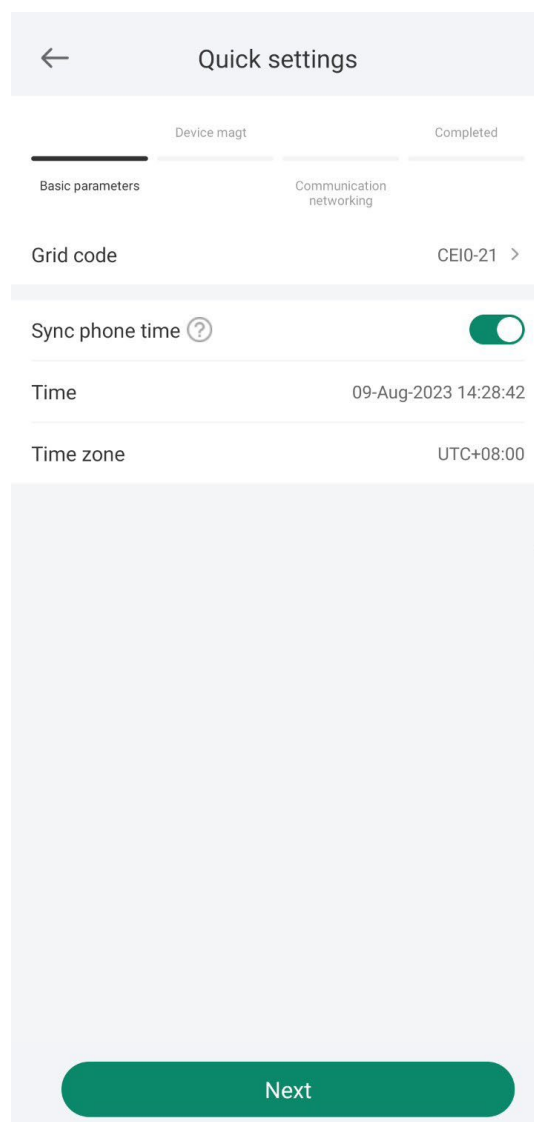
### Context

Due to permission restrictions, only advanced users can quickly set up the solar inverter.

### Procedure

**Step 1** On the home screen, tap **Quick Settings**.

**Figure 3-7** Quick settings



 **NOTE**

The screenshot of **Quick settings** provided in this document is for reference only. The actual screens prevail.

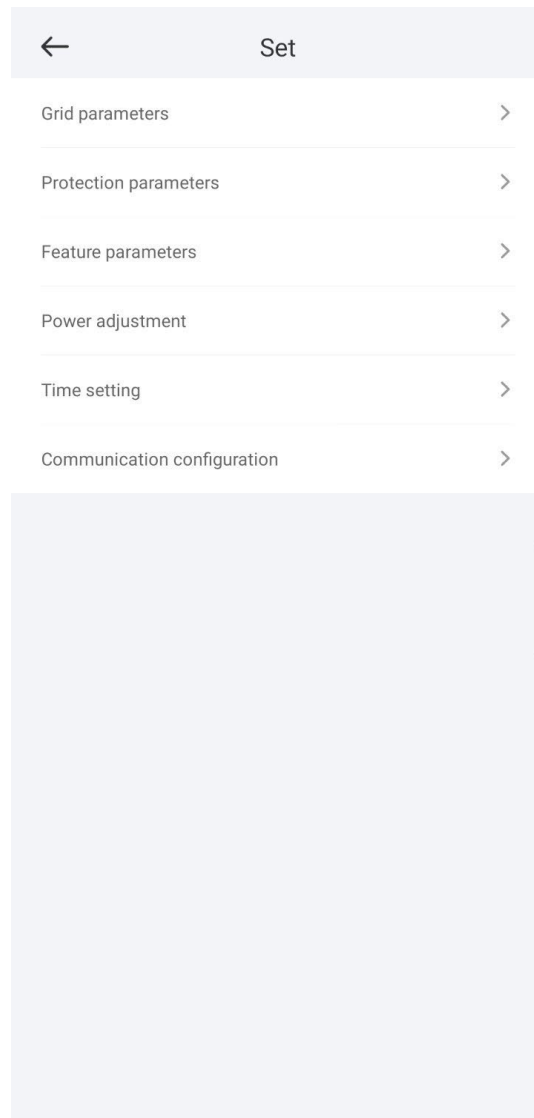
**Step 2** Set parameters as prompted.

----End

## 3.5 Settings

On the home screen, an advanced user can tap **Settings** to set power grid, protection, and feature parameters for the solar inverter.

**Figure 3-8** Set



---

**NOTICE**

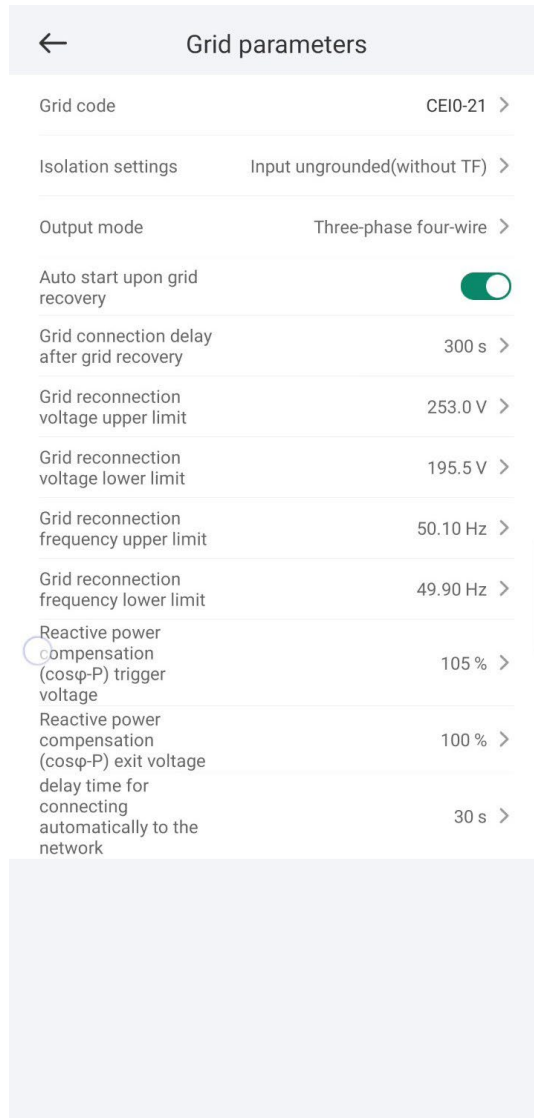
- The configurable solar inverter parameters vary with the solar inverter model and grid code. The displayed parameters prevail. The parameter list provided in this section includes all configurable parameters.
  - The parameter ranges vary with the device model. The listed ranges are for reference only.
  - The parameter names, value ranges, and default values are subject to change. The actual display prevails.
- 

## 3.5.1 Setting Grid Parameters

### Procedure

- Step 1** On the home screen, choose **Settings** > **Grid Parameters** to access the parameter setting screen.

**Figure 3-9** Grid Parameters



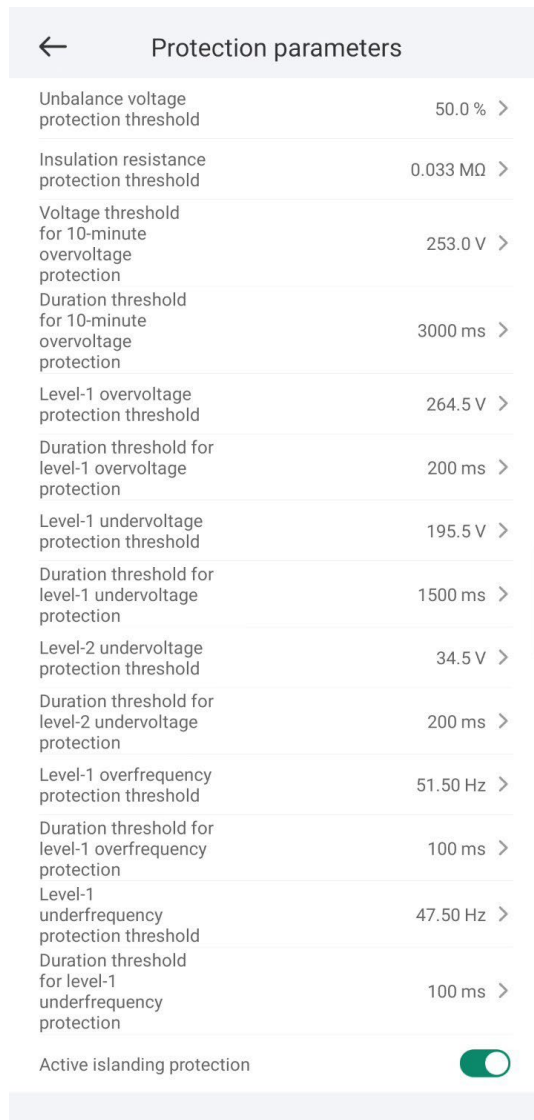
----End

## 3.5.2 Setting Protection Parameters

### Procedure

- Step 1** On the home screen, choose **Settings** > **Protection Parameters** to access the parameter setting screen.

**Figure 3-10** Protection parameters



----End

### 3.5.3 Setting Feature Parameters

#### Procedure

**Step 1** On the home screen, choose **Settings > Feature Parameters** to access the parameter setting screen.

----End

### 3.5.4 Time setting

#### Procedure

**Step 1** On the home screen, choose **Settings > Time setting** and set time parameters.

**Table 3-2** Time settings

Parameter	Description
Time zone	Specifies the time zone.
Time setting	Specifies the system date and time.
Daylight saving time	Specifies whether to enable daylight saving time (DST).
Offset time	Specifies the DST offset.
Start date	Specifies the DST offset start date.
Start time	Specifies the DST offset start time.
End date	Specifies the DST offset end date.
End time	Specifies the DST offset end time.
NTP time synchronization	Specifies whether to enable NTP time synchronization.
NTP server address	Specifies the NTP server IP address or domain name.
NTP server port	Specifies the server port.
NTP time synchronization interval	Specifies the NTP time synchronization interval.

 **NOTE**

You can set DST parameters and NTP parameters.






----End

## 3.5.5 Setting Communications Parameters

### Procedure

- Step 1** On the home screen, choose **Settings** > **Communication configuration** to access the parameter setting screen.

**Table 3-3** Setting communications parameters

Parameter	Description
RS485_1	Set RS485 communications parameters. <b>RS485 CAN Resistor</b> is available only to the 1000 V solar inverters. This parameter is set to  by default. If signals are distorted or the communication is of poor quality because of an overlong communications cable, set the parameter to  for the last solar inverter in the daisy chain.
RS485_2	Set RS485 communications parameters. This parameter is displayed only for the solar inverters that can connect to the RS485 slave device.
MBUS	Set MBUS communications parameters. This parameter is displayed only for the solar inverters that support the MBUS function.
Ethernet	Set Ethernet parameters. <b>NOTE</b> <ul style="list-style-type: none"> <li>When <b>DHCP</b> is set to , the <b>IP address</b>, <b>Subnet mask</b>, and <b>Gateway</b> of the solar inverter are automatically allocated.</li> <li>When <b>DHCP</b> is set to , you can manually set the <b>IP address</b>, <b>Subnet mask</b>, and <b>Gateway</b>.</li> </ul>
Management system	Set management system parameters. This parameter is displayed only for the solar inverters that can connect to the SDongle. <b>NOTE</b> If <b>TLS encryption</b> is set to  , data will be transmitted without being encrypted, which may pose security risks. Therefore, exercise caution when setting this parameter.
4G/GPRS	Set 4G/GPRS communications parameters. This parameter is displayed only for the solar inverters that can connect to the SDongle.
WLAN	Setting WLAN communications parameters This parameter is displayed only for the solar inverters that can connect to the SDongle.
Dongle	Set Dongle communications parameters. This parameter is displayed only for the solar inverters that can connect to the SDongle.

 **NOTE**

You can check whether the solar inverter supports the MBUS or SDongle function by viewing the product nameplate on it.

----End

## 3.5.6 Setting a Tracking System

### Procedure

- Step 1** On the home screen, choose **Settings > Tracking System** to access the support parameter setting screen.
- Step 2** Swipe left on the screen to access the support status screen, tap a support, and set parameters for the support.

----End

## 3.5.7 Setting a File Save Path

### Prerequisite

This function is available only on the Android system.

### Context

You can modify the save path for operation logs and solar inverter logs and export logs from the path.

### Procedure

- Step 1** On the home screen, choose **Settings > File Save Path** to access the path setting screen.
- Step 2** Tap **File save path** to set a file save path.

----End

## 3.6 Power Adjustment

### Context

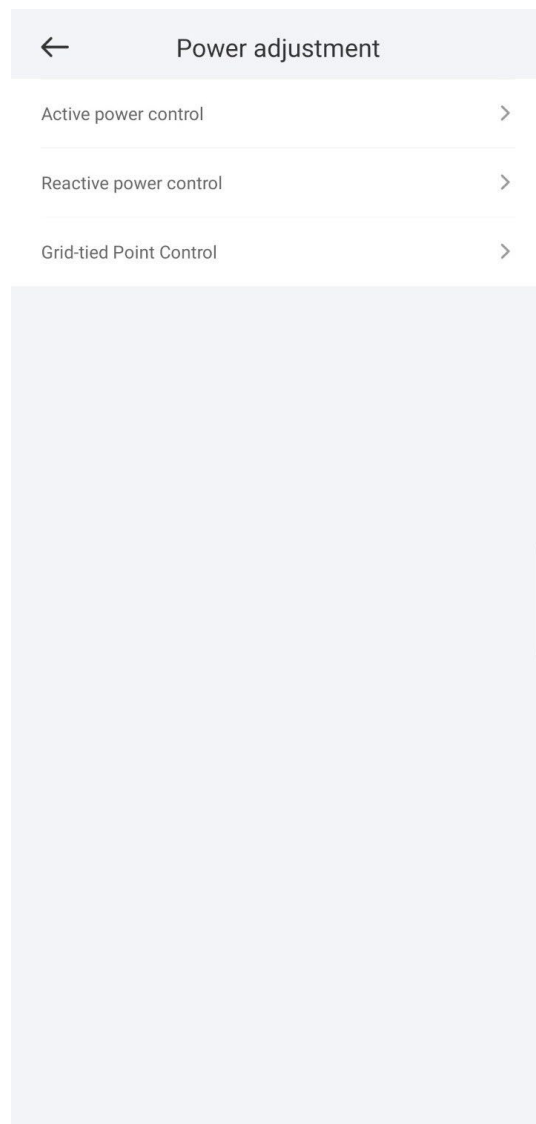
Due to permission restrictions, advanced users support the setting of power adjustment, which can set the grid-connected control parameters of the solar inverter.

### Procedure

- Step 1** On the home screen, tap **Power Adjustment**.



**Figure 3-11** Power adjustment



**Step 2** Set power parameters as required.

 **NOTE**

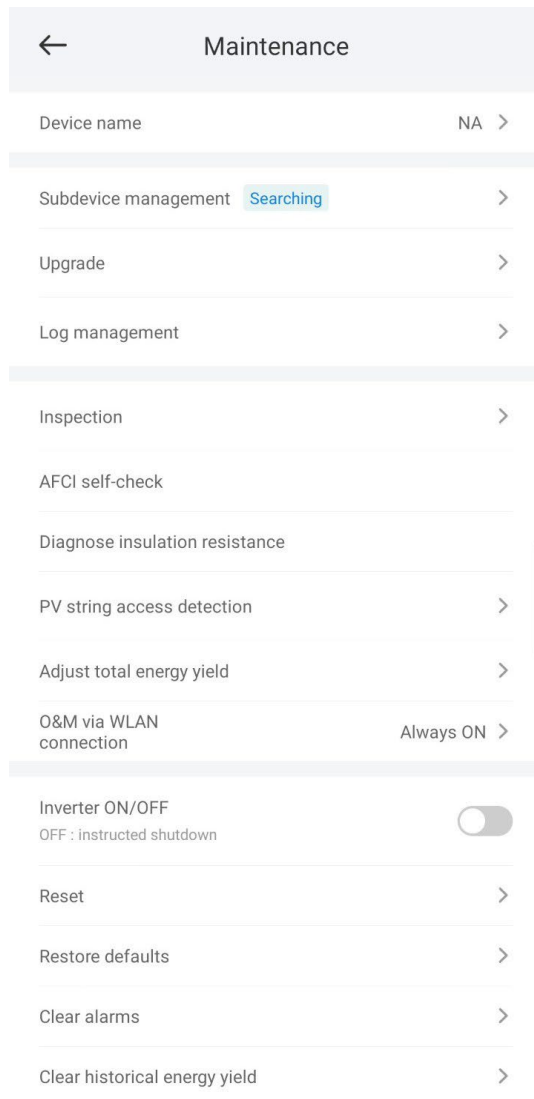
When setting the Grid-tied point control parameters, you need to enter the APP login password.

----End

## 3.7 Maintenance

An advanced user can tap **Maintenance** on the home screen to inspect, turn on, or turn off the solar inverters and detect the DC input.

**Figure 3-12 Maintenance**



## 3.7.1 Device Inspection

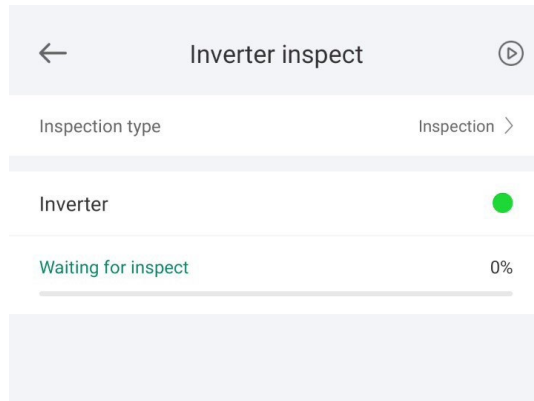
### Context


After a solar inverter is put into use, it should be inspected periodically to detect any potential risks and problems.

### Procedure

**Step 1** On the home screen, choose **Maintenance** > **Inspection** to access the inspection screen.

**Figure 3-13** Device inspection



**Step 2** Choose **Inspection type**, tap  in the upper-right corner of the screen to start solar inverter inspection.

---End

## 3.7.2 License Management

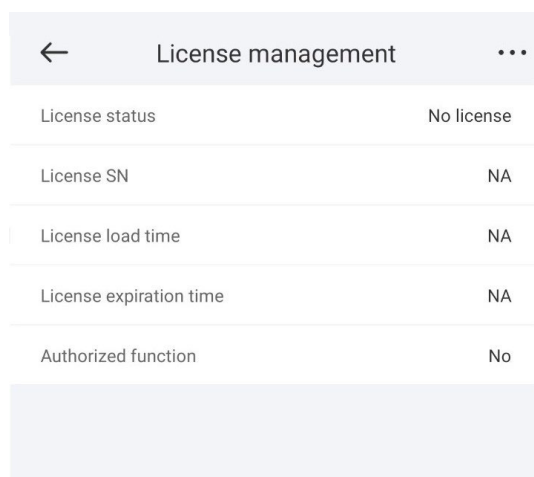
### Context

The **License management** screen allows an advanced user to view the solar inverter certificate and obtain the status of the certificate.

### Procedure

**Step 1** On the home screen, choose **Maintenance** > **License management** to access the license management screen.

**Figure 3-14** License management



 NOTE

- When **License status** is **Normal**, you can revoke the license through the drop-down list box in the upper-right corner.
- When **License status** is **Deregistered**, you can export and view the license revocation code.
- When **License status** is **No license**, you can load the license through the drop-down list box in the upper-right corner.

----End

### 3.7.3 Subdevice management

**Step 1** On the home screen, choose **Subdevice management** to access the **Subdevice management** screen.

- Tap **+** to add a power meter.

Parameter	Description
Model	Set this parameter to the corresponding meter model. <b>NOTE</b> <ul style="list-style-type: none"><li>- Select an appropriate power meter based on the application scenario. The device model is subject to change. The actual product prevails.</li><li>- Set the power meter model correctly. Otherwise, the power meter function may be unavailable.</li></ul>
Device address	Set this parameter to the communication address of the power meter.
Current change ratio	<ul style="list-style-type: none"><li>- Set this parameter to <b>1</b> if the power meter uploads the primary value.</li><li>- Set this parameter based on the actual transformer ratio if the power meter uploads the secondary value.</li></ul>

- After a power meter is added, tap it to view and modify the power meter parameters. To delete the power meter, touch and hold it.

----End

### 3.7.4 PV String Access Detection

#### Context

- PV string access detection applies to large-scale commercial ground PV plants with PV strings facing the same direction.
- In AC or DC power limiting scenarios:
  - If the PV string access type has not been identified, **String Access Detection** will be displayed as **Not connected**. The PV string access type can be identified only when the solar inverters restore to the non-power

limiting state and the current of all connected PV strings reaches the startup current.

- If the PV string access type has been identified, when a certain PV string connected to the 2-in-1 terminals is lost, no alarm will be generated. If a certain PV string connected to the 2-in-1 terminals is restored, the access type cannot be identified. You can determine whether both 2-in-1 PV strings are restored only when the PV string current reaches **Startup current for 2-in-1 detection**.
- After setting the parameters, on the home screen, choose **Running Info. > Details** to check whether the PV string access status is normal.

## Procedure

**Step 1** On the home screen, choose **Maintenance > String Access Detection** and set PV string access detection parameters.

**Table 3-4** PV string access detection

Parameter	Description
String Access Detection	<b>String Access Detection</b> is set to <b>Disable</b> by default. After solar inverters are connected to the power grid, set <b>String Access Detection</b> to <b>Enable</b> .
Startup current (A)	When the current of all connected PV strings reaches the preset value, the PV string access detection function is enabled. <b>NOTE</b> Startup current setting rules: <ul style="list-style-type: none"> <li>• Startup current = <math>I_{sc} (S_{tc}) \times 0.6</math> (rounded up). For details about <math>I_{sc} (S_{tc})</math>, see the PV module nameplate.</li> <li>• Default startup current (5 A): applicable to the scenarios where the short-circuit current <math>I_{sc} (S_{tc})</math> is greater than 8 A for the monocrystalline and polycrystalline PV modules.</li> </ul>
Startup current for 2-in-1 detection (A)	When the current of a PV string reaches <b>Startup current for 2-in-1 detection</b> , the PV string is automatically identified as 2-in-1 string. You are advised to retain the default settings.
PV string <i>N</i> access type <b>NOTE</b> <i>N</i> is the DC input terminal number of the solar inverter.	Set this parameter based on the type of the PV string connected to DC input terminal <i>N</i> of the solar inverter. You are advised to retain the default value. If the value is incorrectly set, the PV string access type may be incorrectly identified and alarms may be generated by mistake for the PV string access status.

----End

## 3.7.5 Startup and Shutdown

### Procedure

**Step 1** On the home screen, tap **Maintenance** to access the maintenance screen.



**Step 2** Tap next to **Inverter ON/OFF** to perform the operation.

**Step 3** Enter the password for logging in to the app, and tap **OK**.

----End

## 3.7.6 Restoring Factory Settings

### Context

---

**NOTICE**

Perform this operation with caution because all configured parameters except the current date, time, baud rate, and address will be restored to their factory default values. This operation will not affect operating information, alarm records, or system logs.

---

### Procedure

**Step 1** On the home screen, tap **Maintenance** to access the maintenance screen.

**Step 2** Tap **Restore defaults** to perform the operation.

**Step 3** Enter the password for logging in to the app, and tap **OK**.

----End

## 3.7.7 Performing an AFCI Self-Check

### Context

The AFCI self-check function is available only to the solar inverter model marked with **-US**.

### Procedure

**Step 1** On the home screen, tap **Maintenance** to access the maintenance screen.

**Step 2** Tap **AFCI Self-Check** to perform the operation.

**Step 3** Tap **OK**.

----End

## 3.7.8 Resetting a Solar Inverter

### Context

The solar inverter automatically shuts down and restarts after reset.

### Procedure

**Step 1** On the home screen, tap **Maintenance** to access the maintenance screen.

**Step 2** Tap **Reset** to perform the operation.

**Step 3** Enter the password for logging in to the app, and tap **OK**.

----End

## 3.7.9 Clearing Alarms

### Context

After alarms are reset, all active alarms and historical alarms of the solar inverter connected to the app will be cleared.

### Procedure

**Step 1** On the home screen, tap **Maintenance** to access the maintenance screen.

**Step 2** Tap **Clear alarms** to perform the operation.

**Step 3** Enter the password for logging in to the app, and tap **OK**.

----End

## 3.7.10 Clearing Historical Energy Yield Data

### Context

If you clear historical energy yield data, all the historical energy yield data of the solar inverters connecting to the app will be cleared.

### Procedure

**Step 1** On the home screen, tap **Maintenance** to access the maintenance screen.

**Step 2** Tap **Clear historical energy yield** .

**Step 3** Enter the password for logging in to the app, and tap **OK**.

----End

## 3.7.11 Importing and Exporting Configuration Files

### Procedure

1. On the home screen, choose **Maintenance > Import and export configuration file** to access the screen for configuration file import and export.
  - Tap **Export Configuration File** to export the configuration files of the solar inverter to the phone.
  - Tap **Import Configuration File** to import the configuration files from the phone to the solar inverter.

## 3.7.12 Spot-Check

### Context

You can perform spot-check for the solar inverter whose **Grid Code** is **Japan standard**.

### Procedure

- Step 1** On the home screen, choose **Maintenance > Spot-check** to access the spot-check screen.
- Step 2** Tap **START**.
- End

## 3.7.13 O&M via WLAN connection

### Context

You can enable or disable the WLAN.

- **Always ON:** The WLAN is always on.
- **OFF when idle:** The WLAN is automatically turned off after being idle for four hours.

### Procedure

1. On the home screen, tap **Maintenance** to access the maintenance screen.
2. Tap **O&M via WLAN connection**.

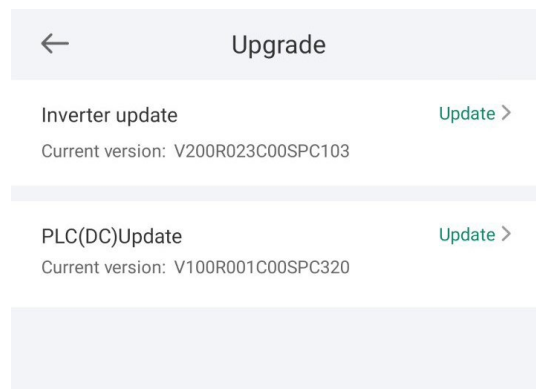
## 3.7.14 Device Upgrade

### Procedure

- Step 1** On the home screen, choose **Maintenance > Upgrade device** .
- Step 2** Access the device upgrade screen and tap **Upgrade**.



**Figure 3-15** Device upgrade



**Step 3** Perform operations as prompted.

----End

## 3.7.15 Log management

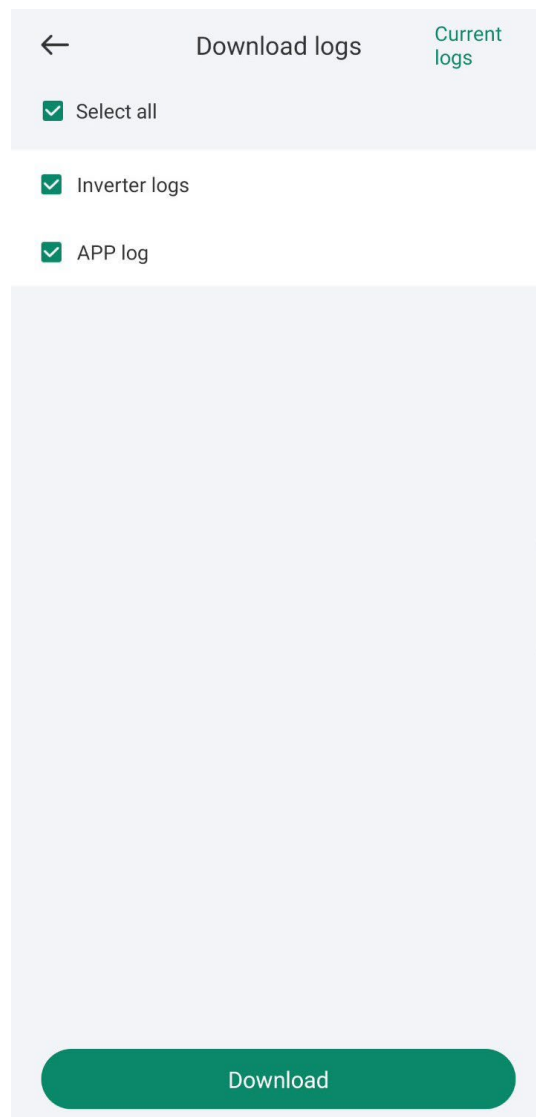
### Context

You can tap **Log management** to export operation logs, as well as alarm records and energy yield information of the solar inverter from the mobile phone.

### Procedure

**Step 1** On the home screen, choose **Maintenance > Log management** to access the log download screen.

**Figure 3-16** Downloading logs



**Step 2** You can download **Inverter logs** and **APP log**.

 **NOTE**

The downloaded logs are stored in the mobile phone. You can find the logs in the **Device Logs** directory in :: > **File Management** on the app connection screen. You can also send the logs to your mailbox for checking.

----End

## 3.7.16 Changing the WLAN Password

### Context

You can tap **Maintenance** on the home screen to change the WLAN password to ensure account security.

 **NOTE**

If the communication between the app and the solar inverter has not been established over WLAN, **Change WLAN Password** is not displayed on the screen.

## **Procedure**

**Step 1** On the **Maintenance** screen, tap **Change WLAN Password** on the app connection screen to access the password change screen.

**Step 2** Specify **Old password**, **New password**, and **Confirm password**, and then tap **OK**.

 **NOTE**

The password must meet the following requirements:

- Contains 8-30 characters.
- Contains at least two of the three types: lowercase letters, uppercase letters, and digits.

----**End**

# 4 SmartLogger

---

## NOTICE

- The figures and data displayed in this chapter are for reference only.
  - Delivering a reset, factory reset, shutdown, or upgrade command to the solar inverters may cause power grid connection failure, which affects the energy yield.
  - Only professionals are allowed to set the grid parameters, protection parameters, feature parameters, power adjustment parameters, and grid-tied point control parameters of the solar inverters. If the grid parameters, protection parameters, and feature parameters are incorrectly set, the solar inverters may not connect to the power grid. If the power adjustment parameters and grid-tied point control parameters are incorrectly set, the solar inverters may not connect to the power grid as required. In these cases, the energy yield will be affected.
  - Only professionals are allowed to set the power grid scheduling parameters of the SmartLogger. Incorrect settings may cause the PV plant to fail to connect to the power grid as required, which affects the energy yield.
- 

## 4.1 Login the APP

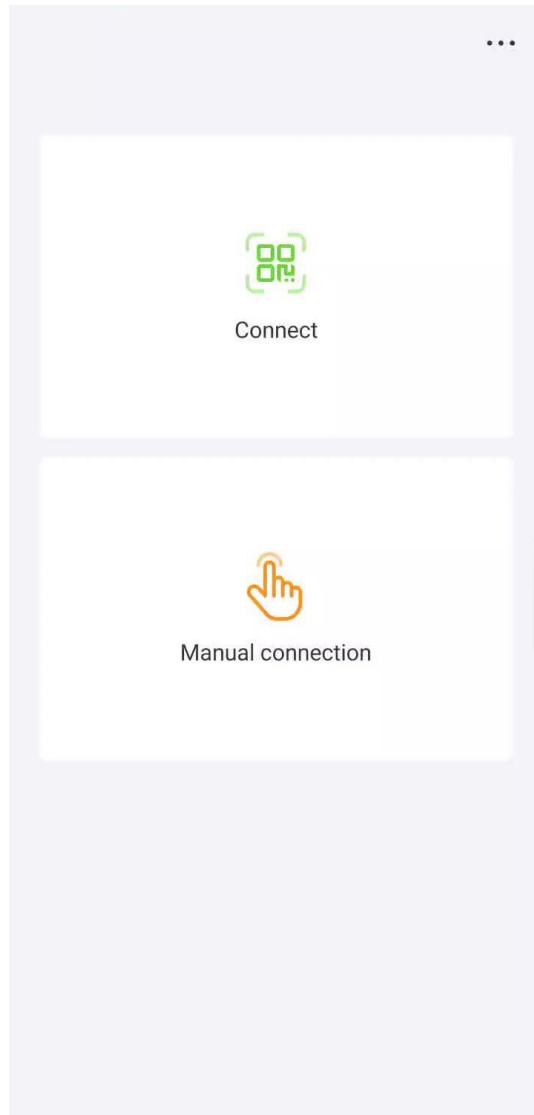
### Prerequisites

- The SmartLogger has been powered on.
- The WLAN function of the SmartLogger is disabled by default. Ensure that the WLAN function is enabled before connecting to the SmartLogger.
- Connect over a WLAN:
  - a. The WLAN function is enabled on the mobile phone.
  - b. Keep the mobile phone within 5 m from the SmartLogger. Otherwise, the communication between them would be affected.

## Procedure

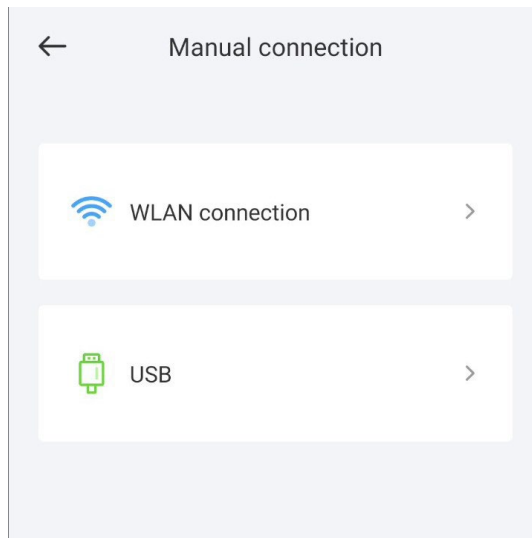
**Step 1** Connect to the SmartLogger.

**Figure 4-1** Connect



- Code scanning: Tap **Connect**, on the scanning screen, place the QR code of the Device in the scan frame. The device will be automatically connected after the code is identified.
- Manual connection: Tap **Manual Connection** and select a connection mode.

**Figure 4-2** Manual connection



- Select **WLAN** and connect the SmartLogger1000A or SmartLogger3000 to the corresponding WLAN in the WLAN connection list of the APP. The initial name of the WLAN is **Logger\_SN bar code**, and the initial password is **Changeme**.

---

**NOTICE**

- Use the initial password upon first power-on and change it immediately after login. To ensure account security, change the password periodically and keep the new password in mind. Not changing the initial password may cause password disclosure. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, the device needs to be restored to its factory settings. In these cases, the user is liable for any loss caused to the PV plant.
- If the **This WLAN network has no Internet access. Connect anyway?** message is displayed when you connect to the built-in WLAN, tap **CONNECT**. Otherwise, you cannot log in to the system. The actual UI and messages may vary with mobile phones.

---

**Step 2** Select a login user and enter the password, tap **Log In**.

---

**NOTICE**

- For the initial power-on, set the password as prompted and then log in to the system. If not prompted, log in with the initial password **00000a**.
  - The login password is the same as that for the SmartLogger connected to the app and is used only when the SmartLogger connects to the app.
  - Use the initial password upon first power-on and change it immediately after login. To ensure account security, change the password periodically and keep the new password in mind. Not changing the initial password may cause password disclosure. A password left unchanged for a long period of time may be stolen or cracked. If a password is lost, devices cannot be accessed. In these cases, the user is liable for any loss caused to the PV plant.
  - During the login, if five consecutive invalid password entries are made (the interval between two consecutive entries is less than 2 minutes), the account will be locked for 10 minutes. The password should consist of six characters.
- 

**Step 3** After successful login, the quick settings screen or home screen is displayed.

 **NOTE**

- If you log in to the app after the SmartLogger powers on for the first time or the SmartLogger factory defaults are restored, the quick settings screen will be displayed. You can set basic parameters for the SmartLogger on the **Quick Settings** screen. After the setting, you can modify the parameters after choosing **MoreSettings**.
- If you do not set basic parameters for the SmartLogger on the **Quick Settings** screen, the screen is still displayed when you log in to the app next time.

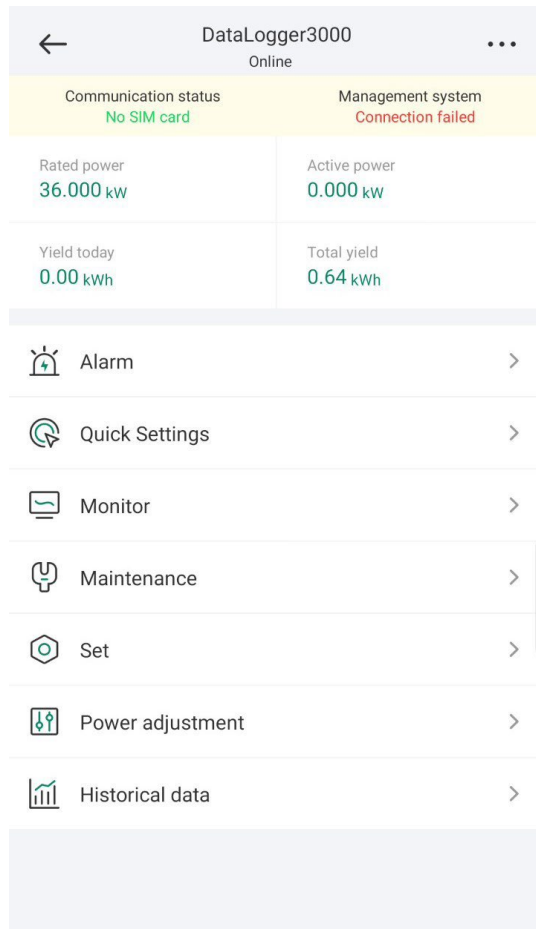
----End

## 4.2 Query

### Procedure

**Step 1** After logging in to the app, you can view the active power and energy yield of the connected solar inverters on the home screen.

**Figure 4-3 Home**



**Step 2** Tap **Alarm management** or **Device Monitoring** to view active alarms, historical alarms, and running information.

You can view the following information on the alarm management screen:

- Tap an alarm record and view the alarm details.
- Swipe right or left on the screen or tap either **Active Alarm** or **Historical Alarm** to display a list of active alarms or historical alarms.
- Select the alarms that can be manually cleared, and tap **Delete** on the right of the alarm to manually clear the alarms.

----End

## 4.3 Device Monitoring

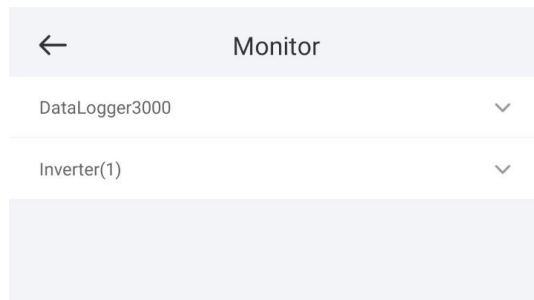
An advanced user can tap **Device Monitor** to query the running information and alarms about the SmartLogger and the devices connected to it, set parameters, and send commands.

### 4.3.1 Query

**Step 1** On the home screen, tap **Device Monitor** to access the device monitoring screen.



**Figure 4-4** Device monitoring



**Step 2** Select a target device to access the function menu screen of the device.

**Step 3** Tap **Alarm**, **Running Info.**, **Energy Yield**, or **About** to view the alarms, running information, energy yield, and version information about the device.

 **NOTE**

- The displayed information varies according to the device type.
- The SmartLogger can connect to third-party devices that support the Modbus-RTU protocol, such as the box-type transformer and EMI. The SmartLogger cannot automatically search user-defined devices. You need to manually add them.
- The SmartLogger can connect to a maximum of five types of user-defined devices and can connect to multiple devices of the same type.
- The SmartLogger can connect to a third-party device that supports IEC103, such as a relay protection or monitoring device like a box-type transformer. The SmartLogger cannot automatically search IEC103 devices. You need to manually add them.
- The SmartLogger can connect to a maximum of five types of IEC103 devices and can connect to multiple devices of the same type.

----End

## 4.3.2 Settings

### Context

An advanced user can set solar inverter parameters, MBUS parameters, PID Module parameters and DL/T645 parameters.

### Procedure

**Step 1** On the **Device Monitor** screen, select the target device to access the function menu screen of the solar inverter.

**Step 2** Tap **Settings** to access the settings screen.

**Step 3** Set parameters as required.

 **NOTE**

For Setting MBUS Parameters, set **Anti-crosstalk** to **Enable** to make devices in the anti-crosstalk list take effect.

----End

## 4.3.3 Maintenance

### 4.3.3.1 Log Download

#### Context

An advanced user can download only the logs of the SmartLogger, solar inverter, MBUS, and PID module.

#### Procedure

**Step 1** Select a device on the **Device Monitor** screen to access the function menu screen of the device.

**Step 2** Tap **Device Logs** to access the log download screen.

**Step 3** Download log files as required.

#### NOTE

- By default, Android system logs are saved in the **Android/data/com.huanwei.smartpvms/files/inverterapp** folder in the phone memory. You can change the save path by referring to "Setting a File Save Path".
- The downloaded solar inverter logs are saved at the **Device Log** directory in **File Manager** in your mobile phone. You can also send the logs to your mailbox for checking.

----End

### 4.3.3.2 Solar Inverter Maintenance

#### Procedure

**Step 1** Tap **SUN2000** on the **Device Monitor** screen and select the target device to access the function menu screen of the solar inverter.

**Step 2** Tap **Maintenance** to access the maintenance screen.

**Step 3** Tap  next to **Power on**, **Power off**, **AFCI self-check**, or **Reset**.

#### NOTE

- AFCI self-check is available only for the solar inverter model marked with **-US**.
- Tap **License Management** or **Performance Data** to view the certificate information and performance data curve of the solar inverter.

**Step 4** Enter the password for logging in to the app, and tap **OK**.


----End

### 4.3.3.3 MBUS Maintenance

#### Procedure

**Step 1** Tap **MBUS** on the **Device Monitor** screen and select the target device to access the function menu screen of the MBUS.

**Step 2** Tap **Maintenance** to access the maintenance screen.

**Step 3** Tap  next to **Search STA Again** and search for the STA list again as prompted.

**Step 4** Tap  next to **MBUS reset** and reset the MBUS as prompted.

**Step 5** Tap **Anti-crosstalk list** to synchronize, import, or export the list.

----End

### 4.3.3.4 PID Module Maintenance

#### Procedure

**Step 1** Tap **PID** on the **Device Monitor** screen and select the target device to access the function menu screen of the PID module.

**Step 2** Tap **Maintenance** to access the maintenance screen.

**Step 3** Tap  next to **Power on**, **Power off**, or **Data clear** as required.

#### NOTE

- If you clear data, active and historical alarms stored on the PID module will all be cleared.
- Tap **Performance Data** to view the performance data curve of the PID module.

**Step 4** Enter the password for logging in to the app, and tap **OK**.

----End

## 4.4 Maintenance

### 4.4.1 System Maintenance

#### 4.4.1.1 Changing a User Password

#### Procedure

**Step 1** Choose **Maintenance** > **Change Password** to access the password change screen.

**Figure 4-5 Maintenance**

←	Maintenance	
	Change password	>
	Offline configuration	>
	System reset	>
	Clear data	>
	Export all data	>
	Import all data	>
	Restore defaults	>
	Inverter inspect	>
	Device magt	>
	Device list	>
	Device logs	>
	Upgrade	>
	Inverter Terminal Test	>

 **NOTE**

The password must meet the following requirements:

- Contains 6-20 characters.
- Contains at least two of the following types: lowercase letters, uppercase letters, and digits.

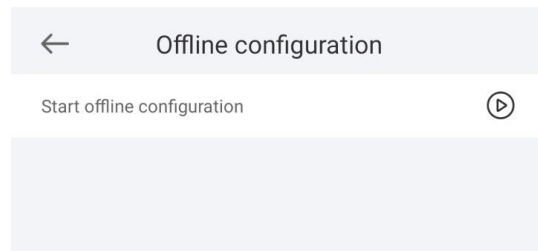
----End

### 4.4.1.2 Offline Configuration

You can import the offline configuration files to the SmartLogger over the app.

**Step 1** Choose **Maintenance > Offline configuration** to perform offline configuration.

**Figure 4-6** Offline configuration



----End

 **NOTE**

After the configuration file is imported, choose **Latest Status** to view the import status of the last offline configuration file and choose **Enable offline config** to import other offline configuration files.

### 4.4.1.3 Resetting the System

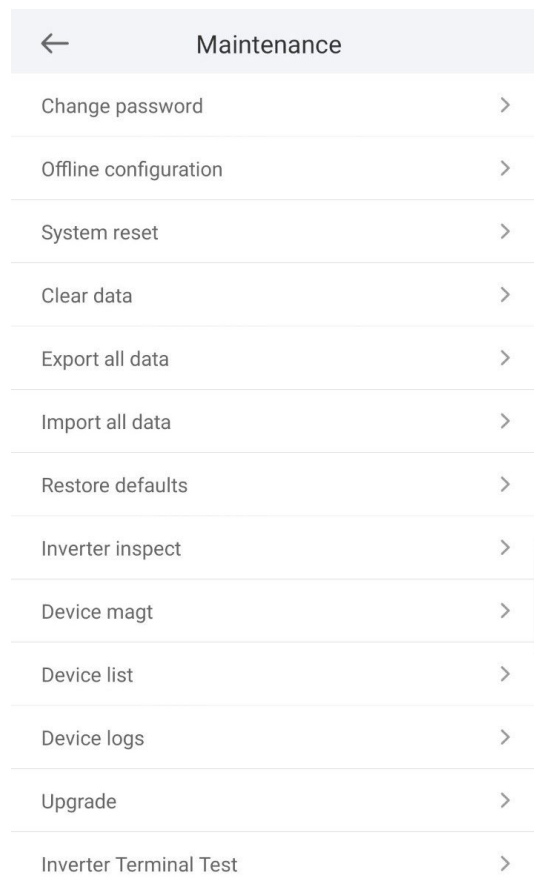
#### Context

After the system resets, the SmartLogger restarts.

#### Procedure

**Step 1** Choose **Maintenance > Reset**. A dialog box for resetting the system is displayed.

**Figure 4-7 Maintenance**



← Maintenance	
Change password	>
Offline configuration	>
System reset	>
Clear data	>
Export all data	>
Import all data	>
Restore defaults	>
Inverter inspect	>
Device magt	>
Device list	>
Device logs	>
Upgrade	>
Inverter Terminal Test	>

**Step 2** Enter the password for logging in to the app, and tap **OK**.

----End

#### 4.4.1.4 Clearing Data

##### Context

Clear data if the SmartLogger is relocated and its historical data needs to be deleted.

---

**NOTICE**

- After you perform **Clear Data**, electric energy yield data, performance data, and alarms are cleared from the SmartLogger.
  - After you perform **Clear Data**, the devices connected to the SmartLogger are not removed. If the original device will no longer connect to the SmartLogger, remove the device.
  - If you perform **Clear Data** on the SmartLogger, you also have to perform **Reset Alarms** on the NMS. Otherwise, the alarm information collected by the NMS and SmartLogger will be different.
- 

## Procedure

**Step 1** Choose **Maintenance > Clear Data**. A dialog box for clearing data is displayed.

**Step 2** Enter the password for logging in to the app, and tap **OK**.

----End

### 4.4.1.5 Importing and Exporting All Files

If the SmartLogger needs to be replaced, you can export the files before the replacement and then import the files of the new SmartLogger to ensure data integrity.

## Procedure

**Step 1** Choose **Maintenance > Import all files (or Export all files)** to import or export all files.

----End

### 4.4.1.6 Restoring Factory Settings

## Context

---

**NOTICE**

Perform this operation with caution because all configured parameters except the current date, time, baud rate, and address will be restored to their factory default values. This operation will not affect operating information, alarm records, or system logs.

---

## Procedure

**Step 1** Choose **Maintenance > Restore factory settings**. The **Restore factory** dialog box is displayed.

**Step 2** Enter the password for logging in to the app, and tap **OK**.

----End

## 4.4.2 Solar Inverter Inspection

### Context

After a solar inverter is put into use, it should be inspected periodically to detect any potential risks and problems.

### Procedure

**Step 1** Tap **Maintenance** > **Inverter Inspect** to access the inspection screen.

**Step 2** Select **Inspection method** and **Inspection type**, tap **Next**.

**Step 3** Select **Inspection type** and tap **Next** in the upper-right corner of the screen to start inspection.

**Step 4** An inspection file is generated after the inspection is complete.

#### NOTE

By default, the inspection file is saved in `Android/data/com.huanwei.smartpvms/files/inverterapp` in the phone memory. You can change the log save path by referring to *Setting a File Save Path*.

----End

## 4.4.3 Device Management

### 4.4.3.1 Changing a Device Name

#### Procedure

**Step 1** Choose **Maintenance** > **Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap a device name to change it.

**Figure 4-8** Device magt





 **NOTE**

The name of the SmartLogger cannot be changed.

----End

### 4.4.3.2 Deleting Devices

#### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Hold down a device name, select the devices to be deleted, and tap **Batch delete** to delete them.

 **NOTE**

Deleted devices are not displayed on the **Monitor** screen.

----End

### 4.4.3.3 Automatically Searching for Devices

#### Context

The SmartLogger can automatically detect and connect to devices.

The EMI, power meter, slave SmartLogger, and third-party devices cannot be automatically detected. You need to add them manually. For details, see [4.4.3.4 Manually Adding a Device](#).

#### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap the drop-down list in the upper-right corner of the **Device Mgmt.** screen.

**Step 3** Automatically searching for devices

----End

### 4.4.3.4 Manually Adding a Device

#### Context

The EMI, power meter, slave SmartLogger, and third-party devices cannot be automatically detected. You need to add them manually.

#### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap the drop-down list in the upper-right corner of the **Device Mgmt.** screen.

**Step 3** Tap **Add Device** and set device parameters.

 **NOTE**

- **Comm. Protocol** is set to **Modbus RTU** by default. If you need to modify it, refer to [4.5.5 Setting RS485 Parameters](#).
- Before adding the EMI or power meter manually, set the EMI or power meter parameters. For details, see *SmartLogger3000 User Manual* , *SmartLogger2000 User Manual* or *SmartLogger1000A User Manual*.

----End

### 4.4.3.5 Automatically Allocating Addresses

#### Context

The SmartLogger can automatically allocate addresses to the connected devices and adjust the addresses based on device sequence numbers.

#### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap the drop-down list in the upper-right corner of the **Device Mgmt.** screen.

**Step 3** Tap **Auto Assign Address**.

----End

### 4.4.3.6 Importing Configuration

#### Prerequisites

The name extension of the file to be imported must be **.cfg**. Otherwise, the file will be unavailable.

- The file to be imported is stored in the memory or SD card of the mobile phone.

#### Context

When connecting to a user-defined device or the IEC103 device, import a configuration file and add a device manually. Then, the device can be queried on the **Monitor** screen.

#### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap the drop-down list in the upper-right corner of the **Device Mgmt.** screen.

**Step 3** Tap **Import Config** to import the **.cfg** file.

----End

### 4.4.3.7 Exporting Configuration

#### Context

After connecting to a third-party device, you can choose **Export Config** to view its configuration file.

#### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap the drop-down list in the upper-right corner of the **Device Mgmt.** screen.

**Step 3** Tap **Export Config**.

----End

### 4.4.3.8 Resetting Alarms

#### Context

- If you reset alarms, all the active and historical alarms of the selected device are deleted and the SmartLogger starts to collect new alarm data.
- If data is deleted for a solar inverter, you must reset alarms on the SmartLogger and the NMS; otherwise, the SmartLogger cannot collect new alarm data from the solar inverter.
- If alarms are reset on the SmartLogger, you must reset alarms on the NMS; otherwise, the NMS cannot obtain the new alarm data collected by the SmartLogger from the solar inverter.

#### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap the drop-down list in the upper-right corner of the **Device Mgmt.** screen.

**Step 3** Tap **Reset Alarms** and select a device on the **Reset Alarms** screen.

**Step 4** Tap **OK**.

----End

### 4.4.3.9 Starting, Shutting down, and Resetting Solar Inverters in Batches

#### Context

Batch control operations allow the SmartLogger to start, shut down, and reset the connected solar inverters in batches. The solar inverters automatically restart after reset.

#### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap the drop-down list in the upper-right corner of the **Device Mgmt.** screen.

**Step 3** Tap **Batch Control**.

**Step 4** Tap **Batch startup**, **Batch shutdown**, or **Batch reset**, enter the app login password, and tap **OK**.

----End

#### 4.4.3.10 Setting Access Parameter

##### Context

Before connecting a device to the SmartLogger, configure access parameters correctly.

##### Procedure

**Step 1** Choose **Maintenance > Device Mgmt.** to access the **Device Mgmt.** screen.

**Step 2** Tap the drop-down list in the upper-right corner of the **Device Mgmt.** screen.

**Step 3** Tap **Access Param.** to access the settings screen.

##### NOTE

If the SmartLogger communicates with the solar inverter over the MBUS, set **Embedded MBUS enable** to **Enable**.

----End

### 4.4.4 Managing the Device List

##### Context

On the device list screen, you can choose **Export Device Info > Edit Device Info File > Import Device Info** to modify device information in the information file.

##### Procedure

**Step 1** Choose **Maintenance > Device List** to access the device list screen.

**Step 2** Tap **Export Device Info** to export the device information file.

##### NOTE

The exported device information file is in .csv format.

**Step 3** Tap **Edit Device Info File** to modify the device information file.

1. In the path where the device information file is exported, tap the exported .csv file to access the screen for modifying the file.
2. Tap a parameter to be modified and enter or select target information.
3. After all modifications, tap **Save** in the upper-right corner of the screen.

**Step 4** Tap **Import Device Info** to import the modified device information file to the SmartLogger.

----End


## 4.4.5 Exporting Device Logs

### Prerequisites

A USB flash drive has been inserted into the USB port on the SmartLogger.

### Procedure

**Step 1** Choose **Maintenance > Device logs** to access the device log screen.

**Step 2** Tap  in the upper-right corner of the screen, select a device whose logs are to be exported, and tap **Next**.

**Step 3** Select the types of logs to be exported and tap **OK** to start exporting device logs.

#### NOTE

The downloaded device logs are saved at the storage path of the USB flash drive.

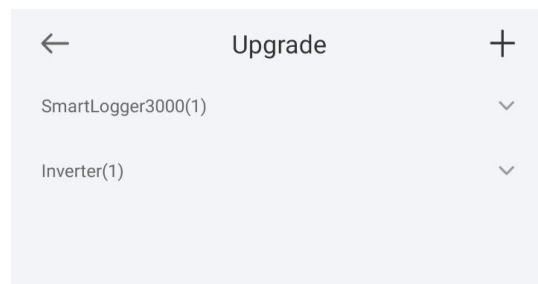
----End


## 4.4.6 Device Upgrade

### Procedure

**Step 1** Choose **Maintenance > Upgrade** to access the device upgrade screen.

**Figure 4-9** Upgrade



**Step 2** Tap  in the upper-right corner, select a single device or devices of the same type, and tap **Next**.

**Step 3** Select the upgrade package and tap **Next**.

**Step 4** Confirm the upgrade package and the device to be upgraded, and tap **Finish** to start upgrading the device.

----End

## 4.4.7 Spot-Checking Solar Inverters

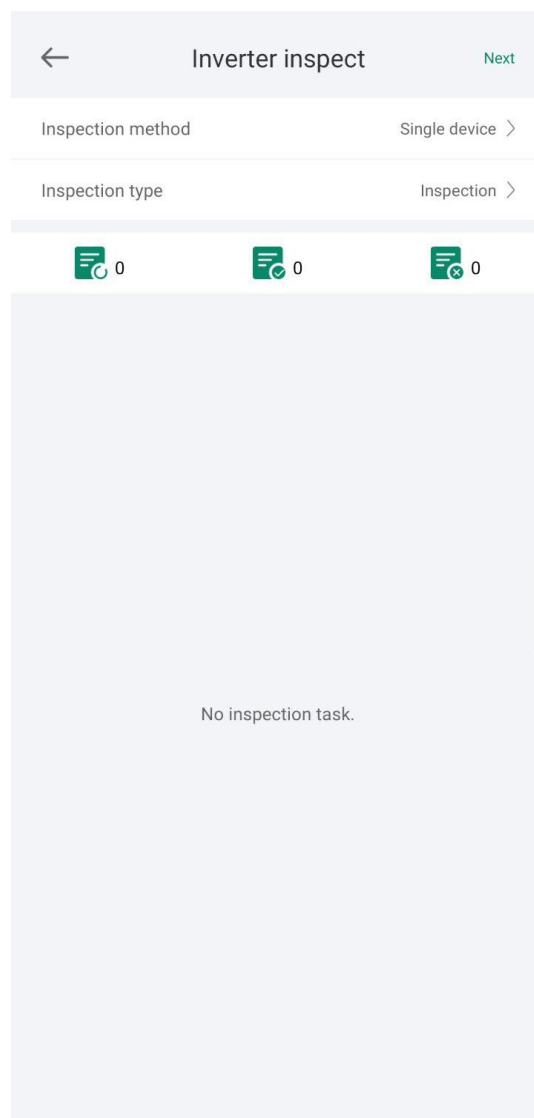
### Context

You can perform spot-check for the solar inverter whose **Grid Code** is **Japan standard**.

### Procedure

**Step 1** Choose **Maintenance > Inverter Spot** to access the solar inverter spot-check screen.

**Figure 4-10** Inverter inspect



**Step 2** (Optional) Tap **Next** in the upper-right corner of the **Inverter Spot** screen, select **Sel Ana Para**, and tap **Finish** to set analog parameters.

 **NOTE**

After the parameters on the **Sel Analog Para** screen are set, the analog parameters and their values are displayed on the solar inverter spot-check screen. You can also tap **Sel Device** to set parameters when the solar inverters are being spot-checked.

**Step 3** Tap **Next** in the upper-right corner of the **Inverter Spot** screen and select **Sel Device** to access the **Sel Device** screen.

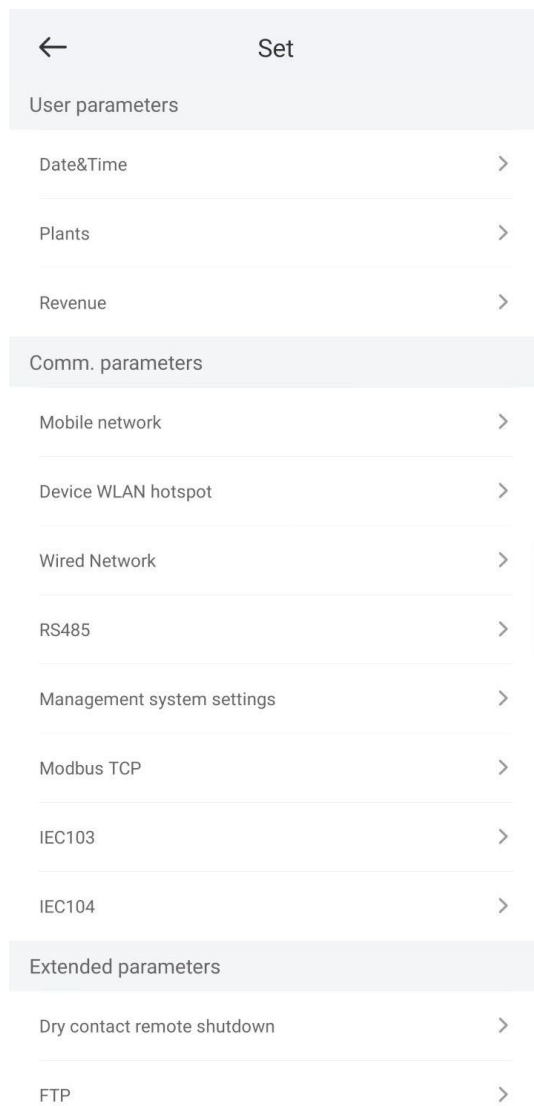
**Step 4** Select one or more devices to be spot-checked, and then tap **Finish** to start spot-check.

----End

## 4.5 Settings

An advanced user can choose **Settings** to access the settings screen and set the user parameters, communications parameters, extended parameters, and file save path for the SmartLogger.

**Figure 4-11 Set**



 **NOTE**

Only the SmartLogger1000A/SmartLogge3000 supports **Mobile Data (4G/3G/2G)** and **WLAN** settings.

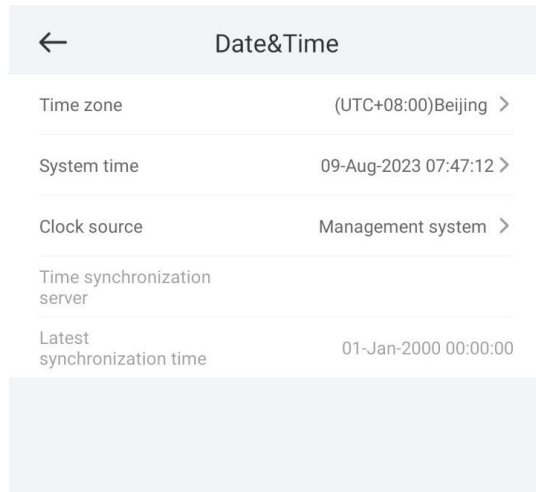
## 4.5.1 Setting the System Date and Time

### Procedure

**Step 1** Choose **Settings > User param. > Date&Time** to set the date and time.



**Figure 4-12 Date&Time screen**



**Step 2** Set the date and time based on the region where the SmartLogger is located.

**NOTE**

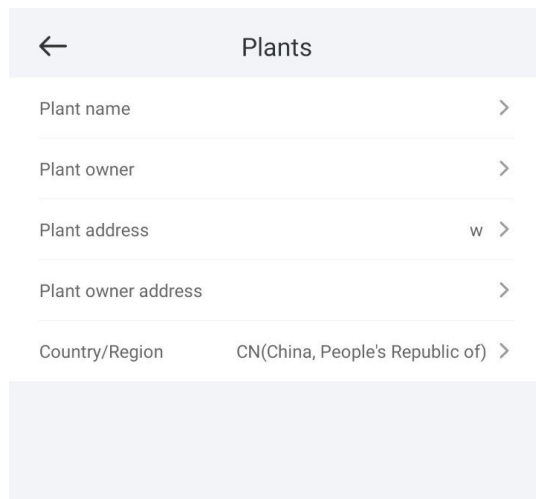
For a solar inverter that supports DST, if an advanced user enables DST, a common user can view DST data. The displayed parameters are for reference only.

----End

## 4.5.2 Setting Plant Information

**Step 1** Choose **Settings > User param. > Plant** to access the parameter setting screen.

**Figure 4-13 Plants**



**Step 2** Tap target parameters. On the displayed screen, enter or select relevant information.

**NOTE**

The plant parameters that are manually entered must not contain any special character, such as <>:,`?()#&\\$|%+;~^" in the English half-width status.

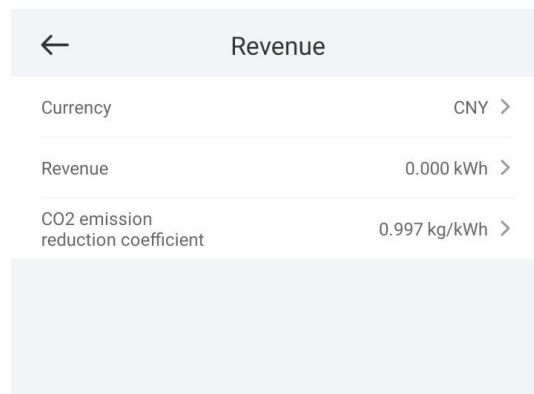
----End

## 4.5.3 Setting Revenue Parameters

### Procedure

**Step 1** Choose **Settings** > **User param.** > **Revenue** to access the parameter setting screen.

**Figure 4-14** Revenue



---End

## 4.5.4 Setting Ethernet Parameters

### Context

Set Ethernet parameters to ensure proper operation of Ethernet ports and functions of logging in to the embedded WebUI of the SmartLogger, connecting to the NMS, and sending emails.

### Procedure

**Step 1** Choose **Settings** > **Comm. Param.** > **Ethernet** to access the Ethernet parameter setting screen.

**Step 2** Tap target parameters. On the displayed screen, enter relevant information.

---

**NOTICE**

If the SmartLogger connects to the Internet through a router, note the following when setting Ethernet parameters:

- Set the NMS address to the IP address of the router.
  - Ensure that the IP address of the SmartLogger is in the same network segment as the NMS address.
  - Set the domain name server (DNS) address to the IP address of the router or obtain the DNS address from the network provider.
  - After the IP address is changed, you need to use the new IP address to log in to the system.
  - When DHCP is enabled, the IP address cannot be set.
- 

----End

## 4.5.5 Setting RS485 Parameters

### Context

Set RS485 parameters to ensure normal communication between the SmartLogger and devices such as the inverter, EMI, and power meter.

### Procedure

**Step 1** Choose **Settings > Comm. Param. > RS485** to access the parameter setting screen.

**Step 2** Select a port from **COM1** to **COM6**.

Use the settings of **COM1** as an example.

#### NOTE

- **COM1** to **COM6** correspond to communications ports **COM1-COM3** (SmartLogger1000A and SmartLogger3000) or **COM1-COM6** (SmartLogger2000). The default baud rate is **9600 bit/s**.
- The SmartLogger3000 expansion module corresponds to communication ports **MI.COM1-MI.COM3**.
- Set the protocol supported by the RS485 port based on either the protocol supported by the connected device or the status of the device in the network. When the SmartLogger serves as a slave node to interconnect with a third-party device over Modbus-RTU, set **Protocol** to **Modbus-Slave**. When the connected solar inverter performs rapid power grid scheduling using both MBUS and RS485, set **Protocol** to **Modbus-Control**.
- **Parity**, **Protocol**, and **Stop bit** must be set to the same values for all devices connected to the same RS485 port.
- The baud rate for the RS485 ports of the SmartLogger must be the same as the baud rate for the device that communicates with the SmartLogger.
- $1 \leq \text{Start address} \leq \text{End address} \leq 247$ . The address range of the ports can overlap. Set the address range as required. A larger address range requires a longer searching time. The start and end addresses have no impact on the devices that have been connected.

**Step 3** On the **RS485** screen, tap **Night Communication Settings** to set the parameters for communication at night.

----End

## 4.5.6 Setting Modbus-RTU Power Meter Parameters

### Procedure

**Step 1** Choose **Settings > Comm. Param. > Power Meter** to access the parameter setting screen.

**Step 2** Tap target parameters. On the displayed screen, enter relevant information.

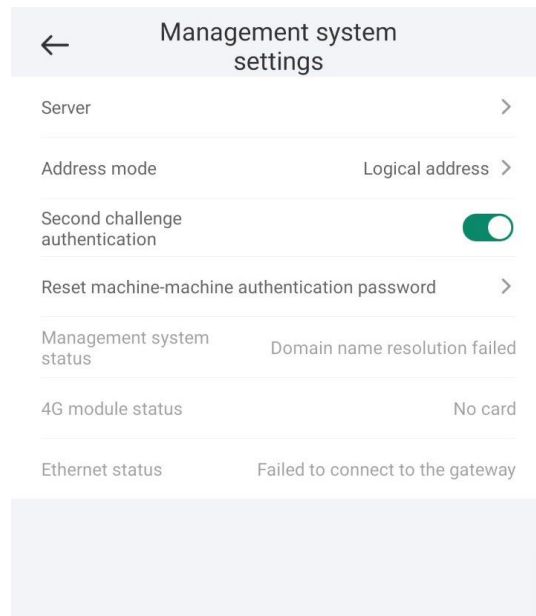
----End

## 4.5.7 Setting Management System Parameters

### Procedure

**Step 1** Choose **Settings > Comm. Param. > Management System** to access the parameter setting screen.

**Figure 4-15** Management system



 NOTE

- Set **Server** to the IP address or domain name of the NMS server.
- In most cases, set **Address mode** to **Physical address**. In this mode, addresses of devices connected to each RS485 port cannot be duplicate. If the devices connected to the six RS485 ports of the SmartLogger have duplicate addresses, set **Address mode** to **Logical address**.
- If **TLS encryption** is set to , data will be transmitted without being encrypted, which may pose security risks. Therefore, exercise caution when setting this parameter.
- If **Secondary challenge authentication** is set to , the result of the second challenge authentication is not checked, which may pose security risks. Therefore, exercise caution when setting this parameter.

----End

## 4.5.8 Setting Modbus TCP Parameters

### Context

Set Modbus-TCP parameters correctly to ensure normal communication between the SmartLogger and a third-party NMS.

### Procedure

- Step 1** Choose **Settings > Comm. Param. > Modbus TCP** to access the parameter setting screen.

 NOTE

- Modbus TCP is a universal standard protocol used to connect to a third-party management system. Because there is no security authentication mechanism, data transmitted by Modbus TCP is not encrypted. To reduce network security risks, the function of connecting to a third-party management system using Modbus TCP is disabled by default. This protocol can transmit the running data and control commands of PV plants, which may cause user data breach and control permission theft. Therefore, exercise caution when using this protocol. Users are liable for any loss caused by the use of this protocol to connect to a third-party management system (non-secure protocol).
- If the devices connected to the six RS485 ports of the SmartLogger have duplicate addresses, set **Address mode** to **Logical address**.

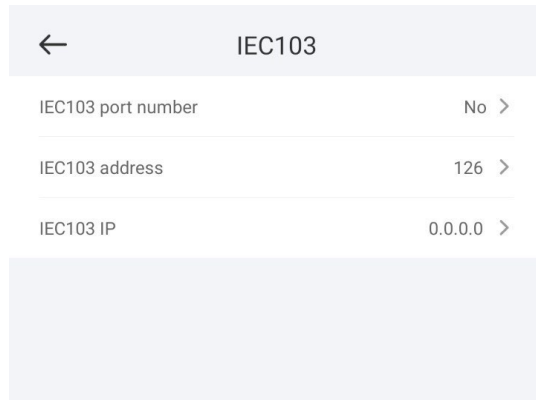
----End

## 4.5.9 Setting IEC103 Device Parameters

### Procedure

- Step 1** Choose **Settings > Comm. Param. > IEC103** to access the parameter setting screen.

**Figure 4-16 IEC103**



**Step 2** Tap target parameters. On the displayed screen, enter relevant information.

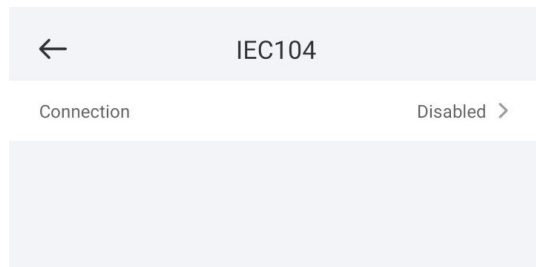
----End

## 4.5.10 Setting IEC104 Device Parameters

### Procedure

**Step 1** Choose **Settings > Comm. Param. > IEC104** to access the parameter setting screen.

**Figure 4-17 IEC104**



**Step 2** Tap target parameters. On the displayed screen, enter relevant information.

#### NOTE

- IEC104 is a universal standard protocol used to connect to a third-party management system. Because there is no security authentication mechanism, data transmitted by IEC104 is not encrypted. To reduce network security risks, the function of connecting to a third-party management system using IEC104 is disabled by default. This protocol can transmit the running data and control commands of PV plants, which may cause user data breach and control permission theft. Therefore, exercise caution when using this protocol. Users are liable for any loss caused by the use of this protocol to connect to a third-party management system (non-secure protocol).
- You can set the IP whitelist after **Linking setting** on the **Basic parameters** screen is enabled.
- On the **Transfer table config** screen, you can set teleindication and telemetry signals for devices.

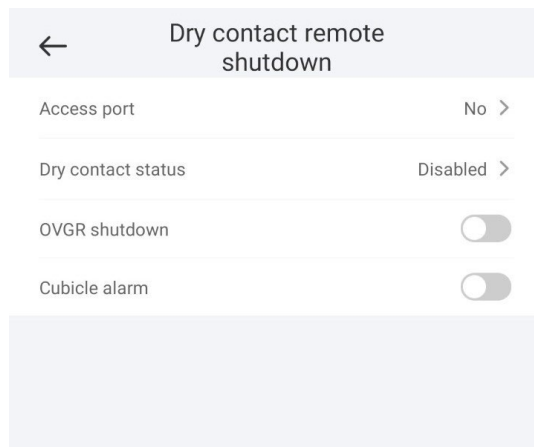
----End

## 4.5.11 Remotely Shutting Down Solar Inverters in Dry Contact Mode

### Procedure

**Step 1** Choose **Settings > Extended Param. > Dry contact remote shutdown**. On the displayed screen, set parameters to remotely shut down solar inverters in dry contact mode.

**Figure 4-18** Remotely shutting down solar inverters in dry contact mode



----End

## 4.5.12 Setting FTP Parameters

### Context

The FTP function is used to access a third-party NMS. The SmartLogger can report the configuration information and running data of the managed plant system through FTP.

#### NOTE

FTP is a universal standard protocol without any security authentication mechanism. Data transmitted by FTP is not encrypted. To reduce network security risks, the IP address of the connected third-party FTP server is left blank by default. This protocol can transmit the running data of PV plants, which may cause user data breach. Therefore, exercise caution when using this protocol. Users are liable for any loss caused by the enabling of the FTP protocol (non-secure protocol).

### Procedure

**Step 1** Choose **Settings > Extended Param. > FTP** to access the parameter setting screen.

**Figure 4-19 FTP**

Report test	>
FTP server	>
Username	>
Password	>
Remote directory	>
Data reporting	<input checked="" type="checkbox"/>
FTP file format	Format 1 >
File name	minYYMMDD.csv >
Date format	YY-MM-DD >
Report mode	Periodical >
Report interval	30 min >
File mode	All data >
Latest report status	
Status	NA
Error code description	
Time	01-Jan-2000 00:00:00

**NOTE**

- Perform **Test transmission** to check whether the SmartLogger can report data to the FTP server.
- Set **FTP server** to the domain name or IP address of the FTP server. If **FTP server** is set to the domain name of the FTP server, ensure that the address of the DNS server is set correctly.
- Set **User name** and **Password** for logging in to the FTP server.
- Set **Remote directory** to create a subdirectory of the same name under the default path for uploading data.
- If **Data export** is enabled, you can set the SmartLogger to report data regularly or at a specified time. Data reported at a specified time is all data, whose file name remains the same for a whole day. You can choose all data or incremental data to be reported regularly.

**----End**



## 4.5.13 Setting Email Parameters

### Context

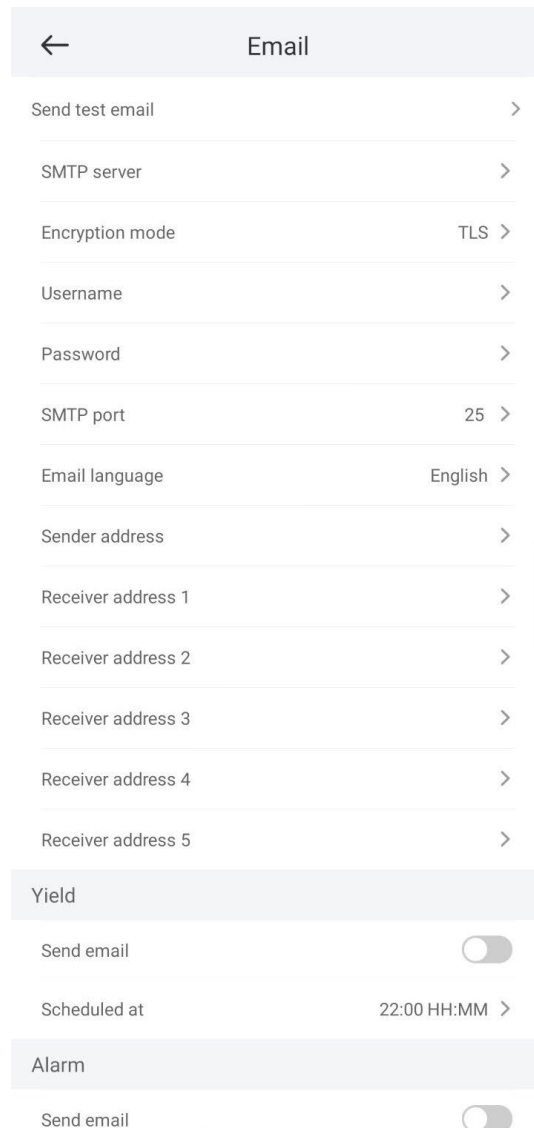
The SmartLogger can send emails to inform users of the current energy yield information, alarm information, and device status of the power plant system, helping users know the running status of the power plant system in time.

When using this function, ensure that the SmartLogger can connect to the configured email server and the Ethernet parameters and email parameters are correctly set for the SmartLogger.

### Procedure

- Step 1** Choose **Settings > Extended Param. > Email** to access the parameter setting screen.

**Figure 4-20** Email



 **NOTE**

- You can tap **Send test email** to check whether the SmartLogger can successfully send emails to users.
- You can set **SMTP server** to the domain name or IP address of the SMTP server. If it is set to the domain name of the SMTP server, ensure that the address of the DNS server is set correctly.
- Set **User name** and **Password** for logging in to the SMTP server.
- **Send address** indicates the sender's email address. Ensure that the sender's email server is the same as the server specified by **SMTP server**.

----End

## 4.5.14 Setting a File Save Path

### Prerequisites

This function is available only on the Android system.

### Context

You can modify the save path for logs of devices connected to the SmartLogger and export logs from the path.

### Procedure

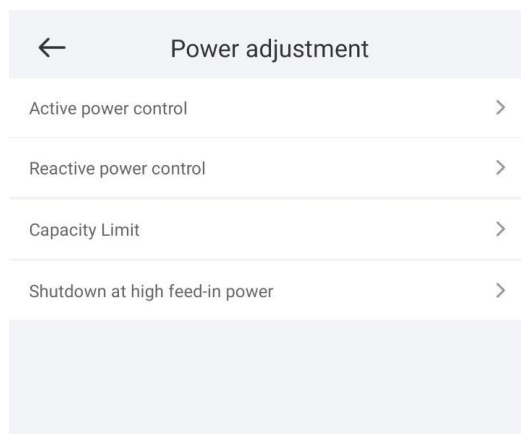
**Step 1** Choose **Settings > Path Settings > File save path** to access the screen for setting a file save path.

**Step 2** Tap **File save path** to set a file save path.

----End

## 4.6 Power adjustment

**Figure 4-21** Power adjustment



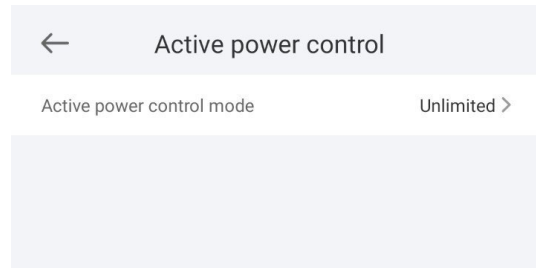
## 4.6.1 Active Power Control

### Procedure

**Step 1** Choose **Power adjustment > Active Power Control** to access the **Active Power Control** screen.

**Step 2** Tap **Active power control mode** to set the active power control mode.

**Figure 4-22** Active power control



----End

## 4.6.2 Setting Reactive Power Control

### Procedure

**Step 1** On the home screen, tap **Power adjustment > Reactive Power control** to access the parameter setting screen.

**Step 2** Tap **Reactive power control mode** to set the active power control mode.

----End

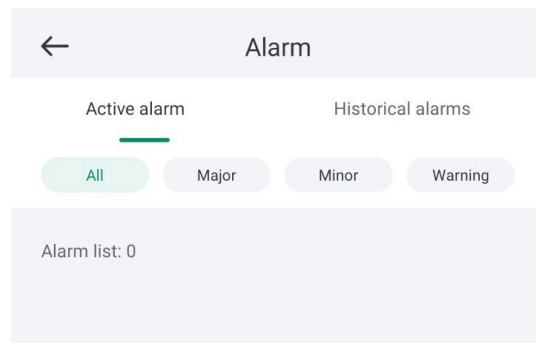
# 5 Smart Dongle

After logging in to the app, you can view the number of inverters connected to the Smart Dongle on the home screen.

## 5.1 Alarm Management

**Step 1** Tap **Alarm** to view active and historical alarms.

**Figure 5-1** Alarm



On the **Alarms** screen, you can perform the following operations:

- Tap an alarm record and view the alarm details.
- Swipe left or right on the screen or tap **Active Alarms** or **Historical Alarms** to switch between active alarms and historical alarms.

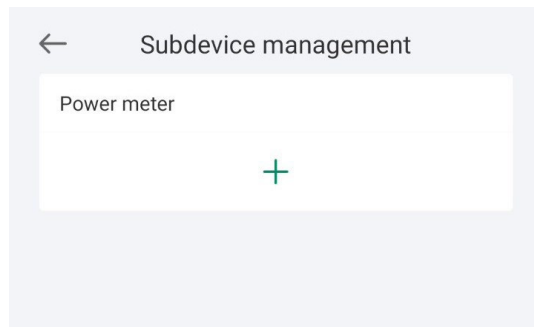
----End

## 5.2 Maintenance

### 5.2.1 Subdevice Management

**Step 1** On the home screen, choose **Maintenance** > **Subdevice management**. The **Subdevice management** screen is displayed.

**Figure 5-2** Subdevice management



- Tap + to add a power meter.

Parameter	Description
Model	<p>Set this parameter to the corresponding meter model.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>- Select an appropriate power meter based on the application scenario. The device model is subject to change. The actual product may vary.</li> <li>- Set the power meter model correctly. Otherwise, the power meter function may be unavailable.</li> </ul>
Device address	Set this parameter to the communication address of the power meter.

- After a power meter is added, tap it to view and modify the power meter parameters. To delete the power meter, touch and hold it.

----End

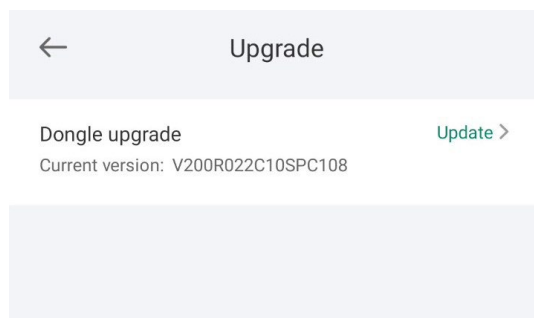
## 5.2.2 Device Upgrade

### Procedure

**Step 1** On the home screen, choose **Maintenance > Upgrade device**.

**Step 2** Access the device upgrade screen and tap **Upgrade**.

**Figure 5-3** Device upgrade



**Step 3** Perform operations as prompted.

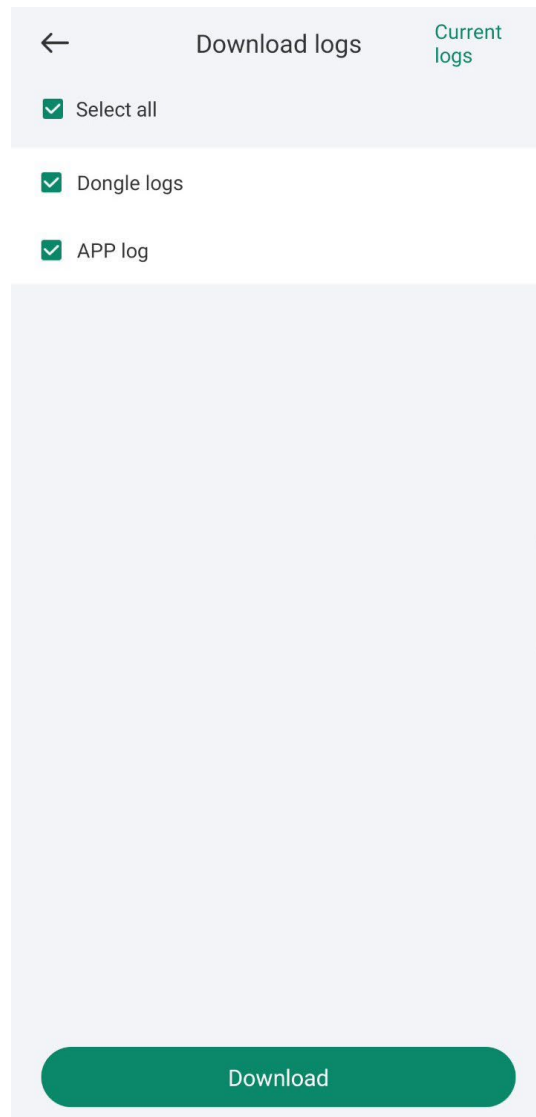
----End

## 5.2.3 Log Management

### Context

You can export operation logs and device running logs on your mobile phone on the **Log management** screen.

**Figure 5-4** Download logs



### Procedure

**Step 1** On the home screen, choose **Maintenance** > **Log Management** to access the log download screen.

**Step 2** You can download **Dongle logs** and **APP log**.

#### NOTE

The downloaded logs are stored in the mobile phone. You can find the logs in the **Device Logs** directory in :: > **File Management** on the app connection screen. You can also send the logs to your mailbox for checking.

----End

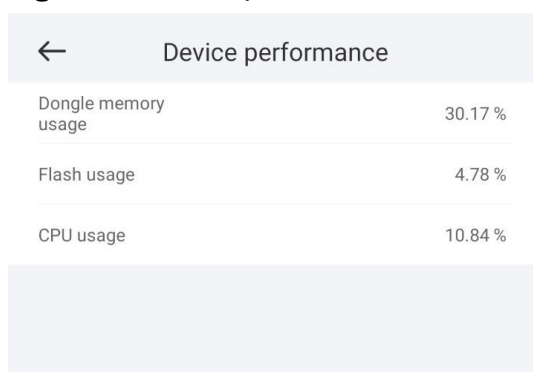
## 5.2.4 Device Performance

You can check the Smart Dongle running status on the **Device performance** screen.

### Procedure

1. On the home screen, choose **Maintenance** > **Device performance**.
2. Check the **Dongle memory usage**, **Flash usage**, and **CPU usage**.

**Figure 5-5** Device performance



← Device performance	
Dongle memory usage	30.17 %
Flash usage	4.78 %
CPU usage	10.84 %

## 5.2.5 Minimum System

After the minimum system is enabled, the Smart Dongle disables the remote networking service and disconnects from the network management system (NMS).

### Procedure

1. On the home screen, choose **Maintenance** > **Minimum system**.
2. Enable the minimum system function and enter the login password for secondary verification.

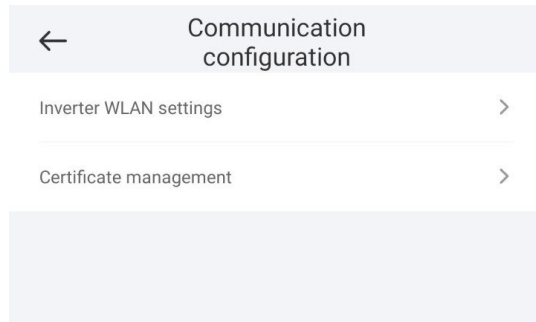
## 5.3 Settings

### 5.3.1 Setting Communications Parameters

#### Procedure

1. On the home screen, choose **Settings** > **Comm. parameters** to access the parameter setting screen.

**Figure 5-6** Communication configuration



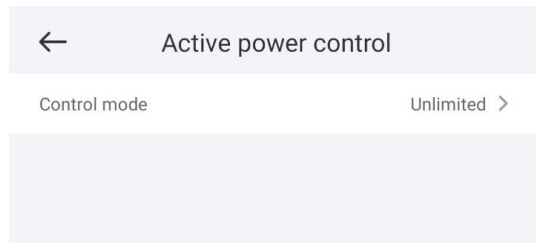
## 5.4 Power Adjustment

### 5.4.1 Active Power Control

#### Procedure

- Step 1** Choose **Power adjustment > Active Power Control**. The **Active Power Control** screen is displayed.
- Step 2** Tap **Control mode** or **Limitation mode** to set the active power control mode.

**Figure 5-7** Active power control



----End

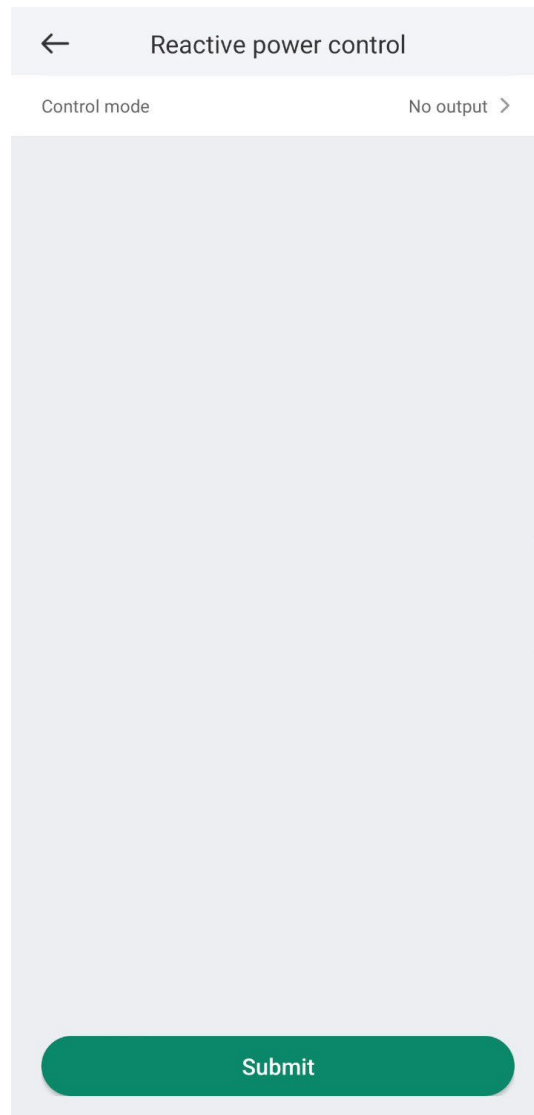
### 5.4.2 Reactive Power Control

#### Procedure

- Step 1** On the home screen, tap **Power adjustment > Reactive Power control** to access the parameter setting screen.
- Step 2** Tap **Reactive power control mode** to set the active power control mode.



**Figure 5-8** Reactive power control



----End

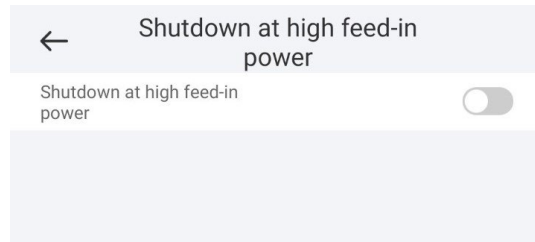
### 5.4.3 Shutdown at High Feed-in Power

The power grid company requires that power plants be able to limit or reduce the output power of PV power systems. If the output power cannot be limited within the specified range, all inverters need to be shut down, which is shut down at high feed-in power.

#### Procedure

1. Choose **Power adjustment > Shutdown at high feed-in power**. The **Shutdown at high feed-in power** screen is displayed.

**Figure 5-9** Shutdown at high feed-in power



**Table 5-1** Shutdown at high feed-in power

Parameter	Description
Shutdown at high feed-in power	<ul style="list-style-type: none"> <li>The default value is <b>Disable</b>.</li> <li>If this parameter is set to <b>Enable</b>, the inverter shuts down for protection when the grid-connection point power exceeds the threshold and remains in this condition for the specified time threshold.</li> </ul>
Upper feed-in power threshold for inverter shutdown	The default value is <b>0</b> . This parameter specifies the power threshold of the grid-connection point for triggering inverter shutdown.
High feed-in power duration threshold for triggering inverter shutdown	<p>The default value is <b>20</b>. This parameter specifies the duration threshold of high feed-in power for triggering inverter shutdown.</p> <ul style="list-style-type: none"> <li>When <b>High feed-in power duration threshold for triggering inverter shutdown</b> is set to <b>5</b>, <b>Shutdown at high feed-in power</b> takes precedence.</li> <li>When <b>High feed-in power duration threshold for triggering inverter shutdown</b> is set to <b>20</b>, <b>Limited feed-in</b> takes precedence (when <b>Active power control</b> is set to <b>Limited feed-in</b>).</li> </ul>

## 5.4.4 Dry Contact Scheduling Settings

### Procedure

**Step 1** On the home screen, choose **Power adjustment > Dry contact scheduling settings**.

----End