V2.0 2026-02-12

Residential Smart Inverter

ET G2 6.0-15.0kW

· Lynx Home F G2
· Lynx Home F
· Lynx Home F Plus+
· Lynx Home D

Solutions Manual

GOODWE

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Copyright Statement

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NOTICE

Due to product version upgrades or other reasons, the content of this document may be updated periodically. Unless otherwise agreed, the content of this document cannot replace the safety precautions on the product label. All descriptions in this document are for guidance only.

About This Manual

Overview

This document primarily introduces the product information, installation wiring, configuration commissioning, troubleshooting, and maintenance content for the energy storage system composed of inverters, Battery system, and smart meters. Please read this manual carefully before installing and using the product to understand product safety information and familiarize yourself with the product's functions and features. The document may be updated periodically; please obtain the latest version of materials and more product information from the official website.

Applicable Model

The energy storage system includes the following products:

Product Type	Product Information	Description
Inverter	ET G2 6-15kW	Nominal output power from 6kW to 15kW.
Battery system	Lynx Home F G2	Single cluster storage capacity from 9.6kWh to 28.8kWh. Parallel cluster storage capacity up to 230.4kWh.
	Lynx Home F, Lynx Home F Plus+	Single cluster storage capacity from 6.6kWh to 16.38kWh. Parallel cluster storage capacity up to 131.04kWh.
	Lynx Home D	Single cluster storage capacity 5kWh. Parallel cluster storage capacity up to 40kWh.
Meter	GM3000	

Product Type	Product Information	Description
	GM330	Monitoring module in the energy storage system, capable of detecting operating voltage, current, and other information.
smart dongle	WiFi/LAN Kit-20	Uploads system operating information to the monitoring platform via WiFi or LAN signal.
	LS4G Kit-CN, 4G Kit-CN, 4G Kit-CN-G20 or 4G Kit-CN-G21 (China only)	Uploads system operating information to the monitoring platform via 4G signal.
	Ezlink3000	Connected to the main inverter in parallel scenarios. Uploads system operating information to the monitoring platform via WiFi or LAN signal.

Symbol Definition

⚠DANGER
Indicates a situation with a high potential hazard, which, if not avoided, will result in death or serious injury.
⚠WARNING
Indicates a situation with a moderate potential hazard, which, if not avoided, could result in death or serious injury.
⚠CAUTION
Indicates a situation with a low potential hazard, which, if not avoided, could result in moderate or minor injury.
NOTICE
Emphasizes and supplements the content, may also provide tips or tricks for optimal product use, helping you solve a problem or save time.

Table of Contents

1 Safety Precautions

Please always adhere to the safety precaution information contained in this document when operating the equipment.

⚠WARNING

The equipment has been designed and tested in strict compliance with safety regulations. However, as electrical equipment, relevant safety instructions must be followed before performing any operations on the device. Improper operation may result in serious injury or property damage.

1.1 General Safety

NOTICE

- Due to product version upgrades or other reasons, the document content will be updated periodically. Unless otherwise agreed, the document content cannot replace the safety precautions on the product label. All descriptions in the document are for guidance only.
- Please read this document carefully before installing the device to understand the product and precautions.
- All operations on the device must be performed by professional, qualified electrical technicians who are familiar with the relevant standards and safety regulations at the project location.
- When operating the device, use insulated tools and wear personal protective equipment to ensure personal safety. When handling electronic components, wear anti-static gloves, anti-static wrist straps, anti-static clothing, etc., to protect the device from electrostatic damage.
- Unauthorized disassembly or modification may cause device damage, and such damage is not covered by the warranty.
- Device damage or personal injury caused by not installing, using, or configuring the device according to the requirements of this document or the corresponding user manual is beyond the manufacturer's liability. For more product warranty information, please visit the official website: https://en.goodwe.com/warrantyrelated.html.

1.2 personnel requirements

NOTICE

To ensure safety, compliance, and efficiency throughout the entire process of equipment transportation, Installation, wiring, operation, and maintenance, all work must be performed by professional or qualified personnel.

1. Professional or qualified personnel include:
   - Personnel who have mastered the knowledge of equipment working principles, system structure, risks and hazards, and have received professional operation training or possess extensive practical experience.
   - Personnel who have received relevant technical and safety training, possess certain operational experience, can recognize the potential dangers specific tasks pose to themselves, and can take protective measures to minimize risks to themselves and others.
   - Qualified electrical technicians who meet the regulatory requirements of the country/region where the work is performed.
   - Personnel holding a degree in electrical engineering/an advanced diploma in electrical discipline or equivalent/possessing professional qualifications in the electrical field, and with at least 2/3/4 years of experience in testing and regulatory work using electrical equipment safety standards.
2. Personnel involved in special tasks such as electrical work, work at heights, and operation of special equipment must hold valid qualification certificates as required by the location of the equipment.
3. Operation of medium-voltage equipment must be performed by certified high-voltage electricians.
4. Replacement of equipment and components is only permitted to be performed by authorized personnel.

1.3 System Safety

DANGER

- Before performing electrical connections, disconnect all upstream switches of the equipment to ensure it is powered off. Operating on live circuits is strictly prohibited, as it may lead to dangers such as electric shock.
- To prevent personal injury or equipment damage caused by working on live circuits, a circuit breaker must be added to the voltage input side of the equipment.
- All operations including transportation, storage, installation, operation, use, and maintenance must comply with applicable laws, regulations, standards, and specification requirements.
- The specifications of cables and components used for electrical connections must comply with local laws, regulations, standards, and specification requirements.
- Use the cable connectors provided with the equipment to connect the equipment cables. If other models of connectors are used, any resulting equipment damage is not within the responsibility of the equipment manufacturer.
- Ensure all cable connections on the equipment are correct, secure, and not loose. Improper wiring may cause poor contact or damage the equipment.
- The equipment's protective ground wire must be securely connected.
- To protect the equipment and its components from damage during transportation, ensure that transport personnel are professionally trained. Record the operation steps during transportation and keep the equipment balanced to avoid dropping it.
- The equipment is heavy. Deploy personnel corresponding to the equipment's weight to prevent it from exceeding the human lifting capacity, which could cause injury from falling equipment.
- Ensure the equipment is placed stably and not tilted. Equipment tipping over may cause equipment damage and personal injury.
- Do not wear metal items during Equipment Handling, Installation, or testing to avoid equipment damage or electric shock injury.
- Do not place metal parts on the equipment to prevent conductivity and electric shock injury.

⚠WARNING

- Avoid putting weight on the wiring terminals during equipment Installation, as this may cause terminal damage.
- If the cable is subjected to excessive tension, it may cause poor connection. When wiring, leave a certain length of slack in the cable before connecting it to the equipment's wiring port.
- Cables of the same type should be bundled together. Different types of cables should be routed at least 30mm apart and must not be intertwined or cross-routed.
- Using cables in high-temperature environments may cause insulation aging and damage. Maintain a distance of at least 30mm between cables and heating components or the periphery of heat source areas.

1.3.1 PV String Safety

⚠DANGER

- Please use the DC terminals supplied with the unit to connect the inverter DC cables. Using other models of DC terminals may lead to severe consequences, and any equipment damage caused thereby is not within the manufacturer's liability.

⚠WARNING

- Ensure that the component frame and bracket system are well grounded.
- After connecting the DC cables, ensure that the cable connections are tight and not loose.
- Use a multimeter to measure the positive and negative poles of the DC cables to ensure correct polarity, no reverse connection; and the voltage is within the allowable range.
- Do not connect the same PV string to multiple inverters, otherwise it may cause inverter damage.

1.3.2 Inverter Safety

⚠WARNING

- Ensure the voltage and frequency at the grid connection point comply with the inverter's grid connection specifications.
- It is recommended to add protective devices such as circuit breakers or fuses on the AC side of the inverter. The rating of the protective device must be greater than 1.25 times the inverter's maximum AC output current.
- If the inverter triggers an AFCI alarm less than 5 times within 24 hours, the alarm can be cleared automatically. After the 5th AFCI alarm, the inverter will shut down for protection and can only resume normal operation after the fault is cleared.
- If the photovoltaic system is not configured with a battery, it is not recommended to use the BACK-UP function, as it may cause a system power outage risk.
- Changes in grid voltage and frequency may cause the inverter's output power to derate.

1.3.3 Battery Safety

⚠DANGER

- This battery system is a high-voltage system and contains high voltage during operation. Before operating any equipment within the system, ensure the equipment is powered off to avoid the risk of electric shock. Strictly adhere to all safety precautions in this manual and the safety labels on the equipment during operation.
- Do not disassemble, modify, or repair the battery or control box without official authorization from the manufacturer. Otherwise, it may pose an electric shock hazard or cause equipment damage, and any resulting losses are beyond the manufacturer's liability.
- Do not impact, pull, drag, squeeze, or step on the equipment, and do not place the battery in fire, as the battery may explode.
- Do not place the battery in high-temperature environments. Ensure there are no heat sources near the battery and it is not exposed to direct sunlight. Fire may occur if the ambient temperature exceeds 60℃.
- Do not use the battery or control box if there are obvious defects, cracks, damage, or other abnormalities. Battery damage may cause electrolyte leakage.
- Do not move the battery system while it is operating.
- If battery replacement or addition is required, please contact the after-sales service center.
- Battery short circuits may cause personal injury. The instantaneous high current from a short circuit can release a large amount of energy, potentially leading to fire.

⚠WARNING

- If the battery is completely discharged, please charge the battery strictly in accordance with the battery user manual for the corresponding model.
- Battery current may be affected by factors such as: temperature, Humidity, weather conditions, etc., which may cause current limiting and affect load capacity.
- If the battery fails to start, please contact the after-sales service center as soon as possible. Otherwise, the battery may be permanently damaged.

Emergency Response Measures

- Battery electrolyte leakage
  If electrolyte leaks from the battery module, avoid contact with the leaking liquid or gas. Electrolyte is corrosive and contact may cause skin irritation and chemical burns. If you come into contact with the leaked substance, please do the following:
  - inhalation: Evacuate from the contaminated area and seek medical help immediately.
  - Eye contact: Rinse with clean water for at least 15 minutes and seek medical help immediately.
  - Skin contact: Wash the contacted area thoroughly with soap and water and seek medical help immediately.
  - Ingestion: Induce vomiting and seek medical assistance immediately.
- Fire
  - When the battery temperature exceeds 150°C, there is a risk of battery fire, which may release toxic and harmful gases.
  - To prevent fire, ensure that carbon dioxide, Novec1230, or FM-200 fire extinguishers are available near the equipment.
  - When extinguishing a fire, do not use ABC dry powder fire extinguishers. Firefighters must wear protective clothing and self-contained breathing apparatus.

1.3.4 Smart Meter Safety

⚠WARNING

If the grid voltage fluctuation exceeds 265V, long-term overvoltage operation may damage the meter. It is recommended to add a fuse with a rated current of 0.5A on the voltage input side of the meter to protect it.

1.4 Safety Symbols and Certification Marks

⚠DANGER

- After equipment installation, labels and warning signs on the enclosure must remain clearly visible and must not be obstructed, altered, or damaged.
- The enclosure warning label descriptions provided below are for reference only. Please refer to the labels prevailing on the actual equipment.

No.	Symbol	Meaning
1		Potential hazards exist during equipment operation. Take necessary precautions when operating the equipment.
2		High voltage hazard. High voltage is present during equipment operation. Ensure the equipment is powered off before performing any operations.
3		The inverter surface is at high temperature. Do not touch during operation to avoid burns.
4		Use the equipment properly. There is a risk of explosion under extreme conditions.
5		The battery contains flammable materials. Beware of fire.
6		The equipment contains corrosive electrolyte. Avoid contact with leaked electrolyte or vapor.
7		Delayed discharge. After powering off the equipment, wait for 5 minutes for it to fully discharge.
8		Keep the equipment away from open flames or ignition sources.
9		Keep the equipment out of reach of children.
10		Use the equipment properly. There is a risk of explosion under extreme conditions.
11		The battery contains flammable materials. Beware of fire.
12		Do not lift the equipment after the battery system is wired or while the battery system is operating.

No.	Symbol	Meaning
13		Do not extinguish with water.
14		Read the product manual carefully before operating the equipment.
15		Personal protective equipment must be worn during installation, operation, and maintenance.
16		Do not dispose of the equipment as household waste. Dispose of it according to local laws and regulations, or return it to the manufacturer.
17		Do not directly disconnect or plug/unplug the DC terminals while the equipment is operating.
18		Grounding point.
19		Recycling symbol.
20		CE certification mark.
21		TUV mark.
22		RCM mark.

1.5 EU Declaration of Conformity

1.5.1 Equipment with Wireless Communication Modules

Equipment with Wireless Communication Modules sold in the European market must comply with the following directives:

- Radio Equipment Directive 2014/53/EU (RED)
- Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863

(RoHS)
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

1.5.2 Equipment without Wireless Communication Modules (Except Battery)

Equipment without wireless communication functions that can be sold in the European market must meet the requirements of the following directives:

- Electromagnetic compatibility Directive 2014/30/EU (EMC)
- Electrical Apparatus Low Voltage Directive 2014/35/EU (LVD)
- Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863 (RoHS)
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

1.5.3 Battery

Batteries sold in the European market comply with the following directives:

- Electromagnetic compatibility Directive 2014/30/EU (EMC)
- Electrical Apparatus Low Voltage Directive 2014/35/EU (LVD)
- Battery Directive 2006/66/EC and Amending Directive 2013/56/EU
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

For more EU Declarations of Conformity, please visit the official website: https://en.goodwe.com.

2 System Introduction

2.1 System Overview

The residential Smart Inverter Solution integrates devices such as the inverter, Battery, Smart Meter, and smart communication stick. It converts solar energy into electricity within the photovoltaic system to meet household power demands. The energy IoT devices in the system manage electrical appliances by identifying the overall power situation in the system, thereby intelligently managing power for use by loads, storage in the Battery, or export to the grid.

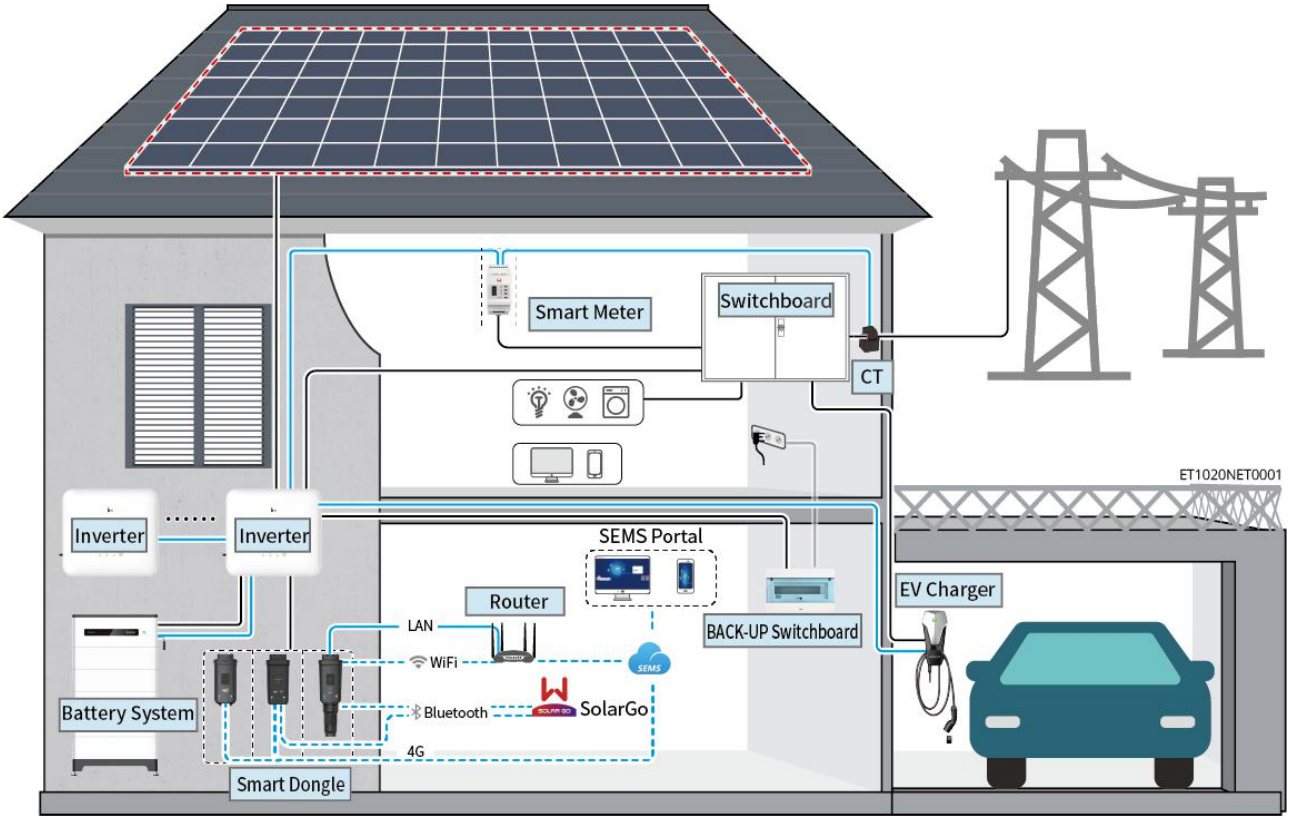
⚠WARNING

- Select battery models based on the inverter and battery compatibility list. For requirements regarding batteries used in the same system, such as whether models can be mixed or capacities must be consistent, please refer to the user manual of the corresponding battery model or contact the battery manufacturer. Inverter and battery compatibility list: https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_Battery%20Compatibility%20Overview-EN.pdf.
- Document content is updated periodically due to product version upgrades or other reasons. For the compatibility between inverters and IoT products, please refer to: https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_Compatibility-list-of-GoodWe-inverters-and-IoT-products-EN.pdf.
- Photovoltaic systems are not suitable for connecting to devices that rely on stable power supply, such as life-sustaining medical equipment. Ensure that system power failure does not cause personal injury.
- If the photovoltaic system is not configured with a battery, it is not recommended to use the BACK-UP function, as it may cause system power failure risk.
- The BACK-UP port does not support connection to autotransformers or isolation transformers.
- Battery current may be affected by factors such as temperature, humidity, weather conditions, etc., which may cause battery current limiting and affect

⚠WARNING

load-carrying capacity.

- The maximum battery discharge current and charge current are limited by the inverter connected to it.
- The inverter has a UPS function with a switching time of <10ms. Ensure that the BACK-UP load capacity is less than the inverter's rated power. Otherwise, the UPS function may fail during a grid power outage.
- If the photovoltaic system is not configured with a battery, it is not recommended to use the BACK-UP function, as it may cause system power failure risk.
- When the inverter is in off-grid mode, it can be used normally for common household loads. However, the following loads need to be limited, such as:
  - Inductive loads: Inductive load power < 0.4 times the inverter's rated output power.
  - Capacitive loads: Total power ≤ 0.66 x inverter rated output power.
  - The inverter does not support half-wave loads. Half-wave loads: Some old or non-EMC compliant appliances (such as hair dryers, small heaters using half-wave rectification) may not work properly.
- In a system where the inverter operates completely off-grid, if the battery is exposed to prolonged low sunlight or rainy weather and cannot be replenished in time, it may lead to over-discharge, causing battery performance degradation or damage. To ensure long-term stable system operation, avoid completely draining the battery. Recommended measures are as follows:
  1. During off-grid operation, set the minimum SOC protection threshold. It is recommended to set the off-grid battery SOC lower limit to 30%.
  2. When the SOC approaches the protection threshold, the system will automatically enter load-limiting or protection mode.
  3. If there is insufficient sunlight for several consecutive days and the battery SOC is too low, promptly replenish the battery using external energy sources (such as a generator or grid-assisted charging).
  4. Regularly check the battery status to ensure it is within the safe operating range.
  5. It is recommended to fully charge and discharge the battery every six months to calibrate SOC accuracy.
- For detailed networking and wiring schemes for each scenario, please refer to: 5.2.Detailed System Wiring Diagram(Page 89).



Device Type	model	Description
Inverter	GW6000-ET-20 GW8000-ET-20 GW9900-ET-20 (Australia only) GW10K-ET-20 GW12K-ET-20 GW15K-ET-20	• Supports up to 4 inverters to form a parallel system.Supports up to 4 inverters to form a parallel system. Supports mixing inverters of different power ratings. • All inverters in the parallel system must have the same software version. • In a coupling scenario, using a dual meter allows simultaneous monitoring of grid-tied inverter generation and load consumption. ◦ Inverter ARM software version 15.441 or above. ◦ Inverter DSP software version 03.3009. ◦ SolarGo version 6.8.0 or above.

Device Type	model	Description
Battery system	**Lynx Home F G2** LX F9.6-H-20 LX F12.8-H-20 LX F16.0-H-20 LX F19.2-H-20 LX F22.4-H-20 LX F25.6-H-20 LX F28.8-H-20	• Lynx Home F battery system does not support clustering. • A system supports a maximum of 8 battery system clusters. • Battery systems of different versions cannot be mixed.
	Lynx Home F、Lynx Home Plus+ LX F6.6-H LX F9.8-H LX F13.1-H LX F16.4-H	
	Lynx Home D LX D5.0-10	
Smart Meter	• GM3000 (purchased from GoodWe) • GM330 (purchased from GoodWe) • Inverter built-in meter	• Built-in meter: Please use the CT shipped with the inverter to connect to the inverter. ◦ CT ratio is 90A/90mA. ◦ When the inverter's built-in meter does not meet the requirements, you can contact dealers to purchase a GM330 or GM3000 smart meter. • GM3000: CT cannot be replaced. CT ratio: 120A: 40mA • GM330: CT can be purchased from GoodWe or independently. CT ratio requirement: nA/5A ◦ nA: CT primary side input current, where n ranges from 200-5000 ◦ 5A: CT secondary side output current

Device Type	model	Description
smart dongle	• WiFi/LAN Kit-20 • LS4G Kit-CN、4G Kit-CN、4G Kit-CN-G20 or 4G Kit-CN-G21 (China only) • Ezlink3000	• For a single unit, use the WiFi/LAN Kit-20, LS4G Kit-CN, 4G Kit-CN, 4G Kit-CN-G20, or 4G Kit-CN-G21 module. • In a parallel system, only the master inverter needs to be connected to Ezlink3000; slave inverters do not require a communication module. • Ezlink3000 firmware version must be 04 or above.

2.2 Product Overview

2.2.1 Inverter

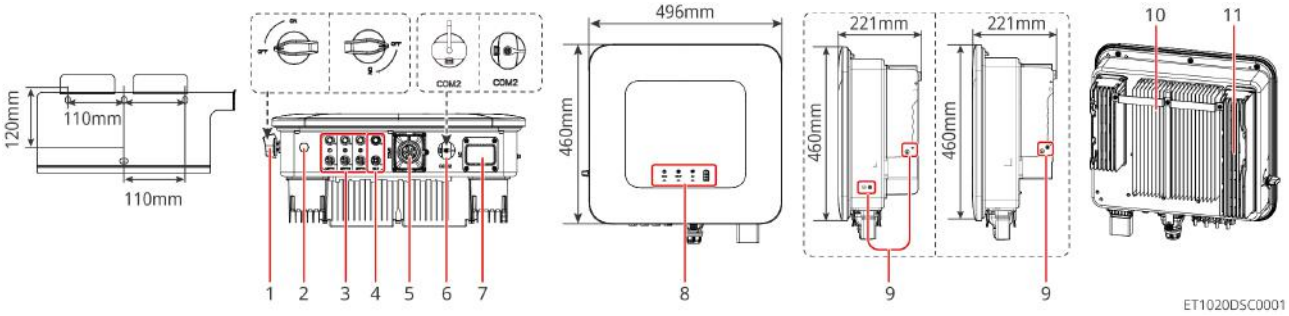
Inverter in the photovoltaic system controls and optimizes the energy flow through the integrated energy management system. It can supply the electricity generated in the photovoltaic system for load use, store it in batteries, output it to the grid, etc.

NOTICE
The appearance of inverters varies across different power ranges. Please refer to the actual product.

No.	model	Nominal output power	Nominal output voltage	Number of MPPTs
1	GW6000-ET-20	6kW	400/380, 3L/N/PE	2
2	GW8000-ET-20	8kW		2
3	GW9900-ET-20 (Australia only)	9.9kW		3
4	GW10K-ET-20	10kW		3

No.	model	Nominal output power	Nominal output voltage	Number of MPPTs
5	GW12K-ET-20	12kW		3
6	GW15K-ET-20	15kW		3

Component Introduction



No.	Component	Description
1	DC Switch	Controls the connection or disconnection of DC input.
2	Ventilation valve	-
3	PV DC Input Ports	For connecting DC input cables from PV modules. • GW6000-ET-20 and GW8000-ET-20: MPPT x 2 • GW9900-ET-20, GW10K-ET-20, GW12K-ET-20, GW15K-ET-20: MPPT x 3
4	Battery Connection Port	For connecting DC cables from the battery.
5	Communication Port	For connecting communication cables, supports communication with CT, meter, DRED, Remote Shutdown, Rapid Shutdown, RCR, EMS, generator, and BMS.
6	Communication Module Port	• For connecting communication modules, supports 4G, Wi-Fi/LAN modules. • Use a USB flash drive for system software upgrade.

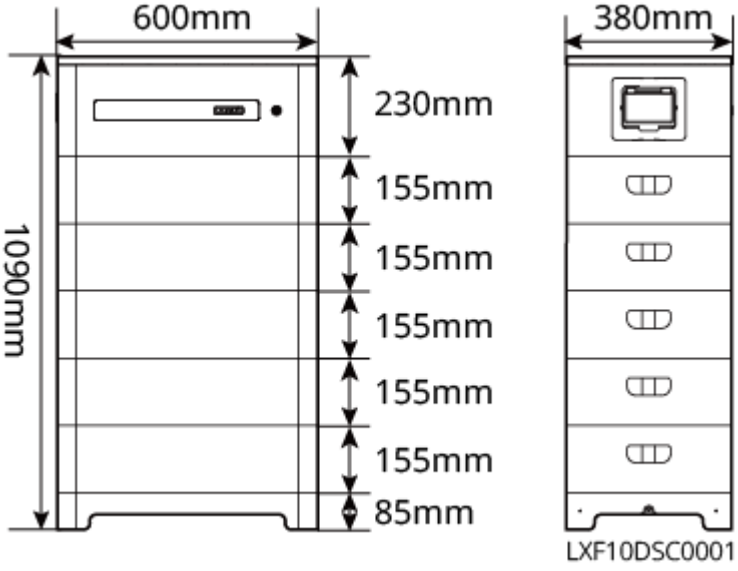
No.	Component	Description
7	AC Port	For connecting AC cables.
8	indicator	Indicates the operating status of the inverter.
9	Grounding terminal	For connecting the protective earth wire of the enclosure.
10	Mounting Bracket	For mounting the inverter.
11	heat sink	For inverter heat dissipation.

2.2.2 Battery

The battery system can store and release electrical energy according to the requirements of the photovoltaic energy storage system. The input and output ports of this energy storage system are both high-voltage direct current.

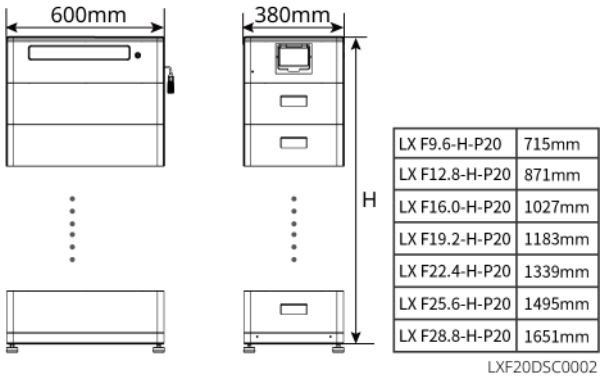
2.2.2.1 Lynx Home F、Lynx Home F Plus+

Lynx Home F series battery system consists of a master control box and battery modules. The battery system can store and release electrical energy according to the requirements of the photovoltaic energy storage system. The input and output ports of this energy storage system are both high-voltage direct current.



No.	model	Number of Battery Modules	usable energy (kWh)
1	LX F6.6-H	2	6.55kWh
2	LX F9.8-H	3	9.83kWh
3	LX F13.1-H	4	13.1kWh
4	LX F16.4-H	5	16.38kWh

2.2.2.2 Lynx Home F G2

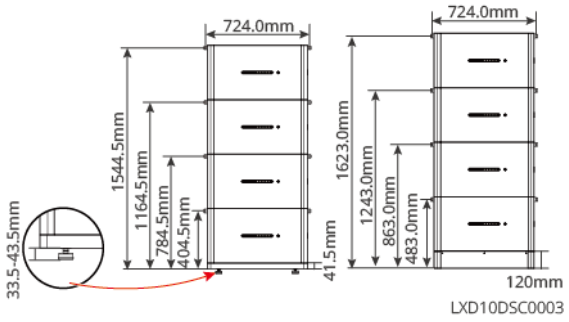


No.	model	Number of Battery Modules	usable energy (kWh)
1	LX F9.6-H-20	3	9.6kWh
2	LX F12.8-H-20	4	12.8kWh
3	LX F16.0-H-20	5	16.0kWh
4	LX F19.2-H-20	6	19.2kWh
5	LX F22.4-H-20	7	22.4kWh
6	LX F25.6-H-20	8	25.6kWh
7	LX F28.8-H-20	9	28.8kWh

2.2.2.3 Lynx Home D

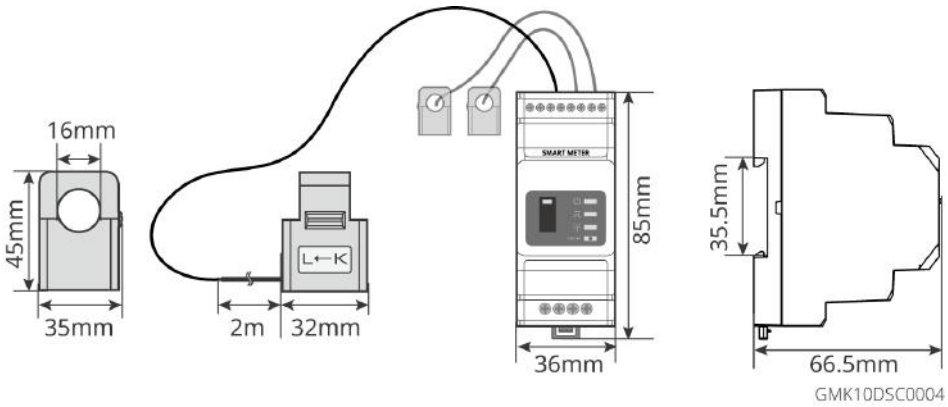
In the Lynx Home D battery system, the BMS and battery modules are integrated into one unit.

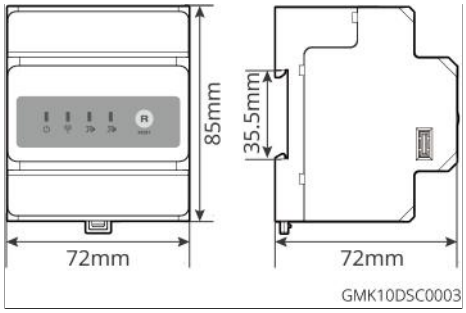
NOTICE
Optional base or bracket installation.



2.2.3 Smart Meter

The Smart Meter can measure parameters such as grid voltage, current, Power, Frequency, and electrical energy, and transmit this information to the inverter to control the input and output Power of the energy storage system.

GM3000&CT


GM330


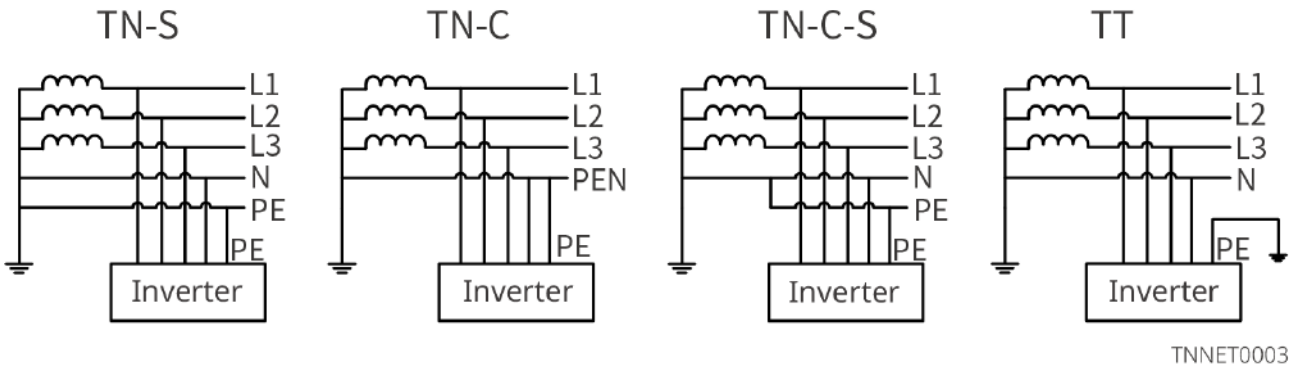
No.	model	Applicable Scenarios
1	GM3000	CT replacement not supported, CT ratio: 120A: 40mA
2	GM330	CT can be purchased from GoodWe or separately, CT ratio requirement: nA: 5A • nA: CT primary side input current, n ranges from 200-5000 • 5A: CT secondary side output current

2.2.4 smart dongle

The smart dongle is primarily used for transmitting various inverter power generation data in real-time to the SEMS Portal remote monitoring platform, and for connecting to the smart dongle via the SolarGo APP for local device debugging.

No.	model	Signal Type	Applicable Scenario
1	WiFi/LAN Kit-20	WiFi, LAN, Bluetooth	Single Inverter Scenario
2	4G Kit-CN LS4G Kit-CN	4G	
3	4G Kit-CN-G20	4G, Bluetooth	
	4G Kit-CN-G21	4G, Bluetooth, GNSS	
4	Ezlink3000	WiFi, LAN, Bluetooth	Master unit in multi-inverter scenarios

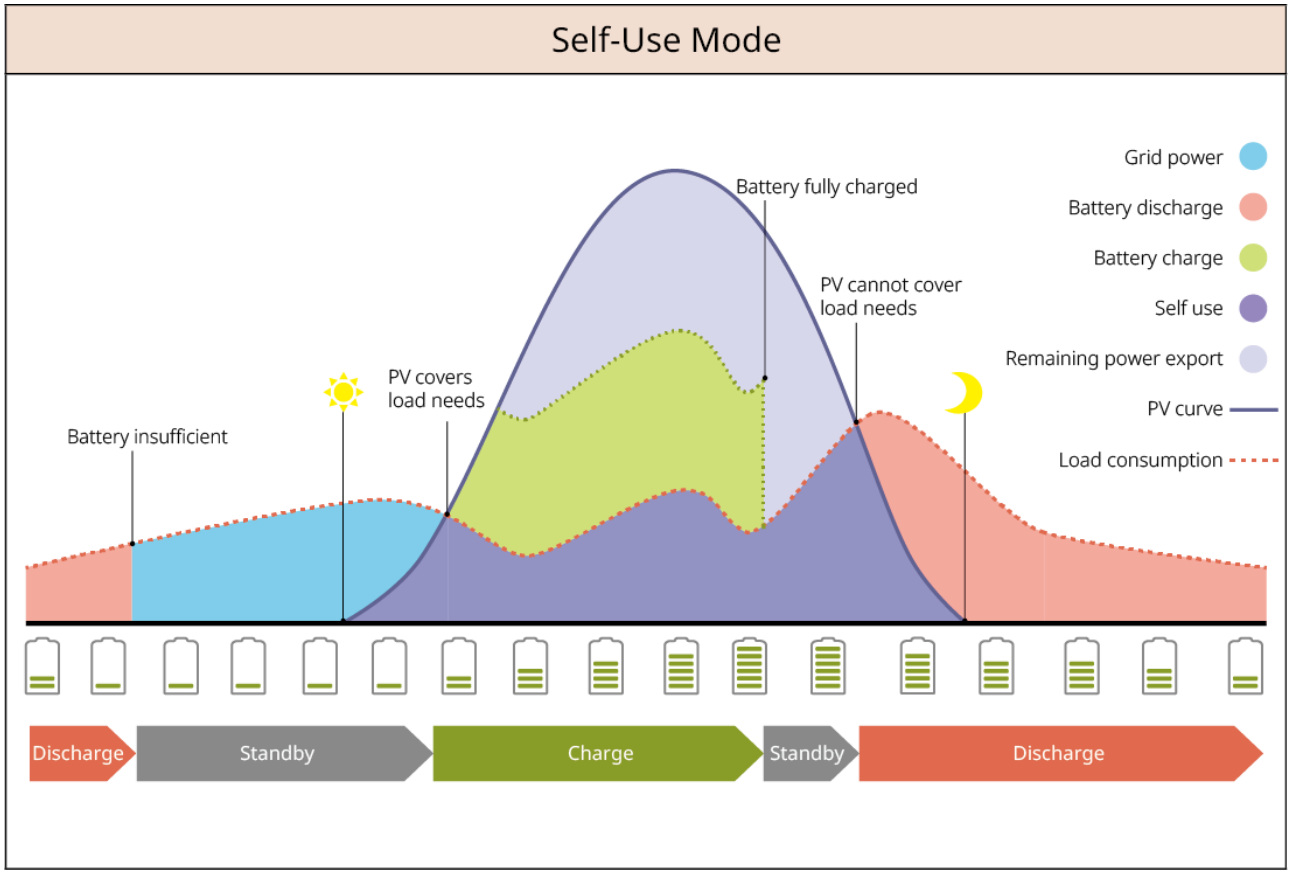
2.3 Supported Grid Types



2.4 System Working Mode

Self-Use

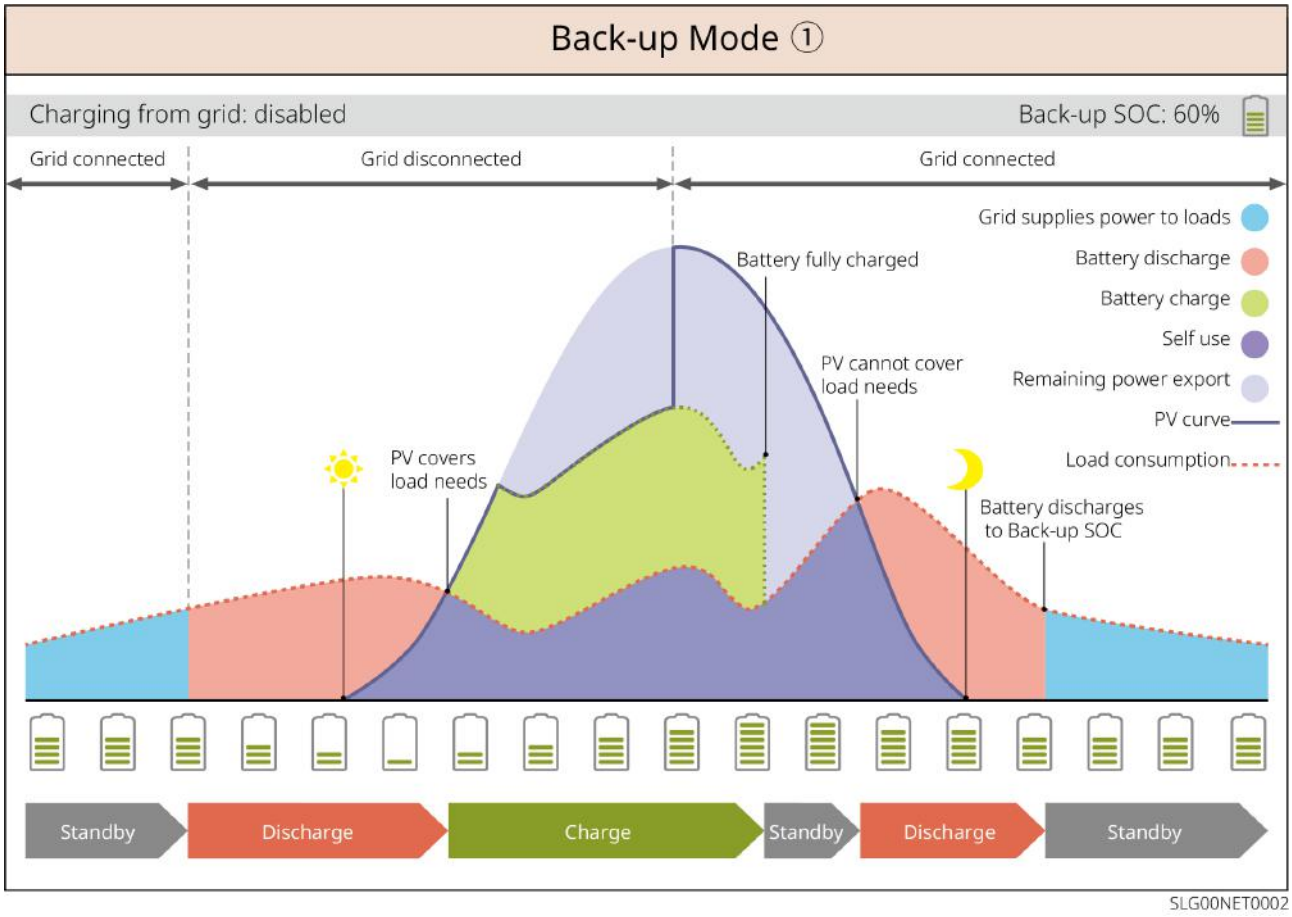
- The fundamental operating mode of the system.
- PV generation priority is given to powering loads. Excess energy charges the battery, and any remaining energy is sold to the grid. When PV generation cannot meet the load demand, the battery supplies power to the loads. If the battery energy is also insufficient to meet the load demand, the grid supplies power to the loads.

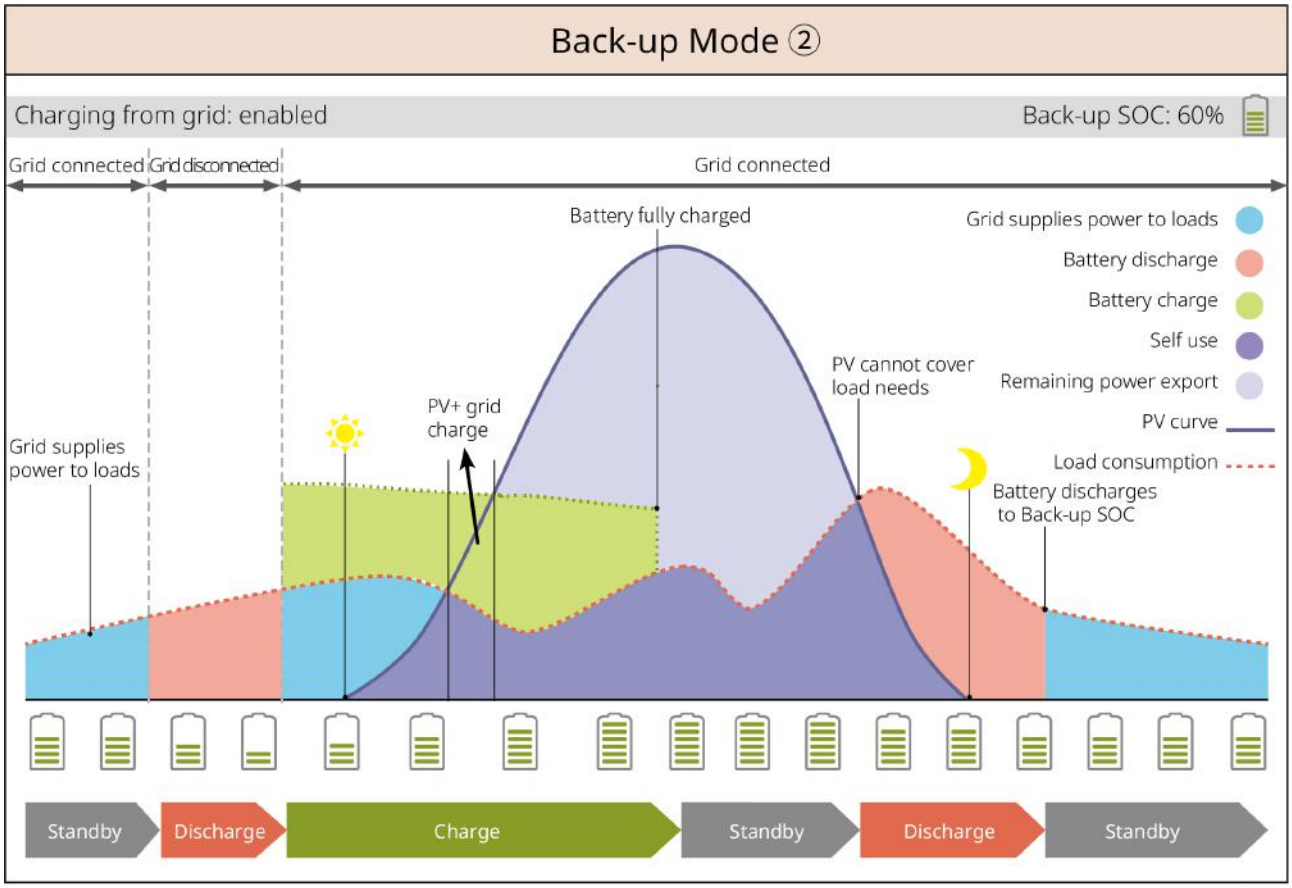


SLG00NET0009

Back-up Mode

- Recommended for use in areas with unstable grids.
- When the grid fails, the inverter switches to off-grid operation mode, and the battery discharges to power the loads, ensuring uninterrupted power for the BACK-UP Loads. When the grid is restored, the inverter switches back to grid-connected operation.
- To ensure the battery SOC is sufficient to maintain normal system operation during off-grid periods, during grid-connected operation, the battery will be charged using PV or by purchasing electricity from the grid to reach the backup power SOC. If purchasing electricity from the grid to charge the battery is required, please ensure it complies with local grid laws and regulations.


Back-up Mode ①
Charging from grid: disabled
Back-up SOC: 60%
Grid connected
Grid disconnected
Grid connected
Grid supplies power to loads
Battery discharge
Battery charge
Self use
Remaining power export
PV curve
Load consumption
Battery fully charged
PV cannot cover load needs
PV covers load needs
Battery discharges to Back-up SOC
Standby
Discharge
Charge
Standby
Discharge
Standby
SLG00NET0002



SLG00NET0003

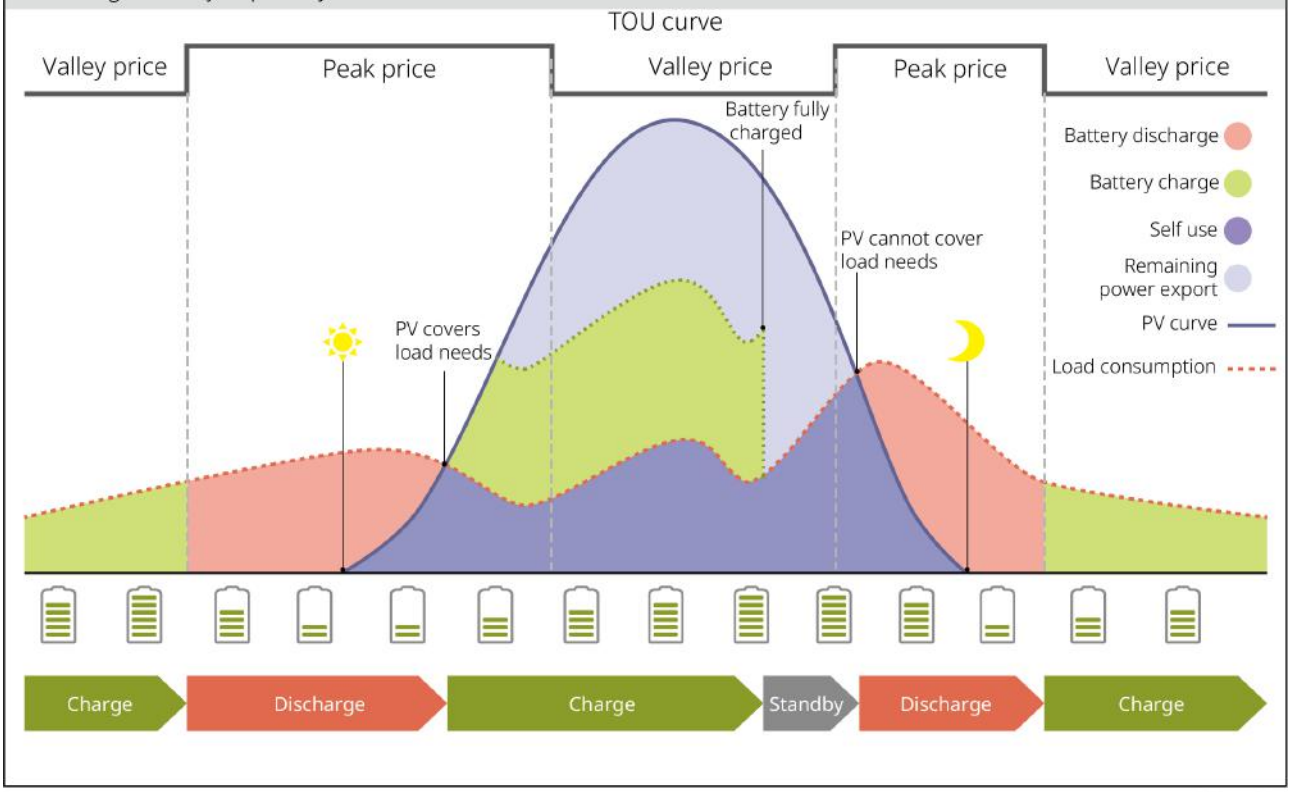
TOU Mode

In compliance with local laws and regulations, buy and sell electricity during different time periods based on peak and off-peak grid electricity price differences.

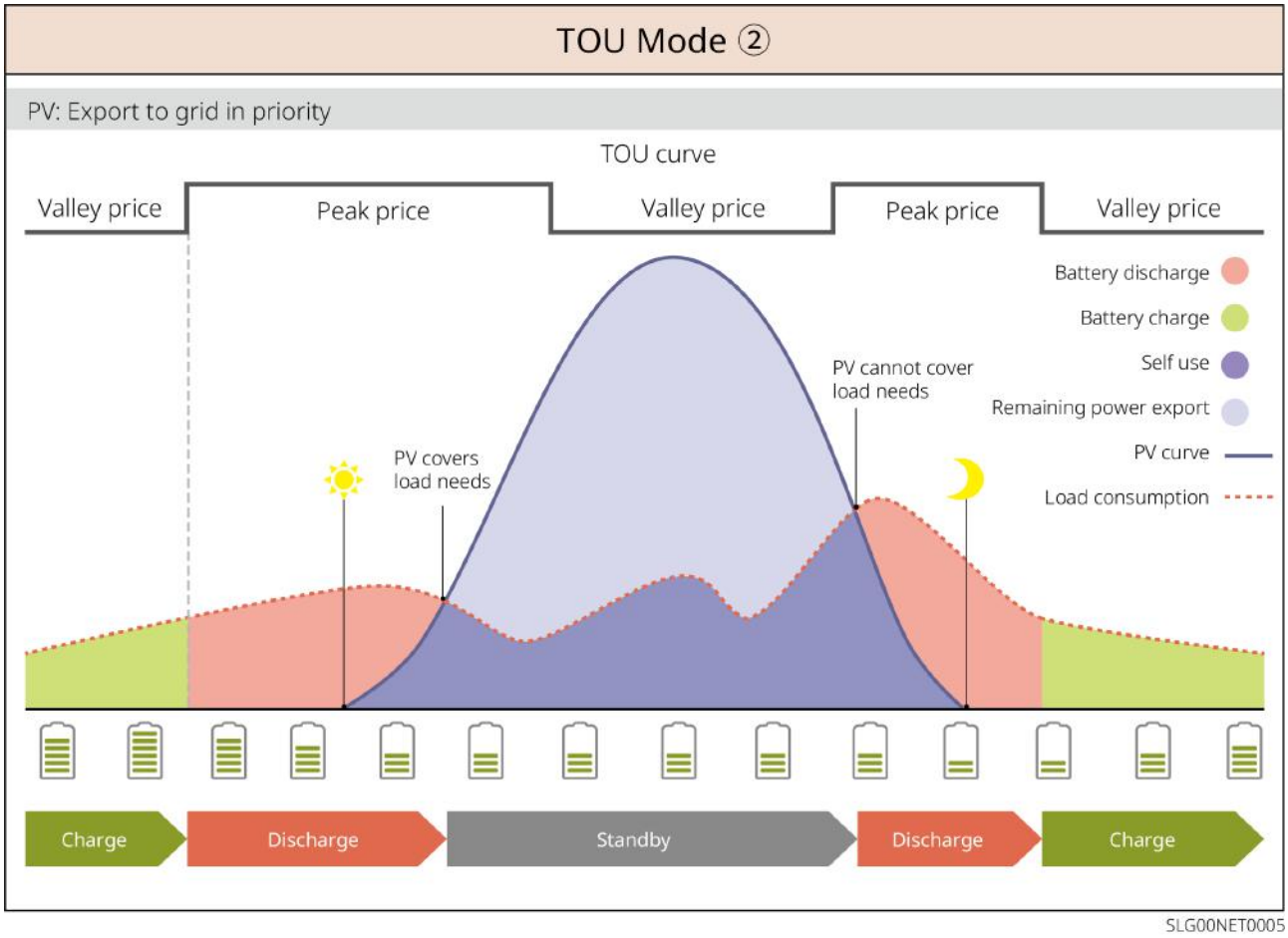
For example: During off-peak electricity price periods, set the battery to charging mode to purchase electricity from the grid for charging; during peak electricity price periods, set the battery to discharging mode to power loads from the battery.

TOU Mode ①

PV: Charge battery in priority

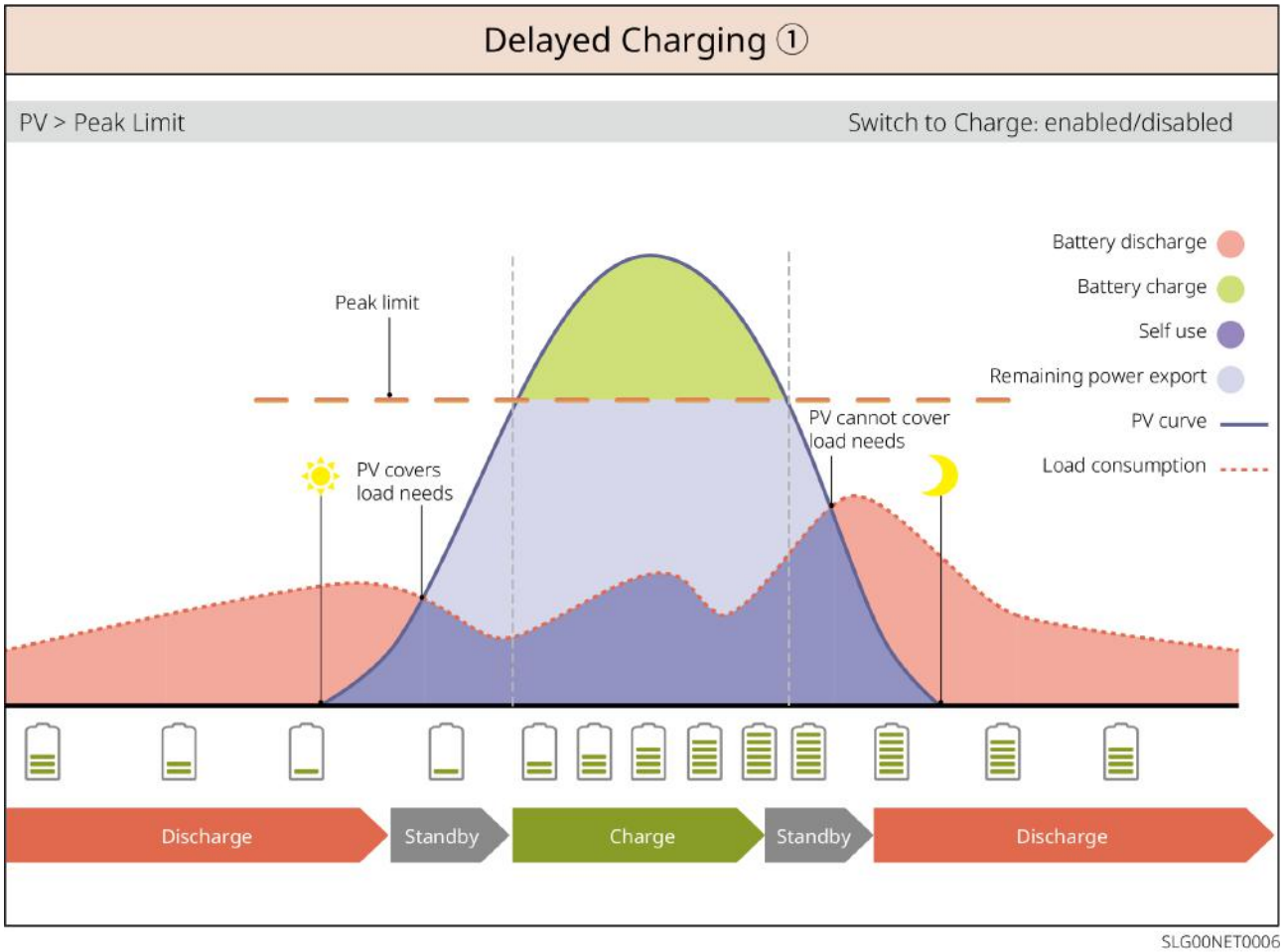


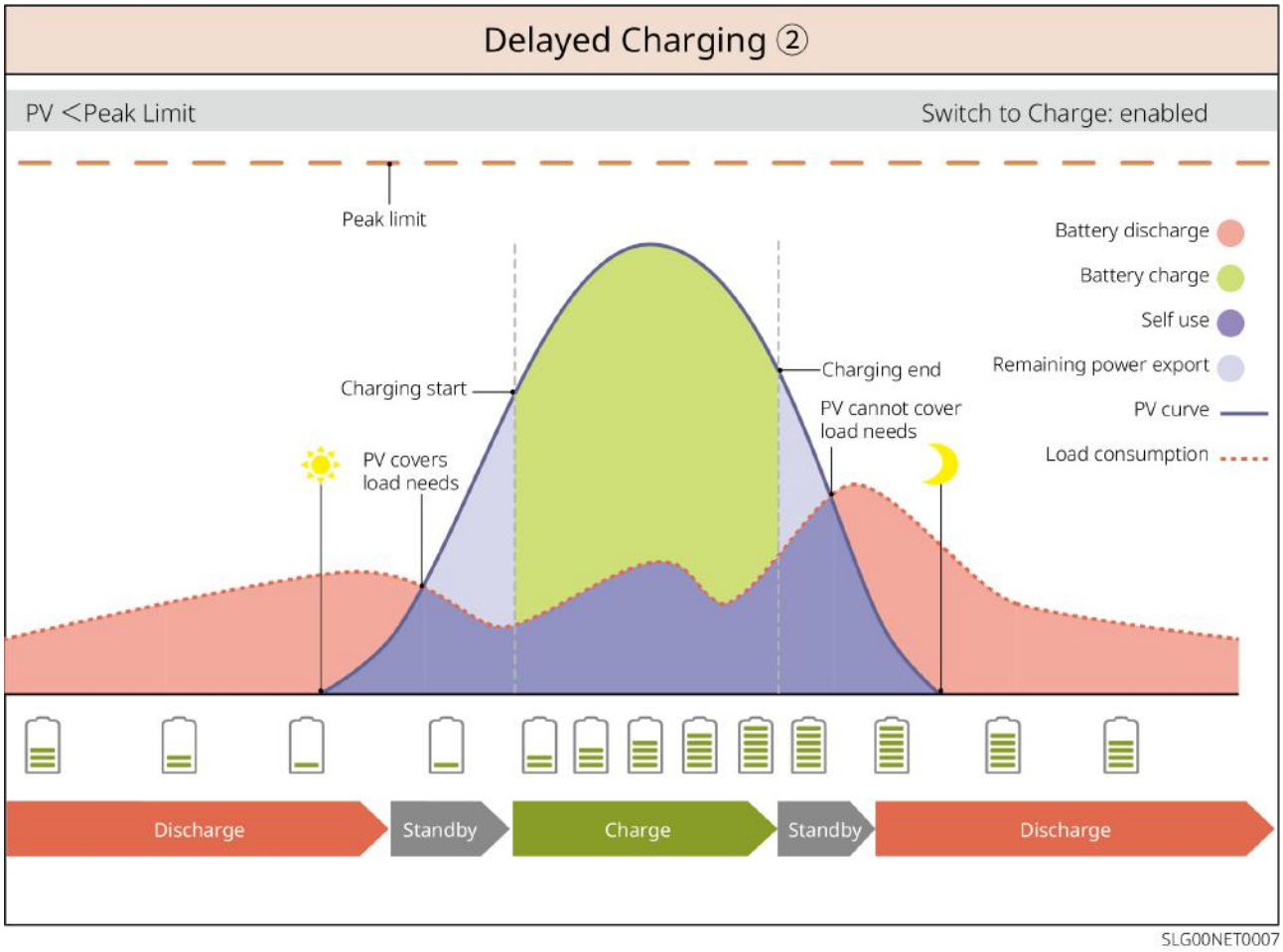
SLG00NET0004

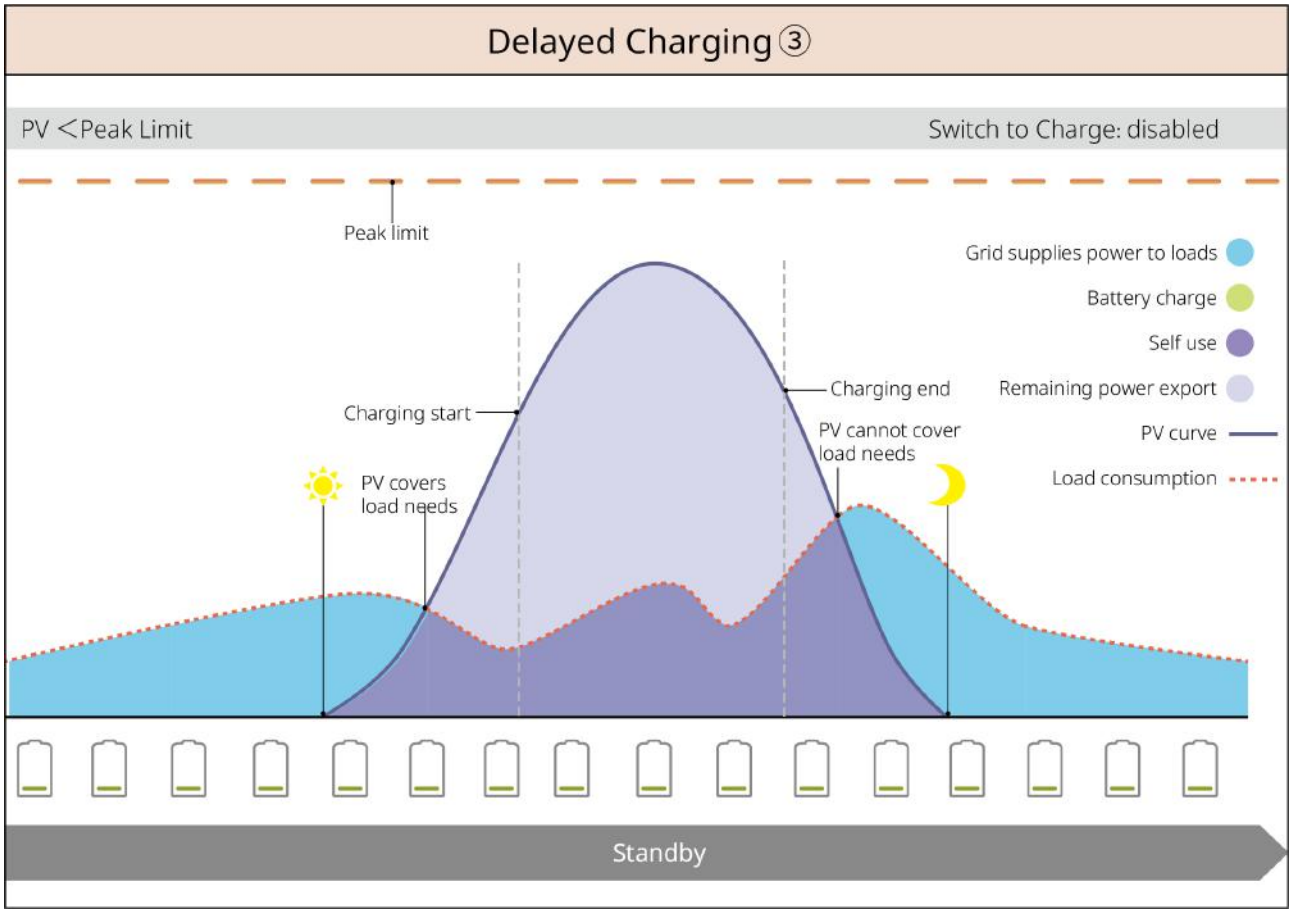


Delayed Charging Mode

- Suitable for areas with grid-connected power output limitations.
- Setting a peak power limit allows excess PV generation beyond the grid connection limit to be used for charging the battery; or setting a PV charging time period allows PV generation to charge the battery during that period.

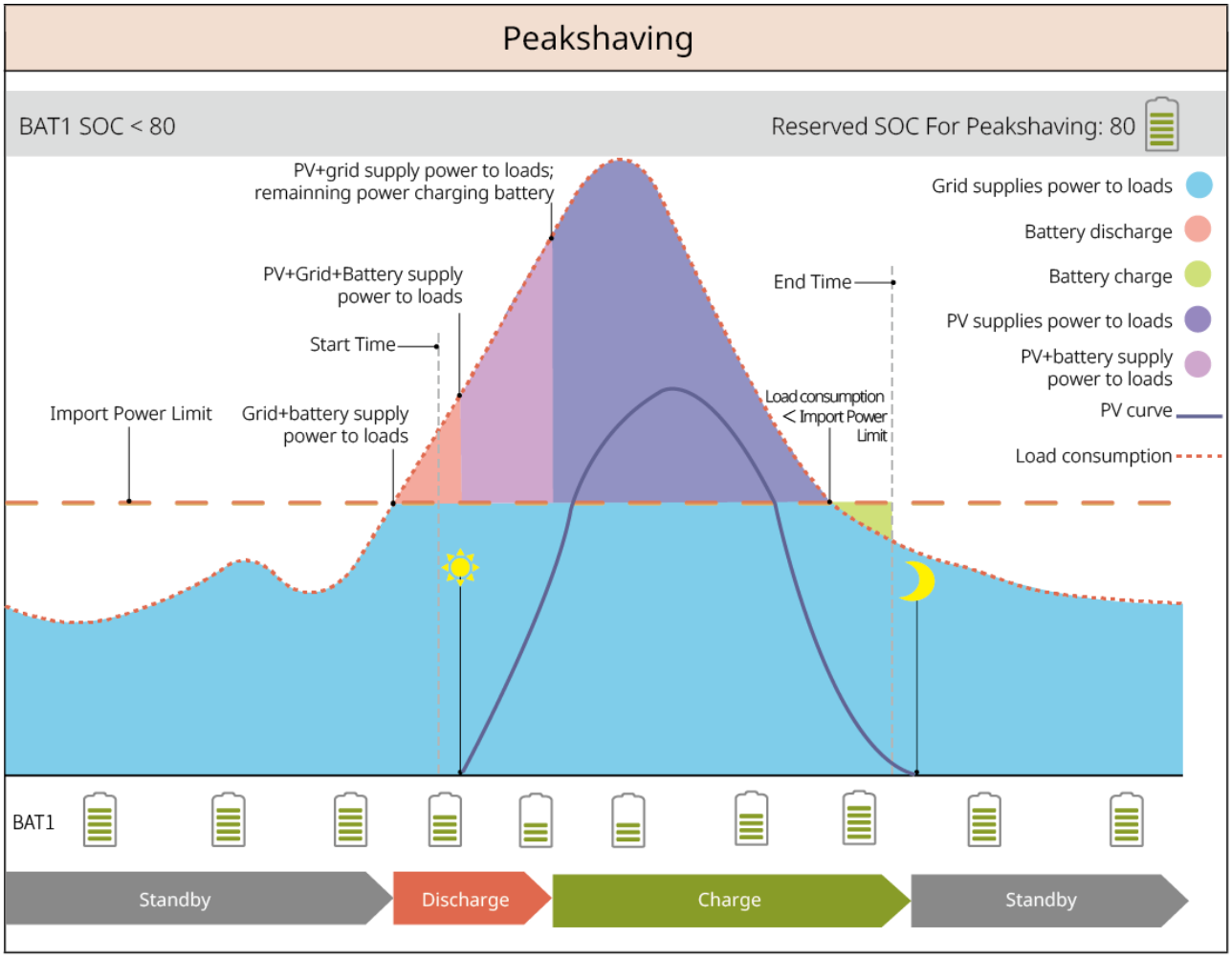

Delayed Charging ①
PV > Peak Limit
Switch to Charge: enabled/disabled
Peak limit
PV covers load needs
PV cannot cover load needs
Battery discharge
Battery charge
Self use
Remaining power export
PV curve
Load consumption
Discharge
Standby
Charge
Standby
Discharge
SLG00NET0006


Delayed Charging ②
PV <Peak Limit
Switch to Charge: enabled
Peak limit
Battery discharge
Battery charge
Self use
Remaining power export
PV curve
Load consumption
Charging start
Charging end
PV cannot cover load needs
PV covers load needs
Discharge
Standby
Charge
Standby
Discharge
SLG00NET0007



Peakshaving Mode

- Primarily applicable to commercial and industrial scenarios.
- When the total load power consumption exceeds the electricity quota within a short period, battery discharge can be utilized to reduce the portion of consumption exceeding the quota.
- When the battery SOC is lower than the reserved SOC for demand control, the system purchases electricity from the grid based on the time period, load consumption, and peak power purchase limit.



SLG00NET0001

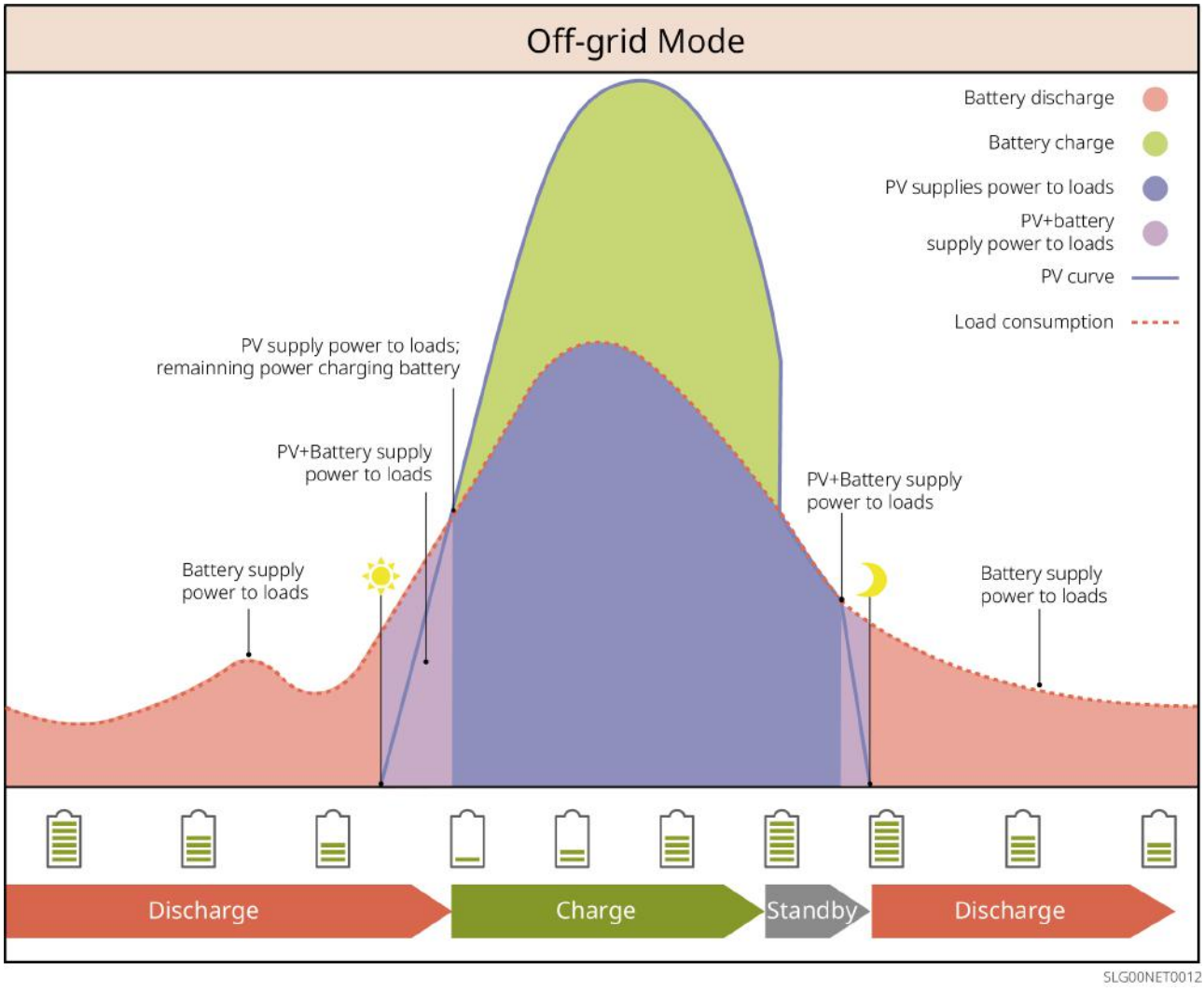
Off-grid Mode

NOTICE

Do not operate in pure off-grid mode when the inverter is not connected to the battery system.

When the grid fails, the inverter switches to off-grid operation mode.

- During the day, PV generation priority is given to powering loads, with excess energy charging the battery.
- At night, the battery discharges to power the loads, ensuring uninterrupted power for the BACK-UP Loads.



2.5 Features

NOTICE
Specific features are subject to the actual product configuration.

AFCI function

The inverter integrates an AFCI circuit protection device, used to detect arc faults (arc fault) and quickly cut off the circuit when detected, thereby preventing electrical fires. Causes of arc generation:

- Damage to connector connections in the photovoltaic system or battery system.
- Incorrect or damaged cable connections.

- Aging of connectors and cables.

Arc detection methods

- The inverter integrates the AFCI function, complying with the IEC 63027 standard.
- When the inverter detects an arc occurrence, the time and phenomenon of the fault can be reflected through the App.
- After the inverter triggers an AFCI alarm, it will shut down for protection. After the alarm is cleared, the inverter automatically reconnects to the grid.
  - Automatic reconnection: If the inverter triggers AFCI alarms < 5 times within 24 hours, the alarm can be automatically cleared after five minutes, and the inverter reconnects to the grid.

Manual reconnection: If the inverter triggers the 5 th AFCI alarm within 24 hours, the alarm must be manually cleared before the inverter can reconnect to the grid.

model	Label	Description
GW6000-ET-20 GW8000-ET-20	F-I-AFPE-1-2-1	F: Full coverage I: Integrated AFPE: Detection and interruption capability provided 1: 1 monitored string per input port 2: 2 input ports per channel 1: 1 monitored channel
GW9900-ET-20 GW10K-ET-20 GW12K-ET-20 GW15K-ET-20	F-I-AFPE-1-2/1-2	F: Full coverage I: Integrated AFPE: Detection and interruption capability provided 1: 1 monitored string per input port 2/1: 2/1 input ports per channel (AFD1: 2 , AFD2: 1) 2: 2 monitored channels

Three-phase unbalanced output

The inverter grid connection end and BACK-UP end both support three-phase unbalanced output, and each phase can connect loads of different power. The maximum output power per phase for different models is shown in the table below:

No.	model	Maximum Output Power per Phase
1	GW6000-ET-20	3kW
2	GW8000-ET-20	4kW
3	GW9900-ET-20 (Australia only)	5kW
4	GW10K-ET-20	5kW
5	GW12K-ET-20	5kW
6	GW15K-ET-20	5kW

load control

The inverter dry contact control port supports connecting additional contactors to control the turning on or off of loads. Supports household loads, heat pumps, etc. Load control methods are as follows:

- Time control: Set the time to control the turning on or off of loads. Within the set time period, the load will automatically turn on or off.
- Switch control: When the control method is selected as ON, the load will turn on; when set to OFF, the load will turn off.
- BACK-UP Load control: The inverter has a built-in relay dry contact control port, which can control whether the load is turned off via the relay. In off-grid mode, if it is detected that the battery SOC value at the BACK-UP end is overloaded and below the battery off-grid protection set value, the load connected to the relay port can be turned off.

Rapid Shutdown (RSD)

In the rapid shutdown system, the rapid shutdown transmitter and receiver are used together to achieve rapid system shutdown. The receiver maintains component output by receiving signals from the transmitter. The transmitter can be external or built into the inverter. In case of an emergency, by enabling the external trigger device, the transmitter can be stopped, thereby shutting down the components.

- External transmitter
  - Transmitter models: GTP-F2L-20, GTP-F2M-20
    https://en.goodwe.com/Ftp/Installation-instructions/RSD2.0-transmitter.pdf
  - Receiver models: GR-B1F-20, GR-B2F-20
    https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_RSD-20_Quick-

Installation-Guide-POLY.pdf

- Built-in transmitter
  - External trigger device: external switch
  - Receiver models: GR-B1F-20, GR-B2F-20
    https://en.goodwe.com/Ftp/EN/Downloads/User%20Manual/GW_RSD-20_Quick-Installation-Guide-POLY.pdf

3 Check and Storage

3.1 Check Before Receiving

Before receiving the product, please carefully check the following:

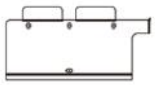
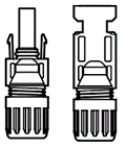
1. Check if the outer packaging is damaged, such as deformation, holes, cracks, or other signs that could cause damage to the device inside the packaging box. If damaged, do not open the packaging and contact your dealer.
2. Check if the device model is correct. If it does not match, do not open the packaging and contact your dealer.

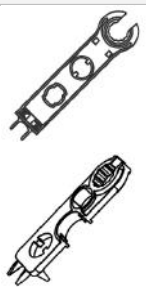
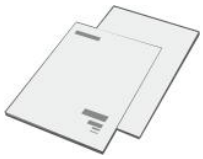
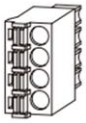
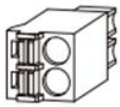
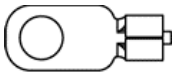
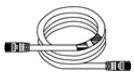
3.2 deliverables

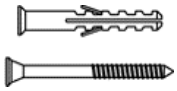
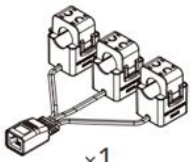
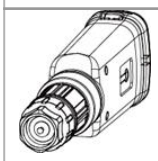
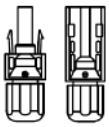
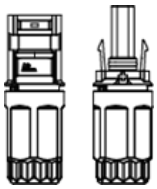
⚠WARNING
Check if the types and quantities of delivered items are correct, and if there is any damage to the appearance. If damaged, please contact your dealer. After taking the delivered items out of the packaging, do not place them on rough, uneven, or sharp surfaces to prevent paint from chipping.

3.2.1 Inverter Deliverables

Inverter Deliverables

Part	Quantity	Part	Quantity
	Inverter x 1		Mounting bracket x 1
	Bracket mounting screw x 1		PV connector GW6000-ET-20, GW8000-ET-20: 2 GW9900-ET-20, GW10K-ET-20, GW12K-ET-20, GW15K-ET-20: 3

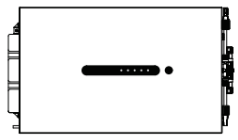
Part	Quantity	Part	Quantity
 or	Crimping tool x 2		Product documentation x 1
	6PIN communication terminal x 1		4PIN communication terminal x 3
	2PIN communication terminal x 1		AC crimp terminal x 12
	Grounding terminal x 1		PIN terminal x 20
	AC terminal protective cover x 1		BMS Communication cablex 1
	Hexagon screwdriver x 1		CT cablex 1

Part	Quantity	Part	Quantity
	Expansion bolt x 4		CT x 1
	smart dongle x 1		screwdriver x 1
 Battery connector	(Optional) Battery connectorx 2	 Battery connector  Crimp terminal	(Optional) Battery connector x 1, Crimp terminalx 8

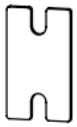
3.2.2 Batteries Deliverables

3.2.2.1 Batteries Deliverables (Lynx Home D)

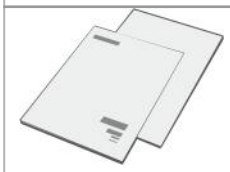
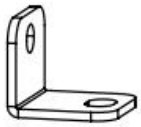
- Battery

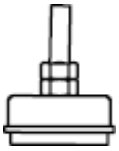
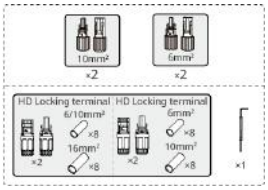
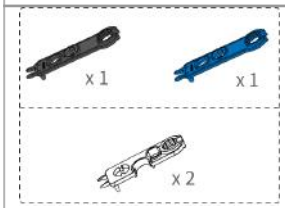
Part	Quantity	Part	Quantity
	Battery x 1		Battery left side protective cover x 1

Part	Quantity	Part	Quantity
	M6screw x 2		Battery right side protective cover x 1
	M5screw • When the inter-battery fixing bracket accessory is shipped, the quantity of M5 screws is 4. • When the inter-battery fixing bracket is pre-installed on the machine for shipment, the quantity of M5 screws is 2.		M6Expansion bolt x 2

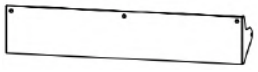
Part	Quantity	Part	Quantity
	Inter-battery fixing bracket • When the inter-battery fixing bracket accessory is shipped, the shipped quantity is 2. • When the inter-battery fixing bracket is pre-installed on the machine for shipment, the shipped quantity is 0.		Inter-battery communication cable x 1
	locking bracket x 2	-	-

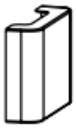
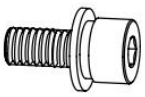
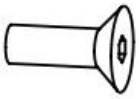
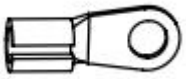
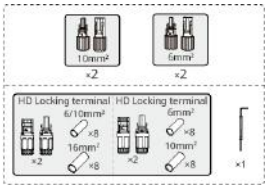
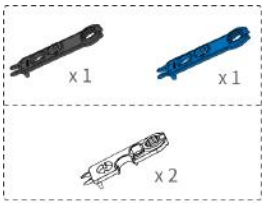
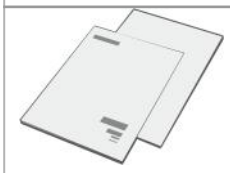
- (Optional) Base

Component	Quantity	Component	Quantity
	Base x 1		M5screwx 2
	Product documentation x 1		Base and battery mounting bracket x 2

Component	Quantity	Component	Quantity
	Grounding terminalx 1		Adjustable feet x N The quantity of adjustable feet is subject to the actual shipment. If the actual shipment does not include adjustable feet and they are required, please contact the distributor or after-sales service to obtain them.
	Power connection terminal (Optional) Hex key wrench x 1 The hex key wrench is shipped together with the battery DC terminal in the self-sealing bag labeled with HD Locking terminal.		Terminal resistor x 1
	Power connection terminal fastening tool	-	-

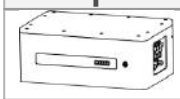
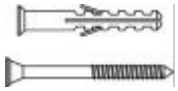
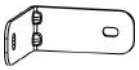
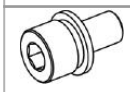
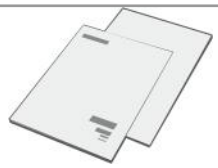
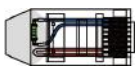
Mounting Bracket (Optional)

Part	Quantity	Part	Quantity
	Mounting bracket x 1		Front protective cover x 1

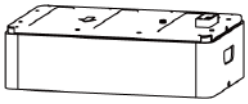
Part	Quantity	Part	Quantity
	Left protective cover x 1		Right protective cover x 1
	Mounting bracket and battery fixing bracket x 2		M5 screw x 2
	M12 expansion bolt x 4		M4 screw x 5
	Grounding terminalx 1		Terminal resistor x 1
	Power connection terminal (Optional) Hex key screwdriver x 1 The hex key screwdriver is shipped together with the battery DC terminal that has an HD Locking terminal label on the self-sealing bag.		Power connection terminal fastening tool
	Product documentation x 1	-	-

3.2.2.2 Lynx Home F 、Lynx Home F Plus+

- Control Box Package

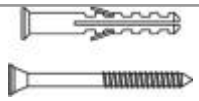
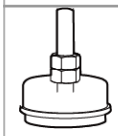
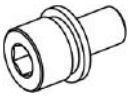
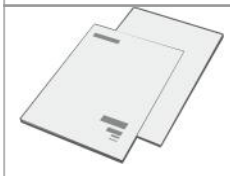
<table>
<tr><th>Component</th><th>Quantity</th><th>Component</th><th>Quantity</th></tr>
<tr><td>  </td><td>Power control unit x 1</td><td>  </td><td>Base x 1</td></tr>
<tr><td>  </td><td>DC Connector
• Lynx Home F x1
• Lynx Home F Plus+ x 2</td><td>  </td><td>Expansion bolt x 4</td></tr>
<tr><td>adjustable foot
  </td><td colspan="3" rowspan="3">• The adjustable foot is only included with the Lynx home F Plus+ series.
• If the adjustable foot is selected, the supplied quantity is:
◦ adjustable foot: 4pcs
◦ Foot anti-tip bracket: 2pcs
◦ Standard anti-tip bracket: 2pcs
• If the adjustable foot is not selected, the supplied quantity is:
◦ Standard anti-tip bracket: 4pcs</td></tr>
<tr><td>Foot anti-tip bracket
  </td></tr>
<tr><td>Standard anti-tip bracket
  </td></tr>
<tr><td>  </td><td>M5*12 screw x 4</td><td>  </td><td>M5 hexalobular internal x 2</td></tr>
<tr><td>  </td><td>M6 nut x 2</td><td>  </td><td>Grounding terminal x 2</td></tr>
<tr><td>  </td><td>Protective coverP x 1</td><td>  </td><td>Product documentation x 1</td></tr>
<tr><td>  </td><td>Terminal resistor x 1</td><td>-</td><td>-</td></tr>
</table>

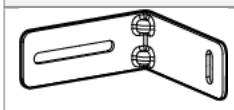
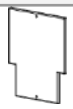
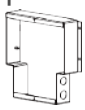
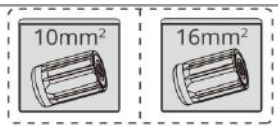
- Battery Module Package

Part	Quantity
	battery module x 1

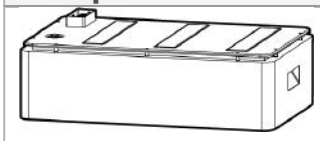
3.2.2.3 Lynx Home F G2

- Main Control Box Package

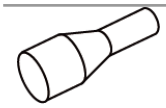
Part	Quantity	Part	Quantity
	Power control unit x 1		Base x 1
	DC Connector Positive: x 2 Negative: x 2		Expansion bolt x 8
	adjusable foot x 4		Grounding terminal x 2
 	• M5*12 Screw x N • M6 Nut x N N: The quantity depends on the product configuration: • M5*12 Screw x 8, M6 Nut x 2; • M5*12 Screw x 10, M6 Nut x 2; • M5*12 Screw x 11, M6 Nut x 2; • M5*12 Screw x 13, M6 Nut x 0; • M5*12 Screw x 12, M6 Nut x 0;		
	Product documentation x 1	 Protective cover plate	(Optional) Protective cover plate x 1

Part	Quantity	Part	Quantity
	L-shaped bracket x 8	 Junction box cover plate  Junction box	(Optional) Junction box x 1, Junction box cover plate x 1,
	DC Connector waterproof plug x 4		DC Connector waterproof plug x 4

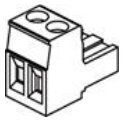
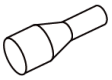
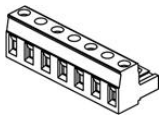
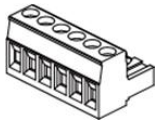
- Battery Module Package

Component	Quantity
	battery module x 1

3.3 Smart Meter Deliverables (GM3000)

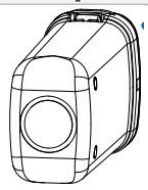
Part	Quantity	Part	Quantity
	Smart electricity meter and CT x 1		2PIN terminal and RJ45 terminal adapter cable x 1
	PIN terminal x 3		USB plug x 1
	screwdriver x 1		Product documentation x 1

3.4 GM330

Component	Description	Component	Description
	Smart meter and CT x1		2PIN communication terminal x1
	PIN terminal x 6		7PIN terminal x1
	Screwdriver x1		6PIN communication terminal x1
	2PIN terminal and RJ45 terminal adapter cable x 1		Product documentation x 1

3.5 Smart Communication Stick Deliverables

LS4G Kit-CN & 4G Kit-CN

Component	Description	Component	Description
	4G smart dongle x1	-	-

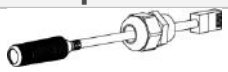
WiFi/LAN Kit-20

Part	Description	Part	Description
	smart dongle x1		Product Documentation x 1

4G Kit-CN-G20 & 4G Kit-CN-G21

Component	Description	Component	Description
	4G Smart Communication Stick x1		Product Documentation x1

Ezlink3000

Component	Description	Component	Description
	smart dongle x1		LAN cable connection port x1
	Product documentation x1		Unlocking tool x1 Some modules require tools for disassembly. If not provided, they can be unlocked via the button on the module itself.

3.6 Storage

NOTICE
[1] The storage time is calculated starting from the SN date on the battery's outer packaging. After exceeding the storage period, charge-discharge maintenance is required. (Battery maintenance time = SN date + charge-discharge maintenance cycle). For the method to view the SN date, refer to: 11.3.SN Code Meaning(Page 430). [2] After passing the charge-discharge maintenance, if a Maintaining Label is attached to the outer box, please update the maintenance information on the Maintaining Label. If there is no Maintaining Label, please record the maintenance time and battery SOC yourself and keep the data properly for maintaining maintenance records.

If the equipment is not put into use immediately, store it according to the following requirements. After long-term storage, the equipment must be inspected and confirmed by qualified personnel before it can be used again.

1. If the inverter is stored for more than two years or remains idle for more than 6 months after installation, it is recommended to have it inspected and tested by qualified personnel before putting it into use.
2. To ensure the good electrical performance of the internal electronic components of the inverter, it is recommended to power it on once every 6 months during storage. If it has not been powered on for more than 6 months, it is recommended to have it inspected and tested by qualified personnel before use.
3. To ensure battery performance and service life, it is recommended to avoid long-term idle storage. Prolonged storage may cause deep discharge of the battery, leading to irreversible chemical degradation, capacity衰减, or even complete failure. Timely use is advised. If the battery requires long-term storage, please maintain it according to the following requirements:

Battery Model	Initial SOC Range for Storage	Recommended Storage Temperature	Charge/Discharge Maintenance Cycle[1]	Battery Maintenance Method[2]
LX F6.6-H	30%~50%	0~35℃	-20~0℃, ≤1 month 0~35℃, ≤6 months 35~45℃, ≤1 month	Please consult the dealer or after-sales service center for maintenance methods.
LX F9.8-H				
LX F13.1-H				
LX F16.4-H				
LX F9.6-H-20	30%~40%	0~35℃	-20~0℃, ≤1 month 0~35℃, ≤6 months 35~45℃, ≤1 month	
LX F12.8-H-20				
LX F16.0-H-20				
LX F19.2-H-20				
LX F22.4-H-20				
LX F25.6-H-20				
LX F28.8-H-20				
LX D5.0-10	30%~40%	0~35℃	-20~35℃, ≤12 months 35~+45℃, ≤6 months	

Packaging Requirements:
Ensure the outer packaging box is not removed and the desiccant inside the box is not missing.

Environmental Requirements:

1. Ensure the equipment is stored in a cool place, avoiding direct sunlight.
2. Ensure the storage environment is clean, with appropriate temperature and humidity ranges, and free from condensation. If condensation is observed on the equipment ports, do not install the equipment.
3. Ensure the equipment is stored away from flammable, explosive, corrosive, and other hazardous materials.

Stacking Requirements:

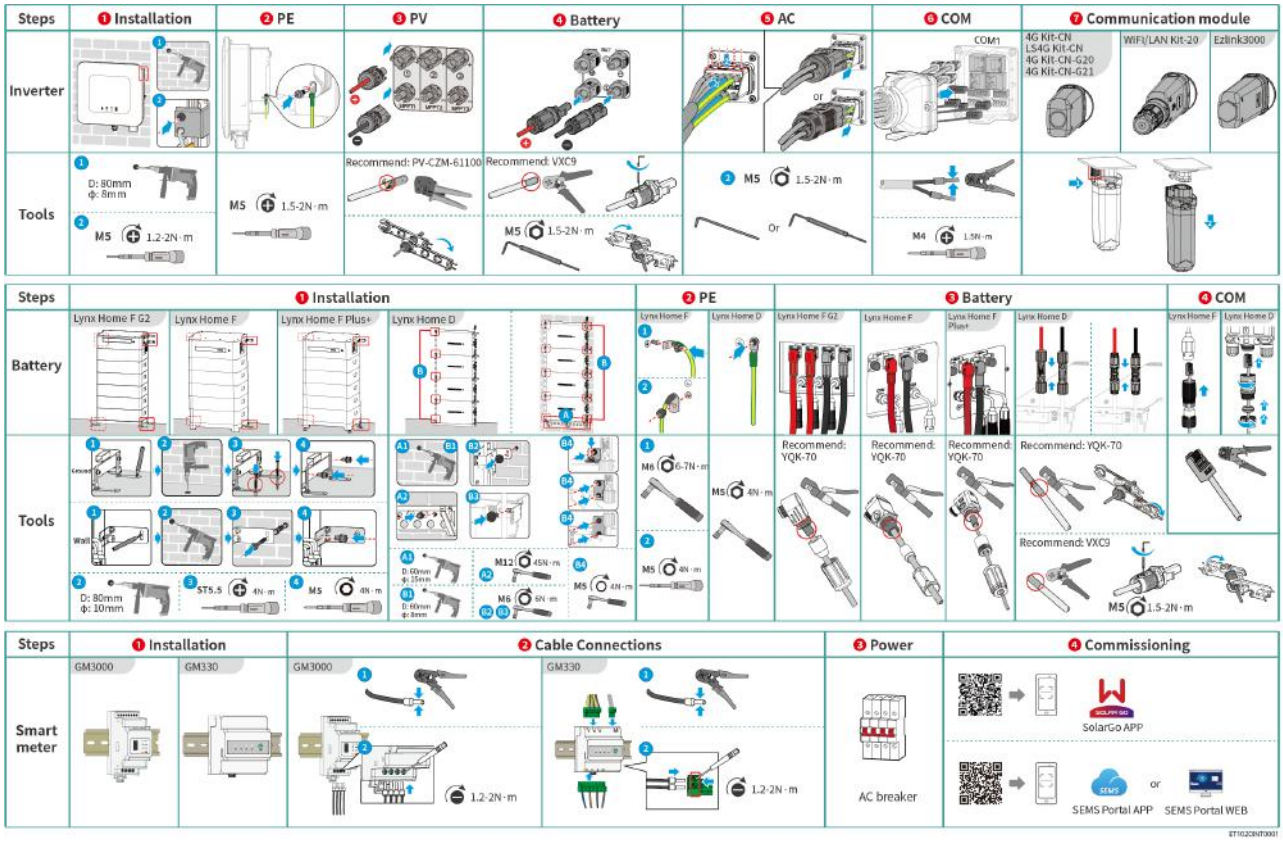
1. Ensure the stacking height and orientation of the inverter are in accordance with the instructions on the packaging box label.
2. Ensure there is no risk of the stacked inverters tipping over.

4 Installation

DANGER

Use the delivery items included in the shipment for device installation and electrical connections. Otherwise, device damage caused will not be covered under warranty.

4.1 System Installation and Commissioning Procedure



4.2 Installation Requirements

4.2.1 Installation Environment Requirements

NOTICE

Lynx home D：

- The primary source of operational noise from the battery comes from the active cooling system, specifically the axial cooling fan designed with fluid dynamics optimization.
- When the battery produces a regular airflow sound ≤35dB(A): This indicates the cooling system is operating normally. It will not affect the device's electrical performance, structural safety, or service life. If you are sensitive to noise, please choose an appropriate installation location.

1. The equipment must not be installed in flammable, explosive, corrosive, or similar environments.
2. The temperature and humidity of the equipment installation environment must be within a suitable range.
3. The installation location must be out of reach of children and avoid easily accessible positions.
4. The enclosure temperature of the Inverter may exceed 60°C during operation. Do not touch the enclosure before it cools down to prevent burns.
5. The equipment must be installed away from direct sunlight, rain, snow accumulation, and similar conditions. It is recommended to install it in a sheltered location. If necessary, a sunshade can be built.
6. Adverse environmental conditions such as direct sunlight and high temperatures may cause the Inverter output power derating.
7. The installation space must meet the equipment's ventilation, heat dissipation, and operational space requirements.
8. The installation environment must satisfy the equipment's protection rating. The Inverter, battery, and smart communication stick are suitable for indoor and outdoor installation; the meter is suitable for indoor installation.
9. The equipment installation height should facilitate operation and maintenance, ensuring the equipment indicator lights, all labels are easily visible, and the wiring terminals are easy to operate.
10. The equipment installation altitude must be lower than the maximum operating altitude.
11. Before installing equipment outdoors in salt damage areas, consult the equipment manufacturer. Salt damage areas mainly refer to areas within 500m of the coast. The affected area is related to sea wind, precipitation, terrain, and other conditions.
12. The DC cable and communication cable length between the battery and the

Inverter must be less than 3m. Ensure the installation distance between the Inverter and the battery meets the cable length requirement.

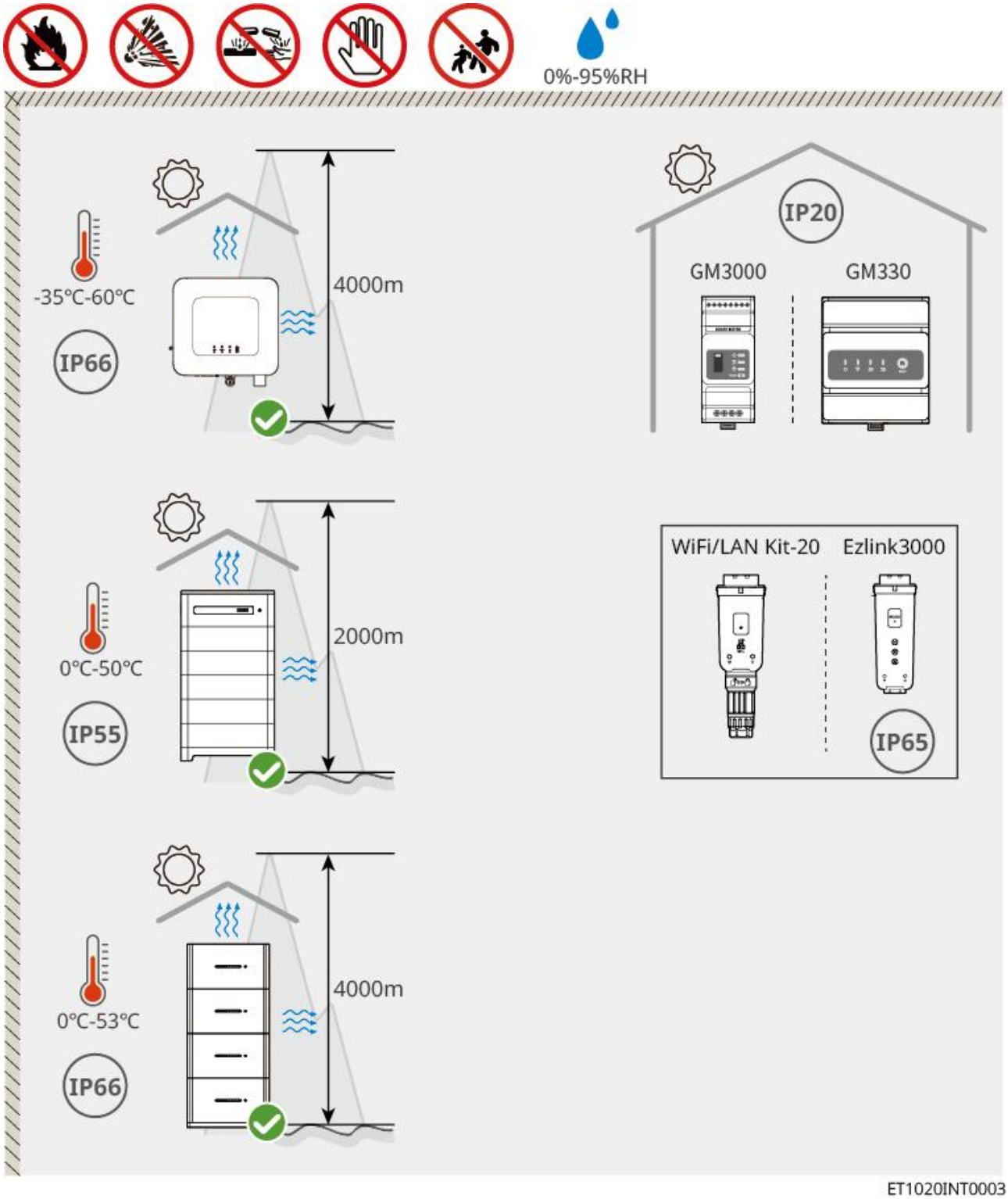
13. Keep away from strong magnetic field environments to avoid electromagnetic interference. If there is a radio station or wireless communication equipment operating below 30MHz near the installation location, install the equipment according to the following requirements:

- Inverter: Add a ferrite core with multiple windings on the Inverter's DC input line or AC output line, or add a low-pass EMI filter; or maintain a distance of over 30m between the Inverter and the wireless electromagnetic interference equipment.
- Other equipment: Maintain a distance of over 30m between the equipment and the wireless electromagnetic interference equipment.

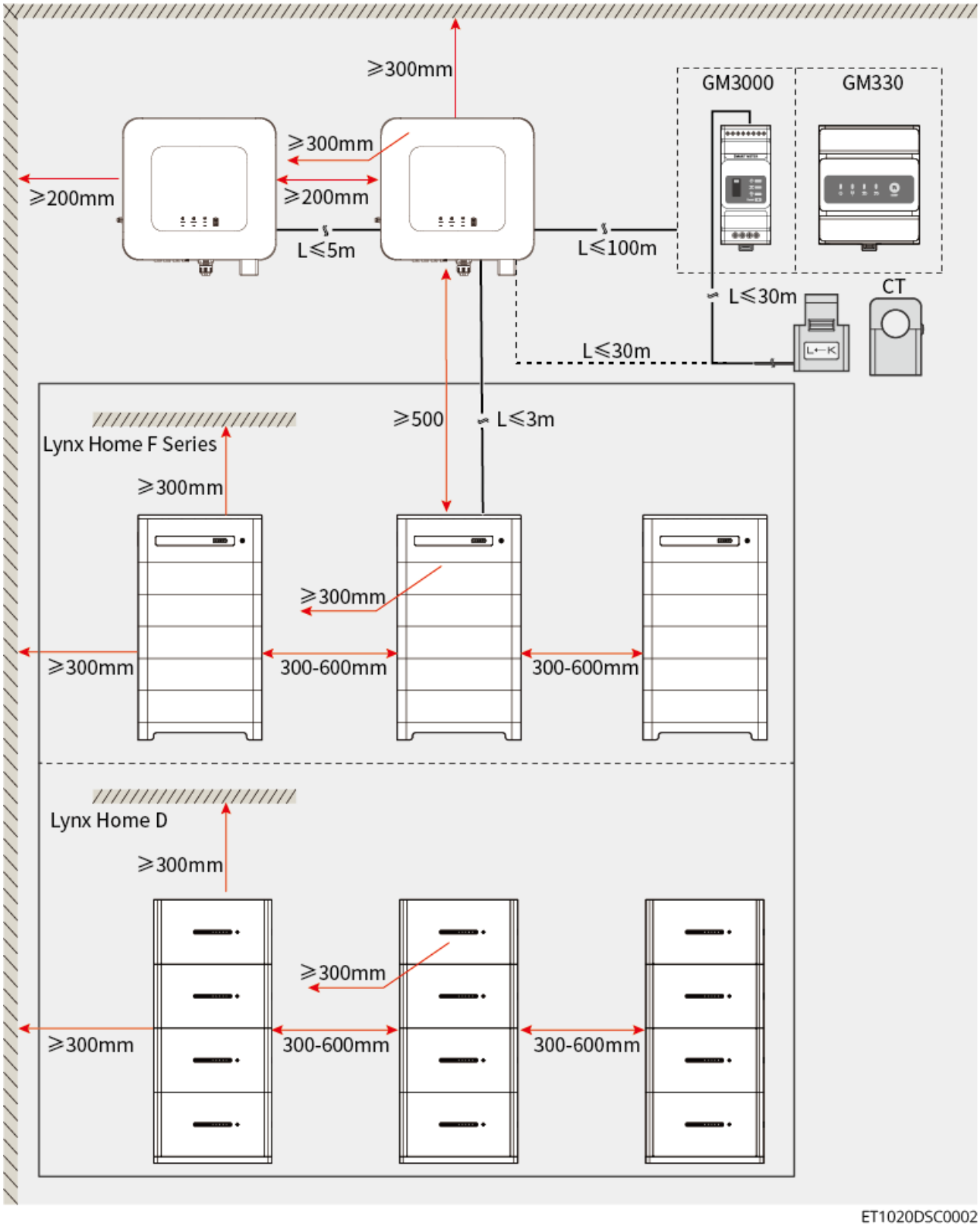
NOTICE

If installed in an environment below 0℃, the battery may be unable to recharge and recover energy after being fully discharged, resulting in battery under-voltage protection.

- Lynx home F, Lynx home F Plus+, Lynx home F G2: Charging temperature range: 0<T<50°C; Discharging temperature range: -20<T<50°C.
- Lynx home D: Charging temperature range: 0<T<53°C; Discharging temperature range: -20<T<53°C.



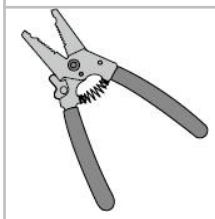
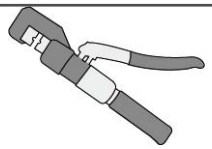
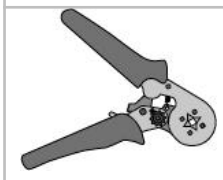
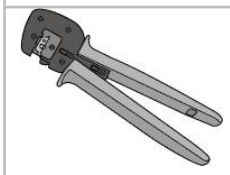
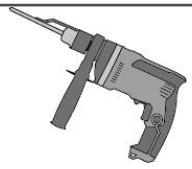
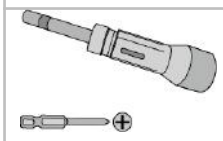
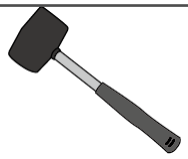
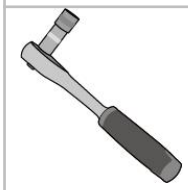
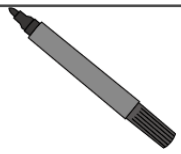
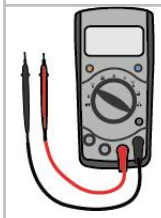
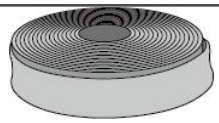
4.2.2 Installation Space Requirements



4.2.3 Tool Requirements

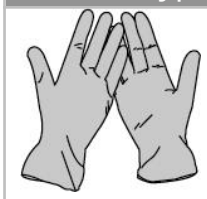
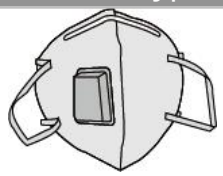
NOTICE
During installation, it is recommended to use the following installation tools. If necessary, other auxiliary tools can be used on site.

Installation Tools

Tool Type	Description	Tool Type	Description
	diagonal plier		RJ45 connector crimping tool
	wire stripper		YQK-70 hydraulic pliers
	VXC9 hydraulic pliers		open-end wrench
	PV terminal crimping tool PV-CZM-61100		hammer drill (drill bit Φ8mm)
	torque wrench M5, M6, M8		rubber hammer
	socket wrench		marker pen
	multimeter range ≤1100V		heat shrink tubing

	heat gun		cable tie
	vacuum cleaner		Level bar

personal protective equipment

Tool Type	Description	Tool Type	Description
	Insulated gloves, protective gloves		Dust mask
	goggle		Safety shoes

4.3 Equipment Handling

⚠CAUTION

- During operations such as transportation, handling, and installation, all applicable national/regional laws, regulations, and relevant standard requirements must be met.
- Before installation, the equipment must be moved to the installation site. To prevent personal injury or equipment damage during the moving process, please note the following:

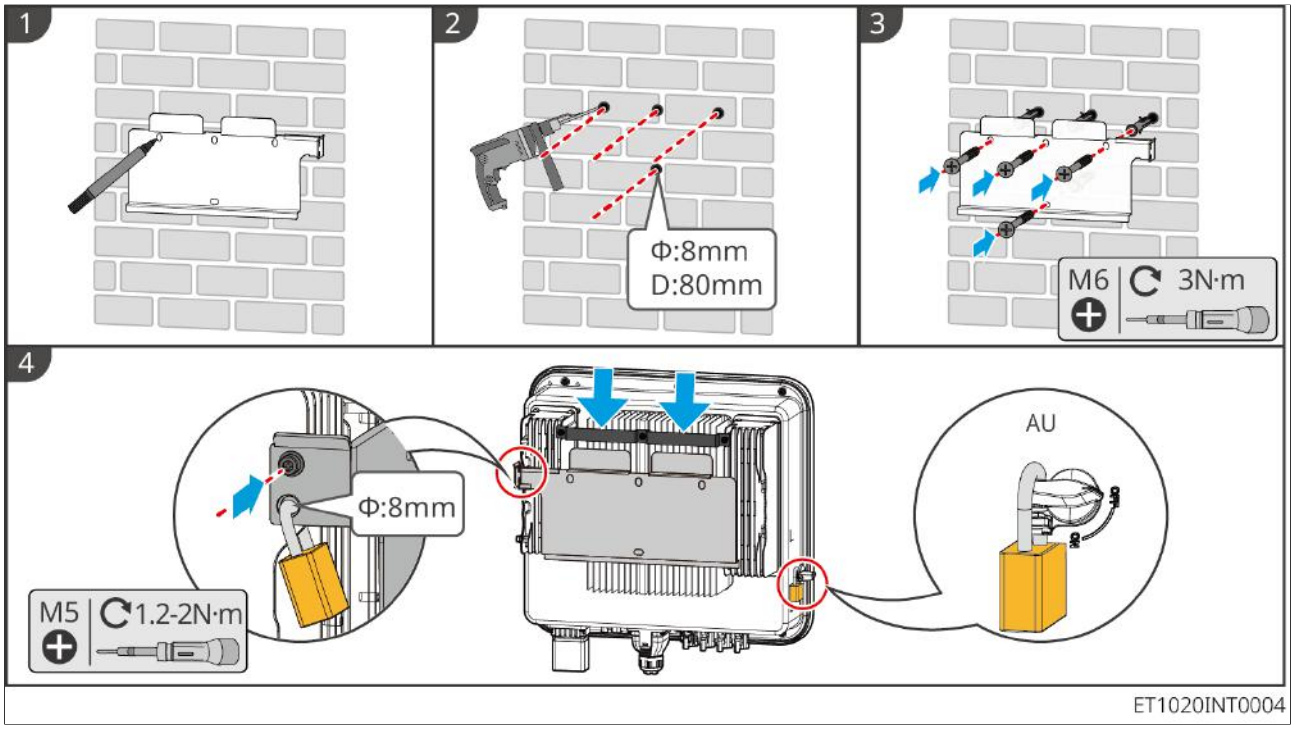
1. Ensure an adequate number of personnel is assigned according to the equipment's weight to prevent it from exceeding the safe manual handling limit and causing injury.
2. Please wear safety gloves to avoid injury.
3. Ensure the equipment remains balanced during movement to prevent it from falling.

4.4 Installing the Inverter

⚠CAUTION

- When drilling holes, ensure that the drilling positions avoid water pipes, cables, etc., inside the wall to prevent danger.
- When drilling holes, please wear safety goggles and dust masks to avoid inhaling dust into the respiratory tract or getting it into the eyes.
- Ensure that the inverter is securely installed to prevent it from falling and injuring personnel.

1. Place the back mounting plate horizontally on the wall, and use a marker pen to mark the drilling positions.
2. Use an impact drill to drill holes.
3. Fix the inverter back mounting plate bracket to the wall using expansion screws.
4. Use a DC switch lock to lock the DC switch in the “OFF” state, hang the inverter on the back plate. (Optional) For Australia only, the DC switch lock is user-provided, please ensure that the DC switch lock aperture meets the requirements.
5. Use screws to secure the back plate and the inverter, ensuring that the inverter is installed firmly.



4.5 Installing the Battery System

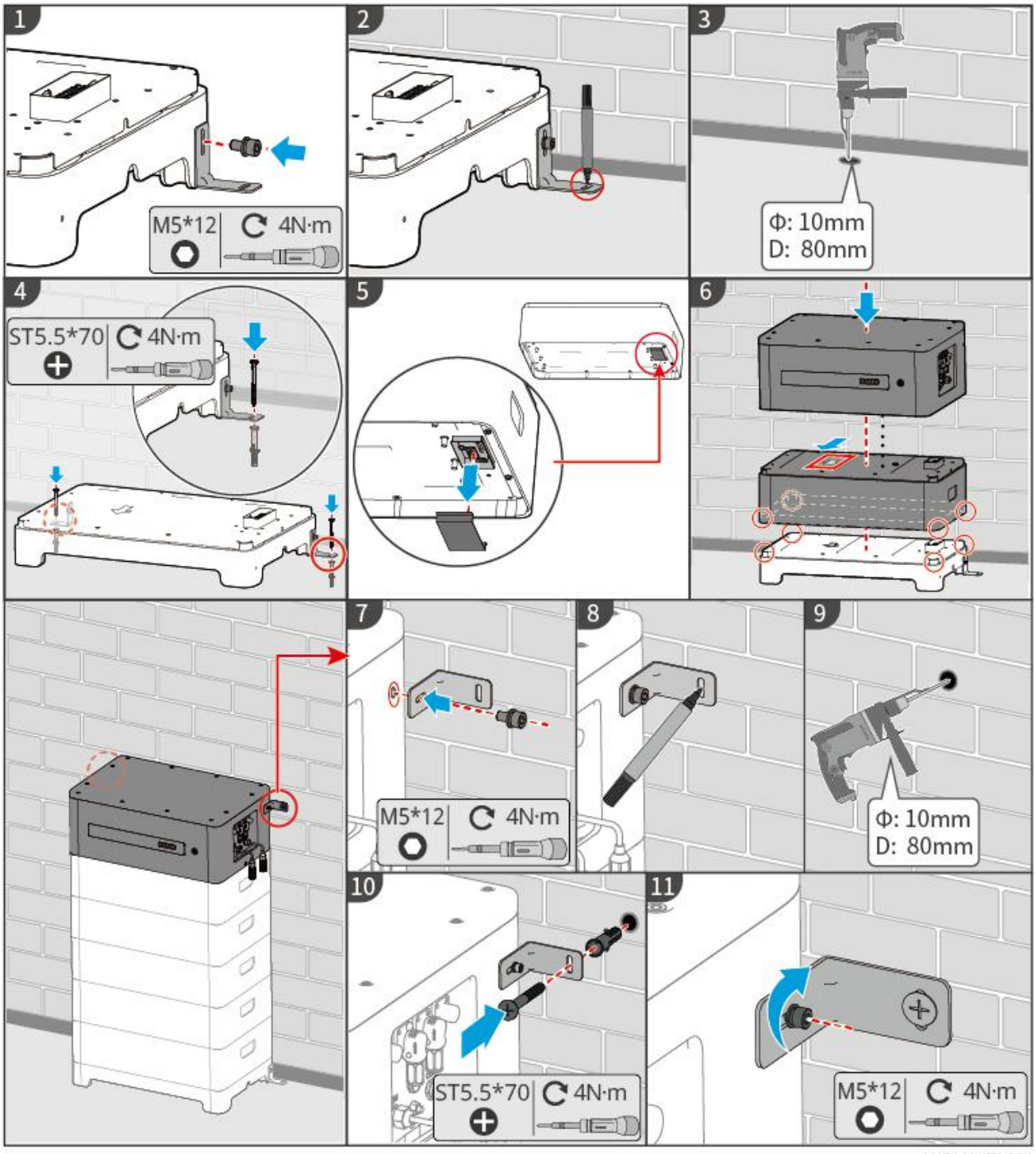
4.5.1 Installing Lynx Home F Series

WARNING

- Ensure the control box is installed above the battery, and do not install the battery above the control box.
- When installing the battery system, ensure it is level and secure. When placing the battery base, battery, or control box, confirm that the holes on the upper and lower layers are aligned; the anti-tipping bracket should be vertical and tightly attached to the ground, wall, or battery system surface.
- When using an impact drill to make holes, use cardboard or other coverings to shield the battery system to prevent foreign objects from entering the device and causing damage.
- Before installing the battery system, remove the protective cover from the battery module's wiring port.
- After marking the drilling position with a marker pen, lift the control box down to avoid damage to the equipment when the impact drill is too close to the control box during drilling.

4.5.1.1 Installing Lynx Home F

1. Install the anti-tip bracket onto the base.
2. Place the base against the wall, use a marker to mark the drilling positions, and then remove the base.
3. Use an impact drill to create the holes.
4. Secure the base to the wall using expansion screws, ensuring the base is oriented correctly.
5. Remove the protective cover from the battery connection terminals.
6. Install the battery onto the base, ensuring the battery orientation matches the base orientation; and install the remaining battery modules and the control box according to the actual selected battery system type.
7. Pre-install the control box anti-tip bracket onto the control box.
8. Place the control box on top of the battery, ensure it is positioned securely, use a marker to mark the drilling positions, and then remove the control box.
9. Use an impact drill to create the holes.
10. Secure the control box anti-tip bracket to the wall.
11. Secure the anti-tip bracket to the control box.

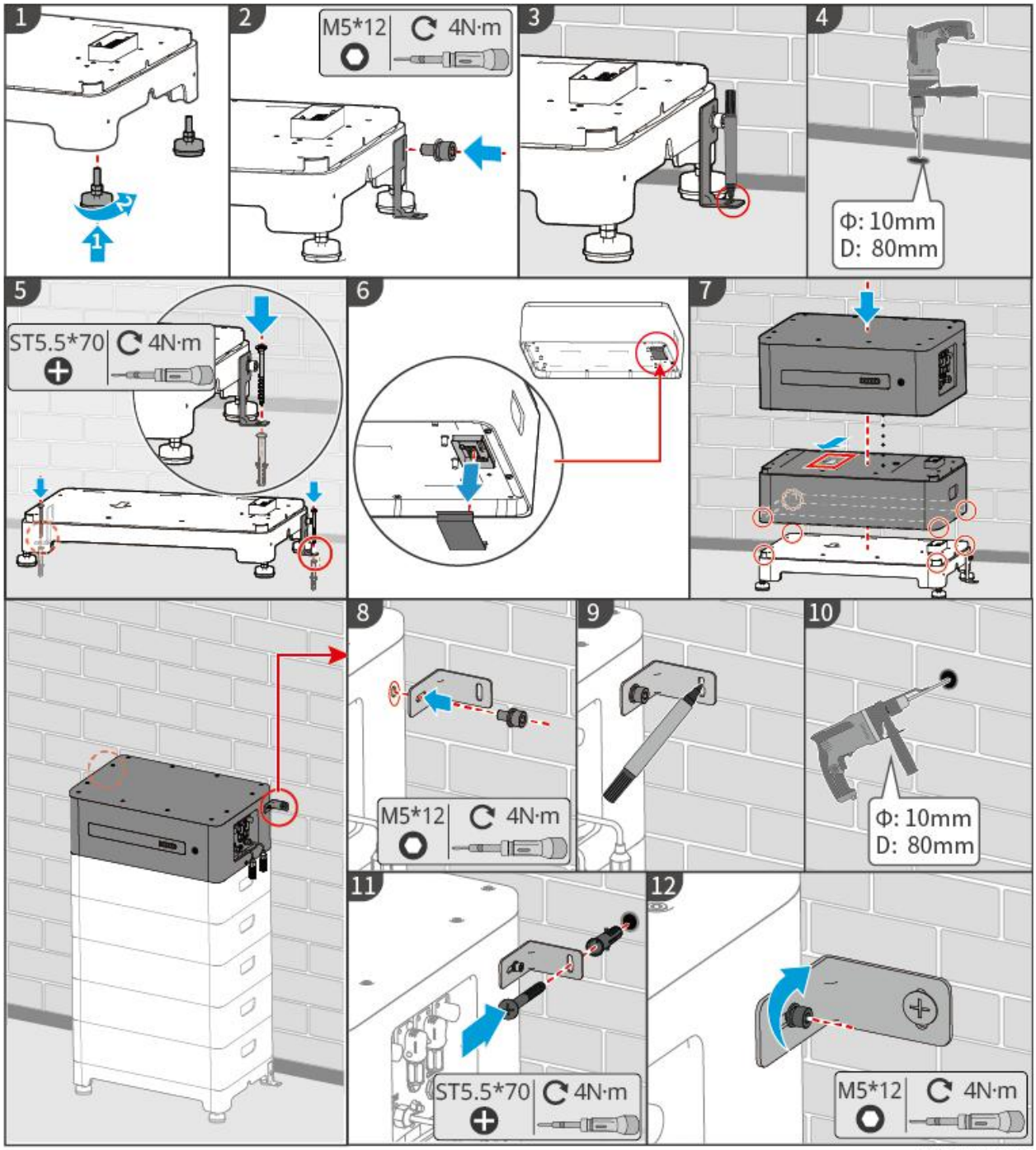


4.5.1.2 Installing Lynx Home F Plus+

1. (Optional) Install the adjustable feet to the battery base.

2. Install the anti-tipping bracket to the base.
3. Place the base against the wall, use a marker pen to mark the drilling positions, and then remove the base.
4. Use an impact drill to make the holes.
5. Secure the base using expansion screws, ensuring the base orientation is correct.
6. Remove the protective cover from the battery connection terminals.
7. Install the battery onto the base, ensuring the battery orientation matches the base orientation; and install the remaining battery modules and control box according to the actual selected battery system type.
8. Pre-install the control box anti-tipping bracket onto the control box.
9. Place the control box on top of the battery, ensure it is positioned securely, use a marker pen to mark the drilling positions, and then remove the control box.
10. Use an impact drill to make the holes.
11. Fix the control box anti-tipping bracket to the wall.
12. Secure the anti-tipping bracket to the control box.
13. (Optional) After the battery system installation is complete, check if it is installed level and secure. If there is any tilting or wobbling, adjust the battery system installation status by rotating the adjustable feet.

14.



4.5.1.3 Installing Lynx Home F G2

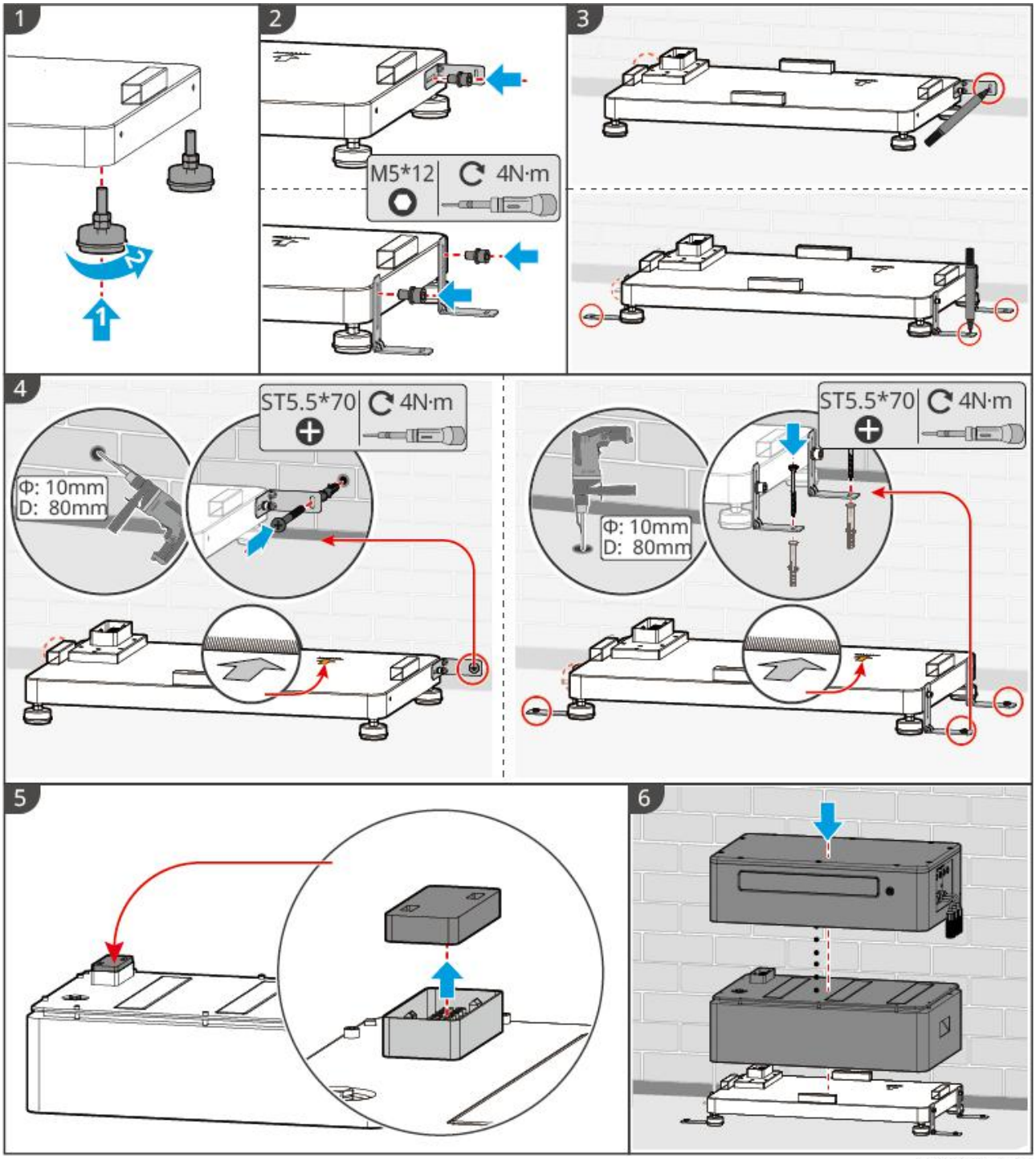
1. (Optional) Install the adjustable feet to the battery base.
2. Install the anti-tipping bracket to the base.
3. Place the base against the wall, use a marker to mark the drilling positions, and

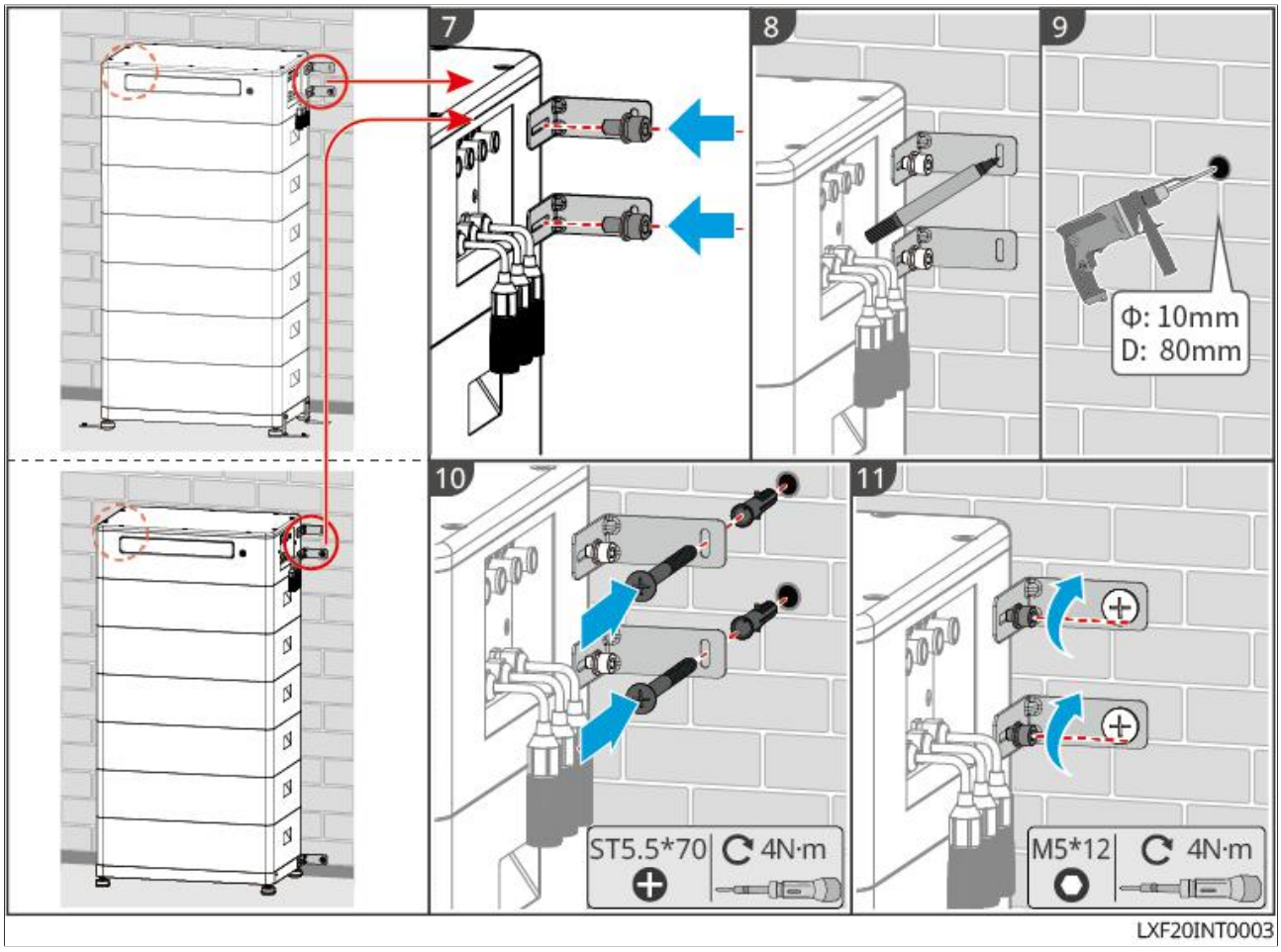
remove the base.

4. Use an impact drill to drill holes.
5. Secure the base with expansion screws, ensuring the base orientation is correct.
6. Install the battery onto the base, ensuring the battery orientation matches the base orientation; and based on the actual selected battery system type, install the remaining battery modules and control box.
7. Install the control box anti-tipping bracket.
8. Place the control box above the battery, ensure it is securely placed, use a marker to mark the drilling positions, and remove the control box.
9. Use an impact drill to drill holes.
10. Tighten the control box anti-tipping bracket.
11. Install the anti-tipping bracket and junction box

    - (Optional) Secure the control box anti-tipping bracket.
    - (Optional) Install the junction box.

12. (Optional) After installation is complete, check if the battery system is installed level and secure. If there is tilting or shaking, adjust the installation status of the battery system by rotating the adjustable feet.


1
2
M5*12
4N·m
3
4
ST5.5*70
4N·m
Φ: 10mm
D: 80mm
ST5.5*70
4N·m
Φ: 10mm
D: 80mm
5
6
LXF20INT0002



4.5.2 Installing the Lynx Home D

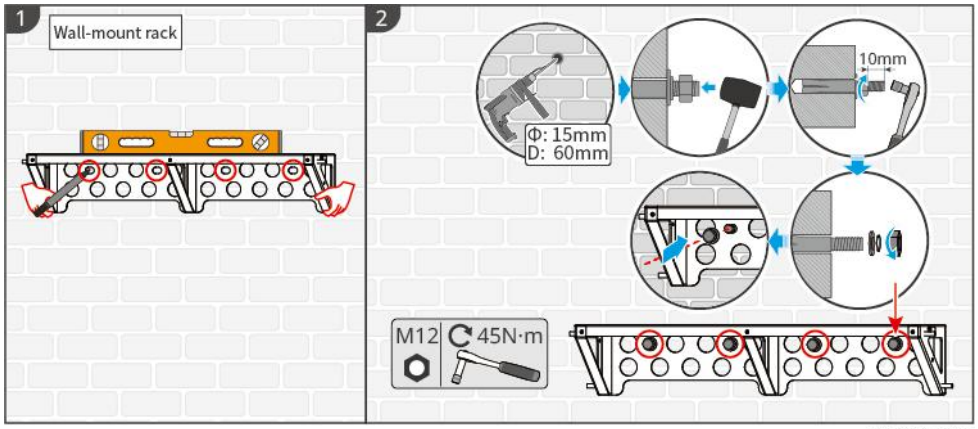
NOTICE
• The battery system must be installed on a base or bracket. • When stacking batteries, auxiliary tools must be used for installation. • When stacking more than 3 batteries in a single group, it is recommended to use base installation. • Please stack the batteries according to the recommended stacking method.

Battery Stacking Method		
Total Number of Batteries (units)	First Stack (units)	Second Stack (units)

Battery Stacking Method		
8	4	4
7	4	3
6	3	3
5	3	2
4	2	2
3	3	-
2	2	-
1	1	-

Installing the Wall Bracket (Optional)

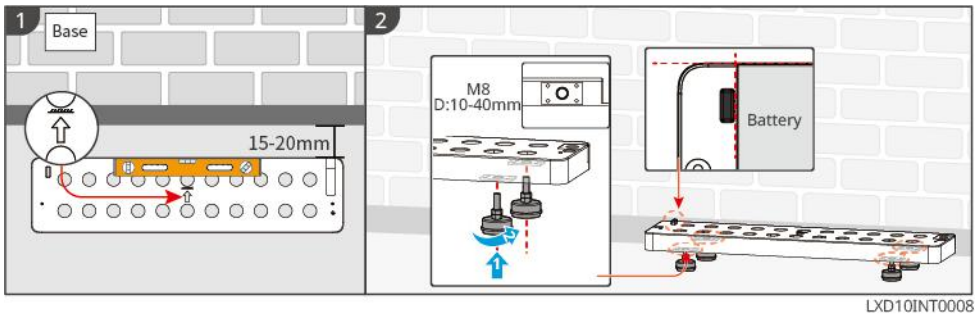
1. Place the bracket flush against the wall. Ensure the bracket is securely positioned and use a level to check if it is horizontal.
2. After adjusting the bracket's position and levelness, use a marker to mark the drilling points. Once marked, remove the bracket.
3. Drill holes and install expansion bolts.
   a. Use an impact drill to create the holes.
   b. Clean the holes.
   c. Use a rubber mallet to install the expansion bolts into the holes.
   d. Use a hex wrench to tighten the nut clockwise, causing the bolt to expand.
   e. Unscrew and remove the nut counterclockwise.
4. Use a hex wrench to secure the wall bracket to the wall.



Installing the Base (Optional)

NOTICE
Check if adjustable feet are included in the accessory package. If not and they are required, please contact the dealer or after-sales service to obtain them.

1. Install the adjustable feet onto the bottom of the base.
2. Place the base 15-20mm away from the wall, keeping it parallel to the wall and ensuring the floor is level.
3. When installing the battery on the base, ensure the left side of the battery is aligned with the base's stopper block.

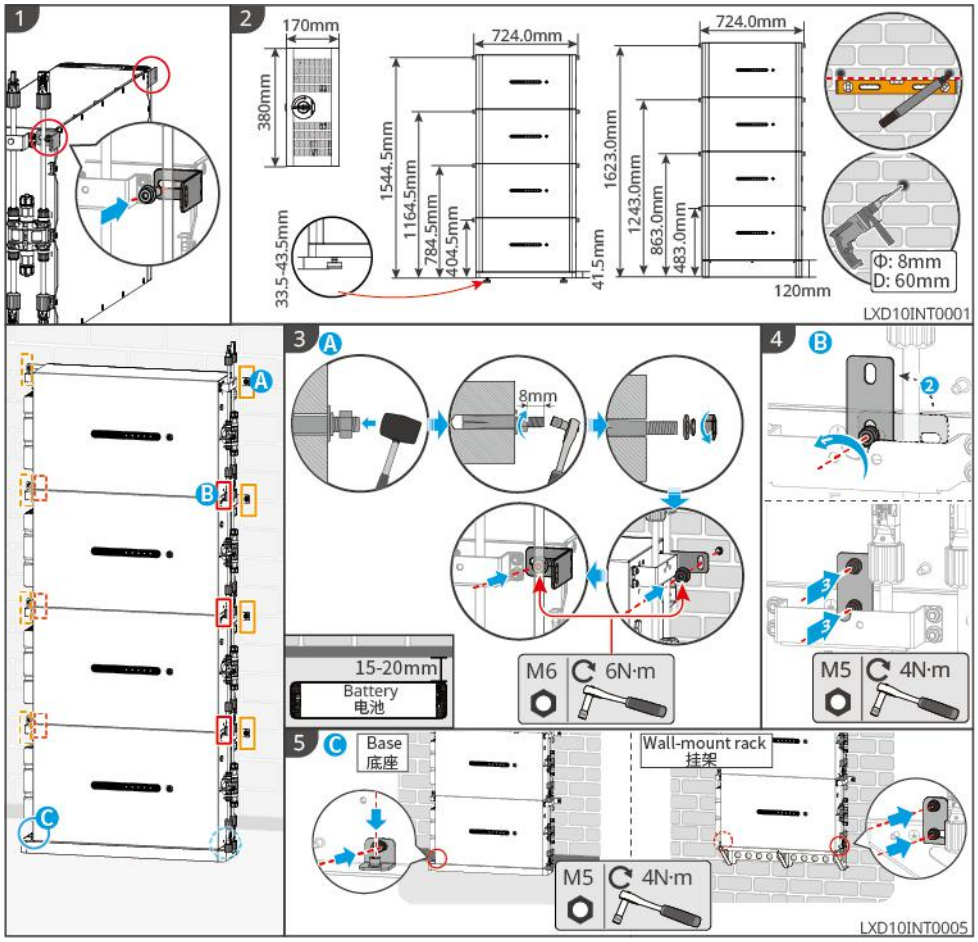


Installing the Battery System

NOTICE

- During floor installation, two base and battery fixing brackets are included in the box. To prevent the battery from loosening or shifting, please install one fixing bracket on one side of the battery positioning block, and keep the other as a spare.
- During wall installation, to prevent the battery from loosening or shifting, please use the fixing brackets included in the box to secure the battery and the mounting bracket on both sides.

1. Pre-tighten and secure the anti-tip bracket onto the battery.
2. Place the battery onto the installed wall bracket or base. Press the anti-tip bracket against the wall, mark the drilling points, then remove the battery; or use a level to mark the drilling points.
3. Install the expansion bolts and secure the battery.
   a. Use an impact drill to create the holes.
   b. Clean the holes.
   c. Use a rubber mallet to install the expansion bolts into the holes.
   d. Use a hex wrench to tighten the nut clockwise, causing the bolt to expand.
   e. Unscrew and remove the nut counterclockwise.
   f. Reinstall the battery onto the base or wall bracket, and adjust its position so it is 15-20mm away from the wall.
   g. Use a hex wrench to secure the battery to the wall, and use a torque screwdriver to fasten the anti-tip bracket to the battery.
4. Install and fasten the inter-battery mounting brackets.
   If installing multiple batteries, repeat steps 1 through 4 to complete the installation of all batteries. Do not stack more than 4 batteries in a single group.
5. Install and fasten the mounting brackets between the battery and the base or wall bracket.

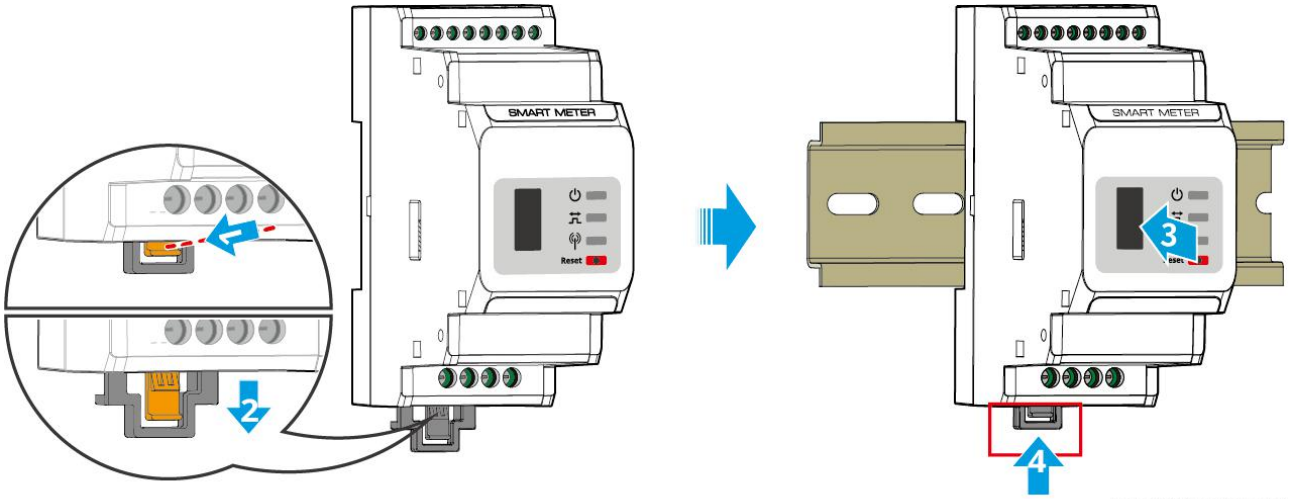


4.6 Installing the Smart Meter

⚠WARNING

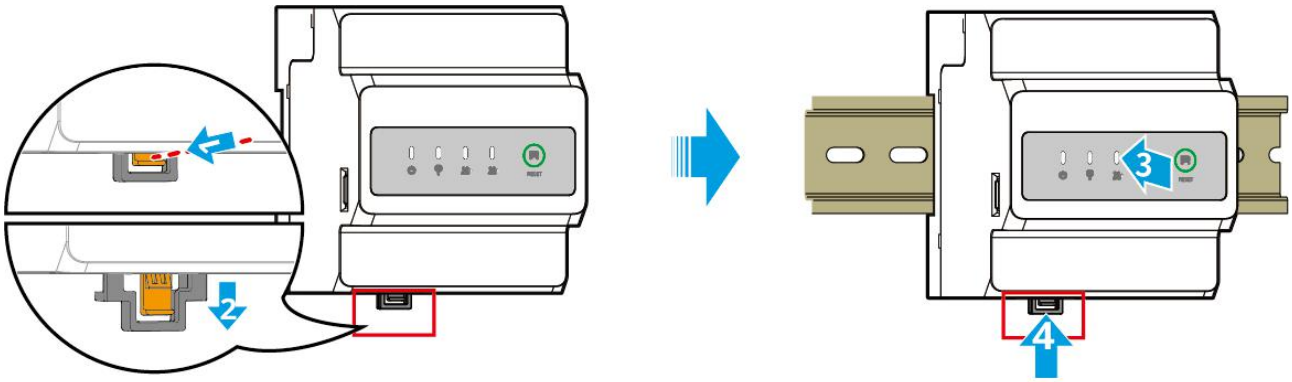
In areas with lightning hazards, it is recommended to install external lightning protection devices if the meter cable length exceeds 10m and the cables are not routed using grounded metal conduit wiring.

GM3000



GMK10INT0002

GM330



GMK10INT0003

5 System Wirings

⚠DANGER

- All operations during electrical connection, as well as the specifications of cables and components used, must comply with local laws and regulations.
- Before performing electrical connections, disconnect the DC switch and AC output switch of the device to ensure it is powered off. Operating with power on is strictly prohibited, otherwise it may lead to the DANGER of electric shock.
- Cables of the same type should be bundled together and arranged separately from different types of cables. It is prohibited to intertwine or cross-arrange them.
- If the cable is subjected to excessive tension, it may lead to poor connections. When wiring, please leave a certain length of cable before connecting it to the inverter's terminal ports.
- When crimping terminals, ensure that the conductor part of the cable is in full contact with the terminal. Do not crimp the cable insulation together with the terminal, as this may cause the device to fail to operate, or after operation, due to unreliable connections leading to heating and other conditions that may damage the device's terminal block.

NOTICE

- When performing electrical connections, please wear personal protective equipment such as safety shoes, protective gloves, insulating gloves, etc., as required.
- Only professionals are allowed to perform electrical connection-related operations.
- The cable colors in the diagrams in this document are for reference only. Specific cable specifications must comply with local regulatory requirements.

5.1 System Wiring Electrical Block Diagram

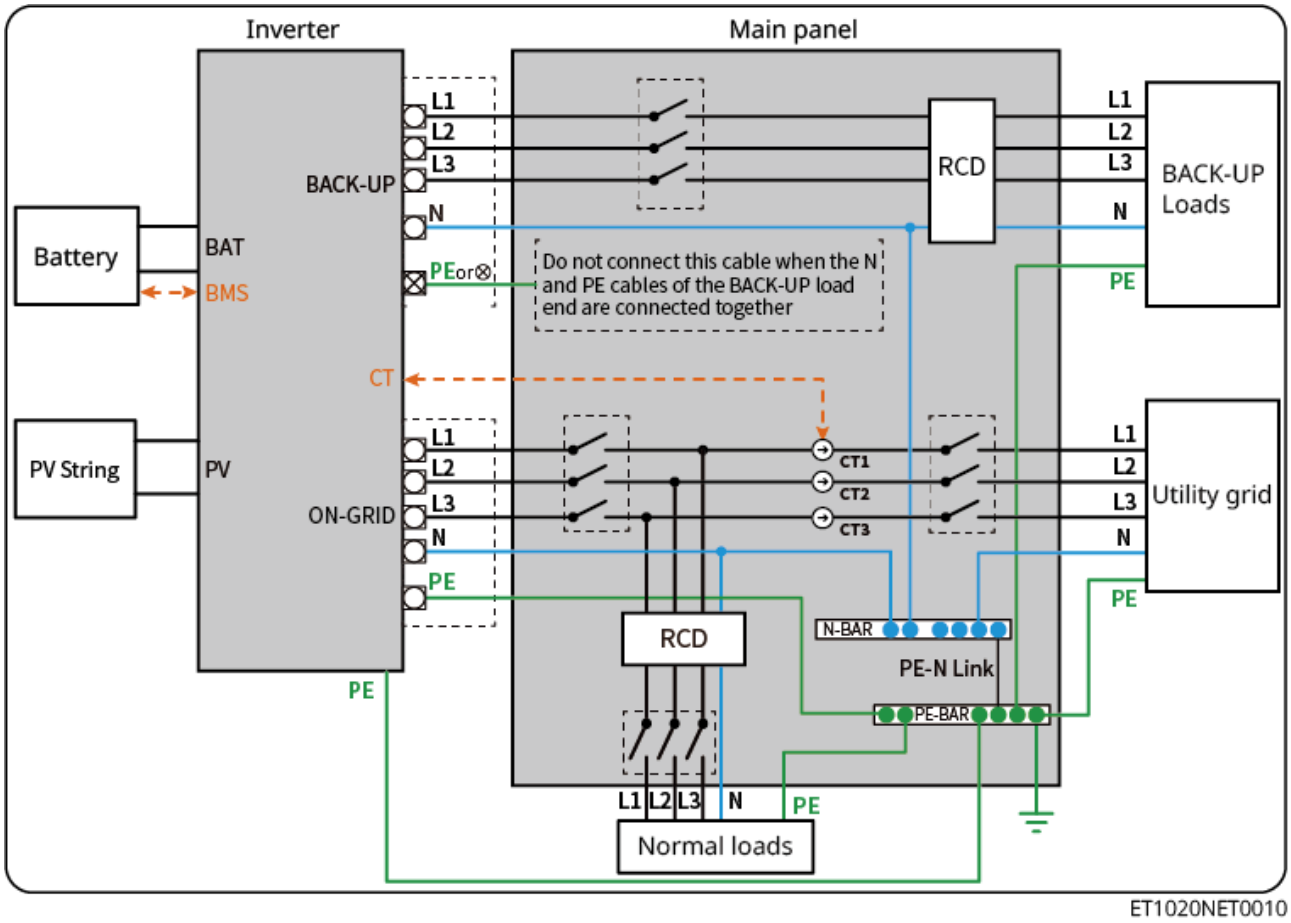
NOTICE

- Depending on regional regulatory requirements, the wiring methods for the N and PE lines of the ON-GRID and BACK-UP ports of the Inverter may differ. Please follow local regulations.
- The Inverter has a built-in meter and can be directly connected to a CT for use.
- Accuracy will decrease when the connection length between the CT and the Inverter exceeds 25m. For high-precision requirements, an external smart meter can be used.
- The ON-GRID AC port of the Inverter has a built-in relay. When the Inverter is in off-grid mode, the built-in ON-GRID relay is open; when the Inverter is in grid-connected operation mode, the built-in ON-GRID relay is closed.
- When the Inverter is powered on, the BACK-UP AC port is live. If maintenance is required on the BACK-UP load, please power down the Inverter to avoid the risk of electric shock.

N and PE wires are connected together in the distribution box

NOTICE

- To maintain neutral integrity, the neutral wires on the grid-tied side and the off-grid side must be connected together; otherwise, the off-grid function cannot operate normally.
- The diagram below illustrates the grid system for regions such as Australia and New Zealand:

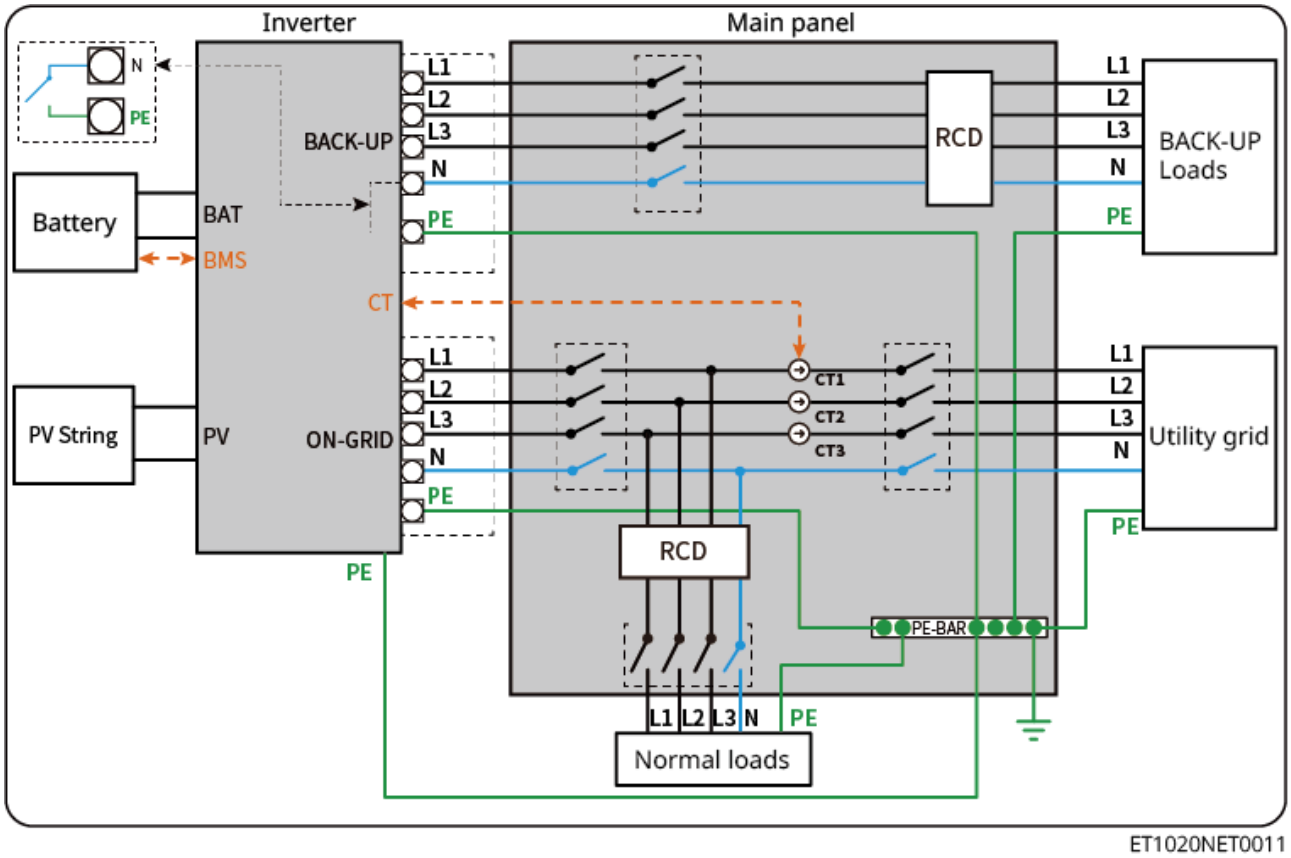


ET1020NET0010

N and PE wires are wired separately in the distribution box

NOTICE

- Please ensure that the protective ground wire of BACK-UP is connected correctly and securely, otherwise the BACK-UP function may malfunction when a grid fault occurs.
- Other regions except Australia, New Zealand, etc. are applicable to the following wiring methods:



5.2 Detailed System Wiring Diagram

When all loads in the photovoltaic system cannot consume the electricity generated by the system, the surplus electricity will be fed into the grid. At this time, it can be paired with a smart meter or CT to monitor the system's power generation and control the amount of electricity fed into the grid.

- Connecting a smart meter enables output power limiting and load monitoring functions.
- After connecting the smart meter, please enable the 'Export power limit' function via the SolarGo App.

The Detailed System Wiring Diagram only shows wiring examples for some model devices. Please refer to the corresponding wiring guidance chapter based on the actual devices used for wiring.

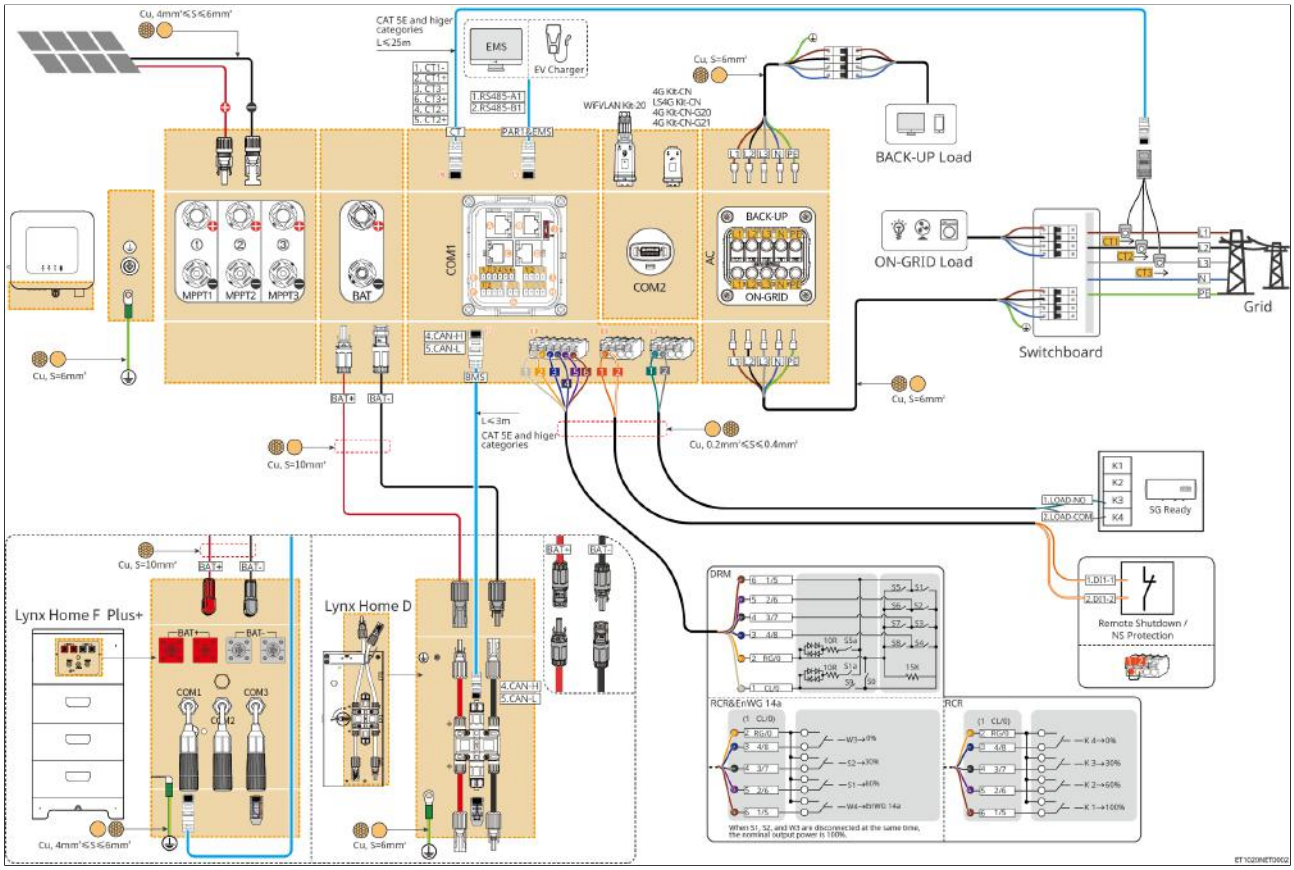
NOTICE

- Optional GM330 or GM3000 electric meter. If needed, please contact GoodWe to purchase.
- In coupling scenarios, if you need to achieve grid-tied inverter power generation monitoring and load monitoring functions, a dual-meter network is required.
  - Meter 1 or the built-in meter is used to monitor the system's grid-connected power.
  - Meter 2 is used to monitor the grid-tied inverter's power generation.
  - By integrating the data from Meter 1 and Meter 2, the monitoring platform can achieve real-time monitoring of load power consumption.
- If output power limitation is required for the grid-tied inverter, please separately connect an electric meter or CT and other devices.

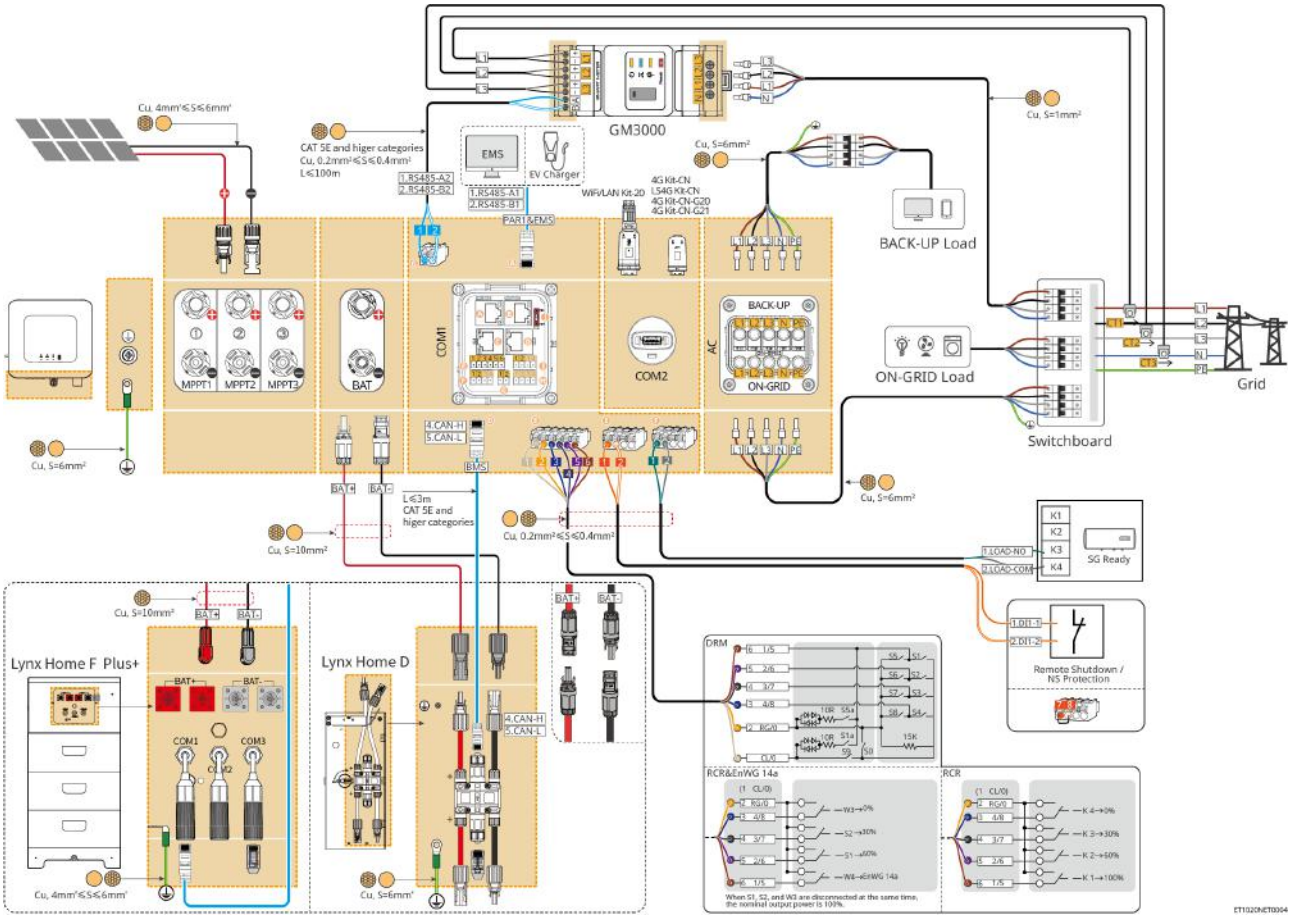
Dual Meter Configuration Scenarios	
Meter 1 (Grid Side)	Meter 2 (Grid-tie Inverter AC Side)
Built-in Meter	GM3000
Built-in Meter	GM330
GM3000	GM3000
GM3000	GM330
GM330	GM330
GM330	GM3000

5.2.1 Detailed System Wiring Diagram for Single Inverter

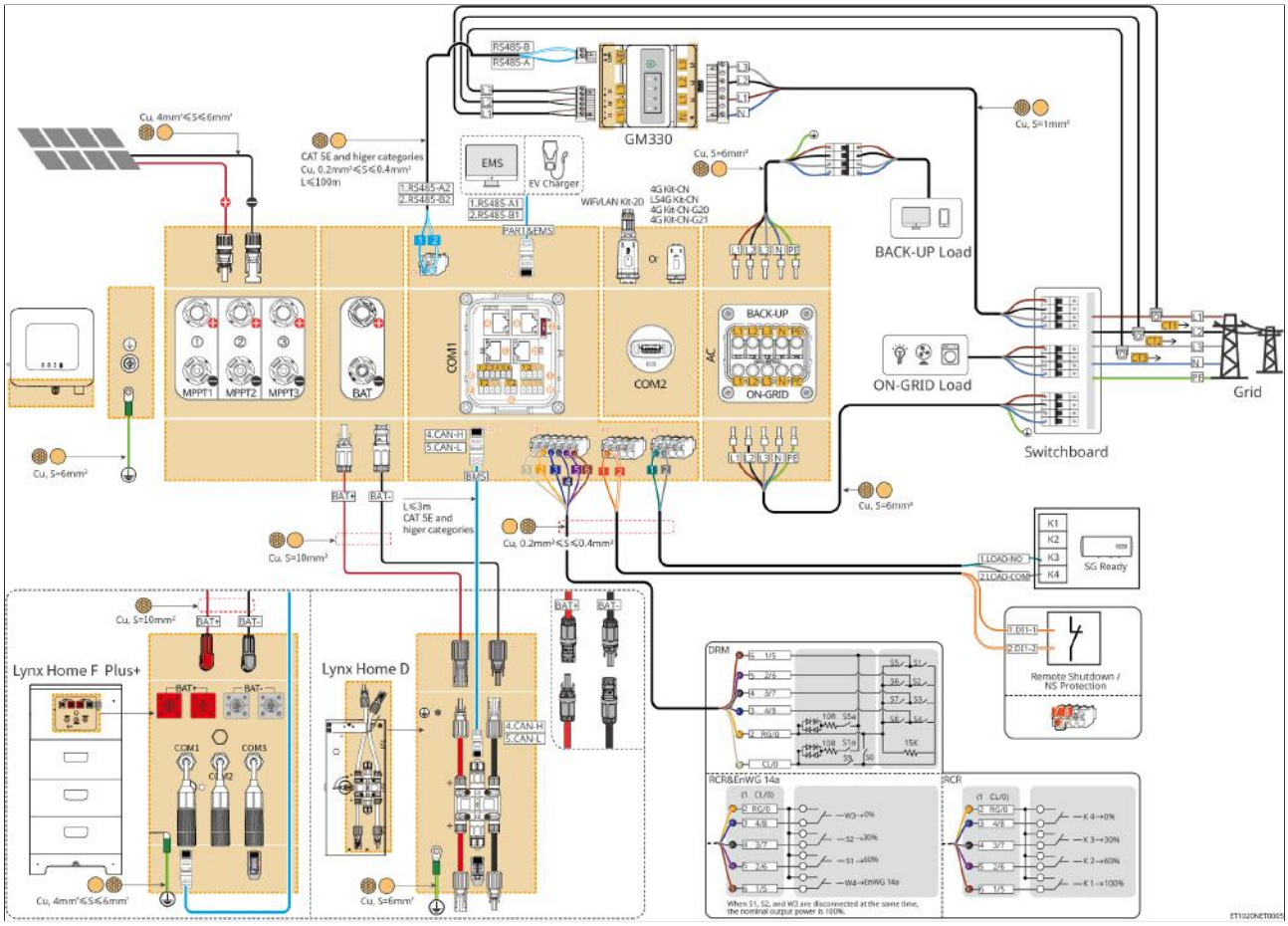
Scenario with Built-in Meter



Scenario with GM3000

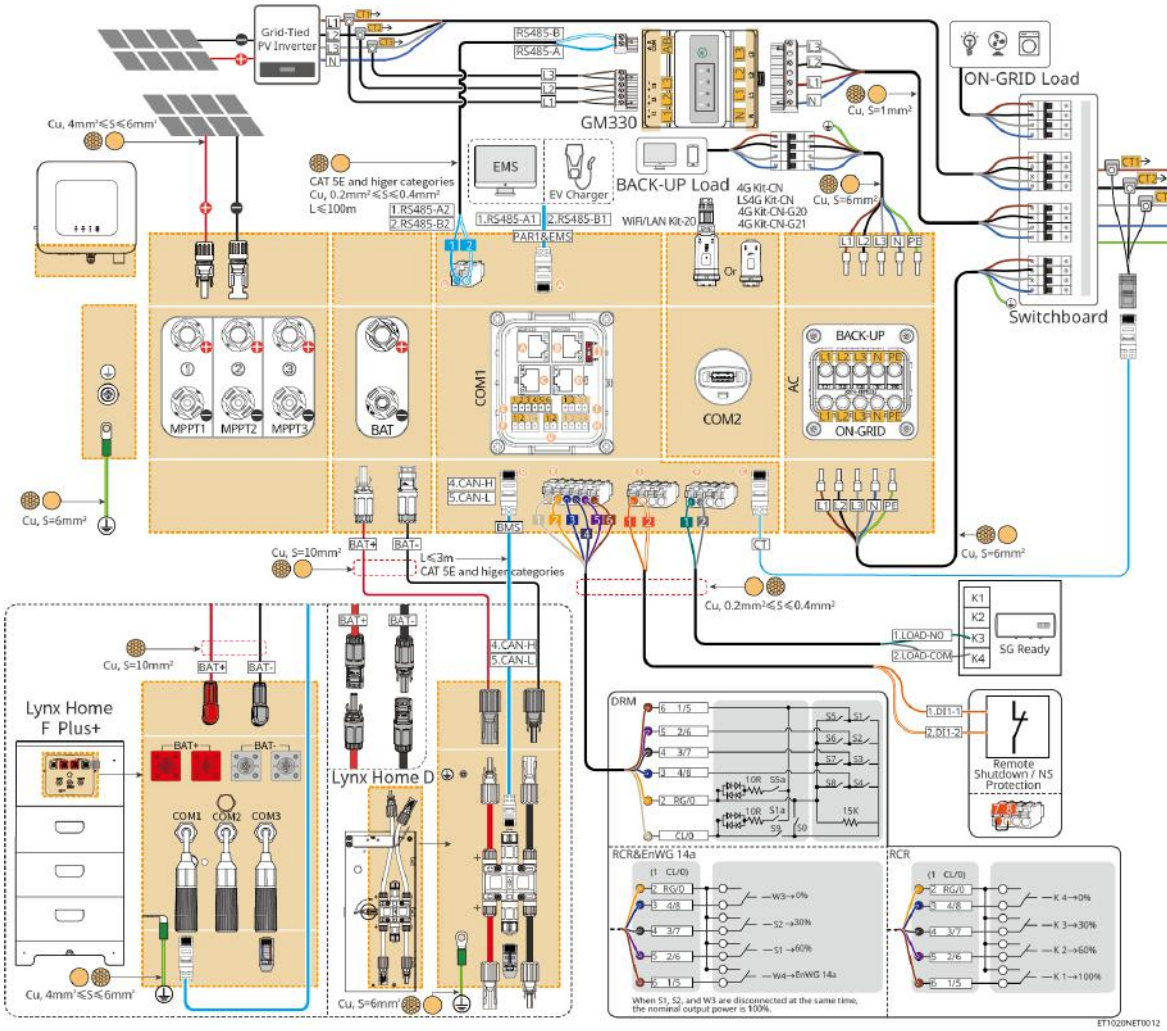


Scenario with GM330



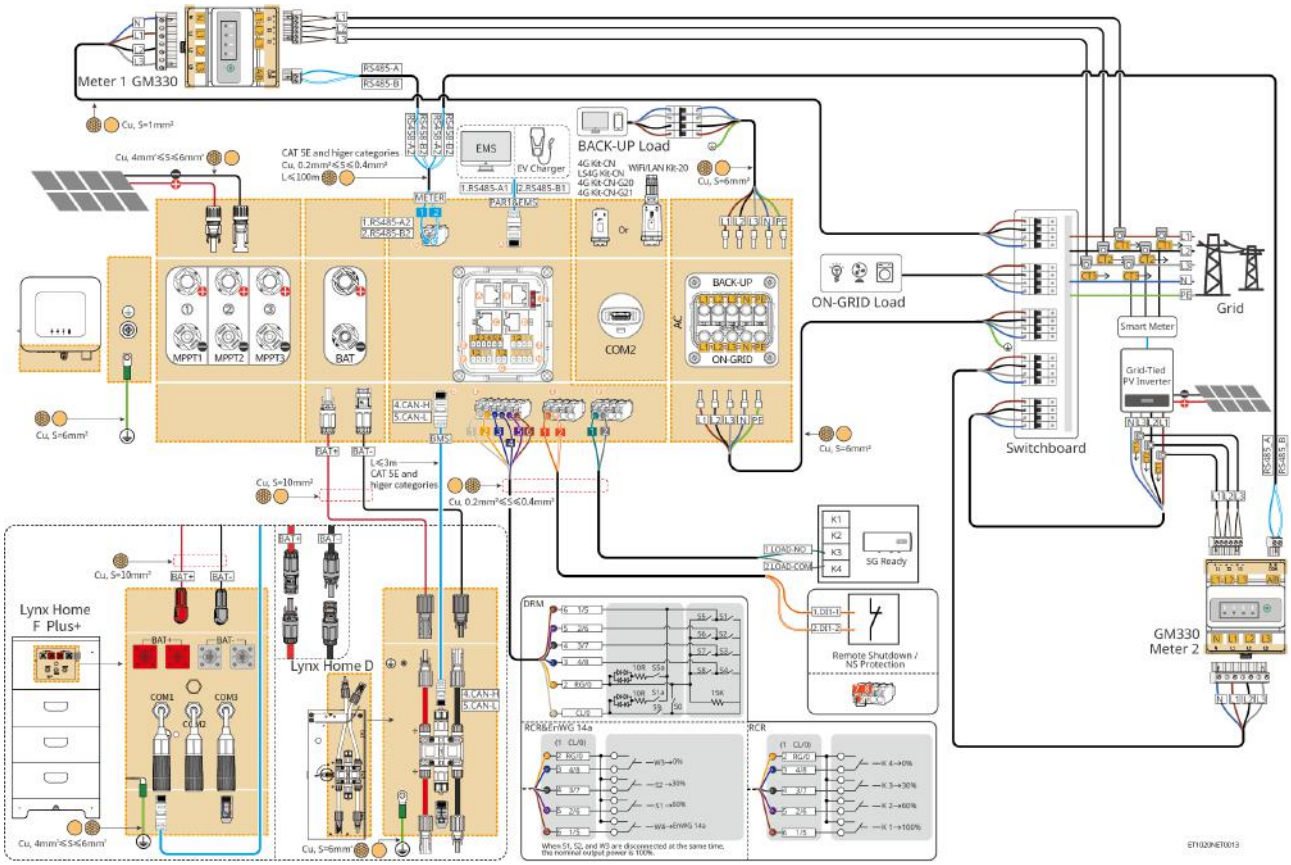
Networking Solution for Load Monitoring in Coupled Scenarios and Power Generation Monitoring for Grid-tied Inverters

Networking with built-in meter +GM330



withGM330+GM330 networking

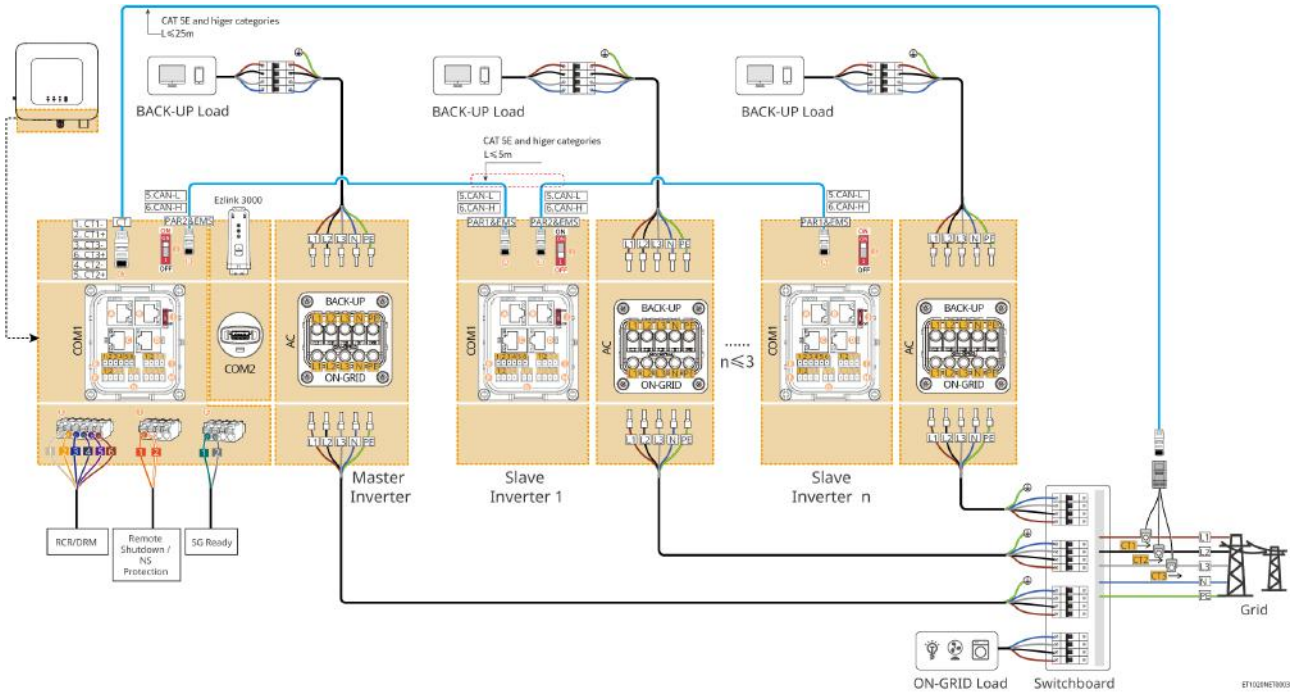
If the grid-tied inverter needs output power limitation, please connect a meter or CT device separately.



5.2.2 Detailed System Wiring Diagram for Parallel System

- In a parallel system scenario, the inverter connected to the Ezlink3000 smart communication stick and the meter is the master inverter, and others are slave inverters. Do not connect the smart communication stick to slave inverters in the system.
- If devices such as DRED devices, RCR devices, remote shutdown devices, NS Protection, SG Ready heat pumps, etc., need to be connected in the system, please connect them to the master inverter.
- The following diagrams focus on wiring related to parallel systems. For other port wiring requirements, please refer to the single-unit system.

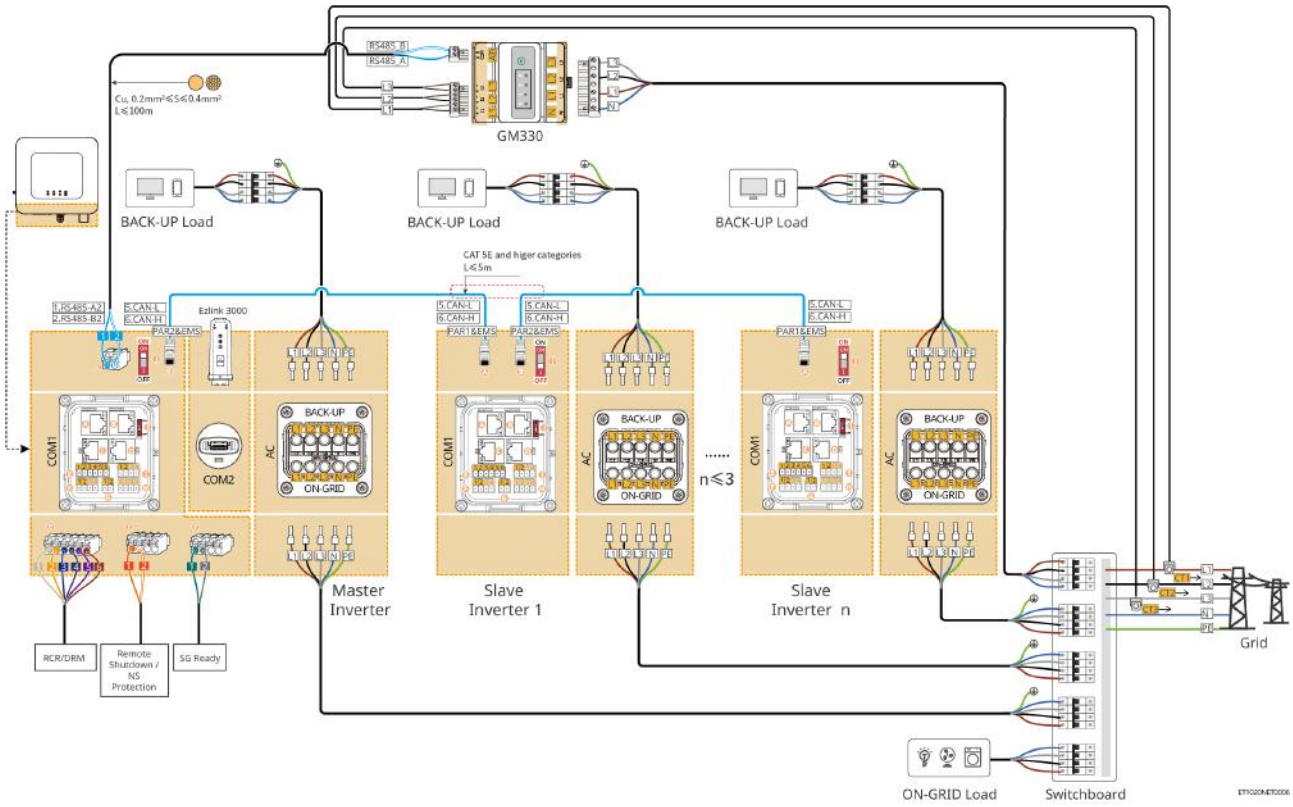
Scenario with Built-in Meter



Scenario with GM3000

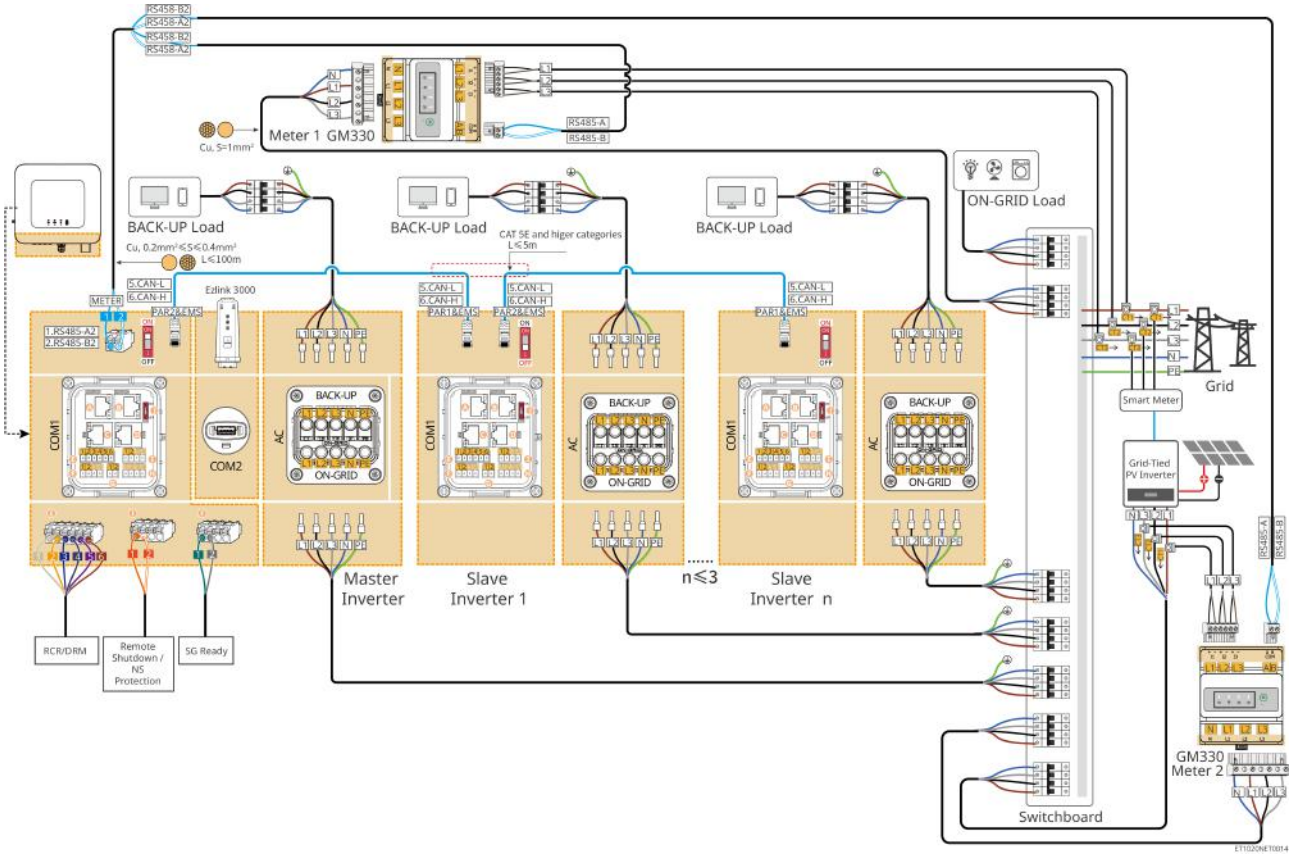
The wiring method for the inverter parallel system with GM3000 is similar to that with GM330, with only the meter connection method being different. Please refer to the **scenario with GM3000** in the single-unit system and the **scenario with GM330** in the parallel system for wiring.

Scenario with GM330



Networking Solution for Load Monitoring in Coupling Scenarios and Power Generation Monitoring of Grid-tied Inverters

GMK330 meter +GMK330 meter



5.3 Preparing Materials

WARNING

- Do not connect loads between the inverter and the AC switch directly connected to the inverter.
- Each inverter must be equipped with an AC output circuit breaker. Multiple inverters should not be connected to the same AC circuit breaker simultaneously.
- To ensure that the inverter can be safely disconnected from the grid in case of abnormalities, please connect an AC circuit breaker on the AC side of the inverter. Select an appropriate AC circuit breaker according to local regulations.
- When the inverter is powered on, BACK-UP AC port is live. If maintenance is required on the BACK-UP load, power off the inverter; otherwise, it may cause electric shock.

5.3.1 Preparing Breakers

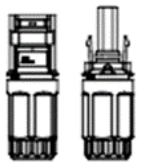
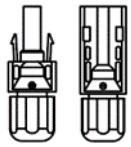
No.	breaker	Recommended Specifications	Acquisition Method	Remarks
1	ON-GRID breaker	When the BACK-UP port is loaded, the Nominal Voltage ≥230V, and the Rated Current requirements are as follows: • GW6000-ET-20: Rated Current ≥20A • GW8000-ET-20: Rated Current ≥25A • GW9900-ET-20, GW10K-ET-20, GW12K-ET-20, and GW15K-ET-20: Rated Current ≥32A	Self-provided	

No.	breaker	Recommended Specifications	Acquisition Method	Remarks
		When the BACK-UP port is not loaded, the Nominal Voltage ≥230V, and the Rated Current requirements are as follows: • GW6000-ET-20, GW8000-ET-20: Rated Current ≥16A • GW9900-ET-20, GW10K-ET-20: Rated Current ≥20A • GW12K-ET-20: Rated Current ≥25A • GW15K-ET-20: Rated Current ≥32A		If the inverter's BACK-UP port is not used, select an appropriate breaker based on the AC maximum output current.
2	BACK-UP breaker	Nominal Voltage ≥230V, Rated Current requirements are as follows: • GW6000-ET-20: Rated Current ≥20A • GW8000-ET-20: Rated Current ≥25A • Others: Rated Current ≥32A, Nominal Voltage ≥230V AC	Self-provided	-

No.	breaker	Recommended Specifications	Acquisition Method	Remarks
3	Battery Switch	Select according to local laws and regulations • 2P DC Switch • GW6000-ET-20, GW8000-ET-20: Rated Current ≥40A, Nominal Voltage ≥720VDC • Others: Rated Current ≥50A, Nominal Voltage ≥720V DC	Self-provided	-
4	RCD	Select according to local laws and regulations • Type A • ON-GRID side: 300mA • BACK-UP side: 30mA	Self-provided	-
5	Meter Switch	• Nominal Voltage: 380V/400V • Rated Current: 0.5A	Self-provided	-

5.3.2 Preparing Cables

No.	Cable	Recommended Specifications	Acquisition Method
1	Inverter Protective Ground Wire	• Single-core outdoor copper cable • Conductor cross-sectional area: S=6mm²	Self-provided
2	Battery Protective Ground Wire	• Single-core outdoor copper cable • Conductor cross-sectional area: 6mm²	Self-provided

No.	Cable	Recommended Specifications	Acquisition Method
3	PV DC Cable	• Industry-standard outdoor photovoltaic cable • Conductor cross-sectional area: 4mm²-6mm² • Cable outer diameter: 5.9mm-8.8mm	Self-provided
4	Battery DC Cable	Terminal Type I  • Single-core outdoor copper cable • Conductor cross-sectional area: 10mm² • Cable outer diameter: 6.0mm-9.5mm	Self-provided or purchased from distributor
		Terminal Type II  • Single-core outdoor copper cable • Conductor cross-sectional area: 10mm² • Cable outer diameter: 5mm-8.5mm	
5	AC Cable	• Multi-core outdoor copper cable • Conductor cross-sectional area: 6mm² • Cable outer diameter: 18mm	Self-provided

No.	Cable	Recommended Specifications	Acquisition Method
6	Smart Meter Power Cable	Outdoor copper cable Conductor cross-sectional area: 1mm²	Self-provided
7	Battery BMS Communication Cable	Custom communication cable, default length is 3m If self-provided, recommend: CAT 5E or higher specification standard network cable and RJ45 connector	Provided with the inverter
8	(Optional) Meter RS485 Communication Cable	Standard network cable: CAT 5E or higher specification standard network cable and RJ45 connector	RJ45-2PIN terminal adapter cable and standard network cable: Provided with the box
9	Battery Cluster Communication Cable	CAT 5E or higher specification standard network cable and RJ45 connector	Self-provided
10	Load Control and Generator Control DO Communication Cable	• Shielded cable meeting local standards • Conductor cross-sectional area: 0.2mm²-0.3mm² • Cable outer diameter: 5mm-8mm	Self-provided
11	Remote Shutdown Communication Cable		
12	RCR/DRED Signal Cable		
13	Inverter Parallel Communication Cable	• RJ45 connector • CAT 5E or higher specification straight-through network cable Recommended length not exceeding 5m	Self-provided

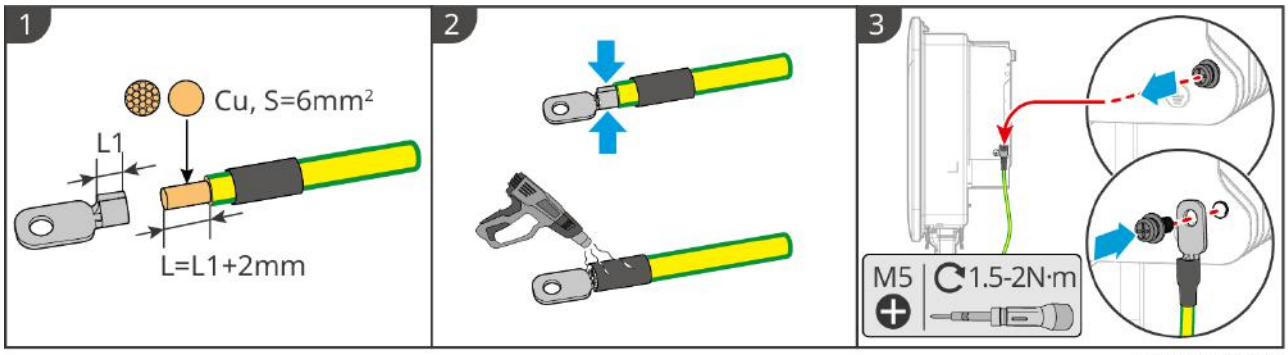
No.	Cable	Recommended Specifications	Acquisition Method
14	EMS Communication Cable / Charging Pile Communication Cable	CAT 5E or higher specification standard network cable and RJ45 connector	Self-provided
15	CT Connection Cable		Self-provided

5.4 Connecting the PE cable

⚠WARNING

- When installing the equipment, the protective grounding wire must be installed first; when removing the equipment, the protective grounding wire must be removed last.
- The protective grounding of the chassis cannot replace the protective grounding wire of the AC output port. Ensure the protective grounding wires at both locations are reliably connected during wiring.
- When using multiple devices, ensure the protective grounding points on the chassis of all devices are equipotentially connected.
- To improve the corrosion resistance of the terminal, it is recommended to apply silicone or paint to the exterior of the grounding terminal for protection after the protective grounding wire installation is complete.

5.4.1 Inverter Grounding

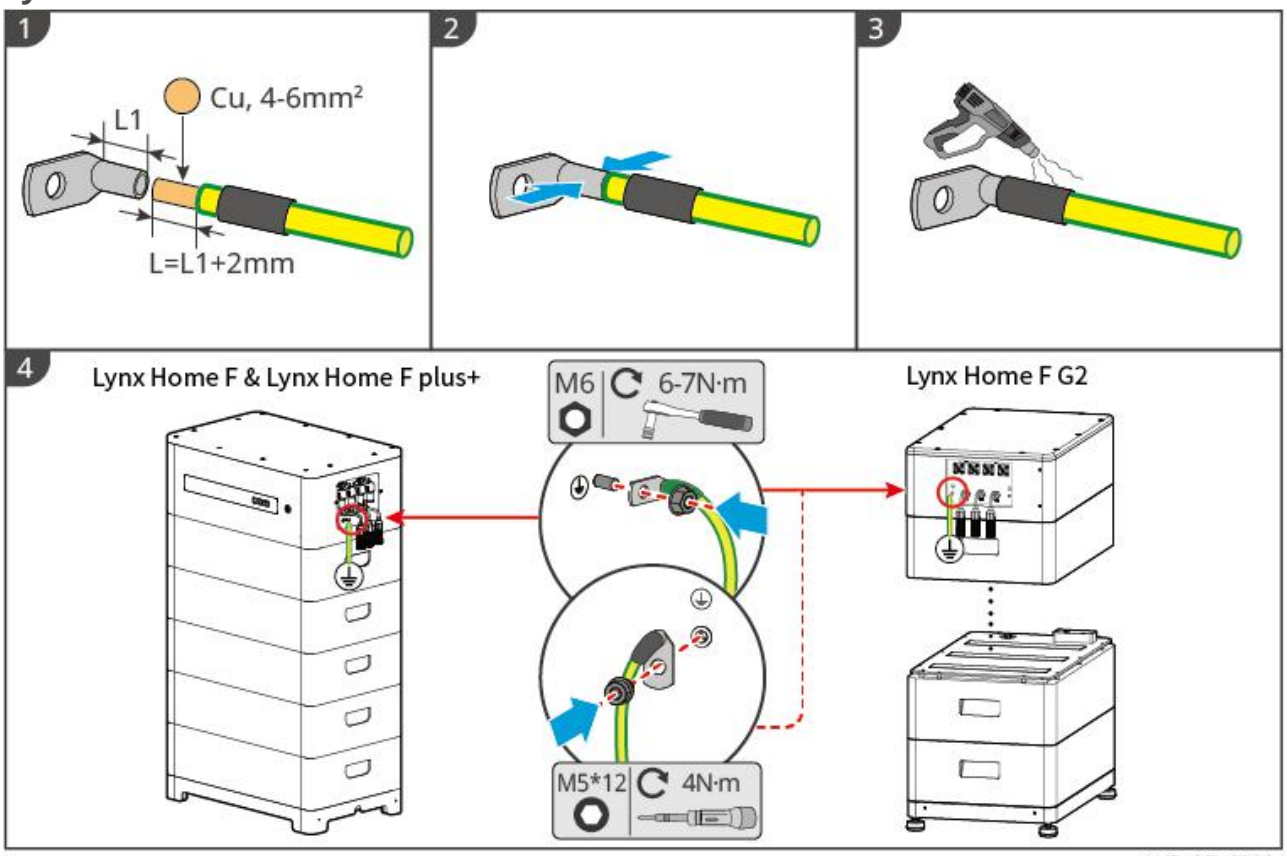


ET1020ELC0001

5.4.2 Battery System Grounding

NOTICE
The pull-out force after crimping should be greater than 400N.

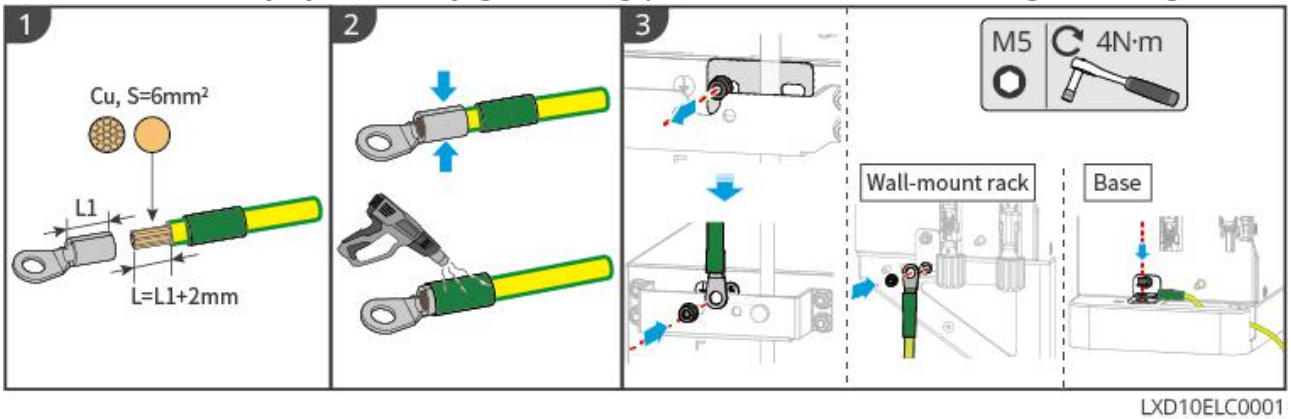
Lynx Home F Series



LXF10ELC0001

Lynx Home D

Within one battery system, any grounding point can be selected for grounding.



LXD10ELC0001

5.5 Connecting the PV Cable

⚠DANGER

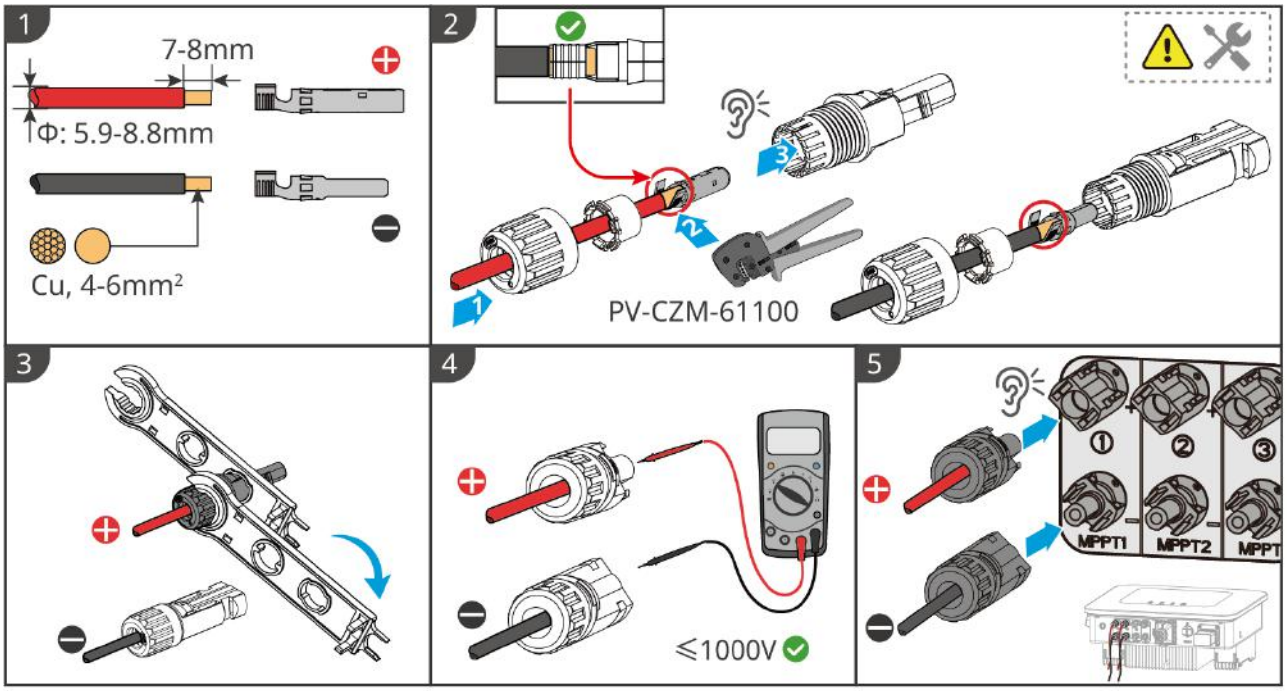
- Do not connect the same PV string to multiple inverters, as this may cause inverter damage.
- PV strings generate high-voltage direct current when exposed to sunlight; pay attention to safety during electrical connections.
- Before connecting the PV string to the inverter, confirm the following information; otherwise, it may cause permanent damage to the inverter, and in severe cases, lead to fire causing personal injury and property loss.
  1. Ensure that the maximum short-circuit current and maximum input voltage for each MPPT are within the allowable range of the inverter.
  2. Ensure that the positive pole of the PV string is connected to the PV+ of the inverter, and the negative pole of the PV string is connected to the PV- of the inverter.

⚠WARNING

- The PV string output does not support grounding. Before connecting the PV string to the inverter, ensure the minimum insulation resistance to ground of the PV string meets the minimum insulation impedance requirement (R=Max. Input Voltage/30mA).
- After completing the DC cable connection, ensure the cable connections are tight and secure, with no looseness.
- Use a multimeter to measure the positive and negative poles of the DC cable to ensure correct polarity (no reverse connection) and that the voltage is within the allowable range.

NOTICE

The two PV strings in each MPPT circuit must use the same model, the same number of panels, the same tilt angle, and the same azimuth to ensure maximum efficiency.

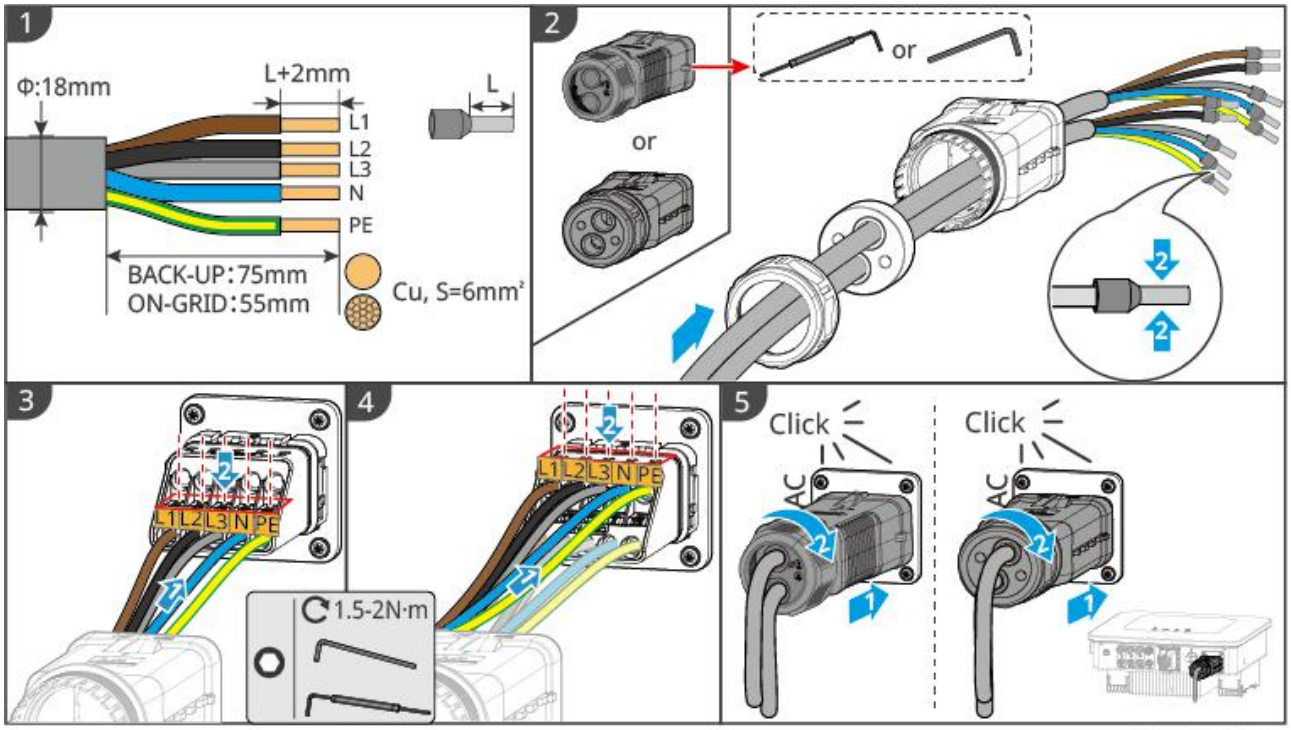


ET1020ELC0002

5.6 Connecting the AC Cable

WARNING

- The inverter integrates a Residual Current Monitoring Unit (RCMU) to prevent the residual current from exceeding the specified value. When the inverter detects a leakage current greater than the permissible value, it will quickly disconnect from the grid or generator.
- Each inverter must be equipped with an AC output circuit breaker. Multiple inverters must not be connected to a single AC circuit breaker simultaneously.
- To ensure the inverter can safely disconnect from the grid in case of an abnormal situation, please connect an AC circuit breaker on the AC side of the inverter. Select a suitable AC circuit breaker according to local regulations.
- When the inverter is powered on, the BACK-UP AC port is live. If maintenance is required on the BACK-UP load, please power down the inverter; otherwise, electric shock may occur.
- During wiring, ensure the AC wires correspond exactly to the "L1", "L2", "L3", "N", and "PE" ports of the AC terminal block. Incorrect cable connection will cause equipment damage.
- Ensure the wire cores are fully inserted into the terminal connection holes with no exposed parts.
- Ensure the insulating plate at the AC terminal block is securely fastened and not loose.
- Ensure the cable connections are tight; otherwise, overheating of the terminals during operation may cause equipment damage.
- According to local regulations, a Type A RCD can be externally connected to the inverter. Recommended specifications: ON-GRID side: 300mA, BACK-UP side: 30mA.



5.7 Connecting the Battery Cable

⚠DANGER

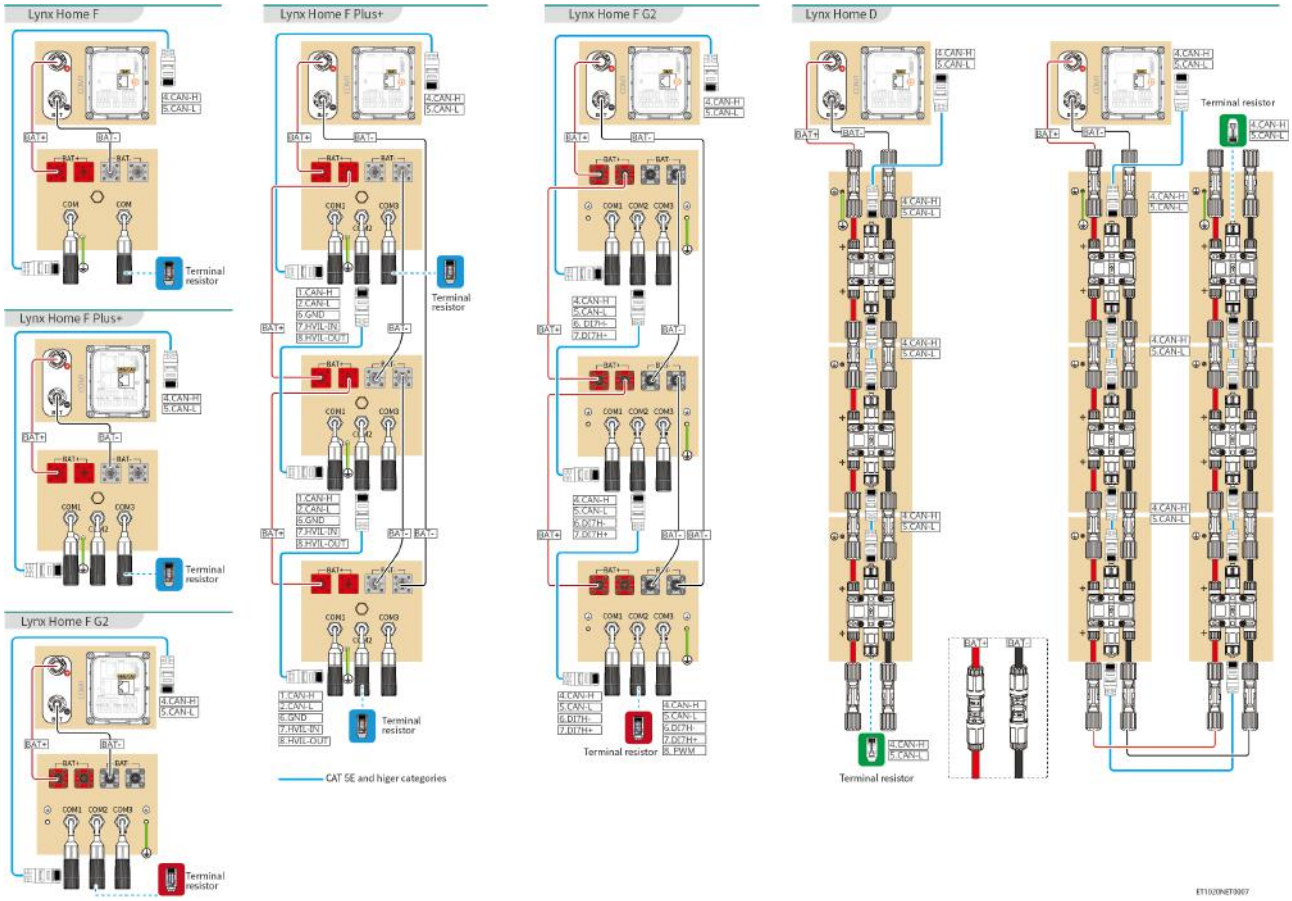
- Do not connect the same battery pack to multiple inverters, as this may damage the inverters.
- Do not connect loads between the inverter and the battery.
- When connecting battery cables, use insulated tools to prevent accidental electric shock or battery short circuits.
- Ensure that the battery open-circuit voltage is within the allowable range of the inverter.
- Between the inverter and the battery, choose whether to configure a DC switch according to local laws and regulations.

NOTICE

When using the Lynx Home D battery:

- Please select the appropriate cable lug based on the actual connected device.
- Please use suitable hydraulic pliers according to the DC connector model. Recommended specifications are:
  - For crimping battery DC terminals where the self-sealing bag in the delivery kit does NOT have an HD Locking terminal label, it is recommended to use the YQK-70 hydraulic pliers.
  - For crimping battery DC terminals where the self-sealing bag in the delivery kit has an HD Locking terminal label, it is recommended to use the VXC9 hydraulic pliers.
  - If the hydraulic pliers cannot be purchased, please select a crimping tool based on the terminal crimp dimensions, ensuring the terminal crimp meets the usage requirements.
- Please use the DC connector and terminal lugs provided in the box to connect the power cables:
  - If the black power cable from the battery system has a label or white numbered sleeve with the marking "HD", please plug it into the connector from the delivery kit whose self-sealing bag has an HD Locking terminal label.
  - If the black power cable from the battery system does NOT have a label or white numbered sleeve with the marking "HD", please check if the self-sealing bag containing the power connectors in the delivery kit has an HD Locking terminal label. If it does NOT, plug the male and female connectors together; if it DOES have an HD Locking terminal label, please contact your dealer or after-sales service.

Battery System Wiring Diagram



Inverter and Lynx Home F Series Battery BMS Communication Connection Instructions:

Inverter Port	Connected to Battery Port	Port Definition	Description
BMS	COM1/COM2/COM	4: CAN_H 5: CAN_L	CAN communication between inverter and battery

Lynx Home F Communication Port Definition:

PIN	COM	Description
4	CAN_H	Connects to the inverter BMS Communication Port to communicate with the inverter; or terminal resistor.
5	CAN_L	
1、2、3、6、7、8	-	-

Lynx Home F Plus+ Battery Cluster Parallel Communication Connection Instructions:

PIN	COM1	COM2	COM3	Description
1	CAN_H	CAN_H	CAN_H	BMS communication for battery system parallel clustering
2	CAN_L	CAN_L	CAN_L	
3	-	-	-	Reserved
4	CAN_H	-	-	• COM1: Connects to the inverter BMS Communication Port for communication with the inverter. • COM2, COM3: Reserved.
5	CAN_L	-	-	
6	GND	GND	GND	Ground PIN
7	HVIL_IN	HVIL_IN	-	• COM1, COM2: Parallel cluster interlock function. • COM3: Reserved.
8	HVIL_OUT	HVIL_OUT	-	

Lynx Home F G2 Battery Cluster Parallel Communication Connection Instructions:

PIN	COM1	COM2	COM3	Description
1	RS485_A1	RS485_A1	Reserved	Connect to external RS485 communication equipment
2	RS485_B1	RS485_B1		
3	-	-		Reserved
4	CAN_H	CAN_H		Connect to inverter communication or battery cluster communication port
5	CAN_L	CAN_L		
6	DI7H-	DI7H-		Battery cluster signal detection function
7	DI7H+	DI7H+		
8	-	PWM		Send cluster PWM signal

Inverter and Lynx Home D Battery Communication Connection Instructions

Inverter Port	Connect to Battery Port	Port Definition	Description
BMS1	COM	4: CAN_H 5: CAN_L	• CAN communication is used between the inverter and the battery. • The inverter BMS1 port is connected to the battery communication port.

Lynx Home D Battery Communication Port Definition

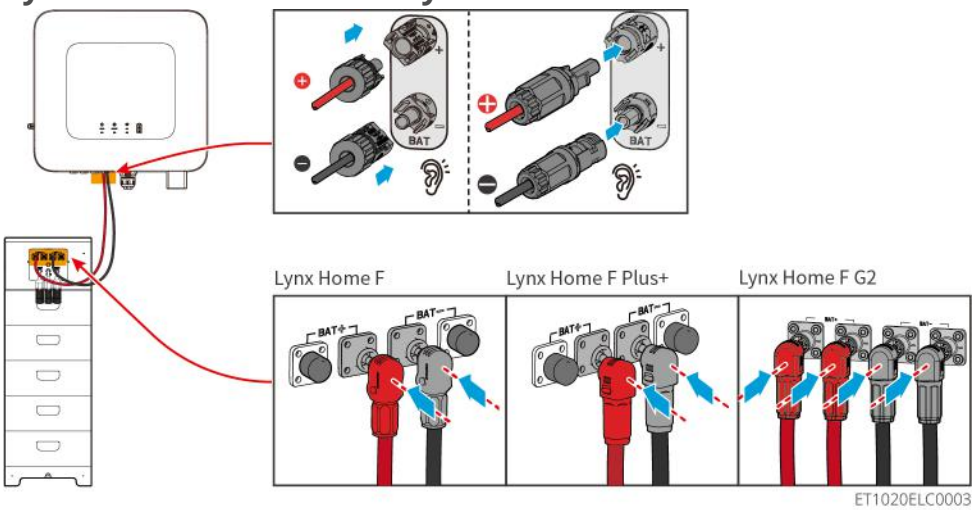
PIN	Battery Port	Description
1	RS485_A1	Reserved
2	RS485_B1	
4	CAN_H	Connect to inverter communication or battery cluster communication port
5	CAN_L	
3, 6, 7, 8	-	-

5.7.1 Connecting the Power Cable between the Inverter and Battery

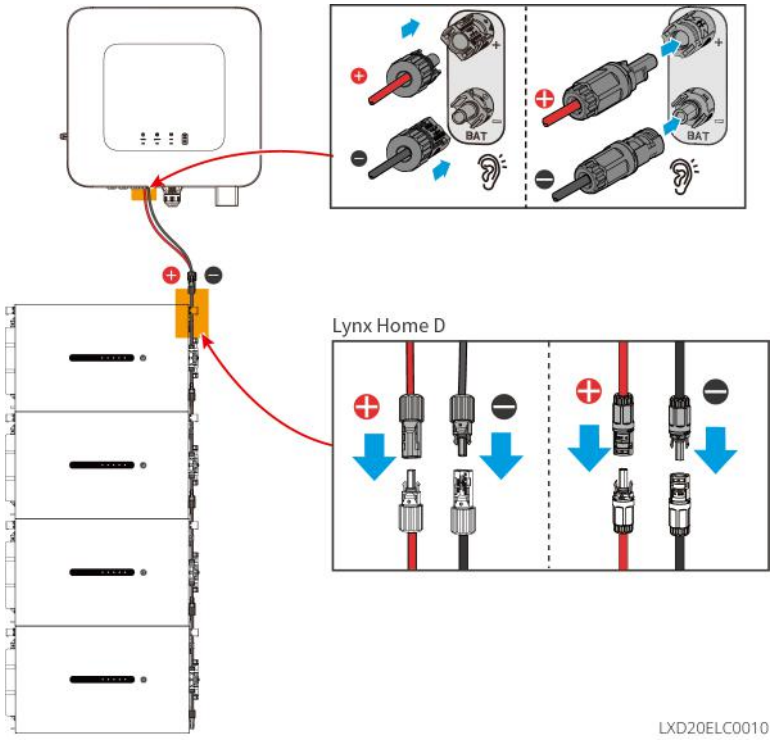
⚠WARNING

- Use a multimeter to measure the DC cable's positive and negative poles to ensure correct polarity, no reverse connection; and that the voltage is within the allowable range.
- During wiring, ensure the battery cables completely match the battery terminals "BAT+", "BAT-", and the grounding port. Incorrect cable connection will cause equipment damage.
- Ensure the wire core is fully inserted into the terminal's wiring hole with no exposed part.
- Ensure the cable connections are tight. Otherwise, loose connections may cause terminal overheating and equipment damage during operation.
- Do not connect the same battery bank to multiple inverters, as this may cause inverter damage.

Inverter+ Lynx Home F series Battery

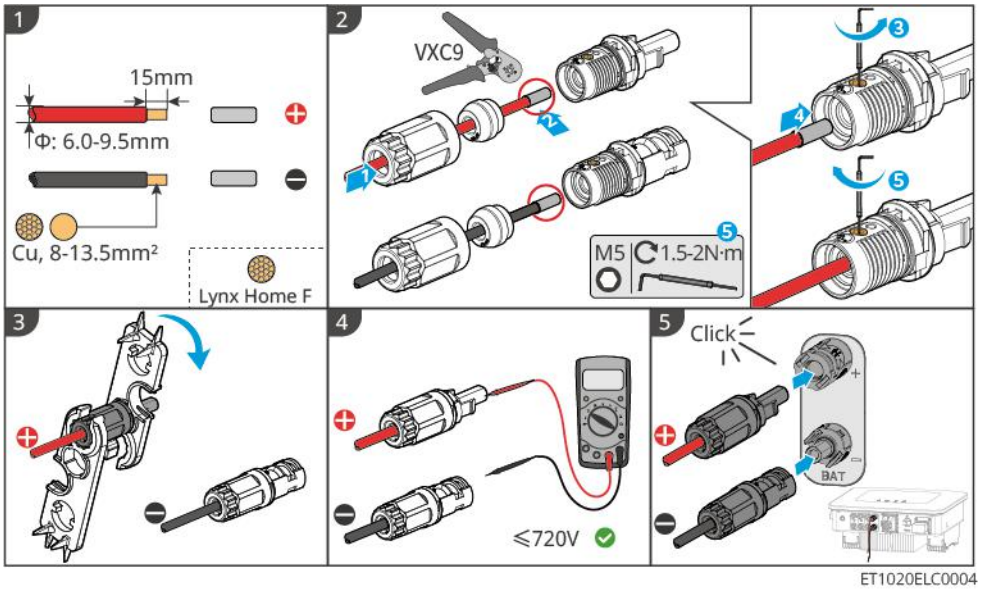


Inverter+ Lynx Home D Battery

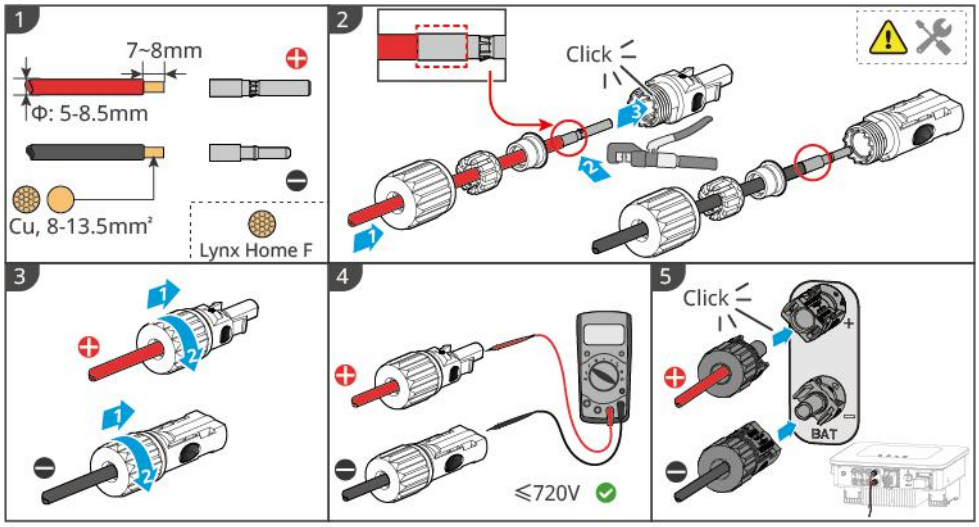


Inverter end cable assembly

Type one:

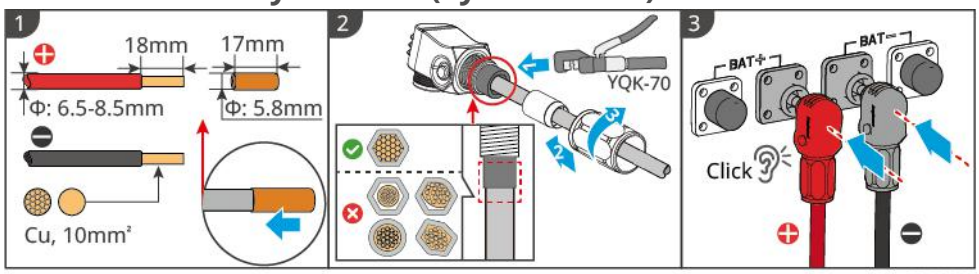


Type two:



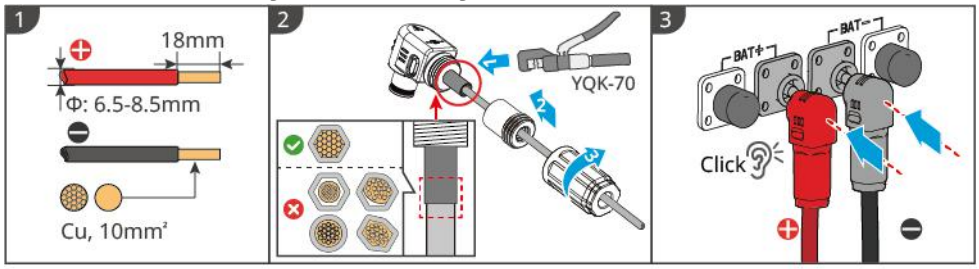
ET1020ELC0011

Battery end cable assembly method (Lynx Home F)



LXF10ELC0006

Battery end cable assembly method (Lynx Home F Plus+)

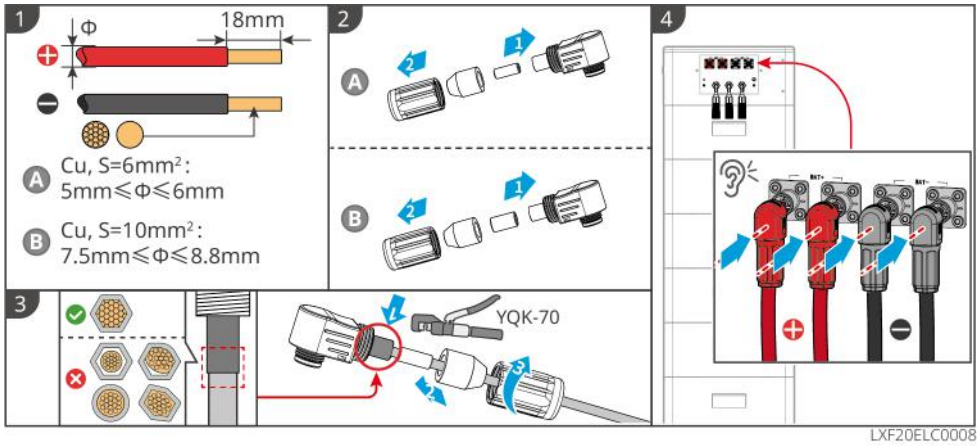


LXF10ELC0007

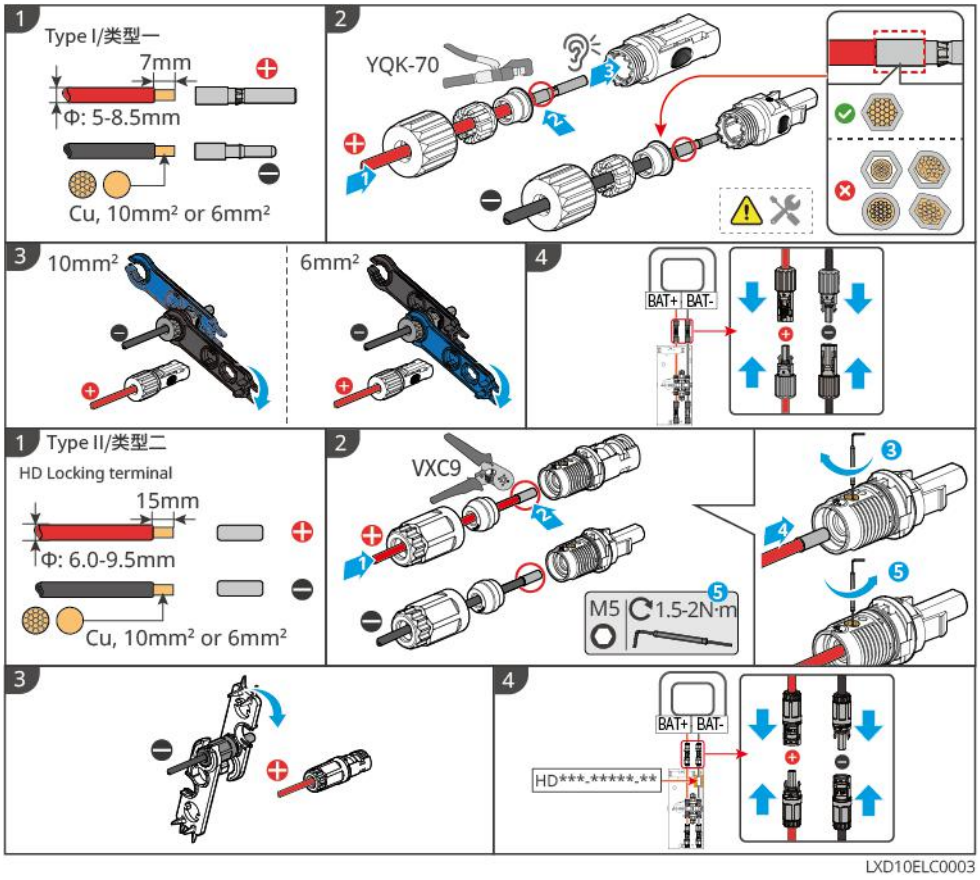
Battery end cable assembly method (Lynx Home F G2)

⚠WARNING

- Please prepare your own DC input cable. Recommended specifications:
  - Type: Outdoor single-core copper wire
  - Conductor cross-sectional area S: 6mm^2 or 10mm^2
- When the conductor cross-sectional area S is 6mm^2, please use the DC connector marked 6mm^2 in the packaging bag, and the pull-out force after cable crimping should be >450N. When using DC cables of this specification, only single battery system connection is supported. Do not parallel cluster battery systems, otherwise it may cause equipment damage.
- When using cable cross-sectional area S of 10mm^2, please use the DC connector marked 10mm^2 in the packaging bag, and the pull-out force after cable crimping should be >500N.
- It is recommended to use the YQK-70 type hydraulic crimper for crimping battery DC terminals: when the conductor cross-sectional area is 6mm^2, select the crimping die marked "6"; when the conductor cross-sectional area is 10mm^2, select the crimping die marked "10".
- Please select the tool for crimping battery DC terminals according to actual needs. The tools in the graphics are for illustration only.
- If the DC port does not need to be connected to a cable, do not remove the protective cover of the DC port, otherwise it may affect the equipment protection level.



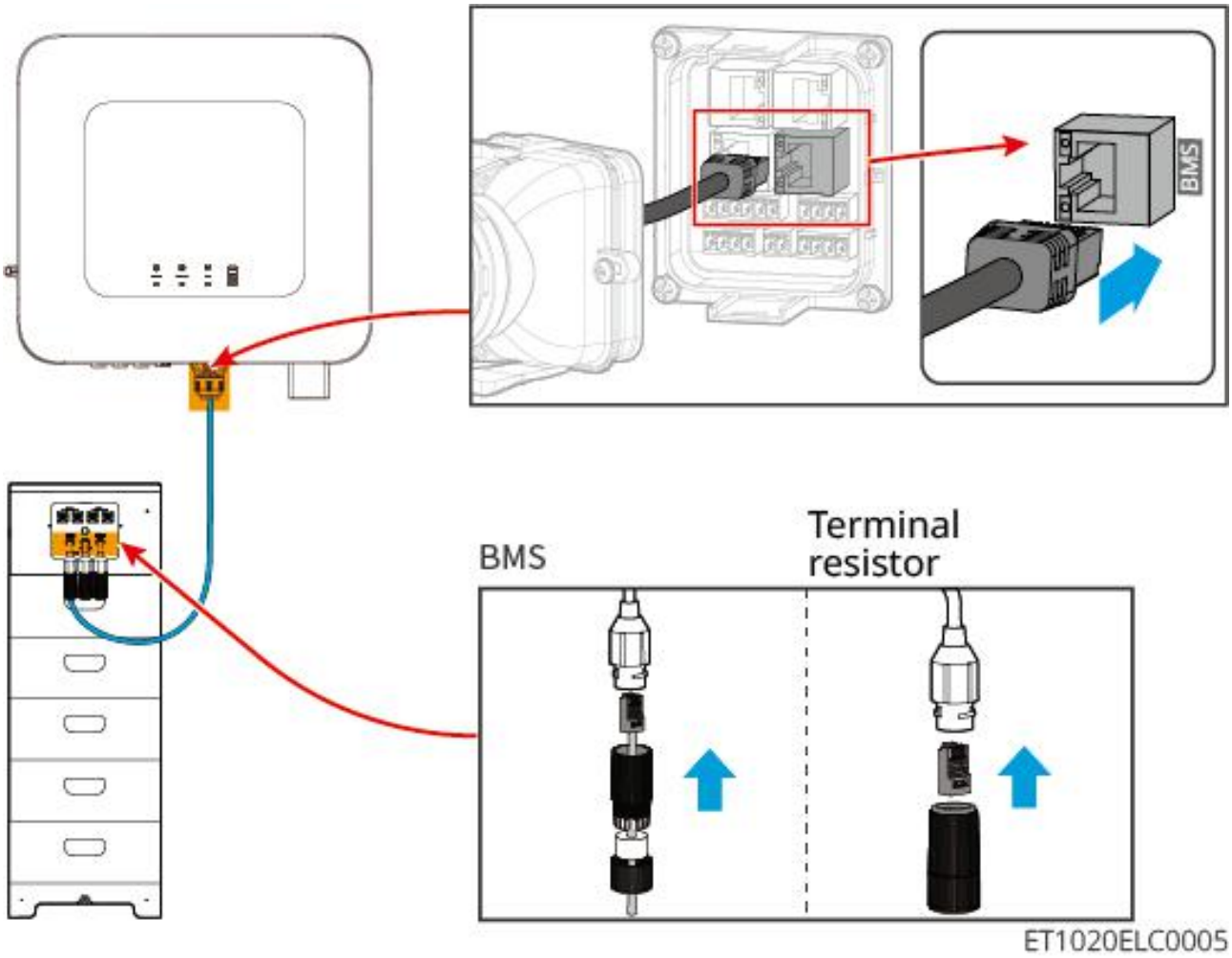
Battery end cable assembly method (Lynx Home D)



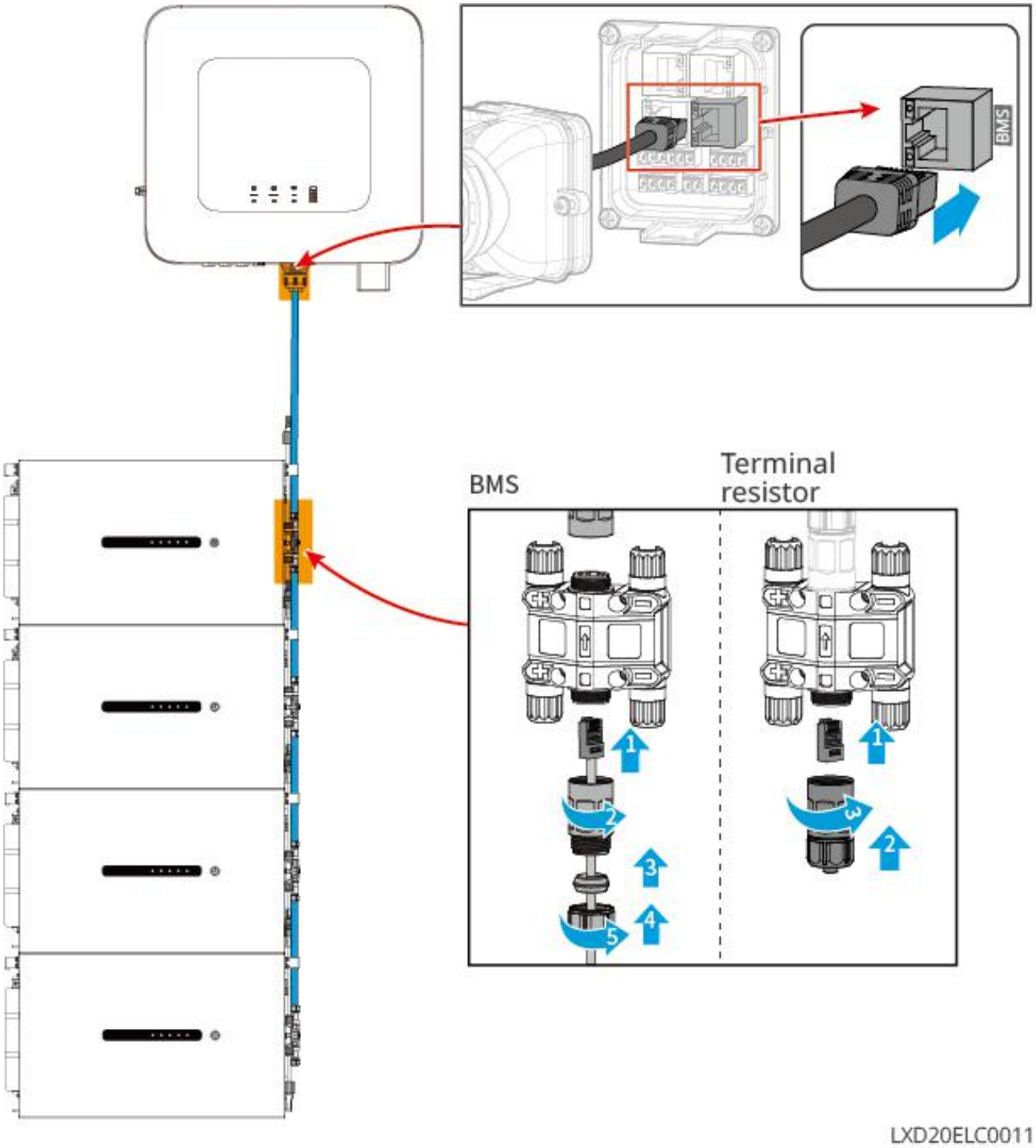
5.7.2 Connecting the Communication Cable between the Inverter and Battery

NOTICE
The inverter is supplied with BMS battery communication cable, it is recommended to use the supplied BMS battery communication cable. If the supplied communication cable cannot meet the requirements, please prepare your own shielded network cable and RJ45 connector.

Inverter+ Lynx Home F Series Battery

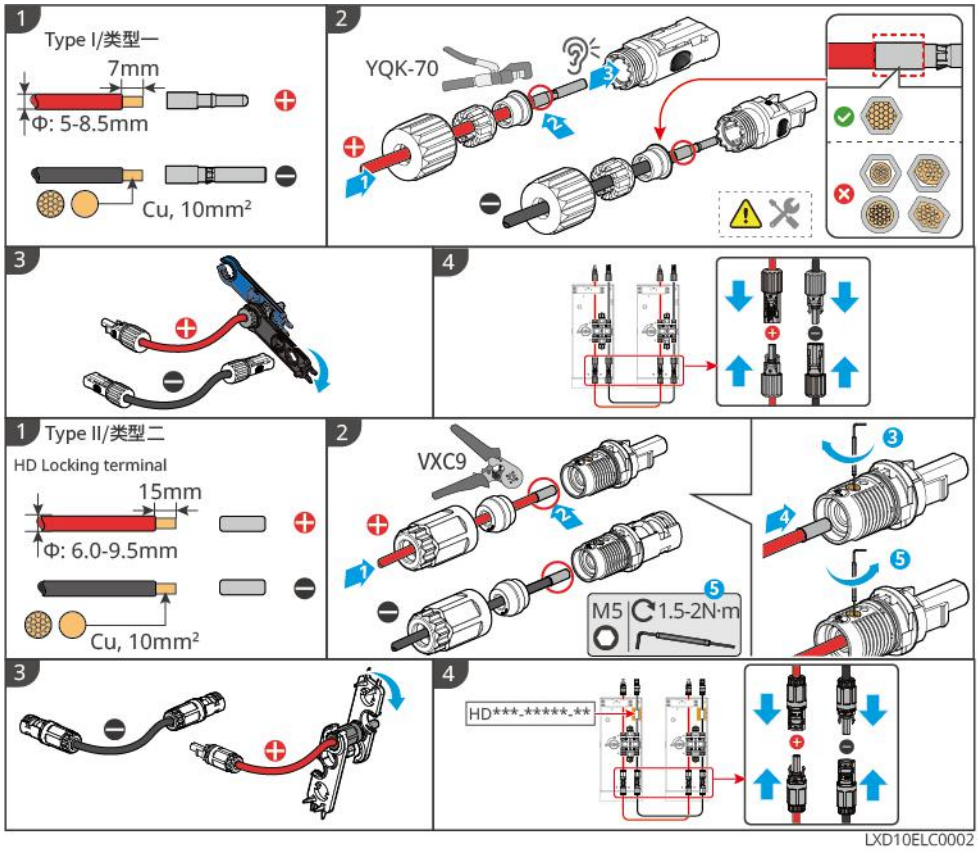


Inverter+ Lynx Home D Battery



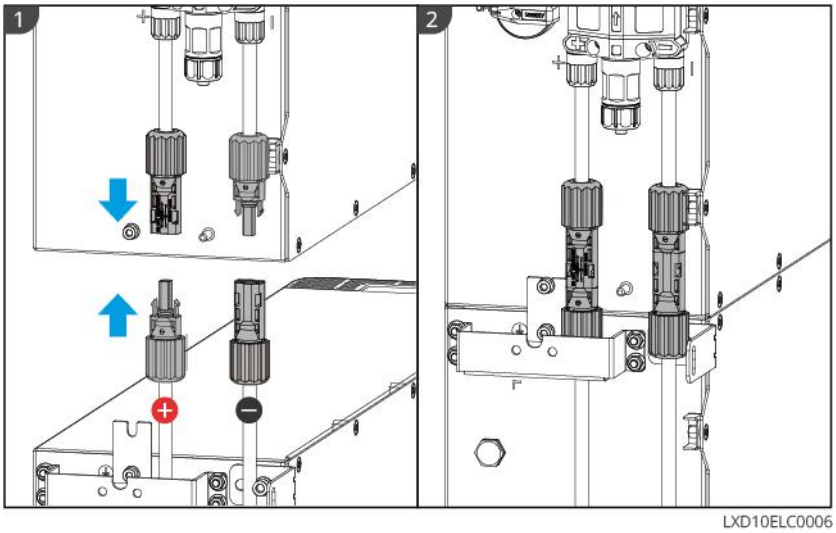
5.7.3 Connecting the Power Cable Between Lynx Home D Batteries

Crimping the Power Cable

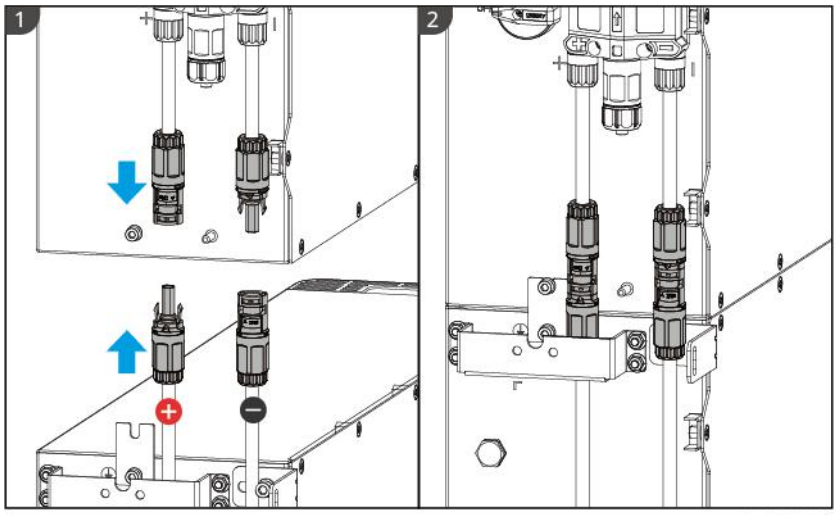


Connecting the Power Cable

Type 1:

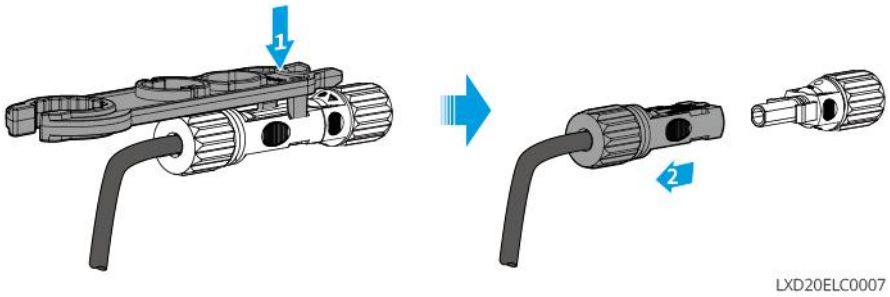


Type 2:

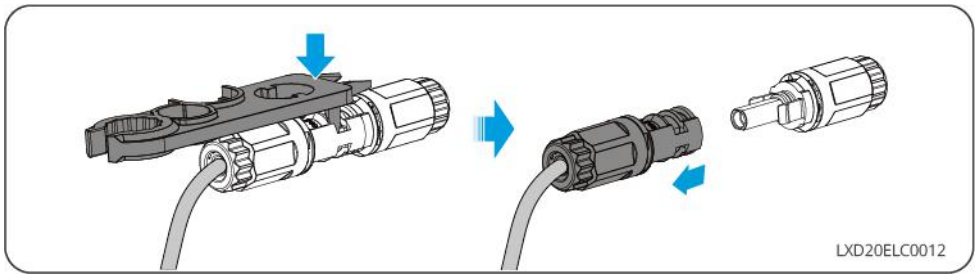


If you need to remove the power connector, please use the tool included in the shipment and refer to the following steps.

Type 1:



Type 2:



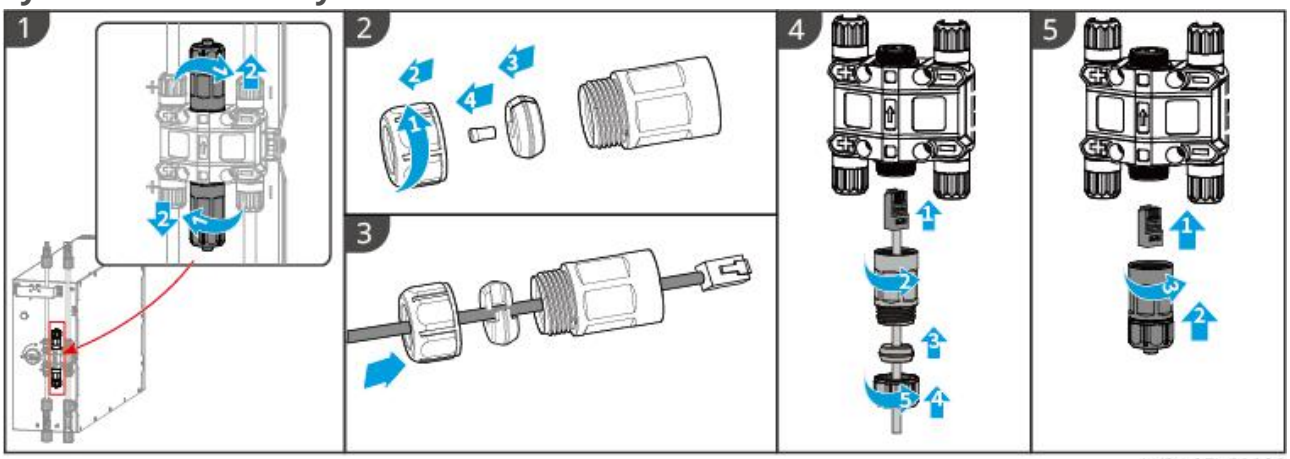
5.7.4 Connect Battery Communication Cable and Terminal Resistor

Please use the battery communication cable and terminal resistor included in the shipment.

WARNING

- Do not omit the installation of the battery system terminal resistor; otherwise, it will cause the battery system to malfunction.
- During installation, do not disassemble the waterproof plug.

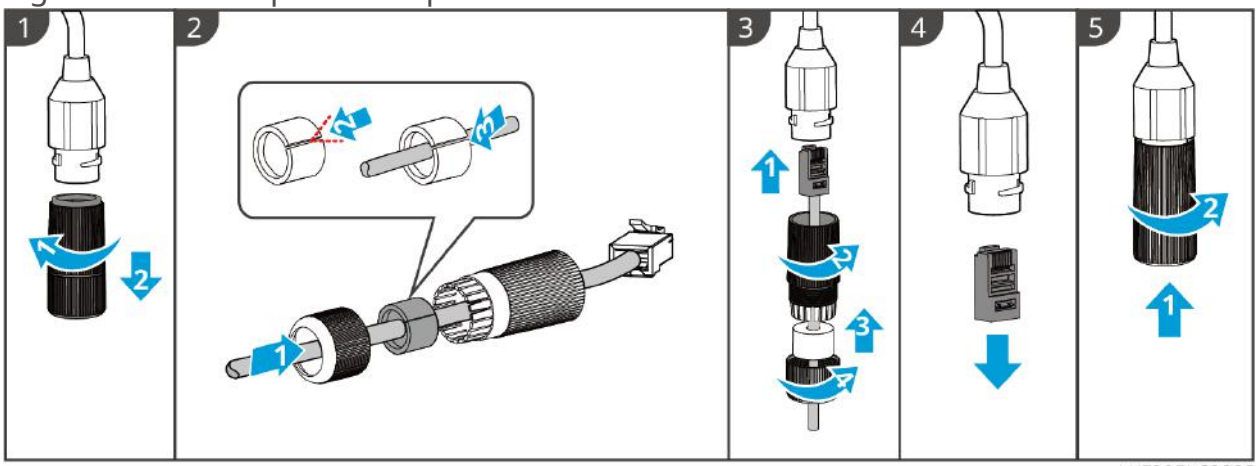
Lynx Home DBattery



LXD10ELC0008

Lynx Home F G2

1. Remove the waterproof component.
2. Pass the communication cable through the waterproof component.
3. Connect the communication cable to the battery, or install the terminal resistor. Tighten the waterproof component.
4.



LXF20ELC0003

5.7.5 Install Battery Protective Cover

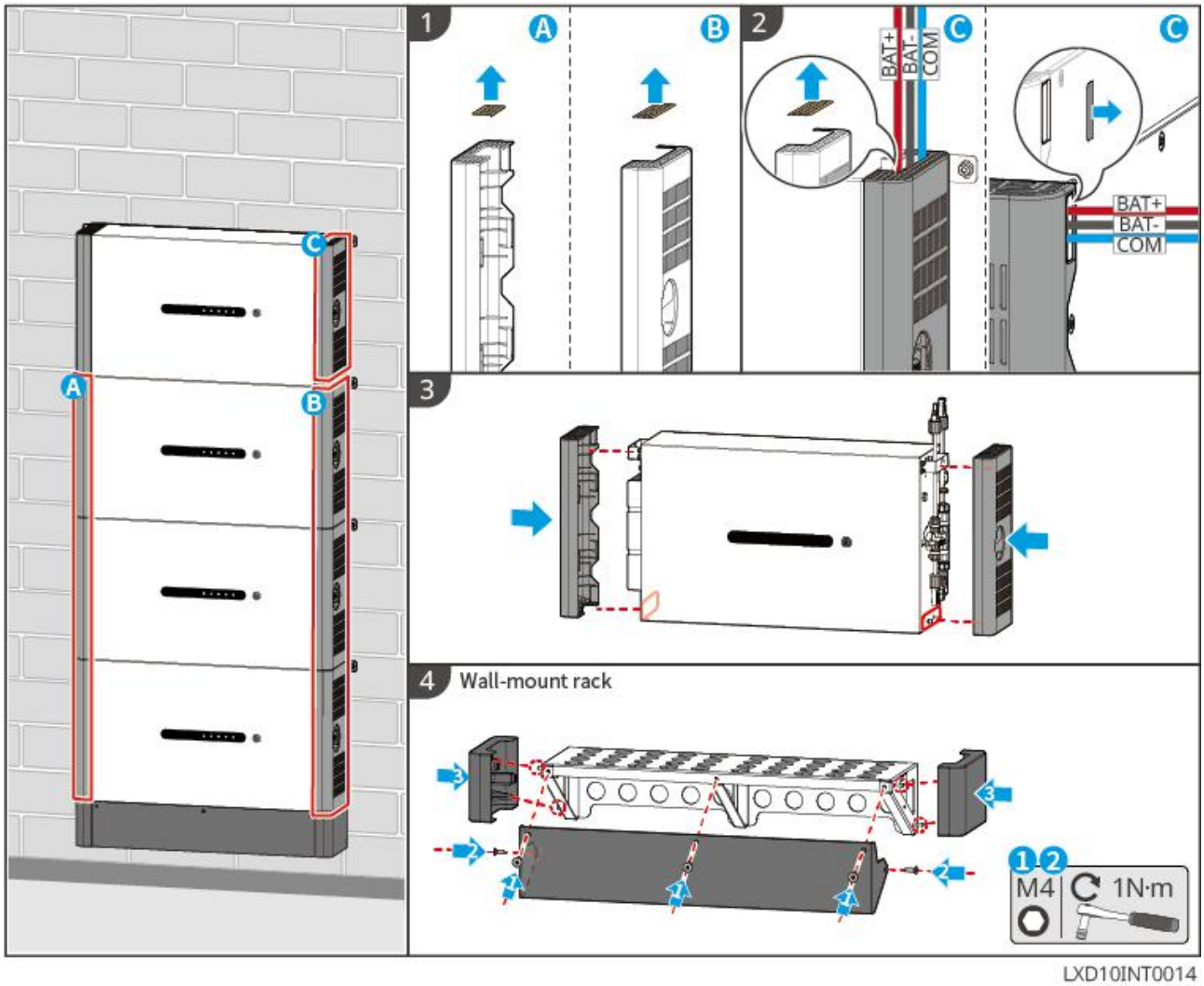
NOTICE
Please remove the release paper from the back of the front protective cover before installing the mounting bracket.

Lynx Home DBattery

Step 1: (Optional) Only for base installation scenario, when no wiring is needed at the bottom, install the base cable outlet plug.

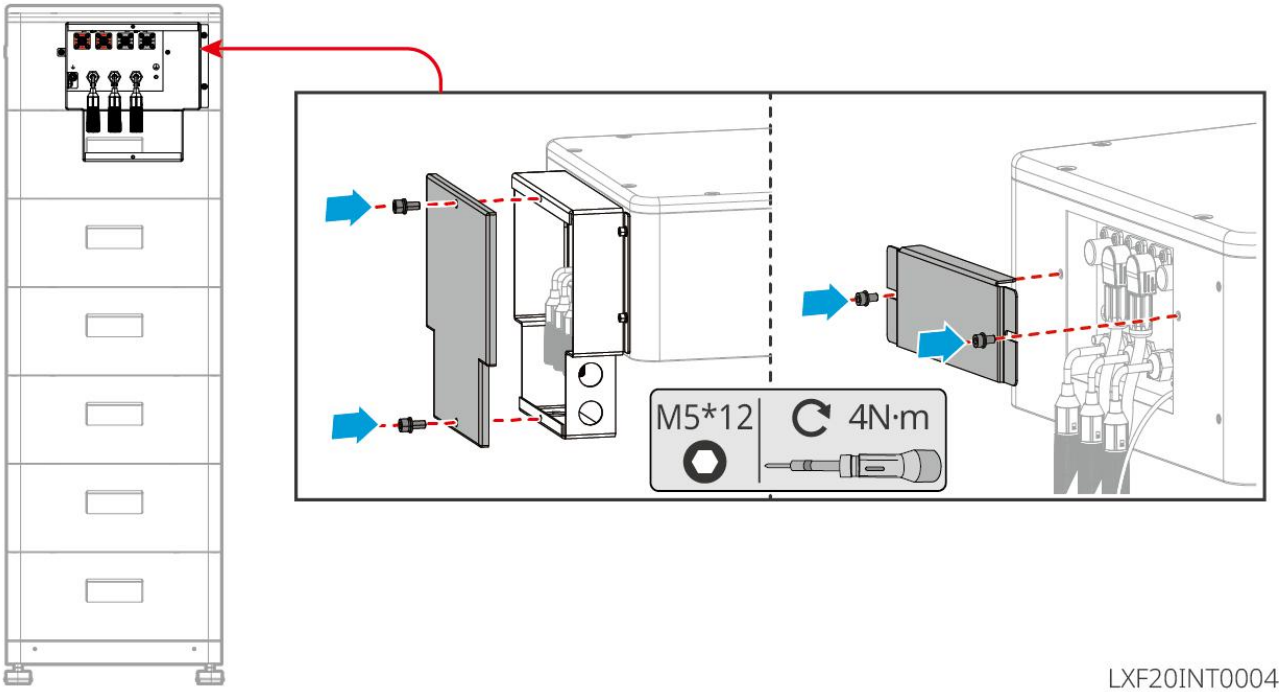
Step 2: Install the battery side panel.

Step 3: (Optional) Only for bracket installation scenario, install the bracket panel.



Lynx Home F G2Battery

(Optional) This step is only for some batteries with protective cover mounting holes or junction boxes. The cover plate can only be installed after wiring is completed.



LXF20INT0004

5.8 Connecting the Meter Cable

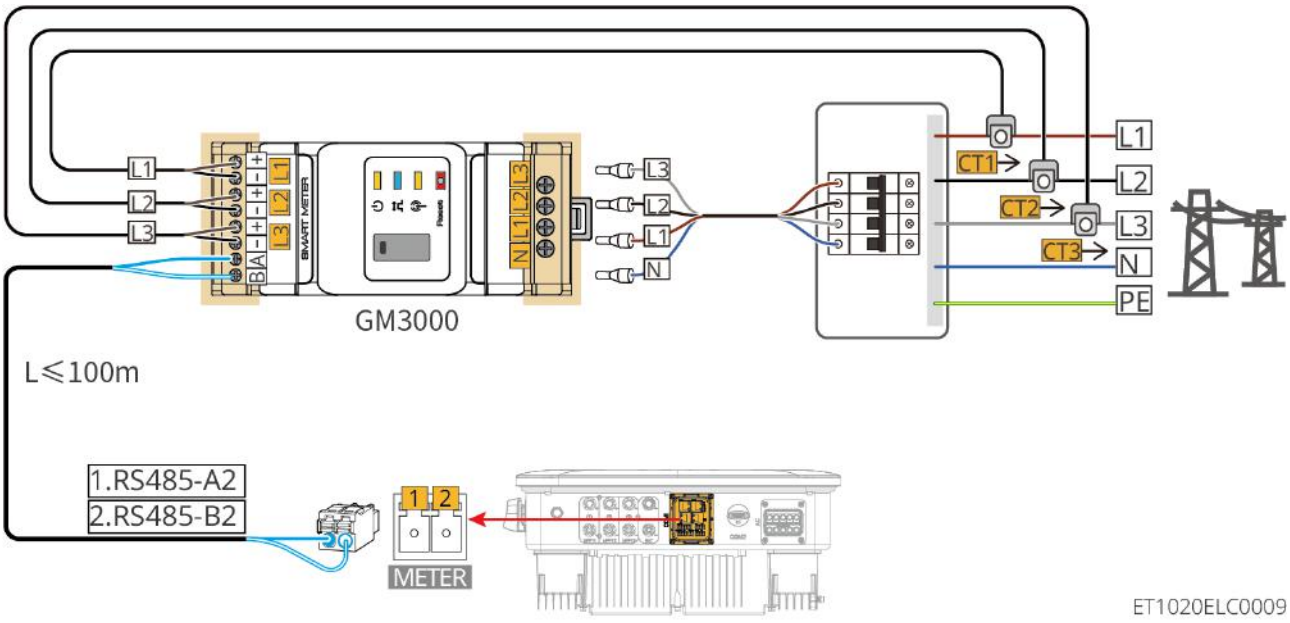
NOTICE

- The meter shipped with the unit is for use with a single inverter only. Do not connect one meter to multiple inverters. If you have multiple inverters, please consult the manufacturer to purchase additional meters separately.
- Ensure the CT connection direction and phase sequence are correct; otherwise, monitoring data may be inaccurate.
- Ensure all cable connections are correct, secure, and not loose. Improper wiring may cause poor contact or damage the meter.
- In areas with lightning risks, if the meter cable length exceeds 10m and the cable is not routed through a grounded metal conduit, it is recommended to install an external lightning protection device.

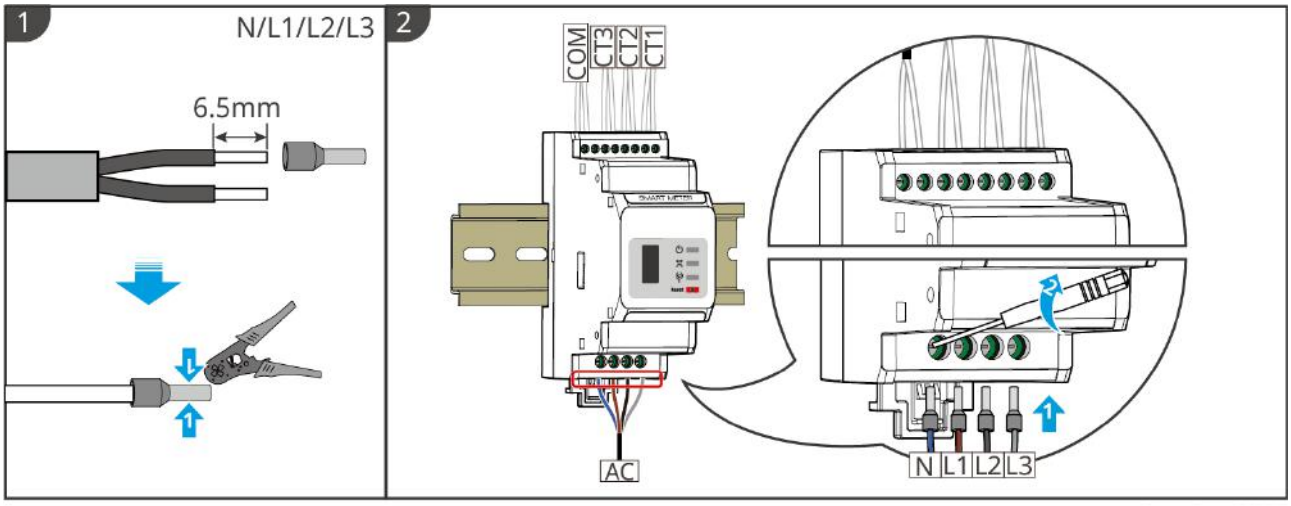
GM3000 Meter Wiring

NOTICE

- The outer diameter of the AC power line must be smaller than the aperture of the CT to ensure the AC power line can pass through the CT.
- To ensure the current measurement accuracy of the CT, the recommended length of the CT cable should not exceed 30m.
- Do not use network cable as the CT cable, as excessive current may damage the meter.
- CT units provided by equipment manufacturers may vary slightly in size and appearance depending on the model, but the installation and wiring methods are consistent.

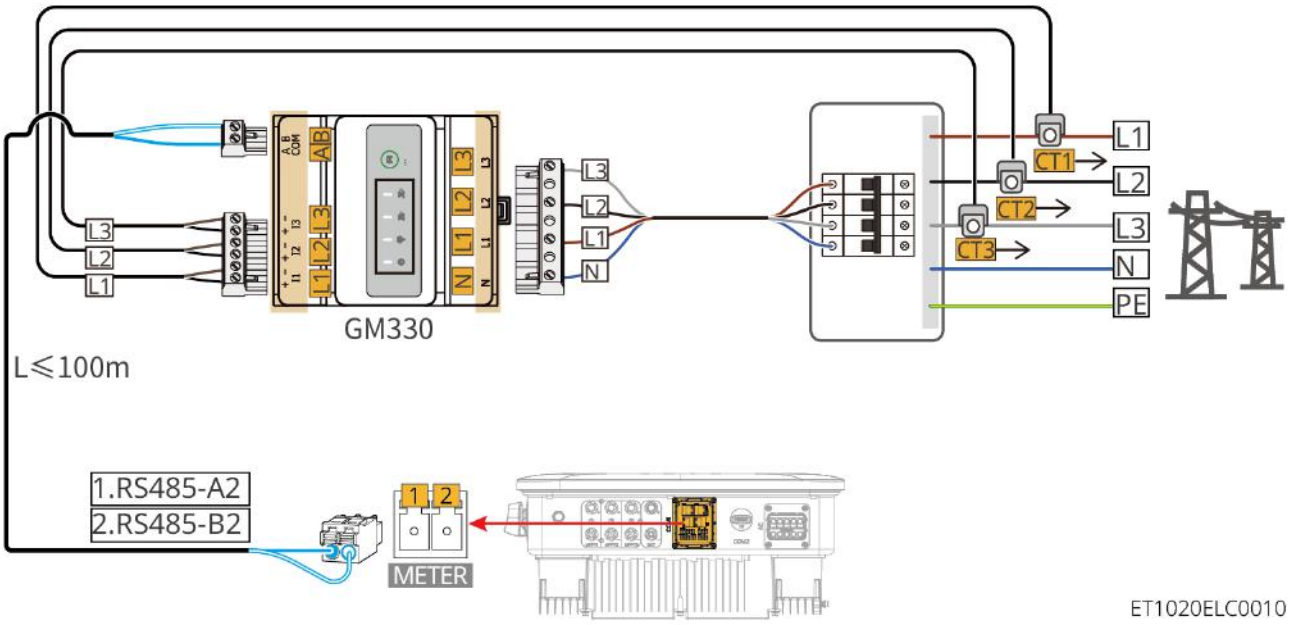


Wiring Steps



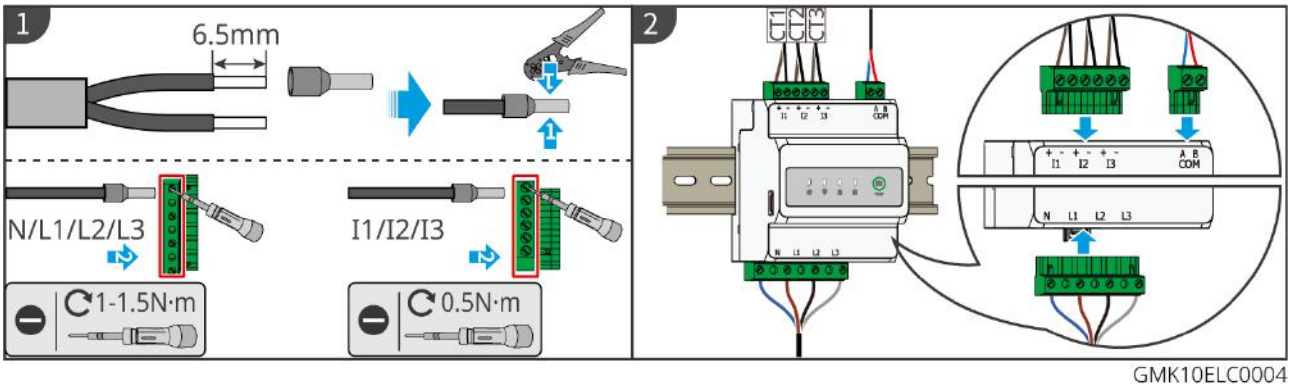
GMK10ELC0003

GM330 Meter Wiring



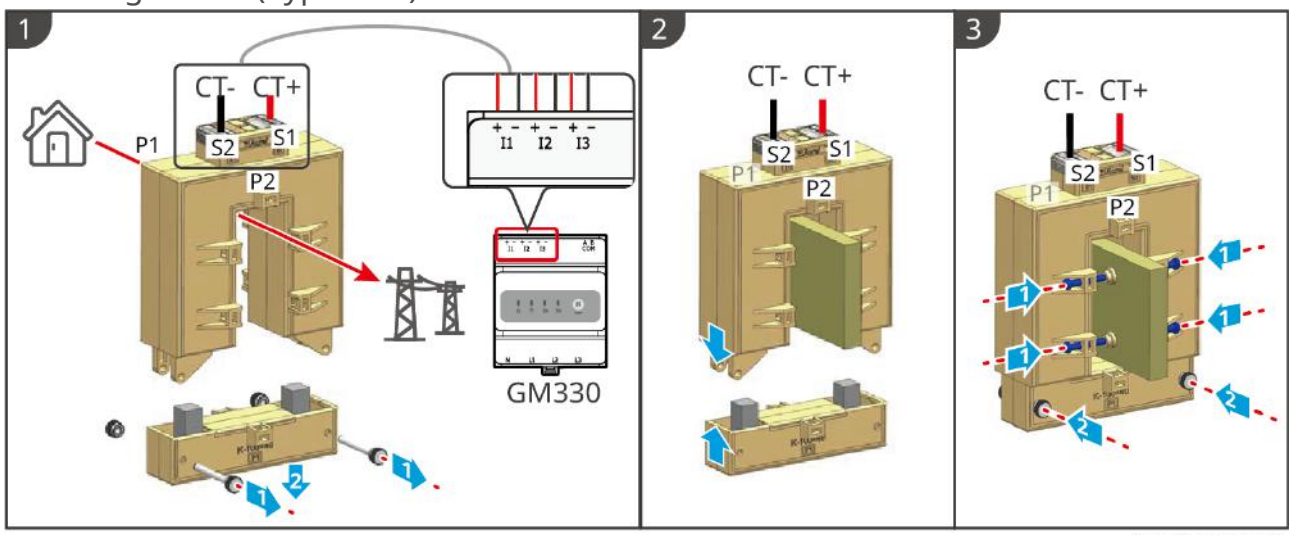
ET1020ELC0010

Wiring Steps



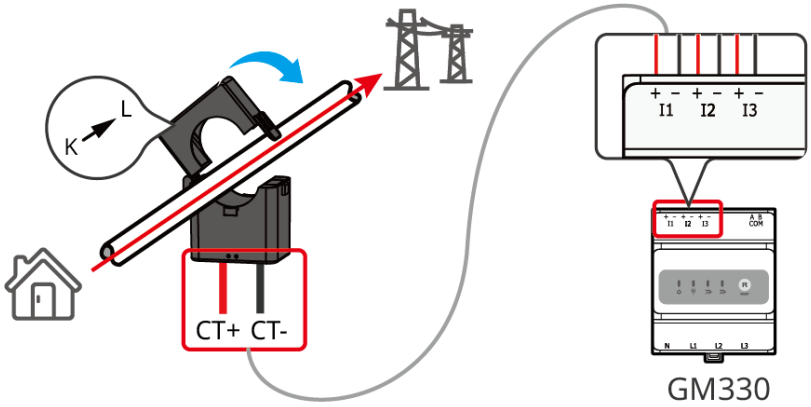
GMK10ELC0004

Installing the CT (Type One)



GMK10ELC0006

Installing the CT (Type Two)



GMK10ELC0007

5.9 Connecting the Inverter Communication Cable

NOTICE

- In a parallel system using the Inverter's built-in meter for networking, only the master Inverter needs to connect to CT, and the slave Inverters do not need to connect to CT.
- When using the built-in meter, please use the CT that comes with the shipment.
- To ensure the normal use of the meter and CT, please ensure the following:
  - Ensure that the CT is connected matching the phase lines: CT1 to L1, CT2 to L2, CT3 to L3.

NOTICE

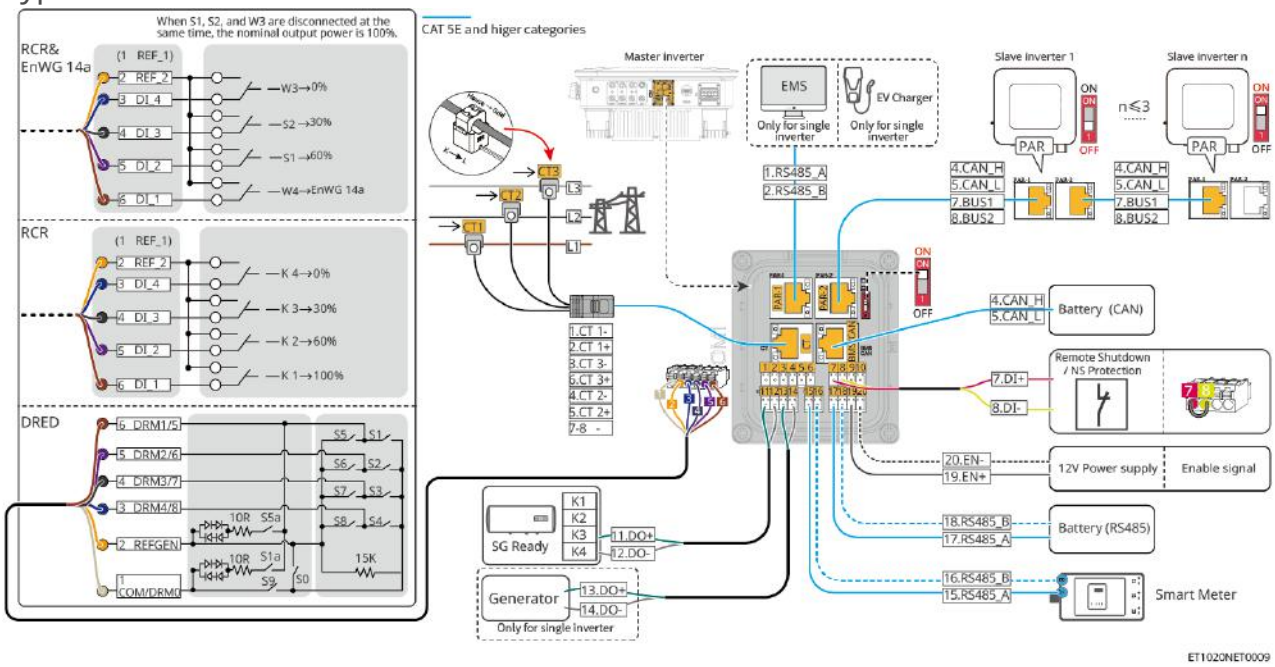
  - Connect according to the direction of the CT; otherwise, it may cause a CT reverse fault.
  - When replacing or maintaining the CT later, please use the "Meter/CT Auxiliary Detection Function" on the SolarGo APP to allow the Inverter to readapt to the CT sampling current direction.
- If you need to use the DRED, RCR, or remote shutdown function, after wiring is completed, please turn on this function in the SolarGo APP.
- If the Inverter is not connected to a DRED device or remote shutdown device, do not turn on this function in the SolarGo APP; otherwise, the Inverter cannot operate in grid-connected mode.
- In a parallel system, if you need to implement the DRED or RCR function, only connect the DRED or RCR communication line to the master Inverter; if you need to implement the remote shutdown function, connect the remote shutdown communication line to all Inverters.
- The Inverter DO signal communication port can connect dry contact signal specifications: Max≤24Vdc, 1A.
- To ensure communication quality, do not connect one Inverter's parallel communication port PAR1 to another Inverter's parallel communication port PAR1; you need to connect one Inverter's parallel communication port PAR1 to another Inverter's parallel communication port PAR2.
- For Inverter parallel communication cables, if using CAT 5E or CAT 6E standard shielded network cables, the recommended length is ≤5m; if using CAT 7E standard shielded network cables, the recommended length is ≤10m; do not exceed 10m for communication cables, otherwise it may cause communication abnormalities.
- The Inverter parallel DIP switch is set to the ON position by default at the factory.
- If you need to use the EnWG 14a function, please ensure that the Inverter ARM software version is 13.435 or above, and the SolarGo APP version is 6.0.0 or above.
- If you need to pair with dual meters to achieve grid-connected generator power monitoring and load power consumption monitoring, please use an RJ45 splitter for connection. The RJ45 splitter should be self-provided or contact GoodWe for purchase.
- To ensure the Inverter's waterproof rating, do not remove the waterproof plugs from unused communication ports on the Inverter.

NOTICE

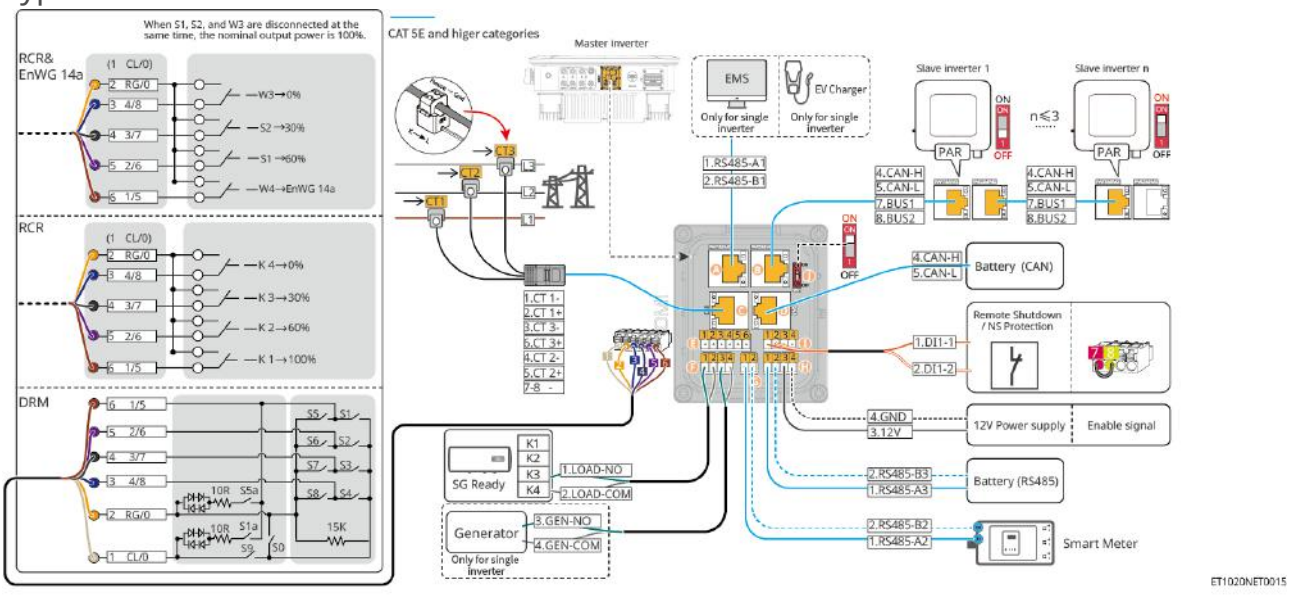
- The Inverter communication function is optional; please select according to the actual usage scenario.

Communication Function Description

Type One



Type Two

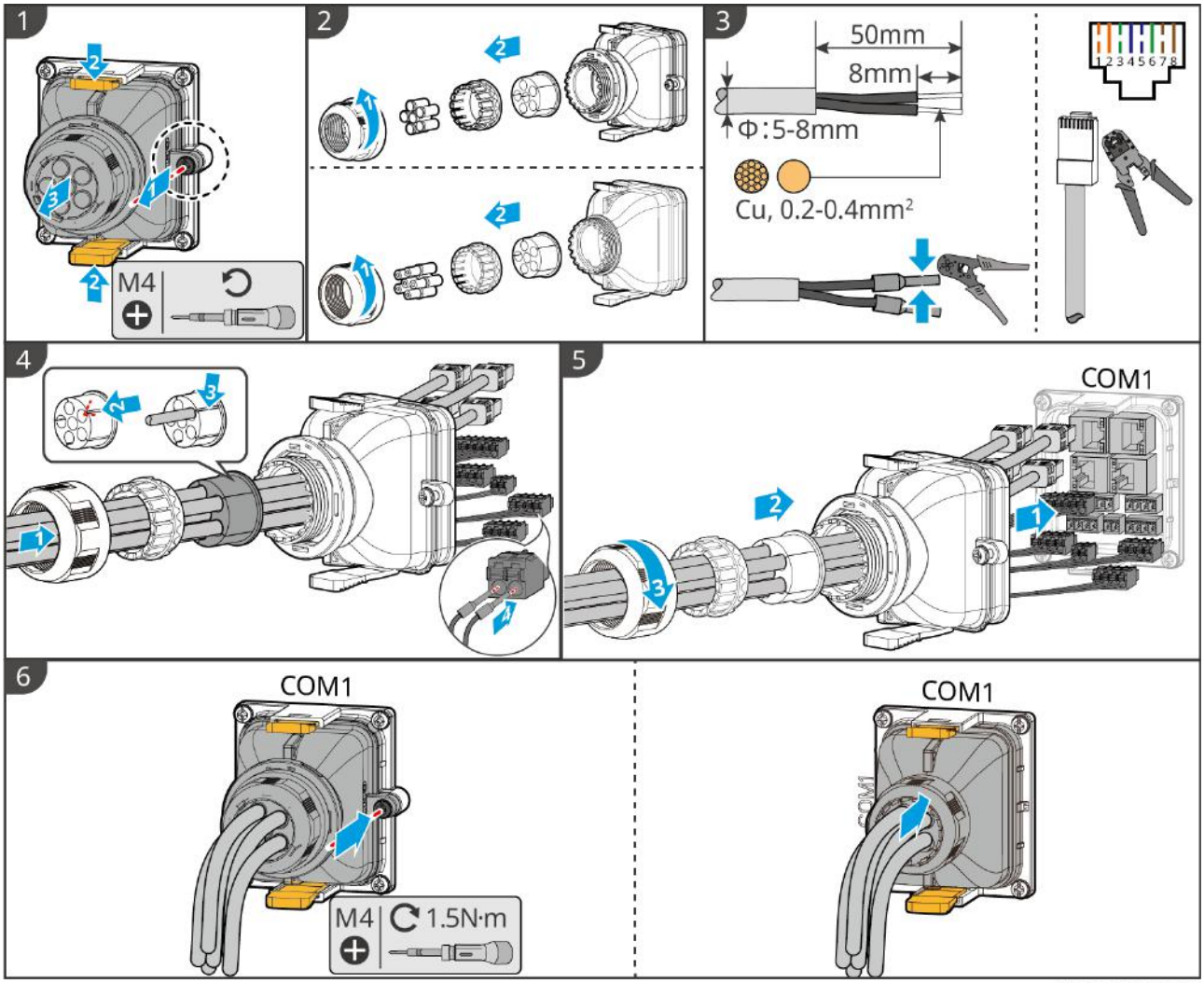


Silkscreen	Function	Description
DRM/RCR / DRED/RCR/EnWG 14a	DRED, RCR, or EnWG 14a function connection port	• RCR (Ripple Control Receiver): Provides an RCR signal control port to meet grid dispatch requirements in regions such as Germany. • DRED (Demand Response Enabling Device): Provides a DRED signal control port to meet DERD certification requirements in regions such as Australia. • EnWG (Energy Industry Act) 14a: All controllable loads must accept emergency dimming from the grid. Grid operators can temporarily reduce the maximum grid power purchase of controllable loads to 4.2kW.
DI1 / RSD	Remote Shutdown / NS Protection	Provides a signal control port to control device Remote Shutdown or implement NS Protection Function. Remote Shutdown function: • When an unexpected event occurs, it can control the device to stop working. • The Remote Shutdown device must be a normally closed switch. • When the inverter uses the RCR or DRED function, ensure the Remote Shutdown device is connected, or the Remote Shutdown port is short-circuited.
DI2	Reserved	-

DO1 / LOAD CNTL	load control	• Supports connection to dry contact signals to implement functions such as load control. DO contact capacity is 24V DC@1A, NO/COM normally open contacts. • Supports SG Ready heat pump connection, controlling the heat pump via dry contact signals. • Supported operating modes: ◦ Operating mode 2 (signal: 0:0): Energy-saving Mode. In this mode, the heat pump operates in energy-saving mode. ◦ Operating mode 3 (signal: 0:1): Startup suggestion. In this mode, the heat pump increases hot water storage to store heat while maintaining current operation.
DO2 / GEN	Generator Start/Stop Control port	• Supports connection to generator control signals. • Do not connect generator power lines to the inverter AC port.
METER / Meter	Meter connection port	Uses RS485 communication to connect to an external smart meter.
BMS485 / BMS	Battery RS485 Communication Port	Battery system RS485 signal communication port.
EN	Battery enable communication port or 12V power supply port	Outputs battery enable signal or provides 12V DC power to external fans.

PAR1&EMS& PAR2&EMS / PAR-1&PAR-2	• EMS communication or EV charger communication port • Parallel communication port	• CAN and BUS ports: Parallel communication ports. CAN communication is used to connect to other inverters in parallel networking; the BUS bus controls the grid-tied/off-grid status of each inverter in the parallel system. • RS485 port: Used to connect to third-party EMS devices and EV chargers. Connecting to third-party EMS devices and EV chargers is not supported in parallel scenarios.
BMS / BMS CAN	Battery CAN Communication Port	Battery system CAN signal communication port.
CT	CT connection port	The CT communication cable needs to be connected only when using the inverter's built-in meter.
SW1	Parallel DIP switch	Inverter parallel DIP switch, factory default is set to the ON position. In multi-unit parallel scenarios, the parallel DIP switches of the first and last inverters need to be set to the ON position, and the other inverters should be set to the 1 position.

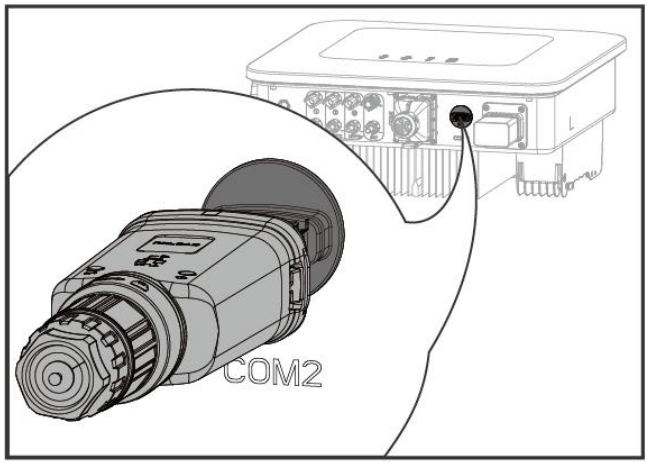
Method for Connecting the Communication Cable



5.10 Connecting the Smart Communication Stick

NOTICE

- The inverter supports connecting to a mobile phone or WEB interface via Bluetooth, 4G, WiFi, LAN smart dongle to set device-related parameters, view device operation information and error messages, and stay informed about system status in a timely manner.
- When the system contains multiple inverters networked in a cluster, the master inverter needs to install the Ezlink3000 smart dongle for networking.
- For an energy storage system with only one inverter, the WiFi/LAN Kit-20 or 4G smart dongle can be used.
- When using WiFi or LAN communication to connect the inverter to a router, the WiFi/LAN Kit-20 or Ezlink3000 smart dongle can be installed.
- When using 4G communication to upload energy storage system operation information to the monitoring platform, the LS4G Kit-CN, 4G Kit-CN, 4G Kit-CN-G20, or 4G Kit-CN-G21 smart dongle can be installed. When using LS4G Kit-CN or 4G Kit-CN, the smart dongle shipped with the inverter must be used to configure parameters for the energy storage system. After configuration is complete, replace it with LS4G Kit-CN or 4G Kit-CN for data transmission. When using 4G Kit-CN-G20 or 4G Kit-CN-G21, please use the Bluetooth signal emitted by the module for local device configuration.
- The 4G module is an LTE single-antenna device, suitable for application scenarios with lower data transmission rate requirements.
- The built-in SIM card in the 4G module is a China Mobile communication card. Please confirm whether the device is installed in an area covered by China Mobile 4G signal.
- After installing the 4G Kit-CN-G20 or 4G Kit-CN-G21 smart dongle, please contact the after-sales service center to bind the inverter with the smart dongle. After binding, if you need to install the smart dongle on another inverter, please contact the after-sales service center to unbind it first.
- To ensure 4G signal communication quality, do not install the device indoors or in areas with metal interference.



ET1020NET0008

6 System Commissioning

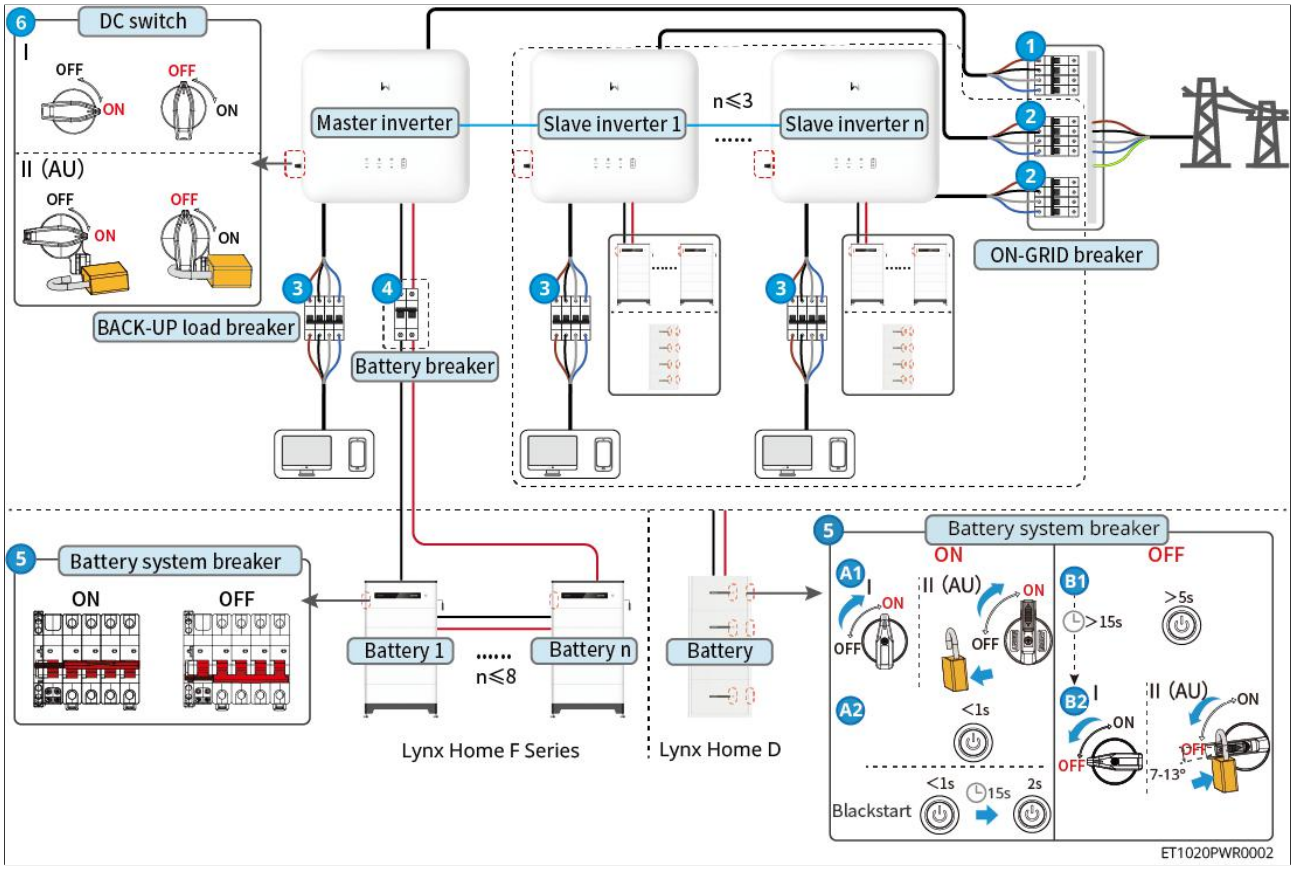
6.1 Check Before Power ON

No.	Inspection Item
1	The equipment is securely installed. The installation location facilitates operation and maintenance, the installation space allows for ventilation and heat dissipation, and the installation environment is clean and tidy.
2	The PE cable, DC cable, AC cable, Communication cable, and terminal resistor are connected correctly and securely.
3	Cable bundling meets wiring requirements, is reasonably distributed, and shows no damage.
4	For unused cable feed-through holes and ports, please use the terminals provided with the accessories for reliable connection, and ensure they are properly sealed.
5	Ensure that used cable feed-through holes have been sealed.
6	The voltage and frequency at the inverter grid connection point comply with grid-connection requirements.

6.2 Power ON

⚠WARNING

When powering on the parallel system, ensure that all slave inverters on the AC side are powered on within one minute after the main inverter on the AC side is powered on.



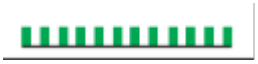
Power on/off steps: ❶→❷→❸→❹→❺→❻

❹ : Configure according to local laws and regulations.

6.3 Indicators

6.3.1 Inverter Indicators

Indicator	Status	Description
		Inverter is powered on and in standby mode
		Inverter is starting up and in self-test mode
		Inverter is operating normally in grid-tied or off-grid mode
		BACK-UP output overload
		System fault

Indicator	Status	Description
		Inverter is powered off
		Grid abnormal, inverter BACK-UP port supplying power normally
		Grid normal, inverter BACK-UP port supplying power normally
		BACK-UP port has no power supply
		Inverter monitoring module is resetting
		Connection not established between inverter and communication terminal
		Communication fault between communication terminal and cloud server
		Inverter monitoring normal
		Inverter monitoring module not started

Indicator	Description
	75% < SOC≤100%
	50% < SOC≤75%
	25% < SOC≤50%
	0% < SOC≤25%
	Battery not connected
The indicator flashes when the battery is discharging: for example, when the battery SOC is between 25% and 50%, the top 50% light flashes.	

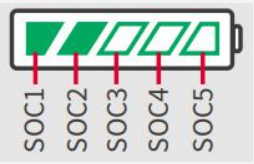
6.3.2 Battery Indicators

6.3.2.1 Lynx Home F Series

LXU10CON0001

Normal Status

SOC indicator	Button indicator	Battery System Status
The SOC indicator shows the battery system's charge level SOC<5% 5%≤SOC<25% 25%≤SOC<50% 50%≤SOC<75% 75%≤SOC<95% 95%≤SOC≤100%	Green flashes once per second	Battery system is in standby mode
	Green flashes twice per second	Battery system is idle
	Green steady on	Battery system is charging Note: Battery charging will stop when the battery SOC reaches the charging cutoff SOC.

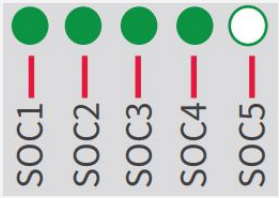
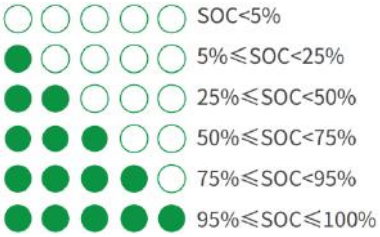
SOC indicator 	Button indicator 	Battery System Status
Highest SOC indicator flashes once per second • When 5%≤SOC<25%, SOC1 flashes • When 25%≤SOC<50%, SOC2 flashes • When 50%≤SOC<75%, SOC3 flashes • When 75%≤SOC<95%, SOC4 flashes • When 95%≤SOC≤100%, SOC5 flashes	Green steady on	Battery system is discharging Note: The battery will stop discharging when there is no need to supply power to the load in the system, or when the battery SOC is below the set depth of discharge.

Abnormal Status

Button Indicator Light 	Battery System Status	Description
Red flashes once/s	Battery system alarm	After a battery system alarm occurs, the system will perform a self-check. Wait for the self-check to complete; the battery system will then enter normal operation or a fault state.
Red steady on	Battery system fault	Determine the fault type based on the display pattern of the SOC indicator light, and handle it according to the methods recommended in the fault handling section.

6.3.2.2 Lynx Home D

Normal Status

SOC indicator 	**Button indicator** 	**Battery system status**
SOC indicator indicates the battery system charge level 	Green flashing	Battery system is in standby mode
	Green steady on	Battery system is in charging state Note: When the battery SOC reaches the charging cutoff SOC, it will stop charging the battery.
Highest SOC indicator flashes 1 time/s • When 5%≤SOC<25%, SOC1 flashes • When 25%≤SOC<50%, SOC2 flashes • When 50%≤SOC<75%, SOC3 flashes • When 75%≤SOC<95%, SOC4 flashes • When 95%≤SOC≤100%, SOC5 flashes	Green steady on	Battery system is in discharging state Note: When the system does not need to supply power to the load or the battery SOC is below the set depth of discharge, the battery will no longer discharge.

Abnormal Status

Button Indicator Light 	Battery System Status	Description
Red flashing	Battery system alarm	After a battery system alarm occurs, the battery system will perform a self-check. Wait for the self-check to complete, after which the battery system will enter normal operation or fault status. You can use the SolarGo APP for Viewing Alarm Information.
Red steady on	Battery system fault	You can determine the type of fault that occurred by combining it with the display pattern of the SOC indicator light, or use the SolarGo APP to view fault information, and then handle it according to the methods recommended in the fault handling section.

6.3.3 Smart Meter Indicator

GM3000

Type	Status	Description
Power light 	Constantly lit	The meter is powered on
	Off	The meter is powered off
Buy/Sell light 	Constantly lit	buy power from the grid
	Blinking	Selling power to the grid
	Blinking	Communication is normal

Communication light	Blinks 5 times consecutively	• Press the Reset button for <3s: Meter reset • Press the Reset button for 5s: Meter parameters restored to factory settings • Press the Reset button for >10s: Meter parameters restored to factory settings, and energy data cleared
	Off	No communication from the meter

GM330

Type	Status	Description
Power Light	Steady On	The meter is powered on, no RS485 communication
	Blinking	The meter is powered on, RS485 communication is normal
	Off	The meter is powered off
Communication Light	Off	Reserved
	Blinking	Press and hold the Reset button for ≥5s, the Power Light and Buy/Sell Light blink: Meter reset
Buy/Sell Light	Steady On	buy power from the grid
	Blinking	Selling power to the grid
	Off	Not buying or selling power
	Reserved	

6.3.4 Smart Dongle Indicator

- **WiFi/LAN Kit-20**

NOTICE

- After double-clicking the Reload button to enable Bluetooth, the communication indicator will enter a single-blink state. Please connect to the SolarGo APP within 5 minutes, otherwise Bluetooth will automatically turn off.
- The single-blink state of the communication indicator only occurs after double-clicking the Reload button to enable Bluetooth.

Indicator	Status	Description
Power light		Steady on: The Smart Communication Stick is powered on.
		Off: The Smart Communication Stick is not powered on.
Communication light		Steady on: Communication is normal in WiFi mode or LAN mode.
		Single blink: The Smart Communication Stick's Bluetooth signal is on, waiting to connect to the SolarGo app.
		Two blinks: The Smart Communication Stick is not connected to the router.
		Four blinks: The Smart Communication Stick communicates normally with the router but is not connected to the server.
		Six blinks: The Smart Communication Stick is identifying connected devices.
		Off: The Smart Communication Stick is undergoing a software reset or is not powered on.

Indicator	Color	Status	Description
LAN Port Communication Light 	Green	Steady On	100Mbps wired network connection is normal.
		Off	• Network cable is not connected. • 100Mbps wired network connection is abnormal. • 10Mbps wired network connection is normal.

Indicator	Color	Status	Description
	Yellow	Steady On	10/100Mbps wired network connection is normal, with no communication data being transmitted or received.
		Blinking	Communication data is being transmitted or received.
		Off	Network cable is not connected.

Button	Description
Reload	Hold for 0.5~3 seconds to reset the Smart Communication Stick.
	Hold for 6~20 seconds to restore the Smart Communication Stick to factory settings.
	Double-click quickly to activate the Bluetooth signal (maintained for only 5 minutes).

- **4G Kit-CN-G20 & 4G Kit-CN-G21**

Indicator	Status	Description
		Steady on: The smart communication stick is powered on.
		Off: The smart communication stick is not powered on.
		Steady on: The smart communication stick is connected to the server, communication is normal.
		Double flash: The smart communication stick is not connected to the communication base station.
		Quadruple flash: The smart communication stick is connected to the communication base station, but not connected to the server.
		Sextuple flash: Communication between the smart communication stick and the inverter is disconnected.
		Off: The smart communication stick is undergoing software reset or is not powered on.

Button	Description
RELOAD	Hold for 0.5-3 seconds, and the Smart Communication Stick will restart.

Button	Description
	Hold for 6-20 seconds, and the Smart Communication Stick will restore factory settings.

- **LS4G Kit-CN, 4G Kit-CN**

Indicator	Color	Status	Description
Power Light 	Green	On	Module is secured and powered on
		Off	Module is not secured or not powered on
Communication Light 	Blue	Slow blinking (0.2s on, 1.8s off)	• Inverter communication light 2 blinks: Dialing, searching for network • Inverter communication light 4 blinks: Failed to connect to cloud due to no data traffic
		Slow blinking (1.8s on, 0.2s off)	• Inverter communication light 2 blinks: Dialing successful • Inverter communication light steady on: Cloud connection successful • Inverter communication light 4 blinks: Failed to connect to cloud due to no data traffic
		Fast blinking (0.125s on, 0.125s off)	Inverter is communicating with the cloud via the module
		0.2s on, 8s off	SIM card not installed or poor SIM card contact

- **Ezlink3000**

indicator/Silk Screen	Color	Status	Description

Power indicator	Blue		Blinking: The communication stick is operating normally.
			Off: The communication stick is powered off.
Communication indicator	Green		Solid on: The communication stick is connected to the server.
			Double flash: The communication stick is not connected to the router.
			Quadruple flash: The communication stick is connected to the router but not to the server.
RELOAD	-	-	Press and hold for 1-3 seconds to restart the communication stick. Press and hold for 6-10 seconds to restore factory settings. Double-click quickly to enable Bluetooth signal (lasts for 5 minutes only).

7 System Commissioning

7.1 SolarGo APP

7.1.1 App Introduction

NOTICE

- The interface graphics or terms used in this article are based on SolarGo App V6.8.0. App version upgrades may lead to interface changes. The data involved in the images is for reference only; please refer to the actual interface for specifics.
- Parameters displayed may vary depending on the device model and the set safety regulation country. Please refer to the actual interface display for specific parameters.
- Before setting parameters, please carefully read this manual and the product user manual for the corresponding model to familiarize yourself with the product's functions and features. Incorrect grid parameter settings may cause the inverter to fail to connect to the grid or not connect according to grid requirements, affecting the inverter's power generation.

SolarGo App is a mobile application software that can communicate with inverters or charging piles via Bluetooth, WiFi, 4G, or GPRS. The following are its common features:

- View device operating data, software version, alarm information, etc.
- Set inverter safety standards country, grid parameters, power limits, communication parameters, etc.
- Set charging pile charging modes, etc.
- Maintain devices.

7.1.1.1 Download and Install SolarGo App

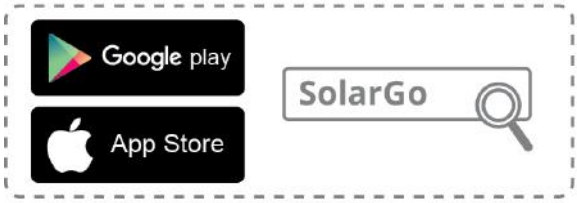
Device Requirements:

- Operating system requirements: Android 5.0 or above, iOS 13.0 or above.

- The device must have a network browser and be connected to the Internet.
- The device must support WLAN/Bluetooth functionality.

NOTICE
After the SolarGo App is installed, if there are version updates subsequently, it can automatically prompt for software updates.

Method 1: Search for SolarGo in Google Play (Android) or the App Store (iOS) to download and install.



SolarGo App
SLG00CON0135

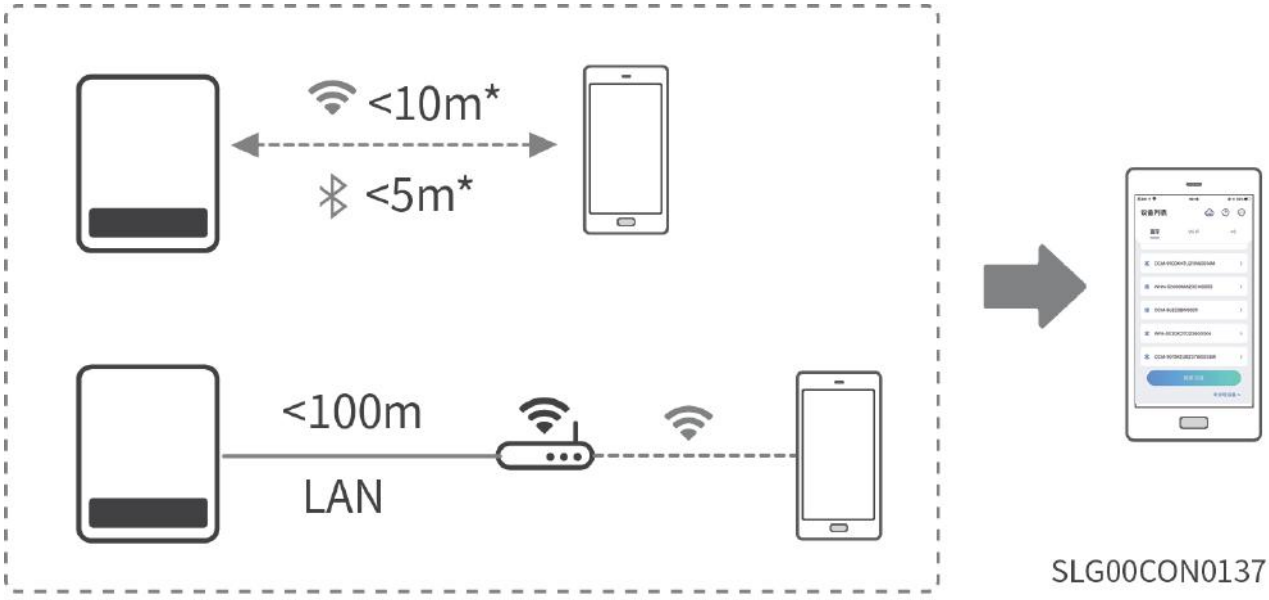
Method 2: Scan the QR code below to download and install.

SolarGo App
SLG00CON0136

7.1.1.2 Connection Methods

After the device is powered on, it can connect to the App via the following methods:

NOTICE
The specific connection distance may vary depending on the communication module. Please refer to the actual communication module in use.



7.1.1.3 Login Interface Introduction

No.	Name/Icon	Description
1	SEMS	Click the icon to jump to the Xiaogu Cloud Window download page.

No.	Name/Icon	Description
2		View the device connection guide.
	No device found	
3		• View information, such as App version and contact details. • Other settings, such as updating data, switching language, setting the display temperature unit, etc.
4	Bluetooth/Wi Fi/4G	Select according to the device's actual communication method. If you have any questions, please click  or **No device found** to view more detailed guidance.

No.	Name/Icon	Description
5	Device List	• Displays the list of connectable devices. The device name corresponds to the device serial number; please select the corresponding device based on the device serial number. • When multiple inverters form a parallel system, select the corresponding device based on the master inverter's serial number. • Different device models or communication stick models display different device names: ◦ Wi-Fi/LAN Kit; Wi-Fi Kit; Wi-Fi Box: Solar-WiFi*** ◦ Bluetooth module or inverter built-in Bluetooth module: SOL-BLE*** ◦ WiFi/LAN Kit-20: WLA-*** ◦ WiFi Kit-20: WFA-*** ◦ Ezlink3000: CCM-BLE***; CCM-***; *** ◦ 4G Kit-CN-G20/4G Kit-CN-G21: GSA-***; GSB-*** ◦ 4G Kit-G20: LGA-*** ◦ Microinverter: WNN*** ◦ Charging Pile: *** • Except for Solar-WiFi*** which is a WiFi signal, all other signals are Bluetooth signals.
6	Search Device	When the corresponding device is not found in the device list, click Search Device.

7.1.2 Connecting Energy Storage Inverter (Bluetooth)

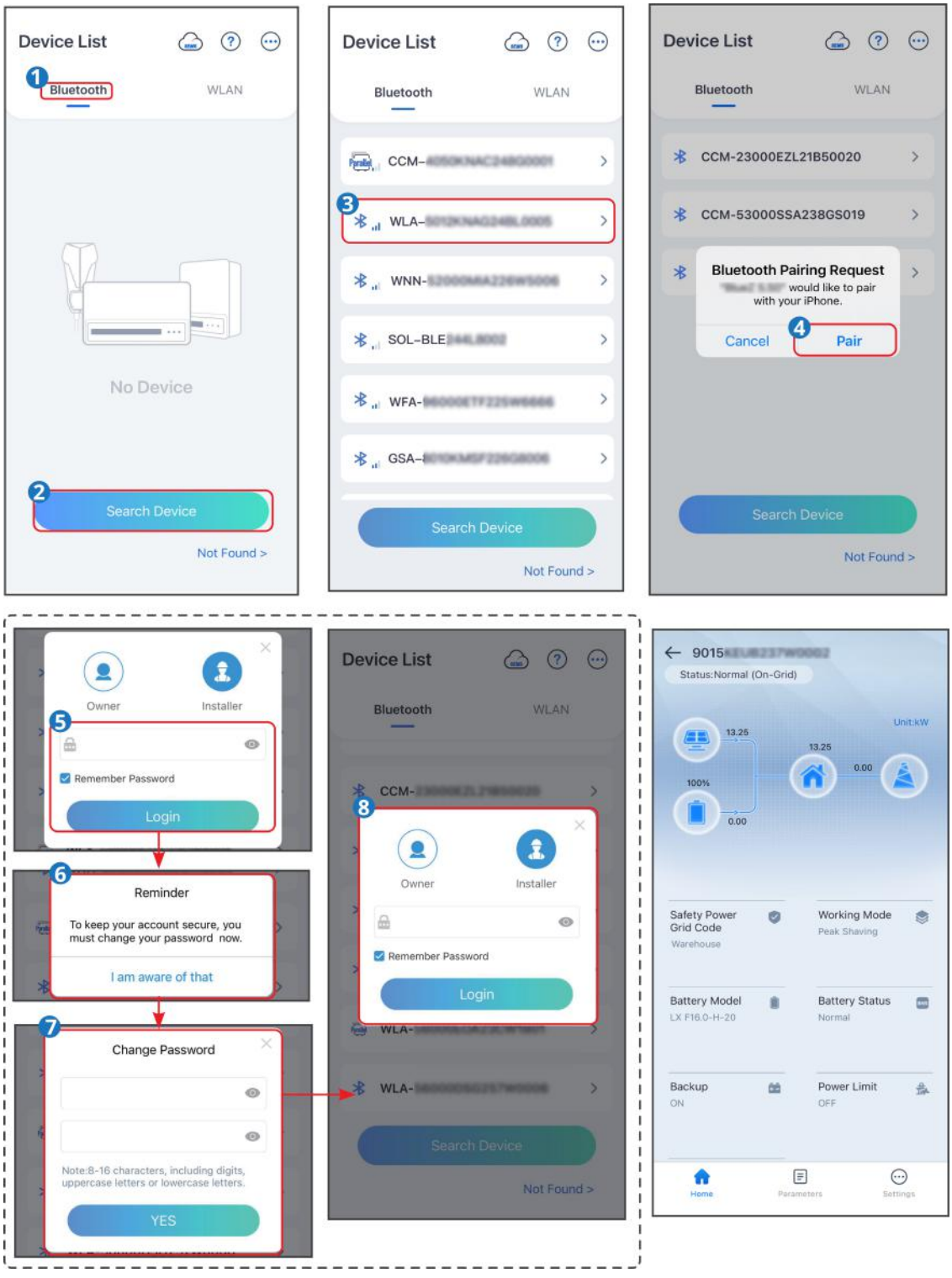
Step 1: Ensure the inverter is powered on and both the communication module and inverter are operating normally.
Step 2: Based on the communication module type, select the Bluetooth tab on the SolarGo App home screen.
Step 3: Pull down or click "Search Device" to refresh the device list. Identify the inverter signal name based on the inverter serial number, then click the inverter

signal name to enter the login screen. For a parallel system composed of multiple inverters, select the corresponding device based on the master inverter's serial number.

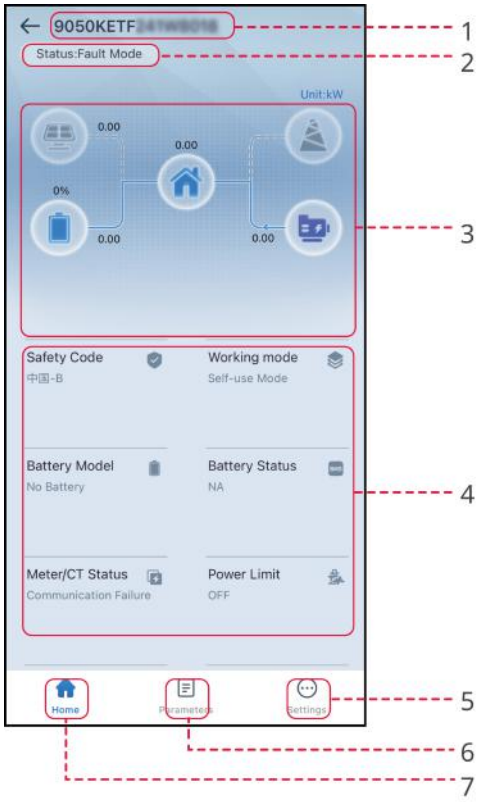
Step 4: When connecting to the device via Bluetooth for the first time, a Bluetooth pairing prompt will appear on the interface. Please click "Pair" to continue the connection and enter the login screen.

Step 5: Log in to the App according to your actual role, and change the login password as prompted on the interface. Initial login password: 1234. After the password is changed, log in again to enter the device details page.

Step 6 (Optional): If connecting to the inverter via WLA-*** or WFA-***, after entering the device details page, please enable "Keep Bluetooth On" as prompted on the interface. Otherwise, the Bluetooth signal will be turned off after this connection ends.



7.1.3 Energy Storage Inverter Interface Introduction



No.	Name/Icon	Description
1	Device Serial Number	Serial number of the connected device.
2	Device Status	Displays the inverter status, such as running, fault, etc.
3	Energy Flow Diagram	Displays the energy flow diagram of the PV system. The actual interface display may vary.
4	Parallel System	• For a parallel system, displays the total number of parallel units, parallel status, etc. • For certain models, click to view the SN numbers of each device in the parallel system. Clicking a device SN number enters the single inverter settings interface.

No.	Name/Icon	Description
5	System Operation Status	Displays the current system operation status, such as safety regulation region, working mode, battery model, battery status, Power Limit, three-phase imbalance, etc.
6		Home page interface. Click to view information such as device serial number, working status, energy flow diagram, and system operation status.
7		Parameters interface. Click to view inverter operating parameters.
8		• Settings interface. Click to perform quick settings, basic settings, advanced settings, etc., for the inverter. • Login is required to access the quick settings and advanced settings interfaces. Please contact the supplier or after-sales service for the password. The password is for professional technicians only.

7.1.4 Set Communication Parameters

NOTICE
When the communication method used by the inverter or the connected communication module is different, the communication configuration interface may vary. Please refer to the actual interface.

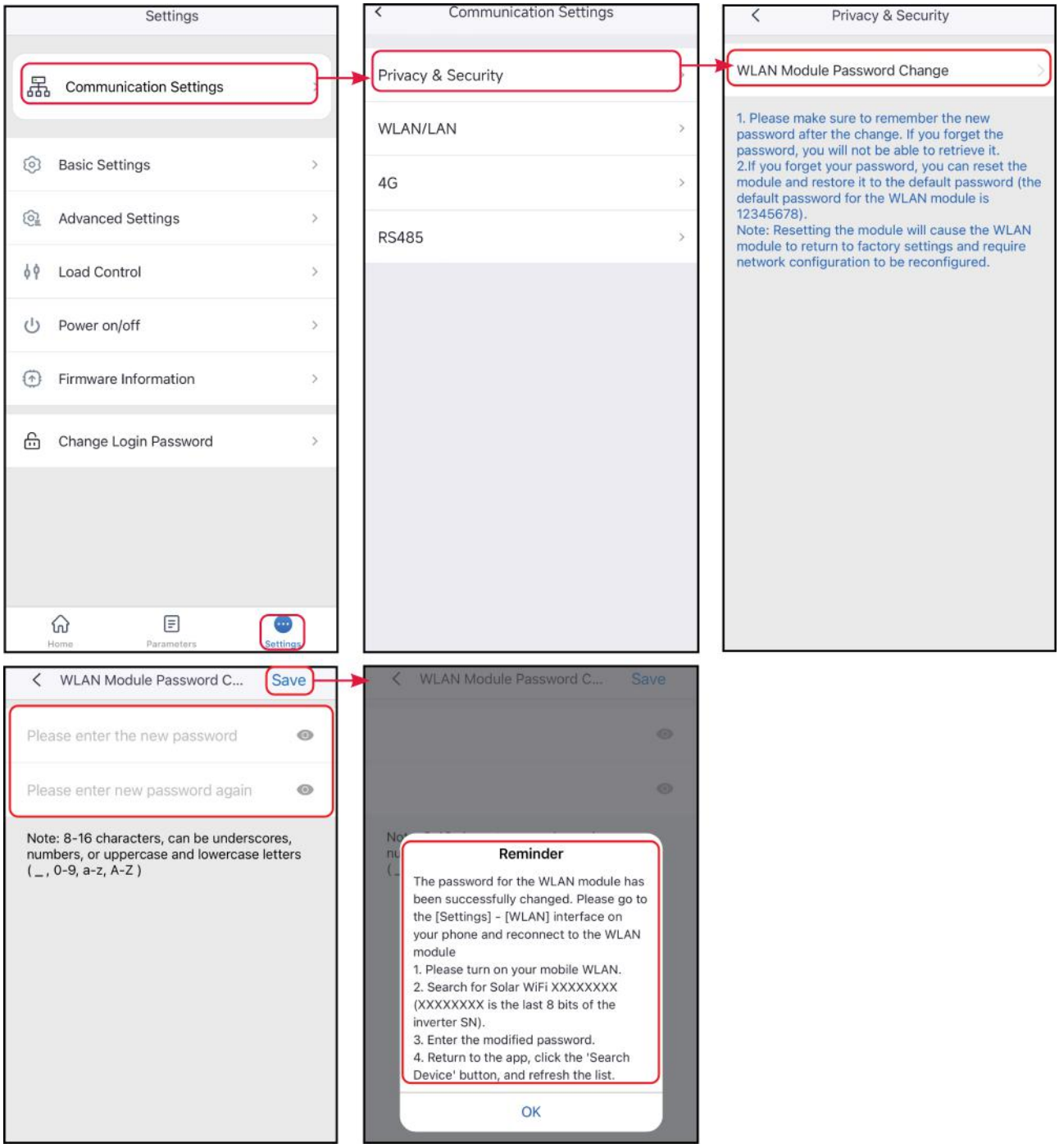
7.1.4.1 Setting Privacy and Security Parameters

Type One

Step 1: Navigate via **Home > Settings > Communication Configuration > Privacy and Security > WLAN Module Password Change** to enter the settings page.

Step 2: Set a new WiFi hotspot password for the communication module according to your actual needs, then click **Save** to complete the setup.

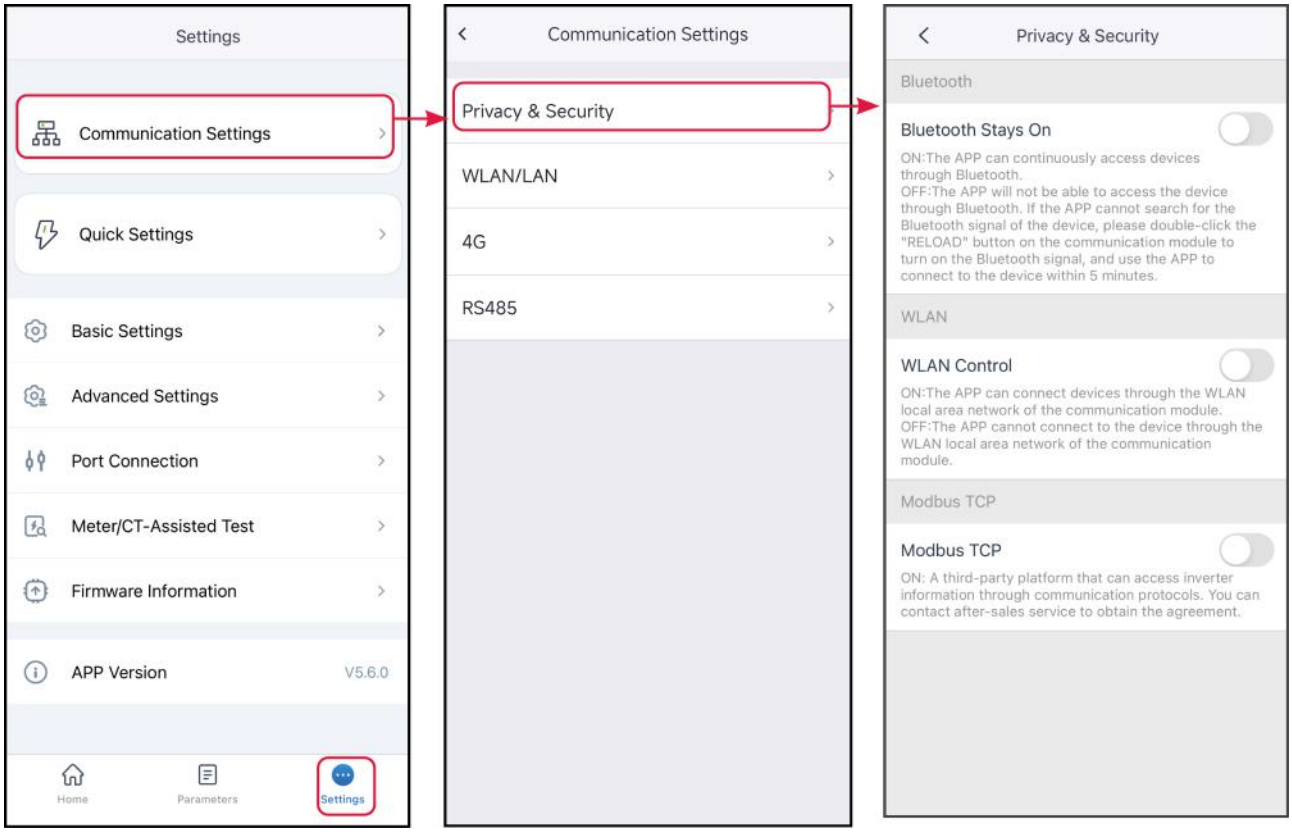
Step 3: Open your phone's WiFi settings and connect to the inverter's WiFi signal using the new password.



Type Two

Step 1: Navigate via **Home > Settings > Communication Configuration > Privacy and Security** to enter the settings page.

Step 2: Enable the corresponding functions according to your actual needs.

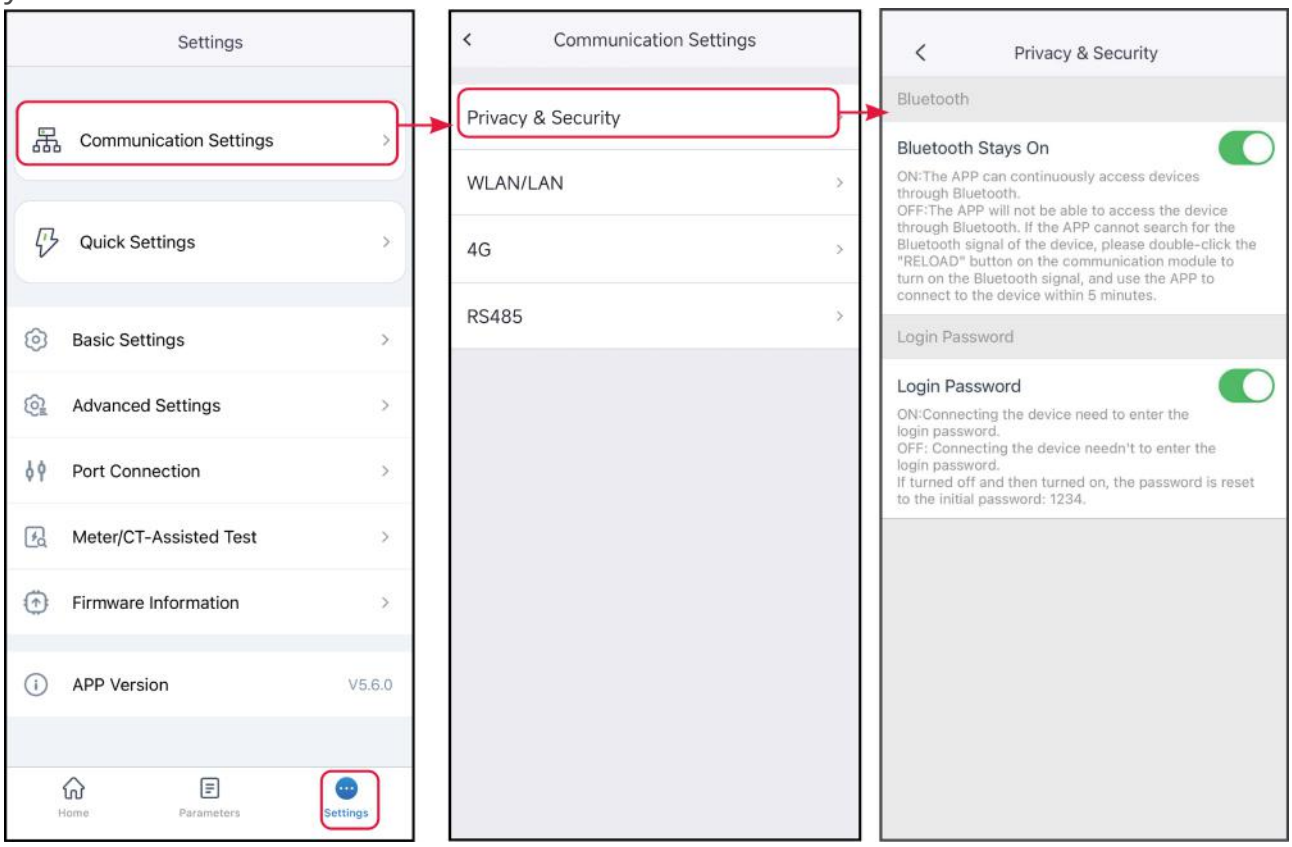


No.	Parameter Name	Description
1	Bluetooth Stays On	Default off. After enabling this function, the device Bluetooth stays on, maintaining connection with SolarGo. Otherwise, the device Bluetooth will turn off after 5 minutes, disconnecting from SolarGo.
2	WLAN Control	Default off. After enabling this function, when SolarGo and the device are on the same local network, they can connect via WLAN; otherwise, even if on the same network, they cannot connect.
3	Modbus-TCP	After enabling this function, third-party platforms can access the inverter via the Modbus TCP protocol to achieve monitoring functionality.
4	SSH control Ezlink	After enabling this function, third-party platforms can connect to and control the EzLink's Linux system.

Type Three

Step 1: Navigate via **Home > Settings > Communication Configuration > Privacy and Security** to enter the settings page.

Step 2: Enable the **Bluetooth Stays On** and **Login Password** functions according to your actual needs.



No.	Parameter Name	Description
1	Bluetooth Stays On	Disabled by default. When this function is enabled, the device's Bluetooth stays on, maintaining the connection with SolarGo. Otherwise, the device's Bluetooth will turn off after 5 minutes, disconnecting from SolarGo.
2	Login Password	Disabled by default. When this function is enabled, the device will prompt for a login password when connecting to SolarGo. When using the login password for the first time, please use the initial password and follow the on-screen prompts to change it.

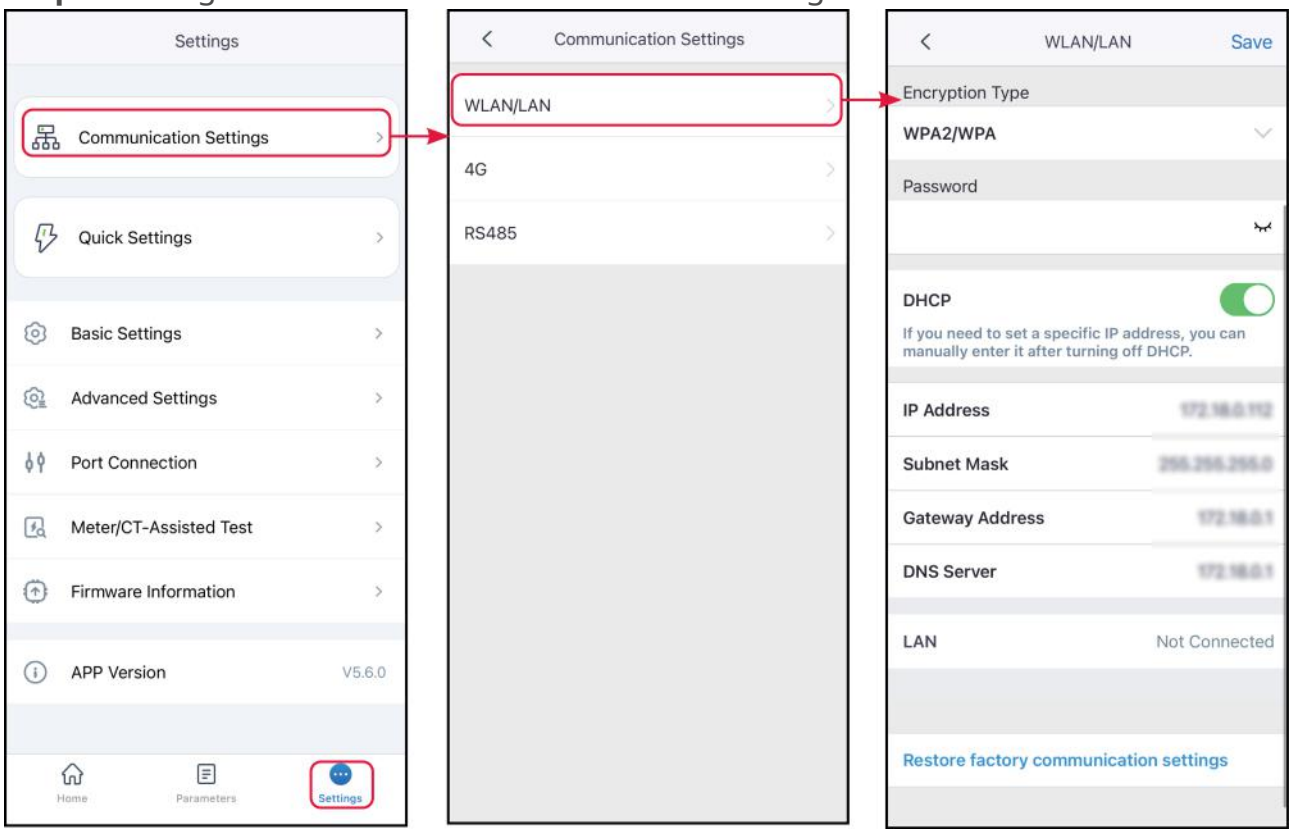
7.1.4.2 Set WLAN/LAN Parameters

NOTICE

The communication configuration interface may vary depending on the communication module connected to the inverter. Please refer to the actual interface.

Step 1: Navigate to **Home > Settings > Communication Configuration > WLAN/LAN** to enter the settings page.

Step 2: Configure the WLAN or LAN network according to the actual situation.



No.	Parameter Name	Description
1	Network Name	Applicable to WLAN. Select the corresponding network based on the actual situation to enable communication between the device and the router or switch.
2	Password	Applicable to WLAN. Enter the password for the actually selected network.

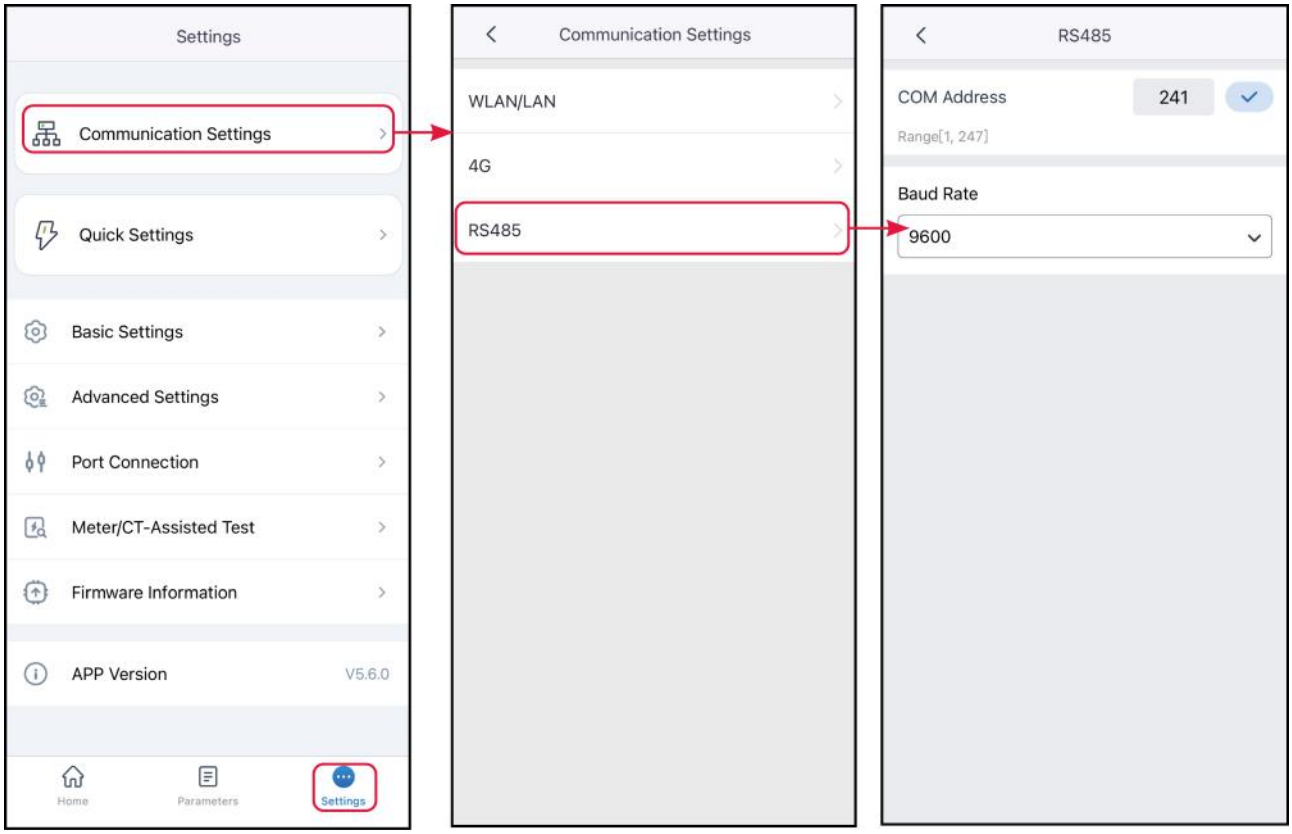
No.	Parameter Name	Description
3	DHCP	Enable the DHCP function when the router uses dynamic IP mode. Disable the DHCP function when the router uses static IP mode or when using a switch.
4	IP Address	No need to configure this parameter when DHCP is enabled. When DHCP is disabled, configure this parameter based on the router or switch information.
5	Subnet Mask	
6	Gateway Address	
7	DNS Server	

7.1.4.3 Configure RS485 Communication Parameters

NOTICE

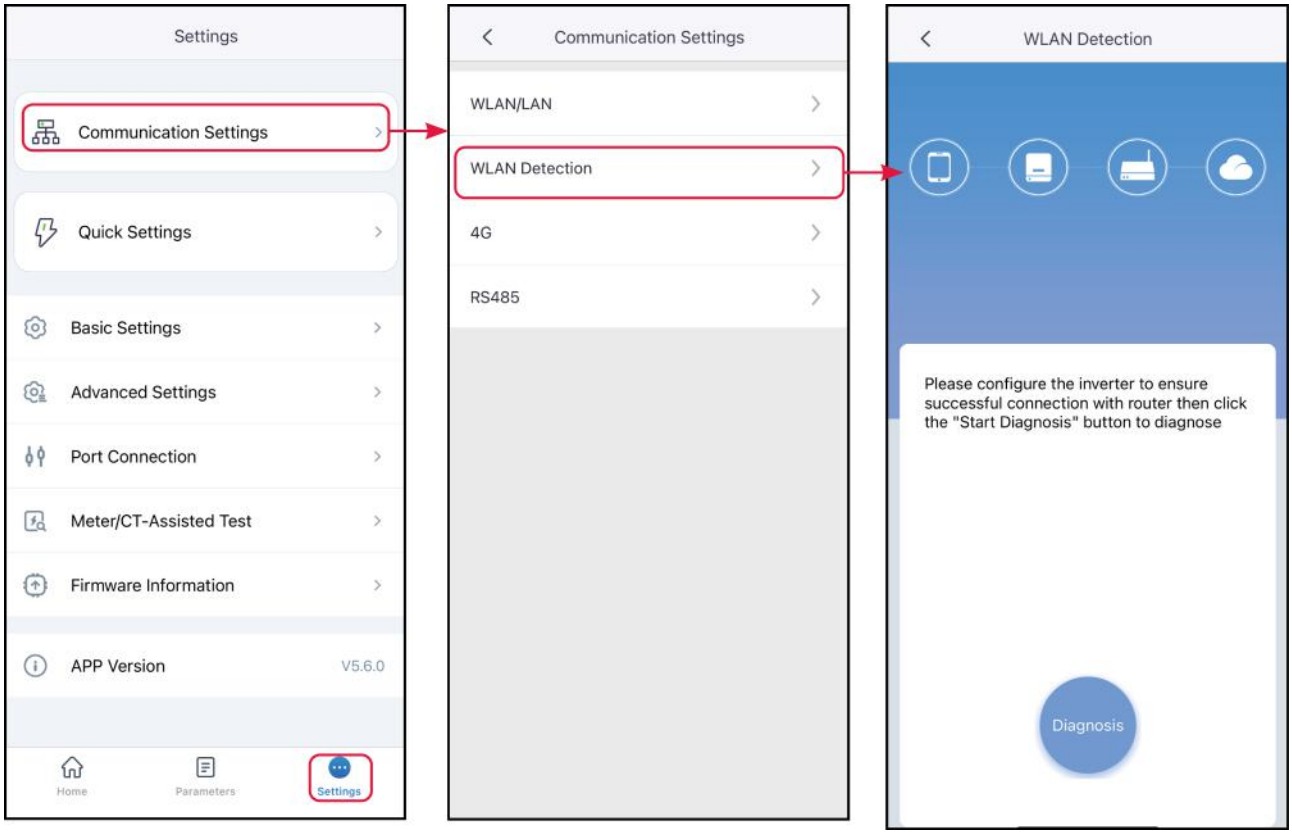
Set the host communication address for the inverter. For a single inverter, set the communication address according to the actual situation; when multiple inverters are connected, the address of each inverter must be different, and none of the inverters should have their communication address set to 247.

Step 1: Navigate to the configuration page via **Home > Settings > Communication Configuration > RS485**.
Step 2: Configure the communication address and baud rate according to the actual situation.



7.1.4.4 WLAN Detection

Step 1: Navigate to **Home > Settings > Communication Configuration > WLAN Detection** to enter the setup page.
Step 2: Click **Diagnose** to detect the current network connection status.



7.1.5 System Quick Setup

NOTICE

- Interface displays and parameter settings may vary for different inverter models. Please refer to the actual device.
- When selecting a safety regulation country/region, the system will automatically configure over/under voltage protection, over/under Frequency protection, inverter grid connection voltage/Frequency, connection slope, Cosφ curve, Q(U) curve, P(U) curve, PF curve, high/low voltage ride-through, etc., according to the safety requirements of different regions. For specific parameter values, please check via Home > Settings > Advanced Settings > Safety Regulation Parameter Settings after setting the safety regulation region.
- Inverter power generation efficiency varies under different operating modes. Please configure according to the actual local electricity usage.
  - Self-consumption Mode: The basic operating mode of the system. PV generation primarily powers the loads, excess electricity charges the battery, and any remaining surplus is sold to the grid. When PV generation cannot

NOTICE

meet the load demand, the battery supplies power to the loads; if the battery power is also insufficient, the grid supplies power to the loads.

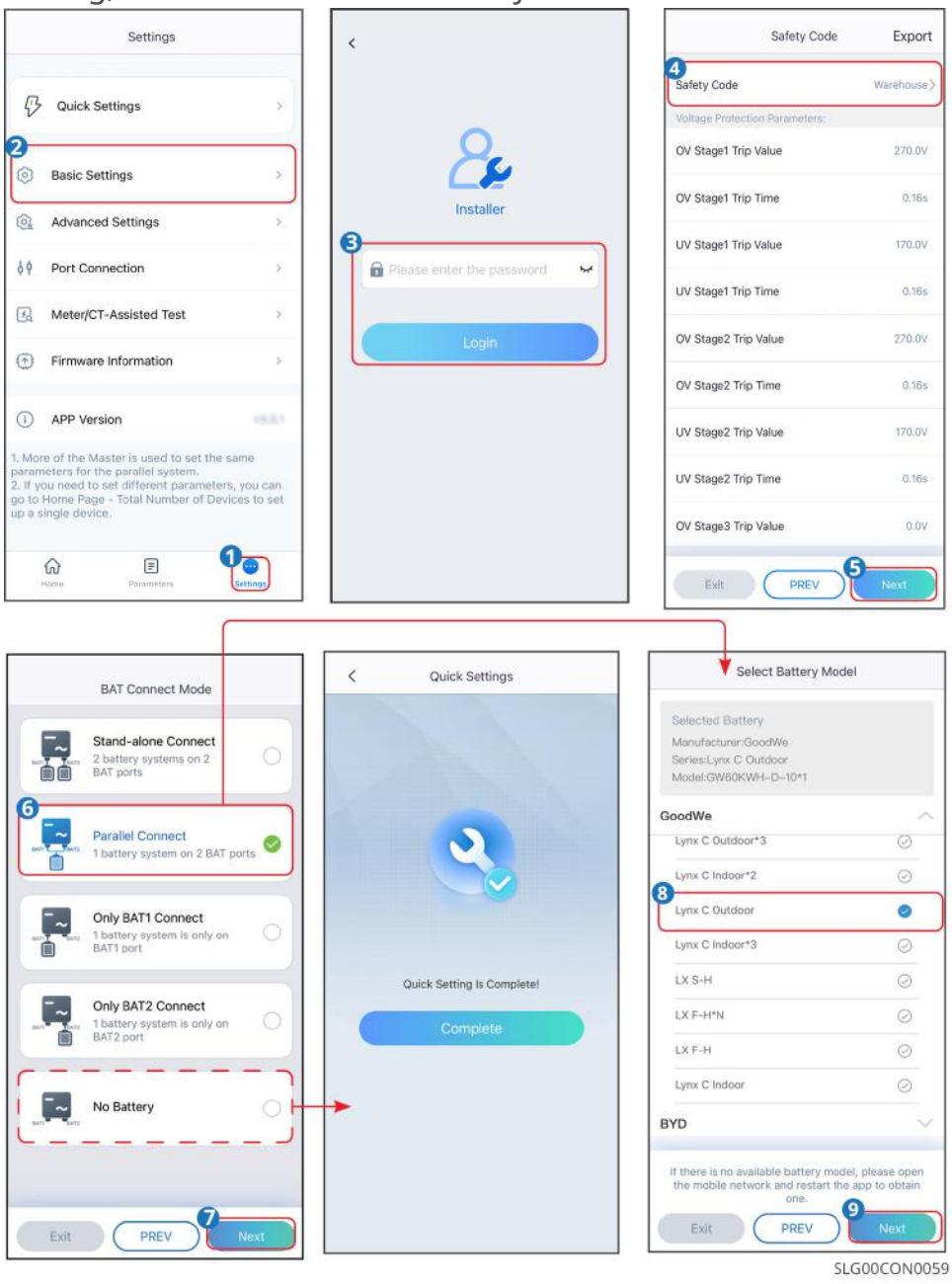
- Backup Mode: Recommended for areas with unstable grids. When the grid fails, the inverter switches to off-grid operation mode, and the battery discharges to power the loads, ensuring uninterrupted power for BACKUP loads. When the grid is restored, the inverter switches back to grid-connected operation.
- TOU Mode: Where permitted by local laws and regulations, electricity buy/sell settings can be configured for different time periods based on peak and off-peak grid electricity prices. According to actual needs, the battery can be set to charging mode during off-peak price periods to buy electricity from the grid for charging; during peak price periods, the battery can be set to discharging mode to power loads via the battery.
- Off-grid Mode: Suitable for areas without a grid. PV and the battery form a pure off-grid system. PV generation powers the loads, and excess electricity charges the battery. When PV generation cannot meet the load demand, the battery supplies power to the loads.
- Delayed Charging: Suitable for areas with grid feed-in power limitations. By setting peak power limits and charging time periods, PV generation exceeding the grid feed-in limit can be used to charge the battery, reducing PV waste.
- Peakshaving: Primarily applicable for scenarios with limited peak power purchase quotas. When the total load power consumption exceeds the electricity quota within a short period, battery discharge can be utilized to reduce the portion of consumption exceeding the quota.

7.1.5.1 System Quick Setup (Type 2)

Step 1: Go to the parameter setting page via **Home > Settings > Quick Configuration**.
Step 2: Enter the login password.
Step 3: Some models support one-click configuration. Select the **Configuration Guide Mode** to quickly configure the system.
Step 4: Select the safety regulation country based on the inverter's location. For some models, also select the grid type according to the actual connected grid form. After setting, click **Next** to set the battery connection mode or the number of parallel

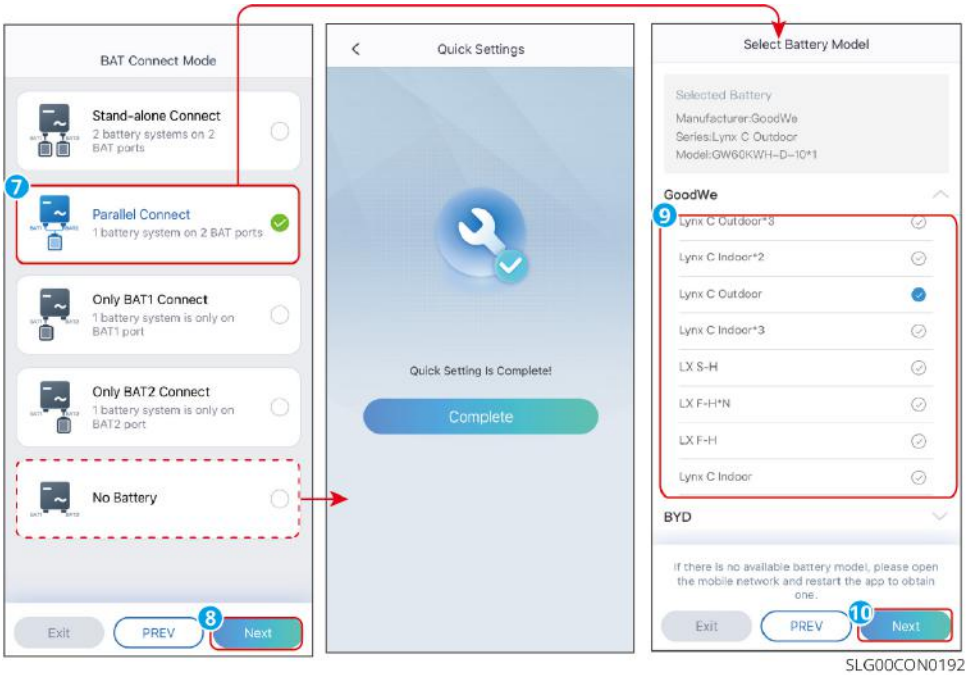
inverters. The grid standard code can only be set by the installer.

Step 5: Parallel connection scenario only. Set the number of parallel inverters. After setting, click Next to set the battery connection mode.



Step 6: Select the battery connection mode based on the actual battery connection. If no battery is connected, the basic parameter setup ends here. If a battery is connected, click **Next** after setting to proceed to battery model selection.

Step 7: Select the battery model according to the actual connected battery. After setting, click **Next** to set the operation mode.



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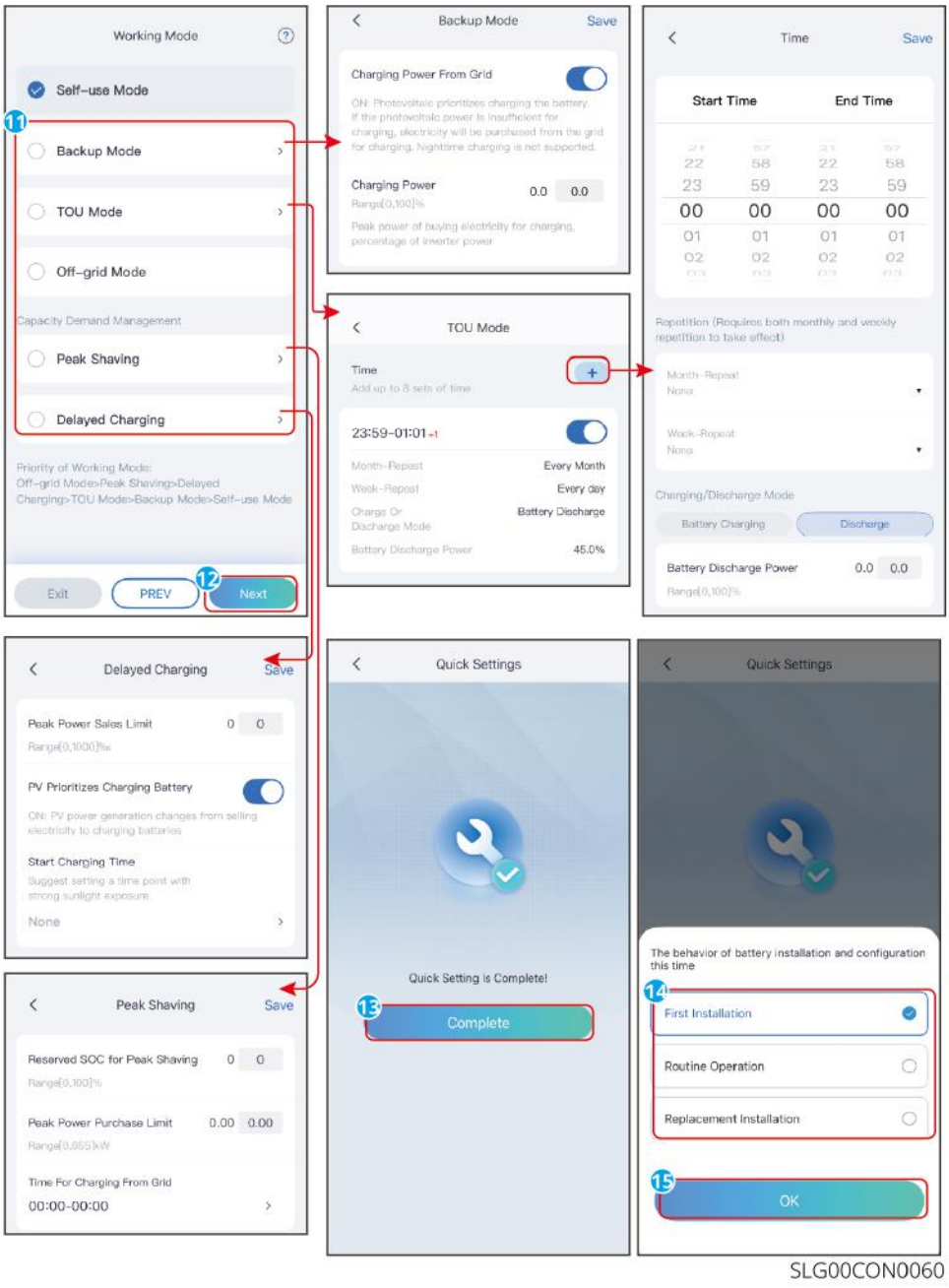
Step 8: Set the operation mode according to actual needs. After setting, click **Next** to complete the operation mode configuration. For some models, after the operation mode is configured, the system automatically enters CT/meter self-test status, during which the inverter will temporarily disconnect from the grid and then automatically reconnect.

Step 9: Select whether the battery is for **First-time Installation, Daily Operations**, or **Replacement Installation** based on the actual situation.



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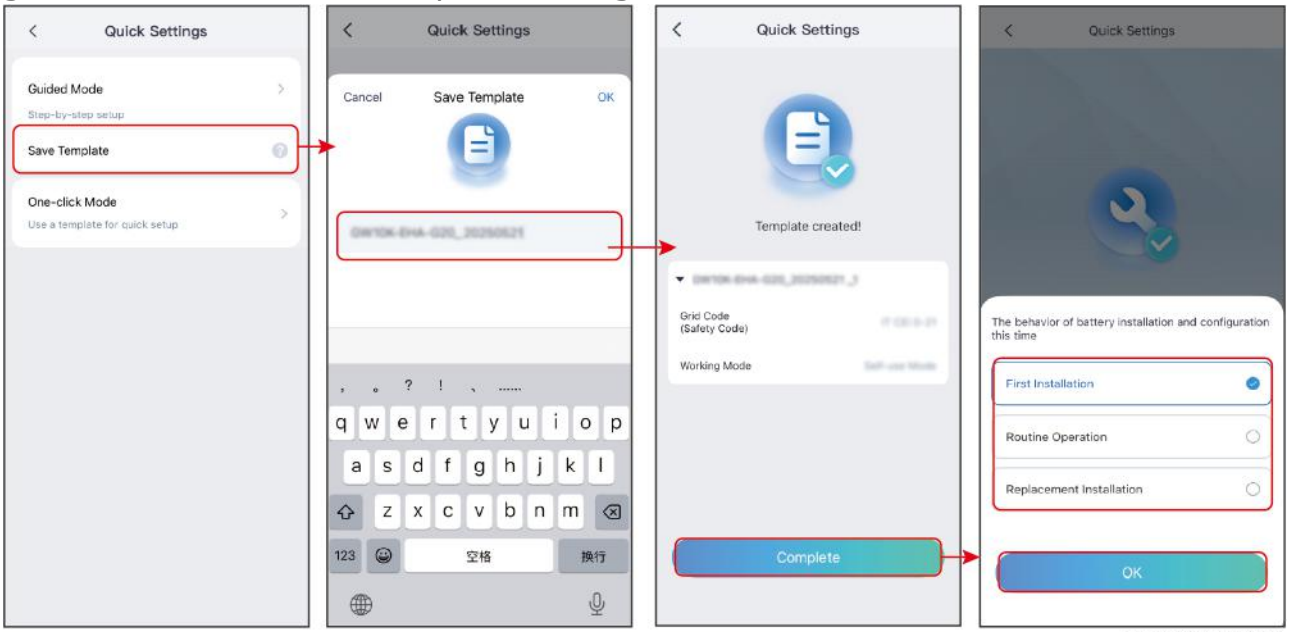
No.	Parameter Name	Description
Backup Mode		
1	Grid Charging	Enable this function to allow the system to purchase electricity from the grid.
2	Charging Power	The percentage of power relative to the inverter's rated power when purchasing electricity.

No.	Parameter Name	Description
TOU Mode		
3	Start Time	Within the Start Time and End Time, the battery charges or discharges according to the set charge/discharge mode and rated power.
4	End Time	
5	Charge/Discharge Mode	Set to charging or discharging based on actual requirements.
6	Inverter Rated Power	The percentage of power relative to the inverter's rated power during charging or discharging.
7	Charge Cut-off SOC	Stop charging when the battery reaches the set SOC.
peak shaving		
8	Reserved SOC for Peak Shaving	In peak shaving mode, the battery SOC is lower than the Reserved SOC for Peak Shaving. When the battery SOC is higher than the Reserved SOC for Peak Shaving, the peak shaving function becomes inactive.
9	Peak Power Purchase Limit	Set the maximum power limit allowed for purchasing electricity from the grid. When the load power consumption exceeds the sum of the power generated by the PV system and this limit, the battery discharges to supplement the excess power.
10	Time Period for Charging from Grid	Within the Time Period for Charging from Grid, the battery can be charged from the grid when the load consumption does not exceed the purchase quota. Outside this time period, the battery can only be charged using PV-generated power.
Delayed Charging Mode		
11	Peak Power Sales Limit	Set the peak power limit according to the grid standard requirements of certain countries or regions. The peak power limit must be lower than the local specified output power limit.

No.	Parameter Name	Description
12	PV Priority for Battery Charging	Within the charging time range, PV-generated power is prioritized for charging the battery.
13	Start Charging Time	

Step 10: For devices that support one-click configuration, a template can be generated based on the completed configuration.



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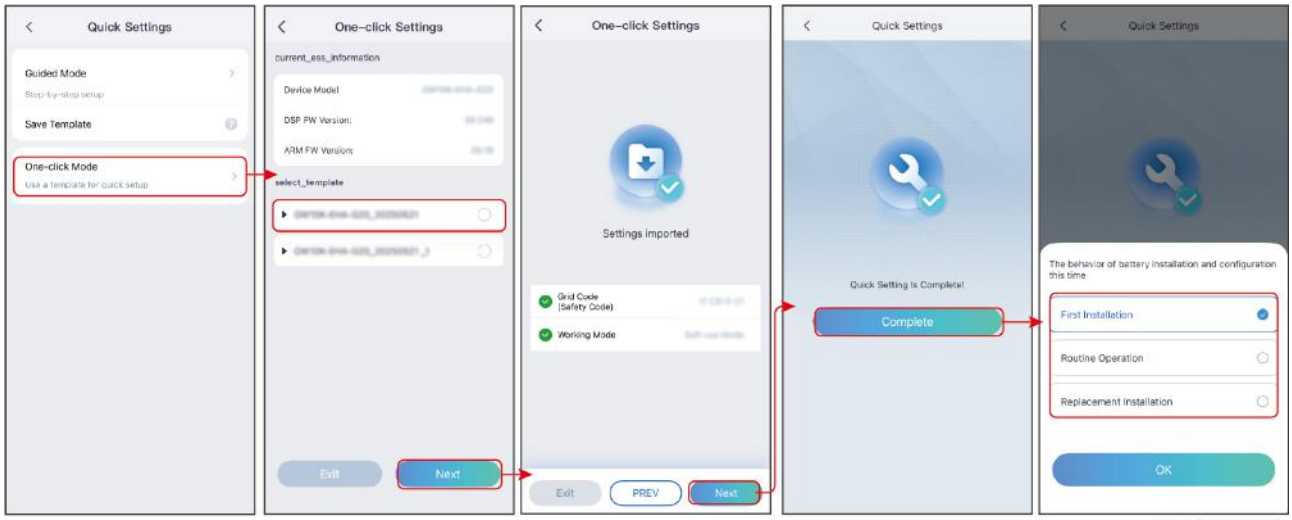
Step 11: If a one-click configuration template already exists, you can use the existing template import mode to quickly complete the configuration.



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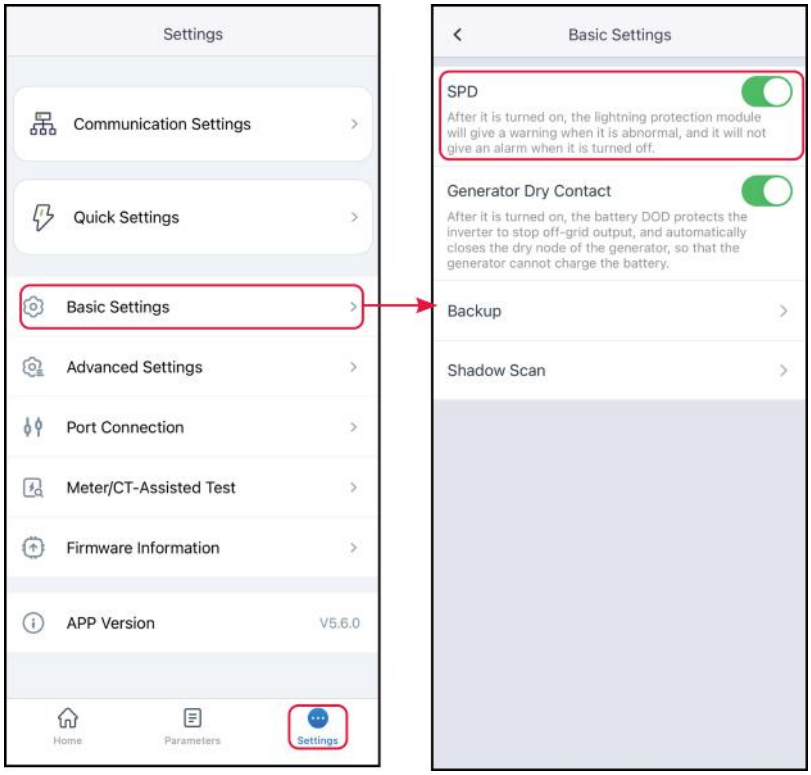
7.1.6 Setting the Basic Information

7.1.6.1 Configure Lightning Protection Alarm Function

After enabling the SPD secondary lightning protection alarm function, when the lightning protection module is abnormal, an alarm will indicate the abnormality.
Step 1: Via **Home > Settings > Basic Settings > Lightning Protection Alarm**, set the lightning protection alarm.
Step 2: According to actual needs, turn this function on or off.

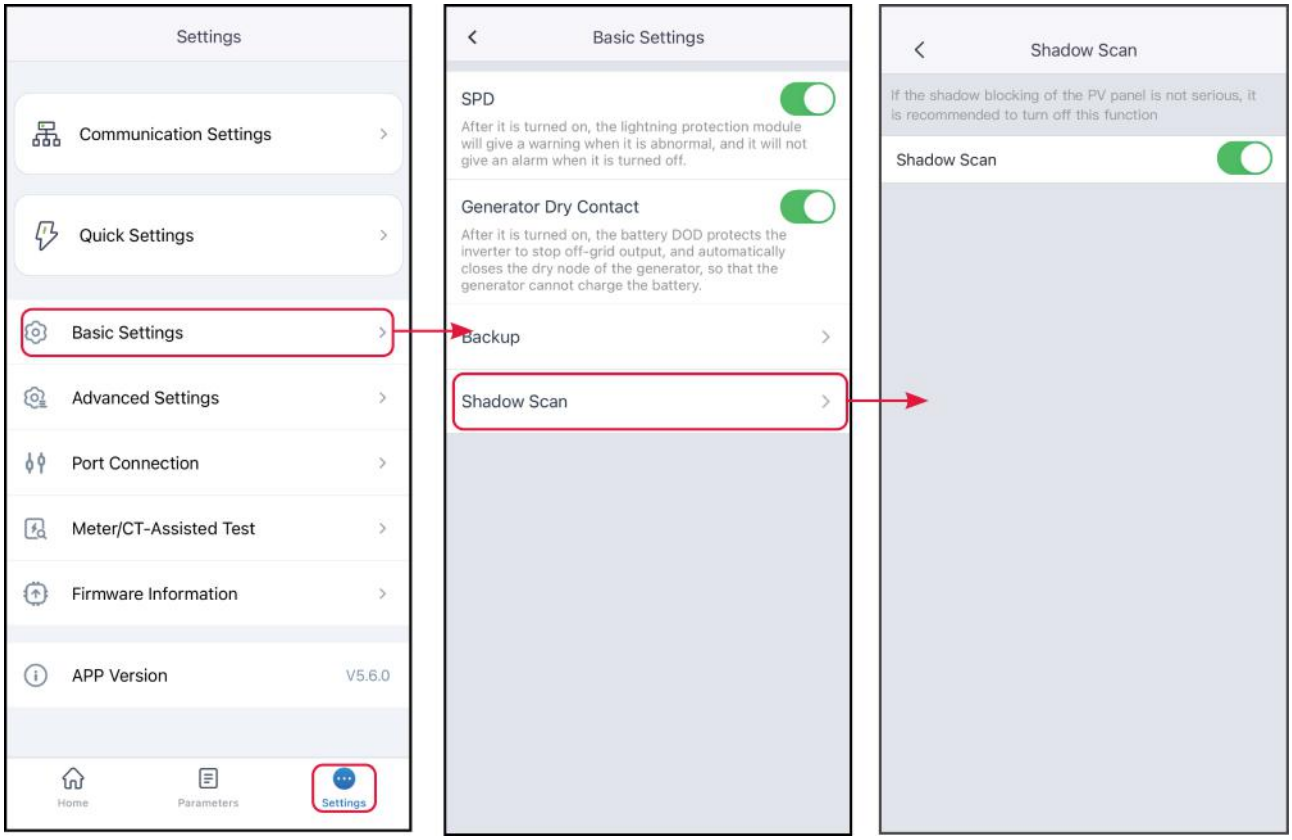


7.1.6.2 Set shadow scan function

When photovoltaic panels are severely shaded, turning on the shadow scan function can optimize inverter power generation efficiency.

Step 1: Through **Home > Settings > Basic Settings > shadow scan**, enter the settings page.

Step 2: Turn this function on or off according to actual needs. Some models support setting scan interval time, MPPT shadow scan, etc., please set according to the actual interface.

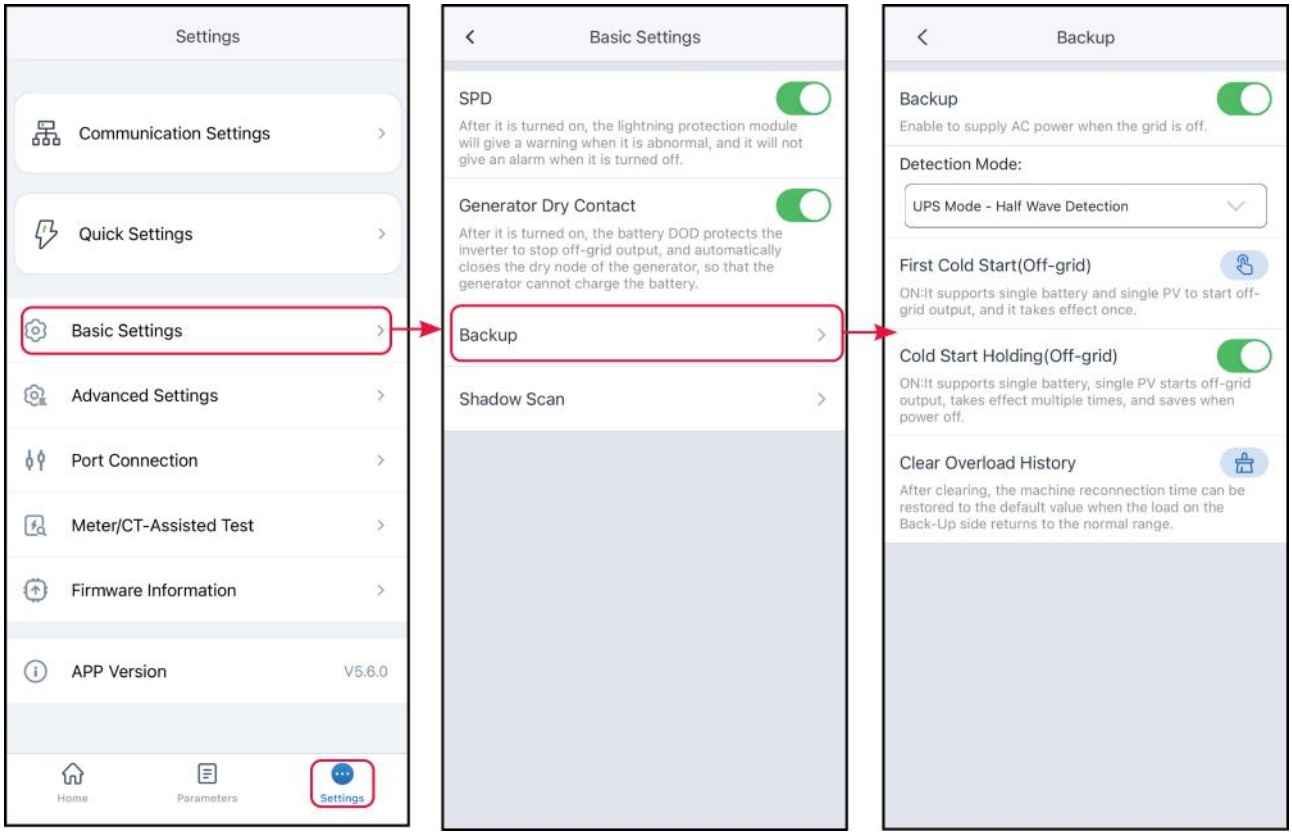


7.1.6.3 Configure Backup Power Parameters

After enabling the backup power function, when the grid power fails, loads connected to the inverter's BACK-UP port can be powered by the battery, ensuring uninterrupted power supply to the loads.

Step 1: Navigate to **Home > Settings > Basic Settings > Backup Power** to access the configuration page.

Step 2: Configure the backup power function according to your actual needs.

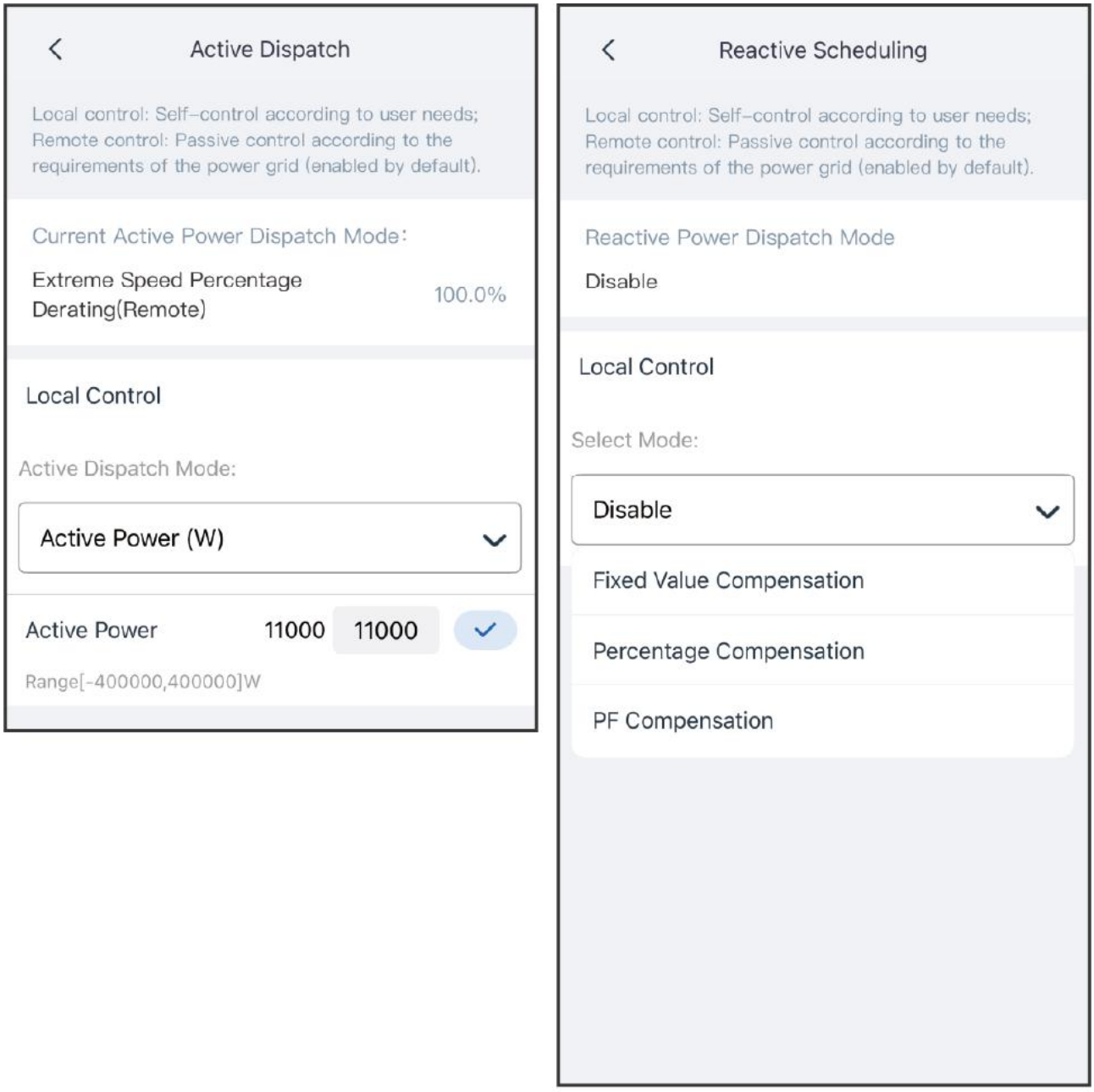


No.	Parameter Name	Description
1	UPS Mode-Full-wave Detection	Detects whether the grid voltage is too high or too low.
2	UPS Mode-Half-wave Detection	Detects whether the grid voltage is too low.
3	EPS Mode-Supports Low Voltage Ride-Through	Disables the grid voltage detection function.
4	Off-grid First Cold Start	Takes effect only once. After enabling this function, the battery or PV can be used to output backup power in off-grid mode.
5	Off-grid Cold Start Holding	Takes effect multiple times. After enabling this function, the battery or PV can be used to output backup power in off-grid mode.

No.	Parameter Name	Description
6	Clear Overload Fault	When the load power connected to the inverter's BACK-UP port exceeds the rated load power, the inverter will restart and detect the load power again. If not handled promptly, the inverter will restart multiple times for load detection, with increasing intervals between each restart. After the BACK-UP port load power is reduced to within the rated range, click this switch to clear the inverter restart interval, and the inverter will restart immediately.

7.1.6.4 Set Power Scheduling Parameters

Step 1: Navigate to the setting interface via **Home > Settings > Basic Settings > Power Scheduling**.
Step 2: Set the active power scheduling or reactive power scheduling parameters according to the actual situation.



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No.	Parameter Name	Description
Active Dispatch		

No.	Parameter Name	Description
1	Active Dispatch Mode	Controls the active power according to the selected dispatch mode based on the requirements of the grid company in the country/region where the inverter is located. Supports: • Disabled: Active dispatch is not enabled. • Fixed Value Derating: Dispatch based on a fixed value. • Percentage Derating: Dispatch based on a percentage of the rated power.
2	Active Power	• When the active dispatch mode is set to Fixed Value Derating, the active power is set to a fixed value. • When the active dispatch mode is set to Percentage Derating, the active power is set as a percentage of the active power and the rated power.
Reactive Dispatch		
3	Reactive Dispatch Mode	Controls the reactive power according to the selected dispatch mode based on the requirements of the grid company in the country/region where the inverter is located. Supports: • Disabled: Reactive dispatch is not enabled. • Fixed Value Compensation: Dispatch based on a fixed value. • Percentage Compensation: Dispatch based on a percentage of the rated power. • PF Compensation.
4	Status	Set the power factor to a positive or negative number according to the grid standards of the country or region and actual usage requirements.

No.	Parameter Name	Description
5	Reactive Power	• When the reactive dispatch mode is set to Fixed Value Derating, the reactive power is set to a fixed value. • When the reactive dispatch mode is set to Percentage Derating, the reactive power is set as a percentage of the reactive power and the rated power.
6	Power Factor	Set the power factor when the reactive dispatch mode is set to PF Compensation.

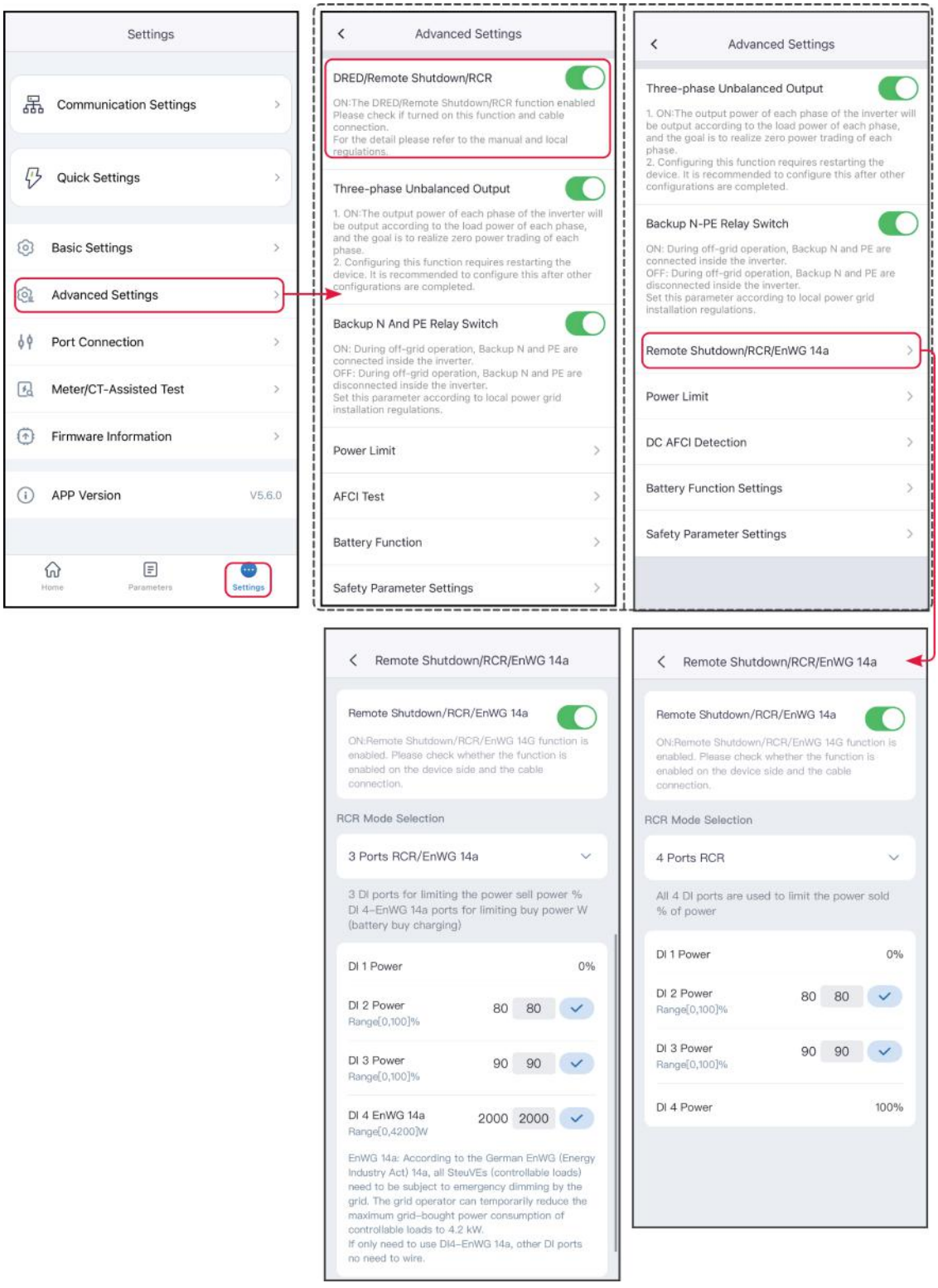
7.1.7 Setting Advanced Parameters

NOTICE

- When logged in as an 'Installer', advanced parameters can be set.
- When entering the advanced settings page, the password required is: 1111 or goodwe2010.

7.1.7.1 Setting up DRED/Remote Shutdown/RCR/EnWG 14a Function

According to the grid standards of certain countries or regions, when it is necessary to connect third-party DRED/Remote Shutdown/RCR/EnWG 14a devices for signal control, please enable the DRED/Remote Shutdown/RCR/EnWG 14a function.
Step 1: Via **Home > Settings > Advanced Settings > DRED/Remote Shutdown/RCR/EnWG 14a**, set up this function.
Step 2: Turn this function on or off based on actual requirements.
Step 3: For regions where EnWG 14a regulations apply, when enabling the RCR function, select the RCR mode based on the actual connected device type and set the DI port power percentage value.



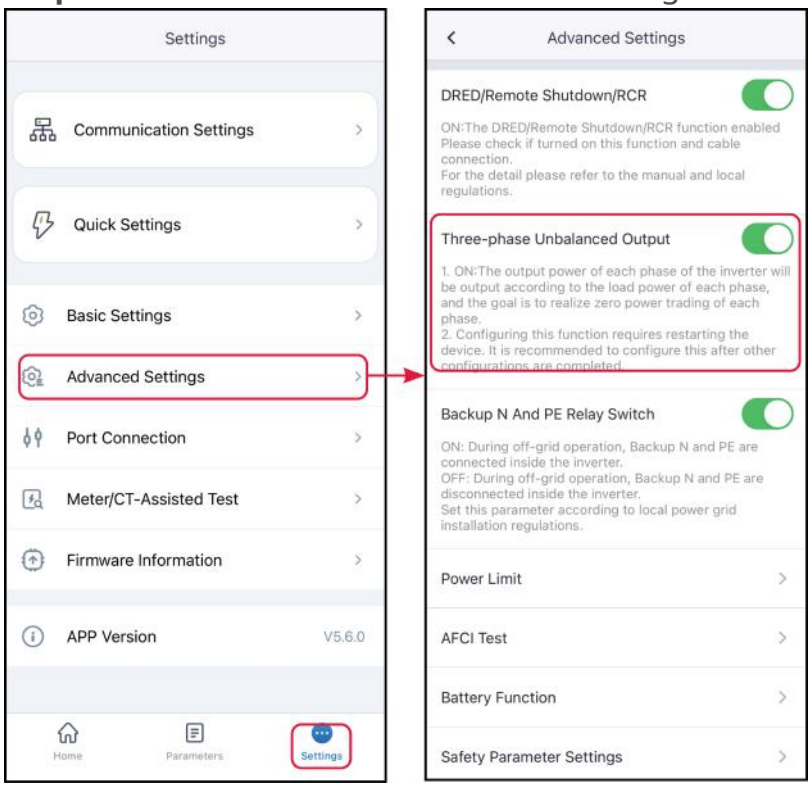
7.1.7.2 Set Three-Phase Unbalanced Output

When a three-phase inverter is connected to an unbalanced load, such as when L1,

L2, and L3 are connected to loads of different power, it is necessary to enable the three-phase unbalanced output setting function.

Step 1: Via **Home > Settings > Advanced Settings > Three-Phase Unbalanced Output**, set this function.

Step 2: Turn this function on or off according to actual needs.

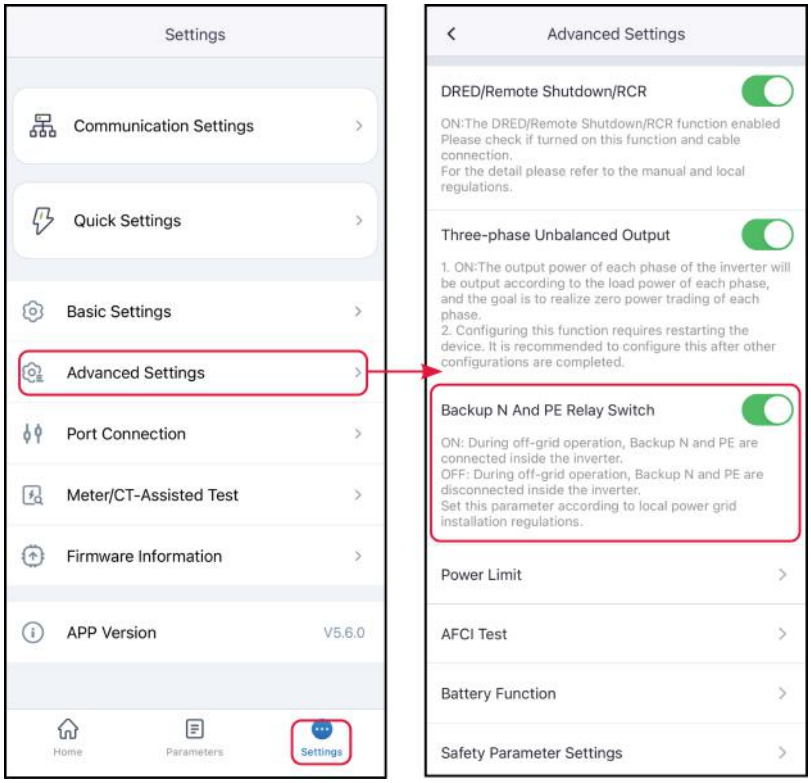


7.1.7.3 Setting BACK-UP N and PE Relay Switch

According to the grid standards of certain countries or regions, it is required to ensure that the internal relay of the BACK-UP port remains closed during off-grid operation, thereby connecting the N and PE lines.

Step 1: Navigate to the parameter setting page via **Home > Settings > Advanced Settings > Backup Power N and PE Relay Switch**.

Step 2: Enable or disable this function according to actual requirements.

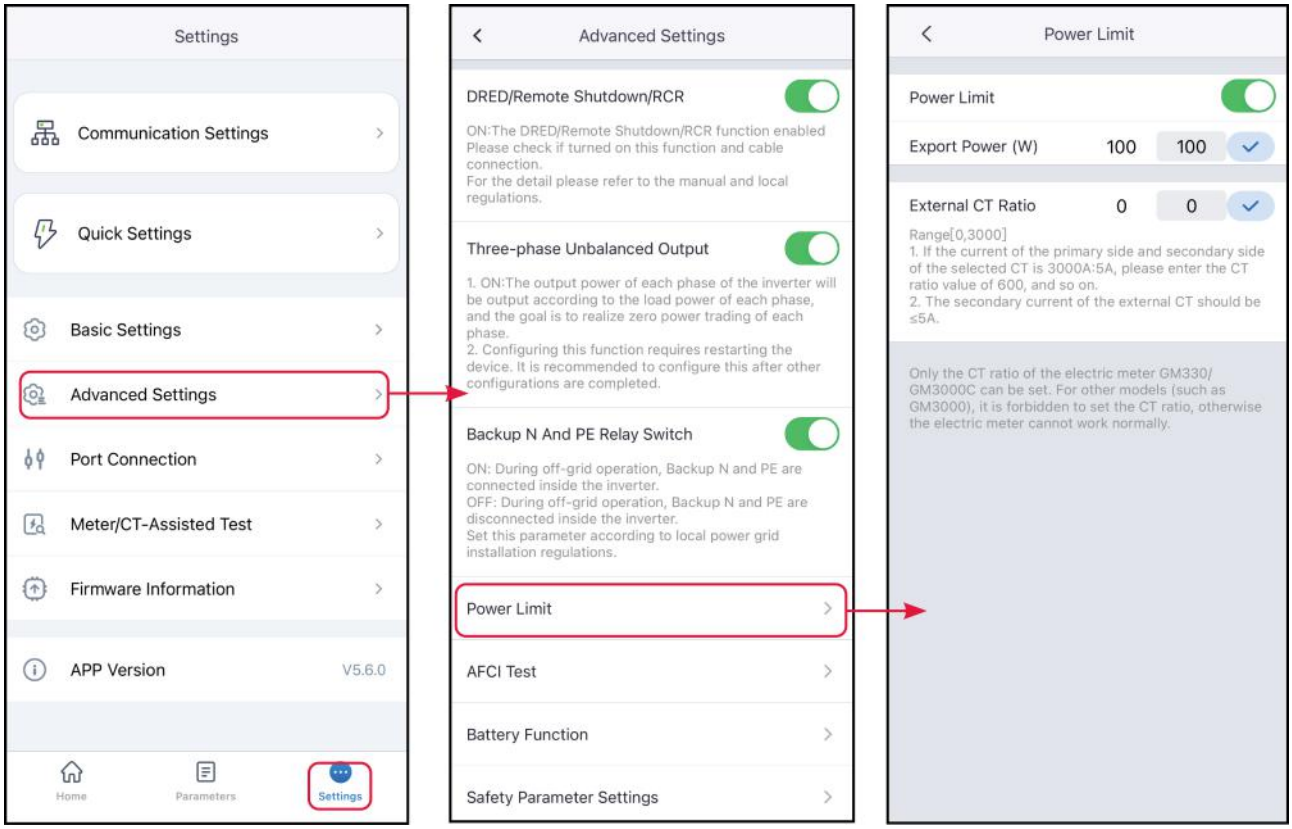


7.1.7.4 Set Export Power Limit Parameters

NOTICE
When dual meters are bound in a photovoltaic system, it is necessary to set the grid connection power limit parameters for both meters separately.

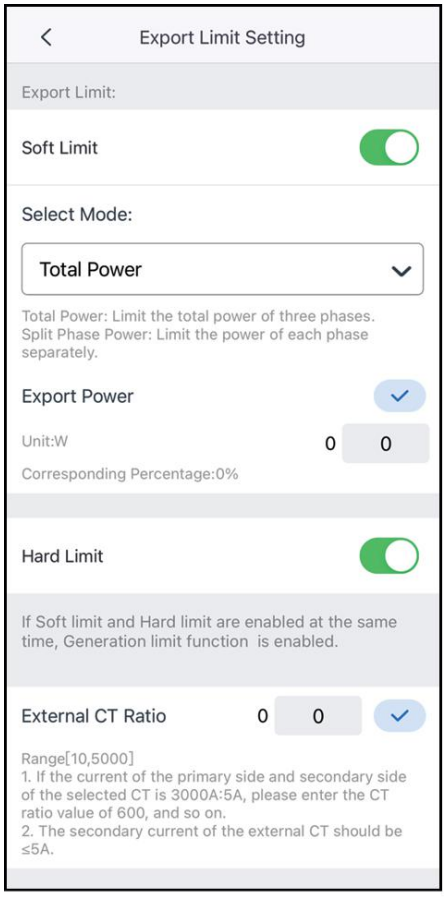
Step 1: Through **Home > Settings > Advanced Settings > Export Power Limit**, access the parameter settings page.
Step 2: Turn on or off the anti-reverse flow function according to actual needs.
Step 3: After turning on the anti-reverse flow function, enter parameter values according to actual needs, click the "√", and the parameter settings are successful.

7.1.7.4.1 Set Grid-Connected Power Limit Parameters (General)



No.	Parameter Name	Description
1	Export power limit	When output power needs to be limited according to grid standard requirements in some countries or regions, enable this function.
2	Power Limit	Set based on the maximum power that can be input to the grid in practice.
3	External Meter CT Ratio	Set to the ratio of primary to secondary current of the external CT.

7.1.7.4.2 Setting Grid Connection Power Limit Parameters (Australia)



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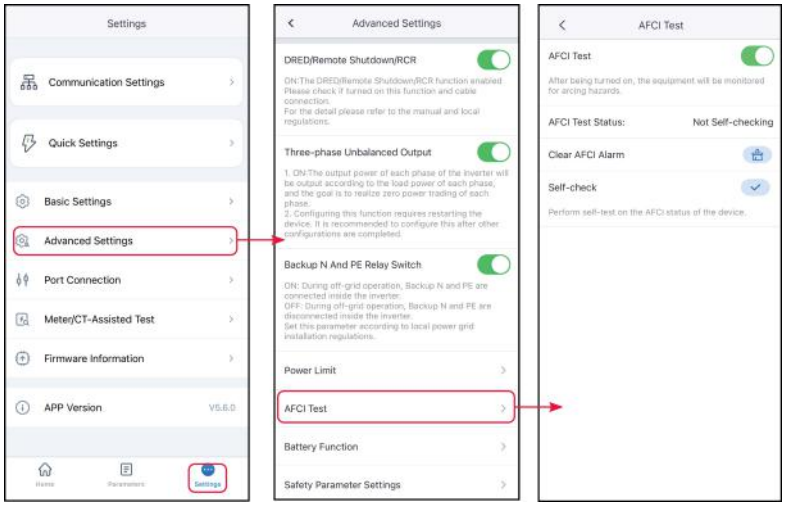
No.	Parameter Name	Description
1	Software Grid Connection Power Limitation	Enable this function when it is necessary to limit the output power according to the grid standards of certain countries or regions.
2	Power Limit	• Set based on the actual maximum power that can be fed into the grid. • Supports setting a fixed power value or a percentage. The set percentage is the ratio of the limited power to the inverter's rated power. • After setting a fixed value, the percentage changes automatically; after setting a percentage, the fixed value changes automatically.

No.	Parameter Name	Description
3	Hardware Grid Connection Power Limitation	After enabling this function, the inverter will automatically disconnect from the grid when the power fed into the grid exceeds the limit.
4	External MeterCT Ratio	Set to the ratio of the primary side current to the secondary side current of the external CT.

7.1.7.5 Setting Arc Fault Detection Function

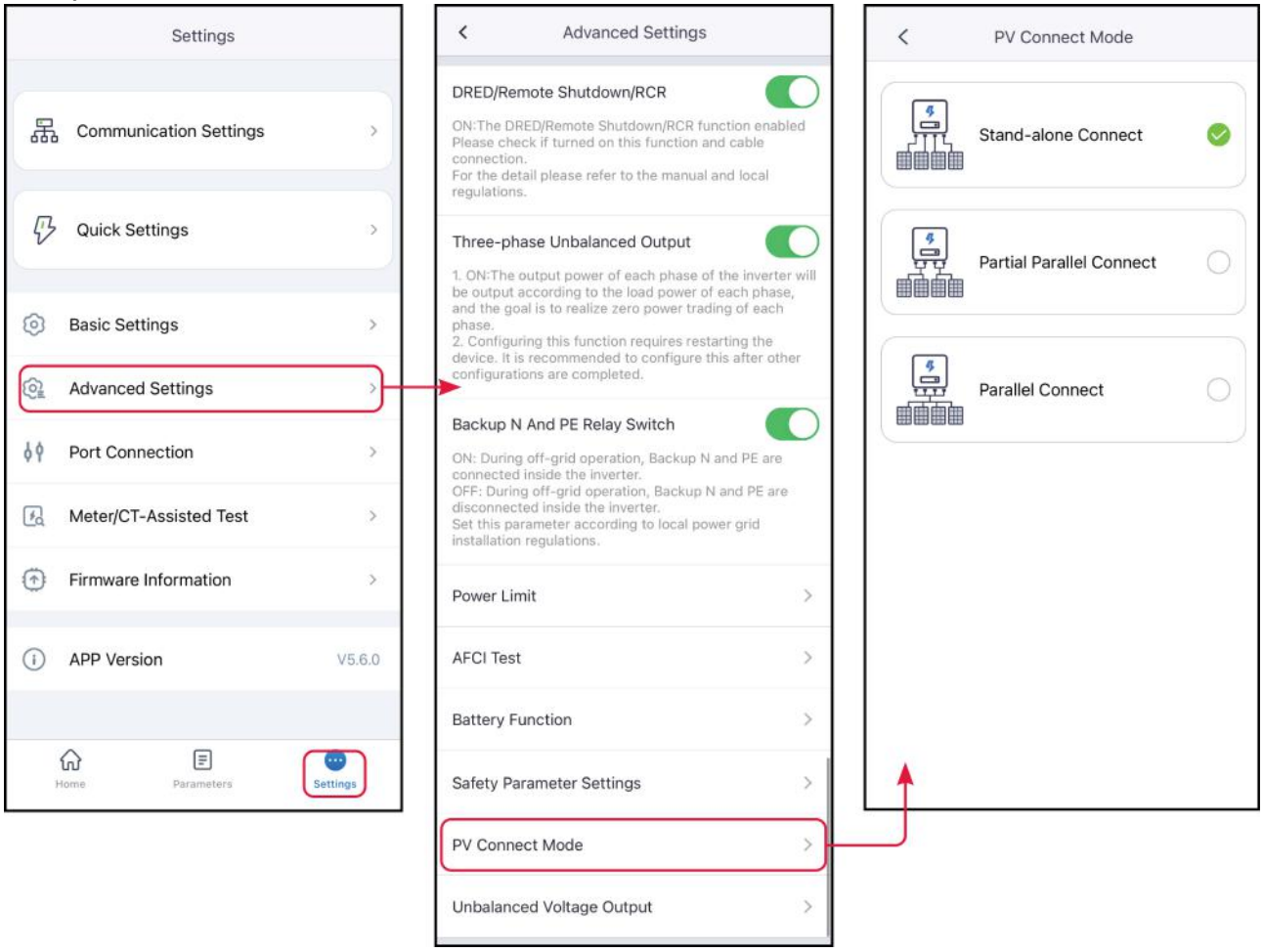
Step 1: via **Home > Settings > Advanced Settings > DC Arc Fault Detection**, enter the settings page to set the AFCI detection function.
Step 2: based on actual needs, detect arcs, clear fault alarms, or perform self-test on AFCI.



No.	Parameter Name	Description
1	AFCI Detection	Please enable or disable the inverter's AFCI function according to actual needs.
2	AFCI Detection Status	Displays the detection status, such as Not Detected, Detection Failed, etc.
3	Clear AFCI Fault Alarm	Clears the AFCI fault alarm records.
4	Self-Test	Click Set to test if the device's AFCI module is functioning properly.

7.1.7.6 Configure PV Connection Mode

For certain models, you can manually set the PV string connection method for the inverter's MPPT port to avoid incorrect identification of the connection method.
Step 1: Navigate to **Home > Settings > Advanced Settings > PV Connection Mode** to access the configuration page.
Step 2: Based on the actual connection method of the PV strings, set it to Independent Access, Partial Parallel Access, or Parallel Access.

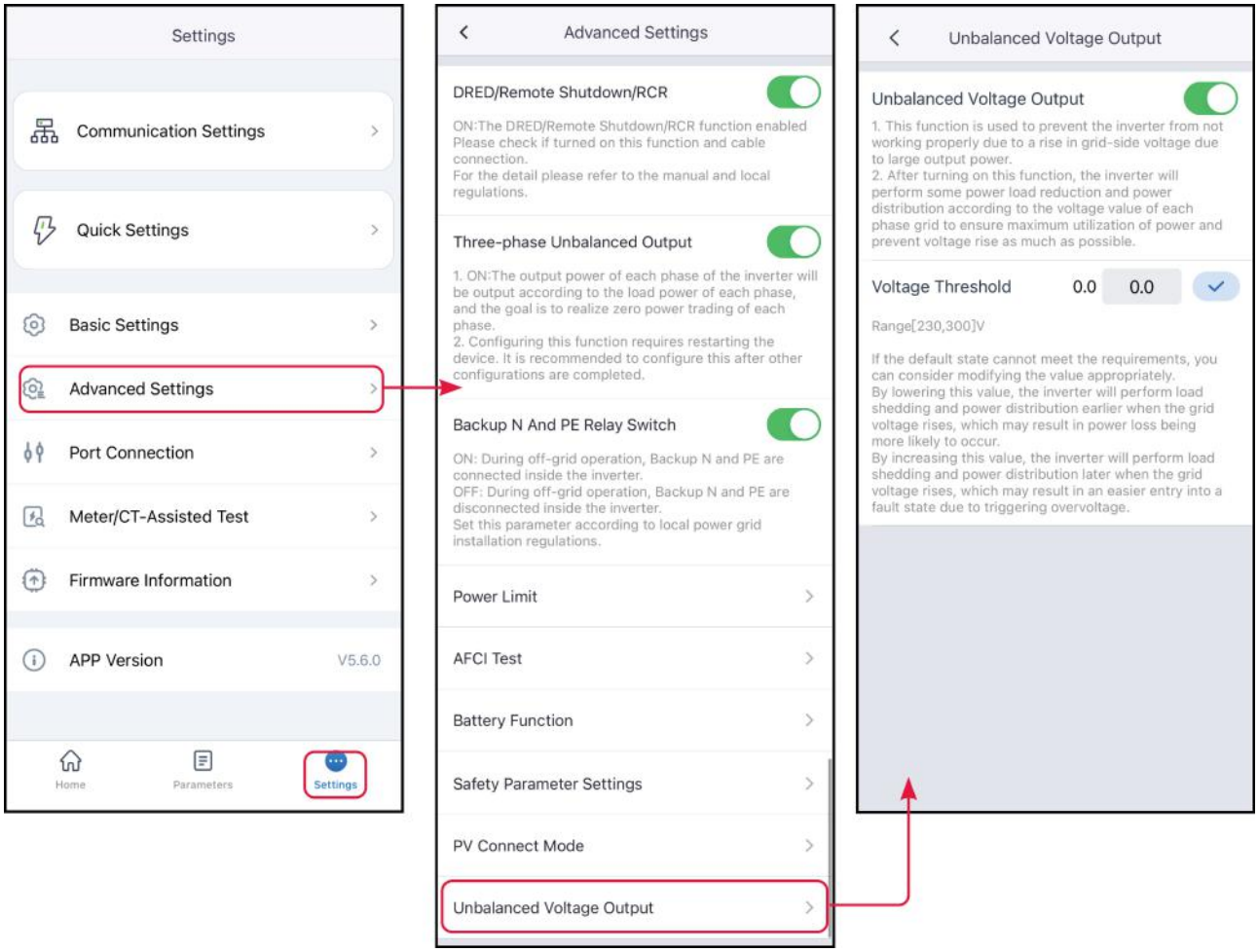


No.	Parameter Name	Description
1	Independent Connection	External PV strings are connected one-to-one with the inverter-side PV input ports.

No.	Parameter Name	Description
2	Partial Parallel Connection	When one PV string is connected to multiple MPPT ports on the inverter side, other PV components are also connected to other MPPT ports on the inverter side.
3	Parallel Connection	When external PV strings are connected to the inverter-side PV input ports, one PV string is connected to multiple input ports.

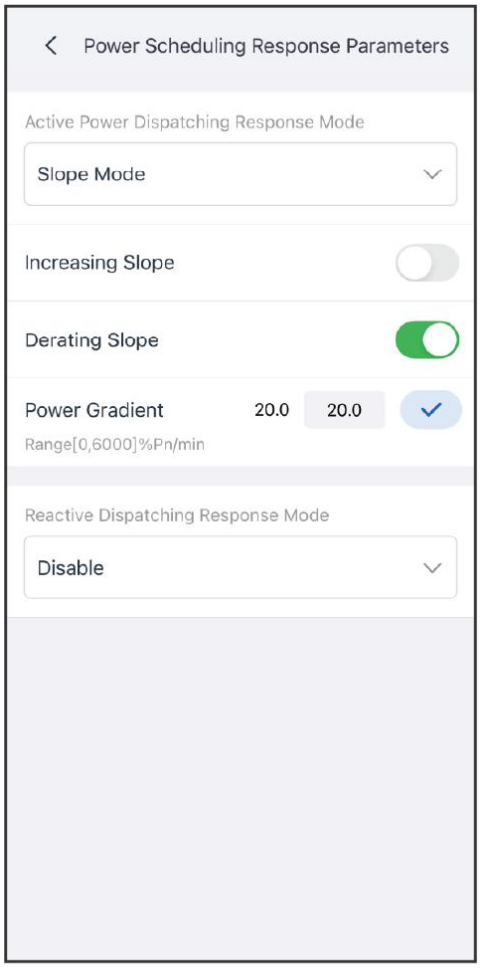
7.1.7.7 Setting Unbalanced Voltage Output Function

Step 1: Via **Home > Settings > Advanced Settings > Unbalanced Voltage Output**, enter the setup page.
Step 2: Turn this function on or off according to actual needs.
Step 3: After turning on the unbalanced phase voltage function, input parameter values according to actual needs, click " √ ", and the parameter setting is successful.



7.1.7.8 Set Power Scheduling Response Parameters

Step 1: Go to the parameter setting page via **Home > Settings > Advanced Settings > Power Scheduling Response Parameters**.
Step 2: Based on actual requirements, select **Disabled, Slope Scheduling**, or **First-Order Low-Pass Filter** mode from the Active Power Scheduling dropdown. If **Slope Scheduling** is selected, enter the **Power Change Gradient** value; if the **First-Order Low-Pass Filter** mode is selected, enter the **PT-1 Behavior Tau** value.
Step 3: Based on actual requirements, select **Disabled, Slope Scheduling**, or **First-Order Low-Pass Filter** mode from the Reactive Power Scheduling dropdown. If **Slope Scheduling** is selected, enter the **Power Change Gradient** value; if the **First-Order Low-Pass Filter** mode is selected, enter the **PT-1 Behavior Tau** value.
Step 4: Click √ to save the settings.



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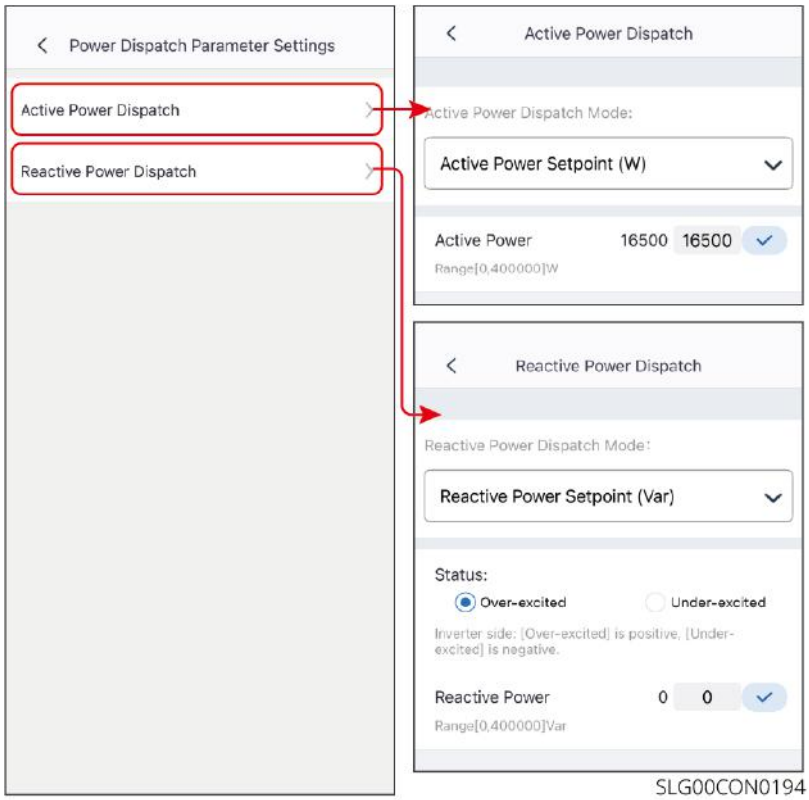
No.	Parameter Name	Description
Active Power Dispatch Response Mode		
1	First-order Low-pass Filter	Achieves active power dispatch according to a first-order low-pass curve within the response time constant.
2	PT-1 Behavior Tau	The time constant when active power changes according to the first-order low-pass filter curve.
3	Slope Dispatch	Achieves active power dispatch according to the power change slope.
4	Power Change Gradient	Sets the slope for active power dispatch changes.
Reactive Power Dispatch Response Mode		

No.	Parameter Name	Description
5	First-order Low-pass Filter	Achieves reactive power dispatch according to a first-order low-pass curve within the response time constant.
6	PT-1 Behavior Tau	The time constant when reactive power changes according to the first-order low-pass filter curve.
7	Slope Dispatch	Achieves reactive power dispatch according to the power change slope.
8	Power Change Gradient	Sets the slope for reactive power dispatch changes.

7.1.7.9 Set Power Scheduling Parameters

When active power or reactive power needs to be adjusted, it can be set by directly setting the power value, rated power percentage, or PF value.
Step 1: Through **Home > Settings > Basic Settings > Power Scheduling Parameter Settings**, enter the parameter setting page.
Step 2: According to actual needs, in the active power scheduling mode drop-down menu, select **Do Not Enable, Active Power Setting Value** or **Active Power Setting Percentage**.
Step 3: According to actual needs, in the reactive power scheduling mode drop-down menu, select **Do Not Enable, Reactive Power Setting Value**, **Reactive Power Setting Percentage or PF Compensation**.

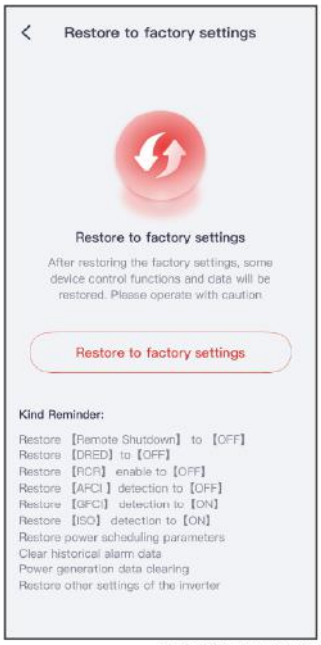


7.1.7.10 Restore Factory Settings

To restore the device to its factory default settings, please perform the following operations.

Step 1: Navigate to the settings page via **Home > Settings > Advanced Settings > Restore Factory Settings**.

Step 2: Click **Restore Factory Settings** to restore the functions indicated on the interface to factory settings.



SLG00CON0122

7.1.8 Battery Function Settings

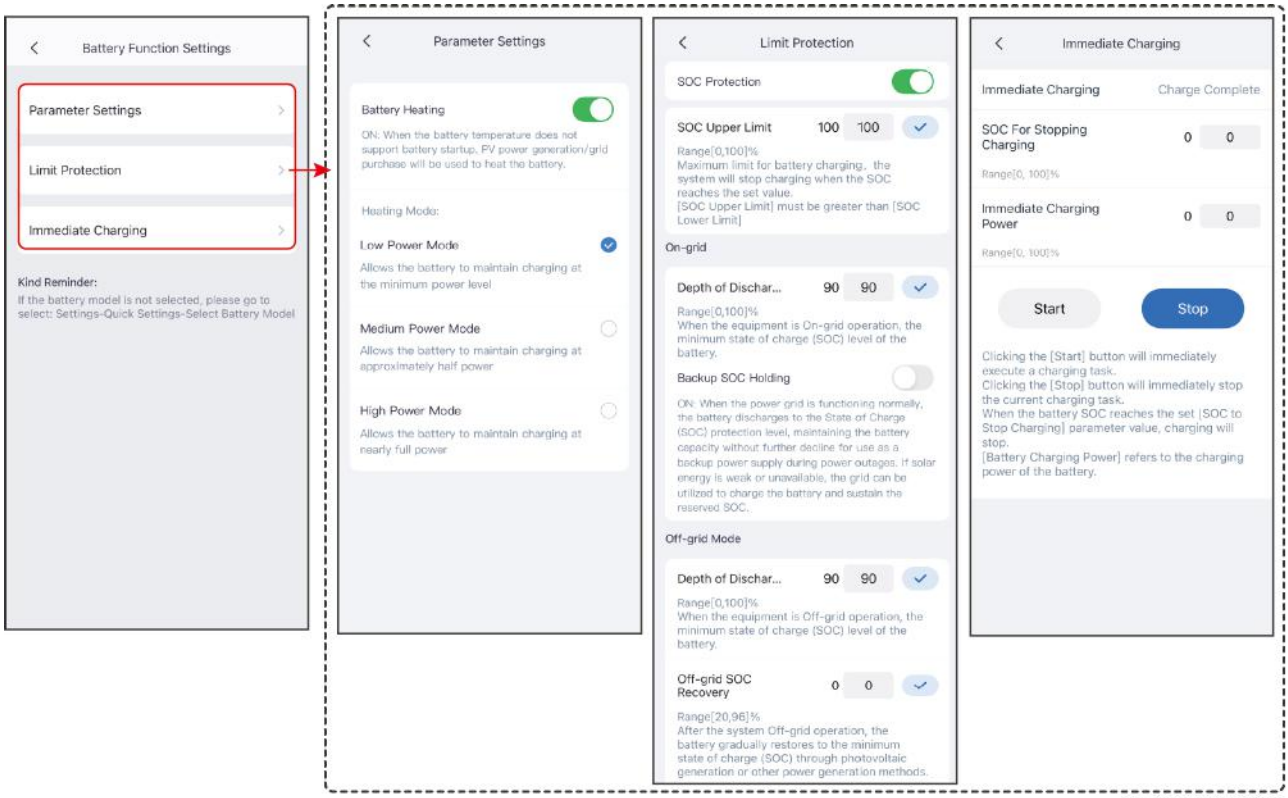
NOTICE

When the PV storage system is a parallel system:

- If paralleling via RS485, you can choose whether to synchronize the master/slave battery settings in the "Battery Function" interface.
- If paralleling via other methods, the master/slave battery settings are synchronized automatically. To modify the slave battery settings, please enter the settings interface separately via the slave SN on the homepage.

7.1.8.1 Set Lithium Battery Parameters

Step 1: Navigate to the parameter setting interface via **Home > Settings > Battery Function Settings**.
Step 2: Enter the parameter values according to your actual needs.



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No.	Parameter Name	Description
Parameter Settings		
1	Maximum Charging Current	Applicable to some models. Set the maximum charging current for the battery according to actual requirements.
2	Maximum Discharging Current	Applicable to some models. Set the maximum discharging current for the battery according to actual requirements.

No.	Parameter Name	Description
3	Battery Heating	• Optional. This option is displayed when a battery with heating function is connected. After enabling the battery heating function, PV power generation or grid power purchase will be used to heat the battery when the battery temperature does not support battery startup. • The heating mode temperature varies for different battery models. Please refer to the actual specifications. • Enabling the battery heating function consumes a portion of the system power. By default, the battery heating function operates in low-power mode when enabled, and can be switched to other power modes if needed. • The start and stop of the battery heating function are automatically controlled by the BMS based on ambient temperature. Therefore, differences in device installation environment and location will affect the start and stop of the heating function. • Supports setting heating time periods according to actual needs, but within the set periods, the heating function will still automatically start/stop based on ambient temperature. • If PV and AC power only meet the load consumption, and the battery power is insufficient to support self-heating, the heating function cannot be enabled.
4	Battery Wake-up	When enabled, the battery can be woken up after it shuts down due to undervoltage protection. Only applicable to lithium batteries without a circuit breaker. After enabling, the output voltage at the battery port is about 60V.
Limit Protection		
5	SOC Protection	When enabled, protection can be activated for the battery when its capacity falls below the set depth of discharge.

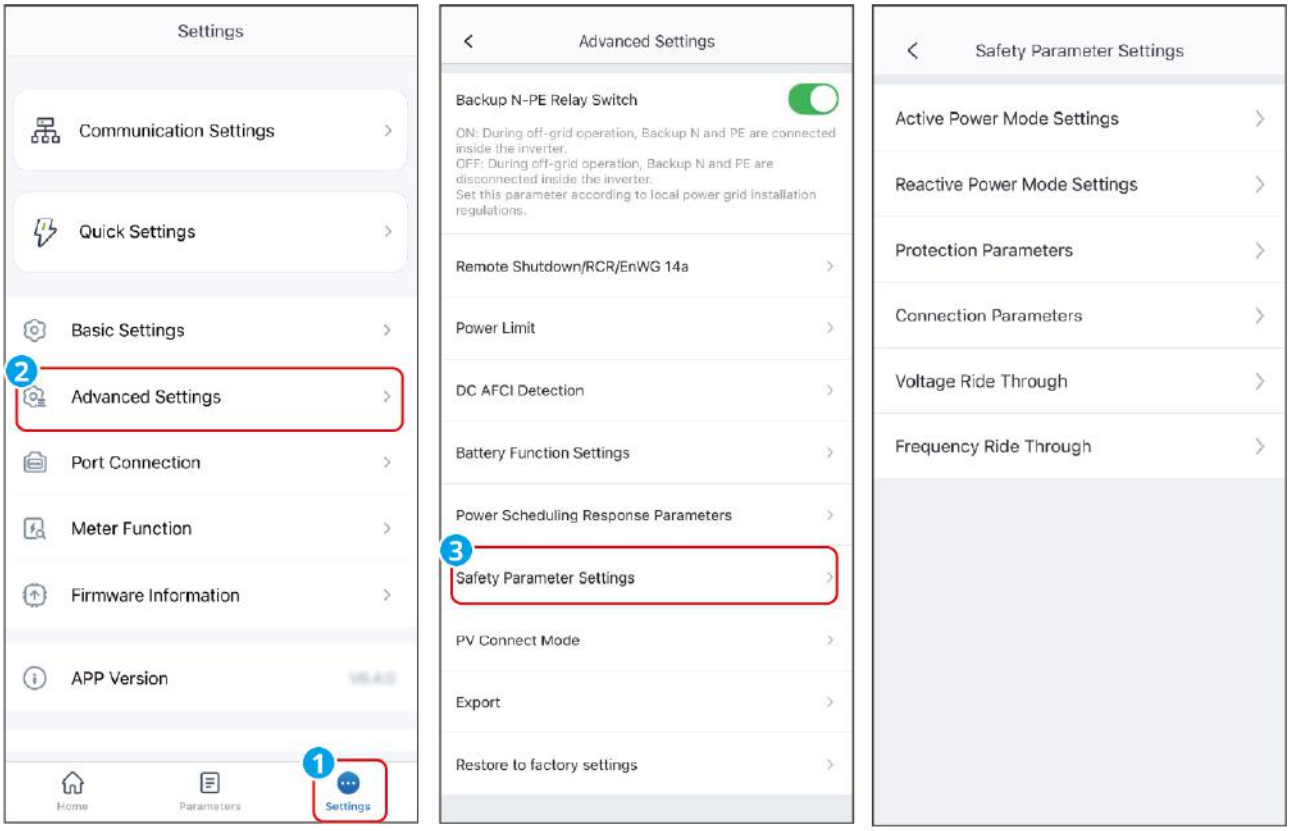
No.	Parameter Name	Description
6	SOC Upper Limit	The upper limit for battery charging. Battery charging stops when the SOC reaches this upper limit.
7	Depth of Discharge (on-grid)	The maximum allowable discharge value for the battery when the inverter operates on-grid.
8	Backup Power SOC Retention	To ensure the battery SOC is sufficient to maintain normal system operation during off-grid periods, the battery will be charged via the grid to the set SOC protection value when the system operates on-grid.
9	Depth of Discharge (off-grid)	The maximum allowable discharge value for the battery when the inverter operates off-grid.
10	Off-grid Recovery SOC	When the inverter operates off-grid, if the battery SOC drops to the SOC lower limit, the inverter stops output and is used only to charge the battery until the battery SOC recovers to the Off-grid Recovery SOC value. If the SOC lower limit is higher than the Off-grid Recovery SOC value, charging will proceed to SOC lower limit + 10%.
Immediate Charging		
11	Immediate Charging	When enabled, the battery is charged immediately by the grid. Takes effect only once. Please enable or stop according to actual needs.
12	Charging Stop SOC	When Immediate Charging is enabled, battery charging will stop when the battery SOC reaches the Charging Cut-off SOC.
13	Immediate Charging Power	When Immediate Charging is enabled, this is the percentage of charging power relative to the inverter's rated power. For example, for an inverter with a rated power of 10kW, setting this to 60 means the charging power is 6kW.

No.	Parameter Name	Description
14	Start	Start charging immediately.
15	Stop	Stop the current charging task immediately.

7.1.9 Set Custom Safety Parameters

NOTICE

Safety parameters must be set according to the grid company's requirements. Any changes must be approved by the grid company.



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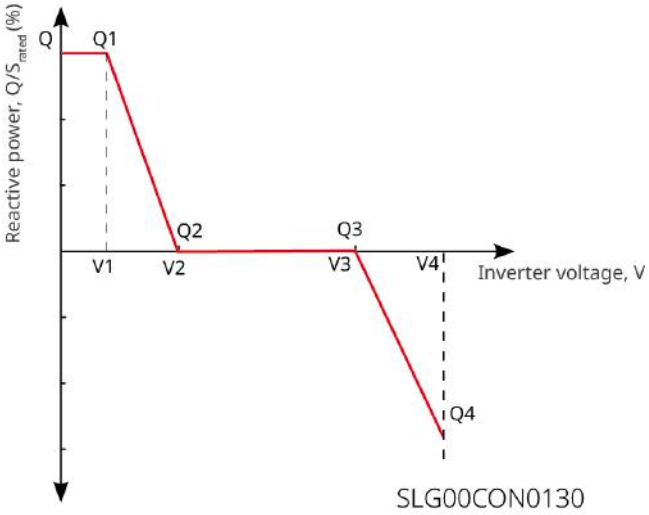
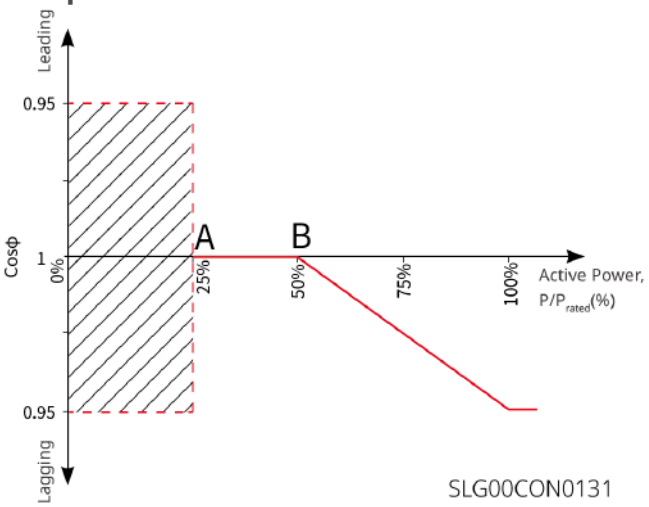
7.1.9.1 Set Reactive Power Mode

Step 1: Navigate to the parameter setting page via **Home > Settings > Advanced Settings > Safety Parameter Settings > Reactive Power Mode Settings**.
Step 2: Input parameters according to actual requirements.

Q(U) Curve



Cosφ Curve



No.	Parameter Name	Description
Fixed PF		
1	Fixed PF	Enable this function when a fixed Power Factor value is required according to grid standards in certain countries or regions. After successful parameter setting, the power factor remains constant during inverter operation.
2	Under-excited	Set the Power Factor to a positive or negative value according to the grid standards and actual usage requirements of the country or region.
3	Over-excited	

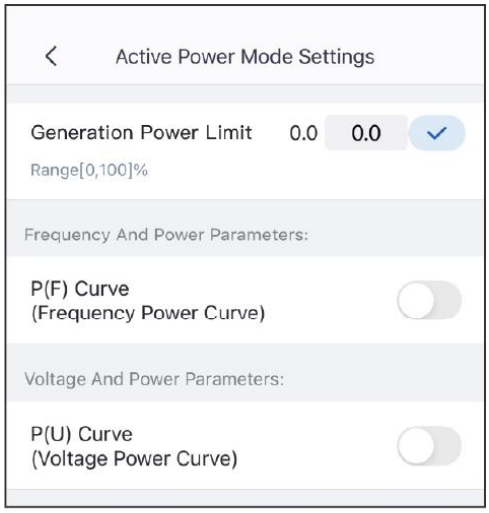
No.	Parameter Name	Description
4	Power Factor	Set the Power Factor according to actual needs, ranging from -1 to -0.8 and +0.8 to +1.
Fixed Q		
1	Fixed Q	Enable this function when fixed reactive power is required according to grid standards in certain countries or regions.
2	Over-excited/Under-excited	Set the reactive power to inductive or capacitive according to the grid standards and actual usage requirements of the country or region.
3	Reactive Power	Set the ratio of reactive power to apparent power.
Q(U) Curve		
1	Q(U) Curve	Enable this function when setting the Q(U) curve is required according to grid standards in certain countries or regions.
2	Mode Selection	Set the Q(U) curve mode, supporting Basic Mode and Slope Mode.
3	Vn Voltage	The ratio of the actual Vn point voltage to the rated voltage, where n=1, 2, 3, 4. For example: Setting it to 90 means: V/Vrated%=90%.
4	Vn Reactive Power	The ratio of the reactive power output by the inverter at the Vn point to the apparent power, where n=1, 2, 3, 4. For example: Setting it to 48.5 means: Q/Srated%=48.5%.
5	Voltage Deadband Width	Set the voltage deadband when the Q(U) curve mode is set to Slope Mode. Within the deadband, there is no requirement for reactive power output.
6	Over-excited Slope	When the Q(U) curve mode is set to Slope Mode, set the power change slope to a positive or negative number.
7	Under-excited Slope	

No.	Parameter Name	Description
8	Vn Reactive Power	The ratio of the reactive power output by the inverter at the Vn point to the apparent power, where n=1, 2, 3, 4. For example: Setting it to 48.5 means: Q/Srated%=48.5%.
9	Q(U) Curve Response Time Constant	The power must reach 95% according to a first-order low-pass curve within 3 response time constants.
10	Extended Function Enable	Enable the extended function and set the corresponding parameters.
11	Enter Curve Power	When the ratio of the inverter's output reactive power to rated power is between the Enter Curve Power and Exit Curve Power, the Q(U) curve requirements are met.
12	Exit Curve Power	
cosφ(P) Curve		
1	cosφ(P) Curve	Select this function when setting the Cosφ curve is required according to grid standards in certain countries or regions.
2	Mode Selection	Set the cosφ(P) curve mode, supporting Basic Mode and Slope Mode.
3	N Point Power	N point inverter output active power / rated power percentage. N=A, B, C, D, E.
4	N Point cosφ Value	N point Power Factor. N=A, B, C, D, E.
5	Over-excited Slope	When the cosφ(P) curve mode is set to Slope Mode, set the power change slope to a positive or negative number.
6	Under-excited Slope	
7	n Point Power	N point inverter output active power / rated power percentage. N=A, B, C.

No.	Parameter Name	Description
8	n Point cosφ Value	N point Power Factor. N=A, B, C.
9	cosφ(P) Curve Response Time Constant	The power must reach 95% according to a first-order low-pass curve within 3 response time constants.
10	Extended Function Enable	Enable the extended function and set the corresponding parameters.
11	Enter Curve Voltage	When the grid voltage is between the Enter Curve Voltage and Exit Curve Voltage, the voltage meets the Cosφ curve requirements.
12	Exit Curve Voltage	
Q(P) Curve		
1	Q(P) Curve Enable	Enable this function when setting the Q(P) curve is required according to grid standards in certain countries or regions.
2	Mode Selection	Set the Q(P) curve mode, supporting Basic Mode and Slope Mode.
3	Pn Point Power	The ratio of reactive power to rated power at the Pn point, where n=1, 2, 3, 4, 5, 6. For example: Setting it to 90 means: Q/Prated%=90%.
4	Pn Point Reactive Power	The ratio of active power to rated power at the Pn point, where n=1, 2, 3, 4, 5, 6. For example: Setting it to 90 means: P/Prated%=90%.
5	Over-excited Slope	When the Q(P) curve mode is set to Slope Mode, set the power change slope to a positive or negative number.
6	Under-excited Slope	

No.	Parameter Name	Description
7	Pn Point Power	The ratio of reactive power to rated power at the Pn point, where n=1, 2, 3. For example: Setting it to 90 means: Q/Prated%=90%.
8	Pn Point Reactive Power	The ratio of active power to rated power at the Pn point, where n=1, 2, 3. For example: Setting it to 90 means: P/Prated%=90%.
9	Response Time Constant	The power must reach 95% according to a first-order low-pass curve within 3 response time constants.

7.1.9.2 Set Active Power Mode



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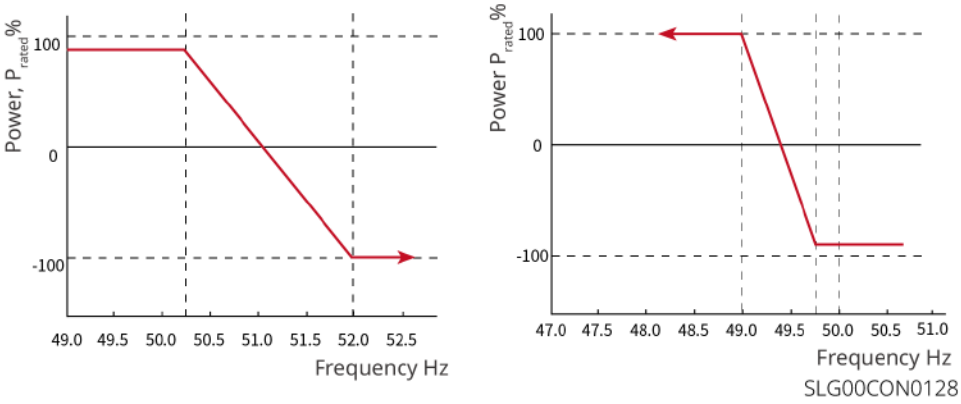
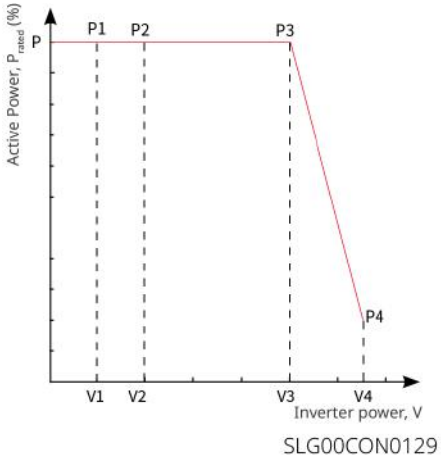
Step 1: Navigate to the parameter setting page via **Home > Settings > Advanced Settings > Safety Parameter Settings > Active Power Mode Settings**.
Step 2: Enter parameters according to actual requirements.
P(F) Curve



P(U) Curve



No.	Parameter Name	Description
1	Output Active Power Setting	Sets the inverter output power limit.
2	Power Ramp Rate	Sets the slope for increasing or decreasing the active output power.
Over-Frequency Power Reduction		
1	P(F) Curve	Enable this function when setting the P(F) curve is required according to the grid standards of certain countries or regions.

No.	Parameter Name	Description
2	Over-Frequency Power Reduction Mode	Set the over-frequency power reduction mode according to actual requirements. • Slope Mode: Adjusts power based on the over-frequency point and power reduction slope. • Stop Mode: Adjusts power based on the over-frequency start point and over-frequency end point.
3	Over-Frequency Start Point	When the grid frequency is too high, the inverter reduces its output active power. The inverter starts reducing output power when the grid frequency exceeds this value.
4	Sell-to-Buy Transition Frequency	When the set frequency value is reached, the system switches from selling power to buying power.
5	Over-Frequency End Point	When the grid frequency is too high, the inverter reduces its output active power. The inverter does not continue to reduce output power when the grid frequency exceeds this value.
6	Over-Frequency Power Slope Reference Power	Adjusts the inverter output active power based on the Rated Power, current power, Apparent Power, or Maximum Power.
7	Over-Frequency Power Slope	When the grid frequency exceeds the over-frequency point, the inverter reduces its output power according to the set slope.
8	Tentional Delay Ta	The delay response time for inverter output power changes when the grid frequency exceeds the over-frequency point.
9	Hysteresis Function Enable	Enables the hysteresis function.

No.	Parameter Name	Description
10	Frequency Hysteresis Point	During over-frequency power reduction, if the frequency decreases, the output power remains at the lowest point of the reduced power until the frequency is below the hysteresis point, then the power recovers.
11	Hysteresis Wait Time	For over-frequency power reduction with decreasing frequency, when the frequency is below the hysteresis point, this is the wait time before power recovery, i.e., power recovers only after waiting for a certain period.
12	Hysteresis Power Recovery Slope Reference Power	For over-frequency power reduction with decreasing frequency, when the frequency is below the hysteresis point, this is the reference for power recovery, i.e., power recovers at the rate of recovery slope * reference power. Supported: Pn Rated Power, Ps Apparent Power, Pm current power, Pmax Maximum Power, power difference (△P).
13	Hysteresis Power Recovery Slope	For over-frequency power reduction with decreasing frequency, when the frequency is below the hysteresis point, this is the power change slope during power recovery.
Under-Frequency Power Increase		
1	P(F) Curve	Enable this function when setting the P(F) curve is required according to the grid standards of certain countries or regions.
2	Under-Frequency Power Increase Mode	Set the under-frequency power increase mode according to actual requirements. • Slope Mode: Adjusts power based on the under-frequency point and power increase slope. • Stop Mode: Adjusts power based on the under-frequency start point and under-frequency end point.
3	Under-Frequency Start Point	When the grid frequency is too low, the inverter increases its output active power. The inverter starts increasing output power when the grid frequency is below this value.

No.	Parameter Name	Description
4	Sell-to-Buy Transition Frequency	When the set frequency value is reached, the system switches from selling power to buying power.
5	Under-Frequency End Point	When the grid frequency is too low, the inverter increases its output active power. The inverter does not continue to increase output power when the grid frequency is below this value.
6	Over-Frequency Power Slope Reference Power	Adjusts the inverter output active power based on the Rated Power, current power, Apparent Power, or Maximum Power.
7	Under-Frequency Power Slope	When the grid frequency is too low, the inverter increases its output active power. This is the slope at which the inverter output power increases.
8	Tentional Delay Ta	The delay response time for inverter output power changes when the grid frequency is below the under-frequency point.
9	Hysteresis Function Enable	Enables the hysteresis function.
10	Frequency Hysteresis Point	During under-frequency power increase, if the frequency increases, the output power remains at the lowest point of the increased power until the frequency is above the hysteresis point, then the power recovers.
11	Hysteresis Wait Time	For under-frequency power increase with increasing frequency, when the frequency is above the hysteresis point, this is the wait time before power recovery, i.e., power recovers only after waiting for a certain period.

No.	Parameter Name	Description
12	Hysteresis Power Recovery Slope Reference Power	For under-frequency power increase with increasing frequency, when the frequency is above the hysteresis point, this is the reference for power recovery, i.e., power recovers at the rate of recovery slope * reference power. Supported: Pn Rated Power, Ps Apparent Power, Pm current power, Pmax Maximum Power, power difference (△P).
13	Hysteresis Power Recovery Slope	For under-frequency power increase with increasing frequency, when the frequency is above the hysteresis point, this is the power change slope during power recovery.
14	P(U) Curve Enable	Enable this function when setting the P(U) curve is required according to the grid standards of certain countries or regions.
15	Vn voltage	The ratio of the actual value of the Vn point voltage to the rated voltage, n=1,2,3,4. For example: Setting it to 90 means: V/Vrated%=90%.
16	Vn Active Power	The ratio of the inverter's output active power at the Vn point to the Apparent Power, n=1,2,3,4. For example: Setting it to 48.5 means: P/Prated%=48.5%.
17	Output Response Mode	Sets the active output response mode. Supported: • First-order low-pass filter: Achieves output adjustment according to the first-order low-pass curve within the response time constant. • Slope scheduling: Achieves output adjustment according to the set power change slope.
18	Power Ramp Rate	When the output response mode is set to slope scheduling, active power scheduling is implemented according to the power ramp rate.
19	PT-1 Behavior Tau	When the output response mode is set to first-order low-pass filter, this is the time constant for active power changes according to the first-order low-pass filter curve.

No.	Parameter Name	Description
20	Overload Function Switch	When enabled, the maximum active power output is 1.1 times the Rated Power; otherwise, the maximum active power output is the same as the Rated Power value.

7.1.9.3 Set Grid Protection Parameters

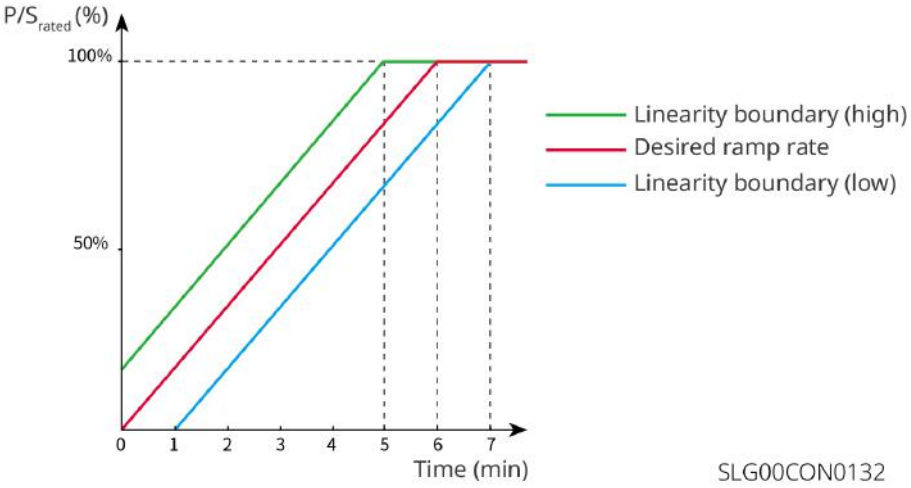
Step 1: via **Home > Settings > Advanced Settings > Safety Regulation Parameter Settings > Grid Protection Parameters**, enter the parameter setting page.
Step 2: Enter parameter values according to actual needs.

No.	Parameter Name	Description
1	Overvoltage Trigger n-stage Value	Set the grid overvoltage trigger n-stage protection point, n=1,2,3,4.
2	Overvoltage Trigger n-stage Trip Time	Set the grid overvoltage trigger n-stage trip time, n=1,2,3,4.
3	Undervoltage Trigger n-stage Value	Set the grid undervoltage trigger n-stage protection point, n=1,2,3,4.
4	Undervoltage Trigger n-stage Trip Time	Set the grid undervoltage trigger n-stage trip time, n=1,2,3,4.
5	10min Overvoltage Trigger Value	Set the 10min overvoltage trigger value.
6	10min Overvoltage Trip Time	Set the 10min overvoltage trigger trip time.
7	Overfrequency Trigger n-stage Value	Set the grid overfrequency trigger n-stage protection point, n=1,2,3,4.
8	Overfrequency Trigger n-stage Trip Time	Set the grid overfrequency trigger n-stage trip time, n=1,2,3,4.
9	Underfrequency Trigger n-stage Value	Set the grid underfrequency trigger n-stage protection point, n=1,2,3,4.

No.	Parameter Name	Description
10	Underfrequency Trigger n-stage Trip Time	Set the grid underfrequency trigger n-stage trip time, n=1,2,3,4.

7.1.9.4 Grid Connection Parameter Settings

Step 1: Navigate to the parameter settings page via **Home > Settings > Advanced Settings > Safety Regulation Parameter Settings > Grid Connection Parameters**.
Step 2: Enter the parameter values according to your actual requirements.



No.	Parameter Name	Description
Startup On-Grid		
1	Connection Voltage Upper Limit	When the inverter connects to the grid for the first time, if the grid voltage is higher than this value, the inverter will not be able to connect to the grid.
2	Connection Voltage Lower Limit	When the inverter connects to the grid for the first time, if the grid voltage is lower than this value, the inverter will not be able to connect to the grid.

No.	Parameter Name	Description
3	Connection Frequency Upper Limit	When the inverter connects to the grid for the first time, if the grid frequency is higher than this value, the inverter will not be able to connect to the grid.
4	Connection Frequency Lower Limit	When the inverter connects to the grid for the first time, if the grid frequency is lower than this value, the inverter will not be able to connect to the grid.
5	On-Grid Waiting Time	When the inverter connects to the grid for the first time, the waiting time for grid connection after the grid voltage and frequency meet the on-grid requirements.
6	Soft Ramp Up Slope Enable	Enable the startup ramp slope function.
7	Soft Ramp Up Slope	According to the standards of some countries or regions, the percentage of power output increase per minute when the inverter starts up for the first time.
Fault Reconnection		
8	Connection Voltage Upper Limit	When the inverter reconnects to the grid after a fault occurs, if the grid voltage is higher than this value, the inverter will not be able to connect to the grid.
9	Connection Voltage Lower Limit	When the inverter reconnects to the grid after a fault occurs, if the grid voltage is lower than this value, the inverter will not be able to connect to the grid.
10	Connection Frequency Upper Limit	When the inverter reconnects to the grid after a fault occurs, if the grid frequency is higher than this value, the inverter will not be able to connect to the grid.
11	Connection Frequency Lower Limit	When the inverter reconnects to the grid after a fault occurs, if the grid frequency is lower than this value, the inverter will not be able to connect to the grid.
12	On-Grid Waiting Time	When the inverter reconnects to the grid after a fault occurs, the waiting time for grid connection after the grid voltage and frequency meet the on-grid requirements.

No.	Parameter Name	Description
13	Reconnection Ramp Up Slope Enable	Enable the startup ramp slope function.
14	Reconnection Ramp Up Slope	According to the standards of some countries or regions, the percentage of power output increase per minute when the inverter connects to the grid after the first time. For example: when set to 10, it indicates that the reconnection ramp up slope is: 10%P/Srated/min.

7.1.9.5 Set Voltage Fault Ride-Through Parameters

Step 1: Via **Home > Settings > Advanced Settings > Safety Parameter Settings > Voltage Fault Ride-Through**, access the parameter setting page.
Step 2: Enter parameter values according to actual needs.

No.	Parameter Name	Description
Low Voltage Ride-Through		
1	UVn Point Voltage	During low voltage ride-through, the ratio of the ride-through voltage at the characteristic point to the rated voltage. n=1,2,3,4,5,6,7.
2	UVn Point Time	During low voltage ride-through, the ride-through time at the characteristic point.n=1,2,3,4,5,6,7
3	Enter LVRT Threshold	When the grid voltage is between the Enter LVRT threshold and the Exit LVRT threshold, the inverter does not immediately disconnect from the grid.
4	Exit LVRT Threshold	
5	Slope K1	The K coefficient for reactive power support during low voltage ride-through.

No.	Parameter Name	Description
6	Zero-Current Mode Enable	When enabled, the system outputs zero current during low voltage ride-through.
7	Enter Threshold	Threshold for entering zero-current mode.
High Voltage Ride-Through		
1	OVn Point Voltage	During high voltage ride-through, the ratio of the ride-through voltage at the characteristic point to the rated voltage. n=1,2,3,4,5,6,7.
2	OVn Point Time	During high voltage ride-through, the ride-through time at the characteristic point.n=1,2,3,4,5,6,7.
3	Enter HVRT Threshold	When the grid voltage is between the Enter HVRT threshold and the Exit HVRT threshold, the inverter does not immediately disconnect from the grid.
4	Exit HVRT Threshold	
5	Slope K2	The K coefficient for reactive power support during high voltage ride-through.
6	Zero-Current Mode Enable	During high voltage ride-through, the system outputs zero current.
7	Enter Threshold	Threshold for entering zero-current mode.

7.1.9.6 Setting Frequency Fault Ride-Through Parameters

Step 1: Navigate to the parameter setting page via **Home > Settings > Advanced Settings > Safety Regulation Parameter Settings > Frequency Fault Ride-Through**.

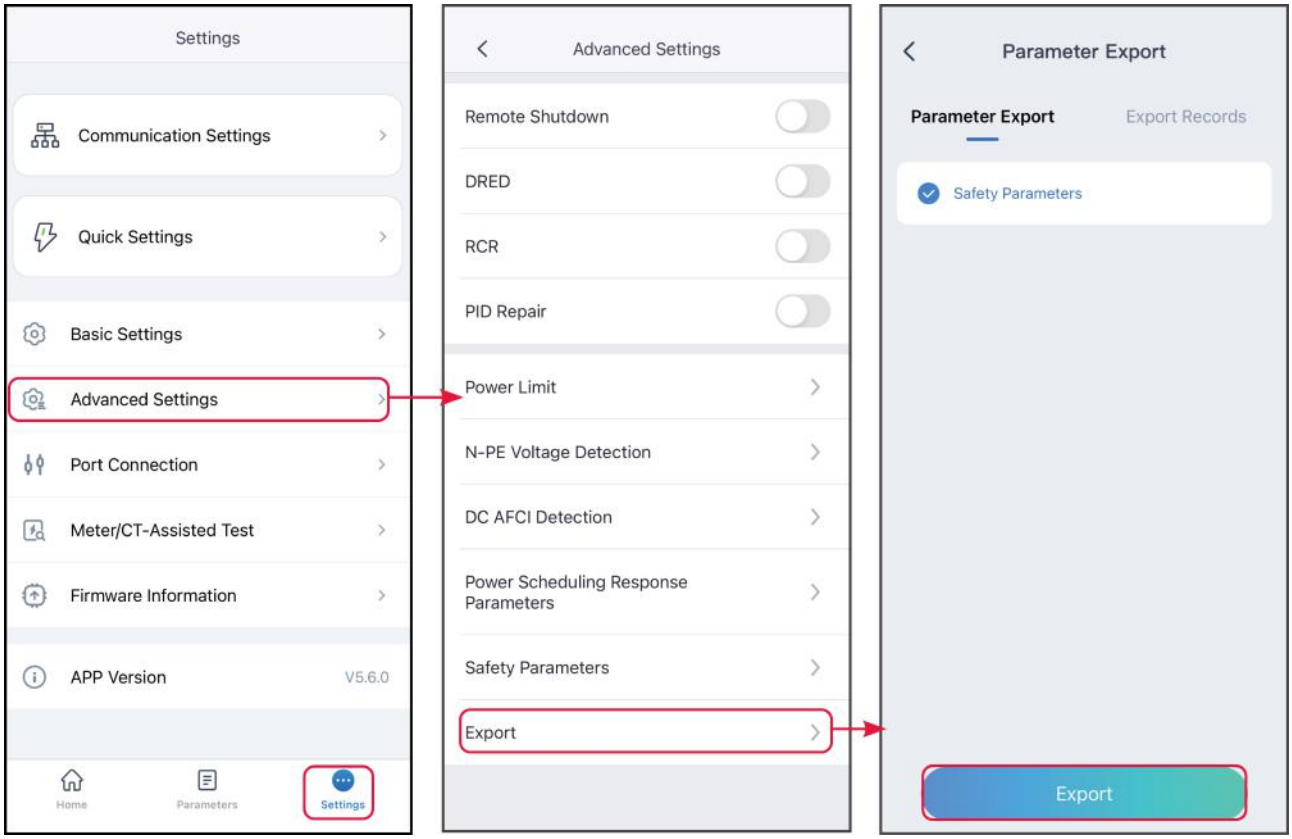
Step 2: Enter the parameter values according to actual requirements.

No.	Parameter Name	Description
1	Frequency Traversal Enable	Enable the frequency traversal function.
2	UFn Point Frequency	Set the frequency for underfrequency point n. n=1,2,3.
3	UFn Point Time	Set the underfrequency time for underfrequency point n. n=1,2,3.
4	OFn Point Frequency	Set the frequency for overfrequency point n. n=1,2,3.
5	OFn Point Time	Set the overfrequency time for overfrequency point n. n=1,2,3.

7.1.10 Export Parameters

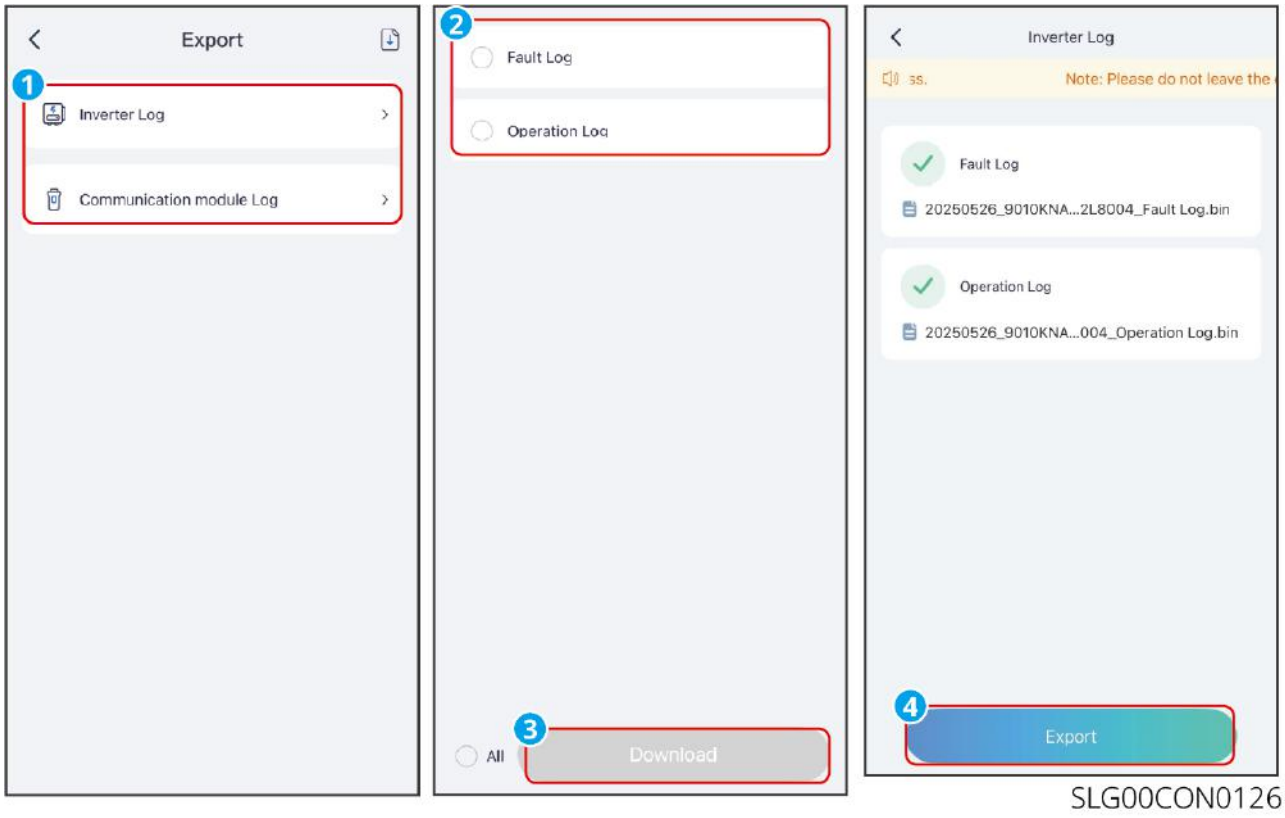
7.1.10.1 Export Safety Regulation Parameters

Some models support exporting safety regulation parameter files after selecting a safety regulation country.
Step 1: Navigate to the safety regulation parameter export page via **Home > Settings > Advanced Settings > Export**.
Step 2: Select the safety regulation parameters and click **Export** to start downloading the current safety regulation parameter file. After the export is complete, click **Share** and choose how to open the exported file according to your actual needs.



7.1.10.2 Export Log Parameters

Step 1: Navigate to the parameter export page via **Home > Settings > Advanced Settings > Export**.
Step 2: Select the device type for which you need to export logs, such as inverter logs, communication module logs, etc.
Step 3: Select the log type you need to export, then download and export the log file. After the export is complete, click **Share** and choose how to open the exported file based on your actual needs.



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7.1.11 Setting Generator/Load Control Parameters

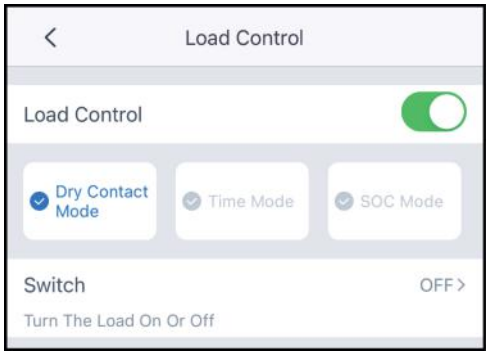
7.1.11.1 Set Load Control Parameters

NOTICE

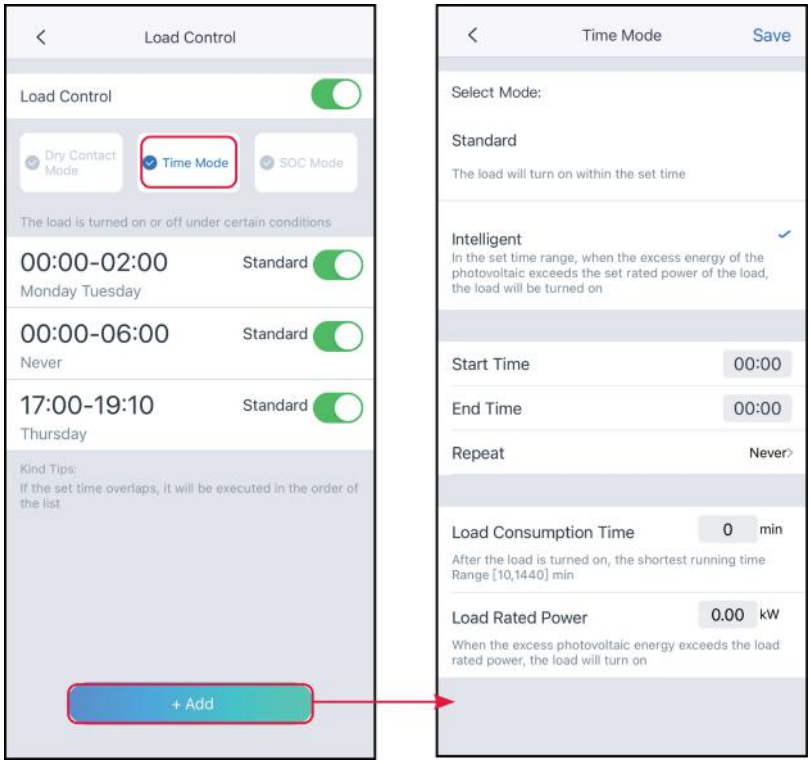
- When the inverter supports the load control function, the load can be controlled via the SolarGo App.
- For the ET40-50kW series inverters, the load control function is only supported when the inverter is used with an STS. The inverter supports load control for the GENERATOR port or the BACKUP LOAD port.
- For the ET50-100kW series inverters, the load control function is only supported when the inverter is used with an STS. The inverter supports load control for the SMART PORT.

Step 1: Navigate to the settings page via **Home > Settings > Port Connection**.
Step 2: Based on the actual interface, select **load control** to enter the load control interface and set the control mode.

- Dry Contact Mode: When the switch status is set to ON, power supply to the load begins; when the switch status is set to OFF, power supply to the load stops. Please set the switch status to ON or OFF according to actual needs.



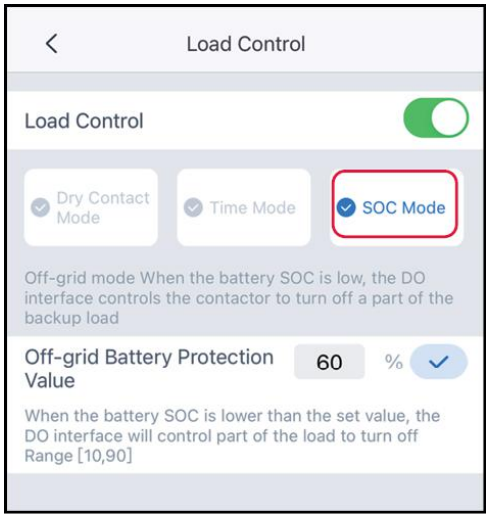
- Time Mode: The load will automatically be powered on or off within the set time period. You can choose Standard Mode or Smart Mode.



No.	Parameter Name	Description
1	Standard Mode	Supplies power to the load within the set time period.

No.	Parameter Name	Description
2	Smart Mode	Within the set time period, starts supplying power to the load when the surplus energy generated by PV exceeds the preset load rated power.
3	Start Time	The time mode will be active during the period between the start time and the stop time.
4	Stop Time	
5	Repeat	Set the repetition frequency.
6	Minimum Load Operating Time	The minimum operating time after the load is turned on, to avoid frequent switching of the load due to energy fluctuations. Applies only to Smart Mode.
7	Load Rated Power	Starts supplying power to the load when the surplus energy generated by PV exceeds this load rated power. Applies only to Smart Mode.

- SOC Mode: The inverter has a built-in relay dry contact control port, which can control whether to supply power to the load. In off-grid mode, if overload on the BACK-UP port or GENERATOR port is detected, or if the battery SOC protection function is triggered, power supply to the load connected to this port can be stopped.



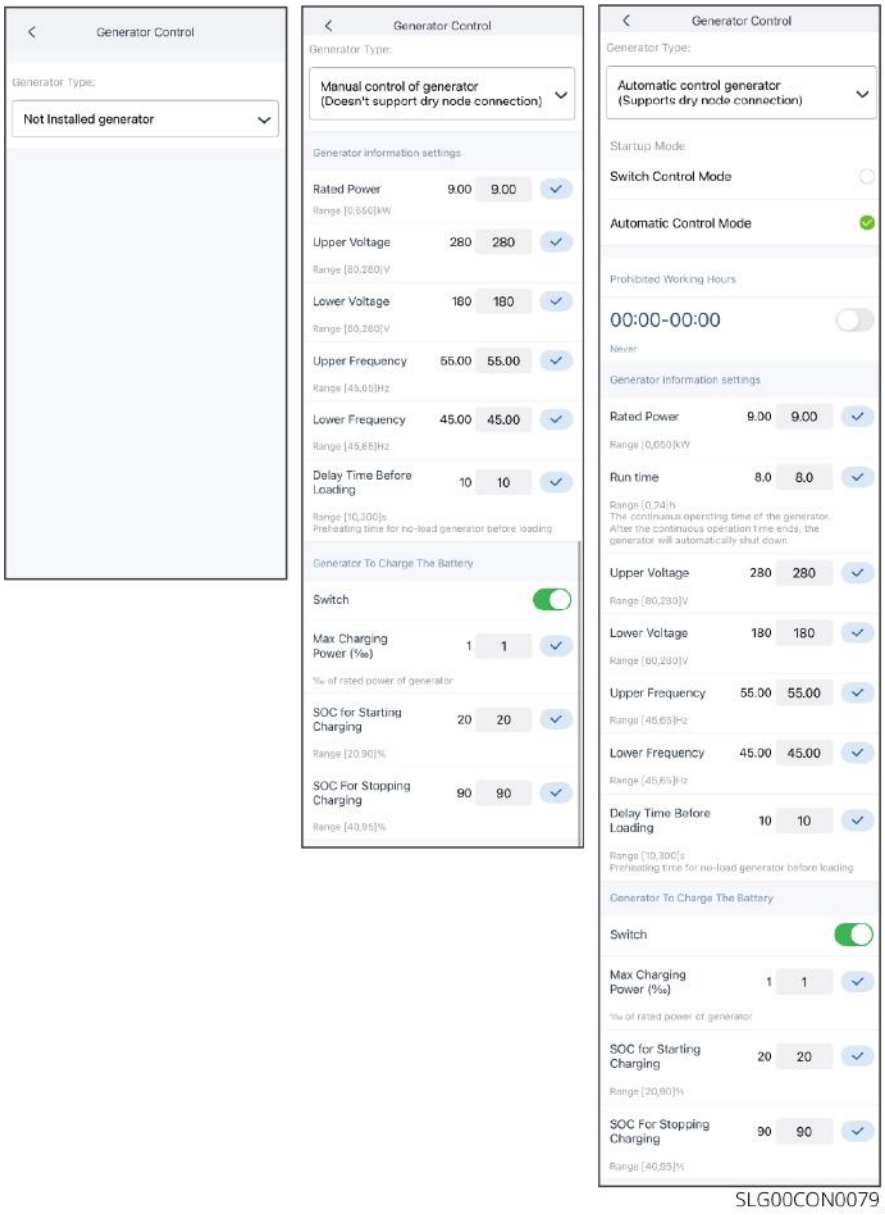
7.1.11.2 Set Generator Parameters

NOTICE

- When the inverter supports generator control functionality, the generator can be controlled via the SolarGo App.
- For ET40-50kW series inverters, generator connection and control are only supported when the inverter is used with an STS.
- For ET50-100kW series inverters, generator connection and control are only supported when the inverter is used with an STS.

Step 1: Go to the setup page via **Home > Settings > Port Connection**.
Step 2: Follow the on-screen prompts to enter the generator control interface and set the generator parameters according to your actual needs.
Step 3: When setting the generator control function, select the generator type based on the actual connection. Currently supported types are: **No Generator Connected, Manually Start/Stop Generator, Automatically Start/Stop Generator**. Set the corresponding parameters according to the selected generator type.

- No Generator Connected: Select this when no generator is connected to the energy storage system.
- Manually Control Generator (Dry Contact Connection Not Supported): Requires manual control to start/stop the generator. The inverter cannot control the generator's start/stop.
- Automatically Control Generator (Dry Contact Connection Supported): When the generator has a dry contact control port connected to the inverter, you need to set the inverter's generator control mode to Switch Control Mode or Automatic Control Mode in the SolarGo App.
  - Switch Control Mode: The generator operates when the switch status is ON; it can automatically stop working after running for the set duration.
  - Automatic Control Mode: The generator is prohibited from operating during the set prohibited working time periods and operates during the set running time periods.



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No.	Parameter Name	Description
1	Dry Node Control Method	Switch Control Mode / Automatic Control Mode.
Switch Control Mode		
2	Diesel Generator Dry Node Switch	Applicable only in Switch Control Mode.
3	Run Time	The continuous operation time of the generator. The generator stops running when this time is reached.

No.	Parameter Name	Description
Automatic Control Mode		
4	Prohibited Operation Time	Set the time period when generator operation is prohibited.
5	Run Time	The continuous operation time after the generator starts. The generator stops running when this time is reached. If the generator's run time includes a prohibited operation period, the generator will stop running during that period; after the prohibited operation time ends, the generator restarts operation and the timer resets.

No.	Parameter Name	Description
Generator Information Settings		
1	Rated Power	Set the rated power for generator operation.
2	Operating Time	Set the continuous operating time for the generator. The generator will be shut down after the continuous operating time ends.
3	Voltage Upper Limit	Set the voltage range for generator operation.
4	Voltage Lower Limit	
5	Frequency Upper Limit	Set the frequency range for generator operation.
6	Frequency Lower Limit	
7	Preheat Time	Set the no-load preheat time for the generator.
Parameter Settings for Generator Charging the Battery		
8	Switch	Select whether to use generator power to charge the battery.

No.	Parameter Name	Description
9	Max. Charging Power (‰)	Charging power when the generator charges the battery.
10	Start Charging SOC	When the battery SOC is below this value, the generator charges the battery.
11	Stop Charging SOC	When the battery SOC is above this value, stop charging the battery.

7.1.12 Set Electricity Meter Parameters

7.1.12.1 Bind/Unbind Meters

NOTICE

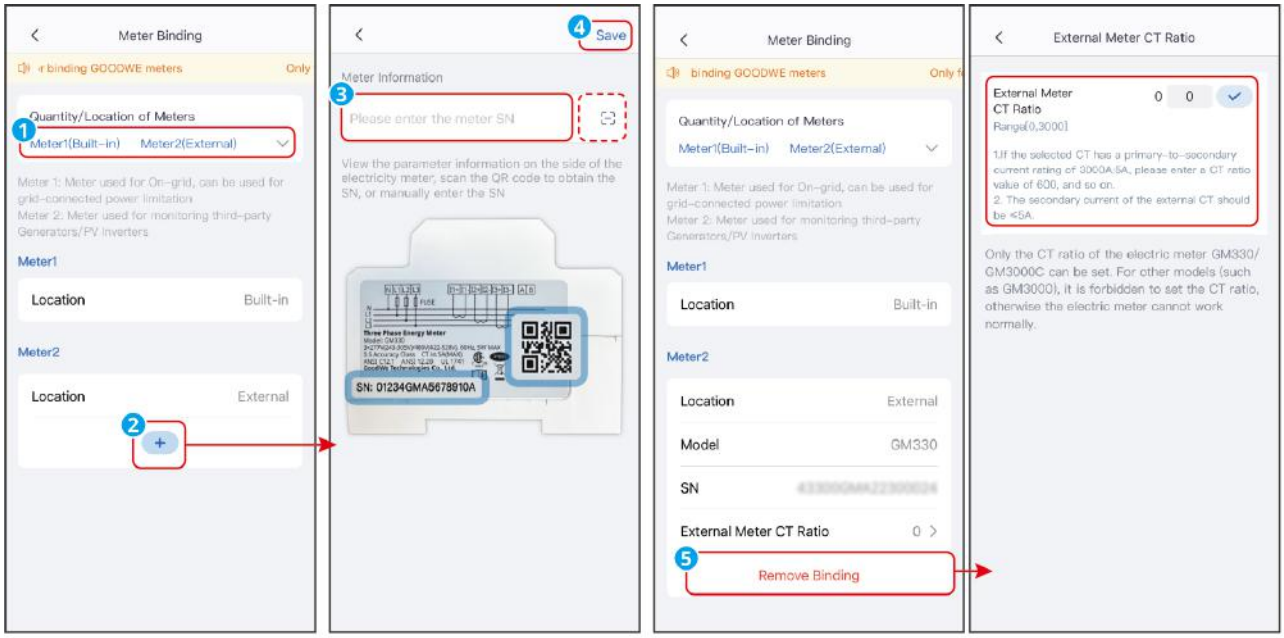
- When both grid-tied inverters and energy storage inverters are used in a photovoltaic system to achieve coupling or microgrid functionality, dual meters may be employed in the system. Please configure the meter binding information according to the actual usage.
- Applicable only to GoodWe meters.

Step 1: Navigate to the binding interface via **Home** > **Settings** > **Meter Function** > **Meter Binding**.

Step 2: Click the **Meters Number/Location** dropdown to select the actual application scenario. Supported options are: Meter 1 (Built-in) No Meter 2; Meter 1 (External) No Meter 2; Meter 1 (Built-in) Meter 2 (External); Meter 1 (External) Meter 2 (External). Here, the interface for Meter 1 (Built-in) Meter 2 (External) is used as an example to introduce how to bind a meter.

Step 3: As shown in the figure below, when selecting to use an external meter, you need to manually add the external meter information. Click + to bind the meter by manually entering the meter SN or scanning the meter SN QR code. When the bound meter model is GM330, please set the meter CT ratio according to the actual situation, then click √ to complete the setup. If using other meters, there is no need to set the meter CT ratio.

Step 4: (Optional) If you need to unbind an external meter, click **Unbind**.



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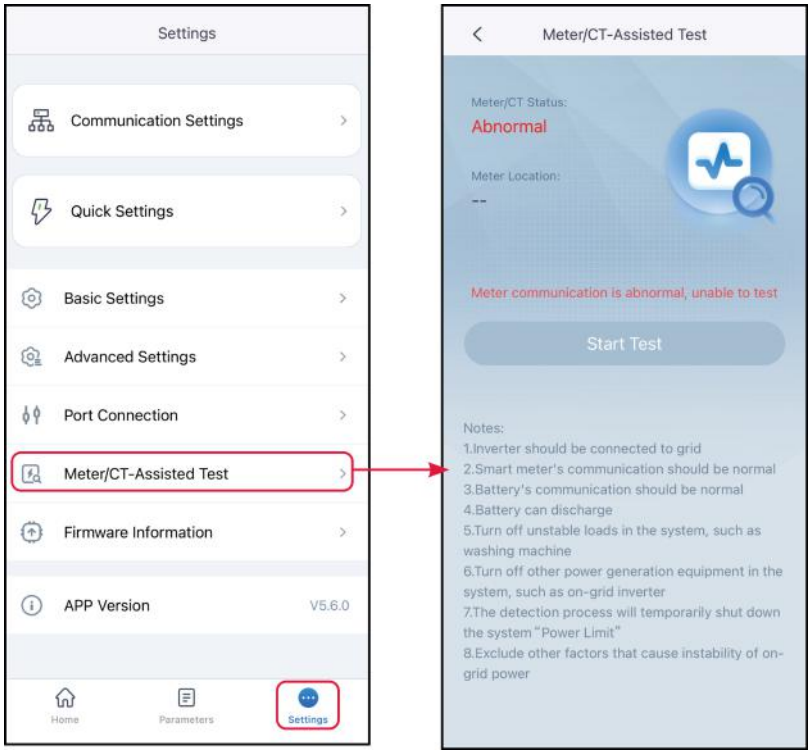
7.1.12.2 Meter/CT Auxiliary Detection

Using the meter detection function, you can detect whether the meter CT is connected correctly and its current operating status.

Step 1: Via **Homepage** > **Settings** > **Meter Function** > **Meter/CT Auxiliary Detection**, enter the detection page.

Step 2: Click **Start Detection**, wait for the detection to complete, then view the detection results.



7.1.13 Equipment Maintenance

7.1.13.1 View Firmware Information/Firmware Upgrade

Through the firmware information, you can view or upgrade the inverter's DSP version, ARM version, BMS version, AFCI version, STS version, and communication module software version. Some devices do not support upgrading software versions via the SolarGo App. Please refer to the actual device for details.

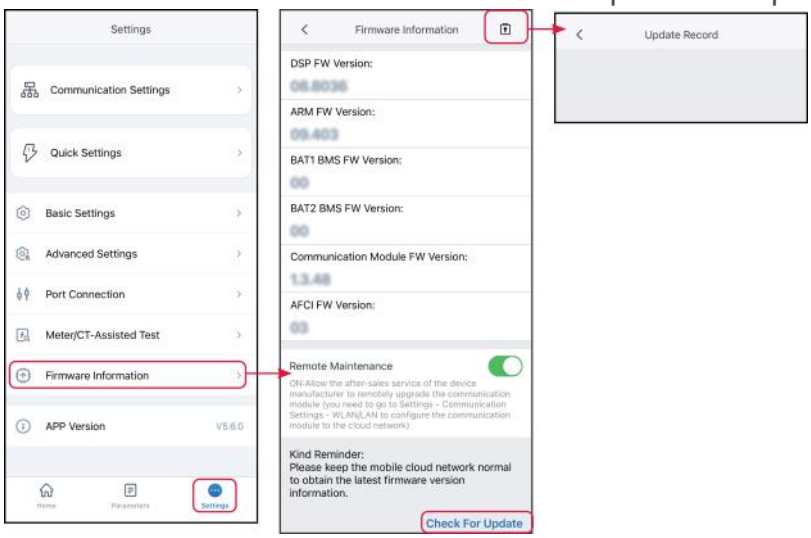
NOTICE
After logging into the inverter, if a firmware upgrade dialog box pops up, click 'Firmware Upgrade' to directly jump to the firmware information viewing interface.

7.1.13.1.1 Regular Firmware Update

NOTICE

- When there is a red dot prompt on the right side of the firmware information, please click to view the firmware update information.
- During the upgrade process, please ensure the network is stable and the device remains connected to SolarGo, otherwise the upgrade may fail.

Step 1: Navigate to **Home > Settings > Device Information** to access the device information interface.
Step 2: When the device information indicates a new version is available, please follow the on-screen instructions to complete the update.

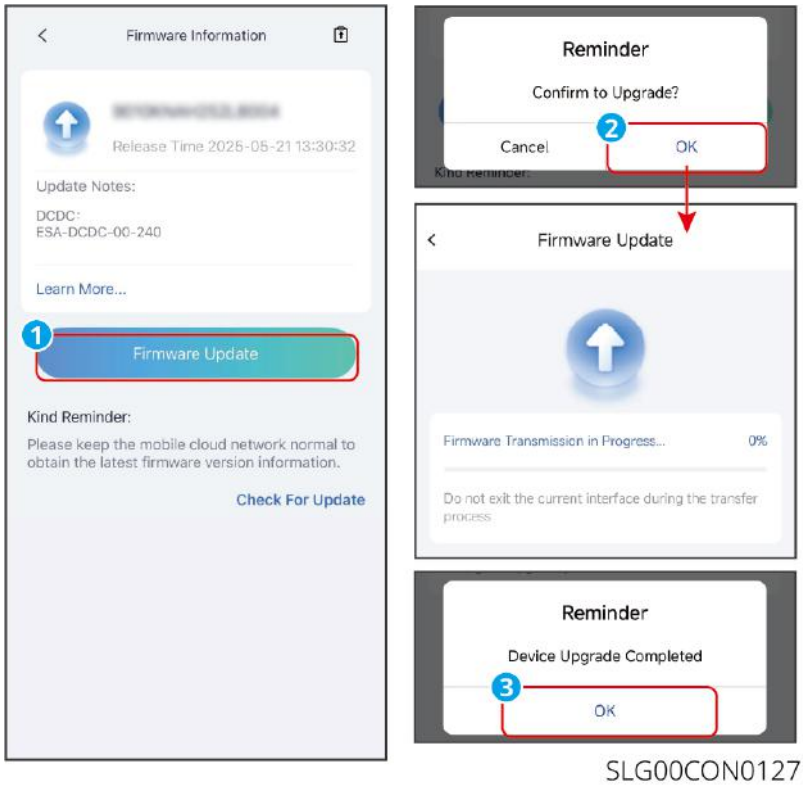


7.1.13.1.2 One-Click Firmware Upgrade

NOTICE

- When there is a red dot prompt on the right side of the firmware information, please click to view the firmware update information.
- During the upgrade process, please ensure network stability and that the device remains connected to SolarGo, otherwise the upgrade may fail.

Step 1: Navigate to the device information interface via **Home > Settings > Device Information**.
Step 2: Follow the on-screen prompts to complete the upgrade.



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7.1.13.1.3 Automatic Firmware Upgrade

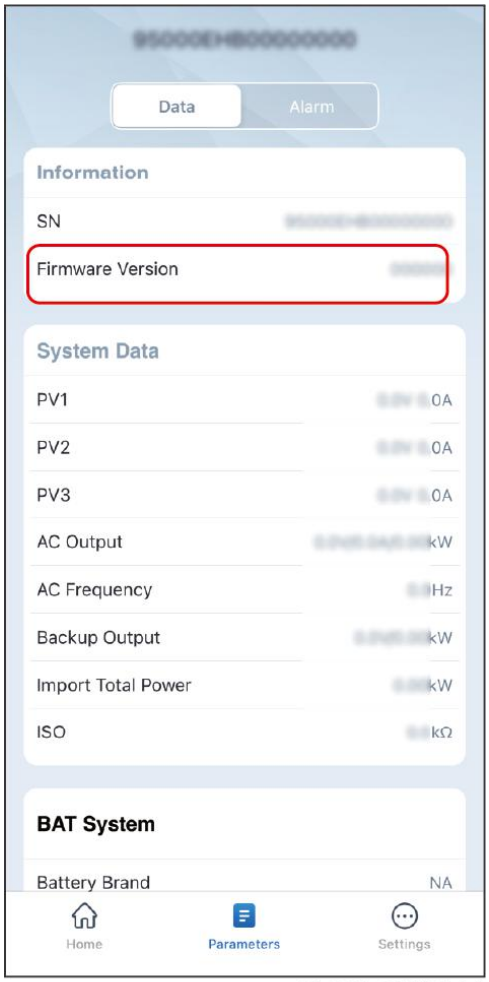
NOTICE

- The device automatic upgrade function can be enabled when using the WiFi/LAN Kit-20 or WiFi Kit-20 module for communication, and the module firmware version is V2.0.1 or above.
- After enabling the device automatic upgrade function, if a new module version is available and the device is connected to the network, the corresponding firmware version will be upgraded automatically.

Step 1: Navigate to **Home > Settings > Firmware Information** to access the firmware information page.
Step 2: Turn the device's automatic upgrade function on or off according to your needs.

7.1.13.1.4 View Firmware Information

Step 1: Go to **Parameters** > **Firmware Version** to view the firmware version information.



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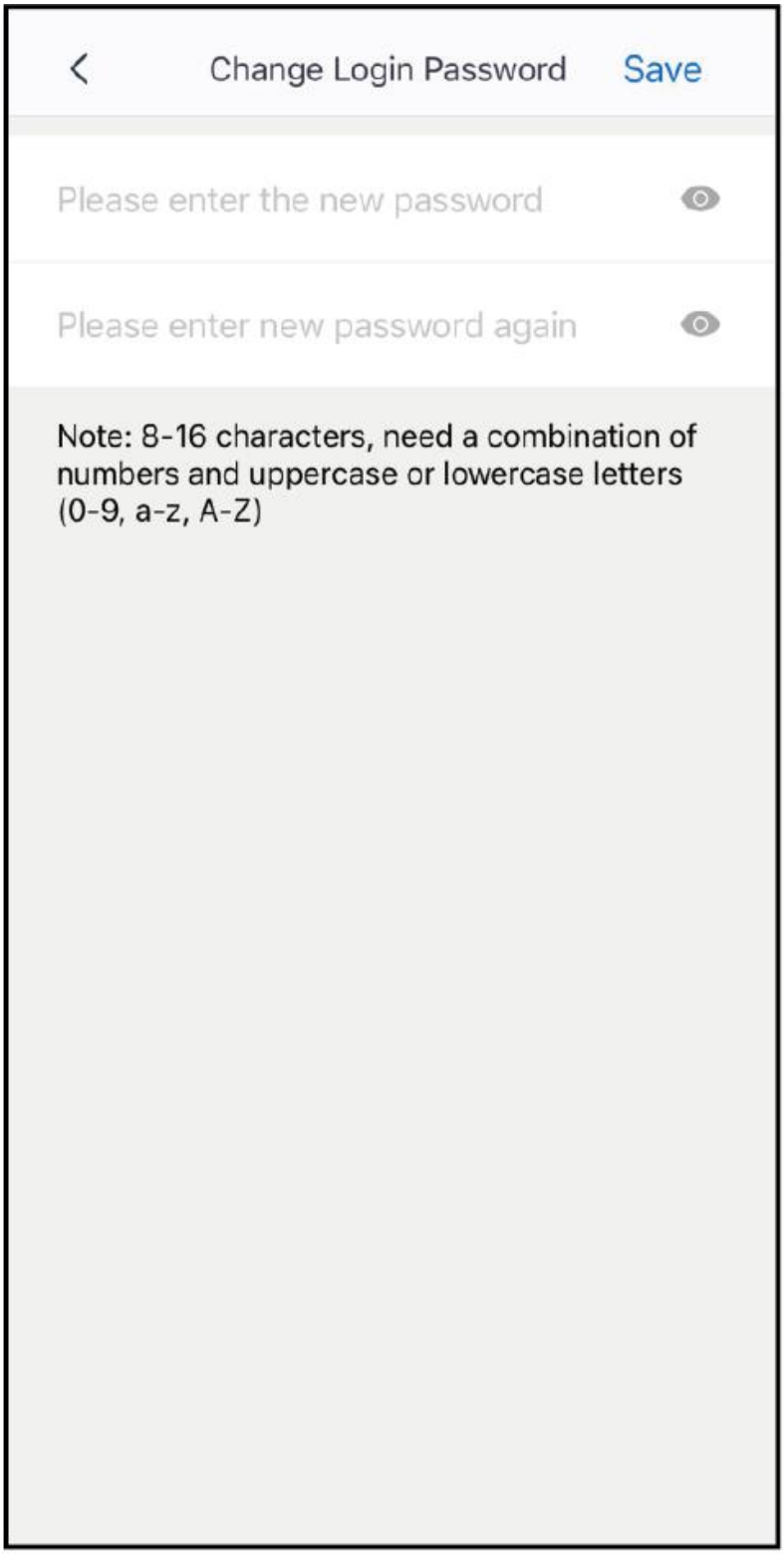
7.1.13.2 Change Login Password

NOTICE
The login password for connecting to the inverter via the SolarGo App can be changed. After changing the password, please remember it. If you forget the password, please contact the after-sales service center for assistance.

Step 1: Go to the settings page via **Home > Settings > Change Login Password**.
Step 2: Modify the password according to your actual situation.



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8 Power Plant Monitoring

NOTICE

Depending on the login account type or power plant type, the interface display, viewable or configurable parameters may vary. Please refer to the actual situation.

8.1 App Introduction

NOTICE

- The interfaces shown in this manual are based on Xiaogu Cloud Window+ App V2.0.1. The interface may differ in subsequent versions.
- Different login roles may have access to different parameters and operational permissions.
- The displayed parameters and functions may vary depending on the device model and the safety standards of the country it belongs to.
- The manual content is for reference only. Please refer to the actual display in the App.
- If you need to modify power station or device parameters, please carefully read this manual and the corresponding product manual before making changes to familiarize yourself with the product's functions and characteristics. Incorrect grid parameter settings may prevent the inverter from connecting to the grid or cause it to connect not in compliance with grid requirements, affecting the inverter's power generation.

This document introduces the common operations of Xiaogu Cloud Window+ App. Xiaogu Cloud Window+ App is a software used for remote power station monitoring or local device debugging. Installers or owners can:

- Remotely monitor the operation of power stations and set parameters for power stations and devices.
- Locally connect to devices, view device operation status, and set device parameters.

8.1.1 Matching Products

Supports monitoring and managing GoodWe brand related devices, such as

inverters, Smart Meters, data collectors, charging stations, batteries, etc.

8.1.2 Download and Install Xiaogu Cloud Window+ App

Phone Requirements:

- Operating System Requirements: Android 7.0 or above, iOS 15.1 or above.
- The phone must support a web browser and be connected to the Internet.
- The phone must support WLAN/Bluetooth functionality.

Download Methods:

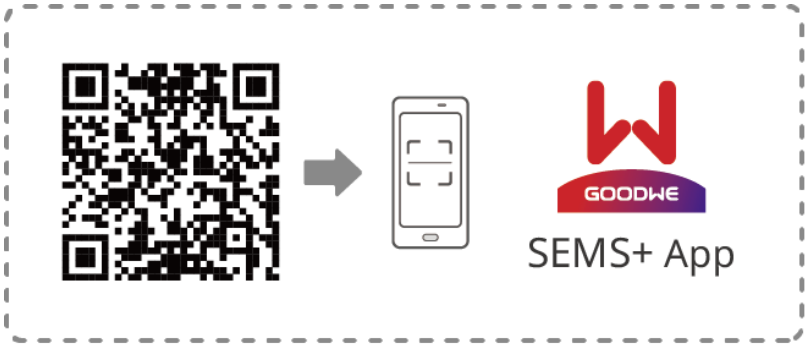
Method 1:

Search for "Xiaogu Cloud Window+" in Google Play, App Store, Huawei, Honor, Xiaomi, OPPO, or vivo app stores to download and install.

SEMS0163

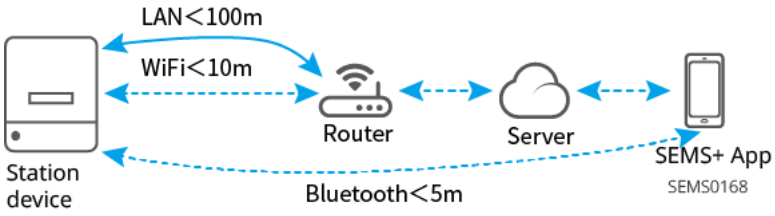
Method 2:

Scan the QR code below to download and install.



SEMS0164

8.1.3 Connection Method



SEMS0168

8.1.4 Common Icon Descriptions

Icon	Description	Icon	Description
	Power Plant Creation, add devices, etc.		Scan for nearby devices.
	More information.		Filter.
	Notifications.		Favorite or unfavorite.
	Save.		Edit.
	Delete.		Copy.
	Expand or collapse data display.		Device software version upgrade.
	Enlarge chart display.		Turn on or off.
	Sort. Click to sort in ascending or descending order.		Expand power plant list and switch power plants.

8.1.5 Register Account

Operation Steps

1. On the App homepage, click "Register" to enter the account registration interface.
2. Select the server and account type according to your actual needs, then click "Next".
3. Enter the account information according to your actual situation, then click "Confirm" to complete the registration.

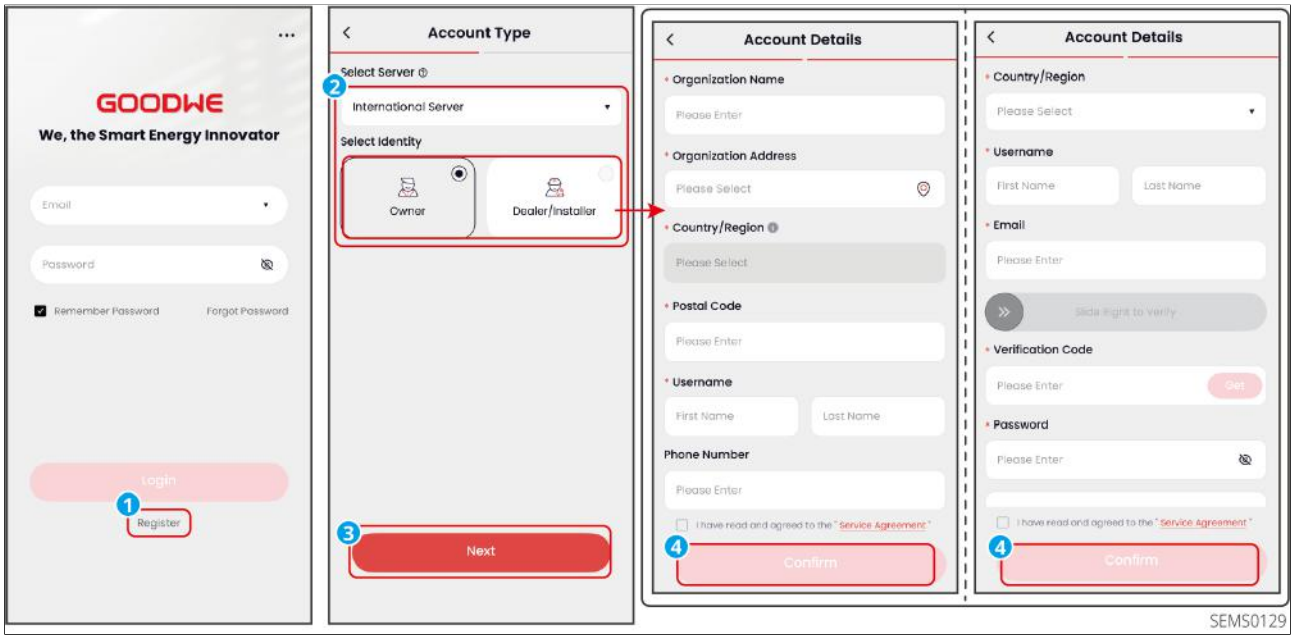


Figure1 Register Account

8.1.6 Log In

NOTICE

- Before logging into the App, please register an account or obtain an account and password from a dealer.
- After logging in, you can view or manage power station information. The specific interface may vary based on actual conditions. The display of power station information differs depending on account type, region, power station type, etc.

Steps

1. Enter your username and password, then click "Log In".

Figure2 Log In

8.2 Remote Monitoring Power Station

NOTICE
Depending on differences in account type, region, power station type, etc., the power station information display varies.

After logging into the App with your username and password, you can create power stations, add devices, monitor the operational status of power stations, view device operation information, and more.

8.2.1 power station

8.2.1.1 Power Plant Creation

Supports the creation of power plants based on actual requirements.

8.2.1.1.1 Fill in Power Plant Information

Procedure

1. After logging into the App, if there is no power plant under the account, click "Power Plant Creation"; if there are power plants under the account, click "+" on the power plant list interface to enter the new power plant information filling interface.
2. Follow the on-screen prompts and fill in the basic information such as power plant address, name, capacity, and power according to the actual situation.
3. If you need to add a power plant visitor, you can enter the organization code and power plant visitor information. Click "Complete" to create a new power plant.
4. Choose whether to add power plant equipment based on actual needs. If you need to add, please refer to the 8.2.1.1.2.Add New Device(Page 230) chapter.

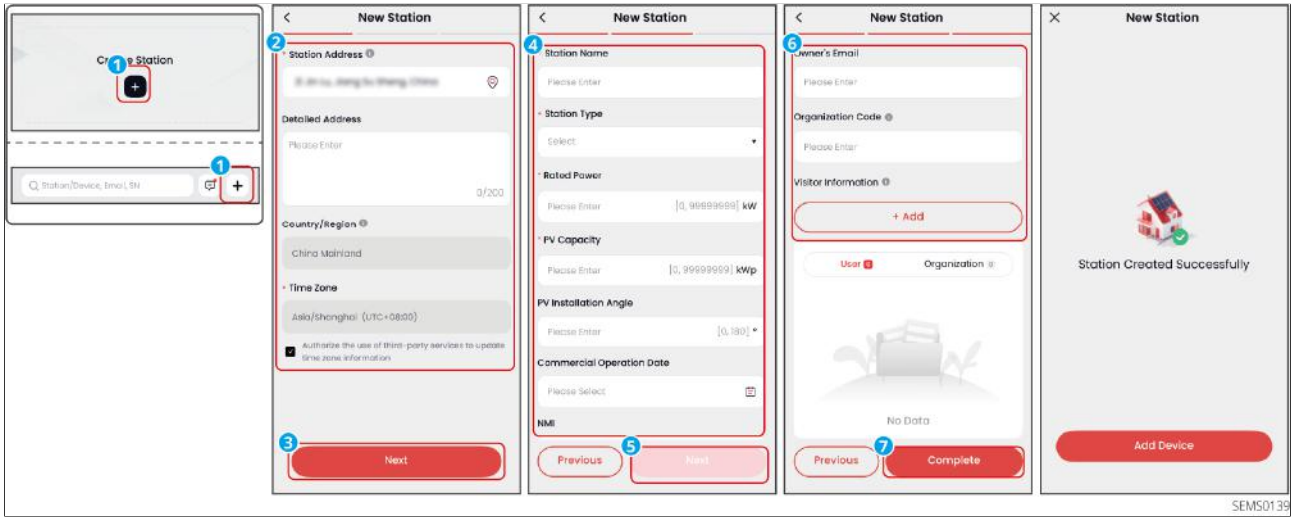


Figure3 Fill in Power Plant Information

Parameter	Function Description
Station Type	Set according to the actual station type. Supports: Residential PV Station, Residential Storage Station, Commercial & Industrial Storage Station, Commercial & Industrial PV Station.
Station Name	Set the station name according to actual requirements.
Rated Power	Set the total installed power of the station.
PV Capacity	Set the total installed PV capacity in the station.
Battery Capacity	Set the total battery capacity in the station.
PV Installation Angle	Set the installation angle of the PV panels.
Commercial Operation Date	Set the grid connection date of the station.

8.2.1.1.2 Add Power Station Device

After the power station is created, you can add devices to the station according to your actual needs.

- When a Home Energy Management System (HEMS) device has been added to the station:
  - You can add devices associated under the HEMS; or add devices not associated with the HEMS, only monitoring all devices within the same station.
  - Please connect the energy storage inverter, charging pile, smart switch, and other devices in the network to the same **Router** as the HEMS via Bluetooth local connection. Otherwise, the HEMS cannot recognize the aforementioned devices. For GoodWe products, please refer to the 8.3.1.Locally Connected Devices(Page 254) section; for third-party products, please refer to the device user manual.

Manual Device Addition Steps

1. On the device list interface, click +.
2. Add the device according to your needs. Select the device type, and scan the device SN or enter it manually.
3. After scanning, confirm whether the device serial number and verification code are correct. Modify the device name as needed. Click "Add Device" to complete the addition.
4. (Optional) To continue adding devices to the current station, click +, and repeat the step of entering the device SN.
5. (Optional) Click "**Quick Configuration**" to modify settings such as safety regulations and working mode for the device. For details, please refer to 8.2.1.1.3.Quick Configuration(Page 233).
6. Click "Finish" to complete device addition.

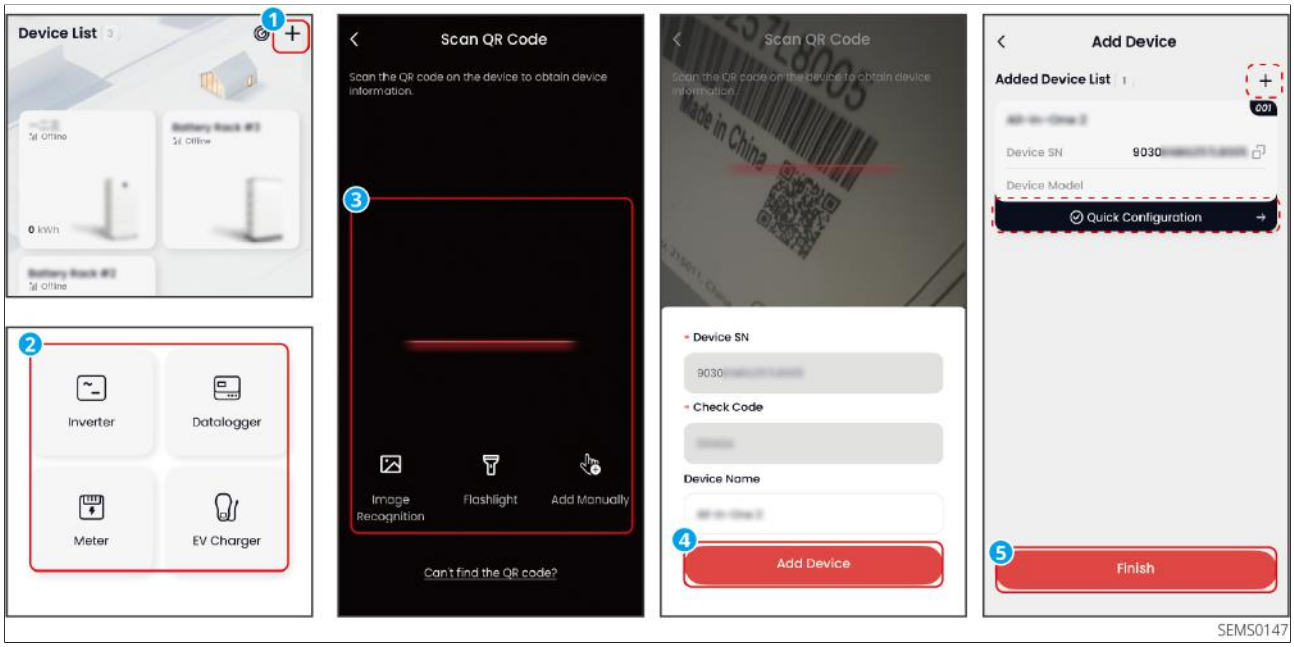


Figure4 Manual Device Addition

Adding Devices via Scanning Steps

After manually adding an inverter to the station, you can add its associated devices, such as batteries, via scanning.

1. On the device list interface, click .
2. Among the scanned devices, check the devices you need to add, then click "Add".
3. To continue adding other unscanned devices, click "Continue Adding"; otherwise, click "Finish".

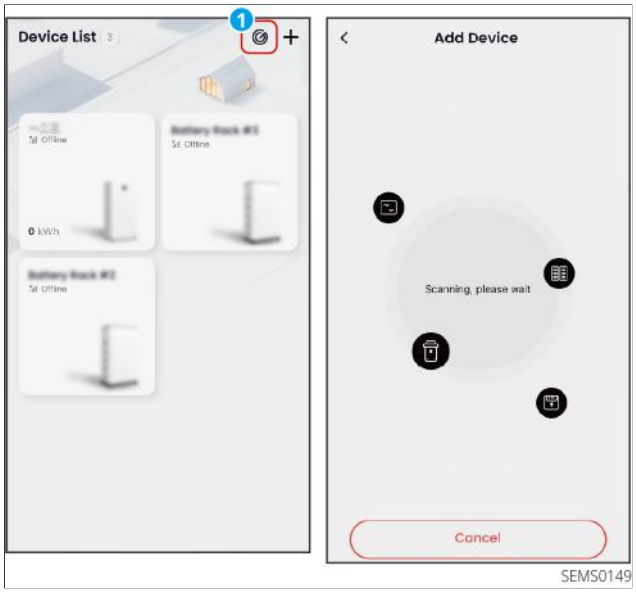


Figure5 Adding Devices via Scanning

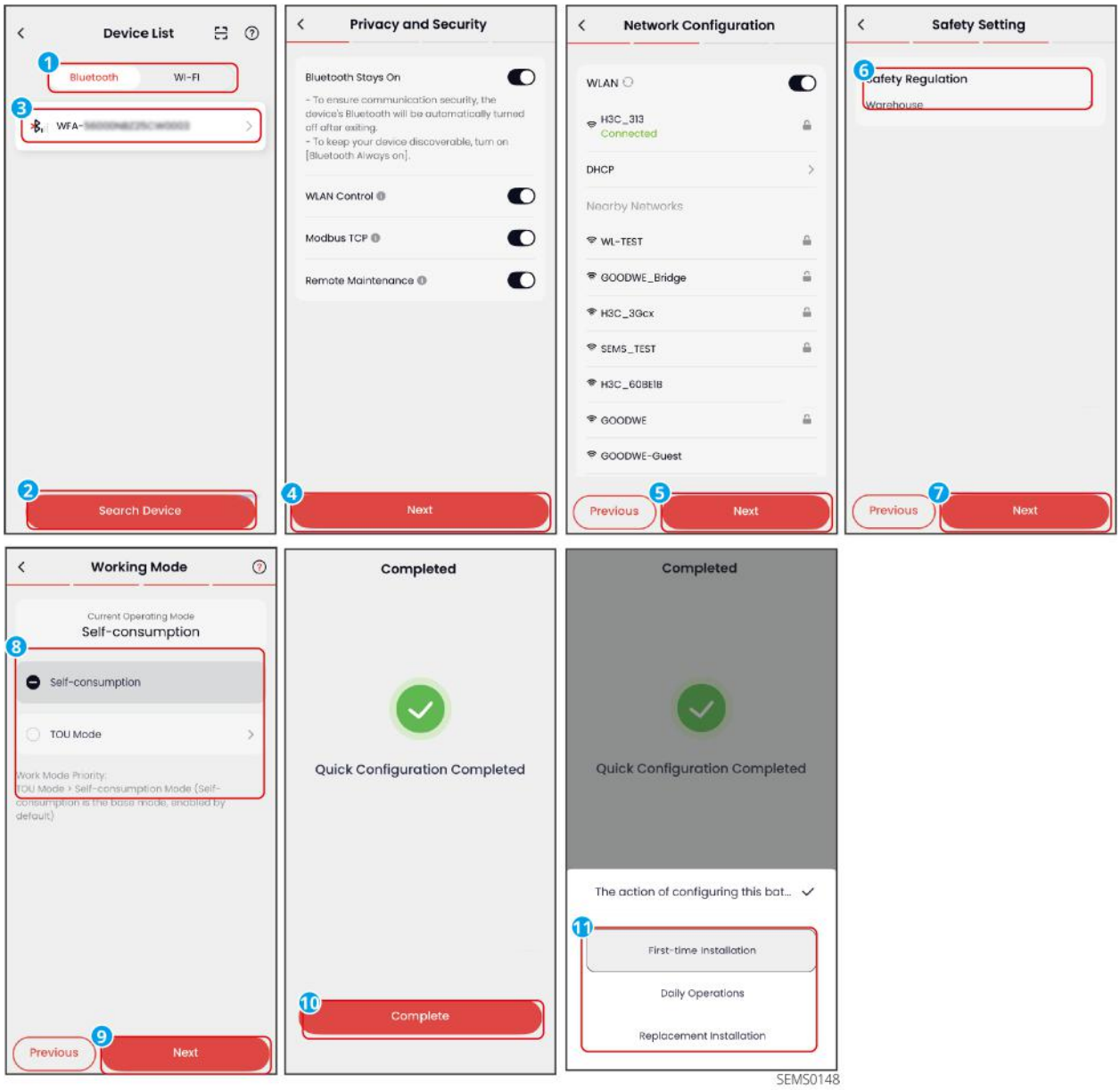
8.2.1.1.3 Quick Configuration of Device

NOTICE

- After the device is first added to the power station, basic operation can be ensured through quick configuration.
- Before performing quick configuration, please confirm all devices are powered on and operating normally.
- Quick configuration content varies by device type; please refer to the actual interface.

Operation Steps

1. After adding the device, click "Quick Configuration" as prompted on the interface, or enter the device list interface via "Account" > "Local Access".
2. On the device list interface, select the "Bluetooth" or "WiFi" tab based on the type of smart communication stick signal.
3. Pull down or click "Search for Device", confirm the inverter signal name according to the inverter serial number, and click to enter the Quick Configuration interface.
4. Complete the network configuration, safety code, working mode, etc., as prompted on the interface. For details on working modes, refer to the 8.7.2.System Working Mode(Page 282) chapter.
5. Click "Finish" to complete the Quick Configuration.



8.2.1.2 Viewing Power Plant Information

8.2.1.2.1 Power Station List

After logging into the App with an installer account, you can view an overview of all power stations under the current account on the App's homepage.

Figure6 Power Station List

No.	Description
1	Search for power plants. Enter plant information to quickly locate the plant you need to view.
2	Power plant operation status tab. Click to quickly switch between plants under different operation statuses.
3	Plant messages. View plant alerts, events, and other message notifications.
4	Click to create a new power plant.
5	• Plant sorting. Sort plants in ascending or descending order based on installed capacity or plant creation time. • Filter plants. Filter plants based on conditions such as plant type, Rated Power, whether it's favorited, etc.

No.	Description
6	• Plant card. Displays basic plant information such as plant name, operation status, Energy Generation, address, etc. • Click to enter the plant details interface. • Long press to perform quick operations on the plant, such as favoriting, sharing, or deleting.

8.2.1.2.2 Power Station Details

On the power station list page, click any station name to enter the station details interface. On the station details interface, you can view basic station information, Energy Generation, revenue, energy flow diagram, environmental contribution, and other information.

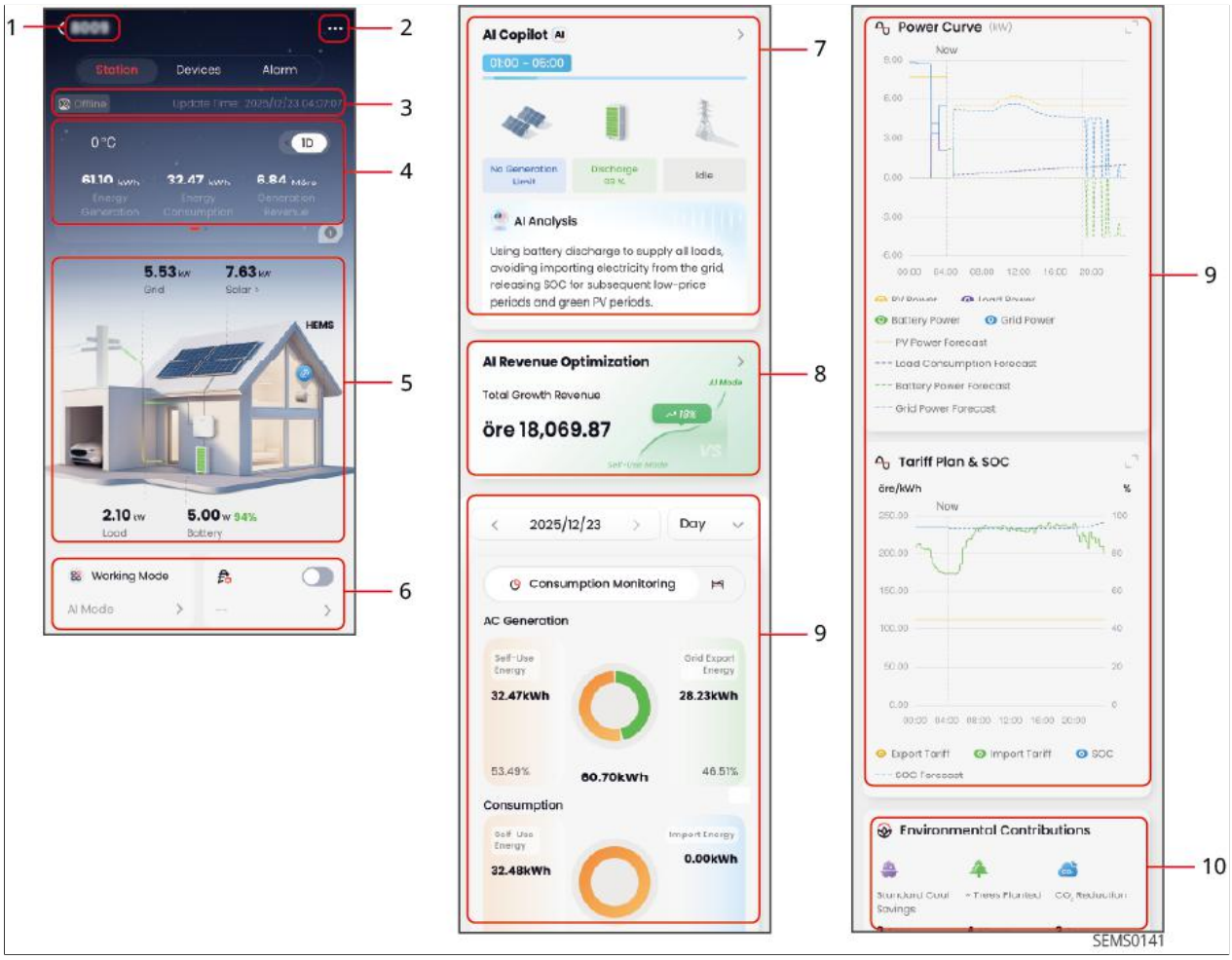


Figure7 Power Station Details

No.	Description
1	Current power plant name.
2	Configure power plant information. Supports: configuring basic plant information, sharing the plant, setting electricity price information.
3	Current operating status of the power plant and update time.
4	• Current weather at the plant, along with energy generation, electricity consumption, generation revenue, purchased electricity, grid feed-in revenue, etc. • Plant revenue statistics require electricity price configuration; otherwise, the system cannot calculate revenue data. • Currently, only revenue estimation via fixed electricity price is supported. • Generation Revenue: Displays the estimated revenue from generation for the current plant type. • Energy Generation: Displays the total energy generated for the current plant type. • Grid Feed-in Revenue: Displays the estimated revenue from selling electricity for the current plant type. • Grid Feed-in Energy: Displays the total energy fed into the grid for the current plant type.
5	Display of the plant's energy flow diagram.
6	Quick access entry for common control settings.

No.	Description
7	• AI Energy Manager. Displayed when the system's AI mode is enabled, indicating the system is currently being managed and dispatched by AI. • Displays the current time period and the planned dispatch status of PV, energy storage, and the grid during this period. • Click the card to enter the AI Energy Manager details interface to view the detailed AI dispatch plan.
8	• Displayed when the system's AI mode is enabled. Compares self-consumption mode with AI mode, showing economic revenue optimization. • Click the card to enter the economic revenue optimization details interface, view AI operation days, revenue increase, expenditure comparison overview, revenue calendar, etc.
9	Power consumption monitoring, energy flow, power curve, energy monitoring charts. Uses visual charts to display plant operation status and dynamic energy flows.
10	Environmental Contributions. Displays the environmental benefits generated by photovoltaic power generation, including: CO2 emission reduction, standard coal savings, equivalent trees planted, etc.

8.2.1.2.3 Alarms

When logged in with an installer account, click "Alarms" on the homepage to view alarm information for all power plants under the account.

- By default, "All" alarms are displayed. You can switch between "Ongoing" and "Recovered" faults using the status tabs.
- Long press to favorite, delete, or acknowledge an alarm.

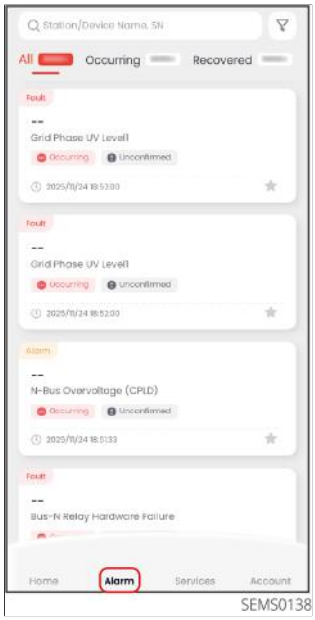


Figure8 Alarms

8.2.1.3 Viewing Power Plant Information (Owner)

8.2.1.3.1 Power Station List

When there are multiple power stations under the owner account, you can view all stations via the sidebar and switch the station displayed on the homepage.
The station list displays all stations under the account, including self-built stations and shared stations. Features for shared stations may be restricted; please refer to the actual interface.

Figure9 Power Station List

No.	Description
1	Search for power stations. Enter station information to quickly locate the station you need to view.
2	Click to create a new power station.
3	• Power station card. Displays basic station information such as station name, operational status, Energy Generation, address, etc. • Click to enter the station details interface. • Long press to perform quick operations on the station such as favoriting, sharing, and deleting.

8.2.1.3.2 Power Station Details

After logging into the App with an Owner Account, you can view the details of a specific power station within the current account on the App homepage. On the Power Station Details interface, you can view basic information, Energy Generation, earnings, Energy Flow Diagram, environmental contribution, and other information.

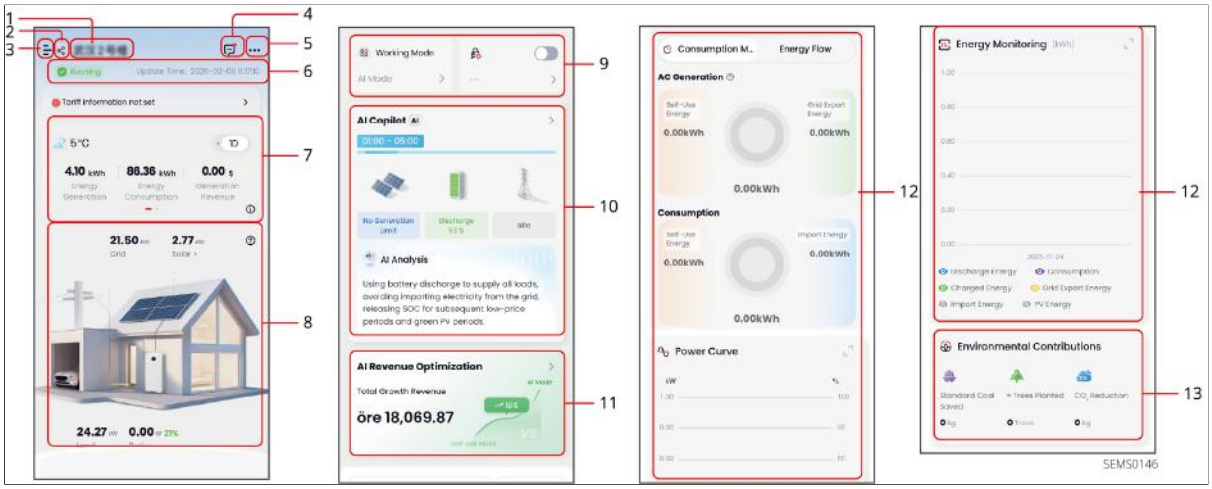


Figure10 Power Station Details

No.	Description
1	Current power plant name.
2	Displayed when the plant is a shared plant.
3	Plant list. Click to expand all plants under the current account and switch quickly.
4	Plant messages. View plant alerts, events, and other message notifications.
5	Configure plant information. Supports: configuring basic plant information, sharing the plant, setting electricity price information.
6	Current operating status and update time of the plant.

No.	Description
7	• Current weather at the plant, as well as Energy Generation, electricity consumption, power generation revenue, purchased electricity, grid feed-in revenue, etc. • Plant revenue statistics require electricity price configuration; otherwise, the system cannot calculate revenue data. • Currently, only revenue estimation via fixed electricity prices is supported. • Power Generation Revenue: Displays the total power generation revenue under the current plant type. • Energy Generation: Displays the total power generation under the current plant type. • Grid Feed-in Revenue: Displays the total grid feed-in revenue under the current plant type. • Grid Feed-in Electricity: Displays the total grid feed-in electricity under the current plant type.
8	Plant energy flow diagram display.
9	Quick access entry for common control settings.
10	• AI Energy Manager. Displayed when the system's AI mode is enabled, indicating the system is currently being managed and dispatched by AI. • Displays the current time period and the planned dispatch status of PV, energy storage, and grid within this period. • Click the card to enter the AI Energy Manager details interface to view the detailed AI dispatch plan.
11	• Displayed when the system's AI mode is enabled. Compares self-consumption mode with AI mode, showing economic benefit optimization. • Click the card to enter the Economic Benefit Optimization details interface to view AI operation days, revenue increase, expenditure comparison overview, revenue calendar, etc.

No.	Description
12	Electricity consumption monitoring, energy flow, power curve, energy monitoring chart. Visual charts display plant operation status and plant energy dynamics.
13	Environmental Contributions. Displays the environmental benefits generated by photovoltaic power generation, including: CO_2 emission reduction, standard coal saved, equivalent trees planted, etc.

8.2.1.4 Modify Power Station Basic Information

Supports modifying basic information of the power station, including power station name, power station type, Rated Power, battery capacity, photovoltaic capacity, power station address, etc.
When modifying the power station type, only switching to energy storage power stations is supported, switching to photovoltaic power stations is not supported.
Operation Steps

1. On the power station details interface, click ••• to enter the power station settings interface.
2. Click 'Power Station Information' >  to modify the basic information of the power station.
3. After completing the information modification, click  to save the changes.

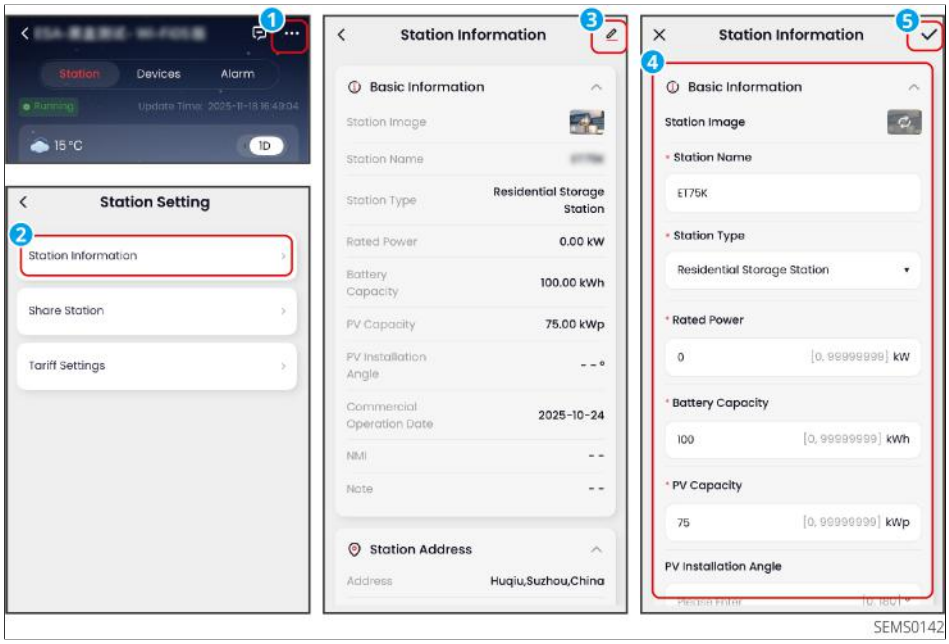


Figure11 Modify Power Station Information

8.2.1.5 Configure Tariff Information

Supports viewing or setting the station's tariff information according to actual conditions.
Only some European countries or regions support using electricity market prices; currently, the electricity market only supports Nord Pool.

Operation Steps

1. On the station details interface, click •••>"Tariff Settings" to enter the tariff settings interface.
2. Select "Export Tariff" or "Purchase Tariff". Then set the tariff type, supporting "Fixed Tariff", "Time-of-Use Tariff", and "Dynamic Pricing".

- Fixed Tariff: Set by the user according to the actual tariff.
- Time-of-Use Tariff: The user sets tariff information for different time periods according to the actual tariff. Supports setting multiple tariff groups.
- Dynamic Pricing: Obtains dynamic pricing from the power company and dynamically adjusts the actual electricity buying/selling price combined with user-set tariff surcharges. Only applicable to some regions and some devices.

3. Click

, fill in the tariff information according to the actual situation, and save.

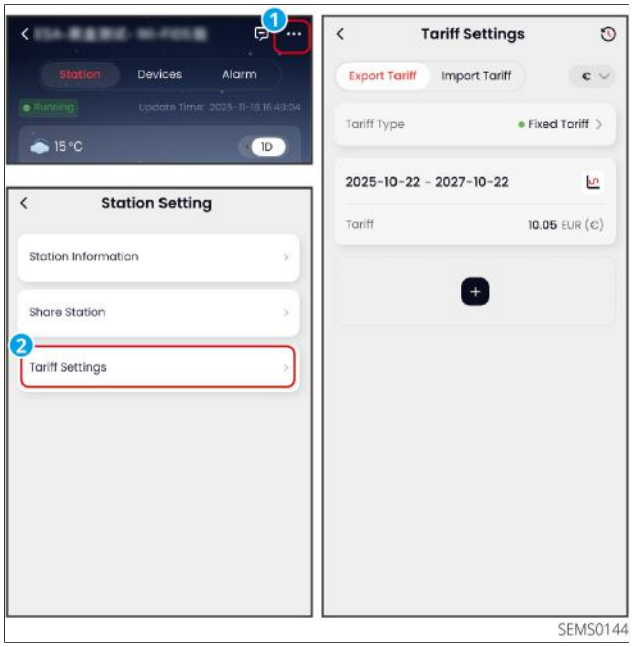


Figure12 Configure Tariff Information

8.2.1.6 Managing Power Station Sharing

Once a power station is created, it can be shared with other organizations or individual users, with permissions and time limits set.

Steps

1. On the power station details page, click •••>"Share Station" to enter the sharing interface.
2. Click "Add Share", fill in the recipient's information, and set permissions and time limits as needed. To revoke sharing after adding, click ⊖.

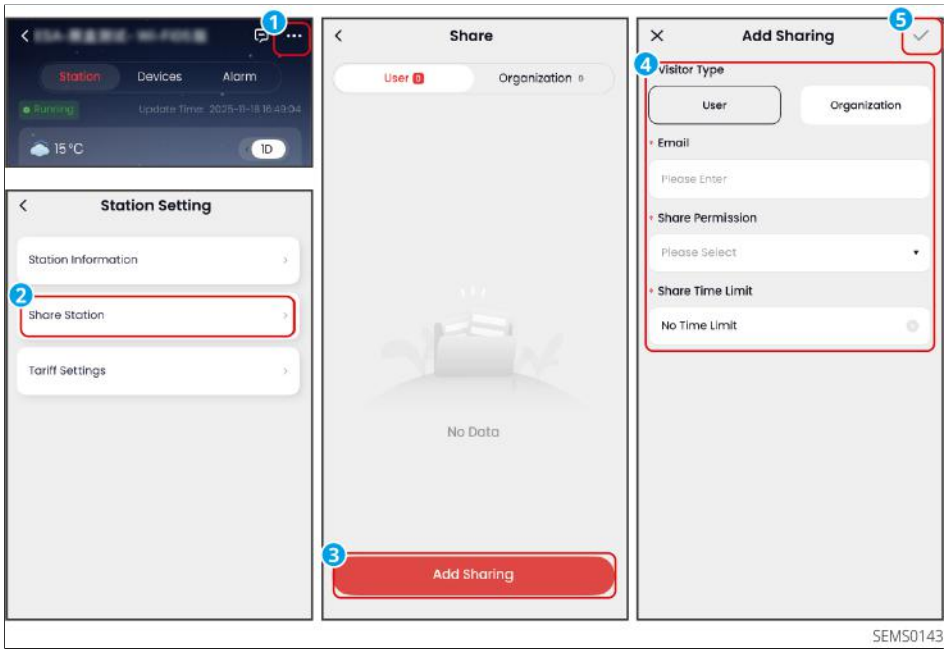


Figure13 Managing Power Station Sharing

8.2.2 Device

8.2.2.1 Device List

You can view an overview of all devices under your account on the Device List page, including device name, operational status, etc.

- When logging in with an installer account, select the desired power plant from the Plant List to view the device list under that plant.
- When logging in with an owner account, click the "Device" tab to view the device list under the current power plant.

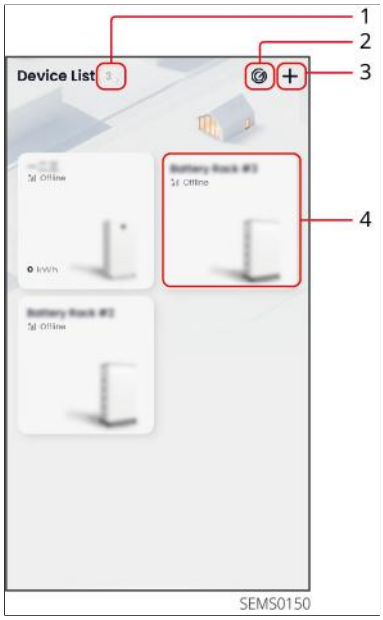


Figure14 Device List

No.	Description
1	The number of devices within the current power station.
2	Scan to add devices to the current power station.
3	Manually add devices to the current power station.
4	• Device card. Displays data such as device name, device status, device illustration, Power, and power generation. • The information displayed on the card varies depending on the device type. Please refer to the actual device. • The card format varies depending on the power station type. Please refer to the actual power station. • The device card images are for reference only. Please refer to the physical product.

8.2.2.2 Device Details

On the device details interface, it supports viewing device information, operating status, Energy Generation, power curve, or setting device parameters, such as grid connection parameters, safety parameters, battery parameters, etc.

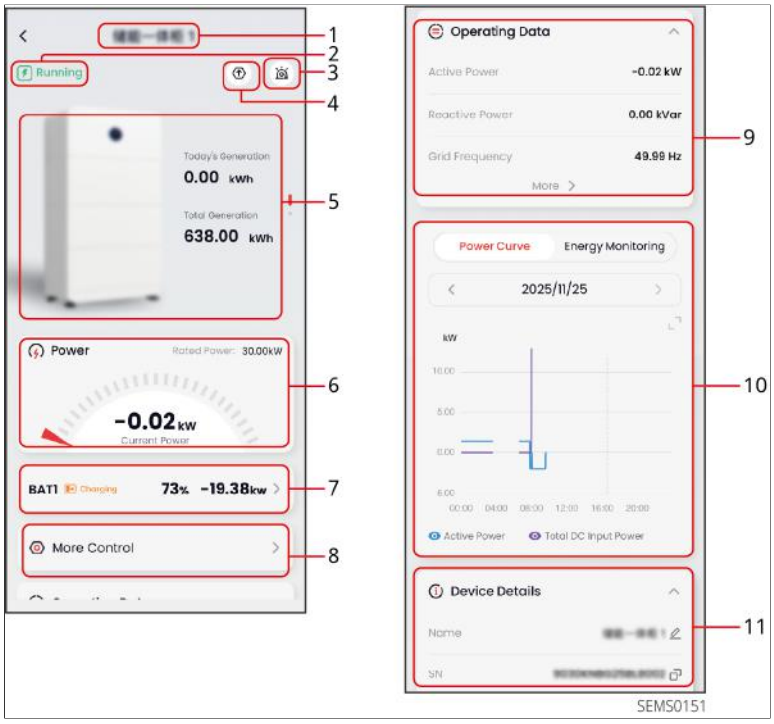


Figure15 Device Details

No.	Description
1	Device name.
2	Device operating status.
3	Device alarm information. Click to view detailed alarm information.
4	When logged in with an installer account, supports upgrading the device or viewing the device upgrade history.
5	Power generation information. Displays today's power generation, cumulative power generation, etc.
6	Power dashboard. Displays current power and rated power value.
7	• Battery information. Displays battery system SOC, charging/discharging status, charging/discharging power, etc. • Click to enter the battery details interface.

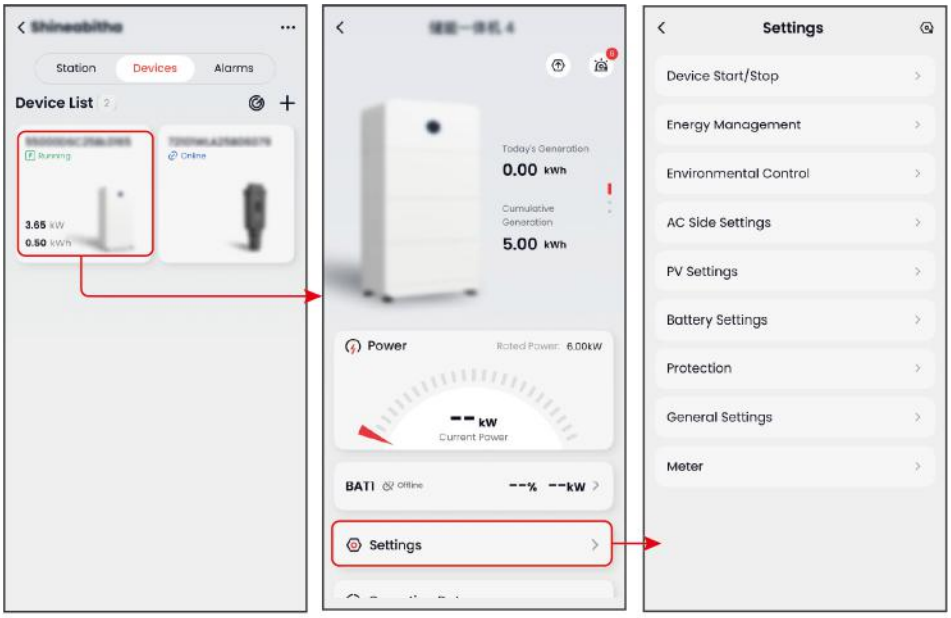
No.	Description
8	• Remote Control. Displays quick access entries for commonly used control items. • Click "More Control" to view all control items for the device. • For details, please refer to the Setting Remote Control chapter.
9	• Operating data. Displays current device operating parameters, such as active power, reactive power, power factor, etc. • Click "More" to display all data details. • The information displayed varies for different devices. Please refer to the actual interface.
10	Displays power curves and energy monitoring graphs within different time dimensions.
11	Device details. Displays basic device information, such as device name, SN, device type, firmware version number, etc.

8.2.2.3 Remote Control Device

The controllable parameters may vary depending on the device model and the applicable national safety standards. Please refer to the actual device for details. For explanations of device parameters, please refer to the 8.7.Appendix(Page 277).

8.2.2.3.1 Setting Inverter Parameters

In the device list interface, select the inverter that needs to be set, and click "Set" to set the inverter parameters according to actual needs.

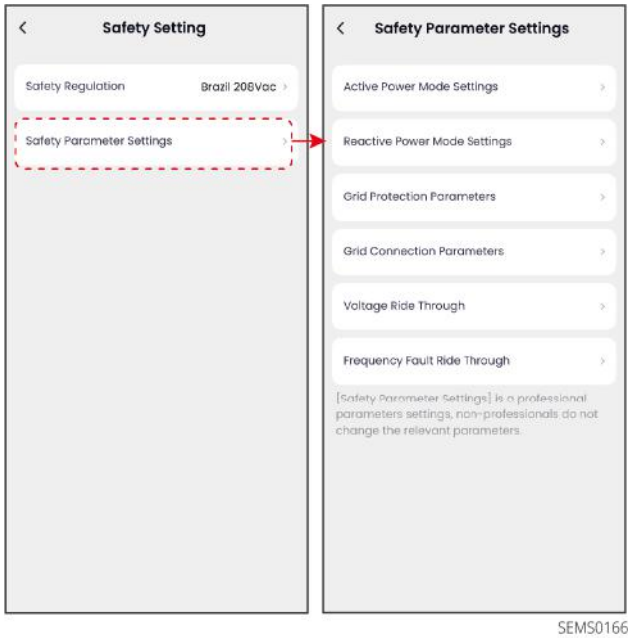


SEMS0177

Setting Safety Parameters

Operation Steps

1. Go to the parameter setting interface via 'Protection' > 'Safety'.
2. Set the safety country and custom safety parameters according to actual needs. Custom safety parameters can only be modified by installers.



SEMS0166

Setting Power Limit Parameters

NOTICE

The power limit interface varies depending on the safety regulation country. Please refer to the actual interface.

Operation Steps

1. Go to the power limit setting interface via 'Energy Management' > 'On-grid Power Dispatch' > 'Export power limit'.
2. Set the power limit parameters according to actual needs.

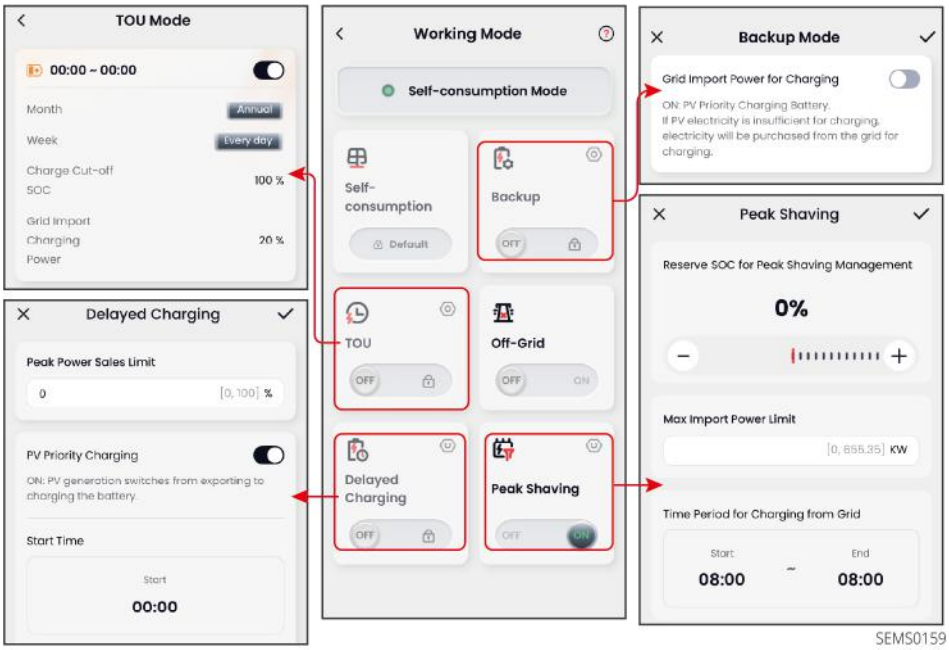
Setting Operating Mode

NOTICE

- Only supports setting the working mode of energy storage inverters.
- Different inverter models support different working modes. Please refer to the interface for details.

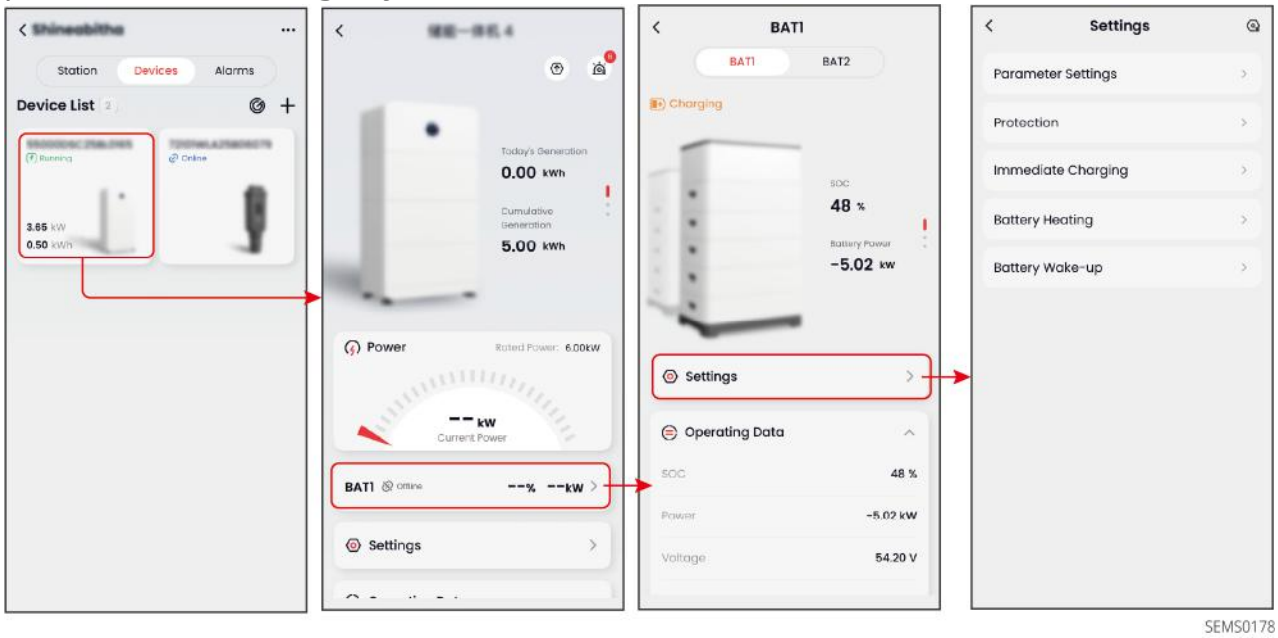
Operation Steps

1. Go to the operating mode setting interface via 'Energy Management' > 'Operating Mode'.
2. Set the operating mode according to actual needs.



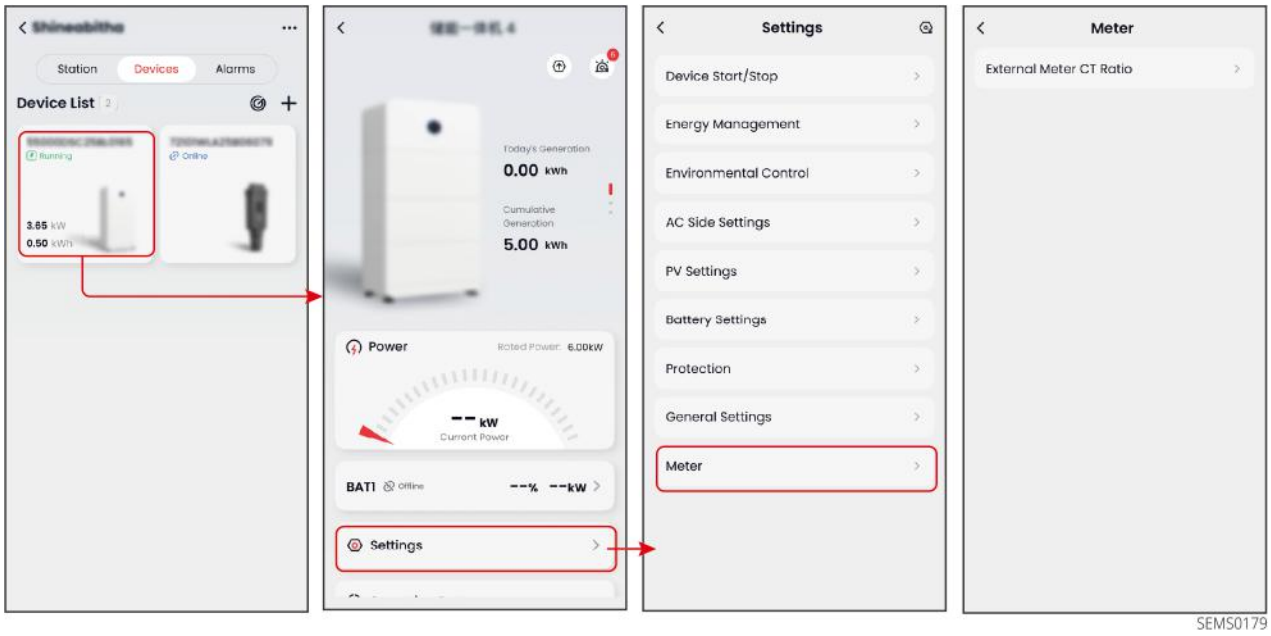
8.2.2.3.2 Set Battery Parameters

Select the inverter in the device list interface, and then choose the battery you want to configure in the inverter details interface. Click "Set" to configure the battery parameters according to your actual needs.



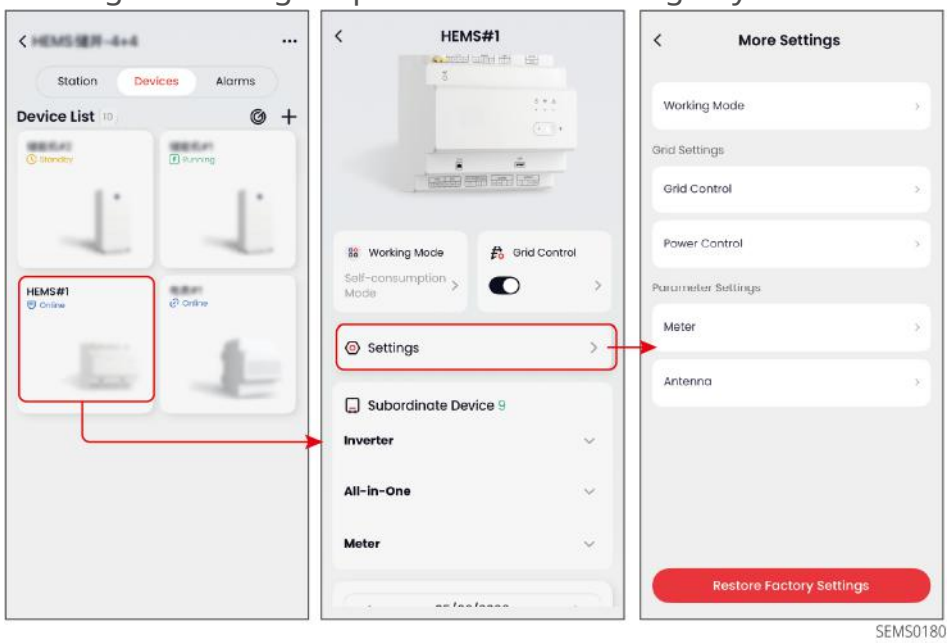
8.2.2.3.3 Setting Electricity Meter Parameters

Select the inverter on the device list page, and click "Settings" > "Electricity Meter" to configure the electricity meter parameters according to your actual needs.



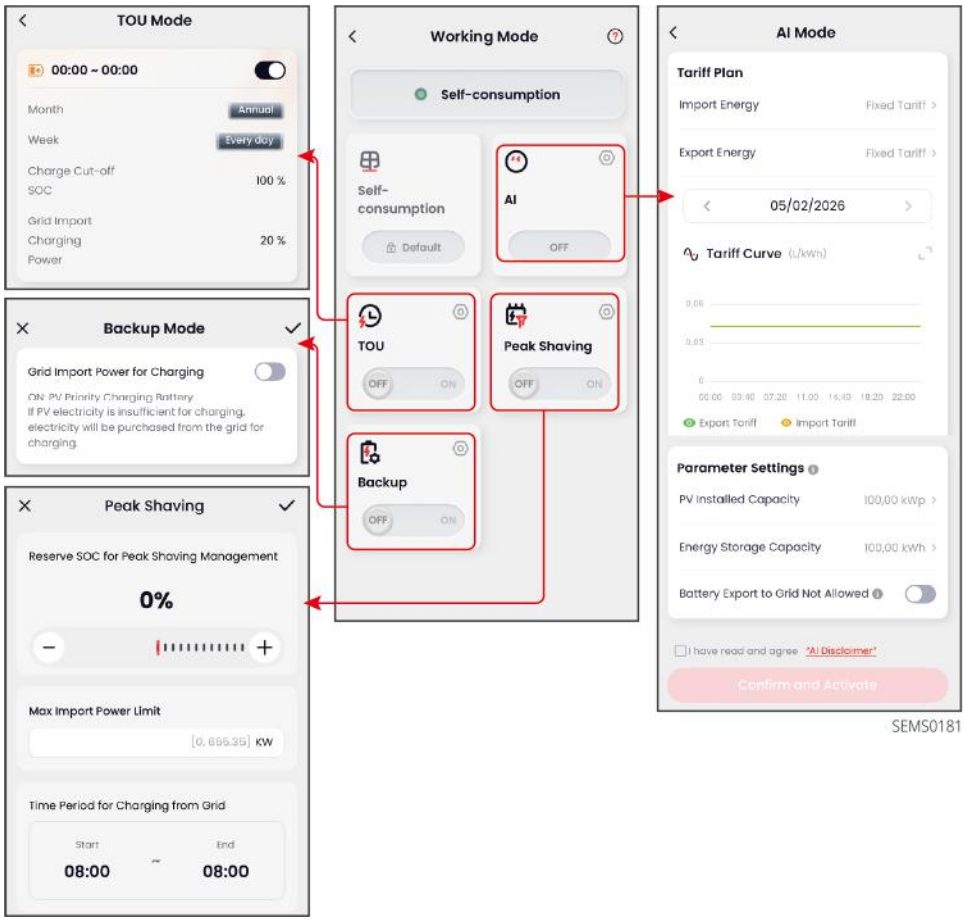
8.2.2.3.4 Setting Home Energy Management Device Parameters

Select the Home Energy Management device from the device list interface and click "Settings" to configure parameters according to your actual needs.



Setting the Working Mode
Operation Steps

1. Navigate to the working mode setting interface via "Settings" > "Working Mode".
2. Set the working mode according to your actual needs and the on-screen prompts.



8.3 Local Debugging Device

NOTICE
The display of power station information varies depending on account type, region, power station type, etc.

After logging into the App with your account and password, you can connect the App to the device via Bluetooth or WiFi to locally view device information and configure device parameters.

8.3.1 Local Access Device

NOTICE

- Before connecting to the device locally, please ensure the device is powered on and operating normally.
- The displayed device name varies depending on the device type or smart communication stick type, as follows (*** represents the device serial number):
  - Wi-Fi/LAN Kit; Wi-Fi Kit; Wi-Fi Box: Solar-WiFi***
  - WiFi/LAN Kit-20: WLA-***
  - WiFi Kit-20: WFA-***
  - Ezlink3000: CCM-BLE***; CCM-***; ***
  - 4G Kit-CN-G20/4G Kit-CN-G21: GSA-***; GSB-***
  - 4G Kit-G20: LGA-***
  - Charging Pile: ***
  - EzManager3000: LEM-***

Procedure

1. After logging into the App, click "Services" > "Local Access" to enter the connection interface.
2. On the "Device List" interface, select the "Bluetooth" or "WiFi" tab based on the smart communication stick signal type. Click "Search for devices" to refresh the device list, and select the device you need to connect to by its serial number.
3. During the first login, enter the initial login password to log in and change the password as prompted on the interface. Initial login password: 1234.
4. When connecting via Bluetooth, please enable "Bluetooth Stays On" as prompted on the interface; otherwise, the Bluetooth signal will turn off after this connection ends.

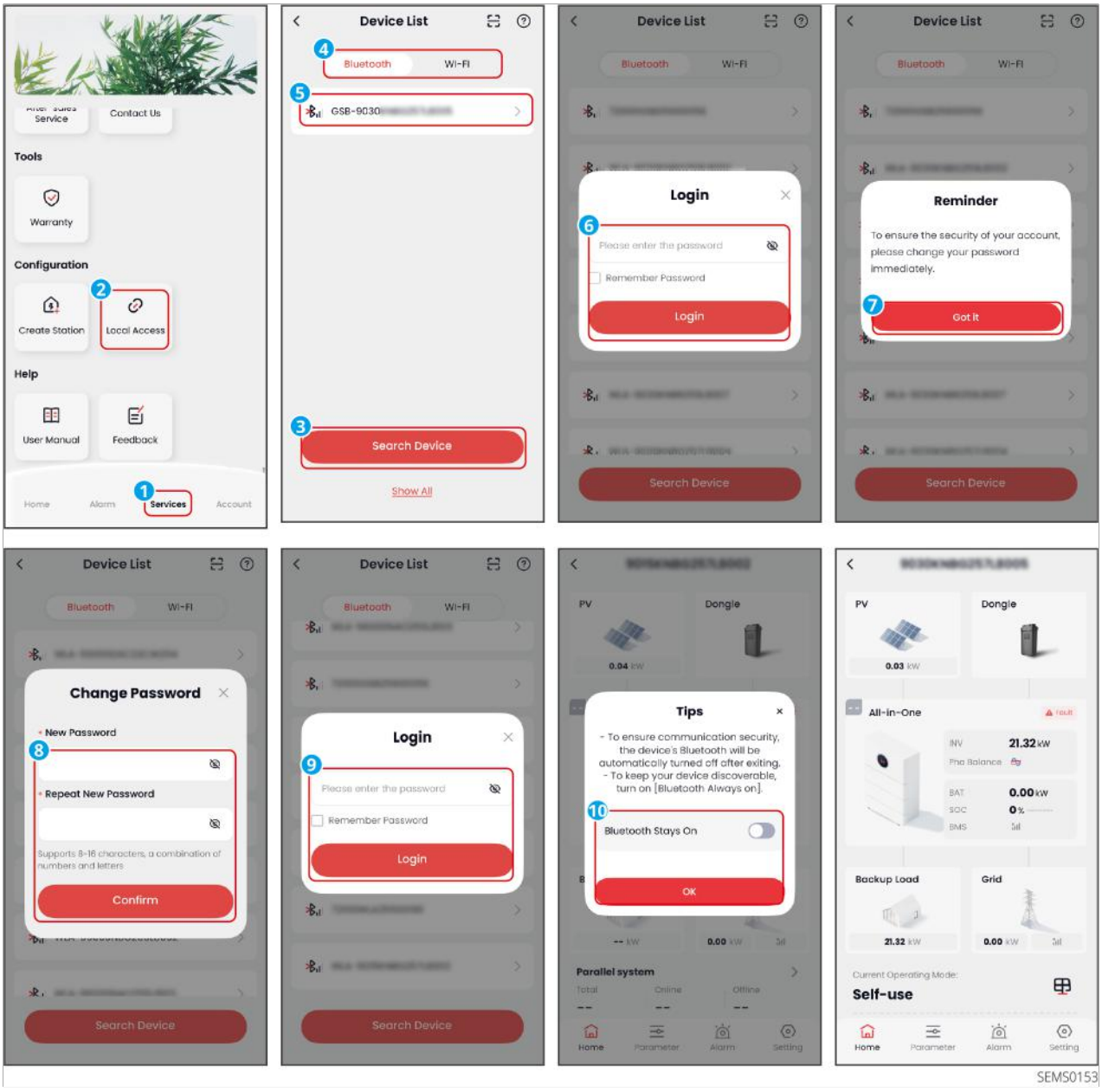
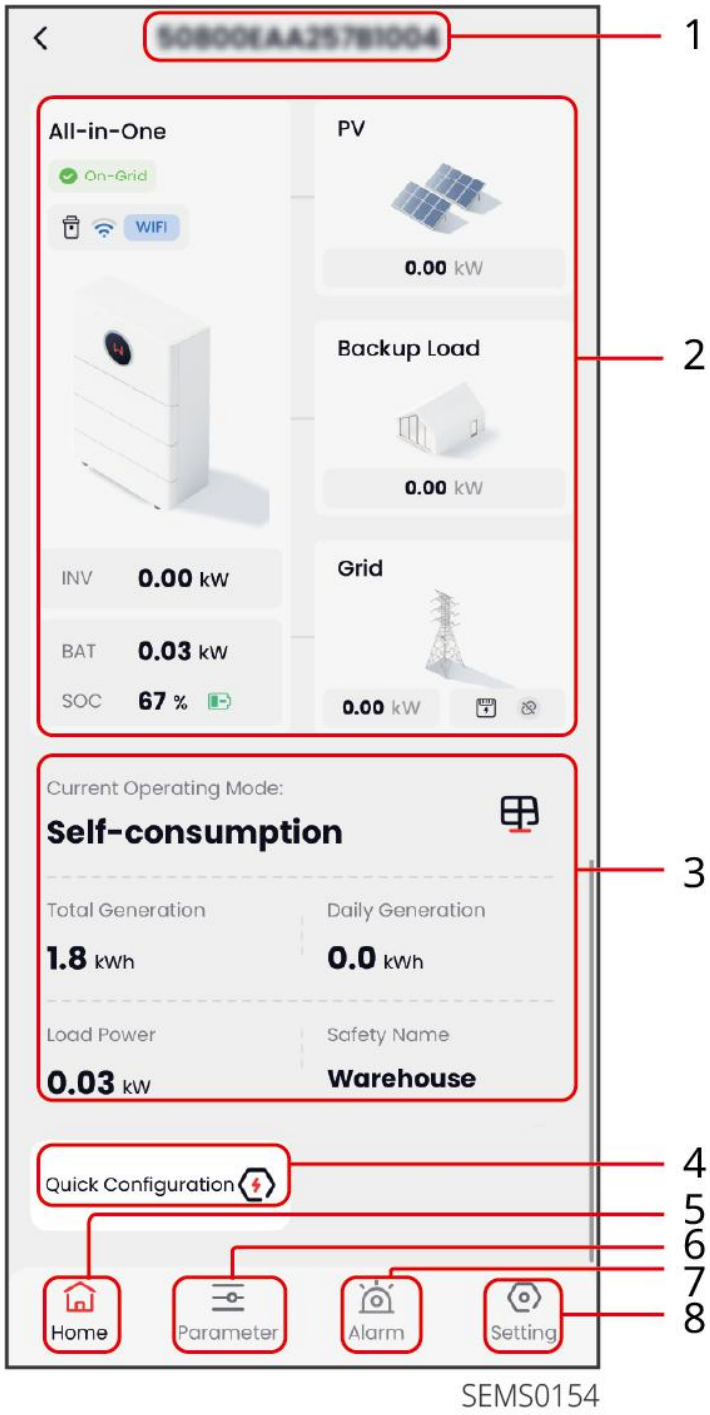


Figure16 Local Access Device

8.3.2 Local Connection Interface Overview

NOTICE
The App interface varies depending on the devices included in the system. Please refer to the actual interface.

After connecting to a device via Bluetooth or WiFi, you can access the local connection device interface. It supports viewing or modifying device parameters.



SEMS0154

No.	Description
1	Current device serial number.

No.	Description
2	• System module cards. Includes PV, communication module, Inverter, Utility grid, Backup load, and other cards. • Click a card to view related parameters and set parameter values. • When the inverter is an all-in-one unit, clicking the all-in-one unit card allows you to view information and set parameters for the inverter, Battery, and communication stick separately.
3	Current system operation information. Includes Working Mode, Energy Generation, power, etc.
4	Quick access to control items, for example: • Quick Configuration. Quickly complete network settings, safety code settings, Working Mode Settings, device self-check and other functions to meet basic usage. For specific settings, please refer to the 8.2.1.1.3.Quick Configuration(Page 233) chapter. • Some models support "One-Click Configuration", which can generate templates based on completed Quick Configuration.
5	Home. Displays system information, such as devices included in the system, system operation information, and provides quick access to view and set parameters.
6	Parameters. View device model, serial number, firmware version, device operation parameters, etc., according to the device type.
7	• Alarms. Displays current device alarm information. • Click to view detailed information such as alarm type, alarm cause, and handling suggestions.
8	Settings. Displays configurable parameters according to the device type.

8.3.3 Configure Device Parameters

After connecting to the device locally, you can modify the device parameters

according to actual requirements.

8.3.3.1 One-Click Configuration

Some device models support the One-Click Configuration mode, which saves quick configurations as templates for rapid application.
After completing the quick configuration, connect to the device locally, click "One-Click Configuration" > "Generate Template" to save the current configuration as a template. When needed, click "One-Click Configuration Mode" to quickly import the saved template.

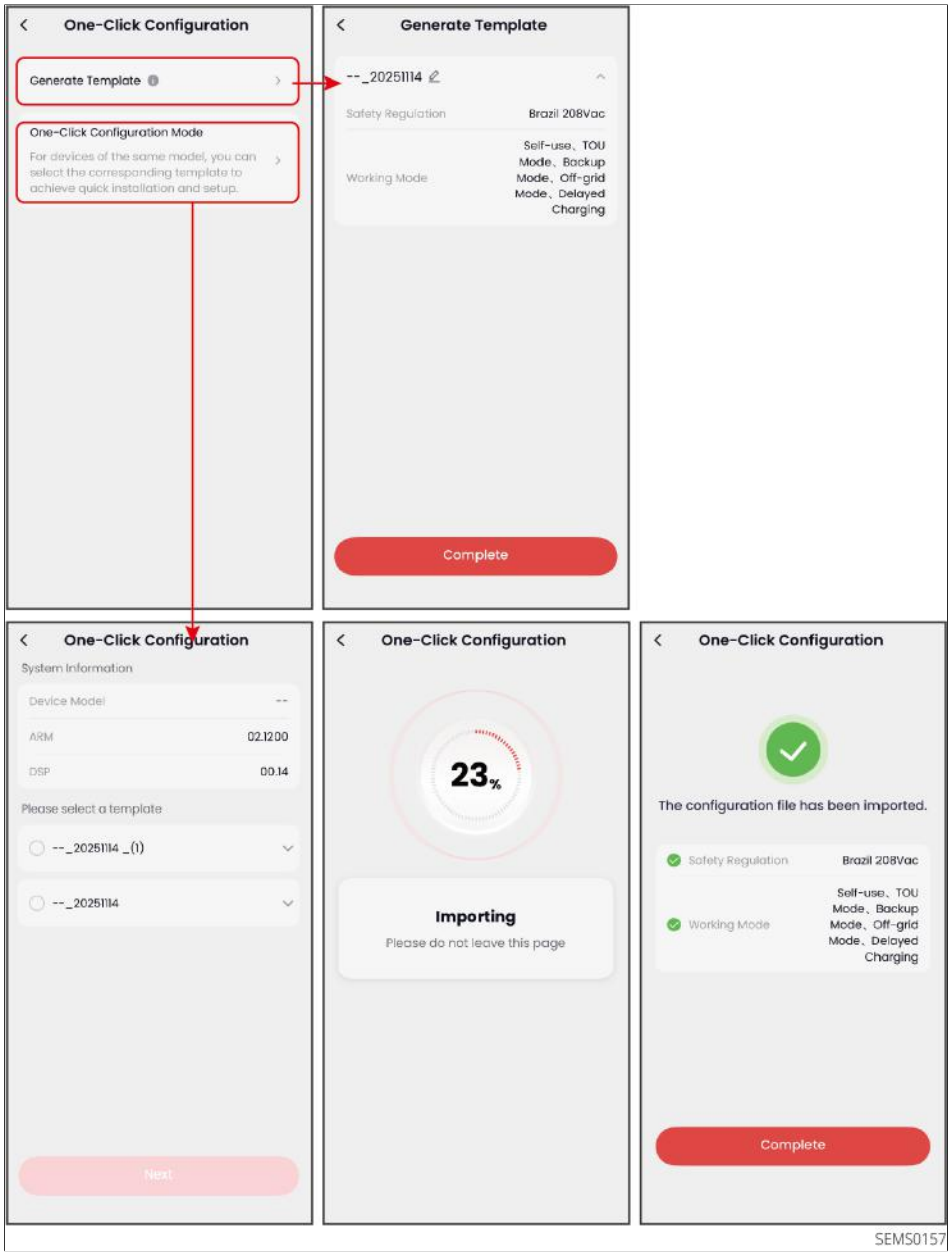


Figure17 One-Click Configuration

8.3.3.2 Setting Inverter Parameters

Method 1: On the "Home" page, select the inverter card, click "Inverter" > "Settings", and modify the device parameters according to actual needs.
Method 2: Click "Settings" and modify the device parameters according to actual needs.

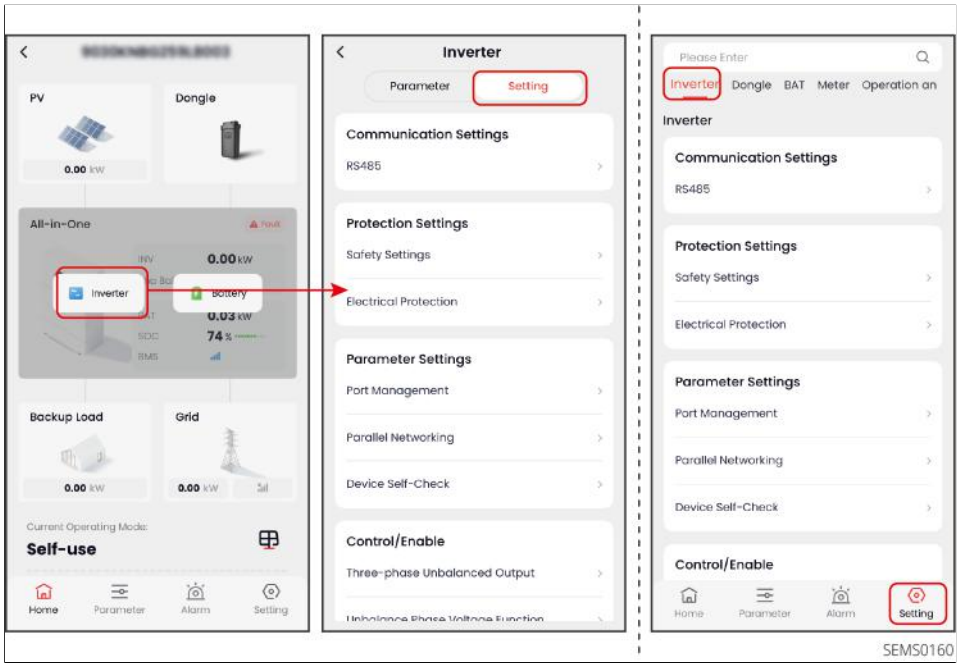
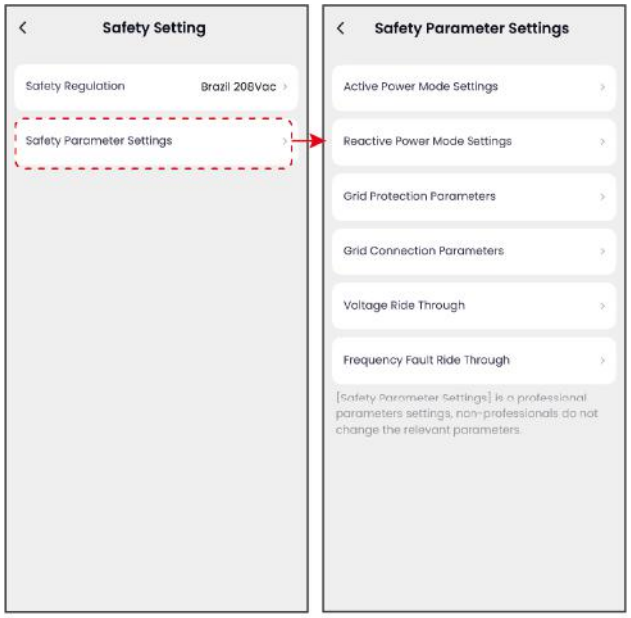


Figure18 Setting Inverter Parameters

Setting Safety Parameters

Operation Steps

1. Go to the parameter setting interface via "Settings" > "Safety Settings".
2. Set the safety country and custom safety parameters according to actual conditions. Custom safety parameters can only be modified by installers.



SEMS0166

Setting Power Limit Parameters

NOTICE

The power limit interface varies for different safety regulation countries. Please refer to the actual interface.

Operation Steps

1. Go to the power limit setting interface via "Settings" > "On-grid Power Dispatch" > "Export power limit".
2. Set the power limit parameters according to actual needs.

Setting Work Mode

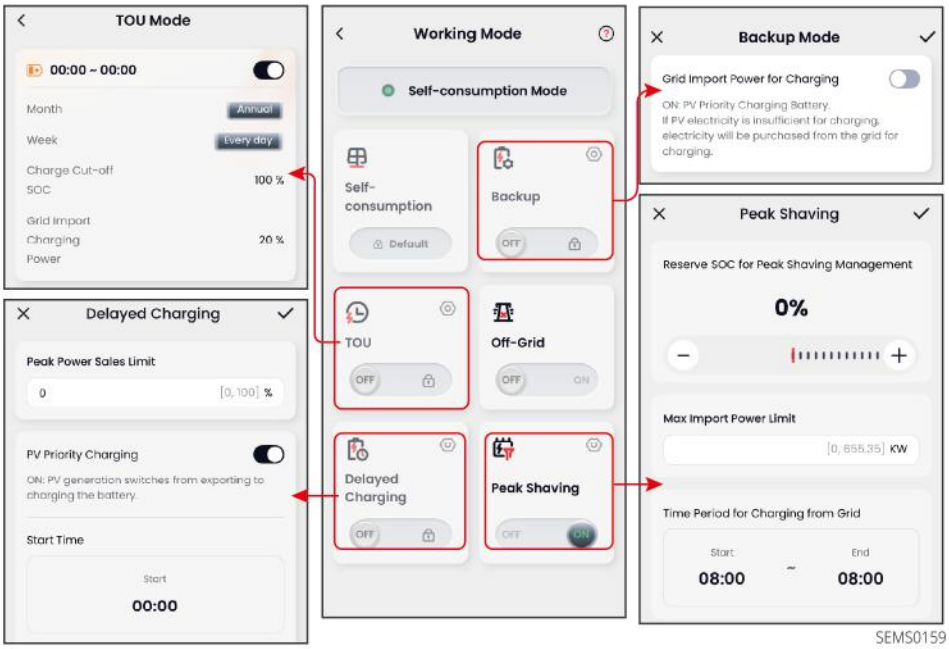
NOTICE

- Only supports setting the working mode for energy storage inverters.
- The working modes that can be set vary by inverter model; please refer to the interface.

Operation Steps

1. Go to the work mode setting interface via "Settings" > "Work Mode".

2. Set the work mode according to actual needs.



Setting RS485 Parallel Connection

NOTICE

- When energy storage inverters are paralleled via RS485, each inverter must be configured separately via the App to confirm whether it is set as the master or slave unit.
- When an inverter from a parallel system needs to be used as a standalone unit, it must be set to standalone mode via the App.
- Please set the device connected to the meter as the master unit.
- Please set the slave inverter address first, then configure the parallel network via the master unit.

Operation Steps

1. Go to the setting interface via "Settings" > "Parallel Networking".
2. Based on the actual wiring of the inverter, set it as master, slave, or standalone.

- When the inverter is the master, set it as master and exit the connection. After completing the slave inverter address settings, return to this interface, click

"Parallel Networking", set the number of inverters in the parallel system, and click "Networking".

- When the inverter is a slave, set the inverter address and click √.

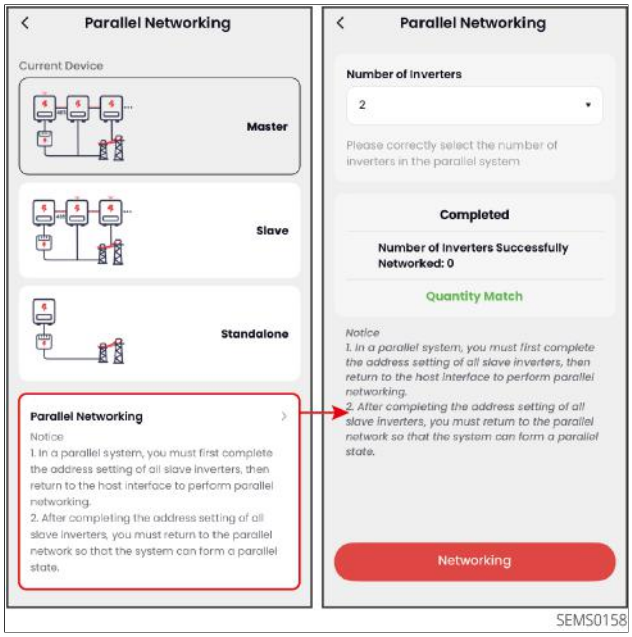


Figure19 Setting RS485 Parallel Connection

8.3.3.3 Configure Smart Communication Stick Parameters

Method 1: On the "Home" page, select the communication module card, click on the device card > "Settings", and modify the device parameters according to actual needs.

Method 2: Click "Settings" and modify the device parameters according to actual needs.

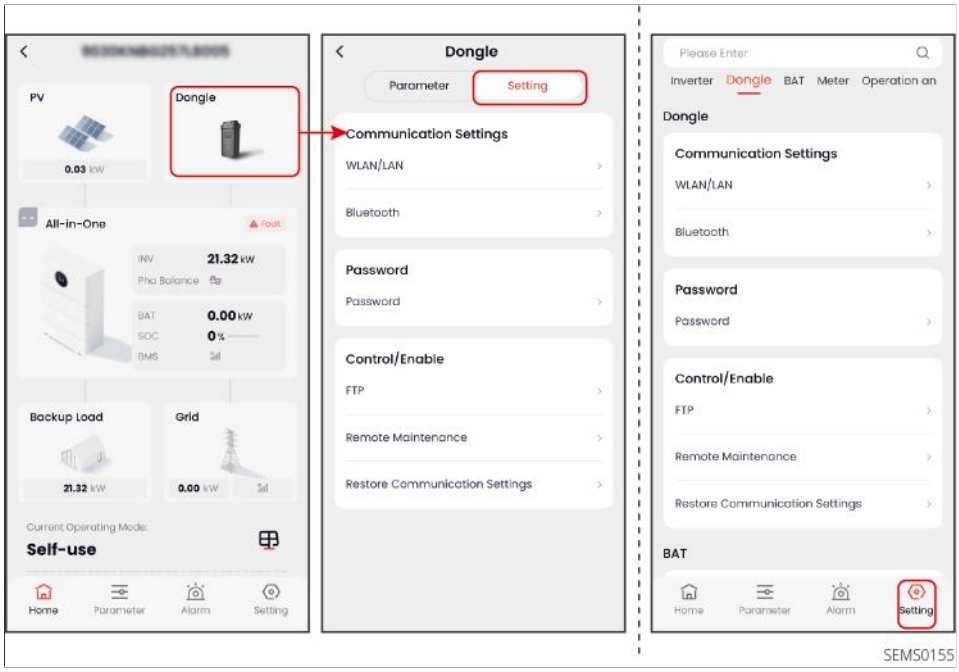


Figure20 Configure Communication Stick Parameters

8.3.3.4 Set Battery Parameters

Method 1: On the "Home" page, select the battery card, click on the card > "Settings", and modify the device parameters according to your actual needs.
Method 2: Click "Settings" and modify the device parameters according to your actual needs.

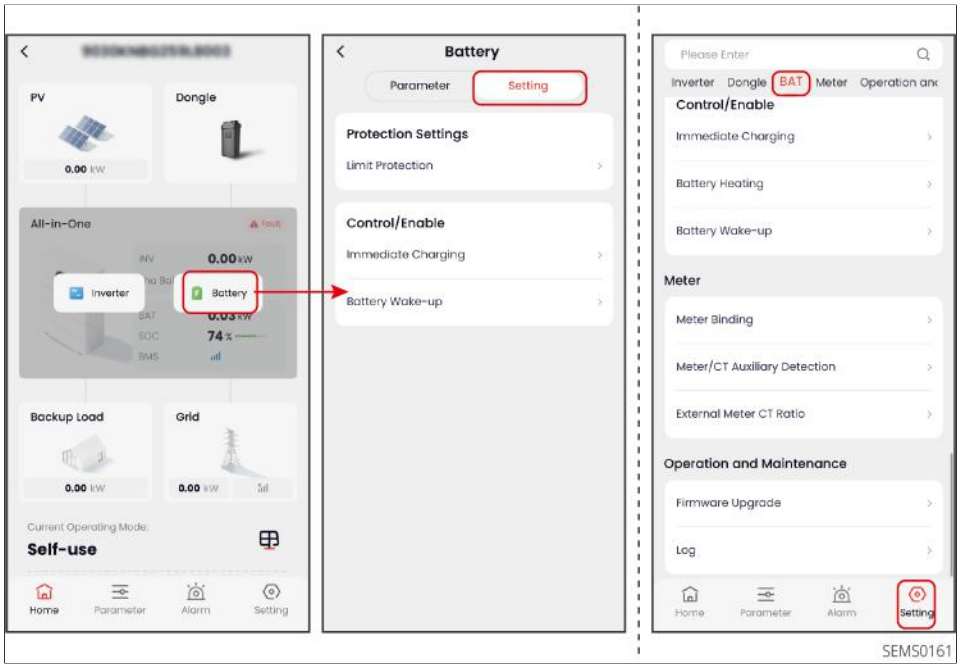


Figure21 Set Battery Parameters

8.3.3.5 Set Meter Parameters

Method 1: On the home page, long press the Utility grid card, click 'Meter' > 'Settings', and modify the device parameters according to actual needs.
Method 2: Click 'Settings' and modify the meter parameters according to actual needs.

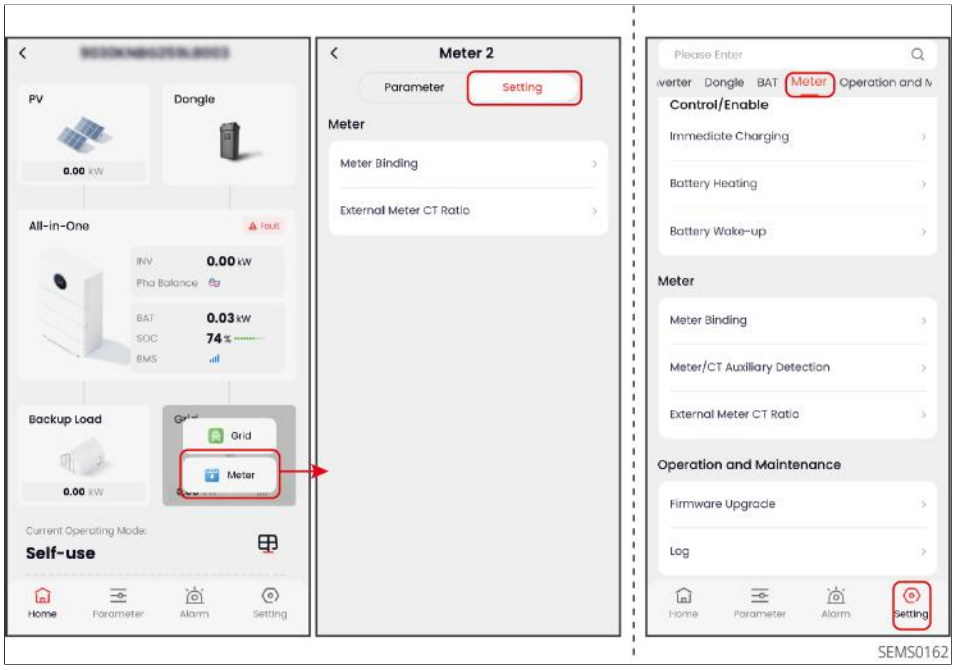


Figure22 Set Meter Parameters

Meter Binding Operation Steps

1. Click 'Home', long press the 'Utility grid' card, select 'Meter' > 'Settings' > 'Meter Binding' to enter the binding interface. Or, go to 'Settings' > 'Meter' > 'Meter Binding' to enter the binding interface.
2. Click the 'Meters Number/Location' dropdown to select the actual application scenario. Supported options: Meter 1 (built-in) No Meter 2; Meter 1 (external) No Meter 2; Meter 1 (built-in) Meter 2 (external); Meter 1 (external) Meter 2 (external). Here, using meter
   1 (external) No Meter 2 interface as an example to introduce how to bind the meter.
3. As shown in the figure below, when selecting to use an external meter, you need to manually add external meter information. Click 'Bind', and bind the meter by manually entering the meter SN or scanning the meter SN QR code. When the bound meter model is GM330, please set the meter CT ratio according to the actual situation; if using other meters, there is no need to set the meter CT ratio.

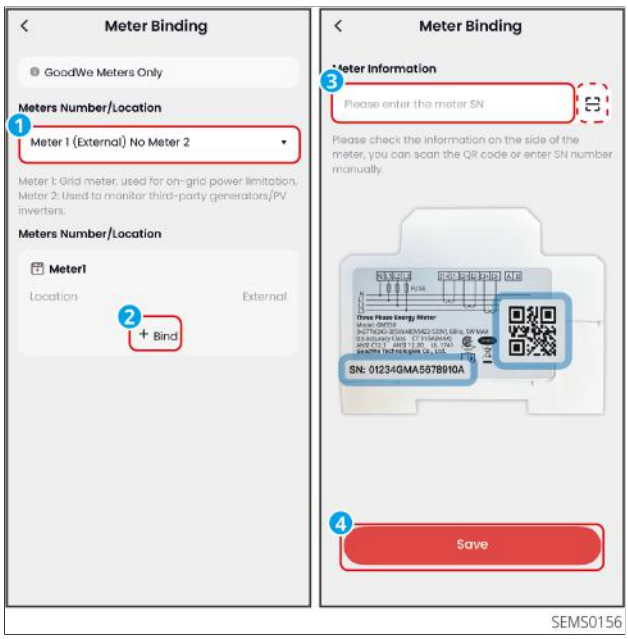


Figure23 Meter Binding

8.4 Service

Click "Service" to enter the service interface, where you can perform operations such as warranty inquiry, pre-sales and after-sales service, power station configuration, manual viewing, problem feedback, AI invocation feedback, etc.

NOTICE
Different accounts have varying functional permissions. Please refer to the actual interface.

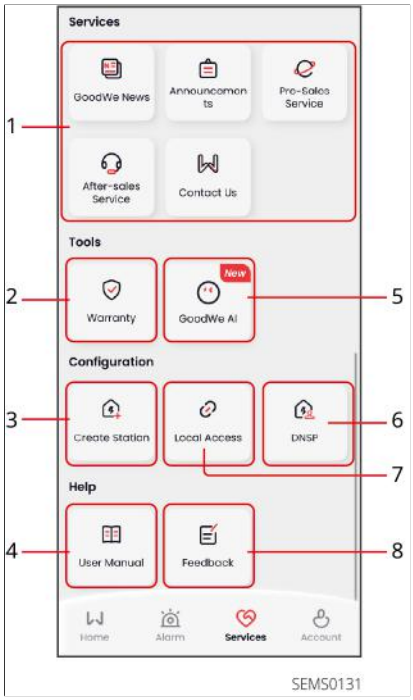


Figure24 Service Interface

No.	Description
1	Entry point for news, announcements, and pre-sales/after-sales services.
2	Query warranty period by device serial number.
3	Power Plant Creation. For detailed steps, please refer to the Power Plant Creation chapter.
4	View the App User Manual.
5	• AI Assistant. Quickly access knowledge base information, query business data, etc., through intelligent Q&A. • Supports enabling the AI Assistant floating window for quick access to the conversation interface.
6	DNSP Settings. Applicable only to the Australia region.
7	Local Access. For detailed steps, please refer to the Communication Settings chapter.

No.	Description
8	Provide feedback on issues encountered during product use, optimization suggestions, etc.

8.4.1 Configure DNSP Function

NOTICE

- Applicable to Australia only.
- Registering the user's power station to the DNSP network allows the electricity service provider to remotely limit the output power value of the photovoltaic power station.
- After DNSP registration, if there are operational abnormalities, support is provided to detect DNSP issues through the installer account, such as communication problems, firmware version issues, device time difference problems, etc.

DNSP Registration Steps

1. Click "Service" > "DNSP" to enter the DNSP settings interface.
2. Select an unregistered power station and click to enter the registration interface.
3. Fill in the registration information and submit.

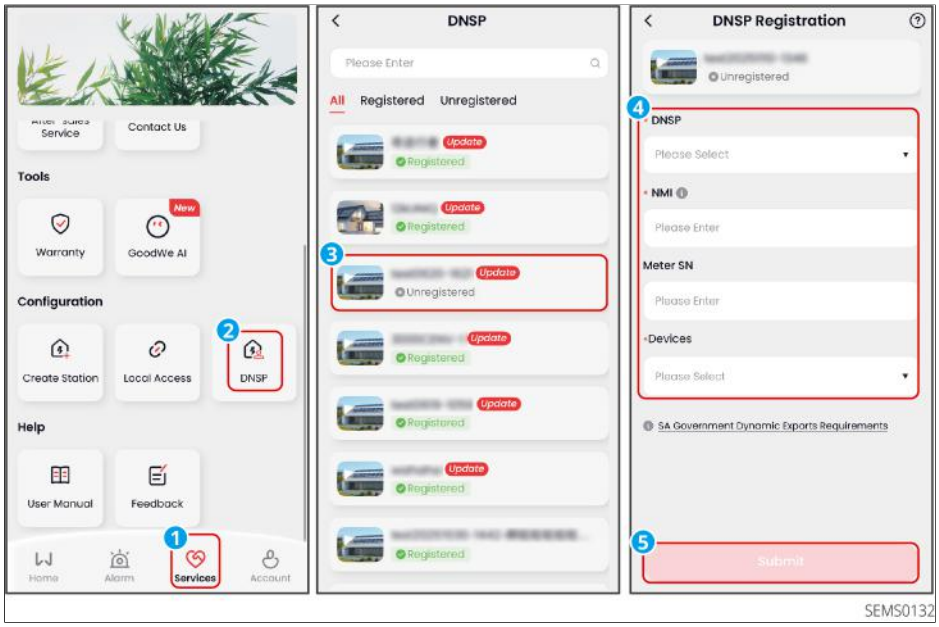


Figure25 DNSP Registration

Parameter Name	Description
DNSP	Set the grid company.
NMI	National Meter Identifier. Set the NMI number.
Meter SN	Set the connected meter's SN number.
Device	Select a device already added to the power station. Upon selection, information such as the device serial number will be automatically populated.

DNSP Check Steps

1. Click "Service" > "DNSP" to enter the DNSP settings interface.
2. Select a registered power station and click to enter the check interface.
3. Check if there are any abnormal information prompts, for example:
   - Is the NMI number correct;
   - Is there a time difference between the server and the device;
   - Is the device status online;
   - Does the device version need an upgrade;
   - Is the device operating power within the set range, etc.

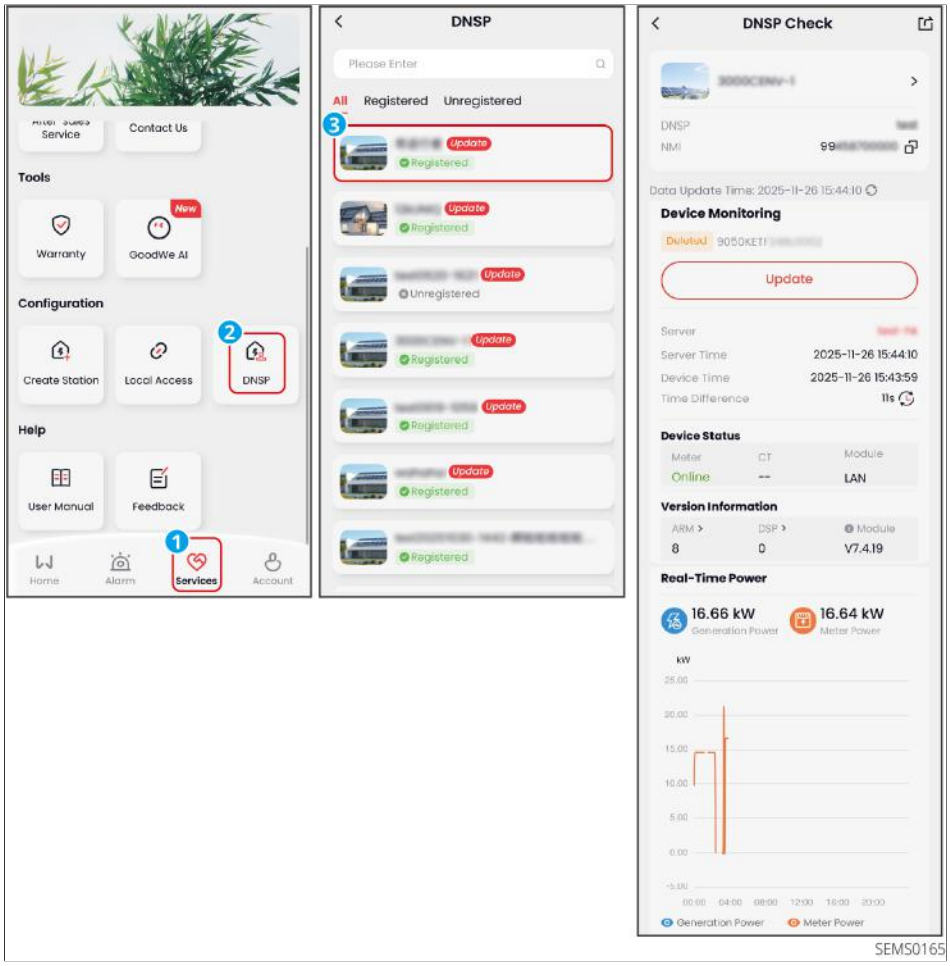


Figure26 DNSP Check

8.4.2 Using AI Assistant

Quickly obtain graphic and text information through the GoodWe AI Assistant Q&A format.

- Supports querying knowledge base information, such as GoodWe product device manuals, etc.
- Supports querying business data, such as power generation information, fault information, power information, etc.
- Supports querying external data, such as weather information, date information, etc.

Operation Steps

1. Click "Service" > "GoodWe AI" to enter the AI Assistant usage interface.

2. Enter the question you need to ask in the dialog box to quickly generate an answer.

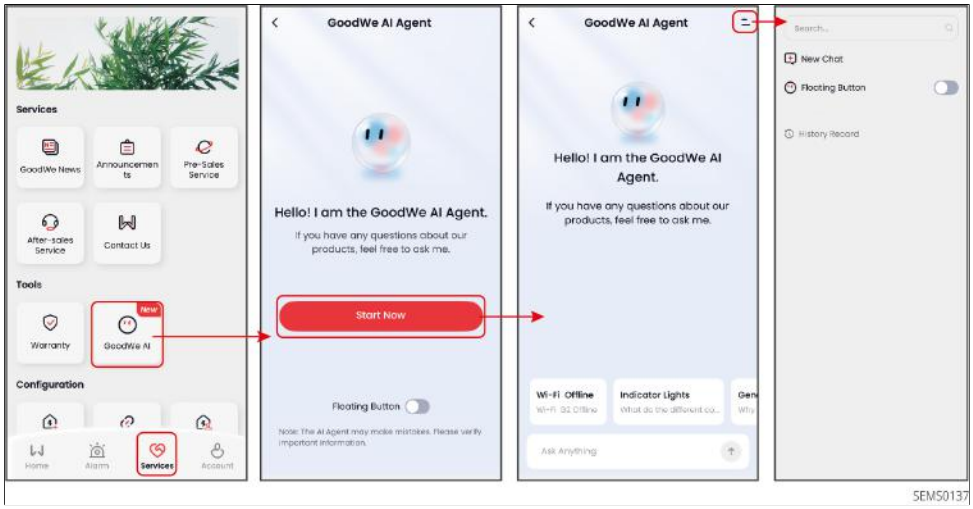


Figure27 AI Assistant

8.5 Account

8.5.1 Modify User Information

Supports modifying user-related information, such as username, avatar, country/region, etc.

Procedure:

Click "Account" > "User Information" to enter the user information settings interface, where you can modify the relevant user information.

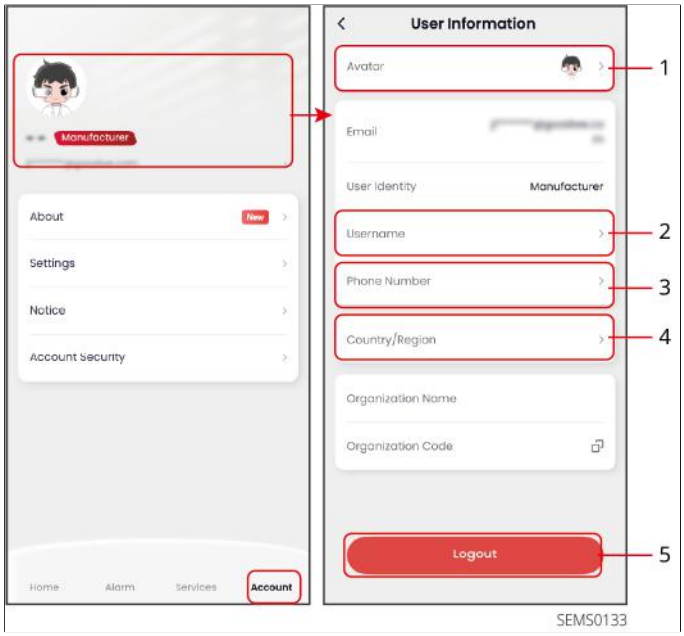


Figure28 Modify User Information

No.	Description
1	Modify account avatar.
2	Modify account username.
3	Bind account phone number.
4	Modify country and region information.
5	Log out of the current account.

8.5.2 Configure App Notification Information

Supports modifying App notification message types, delivery methods, time periods, etc.

Operation Steps

Click "Account" > "Notifications" to enter the notification settings interface, where you can enable or disable message notifications, set message types, etc.

- Alarm Subscription Configuration: When enabled, users can receive timely notifications when device alarms occur.

- Supports setting push channels, i.e., receiving notifications via the App message center, email, etc.
- Supports setting when to push alarm notifications.
- Supports setting time periods and types for which notifications are not received.

- Shared Station Subscription: Receive notifications when a new station is shared with you.

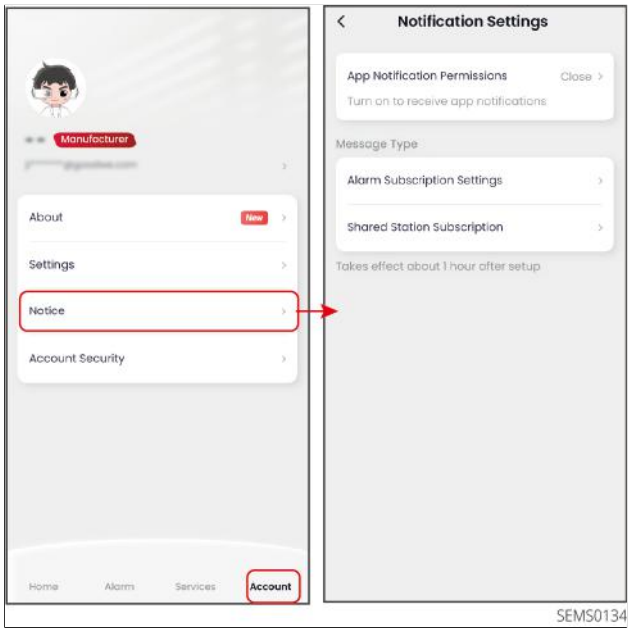


Figure29 Configure App Notification Messages

8.5.3 Set Account Security Information

To ensure account security, it supports modifying account-bound email, login password, and other information, while also supporting the cancellation of accounts without power stations.

Steps

Click "Account" > "Account Security" to enter the security settings interface.

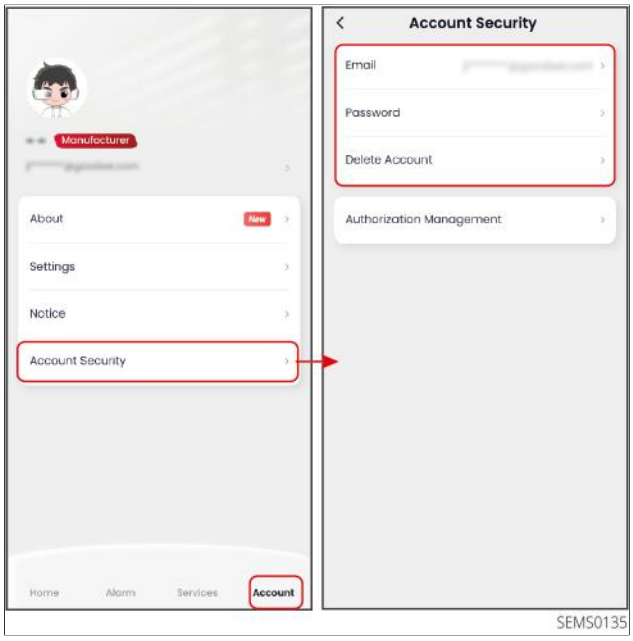


Figure30 Set Account Security Information

8.5.4 Setting Monitoring Permissions

NOTICE

- Applicable only to European and Australian servers.
- For third-party remote control requirements, please contact the manufacturer to add authorization and fill in information such as battery capacity as prompted on the interface.
- Monitoring authorization is only applicable to the owner account. According to European GDPR regulations, the owner can set monitoring permissions and remote O&M permissions as needed. Except for the owner and authorized visitors, other accounts cannot monitor or perform O&M on this power station.

Steps

1. Click "Account" > "Account Security" > "Authorization Management" to enter the security settings interface.
2. Set monitoring permissions according to your actual needs.

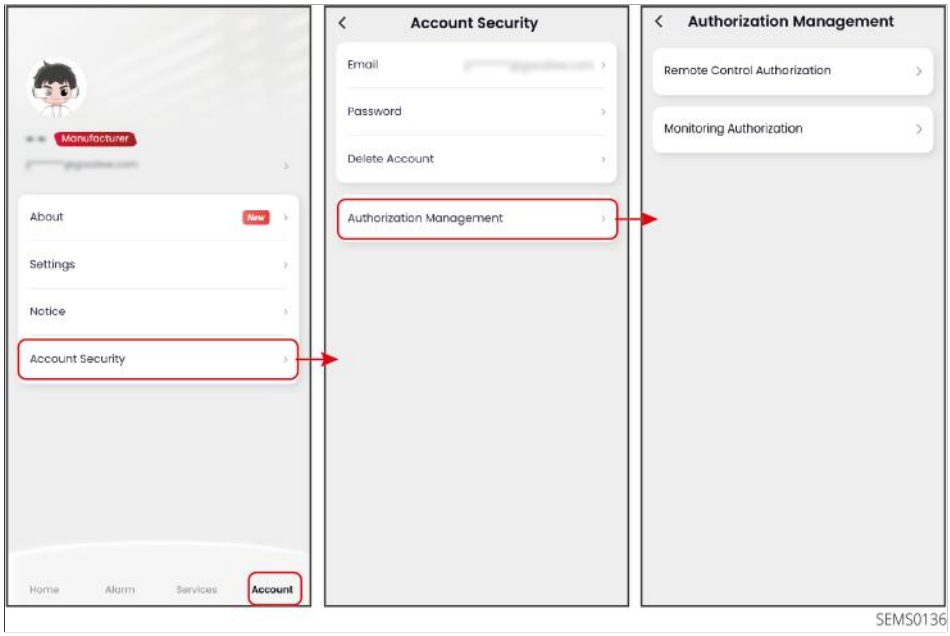


Figure31 Setting Monitoring Permissions

8.6 Troubleshooting

No.	Fault Name	Fault Cause	Action
1	Cannot Install App	1. Mobile phone operating system version is too low. 2. The phone is blocking package installation.	1. Upgrade the mobile phone operating system. 2. In the phone's Settings > Security screen, check the option to allow installation of apps from unknown sources.
2	Device WiFi Signal Not Displayed in App Device List	The App is not connected to a WiFi signal.	1. Confirm the WiFi communication stick is working properly. 2. Refresh the device list. If the device still does not appear in the list, exit the App and log in again.

No.	Fault Name	Fault Cause	Action
3	Login Failed	1. The phone is not connected to the internet. 2. The App is under maintenance.	1. Check if the phone's mobile data is turned on and can access the internet. 2. The App is under maintenance. Please try again later.
4	Cannot Launch App	1. Mobile phone operating system version is too low. 2. App version is too low.	1. Upgrade the mobile phone operating system. 2. Confirm if the App version is the latest.
5	Failed to Obtain Data During Operation	Communication between the device and the App is interrupted.	1. Check if the communication between the device and the router is normal. 2. Check if the communication between the router and the cloud is normal.

8.7 Appendix

8.7.1 Safety Regulation Countries

No.	Safety Regulation Name	No.	Safety Regulation Name
Europe			
1	IT-CEI 0-21	54	NI-G98
2	IT-CEI 0-16	55	IE-LV-16/25A
3	DE LV with PV	56	IE-LV-72A
4	DE LV without PV	57	IE-ESB-C&D(< 110kV)
5	DE-MV	58	IE-EirGrid-110kV
6	ES-A	59	PT-D
7	ES-B	60	EE

No.	Safety Regulation Name	No.	Safety Regulation Name
8	ES-C	61	NO
9	ES-D	62	FI-A
10	ES-island	63	FI-B
11	BE	64	FI-C
12	FR-LV	65	FI-D
13	FR-island-50Hz	66	UA-A1
14	FR-island-60Hz	67	UA-A2
15	type A-PL_V.1.1	68	EN 50549-1
16	type B-LV-PL_V.1.1	69	EN 50549-2
17	type C-PL_V.1.1	70	DK-West-B-MVHV
18	type D-PL_V.1.1	71	DK-East-B-MVHV
19	NL-16/20A	72	DK-West-C-MVHV
20	NL-A	73	DK-East-C-MVHV
21	NL-B	74	DK-West-D-MVHV
22	NL-C	75	DK-East-D-MVHV
23	NL-D	76	FR-Reunion
24	SE-A	77	BE-LV（>30kVA）
25	SE MV	78	BE-HV
26	SK-A	79	CH-B
27	SK-B	80	NI-G99-A
28	SK-C	81	NI-G99-B
29	HU	82	NI-G99-C
30	CH-A	83	NI-G99-D
31	CY	84	IE-LV-170kVA
32	GR	85	IE-MV&HV-200kVA
33	DK-West-A	86	DE-HV
34	DK-East-A	87	FR-MV
35	DK-West-B	88	CZ-A1/A2-09

No.	Safety Regulation Name	No.	Safety Regulation Name
36	DK-East-B	89	DE-EHV
37	AT < 1kV	90	IE-EirGrid-400KV
38	AT > 1kV	91	IE-EirGrid-220KV
39	BG	92	IE-EirGrid-66KV
40	Czech	93	IE-ESB-B
41	CZ-A1-09	94	IE-ESB-D(≥110kV)
42	CZ-A2-09	95	type B-MV-PL_V.1.1
43	CZ-B1/B2-09	96	GB-G99-A HV
44	CZ-C	97	GB-G99-B LV
45	CZ-D	98	GB-G99-C LV
46	RO-A	99	UA-B
47	RO-B	100	UA-C
48	RO-D	101	UA-D
49	GB-G98	102	UK-G98
50	GB-G99-A LV	103	UK-G99-A LV
51	GB-G99-B HV	104	UK-G99-B LV
52	GB-G99-C HV	105	UK-G99-C LV
53	GB-G99-D	106	CZ-A1
Global			
1	60Hz-Default	6	IEC 61727-60Hz
2	50Hz-Default	7	Warehouse
3	127Vac-60Hz-Default	8	IEC61727-480Vac-60Hz
4	127Vac-50Hz-Default	9	IEC61727-480Vac-50Hz
5	IEC 61727-50Hz		
Americas			

No.	Safety Regulation Name	No.	Safety Regulation Name
1	Argentina-220V-LV	38	LUMAPR-2024-220Vac-3P
2	US-208Vac	39	LUMAPR-2024-240Vac-3P
3	US-240Vac	40	Cayman
4	Mexico-220Vac	41	Brazil-220Vac
5	Mexico-440Vac	42	Brazil-208Vac
6	US-480Vac	43	Brazil-230Vac
7	US-208Vac-3P	44	Brazil-240Vac
8	US-220Vac-3P	45	Brazil-254Vac
9	US-240Vac-3P	46	Brazil-127Vac
10	US-CA-208Vac	47	Brazil-ONS
11	US-CA-240Vac	48	Barbados
12	US-CA-480Vac	49	Chile-BT
13	US-CA-208Vac-3P	50	Chile-MT-A
14	US-CA-220Vac-3P	51	Chile MT-B
15	US-CA-240Vac-3P	52	Colombia
16	US-HI-208Vac	53	Colombia<0.25MW-208Vac-1P
17	US-HI-240Vac	54	Colombia<0.25MW-120Vac-3P
18	US-HI-480Vac	55	IEEE 1547-208Vac
19	US-HI-208Vac-3P	56	IEEE 1547-220Vac
20	US-HI-220Vac-3P	57	IEEE 1547-240Vac
21	US-HI-240Vac-3P	58	IEEE 1547-230Vac
22	US-Kauai-208Vac	59	Colombia<0.25MW-127Vac-3P
23	US-Kauai-240Vac	60	Colombia>5MW
24	US-Kauai-480Vac	61	Mexico-127V
25	US-Kauai-208Vac-3P	62	Mexico-240V
26	US-Kauai-220Vac-3P	63	US-O&R-208Vac
27	US-Kauai-240Vac-3P	64	US-O&R-240Vac
28	US-ISO-NE-208Vac	65	US-O&R-480Vac

No.	Safety Regulation Name	No.	Safety Regulation Name
29	US-ISO-NE-240Vac	66	US-O&R-208Vac-3P
30	US-ISO-NE-480Vac	67	US-O&R-220Vac-3P
31	US-ISO-NE-208Vac-3P	68	US-O&R-240Vac-3P
32	US-ISO-NE-220Vac-3P	69	Brazil-277Vac
33	US-ISO-NE-240Vac-3P	70	Chile-BT ≤9MW
34	LUMAPR-2024-208Vac	71	Chile-MT ≤9MW
35	LUMAPR-2024-240Vac	72	Chile > 9MW
36	LUMAPR-2024-480Vac	73	Mexico-277Vac
37	LUMAPR-2024-208Vac-3P		
Oceania			
1	Australia-A	4	Newzealand
2	Australia-B	5	Newzealand:2015
3	Australia-C	6	NZ-GreenGrid
Asia			
1	China A	33	Israel-MV
2	China B	34	Israel-HV
3	China Higher Voltage	35	Vietnam
4	China Highest Voltage	36	Malaysia-LV
5	China Power Station	37	Malaysia-MV
6	China Shandong	38	DEWA-LV
7	China Hebei	39	DEWA-MV
8	China PCS	40	Saudi Arabia-220V-LV
9	Taiwan	41	JP-690Vac-50Hz
10	Hong Kong	42	JP-690Vac-60Hz
11	China Northeast	43	Srilanka-MV/HV
12	Thailand-MEA	44	IEC 61727-127Vac-50Hz

No.	Safety Regulation Name	No.	Safety Regulation Name
13	Thailand-PEA	45	IEC 61727-127Vac-60Hz
14	Mauritius	46	JP-550Vac-50Hz
15	Korea	47	JP-550Vac-60Hz
16	India	48	India-Higher
17	India-CEA	49	JP-220Vac-50Hz
18	Pakistan	50	JP-220Vac-60Hz
19	Philippines	51	Saudi Arabia-127V-LV
20	Philippines-127Vac	52	Srilanka-LV >1MW
21	JP-200Vac-50Hz	53	China-YN
22	JP-200Vac-60Hz	54	GB/T 29319-LV
23	JP-440Vac-50Hz	55	GB/T 29319-MV
24	JP-440Vac-60Hz	56	Philippines -277Vac
25	JP-420Vac-50Hz	57	JP-360Vac-50Hz
26	JP-420Vac-60Hz	58	JP-360Vac-60Hz
27	JP-480Vac-50Hz	59	JP-320Vac-50Hz
28	JP-480Vac-60Hz	60	JP-320Vac-60Hz
29	Srilanka-LV<1MW	61	JP-340Vac-50Hz
30	Singapore	62	JP-340Vac-60Hz
31	Israel-OG	63	JP-380Vac-50Hz
32	Israel-LV	64	JP-380Vac-60Hz
Africa			
1	Mauritius	5	Ghana-LV
2	South Africa-LV	6	Ghana-HV
3	South Africa-B-MV	7	South Africa-A3-LV
4	South Africa-C-MV	8	Nigeria

8.7.2 System Operating Modes

NOTICE
The PV and storage system supports setting the system working mode. The default working mode is Self-consumption mode. Working mode priority: Peakshaving > Delayed Charging > TOU > Backup > Self-consumption.

Self-consumption

The basic operating mode of the system. PV generation prioritizes supplying power to the load, excess electricity charges the battery, and any remaining electricity is sold to the grid. When PV generation does not meet the load demand, the battery supplies power to the load; when the battery power is also insufficient, the grid supplies power to the load.

Backup Mode

Recommended for use in areas with unstable grid. When the grid power is out, the inverter switches to off-grid operating mode, and the battery discharges to supply power to the load, ensuring uninterrupted power for the backup load; when the grid is restored, the inverter switches back to grid-connected operation.

Parameter Name	Description
Grid Buy Power Charging	Enable this function to allow the system to purchase power from the grid.
Charging Power	The percentage of power purchased from the grid relative to the inverter's rated power.

TOU Mode

Subject to local laws and regulations, based on the difference between peak and valley electricity prices of the grid, set different time periods for buying and selling electricity. According to actual needs, during valley price periods, the battery can be set to charging mode to buy electricity from the grid for charging; during peak price periods, the battery can be set to discharging mode to supply power to the load via the battery.

Parameter Name	Description
Start Time	Between the start time and end time, the battery charges or discharges according to the set charging/discharging mode and rated power.
End Time	
Charging/Discharging Mode	Set to charge or discharge based on actual requirements.
Charging Cut-off SOC	Stop charging when the battery's state of charge reaches the set SOC.
Grid Import Charging Power	The percentage of charging power relative to the inverter's rated power.
Battery Discharging Power	The percentage of discharging power relative to the inverter's rated power.

Off-grid Mode
Suitable for areas without grid. PV and battery form a pure off-grid system, PV generation supplies power to the load, and excess electricity charges the battery. When PV generation does not meet the load demand, the battery supplies power to the load.

Peakshaving
Mainly applicable to scenarios where purchased power peak capacity is limited. When the total load power consumption exceeds the power quota in a short time, battery discharge can be used to reduce the portion of power consumption that exceeds the quota.

Parameter Name	Description
Reserved SOC for Demand Management	In demand management mode, the battery SOC is lower than the reserved SOC for demand management. When the battery SOC is higher than the reserved SOC for demand management, the demand management function becomes invalid.

Parameter Name	Description
Peak Power Limit for Grid Charging	Sets the maximum power limit allowed for charging from the grid. When the load power consumption exceeds the sum of the power generated by the PV system and this limit, the battery discharges to supplement the excess power.
Time Period for Charging from Grid	During the Time Period for Charging from Grid, when the load power consumption does not exceed the grid charging quota, the battery can be charged via the grid. Outside this time period, only the PV generation power can be used to charge the battery.

Delayed Charging

Suitable for areas with grid-connected power output limits. By setting peak power limits and charging time periods, PV generation that exceeds the grid connection limit can be used to charge the battery, reducing PV waste.

Parameter Name	Description
Peak Power Sales Limit	Set the peak power limit according to the grid standard requirements of certain countries or regions. The peak power limit value must be lower than the local specified output power limit value.
PV Priority Charging	Within the charging time range, photovoltaic power generation is prioritized for charging the battery.
Start Charging Time	

AI Mode

AI Mode is supported when a Home Energy Management System (HEMS) is used in the system. Set electricity prices based on user requirements, combined with AI calculations to optimize scheduling, achieving maximum energy and economic efficiency. When using AI Mode, during the initial stage of collecting station information, there may be discrepancies between predicted curves and actual data. Choose Time-of-Use Tariff or Dynamic Pricing, supporting:

- Dynamic Pricing: Obtain dynamic electricity prices from the power company, and combine with user-set price surcharges to dynamically adjust the actual buying

and selling electricity prices.
- Time-of-Use Tariff: Users set electricity price information for different time periods based on actual prices. Supports setting multiple groups of prices.

8.7.3 Inverter Parameters

Communication Parameters

Parameter Name	Description
RS485 Settings	Sets the host communication address of the inverter. For a single inverter, set the communication address according to the actual situation. When multiple inverters are connected, each inverter must have a different address, and no inverter should have its communication address set to 247.

Device Start/Stop Parameters

Parameter Name	Description
Start	Controls device start, stop, and restart.
Stop	
Restart	

Environmental Control Parameters

Parameter Name	Description
Fan Control	
Fan reverses to remove dust	When enabled, the fan will periodically reverse automatically to remove dust.

Parameter Name	Description
External Fan Start Temperature Setting	When the device temperature reaches the set value, the external fan starts running.
Manual Fan Test	Tests whether the fan can operate normally.

AC Side Settings Parameters

Parameter Name	Description
PV Connection Mode	For certain models, the photovoltaic string connection method for the Inverter MPPT ports can be manually configured to avoid misidentification of the connection method. Supported modes: • Independent Connection: External photovoltaic strings are connected one-to-one with the photovoltaic input ports on the Inverter side. • Partial Parallel Connection: When one photovoltaic string is connected to multiple MPPT ports on the Inverter side, other photovoltaic modules are simultaneously connected to other MPPT ports on the Inverter side. • Parallel Connection: When external photovoltaic strings are connected to the photovoltaic input ports on the Inverter side, multiple strings are first connected via Y-cables and then split into multiple connections to several photovoltaic input ports.
AC Port Connection Settings	According to the Inverter port characteristics, it supports connection to loads, generators, microgrid equipment, etc. For details, please refer to 8.7.3.4.Multipurpose Port Parameters(Page 310).
Backup Function Settings	

Parameter Name	Description
Backup	When enabled, if the grid power fails, loads connected to the Inverter's BACK-UP port can be powered by the battery, ensuring uninterrupted power supply to the loads.
Detection Mode	• UPS Mode - Full-wave Detection: Detects whether the grid voltage is too high or too low. • UPS Mode - Half-wave Detection: Detects whether the grid voltage is too low. • EPS Mode - Supports Low Voltage Ride-Through: Disables the grid voltage detection function.
Off-grid First Cold Start	Takes effect only once. After enabling this function, the battery or photovoltaic can be used to output backup power in off-grid mode.
Off-grid Cold Start Holding	Takes effect multiple times. After enabling this function, the battery or photovoltaic can be used to output backup power in off-grid mode.
Clear Overload Fault	When the load power connected to the Inverter's BACK-UP port exceeds the rated load power, the Inverter will restart and detect the load power again. If not handled promptly, the Inverter will restart multiple times for load detection, with the interval between each restart continuously increasing. After the BACK-UP port load power is reduced to within the rated power range, click this switch to clear the Inverter restart interval, and the Inverter will restart immediately.
Parallel Management	When Inverters are paralleled via RS485, the master or slave attribute of the Inverter needs to be manually set, along with information such as the slave address.
Type of Electrical Supply System	Select single-phase, split-phase, or three-phase grid according to the actual grid type the Inverter is adapted to.

Parameter Name	Description
Output Method	Set according to the actual grid type the Inverter is connected to. Currently supports three-phase three-wire and three-phase four-wire systems.
Three-Phase Unbalanced Output	When a three-phase Inverter is connected to an unbalanced load, such as L1, L2, and L3 connected to loads of different power ratings, the three-phase unbalanced output function needs to be enabled.
Unbalanced Phase Voltage Function	When enabled, the Inverter will perform power derating or power distribution based on the voltage values of each phase grid, maximizing power utilization.

PV Settings Parameters

Parameter Name	Description
PV Connection Mode	For certain models, you can manually set the photovoltaic string connection method for the inverter MPPT ports to avoid incorrect identification of the connection method. Supported modes: • Independent Connection: External photovoltaic strings are connected one-to-one with the inverter-side PV input ports. • Partial Parallel Connection: When one photovoltaic string is connected to multiple MPPT ports on the inverter side, other photovoltaic modules are simultaneously connected to other MPPT ports on the inverter side. • Parallel Connection: When external photovoltaic strings are connected to the inverter-side PV input ports, multiple photovoltaic strings are first connected via Y-cables and then split into multiple circuits connected to multiple PV input ports.

Parameter Name	Description
PID Settings	• During operation, a potential difference exists between the output electrodes of a photovoltaic panel and its grounded frame. Over time, this can lead to a degradation in the panel's power generation efficiency, known as Potential Induced Degradation (PID). • GoodWe's PID function works by raising the voltage difference between the photovoltaic panel and its frame, making it a positive pressure difference (referred to as raising positive pressure), achieving PID suppression. This is suitable for P-type panels and N-type panels that require raising positive pressure to suppress PID effects. For N-type panels that require lowering negative pressure to suppress PID effects, it is recommended to disable this function. Please consult the module supplier to determine if the N-type module belongs to the type that requires raising positive pressure for PID suppression.
Shadow Scan Function	When photovoltaic panels are severely shaded, enabling the Shadow Scan function can optimize the inverter's power generation efficiency.

Battery Settings

Parameter Name	Description
Battery Activation	If an unactivated battery is purchased, an activation code is required to enable battery functions.
BAT Port Connection Configuration	Select the battery connection mode based on the actual battery connection status.

Protection Parameters

Parameter Name	Description
Electrical Protection	
Surge Protection Alarm	When the surge protection alarm function is enabled, an alarm will be triggered to indicate an abnormality if the surge protection module malfunctions.
AFCI Detection	• When the AFCI detection function is enabled, the system can monitor the equipment for potential arc hazards. • Click "Arc Self-Test" to initiate a self-test of the arc detection module and confirm its status. View the result via "AFCI Detection Status". • If the inverter triggers an arc alarm less than 5 times within 24 hours, the alarm can be cleared automatically. After the 5th arc alarm, the inverter will shut down for protection. Click "Clear Arc Alarm" to clear the fault before the inverter can resume normal operation.
Backup N-PE Relay Switch	According to grid standard requirements in certain countries or regions, it is necessary to ensure the internal relay of the BACK-UP port remains closed during off-grid operation, thereby connecting the N and PE lines.
Grid/On-Grid Protection	
Anti-islanding Protection	Enable or disable the anti-islanding protection function according to actual requirements.
NS Protection	Enable or disable the NS protection function according to standard requirements in certain countries or regions.
Safety Regulations	
Grid Standard Code	Select the grid standard code according to the country or region where the inverter is located.
Safety Parameter Settings	Safety parameters must be set according to the grid company's requirements. Any changes require approval from the grid company.

General Settings Parameters

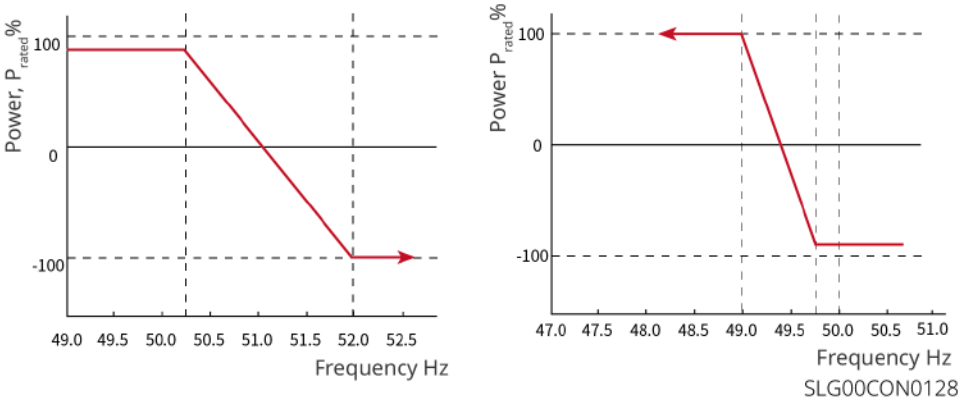
Parameter Name	Description
Device Self-Test	Starts the device status self-test.
Restore Factory Settings	Restores some functions to factory state.

8.7.3.1 Custom Safety Parameters

NOTICE
Safety parameters must be set according to the grid company's requirements. Any changes require the grid company's consent.

Active Power Mode

P(F) Curve



P(U) Curve

Parameter Name	Description
Active Power Output Setting	Sets the limit value for the inverter's output power.
Power Ramp Rate	Sets the slope for active power increase or decrease.
Over-Frequency Derating	

Parameter Name	Description
P(F) Curve	Enable this function when setting the P(F) curve is required according to grid standards in certain countries or regions.
Over-Frequency Derating Mode	Set the over-frequency derating mode according to actual requirements. • Slope mode: Adjusts power based on the over-frequency point and derating slope. • Stop mode: Adjusts power based on the over-frequency start point and over-frequency end point.
Over-Frequency Start Point	When grid frequency is too high, the inverter reduces active power output. The inverter starts reducing output power when grid frequency exceeds this value.
Sell/Buy Power Transition Frequency	When the set frequency value is reached, the system transitions from selling power to buying power.
Over-Frequency End Point	When grid frequency is too high, the inverter reduces active power output. The inverter does not continue to reduce output power when grid frequency exceeds this value.
Over-Frequency Power Slope Reference Power	Adjusts the inverter's active power output based on rated power, current power, apparent power, or maximum active power as the reference.
Over-Frequency Power Slope	When grid frequency exceeds the over-frequency point, the inverter reduces output power according to the slope.
Tentional Delay Ta	When grid frequency exceeds the over-frequency point, the delay response time for inverter output power change.
Hysteresis Function Enable	Enable the hysteresis function.

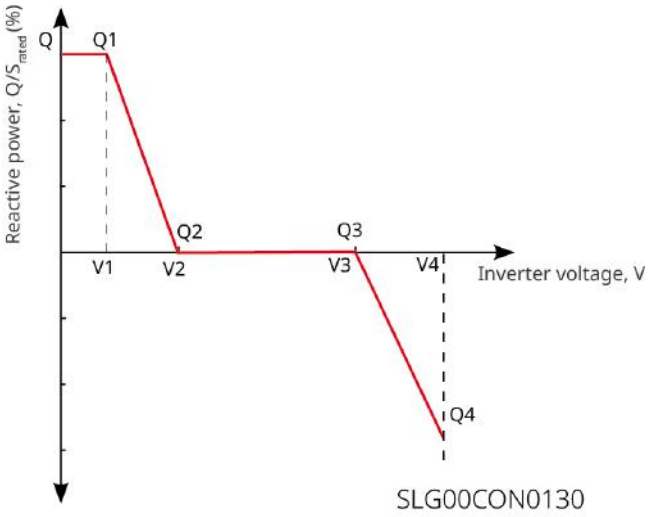
Parameter Name	Description
Frequency Hysteresis Point	During over-frequency derating, if the frequency decreases, the power output is based on the lowest point of the derated power until the frequency is less than the hysteresis point, then power recovers.
Hysteresis Wait Time	For over-frequency derating with decreasing frequency, when the frequency is below the hysteresis point, the waiting time for power recovery, i.e., power recovers only after waiting for a certain period.
Hysteresis Power Recovery Slope Reference Power	For over-frequency derating with decreasing frequency, when the frequency is below the hysteresis point, the reference for power recovery, i.e., power recovers at the rate of recovery slope * reference power. Supported: Pn rated power, Ps apparent power, Pm current power, Pmax maximum power, power difference (△P).
Hysteresis Power Recovery Slope	For over-frequency derating with decreasing frequency, when the frequency is below the hysteresis point, the power change slope during power recovery.
Under-Frequency Loading	
P(F) Curve	Enable this function when setting the P(F) curve is required according to grid standards in certain countries or regions.
Under-Frequency Loading Mode	Set the under-frequency loading mode according to actual requirements. • Slope mode: Adjusts power based on the under-frequency point and loading slope. • Stop mode: Adjusts power based on the under-frequency start point and under-frequency end point.
Under-Frequency Start Point	When grid frequency is too low, the inverter increases active power output. The inverter starts increasing output power when grid frequency is less than this value.

Parameter Name	Description
Sell/Buy Power Transition Frequency	When the set frequency value is reached, the system transitions from selling power to buying power.
Under-Frequency End Point	When grid frequency is too low, the inverter increases active power output. The inverter does not continue to increase output power when grid frequency is less than this value.
Under-Frequency Power Slope Reference Power	Adjusts the inverter's active power output based on rated power, current power, apparent power, or maximum active power as the reference.
Under-Frequency Power Slope	When grid frequency is too low, the inverter increases active power output. The slope when the inverter output power rises.
Tentional Delay Ta	When grid frequency is below the under-frequency point, the delay response time for inverter output power change.
Hysteresis Function Enable	Enable the hysteresis function.
Frequency Hysteresis Point	During under-frequency loading, if the frequency increases, the power output is based on the lowest point of the loaded power until the frequency is higher than the hysteresis point, then power recovers.
Hysteresis Wait Time	For under-frequency loading with increasing frequency, when the frequency is above the hysteresis point, the waiting time for power recovery, i.e., power recovers only after waiting for a certain period.
Hysteresis Power Recovery Slope Reference Power	For under-frequency loading with increasing frequency, when the frequency is above the hysteresis point, the reference for power recovery, i.e., power recovers at the rate of recovery slope * reference power. Supported: Pn rated power, Ps apparent power, Pm current power, Pmax maximum power, power difference (△P).

Parameter Name	Description
Hysteresis Power Recovery Slope	For under-frequency loading with increasing frequency, when the frequency is above the hysteresis point, the power change slope during power recovery.
P(U) Curve Enable	Enable this function when setting the P(U) curve is required according to grid standards in certain countries or regions.
Vn Voltage	The ratio of the actual Vn point voltage to the rated voltage, n=1, 2, 3, 4. For example: Setting to 90 means: V/Vrated% = 90%.
Vn Active Power	The ratio of the inverter's active power output at the Vn point to the apparent power, n=1, 2, 3, 4. For example: Setting to 48.5 means: P/Prated% = 48.5%.
Output Response Mode	Set the active power output response mode. Supported: • First-order low-pass filter: Achieves output regulation according to the first-order low-pass curve within the response time constant. • Slope scheduling: Achieves output regulation according to the set power ramp rate.
Power Ramp Rate	When the output response mode is set to slope scheduling, active power scheduling is implemented according to the power ramp rate.
PT-1 Behavior Tau	When the output response mode is set to first-order low-pass filter, the time constant for active power change according to the first-order low-pass filter curve.
Overload Function Switch	When enabled, the maximum active power output is 1.1 times the rated power; otherwise, the maximum active power output is equal to the rated power value.

Reactive Power Mode

Q(U) Curve



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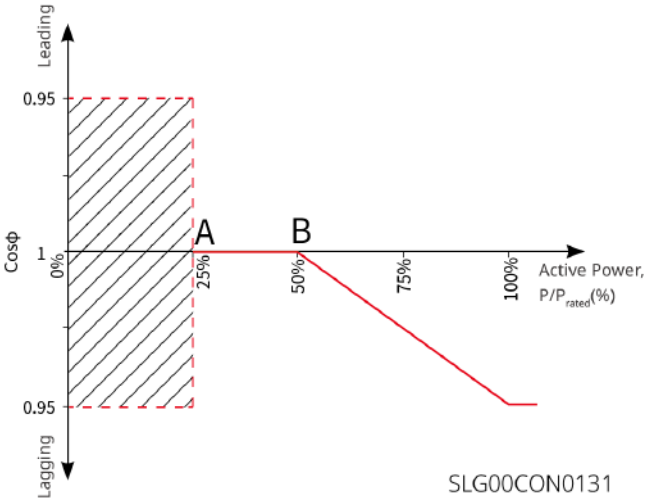
Cosφ Curve



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Parameter Name	Description
Fixed PF	
Fixed PF	According to the grid standards of certain countries or regions, when a fixed PF value is required, enable this function. After the parameters are set successfully, the power factor remains unchanged during inverter operation.
Under-excited	According to the grid standards of the country or region and actual usage requirements, set the power factor to a positive or negative number.
Over-excited	
Power Factor	Set the power factor according to actual needs, with a range from -1 to -0.8 and +0.8 to +1.

Parameter Name	Description
Fixed Q	
Fixed Q	According to the grid standards of certain countries or regions, when fixed reactive power is required, enable this function.
Over-excited/Under-excited	According to the grid standards of the country or region and actual usage requirements, set the reactive power as inductive reactive power or capacitive reactive power.
Reactive Power	Set the ratio of reactive power to apparent power.
Q(U) Curve	
Q(U) Curve	According to the grid standards of certain countries or regions, when setting the Q(U) curve is required, enable this function.
Mode Selection	Set the Q(U) curve mode, supporting basic mode and slope mode.
Vn Voltage	The ratio of the actual voltage at point Vn to the rated voltage, n=1, 2, 3, 4.
	For example: when set to 90, it means: V/Vrated% = 90%.
Vn Reactive Power	The ratio of the reactive power output by the inverter at point Vn to the apparent power, n=1, 2, 3, 4. For example: when set to 48.5, it means: Q/Srated% = 48.5%.
Voltage Dead Band Width	Set the voltage dead band when the Q(U) curve mode is set to slope mode. Within the dead band, there is no requirement for reactive power output.
Over-excited Slope	When the Q(U) curve mode is set to slope mode, set the power change slope as a positive or negative number.
Under-excited Slope	

Parameter Name	Description
Vn Reactive Power	The ratio of the reactive power output by the inverter at point Vn to the apparent power, n=1, 2, 3, 4. For example: when set to 48.5, it means: Q/Srated% = 48.5%.
Q(U) Curve Response Time Constant	The power must reach 95% within 3 response time constants according to a first-order low-pass curve.
Extended Function Enable	Enable the extended function and set the corresponding parameters.
Enter Curve Power	When the ratio of the inverter output reactive power to the rated power is between the enter curve power and exit curve power, it meets the Q(U) curve requirements.
Exit Curve Power	
cosφ(P) Curve	
cosφ(P) Curve	When setting the Cosφ curve is required according to the grid standards of certain countries or regions, select this function.
Mode Selection	Set the cosφ(P) curve mode, supporting basic mode and slope mode.
N Point Power	The percentage of inverter output active power to rated power at point N. N=A, B, C, D, E.
N Point cosφ Value	Power factor at point N. N=A, B, C, D, E.
Over-excited Slope	When the cosφ(P) curve mode is set to slope mode, set the power change slope as a positive or negative number.
Under-excited Slope	
n Point Power	The percentage of inverter output active power to rated power at point N. N=A, B, C.
n Point cosφ Value	Power factor at point N. N=A, B, C.

Parameter Name	Description
cosφ(P) Curve Response Time Constant	The power must reach 95% within 3 response time constants according to a first-order low-pass curve.
Extended Function Enable	Enable the extended function and set the corresponding parameters.
Enter Curve Voltage	When the grid voltage is between the enter curve voltage and exit curve voltage, it meets the Cosφ curve requirements.
Exit Curve Voltage	
Q(P) Curve	
Q(P) Curve Enable	According to the grid standards of certain countries or regions, when setting the Q(P) curve is required, enable this function.
Mode Selection	Set the Q(P) curve mode, supporting basic mode and slope mode.
Pn Point Power	The ratio of reactive power at point Pn to the rated power, n=1, 2, 3, 4, 5, 6. For example: when set to 90, it means: Q/Prated% = 90%.
Pn Point Reactive Power	The ratio of active power at point Pn to the rated power, n=1, 2, 3, 4, 5, 6. For example: when set to 90, it means: P/Prated% = 90%.
Over-excited Slope	When the Q(P) curve mode is set to slope mode, set the power change slope as a positive or negative number.
Under-excited Slope	
Pn Point Power	The ratio of reactive power at point Pn to the rated power, n=1, 2, 3. For example: when set to 90, it means: Q/Prated% = 90%.

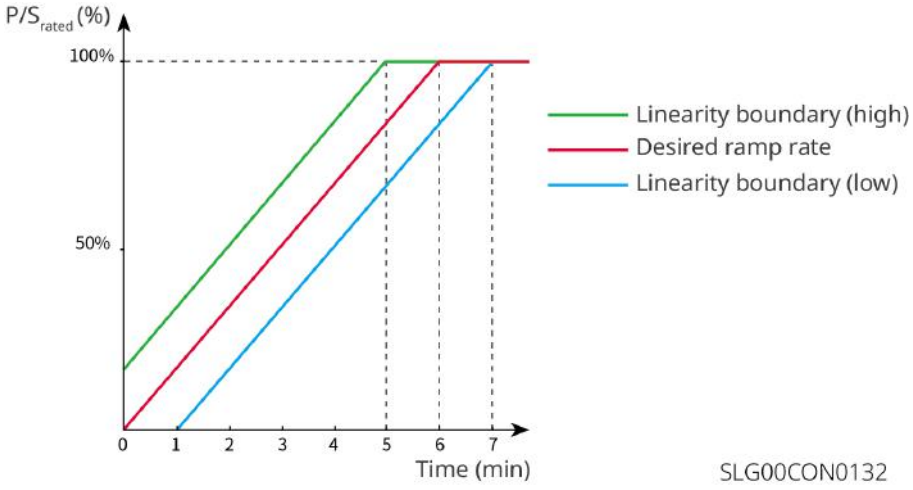
Parameter Name	Description
Pn Point Reactive Power	The ratio of active power at point Pn to the rated power, n=1, 2, 3. For example: when set to 90, it means: P/Prated% = 90%.
Response Time Constant	The power must reach 95% within 3 response time constants according to a first-order low-pass curve.

Grid Protection Parameters

Parameter Name	Description
Over-voltage Trigger n-stage Value	Set the grid over-voltage trigger n-stage protection point, n=1, 2, 3, 4.
Over-voltage Trigger n-stage Trip Time	Set the grid over-voltage trigger n-stage trip time, n=1, 2, 3, 4.
Under-voltage Trigger n-stage Value	Set the grid under-voltage trigger n-stage protection point, n=1, 2, 3, 4.
Under-voltage Trigger n-stage Trip Time	Set the grid under-voltage trigger n-stage trip time, n=1, 2, 3, 4.
10min Over-voltage Trigger Value	Set the 10min over-voltage trigger value.
10min Over-voltage Trip Time	Set the 10min over-voltage trigger trip time.
Over-frequency Trigger n-stage Value	Set the grid over-frequency trigger n-stage protection point, n=1, 2, 3, 4.

Parameter Name	Description
Over-frequency Trigger n-stage Trip Time	Set the grid over-frequency trigger n-stage trip time, n=1, 2, 3, 4.
Under-frequency Trigger n-stage Value	Set the grid under-frequency trigger n-stage protection point, n=1, 2, 3, 4.
Under-frequency Trigger n-stage Trip Time	Set the grid under-frequency trigger n-stage trip time, n=1, 2, 3, 4.

Grid Connection Parameters



Parameter Name	Description
Startup On-Grid	
Connection Voltage Upper Limit	When the inverter connects to the grid for the first time, if the grid voltage is higher than this value, the inverter will be unable to connect to the grid.
Connection Voltage Lower Limit	When the inverter connects to the grid for the first time, if the grid voltage is lower than this value, the inverter will be unable to connect to the grid.

Parameter Name	Description
Connection Frequency Upper Limit	When the inverter connects to the grid for the first time, if the grid frequency is higher than this value, the inverter will be unable to connect to the grid.
Connection Frequency Lower Limit	When the inverter connects to the grid for the first time, if the grid frequency is lower than this value, the inverter will be unable to connect to the grid.
On-Grid Waiting Time	When the inverter connects to the grid for the first time, the waiting time before connecting to the grid after the grid voltage and frequency meet the on-grid requirements.
Soft Ramp Up Slope Enable	Enable the soft ramp up slope function.
Soft Ramp Up Slope	According to the standard requirements of certain countries or regions, the percentage of power output increase per minute when the inverter starts up for the first time.
Fault Reconnection	
Connection Voltage Upper Limit	When the inverter reconnects to the grid after a fault, if the grid voltage is higher than this value, the inverter will be unable to connect to the grid.
Connection Voltage Lower Limit	When the inverter reconnects to the grid after a fault, if the grid voltage is lower than this value, the inverter will be unable to connect to the grid.
Connection Frequency Upper Limit	When the inverter reconnects to the grid after a fault, if the grid frequency is higher than this value, the inverter will be unable to connect to the grid.
Connection Frequency Lower Limit	When the inverter reconnects to the grid after a fault, if the grid frequency is lower than this value, the inverter will be unable to connect to the grid.
On-Grid Waiting Time	When the inverter reconnects to the grid after a fault, the waiting time before connecting to the grid after the grid voltage and frequency meet the on-grid requirements.

Parameter Name	Description
Reconnection Ramp Up Slope Enable	Enable the soft ramp up slope function.
Reconnection Ramp Up Slope	According to the standard requirements of certain countries or regions, the percentage of power output increase per minute when the inverter connects to the grid non-initially. For example: When set to 10, it indicates the reconnection ramp up slope is: 10% P/Srated/min.

Voltage Fault Ride-Through Parameters

Parameter Name	Description
Low Voltage Ride-Through	
UVn Point Voltage	During LVRT, the ratio of the ride-through voltage at the LVRT characteristic point to the rated voltage. n=1, 2, 3, 4, 5, 6, 7.
UVn Point Time	During LVRT, the ride-through time at the LVRT characteristic point. n=1, 2, 3, 4, 5, 6, 7.
LVRT Entry Threshold	When the grid voltage is between the LVRT entry threshold and the LVRT exit threshold, the inverter does not immediately disconnect from the grid.
LVRT Exit Threshold	
Slope K1	The K coefficient for reactive power support during LVRT.
Zero Current Mode Enable	When enabled, the system outputs zero current during LVRT.
Entry Threshold	Threshold for entering zero current mode.
High Voltage Ride-Through	
OVn Point Voltage	During HVRT, the ratio of the ride-through voltage at the HVRT characteristic point to the rated voltage. n=1, 2, 3, 4, 5, 6, 7.

Parameter Name	Description
OVn Point Time	During HVRT, the ride-through time at the HVRT characteristic point. n=1, 2, 3, 4, 5, 6, 7.
HVRT Entry Threshold	When the grid voltage is between the HVRT entry threshold and the HVRT exit threshold, the inverter does not immediately disconnect from the grid.
HVRT Exit Threshold	
Slope K2	The K coefficient for reactive power support during HVRT.
Zero Current Mode Enable	During HVRT, the system outputs zero current.
Entry Threshold	Threshold for entering zero current mode.

Frequency Fault Ride-Through Parameters

Parameter Name	Description
Frequency Traversal Enable	Enable the frequency traversal function.
UFn Point Frequency	Set the frequency for under-frequency point n. n=1, 2, 3.
UFn Point Time	Set the under-frequency time for under-frequency point n. n=1, 2, 3.
OFn Point Frequency	Set the frequency for over-frequency point n. n=1, 2, 3.
OFn Point Time	Set the over-frequency time for over-frequency point n. n=1, 2, 3.

8.7.3.2 Grid Connection Power Scheduling Parameters

Export power limit (General)

Parameter Name	Description
Export power limit	Enable this function when it is necessary to limit the output power according to the grid standards of certain countries or regions.
Power Limit	Set this based on the actual maximum power that can be fed into the grid.

Export power limit (Australia)

Parameter Name	Description
Software Grid Connection Power Limitation	Enable this function when output power needs to be restricted according to the grid standards of certain countries or regions.
Power Limit Value	• Set based on the actual maximum power that can be fed into the grid. • Supports setting a fixed power value or a percentage. The set percentage is the ratio of the limited power to the inverter's rated power. • After setting a fixed value, the percentage changes automatically; after setting a percentage, the fixed value changes automatically.
Hardware Grid Connection Power Limitation	After enabling this function, the inverter will automatically disconnect from the grid when the power fed into the grid exceeds the limit value.

Export power limit (UK)

Parameter Name	Description
Export power limit	Enable this function when output power needs to be limited according to grid standards in certain countries or regions.

Parameter Name	Description
Mode Selection	• Some models require selecting the current limiting mode. Supported modes: Per-phase current, Total current. • When set to Per-phase current, the current per phase is limited; when set to Total current, the total three-phase current is limited.
Current Limit	Set based on the actual maximum current that can be fed into the grid.

Export power limit (Brazil)

In regions like Brazil, users are allowed to set different power limits during different time periods to meet grid requirements.

Please download the template as prompted by the interface, and configure the power limit information for different time periods. After completing the template, upload it to the App to finish setting the time-of-use power limit.

Power Scheduling

Parameter Name	Description
Active Power Dispatch	
Active Dispatch Mode	According to the requirements of the grid company in the country/region where the inverter is located, control the active power based on the selected dispatch mode. Supports: • Disabled: Do not enable active dispatch. • Active Power (W): Dispatch according to a fixed value. • Active Power (%Pn): Dispatch according to the percentage of active power to rated power.
Reactive Power Dispatch	

Parameter Name	Description
Reactive Dispatch Mode	According to the requirements of the grid company in the country/region where the inverter is located, control the reactive power based on the selected dispatch mode. Supports: • Disabled: Do not enable reactive dispatch. • Reactive Power (Var): Dispatch according to a fixed value. • Reactive Power (%Pn): Dispatch according to the percentage of reactive power to rated power. • PF Compensation.
Night Reactive Power	
Night Reactive Power Enable	Enable the night reactive power function.
Night Reactive Power Scheduling Mode	According to the requirements of the grid company in the country/region where the inverter is located, control the night reactive power based on the selected scheduling mode. Supports: • Disabled: Do not enable reactive dispatch. • Night Reactive Power Scheduling (Var): Dispatch according to a fixed value. • Night Reactive Power Scheduling (%Pn): Dispatch according to the percentage of reactive power to rated power.

Power Scheduling Response Parameters

Parameter Name	Description
Active Power Dispatch Response Mode	Achieves the active power dispatch setpoint through dispatch response methods. Supports: • First-order low-pass filtering: Implements active power dispatch according to a first-order low-pass curve within the response time constant, and sets the time constant for when the active power follows the first-order low-pass filter curve. • Ramp rate mode: Implements active power dispatch according to the power change rate, and sets the active power dispatch change rate.
Reactive Power Dispatch Response Mode	Achieves the reactive power dispatch setpoint through dispatch response methods. Supports: • First-order low-pass filtering: Implements reactive power dispatch according to a first-order low-pass curve within the response time constant, and sets the time constant for when the reactive power follows the first-order low-pass filter curve. • Ramp rate mode: Implements reactive power dispatch according to the power change rate, and sets the reactive power dispatch change rate.

8.7.3.3 Grid Remote Dispatch Parameters

According to the grid standard requirements of certain countries or regions, it is necessary to connect third-party dispatch equipment to achieve remote dispatch functionality for the photovoltaic system.

- Remote Shutdown: Achieves the Remote Shutdown function through a signal control port. In case of an unexpected event, the device can be controlled to stop working.
- DRED (Demand Response Enabling Device): Controls the device through the DRED signal control port, meeting certification requirements such as DERD in regions like Australia.

- RCR (Ripple Control Receiver): Controls the device through the RCR signal control port, meeting grid dispatch requirements in regions like Germany.
- EnWG (Energy Industry Act) 14a: All controllable loads must accept emergency dimming from the grid. Grid operators can temporarily reduce the maximum grid power purchase capacity of controllable loads to 4.2kW.

8.7.3.4 Reuse Port Parameters

Load Control Parameters

When the Inverter supports the load control function, the load can be controlled via the App.

For the ET40-50kW series Inverter, the load control function is only supported when the Inverter is used with STS. The Inverter supports load control for the GENERATOR port or BACKUP LOAD port.

- Dry Contact Mode: When the switch status is selected as ON, power supply to the load starts; when the switch status is set to OFF, power supply to the load stops. Please set the switch status to ON or OFF according to actual needs.
- Time Mode: During the set time period, the load will automatically be powered on or off. Standard mode or smart mode can be selected.

Parameter Name	Description
Standard Mode	Will supply power to the load during the set time period.
Smart Mode	During the set time period, begins supplying power to the load when the surplus energy generated by photovoltaics exceeds the preset load rated power.
Start Time	The time mode will be active during the period between the start time and the stop time.
Stop Time	
Repeat	Set the repetition frequency.
Minimum Load Operating Time	Applies only to Smart Mode. The minimum operating time for the load after it is turned on, to prevent frequent switching of the load due to energy fluctuations.
Load Rated Power	Applies only to Smart Mode. Begins supplying power to the load when the surplus energy generated by photovoltaics exceeds this load rated power.

- SOC Mode: The Inverter has a built-in relay dry contact control port (for ET40-50kW series Inverter, it is the STS built-in control port), which can control whether to supply power to the load. In off-grid mode, if overload is detected at the BACK-UP end or GENERATOR end, or the battery SOC protection function is triggered, power supply to the load connected to the port can be stopped.

Generator Control Parameters

When the Inverter supports the generator control function, the generator can be controlled via the App.

For the ET40-50kW series Inverter, the generator can only be connected and controlled when the Inverter is used with STS.

For the ET50-100kW series Inverter, the generator can only be connected and controlled when the Inverter is used with STS.

- No generator connected: When no generator is connected to the energy storage system, please select no generator connected.
- Manual control of generator (dry contact connection not supported): The generator needs to be manually started and stopped, and the Inverter cannot control the generator start and stop.
- Automatic control of generator (dry contact connection supported): When the generator has a dry contact control port and is connected to the Inverter, the generator control mode of the Inverter needs to be set to switch control mode or automatic control mode in the App.
  - Switch control mode: When the switch status is turned on, the generator works; the generator can automatically stop working after running for the set time.
  - Automatic control mode: During the set prohibited working time period, the generator is prohibited from working; during the running time period, the generator works.

Parameter Name	Description
Dry Node Control Method	Switch Control Mode / Automatic Control Mode.
Switch Control Mode	
Diesel Generator Dry Node Switch	Applicable only to Switch Control Mode.

Parameter Name	Description
Operation Time	The continuous operation time of the generator. The generator stops running after reaching this time.
Automatic Control Mode	
Prohibited Operation Time	Set the time period when generator operation is prohibited.
Operation Time	The continuous operation time after the generator starts. The generator stops running after reaching this time. If the generator's operation period includes a prohibited operation time, the generator stops running during that period. After the prohibited operation time ends, the generator restarts operation and timing.

Parameter Name	Description
Generator Information Setting	
Rated Power	Set the rated operating power of the generator.
Run Time	Set the continuous run time of the generator. The generator will be shut down after this duration.
Voltage Upper Limit	Set the operating voltage range for the generator.
Voltage Lower Limit	
Frequency Upper Limit	Set the operating frequency range for the generator.
Frequency Lower Limit	
Warm-up Time	Set the no-load warm-up time for the generator.
Diesel Generator Battery Charging Setting	
Switch	Select whether to use the generator to charge the battery.

Parameter Name	Description
Max. Charging Power (‰)	The charging power when the generator charges the battery.
Start Charging SOC	When connected to a lithium battery, set the SOC threshold for generator startup. The generator starts to charge the battery when the battery SOC falls below this value.
Stop Charging SOC	When connected to a lithium battery, set the SOC threshold for generator shutdown. The generator stops charging the battery when the battery SOC rises above this value.
Start Charging Voltage	When connected to a lead-acid battery, set the voltage threshold for generator startup. The generator starts to charge the battery when the battery voltage falls below this value.
Stop Charging Voltage	When connected to a lead-acid battery, set the voltage threshold for generator shutdown. The generator stops charging the battery when the battery voltage rises above this value.

Microgrid Control Parameters

Parameter Name	Description
Battery Charge Max SOC	When the battery type is lithium battery, set the upper limit for charging SOC. Charging stops once this limit is reached.
Battery Charge Max Voltage	When the battery type is lead-acid battery, set the upper limit for charging voltage. Charging stops once this limit is reached.
Microgrid Force Start Charging	• During a grid fault, if the battery level is too low to support the energy storage inverter's off-grid operation. Click this button to forcibly start the energy storage inverter to output voltage to the grid-tied inverter, thereby starting the grid-tied inverter. • Takes effect once.

Parameter Name	Description
Hourly Trigger	• During a grid fault, if the battery level is too low to support the energy storage inverter's off-grid operation. After enabling this function, the system will forcibly start the energy storage inverter at a fixed time to output voltage to the grid-tied inverter, thereby starting the grid-tied inverter. • Takes effect multiple times.
Grid Limit Power Offset Value	Set the adjustable range for the maximum power the device can actually purchase from the grid.

8.7.4 Battery Parameters

Parameter Settings - Information Configuration
Based on the actual connected battery type, select the battery model.

Parameter Settings - Lead Acid Settings
When connecting a lead acid battery, it is necessary to set the lead acid battery parameters.

Parameter Name	Description
Battery Parameters	
BMS Battery Capacity	Set the battery capacity according to the actual parameters.
BMS Battery Internal Resistance	Set the battery internal resistance according to the actual parameters.

Parameter Name	Description
BM Temperature Compensation	• When the battery temperature changes, the battery charging voltage is affected. Using 25°C as the baseline, for every degree of battery temperature change, the charging voltage upper limit is adjusted according to the set value. • For example, if the charging temperature influence coefficient is set to 10, when the battery temperature rises to 26°C, the charging voltage upper limit decreases by 10mV.
Discharge Parameters	
Discharge Parameters	Set the parameters for battery discharge according to actual requirements.
Charging Parameters	
Constant Charging Voltage	Set the voltage value for battery constant charging according to actual requirements.
Float Charging Voltage	Set the voltage value for battery float charging according to actual requirements.
Float Charging Current	The maximum charging current after the battery charging mode switches from constant/equalizing charging to float charging.
Switch to Float Charging Mode	The duration required for the battery charging mode to switch from constant/equalizing charging to float charging.
Equalizing Charge Cycle	Set the interval in days for battery equalizing charging.

Parameter Settings - Lithium Battery Settings

When connecting a lithium battery, it is necessary to set the lithium battery parameters.

Parameter Name	Description
Maximum Charging Current	Applicable to some models. Set the maximum charging current for the battery according to actual requirements.
Maximum Discharge Current	Applicable to some models. Set the maximum discharge current for the battery according to actual requirements.
Battery Heating	• Optional. This option is displayed on the interface when a battery with heating function is connected. After enabling the battery heating function, when the battery temperature does not support battery startup, PV generation or grid power will be used to heat the battery. • The heating mode temperature varies for different battery models. Please refer to the actual specifications. • Enabling the battery heating function consumes a portion of system power. The battery heating function is enabled by default to operate in low-power mode. It can be switched to other power modes if needed. • The start and stop of the battery heating function are automatically controlled by the BMS based on the ambient temperature. Therefore, the installation environment and location of the device will affect the start and stop of the heating function. • Supports setting heating time periods according to actual needs, but within the set periods, the heating function will still automatically start and stop based on ambient temperature. • If PV and AC power only meet the load demand, and the battery power is insufficient to support self-heating, the heating function cannot be enabled.
Battery Wake-up	• After enabling, the battery can be woken up after it shuts down due to undervoltage protection. • Only applicable to lithium batteries without circuit breakers. After enabling, the output voltage at the battery port is about 60V.

Parameter Name	Description
Breathing Light	• Only applicable to ESA 3-10kW series inverters. • Set the breathing light flashing duration. Supported: Always On, Always Off, 3min. • The default mode is to light up for three minutes after power-on and then automatically turn off.

Protection Parameters - Limit Protection

Parameter Name	Description
SOC Upper Limit	The upper limit for battery charging. Charging stops when the battery SOC reaches this upper limit.
SOC Protection	When enabled, if the battery capacity falls below the set Depth of Discharge (DOD), the battery protection function can be activated.
Grid-connected Battery DOD	The maximum allowable discharge value for the battery when the inverter is operating in grid-connected mode.
Off-grid Battery DOD	The maximum allowable discharge value for the battery when the inverter is operating in off-grid mode.
Backup SOC Maintenance	To ensure the battery SOC is sufficient to maintain normal system operation during off-grid periods, the system will charge the battery via grid power to the set SOC protection value when operating in grid-connected mode.
Off-grid Recovery SOC	When the inverter is operating in off-grid mode, if the battery SOC drops to the SOC lower limit, the inverter stops output and is used solely to charge the battery until the battery SOC recovers to the Off-grid Recovery SOC value. If the SOC lower limit is higher than the Off-grid Recovery SOC value, charging will continue until SOC lower limit + 10%.

Battery Instant Charge Parameters

Parameter Name	Description
Immediate Charging	When enabled, the battery is charged immediately from the grid. Takes effect only once.
Stop Charging SOC	When the battery SOC reaches the immediate charging SOC upper limit, battery charging will stop.
Immediate Charging Power	The percentage of the charging power relative to the inverter's rated power when Immediate Charging starts. For example, for an inverter with a rated power of 10kW, setting it to 60 means the charging power is 6kW.
Start	Start charging immediately.
Stop	Stop the current charging task immediately.

8.7.5 Electricity Meter Parameters

Parameter Name	Description
Meter Binding	• When a grid-tied inverter and an energy storage inverter are used simultaneously in a photovoltaic system to achieve coupling or microgrid functions, dual meters may be used in the system. Please set the meter binding information according to the actual usage. • Only applicable to GoodWe meters.
Meter/CT Auxiliary Detection	Using this function, you can detect whether the meter CT is connected correctly and its current operating status.
External Meter CT Ratio	Set the ratio between the primary side current and the secondary side current of the externally connected meter CT.

8.7.6 Smart Communication Stick Parameters

NOTICE
The communication configuration interface may vary when different communication modules are connected to the inverter. Please refer to the actual interface.

Communication Parameters

Parameter Name	Description
WLAN/LAN	
WLAN Control	Disabled by default. When this function is enabled, the App can connect to the device via WLAN when they are on the same local area network; otherwise, connection is not possible even on the same network.
Modbus TCP	When enabled, third-party platforms can access the inverter via the ModbusTCP protocol to implement monitoring functions.
LAN	Automatically identifies the LAN network to which the device is connected.
WLAN	Select the actual WiFi network for the device to connect to, enabling communication between the device and the router or switch.
4G	
APN Settings	• APN settings are only applicable for configuring SIM card information for 4G communication devices. • If the 4G module does not provide a Bluetooth signal, please first configure the APN parameters via the Bluetooth module or WiFi module to enable 4G communication.
Bluetooth	

Parameter Name	Description
Bluetooth Stays On	Disabled by default. When this function is enabled, the device's Bluetooth stays on, maintaining the connection with the App. Otherwise, the device's Bluetooth will turn off after 5 minutes, disconnecting from the App.

Password

Supports modifying the password for logging into the App during local connection. When connecting locally via WiFi, supports modifying the hotspot password of the WiFi communication stick.

Control/Enable Parameters

Parameter Name	Description
FTP	When this function is enabled, system operation data can be uploaded to a specified server via the FTP protocol, enabling remote monitoring.
Remote Maintenance	When this function is enabled, remote maintenance of the device is supported, such as remote upgrades.
Restore Factory Settings	Restores the Smart Communication Stick to its factory settings, including passwords, network configuration information, etc.

8.7.7 Household Energy Management Device Parameters

NOTICE
Please set parameters according to local laws, regulations, and grid standard requirements.

Grid Control Parameters

No.	Parameter Name	Description
1	Enable Function	According to the grid standards of some countries or regions, enable this function when output power needs to be limited.
2	Power Limit	According to the requirements of some countries or regions, set the maximum power that the device can actually input to the grid.
3	Power Limited Type	Select the method to control the device output power based on actual conditions. • Total Power: Control the total power at the grid connection point not to exceed the output power limit. • Single-phase Power: Control the power of each phase at the grid connection point not to exceed the output power limit.
4	Grid Connection Power Limit Offset	Set the adjustable range for the maximum power that the device can actually input to the grid. Maximum power delivered to the grid = Maximum grid feed-in power + Maximum grid feed-in power offset value.
5	Reverse Power Protection Handling Method	When reverse power occurs in the system for longer than the maximum protection time (default 5s), the following protection measures can be taken: • Power Limit: The device continues to operate at a percentage of the rated power. • Device disconnects from the grid.
6	Power Limit Protection Handling	The device continues to operate at a percentage of the rated power.
7	Meter Communication Abnormality Handling	Enable this function, and protection measures will be taken when there is abnormal communication between the meter and the device.

No.	Parameter Name	Description
8	Meter Abnormality Handling Method	When meter communication abnormality occurs in the system, the following protection measures can be taken: • Power Limit: The device continues to operate at a percentage of the rated power. • Device disconnects from the grid.
9	Meter Handling Power Limit	The device continues to operate at a percentage of the rated power.

Power Control Parameters

No.	Parameter Name	Description
RCR: According to regional standard requirements such as in Germany, the device must provide an RCR (Ripple Control Receiver) signal control port to meet grid dispatch demands.		
1	RCR	Enable or disable the RCR function.
2	Active Dispatch	• Select one or more DI ports according to grid company requirements and the RCR fixture type, and set the corresponding percentage. The percentage refers to the system output power as a percentage of the rated power. • Supports configuration of 16 percentage levels. Please set according to the actual requirements of the grid company. • Do not duplicate the state combinations for DI1-DI4, otherwise the function will not execute properly. • If the actual wiring of the connected DI port does not match the set value, the operating status will not take effect.

<table>
<tr><th>No.</th><th>Parameter Name</th><th>Description</th></tr>
<tr><td>3</td><td>Reactive Dispatch</td><td>• Select one or more DI ports according to grid company requirements and the RCR fixture type, and set the corresponding PF value.
• Supports configuration of 16 power factor levels. Please set according to the actual requirements of the grid company.
• PF value range requirement: [-100, -80] or [80,100]. [-100, -80] corresponds to a lagging power factor of [-0.99, -0.8], [80,100] corresponds to a leading power factor of [0.8,1].
• Do not duplicate the state combinations for DI1-DI4, otherwise the function will not execute properly.
• If the actual wiring of the connected DI port does not match the set value, the operating status will not take effect.</td></tr>
<tr><td colspan="3">RCR&EnWG 14a:

• According to regional standard requirements such as in Germany, the device must provide an RCR (Ripple Control Receiver) signal control port to meet grid dispatch demands.
• For regions subject to the EnWG 14a regulation, all controllable loads must accept emergency dimming from the grid. The grid operator can temporarily reduce the maximum grid import power of controllable loads to 4.2kW.</td></tr>
<tr><td>4</td><td>RCR&EnWG 14a</td><td>Enable or disable the RCR&EnWG 14a function.</td></tr>
<tr><td>5</td><td>Import Power Limit</td><td>Set the upper limit for power imported from the grid according to local grid regulations.</td></tr>
</table>

No.	Parameter Name	Description
6	Active Dispatch	• The DI4 port is fixed for EnWG 14a use. • Select one or more DI ports according to grid company requirements and the RCR fixture type, and set the corresponding percentage. The percentage refers to the system output power as a percentage of the rated power. • Supports configuration of 8 percentage levels. Please set according to the actual requirements of the grid company. • Do not duplicate the state combinations for DI1-DI3, otherwise the function will not execute properly. • If the actual wiring of the connected DI port does not match the set value, the operating status will not take effect.
7	Reactive Dispatch	• The DI4 port is fixed for EnWG 14a use. • Select one or more DI ports according to grid company requirements and the RCR fixture type, and set the corresponding PF value. • Supports configuration of 8 power factor levels. Please set according to the actual requirements of the grid company. • PF value range requirement: [-100, -80] or [80,100]. [-100, -80] corresponds to a lagging power factor of [-0.99, -0.8], [80,100] corresponds to a leading power factor of [0.8,1]. • Do not duplicate the state combinations for DI1-DI3, otherwise the function will not execute properly. • If the actual wiring of the connected DI port does not match the set value, the operating status will not take effect.
Remote Shutdown: According to requirements in certain countries or regions, the device must provide a remote shutdown function to control the device to stop working in emergency situations.		
8	Remote Shutdown	Enable or disable the remote shutdown function.

No.	Parameter Name	Description
9	Recovery On-Grid Immediate	If you need to restore the on-grid status after the device is shut down, please manually power on the device first, then click Recovery On-Grid Immediate.

Other Parameters

No.	Parameter Name	Description
Meter Settings		
1	Select Meter	Select the actual connected meter model.
2	Wiring Mode	Set the meter wiring method. Supported: • Single-phase, two-wire • Three-phase, three-wire • Three-phase, four-wire
3	CT Ratio	• Set when the meter model is GM330. • Set the CT ratio value of the meter.
Antenna Settings		
4	Select Antenna	Select the built-in antenna or external antenna according to the actual situation.
Time Settings		
5	Network Time Sync	After enabling, select the time server to synchronize time based on the chosen time source.

No.	Parameter Name	Description
6	Time Server	Set the time synchronization server. Supported: • time.google.com • pool.ntp.org • ntp.aliyun.com

Export Logs
Supports exporting device operation logs. Before exporting logs, please ensure the HEMS and the mobile phone are connected to the same router.

8.7.8 Operation and Maintenance Parameters

Parameter Name	Description
Firmware Upgrade	• Supports viewing or upgrading software versions such as the inverter's DSP version, ARM version, BMS version, AFCI version, STS version, communication module, etc. • Some devices do not support upgrading software versions via the App. Please refer to the actual device capabilities.
Log Export	• Supports exporting, downloading, and sharing logs. • Supports exporting different types of logs, such as communication module logs, inverter logs, etc. • Some models support exporting safety parameter files after selecting the safety regulation country.
Utility grid	
Auto Test	Enable this function when grid connection auto-test needs to be set up according to the grid standards of certain countries or regions.

9 Maintenance

9.1 Power OFF the System

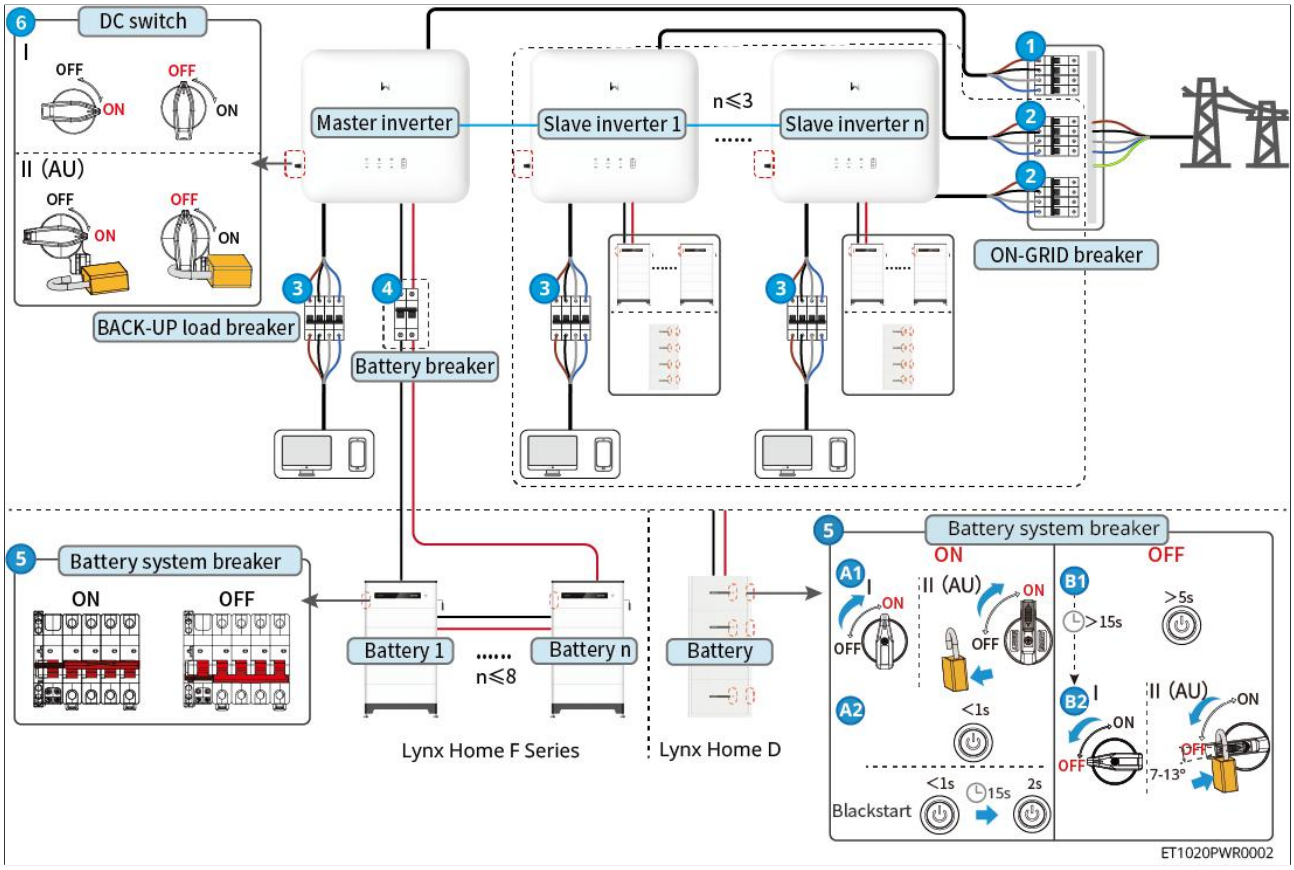
⚠DANGER

- When performing operation and maintenance on equipment within the system, please power off the system. Operating equipment while energized may cause equipment damage or electric shock hazard.
- After equipment power-off, internal components require a certain time to discharge. Please wait according to the label time requirement until the equipment is completely discharged.
- Restarting the battery should be performed using the air switch power-on method.
- When shutting down the battery system, strictly adhere to the battery system power-off requirements to prevent damage to the battery system.
- When there are multiple batteries in the system, powering off any one battery will power off all batteries.

NOTICE

- The circuit breakers between the inverter and the battery, and between battery systems, must be installed in accordance with local laws and regulations.
- To ensure effective protection of the battery system, keep the cover plate of the battery system switch closed. The protective cover should automatically close after being opened. If the battery system switch will not be used for an extended period, secure it with screws.

Power OFF Procedure



Power ON/OFF Steps: ❶→❷→❸→❹→❺→❻

❹ : Optional based on local laws and regulations.

9.2 Removing the Equipment

⚠DANGER

- Ensure the device is powered off.
- When operating the device, wear personal protective equipment.
- Use standard disassembly tools when removing wiring terminals to avoid damaging the terminals or device.
- Unless otherwise specified, the device disassembly method is the reverse order of the installation method, and this document will not elaborate further.

1. Power down the system.

2. Use labels to mark the cable types for the connected cables in the system.
3. Disconnect the connection cables of the inverter, battery, and smart meter in the system, such as: DC cables, AC cables, communication cables, PE cables.
4. Remove devices such as the smart communication stick, inverter, battery, and smart meter.
5. Properly store the equipment. If it will be put into use later, ensure that the storage conditions meet the requirements.

9.3 Disposing of the Equipment

When the equipment can no longer be used and needs to be disposed of, please dispose of the equipment according to the electrical waste disposal regulations of the country/region where the equipment is located, and do not dispose of the equipment as household waste.

9.4 Routine Maintenance

⚠WARNING

- If any issues are discovered that may affect the battery or energy storage inverter system, contact after-sales personnel. Disassembly by unauthorized personnel is prohibited.
- If exposed copper wires are found inside the conductive cable, do not touch them. High voltage hazard. Contact after-sales personnel. Disassembly by unauthorized personnel is prohibited.
- In case of any other emergencies, contact after-sales personnel immediately. Operate only under the guidance of after-sales personnel, or wait for them to perform on-site operations.

Maintenance Item	Maintenance Method	Maintenance Cycle	Maintenance Purpose
System Cleaning	Check the heat sink, fan, and air inlet/outlet for foreign objects and dust. Check if the installation space meets requirements, and check for debris accumulation around the equipment.	Once every six months	Prevent cooling failures.
System Installation	Check if the equipment installation is secure and if fastening screws are loose. Check the equipment exterior for damage or deformation.	Once every six months to once a year	Confirm equipment installation stability.
Electrical Connection	Check if electrical connections are loose, if cable exteriors are damaged, or if exposed copper is present.	Once every six months to once a year	Confirm electrical connection reliability.
Sealing	Check if the sealing of the equipment's cable entry holes meets requirements. If gaps are too large or unsealed, reseal them.	Once a year	Confirm the machine is sealed and its waterproof performance is intact.
Battery Maintenance	If the battery has not been used for a long time or is not fully charged, it is recommended to charge it periodically.	Once every 15 days	Protect battery service life.

9.5 fault

9.5.1 Viewing Fault/Alarms Information

Detailed information for all faults and alarms of the energy storage system is displayed on the [SolarGo App], [Xiaogu Cloud Window+ App], and [Xiaogu Cloud Window+ WEB]. If your product experiences an abnormality and no related fault information is seen on the [SolarGo App], [Xiaogu Cloud Window+ App], or [Xiaogu Cloud Window+ WEB], please contact the after-sales service center.

- SolarGo App

View the energy storage system alarm information via [Home] > [Parameters] > [Alarms].

- Xiaogu Cloud Window App

1. Open the Xiaogu Cloud Window App and log in with any account.
2. View fault information for all power stations via [power station] > [Alarms].
3. Click on a specific fault name to view details such as the time of occurrence, possible causes, and solutions.

Xiaogu Cloud Window+ WEB

- Open Xiaogu Cloud Window+ WEB and log in with any account.
- On the power station details interface, click [Alarms] to view all alarm information for the current power station.

9.5.2 Fault Information and Troubleshooting

Please perform troubleshooting according to the following methods. If the troubleshooting methods cannot help you, please contact the after-sales service center.
When contacting the after-sales service center, please collect the following information to facilitate a quick resolution.

1. Product information, such as: serial number, software version, device installation time, fault occurrence time, fault frequency, etc.
2. Device installation environment, such as: weather conditions, whether components are blocked, have shadows, etc. It is recommended to provide photos, videos, and other files of the installation environment to assist in problem analysis.
3. Grid conditions.

9.5.2.1 System Failure

If the system experiences a problem not listed, or if following the instructions still fails to prevent the problem or abnormality, immediately stop operating the system and contact your dealer at once.

No.	Fault	Resolution
1	Unable to search for the smart communication stick's wireless signal	1. Ensure no other devices are connected to the smart communication stick's wireless signal. 2. Ensure the SolarGo app is updated to the latest version. 3. Ensure the smart communication stick is powered normally, with the blue signal light blinking or steadily on. 4. Ensure the smart device is within the communication range of the smart communication stick. 5. Refresh the device list in the App. 6. Restart the inverter.
2	Unable to connect to the smart communication stick's wireless signal	1. Ensure no other devices are connected to the smart communication stick's wireless signal. 2. Restart the inverter or the communication stick, then try connecting to the smart communication stick's wireless signal again. 3. Ensure Bluetooth pairing and encryption are successful.
3	Unable to find the router SSID	1. Place the router closer to the smart communication stick, or add a WiFi repeater to enhance the WiFi signal. 2. Reduce the number of devices connected to the router.
4	After all configurations are complete, the smart communication stick fails to connect to the router	1. Restart the inverter. 2. Check if the network name (SSID), encryption method, and password in the WiFi configuration match those of the router. 3. Restart the router. 4. Place the router closer to the smart communication stick, or add a WiFi repeater to enhance the WiFi signal.

No.	Fault	Resolution
5	After all configurations are complete, the smart communication stick fails to connect to the server	Restart the router and the inverter.

9.5.2.2 Inverter Fault

9.5.2.2.1 Troubleshooting (Fault Codes F01-F40)

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F01	Grid Power Outage	1. Grid power outage. 2. AC line or AC switch is disconnected.	1. The alarm will clear automatically after grid power is restored. 2. Check if the AC line or AC switch is disconnected.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F02	Grid Overvoltage Protection	The grid voltage is higher than the allowable range, or the duration of high voltage exceeds the HVRT set value.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid voltage is within the allowable range. If not, contact the local power operator. If it is, you also need to modify the grid overvoltage protection point after obtaining consent from the local power operator. 3. If normal operation cannot be restored for a long time, check if the AC side circuit breaker and output cables are properly connected.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F03	Grid Undervoltage Protection	The grid voltage is lower than the allowable range, or the duration of low voltage exceeds the LVRT set value.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid voltage is within the allowable range. If not, contact the local power operator. If it is, you also need to modify the grid undervoltage protection point after obtaining consent from the local power operator. 3. If normal operation cannot be restored for a long time, check if the AC side circuit breaker and output cables are properly connected.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F04	Grid Rapid Overvoltage Protection	Abnormal grid voltage detection or extremely high voltage triggers the fault.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid voltage is within the allowable range. If not, contact the local power operator. If it is, you also need to modify the grid undervoltage protection point after obtaining consent from the local power operator. 3. If normal operation cannot be restored for a long time, check if the AC side circuit breaker and output cables are properly connected.
F05	10min Overvoltage Protection	The moving average of grid voltage within 10min exceeds the range specified by safety regulations.	Check if the grid voltage has been operating at a high level for an extended period. If it occurs frequently, check if the grid frequency is within the allowable range. If not, contact the local power operator. If it is, you also need to modify the grid 10min overvoltage protection point after obtaining consent from the local power operator.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F06	Grid Overfrequency	Grid anomaly: The actual grid frequency is higher than the local grid standard requirements.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid frequency is within the allowable range. If not, contact the local power operator. If it is, you also need to modify the grid overfrequency protection point after obtaining consent from the local power operator.
F07	Grid Underfrequency	Grid anomaly: The actual grid frequency is lower than the local grid standard requirements.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid frequency is within the allowable range. If not, contact the local power operator. If it is, you also need to modify the grid overfrequency protection point after obtaining consent from the local power operator.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F08	Grid Frequency Instability	Grid anomaly: The rate of change of the actual grid frequency does not comply with the local grid standard.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid frequency is within the allowable range. If not, contact the local power operator.
F09	Anti-islanding Protection	The grid has been disconnected, but grid voltage is maintained due to the presence of loads. Grid connection is stopped according to safety regulation protection requirements.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid frequency is within the allowable range. If not, contact the local power operator.
F10	LVRT Undervoltage	Grid anomaly: The duration of abnormal grid voltage exceeds the time specified by the LVRT/HVRT regulations.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid voltage and frequency are within the allowable range and stable. If not, contact the local power operator.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F11	HVRT Overvoltage	Grid anomaly: The duration of abnormal grid voltage exceeds the time specified by the LVRT/HVRT regulations.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid voltage and frequency are within the allowable range and stable. If not, contact the local power operator.
F12	30mA GFCI Protection	The insulation impedance to ground of the input becomes low during inverter operation.	1. If it occurs occasionally, it may be caused by a temporary external line anomaly. The inverter will resume normal operation after the fault is cleared, requiring no manual intervention. 2. If it occurs frequently or normal operation cannot be restored for a long time, check if the PV string's impedance to ground is too low.
F13	60mA GFCI Protection	The insulation impedance to ground of the input becomes low during inverter operation.	1. If it occurs occasionally, it may be caused by a temporary external line anomaly. The inverter will resume normal operation after the fault is cleared, requiring no manual intervention. 2. If it occurs frequently or normal operation cannot be restored for a long time, check if the PV string's impedance to ground is too low.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F14	150mA GFCI Protection	The insulation impedance to ground of the input becomes low during inverter operation.	1. If it occurs occasionally, it may be caused by a temporary external line anomaly. The inverter will resume normal operation after the fault is cleared, requiring no manual intervention. 2. If it occurs frequently or normal operation cannot be restored for a long time, check if the PV string's impedance to ground is too low.
F15	GFCI Gradual Change Protection	The insulation impedance to ground of the input becomes low during inverter operation.	1. If it occurs occasionally, it may be caused by a temporary external line anomaly. The inverter will resume normal operation after the fault is cleared, requiring no manual intervention. 2. If it occurs frequently or normal operation cannot be restored for a long time, check if the PV string's impedance to ground is too low.
F16	DCI Level 1 Protection	The DC component of the inverter output current is higher than the range allowed by safety regulations or the machine's default settings.	1. If it is caused by an anomaly introduced by an external fault, the inverter will automatically resume normal operation after the fault disappears, requiring no manual intervention. 2. If this alarm occurs frequently, affecting normal power generation of the power station, contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F17	DCI Level 2 Protection	The DC component of the inverter output current is higher than the range allowed by safety regulations or the machine's default settings.	1. If it is caused by an anomaly introduced by an external fault, the inverter will automatically resume normal operation after the fault disappears, requiring no manual intervention. 2. If this alarm occurs frequently, affecting normal power generation of the power station, contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F18	Low Insulation Resistance	1. PV string short-circuited to protective earth. 2. The PV strings are installed in a long-term humid environment with poor line-to-ground insulation. 3. Low insulation impedance of the battery port lines to ground.	1. Check the impedance of the PV string/battery port to protective earth. A value greater than 80kΩ is normal. If the checked value is less than 80kΩ, locate and rectify the short-circuit point. 2. Check if the inverter's protective earth wire is correctly connected. 3. If it is confirmed that the impedance is indeed below the default value in rainy/cloudy conditions, reset the inverter's "Insulation Resistance Protection Point" via the App. For inverters in the Australian and New Zealand markets, when an insulation resistance fault occurs, the alarm can also be indicated in the following ways: 1. The inverter is equipped with a buzzer. When a fault occurs, the buzzer sounds continuously for 1 minute; if the fault is not resolved, the buzzer sounds again every 30 minutes. 2. If the inverter is added to a monitoring platform and alarm notification methods are set, alarm information can be sent to the customer via email.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F19	Grounding Abnormal	1. The inverter's protective earth wire is not connected. 2. When the PV string output is grounded, an isolation transformer is not connected on the inverter output side.	1. Please confirm if the inverter's protective earth wire is not properly connected. 2. In scenarios where the PV string output is grounded, please confirm if an isolation transformer is connected on the inverter output side.
F20	Hardware Anti-reverse Flow Protection	Abnormal load fluctuation	1. If it is caused by an anomaly introduced by an external fault, the inverter will automatically resume normal operation after the fault disappears, requiring no manual intervention. 2. If this alarm occurs frequently, affecting normal power generation of the power station, contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F21	Internal Comm Loss	Slave DSP1 communication timeout - Master DSP, Slave DSP2 communication timeout - Master DSP, Slave DSP2 communication timeout - Slave DSP1, Master DSP communication timeout - Slave DSP1, Master DSP communication timeout - Slave DSP2, or Slave DSP1 communication timeout - Slave DSP2: 1. IC not powered on 2. IC firmware version error	Turn off the AC output side switch and DC input side switch, wait for 5 minutes, then turn on the AC output side switch and DC input side switch. If the fault persists, contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
		Master DSP CAN module error, Slave DSP1 CAN module error, or Slave DSP2 CAN module error: 1. Frame format error 2. Parity error 3. CAN bus offline 4. Hardware CRC error 5. Control bit is set to receive (transmit) during transmission (reception) 6. Transmission to a disallowed unit	
F22	Generator Waveform Detection Fault	1. This fault will be displayed continuously when a generator is not connected; 2. When the generator is operating, this fault will be triggered if it does not meet generator safety regulations.	1. Ignore this fault if a generator is not connected; 2. When this fault appears due to a generator fault, it is normal. After the generator recovers, wait for a period of time, and the fault will clear automatically; 3. This fault does not affect the normal operation of off-grid mode. 4. If both the generator and grid are connected and meet safety regulation requirements, the grid has priority for grid-connection, and the unit will operate in grid-tied state.
F23	Generator Abnormal Connection		
F24	Generator Voltage Low		
F25	Generator Voltage High		
F26	Generator Frequency Low		

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F27	Generator Frequency High		
F28	Parallel Unit I/O Self-check Abnormal	Parallel communication cable not securely connected or parallel IO chip damaged	Check if the parallel communication cable is securely connected, then check if the IO chip is damaged. If yes, replace the IO chip.
F29	Paralell Grid Line Reversed	Grid lines of some units are reversed with others	Reconnect the grid lines.
F30	AC HCT check Abnormal	AC sensor has sampling abnormality	Turn off the AC output side switch and DC input side switch, wait for 5 minutes, then turn on the AC output side switch and DC input side switch. If the fault persists, contact the dealer or after-sales service center.
F31	GFCI HCT Check Abnormal	Leakage current sensor has sampling abnormality	Turn off the AC output side switch and DC input side switch, wait for 5 minutes, then turn on the AC output side switch and DC input side switch. If the fault persists, contact the dealer or after-sales service center.
F32	Inverter Internal Failure	Inverter has a fault	Turn off the AC output side switch and DC input side switch, wait for 5 minutes, then turn on the AC output side switch and DC input side switch. If the fault persists, contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F33	Flash Read/Write Error	Possible causes: Flash content changed; Flash end of life;	1. Upgrade to the latest firmware version. 2. Contact the dealer or after-sales service center.
F34	AFCI Check Failure	During the arc fault self-check process, the arc fault module did not detect an arc fault as expected.	Turn off the AC output side switch and DC input side switch, wait for 5 minutes, then turn on the AC output side switch and DC input side switch. If the fault persists, contact the dealer or after-sales service center.
F35	Cabinet Overtemperature	Cabinet temperature is too high, possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high. 3. Internal fan operation is abnormal.	1. Check if the ventilation at the inverter installation location is good and if the ambient temperature exceeds the maximum allowable ambient temperature range. 2. If ventilation is poor or ambient temperature is too high, improve its ventilation and heat dissipation conditions. 3. If both ventilation and ambient temperature are normal, contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F36	Bus Overvoltage	BUS overvoltage, possible causes: 1. PV voltage is too high; 2. Inverter BUS voltage sampling is abnormal; 3. The isolation effect of the dual-split transformer at the inverter's rear end is poor, causing mutual influence when two inverters are connected in parallel, with one inverter reporting DC overvoltage during grid connection;	Turn off the AC output side switch and DC input side switch, wait for 5 minutes, then turn on the AC output side switch and DC input side switch. If the fault persists, contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F37	PV Input Overvoltage	PV input voltage is too high, possible cause: PV array configuration error, too many PV panels connected in series per string, causing the string's open-circuit voltage to be higher than the inverter's maximum operating voltage.	Check the series configuration of the corresponding PV array string to ensure the string's open-circuit voltage does not exceed the inverter's maximum operating voltage. After the PV array configuration is corrected, the inverter alarm will clear automatically.
F38	PV Continuous Hardware Overcurrent	1. Module configuration is unreasonable. 2. Hardware damaged.	Turn off the AC output side switch and DC input side switch, wait for 5 minutes, then turn on the AC output side switch and DC input side switch. If the fault persists, contact the dealer or after-sales service center.
F39	PV Continuous Software Overcurrent	1. Module configuration is unreasonable. 2. Hardware damaged.	Turn off the AC output side switch and DC input side switch, wait for 5 minutes, then turn on the AC output side switch and DC input side switch. If the fault persists, contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F40, F98	String Reverse Polarity (String 1-n) n: determined based on the actual number of inverter strings.	PV string reverse polarity	Check if the string is reverse-polarity connected.

9.5.2.2.2 Troubleshooting (Fault Codes F41-F80)

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F41	Generator Port Overload	1. Off-grid side output exceeds the requirements specified in the datasheet. 2. Short circuit on the off-grid side. 3. Off-grid terminal voltage is too low. 4. When used as a high-power load port, the high-power load exceeds the requirements specified in the datasheet.	1. Confirm the off-grid side output voltage, current, power, and other data to identify the cause of the issue.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F42	DC Arcing Failure (String 1-n) n: Determined based on the actual number of inverter strings.	1. DC side connection terminals are loose. 2. DC side connection terminals have poor contact. 3. DC cable core is damaged, causing poor contact.	1. After the machine reconnects to the grid, check if the voltage and current of each circuit abnormally decrease or become zero. 2. Check if the DC side terminals are securely connected.
F43	Grid Waveform Abnormal	Utility grid abnormality: Grid voltage detection anomaly triggers the fault.	1. If it occurs occasionally, it may be due to a short-term grid abnormality. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, please check if the grid voltage and frequency are within the allowable range and stable. If not, please contact the local power operator.
F44	Grid Phase Loss	Utility grid abnormality: Single-phase voltage drop in the grid.	1. If it occurs occasionally, it may be due to a short-term grid abnormality. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, please check if the grid voltage and frequency are within the allowable range and stable. If not, please contact the local power operator.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F45	Grid Voltage Imbalance	Excessive difference in grid phase voltages.	1. If it occurs occasionally, it may be due to a short-term grid abnormality. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, please check if the grid voltage and frequency are within the allowable range and stable. If not, please contact the local power operator.
F46	Grid Phase Sequence Failure	Inverter and grid wiring abnormality: Wiring is not in positive sequence.	1. Check if the inverter and grid wiring are in positive sequence. The fault will disappear automatically after correct wiring (e.g., swapping any two live wires). 2. If the fault persists despite correct wiring, please contact the dealer or after-sales service center.
F47	Grid Rapid Shutdown Protection	Rapidly shuts down output after detecting a grid power outage condition.	The fault disappears automatically after grid power supply is restored.
F48	Grid Neutral Wire Loss (Split grid)	Loss of neutral wire in a split-phase grid.	1. The alarm disappears automatically after grid power supply is restored. 2. Check if the AC line or AC switch is disconnected.
F49	L-PE Short Circuit	Output phase line has low impedance or short circuit to PE.	Measure the impedance between the output phase line and PE, locate the position with low impedance and repair it.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F50	DCV Level 1 Protection	Load abnormal fluctuation.	1. If it is caused by an external fault, the inverter will resume normal operation automatically after the fault disappears, requiring no manual intervention. 2. If this alarm occurs frequently and affects normal power generation of the power station, please contact the dealer or after-sales service center.
F51	DCV Level 2 Protection	Load abnormal fluctuation.	
F52	GFCI Multiple Fault Shutdown	North American safety regulations require no automatic recovery after multiple faults; manual recovery or waiting 24h is required.	Please check if the PV string's impedance to ground is too low.
F53	AFCI Multiple Fault Shutdown	North American safety regulations require no automatic recovery after multiple faults; manual recovery or waiting 24h is required.	1. After the machine reconnects to the grid, check if the voltage and current of each circuit abnormally decrease or become zero. 2. Check if the DC side terminals are securely connected.
F54	External Communication Link Break	Communication loss with external devices of the inverter, possibly due to external device power issues, communication protocol mismatch, or not configuring the corresponding external device.	Judgment is based on the actual model and detection enable bits. Some models do not support detection for unsupported external devices.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F55	Back-up Port Overload Fault	Prevents the inverter from continuously outputting overload.	Turn off some off-grid loads to reduce the inverter's off-grid output power.
F56	Back-up Port Overvoltage Fault	Prevents inverter output overvoltage from damaging loads.	1. If it occurs occasionally, it may be caused by load switching and requires no manual intervention. 2. If it occurs frequently, please contact the dealer or after-sales service center.
F57	External Box Fault	Waiting too long for the Box to switch the relay during grid-to-off-grid transition.	1. Check if the Box is working normally. 2. Check if the Box communication wiring is correct.
F58	CT Loss Fault	CT connection wire is disconnected (Japanese safety regulation requirement).	Check if the CT wiring is correct.
F59	Parallel Unit CAN Communication Abnormal	Parallel communication cable is not securely connected or some units are offline.	Check if all units are powered on and if the parallel communication cables are securely connected.
F60	Parallel Unit Backup Connection Reversed	Backup lines of some units are reversed with others.	Reconnect the backup lines.
F61	Inverter Soft Start Failure	Inverter soft start failure during off-grid cold start.	Check if the inverter module is damaged.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F62	AC HCT Failure	HCT sensor has an abnormality.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F63	GFCI HCT Failure	Ground fault current sensor has an abnormality.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F64	Inverter Internal Failure	Inverter has a fault.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F65	AC Terminal Overtemperature	AC terminal temperature is too high. Possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high. 3. Internal fan operation is abnormal.	1. Check if the inverter installation location has good ventilation and if the ambient temperature exceeds the maximum allowable range. 2. If ventilation is poor or ambient temperature is too high, improve its ventilation and heat dissipation conditions. 3. If ventilation and ambient temperature are normal, please contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F66	INV Module Overtemperature	Inverter module temperature is too high. Possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high. 3. Internal fan operation is abnormal.	1. Check if the inverter installation location has good ventilation and if the ambient temperature exceeds the maximum allowable range. 2. If ventilation is poor or ambient temperature is too high, improve its ventilation and heat dissipation conditions. 3. If ventilation and ambient temperature are normal, please contact the dealer or after-sales service center.
F67	Boost Module Overtemperature	Boost module temperature is too high. Possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high. 3. Internal fan operation is abnormal.	1. Check if the inverter installation location has good ventilation and if the ambient temperature exceeds the maximum allowable range. 2. If ventilation is poor or ambient temperature is too high, improve its ventilation and heat dissipation conditions. 3. If ventilation and ambient temperature are normal, please contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F68	AC Capacitor Overtemperature	Output filter capacitor temperature is too high. Possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high. 3. Internal fan operation is abnormal.	1. Check if the inverter installation location has good ventilation and if the ambient temperature exceeds the maximum allowable range. 2. If ventilation is poor or ambient temperature is too high, improve its ventilation and heat dissipation conditions. 3. If ventilation and ambient temperature are normal, please contact the dealer or after-sales service center.
F69	PV IGBT Short Circuit Fault	Possible causes: 1. IGBT short circuit. 2. Inverter sampling circuit abnormality.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F70	PV IGBT Open Circuit Fault	1. Software issue causing no PWM generation. 2. Drive circuit abnormality. 3. IGBT open circuit.	
F71	NTC Abnormal	NTC temperature sensor has an abnormality.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F72	PWM Abnormal	Abnormal PWM waveform detected.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F73	CPU Interrupt Abnormal	CPU interrupt has an abnormality.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F74	Microelectronics Fault	Functional safety detection detected an abnormality.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F75	PV HCT Fault	Boost current sensor abnormality.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F76	1.5V Reference Abnormal	Reference circuit fault.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F77	0.3V Reference Abnormal	Reference circuit fault.	

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F78	CPLD Version Identification Error	CPLD version identification error.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F79	CPLD Communication Fault	CPLD and DSP communication content error or timeout.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F80	Model Identification Fault	Fault related to model identification error.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.

9.5.2.2.3 Troubleshooting (Fault Codes F81-F121)

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F81	P-Bus Overvoltage		Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn on the AC output side switch and the DC input side switch. If the fault persists, please contact the distributor or after-sales service center.

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F82	N-Bus Overvoltage	BUS overvoltage, possible causes: 1. PV voltage is too high; 2. Inverter BUS voltage sampling is abnormal; 3. The isolation effect of the dual-split transformer at the inverter's output side is poor, causing mutual interference when two inverters are grid-connected, and one inverter reports DC overvoltage during grid connection;	
F83	Bus Overvoltage (Sub CPU1)		Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn on the AC output side switch and the DC input side switch. If the fault persists, please contact the distributor or after-sales service center.
F84	P-Bus Overvoltage (Sub CPU1)		

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F85	N-Bus Overvoltage (Sub CPU1)	BUS overvoltage, possible causes: 1. PV voltage is too high; 2. Inverter BUS voltage sampling is abnormal; 3. The isolation effect of the dual-split transformer at the inverter's output side is poor, causing mutual interference when two inverters are grid-connected, and one inverter reports DC overvoltage during grid connection;	
F86	Bus Overvoltage (Sub CPU2)		Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn on the AC output side switch and the DC input side switch. If the fault persists, please contact the distributor or after-sales service center.
F87	P-Bus Overvoltage (Sub CPU2)		

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F88	N-Bus Overvoltage (Sub CPU2)	BUS overvoltage, possible causes: 1. PV voltage is too high; 2. Inverter BUS voltage sampling is abnormal; 3. The isolation effect of the dual-split transformer at the inverter's output side is poor, causing mutual interference when two inverters are grid-connected, and one inverter reports DC overvoltage during grid connection;	
F89	P-Bus Overvoltage(CPLD)		Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn on the AC output side switch and the DC input side switch. If the fault persists, please contact the distributor or after-sales service center.

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F90	N-Bus Overvoltage(CPLD)	BUS overvoltage, possible causes: 1. PV voltage is too high; 2. Inverter BUS voltage sampling is abnormal; 3. The isolation effect of the dual-split transformer at the inverter's output side is poor, causing mutual interference when two inverters are grid-connected, and one inverter reports DC overvoltage during grid connection;	
F91	FlyCap Software Overvoltage	FlyCap overvoltage, possible causes: 1. PV voltage is too high; 2. Inverter FlyCap voltage sampling is abnormal;	Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn on the AC output side switch and the DC input side switch. If the fault persists, please contact the distributor or after-sales service center.
F92	FlyCap Hardware Overvoltage		

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F93	FlyCap Undervoltage	FlyCap undervoltage, possible causes: 1. PV energy is insufficient; 2. Inverter FlyCap voltage sampling is abnormal;	Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn on the AC output side switch and the DC input side switch. If the fault persists, please contact the distributor or after-sales service center
F94	FlyCap Precharge Failure	FlyCap precharge failure, possible causes: 1. PV energy is insufficient; 2. Inverter FlyCap voltage sampling is abnormal;	Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn on the AC output side switch and the DC input side switch. If the fault persists, please contact the distributor or after-sales service center
F95	FlyCap Precharge Abnormal	1. Control loop parameters are unreasonable 2. Hardware damage	Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn on the AC output side switch and the DC input side switch. If the fault persists, please contact the distributor or after-sales service center
F96, F97	String Overcurrent (String 1-n) n: Determined by the actual number of inverter strings	Possible Causes: 1. String overcurrent; 2. String current sensor abnormality	Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn them back on. If the fault persists, please contact the distributor or after-sales service center.

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F99, F100	String Loss (String 1-n) n: Determined by the actual number of inverter strings	String fuse disconnected (if present)	Check if the fuse is disconnected.
F101	Battery 1 Precharge fault	Battery 1 precharge circuit fault (precharge resistor burnt out, etc.)	Check if the precharge circuit is in good condition. After only the battery is powered on, check if the battery voltage matches the bus voltage. If not, please contact the distributor or after-sales service center.
F102	Battery 1 Relay Failure	Battery 1 relay cannot operate normally	After the battery is powered on, check if the battery relay is working and if a closing sound is heard. If it does not operate, please contact the distributor or after-sales service center.
F103	Battery 1 Connection Overvoltage	Battery 1 connection voltage exceeds the machine's rated range	Confirm if the battery voltage is within the machine's rated range.
F104	Battery 2 Precharge fault	Battery 2 precharge circuit fault (precharge resistor burnt out, etc.)	Check if the precharge circuit is in good condition. After only the battery is powered on, check if the battery voltage matches the bus voltage. If not, please contact the distributor or after-sales service center.

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F105	Battery 2 Relay Failure	Battery 2 relay cannot operate normally	After the battery is powered on, check if the battery relay is working and if a closing sound is heard. If it does not operate, please contact the distributor or after-sales service center.
F106	Battery 2 Connection Overvoltage	Battery 2 connection voltage exceeds the machine's rated range	Confirm if the battery voltage is within the machine's rated range.
F107	On-grid PWM Sync Failure	Abnormality occurred during carrier synchronization for grid connection	1. Check if the synchronization cable connection is normal. 2. Check if the master/slave settings are normal; 3. Turn off the AC output side switch and the DC input side switch, wait for 5 minutes, then turn them back on. If the fault persists, please contact the distributor or after-sales service center.
F108	DSP Communication fault	-	-
F109	External STS fault	Inverter and STS connection cable abnormality	Check if the wiring sequence of the harness between the inverter and the STS corresponds one-to-one in order.

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F110	Export Limit Protection	1. Inverter reports error and disconnects from grid 2. meter communication is unstable 3. Reverse power flow condition occurs	1. Check if the inverter has any other error messages. If yes, handle them accordingly; 2. Check if the meter connection is reliable; 3. If this alarm occurs frequently, affecting normal power plant generation, please contact the distributor or after-sales service center.
F111	Bypass Overload	-	-
F112	Black Start Failure	-	-
F113	Offgrid AC Ins Volt High	-	-
F114	Relay Failure2	Relay abnormality, possible causes: 1. Relay abnormality (relay short circuit) 2. Relay sampling circuit abnormality. 3. AC side wiring abnormality (may have poor connection or short circuit)	Disconnect the AC output side switch and DC input side switch, close them again after 5 minutes. If the fault persists, please contact the dealer or after-sales service center.
F115	SVG Precharge Disabled	SVG precharge hardware failure	Contact the dealer or after-sales service center.

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F116	Nighttime SVG PID Prevention Fault	PID prevention hardware abnormality	
F117	DSP Version Identification Error	DSP software version identification error	Disconnect the AC output side switch and DC input side switch, close them again after 5 minutes. If the fault persists, please contact the dealer or after-sales service center.
F118	MOS Continuous Overvoltage	1. Software issue causing inverter drive shutdown earlier than flyback drive shutdown: 2. Inverter drive circuit abnormality preventing turn-on: 3. PV voltage too high; 4. Mos voltage sampling abnormality;	Disconnect the AC output side switch and DC input side switch, close them again after 5 minutes. If the fault persists, please contact the dealer or after-sales service center.
F119	Bus Short Circuit Fault	Hardware damage	If the inverter remains offline after a BUS short circuit fault occurs, please contact the dealer or after-sales service center.
F120	Bus Sampling Abnormality	1. BUS voltage sampling hardware fault	Disconnect the AC output side switch and DC input side switch, close them again after 5 minutes. If the fault persists, please contact the dealer or after-sales service center.

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
F121	DC Side Sampling Abnormality	1. BUS voltage sampling hardware fault 2. Battery voltage sampling hardware fault 3. Dcrly relay fault	Disconnect the AC output side switch and DC input side switch, close them again after 5 minutes. If the fault persists, please contact the dealer or after-sales service center.
F122	PV Access Mode Setting Error	There are three PV Access Modes. Taking a four-channel MPPT as an example: 1. Parallel Mode: i.e., AAAA mode (same-source mode), PV1-PV4 are from the same source, all 4 PV channels connect to the same solar panel. 2. Partial Parallel Mode: i.e., AACC mode, PV1 and PV2 are from the same source connection, PV3 and PV4 are from the same source connection. 3. Independent Mode: i.e., ABCD mode (different-	Check if the PV Access Mode is set correctly (ABCD, AACC, AAAA), reset the PV Access Mode correctly. 1. Confirm that each actual connected PV channel is correctly wired; 2. If the PV is correctly connected, check via APP or screen whether the currently set "PV Access Mode" corresponds to the actual connection mode; 3. If the currently set "PV Access Mode" does not match the actual connection mode, use the APP or screen to set the "PV Access Mode" to the mode consistent with the actual situation. After setting, disconnect PV and AC power and restart; 4. After setting, if the current "PV Access Mode" matches the actual connection mode but the fault still occurs, please contact the dealer or after-sales service center.

Fault Code	Fault Name	Possible Cause	Troubleshooting Recommendation
		source), PV1, PV2, PV3, PV4 are independently connected, each of the 4 PV channels connects to one solar panel. This fault is reported if the actual PV connection mode does not match the PV Access Mode set on the device.	

9.5.2.2.4 Troubleshooting (Fault Codes F122-F163)

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F123	Multi-string PV Phase Error	PV Input Mode Setting Error	Check if the PV Access Mode is correctly set (ABCD, AACC, AAAA), and reset the PV Access Mode correctly. 1. Confirm that each connected PV string is correctly wired; 2. If the PV strings are correctly connected, check the currently set "PV Access Mode" via the APP or screen to see if it corresponds to the actual connection mode; 3. If the currently set "PV Access Mode" does not match the actual connection mode, use the APP or screen to set the "PV Access Mode" to the mode consistent with the actual situation. After setting, disconnect and restart the PV and AC power supply; 4. After setting, if the current "PV Access Mode" matches the actual connection mode but the fault persists, please contact the dealer or after-sales service center.
F124	Battery 1 Reverse Connection fault	Battery 1 positive and negative terminals reversed	Check if the polarity of the battery and the machine's terminals is consistent.
F125	Battery 2 Reverse Connection fault	Battery 2 positive and negative terminals reversed	Check if the polarity of the battery and the machine's terminals is consistent.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F126	Abnormal Battery Connection	Abnormal Battery Connection	Check if the battery is working normally.
F127	BAT Overtemperature	Battery temperature too high, possible causes: 1. Inverter installation location lacks ventilation. 2. Ambient temperature too high. 3. Internal fan abnormal operation.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F128	Ref Voltage Abnormal	Reference circuit fault	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F129	Cabinet Under Temperature	Cabinet temperature too low, possible cause: ambient temperature too low.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F130	AC Side SPD fault	AC side surge protection device failure	Replace the AC side surge protection device.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F131	DC Side SPD fault	DC side surge protection device failure	Replace the DC side surge protection device.
F132	Internal Fan Abnormal	Internal fan abnormal, possible causes: 1. Fan power supply abnormal; 2. Mechanical fault (locked rotor); 3. Fan aging or damage.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F133	External Fan Abnormal	External fan abnormal, possible causes: 1. Fan power supply abnormal; 2. Mechanical fault (locked rotor); 3. Fan aging or damage.	Disconnect the AC output side switch and DC input side switch, wait 5 minutes, then close the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
F134	PID Diagnosis Abnormal	PID hardware fault or PV voltage too high causing PID suspension	No action required for PID suspension warning caused by high PV voltage. For PID hardware fault, clear the PID fault by turning the PID switch off and then on, and replace the PID device.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F135	Trip-Switch Trip Warning	Possible causes: Overcurrent or PV reverse connection caused the trip-switch to trip;	Contact the dealer or after-sales service center; The reason for tripping is a historical PV short circuit or reverse connection warning. Check if there is a historical PV short circuit warning or historical PV reverse connection warning. If present, a technician needs to inspect the corresponding PV condition. After checking and confirming no fault, you can manually close the trip-switch and clear this warning via the APP interface's clear historical fault operation.
F136	Historical PV IGBT Short Circuit Warning	Possible causes: Overcurrent caused the trip-switch to trip;	Contact the dealer or after-sales service center; The technician needs to check the Boost hardware and external string for faults according to the historical PV short circuit warning subcode. After checking and confirming no fault, you can clear this warning via the APP interface's clear historical fault operation.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F137, F138	Historical PV Reverse Connection Warning (String 1-n) (n: determined by the actual number of inverter strings)	Possible causes: PV reverse connection caused the trip-switch to trip;	Contact the dealer or after-sales service center; The technician needs to check the corresponding string for reverse connection according to the historical PV reverse connection warning subcode, and check if there is a voltage difference in the PV panel configuration. After checking and confirming no fault, you can clear this warning via the APP interface's clear historical fault operation.
F139	Flash Read/Write Error Warning	Possible causes: 1. Flash content changed; 2. Flash lifespan exhausted;	1. Upgrade to the latest firmware; 2. Contact the dealer or after-sales service center.
F140	Meter Comm Loss	This warning may only appear after enabling anti-backflow function, possible causes: 1. Meter not connected; 2. Communication cable connection error between meter and inverter.	Check the meter wiring, connect the meter correctly. If the fault persists after checking, please contact the dealer or after-sales service center.
F141	PV Panel Type Identification Failure	PV panel identification hardware abnormal	Contact the dealer or after-sales service center.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F142	PV String Mismatch	PV string mismatch, two strings under the same MPPT have different open-circuit voltage configurations	Check the open-circuit voltage of the two strings, configure strings with the same open-circuit voltage under the same MPPT. Prolonged string mismatch poses a safety risk.
F143	CT Not Connected	CT not connected	Check the CT wiring.
F144	CT Reverse Connection	CT reverse connection	Check the CT wiring.
F145	PE Loss	Ground wire not connected	Check the ground wire.
F146	String Terminal Temperature High (String 1~8)	Register 37176 PV terminal temperature warning subcode 1 is set	-
F147	String Terminal Temperature High (String 9~16)	Register 37177 PV terminal temperature warning subcode 2 is set	-
F148	String Terminal Temperature High (String 17~20)	Register 37178 PV terminal temperature warning subcode 3 is set	-

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F149	Historical PV Reverse Connection Warning (String 33~48)	Possible causes: PV reverse connection caused the trip-switch to trip;	Contact the dealer or after-sales service center; The technician needs to check the corresponding string for reverse connection according to the historical PV reverse connection warning subcode, and check if there is a voltage difference in the PV panel configuration. After checking and confirming no fault, you can clear this warning via the APP interface's clear historical fault operation.
F150	Battery 1 Low Voltage	Battery voltage below set value	-
F151	Battery 2 Low Voltage	Battery voltage below set value	-
F152	Low Voltage of Battery Power	Battery in non-charging mode, voltage below shutdown voltage	-
F153	Battery 1 High Voltage	-	-
F154	Battery 2 High Voltage	-	-

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F155	Online Low Insulation Resistance	1. PV string short circuit to protective earth. 2. PV string installed in a humid environment for a long time with poor line-to-ground insulation.	1. Check the impedance of the PV string to protective earth. If a short circuit is found, rectify the short circuit point. 2. Check if the inverter's protective earth wire is correctly connected. 3. If it is confirmed that the impedance is indeed below the default value in rainy weather, please reset the "Insulation Resistance Protection Point".
F156	Micro-grid Overload Warning	backup side input current too high	Occasional occurrence requires no action; If this warning appears frequently, please contact the dealer or after-sales service center.
F157	Manual Reset	-	-
F158	Generator Phase Sequence Abnormal	-	-
F159	Multiplexed Port Configuration Abnormal	Multiplexed (Generator) port configured as micro-grid or large load, but actually connected to a generator	Use the APP to change the Multiplexed (Generator) port configuration.
F160	EMS Forced Off-grid	EMS issued forced off-grid command, but off-grid function is not enabled	Enable the off-grid function.

Fault Code	Fault Name	Fault Cause	Troubleshooting Recommendation
F161	Passive Anti-islanding Protection	-	-
F162	Grid Type Fault	Actual grid type (two-phase or split-phase) does not match the set safety standard	Switch to the corresponding safety standard according to the actual grid type.
F163	Grid Phase Instability	Grid abnormal: Grid voltage phase change rate does not comply with local grid standard.	1. If it occurs occasionally, it may be a temporary grid anomaly. The inverter will resume normal operation after detecting a normal grid, requiring no manual intervention. 2. If it occurs frequently, check if the grid frequency is within the allowable range. If not, please contact the local power operator.

9.5.2.2.5 Fault Symptom Handling

Fault Name	Fault Cause	Recommended Action
Generator Failure	1. This fault will be displayed continuously when no generator is connected. 2. When the generator is operating, this fault will be triggered if safety regulations for the generator are not met.	1. If no generator is connected, ignore this fault. 2. If this fault appears when the generator malfunctions, it is normal. Wait for a period after the generator recovers, and the fault will clear automatically. 3. This fault does not affect the normal operation of off-grid mode. 4. When both the generator and grid are connected and meet safety requirements, grid connection takes priority, and the system will operate in grid-connected mode.
BMS Status Bit Error	BMS module failure	Disconnect the AC output side switch and DC input side switch. After 5 minutes, reconnect the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.
Ambient Overtemperature	1. Poor ventilation of the machine 2. Hot air flow recirculates to the ambient temperature sampling point	Disconnect the AC output side switch and DC input side switch. After 5 minutes, reconnect the AC output side switch and DC input side switch. If the fault persists, please contact the dealer or after-sales service center.

Fault Name	Fault Cause	Recommended Action
PV Terminal Overtemperature	PV terminal overtemperature. Possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high. 3. Internal fan operation is abnormal.	1. Check if the ventilation at the inverter installation location is adequate and if the ambient temperature exceeds the maximum allowable range. 2. If ventilation is poor or ambient temperature is too high, improve the ventilation and heat dissipation conditions. 3. If both ventilation and ambient temperature are normal, please contact the dealer or after-sales service center.
BAT Terminal Overtemperature	BAT terminal overtemperature. Possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high.	1. Check if the ventilation at the inverter installation location is adequate and if the ambient temperature exceeds the maximum allowable range. 2. If ventilation is poor or ambient temperature is too high, improve the ventilation and heat dissipation conditions. 3. If both ventilation and ambient temperature are normal, please contact the dealer or after-sales service center.
AC Terminal Overtemperature Warning	AC terminal overtemperature. Possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high. 3. Internal fan operation is abnormal.	

Fault Name	Fault Cause	Recommended Action
BAT Terminal Overtemperature Warning	BAT terminal overtemperature. Possible causes: 1. Inverter installation location is not ventilated. 2. Ambient temperature is too high.	1. Check if the ventilation at the inverter installation location is adequate and if the ambient temperature exceeds the maximum allowable range. 2. If ventilation is poor or ambient temperature is too high, improve the ventilation and heat dissipation conditions. 3. If both ventilation and ambient temperature are normal, please contact the dealer or after-sales service center.
Three-phase on-grid fault	Incorrect external wiring for the three-phase group	Reconnect the wiring.

Fault Name	Fault Cause	Troubleshooting Recommendation
Parallel Comm Timeout Shutdown	In parallel operation, if a slave unit has not communicated with the master for more than 400 seconds	Check if the parallel communication harness is securely connected. Check if slave addresses are duplicated.
Three-phase off-grid phase loss fault	Phase loss in a three-phase system	1. Check if all inverters are powered on; 2. Check if each phase of the three-phase system has an inverter connected;
EPO	External hardware EPO button triggered or remote EPO command triggered	1. If it was triggered remotely on purpose, it can be ignored; 2. If not triggered on purpose, please contact the distributor or after-sales service center.

Fault Name	Fault Cause	Troubleshooting Recommendation
One-Key Shutdown	Check via the App if the one-key shutdown function is enabled	Disable the one-key shutdown function.
Offline Shutdown	-	-
Remote Shutdown	-	-
On-Grid SPD Fault	-	-
Off-Grid SPD Fault	-	-
Child Node Communication Failure	Internal Comm Abnormal	Restart the unit and observe if the fault is cleared.
DG Communication Failure	Communication link abnormality between the control board and the diesel generator	1. Check the communication harness of the link and observe if the fault is cleared; 2. Try restarting the unit and observe if the fault is cleared; 3. If the fault persists after restarting, please contact the after-sales service center.
Battery Over Voltage	1. Individual cell voltage too high 2. Voltage sensing line abnormality	Record the fault phenomenon, restart the battery, wait a few minutes, and confirm if the fault disappears. If the problem persists after restarting, please contact the after-sales service center.
	1. Battery total voltage too high 2. Voltage sensing line abnormality	

Fault Name	Fault Cause	Troubleshooting Recommendation
Battery Undervoltage	1. Individual cell voltage too low 2. Voltage sensing line abnormality	
	1. Battery total voltage too low 2. Voltage sensing line abnormality	
Battery Overcurrent	1. Charging current too large, battery current limit abnormality: sudden change in temperature and voltage values 2. Inverter response abnormality	
	Battery discharge current too large	
Battery Overtemperature	1. Ambient Overtemperature 2. Temperature sensor abnormality	
	1. Ambient Overtemperature 2. Temperature sensor abnormality	
Battery Undertemperature	1. Ambient temperature too low 2. Temperature sensor abnormality	

Fault Name	Fault Cause	Troubleshooting Recommendation
	1. Ambient temperature too low 2. Temperature sensor abnormality	
Battery Terminal Overtemperature	Terminal temperature too high	

Fault Name	Fault Cause	Troubleshooting Recommendation
Battery Imbalance	1. Excessive temperature difference. At different stages, the battery will limit the battery power, i.e., limit the charge/discharge current. Therefore, this issue is generally difficult to occur. 2. Cell capacity degradation leads to excessive internal resistance, causing large temperature rise during overcurrent, resulting in large temperature difference. 3. Poor welding of cell tabs causes rapid cell temperature rise during overcurrent. 4. Temperature sampling issue; 5. Loose power line connection	

Fault Name	Fault Cause	Troubleshooting Recommendation
	1. Inconsistent cell aging 2. Slave board chip issues can also cause excessive cell voltage difference; 3. Slave board balancing issues can also cause excessive cell voltage difference 4. Caused by harness issues	
	1. Inconsistent cell aging 2. Slave board chip issues can also cause excessive cell voltage difference; 3. Slave board balancing issues can also cause excessive cell voltage difference 4. Caused by harness issues	
Insulation Resistance	Insulation resistance damaged	Check if the ground wire is properly connected, restart the battery. If the problem persists after restarting, please contact the after-sales service center.

Fault Name	Fault Cause	Troubleshooting Recommendation
Pre-charging Failure	Pre-charging failure	Indicates that during the pre-charging process, the voltage across the pre-charge MOS always exceeds the specified threshold. Power off and restart, then observe if the fault persists. Check if wiring is correct and if the pre-charge MOS is damaged.
Sensing Line Fault	Battery sensing line poor contact or disconnected	Check wiring, restart the battery. If the problem persists after restarting, please contact the after-sales service center.
	Cell voltage sensing line poor contact or disconnected	Check wiring, restart the battery. If the problem persists after restarting, please contact the after-sales service center.
	Cell temperature sensing line poor contact or disconnected	
	Dual-channel current comparison error too large, or current sensing line loop abnormal	
	Dual-channel voltage comparison error too large or MCU vs. AFE voltage comparison error too large, or voltage sensing line loop abnormal	

Fault Name	Fault Cause	Troubleshooting Recommendation
	Temperature sensing line loop abnormal or poor contact/disconnected	
	Overvoltage level 5 or overtemperature level 5, tripped three-terminal fuse	Tripped three-terminal fuse, please contact the after-sales service center to replace the main control board.
Relay or MOS Overtemperature	Relay or MOS overtemperature	This fault indicates that the MOS transistor temperature exceeds the specified threshold. Power off and let it sit for 2 hours to allow temperature recovery.
Shunt Overtemperature	Shunt overtemperature	This fault indicates that the shunt temperature exceeds the specified threshold. Power off and let it sit for 2 hours to allow temperature recovery.
BMS1 Other Fault 1 (Residential Storage)	Relay or MOS open circuit	1. Upgrade software, power off and let it sit for 5 minutes, restart and see if the fault persists; 2. If it persists, replace the battery pack
	Relay or MOS short circuit	1. Upgrade software, power off and let it sit for 5 minutes, restart and see if the fault persists; 2. If it persists, replace the battery pack
	Communication abnormality between master rack and slave rack, or cell inconsistency between racks	1. Check the slave unit's battery information and software version, and if the communication cable connection to the master unit is normal 2. Upgrade software

Fault Name	Fault Cause	Troubleshooting Recommendation
	Battery system loop harness abnormality, causing the interlock signal to not form a loop	Check if the terminal resistor is installed correctly
	BMS and PCS communication abnormality	1. Confirm if the communication cable interface definitions between the inverter and the connected battery are correct; 2. Please contact the after-sales service center to check backend data and observe if the inverter and battery software are correctly matched.
	BMS master control and slave control communication harness abnormality	1. Check wiring, restart the battery; 2. Upgrade the battery software. If the problem persists after restarting, please contact the after-sales service center.
	Communication loss between main negative chips	
	Circuit breaker, shunt trip abnormality	1. Power off and let it sit for 5 minutes, restart and see if the fault persists; 2. Observe the PACK and PCU bottom blind plugs, check if the communication pins are loose or misaligned;
	MCU self-test failure	Upgrade software, restart the battery. If the problem persists after restarting, please contact the after-sales service center.

Fault Name	Fault Cause	Troubleshooting Recommendation
	1. Software version too low or BMS board damaged 2. Large number of inverters in parallel, excessive inrush current during battery pre-charge	1. Upgrade software, observe if the fault persists 2. If in parallel configuration, start the battery in black start mode first, then start the inverters
	MCU internal fault	Upgrade software, restart the battery. Usually indicates MCU or external component damage. If the problem persists after restarting, please contact the after-sales service center.
	Total control current exceeds specified threshold	1. Power off and let it sit for 5 minutes, restart and see if the fault persists; 2. Check if the inverter power setting is too high, causing it to exceed the bus load;
	Inconsistent cells in parallel battery racks	Confirm if the cells in the parallel battery racks are consistent
	Reverse polarity connection of parallel battery racks	Check if the positive and negative terminals of the parallel battery racks are reversed
	Severe overtemperature/overvoltage etc. triggering the fire protection system	Contact the after-sales service center.

Fault Name	Fault Cause	Troubleshooting Recommendation
Air Conditioner Failure	Air conditioner abnormal failure	Try restarting the system. If the fault is not cleared, please contact the after-sales service center.
	Cabinet door not closed	Check if the cabinet door is properly closed
	Supply voltage too high	Confirm if the supply voltage meets the air conditioner input voltage requirements. Re-power on after confirmation.
	Insufficient supply voltage	
	No voltage input	
	Unstable supply voltage	
	Compressor voltage unstable	Try restarting the system. If the fault is not cleared, please contact the after-sales service center.
	Sensor poor contact or damaged	
	Air conditioner fan abnormal	
BMS1 Other Fault 2 (Residential Storage)	Internal voltage or current abnormality in DCDC	Refer to specific DC fault content.
	DCDC overload or heatsink temperature too high, etc.	
	Cell sensing abnormality or inconsistent aging	Please contact the after-sales service center.

Fault Name	Fault Cause	Troubleshooting Recommendation
	Fan operation not executed normally	Please contact the after-sales service center.
	Output port screws loose or poor contact	1. Power off the battery, check wiring and output port screw condition 2. After confirmation, restart the battery, observe if the fault persists. If it persists, please contact the after-sales service center.
	Battery used for too long or cells severely damaged	Please contact the after-sales service center to replace the pack.
	1. Software version too low or BMS board damaged 2. Large number of inverters in parallel, excessive inrush current during battery pre-charge	1. Upgrade software, observe if the fault persists. 2. If in parallel configuration, start the battery in black start mode first, then start the inverters.
	Heating film damaged	Please contact the after-sales service center.
	Heating film three-terminal fuse blown, heating function unavailable	Please contact the after-sales service center.
	Software model, Cell Type, hardware model mismatch	Check if the software model, SN, Cell Type, and hardware model are consistent. If not, please contact the after-sales service center.
	Thermal management board communication wire broken	1. Power off and let it sit for 5 minutes, restart and see if the fault persists; 2. If the fault does not recover, contact after-sales to replace the pack.

Fault Name	Fault Cause	Troubleshooting Recommendation
	Thermal management board communication wire broken	1. Power off and let it sit for 5 minutes, restart and see if the fault persists; 2. If the fault does not recover, contact after-sales to replace the pack.
	Thermal management board communication wire broken	1. Power off and let it sit for 5 minutes, restart and see if the fault persists; 2. If the fault does not recover, contact after-sales to replace the pack.
	Pack fan fault signal triggered	1. Power off and let it sit for 5 minutes, restart and see if the fault persists; 2. If the fault does not recover, contact after-sales to replace the pack.
DCDC Fault	Output port voltage too high	Check the output port voltage. If the output port voltage is normal and the fault does not clear itself after restarting the battery, please contact the after-sales service center.
	DCDC module detects battery voltage exceeding maximum charging voltage	Stop charging, discharge to below 90% SOC or let it sit for 2 hours. If ineffective and the fault persists after restarting, please contact the after-sales service center.
	Heatsink temperature too high	Let the battery sit for 1 hour for the heatsink temperature to drop. If ineffective and the fault persists after restarting, please contact the after-sales service center.
	Battery discharge current too large	Check if the load exceeds the battery's discharge capability. Turn off the load or stop the PCS for 60 seconds. If ineffective and the fault persists after restarting, please contact the after-sales service center.

Fault Name	Fault Cause	Troubleshooting Recommendation
	Output port power harness positive/negative terminals reversed with parallel racks or PCS	Turn off the battery manual switch, check if the output port wiring is correct, restart the battery.
	Output power relay cannot close	Check if the output port wiring is correct and if there is a short circuit. If ineffective and the fault persists after restarting, please contact the after-sales service center.
	Power device temperature too high	Let the battery sit for 1 hour for the internal power device temperature to drop. If ineffective and the fault persists after restarting, please contact the after-sales service center.
	Relay welded/stuck	If the fault persists after restarting, please contact the after-sales service center.
Battery Rack Circulating Current Failure	1. Cell imbalance 2. Not fully charged for calibration during first power-on	Record the fault phenomenon, restart the battery, wait a few minutes, and confirm if the fault disappears. If the problem persists after restarting, please contact the after-sales service center.
BMS1 Other Fault 3 (Utility Storage)	Communication abnormality with linux module	1. Check if the communication cable link is normal 2. Upgrade software, restart the battery and observe if the fault persists. If it persists, please contact the after-sales service center.
	Cell temperature rise too fast	Cell abnormality, contact after-sales to replace the pack.
	SOC below 10%	Charge the battery.

Fault Name	Fault Cause	Troubleshooting Recommendation
	SN writing does not comply with rules	Check if the SN digit count is normal. If abnormal, please contact the after-sales service center.
	1. Daisy-chain communication abnormality within a battery rack 2. Inconsistent cell aging between battery racks	1. Check the pack contact condition within a single battery rack 2. Confirm the usage of each battery rack, such as cumulative charge/discharge capacity, cycle count, etc. 3. Please contact the after-sales service center.
	Excessive humidity inside pack	-
	Fuse blown	Contact after-sales to replace the pack.
	Battery low power	Charge the battery.
BMS1 Other Fault 4 (Utility Storage)	Circuit breaker abnormality	Contact after-sales to replace the pack.
	External device abnormality	Contact after-sales to replace the pack.
Contactor Failure 1	-	-
Contactor Failure 2	-	-
Overload Protection (Ksic)	Sustained overload (exceeding 690KVA) for 10s	Please contact the after-sales service center.
Overload Protection (Smart Port)	Sustained overload (exceeding 690KVA) for 10s	Please contact the after-sales service center.

Fault Name	Fault Cause	Troubleshooting Recommendation
Overcurrent Protection (Ksic)	-	-
Overcurrent Protection (Smart Port)	-	-
Master AC On Meter Comm Error	1. Meter may not be connected to the master 2. Meter communication cable may be loose	1. Check if the meter is connected to the master 2. Check if the meter communication cable is loose
Parallel Slave Meter Error	Meter connected to a slave unit	Set the unit with the meter connected as the master
Slave AC On Timeout with Master	1. Slave address setting error 2. Slave communication cable loose	1. Check if slave addresses are duplicated 2. Check if the parallel communication cable is loose

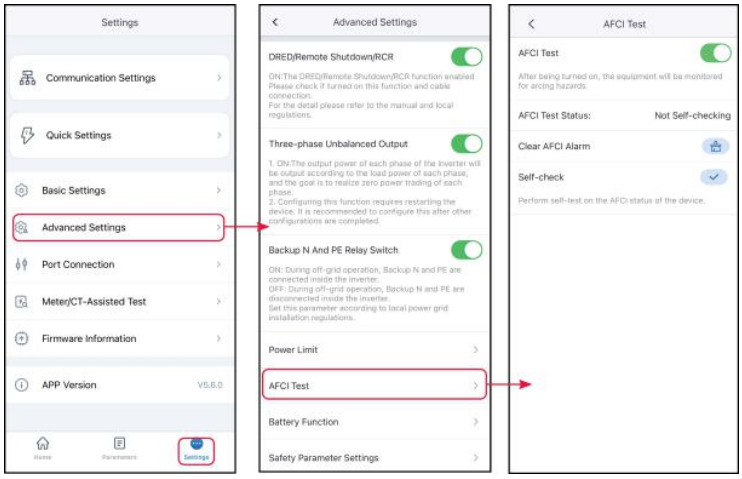
9.5.3 Post-Fault Clearance Processing

In energy storage systems, after certain faults are handled, post-processing is required before the system can resume normal operation.

9.5.3.1 Clear AFCI Fault Warning

【Software Used】：SolarGo APP
【Clear Method】：

1. Navigate via **[Home]** > **[Settings]** > **[Advanced Settings]** > **[DC Arc Detection]**.
2. Click the **[Clear AFCI Fault Alarm]** button.


Settings
Communication Settings
Quick Settings
Basic Settings
Advanced Settings
Port Connection
Meter/CT-Assisted Test
Firmware Information
APP Version
V5.6.0
Advanced Settings
DRED/Remote Shutdown/RCR
Three-phase Unbalanced Output
Backup N And PE Relay Switch
Power Limit
AFCI Test
Battery Function
Safety Parameter Settings
AFCI Test
AFCI Test
After being turned on, the equipment will be monitored for arcing hazards.
AFCI Test Status:
Not Self-checking
Clear AFCI Alarm
Self-check
Perform self-test on the AFCI status of the device.

10 technical parameter

10.1 Inverter Parameters

Technical Data	GW6000-ET-20	GW8000-ET-20	GW9900-ET-20(Australia)
Battery Input Data			
Battery Type	Li-Ion	Li-Ion	Li-Ion
Nominal Battery Voltage (V)	500	500	500
Battery Voltage Range (V)	150~720	150~720	150~720
Start-up Voltage (V)	150	150	150
Number of Battery Input	1	1	1
Max. Continuous Charging Current (A)	30	30	40
Max. Continuous Discharging Current (A)	30	30	40
Max. Charge Power (W)	9000	12000	15000
Max. Discharge Power (W)	6600	8800	11000
PV String Input Data			
Max. Input Power (W) *2	9600	12800	16000

Technical Data	GW6000-ET-20	GW8000-ET-20	GW9900-ET-20(Australia)
Max. Input Voltage (V) *3*4	1000	1000	1000
MPPT Operating Voltage Range (V) *5	120~850	120~850	120~850
MPPT Voltage Range at Nominal Power (V)	220~850	285~850	260~850
Start-up Voltage (V)	150	150	150
Nominal Input Voltage (V)	620	620	620
Max. Input Current per MPPT (A)	16	16	16
Max. Short Circuit Current per MPPT (A)	24	24	24
Max. Backfeed Current to The Array (A)	0	0	0
Number of MPP Trackers	2	2	3
Number of Strings per MPPT	1	1	1
AC Output Data (On-grid)			
Nominal Output Power (W)	6000	8000	9990
Max. Output Power (W)	6000	8000	9990

Technical Data	GW6000-ET-20	GW8000-ET-20	GW9900-ET-20(Australia)
Nominal Apparent Power Output to Utility Grid (VA)	6000	8000	9990
Max. Apparent Power Output to Utility Grid (VA) *6	6000	8000	9990
Nominal Apparent Power from Utility Grid (VA)	6000	8000	10000
Max. Apparent Power from Utility Grid (VA)	12000	16000	20000
Nominal Output Voltage (V)	400/380, 3L/N/PE	400/380, 3L/N/PE	400/380, 3L/N/PE
Output Voltage Range (V) *7	170~290	170~290	170~290
Nominal AC Grid Frequency (Hz)	50/60	50/60	50/60
AC Grid Frequency Range (Hz)	45~65	45~65	45~65
Max. AC Current Output to Utility Grid (A) *8	8.7	11.6	14.5
Max. AC Current From Utility Grid (A)	15.7	21	26.1
Max. Output Fault Current (Peak and Duration) (A)	200Aat1ms	200Aat1ms	200Aat1ms
Inrush Current (Peak and Duration) (A)	150Aat1ms	150Aat1ms	150Aat1ms

Technical Data	GW6000-ET-20	GW8000-ET-20	GW9900-ET-20(Australia)
Nominal Output Current (A)	8.7	11.6	14.3
Power Factor	0.8 leading~0.8 lagging		
Max. Total Harmonic Distortion	<3%	<3%	<3%
Maximum Output Overcurrent Protection (A)	56	56	56
AC Output Data (Back-up)			
Back-up Nominal Apparent Power (VA)	6000	8000	10000
Max. Output Apparent Power (VA) .*9	6000 (12,000 at60sec)	8000 (16,000 at60sec)	10000 (18000 at60sec)
Max. Output Apparent Power with Grid (VA)	6000	8000	10000
Nominal Output Current (A)	8.7	11.6	14.5
Max. Output Current (A)	13 (17.4at60sec)	17.4 (23.3at60sec)	21.7 (26.1at60sec)
Max. Output Fault Current (Peak and Duration) (A)	56at3us	56at3us	56at3us
Inrush Current (Peak and Duration) (A)	150Aat1ms	150Aat1ms	150Aat1ms
Maximum Output Overcurrent Protection (A)	56	56	56

Technical Data	GW6000-ET-20	GW8000-ET-20	GW9900-ET-20(Australia)
Nominal Output Voltage (V)	400/380	400/380	400/380
Nominal Output Frequency (Hz)	50/60	50/60	50/60
Output THDv (@Linear Load)	<3%	<3%	<3%
Efficiency			
Max. Efficiency	98%	98%	98.2%
European Efficiency	97.2%	97.2%	97.5%
Max. Battery to AC Efficiency	97.2%	97.5%	97.5%
MPPT Efficiency	99.5%	99.5%	99.5%
Protection			
PV Insulation Resistance Detection	Integrated	Integrated	Integrated
PV AFCI3.0	Optional	Optional	Optional
Residual Current Monitoring	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated
Battery Reverse Polarity Protection	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated
AC Overcurrent Protection	Integrated	Integrated	Integrated

Technical Data	GW6000-ET-20	GW8000-ET-20	GW9900-ET-20(Australia)
AC Short Circuit Protection	Integrated	Integrated	Integrated
AC Overvoltage Protection	Integrated	Integrated	Integrated
DC Switch	Integrated	Integrated	Integrated
DC Surge Protection	Type II	Type II	Type II
AC Surge Protection	Type II	Type II	Type II
Remote Shutdown	Integrated	Integrated	Integrated
General Data			
Operating Temperature Range (℃)	-35~+60	-35~+60	-35~+60
Storage Temperature (℃)	-40~+85	-40~+85	-40~+85
Relative Humidity	0~100%	0~100%	0~100%
Operating Environment	Outdoor	Outdoor	Outdoor
Max. Operating Altitude (m)	4000	4000	4000
Cooling Method	Natural Convection	Natural Convection	Natural Convection
User Interface	LED, WLAN+APP	LED, WLAN+APP	LED, WLAN+APP
Communication with BMS	RS485, CAN	RS485, CAN	RS485, CAN

Technical Data	GW6000-ET-20	GW8000-ET-20	GW9900-ET-20(Australia)
Communication with Meter	RS485	RS485	RS485
Communication with Portal	WiFi+LAN+Blueto oth	WiFi+LAN+Blueto oth	WiFi+LAN+Bluetooth
Weight (kg)	23	23	25
Dimension (W×H×D mm)	496*460*221	496*460*221	496*460*221
Noise Emission (dB)	<30	<30	<30
Topology	Non-isolated	Non-isolated	Non-isolated
Self-consumption at Night (W) *10	<15	<15	<15
Ingress Protection Rating	IP66	IP66	IP66
DC Connector	MC4 (4~6mm2)	MC4 (4~6mm2)	MC4 (4~6mm2)
AC Connector	Feed-Through Terminal Blocks UW10	Feed-Through Terminal Blocks UW10	Feed-Through Terminal Blocks UW10
Environmental Category	4K4H	4K4H	4K4H
Pollution Degree	III	III	III
Overvoltage Category	DC II / AC III	DC II / AC III	DC II / AC III
Protective Class	I	I	I

Technical Data	GW6000-ET-20	GW8000-ET-20	GW9900-ET-20(Australia)
The Decisive Voltage Class (DVC)	Battery：C PV：C AC：C Com：A		
Mounting Method	Wall Mounted	Wall Mounted	Wall Mounted
Active Anti-islanding Method	AFDPF + AQDPF*11	AFDPF + AQDPF*11	AFDPF + AQDPF*11
Type of Electrical Supply System	Three phase Grid	Three phase Grid	Three phase Grid
Country of Manufacture	China	China	China
Certification*12			
Grid Standards	VDE-AR-N 4105，EN50549-1		
Safety Regulation	IEC62109-1&2		
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4		

*2: Max. input power, not continuous for 1.6*normal power. Besides, in Australia, for most of the PV modules, the max. input power can reach 2*Pn, for example, the max. input power of GW6000-ET-20 can reach 12000W.

*3: For 1000V system，the maximum operating voltage is 950V.

*4: When the input voltage ranges from 950V to 1000V, the inverter will enter the standby mode. When the input voltage returns to the MPPT operating voltage range, the inverter will resume normal operating mode.

*5: Please refer to the user manual for the MPPT Voltage Range at Nominal Power.

*6: According to the local grid regulation.

*7: Output Voltage Range: phase voltage.

*8: When the three-unbalance function is activated, the Max. AC Current Output to the on-grid load can reach 13A, 17.4A, 21.7A, 21.7A and 21.7A respectively.

*9: Can be reached only if PV and battery power is enough.

*10: No Back-up Output.
*11: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*12: Not all certifications & standards are listed, check the official website for details.

Technical Data	GW10K-ET-20	GW12K-ET-20	GW15K-ET-20
Battery Input Data			
Battery Type	Li-Ion	Li-Ion	Li-Ion
Nominal Battery Voltage (V)	500	500	500
Battery Voltage Range (V)	150~720	150~720	150~720
Start-up Voltage (V)	150	150	150
Number of Battery Input	1	1	1
Max. Continuous Charging Current (A)	40	40	40
Max. Continuous Discharging Current (A)	40	40	40
Max. Charge Power (W)	15000	18000	24000
Max. Discharge Power (W)	11000	13200	16500
PV String Input Data			
Max. Input Power (W) *2	16000	19200	24000

Technical Data	GW10K-ET-20	GW12K-ET-20	GW15K-ET-20
Max. Input Voltage (V) *3*4	1000	1000	1000
MPPT Operating Voltage Range (V) *5	120~850	120~850	120~850
MPPT Voltage Range at Nominal Power (V)	260~850	285~850	380~850
Start-up Voltage (V)	150	150	150
Nominal Input Voltage (V)	620	620	620
Max. Input Current per MPPT (A)	16	16	16
Max. Short Circuit Current per MPPT (A)	24	24	24
Max. Backfeed Current to The Array (A)	0	0	0
Number of MPP Trackers	3	3	3
Number of Strings per MPPT	1	1	1
AC Output Data (On-grid)			
Nominal Output Power (W)	10000	12000	15000
Max. Output Power (W)	10000	12000	15000
Nominal Apparent Power Output to Utility Grid (VA)	10000	12000	15000

Technical Data	GW10K-ET-20	GW12K-ET-20	GW15K-ET-20
Max. Apparent Power Output to Utility Grid (VA) *6	10000	12000	15000
Nominal Apparent Power from Utility Grid (VA)	10000	12000	15000
Max. Apparent Power from Utility Grid (VA)	20000	20000	20000
Nominal Output Voltage (V)	400/380, 3L/N/PE	400/380, 3L/N/PE	400/380, 3L/N/PE
Output Voltage Range (V) *7	170~290	170~290	170~290
Nominal AC Grid Frequency (Hz)	50/60	50/60	50/60
AC Grid Frequency Range (Hz)	45~65	45~65	45~65
Max. AC Current Output to Utility Grid (A) *8	14.5	17.4	21.7
Max. AC Current From Utility Grid (A)	26.1	26.1	26.1
Max. Output Fault Current (Peak and Duration) (A)	200Aat1ms	200Aat1ms	200Aat1ms
Inrush Current (Peak and Duration) (A)	150Aat1ms	150Aat1ms	150Aat1ms
Nominal Output Current (A)	14.5	17.4	21.7

Technical Data	GW10K-ET-20	GW12K-ET-20	GW15K-ET-20
Power Factor	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging	0.8 leading~0.8 lagging
Max. Total Harmonic Distortion	<3%	<3%	<3%
Maximum Output Overcurrent Protection (A)	56	56	56
AC Output Data (Back-up)			
Back-up Nominal Apparent Power (VA)	10000	12000	15000
Max. Output Apparent Power (VA) .*9	10000 (18000 at60sec)	12000 (18000 at60sec)	15000 (18000 at60sec)
Max. Output Apparent Power with Grid (VA)	10000	12000	15000
Nominal Output Current (A)	14.5	17.4	21.7
Max. Output Current (A)	21.7 (26.1at60sec)	21.7 (26.1at60sec)	21.7 (26.1at60sec)
Max. Output Fault Current (Peak and Duration) (A)	56at3us	56at3us	56at3us
Inrush Current (Peak and Duration) (A)	150Aat1ms	150Aat1ms	150Aat1ms
Maximum Output Overcurrent Protection (A)	56	56	56
Nominal Output Voltage (V)	400/380	400/380	400/380

Technical Data	GW10K-ET-20	GW12K-ET-20	GW15K-ET-20
Nominal Output Frequency (Hz)	50/60	50/60	50/60
Output THDv (@Linear Load)	<3%	<3%	<3%
Efficiency			
Max. Efficiency	98.2%	98.2%	98.2%
European Efficiency	97.5%	97.5%	97.5%
Max. Battery to AC Efficiency	97.5%	97.5%	97.5%
MPPT Efficiency	99.5%	99.5%	99.5%
Protection			
PV Insulation Resistance Detection	Integrated	Integrated	Integrated
PV AFCI3.0	Optional	Optional	Optional
Residual Current Monitoring	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated
Battery Reverse Polarity Protection	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated
AC Overcurrent Protection	Integrated	Integrated	Integrated
AC Short Circuit Protection	Integrated	Integrated	Integrated

Technical Data	GW10K-ET-20	GW12K-ET-20	GW15K-ET-20
AC Overvoltage Protection	Integrated	Integrated	Integrated
DC Switch	Integrated	Integrated	Integrated
DC Surge Protection	Type II	Type II	Type II
AC Surge Protection	Type II	Type II	Type II
Remote Shutdown	Integrated	Integrated	Integrated
General Data			
Operating Temperature Range (℃)	-35~+60	-35~+60	-35~+60
Storage Temperature (℃)	-40~+85	-40~+85	-40~+85
Relative Humidity	0~100%	0~100%	0~100%
Operating Environment	Outdoor	Outdoor	Outdoor
Max. Operating Altitude (m)	4000	4000	4000
Cooling Method	Natural Convection	Natural Convection	Natural Convection
User Interface	LED, WLAN+APP	LED, WLAN+APP	LED, WLAN+APP
Communication with BMS	RS485, CAN	RS485, CAN	RS485, CAN
Communication with Meter	RS485	RS485	RS485
Communication with Portal	WiFi+LAN+Blueto oth	WiFi+LAN+Blueto oth	WiFi+LAN+Bluetoo th

Technical Data	GW10K-ET-20	GW12K-ET-20	GW15K-ET-20
Weight (kg)	25	25	25
Dimension (W×H×D mm)	496*460*221	496*460*221	496*460*221
Noise Emission (dB)	<30	<45	<45
Topology	Non-isolated	Non-isolated	Non-isolated
Self-consumption at Night (W) *10	<15	<15	<15
Ingress Protection Rating	IP66	IP66	IP66
DC Connector	MC4 (4~6mm2)	MC4 (4~6mm2)	MC4 (4~6mm2)
AC Connector	Feed-Through Terminal Blocks UW10	Feed-Through Terminal Blocks UW10	Feed-Through Terminal Blocks UW10
Environmental Category	4K4H	4K4H	4K4H
Pollution Degree	III	III	III
Overvoltage Category	DC II / AC III	DC II / AC III	DC II / AC III
Protective Class	I	I	I
The Decisive Voltage Class (DVC)	Battery: C PV: C AC: C Com: A		
Mounting Method	Wall Mounted	Wall Mounted	Wall Mounted
Active Anti-islanding Method	AFDPF + AQDPF*11	AFDPF + AQDPF*11	AFDPF + AQDPF*11

Technical Data	GW10K-ET-20	GW12K-ET-20	GW15K-ET-20
Type of Electrical Supply System	Three phase Grid	Three phase Grid	Three phase Grid
Country of Manufacture	China	China	China
Certification*12			
Grid Standards	VDE-AR-N 4105, EN50549-1		
Safety Regulation	IEC62109-1&2		
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-6-4		

*2: Max. input power, not continuous for 1.6*normal power. Besides, in Australia, for most of the PV modules, the max. input power can reach 2*Pn, for example, the max. input power of GW6000-ET-20 can reach 12000W.
*3: For 1000V system, the maximum operating voltage is 950V.
*4: When the input voltage ranges from 950V to 1000V, the inverter will enter the standby mode. When the input voltage returns to the MPPT operating voltage range, the inverter will resume normal operating mode.
*5: Please refer to the user manual for the MPPT Voltage Range at Nominal Power.
*6: According to the local grid regulation.
*7: Output Voltage Range: phase voltage.
*8: When the three-unbalance function is activated, the Max. AC Current Output to the on-grid load can reach 13A, 17.4A, 21.7A, 21.7A and 21.7A respectively.
*9: Can be reached only if PV and battery power is enough.
*10: No Back-up Output.
*11: AFDPF: Active Frequency Drift with Positive Feedback, AQDPF: Active Q Drift with Positive Feedback.
*12: Not all certifications & standards are listed, check the official website for details.

10.2 Battery Parameters

10.2.1 Lynx Home F

Technical parameters	LX F6.6-H	LX F9.8-H	LX F13.1-H	LX F16.4-H
Usable Energy(kWh)*1	6.55	9.83	13.1	16.38
Battery Module	LX F3.3-H: 38.4V 3.27kWh			
Number of Modules	2	3	4	5
Cell Type	LFP（$LiFePO_4$）			
Cell Configuration	64S1P	96S1P	128S1P	160S1P
Nominal Voltage (V)	204.8	307.2	409.6	512
Operating Voltage Range (V)	182.4~230.4	273.6~345.6	364.8~460.8	456~576
Nominal Dis-/Charge Current(A)*2	25			
Nominal Power (kW)*2	5.12	7.68	10.24	12.8
Operating Temperature (°C)	Charge: 0 ~ +50; Discharge: -20 ~ +50			
Relative Humidity	0~95%			
Max. Operating Altitude (m)	2000			
Communication	CAN			
Weight (kg)	115	158	201	244
Dimensions (W×H×D mm)	600*625*380	600*780*380	600*935*380	600*1090*380
Enclosure Type	IP55			
Installation Location	Grounded			

Technical parameters		LX F6.6-H	LX F9.8-H	LX F13.1-H	LX F16.4-H
Standard and Certification	Safety	IEC62619, IEC62040, CEC			
	EMC	CE, RCM			
	Transportation	UN38.3			
*1: Test conditions, 100% DOD, 0.2°C charge & discharge at +25±2 °C for battery system at beginning life. System Usable Energy may vary with different Inverter. *2: Nominal Dis-/Charge Current and power derating will occur related to Temperature and SOC.					

10.2.2 Lynx home F Plus+

Technical parameters	LX F6.6-H	LX F9.8-H	LX F13.1-H	LX F16.4-H
Usable Energy(kWh)*1	6.55	9.83	13.10	16.38
Battery Module	LX F3.3-H: 38.4V 3.27kWh			
Number of Modules	2	3	4	5
Cell Type	LFP（$LiFePO_4$）			
Cell Configuration	64S1P	96S1P	128S1P	160S1P
Nominal Voltage (V)	204.8	307.2	409.6	512
Operating Voltage Range (V)	182.4~230.4	273.6~345.6	364.8~460.8	456~576
Nominal Dis-/Charge Current (A)*2	25			
Nominal Power (kW)*2	5.12	7.68	10.24	12.8

Technical parameters		LX F6.6-H	LX F9.8-H	LX F13.1-H	LX F16.4-H
Operating Temperature (℃)		Charge: 0 ~ +50; Discharge: -20 ~ +50			
Relative Humidity		0~95%			
Max. Operating Altitude (m)		2000			
Communication		CAN			
Weight (kg)		115	158	201	244
Dimensions (W×H×D mm)		600*610*380	600*765*380	600*920*380	600*1075*380
Enclosure Type		IP55			
Storage Temperature (°C)		-20 ~ +45 (≤ One Month); 0 ~ +35 (< One Year)			
Mounting Method		Grounded			
Round-trip Efficiency		96.4%			
Cycle Life		≥ 3500 @1C/1C			
Standard and Certification	Safety	IEC62619, IEC 62040, VDE2510-50, CEC			
	EMC	CE，RCM			
	Transportation	UN38.3			
*1 : Test conditions , 100% DOD, 0.2C charge & discharge at+25+2 °C for battery system at beginning life. System Usable Energy may vary with different Inverter. *2 : Nominal Dis-/Charge Current and power derating will occurrelated to Temperature and SOC. *3 : Based on 2.5~3.65V voltage rang @25+2°C of Cell under 11C/1C test condition and 80% EOL.					

10.2.3 Lynx home F G2

Technical Data	LX F6.4-H-20	LX F9.6-H-20	LX F12.8-H-20	LX F16.0-H-20	LX F19.2-H-20	LX F22.4-H-20	LX F25.6-H-20	LX F28.8-H-20
Usable Energy (kWh)*1	6.4	9.6	12.8	16.0	19.2*2	22.4*2	25.6	28.8
Battery Module	LX F3.2-20：64V 3.2kWh							
Number of Modules	2	3	4	5	6	7	8	9
Cell Type	LFP ($LiFePO_4$)							
Cell Configuration	(20S)2S1P	(20S)3S1P	(20S)4S1P	(20S)5S1P	(20S)6S1P	(20S)7S1P	(20S)8S1P	(20S)9S1P
Nominal Voltage (V)	128	192	256	320	384	448	512	576
Operating Voltage Range (V)	114.8~144.4	172.2~216.6	229.6~288.8	287~361	344.4~433.2	401.8~505.4	459.2~577.6	516.6~649.8
Nominal Dis-/Charge Current (A)*3	35							
Max. Continuous Dis-/Charge Current (A)	35							
Nominal Power (kW)*3	4.48	6.72	8.96	11.2	13.44	15.68	17.92	20.16
Operating Temperature Range (℃)*4	-20~+50							

Technical Data		LX F6.4-H-20	LX F9.6-H-20	LX F12.8-H-20	LX F16.0-H-20	LX F19.2-H-20	LX F22.4-H-20	LX F25.6-H-20	LX F28.8-H-20
Relative Humidity		0 ~ 95%							
Max. Operating Altitude (m)		3000							
Communication		CAN							
Weight (kg)		86	120	154	188	222	256	290	324
Dimensions (W×H×D mm)		600×559×380	600×715×380	600×871×380	600×1027×380	600×1183×380	600×1339×380	600×1495×380	600×1651×380
Ingress Protection Rating		IP55							
Storage Temperature (℃)		-20~+45(≤One Month) ; 0~+35(≤One Year)							
Mounting Method		Grounded							
Round-trip Efficiency		94%							
Cycle Life*5		> 4000							
Standard and Certification	Safety	IEC62619、IEC62040-1、IEC63056、VDE2510、 CE							
	EMC	CE, RCM							
	Transportation	UN38.3							

10.2.4 Lynx home D

Technical parameters		LX D5.0-10
Usable energy (kWh)*1		5
Cell Type		LFP (LiFePO4)
Cell Configuration		16S1P
Nominal Voltage (V)		Charge: 435V; Discharge: 380V
Operating Voltage Range (V)		320~480V
Nominal Charge/Discharge Power (kW)		3
Peak Power		5KW, 10s
Operating Temperature Range (℃)		Charge: 0~+53; Discharge: -20~+53
Relative Humidity		0~95%
Max. Operating Altitude (m)		4000
Communication		CAN
Weight (kg)		52
Dimension (W×H×D mm)		700×380×170
Ingress Protection Rating		IP66
Storage Temperature (℃)		-20~0 (≤ One Months), 0~+35 (≤ One Year)
Mounting Method		Floor stacked, Wall Mounted
Cycle Life *2		4500
Standard and Certification	Safety	IEC62619、IEC60730、VDE2510-50、 CE 、CEC
	EMC	CE, RCM
	Transportation	UN38.3
*1: Test conditions, 100% DOD, 0.2C charge & discharge at +25±3 °C for battery system at beginning life. Usable energy may vary with different inverter. *2: Based on 2.87~3.59V voltage rang @25+2 °C of Cell under 0.6C/0.6C test condition and 80% EOL		

10.3 Smart Meter Technical Data

10.3.1 GM330

model	GM330
Measurement Range	
Supported Grid Types	1P2W/3P3W/3P4W
Operating voltage (Vac)*	3P4W：100~472 L-N 3P3W：100~472 L-L
Frequency (Hz)	50/60
CT ratio	nA: 5A
Accuracy Parameters	
voltage/current	Class 0.5
Active Energy	Class 0.5
Reactive Energy	Class 1
Communication Parameters	
Communication Method	RS485
Communication Distance (m)	1000
General Parameters	
Dimensions (W*H*D mm)	72*85*72
Housing	4 Module
Weight (g)	240
Mounting Method	DIN Rail
User Interface	4 LEDs, Reset Button
Power Consumption (W)	＜5
Environmental Parameters	
IP Rating	IP20

model	GM330
Operating Temperature Range (℃)	-30-+70
Storage Temperature Range (℃)	-30-+70
Relative Humidity (Non-condensing)	0-95%
Max. Operating Altitude (m)	3000

*Supports 1.1 times voltage input.
*The standard CT for the meter has been uniformly changed to 120A:40mA specification. Meters with 200A:50mA specification CT will no longer be sold after June 2026.

10.3.2 GM3000

technical parameter		GM3000
Application		Three-phase
voltage	Nominal Voltage	3L+N/400V
	Voltage Range	100V~240V
	Frequency	50Hz/60Hz
current	Rated Current	CT in: 120A/40mA;
	Current Range	0.48A~120A
Power Consumption		<3W
Data Detection		voltage/current/Active Power/Reactive Power/Power Factor/Frequency
Energy Calculation		Active/Reactive Power
Accuracy	voltage/current	Class I
	Active	Class I
	Reactive	Class II
Communication		RS485 (Max. Baud Rate9600/ModBusProtocol/Max. Cable Length100m)
Display		LED, USB, Reset Button

Device	Dimensions (L x W x Hmm)	36 x 85 x 66.5
	Weight（g）	450
	Ingress Protection Rating	IP20(Indoor)
	Mounting Method	Back Plate Mounting
Operating Temperature		-25 ~ +60° C
Storage Temperature		-25 ~ +60° C
Humidity		<95% Non-condensing
Operating Altitude(m)		< 2000m
Safe Service Life (Years)		≥25

10.4 Smart Dongle Technical Data

10.4.1 WiFi/LAN Kit-20

technical parameter		WiFi/LAN Kit-20
Output Voltage (V)		5
Power Consumption (W)		≤2
Communication Interface		USB
Communication Parameters	Ethernet	10M/100Mbps Auto-negotiation
	Wireless	IEEE 802.11 b/g/n @2.4 GHz
	Bluetooth	Bluetooth V4.2 BR/EDR and Bluetooth LE Standard
Mechanical Parameters	Dimensions (W×H×D mm)	48.3*159.5*32.1
	Weight (g)	82
	Ingress Protection Rating	IP65
	Mounting Method	USB Port Plug-in
Operating Temperature Range (℃)		-30~+60
Storage Temperature Range (℃)		-40~+70
Relative Humidity		0-95%
Max. Operating Altitude (m)		4000

10.4.2 4G Kit-CN-G20

Product Model	4G Kit-CN-G20
Device Management	
Max. Supported Inverter Quantity	1
Power Parameters	
Input Voltage (V)	5
Power Consumption (W)	≤4
Interface Type	USB
Communication Parameters	
4G/3G/2G	LTE-FDD：B1/B3/B5/B8 LTE-TDD：B34/B39/B40/B41
GNSS Positioning	/
Bluetooth	Bluetooth V5.0
Mechanical Parameters	
Dimensions (W×H×D mm)	48.3*95.5*32.1
Weight (g)	87
indicator	LED* 2
Mounting Method	Plug and Play
SIM Card Size	Micro sim, 15mm*12mm
Environmental Parameters	
Operating Temperature Range (℃)	-30~+65
Storage Temperature Range (℃)	-40~+70
Relative Humidity	0-100%
IP Rating	IP66
Max. Operating Altitude (m)	4000
Compliance Standards	
Certification	SRRC、CTA

10.4.3 4G Kit-CN-G21

Product Model	4G Kit-CN-G21
Device Management	
Max. Supported Inverter Quantity	1
Power Parameters	
Input Voltage (V)	5
Power Consumption (W)	≤4
Interface	USB
Communication Parameters	
4G/3G/2G	LTE-FDD：B1/B3/B5/B8 LTE-TDD：B34/B39/B40/B41
GNSS Positioning	BeiDou, GPS
Bluetooth	Bluetooth V5.0
Mechanical Parameters	
Dimensions (W×H×D mm)	48.3*95.5*32.1
Weight (g)	87
indicator	LED* 2
Mounting Method	Plug and Play
SIM Card Size	Micro sim, 15mm*12mm
Environmental Parameters	
Operating Temperature Range (℃)	-30~+65
Storage Temperature Range (℃)	-40~+70
Relative Humidity	0-100%
IP Rating	IP66
Max. Operating Altitude (m)	4000
Compliance Standards	
Certification	SRRC、CTA

10.4.4 Ezlink3000

model	Ezlink3000
General Parameters	
Connection Interface	USB
Ethernet Interface (Optional)	10/100Mbps auto-negotiation, communication distance ≤100m
Mounting Method	Plug and Play
indicator	LED indicator
Dimensions (WxHxD mm)	49x153x32
Weight (g)	130
Power Consumption (W)	≤2 (typical)
Wireless Parameters	
Bluetooth Communication	Bluetooth 5.1
WiFi Communication	802.11 b/g/n(2.412GHz-2.484GHz)
Operating Mode	STA
Environmental Parameters	
Operating Temperature Range (°C)	-30 ~ +60
Storage Temperature Range (°C)	-30 ~ +70
Relative Humidity	0-100% (non-condensing)
Ingress Protection Rating	IP65
Maximum Operating Altitude (m)	4000

10.4.5 LS4G Kit-CN

Technical Parameters	LS4G Kit-CN
General Data	
Max. Supported Inverter Quantity	1
Interface Type	USB
Mounting Method	Plug and Play
Indicator	LED Indicator
Dimensions (W×H×D mm)	49*96*32
SIM Card Dimensions (mm)	15*12
IP Rating	IP65
Power Consumption (W)	<4
Operating Ambient Temperature (℃)	-30~60℃
Storage Ambient Temperature (℃)	-40~70℃
Relative Humidity	0-100% (No Condensation)
Max. Operating Altitude (m)	4000
Wireless Parameters	
LTE-FDD	B1/B3/B5/B8
LTE-TDD	B34/B38/B39/B40/B41
GSM/GPRS	B3/B8
Safe Service Life (Years)	≥25

10.4.6 4G Kit-CN

technical parameter	4G Kit-CN
General Data	
Maximum Supported Inverters	1
Interface Type	USB
Mounting Method	Plug and Play

technical parameter	4G Kit-CN
indicator	LED Indicator
Dimensions (W×H×D mm)	49*96*32
SIM Card Size (mm)	15*12
IP Rating	IP65
Power Consumption (W)	<4
Operating Temperature (℃)	-30~60℃
Storage Temperature (℃)	-40~70℃
Relative Humidity	0-100% (Non-condensing)
Max. Operating Altitude (m)	4000
Wireless Parameters	
LTE-FDD	B1/B3/B5/B8
LTE-TDD	B34/B38/B39/B40/B41
GSM/GPRS	B3/B8
Service Life (Years)	≥25

11 Appendix

11.1 FAQ

11.1.1 How to Upgrade the Device Version

Through firmware information, you can view or upgrade:
Inverter's DSP version, ARM version, communication module software version, battery's BMS version, DCDC version, etc.

- **Upgrade Prompt:**

When the user opens the App, an upgrade prompt pops up on the homepage. The user can choose whether to upgrade. If they choose to upgrade, follow the on-screen instructions to complete the upgrade.

- **Regular Upgrade:**

Via **[Home]** > **[Settings]** > **[Firmware Information]**, enter the firmware information viewing interface.
Click Check for Updates. If a new version is available, follow the on-screen instructions to complete the upgrade.

- **Forced Upgrade:**

The App pushes upgrade information. The user needs to upgrade according to the prompts; otherwise, they cannot use the App. Follow the on-screen instructions to complete the upgrade.

Inverter Software Version Upgrade

- The inverter supports software upgrade via U disk.
- Before using a U disk to upgrade the device, please contact the after-sales service center to obtain the software upgrade package and upgrade method.

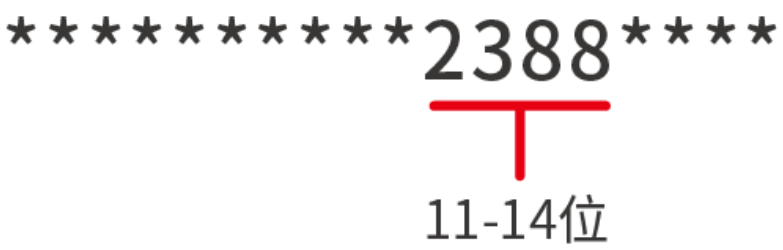
11.2 Explanation of Terms

- **Explanation of Overvoltage Categories**
  - **Overvoltage Category Ⅰ**: Equipment connected to circuits with measures to limit transient overvoltages to a relatively low level.
  - **Overvoltage Category Ⅱ**: Energy-consuming equipment supplied from fixed electrical installations. This category includes appliances, portable tools, and other household and similar loads. Overvoltage Category III is applied if special requirements for reliability and suitability of such equipment exist.
  - **Overvoltage Category Ⅲ**: Equipment in fixed electrical installations where reliability and suitability must meet special requirements. This includes switching devices in fixed electrical installations and industrial equipment permanently connected to fixed electrical installations.
  - **Overvoltage Category Ⅳ**: Equipment used at the origin of the electrical installation, including meters and primary overcurrent protection devices, etc.
- **Explanation of Humid Location Categories**

Environmental Parameters	Level		
	3K3	4K2	4K4H
Temperature Range	0~+40℃	-33~+40℃	-33~+40℃
Humidity Range	5% to 85%	15% to 100%	4% to 100%

- **Explanation of Environmental Categories:**
  - **Outdoor Inverter**: Ambient air temperature range from -25°C to +60°C, suitable for environments with Pollution Degree 3.
  - **Indoor Type II Inverter**: Ambient air temperature range from -25°C to +40°C, suitable for environments with Pollution Degree 3.
  - **Indoor Type I Inverter**: Ambient air temperature range from 0°C to +40°C, suitable for environments with Pollution Degree 2.
- **Explanation of Pollution Degree Categories**
  - **Pollution Degree 1**: No pollution or only dry, non-conductive pollution.
  - **Pollution Degree 2**: Normally only non-conductive pollution occurs. Temporary conductivity caused by condensation must be considered.
  - **Pollution Degree 3**: Conductive pollution occurs, or dry non-conductive pollution becomes conductive due to condensation.
  - **Pollution Degree 4**: Persistent conductive pollution occurs, for example due to conductive dust or rain or snow.

11.3 Battery SN Code Meaning



LXD10DSC0002

Digits 11-14 of the product SN code represent the production date code.
The production date in the image above is 2023-08-08.

- Digits 11 and 12 represent the last two digits of the production year, e.g., 2023 is represented as 23;
- Digit 13 represents the production month, e.g., August is represented as 8; Details are as follows:

Month	Jan-Sep	Oct	Nov	Dec
Month Code	1~9	A	B	C

- Digit 14 represents the production day, e.g., the 8th is represented as 8; Numbers are used preferentially, e.g., 1~9 represent the 1st~9th day, A represents the 10th day, and so on. The letters I and O are not used to avoid confusion. Details are as follows:

Production Day	1	2	3	4	5	6	7	8	9
Code	1	2	3	4	5	6	7	8	9

Production Date	10	11	12	13	14	15	16	17	18
Code	A	B	C	D	E	F	G	H	J

Production Date	21	22	23	24	25	26	27	28	29
Code	M	N	P	Q	R	S	T	U	V

11.4 Safety Regulation Countries

No.	Safety Regulation Name	No.	Safety Regulation Name
Europe			
1	IT-CEI 0-21	54	NI-G98
2	IT-CEI 0-16	55	IE-LV-16/25A
3	DE LV with PV	56	IE-LV-72A
4	DE LV without PV	57	IE-ESB-C&D(< 110kV)
5	DE-MV	58	IE-EirGrid-110kV
6	ES-A	59	PT-D
7	ES-B	60	EE
8	ES-C	61	NO
9	ES-D	62	FI-A
10	ES-island	63	FI-B
11	BE	64	FI-C
12	FR-LV	65	FI-D
13	FR-island-50Hz	66	UA-A1
14	FR-island-60Hz	67	UA-A2
15	type A-PL_V.1.1	68	EN 50549-1
16	type B-LV-PL_V.1.1	69	EN 50549-2
17	type C-PL_V.1.1	70	DK-West-B-MVHV
18	type D-PL_V.1.1	71	DK-East-B-MVHV
19	NL-16/20A	72	DK-West-C-MVHV
20	NL-A	73	DK-East-C-MVHV
21	NL-B	74	DK-West-D-MVHV
22	NL-C	75	DK-East-D-MVHV
23	NL-D	76	FR-Reunion
24	SE-A	77	BE-LV （>30kVA）
25	SE MV	78	BE-HV
26	SK-A	79	CH-B

No.	Safety Regulation Name	No.	Safety Regulation Name
27	SK-B	80	NI-G99-A
28	SK-C	81	NI-G99-B
29	HU	82	NI-G99-C
30	CH-A	83	NI-G99-D
31	CY	84	IE-LV-170kVA
32	GR	85	IE-MV&HV-200kVA
33	DK-West-A	86	DE-HV
34	DK-East-A	87	FR-MV
35	DK-West-B	88	CZ-A1/A2-09
36	DK-East-B	89	DE-EHV
37	AT < 1kV	90	IE-EirGrid-400KV
38	AT > 1kV	91	IE-EirGrid-220KV
39	BG	92	IE-EirGrid-66KV
40	Czech	93	IE-ESB-B
41	CZ-A1-09	94	IE-ESB-D(≥110kV)
42	CZ-A2-09	95	type B-MV-PL_V.1.1
43	CZ-B1/B2-09	96	GB-G99-A HV
44	CZ-C	97	GB-G99-B LV
45	CZ-D	98	GB-G99-C LV
46	RO-A	99	UA-B
47	RO-B	100	UA-C
48	RO-D	101	UA-D
49	GB-G98	102	UK-G98
50	GB-G99-A LV	103	UK-G99-A LV
51	GB-G99-B HV	104	UK-G99-B LV

No.	Safety Regulation Name	No.	Safety Regulation Name
52	GB-G99-C HV	105	UK-G99-C LV
53	GB-G99-D	106	CZ-A1
Global			
1	60Hz-Default	6	IEC 61727-60Hz
2	50Hz-Default	7	Warehouse
3	127Vac-60Hz-Default	8	IEC61727-480Vac-60Hz
4	127Vac-50Hz-Default	9	IEC61727-480Vac-50Hz
5	IEC 61727-50Hz		
Americas			
1	Argentina-220V-LV	38	LUMAPR-2024-220Vac-3P
2	US-208Vac	39	LUMAPR-2024-240Vac-3P
3	US-240Vac	40	Cayman
4	Mexico-220Vac	41	Brazil-220Vac
5	Mexico-440Vac	42	Brazil-208Vac
6	US-480Vac	43	Brazil-230Vac
7	US-208Vac-3P	44	Brazil-240Vac
8	US-220Vac-3P	45	Brazil-254Vac
9	US-240Vac-3P	46	Brazil-127Vac
10	US-CA-208Vac	47	Brazil-ONS
11	US-CA-240Vac	48	Barbados
12	US-CA-480Vac	49	Chile-BT
13	US-CA-208Vac-3P	50	Chile-MT-A
14	US-CA-220Vac-3P	51	Chile MT-B
15	US-CA-240Vac-3P	52	Colombia
16	US-HI-208Vac	53	Colombia<0.25MW-208Vac-1P
17	US-HI-240Vac	54	Colombia<0.25MW-120Vac-3P
18	US-HI-480Vac	55	IEEE 1547-208Vac
19	US-HI-208Vac-3P	56	IEEE 1547-220Vac

No.	Safety Regulation Name	No.	Safety Regulation Name
20	US-HI-220Vac-3P	57	IEEE 1547-240Vac
21	US-HI-240Vac-3P	58	IEEE 1547-230Vac
22	US-Kauai-208Vac	59	Colombia<0.25MW-127Vac-3P
23	US-Kauai-240Vac	60	Colombia>5MW
24	US-Kauai-480Vac	61	Mexico-127V
25	US-Kauai-208Vac-3P	62	Mexico-240V
26	US-Kauai-220Vac-3P	63	US-O&R-208Vac
27	US-Kauai-240Vac-3P	64	US-O&R-240Vac
28	US-ISO-NE-208Vac	65	US-O&R-480Vac
29	US-ISO-NE-240Vac	66	US-O&R-208Vac-3P
30	US-ISO-NE-480Vac	67	US-O&R-220Vac-3P
31	US-ISO-NE-208Vac-3P	68	US-O&R-240Vac-3P
32	US-ISO-NE-220Vac-3P	69	Brazil-277Vac
33	US-ISO-NE-240Vac-3P	70	Chile-BT ≤9MW
34	LUMAPR-2024-208Vac	71	Chile-MT ≤9MW
35	LUMAPR-2024-240Vac	72	Chile > 9MW
36	LUMAPR-2024-480Vac	73	Mexico-277Vac
37	LUMAPR-2024-208Vac-3P		
Oceania			
1	Australia-A	4	Newzealand
2	Australia-B	5	Newzealand:2015
3	Australia-C	6	NZ-GreenGrid
Asia			
1	China A	33	Israel-MV
2	China B	34	Israel-HV
3	China Higher Voltage	35	Vietnam

No.	Safety Regulation Name	No.	Safety Regulation Name
4	China Highest Voltage	36	Malaysia-LV
5	China Power Station	37	Malaysia-MV
6	China Shandong	38	DEWA-LV
7	China Hebei	39	DEWA-MV
8	China PCS	40	Saudi Arabia-220V-LV
9	Taiwan	41	JP-690Vac-50Hz
10	Hong Kong	42	JP-690Vac-60Hz
11	China Northeast	43	Srilanka-MV/HV
12	Thailand-MEA	44	IEC 61727-127Vac-50Hz
13	Thailand-PEA	45	IEC 61727-127Vac-60Hz
14	Mauritius	46	JP-550Vac-50Hz
15	Korea	47	JP-550Vac-60Hz
16	India	48	India-Higher
17	India-CEA	49	JP-220Vac-50Hz
18	Pakistan	50	JP-220Vac-60Hz
19	Philippines	51	Saudi Arabia-127V-LV
20	Philippines-127Vac	52	Srilanka-LV >1MW
21	JP-200Vac-50Hz	53	China-YN
22	JP-200Vac-60Hz	54	GB/T 29319-LV
23	JP-440Vac-50Hz	55	GB/T 29319-MV
24	JP-440Vac-60Hz	56	Philippines -277Vac
25	JP-420Vac-50Hz	57	JP-360Vac-50Hz
26	JP-420Vac-60Hz	58	JP-360Vac-60Hz
27	JP-480Vac-50Hz	59	JP-320Vac-50Hz
28	JP-480Vac-60Hz	60	JP-320Vac-60Hz
29	Srilanka-LV<1MW	61	JP-340Vac-50Hz
30	Singapore	62	JP-340Vac-60Hz
31	Israel-OG	63	JP-380Vac-50Hz

No.	Safety Regulation Name	No.	Safety Regulation Name
32	Israel-LV	64	JP-380Vac-60Hz
Africa			
1	Mauritius	5	Ghana-LV
2	South Africa-LV	6	Ghana-HV
3	South Africa-B-MV	7	South Africa-A3-LV
4	South Africa-C-MV	8	Nigeria

11.5 Australia Safety Regulations

For the Australian market, to comply with AS/NZS 4777.2:2020, please select from Australia A, Australia B, Australia C, or New Zealand. Please contact your local electricity grid operator on which Region to select.
Selecting a Region B should then automatically load all region B setpoints for volt-watt, volt-var, underfrequency, overfrequency, etc.

Volt–var response set-point values

Region	Default value	U1	U2	U3	U4
Australia A	Voltage	207V	220V	240V	258V
	Inverter reactive power level (Q) % of S_{rated}	44 % supplying	0%	0%	60 % absorbing
Australia B	Voltage	205V	220V	235V	255V
	Inverter reactive power level (Q) % of S_{rated}	30 % supplying	0%	0%	40 % absorbing
Australia C	Voltage	215V	230V	240V	255V
	Inverter reactive power level (Q) % of S_{rated}	44 % supplying	0%	0%	60 % absorbing

Region	Default value	U1	U2	U3	U4
New Zealand	Voltage	207V	220V	235V	244 V
	Inverter reactive power level (Q) % of S_{rated}	60 % supplying	0%	0%	60 % absorbing
Allowed range	Voltage	180 to 230 V	180 to 230 V	230 to 265 V	230 to 265 V
	Inverter reactive power level (Q) % of S_{rated}	30 to 60 % supplying	0%	0%	30 to 60 % absorbing

NOTE 1: Inverters may operate at a reactive power level with a range up to 100 % supplying or absorbing.
NOTE 2: Australia C parameter set is intended for application in isolated or remote power systems.

Volt–watt response default set-point values

Region	Default value	U3	U4
Australia A	Voltage	253V	260V
	Inverter maximum active power output level (P) % of S_{rated}	100%	20%
Australia B	Voltage	250V	260V
	Inverter maximum active power output level (P) % of S_{rated}	100%	20%
Australia C	Voltage	253V	260V
	Inverter maximum active power output level (P) % of S_{rated}	100%	20%
New Zealand	Voltage	242 V	250V

Region	Default value	U3	U4
	Inverter maximum active power output level (P) % of S_{rated}	100%	20%
Allowed range	Voltage	235 to 255 V	240 to 265 V
	Inverter maximum active power output level (P) % of S_{rated}	100%	20%

NOTE: Australia C parameter set is intended for application in isolated or remote power systems.

Passive anti-islanding voltage limit values

Protective function	Protective function limit	Trip delay time	Maximum disconnection time
Undervoltage 2 (V < <)	70 V	1 s	2 s
Undervoltage 1 (V <)	180 V	10 s	11 s
Overvoltage 1 (V >)	265 V	1 s	2 s
Overvoltage 2 (V > >)	275V	-	0.2 s

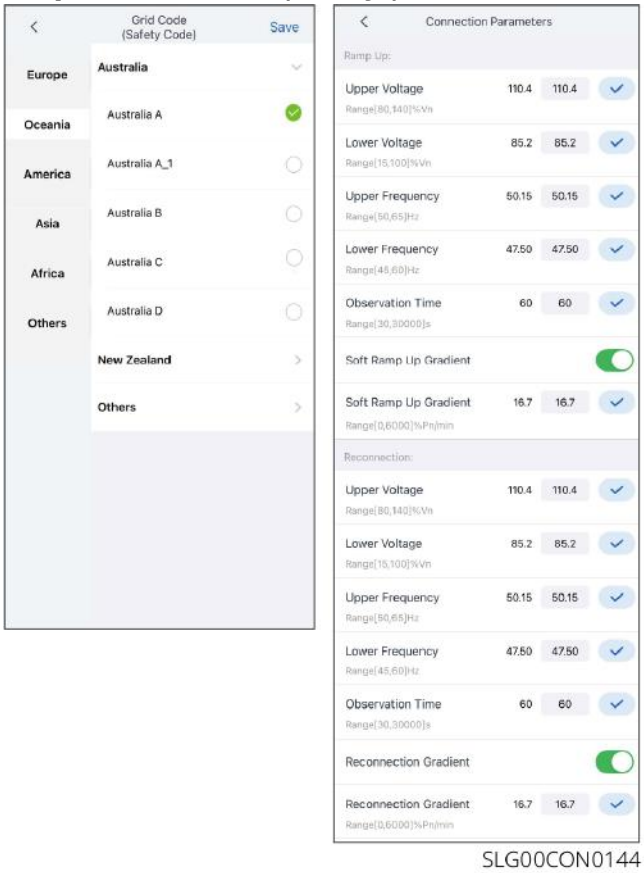
Upper connection and reconnection frequency (f_{URF})

Region	f_{URF}
Australia A	50.15 Hz
Australia B	50.15 Hz
Australia C	50.50 Hz
New Zealand	50.15 Hz

Setting steps:

Step 1: Set the safety code to Australia A/B/C/New Zealand on Quick Settigs page based on actual needs.

Step 2: Set the frequency parameters accordingly.



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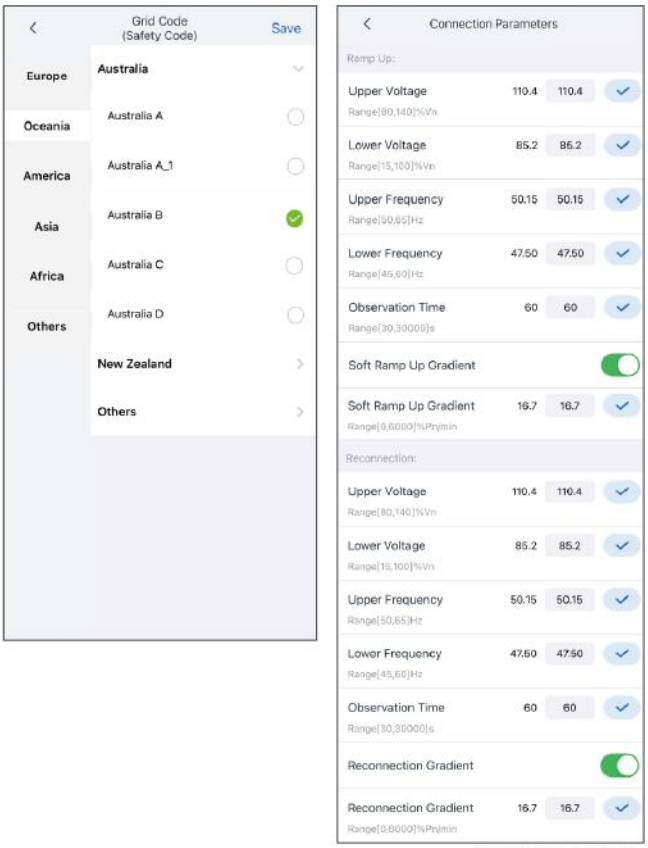

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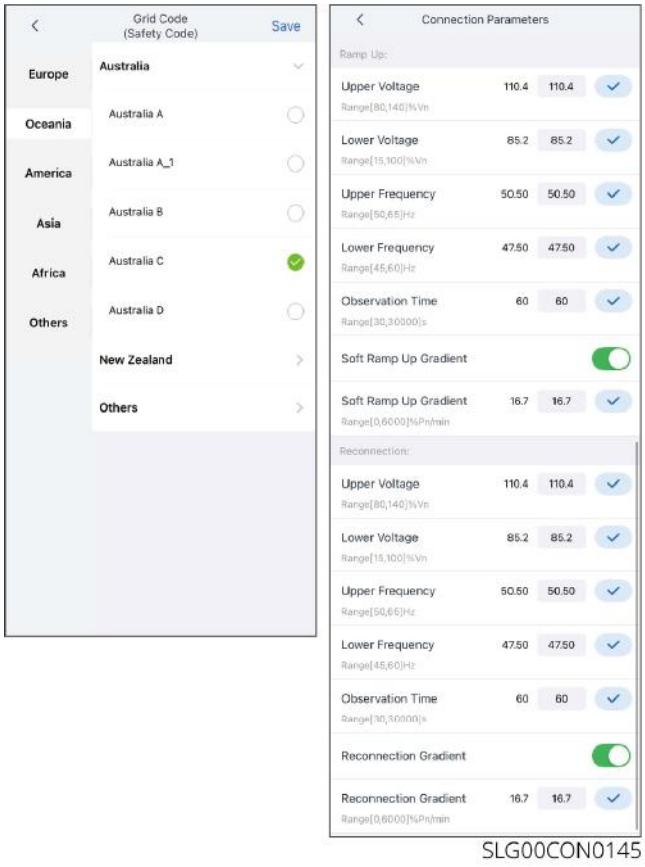

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