V2.0 2025-12-23

Residential Smart Inverter

ET Series 12-30kW

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

Solutions Manual

GOODWE

Copyright Notice

NOTICE

Due to product version updates or other reasons, the document content may be updated irregularly. Unless otherwise expressly agreed, the document content does not replace the safety instructions on the product label. All descriptions in the document are for guidance only.

Preface

Basic Overview

This document describes information regarding products, installation and connection, configuration and debugging, troubleshooting, and maintenance for the energy storage system composed of an inverter, Battery System, and smart meter. Before installing and using the product, carefully read this manual to understand the safety information and familiarize yourself with the product's functions and features. The document may be regularly updated. You can obtain the latest version of the documentation and other product information on the official website.

Usable Products

The energy storage system includes the following products:

<table>
<tr><th>Product Type</th><th>Product Information</th><th>Description</th></tr>
<tr><td>Inverter</td><td>ET 12-30kW</td><td>Rated output power from 12kW to 30kW.</td></tr>
<tr><td rowspan="3">Battery System</td><td>Lynx Home F G2</td><td>Single cluster storage capacity from 6.4kWh to 28.8kWh.
Total capacity of parallel clusters can reach up to 230.4kWh</td></tr>
<tr><td>Lynx Home F, Lynx Home F Plus+</td><td>Single cluster storage capacity from 6.6kWh to 16.38kWh.
Total capacity of parallel clusters can reach up to 131.04kWh.</td></tr>
<tr><td>Lynx Home D</td><td>Single cluster storage capacity 5kWh.
Total capacity of parallel clusters can reach up to 40kWh.</td></tr>
<tr><td rowspan="3">Electric Meter</td><td>GM3000</td><td rowspan="3">A monitoring module in the energy storage system that can detect operational voltage, current, and other information within the system.</td></tr>
<tr><td>GM330</td></tr>
<tr><td>GMK330</td></tr>
</table>

Product Type	Product Information	Description
Smart Dongle	WiFi/LAN Kit-20	System operation information can be uploaded 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)	System operation information can be uploaded to the monitoring platform via 4G signal.
	Wi-Fi Kit	System operation information can be uploaded to the monitoring platform via WiFi signal.
	Ezlink3000	When connected in parallel, it connects to the main inverter. System operation information can be uploaded to the monitoring platform via WiFi or LAN signal.

Symbol Definitions

⚠DANGER
Indicates a highly potentially dangerous situation that, if not avoided, could result in death or serious personal injury.
⚠WARNING
Indicates a moderately potentially dangerous situation that, if not avoided, could result in death or serious personal injury.
⚠CAUTION
Indicates a low potential hazard that, if not avoided, could result in moderate or minor personal injury.
NOTE
Emphasis and supplementary content, may also provide tips or tricks for optimized product usage that can help you solve problems or save time.

Table of Contents

1 Safety Instructions

The safety instruction information contained in this document must always be followed when operating the device.

⚠WARNING
The device has been designed and tested in strict compliance with safety regulations. However, as an electrical device, it requires adherence to relevant safety instructions before any handling. Improper operation may lead to serious injury or material damage.

1.1 General Security

WARNING

- The documentation content may be regularly updated due to product version updates or other reasons. Unless otherwise specified, the documentation content cannot replace the safety instructions on the product label. All descriptions in the documentation are for reference only.
- Before installing the device, read this document carefully to understand the product and safety instructions.
- All operations on the device must be performed by a qualified and professional electrician who is thoroughly familiar with the relevant standards and safety regulations at the project site.
- When working on the device, use insulated tools and personal protective equipment to ensure personal safety. When handling electronic components, wear anti-static gloves, an anti-static wrist strap, anti-static clothing, etc., to protect the device from electrostatic damage.
- Unauthorized disassembly or modification may cause device damage not covered by the warranty.
- Damage to the device or personal injury caused by installation, use, or configuration of the device contrary to the requirements of this document or the relevant user manual is beyond the responsibility of the device manufacturer. For more information on product warranty, please visit the official website: https://en.goodwe.com/warrantyrelated.html.

1.2 Personal Requirements

WARNING

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

1. Qualified or authorized personnel include:
   - Individuals who understand the working principles of the equipment, system architecture, related risks and hazards, and who have undergone professional training or possess extensive practical experience.
   - Individuals who have undergone relevant technical and safety training, possess certain operational experience, are aware of the potential hazards of specific tasks to themselves, and are capable of taking protective measures to minimize risks to themselves and others.
   - Qualified electricians meeting the legal requirements of the specific country/region.
   - Individuals with a university degree in electrical engineering/an advanced diploma in electrical disciplines or equivalent qualifications/professional certification in the electrical field, and with at least 2/3/4 years of experience in testing and supervision according to electrical equipment safety standards.
2. Individuals performing special tasks, such as electrical work, working at heights, or operating special equipment, must possess valid certificates or qualifications required in the location where the equipment is situated.
3. Work on medium voltage equipment must be performed by a certified high-voltage electrician.
4. Replacement of equipment and components may only be performed by authorized personnel.

1.3 System Security

DANGER

- Before performing electrical connections, disconnect all upstream circuit breakers of the device and ensure the device is de-energized. Working on live equipment is strictly prohibited; otherwise, there is a risk of electric shock and other hazards.
- To prevent personal injury or equipment damage due to live work, a circuit breaker must be installed at the device's voltage input.
- During all activities such as transportation, storage, installation, operation, use, and maintenance, it is necessary to comply with applicable laws, regulations, standards, and requirements.
- The specifications of cables and components used for electrical connections must comply with local laws, regulations, standards, and requirements.
- Use the supplied connectors for connecting device cables. If connectors of another type are used, resulting damage to the device is not the responsibility of the equipment manufacturer.
- Ensure all device cables are correctly connected, tightened, and not loose. Incorrect wiring may cause poor contact or equipment damage.
- The device's protective grounding conductor must be securely connected.
- To prevent damage to the device and its components during transportation, ensure the transport personnel are properly trained. Record work procedures during transportation and keep the device balanced to prevent it from falling.
- The device is heavy; according to the device's weight, ensure an adequate number of personnel so the weight does not exceed personnel capacity and cause injury.
- Ensure the device is stably placed and cannot tilt. The device falling may cause damage and personal injury.

⚠WARNING

- Avoid placing load on the terminals during device installation, otherwise they may be damaged.
- If a cable is subjected to excessive tension, poor connection may occur. When connecting, leave sufficient slack in the cable before connecting to the device port.
- Same types of cables should be bundled together; different types of cables should be stored with a spacing of at least 30 mm and should not be intertwined or crossed.
- Using cables in high-temperature environments may cause insulation aging and damage. The distance between cables and heating components or the outer edge of the heat source should be at least 30 mm.

1.3.1 Photovoltaic String Safety

⚠WARNING

- Ensure the component frame and support system are properly grounded.
- After connecting the DC cables, check that the connections are secure and not loose. Improper connection may cause poor contact or high impedance, damaging the inverter.
- Use a multimeter to measure the positive and negative poles of the DC cables to ensure the polarity is correct and there is no reverse connection; and that the voltage is within the allowable range.
- Use a multimeter to measure the DC cables to ensure the polarity is correct and there is no reverse connection; the voltage should be lower than the Maximum Input Power. Damage caused by reverse connection and overvoltage is not covered by the equipment manufacturer's warranty.
- The output of the photovoltaic panel string does not support grounding. Before connecting the photovoltaic panel string to the inverter, ensure the minimum insulation resistance of the string to ground meets the minimum insulation resistance requirement (R=Maximum Input Power (V)/30mA).
- Do not connect the same photovoltaic panel string to multiple inverters, as this may damage the inverter.
- Photovoltaic modules used with inverters must comply with IEC 61730 Class A standard.
- When the input voltage or input current of the photovoltaic string is high, the inverter's performance may be reduced.

1.3.2 Inverter Safety

WARNING

- Ensure the voltage and frequency at the grid connection point match the inverter's grid connection specifications.
- It is recommended to install a protective device, such as a circuit breaker or fuse, on the AC side of the inverter. Its rated value must be greater than 1.25 times the inverter's maximum output current.
- If the inverter triggers an arc fault warning less than 5 times within 24 hours, it may clear this warning automatically. After the fifth arc fault warning, the inverter will stop and enter protection mode. To restore normal inverter operation, the fault must be eliminated.
- If the photovoltaic system is not equipped with batteries, it is not recommended to use the BACK-UP function, otherwise it may lead to a risk of system outage.
- Grid voltage and frequency fluctuations may cause a reduction in inverter output power.

1.3.3 Battery Safety

⚠DANGER

- Before handling any device in the system, ensure the device is disconnected from power to prevent the risk of electric shock. When working on the device, strictly adhere to all safety warnings in this manual and the safety markings on the device.
- Do not disassemble, modify, or repair the battery or control unit without official authorization from the device manufacturer. Otherwise, electric shock or device damage may occur. Damages arising from this reason are not the responsibility of the device manufacturer.
- Do not bump, pull, drag, squeeze, or step on the device. Also, do not expose the battery to fire, otherwise there is a risk of battery explosion.
- Do not place the battery in a high-temperature environment. Ensure there are no heat sources near the battery and that it is not exposed to direct sunlight. If the ambient temperature exceeds 60 °C, a fire may occur.
- If the battery or control unit is obviously damaged, has cracks, is otherwise impaired, or other abnormalities occur, do not use it. Battery damage can lead to electrolyte leakage.
- Do not manipulate the battery or battery system during operation. If you need to replace or add a battery, contact the service center.
- A battery short circuit can cause personal injury. The instantaneous high current caused by a short circuit can release a large amount of energy and cause a fire.

⚠WARNING

- Battery current can be affected by factors such as temperature, humidity, weather conditions, etc., which may lead to current limitation and affect load capacity.
- If the battery fails to start, contact a service center as soon as possible. Otherwise, permanent damage to the battery may occur.
- Regularly inspect and maintain the battery in accordance with maintenance requirements.

Emergency Measures

- Battery Electrolyte Leak

  If electrolyte leaks from the battery module, avoid contact with the leaking liquid or gas. The electrolyte is corrosive and contact may cause skin irritation and chemical burns. If accidental contact with the leaked substance occurs, proceed as follows:
  - Inhalation: Leave the contaminated area and seek medical attention immediately.
  - Eye Contact: Rinse with clean water for at least 15 minutes and seek medical attention immediately.
  - Skin Contact: Thoroughly wash the affected area with soap and water and seek medical attention immediately.
  - Ingestion: Induce vomiting and seek medical attention immediately.
- Fire
  - When the battery temperature exceeds 150 °C, there is a risk of the battery igniting. Once ignited, the battery may release toxic and harmful gases.
  - To prevent fire, ensure a carbon dioxide, Novec1230, or FM-200 fire extinguisher is available near the equipment.
  - Do not use an ABC powder fire extinguisher for extinguishing. Firefighters must wear protective clothing and self-contained breathing apparatus.
- Activation of the Battery Fire Protection Function

  For batteries with an optional fire protection function, after it is activated, proceed as follows:
  - Immediately turn off the main switch and ensure no current is flowing through the battery system.
  - Perform an initial visual inspection of the battery for any damage, deformation, leakage, or odor. Check the battery cover, connectors, and cables.
  - Use a temperature sensor to measure the temperature of the battery and its surroundings to ensure there is no risk of overheating.
  - Isolate, label, and dispose of the damaged battery according to local regulations.

1.3.4 Electricity Meter Safety

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

1.4 Description of Safety Symbols and Certification Marks

⚠DANGER
• After installation, the labels and warning signs on the cabinet must be clearly visible. It is forbidden to cover, overwrite, or damage them. • The following explanation of warning labels on the cabinet is for reference only. Follow the actual labels used on the device.

Order	Symbol	Meaning
1		Potential hazard exists during device operation. Protect yourself when handling the device.
2		High voltage hazard. High voltage is present during device operation. When working on the device, ensure it is disconnected from power.
3		Inverter surface is hot. Do not touch it during device operation to avoid burns.
4		Use the device properly. Danger of explosion exists when used under extreme conditions.
5		Battery contains flammable materials. Beware of fire.
6		The device contains corrosive electrolyte. Avoid contact with leaked electrolyte or vaporizing gases.
7		Delayed discharge. After turning off the device, wait 5 minutes for it to fully discharge.

Order	Symbol	Meaning
8		The device should be placed away from open flames or ignition sources.
9		The device should be placed out of reach of children.
10		Use the device properly. Danger of explosion exists when used under extreme conditions.
11		Battery contains flammable materials. Beware of fire.
12		After completing the battery system wiring or when the battery system is operating, do not lift the device.
13		Extinguishing with water is prohibited.
14		Carefully read the user manual before operating the device.
15		Personal protective equipment must be worn during installation, operation, and maintenance.
16		Do not dispose of the device as municipal waste. Dispose of it according to local laws and regulations or return it to the manufacturer.
17		Do not directly disconnect or connect DC terminals during device operation.
18		Protective grounding connection point.
19		Recycling symbol.
20		CE certification mark.
21		TUV mark.
22		RCM mark.

1.5 European Declaration of Conformity

1.5.1 Wireless Communication Function Devices

Wireless communication function devices that can be sold on the European market comply with the following directive requirements:

- 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 Directive 2012/19/EU (WEEE)
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No 1907/2006 (REACH)

1.5.2 Devices without wireless communication function (excluding batteries)

Devices without wireless communication function that can be sold on the European market comply with the requirements of these 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 Batteries

Batteries sold on the European market meet the requirements of 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)

Additional EU declarations of conformity can be obtained on official website.

2 System Description

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 electrical power within the photovoltaic system to meet household electricity demands. The energy IoT devices in the system manage electrical appliances by identifying the overall power situation in the system, thereby achieving intelligent management of electricity for use by loads, storage in the Battery, or export to the grid.

⚠WARNING

- Select the battery model according to 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 corresponding battery user manual 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.
- Due to product version upgrades or other reasons, document content is updated periodically. For the compatibility relationship 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.
- The photovoltaic system is not suitable for connecting devices that rely on a stable power supply, such as life-sustaining medical equipment. Ensure that a system power failure does not cause personal injury.
- If the PV system is not configured with a battery, using the BACK-UP function is not recommended, as it may cause a 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

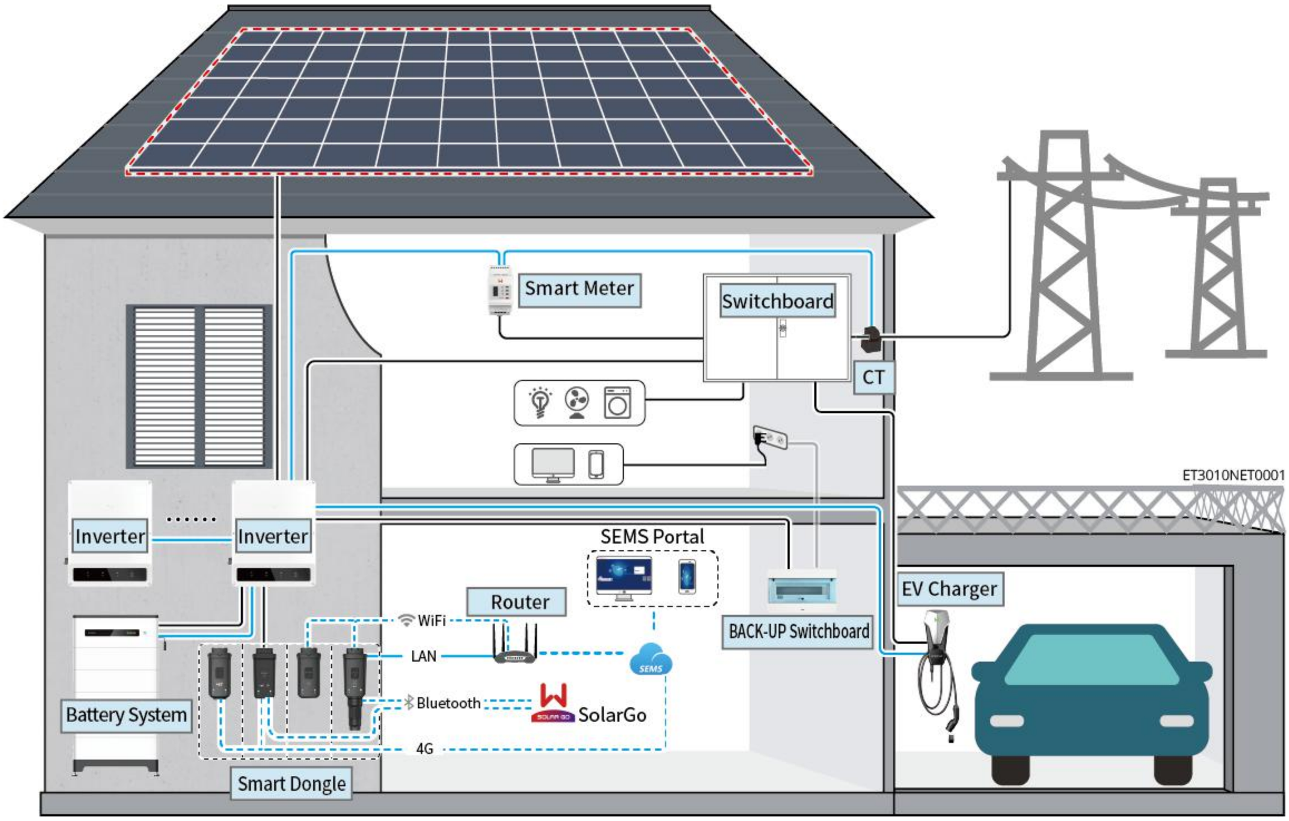
load-carrying capacity.

- The inverter has a UPS function with a switching time of <10ms. Ensure the BACK-UP Loads capacity is less than the inverter's rated power. Otherwise, the UPS function may fail during a grid power outage.
- If the PV system is not configured with a battery, using the BACK-UP function is not recommended, as it may cause a system power failure risk.
- For detailed networking and wiring schemes for each scenario, please refer to: Detailed System Wiring Diagram.
- When the inverter is in off-grid mode, it can power normal household loads. However, the following loads require limitations, 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.
    - When connecting three-phase loads to the BACK-UP port, only three-phase loads with a neutral (N) wire are supported. Connecting loads without a neutral wire is not supported, as it may cause abnormal load operation or damage the load.
    - The inverter does not support half-wave loads. Half-wave loads: Some older 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 experiences 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:
    - During off-grid operation, set a minimum SOC protection threshold. It is recommended to set the off-grid battery SOC lower limit to 30%.
    - When the SOC approaches the protection threshold, the system will automatically enter load limiting or protection mode.
    - If there are consecutive days of insufficient sunlight and the battery SOC is too low, promptly replenish the battery using an external energy source (such as a generator or grid-assisted charging).
    - Regularly check the battery status to ensure it is within a safe operating range.
    - It is recommended to fully charge and discharge the battery every six months to calibrate SOC accuracy.

⚠WARNING

- For detailed networking and wiring schemes for each scenario, please refer to: 5.2.Detailed System Wiring Diagram(Page 95).

General Scenario



<table>
<tr><th>Device Type</th><th>model</th><th>Description</th></tr>
<tr><td>Inverter</td><td>GW12KL-ET
GW18KL-ET
GW15K-ET
GW20K-ET
GW25K-ET
GW29.9K-ET
GW30K-ET</td><td>Supports a maximum of 4 inverters to form a parallel system.
Battery ready models do not support forming a parallel system when the battery function is not activated.
Only machines with the same AC output voltage can form a parallel system.
In a coupling scenario, using dual meters allows simultaneous monitoring of grid-tied inverter power generation and load power consumption. The following version requirements must be met:
Inverter ARM software version 15.441 or above.
Inverter DSP software version 11.11060 or above.
SolarGo version 6.9.0 or above.</td></tr>
<tr><td>Battery system</td><td>Lynx Home F G2
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</td><td></td></tr>
</table>

<table>
<tr><th>Device Type</th><th>model</th><th>Description</th></tr>
<tr><td rowspan="2"></td><td>Lynx Home F,
Lynx Home Plus+
LX F6.6-H
LX F9.8-H
LX F13.1-H
LX F16.4-H</td><td rowspan="2">• The Lynx Home F battery system does not support parallel cluster use.
• A maximum of 8 clusters of battery systems are supported for parallel connection within a system.
• Battery systems of different versions cannot be mixed and used in parallel clusters.
• GW12KL-ET and GW18KL-ET inverters using a battery system are only compatible with the Lynx Home F G2 series batteries; other series batteries are not supported.
• LXF6.4-H-20 and LXF9.6-H-20 model batteries are only compatible with GW12KL-ET and GW18KL-ET inverters; other inverters are not supported.</td></tr>
<tr><td>Lynx Home D
LX D5.0-10</td></tr>
<tr><td>Smart Meter</td><td>• GM3000
• GM330
• GMK330</td><td>• GM3000: Bundled with the inverter, CT cannot be replaced, CT ratio: 120A: 40mA
• GM330: CT can be purchased from GoodWe or separately, CT ratio requirement: nA: 5A
◦ nA: CT primary side input current, where n ranges from 200 to 5000
◦ 5A: CT secondary side output current
• GMK330: CT is shipped with the meter, CT ratio:
◦ 120A: 40mA
◦ 200A: 50mA (Brazil only)</td></tr>
</table>

Device Type	model	Description
smart dongle	• WiFi/LAN Kit-20 • Wi-Fi Kit • 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, Wi-Fi Kit, LS4G Kit-CN, 4G Kit-CN, 4G Kit-CN-G20, or 4G Kit-CN-G21 module. If using WiFi/LAN Kit-20 to replace Wi-Fi Kit, please upgrade the inverter ARM firmware version to 08.401 or above before switching to WiFi/LAN Kit-20. • For single GW12KL-ET and GW18KL-ET model inverters, only the WiFi/LAN Kit-20 module is supported. • 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 05 or above.

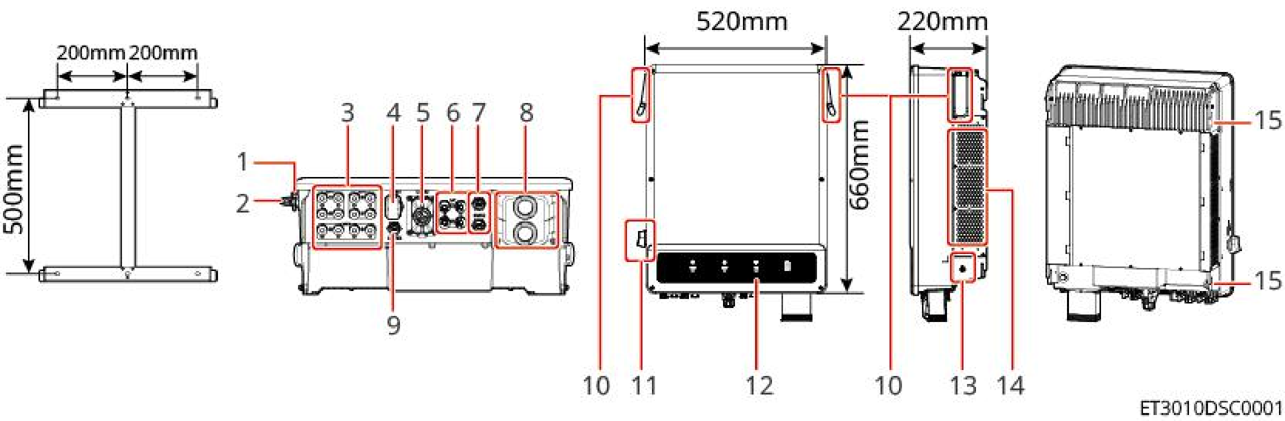
2.2 Product Overview

2.2.1 Inverter

The inverter in the photovoltaic panel system controls and optimizes the flow of energy through an integrated energy management system. It can convert electricity generated in the photovoltaic system for use in the load, store it in the battery, or supply it to the grid.

WARNING
Inverters within different power ranges may vary in appearance. Please refer to the actual product for reference.

Serial Number	Model	Rated Output Power	Rated Output Voltage	Number of Battery Ports
1	GW12KL-ET	12kW	220V, 3L/N/PE	1
2	GW18KL-ET	18kW		2
3	GW15K-ET	15kW	380/400V, 3L/N/PE	1
4	GW20K-ET	20kW		1
5	GW25K-ET	25kW		2
6	GW29.9K-ET	29.9kW		2
7	GW30K-ET	30kW		2



Description of components

Number	Component/Designation	Description
1	DC Switch Lock	For Australia only.
2	DC Switch	Controls the connection or disconnection of the DC input.

3	PV Input Terminals	DC input wires from PV modules can be connected here. • GW15K-ET, GW20K-ET, GW12KL-ET x 2 • GW25K-ET, GW29.9K-ET, GW30K-ET, GW18KL-ET x 3
4	Communication Module Port	A communication module can be connected here, supporting connection of 4G, Wi-Fi/LAN modules.
5	Communication Port	Communication connection, supports communication with DRED, remote shutdown, rapid shutdown, RCR, EMS, and generator.
6	Battery Connection Port	Connection for battery DC wires. • GW15K-ET, GW20K-ET, GW12KL-ET x 1 • GW25K-ET, GW29.9K-ET, GW30K-ET, GW18KL-ET x 2
7	BMS Communication Port	Connection for battery communication cable. • GW15K-ET, GW20K-ET, GW12KL-ET x 1 • GW25K-ET, GW29.9K-ET, GW30K-ET, GW18KL-ET x 2
8	AC Port	Connection for AC wires, includes ON-GRID and BACK-UP ports.
9	METER Communication Port	Connection for smart meter.
10	Documents	Moving the inverter.
11	Indicator Light	Indicates the operating status of the inverter.
12	Protective Grounding Terminal	Connection for the enclosure protective grounding wire
13	Fan	Cools the inverter

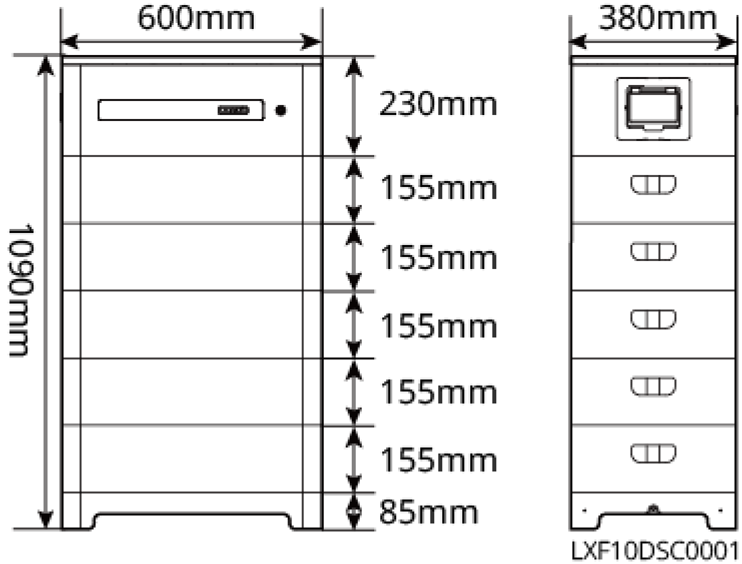
14	Inverter Mounting Slot	For hanging and securing the inverter.

2.2.2 Baterie

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 high-voltage direct current.

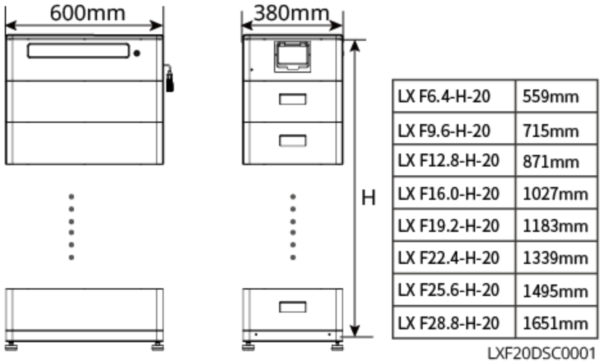
2.2.2.1 Lynx Home F, Lynx Home F Plus+

Lynx Home F battery system consists of a main control unit and battery modules. The system can store and release electrical energy according to the requirements of the photovoltaic storage system. Both input and output ports of this storage system operate with high voltage direct current.



Serial number	Model	Number of battery modules	Available capacity (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

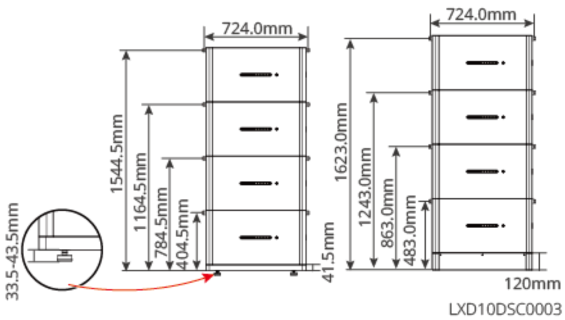


Serial Num ber	Model	Number of Battery Modules	Available Capacity (kWh)
1	LX F6.4-H-20	2	6.4kWh
2	LX F9.6-H-20	3	9.6kWh
3	LX F12.8-H-20	4	12.8kWh
4	LX F16.0-H-20	5	16.0kWh
5	LX F19.2-H-20	6	19.2kWh
6	LX F22.4-H-20	7	22.4kWh
7	LX F25.6-H-20	8	25.6kWh
8	LX F28.8-H-20	9	28.8kWh

2.2.2.3 Lynx Home D

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

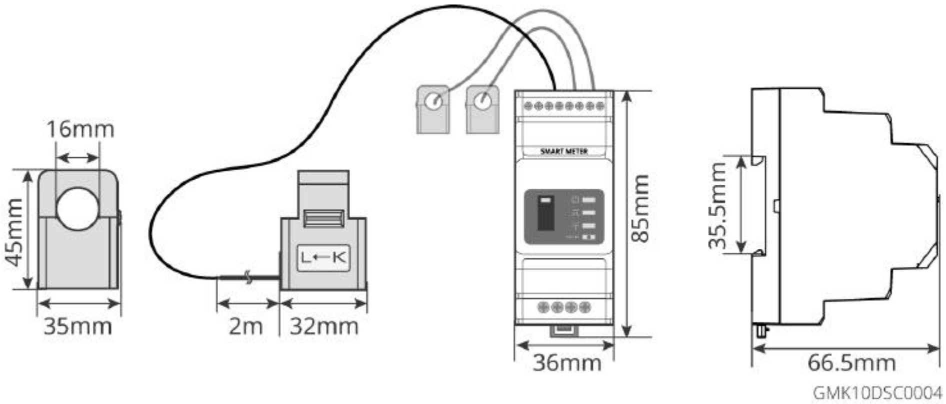
WARNING
Can be installed on a stand or on a wall.



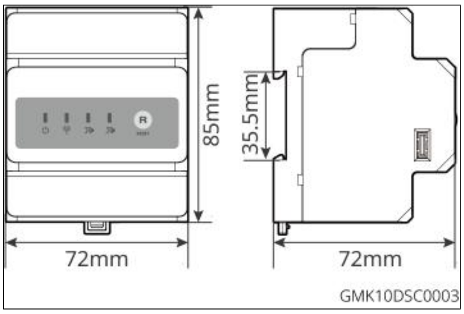
2.2.3 Smart Meter

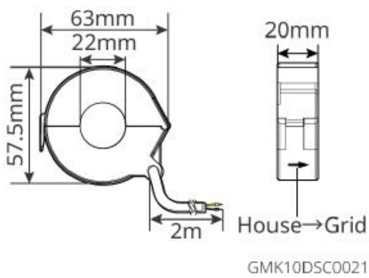
The smart meter can measure parameters such as voltage, current, power, frequency, and energy in the grid and transmit this information to the inverter, thereby controlling the input and output power of the energy storage system.

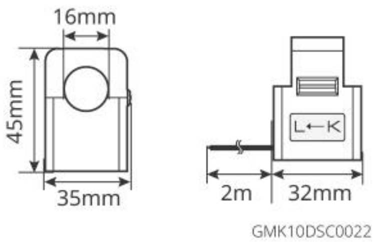
GM3000&CT



GM330&GMK330&CT





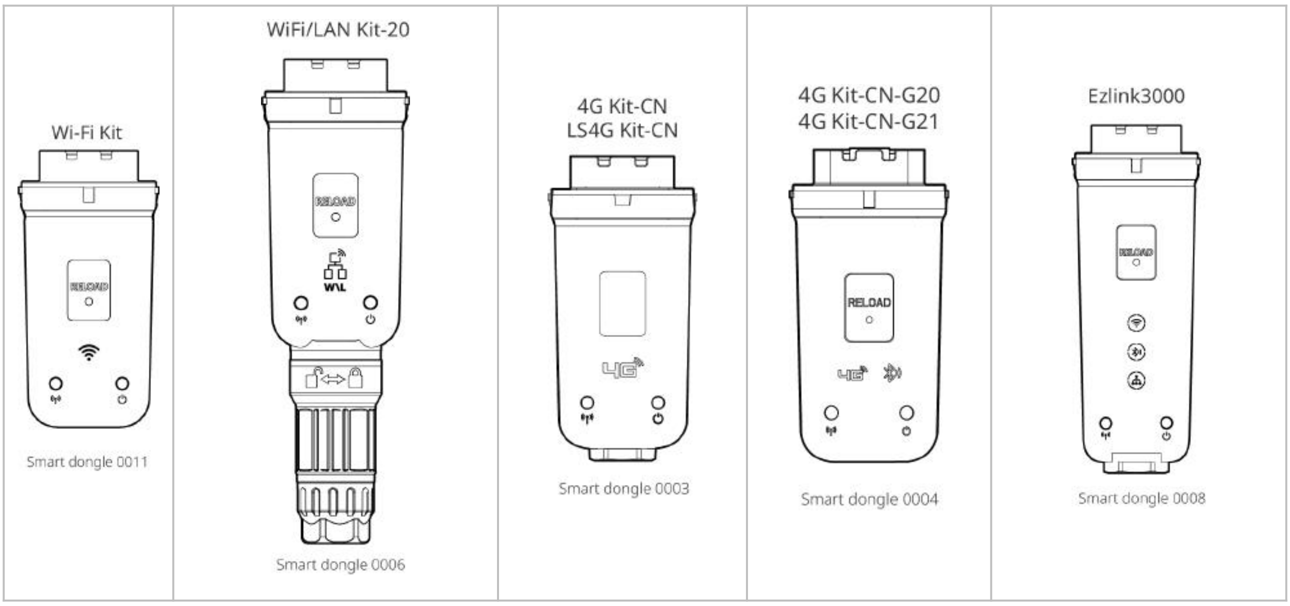


Serial Number	Model	Usage
1	GM3000	CT cannot be replaced, CT transformation ratio: 120A: 40mA
2	GM330	CT can be purchased from GoodWe or separately, CT transformation ratio requirement: nA: 5A • nA: CT primary input current, n range is 200-5000 • 5A: CT secondary output current

Serial Number	Model	Usage
3	GMK330	CT is supplied with the meter, CT transformation ratio: • 120A: 40mA • 200A: 50mA (Brazil only)

2.2.4 Smart Dongle

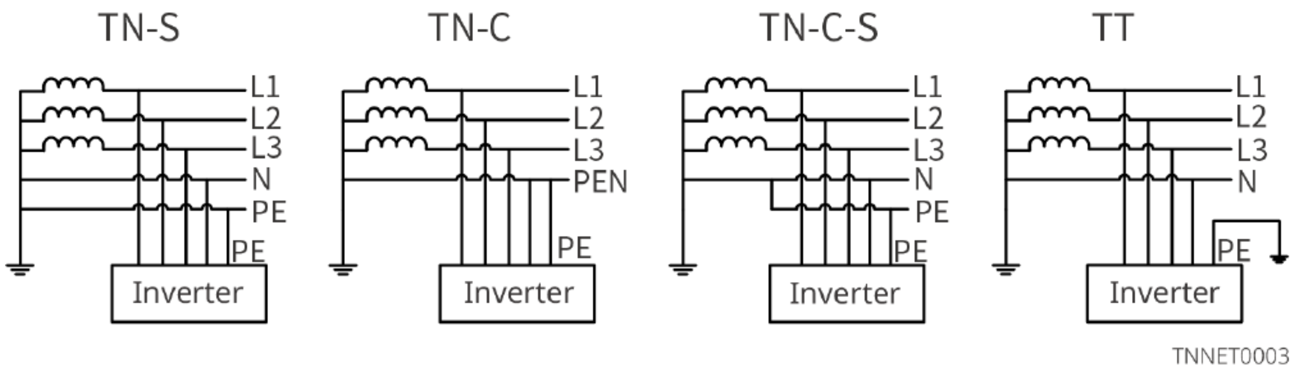
The Smart Dongle primarily serves to transmit various data about energy production from the inverter in real-time to the remote monitoring platform SEMS Portal and for local device configuration via connection to the SolarGo App.



Order	Model	Signal Type	Applicable Scenario
1	Wi-Fi Kit	WiFi	Single inverter scenario
2	WiFi/LAN Kit-20	WiFi, LAN, Bluetooth	
3	LS4G Kit-CN 4G Kit-CN	4G	
4	4G Kit-CN-G20	4G, Bluetooth	

Order	Model	Signal Type	Applicable Scenario
	4G Kit-CN-G21	4G, Bluetooth, CNSS	
5	Ezlink3000	WiFi, LAN, Bluetooth	Master unit in multi-inverter scenario

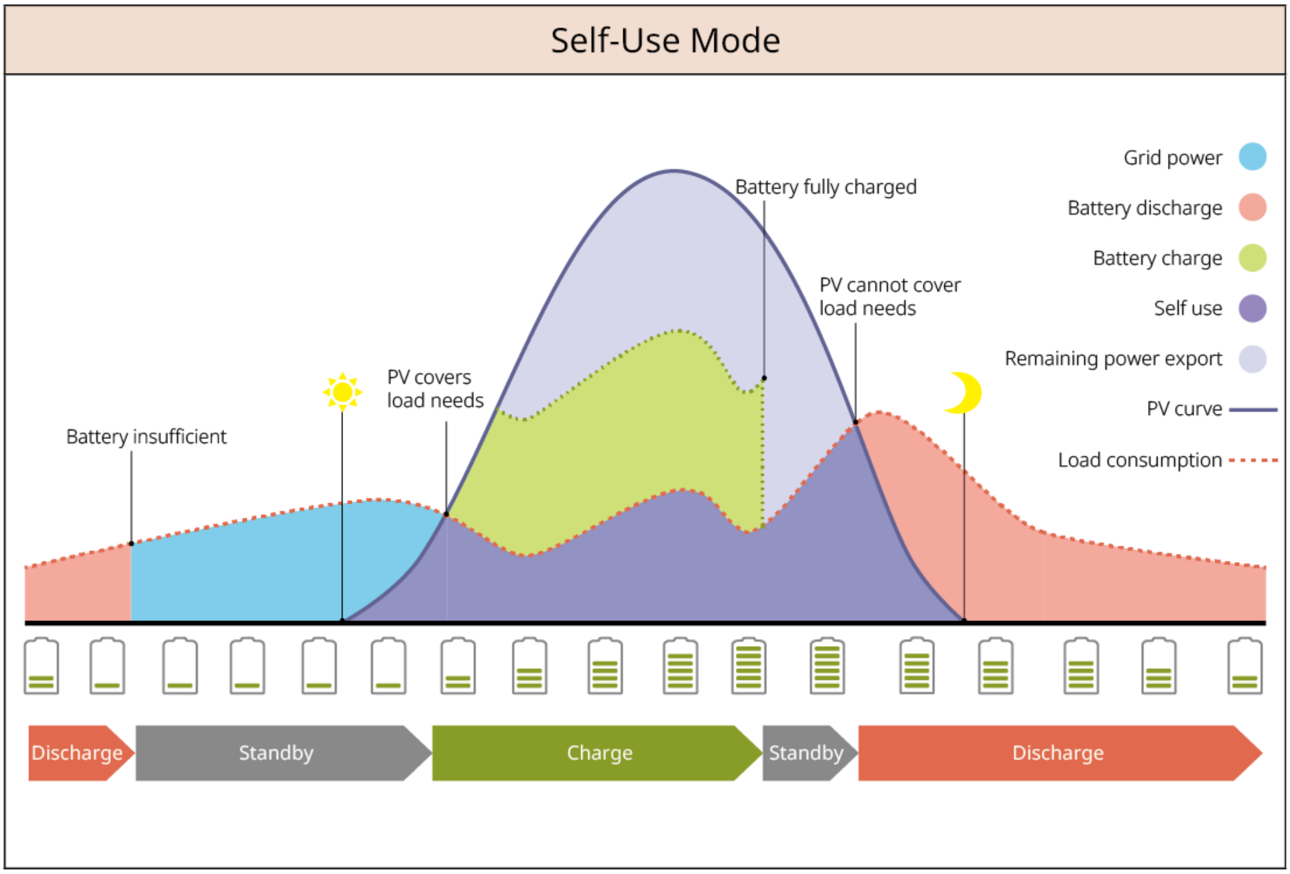
2.3 Supported types of electrical networks



2.4 System Working Mode

Self-use Mode

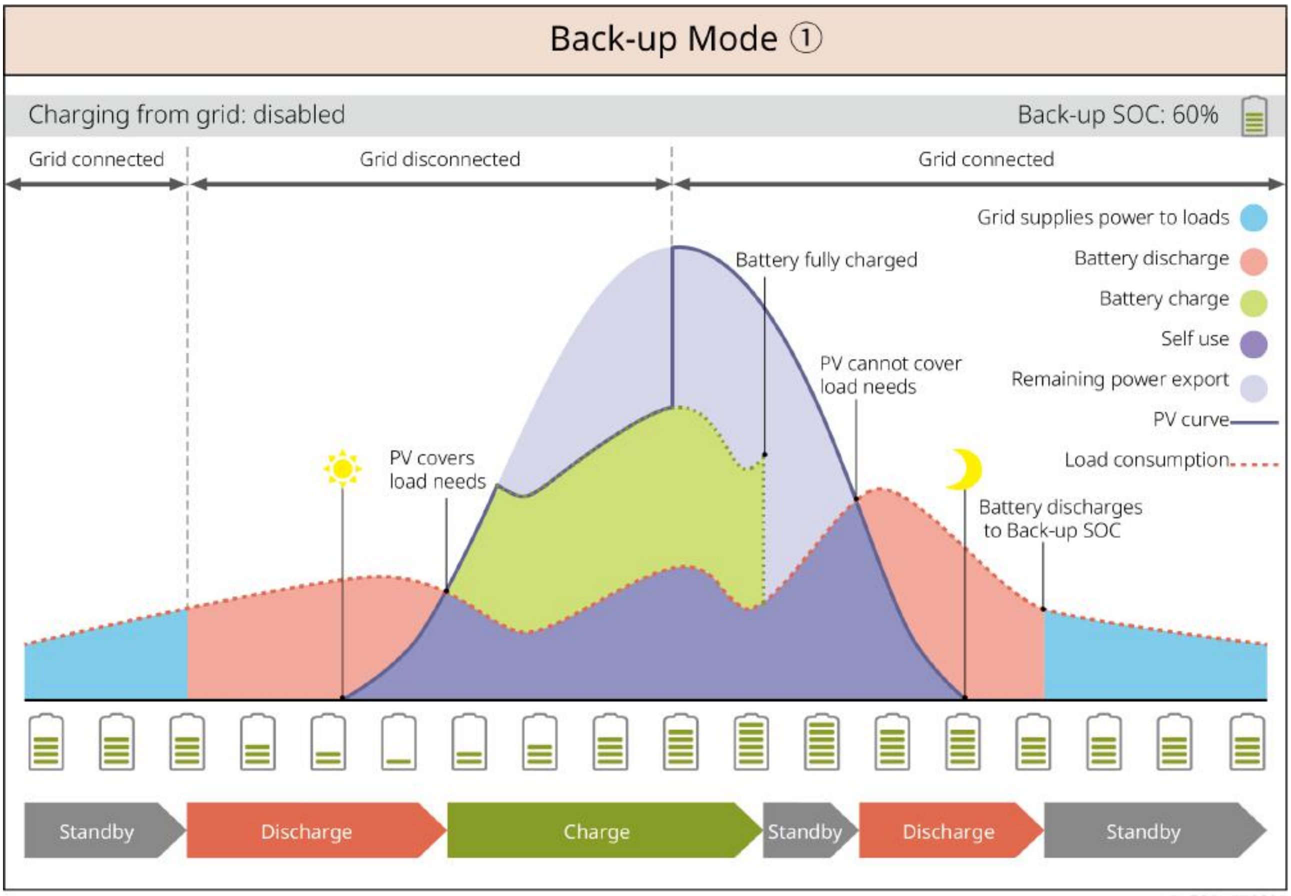
- Basic operating mode of the system.
- PV generation prioritizes supplying power to the load, with excess electricity directed to Battery charge. Any remaining power is sold to Utility grid. When PV generation cannot meet the Load consumption demand, Battery supplies power to the load. If the Battery power is also insufficient to meet the Load consumption demand, Utility grid provides power to the load.



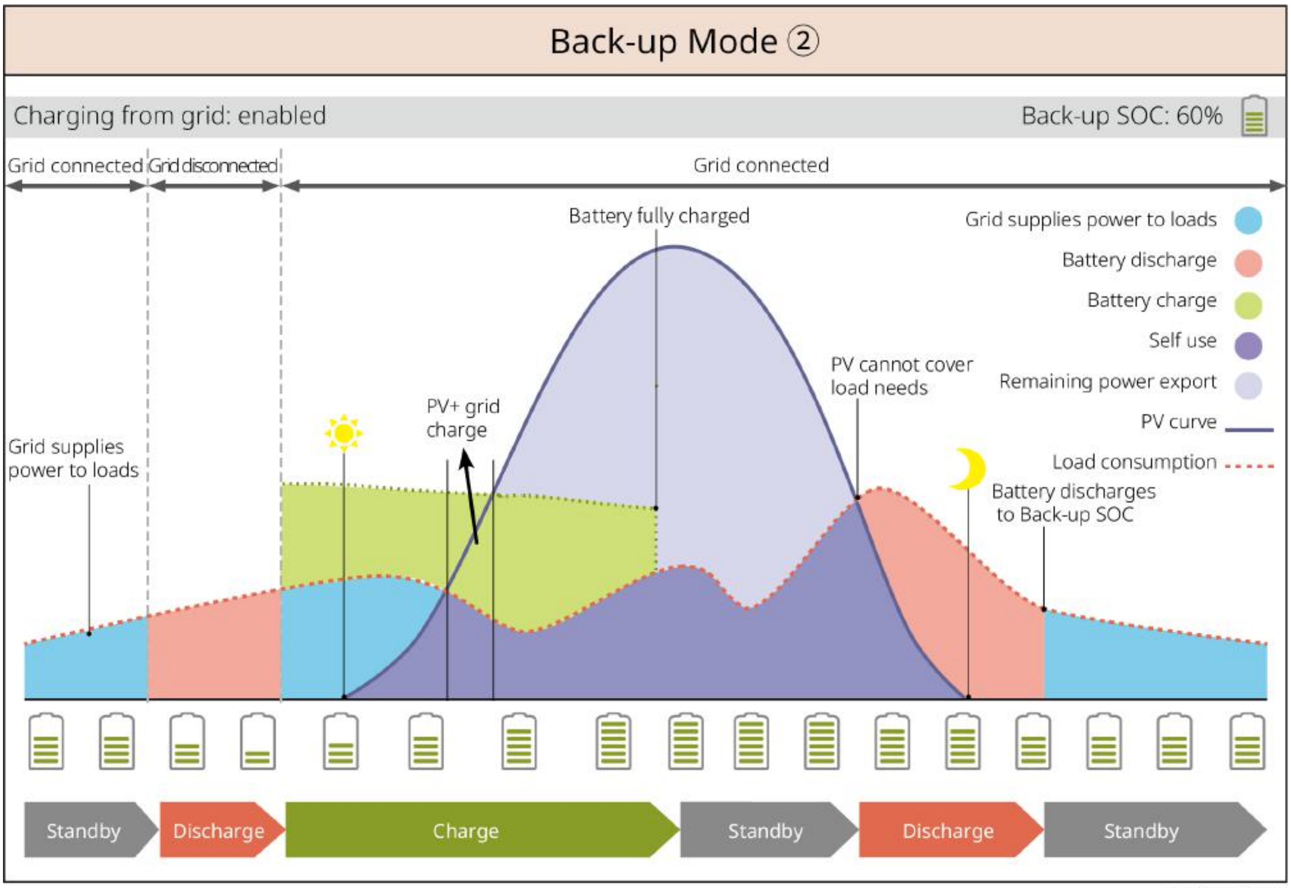
SLG00NET0009

Back-up Mode

- Recommended for use in Utility grid unstable areas.
- When Grid disconnected, the Inverter switches to off-grid operation mode, and the Battery discharge supplies power to the load to ensure that the BACK-UP Loads does not POWER OFF. When Utility grid is restored, the Inverter operation mode switches to on-grid operation.
- To ensure the Battery SOC is sufficient to maintain normal system operation when off-grid, during on-grid operation, Battery will utilize PV or Utility grid to purchase electricity Charge to Back-up SOC. If purchasing electricity for Battery charge via Utility grid is required, please confirm compliance with local Utility grid laws and regulations.



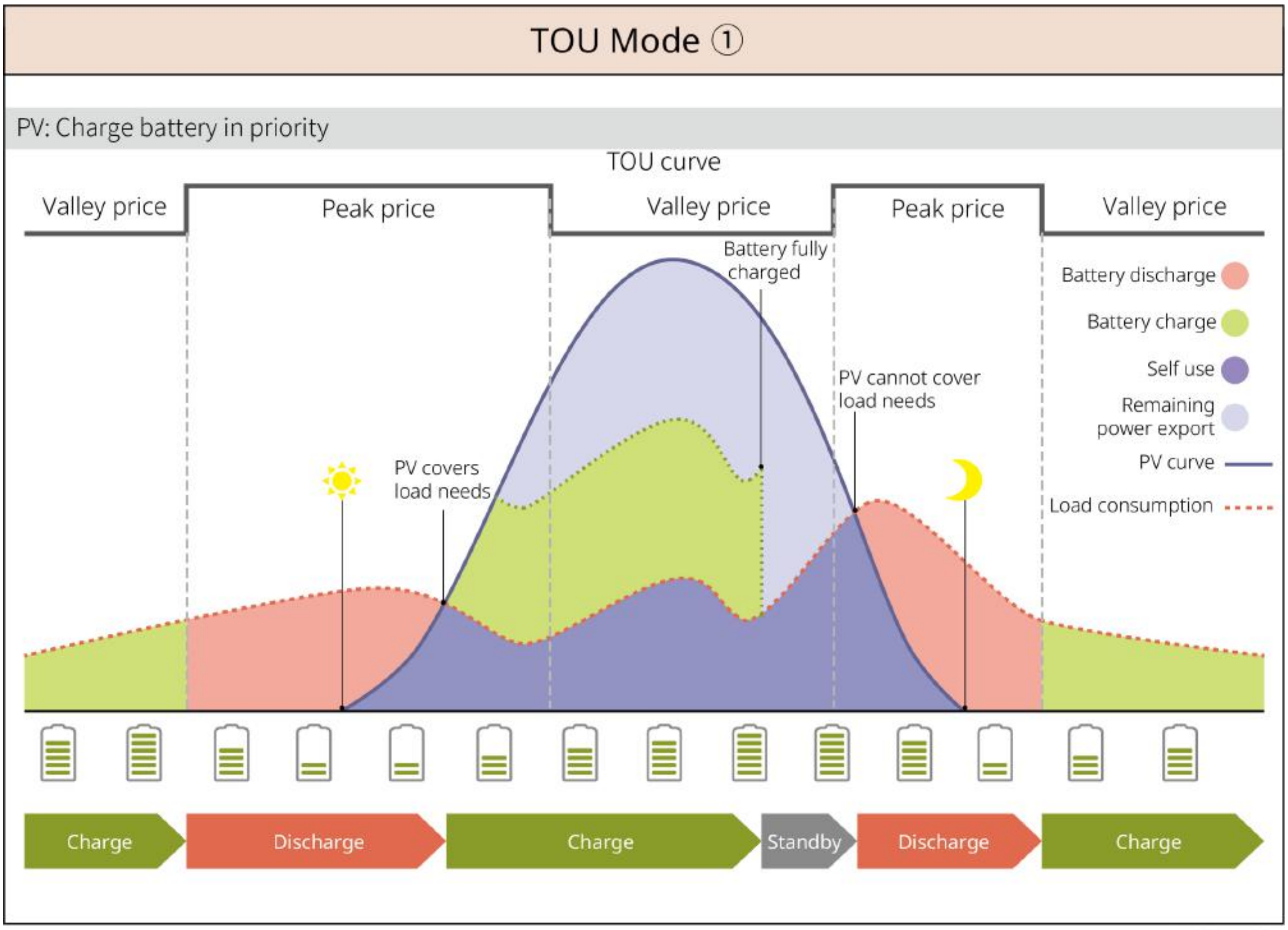
SLG00NET0002



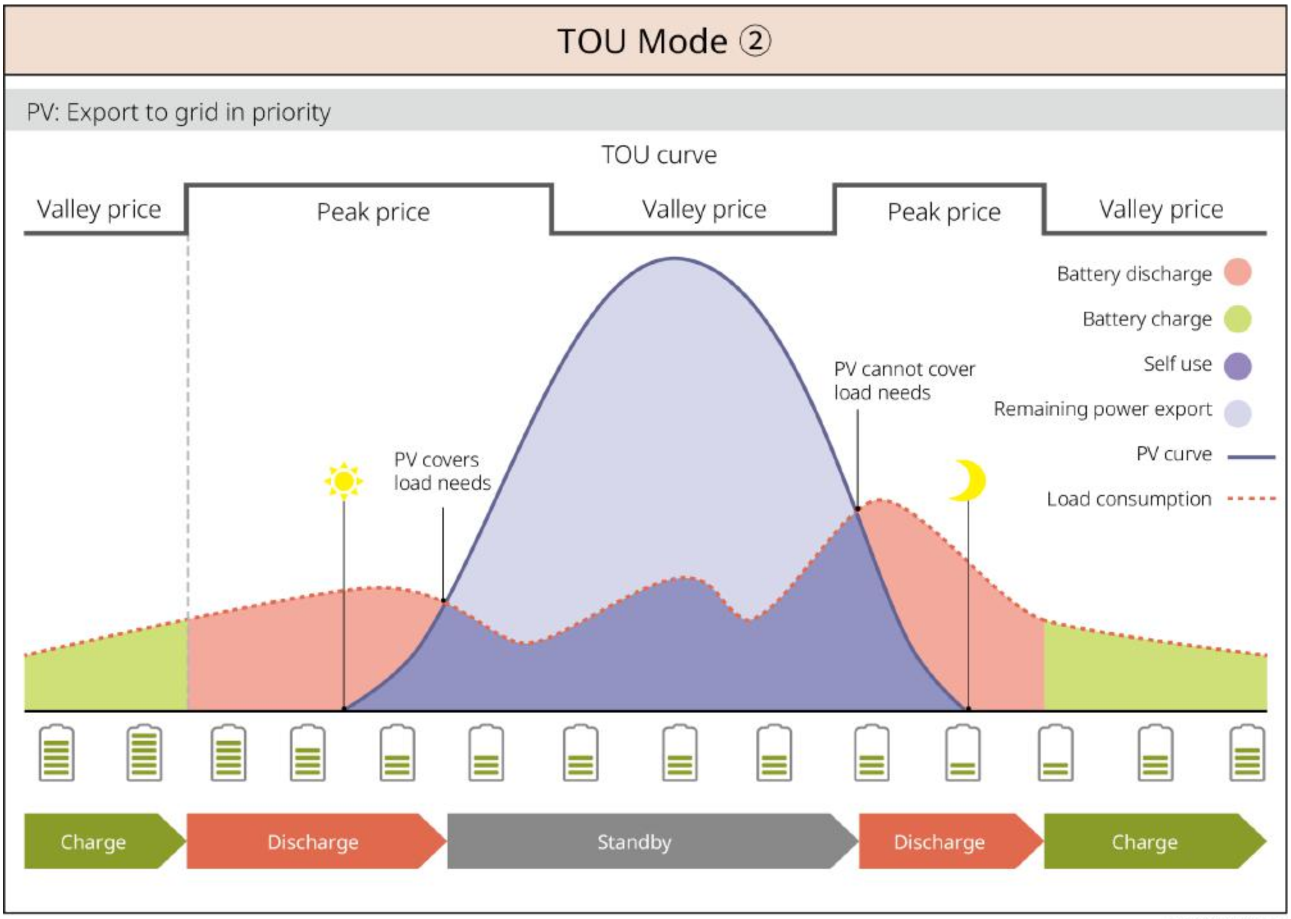
SLG00NET0003

TOU mode

In compliance with local laws and regulations, set different time periods for buying and selling electricity based on the peak and valley Utility grid tariff differences.
For example: during the off-peak electricity price period, set the Battery to Charge mode, and buy power from the grid Charge; during the peak electricity price period, set the Battery to Discharge mode, and supply power to the load through Battery.



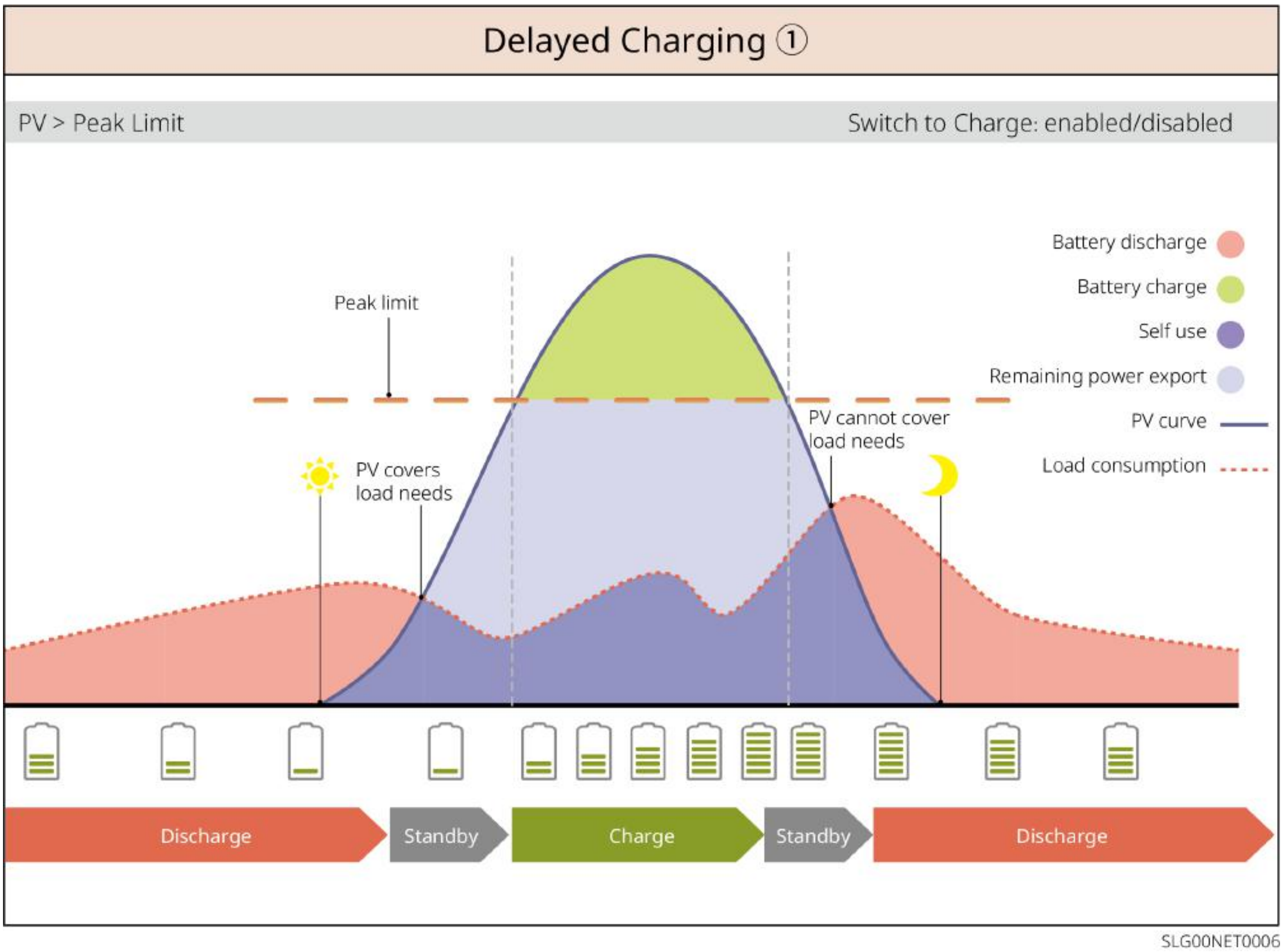
SLG00NET0004

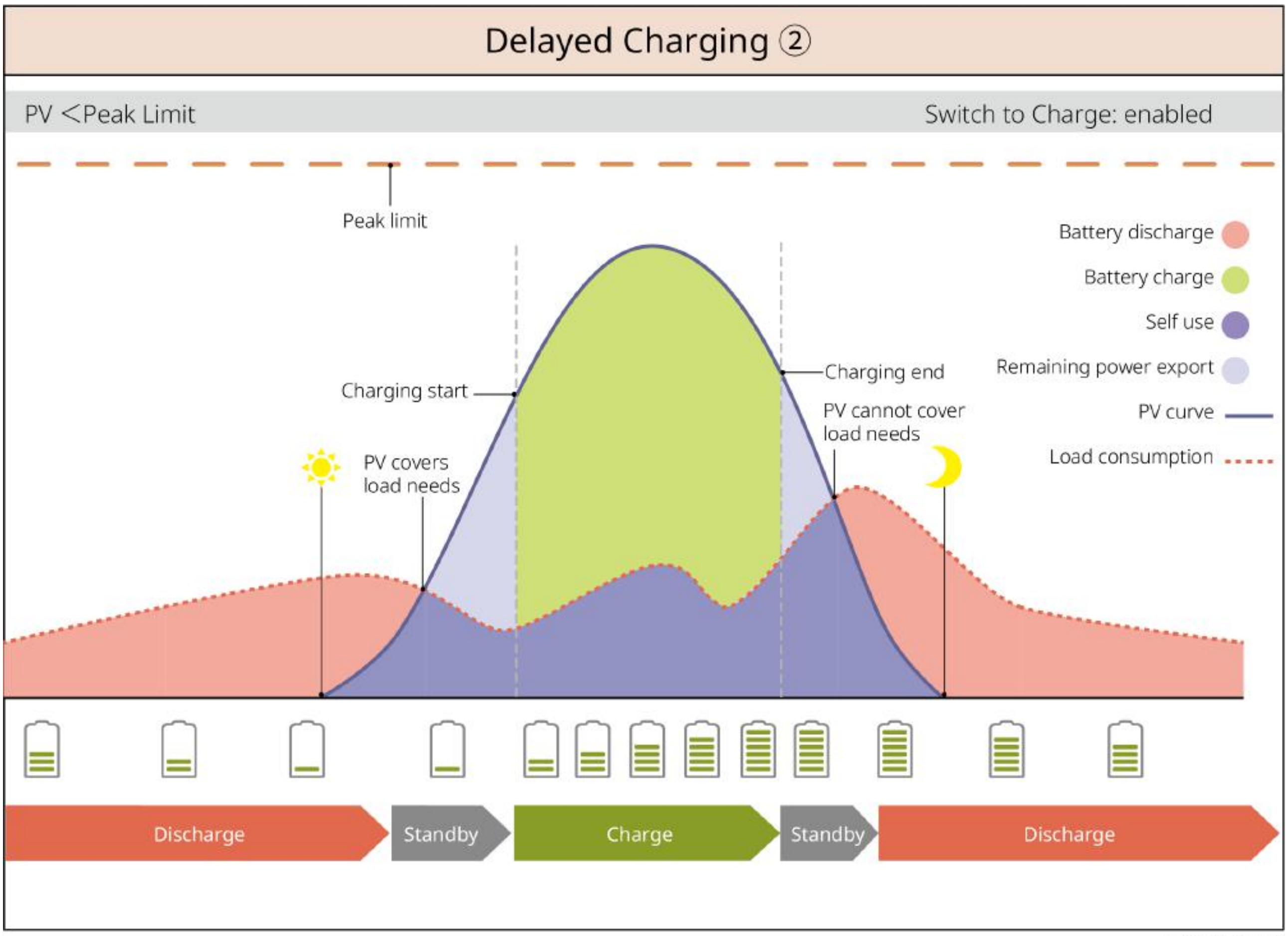


SLG00NET0005

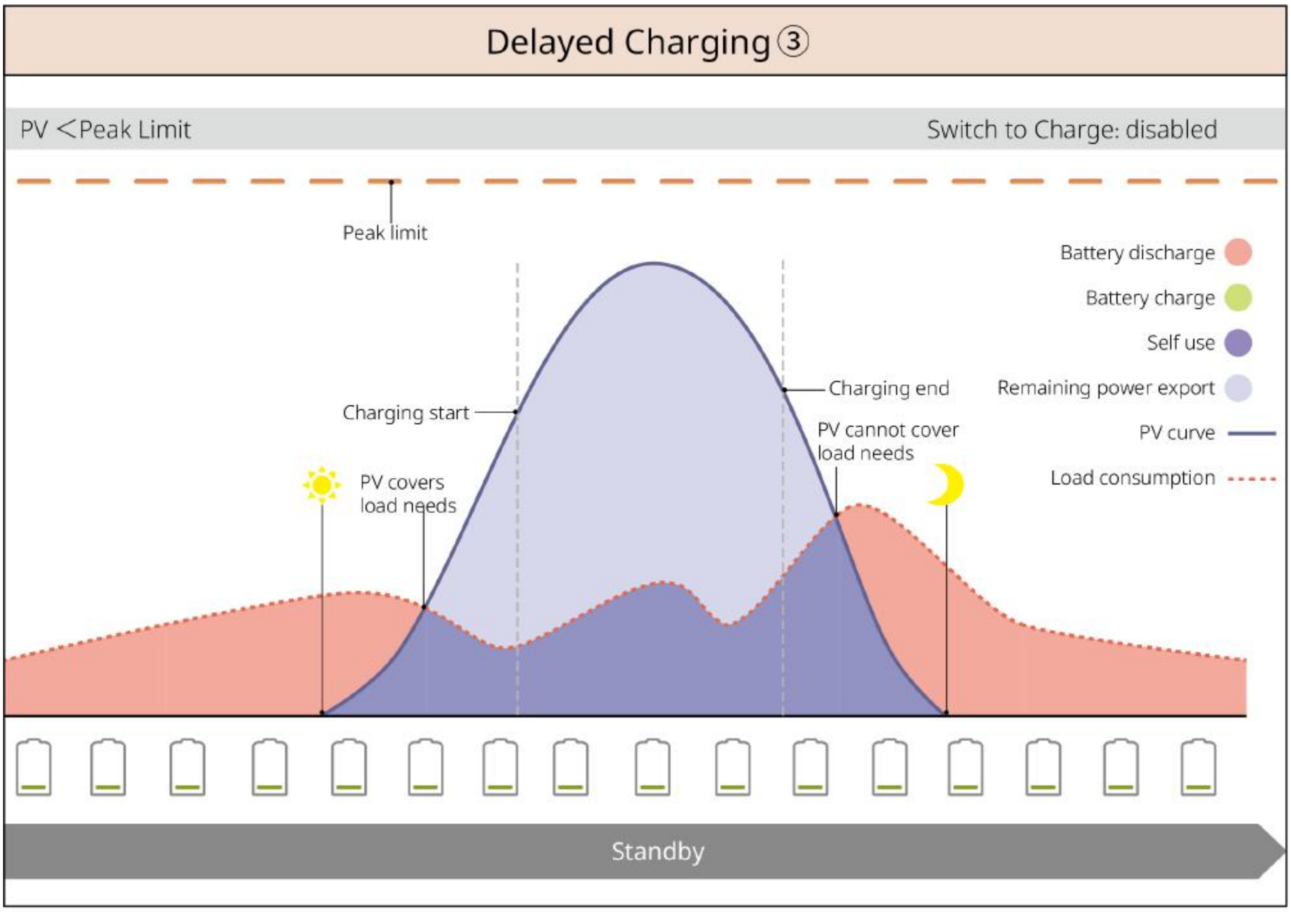
Delayed Charging/Delay Mode

- Suitable for areas with on-grid Power output restrictions.
- Setting the peak Power limit allows excess photovoltaic generation beyond the on-grid limit to be used for charging the Battery charge; or configuring PV Charge periods enables the utilization of photovoltaic power to charge the Battery charge during the Charge period.


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



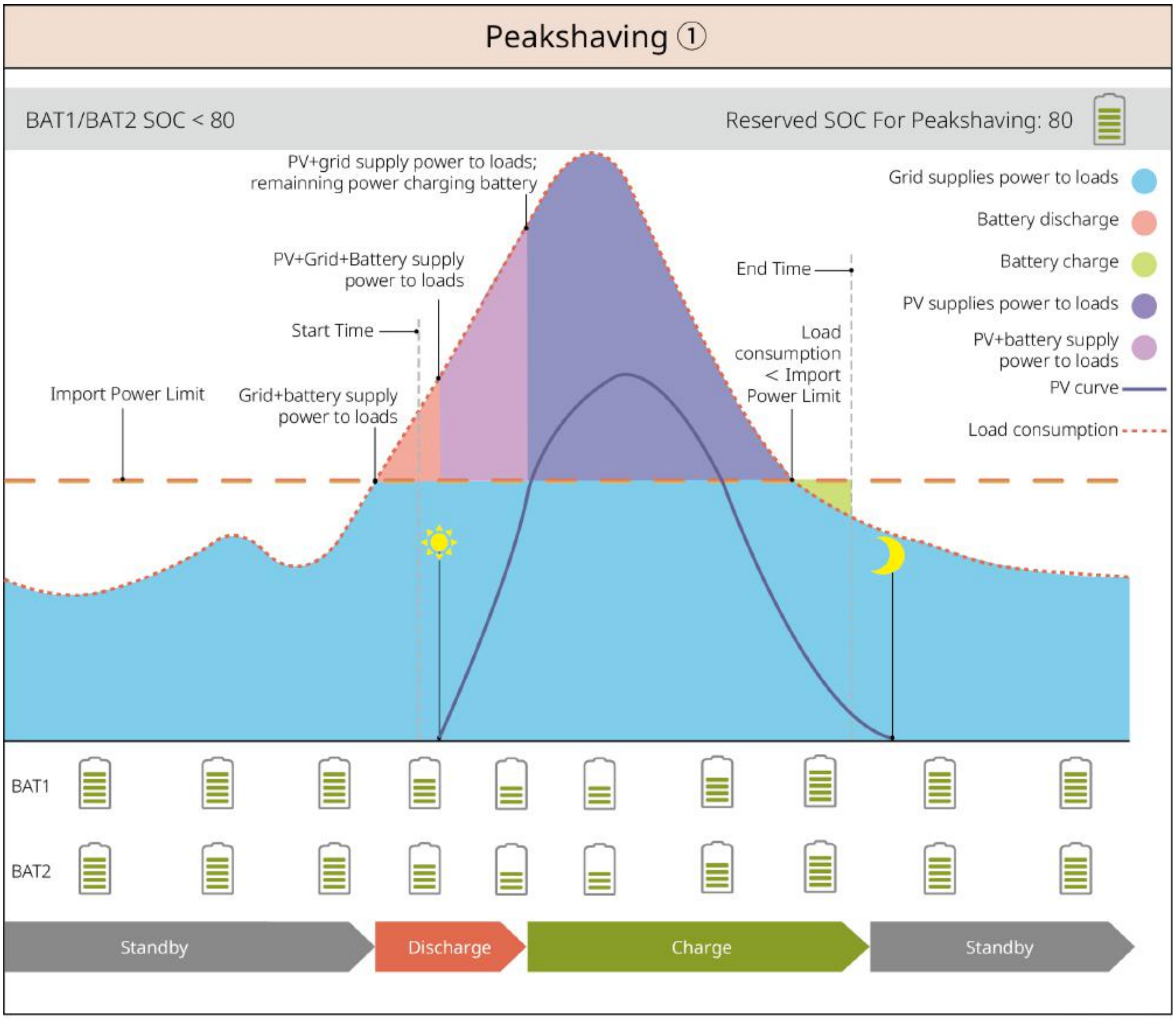
SLG00NET0007



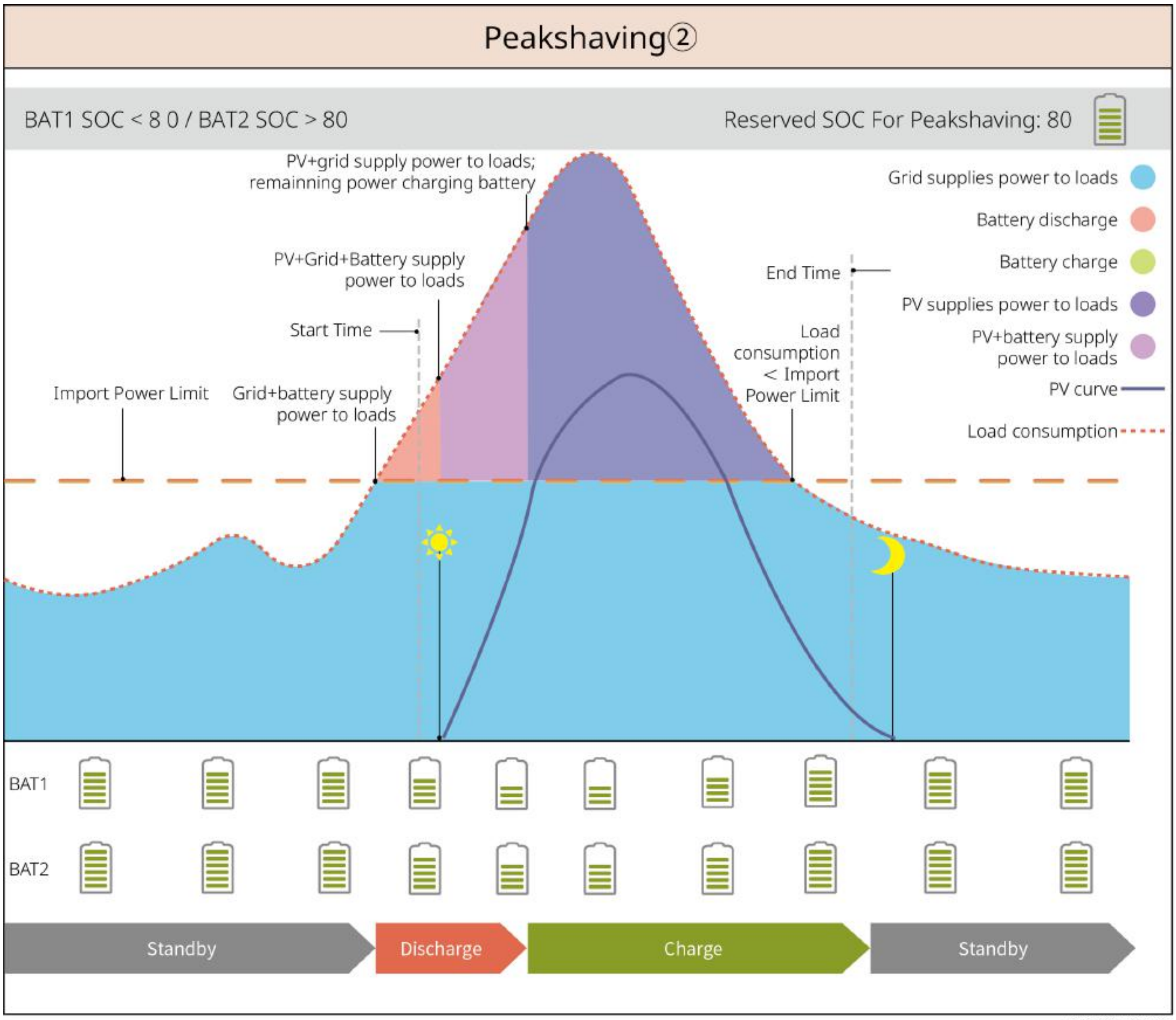
SLG00NET0008

Peakshaving mode

- Mainly suitable for industrial and commercial scenarios.
- When the total Load consumption Power exceeds the electricity quota in a short period, the Battery discharge can be utilized to reduce the portion of electricity consumption that exceeds the quota.
- When Inverter two BatterySOCAll are below the reserved value.SOCFor Peakshaving, the system determines buy power from the grid based on time periods, Load consumption quantity, and peak electricity purchase limits; when Inverter has only one Battery path.SOCAll below the reserved valueSOCFor Peakshaving, the system determines the buy power from the grid based on the Load consumption quantity and the peak electricity purchase limit.



SLG00NET0010



SLG00NET0011

Off-grid mode

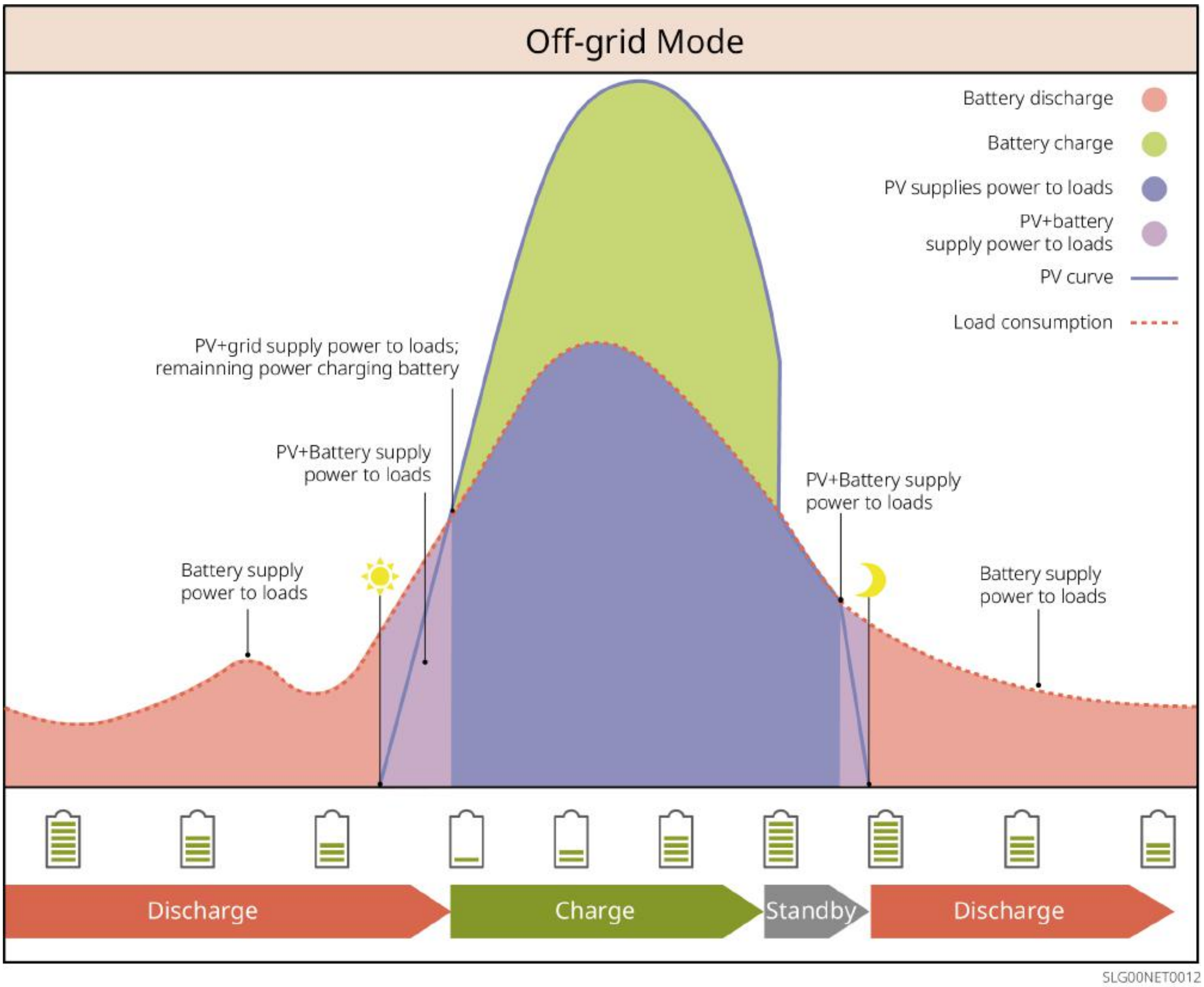
NOTICE

Do not operate in pure off-grid mode when Inverter is not connected to Battery system.

When Grid disconnected, Inverter switches to off-grid operation mode.

- During the day, PV generation prioritizes supplying power to the load, with excess electricity directed to the Battery charge.
- At night, the Battery discharge supplies power to the load to ensure that the BACK-UP Loads does not POWER OFF.
- Off-grid SOC recovery: After the system operates off-grid, Battery gradually

restores to the minimum SOC level through photovoltaic power generation or other power generation methods.



2.5 Functional Features

NOTICE
Product features and specifications are subject to the actual configuration.

AFCI

The inverter is equipped with an integrated AFCI protection circuit that detects arc faults and quickly interrupts the circuit upon detection, preventing electrical fires.

Causes of arc faults:

- Damage to connector joints in the photovoltaic system.
- Faulty or damaged cable connections.
- Aging of connectors and cables.

Arc Detection Method

- The inverter is equipped with an integrated AFCI function that complies with the IEC 63027 standard.
- If the inverter detects an arc fault, it can display the fault occurrence time and its symptoms via the app.
- When an AFCI alarm is triggered, the inverter stops for protection. After the alarm is cleared, the inverter automatically reconnects to the grid and resumes operation.
    - Automatic reconnection: If the inverter triggers an AFCI alarm fewer than 5 times within 24 hours, this alarm can be automatically cleared after five minutes, and the inverter will reconnect to the grid and resume operation.

Manual reconnection: If the inverter triggers the fifth AFCI alarm within 24 hours, the alarm must be cleared manually for the inverter to reconnect to the grid and resume operation.

Model	Label	Description
GW12KL-ET	F-I-AFPE-1-2/2-2	F: Full coverage I: Integrated AFPE: Arc fault detection and interruption capability provided 1: 1 monitored string per input port 2/2: 2/2 input ports per channel 2: 2 monitored channels
GW15K-ET		
GW20K-ET		
GW18KL-ET	F-I-AFPE-1-2/4-2	F: Full coverage I: Integrated AFPE: Arc fault detection and interruption capability provided 1: 1 monitored string per input port 2/4: 2/4 input ports per channel 2: 2 monitored channels
GW20K-ET		
GW29.9K-ET		
GW30K-ET		

Three-Phase Unbalanced Output

The inverter supports three-phase unbalanced output on both grid connection and BACK-UP connection, allowing loads of different power ratings to be connected to each phase. The maximum output power per phase for different models is shown in the following table:

Sequence Number	Model	Maximum Output Power per Phase
1	GW12KL-ET	4kW
2	GW18KL-ET	6kW
3	GW15K-ET	5kW
4	GW20K-ET	6.7kW
5	GW25K-ET	8.3kW
6	GW29.9K-ET	10kW
7	GW30K-ET	10kW

Load Control

The inverter has a dry contact control port that supports connecting an additional contactor to control load switching on or off. It supports home appliances, heat pumps, etc.

The load control methods are as follows:

- Timer Control: Set a time to turn the load on or off. Within the set time interval, the load will automatically switch on or off.
- Switch Control: If the control mode is set to ON, the load turns on; if set to OFF, the load turns off.
- Backup Load Control: The inverter has an integrated relay dry contact control port that can be used to control load shutdown. In island mode, if overload is detected on the BACK-UP connection and the battery SOC drops below the set island mode battery protection value, the load connected to the relay port can be turned off.

Rapid Shutdown (RSD)

In the rapid shutdown system, a transmitter and receiver work together to achieve rapid system shutdown. The receiver maintains module output by receiving a signal from the transmitter. The transmitter can be external or built into the inverter. In an emergency, activating an external trigger device can deactivate the transmitter, thereby shutting down the modules.

- 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 Device Inspection and Storage

3.1 Device Inspection

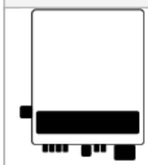
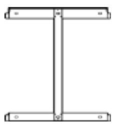
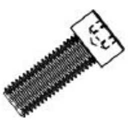
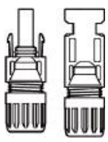
Before accepting the product, carefully inspect the following:

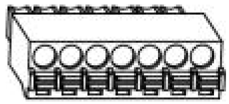
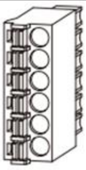
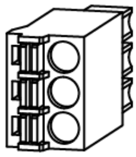
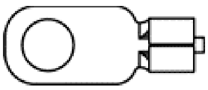
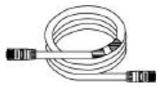
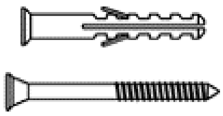
1. Check if the outer packaging is damaged, such as deformed, with holes, cracks, or other signs that could cause damage to the device inside the box. If the packaging is damaged, do not open it and contact your seller.
2. Check if the device model is correct. If it does not match, do not open the packaging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

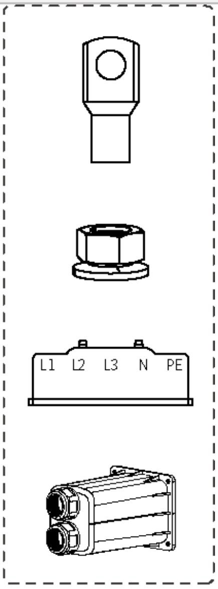
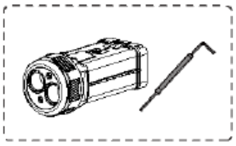
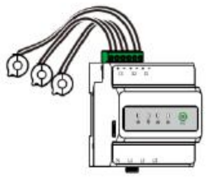
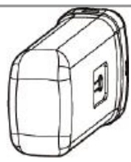
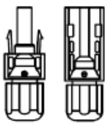
3.2 Delivery Documents

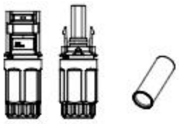
⚠WARNING
Check if the type and quantity of supplied items are correct and if they show no external damage. In case of damage, contact your seller. After removing the supplied items from the packaging, it is prohibited to place them on rough, uneven, or sharp surfaces to avoid damaging the paint.

3.2.1 Inverter supplied components

Component	Quantity	Component	Quantity
	Inverter x 1		Back Panel x 1
	Wall Mounting Fastening Screws x 2		PV Connector GW12KL-ET、GW15K-ET、GW20K-ET：4 GW18KL-ET、GW25K-ET、GW29.9K-ET、GW30K-ET：6

Component	Quantity	Component	Quantity
	PV Wiring Tool x 1		7PIN Communication Terminal x 1
	6PIN Communication Terminal x 1		3PIN Communication Terminal x 1
	Grounding Protection Screw x 1		PIN Terminal x N The supplied PIN terminals may vary depending on the inverter configuration. Please refer to the actual package contents.
	Grounding Protection Terminal x 1		BMS/Meter Communication Cable GW12KL-ET、GW15K-ET、GW20K-ET：2 GW18KL-ET、GW25K-ET、GW29.9K-ET、GW30K-ET：3
			Expansion Screw x 6

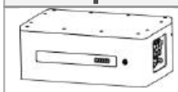
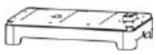
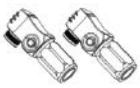
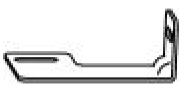
<table>
<tr><th>Component</th><th>Quantity</th><th>Component</th><th>Quantity</th></tr>
<tr><td>
or
</td><td>Please refer to the actual delivery
• OT Terminal x 12
• AC Terminal Wing Nut x 20
• AC Terminal Insulating Plate x 1
• AC Terminal Protective Cover x 1
• Hex Screwdriverx 1</td><td>
or
</td><td>Smart Meter and Accessories x 1
Please refer to the actual delivery.</td></tr>
<tr><td></td><td>Screwdriver x 1</td><td rowspan="2">
or
</td><td rowspan="2">Smart Dongle x 1</td></tr>
<tr><td></td><td>Product Documentation x 1</td></tr>
<tr><td>
Wiring Tool

Battery Connector</td><td colspan="3">(optional)
Wiring Tool x 1
Battery Connector:
GW12KL-ET、GW15K-ET、GW20K-ET: 1
GW18KL-ET、GW25K-ET、GW29.9K-ET、GW30K-ET: 2</td></tr>
</table>

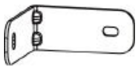
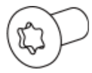
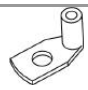
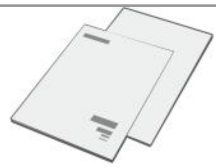
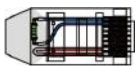
Component	Quantity	Component	Quantity
 Wiring Tool  Hex Screwdriver  Battery Connector	(optional) Wiring Tool x 2 Hex Screwdriverx 1 Battery Connector: GW12KL-ET、GW15K-ET、GW20K-ET: 1 GW18KL-ET、GW25K-ET、GW29.9K-ET、GW30K-ET: 2		

3.2.2 Battery Supplied Components

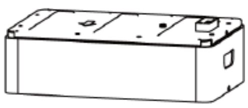
3.2.2.1 Lynx Home F 、Lynx Home F Plus+

- Control cabinet

Component	Quantity	Component	Quantity
	Main Control Unit x 1		Base x 1
	DC Connector • Lynx Home F x1 • Lynx Home F Plus+ x 2		Spacer Screw x 4
Adjustable Feet 			
Anti-tilt Stand for Feet 			

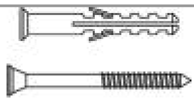
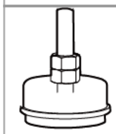
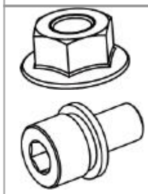
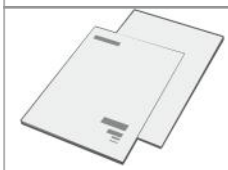
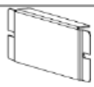
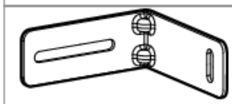
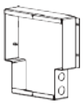
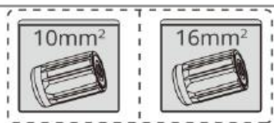
<table>
<tr><th>Component</th><th>Quantity</th><th>Component</th><th>Quantity</th></tr>
<tr><td>Standard Anti-tilt Stand
</td><td colspan="3">• Adjustable feet are supplied only with the Lynx home F Plus+ series.
• If adjustable feet are selected, the following is supplied:
◦ Adjustable feet: 4 pcs
◦ Anti-tilt stand for feet: 2 pcs
◦ Standard anti-tilt stand: 2 pcs
• If adjustable feet are not selected, the following is supplied:
◦ Standard anti-tilt stand: 4 pcs</td></tr>
<tr><td></td><td>M5*12 Screw x 4</td><td></td><td>M5 Internal Torx Screw x 2</td></tr>
<tr><td></td><td>M6 Nut x 2</td><td></td><td>Protective Grounding Clamp x 2</td></tr>
<tr><td></td><td>Protective Cover 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

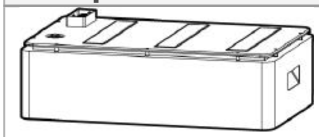
<table>
<tr><th>Component</th><th>Quantity</th></tr>
<tr><td></td><td>Battery module x 1</td></tr>
</table>

3.2.2.2 Lynx Home F G2

- Main Control Unit Set

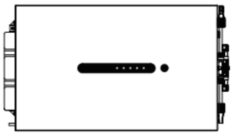
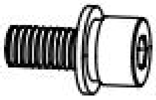
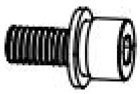
Component	Quantity	Component	Quantity
	Main Control Cabinet x 1		Base x 1
	DC Connector Positive Pole: x 2 Negative Pole: x 2		Spacer Anchor Screw x 8
	Adjustable Support x 4		Protective Grounding Terminal Block x 2
	• M5*12 Screw x N • M6 Nut x N N: Quantity depends on product configuration: • M5*12 Screw x 8, M6 Nut x 2; • M5*12 Screw x10, 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	 Cover Panel	(Optional) Cover Panel x 1
	L-shaped Bracket x 8	 Busbar Cabinet Cover  Busbar Cabinet	(Optional) Busbar Cabinet x 1, Busbar Cabinet Cover x 1,
	Waterproof DC Connector Cap Cap x 4		Waterproof DC Connector Cap Cap x 4

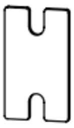
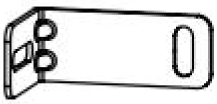
- Battery Module Set

Component	Quantity
	Battery module x 1

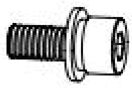
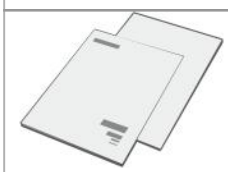
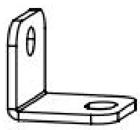
3.2.2.3 Battery Supplied Components（Lynx Home D）

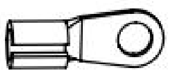
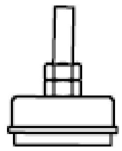
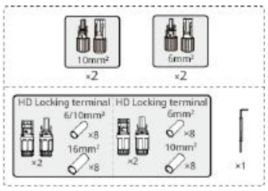
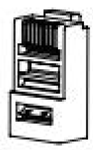
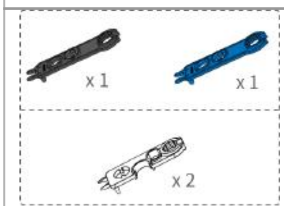
- Battery

Component	Quantity	Component	Quantity
	Battery x 1		Left battery protective cover x 1
	M6 screw x 2		Right battery protective cover x 1
	M5 screw • When the inter-battery mounting bracket accessory is supplied, the quantity of M5 screws is 4. • When supplied with the inter-battery mounting bracket pre-installed on the machine, the quantity of M5 screws is 2.		M6 spacer screw x 2

Component	Quantity	Component	Quantity
	Inter-battery mounting bracket • When the inter-battery mounting bracket accessory is supplied, the supplied quantity is 2. • When supplied with the inter-battery mounting bracket pre-installed on the machine, the supplied quantity is 0.		Inter-battery communication cable x 1
	Anti-tip stand x 2	-	-

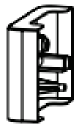
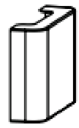
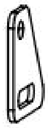
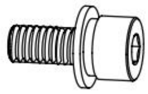
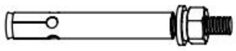
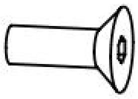
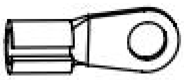
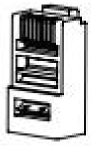
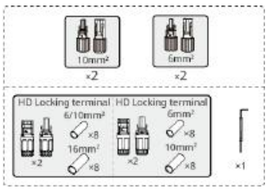
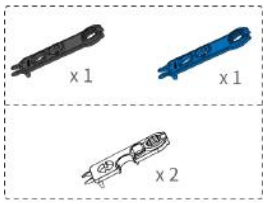
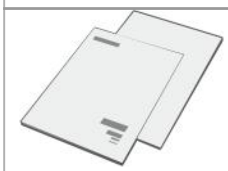
- (Optional) Base

Component	Quantity	Component	Quantity
	Base x 1		M5 screwx 2
	Product documentation x 1		Base and battery holder x 2

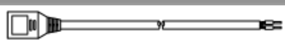
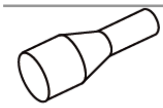
Component	Quantity	Component	Quantity
	Grounding terminalx 1		Adjustable feet x N The quantity of adjustable feet corresponds to the actual delivery. If adjustable feet are not included in the delivered goods and you need them, please contact the seller or customer support service.
	Power connection terminals (Optional) Hex key wrench x 1 The hex key wrench is supplied together with the battery DC terminals in a self-sealing bag labeled HD Locking terminal.		Terminal resistor x 1
	Power terminal tightening tool	-	-

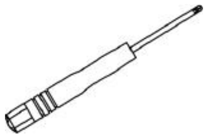
Mounting Bracket (Optional)

Component	Quantity	Component	Quantity
	Hanging bracket x 1		Front protective cover x 1

Component	Quantity	Component	Quantity
	Left protective cover x 1		Right protective cover x 1
	Hanging bracket and battery mounting bracket x 2		M5 screw x 2
	M12 expansion screw x 4		M4 screw x 5
	Grounding terminalx 1		Terminal resistor x 1
	Power connection terminal (Optional) hex key x 1 The hex key is supplied together with the battery DC terminal in a self-sealing bag labeled HD Locking terminal.		Power connection terminal tightening tool
	Product documentation x 1	-	-

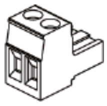
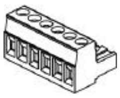
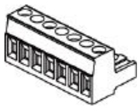
3.2.3 Supplied Components of the Smart Electricity Meter (GM3000)

Component	Quantity	Component	Quantity
	Smart electricity meter and CT x 1		Adapter cable 2PIN terminal to RJ45 connector x 1
	PIN terminal x 3		USB plug x 1

	Screwdriver x 1		Product documentation x 1

3.2.4 Delivery Scope of GM330&GMK330 Smart Electricity Meter

3.2.4.1 Attachment List

Part	Description	Part	Description
	Smart Meter x1		2PIN Communication Terminal x1
	6PIN Communication Terminal x1		7PIN Communication Terminal x1
	Meter Communication Terminal		screwdriver x1
	PIN terminal x 6		Product Documentation x 1

3.2.5 Smart Communication Pole Delivery Items

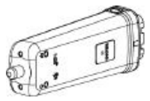
LS4G Kit-China & 4G Kit-China

Component	Description	Component	Description
	4G Smart Dongle x1	-	-

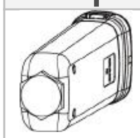
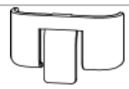
WiFi/LAN Kit-20

Component	Description	Component	Description
	Smart Dongle x1		Product Documentation x 1

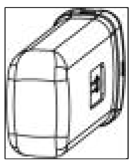
4G Kit-China-G20 & 4G Kit-China-G21

Component	Description	Component	Description
	4G smart communication module x1		Product documentation x1

Ezlink3000

Component	Description	Component	Description
	Smart Dongle x1		LAN Connector x1
	Product Documentation x1		Unlocking Tool x1 Some modules need to be disassembled using this tool. If not included in the package, you can unlock the module using the button on its body.

Wi-Fi Kit

Component	Description	Component	Description
	Smart dongle x1		Unlocking tool x1 Some modules require this tool for disassembly. If not included in the package, unlocking can be performed using the button on the module itself.

Component	Description	Component	Description
	Product documentation x1	-	-

3.3 Device Storage

WARNING

[1] The storage period is calculated from the SN date printed on the battery's outer packaging. After the storage period expires, maintenance must be performed by discharging and recharging. (Battery maintenance date = SN date + discharge/recharge maintenance interval). For the method to check the SN date, see: 12.4.SN Code Meaning(Page 414).

[2] After successful discharge/recharge maintenance, if a Maintaining Label is attached to the outer box, update the maintenance information on it. If there is no Maintaining Label, record the maintenance time and battery state of charge (SOC) yourself, and keep the data for maintenance record-keeping.

If the device is not put into operation immediately, store it according to the following requirements. After long-term storage, the device must be inspected and confirmed by professional personnel before further use.

1. If the storage period of the inverter exceeds two years, or if it is not in operation for more than 6 months after installation, professional inspection and testing are recommended before commissioning.
2. To keep the internal electronic components of the inverter in good electrical condition, it is recommended to power on the device every 6 months during storage. If it has not been powered on for more than 6 months, professional inspection and testing are recommended before commissioning.
3. To ensure battery performance and lifespan, it is recommended to avoid long-term idle storage. Prolonged storage may cause deep discharge of the battery, leading to irreversible chemical loss, capacity degradation, or even complete failure. Timely use is recommended. If you need to store the battery long-term, perform maintenance according to these requirements:

Battery Model	Initial SOC Range for Storage	Recommended Storage Temperature	Maintenance Charging/Discharging Interval[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	Consult the seller or service center for the maintenance method.
LX F9.8-H				
LX F13.1-H				
LX F16.4-H				
LX F6.4-H-20	30%~40%	0~35℃	-20~0℃, ≤1 month 0~35℃, ≤6 months 35~45℃, ≤1 month	
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				
LX D5.0-10	30%~40%	0~35℃	-20~35℃, ≤12 months 35~+45℃, ≤6 months	

Packaging Requirements:
Ensure the outer shipping packaging is not removed and that the desiccant inside the box is not lost.

Environmental Requirements:

1. Store the device in a cool place, avoiding direct sunlight.
2. Ensure a clean storage environment with a suitable temperature and humidity range, free from condensation. If condensation appears on the device ports, the device cannot be installed.
3. When storing the device, keep it away from flammable, explosive, or corrosive substances.

Stacking Requirements:

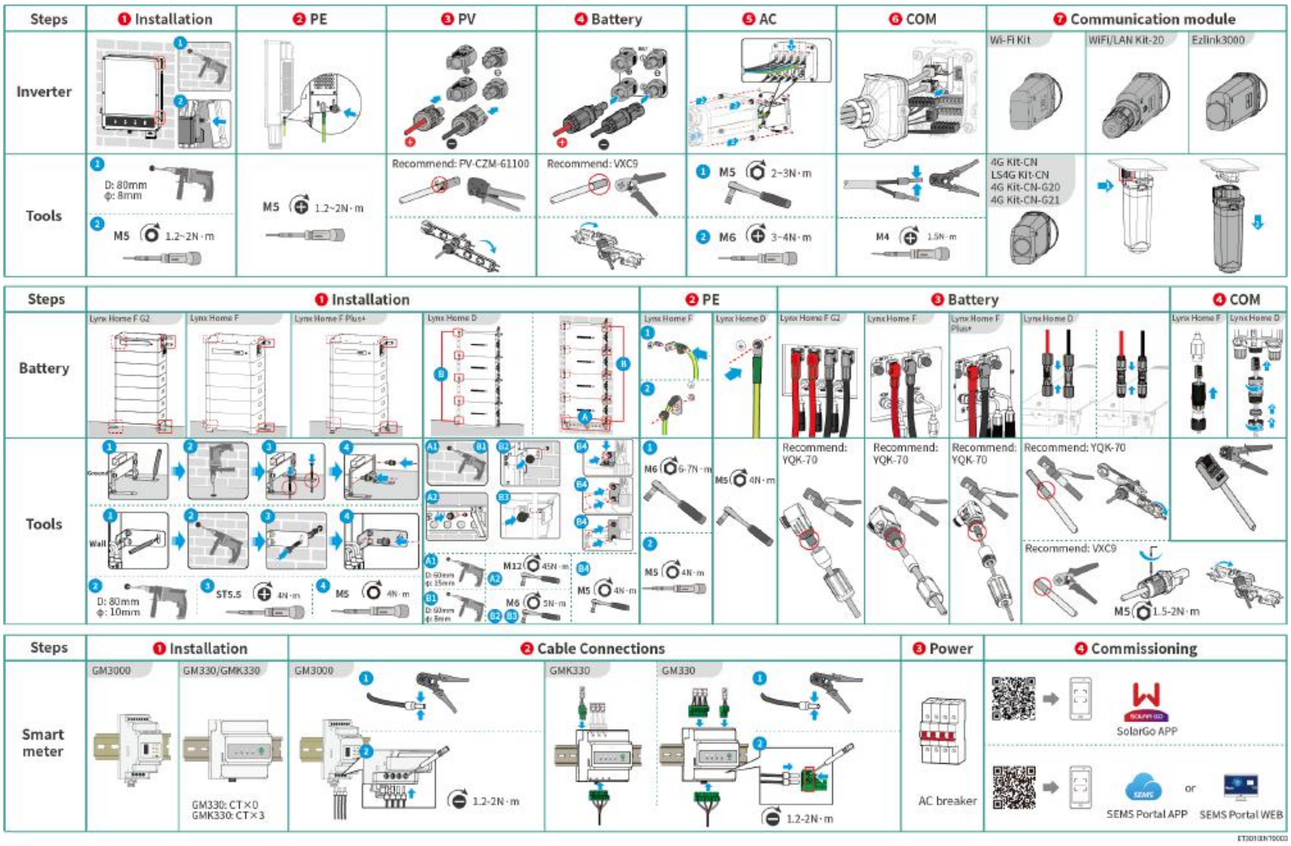
1. Ensure the stacking height and direction of the inverters comply with the requirements indicated on the shipping carton label.

2. Ensure that after stacking the inverters, there is no risk of them toppling over.

4 Installation

⚠DANGER
When installing the device and connecting electrical wiring, use the supplied components from the included packaging. Otherwise, the warranty does not cover damage to the device.

4.1 System Installation and Setup Process



4.2 Installation Requirements

4.2.1 Installation Environment Requirements

WARNING
Lynx home D: • The main source of noise during battery operation is the active cooling system, specifically the axial fan with an optimized fluid dynamics design. • When the battery produces a regular airflow sound ≤35dB(A): This phenomenon indicates that the cooling system is functioning normally and has no impact on electrical performance, structural safety, or device lifespan. If you are sensitive to noise, choose a suitable installation location.

1. The device must not be installed in flammable, explosive, corrosive, or similar environments.
2. The ambient temperature and humidity for device installation must be within the specified range.
3. The installation location must be out of reach of children and avoid placement in easily accessible areas.
4. During inverter operation, the cabinet temperature may exceed 60 °C. Do not touch the cabinet before it cools down to prevent burns.
5. The device must be installed away from direct sunlight, rain, snow accumulation, etc. Installation in a sheltered location is recommended. A shelter can be built if necessary.
6. Adverse conditions such as direct sunlight and high temperatures may cause a reduction in inverter performance.
7. The installation space must meet the equipment's ventilation, cooling, and maintenance space requirements.
8. The installation environment must meet the device's ingress protection rating. The inverter, battery, and smart communication module are suitable for both indoor and outdoor installation; the electric meter is intended for indoor installation.
9. The device installation height must allow for easy maintenance and operation, ensure good visibility of all indicators and labels, and provide easy access to terminals.
10. The device installation altitude must be lower than the maximum operating altitude.
11. Consult the equipment manufacturer before installing the device outdoors in areas with a saline environment. Saline environments are mainly areas within 500 m of the coastline. The affected area depends on sea wind, rainfall, terrain, etc.
12. The length of the DC and communication cable between the battery and inverter must be less than 3 m. Ensure the installation distance between the inverter and

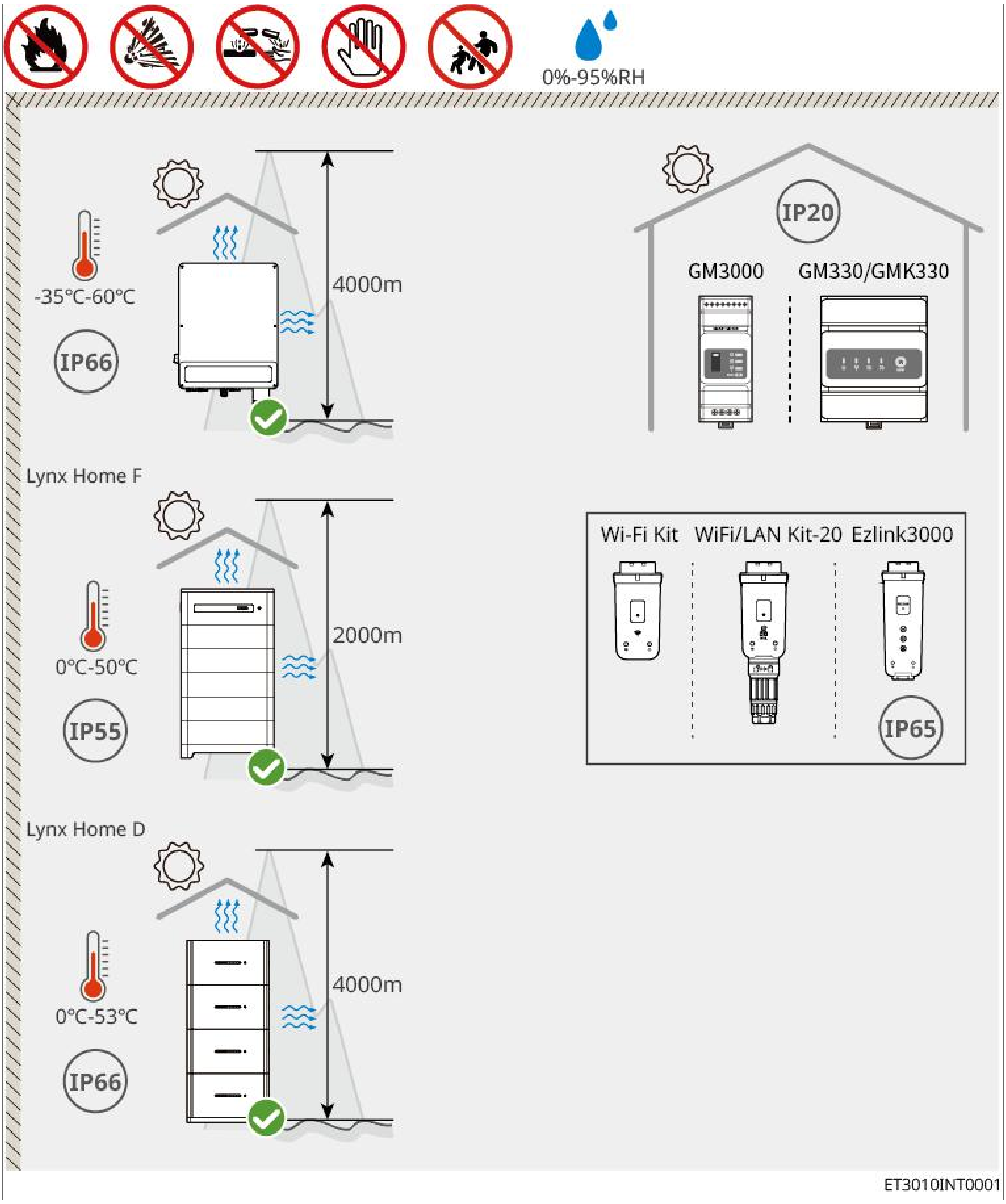
battery meets the cable length requirements.
13. Maintain distance from environments with strong magnetic fields to avoid electromagnetic interference. If a radio station or wireless communication equipment operating below 30 MHz is located near the installation site, install the device according to the following requirements:

- Inverter: Add a multi-turn ferrite core to the inverter's DC input or AC output cable, or add a low-frequency EMI filter; or maintain a distance of more than 30 m between the inverter and the equipment causing wireless electromagnetic interference.
- Other equipment: The distance between the equipment and the device causing wireless electromagnetic interference must be greater than 30 m.

WARNING

If the device is installed in an environment with a temperature below 0℃, the battery will not be able to recharge and restore energy after discharge, leading to its protective undervoltage.

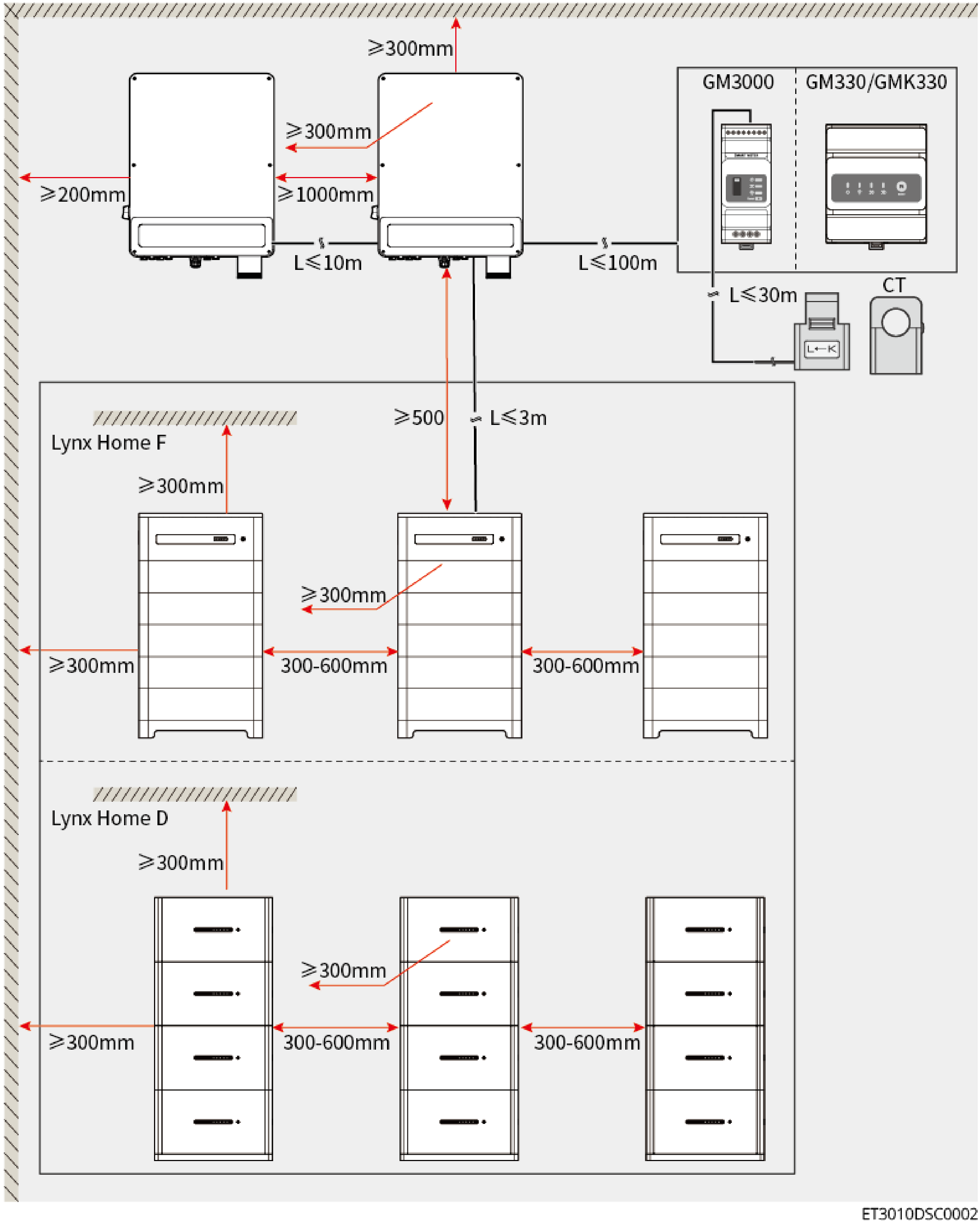
- Lynx home F、Lynx home F Plus+、Lynx home F G2：Charging temperature range：0<T<50°C；Discharging temperature range：-20<T<50°C
- Lynx home D：Charging temperature range：0<T<53°C；Discharging temperature range：-20<T<53°C



4.2.2 Installation Space Requirements

When installing the device in the system, a certain amount of space should be reserved around the device to ensure sufficient room for installation and cooling.

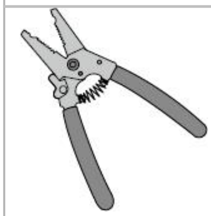
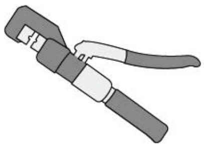
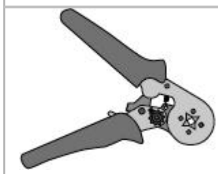
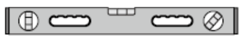
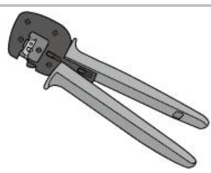
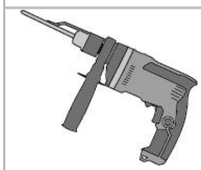
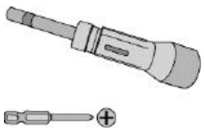
- When using a CAT 7E communication cable between inverters, the cable distance should not exceed 10 meters; when using a CAT 5E or CAT 6E communication cable, the cable distance should not exceed 5 meters. The communication cable length should not exceed 10 m, otherwise communication failures may occur.
- For CT installation, a shielded CAT 5E or higher network cable must be used, and the cable distance should not exceed 30 meters.
- For communication between the inverter and the electric meter using RS485 shielded twisted pair, the cable distance should not exceed 100 meters.

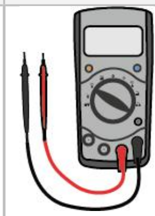
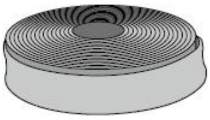

≥300mm
GM3000
GM330/GMK330
≥300mm
≥200mm
≥1000mm
L≤10m
L≤100m
L≤30m
CT
≥500
L≤3m
Lynx Home F
≥300mm
≥300mm
≥300mm
300-600mm
300-600mm
Lynx Home D
≥300mm
≥300mm
≥300mm
300-600mm
300-600mm
ET3010DSC0002

4.2.3 Tool Requirements

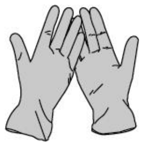
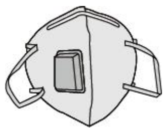
WARNING
It is recommended to use the following installation tools during installation. If necessary, additional auxiliary tools can be used on-site.

Installation Tools

Tool Type	Description	Tool Type	Description
	Diagonal pliers		RJ45 connector crimping tool
	Insulation stripper		YQK-70 hydraulic pliers
	VXC9 hydraulic pliers		Level bar
	Open-end wrench		PV terminal crimping tool PV-CZM-61100
	Impact drill (Φ8mm drill bit)		Torque wrench M5、M6、M8
	Rubber hammer		Socket wrench set

Tool Type	Description	Tool Type	Description
	Adhesive		Multimeter Range ≤1100V
	Heat shrink tubing		Heat gun
	Cable ties		Vacuum cleaner

Personal Protective Equipment

Tool Type	Description	Tool Type	Description
	Insulating gloves, protective gloves		Dust mask
	Protective goggles		Safety shoes

4.3 Device Transfer

⚠WARNING

- When performing operations such as transportation, handling, and installation, it is necessary to comply with the legal regulations and relevant standards of the country or region.
- Before installation, the equipment must be moved to the installation site. To prevent personal injury or equipment damage during transportation, pay attention to the following points:

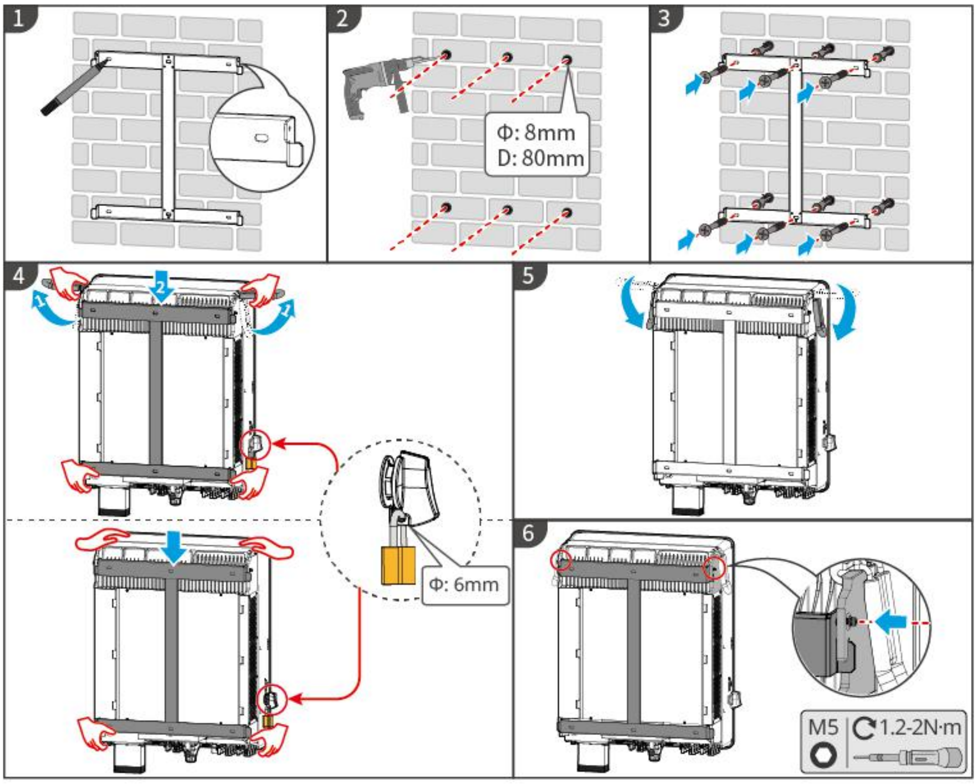
1. Based on the weight of the equipment, ensure an adequate number of personnel so that the equipment does not exceed the weight that can be safely carried, and to prevent personal injury.
2. Wear protective gloves to prevent injury.
3. Ensure the equipment is balanced during transportation to prevent it from falling.

4.4 Inverter Installation

⚠WARNING

- When drilling holes, ensure the drilling location is away from water pipes, cables, etc. within the wall to avoid hazards.
- When drilling holes, wear protective glasses and a dust mask to prevent dust from being inhaled into the respiratory tract or entering the eyes.
- Ensure the inverter is securely installed to prevent it from falling and causing personal injury.

1. Place the rear mounting bracket horizontally on the wall and use a marker to mark the drilling positions.
2. Use a hammer drill to drill the holes.
3. Use expansion bolts to secure the inverter's rear mounting bracket to the wall.
4. Use a DC switch lock to lock the DC switch in the “OFF” state, hang the inverter on the rear bracket. (Optional) For Australia only, the DC switch lock is user-provided, ensure the diameter of the DC switch lock meets the requirements.
5. (Optional) Fold the handle.
6. Tighten the screws on both sides to secure the rear bracket and the inverter, ensuring the inverter is installed firmly.



ET3010INT0002

4.5 Battery Installation

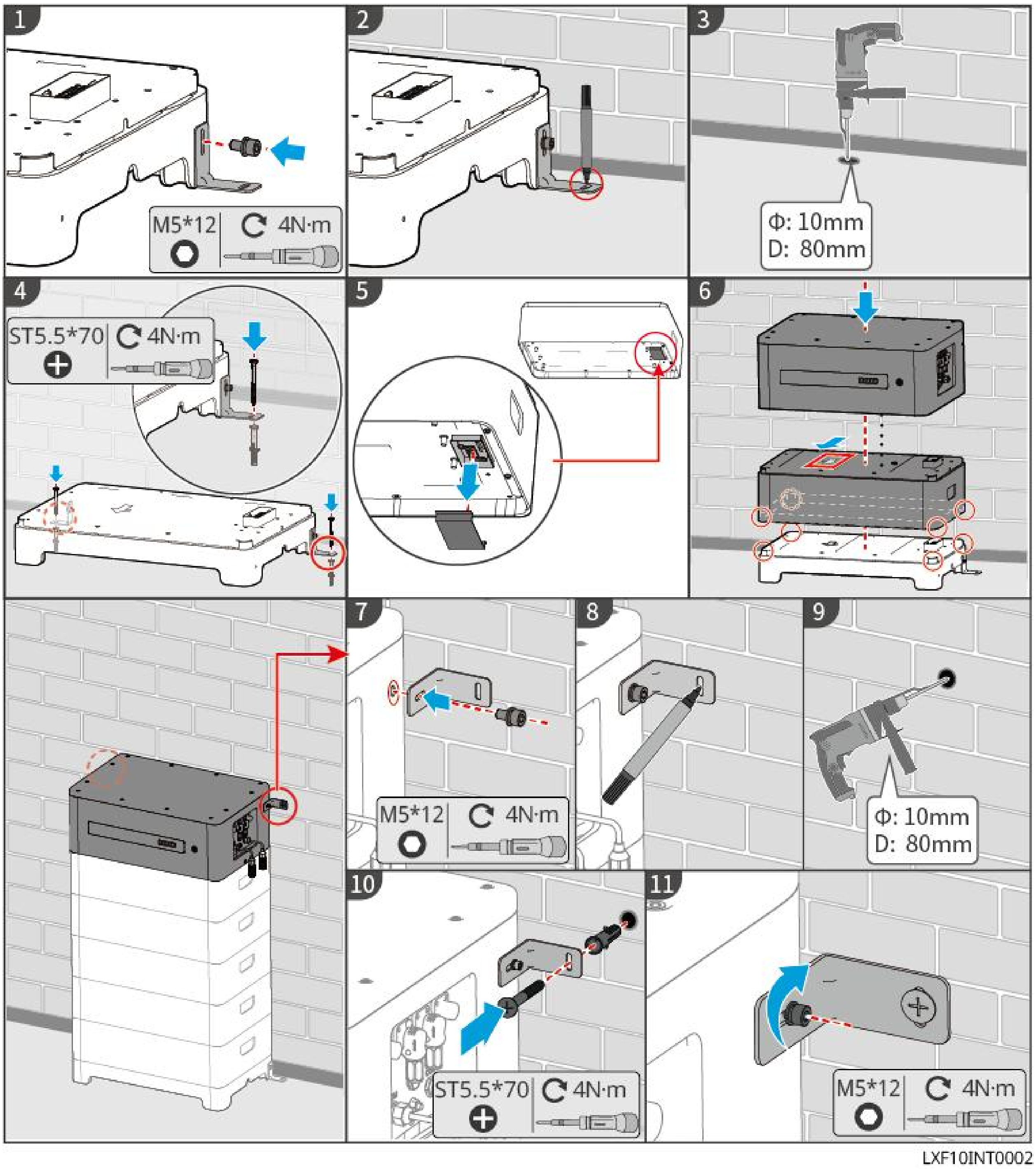
4.5.1 Lynx Home F Series Installation

WARNING

- Ensure the control cabinet is installed above the battery; never install the battery above the control cabinet.
- When installing the battery system, it is necessary to ensure the installation is level and secure. When placing the battery base, battery, or control cabinet, confirm that the holes on the upper and lower layers are aligned; the anti-tip bracket must be vertically pressed against the floor, wall, or battery system surface.
- When using a hammer drill to bore holes, the battery system must be covered with cardboard or another cover to prevent foreign objects from entering the device, which could cause damage.
- Before installing the battery system, remove the protective cover from the battery module's connector port.
- After marking the drilling position with a marker, the control cabinet must be removed to prevent equipment damage due to the hammer drill being too close to the control cabinet during drilling.

4.5.1.1 Installation of Lynx Home F

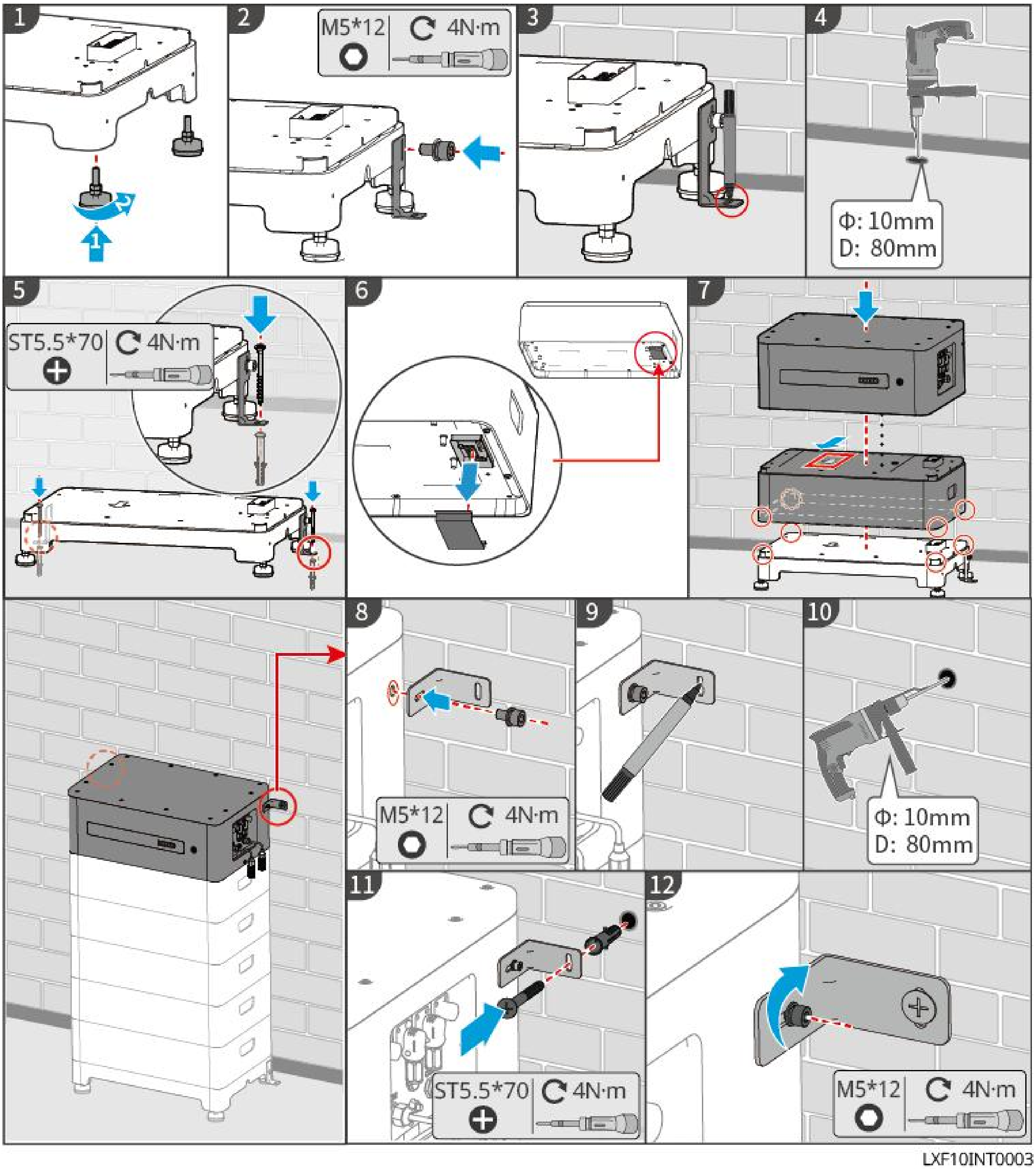
1. Install the anti-tilt bracket on the base.
2. Place the base against the wall, use a marker to mark the drilling positions, and remove the base.
3. Use a hammer drill to drill the holes.
4. Secure the base with expansion bolts, ensure that the base is correctly oriented.
5. Remove the battery terminal cover.
6. Install the battery on the base, ensure that the battery orientation matches the base orientation; and according to the actually chosen battery system type, install the remaining battery modules and the control cabinet.
7. Pre-install the control cabinet anti-tilt bracket on the control cabinet.
8. Install the control cabinet above the battery, ensure it is firmly placed, use a marker to mark the drilling positions, and remove the control cabinet.
9. Use a hammer drill to drill the holes.
10. Secure the control cabinet anti-tilt bracket to the wall.
11. Secure the anti-tilt bracket to the control cabinet.



4.5.1.2 Installation of Lynx Home F Plus+

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

2. Screw the anti-tilt bracket to the base.
3. Place the base against the wall, mark the drilling spots with a marker, and remove the base.
4. Drill the holes using a hammer drill.
5. Attach the base using wall plugs and screws, ensuring the base is correctly oriented.
6. Remove the protective cover of the battery terminals.
7. Mount the battery into the base, ensure the battery orientation matches the base orientation; according to the actually chosen battery system type, install the remaining battery modules and the control unit.
8. Pre-install the anti-tilt bracket of the control unit onto the control unit.
9. Place the control unit on top of the battery, ensure it is firmly seated, mark the drilling spots with a marker, and remove the control unit.
10. Drill the holes using a hammer drill.
11. Attach the anti-tilt bracket of the control unit to the wall.
12. Attach the anti-tilt bracket to the control unit.
13. (Optional) After completing the battery system installation, check if the installation is level and firm. If it is tilted or wobbly, you can adjust the installation condition by turning the adjustable feet.



14.

4.5.1.3 Lynx Home F G2 Installation

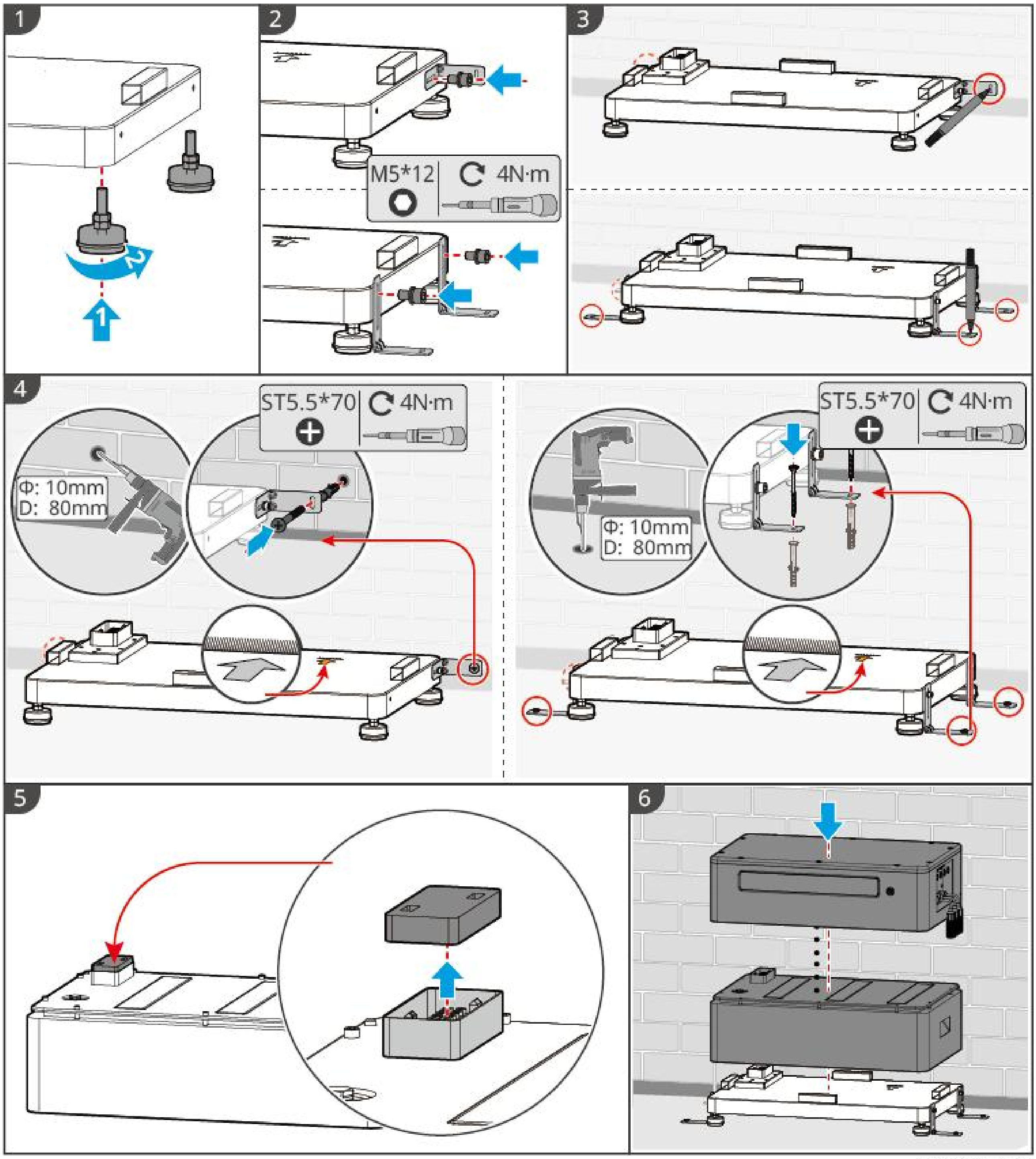
1. (Optional) Screw the adjustable feet to the battery base.
2. Attach the anti-tilt bracket to the base.
3. Place the base against the wall, mark the drilling positions with a marker, and

remove the base.

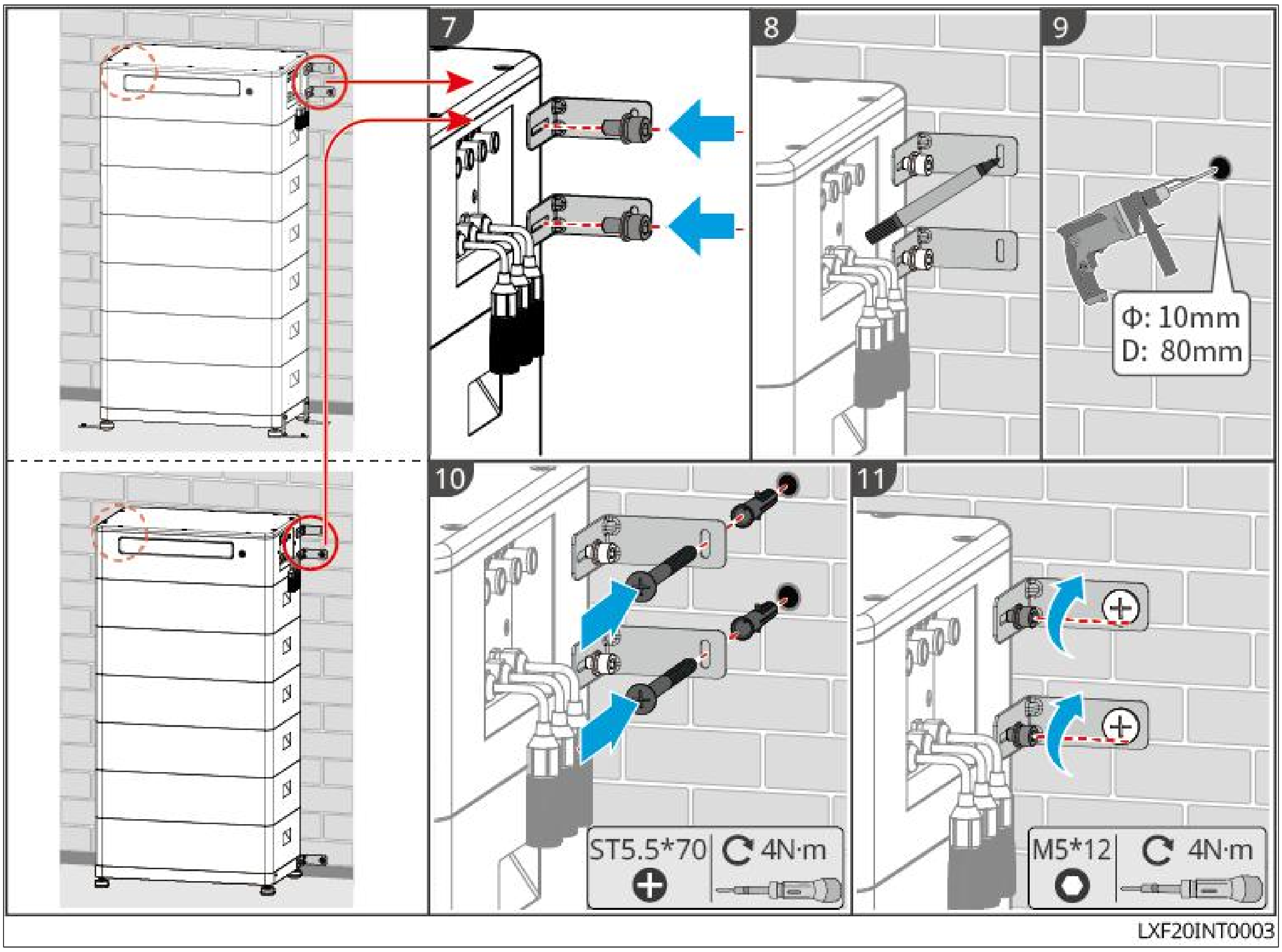
4. Drill the holes using a hammer drill.
5. Secure the base using wall plugs and screws, ensure that the base is correctly oriented.
6. Mount the battery on the base, ensure that the battery orientation matches the base orientation; according to the actual chosen battery system type, install the remaining battery modules and the control unit.
7. Install the anti-tilt bracket for the control unit.
8. Place the control unit on top of the battery, ensure that the position is stable, mark the drilling positions with a marker, and remove the control unit.
9. Drill the holes using a hammer drill.
10. Secure the anti-tilt bracket of the control unit.
11. Install the anti-tilt bracket and the connection box.

- (Optional) Secure the anti-tilt bracket of the control unit.
- (Optional) Install the connection box.

12. (Optional) After completing the battery system installation, check if it is mounted horizontally and firmly. If it is tilted or wobbling, you can adjust the installation condition by turning the adjustable feet.



LXF20INT0002



4.5.2 Installation of Lynx Home D

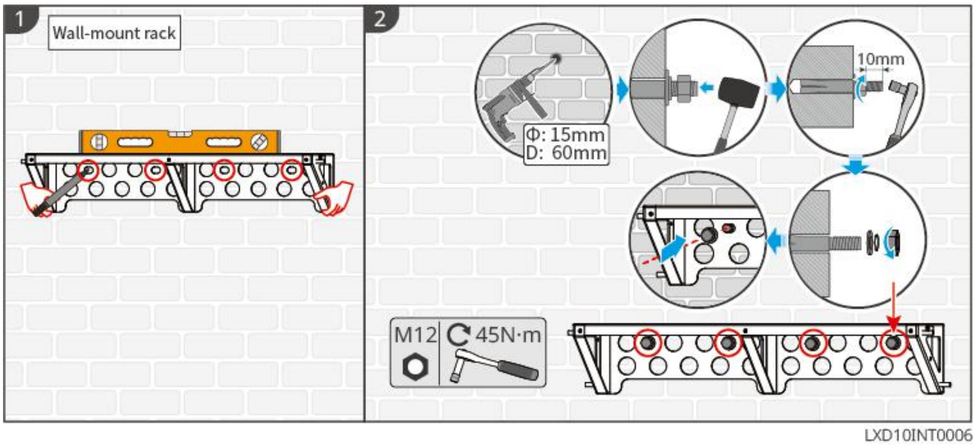
WARNING
• The battery system must be installed on a pedestal or rack. • Auxiliary installation tools must be used when stacking batteries. • If a single battery set exceeds 3 units, installation on a pedestal is recommended. • Stack the batteries according to the recommended method.

Battery Stacking Method		
Total number of batteries (pcs)	First stack (pcs)	Second stack (pcs)

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

Wall Bracket Installation (Optional)

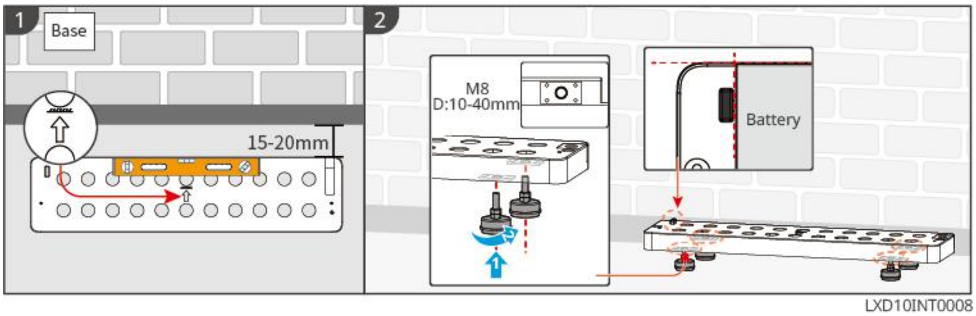
1. Place the bracket flush against the wall. Ensure the bracket is firmly positioned and use a spirit level to check if it is horizontal.
2. After setting the position and aligning the bracket, mark the drilling points with a marker, then remove the bracket.
3. Drill the holes and install the wall plugs.
   a. Use a hammer drill for drilling.
   b. Clean out the holes.
   c. Use a rubber mallet to tap the wall plugs into the holes.
   d. Use an Allen key to tighten the nut clockwise to expand the wall plug.
   e. Unscrew the nut counterclockwise and remove it.
4. Use an Allen key to secure the bracket to the wall.



Base Installation (Optional)

WARNING
Check if adjustable feet are included in the attached packaging. If they are not and you need them, contact the seller or service provider to obtain them.

1. Install the adjustable feet onto the bottom of the base.
2. Place the base at a distance of 15-20mm from the wall, parallel to the wall, and ensure the floor is level.
3. When installing the battery onto the base, ensure the left side of the battery is aligned with the stop on the base.

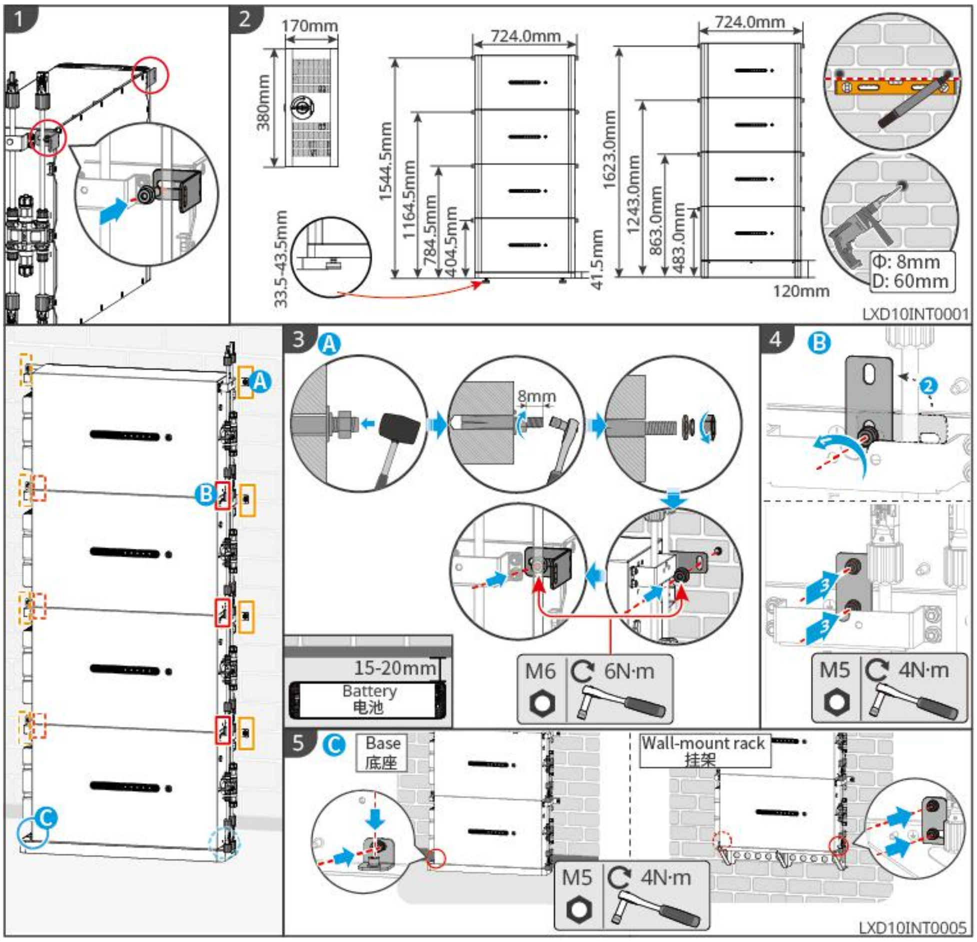


Battery Installation

WARNING

- For floor installation, two base and battery holders are included in the package. To prevent the battery from becoming loose or shifting, install one of the holders on the side of the battery mounting block. Keep the other holder as a spare.
- For wall mounting, to prevent the battery from becoming loose or shifting, use the provided fixing brackets to secure the battery on both sides of the holder.

1. Pre-assemble the anti-tilt bracket to the battery.
2. Place the battery onto the installed bracket or base. Place the anti-tilt bracket flush against the wall, mark the drilling points, then remove the battery; or use a spirit level to mark the drilling points.
3. Install the wall plugs and secure the battery.
   a. Use a hammer drill for drilling.
   b. Clean out the holes.
   c. Use a rubber mallet to tap the wall plugs into the holes.
   d. Use an Allen key to tighten the nut clockwise to expand the wall plug.
   e. Unscrew the nut counterclockwise and remove it.
   f. Place the battery back onto the base or bracket and adjust the battery position so it is 15-20mm away from the wall.
   g. Use an Allen key to secure the battery to the wall, and use a torque screwdriver to tighten the anti-tilt bracket to the battery.
4. Install and tighten the connecting brackets between batteries.
   If installing multiple batteries, repeat steps 1 through 4 to complete the installation of all batteries. No more than 4 batteries can be stacked in one group.
5. Install and tighten the connecting brackets between the battery and the base or bracket.

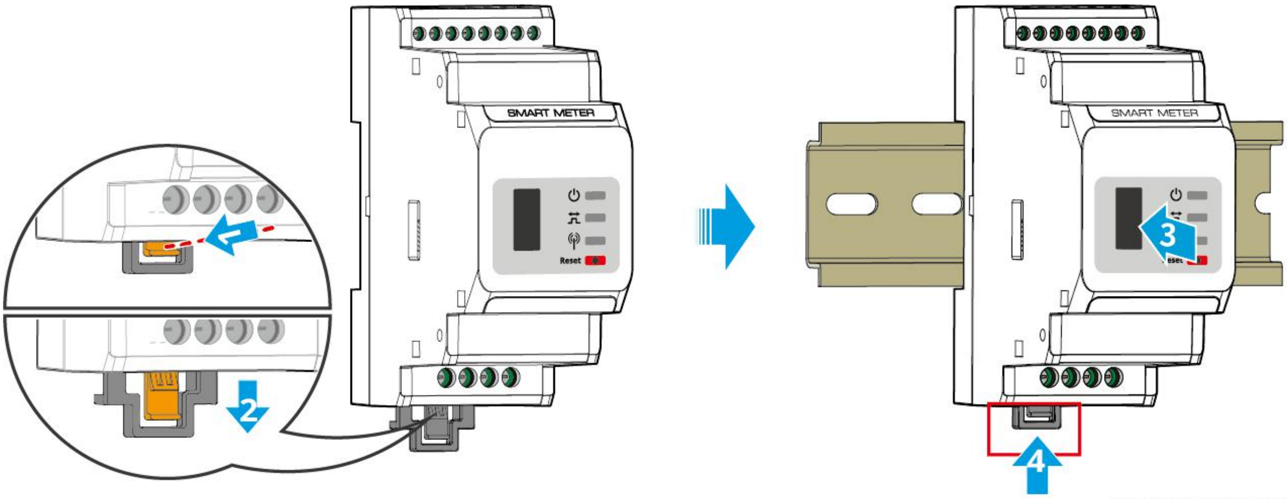


4.6 Electric Meter Installation

⚠WARNING

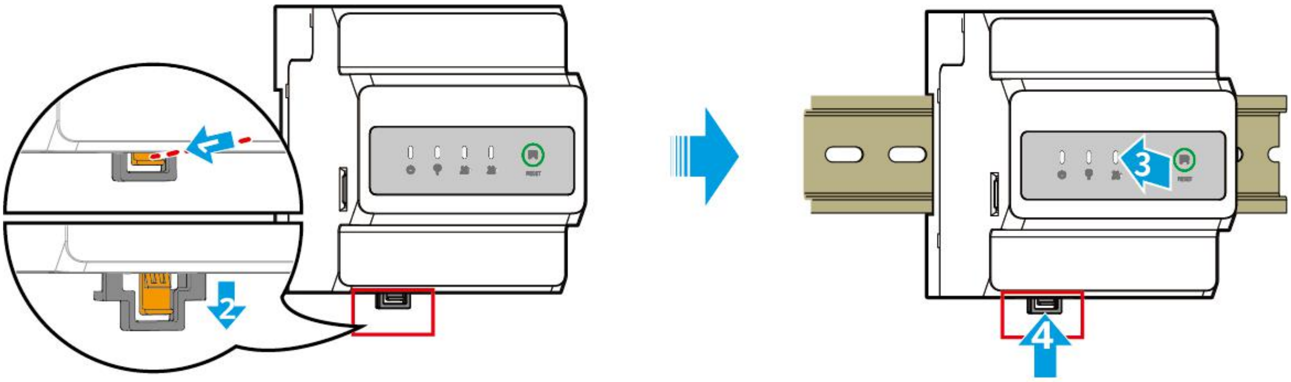
In areas with lightning danger, if the cable length from the electricity meter exceeds 10 meters and the cable is not laid in a grounded metal conduit, it is recommended to install external lightning protection.

GM3000



GMK10INT0002

GM330&GMK330



GMK10INT0003

5 System Connection

DANGER

- The routing, layout, and connection of cables must comply with local laws and regulations.
- All operations during electrical connection and the specifications of cables and components used must meet local legal requirements.
- Before performing electrical connections, turn off the device's DC switch and AC output switch to ensure the device is de-energized. Working on live equipment is strictly prohibited, otherwise there is a risk of electric shock, etc.
- Cables of the same type should be bundled together and separated from cables of other types. It is prohibited to interweave or cross them with each other.
- If a cable is subjected to excessive tension, poor connection may occur. When connecting, leave some slack in the cable before connecting to the inverter ports.
- When crimping connectors, ensure the cable conductor is in full contact with the connector. The cable insulation must not be crimped together with the connector, otherwise the device may not function, or after startup, heating may occur due to unreliable connection, potentially damaging the inverter terminal block.

WARNING

- When performing electrical connections, use personal protective equipment such as safety shoes, protective gloves, and insulating gloves as required.
- Electrical connection-related work may only be performed by qualified professionals.
- The cable colors in the illustrations in this document are for reference only; actual cable specifications must comply with local regulations.
- For parallel systems, follow the safety instructions in the user manuals of the respective products within the system.

5.1 System Connection Electrical Schematic

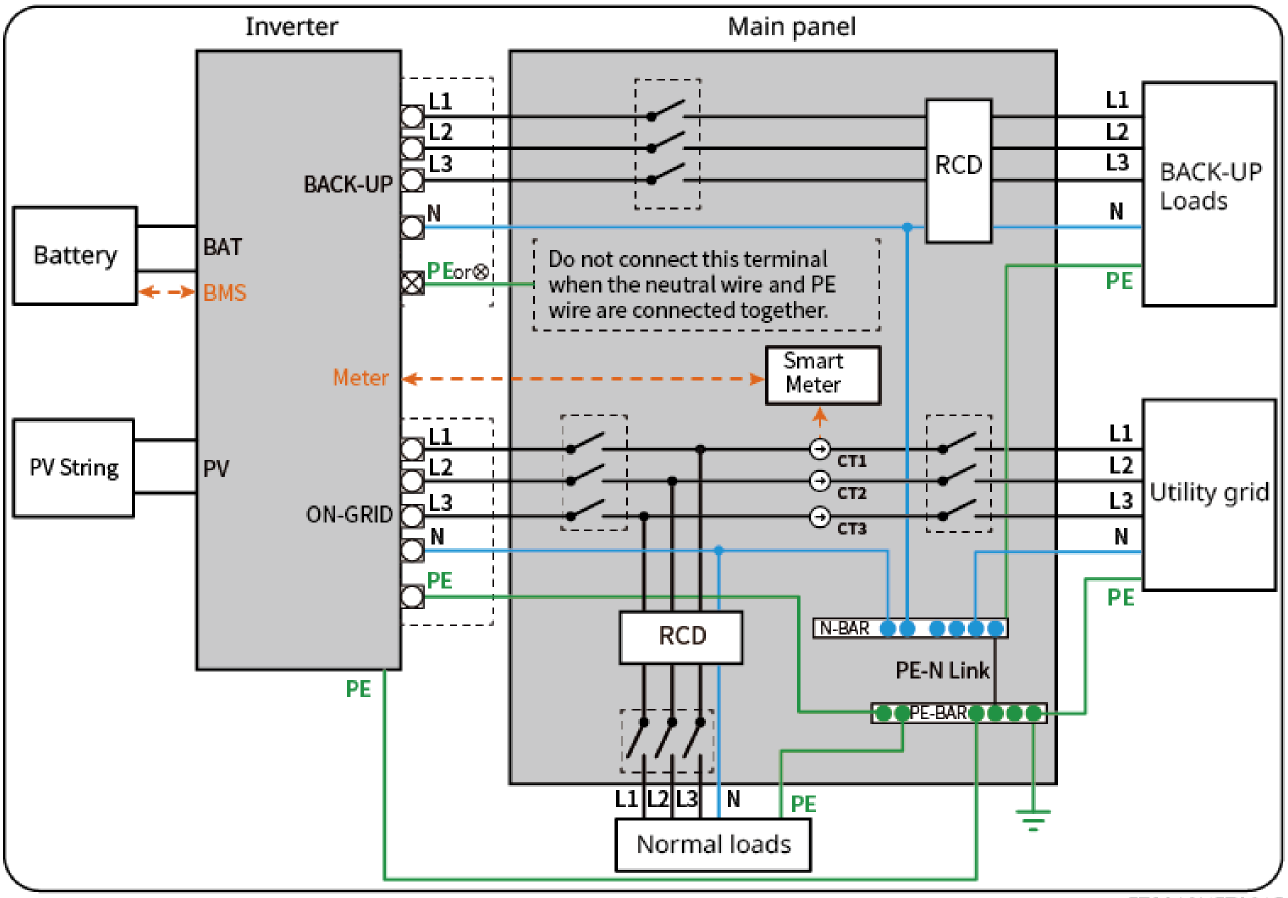
WARNING

- Depending on regulatory requirements in different regions, the connection method for the neutral (N) and protective earth (PE) conductors for the inverter's ON-GRID and BACK-UP ports may differ. Specific operations must comply with local regulations.
- The inverter's ON-GRID AC port contains a built-in relay. When the inverter is in islanding mode, the built-in ON-GRID relay is open; when the inverter operates in grid-tied mode, the built-in ON-GRID relay is closed.
- After the inverter is powered on, the BACK-UP AC port is live. If maintenance is required on the Backup Load, turn off the inverter; otherwise, there is a risk of electric shock.

Wires N and PE are connected together in the distribution board

WARNING

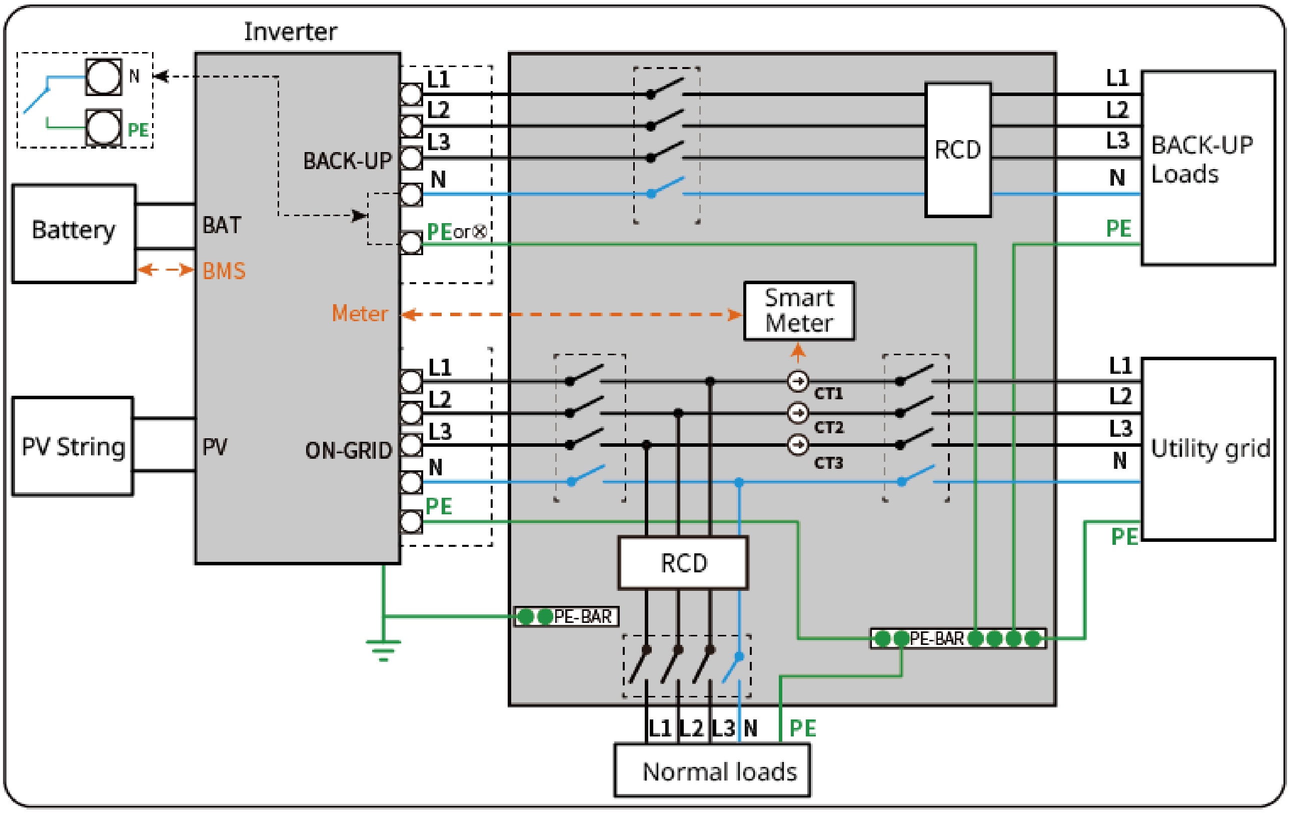
- To maintain neutral conductor integrity, the grid-side and off-grid-side neutral conductors must be interconnected; otherwise, the islanding operation function will not work correctly.
- The following diagram illustrates the electrical system for regions such as Australia, New Zealand, etc.:



ET3010NET0015

N and PE are connected separately in the distribution board

WARNING
• Ensure the protective grounding conductor of the BACK-UP device is correctly and securely connected; otherwise, it may malfunction during a network fault. • The following wiring method applies to all regions except Australia and New Zealand:



ET3010NET0016

5.2 Detailed System Wiring Diagram

When all loads in the photovoltaic system cannot consume the electricity generated by the system, the surplus electricity is fed into the grid. In this case, an intelligent meter or CT monitoring system can be used to monitor power generation and control the amount of electricity fed into the grid.

- By connecting an intelligent meter, functions such as output power limiting and load monitoring can be achieved.
- After connecting the intelligent meter, please enable the 'grid connection power limit' function via the SolarGo app.

The detailed system wiring diagram only shows devices of certain models for illustrative purposes. Please refer to the corresponding wiring guide chapter based on the actual devices used to perform the wiring.

WARNING

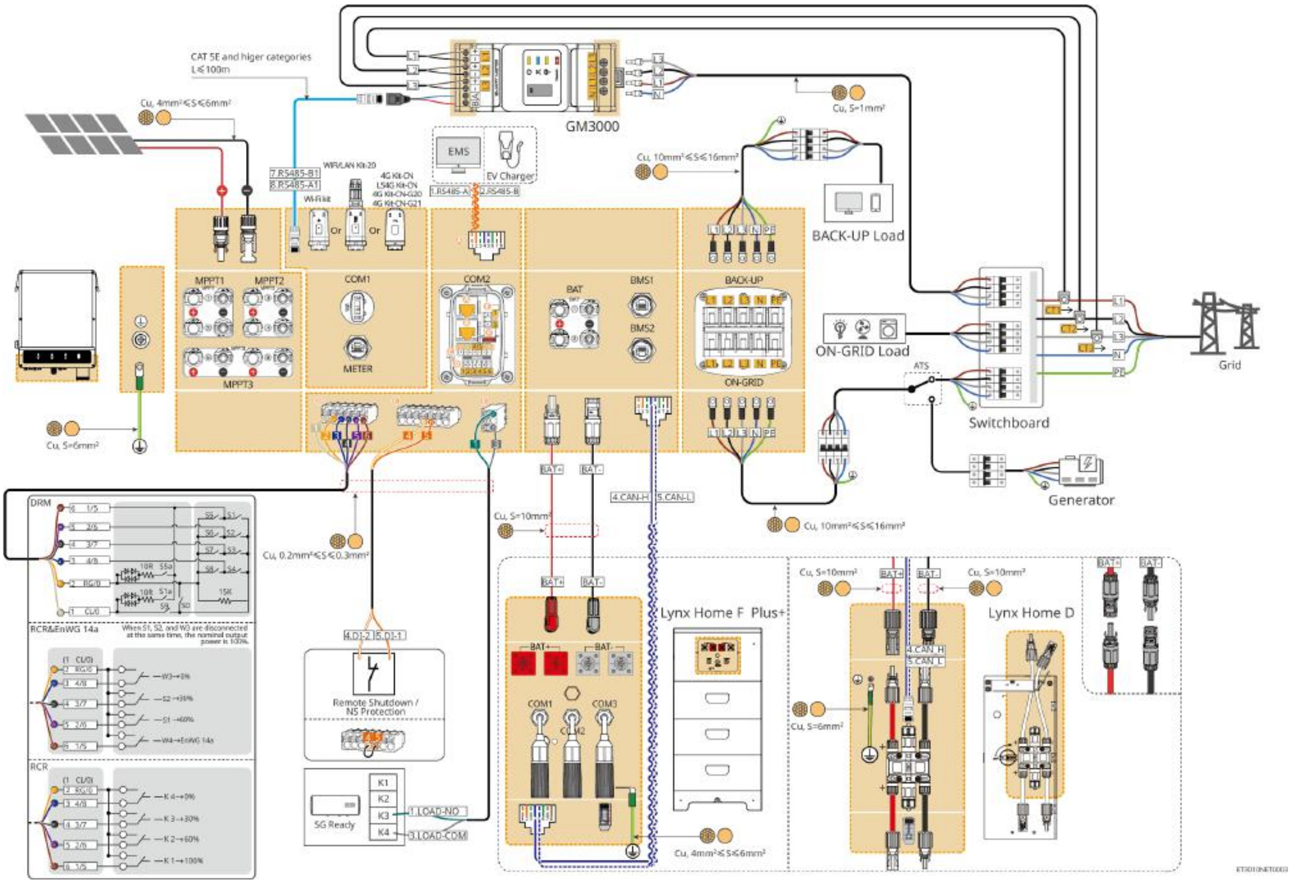
- For interconnected scenarios, if it is necessary to achieve grid inverter power generation monitoring and load monitoring, a dual-meter network must be used.
  - Meter 1 is used to monitor the system's grid connection power.
  - Meter 2 is used to monitor the grid inverter's power generation.
  - By integrating data from Meter 1 and Meter 2, the monitoring platform can achieve real-time load consumption monitoring.
- If the grid inverter requires output power limitation, connect a separate meter or CT, etc.

Scenarios of Two Electricity Meter Combinations	
Electricity Meter 1 (Grid Side)	Electricity Meter 2 (AC Side of Grid Inverter)
GM3000	GM3000
GM3000	GM330
GM3000	GMK330
GM330	GM330
GM330	GM3000
GM330	GMK330
GMK330	GMK330
GMK330	GM3000
GMK330	GM330

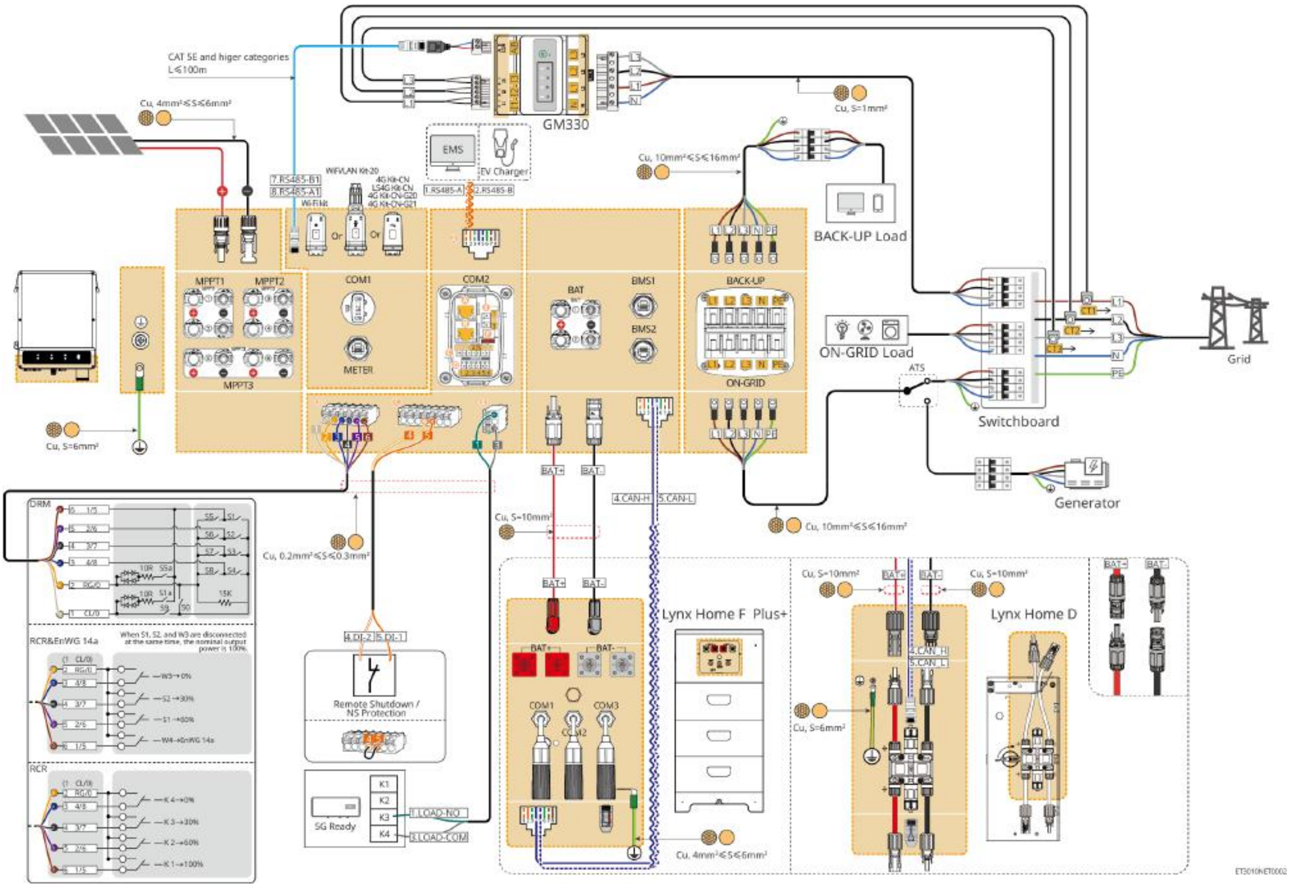
5.2.1 Detailed Unit System Connection Diagram

General Scenario

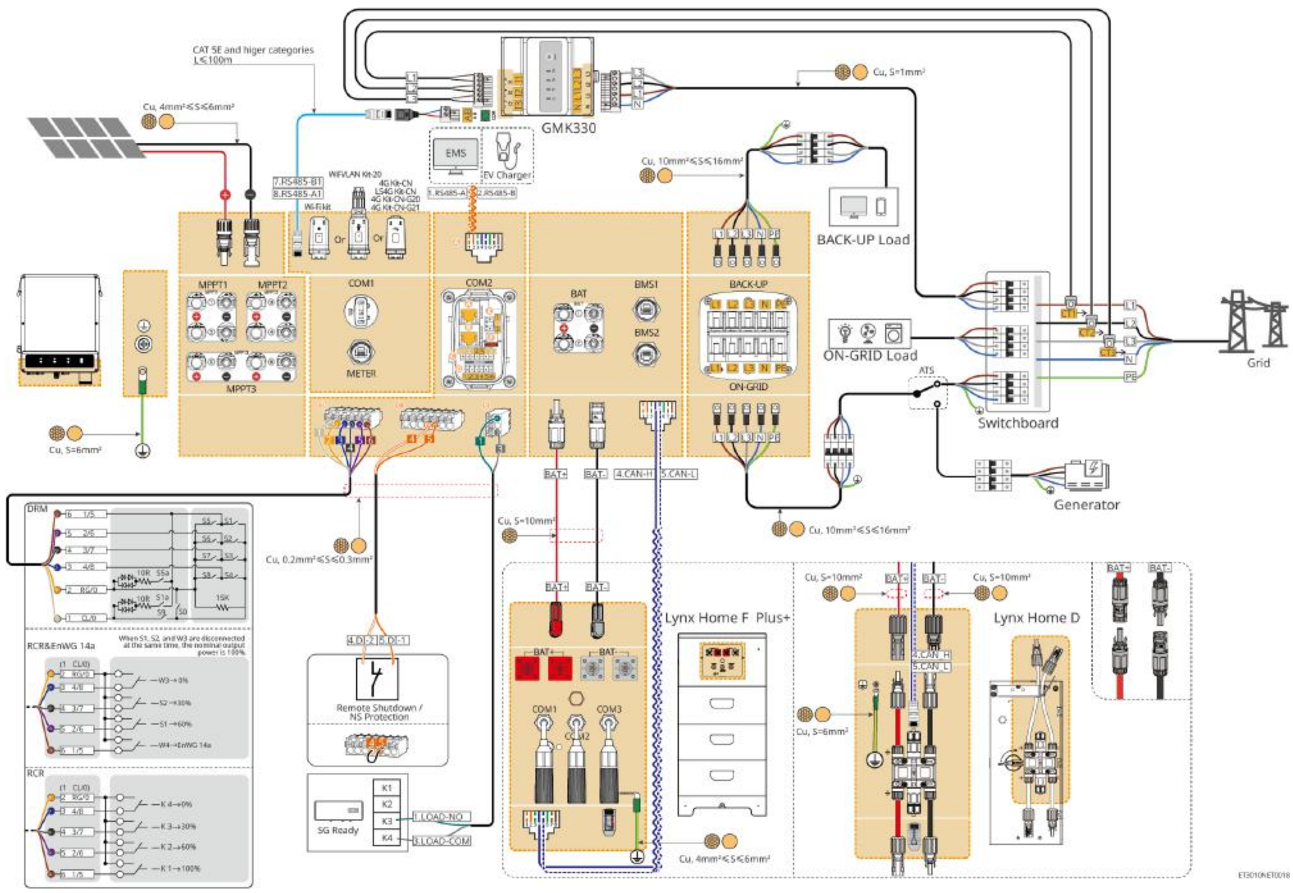
Scenario with GM3000



Scenario with GM330



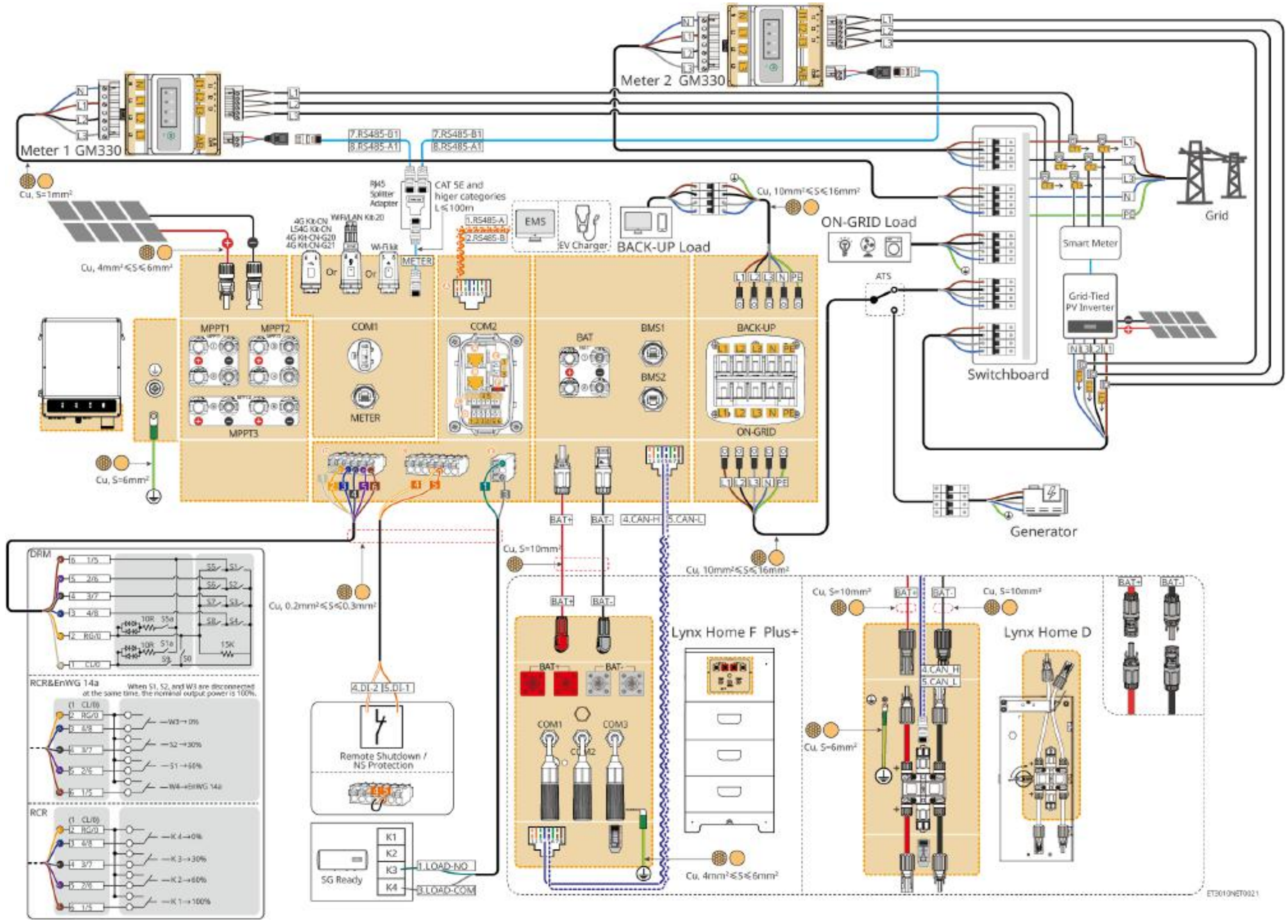
Scenario with GMK330



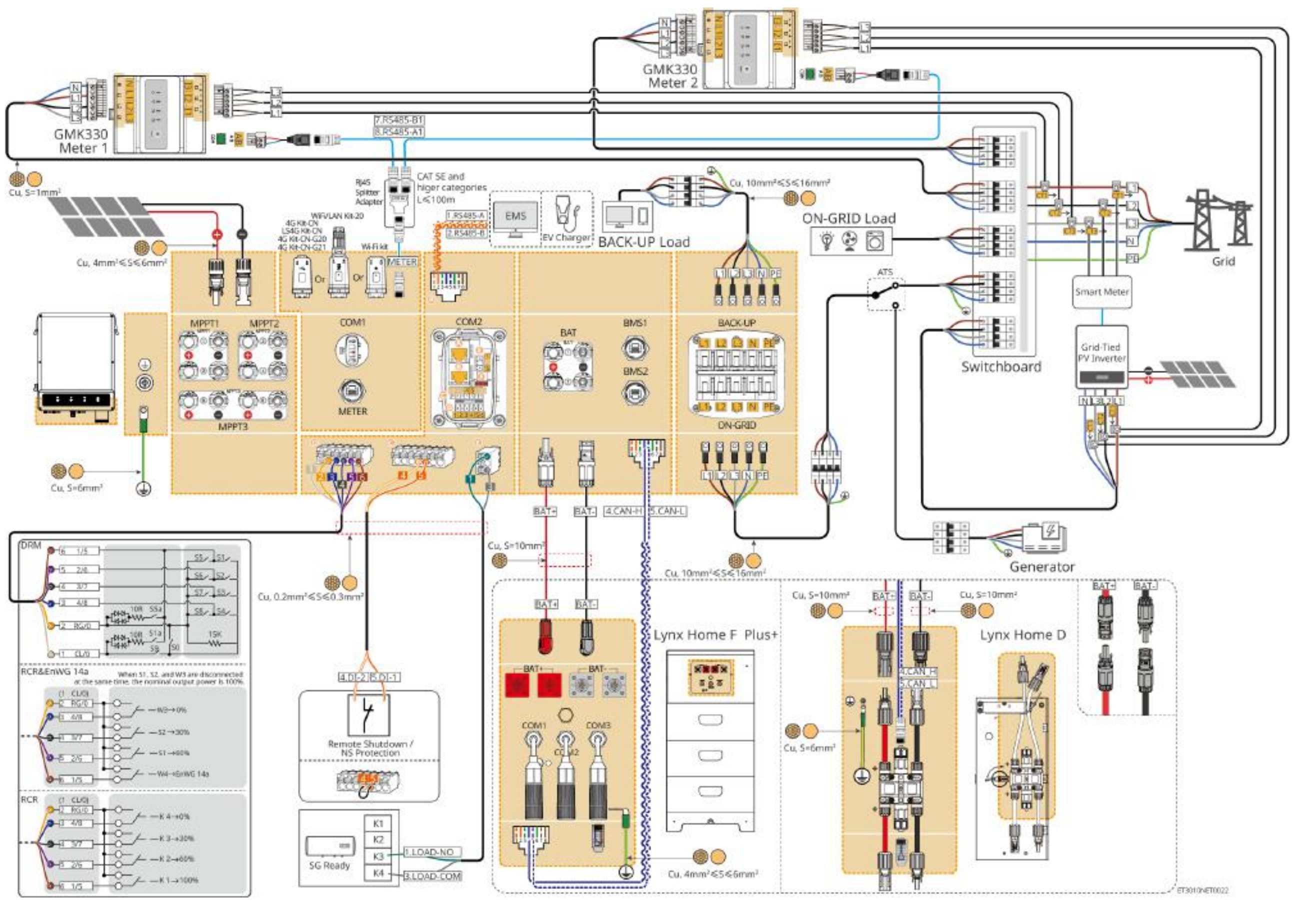
Load Monitoring and Production Tracking Network Diagram for Cogeneration Scenario

In a cogeneration scenario, if it is necessary to limit the output power of the grid-tied inverter, connect devices such as an electricity meter or CT separately.

GM330 Electricity Meter +GM330 Electricity Meter



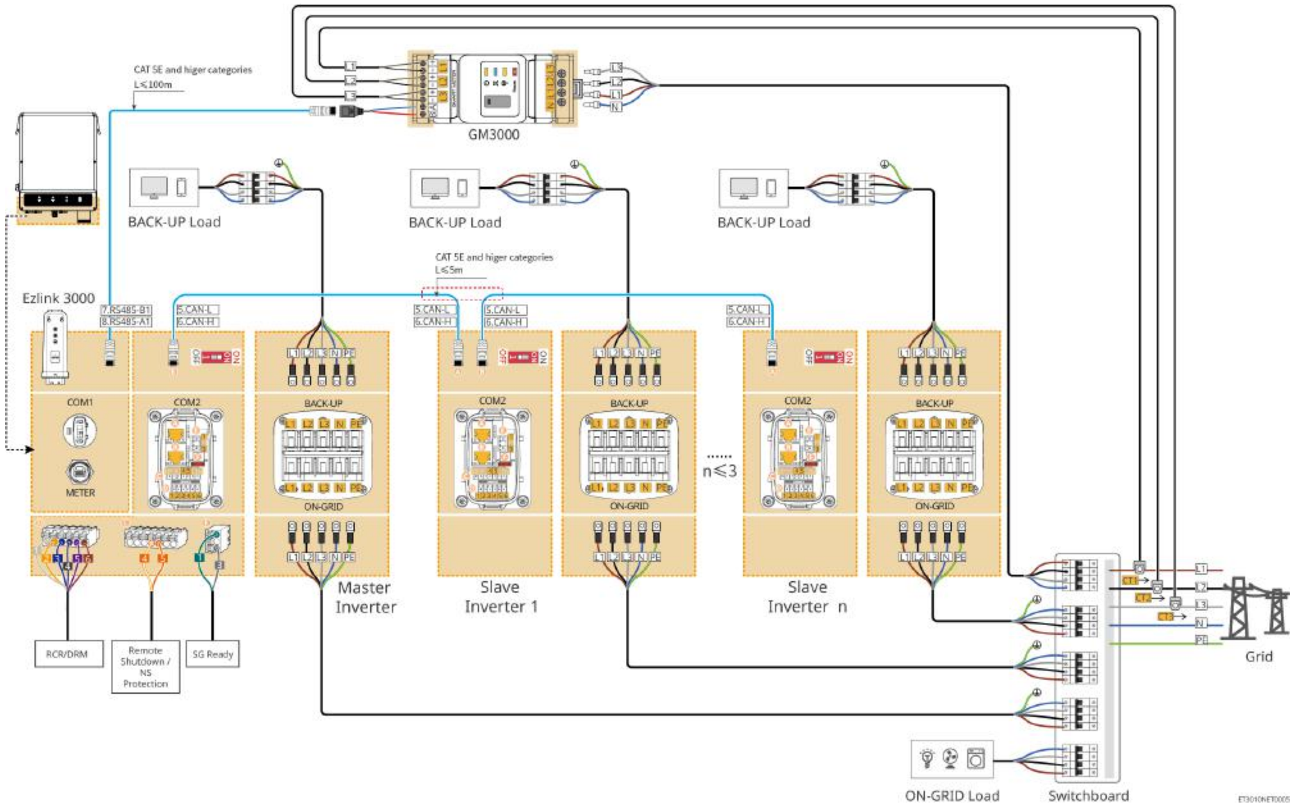
GMK330 Electricity Meter +GMK330 Electricity Meter



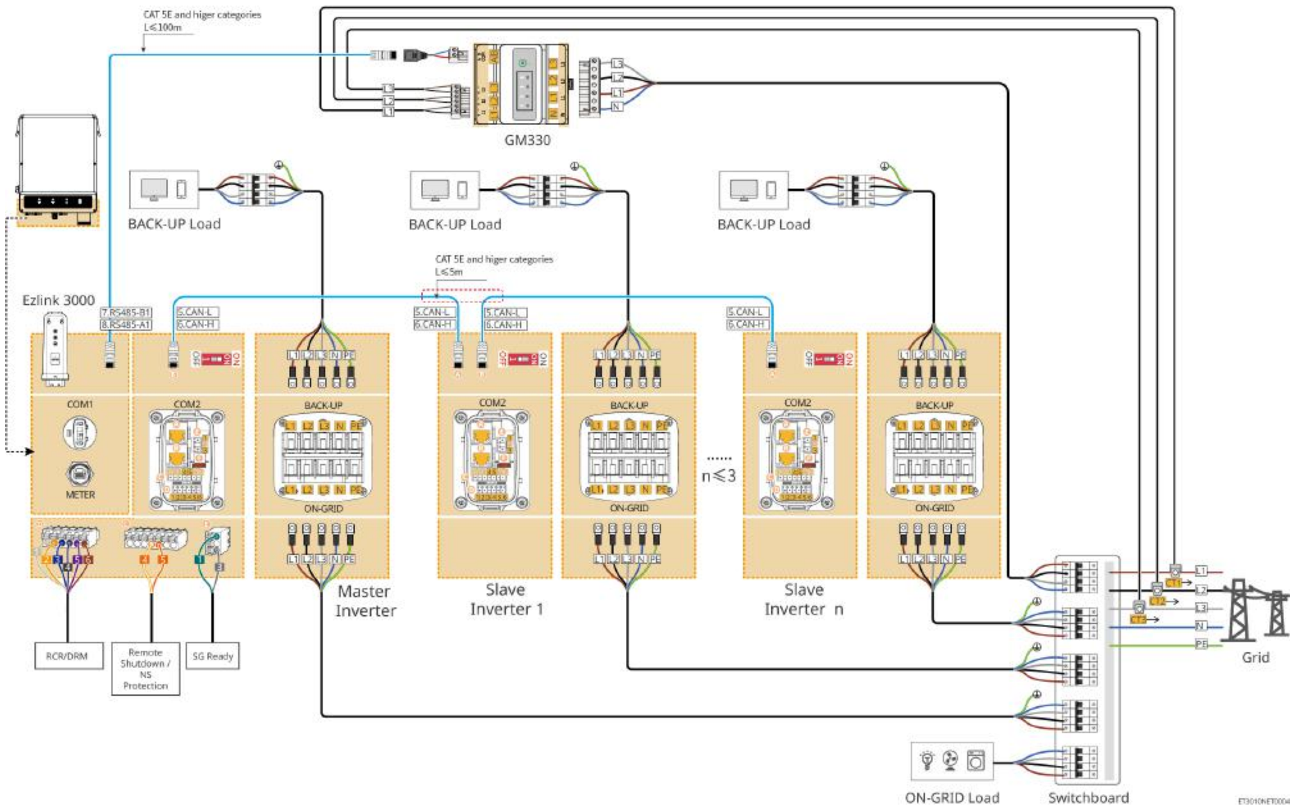
5.2.2 Detailed Connection Diagram for Privately Interconnected System

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

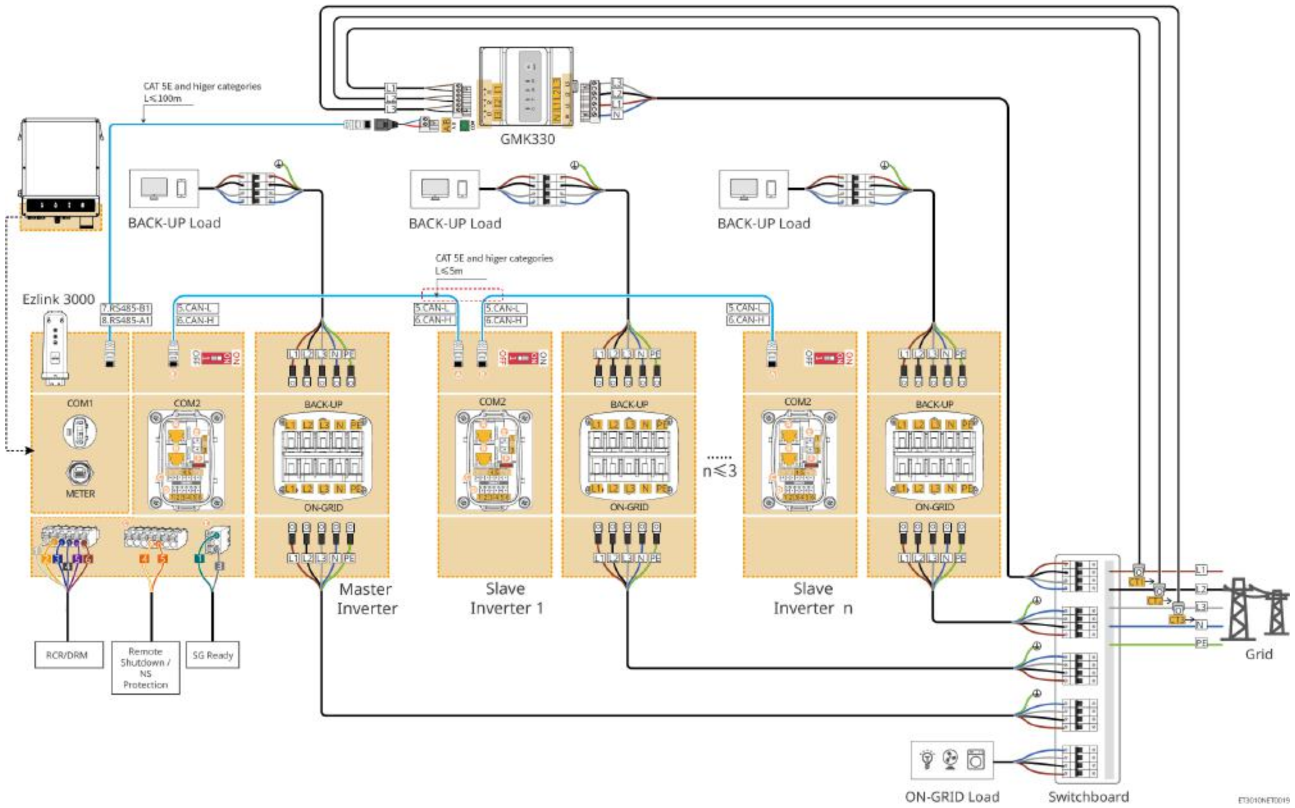
SGM3000 Scenario



SGM330 Scenario

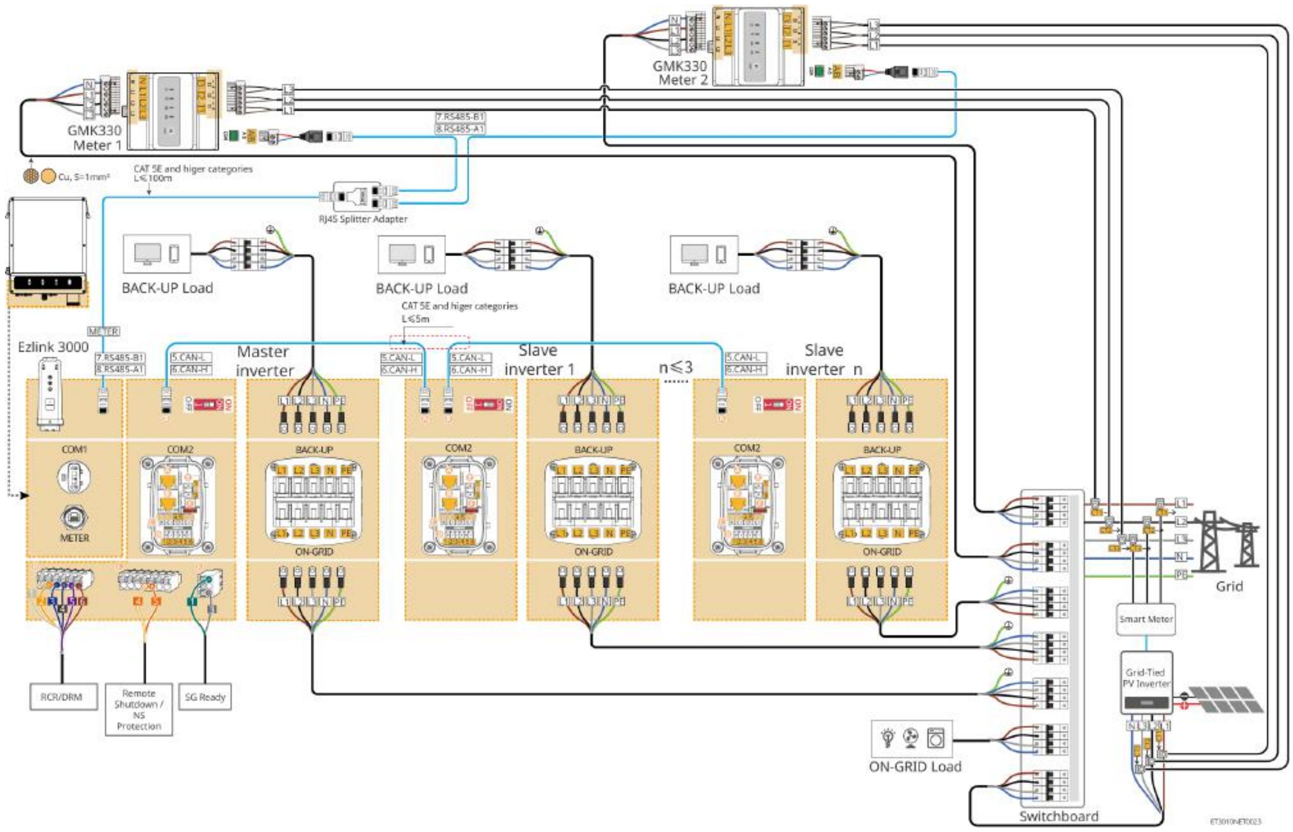


SGMK330 Scenario



Network Diagram for Load Monitoring in Interconnected Scenario and Grid-Connected Unit Power Generation Monitoring

GMK330 Meter +GMK330 Meter



5.3 Material Preparation

⚠WARNING

- It is prohibited to connect a load between the inverter and the AC switch directly connected to it.
- Each inverter must be equipped with an independent AC output circuit breaker. Multiple inverters cannot be connected to one AC circuit breaker simultaneously.
- To ensure safe disconnection of the inverter from the grid in case of a fault, an AC circuit breaker must be installed on the AC side of the inverter. Select a suitable AC circuit breaker in accordance with local regulations.
- After the inverter is turned on, the BACKUP AC port is live. If you need to perform maintenance on the Backup Load, turn off the inverter, otherwise there is a risk of electric shock.
- For cables used in the same system, it is recommended that they be consistent in the following parameters:
  - Backup AC cable of each inverter
  - Phase AC cable of each inverter
  - Power cables between the inverter and the battery
  - Power cables between batteries
- The system supports generator connection via an ATS switch only in single-inverter scenarios, enabling switching between grid power and generator power. The ATS switch is connected to the grid by default.

5.3.1 Switch Preparation

Order	Circuit Breaker	Recommended Specifications	Acquisition Method	Note
1	ON-GRID circuit breaker	When the BACK-UP port is not loaded, the rated current requirements are as follows: • GW15K-ET: rated current ≥32A; rated voltage ≥400V • GW20K-ET: rated current ≥40A; rated voltage ≥400V • GW25K-ET: rated current ≥50A; rated voltage ≥400V • GW29.9K-ET, GW30K-ET: rated current ≥63A; rated voltage ≥400V • GW12KL-ET: rated current ≥50A; rated voltage ≥230V • GW18KL-ET: rated current ≥63A; rated voltage ≥230V	Self-provided	If the inverter's BACK-UP port is not used, a suitable circuit breaker can be selected based on the maximum AC output current.
		When the BACK-UP port is loaded, the rated current requirements are as follows: • GW15K-ET: rated current ≥50A; rated voltage ≥400V • GW20K-ET, GW25K-ET, GW29.9K-ET, GW30K-ET: rated current ≥63A; rated voltage ≥400V • GW12KL-ET, GW18KL-ET: rated current ≥63A; rated voltage ≥230V		

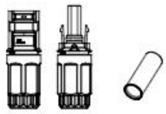
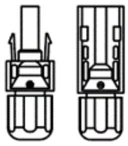
Order	Circuit Breaker	Recommended Specifications	Acquisition Method	Note
2	BACK-UP circuit breaker	Rated voltage ≥400V, the rated current requirements are as follows: • GW15K-ET: rated current ≥32A; rated voltage ≥400V • GW20K-ET: rated current ≥40A; rated voltage ≥400V • GW25K-ET: rated current ≥50A; rated voltage ≥400V • GW29.9K-ET, GW30K-ET: rated current ≥63A; rated voltage ≥400V • GW12KL-ET: rated current ≥40A; rated voltage ≥230V • GW18KL-ET: rated current ≥63A; rated voltage ≥230V	Self-provided	-

Order	Circuit Breaker	Recommended Specifications	Acquisition Method	Note
3	ATS switch	The specifications of the ATS switch and the ON-GRID circuit breaker for the same model are identical. Specification requirements (recommended): • GW15K-ET: rated current ≥32A; • GW20K-ET: rated current ≥40A; • GW25K-ET: rated current ≥50A; • GW29.9K-ET, GW30K-ET: rated current ≥63A; • GW12KL-ET: rated current ≥40A; • GW18KL-ET: rated current ≥63A;	Self-provided	In actual type selection, a circuit breaker that meets local installation regulations can also be chosen based on the actual operating current.
4	Battery switch	Selectable according to local laws and regulations • 2P DC switch • Rated current ≥63A • Rated voltage ≥1000V	Self-provided	-
5	Residual Current Device	Selectable according to local laws and regulations • Type A • ON-GRID side: 300mA • BACK-UP side: 30mA	Self-provided	-

Order	Circuit Breaker	Recommended Specifications	Acquisition Method	Note
6	Electric meter switch	• Rated voltage: 380V/400V • Rated current: 0.5A	Self-provided	-

5.3.2 Cable Preparation

Order	Cable	Recommended Specifications	Acquisition Method
1	Inverter Grounding Cable	• Single-core outdoor copper cable • Conductor cross-sectional area: $S=6mm^2$	Self-prepared
2	Battery Grounding Cable	• Single-core outdoor copper cable • Conductor cross-sectional area: $6mm^2$	Self-prepared
3	PV DC Cable	• Standard outdoor photovoltaic cable • Conductor cross-sectional area: $4mm^2$-$6mm^2$ • Cable outer diameter: 5.9mm-8.8mm	Self-prepared

Order	Cable	Recommended Specifications	Acquisition Method
4	Battery DC Cable	Terminal Type I  • Single-core outdoor copper cable • Conductor cross-sectional area: $10mm^2$ • Cable outer diameter: 6.0mm-9.5mm	Self-prepared or purchased from GoodWe
		Terminal Type Ⅱ  • Single-core outdoor copper cable • Conductor cross-sectional area: $10mm^2$ • Cable outer diameter: 5mm-8.5mm	
5	AC Cable	• Multi-core outdoor copper cable • Conductor cross-sectional area: $10mm^2$-$16mm^2$ • Cable outer diameter: 21mm-26mm	Self-prepared
6	Smart Meter Power Cable	Outdoor copper cable Conductor cross-sectional area: $1mm^2$	Self-prepared

Order	Cable	Recommended Specifications	Acquisition Method
7	Battery BMS Communication Cable	Proprietary communication cable, default length 3m If self-preparing, recommended: Standard network cable CAT 5E or higher specification and RJ45 RJ connector	Supplied with the inverter
8	Meter RS485 Communication Cable	Standard network cable: CAT 5E or higher specification and RJ45 RJ connector	RJ45-2PIN adapter and standard network cable: Included in the package
9	Battery Parallel Connection Communication Cable	CAT 5E or higher specification and RJ45 RJ connector	Self-prepared
10	Load Control DO Communication Cable	• Shielded cable meeting local standards • Conductor cross-sectional area: 0.2mm²-0.3mm² • Cable outer diameter: 5mm-8mm	Self-prepared
11	Remote Shutdown Communication Cable		Self-prepared
12	RCR/DRED Signal Cable		Self-prepared
13	Inverter Parallel Connection Communication Cable	CAT 5E or higher specification and RJ45 RJ connector	Self-prepared
14	EMS Communication Cable / Charging Station Communication Cable	CAT 5E or higher specification and RJ45 RJ connector	Self-prepared

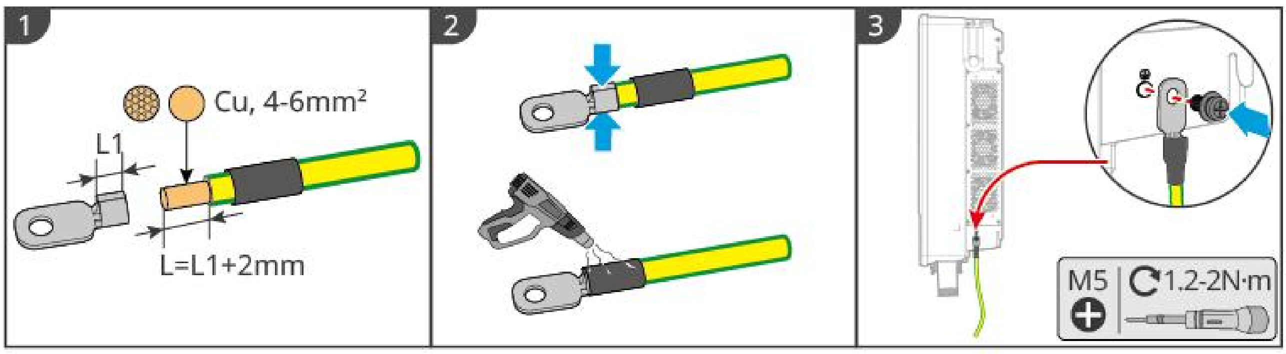
Order	Cable	Recommended Specifications	Acquisition Method
15	12V External Power Supply	• Outdoor copper cable • Conductor cross-sectional area: $0.2mm^2$-$0.3mm^2$ • Cable outer diameter: 5mm-8mm	Self-prepared

5.4 Connecting the Protective Earth Cable

WARNING

- The protective grounding of the equipment enclosure does not replace the protective grounding conductor of the AC output. When connecting, ensure reliable interconnection of the protective grounding conductors at both locations.
- To enhance the corrosion resistance of the terminals, it is recommended to apply silicone sealant or a protective coating to the external part of the grounding terminal after completing the installation of the protective grounding conductor.
- During equipment installation, the protective grounding conductor must be connected first. During equipment dismantling, the protective grounding conductor must be disconnected last.

5.4.1 Inverter Grounding

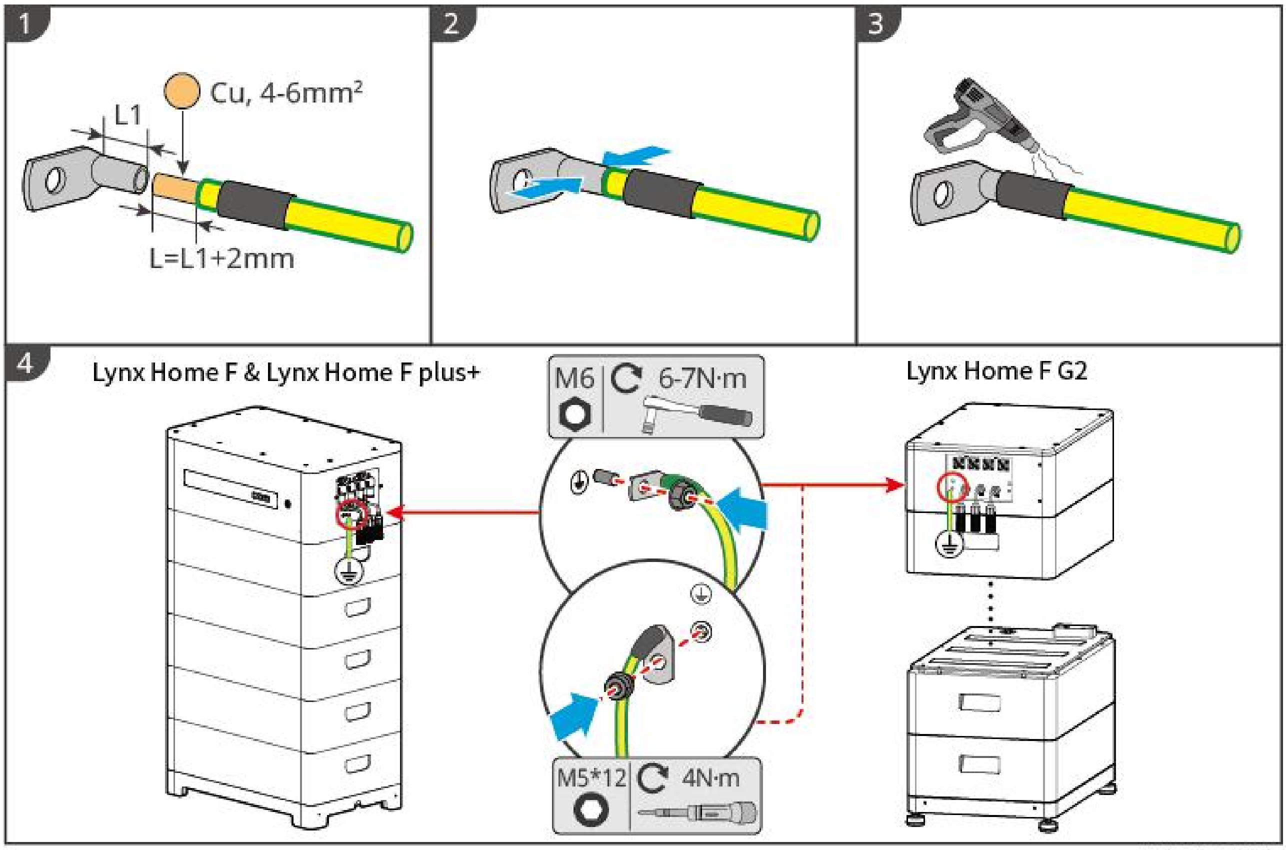


ET3010ELC0001

5.4.2 Battery System Grounding

WARNING
The tensile force after crimping must be greater than 400N.

Lynx Home F Series



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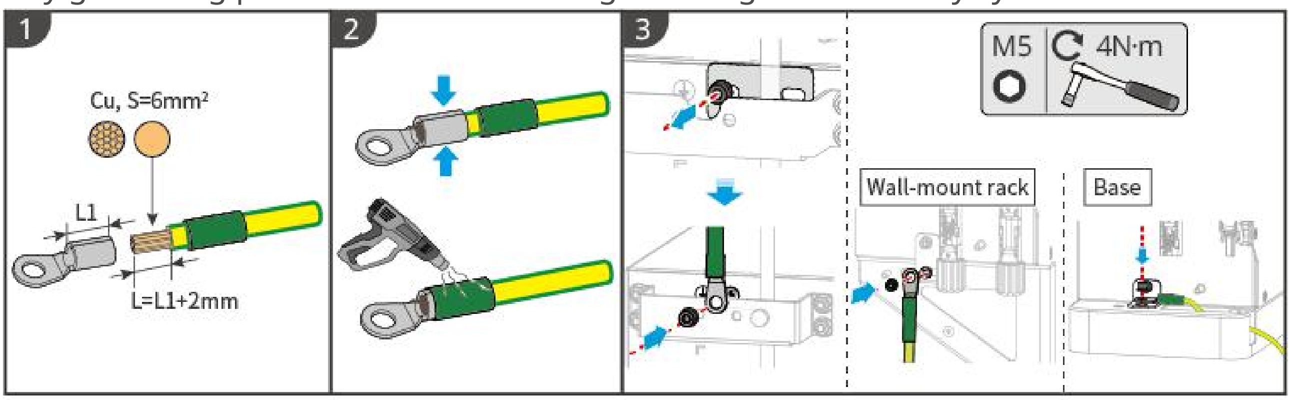
Lynx Home D

Any grounding point can be chosen for grounding in the battery system.



LXD10ELC0001

5.5 Connecting the PV Cable

⚠DANGER

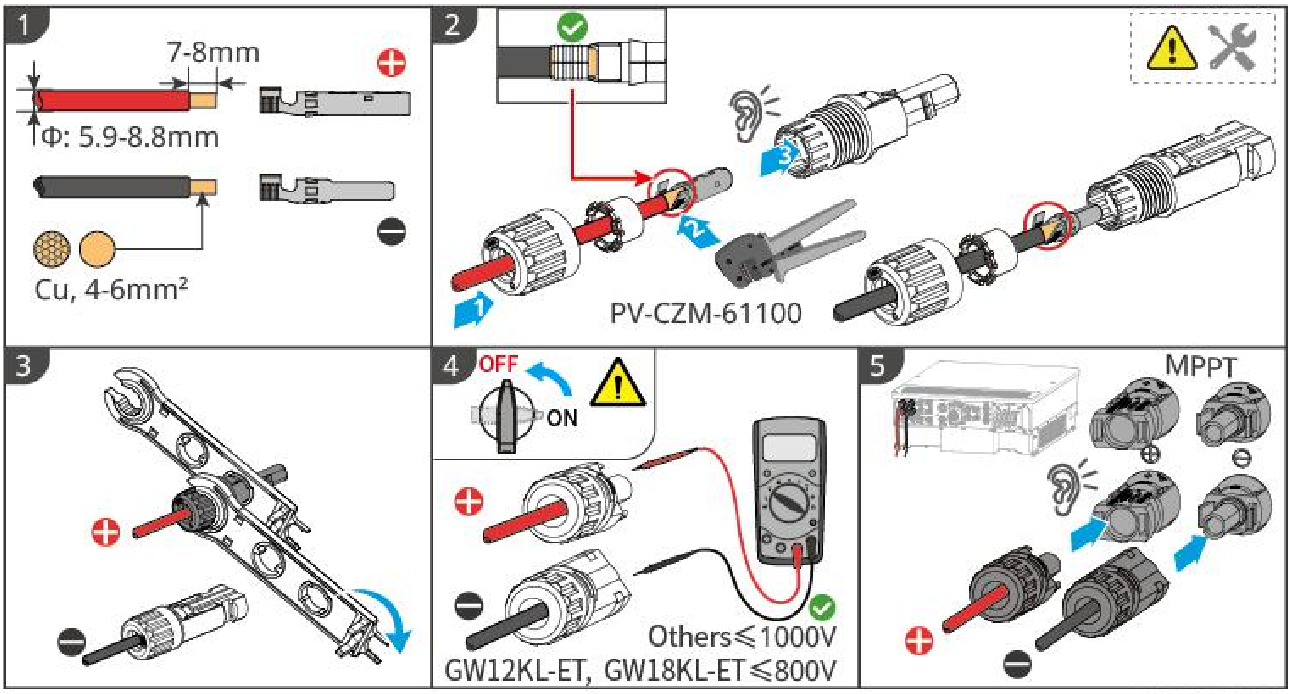
- Do not connect the same PV string to multiple inverters simultaneously, as this may damage the inverter.
- Before connecting the PV string to the inverter, verify the following information. Otherwise, permanent damage to the inverter may occur, and in severe cases, it may cause a fire leading to personal injury and property damage.
  1. Ensure the maximum short-circuit current and maximum input voltage of each MPPT are within the inverter's allowable range.
  2. Ensure the positive pole of the PV string is connected to the inverter's PV+ and the negative pole of the PV string is connected to the inverter's PV-.

⚠WARNING

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

WARNING

Two groups of photovoltaic strings in each MPPT branch must have the same type of panels, the same number of panels, the same tilt and azimuth to ensure maximum efficiency.



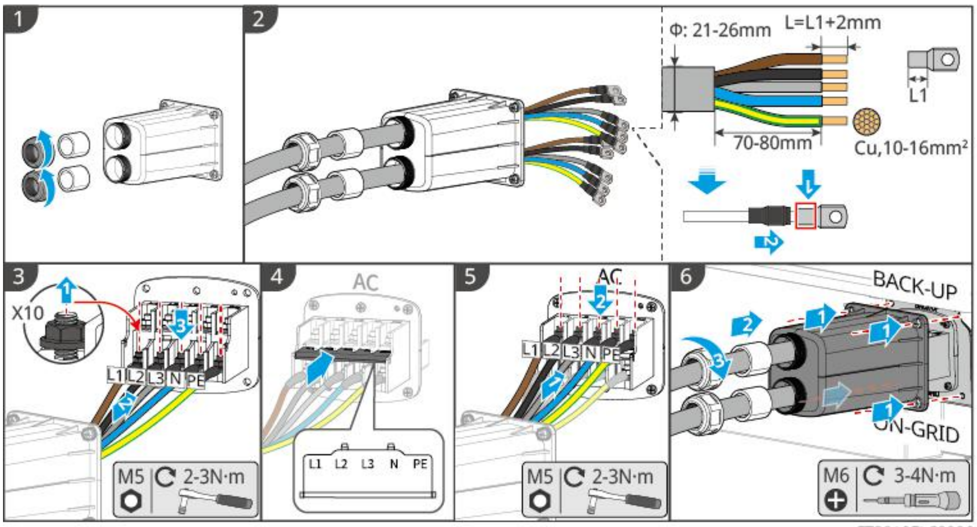
ET3010ELC0002

5.6 Connecting the Transfer Cable

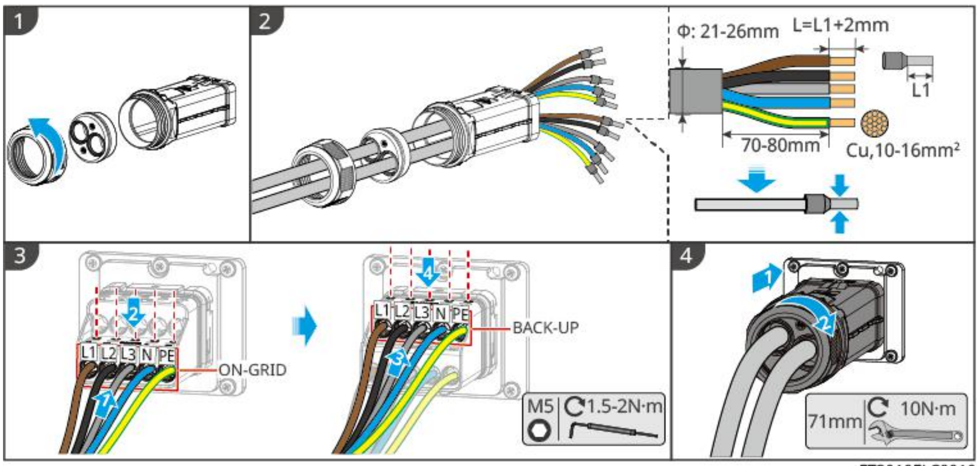
WARNING

- The inverter has an internally integrated Residual Current Monitoring Unit (RCMU) which prevents the residual current from exceeding the set value. If the inverter detects a leakage current higher 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 cannot be connected to one common AC circuit breaker.
- To ensure safe disconnection of the inverter from the grid in case of a fault, an AC circuit breaker must be installed on the AC side of the inverter. Select a suitable AC circuit breaker in accordance with local regulations.
- After the inverter is turned on, the BACK-UP AC port is live. If maintenance needs to be performed on the BACK-UP load, turn off the inverter; otherwise, there is a risk of electric shock.
- When wiring, correctly assign the AC line wires to the "L1", "L2", "L3", "N", "PE" ports on the AC terminals. Incorrect cable connection may cause equipment damage.
- Ensure the wires are fully inserted into the terminal holes and are not visible.
- Ensure the insulation plate at the AC terminals is firmly secured and does not become loose.
- Ensure the cable connections are tight; otherwise, terminal overheating and equipment damage may occur during device operation.
- In accordance with local regulations, a Type A RCD can be externally connected to the inverter. Recommended specifications: ON-GRID side: 300mA, BACK-UP side: 30mA.
- In standalone operation mode, the inverter supports connection to a generator, which can power the energy storage system via the ON-GRID port in case of a grid outage.

Type one:



Type two:



5.7 Connecting Batteries to the Cable

DANGER

- Do not connect the same battery bank to multiple inverters simultaneously, as this may damage the inverter.
- It is prohibited to connect the load between the inverter and the batteries.
- Use insulated tools when connecting battery cables to prevent accidental electric shock or battery short circuit.
- Ensure the no-load battery voltage is within the inverter's allowable range.
- Based on local regulations, decide whether to install a DC switch between the inverter and the batteries.

WARNING

When using the Lynx Home D battery:

- Select appropriate connectors for cable crimping according to the actual connected device.
- Use a suitable hydraulic crimper according to the DC connector model. The recommended specifications are:
    - For crimping DC connectors supplied with the battery that do not have the HD Locking terminal label on the self-sealing bag, it is recommended to use the YQK-70 hydraulic crimper.
    - For crimping DC connectors supplied with the battery that have the HD Locking terminal label on the self-sealing bag, it is recommended to use the VXC9 hydraulic crimper.
    - If a hydraulic crimper cannot be purchased, select a crimping tool based on the connector crimping dimensions, and ensure the connector crimping meets usage requirements.
- Use the DC connectors and terminals supplied in the package for connecting power cables:
    - If the battery system's black power cable has a label marked HD or a white numbered sleeve, connect it to the connector in the supply that has the HD Locking terminal label on the self-sealing bag.
    - If the battery system's black power cable does not have a label marked HD or a white numbered sleeve, check whether the self-sealing bag containing the power connectors in the supply has the HD Locking terminal label. If not, interconnect the male and female connectors; if it does, contact the seller or service provider.

Inverters of models GW18KL-ET, GW25K-ET, GW29.9K-ET, GW30K-ET have two battery input ports. When connecting battery systems in parallel to the inverter, the number of battery systems connected to each port is as follows:

Number of Battery Systems	BAT1 Number of Connected Battery Systems	BAT2 Number of Connected Battery Systems
1	1	0
2	1	1

Number of Battery Systems	BAT1 Number of Connected Battery Systems	BAT2 Number of Connected Battery Systems
3	2	1
4	2	2
……	……	……
15	8	7
16	8	8

Instructions for connecting BMS communication between the inverter and theLynx Home F series batteries:

Inverter Port	Connected to Battery Port	Port Definition	Explanation
BMS1 / BMS2	COM1/COM2/COM	4：CAN_H 5：CAN_L	• Communication between the inverter and the battery uses CAN protocol. • The inverter's BMS1 port connects to the battery's COM1 port. • If the battery discharge/charge current > 50A, it is recommended to connect to the battery's BAT1 and BAT2 ports, and the inverter's BMS1 port connects to the battery's COM1 port.

Lynx Home F communication port definitions:

PIN	COM	Description
4	CAN_H	Connection to the inverter's BMS communication port for communication with the inverter; or terminating resistor.
5	CAN_L	
1、2、3、6、7、8	-	-

Lynx Home F Plus+ instructions for parallel battery communication connection:

PIN	COM1	COM2	COM3	Description
1	CAN_H	CAN_H	CAN_H	BMS communication for parallel battery system connection
2	CAN_L	CAN_L	CAN_L	
3	-	-	-	Reserved
4	CAN_H	-	-	• COM1: Connects to the inverter's 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: Interlock function for parallel connection • COM3: Reserved
8	HVIL_OUT	HVIL_OUT	-	

Lynx Home F G2 instructions for parallel battery communication connection:

PIN	COM1	COM2	COM3	Description
1	RS485_A1	RS485_A1	Reserved	Connection for external RS485 communication device
2	RS485_B1	RS485_B1		
3	-	-		Reserved
4	CAN_H	CAN_H		Connection for inverter communication port or battery parallel connection port
5	CAN_L	CAN_L		
6	DI7H-	DI7H-		Signal detection function for battery parallel connection
7	DI7H+	DI7H+		
8	-	PWM		Transmitting PWM signal for parallel connection

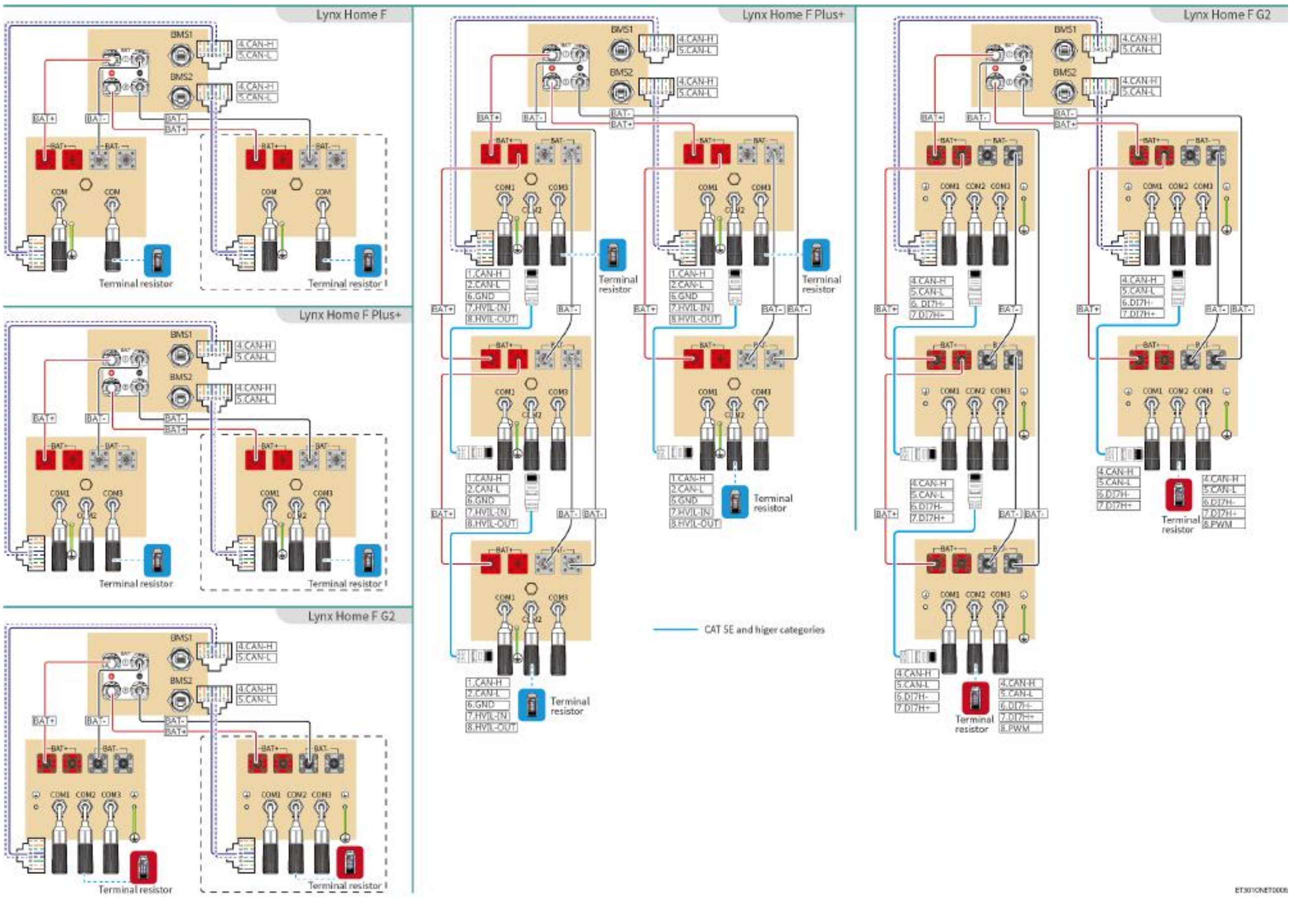
Instructions for connecting BMS communication between the inverter andLynx Home D batteries

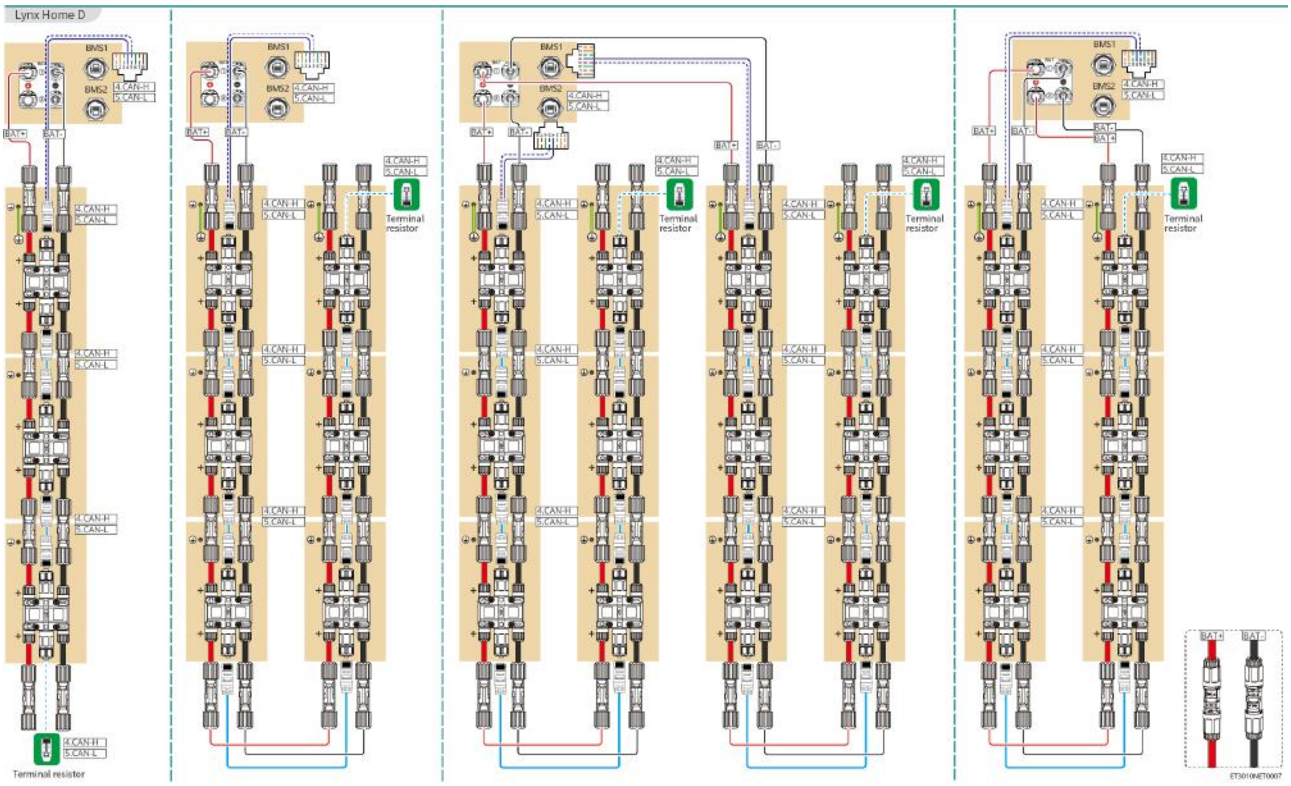
Inverter Port	Connected to Battery Port	Port Definition	Explanation
BMS1	COM	4: CAN_H 5: CAN_L	• Communication between the inverter and the battery uses CAN protocol. • The inverter's BMS1 port is connected to the battery's communication port.

Lynx Home D instructions for parallel battery communication connection:

PIN	Battery Port	Description
1	RS485_A1	Reserved
2	RS485_B1	
4	CAN_H	For connecting the inverter communication port or parallel battery cluster port
5	CAN_L	
3、6、7、8	-	-

Battery system wiring diagram


Lynx Home F
Lynx Home F Plus+
Lynx Home F G2
BMS1
BMS2
4.CAN-H
5.CAN-L
BAT+
BAT-
COM
COM1
COM2
COM3
1.CAN-H
2.CAN-L
6.GND
7.HVIL-IN
8.HVIL-OUT
6.DI7H-
7.DI7H+
8.PWM
Terminal resistor
CAT 5E and higer categories
ET3010NET0006


Lynx Home D
BMS1
BMS2
4.CAN-H
5.CAN-L
BAT+
BAT-
Terminal resistor
ET3010NET0007

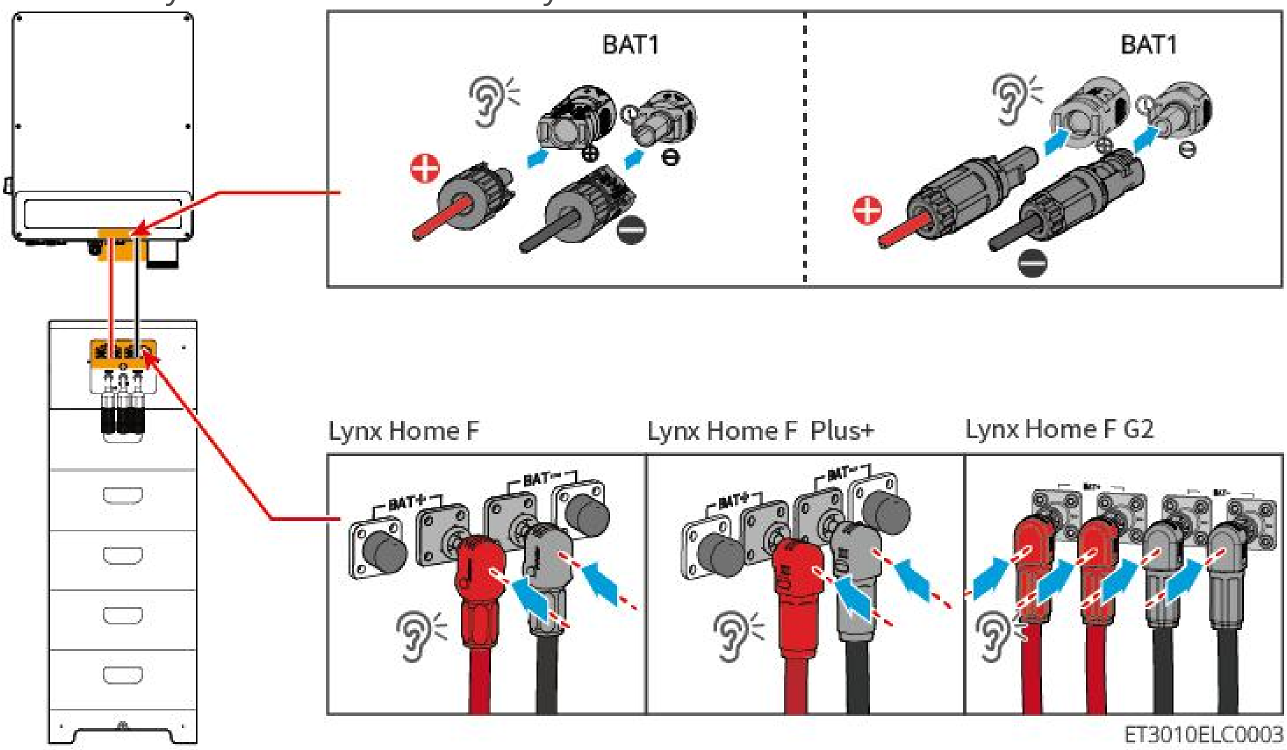
5.7.1 Connecting Inverter to Battery Power Cable

⚠WARNING

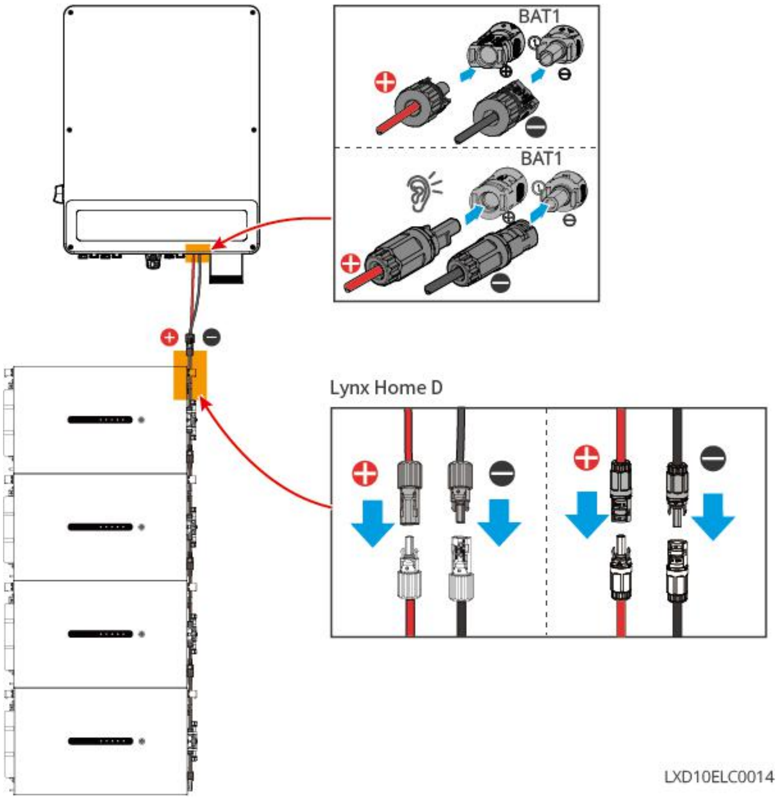
- Use a multimeter to measure the positive and negative poles of the DC cables to ensure the polarity is correct and there is no reverse connection; and that the voltage is within the allowable range.
- When connecting, ensure the battery cables perfectly match the "BAT+", "BAT-" and grounding ports on the battery terminals. Incorrect cable connection may cause device damage.
- Ensure the conductor is fully inserted into the terminal block hole and is not visible.
- Ensure the cables are firmly tightened, otherwise terminal overheating and device damage may occur during device operation.
- Do not connect the same battery to multiple inverters simultaneously, as this may damage the inverter.

Overview of Power Cable between Inverter and Battery

Inverter+ Lynx Home F Series Battery

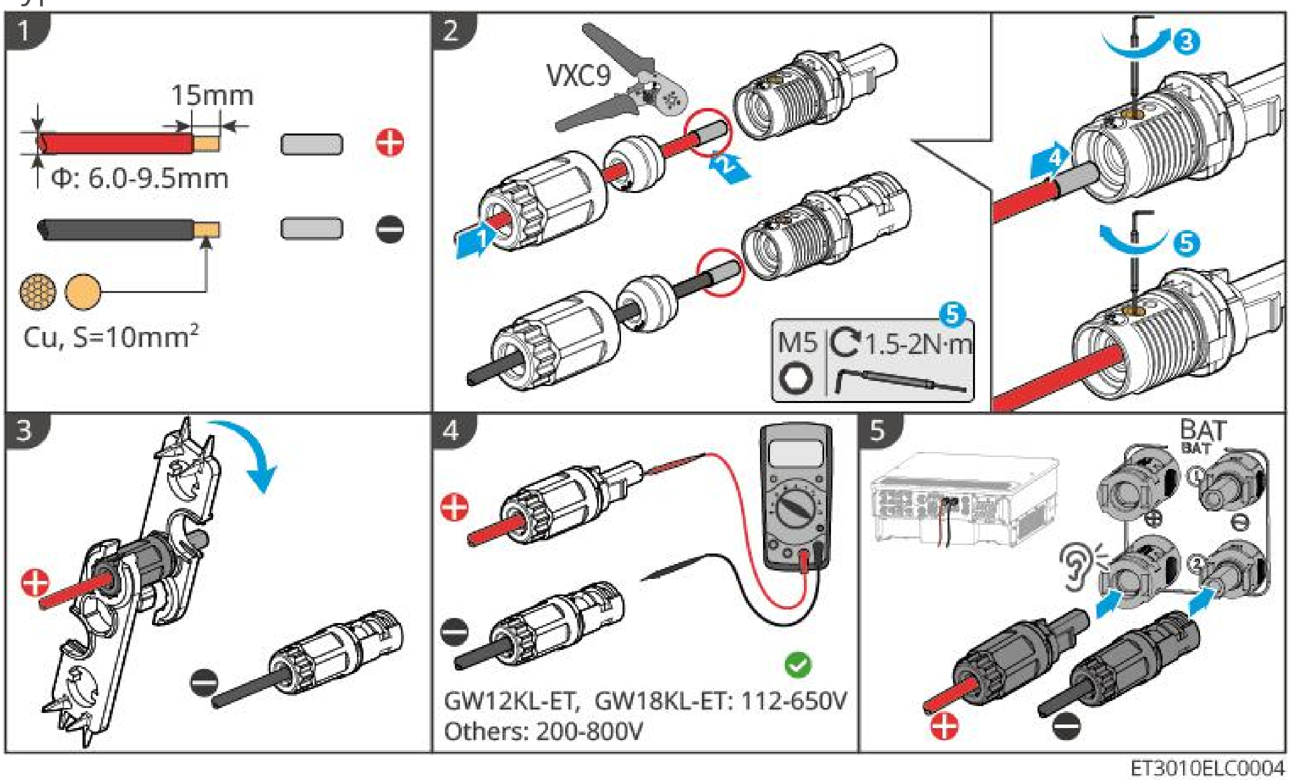


Inverter+ Lynx Home D Battery

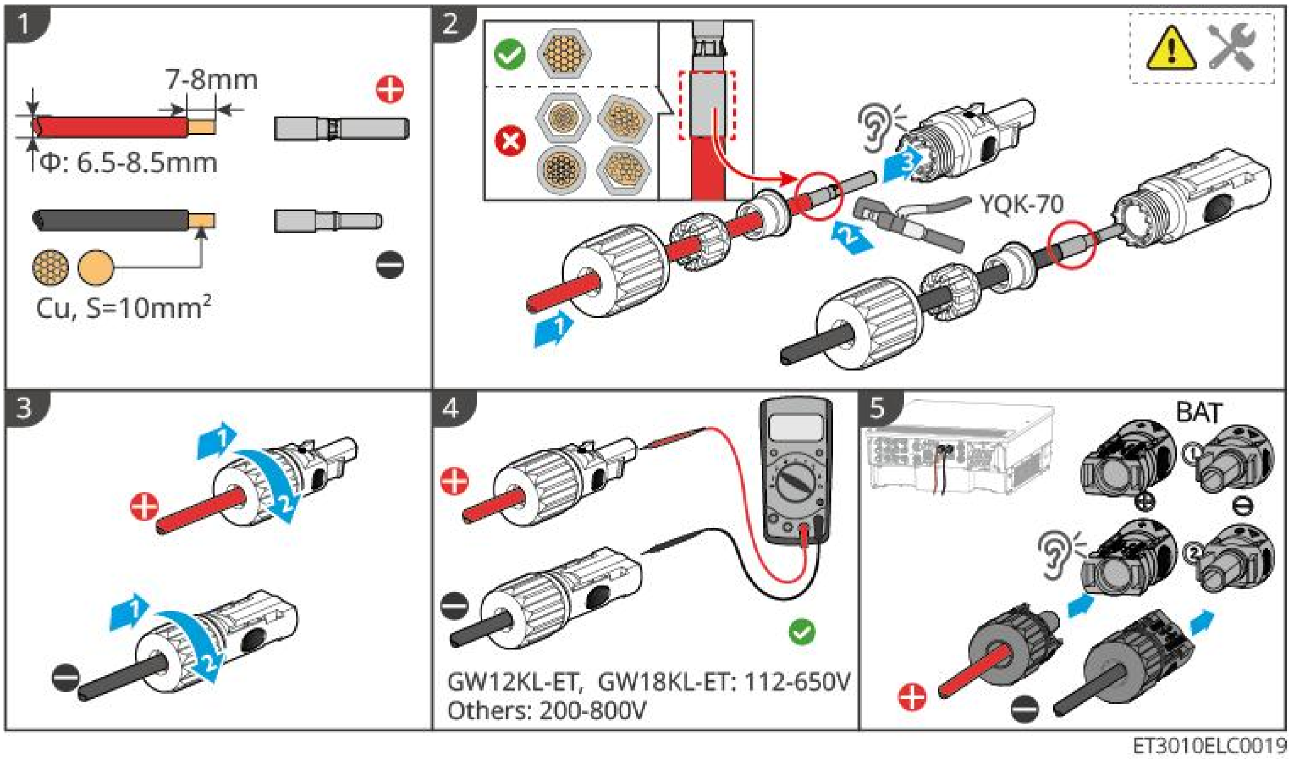


Inverter Side Cable Assembly

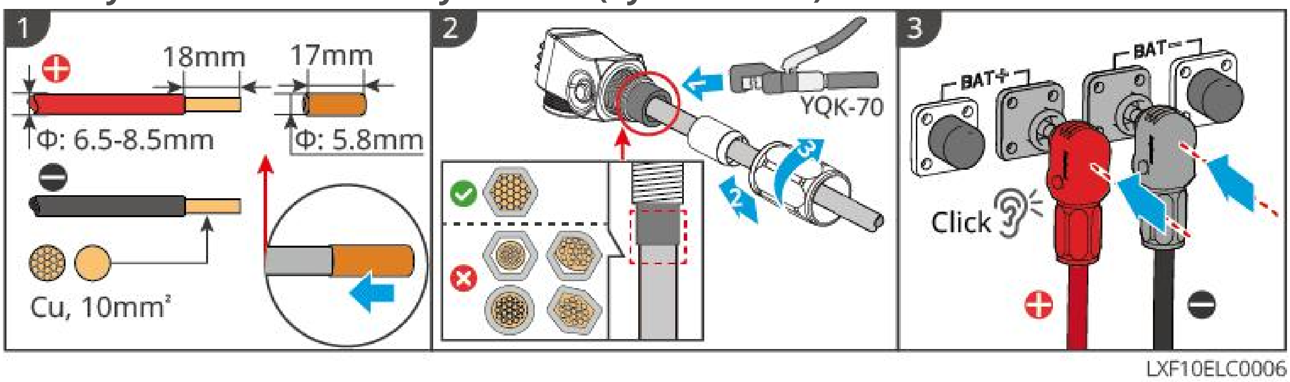
Type One:



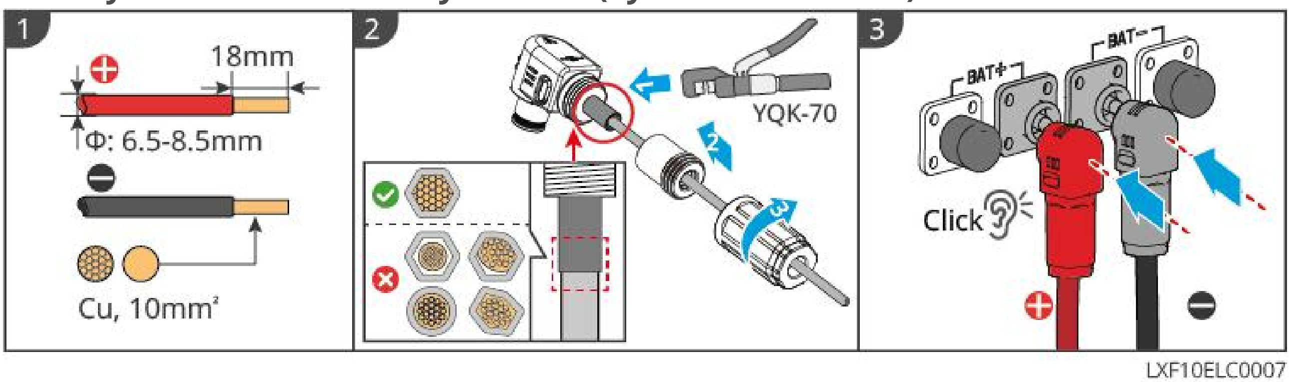
Type Two:



Battery Side Cable Assembly Method (Lynx Home F)



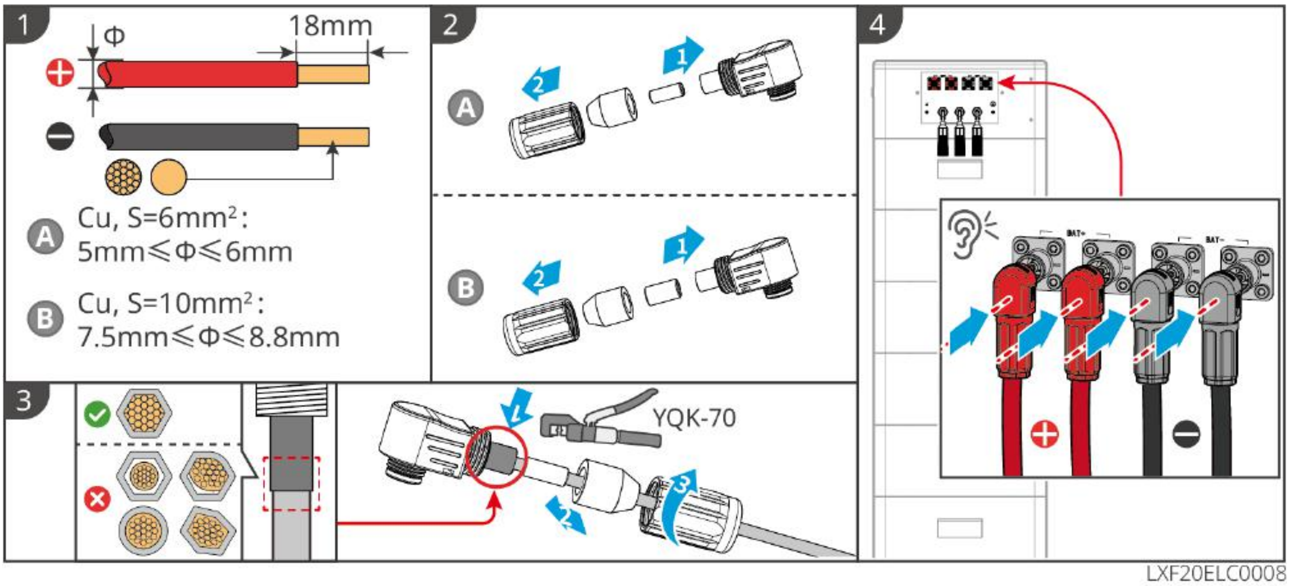
Battery Side Cable Assembly Method (Lynx Home F Plus+)



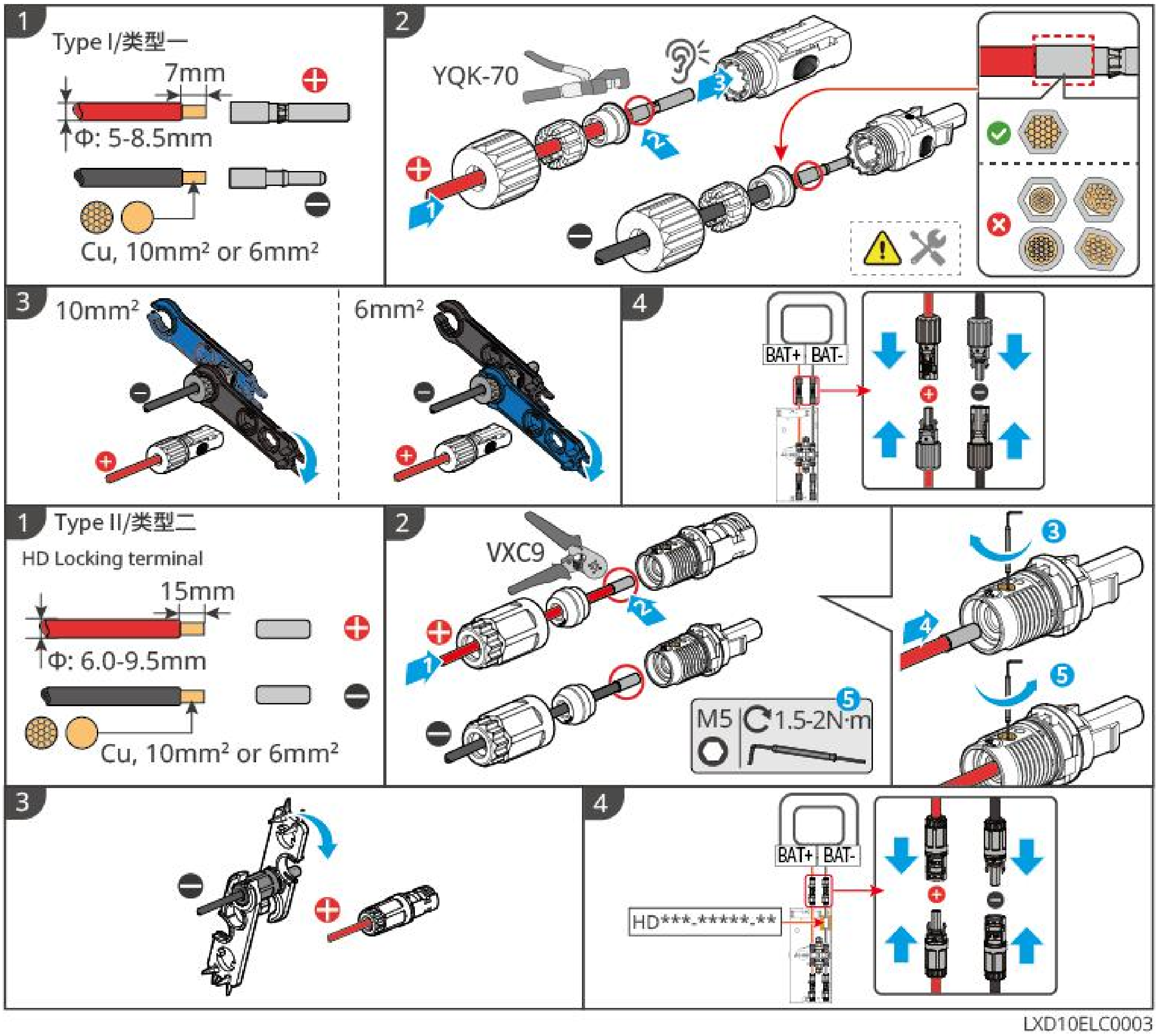
Battery Side Cable Assembly Method (Lynx Home F G2)

WARNING

- Please prepare your own DC input cable. Recommended specifications:
  - Type: Outdoor single-core copper wire
  - Conductor cross-sectional areaS: 6mm^2 or 10mm^2
- When the conductor cross-sectional areaS is 6mm^2, use the DC connector marked 6mm2 in the package, and the tensile force after crimping the cable must be >450N. When using a DC cable of this specification, only connection of one battery system is supported. Do not cluster battery systems, otherwise it may cause equipment damage.
- When using a cable with a cross-sectional areaS of 10mm^2, use the DC connector marked 10mm^2 in the package, and the tensile force after crimping the cable must be >500N.
- It is recommended to use a YQK-70 type hydraulic crimping tool for crimping the battery DC terminals: when the conductor cross-sectional area is 6mm^2, you should choose the crimping die marked “6”; when the conductor cross-sectional area is 10mm^2, you should choose the crimping die marked “10”.
- Select tools for crimping the battery DC terminals based on actual needs; the tools shown in the picture are for illustrative purposes only.
- If the DC port does not need to connect a cable, do not remove the DC port protective cover, otherwise it may affect the equipment's protection rating.



Battery Side Cable Assembly Method (Lynx Home D)

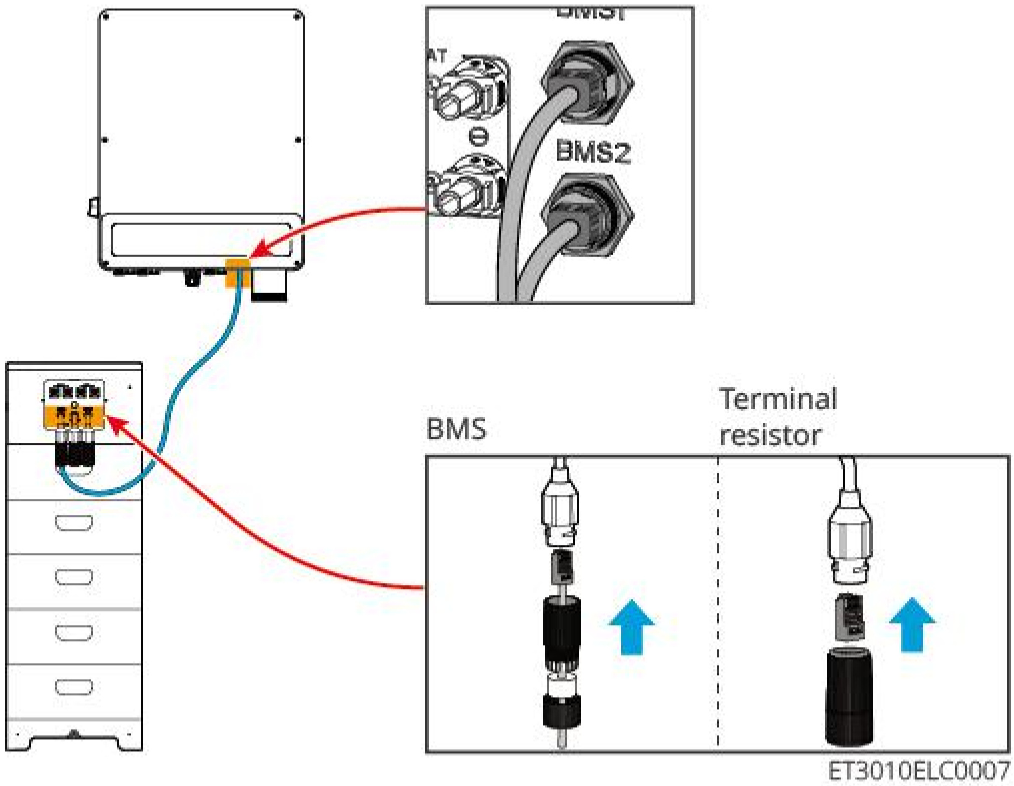


5.7.2 Connecting the Inverter to the Battery via Communication Cable

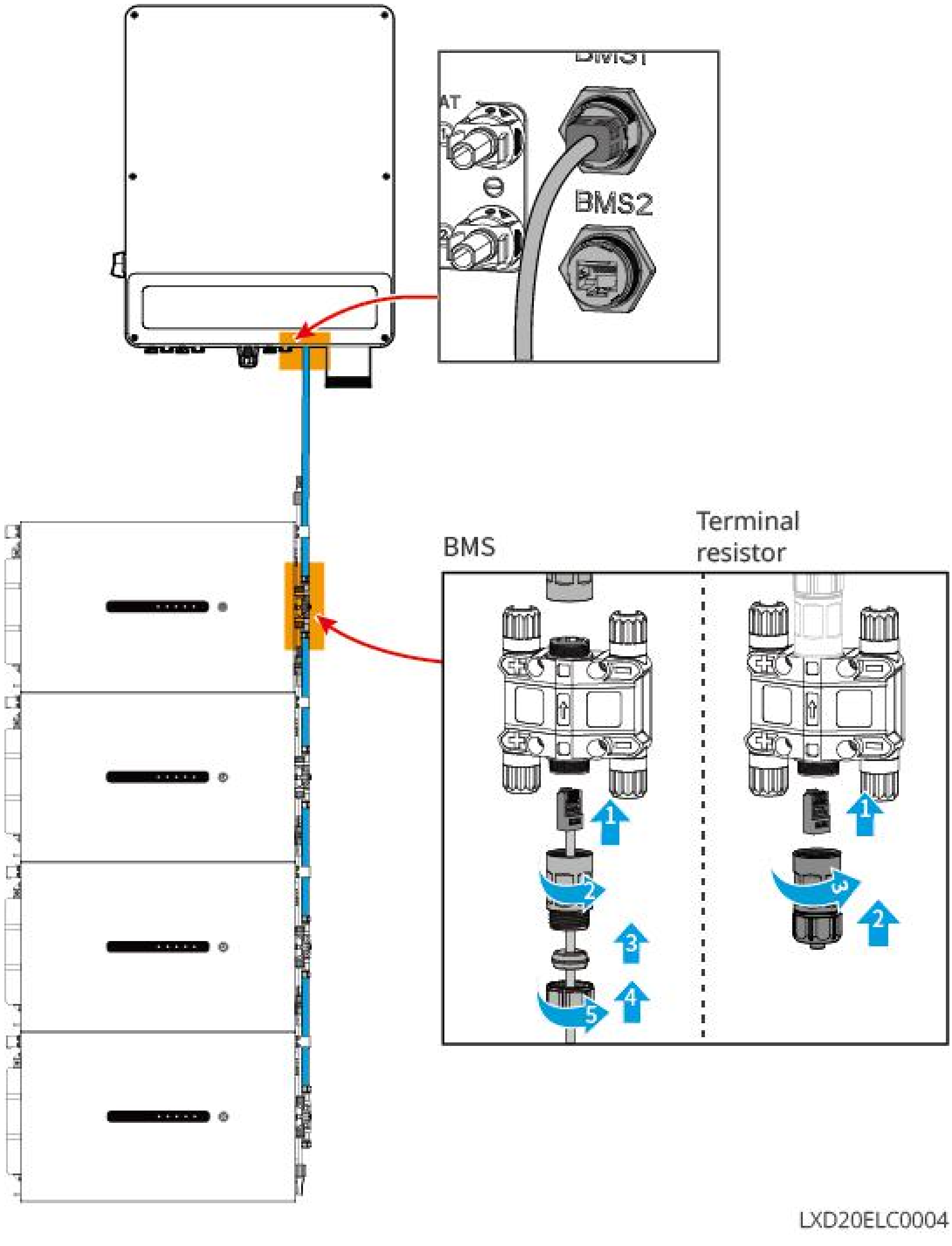
WARNING

A BMS communication cable for the battery is supplied with the inverter in the box, and its use is recommended. If the supplied cable does not meet your requirements, prepare your own shielded network cable and a shielded RJ45 connector. When wiring, only connect pins 4 and 5 of the RJ45 connector; otherwise, communication failure may occur.

Inverter+ Lynx Home F Battery Series

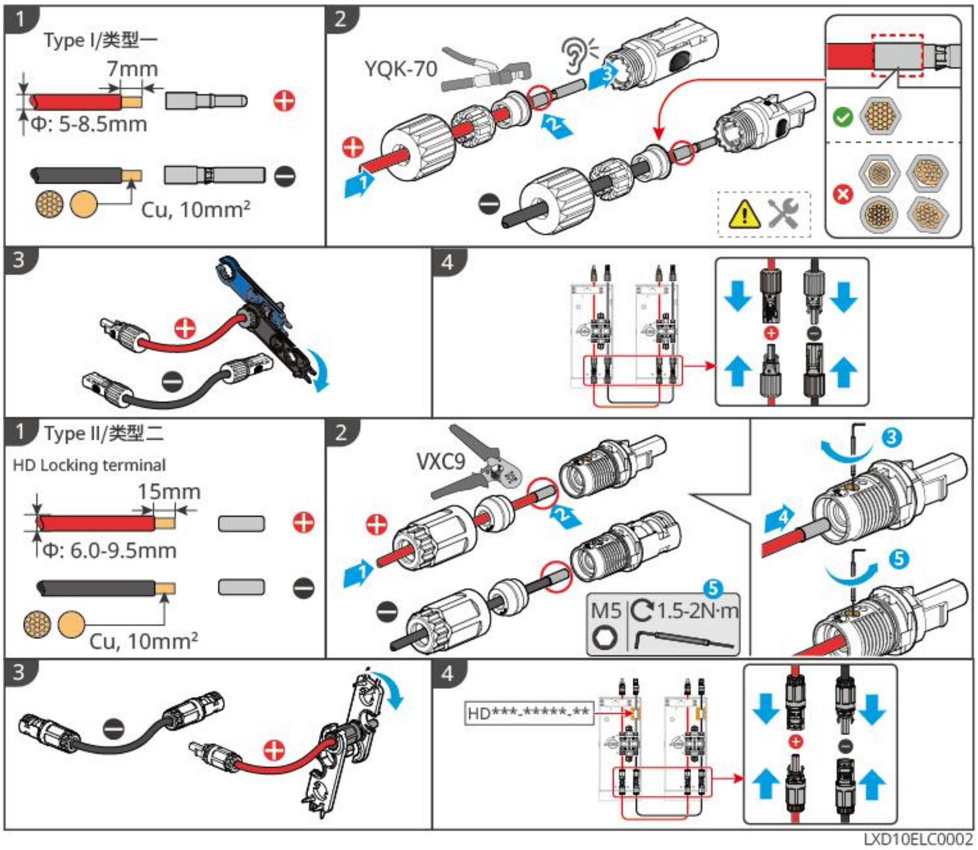


Inverter+ Lynx Home D Battery



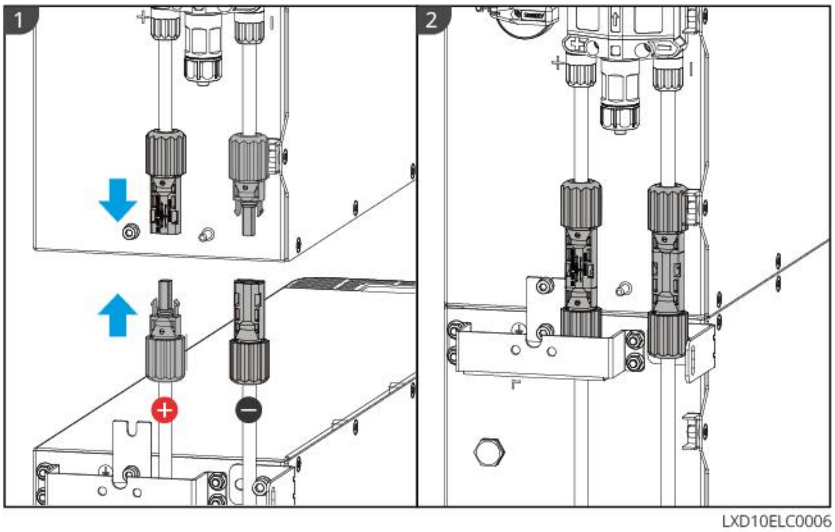
5.7.3 Connecting the Power Cable Between Lynx Home D Batteries

Crimping the Power Cable

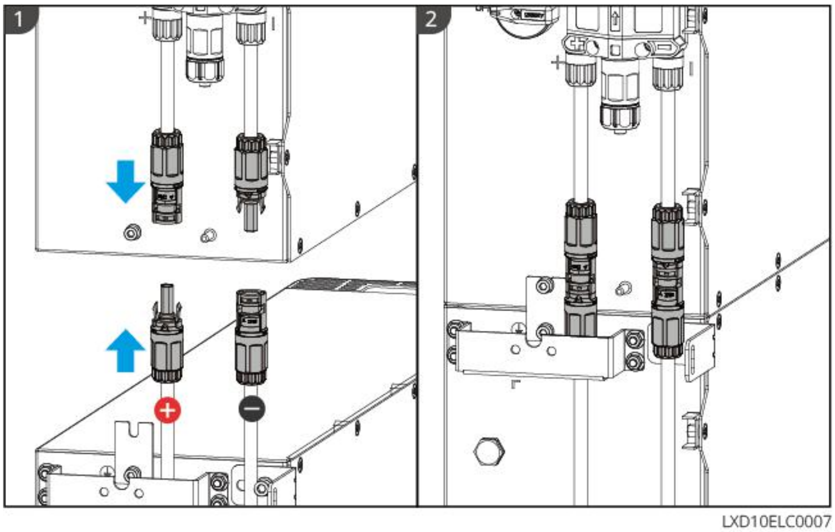


Connecting the Power Cable

Type one:

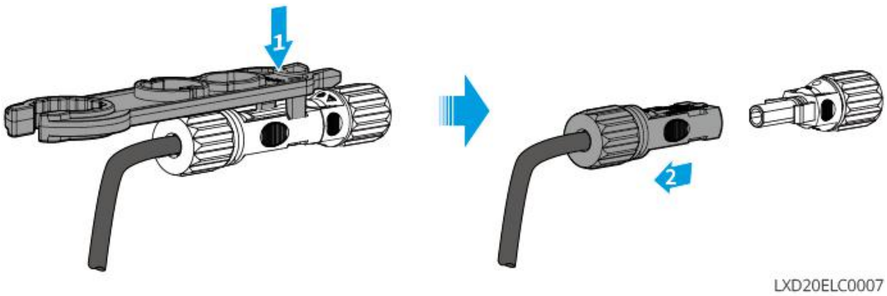


Type two:

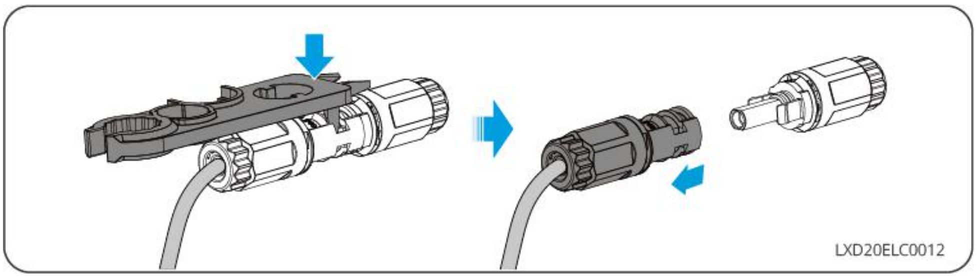


If you need to remove the power connector, follow the steps below and use the tools provided in the box for removal.

Type one:



Type two:

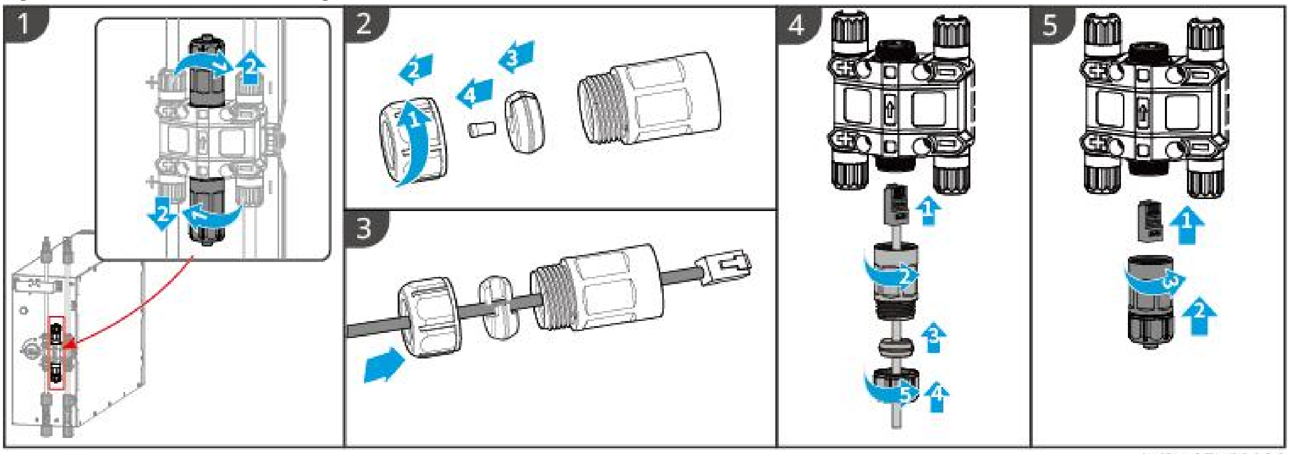


5.7.4 Connecting the Battery Communication Cable and Termination Resistor

Use the supplied communication cable between batteries and the termination resistor.

> ⚠️ **WARNING**
>
> - Do not omit the terminal resistor of the battery system, otherwise the system will not function correctly.
> - Do not remove the waterproof plugs during installation.

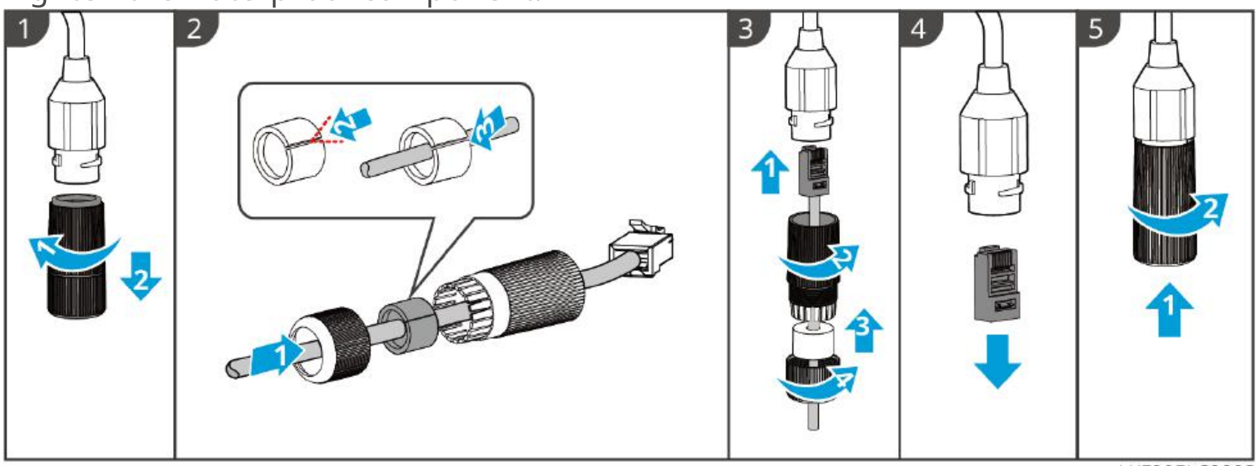
Lynx Home D battery



LXD10ELC0008

Lynx Home F G2

1. Remove the waterproof component.
2. Thread the communication cable through the waterproof component.
3. Connect the communication cable to the battery or install the termination resistor. Tighten the waterproof component.
4.



LXF20ELC0003

5.7.5 Battery Cover Installation

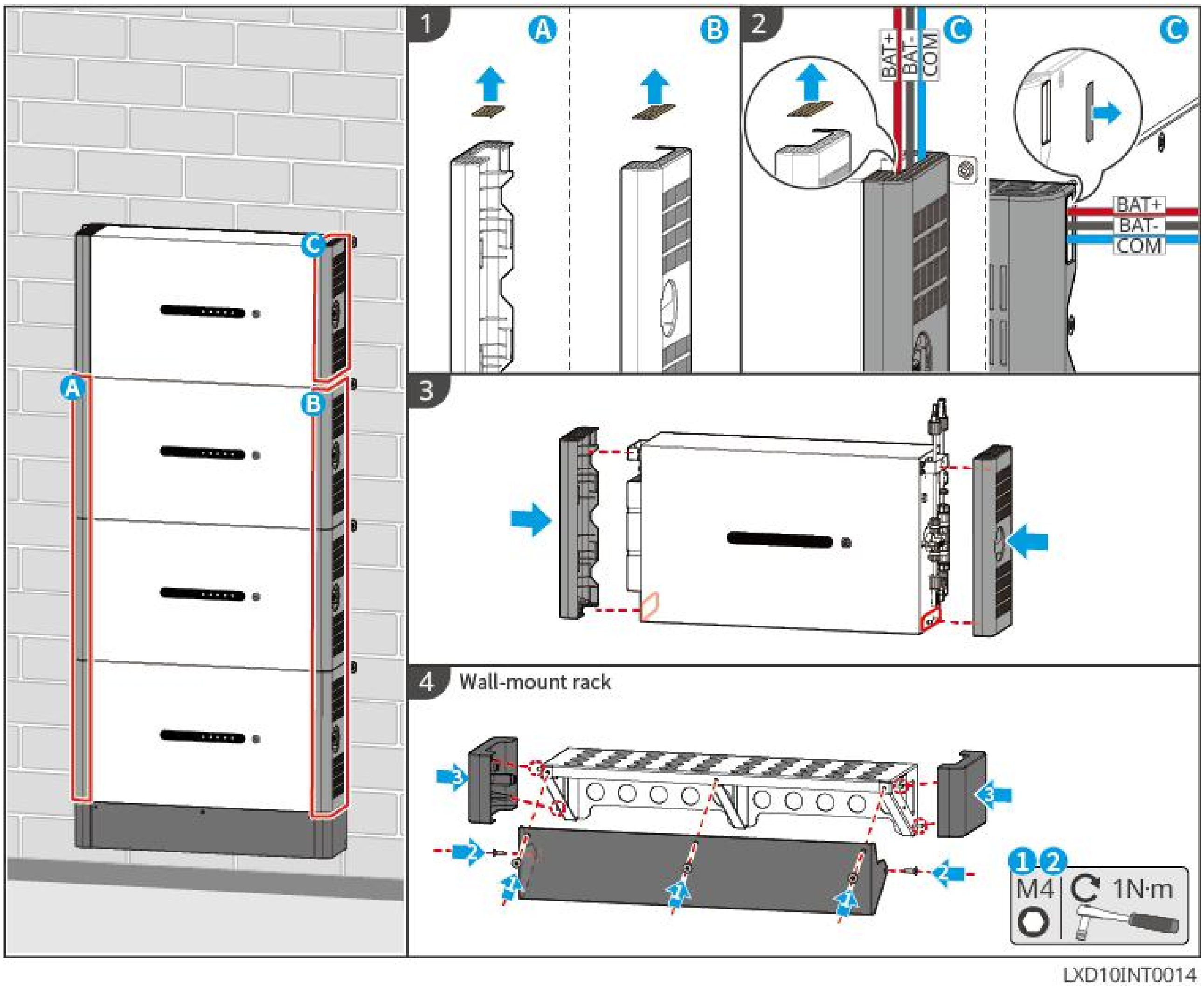
WARNING
Before installing the front cover of the mounting bracket, remove the protective film from its back side.

Lynx Home DBattery

Step 1: (Optional) For pedestal mounting scenario only. If no cables need to be routed underneath, install the cable outlet plugs on the pedestal.

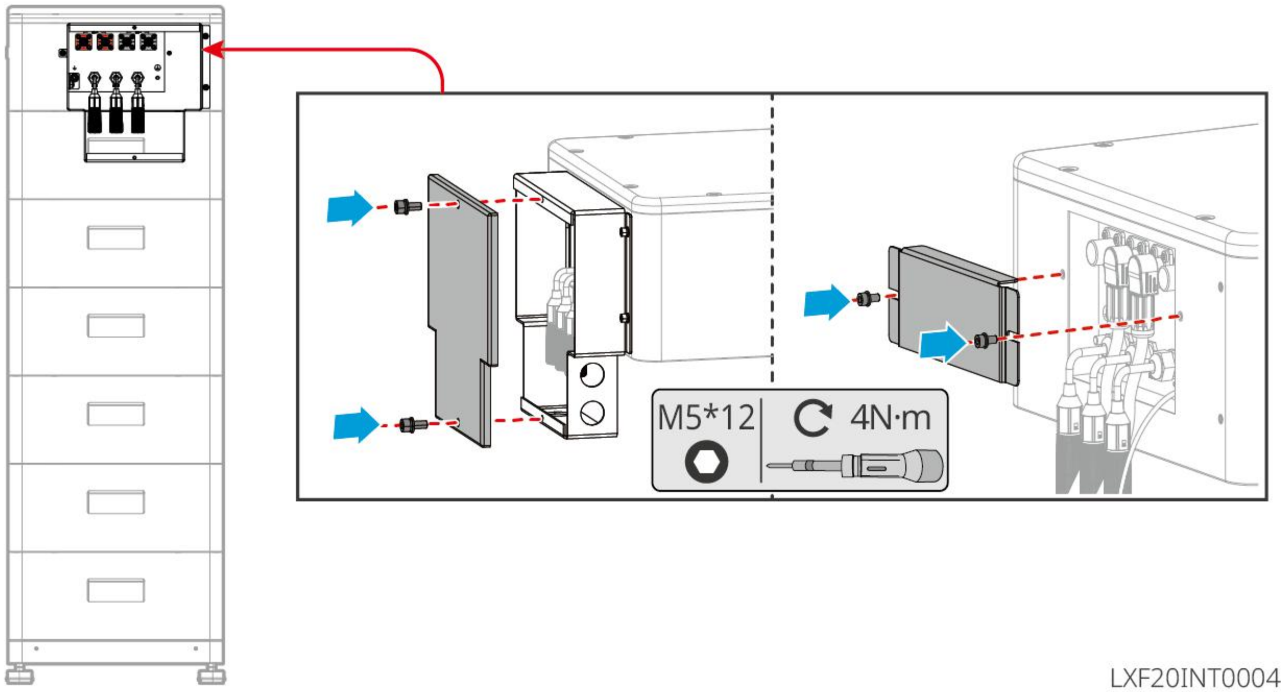
Step 2: Install the battery side cover.

Step 3: (Optional) For bracket mounting scenario only. Install the bracket cover.



Lynx Home F G2Battery

(Optional) This step only applies to some batteries with cover mounting holes or with an instrument cabinet. The cover can only be installed after wiring is completed.



LXF20INT0004

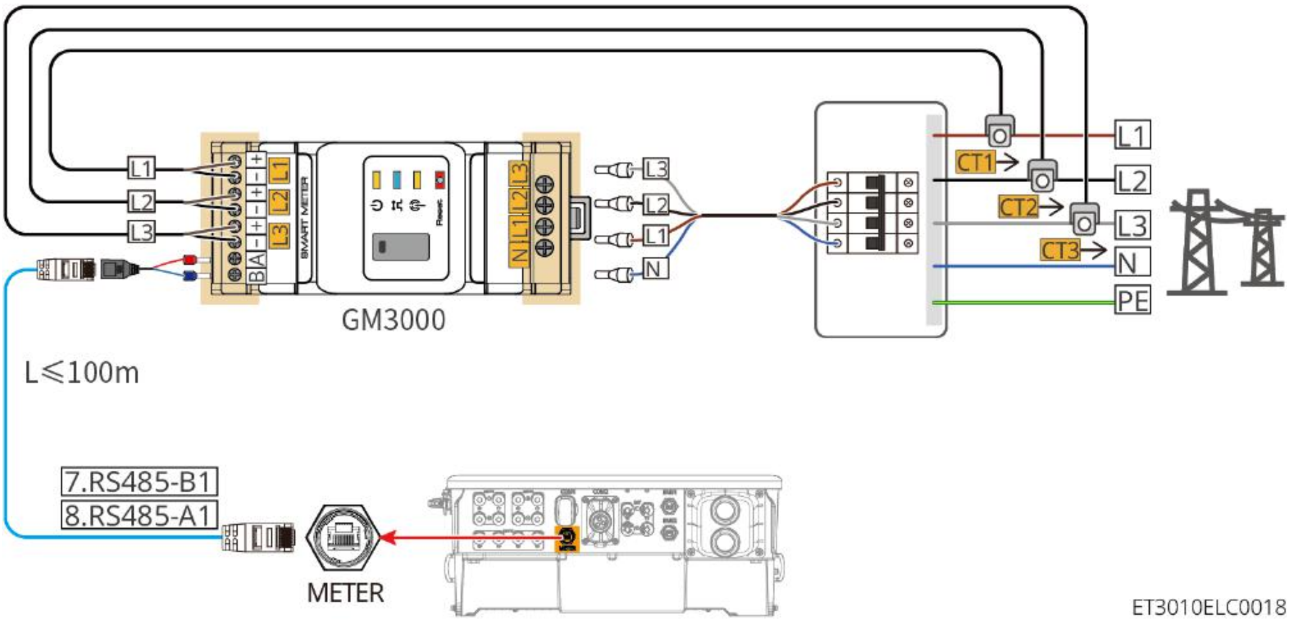
5.8 Electricity Meter Cable Connection

WARNING

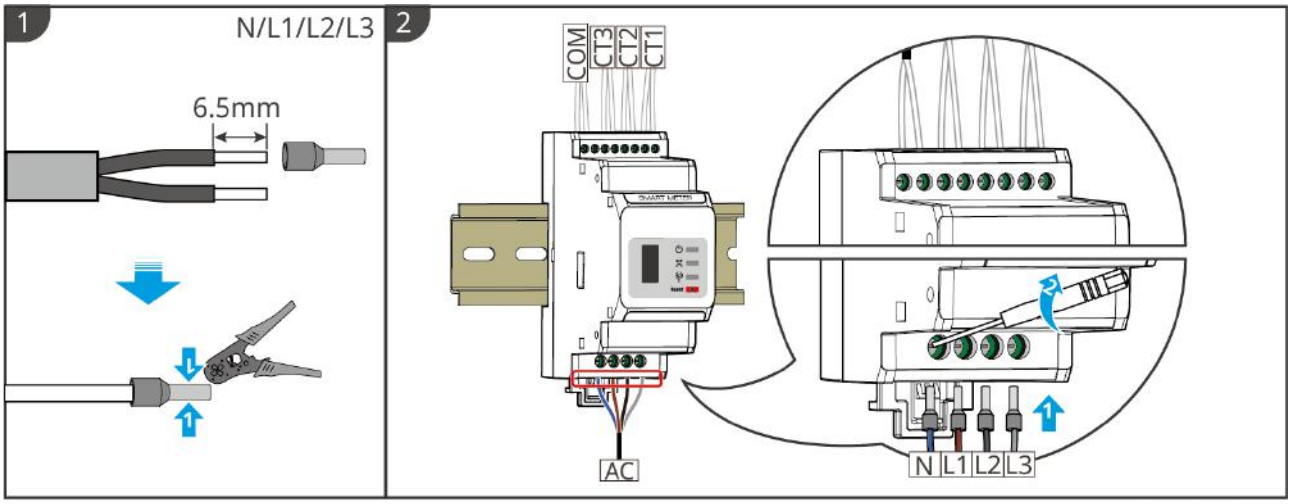
- The electricity meter supplied in the package is intended for only one inverter. Do not connect one electricity meter to multiple inverters. If you need to use multiple inverters, please contact the manufacturer and purchase the electricity meter separately.
- Ensure the CT (Current Transformer) connection direction and phase sequence are correct; otherwise, the monitored data may be inaccurate.
- Ensure all cables are connected correctly, securely, and without looseness. Incorrect wiring may cause poor contact or damage to the electricity meter.
- In areas with lightning risk, if the electricity meter cable length exceeds 10m and the cable is not laid in a grounded metal conduit, it is recommended to install an external lightning protection device.

GM3000 Electricity Meter Connection

WARNING
• The outer diameter of the AC power line must be smaller than the inner diameter of the CT to ensure that the AC power line can pass through the CT. • To ensure the current detection accuracy of the CT, it is recommended that the length of the CT cable does not exceed 30m. • Do not use a power cable as the CT cable, otherwise the electric meter may be damaged due to excessive current. • The CT provided by the equipment manufacturer may vary slightly in size and appearance depending on the model, but the installation and wiring method is the same.

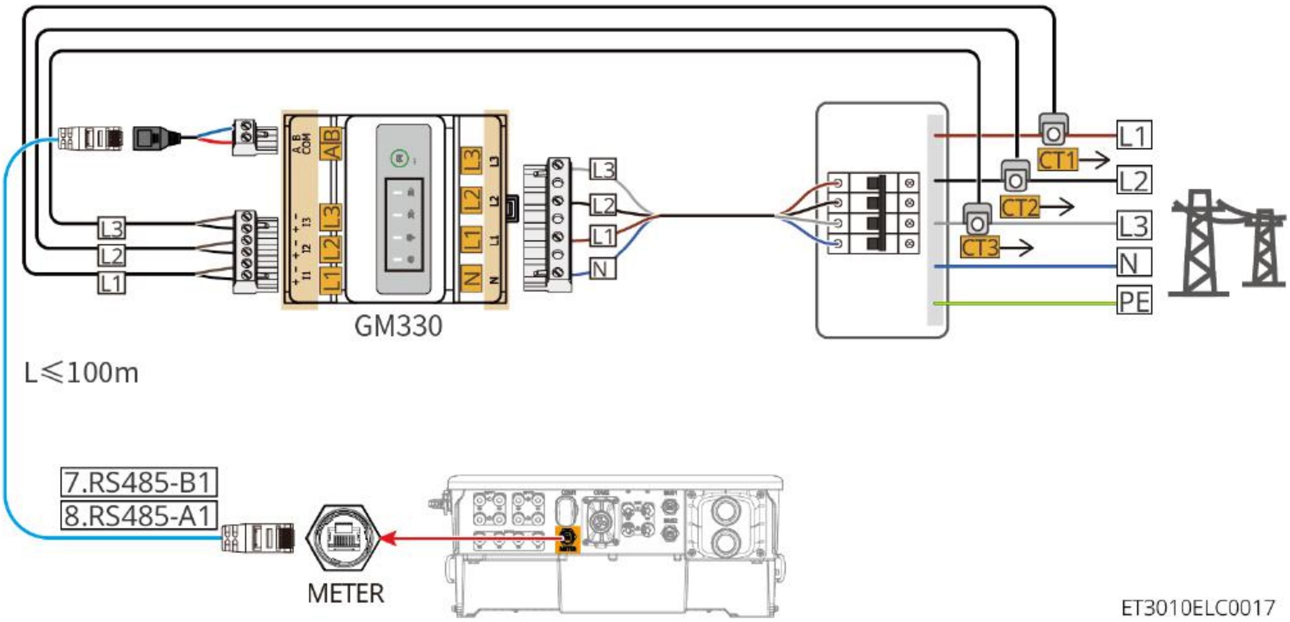


Wiring Procedure

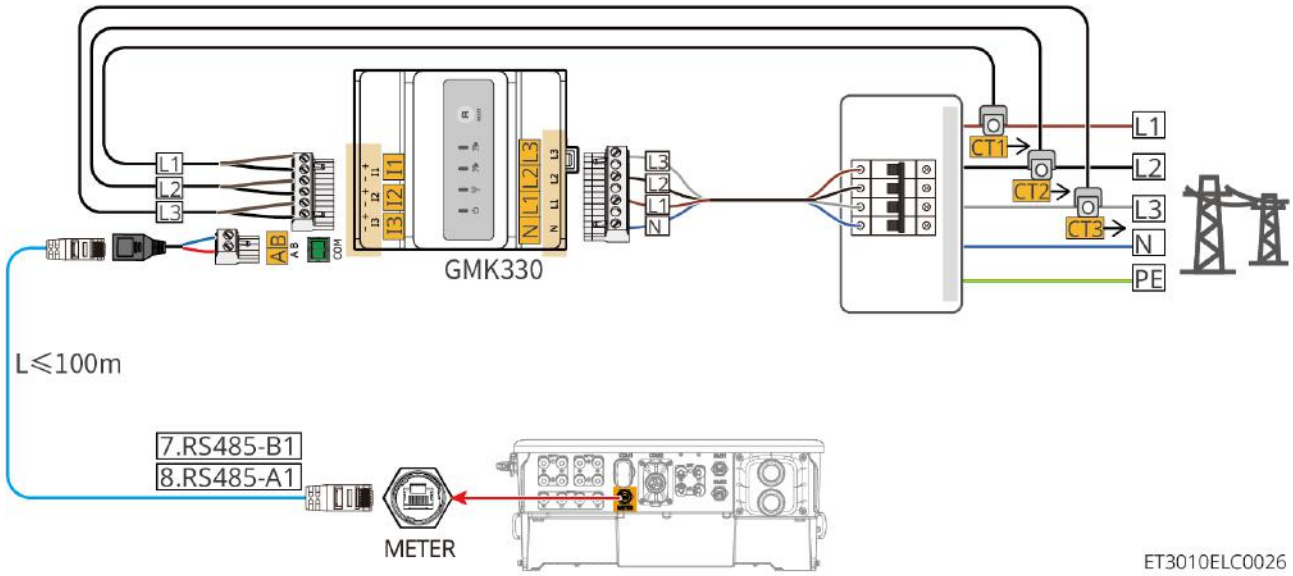


GMK10ELC0003

GM330 & GMK330 Electricity Meter Connection

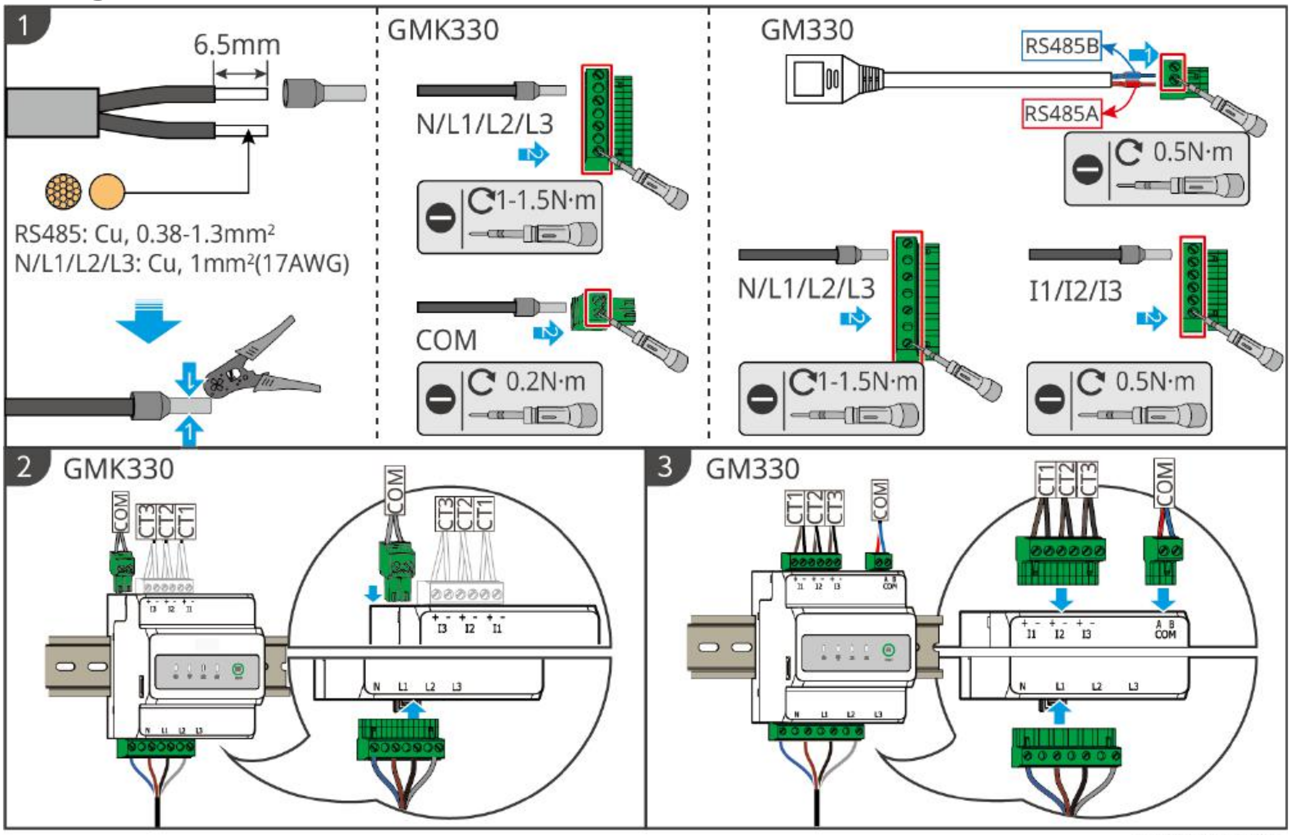


ET3010ELC0017



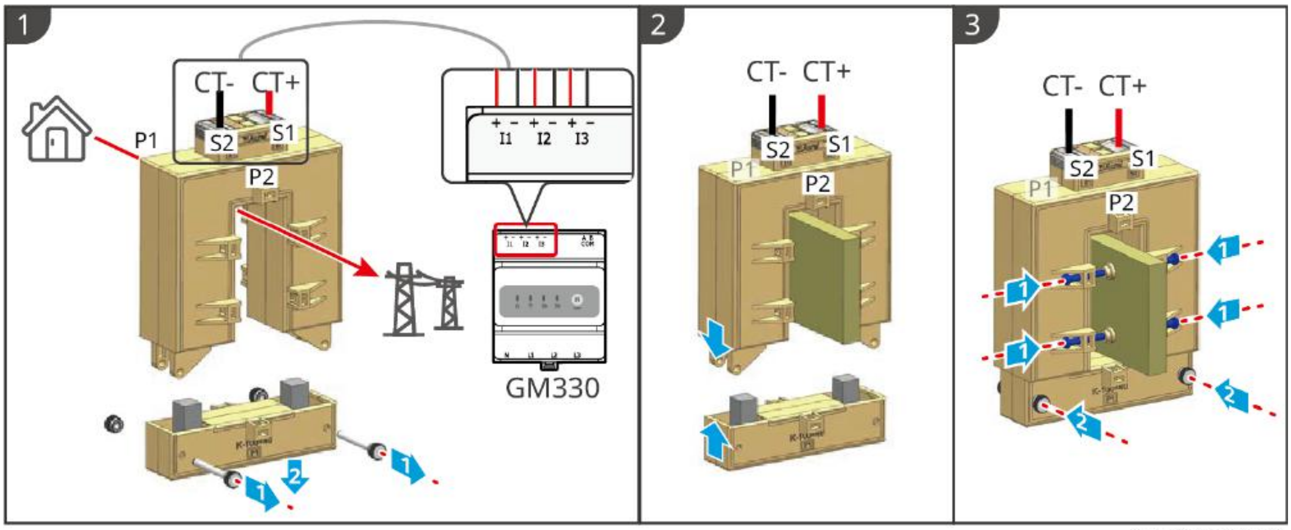
ET3010ELC0026

Wiring Procedure



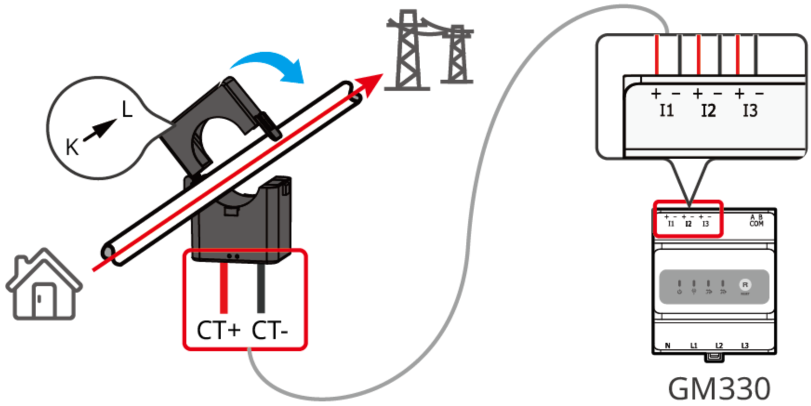
GMK10ELC0027

CT Installation (Type One)



GMK10ELC0006

CT Installation (Type Two)



GMK10ELC0007

5.9 Connecting the Inverter to the Communication Cable

WARNING

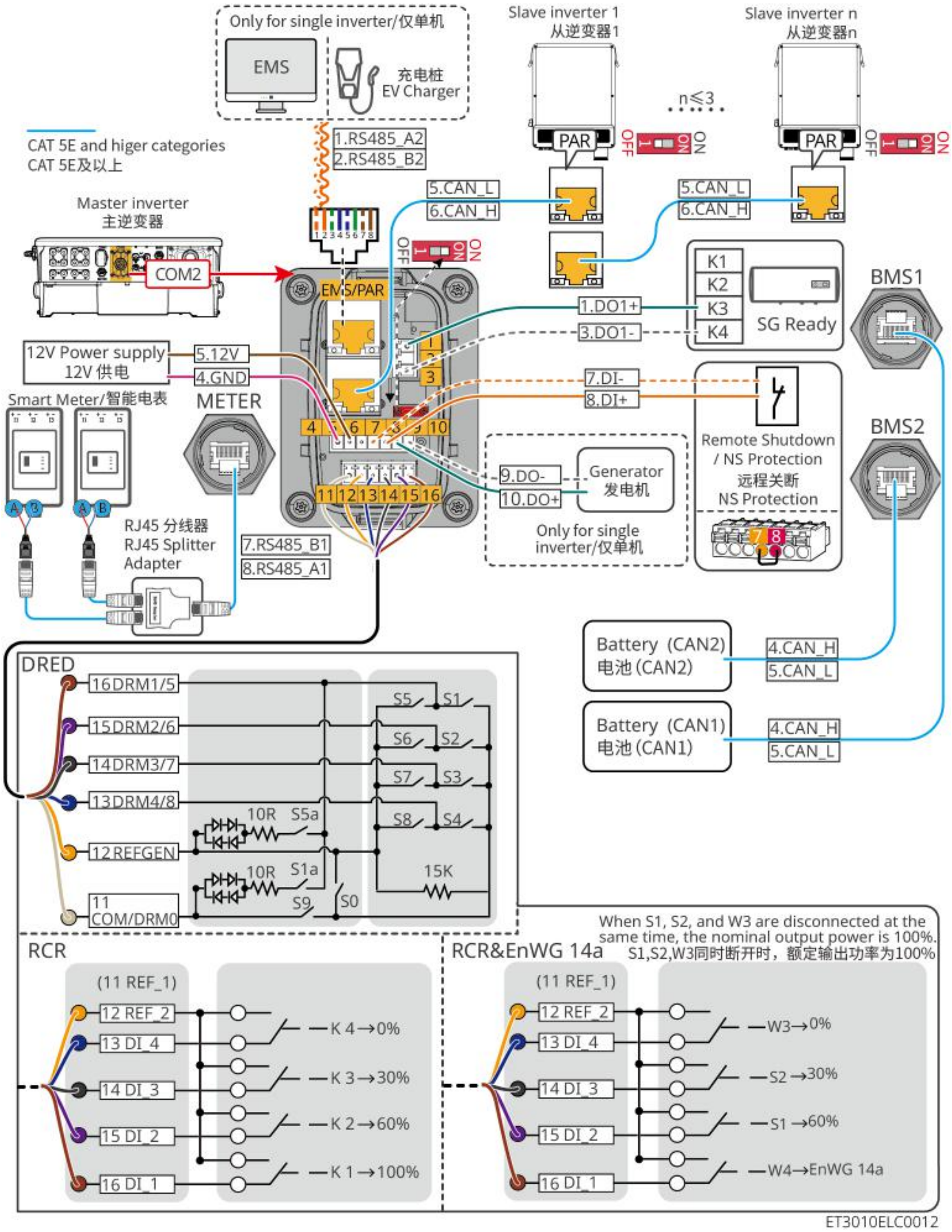
- To ensure proper operation of the energy meter and current transformers (CTs), adhere to the following:
  - Ensure CTs are connected to the correct phase conductors: CT1 to L1, CT2 to L2, CT3 to L3.
  - Connect CTs according to the directional arrow; otherwise, a CT reverse polarity error may occur.
  - During subsequent CT replacement or maintenance, use the "Meter/CT

WARNING

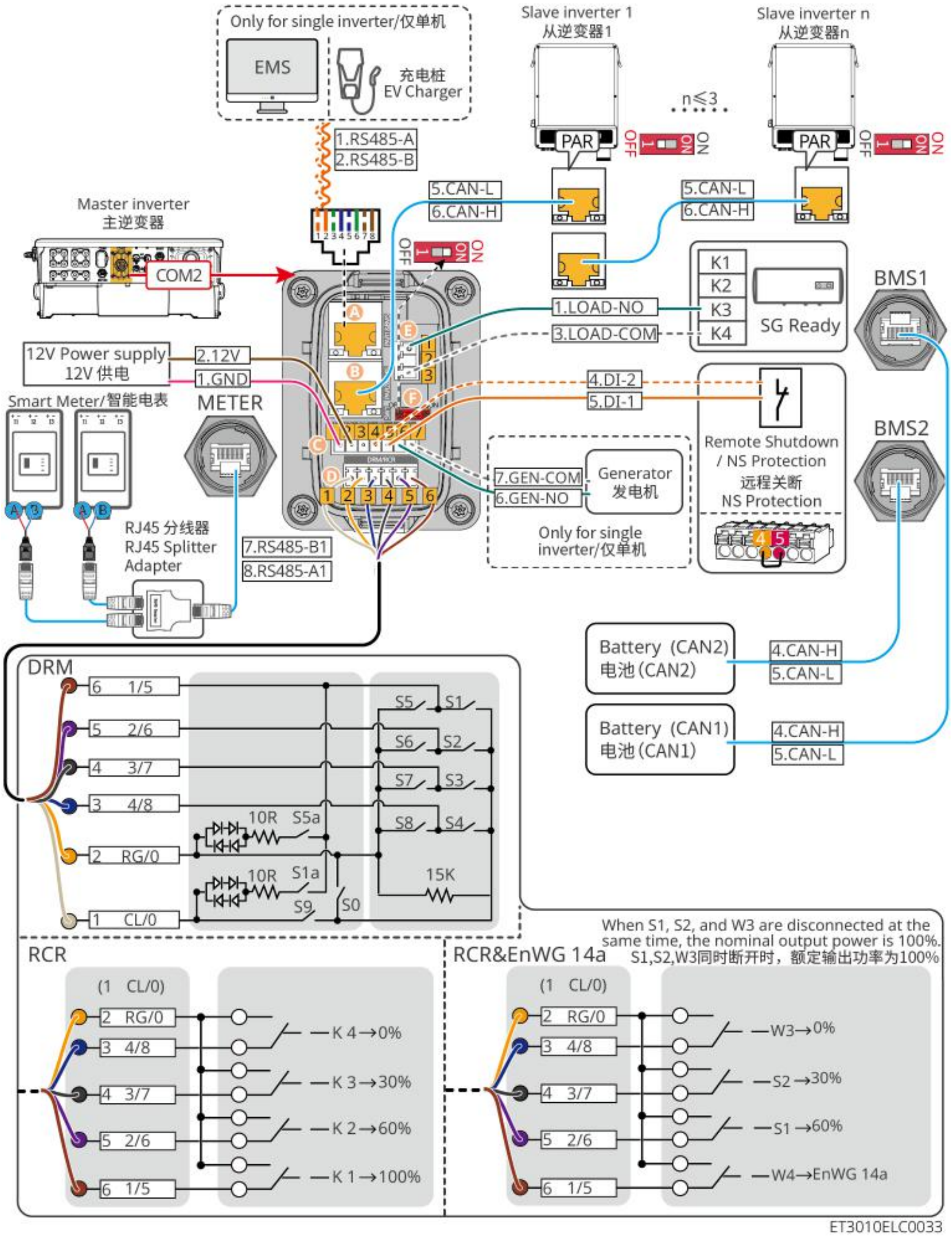
Auxiliary Detection" function in the SolarGo app to allow the inverter to re-adapt to the measured CT current direction.

- If you wish to use DRED, RCR, or remote shutdown functions, enable them in the SolarGo app after wiring is completed.
- If the inverter is not connected to a DRED device or a remote shutdown device, do not enable this function in the SolarGo app, otherwise the inverter will not be able to connect to the grid.
- In parallel systems, to implement DRED and RCR functions, it is sufficient to connect the DRED/RCR communication cables only to the master inverter.
- The communication port for the inverter's DO signal can be connected to a relay with these parameters: Max≤24Vdc, 1A.
- The inverter supports connection to a phone or web interface via 4G, Bluetooth, WiFi, or LAN for device parameter setting, viewing operational information, error reports, and real-time system status monitoring.
- In single systems, installation of the WiFi/LAN Kit-20 or 4G Kit-CN-G20 smart communication stick is supported.
- In parallel systems, the WiFi/LAN Kit-20 smart communication stick must be installed on both the master and slave inverters to establish a network.
- When using the 4G Kit-CN-G20:
  - If you need to establish a network for parallel systems, contact GoodWe to purchase the WiFi/LAN Kit-20.
  - For the Chinese region, a China Mobile operator Micro-SIM card is supplied by default. Ensure the device is installed in an area covered by this operator. If China Mobile coverage is not available, contact the operator for signal optimization.
  - It supports connection to third-party monitoring platforms using the MQTT communication protocol.
- The 4G Kit-CN-G20 is a single-antenna LTE device, suitable for applications with lower data transmission rate requirements.
- For use with two meters to monitor grid feed-in and load consumption, use an RJ45 splitter for connection. Source the RJ45 splitter yourself or purchase it from GoodWe.
- To maintain the inverter's IP rating, do not remove the covers from unused inverter communication ports.
- The inverter's communication functions are optional; select them according to actual usage.

Type one



Type two



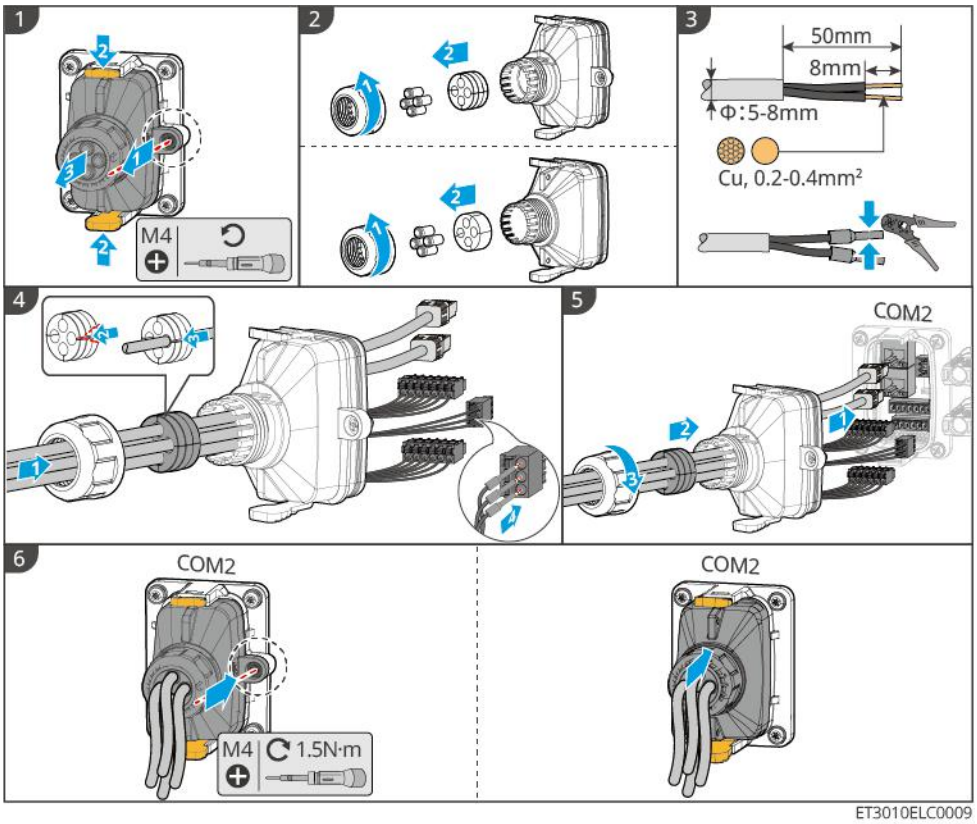
Only for single inverter/仅单机
EMS
充电桩
EV Charger
Slave inverter 1
从逆变器1
Slave inverter n
从逆变器n
n≤3
PAR
OFF
ON
1.RS485-A
2.RS485-B
5.CAN-L
6.CAN-H
Master inverter
主逆变器
COM2
1.LOAD-NO
3.LOAD-COM
K1
K2
K3
K4
SG Ready
BMS1
BMS2
12V Power supply
12V 供电
2.12V
1.GND
Smart Meter/智能电表
METER
4.DI-2
5.DI-1
Remote Shutdown
/ NS Protection
远程关断
NS Protection
7.GEN-COM
6.GEN-NO
Generator
发电机
Only for single
inverter/仅单机
RJ45 分线器
RJ45 Splitter
Adapter
7.RS485-B1
8.RS485-A1
Battery（CAN2）
电池（CAN2）
4.CAN-H
5.CAN-L
Battery（CAN1）
电池（CAN1）
DRM
6 1/5
5 2/6
4 3/7
3 4/8
2 RG/0
1 CL/0
10R
S5a
S1a
S9
S0
S5
S1
S6
S2
S7
S3
S8
S4
15K
When S1, S2, and W3 are disconnected at the same time, the nominal output power is 100%.
S1,S2,W3同时断开时，额定输出功率为100%
RCR
(1 CL/0)
K 4→0%
K 3→30%
K 2→60%
K 1→100%
RCR&EnWG 14a
W3→0%
S2→30%
S1→60%
W4→EnWG 14a
ET3010ELC0033

Label	Function	Description
DO / LOAD	Load Control (SG Ready)	• Supports connecting a dry contact signal for functions such as load control. The DO contact capacity is 24V DC@1A, NO/COM normally open contact. • Supports connecting an SG Ready heat pump and controlling it via a dry contact signal. • Supported operating modes: ◦ Operating mode 2 (signal: 0:0): Economy mode. In this mode, the heat pump operates efficiently. ◦ Operating mode 3 (signal: 0:1): Recommended activation. In this mode, while maintaining current operation, the heat pump increases the hot water reserve for heat accumulation.
GND 12V RSD	12V Power Supply	The inverter provides a 12V power supply port, supporting connection of devices up to 5W maximum. This port has short-circuit protection.
DI	Remote Shutdown/NS Protection	Provides a control signal port for Remote Shutdown of the device or for implementing NS protection function. Remote Shutdown function: • The device can be stopped in case of an unexpected event. • The Remote Shutdown device must be of the normally closed switch type. • When using the RCR or DRED function in the inverter, ensure the Remote Shutdown device is connected or the Remote Shutdown port is short-circuited.

Label	Function	Description
DO2 / GEN	Generator Start/Stop Control Port	• Connection of generator control signal is only supported in a single inverter scenario. • The generator control mode is off by default, the dry contact signal is open; after turning on the control mode, the dry contact signal becomes short-circuited.
DRM&RCR /	Connection Port for RCR, DRED or EnWG 14a Functions	• RCR (Ripple Control Receiver): Provides an RCR control signal port to meet grid control requirements in regions such as Germany. • DRED (Demand Response Enabling Device): Provides a DRED control signal port to meet DERD certification requirements in regions such as Australia. • EnWG (Energy Industry Act) 14a: All controllable loads must accept grid emergency dimming. Grid operators can temporarily reduce the maximum grid power intake of controllable loads to 4.2kW.
EMS/PAR/PAR-1/PAR1&EMS	• EMS or Charging Station Communication Port • Parallel Operation Communication Port	• CAN and BUS Ports: Communication ports for parallel operation. In a network of parallel inverters, CAN communication is used to connect to other inverters; the BUS is used to control the grid-connection/disconnection status of individual inverters in parallel operation. • RS485 Port: Used to connect third-party EMS devices and charging stations. Connection of third-party EMS devices and charging stations is not supported in a parallel operation scenario.

Label	Function	Description
EMS/PAR / PAR1&EMS / PAR2&EMS	Parallel Operation Communication Port	• CAN and BUS Ports: Communication ports for parallel operation. In a network of parallel inverters, CAN communication is used to connect to other inverters; the BUS is used to control the grid-connection/disconnection status of individual inverters in parallel operation.
S1	Parallel Operation Switch	Inverter parallel operation switch. It is factory-set to the ON position by default. When multiple inverters are connected in parallel, the switches of the first and last inverters should be set to the ON position, and the other inverters should be set to the 1 position.
METER	Smart Meter Connection Port	Connects a smart meter to implement functions such as power control, load monitoring, etc.
BMS1 / BMS2	Battery Communication Connection Port	Connects a battery using CAN communication. GW12KL-ET, GW15K-ET, GW20K-ET: 1 GW18KL-ET, GW25K-ET, GW29.9K-ET, GW30K-ET: 2

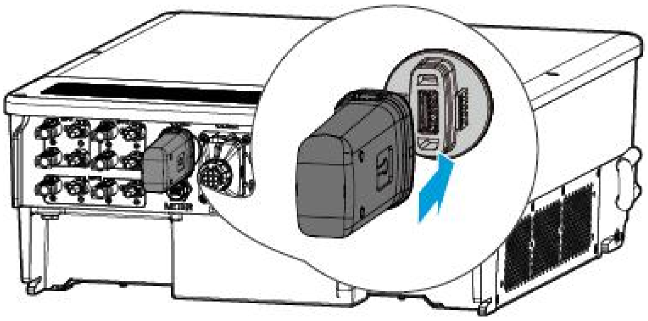
Communication Cable Connection Method



5.10 Connecting the Smart Communication Stick

WARNING

- The inverter supports connection to a mobile phone or web interface via Bluetooth, 4G, WiFi, or LAN Smart Dongle for setting relevant device parameters, viewing operational information and error reports of the device, and obtaining system status information in a timely manner.
- If the system contains multiple inverters and they are networked, the master inverter must have the Ezlink3000 Smart Dongle installed for network connection.
- For a single-inverter system, the WiFi-Kit, WiFi/LAN Kit-20, or 4G Smart Dongle can be used.
- When choosing WiFi communication to connect the inverter to a router, the WiFi-Kit, WiFi/LAN Kit-20, or Ezlink3000 Smart Dongle can be installed.
- When choosing LAN communication to connect the inverter to a router, the WiFi/LAN Kit-20 or Ezlink3000 Smart Dongle can be installed.
- When choosing 4G communication to upload system operational 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, it is necessary to first use the Smart Dongle supplied with the inverter to configure system parameters, and after configuration is complete, replace it with the LS4G Kit-CN or 4G Kit-CN for data transmission. When using 4G Kit-CN-G20 or 4G Kit-CN-G21, use the Bluetooth signal emitted by the module for local device configuration.
- The 4G module is a single-antenna LTE, device suitable for applications with lower data transmission rate requirements.
- The built-in SIM card in the 4G module is from a mobile network operator; please verify that the device is installed in an area with 4G signal coverage from this operator.
- After installing the 4G Kit-CN-G20 or 4G Kit-CN-G21 communication dongle, contact the service center to pair the inverter with the dongle. If you need to install the dongle on another inverter after pairing, first contact the service center to unpair it.
- To ensure 4G signal communication quality, do not install the device indoors or in areas with metallic signal interference.



ET3010ELC0034

6 System Test Operation

6.1 Pre-startup System Check

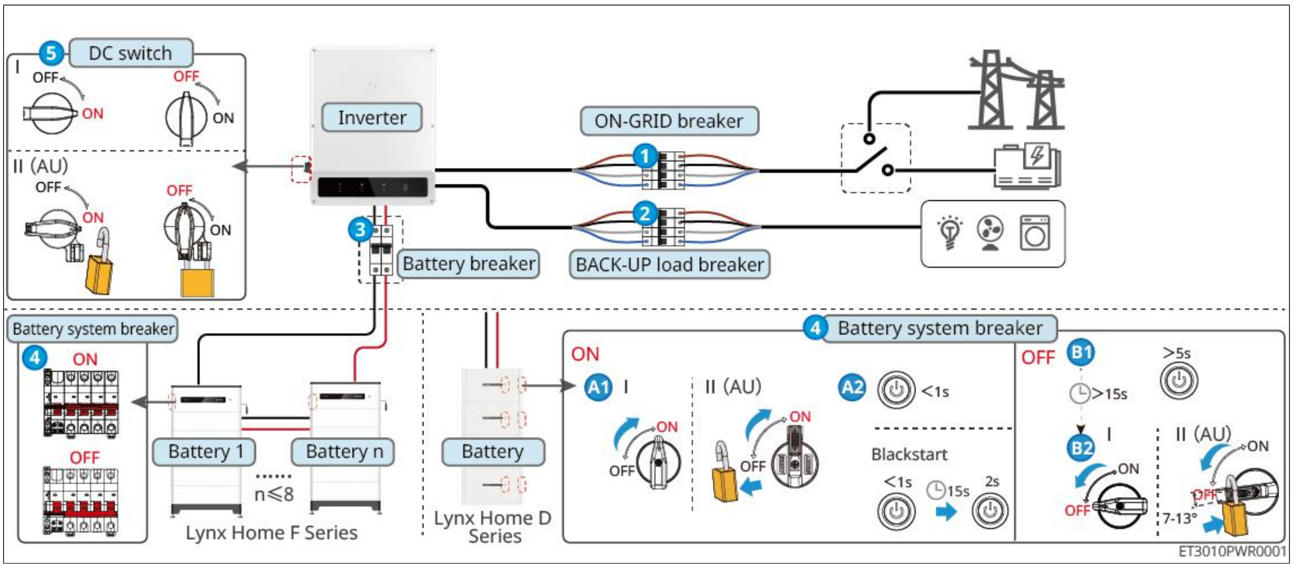
Sequence	Inspection Item
1	The device is securely installed, its location allows for easy operation and maintenance, the space permits ventilation and cooling, and the environment is clean and tidy.
2	PE cable, DC wiring, AC wiring, communication wiring, and termination resistors are correctly and securely connected.
3	Cable bundling meets wiring requirements, the layout is rational, and there is no damage.
4	Seal unused cable passages and ports reliably with the supplied end caps.
5	Ensure that the used cable passages are sealed.
6	The voltage and frequency at the inverter's grid connection point meet the grid connection requirements.

6.2 System Startup

⚠WARNING

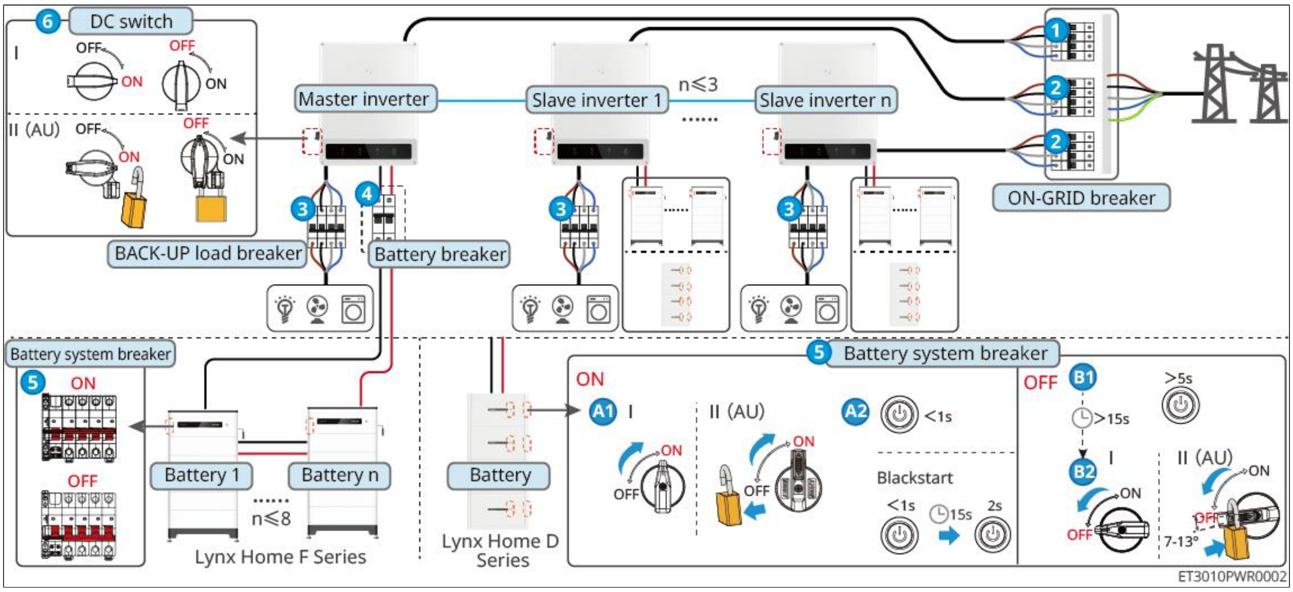
- Battery black start function: When the photovoltaic system is not producing energy from sunlight and the grid is down, if the inverter cannot operate normally, the battery black start function can be used. This forces the battery to discharge to start the inverter, which can then switch to island mode and power the load from the battery.
- After starting the battery system, ensure that communication between the inverter and the battery system is normal within 15 minutes. If communication between the inverter and the battery system is not possible, the battery system circuit breaker will automatically trip, disconnecting the battery system from the power supply.

Standalone Operation Scenario



1. Close the ON-GRID inverter circuit breaker.
2. Close the BACK-UP circuit breaker.
3. (According to local regulations) close the switch between the inverter and the battery.
4. Start the battery system.
    - Lynx Home F Series: Close the battery system switch.
    - Lynx Home D: Turn the battery power switch to the ON position and briefly press the battery's multifunction button. All batteries must be started individually.
5. Close the inverter DC switch.

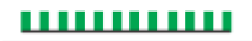
Parallel Operation Scenario



1. Close the main ON-GRID inverter circuit breaker.
2. Close the secondary ON-GRID inverter circuit breaker.
3. Close the BACK-UP circuit breaker.
4. (According to local regulations) close the switch between the inverter and the battery.
5. Start the battery system.
    - Lynx Home F Series: Close the battery system switch. If it is a parallel cluster system, close the battery system switches sequentially.
    - Lynx Home D: Turn the battery power switch to the ON position and briefly press the battery's multifunction button. All batteries must be started individually.
6. Close the inverter DC switch.

6.3 Description of Indicators

6.3.1 Inverter Indicators

Indicator	Status	Explanation
		The inverter is powered on and in standby mode
		The inverter is starting up, in self-check mode
		The inverter is operating normally in grid-connected mode or island mode
		BACK-UP output overload

Indicator	Status	Explanation
		System fault
		The inverter is disconnected from power
		Grid fault, the inverter's BACK-UP port is supplying power normally
		Grid is normal, the inverter's BACK-UP port is supplying power normally
		BACK-UP port is not powered
		The inverter's monitoring module is restarting
		The inverter and communication terminal are not connected
		Communication fault between the communication terminal and the cloud server
		Inverter monitoring is normal
		The inverter's monitoring module is not started

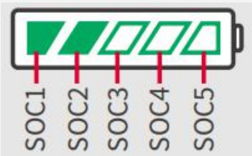
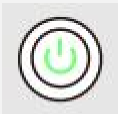
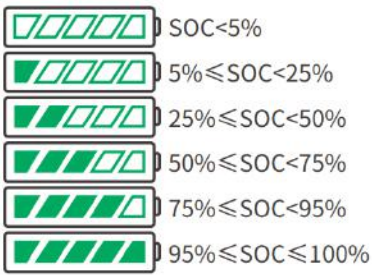
Indicator	Explanation
	75% < SOC ≤ 100%
	50% < SOC ≤ 75%
	25% < SOC ≤ 50%
	0% < SOC ≤ 25%
	Battery is not connected
During battery discharge, the indicator blinks: for example, when the battery SOC is between 25% and 50%, the 50% indicator (the highest level within this range) blinks.	

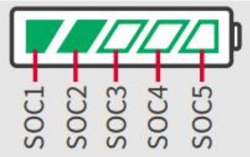
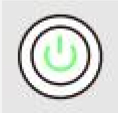
6.3.2 Battery Indicators

6.3.2.1 Lynx Home Series F

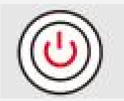
LXU10CON0001

Normal state

SOC Indicator 	Button Indicator 	Battery System Status
The SOC indicator shows the state of charge of the battery system 	Green flashes 1 time/s	The battery system is in standby mode
	Green flashes 2 times/s	The battery system is idle
	Green light is steady	The battery system is in charging state Note: When the battery SOC reaches the set final charging SOC value, battery charging stops.

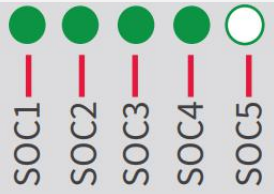
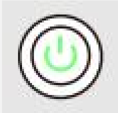
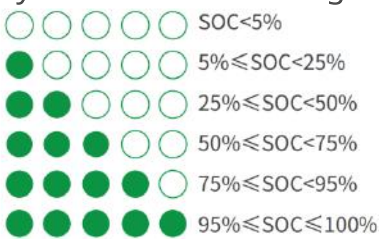
SOC Indicator  	Button Indicator 	Battery System Status
The highest SOC indicator flashes 1 time/s • When 5%≤SOC<25%, SOC1 flashes • When 25%≤SOC<50%, SOC2 flashes • When 50%≤SOC<75%, SOC3 flashes • When 75%≤SOC<95%, SOC4 flashes • When 95%≤SOC≤100%, SOC5 flashes	Green light is steady	The battery system is in discharging state Note: When the system does not need to power the load or when the battery SOC drops below the set discharge depth, the battery stops discharging.

Faulty state

Button Indicator 	Battery System Status	Explanation
Red flashes 1 time/s	Battery system reports a warning	After the warning, the battery system performs self-diagnosis. Wait for it to complete, after which the system will enter normal working state or fault state.
Red stays on continuously	Battery system has a fault	Determine the fault type according to the SOC indicator display method and follow the methods recommended in the troubleshooting chapter.

6.3.2.2 Lynx Home D

Normal state

<table>
<tr><th>SOC Indicator

</th><th>Button Indicator
</th><th>Battery System Status</th></tr>
<tr><td rowspan="2">SOC indicator shows the battery system's state of charge

</td><td>Green flashing</td><td>Battery system is in standby mode</td></tr>
<tr><td>Green solid light</td><td>Battery system is in charging mode
Note: When the battery SOC reaches the set charge termination limit, battery charging stops.</td></tr>
<tr><td>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</td><td>Green solid light</td><td>Battery system is in discharging mode
Note: When the system does not need to power the load or when
the battery SOC drops below the set discharge depth, the battery stops discharging.</td></tr>
</table>

Fault state

Button Indicator	Battery System Status	Explanation
Red Blinking	Battery System Warning	After a battery system warning is triggered, the system will perform self-diagnostics. Wait for the self-diagnostics to complete, after which the battery system will enter normal operation status or fault status. You can view warning information via the SolarGo App.
Solid Red Light	Battery System Fault	The fault type can be determined by the SOC indicator display, or you can view fault information via the SolarGo App and follow the recommended methods in the Troubleshooting chapter.

6.3.3 Smart Meter Indicators

GM330&GMK330

Type	Status	Description
Power Indicator	Constantly lit	The meter is powered, no RS485 communication
	Flashing	The meter is powered, RS485 communication is OK
	Off	The meter is not powered
Communication Indicator	Off	Reserved
	Flashing	Press the Reset button for ≥5s, the power indicator and the purchase/sale indicator flash: meter reset
Electricity Purchase/Sale Indicator	Constantly lit	Purchasing electricity from the grid
	Flashing	Selling electricity to the grid
	Off	No electricity purchase or sale
	Reserved	

GM3000

Type	Status	Explanation
Power Indicator	Constantly lit	The electricity meter is powered on
	Off	The electricity meter has no power
Purchase/Sale Indicator	Constantly lit	Purchasing electricity from the grid
	Blinking	Selling electricity to the grid
Communication Indicator	Blinking	Communication is normal
	Series of 5 blinks	• Press the Reset button for <3s: Reset the electricity meter • Press the Reset button for 5s: Restore the electricity meter's parameters to factory settings • Press the Reset button for >10s: Restore the electricity meter's parameters to factory settings and clear energy consumption data
	Off	No communication with the electricity meter

6.3.4 Smart Communication Belt Indicators

- **Wi-Fi Kit**

Indicator	Color	Status	Explanation
Power Indicator	Green	Lit	Wi-Fi Kit is powered on.
		Not lit	Wi-Fi Kit is not powered on or is restarting.
	Blue	Lit	WiFi AP hotspot is connected.

Communication Indicator		Not lit	• Wi-Fi Kit is experiencing communication issues. • Wi-Fi Kit is restarting.

- **WiFi/LAN Kit-20**

WARNING
• After turning on Bluetooth by double-clicking the Reload button, the communication indicator will enter a single flash state. Connect to the SolarGo app within 5 minutes, otherwise Bluetooth will automatically turn off. • The single flash state of the communication indicator only occurs after turning on Bluetooth by double-clicking the Reload button.

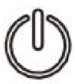
Indicator	Status	Explanation
Power Indicator		Constantly lit: The Smart Communication Stick is powered on.
		Off: The Smart Communication Stick is not powered on.
Communication Indicator		Constantly lit: WiFi or LAN mode communication is normal.
		Single blink: The Smart Communication Stick's Bluetooth signal is activated, waiting to connect to the SolarGo app.
		Double blink: The Smart Communication Stick has not connected to the router.
		Quadruple blink: The Smart Communication Stick's communication with the router is normal, but it has not connected to the server.
		Sextuple blink: The Smart Communication Stick is currently identifying connected devices.

Indicator	Status	Explanation
		Off: The Smart Communication Stick is undergoing a software reset or is not powered on.

Indicator	Color	Status	Explanation
LAN Port Communication Indicator 	Green	Steady on	The 100 Mbps wired network connection is normal.
		Off	• The cable is not connected. • The 100 Mbps wired network connection is faulty. • The 10 Mbps wired network connection is normal.
	Yellow	Steady on	The 10/100 Mbps wired network connection is normal, but no data is being transmitted.
		Blinking	Data transmission is in progress.
		Off	The cable is not connected.

Button	Description
Reload	Holding for 0.5–3 seconds resets the smart communication rod.
	Holding for 6–20 seconds restores the smart communication rod to factory settings.
	Double-clicking quickly turns on the Bluetooth signal (only for 5 minutes).

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

Indicator	Status	Explanation
		Steady on: The smart communication pole is powered on.
		Off: The smart communication pole is not powered on.
		Steady on: The smart communication pole is connected to the server, communication is normal.

Indicator	Status	Explanation
		Double blinking: The smart communication pole is not connected to the communication base station.
		Quadruple blinking: The smart communication pole is connected to the communication base station, but is not connected to the server.
		Sextuple blinking: Communication between the smart communication pole and the inverter is interrupted.
		Off: The smart communication pole is undergoing a software reset or is not powered on.

Button	Description
RELOAD	Holding for 0.5 to 3 seconds restarts the smart communication bar.
	Holding for 6 to 20 seconds resets the smart communication bar to factory settings.

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

Indicator	Color	Status	Explanation
Power indicator	Green	Lit	Module is properly installed and powered
		Off	Module is not properly installed or not powered
Communi cation indicator	Blue	Slow blinking (0.2 on, 1.8s off)	• Inverter communication indicator blinks 2 times: Grid synchronization in progress, grid search state • Inverter communication indicator blinks 4 times: Cloud connection failed due to insufficient data transmission

		Slow blinking (1.8s on, 0.2s off)	• Inverter communication indicator blinks 2 times: Grid synchronization successful • Inverter communication indicator stays lit: Cloud connection successful • Inverter communication indicator blinks 4 times: Cloud connection failed due to insufficient data transmission
		Fast blinking (0.125s on, 0.125s off)	Inverter is communicating with the cloud via the module
		0.2s on, 8s off	No SIM card installed or SIM card has poor contact

- **Ezlink3000**

Control/Silk screen	Color	Status	Explanation
Power Indicator 	Blue		Blinking: Communication module is operating normally.
			Off: Communication module is powered off.
Communication Indicator 	Green		Steady on: Communication module is connected to the server.
			Double blinking: Communication module is not connected to the router.
			Quadruple blinking: Communication module is connected to the router, but not connected to the server.
RELOAD	-	-	A short press for 1-3 seconds restarts the communication module. A long press for 6-10 seconds restores factory settings. A quick double-click activates the Bluetooth signal (only for 5 minutes).

7 Quick System Setup

7.1 Download the application

7.1.1 Download SolarGo App

Phone Requirements:

- Operating System Requirements: Android 5.0 and above, iOS 13.0 and above.
- The phone must support a web browser and internet connection.
- The phone must support WLAN/Bluetooth functionality.

WARNING
After completing the installation of the SolarGo application, if a newer version becomes available, the application may automatically notify you.

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

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

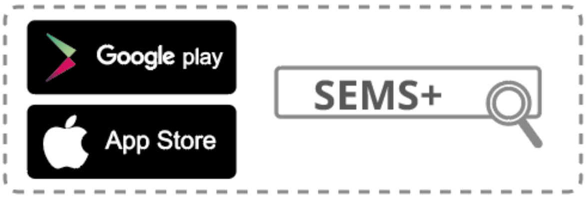
7.1.2 Download the SEMS+ App

Phone Requirements:

- Operating System Requirements: Android 6.0 and above, iOS 13.0 and above.
- The phone must support a web browser and internet connection.

- The phone must support WLAN/Bluetooth functions.

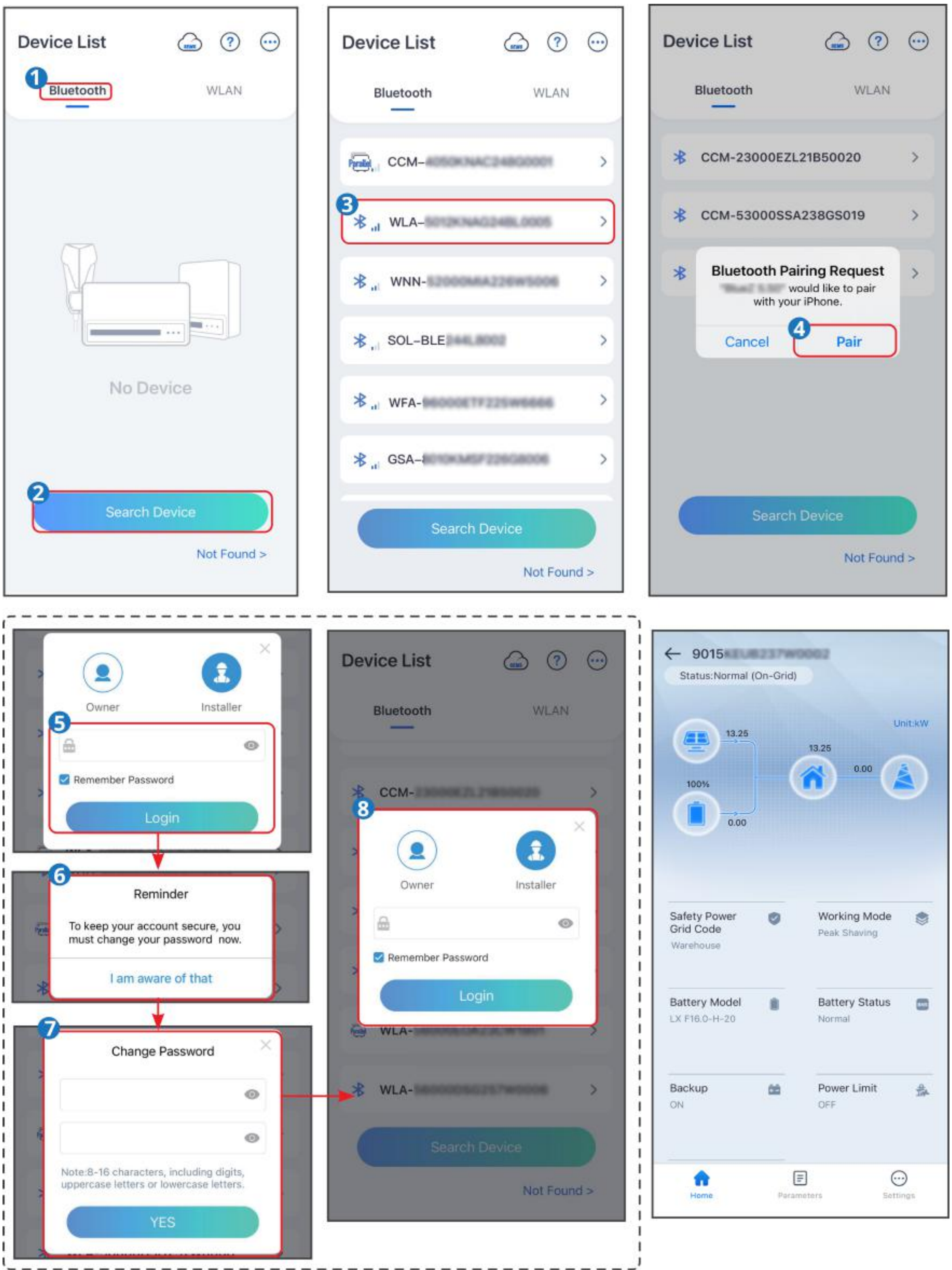
Download Methods:
Method 1:
Search for the SEMS+ app in the Google Play Store (Android) or App Store (iOS) and download it.



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

7.2 Connecting the Hybrid Inverter (Bluetooth)

Step 1 Ensure that the inverter is power on, both the inverter and the communication module are working properly.
Step 2 Select **Bluetooth** tab on the SolarGo app hompage.
Step 3 Pull down or tap **Search Device** to refresh the device list. Find the device by the the inverter serial number. Tap the device name to log into the **Home** page. Select the device by checking the serial number of the master inverter when multi inverters are parallel connected.
Step 4 For first connection with the equipment via Bluetooth, there will be a Bluetooth pairing prompt, tap **Pair** to continue the connection.
Step 5 Log in as an Owner or an Installer. Initial password: 1234. Default password: 1234.
Step 6 (Optional): If connecting via WLA-*** or WFA-***, enable Bluetooth Stays On following the prompts as entering the device details page. Otherwise, the bluetooth signal of the device will be off after disconnection.

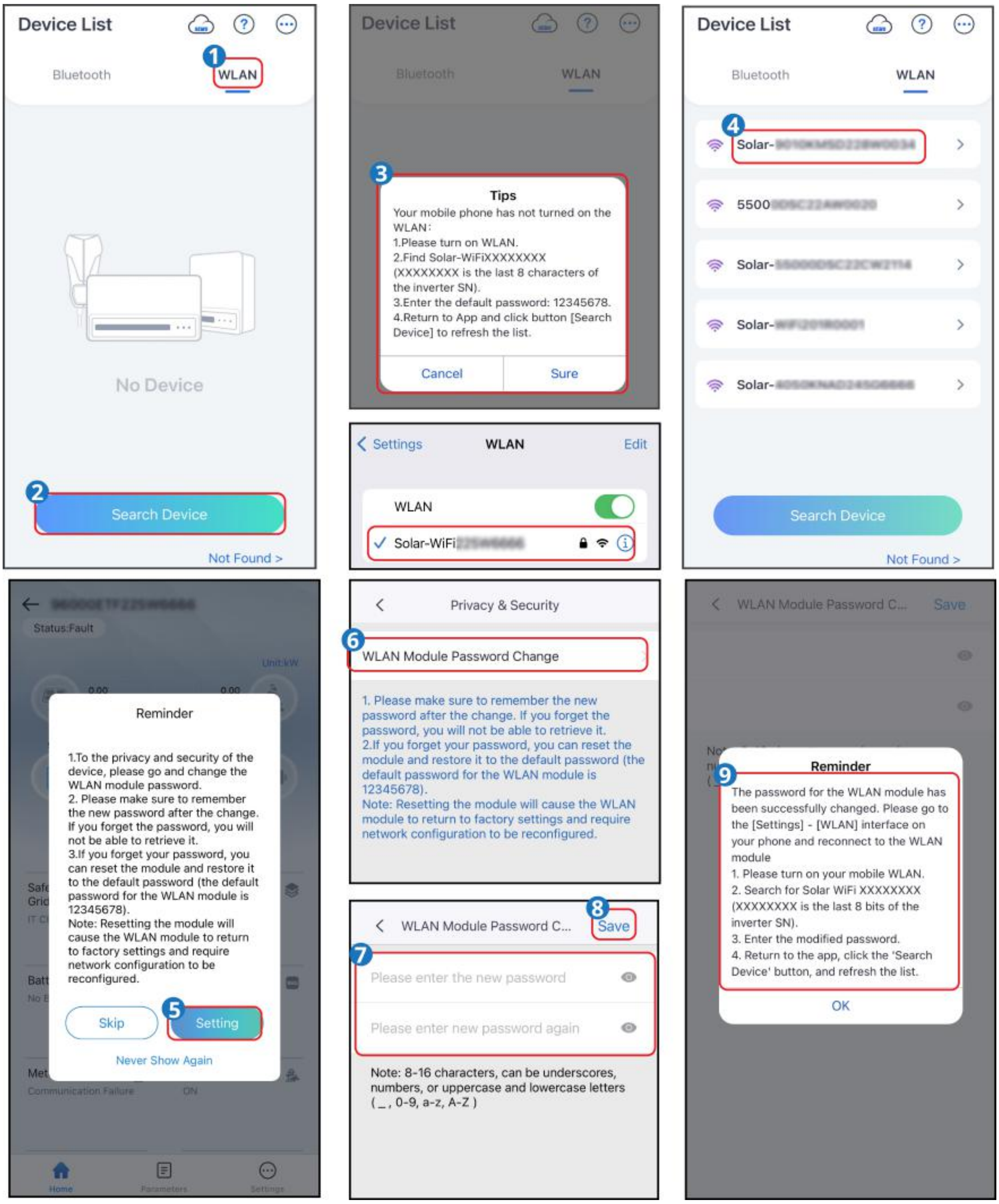


7.3 Connecting the Hybrid Inverter (WLAN)

NOTICE

- If the SolarGo app version is upgraded to V5.6.2 or later, a Reminder will pop up every time you connect to the inverter via WLAN to prompt you to change the password. If you want to permanently close the pop-up window, tap Never Show Again.
- If you forget the new password, reset the password by the smart dongle or the LCD of the inverter. Restore the dongle to reset the password will loss network configurations before.

Step 1 Ensure that the inverter is power on, both the inverter and the communication module are working properly.
Step 2 Select WLAN tab on the SolarGo app hompage.
Step 3 Open the WiFi setting on the phone and connect to the inverter's WiFi signal (Solar-WiFi***). Default password: 12345678
Step 4 Pull down or tap **Search Device** to refresh the device list. Find the device by the the inverter serial number. Tap the device name to log into the **Home** page.
Step 5: Modify the initial WiFi password following the prompts. After the password is changed, log in again and enter the device details page. Please refer to the actual prompts on the interface.



7.4 Setting Communication Parameters

NOTICE
The communication configuration interface may be different if the inverter uses different communication modes or connects different communication modules. Please refer to the actual interface.

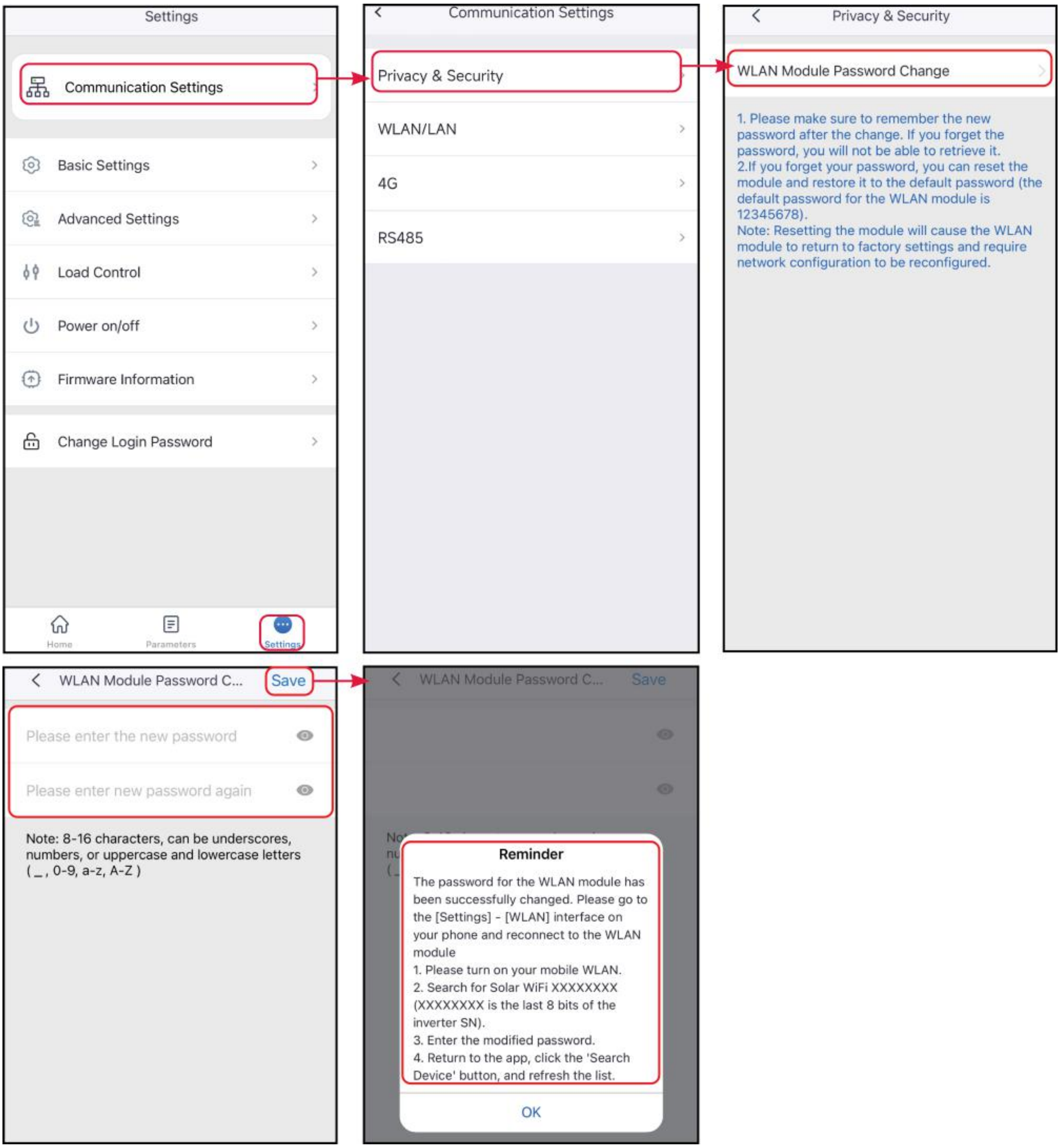
7.4.1 Setting Privacy and Security Parameters

Type I

Step 1 : Tap **Home > Settings > Communication Setting > Privacy & Security** to set the parameters.

Step 2 : Set the new password for the WiFi hotspot of the communication module, and tap **Save**.

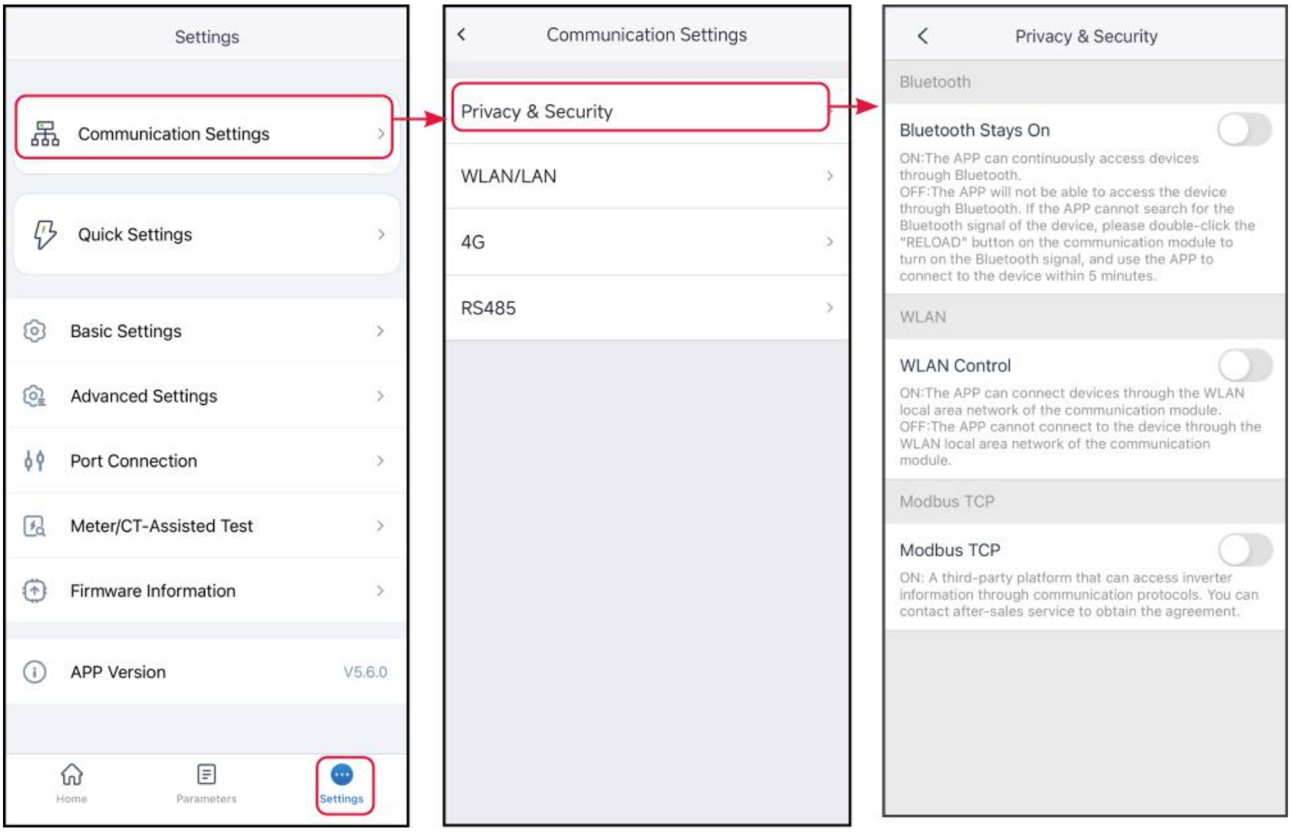
Step 3 Open the WiFi settings of your phone and connect to the inverter’s WiFi signal (Solar WiFi***) with the new password.



Type II

Step 1 : Tap **Home > Settings > Communication Setting > Privacy & Security** to set the parameters.

Step 2 Enable Bluetooth Stays On or WLAN Control based on actual needs.

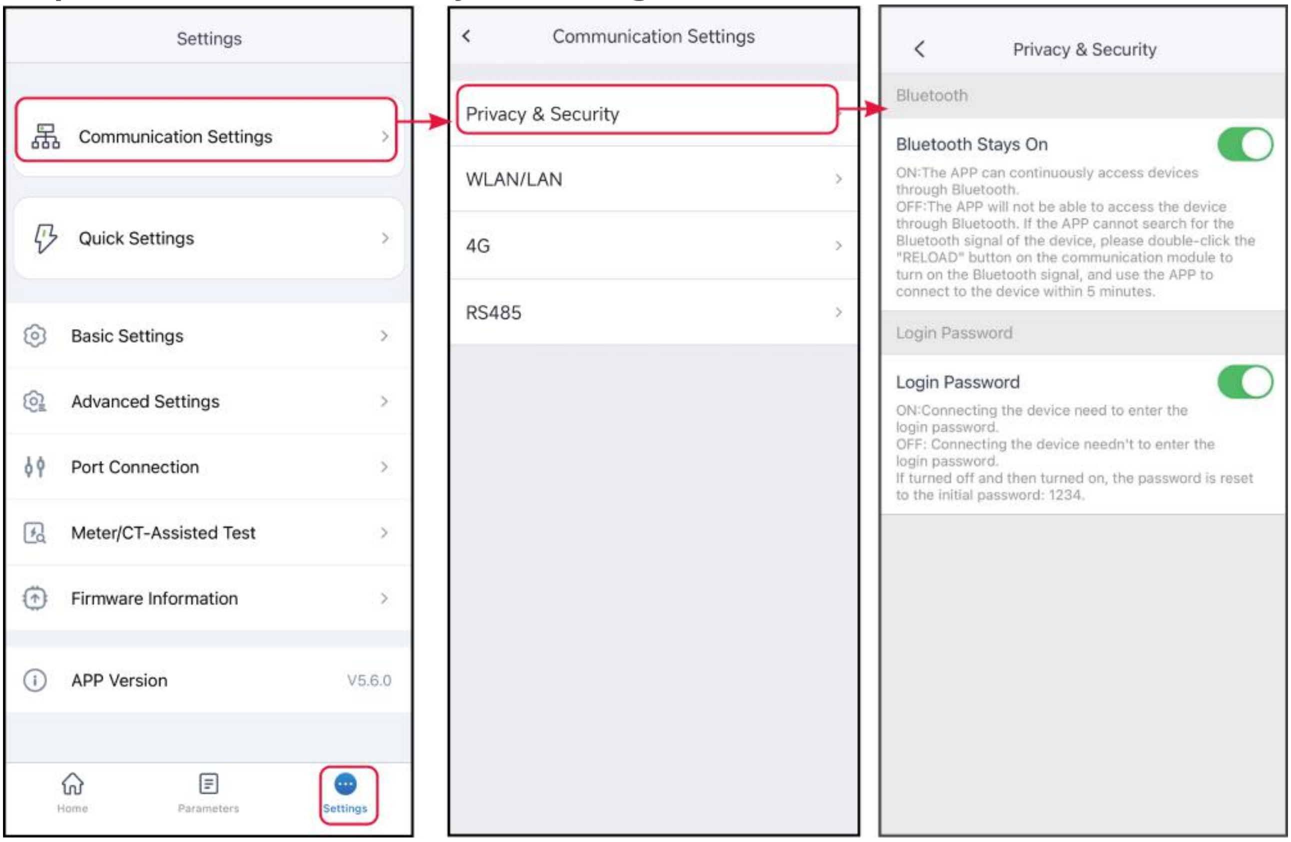


No.	Parameters	Description
1	Bluetooth Stays On	Disabled by default. Enable the function, the bluetooth of the device will be contentious on to keep connected to SolarGo. Otherwise, the bluetooth will be off in 5 minutes, and the device will be disconnected from SolarGo.
2	WLAN Control	Disabled by default. Enable the function, the device and the SolarGo can be connected through the WLAN when they are on the same LAN. Otherwise, they cannot be connected even if they are on the same LAN.
3	Modbus-TCP	Enable the function, the third party monitoring platform can access inverter through Modbus-TCP communication protocol.
4	SSH control Ezlink	After enabling this function, third-party platforms can connect to and control EzLink's Linux system.

Type III

Step 1 : Tap **Home > Settings > Communication Setting > Privacy & Security** to set the parameters.

Step 2 : Enable **Bluetooth Stays On** or **Login Password** based on actual needs.



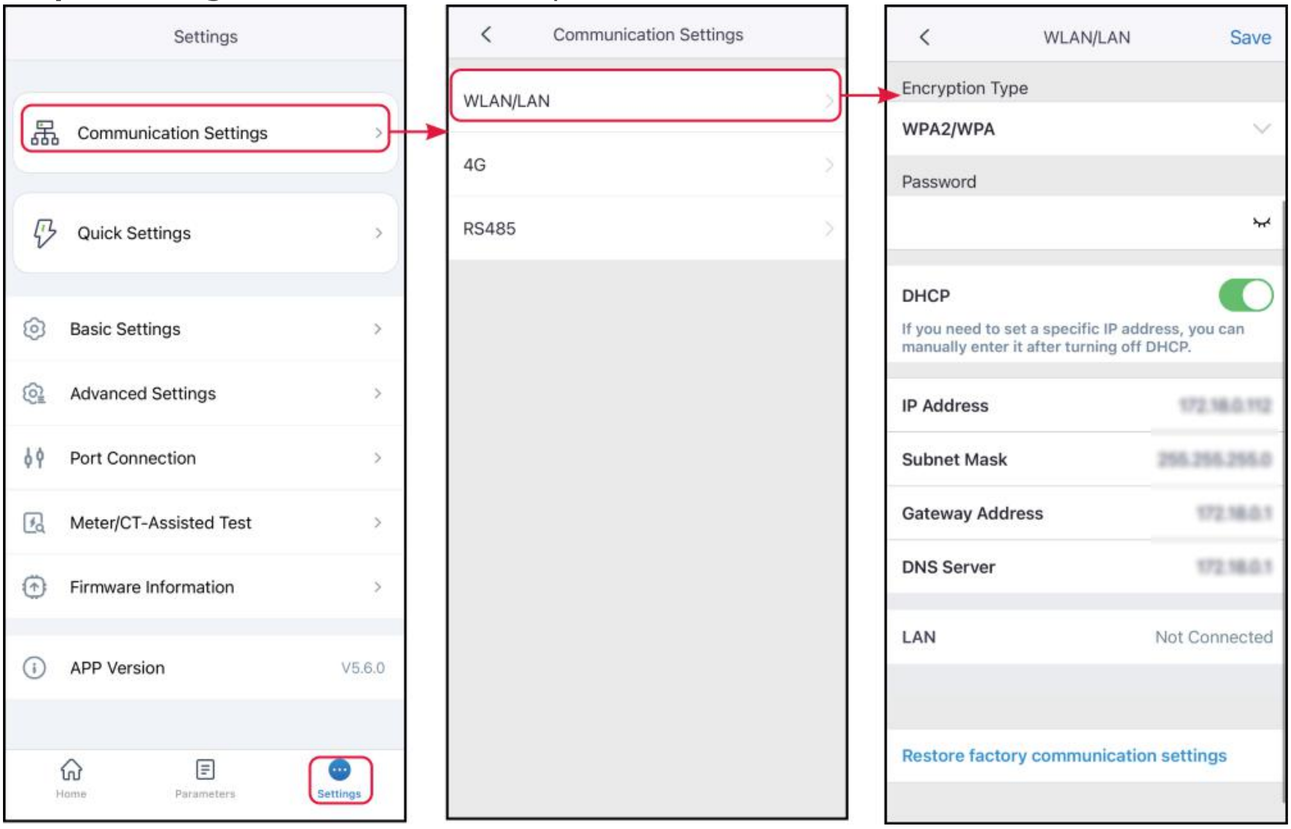
No.	Parameters	Description
1	Bluetooth Stays On	Disabled by default. Enable the function, the bluetooth of the device will be contentious on to keep connected to SolarGo. Otherwise, the bluetooth will be off in 5 minutes, and the device will be disconnected from SolarGo.
2	Password	Disabled by default. Enable the function, you will be prompted to enter the login password when connecting the device to SolarGo. Use the initial password and change it at the first login prompt.

7.4.2 Setting WLAN/LAN Parameters

NOTICE
When the inverter is connected to different communication modules, the communication configuration interface may be different. Please refer to the actual interface.

Step 1 : Tap **Home > Settings > Communication Setting > WLAN/LAN** to set the parameters.

Step 2 : Configure the WLAN or LAN parameters based on actual needs.



No.	Parameters	Description
1	Network Name	Only for WLAN. Select WiFi based on the actual connecting.
2	Password	Only for WLAN. WiFi password for the actual connected network.
3	DHCP	Enable DHCP when the router is in dynamic IP mode. Disable DHCP when a switch is used or the router is in static IP mode.

No.	Parameters	Description
4	IP Address	Do not configure the parameters when DHCP is enabled. Configure the parameters according to the router or switch information when DHCP is disabled.
5	Subnet Mask	
6	Gateway Address	
7	DNS Server	

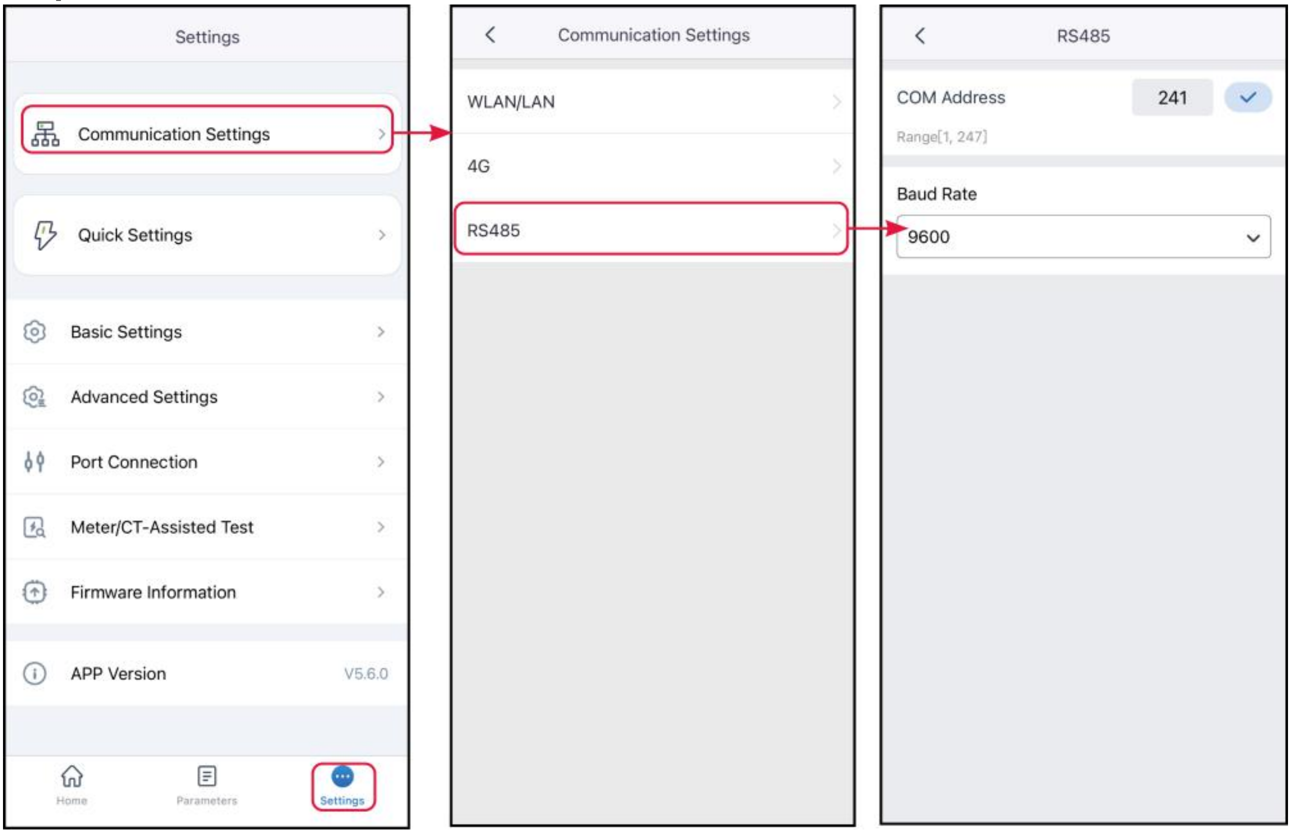
7.4.3 Configuring RS485 Parameters

NOTICE

Set the communication address of the inverter. For a single inverter, the address is set based on actual needs. For multi connected inverters, the address of each inverter should be different while cannot be 247.

Step 1: Tap **Home > Settings > Communication Settings > RS485** to set the parameters.

Step 2 : Set the Modbus Address And Baud Rate base on actual situation.



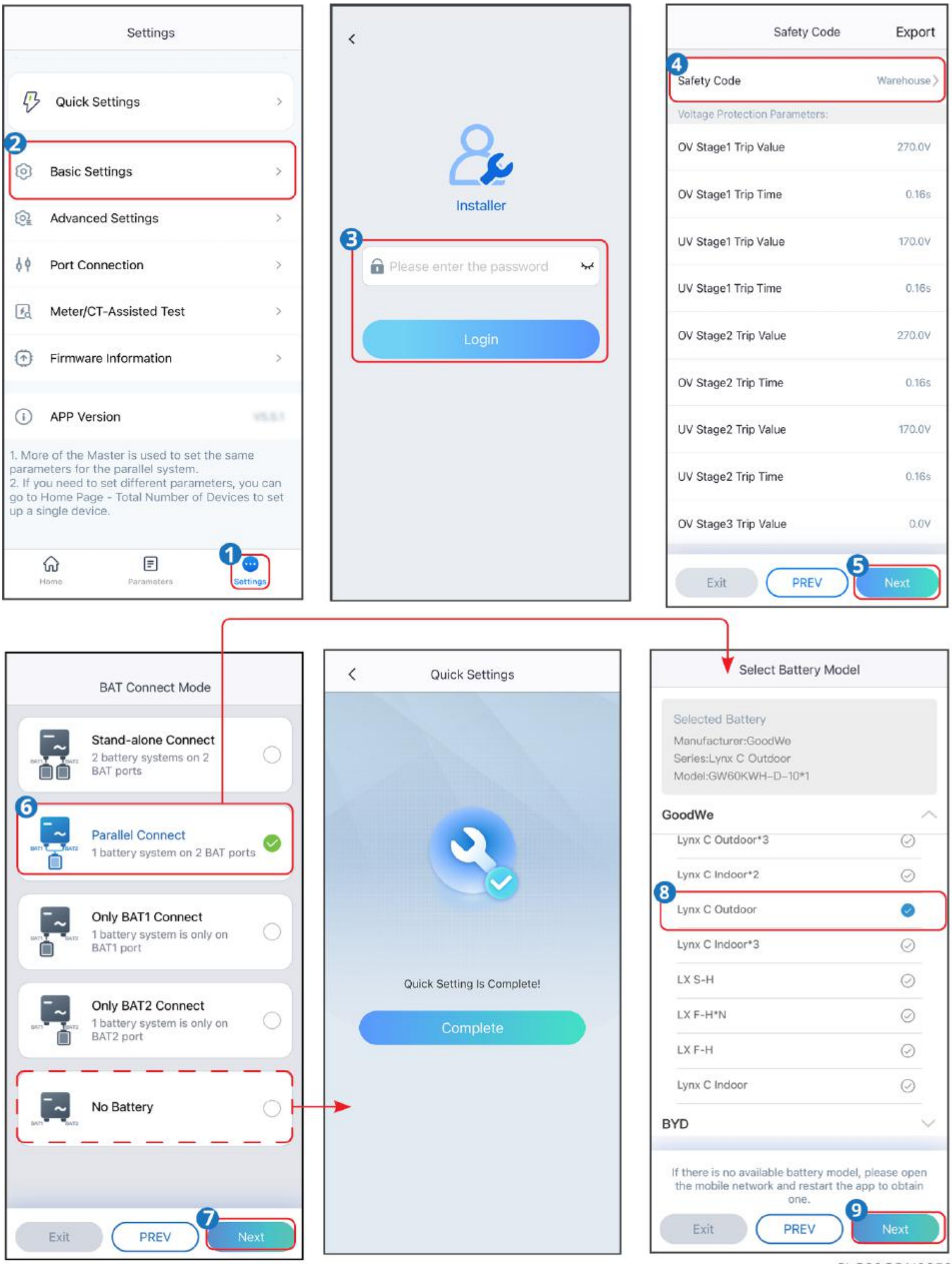
7.5 Quick Setting the Basic Information

NOTICE

- The setting page varies depending on inverter model.
- The parameters will be configured automatically after selecting the safety country/region, including overvoltage protection, undervoltage protection, overfrequency protection, underfrequency protection, voltage/frequency connection protection, cosφ curve, Q(U) curve, P(U) curve, FP curve, HVRT, LVRT, etc. Tap Home > Settings > Advanced Settings > Safety Parameters to check the parameters after selecting the safety country.
- The power generation efficiency is different in different working modes. Set the working mode according to the local requirements and situation.
  - Self-use mode: The basic working mode of the system. PV power generation is used to supply power to the load first, the excess power is used to charge the battery, and the remaining power is sold to the grid. When PV power generation cannot meet the load's power demand, the battery will supply power to the load; when the battery power also cannot meet the load's power demand, the grid will supply power to the load.
  - Back-up mode: The back-up mode is mainly applied to the scenario where the grid is unstable. When the grid is disconnected, the inverter turns to off-grid mode and the battery will supply power to the load; when the grid is restored, the inverter switches to grid-tied mode.
  - Economic mode: It is recommended to use economic mode in scenarios when the peak-valley electricity price varies a lot. Select Economic mode only when it meets the local laws and regulations. Set the battery to charge mode during Vally period to charge battery with grid power. And set the battery to discharge mode during Peak period to power the load with the battery.
  - Off-grid mode: suitable for areas without power grid. PV and batteries form a pure off-grid system. PV generates electricity to power the load and excess electricity charges the battery. When PV power generation cannot meet the power demand of the load, the battery will supply power to the load.
  - Smart charging: In some countries/regions, the PV power feed into the utility grid is limited. Select Smart Charging to charge the battery using the surplus power to minimize PV power waste.
  - Peak shaving mode: Peak shaving mode is mainly applicable to peak power limited scenarios. When the total power consumption of the load exceeds the power consumption quota in a short period of time, battery discharge can be used to reduce the power exceeding the quota.

7.5.1 Quick Setting the Basic Information(Type II)

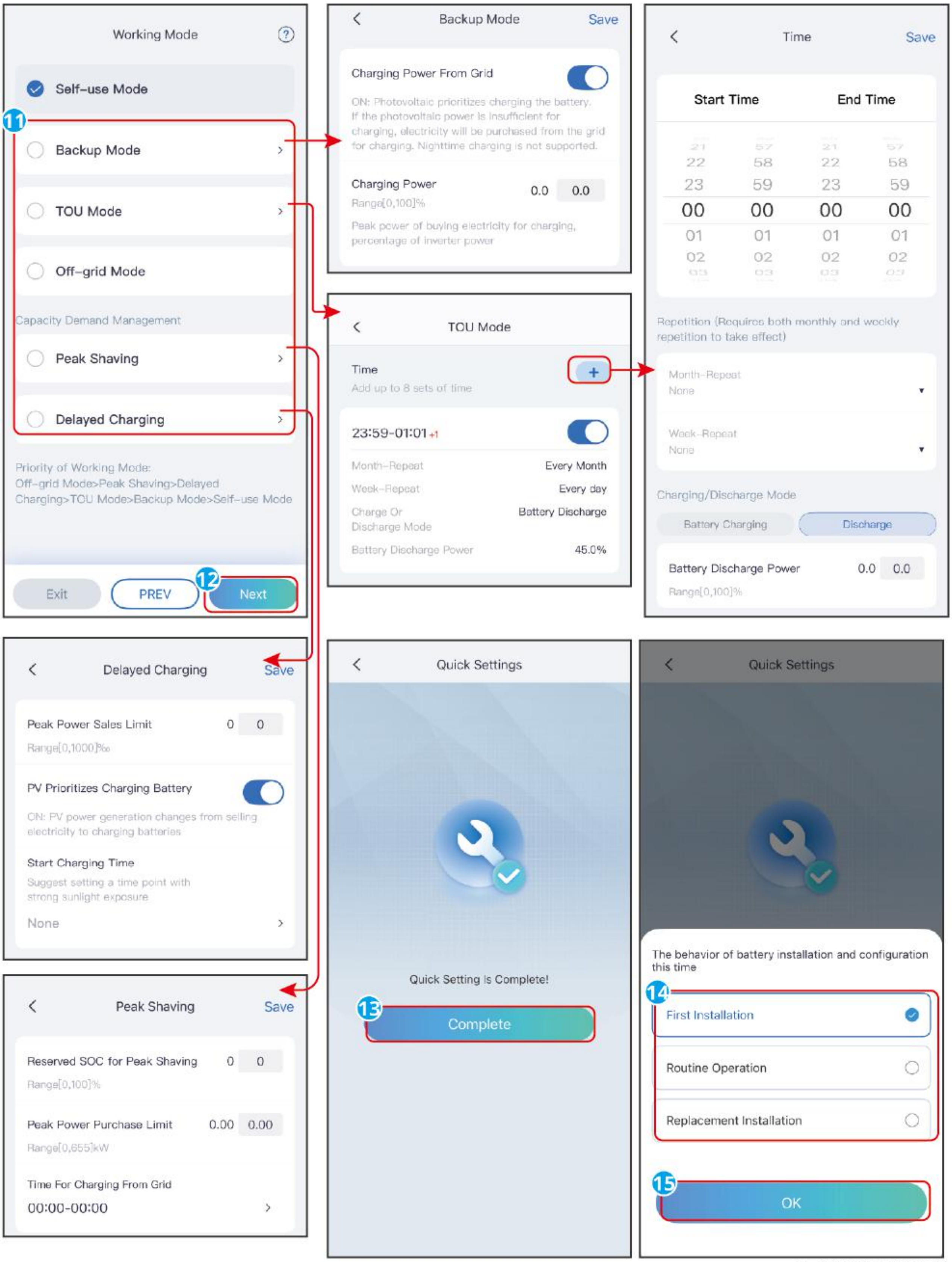
Step 1: Tap **Home > Settings > Quick Settings** to set the parameters.
Step 2 : Enter the password for quick settings. Contact the supplier or after sales service for password. Password for professional technicians only.
Step 3 : Some models support one-click configuration. Select **Guided Mode** to quickly configure the system.
Step 4: Select safety country accordingly. Tap **Next** to set the Battery Connect Mode.
Step 5 : Select the actual mode in which the battery is connected to the inverter. The basic settings are completed if there is no battery connected in the system. Tap **Next** to set the Battery Model if there is any battery connected in the system.
Step 6: Select the actual battery model. Tap **Next** to set the Working Mode.



SLG00CON0059

Step 7: Set the working mode based on actual needs. Tap **Next** to set the Working Mode. For some models, after the working mode configuration is completed, it will automatically enter the CT/meter self-test state. At this time, the inverter will temporarily disconnect from the grid and then automatically reconnect.

Step 8 : Select the battery based on actual situation whether it is **First Installation, Routine Operation** or **Replacement Installation**.



SLG00CON0060

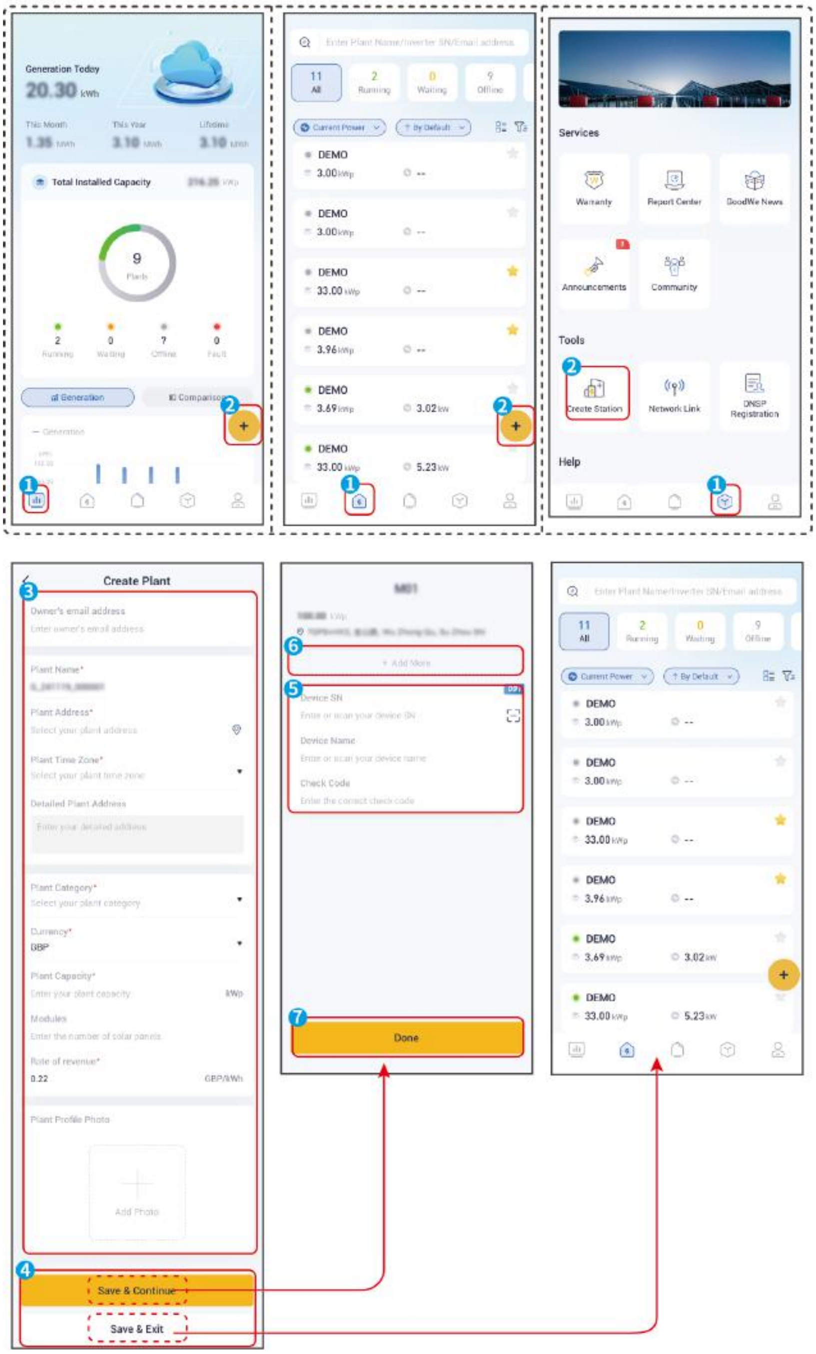
No.	Parameters	Description
Back-up mode		
1	Charging Power From Grid	Enable Charging Power From Grid to allow power purchasing from the utility grid.
2	Charging Power	The percentage of the purchasing power to the rated power of the inverter.
TOU mode		
3	Start Time	Within the Start Time and End Time, the battery is charged or discharged according to the set Battery Mode as well as the Rated Power.
4	End Time	
5	Charge Discharge Mode	Charge or discharge according to actual needs.
6	Rated Power	The percentage of the charging/discharging power to the rated power of the inverter.
7	Charge Cut-off SOC	The battery stop charging/discharging once the battery SOC reaches Charge Cut-off SOC.
Peakshaving		
8	Reserved SOC For Peakshaving	In Peak Shaving mode, the battery SOC should be lower than Reserved SOC For Peakshaving. Once the battery SOC is higher than Reserved SOC For Peakshaving, the peak shaving mode fails.
9	Peak Power Purchase Limit	Set the maximum power limit allowed to purchase from the grid. When the loads consume power exceed the sum of the power generated in the PV system and Peak Power Purchase Limit, the excess power will be made up by the battery.
10	Time for Charging From Grid	The utility grid will charge the battery between Start Time and End Time if the load power consumption do not exceed the power quota. Otherwise, only PV power can be used to charge the battery. Otherwise, only PV power can be used to charge the battery.

No.	Parameters	Description
Smart charging		
11	Peak Power Sales Limit	Set the Peak Power Sales Limit in compliance with local laws and regulations. The Peak Limiting Power shall be lower then the output power limit specified by local requirements.
12	PV Prioritizes Charing Battery	During charging time, the PV power will first charge the battery.
13	Start Charging Time	

7.6 Creating a Station

Step 1: Tap on overview or station page, or tap **Create Station** on service page.
Step 2: Enter station information on the**Creat Station** page.
Step 3: Tap **Save&Exit** to complete creating a station, without devices added. Or tap **Save&Continue** to add devices. Support adding multiple devices.

SEMS0011



Generation Today
20.30 kWh
This Month
This Year
Lifetime
Total Installed Capacity
9
Plants
2
Running
0
Waiting
7
Offline
0
Fault
Generation
Comparison
11
All
2
Running
0
Waiting
9
Offline
Current Power
By Default
DEMO
3.00 kWp
33.00 kWp
3.96 kWp
3.69 kWp
3.02 kW
5.23 kW
Services
Warranty
Report Center
GoodWe News
Announcements
Community
Tools
Create Station
Network Link
DNSP Registration
Help
Create Plant
Owner's email address
Enter owner's email address
Plant Name*
Plant Address*
Select your plant address
Plant Time Zone*
Select your plant time zone
Detailed Plant Address
Enter your detailed address
Plant Category*
Select your plant category
Currency*
GBP
Plant Capacity*
Enter your plant capacity
kWp
Modules
Enter the number of solar panels
Rate of revenue*
0.22
GBP/kWh
Plant Profile Photo
Add Photo
Save & Continue
Save & Exit
+ Add More
Device SN
Enter or scan your device SN
Device Name
Enter or scan your device name
Check Code
Enter the correct check code
Done

8 System Check and Settings

8.1 SolarGo App

8.1.1 Product Introduction

NOTICE

- All the user interface (UI) screenshots or words in this document are based on **SolarGo app V6.6.0**. The UI may be different due to the version upgrade. The screenshots, words or data are for reference only.
- The method to set parameters is the same for all inverters. But the parameters displayed varies based on the equipment model and safety code. Refer to the actual interface display for specific parameters.
- Before setting any parameters, read through user manual of the App and the inverter or charger to learn the product functions and features. When the inverter parameters are set improperly, the inverter may fail to connect to the utility grid or fail to connect to the utility grid in compliance with related requirements and damage the battery, which will affect the inverter's power generation.

SolarGo App is a mobile application that communicates with the inverter via Bluetooth, WIFi, 4G, or GPRS. Commonly used functions are as follows:

- Check the operating data, software version, alarms of the inverter, etc.
- Set grid parameters and communication parameters of the inverter.
- Set charging mode of the charger.
- Maintain the equipment.

8.1.1.1 Downloading and Installing the App

Make sure that the mobile phone meets the following requirements:

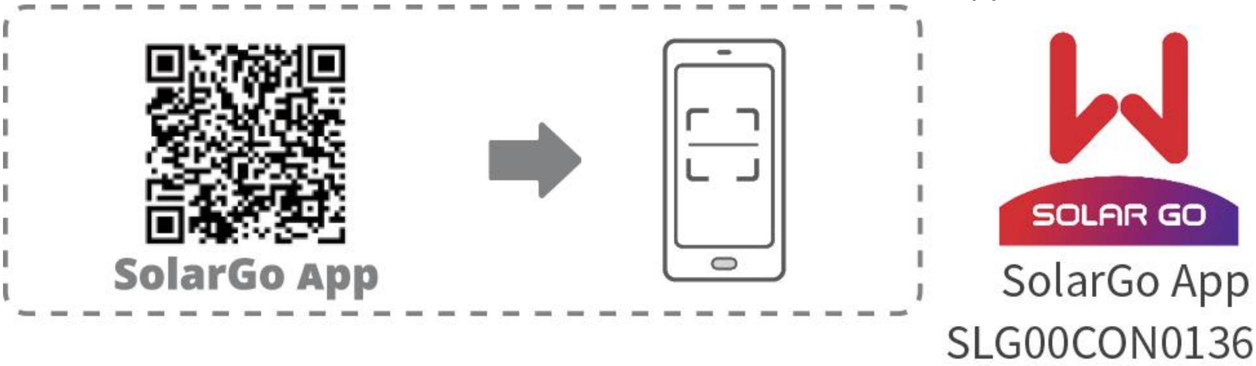
- Mobile phone operating system: Android 5.0 or later, iOS 13.0 or later.
- The mobile phone can access the Internet.

- The mobile phone supports WLAN or Bluetooth.

NOTICE
After installing the app, it can automatically prompt users to update the app version.

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

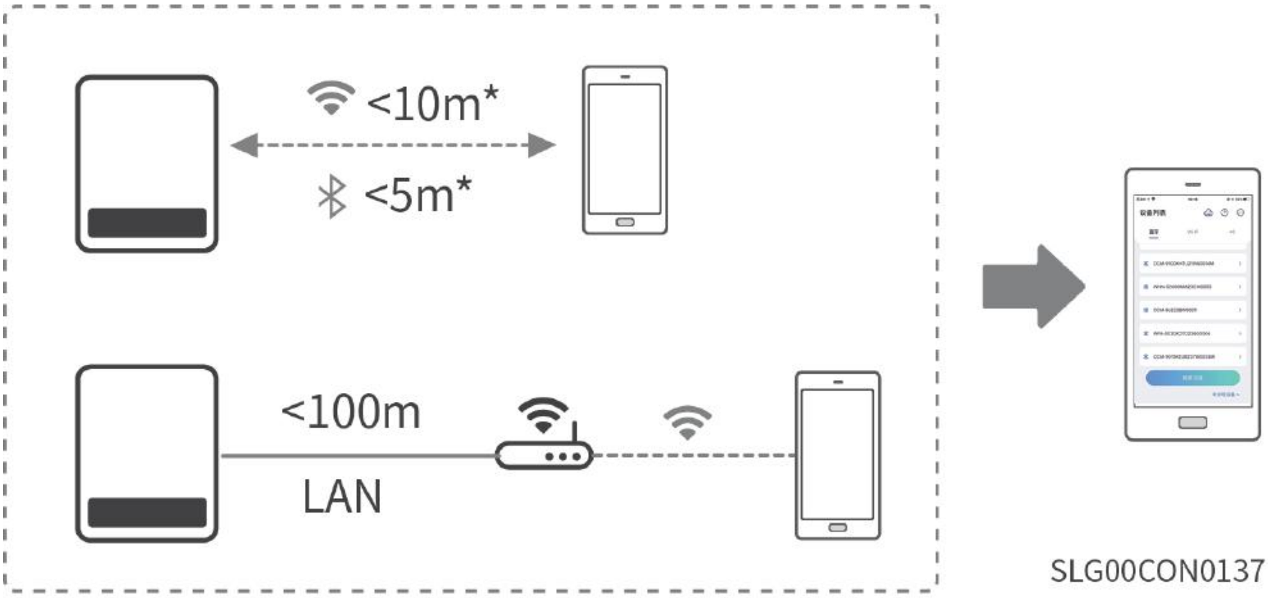
Method 2: Scan the QR code below to download and install the app.



8.1.1.2 App Connection

Connect as the following shows after powering on the equipment.

NOTICE
The connection distance varies depending on smart dongles. Refer to the actual used smart dongles.



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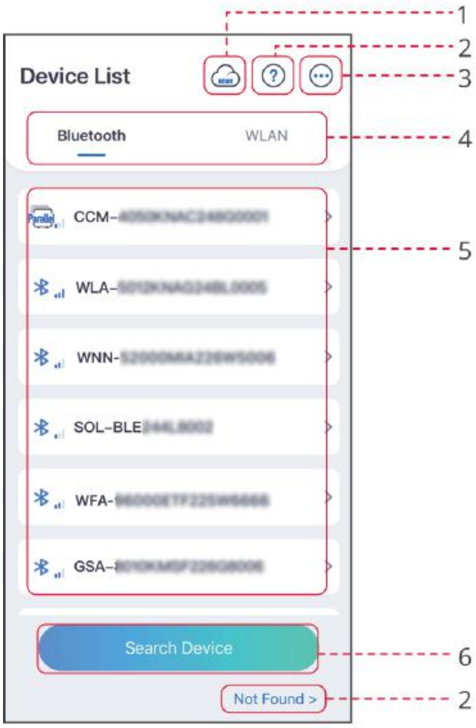
8.1.1.3 GUI Introductions to Login Page



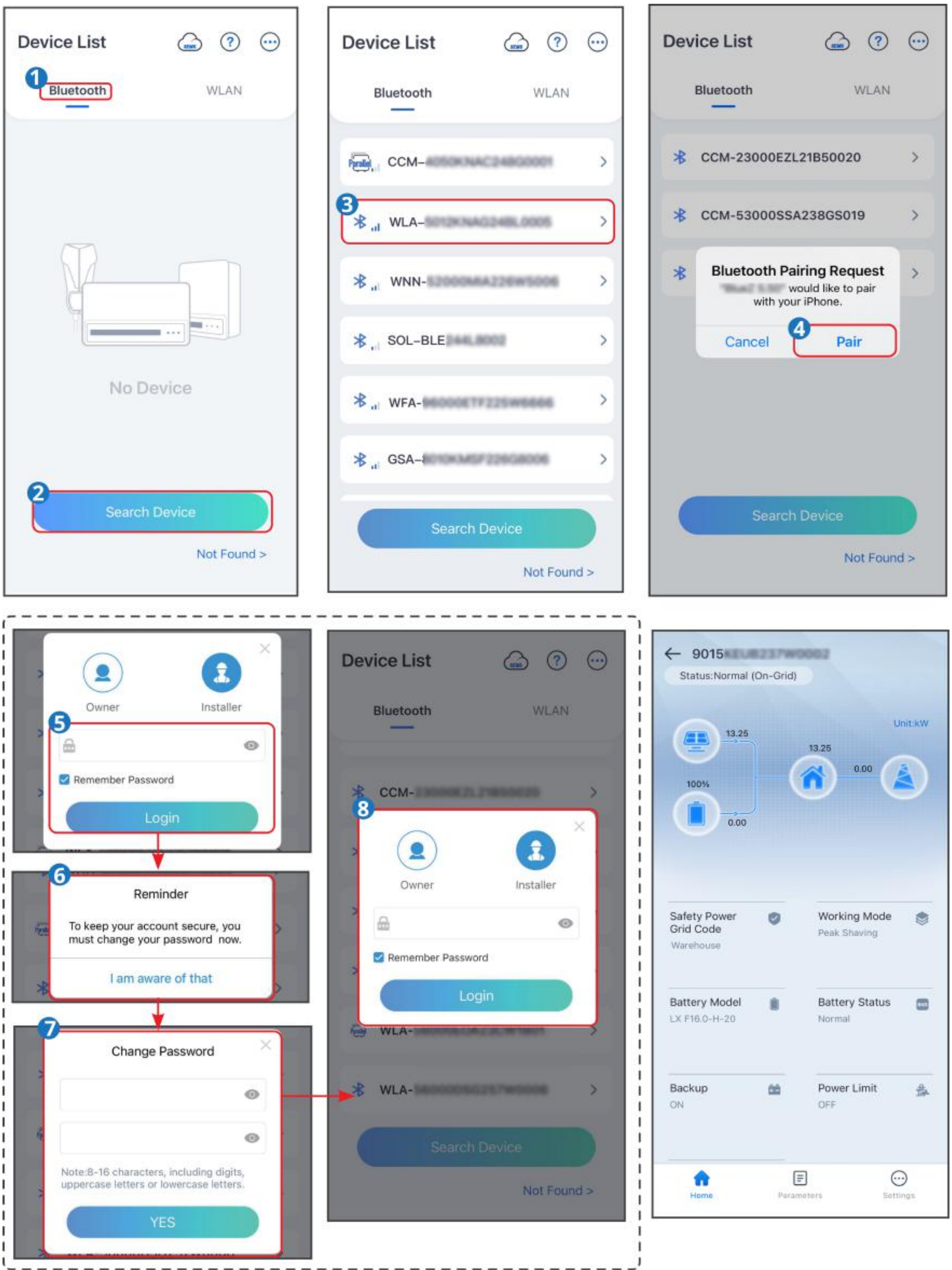
SLG00CON0016

No.	Name/Icon	Description
1	SEMS	Tap the icon to open the page downloading the SEMS Portal app.

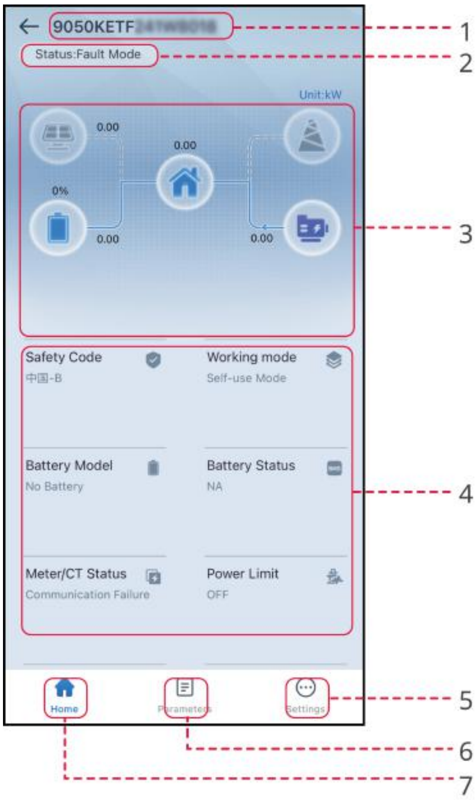
No.	Name/Icon	Description
2	 Not found	Tap to read the connection guide.
3		• Check information such as app version, local contacts, etc. • Other settings, such as update date, switch language, set temperature unit, etc.
4	Bluetooth/WiFi/4G	Select based on actual communication method. If you have any problems, tap  or **NOT Found** to read the connection guides.
5	Device List	• The list of all devices. The last digits of the device name are normally the serial number of the device. • Select the device by checking the serial number of the master inverter when multi inverters are parallel connected. • The device name varies depending on the inverter model or smart dongle model: ◦ Wi-Fi/LAN Kit, Wi-Fi Kit, Wi-Fi Box: Solar-WiFi*** ◦ External or integrated bluetooth mudule:Solar-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：GSC-*** ◦ Micro inverter: WNN*** ◦ AC Charger: ***
6	Search Device	Tap **Search Device** if the device is not found.

8.1.2 Connecting the Hybrid Inverter (Bluetooth)

Step 1 Ensure that the inverter is power on, both the inverter and the communication module are working properly.
Step 2 Select **Bluetooth** tab on the SolarGo app hompage.
Step 3 Pull down or tap **Search Device** to refresh the device list. Find the device by the the inverter serial number. Tap the device name to log into the **Home** page. Select the device by checking the serial number of the master inverter when multi inverters are parallel connected.
Step 4 For first connection with the equipment via Bluetooth, there will be a Bluetooth pairing prompt, tap **Pair** to continue the connection.
Step 5 Log in as an Owner or an Installer. Initial password: 1234. Default password: 1234.
Step 6 (Optional): If connecting via WLA-*** or WFA-***, enable Bluetooth Stays On following the prompts as entering the device details page. Otherwise, the bluetooth signal of the device will be off after disconnection.



8.1.3 GUI Introductions to Hybrid Inverters



No.	Name/Icon	Description
1	Serial Number	Serial number of the connected inverter.
2	Device Status	Indicates the status of the inverter, such as Working,Fault, etc.
3	Energy Flow Chart	Indicates the energy flow chart of the PV system. The actual page prevails.
4	System Status	Indicates the system status, such as Safety Code, Working Mode, Battery Model, Battery Status, Power Limit, Three-Phase Unbalanced Output, etc..
5		Home. Tap Home to checkSerial Number, Device Status, Energy Flow Chart, System Status, etc.
6		Parameters. Tap Parameters to check the inverter Data.

No.	Name/Icon	Description
7		• Settings Tap to perform quick settings, basic settings, advanced settings, etc. on the inverter. • Login required to access Quick Setup and Advanced Setting. Contact the supplier or after sales service for password. Password for professional technicians only.

8.1.4 Setting Communication Parameters

NOTICE

The communication configuration interface may be different if the inverter uses different communication modes or connects different communication modules. Please refer to the actual interface.

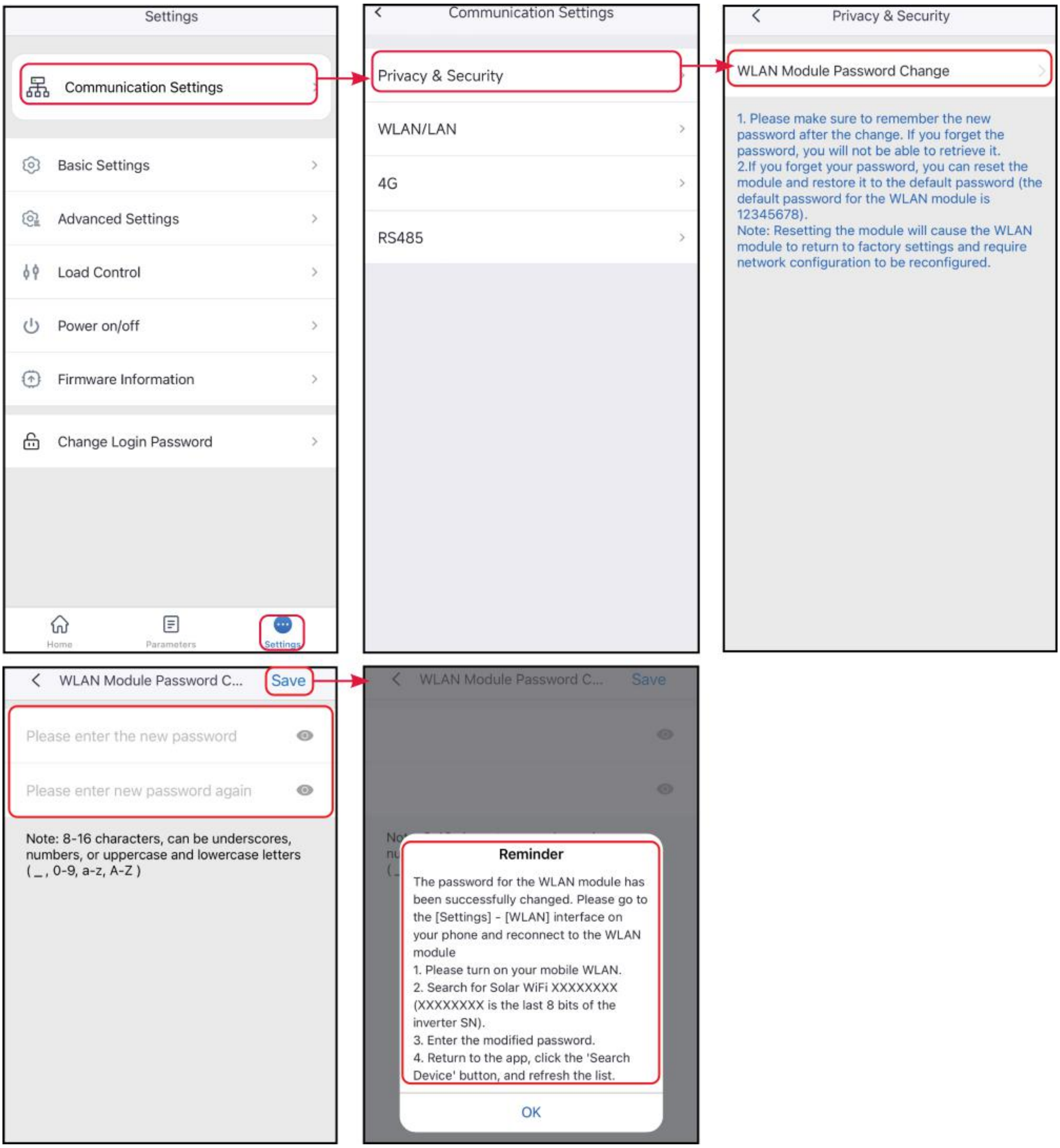
8.1.4.1 Setting Privacy and Security Parameters

Type I

Step 1 : Tap **Home** > **Settings** > **Communication Setting** > **Privacy & Security** to set the parameters.

Step 2 : Set the new password for the WiFi hotspot of the communication module, and tap **Save**.

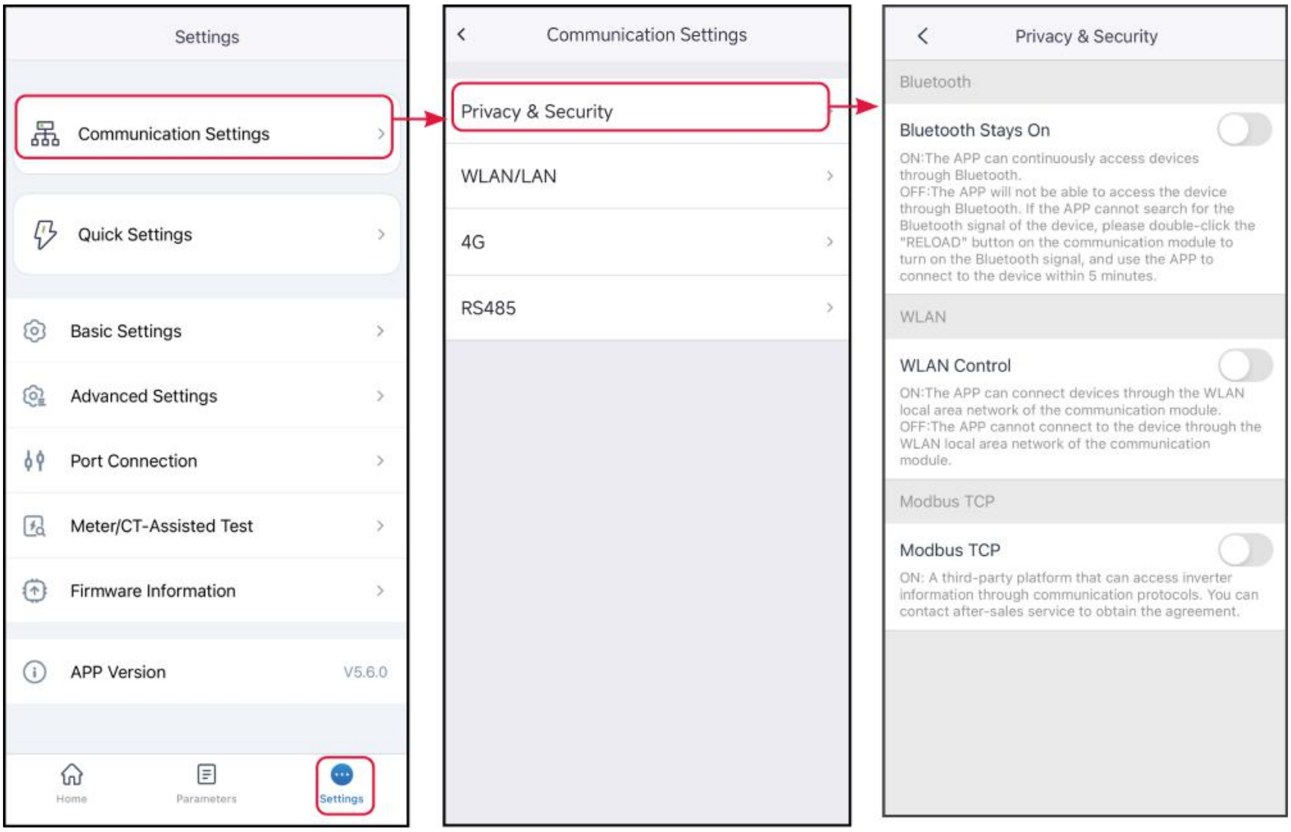
Step 3 Open the WiFi settings of your phone and connect to the inverter's WiFi signal (Solar WiFi***) with the new password.



Type II

Step 1 : Tap **Home > Settings > Communication Setting > Privacy & Security** to set the parameters.

Step 2 Enable Bluetooth Stays On or WLAN Control based on actual needs.

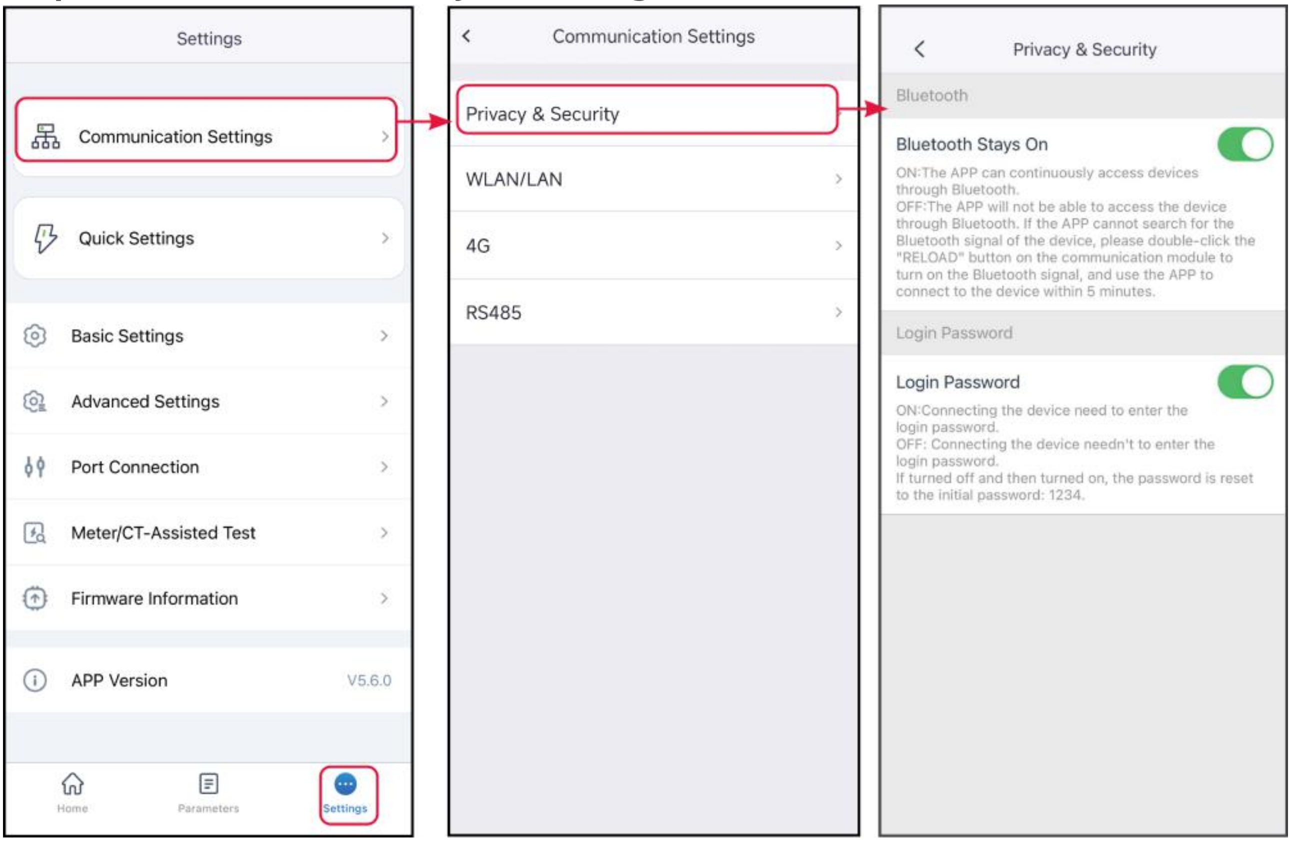


No.	Parameters	Description
1	Bluetooth Stays On	Disabled by default. Enable the function, the bluetooth of the device will be contentious on to keep connected to SolarGo. Otherwise, the bluetooth will be off in 5 minutes, and the device will be disconnected from SolarGo.
2	WLAN Control	Disabled by default. Enable the function, the device and the SolarGo can be connected through the WLAN when they are on the same LAN. Otherwise, they cannot be connected even if they are on the same LAN.
3	Modbus-TCP	Enable the function, the third party monitoring platform can access inverter through Modbus-TCP communication protocol.
4	SSH control Ezlink	After enabling this function, third-party platforms can connect to and control EzLink's Linux system.

Type III

Step 1 : Tap **Home > Settings > Communication Setting > Privacy & Security** to set the parameters.

Step 2 : Enable **Bluetooth Stays On** or **Login Password** based on actual needs.



No.	Parameters	Description
1	Bluetooth Stays On	Disabled by default. Enable the function, the bluetooth of the device will be contentious on to keep connected to SolarGo. Otherwise, the bluetooth will be off in 5 minutes, and the device will be disconnected from SolarGo.
2	Password	Disabled by default. Enable the function, you will be prompted to enter the login password when connecting the device to SolarGo. Use the initial password and change it at the first login prompt.

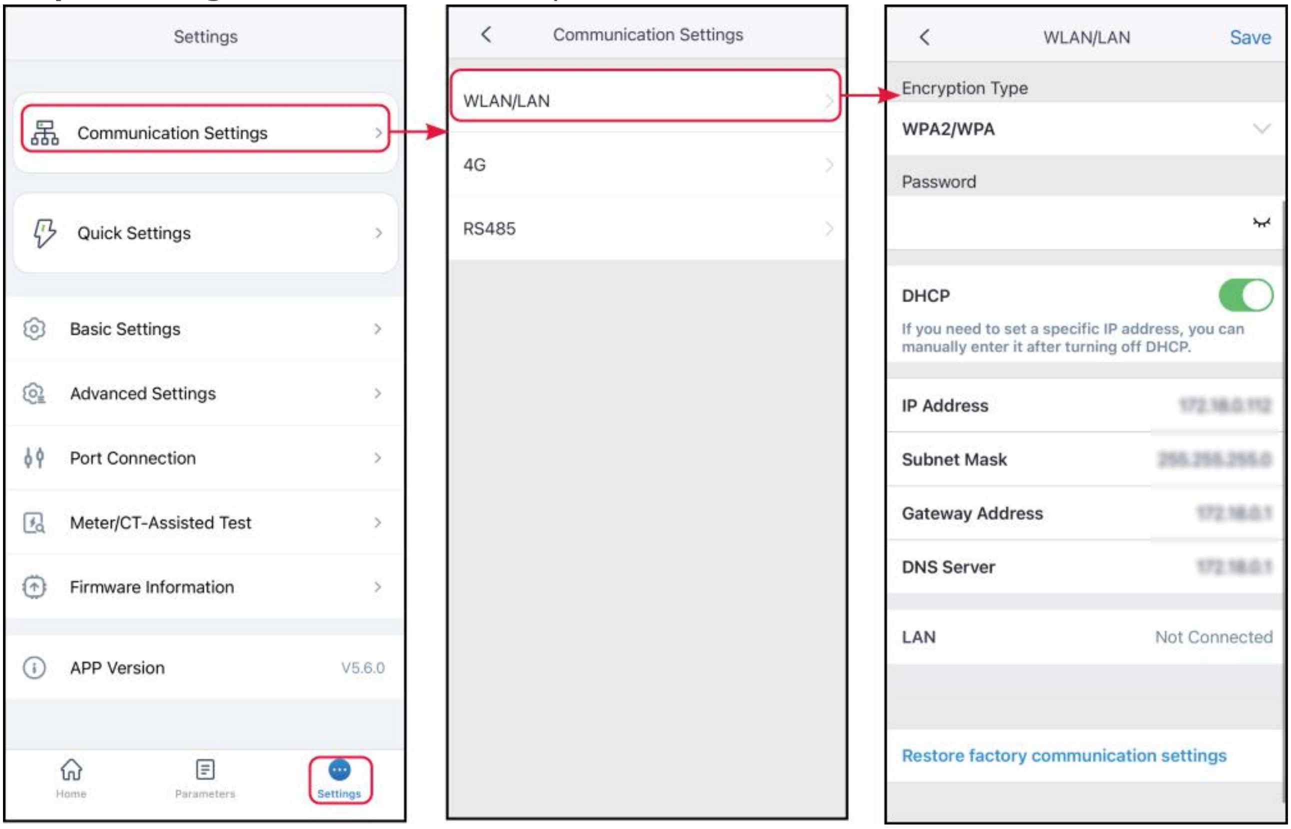
8.1.4.2 Setting WLAN/LAN Parameters

NOTICE

When the inverter is connected to different communication modules, the communication configuration interface may be different. Please refer to the actual interface.

Step 1 : Tap **Home > Settings > Communication Setting > WLAN/LAN** to set the parameters.

Step 2 : Configure the WLAN or LAN parameters based on actual needs.



No.	Parameters	Description
1	Network Name	Only for WLAN. Select WiFi based on the actual connecting.
2	Password	Only for WLAN. WiFi password for the actual connected network.
3	DHCP	Enable DHCP when the router is in dynamic IP mode. Disable DHCP when a switch is used or the router is in static IP mode.

No.	Parameters	Description
4	IP Address	Do not configure the parameters when DHCP is enabled. Configure the parameters according to the router or switch information when DHCP is disabled.
5	Subnet Mask	
6	Gateway Address	
7	DNS Server	

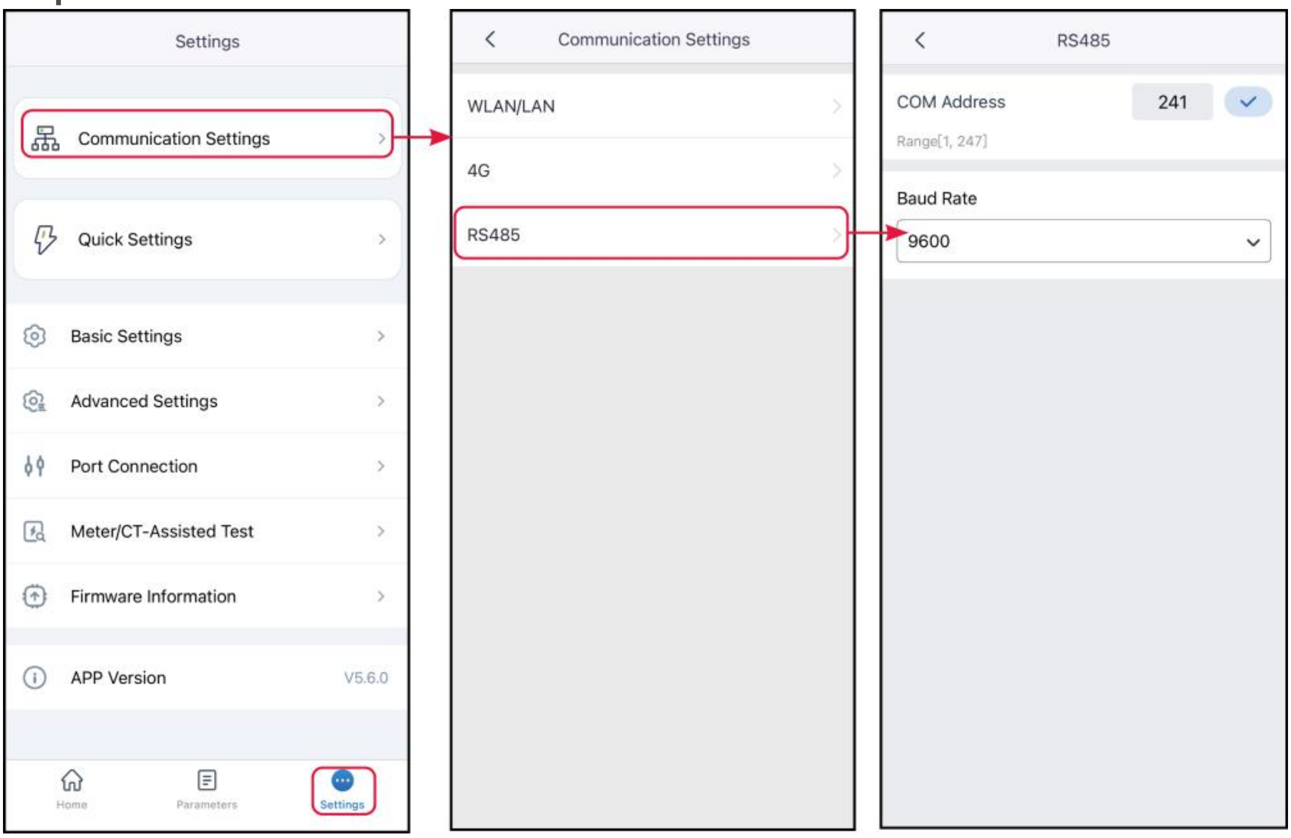
8.1.4.3 Configuring RS485 Parameters

NOTICE

Set the communication address of the inverter. For a single inverter, the address is set based on actual needs. For multi connected inverters, the address of each inverter should be different while cannot be 247.

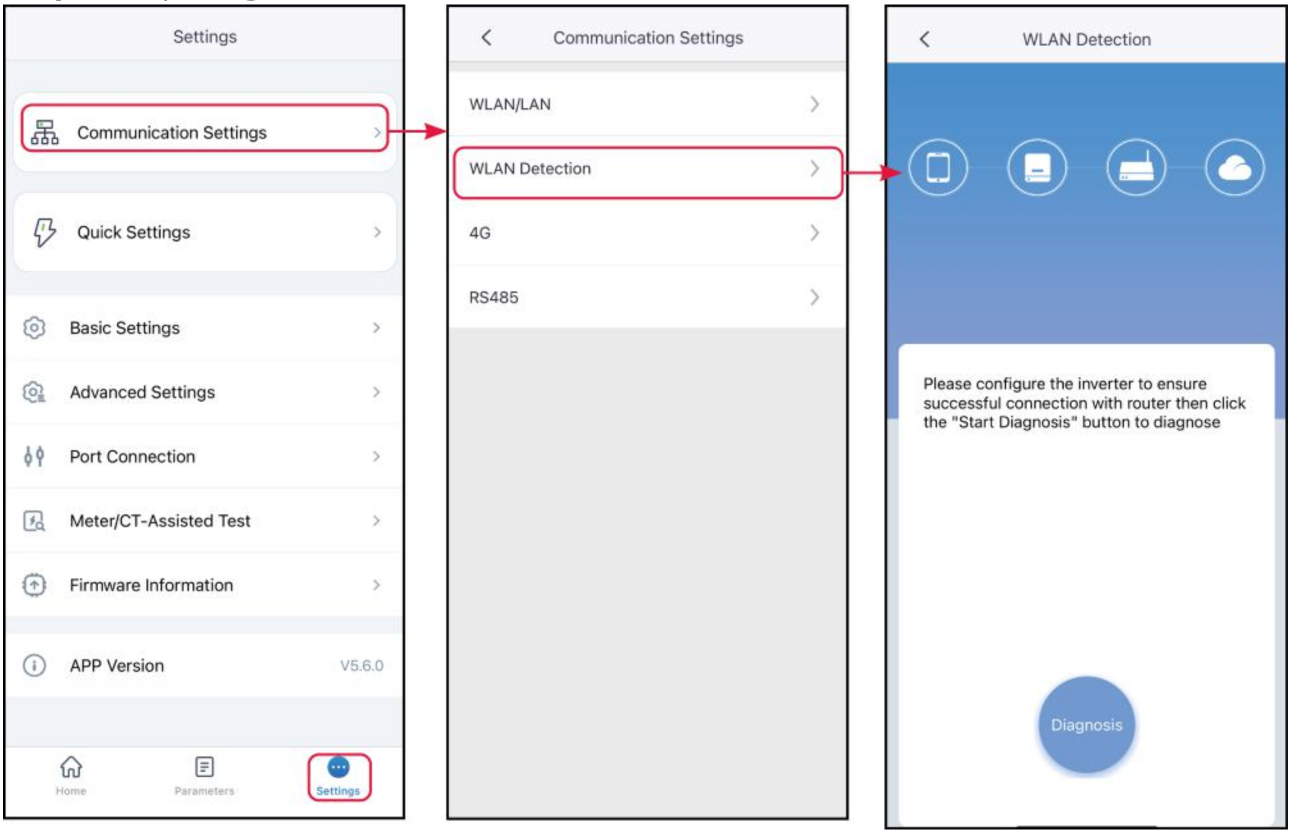
Step 1: Tap **Home > Settings > Communication Settings > RS485** to set the parameters.

Step 2 : Set the Modbus Address And Baud Rate base on actual situation.



8.1.4.4 WLAN Detection

Step 1 : Tap **Home > Settings > Communication Settings > WLAN Detection.**.
Step 2 : Tap **Diagnosis** to check the network connection status.



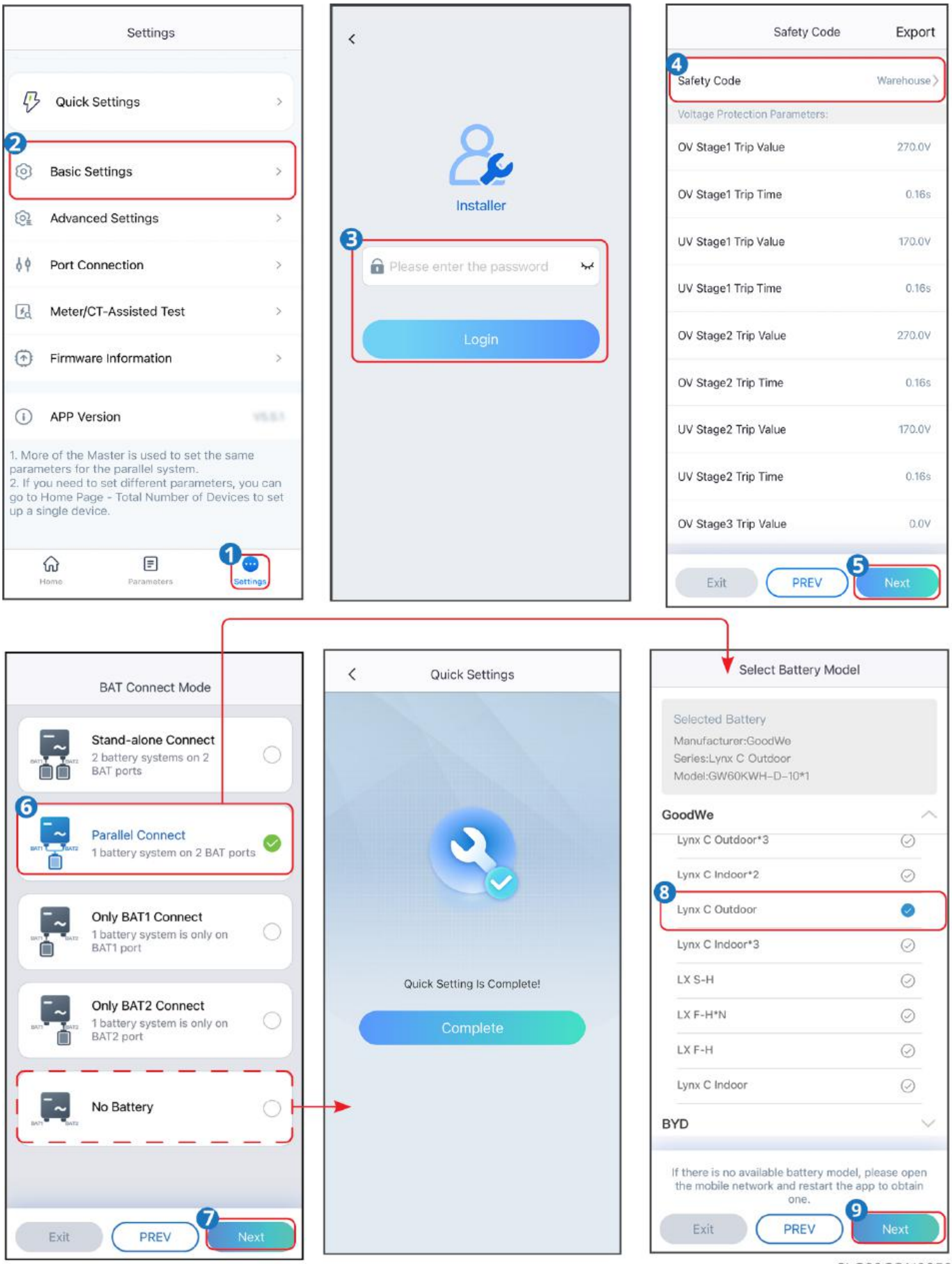
8.1.5 Quick Setting the Basic Information

NOTICE

- The setting page varies depending on inverter model.
- The parameters will be configured automatically after selecting the safety country/region, including overvoltage protection, undervoltage protection, overfrequency protection, underfrequency protection, voltage/frequency connection protection, cosφ curve, Q(U) curve, P(U) curve, FP curve, HVRT, LVRT, etc. Tap Home > Settings > Advanced Settings > Safety Parameters to check the parameters after selecting the safety country.
- The power generation efficiency is different in different working modes. Set the working mode according to the local requirements and situation.
    - Self-use mode: The basic working mode of the system. PV power generation is used to supply power to the load first, the excess power is used to charge the battery, and the remaining power is sold to the grid. When PV power generation cannot meet the load's power demand, the battery will supply power to the load; when the battery power also cannot meet the load's power demand, the grid will supply power to the load.
    - Back-up mode: The back-up mode is mainly applied to the scenario where the grid is unstable. When the grid is disconnected, the inverter turns to off-grid mode and the battery will supply power to the load; when the grid is restored, the inverter switches to grid-tied mode.
    - Economic mode: It is recommended to use economic mode in scenarios when the peak-valley electricity price varies a lot. Select Economic mode only when it meets the local laws and regulations. Set the battery to charge mode during Vally period to charge battery with grid power. And set the battery to discharge mode during Peak period to power the load with the battery.
    - Off-grid mode: suitable for areas without power grid. PV and batteries form a pure off-grid system. PV generates electricity to power the load and excess electricity charges the battery. When PV power generation cannot meet the power demand of the load, the battery will supply power to the load.
    - Smart charging: In some countries/regions, the PV power feed into the utility grid is limited. Select Smart Charging to charge the battery using the surplus power to minimize PV power waste.
    - Peak shaving mode: Peak shaving mode is mainly applicable to peak power limited scenarios. When the total power consumption of the load exceeds the power consumption quota in a short period of time, battery discharge can be used to reduce the power exceeding the quota.

8.1.5.1 Quick Setting the Basic Information(Type II)

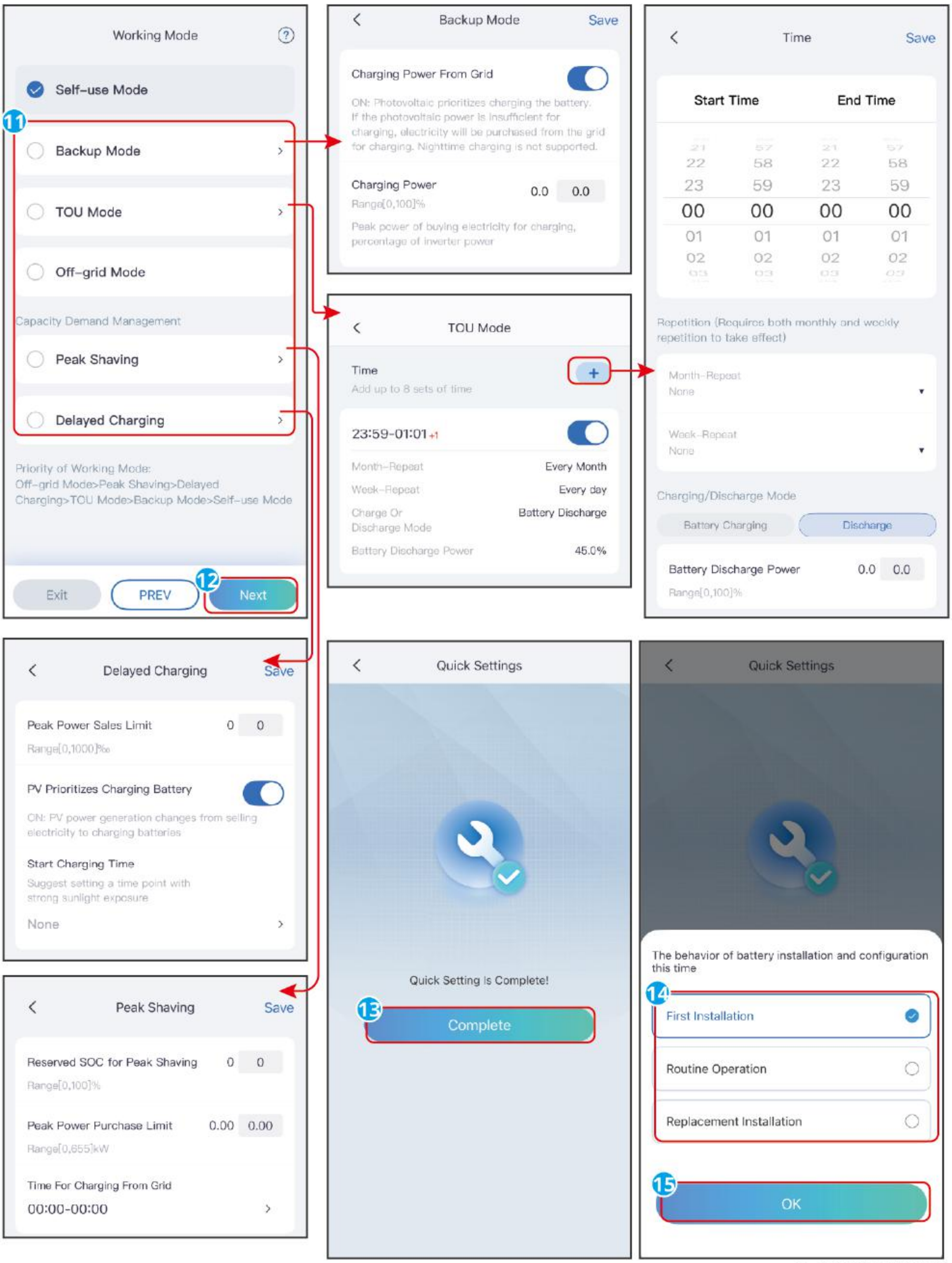
Step 1: Tap **Home > Settings > Quick Settings** to set the parameters.
Step 2 : Enter the password for quick settings. Contact the supplier or after sales service for password. Password for professional technicians only.
Step 3 : Some models support one-click configuration. Select **Guided Mode** to quickly configure the system.
Step 4: Select safety country accordingly. Tap **Next** to set the Battery Connect Mode.
Step 5 : Select the actual mode in which the battery is connected to the inverter. The basic settings are completed if there is no battery connected in the system. Tap **Next** to set the Battery Model if there is any battery connected in the system.
Step 6: Select the actual battery model. Tap **Next** to set the Working Mode.



SLG00CON0059

Step 7: Set the working mode based on actual needs. Tap **Next** to set the Working Mode. For some models, after the working mode configuration is completed, it will automatically enter the CT/meter self-test state. At this time, the inverter will temporarily disconnect from the grid and then automatically reconnect.

Step 8 : Select the battery based on actual situation whether it is **First Installation, Routine Operation** or **Replacement Installation**.



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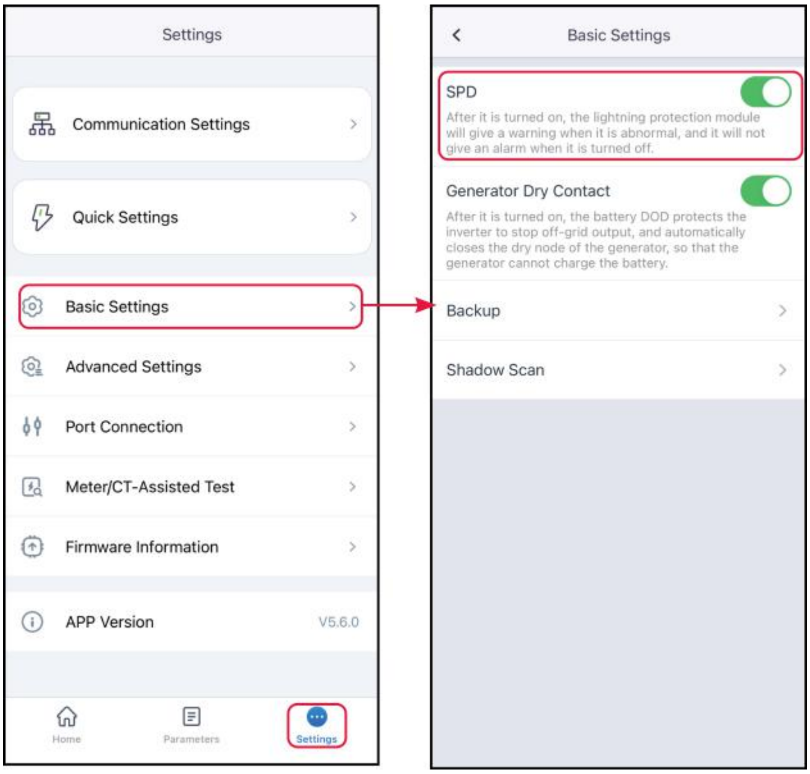
No.	Parameters	Description
Back-up mode		
1	Charging Power From Grid	Enable Charging Power From Grid to allow power purchasing from the utility grid.
2	Charging Power	The percentage of the purchasing power to the rated power of the inverter.
TOU mode		
3	Start Time	Within the Start Time and End Time, the battery is charged or discharged according to the set Battery Mode as well as the Rated Power.
4	End Time	
5	Charge Discharge Mode	Charge or discharge according to actual needs.
6	Rated Power	The percentage of the charging/discharging power to the rated power of the inverter.
7	Charge Cut-off SOC	The battery stop charging/discharging once the battery SOC reaches Charge Cut-off SOC.
Peakshaving		
8	Reserved SOC For Peakshaving	In Peak Shaving mode, the battery SOC should be lower than Reserved SOC For Peakshaving. Once the battery SOC is higher than Reserved SOC For Peakshaving, the peak shaving mode fails.
9	Peak Power Purchase Limit	Set the maximum power limit allowed to purchase from the grid. When the loads consume power exceed the sum of the power generated in the PV system and Peak Power Purchase Limit, the excess power will be made up by the battery.
10	Time for Charging From Grid	The utility grid will charge the battery between Start Time and End Time if the load power consumption do not exceed the power quota. Otherwise, only PV power can be used to charge the battery. Otherwise, only PV power can be used to charge the battery.

<table>
<tr><th>No.</th><th>Parameters</th><th>Description</th></tr>
<tr><td colspan="3">Smart charging</td></tr>
<tr><td>11</td><td>Peak Power Sales Limit</td><td>Set the Peak Power Sales Limit in compliance with local laws and regulations. The Peak Limiting Power shall be lower then the output power limit specified by local requirements.</td></tr>
<tr><td>12</td><td>PV Prioritizes Charing Battery</td><td rowspan="2">During charging time, the PV power will first charge the battery.</td></tr>
<tr><td>13</td><td>Start Charging Time</td></tr>
</table>

8.1.6 Setting the Basic Information

8.1.6.1 Setting the SPD

After enabling SPD, when the SPD module is abnormal, there will be SPD module abnormal alarm prompt.
Step 1 : Tap **Home > Settings > Basic Settings > SPD**, to set the parameters.
Step 2 : enable or disable the function based on actual needs.

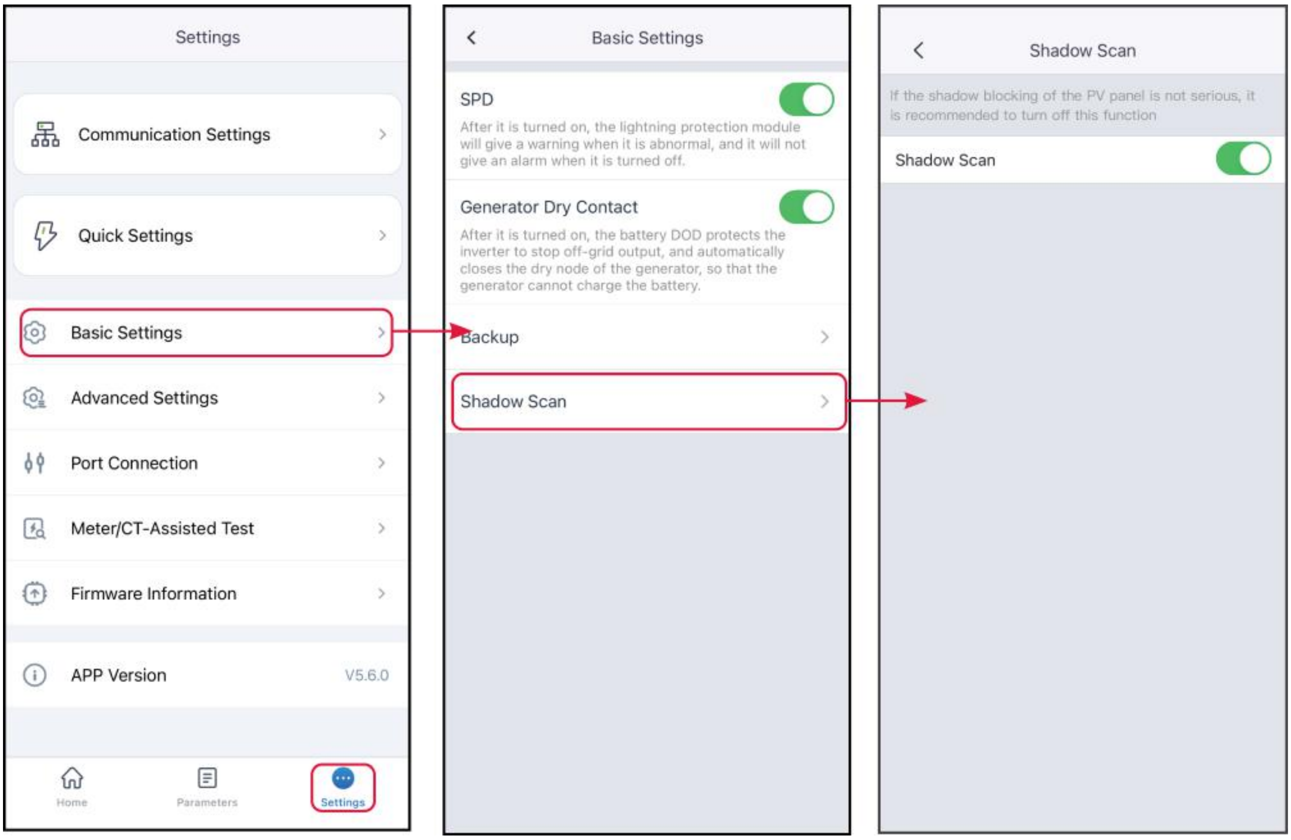


8.1.6.2 Setting the Shadow Scan

Enable Shadow Scan when the PV panels are severely shadowed to optimize the power generation efficiency.

Step 1 : Tap **Home > Settings > Basic Settings> Shadow Scan**, to set the parameters.

Step 2: Enable or disable the function based on actual needs. Set the Shadow Scan interval and MPPT shadow scan if the inverter supports.

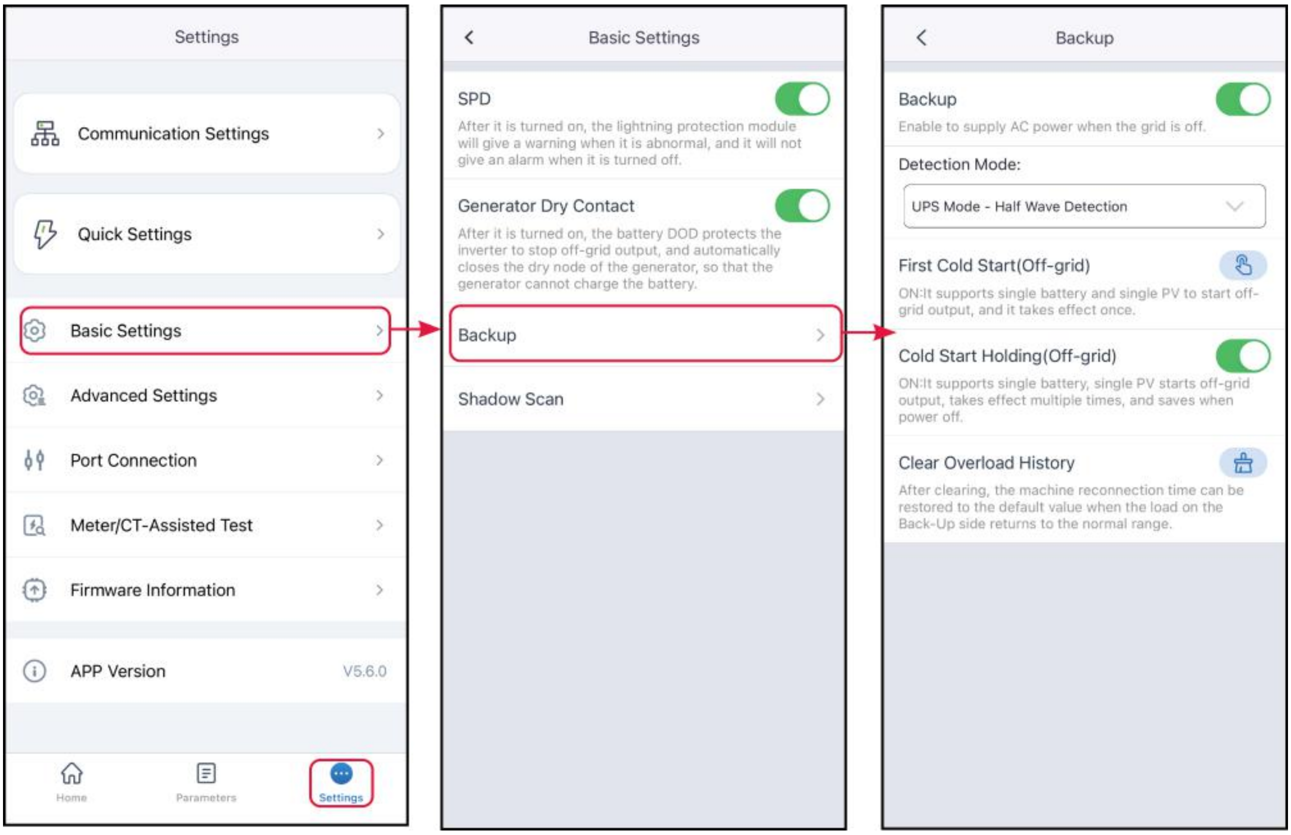


8.1.6.3 Setting the Back-up Power Parameters

After enabling Backup, the battery will power the load connected to the backup port of the inverter to ensure Uninterrupted Power Supply when the power grid fails.

Step 1 : Tap **Home > Settings > Basic Settings > Backup**, to set the parameters.

Step 2 : Set the backup supply function based on actual needs.

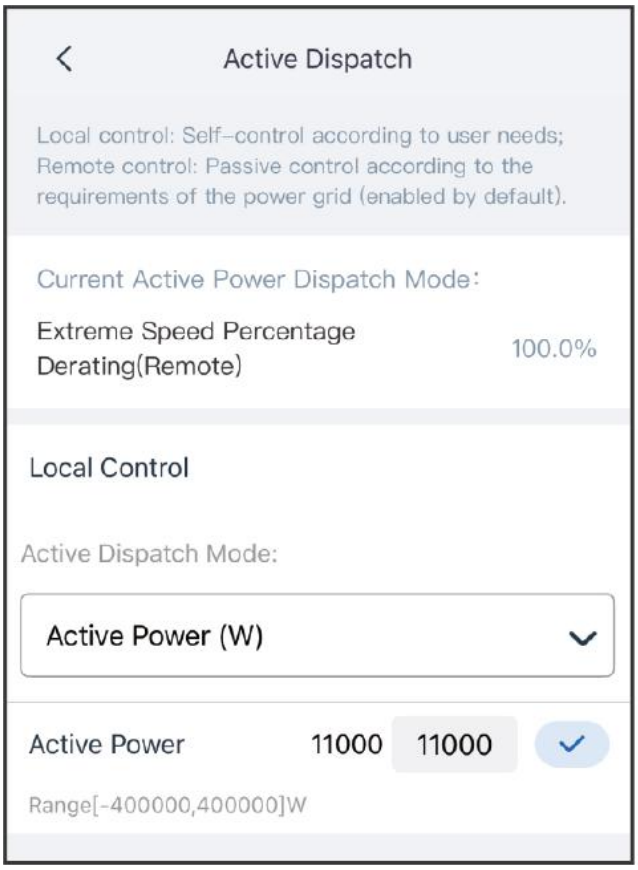


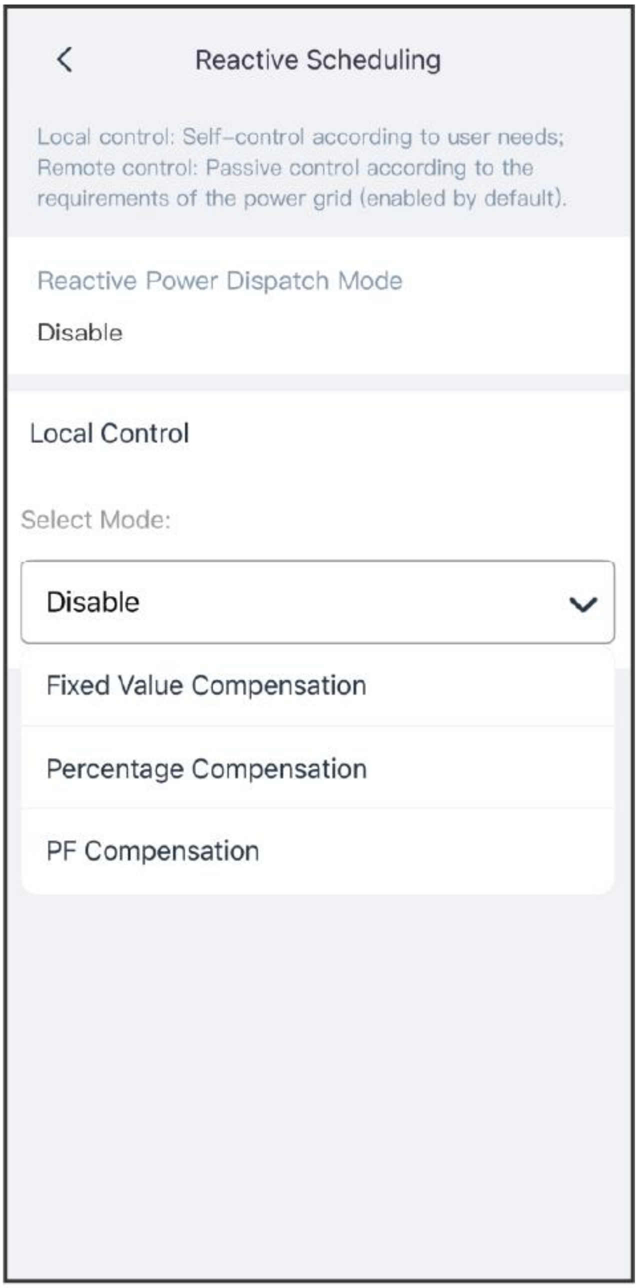
No.	Parameters	Description
1	UPS Mode- Full Wave Detection	Check whether the utility grid voltage is too high or too low.
2	UPS Mode- Half Wave Detection	Check whether the utility grid voltage is too low.
3	EPSmode-with LVRT support.	Stop detecting utility grid voltage.
4	First Cold Start (Off-grid)	It will only take effect once. In off-grid mode, enable First Cold Start (Off-grid) to output backup supply with battery or PV.
5	Cold Start Holding (Off-grid)	Take effect multiple times. In off-grid mode, enable First Cold Start (Off-grid) to output backup supply with battery or PV.

No.	Parameters	Description
6	Clear Overload History	Once the power of loads connected to the inverter BACK-UP ports exceeds the rated load power, the inverter will restart and detect the power again. The inverter will perform restart and detection several times until the overloading problem is solved. Tap Clear Overload History to reset the restart time interval after the power of the loads connected to the BACK-UP ports meets the requirements. The inverter will restart immediately.

8.1.6.4 Setting Power Adjustment Parameters

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





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No.	Parameter	Description
Active Scheduling		

No.	Parameter	Description
1	Active Scheduling Mode	According to the requirements of the power grid company in the country/region where the inverter is located, control the active power according to the selected dispatch mode. Supports: • Disabled: Disables active scheduling. • Fixed value reduction: Dispatch according to a fixed value. • Percentage reduction: Dispatch based on a percentage of the rated power.
2	Active Power	• When the active power dispatch mode is set to fixed value derating, the active power is set to a fixed value. • When the active power dispatch mode is set to percentage derating, the active power is set as a percentage of the rated power. 比。
Reactive Scheduling		
3	Reactive Scheduling Mode	According to the requirements of the power grid company in the country/region where the inverter is located, control the reactive power according to the selected dispatch mode. Supports: • Disabled: Disables reactive scheduling. • Fixed value compensation: Dispatch according to a fixed value. • Percentage compensation: Dispatch based on a percentage of the rated power. • PF compensation.
4	Status	Set the power factor as lagging or leading based on actual needs and local grid standards and requirements.

No.	Parameter	Description
5	Reactive Power	• When the reactive power dispatch mode is set to fixed value derating, the reactive power is set to a fixed value. • When the reactive power dispatch mode is set to percentage derating, the reactive power is set as a percentage of the rated power.
6	Power Factor	When the reactive power dispatch mode is set to PF compensation, set the power factor.

8.1.7 Setting Advanced Parameters

NOTICE
Contact the supplier or after sales service for Advanced Setting password. Password for professional technicians only.

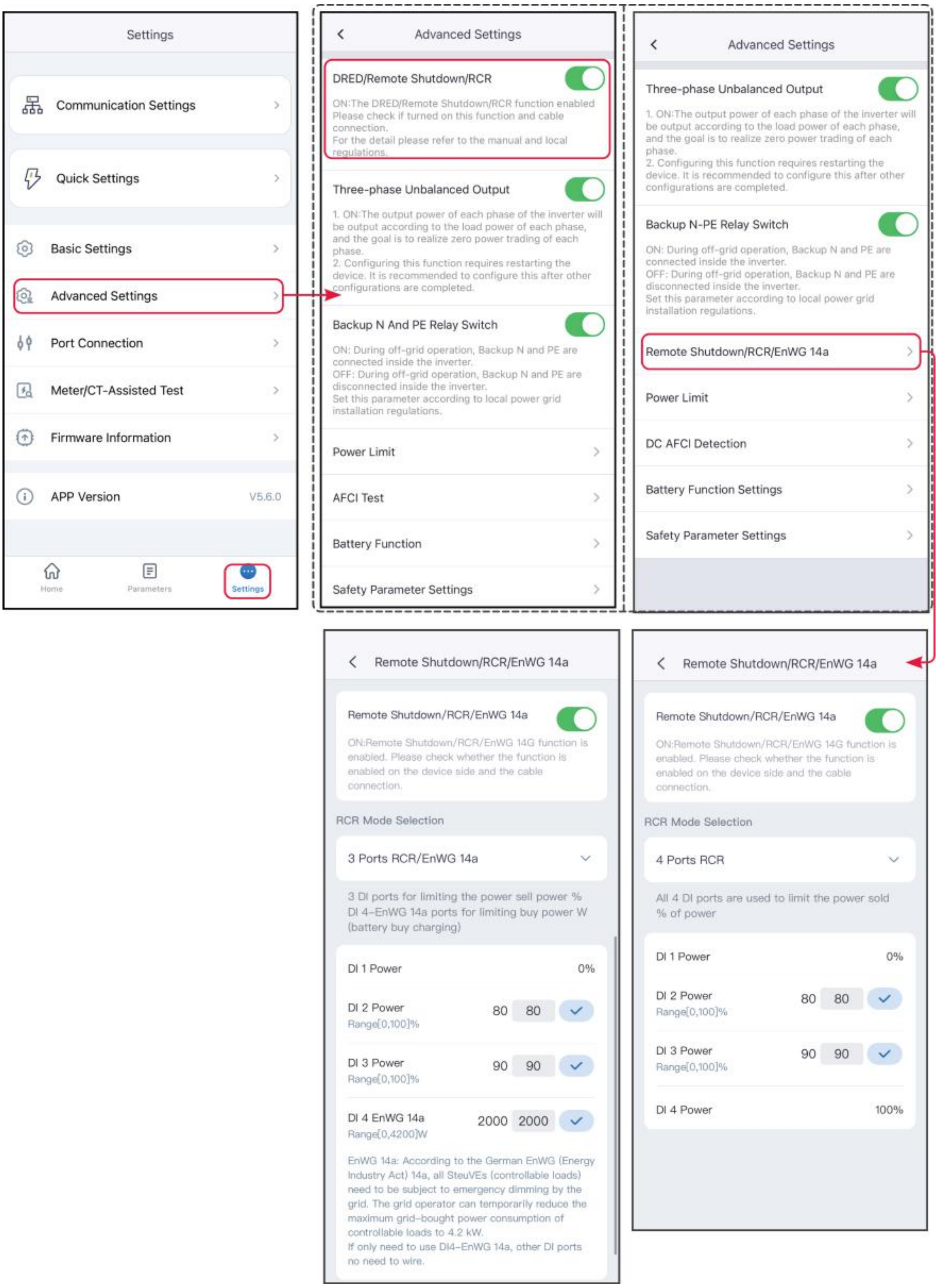
8.1.7.1 Setting DRED/Remote Shutdown/RCR/EnWG 14a

Enable DRED/Remote Shutdown/RCR before connecting the third party DRED, remote shutdown, or RCR device to comply with local laws and regulations.

Step 1 : Tap **Home** > **Settings** > **Advanced Settings** > **DRED/Remote Shutdown/RCR** to set the parameters.

Step 2 : Enable or disable the function based on actual needs.

Step 3 : For areas where the EnWG 14a regulation applies, when enabling the RCR function, you need to select the RCR mode according to the actual device type and set the DI port power.

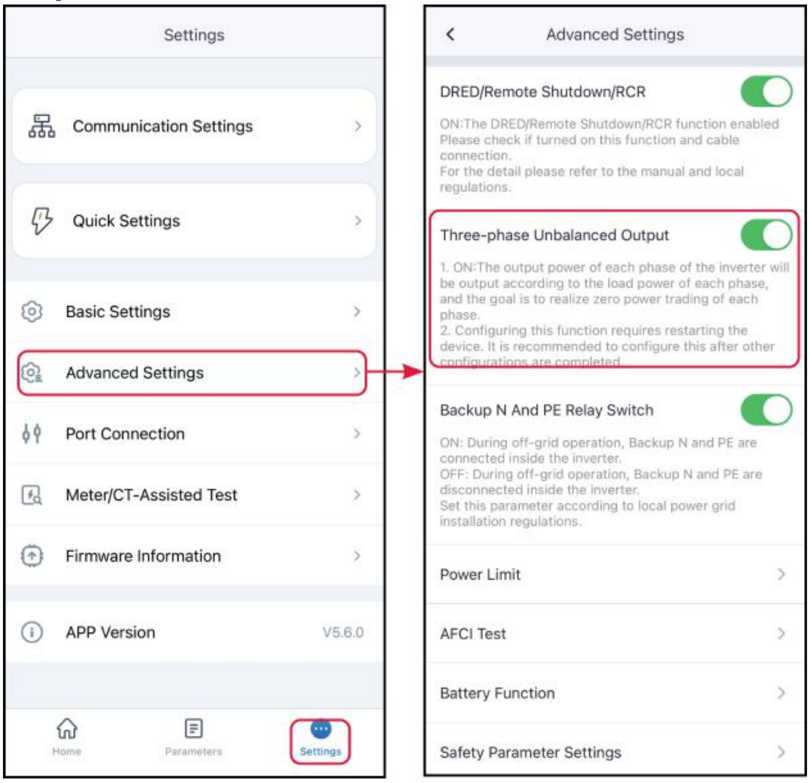


8.1.7.2 Setting Three-phase Unbalanced Output

Enable the Three-phase unbalanced output when connecting unbalanced loads, which means L1, L2, L3 of the inverter respectively connected to loads with different power. Only for three phase inverters.

Step 1 : Tap **Home > Settings > Advanced Settings > Three-phase Unbalanced Output** to set the parameters.

Step 2 : Enable or disable the function based on actual needs.

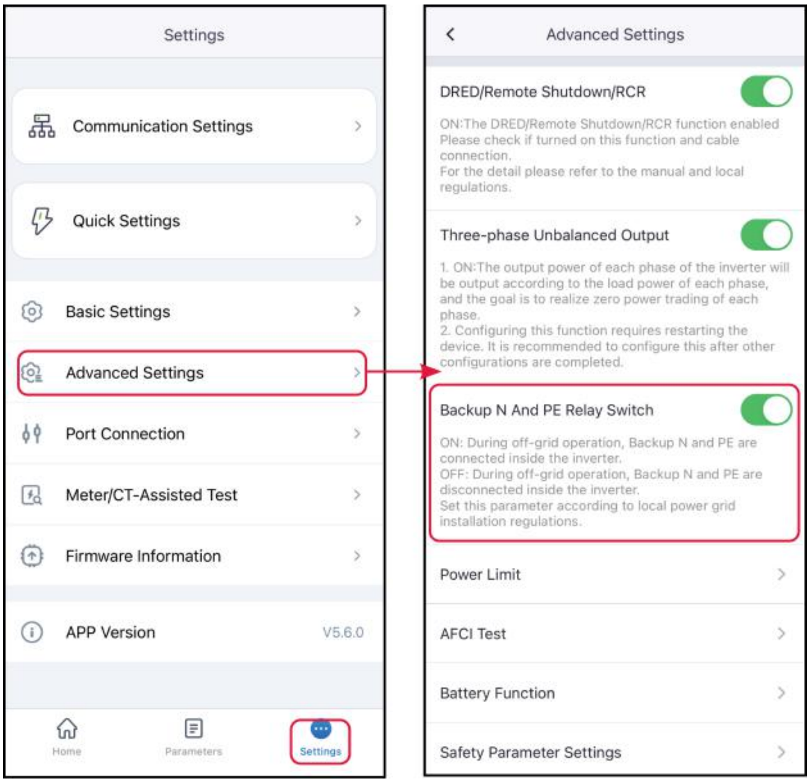


8.1.7.3 Setting the Backup N and PE Relay Switch

To comply with local laws and regulations, ensure that the relay inside the back-up port remains closed and the N and PE wires are connected when the inverter is working off-grid.

Step 1 : Tap **Home > Settings > Advanced Settings > Backup N and PE Relay Switch** to set the parameters.

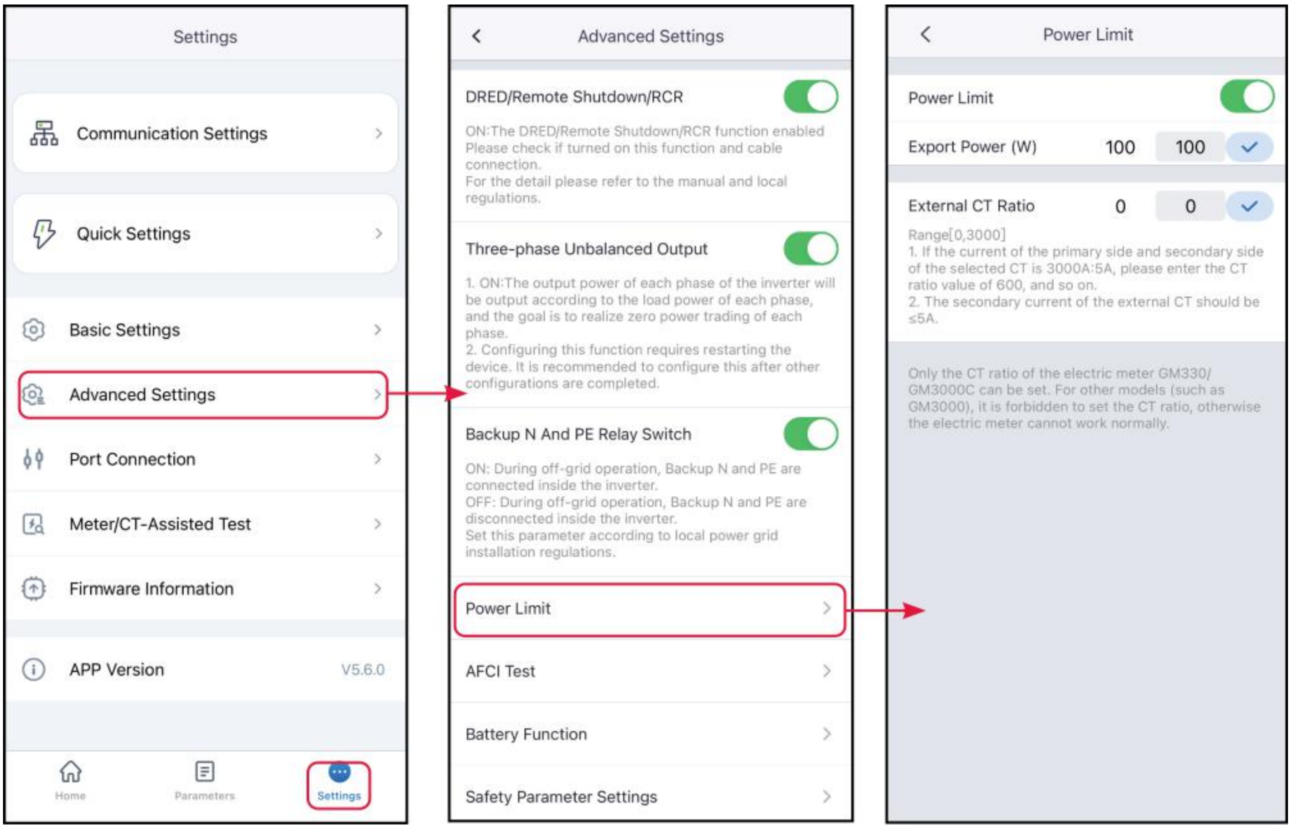
Step 2 : Enable or disable the function based on actual needs.



8.1.7.4 Setting the Power Limit Parameters

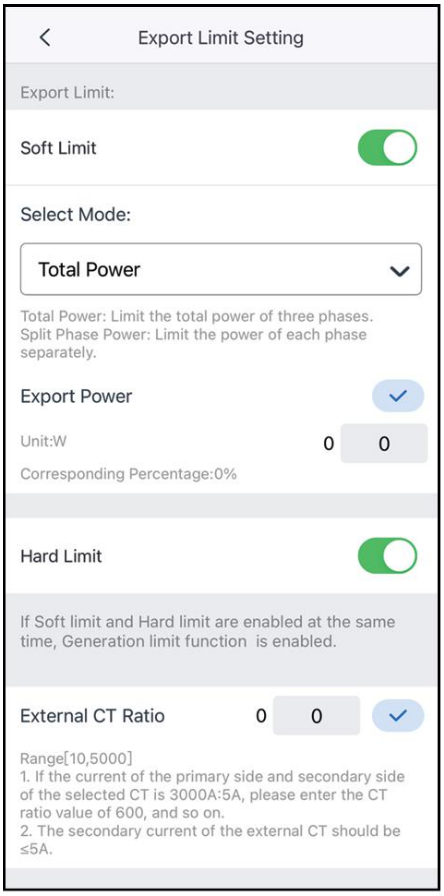
Step 1: Tap **Home > Settings > Advanced Settings > Power Limit** to set the parameters.
Step 2 : Turn on or off the power limit function according to actual needs.
Step 3 : After turning on the function, enter the parameter value according to actual needs and tap "√" to successfully set the parameter.

8.1.7.4.1 Set the grid-connected power limit parameters (general)



No.	Parameters	Description
1	Power Limit	Turn on this function when output power needs to be limited according to the grid standards of some countries or regions.
2	Export Power	Set according to the maximum power that can be input to the grid.
3	External Meter CT ratio	Set the ratio of the primary current to the secondary current of the external CT.

8.1.7.4.2 Setting the Power Limit Parameters (Australia)



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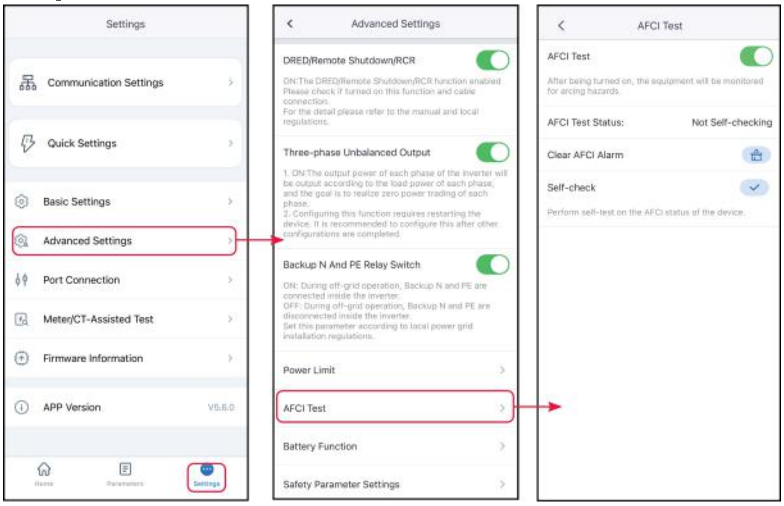
No.	Parameters	Description
1	Software Power Limit	When output power needs to be limited according to grid standards in some countries or regions, turn on this function.
2	Limit Setting	• Set according to the maximum power that can be actually input to the grid. • Supports setting of fixed power value or percentage. The set percentage is the percentage of the limit power to the rated power of the inverter. • After setting the fixed value, the percentage changes automatically; after setting the percentage, the fixed value changes automatically.

No.	Parameters	Description
3	Hardware Power Limit	After enabling this function, when the amount of electricity fed into the grid exceeds the limit value, the inverter will automatically disconnect from the grid.
4	External Meter CT Ratio	Set the ratio of the primary current to the secondary current of the external CT.

8.1.7.5 Setting the AFCI Detection

Step 1 : Tap **Home > Settings > Advanced Settings > AFCI Test** to set the parameters.
Step 2 : Enable AFCI Test, Clear AFCI Alarm and Self-Check based on actual needs.



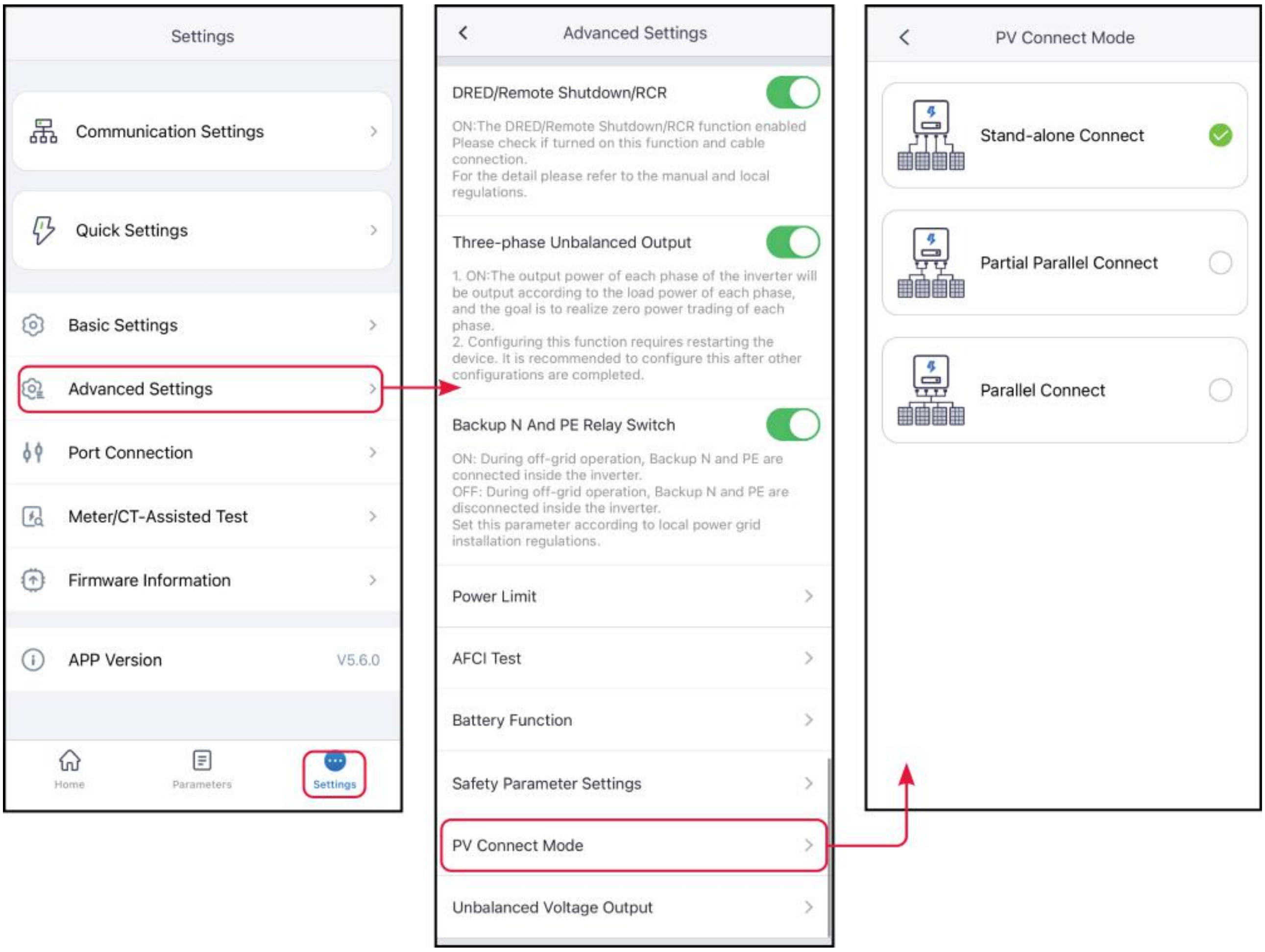
No.	Parameters	Description
1	AFCI Test	Enable or disable AFCI accordingly.
2	AFCI Test Status	The detection status like Not Self-checking.
3	Clear AFCI Alarm	Clear ARC Faulty alarm records.
4	Self-check	Tap to check whether the AFCI function works normally.

8.1.7.6 Setting PV Connect Mode

Select the PV connect mode based on the actual connections between the PV strings and MPPT ports of the inverter.

Step 1 : Tap **Home > Settings > Advanced Settings > PV Connect Mode** to set the parameters.

Step 2 : Set the connect mode to Independent Access, Partial Parallel Connect or Parallel Connection based on actual connections.

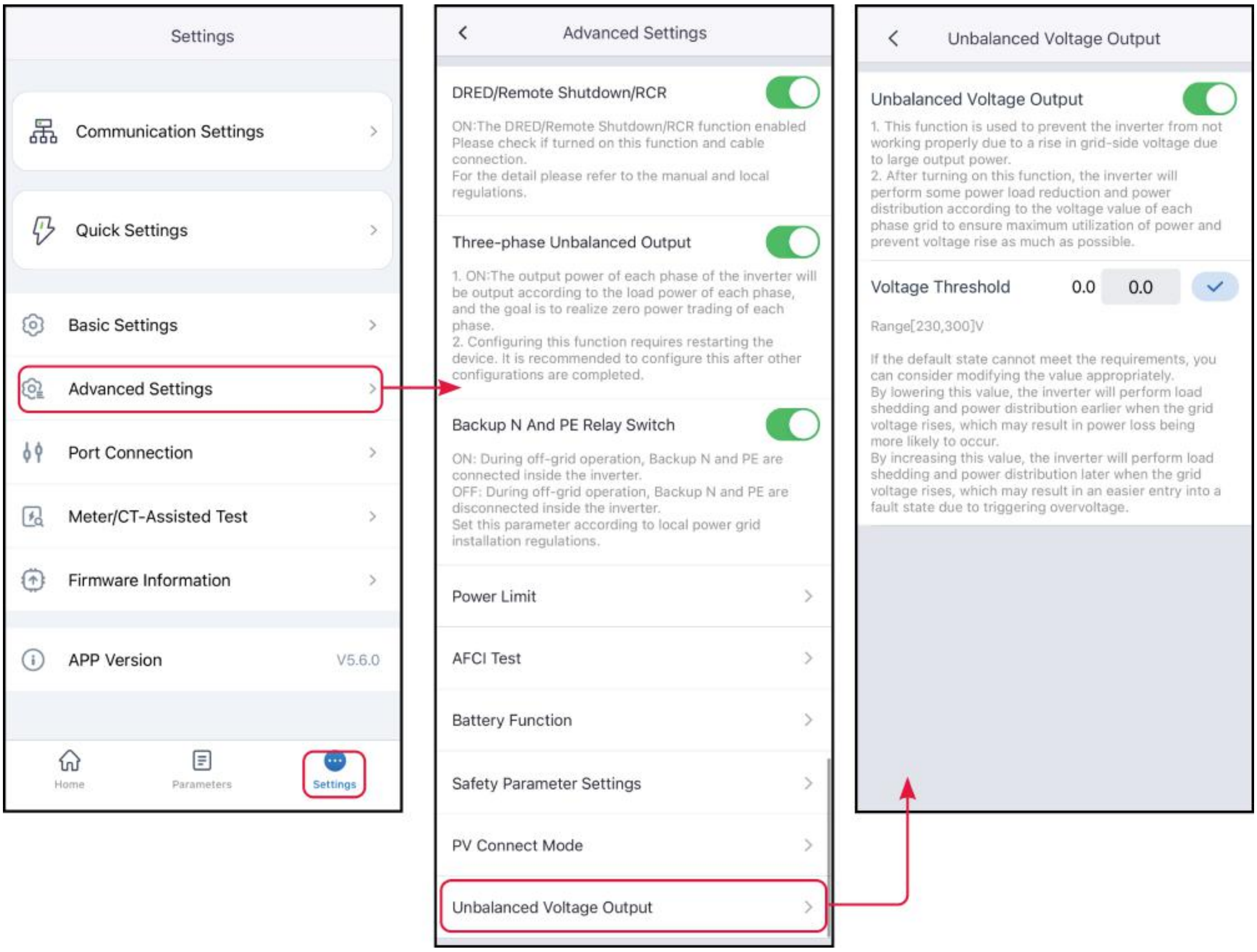


No.	Parameters	Description
1	Stand-alone Connect	The external PV string is connected to multi MPPT terminals of the inverter.
2	Partial Parallel Connect	The PV strings are connected to the inverter in both stand-alone and parallel connection. For example, one PV string connect to MPPT1 ad MPPT2, another PV string connect to MPPT3.

No.	Parameters	Description
3	Parallel Connect	When an external PV string is connected to the PV input port on the inverter side, one PV string is connected to multiple PV input ports.

8.1.7.7 Setting the Unbalanced Voltage Output

Step 1 : Tap **Home > Settings > Advanced Settings > Unbalanced Voltage Output** to se the parameters.
Step 2 : Enable or disable the function based on actual needs.
Step 3 : After enabling the Unbalance Voltage Function, set parameters based on actual needs. And tap '√'. The parameters are set successfully.



8.1.7.8 Setting Power Adjustment Response Parameters

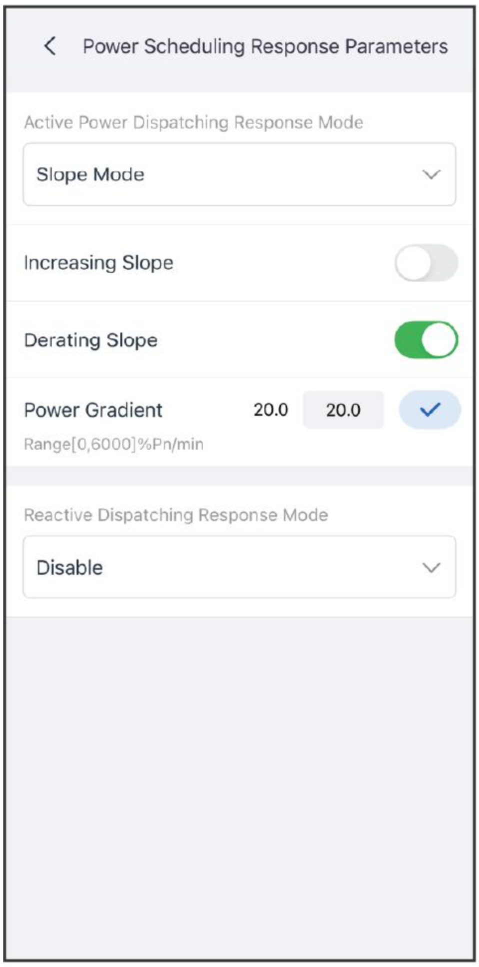
Step 1: Go to the parameter settings page via **Home > Settings > Advanced Settings**

> **Power Adjustment Response Parameters**.

Step 2: Based on actual requirements, select **Disable, Slope Adjustment**, or **First-Order Low-Pass Filter** Mode from the Active Power Adjustment drop-down menu. If you select slope adjustment, enter the power change gradient value; if you select first-order low-pass filter mode, enter the first-order low-pass filter time parameter value.

Step 3: Based on actual requirements, select **Disable, Slope Adjustment**, or **First-Order Low-Pass Filter** Mode from the Reactive Power Adjustment drop-down menu. If you select slope adjustment, enter the power change gradient value; if you select first-order low-pass filter mode, enter the first-order low-pass filter time parameter value.

Step 4: Click √ to save the settings.



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No.	Parameter	Description
Active Adjustment Response Mode		

No.	Parameter	Description
1	First-order Low-pass Filter	Within the response time constant, active adjustment is implemented according to a first-order low-pass curve.
2	First-order Low-pass Filter Time Parameter	Set the time constant within which the active power changes based on the first order LPF curve.
3	Slope Adjustment	Implement active power dispatch based on the power change slope.
4	Power Change Gradient	Set the slope of active power adjustment changes.
Reactive Adjustment Response Mode		
5	First-order Low-pass Filter	Within the response time constant, reactive adjustment is implemented according to a first-order low-pass curve.
6	First-order Low-pass Filter Time Parameter	Set the time constant within which the reactive power changes based on the first order LPF curve.
7	Slope Adjustment	Implement reactive power dispatch based on the power change slope.
8	Power Change Gradient	Set the slope of reactive power adjustment changes.

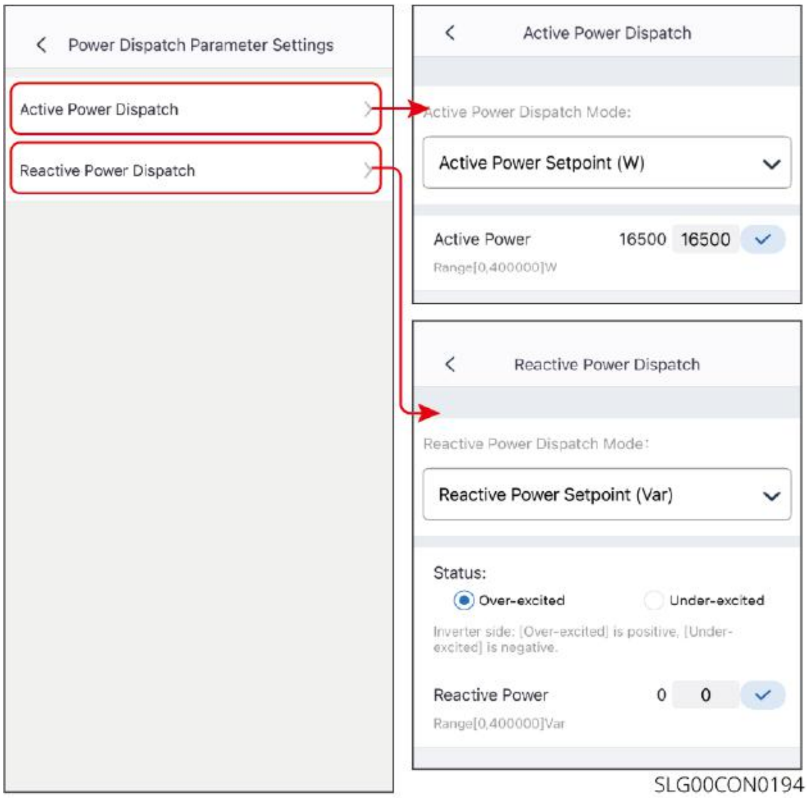
8.1.7.9 Setting the Power Scheduling Parameters

Active power or reactive power can be regulated by directly setting the power value, a percentage of rated power, or the power factor (PF) value.

Step 1: Tap **Home > Settings > Basic Settings > Power Dispatch Parameter Settings** to set the parameters.

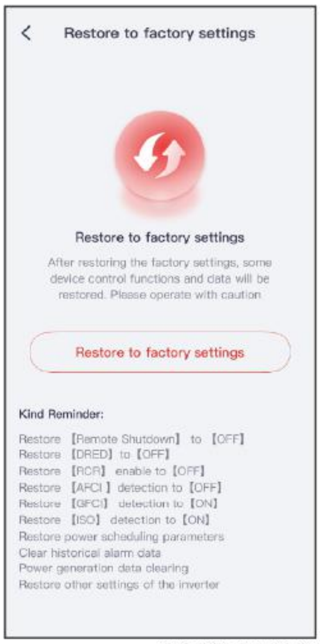
Step 2: In the Active Power Dispatch Mode dropdown menu, select one of the following based on your requirements: **Disabled, Active Power Setpoint(W)**, or **Active Power Setpoint(%)**.

Step 3: In the Reactive Power Dispatch Mode dropdown menu, select one of the following based on your requirements: **Disabled, Reactive Power Setpoint(Var)**, **Reactive Power Setpoint(%), or PF Compensation**.



8.1.7.10 Restore Factory Settings

To restore the device to its factory default settings, perform the following steps.
Step 1: Go to the settings page by selecting **Home > Settings > Advanced Settings > Restore Factory Settings**.
Step 2: Tap **Restore Factory Settings** to restore the interface prompt section to factory settings.



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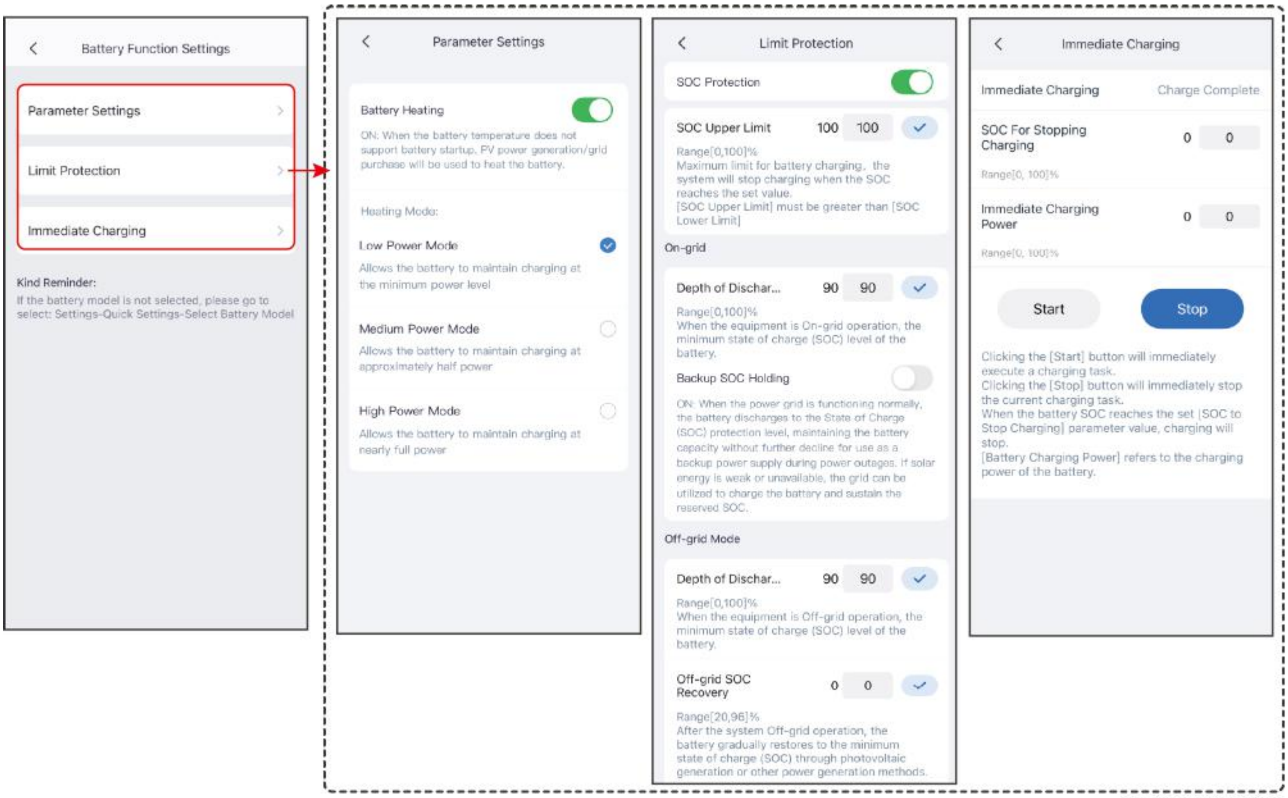
8.1.8 Setting the Battery

8.1.8.1 Set Parameters for Lithium Battery

Step 1: Tap **Home > Settings> Advanced Settings > Battery Function Settings** to set the parameters.
Step 2: Set the parameters based on actual needs.



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No.	Parameter	Description
Parameter Settings		
1	Max. Charging Current	Only applicable to certain models. Set the maximum charging current based on actual needs.
2	Max. Discharging Current	Only applicable to certain models. Set the maximum discharging current based on actual needs.

No.	Parameter	Description
3	Battery Heating	Optional. This option is displayed on the interface when a battery that supports heating is connected. After the battery heating function is turned on, when the temperature is below the value that starts up the battery, PV power or electricity from the grid will be used to heat the battery. Heating Mode: • GW5.1-BAT-D-G20/GW8.3-BAT-D-G20 ◦ Low Power Mode: Maintains minimum battery power input capacity, turns on when the temperature is below -9℃, and turns off when the temperature is above or equal to -7℃. ◦ Medium Power Mode: to maintain the moderate power input capacity of the battery. It will be turned on when the temperature is less than 6℃, and turned off when it is greater than or equal to 8℃. ◦ High Power Mode: to maintain the higher power input capacity of the battery. It will be turned on when the temperature is less than 11℃, and turned off when it is greater than or equal to 13℃. • GW14.3-BAT-LV-G10 ◦ Low Power Mode: Maintains minimum battery power input capacity, turns on when the temperature is below 5℃, and turns off when the temperature is above or equal to 7℃. ◦ Medium Power Mode: to maintain the moderate power input capacity of the battery. It will be turned on when the temperature is less than 10℃, and turned off when it is greater than or equal to 12℃. ◦ High Power Mode: to maintain the higher power input capacity of the battery. It will be turned on when the temperature is less than 20℃, and turned off when it is greater than or equal to 22℃.

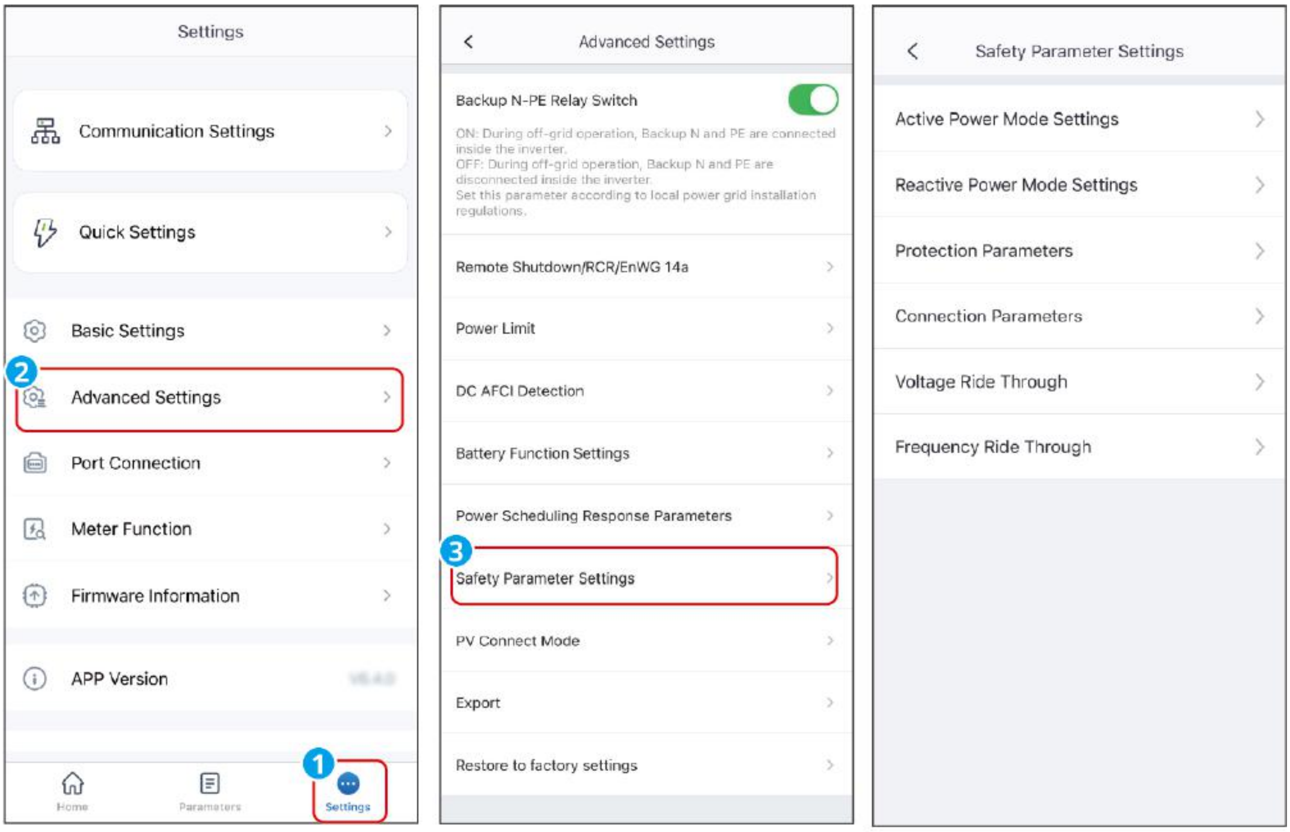
No.	Parameter	Description
4	Battery Wake-up	• After being turned on, the battery can be awakened when it shuts down due to undervoltage protection. • Only applicable to lithium batteries without circuit breakers. After being turned on, the output voltage of the battery port is about 60V.
Limit Protection		
5	SOC Protection	Start battery protection when the battery capacity is lower than the Depth of Discharge.
6	SOC Limit	The upper limit value for battery charging. Charging stops when the battery SOC reaches the SOC upper limit.
7	Discharge Depth (On-grid)	The maximum discharge value allowed for the battery when the inverter is in the on-grid scenario.
8	Backup Power SOC Maintenance	To ensure that the battery SOC is sufficient to maintain normal operation when the system is off-grid, the battery will purchase electricity from the grid and charge to the set SOC protection value when the system is connected to the grid.
9	Discharge Depth (Off-grid)	The maximum discharge value allowed for the battery when the inverter is in the off-grid scenario.
10	Off-grid SOC Recovery	When the inverter is operating off-grid, if the battery SOC drops below the lower limit, the inverter stops outputting power and only charges the battery until the battery SOC returns to the off-grid recovery SOC value. If the SOC lower limit value is higher than the off-grid recovery SOC value, charge to SOC lower limit +10%.
Immediate Charging		
11	Immediate Charging	Enable to charge the battery by the grid immediately. This takes effect once. Enable or Disable based on actual needs.

No.	Parameter	Description
12	SOC for Stopping Charging	Stop charging the battery once the battery SOC reaches SOC For Stopping Charging.
13	Immediate Charging Power	Indicates the percentage of the charging power to the inverter rated power when enabling Immediate Charging. For example, for an inverter with a rated power of 10kW, when set to 60, the charging power is 6kW.
14	Start	Start charging immediately.
15	Stop	Immediately stop the current charging task.

8.1.9 Setting Safety Parameters

NOTICE

Set the custom safety parameters in compliance with local requirements. Do not change the parameters without the prior consent of the grid company.



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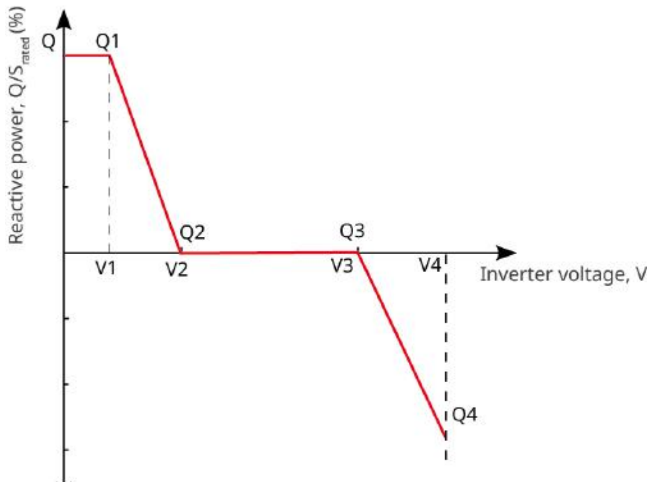
8.1.9.1 Setting the Reactive Power Mode

Step 1 : Tap **Home** > **Settings** > **Advanced Settings** > **Safety Parameter Setting** > **Reactive Power Mode Settings** to set the parameters.
Step 2 :Set the parameters based on actual needs.

Q(U) Curve



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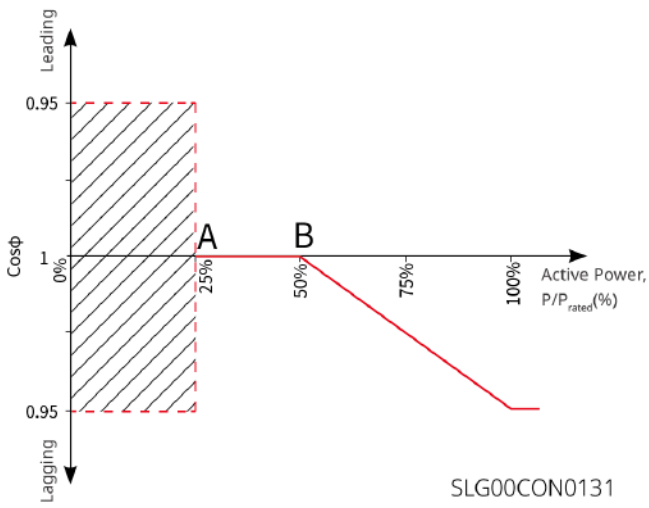
Cosφ Curve



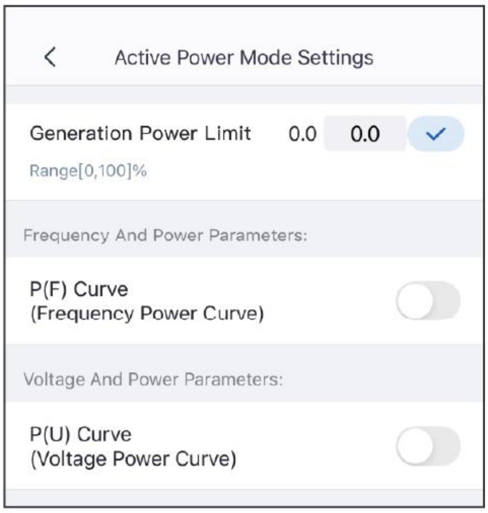
No.	Parameters	Description
Fix PF		
1	Fix PF	Enable Fix PF when it is required by local grid standards and requirements. After the parameters are set successfully, the power factor remains unchanged during the operation of the inverter.
2	Under-excited	Set the power factor as lagging or leading based on actual needs and local grid standards and requirements.
3	Over-excited	
4	Power Factor	Set the power factor based on actual needs. Range: 0-~-0.8, or +0.8~+1.
Fix Q		
1	Fix Q	Enable Fix Q when it is required by local grid standards and requirements.
2	Over-excited/Under-excited	Set the reactive power as inductive or capacitive reactive power based on actual needs and local grid standards and requirements.
3	Reactive Power	Set the ratio of reactive power to apparent power.
Q(U) Curve		
1	Q(U) Curve	Enable Q(U) Curve when it is required by local grid standards and requirements.

No.	Parameters	Description
2	Mode Selection	Set Q(U) curve mode, supporting basic mode and slope mode.
3	Vn Voltage	The percentage of actual voltage to the rated voltage at Vn point, n=1, 2, 3, 4. When set to 90, it means: V/Vrated% = 90%.
4	Vn Reactive Power	The percentage of the reactive output power to the apparent power at Vn point, n=1, 2, 3, 4. For example, setting **Vn Reactive Power** to 48.5 means Q/Srated%=48.5%。
5	Voltage Deadband Width	When Q(U) curve mode is set to slope mode, this parameter defines the voltage deadband range where no reactive power output is required.
6	Over-excitation Slope	(In Q(U) slope mode) Sets the positive or negative slope for reactive power variation during over-voltage conditions.
7	Under-excitation Slope	
8	Vn Reactive Power	The percentage of the reactive output power to the apparent power at Vn point, n=1, 2, 3, 4. For example, setting **Vn Reactive Power** to 48.5 means Q/Srated%=48.5%。
9	Q(U) Curve Response Time Constant	The reactive power must reach 95% of the target value within 3 time constants, following a first-order low-pass filter curve.
10	Extended Function	Enable the extended function and configure the corresponding parameters.
11	Lock-In Power	When the inverter output reactive power to the rated power ratio is between the Lock-in power and Lock-out power, the ratio meets Q(U) curve requirements.
12	Lock-out Power	
Cosφ(P) Curve		

No.	Parameters	Description
1	Cosφ(P) Curve	Enable Cosφ Curve when it is required by local grid standards and requirements.
2	Mode Selection	Set cosφ(P) Curve Mode and support basic mode and slope mode configurations.
3	N-point Power	The percentage of inverter output active power relative to rated power at the N-point. N=A, B, C, D, E。
4	N-point cosφ Value	N-point Power Factor N=A, B, C, D, E。
5	Over-excitation Slope	When cosφ(P) curve mode is set to slope mode, configures the power variation slope as either positive or negative.
6	Under-excitation Slope	
7	N-point Power	The percentage of inverter output active power relative to rated power at the N-point. N=A, B, C。
8	N-point cosφ Value	N-point Power Factor N=A, B, C。
9	cosφ(P) Curve Response Time Constant	The reactive power must reach 95% of the target value within 3 time constants, following a first-order low-pass filter curve.
10	Extended Function	Enable the extended function and configure the corresponding parameters.
11	Lock-in Voltage	When the grid voltage is between Lock-in Voltage and Lock-out Voltage, the voltage meets Cosφ curve requirements.
12	Lock-out Voltage	
Q(P) Curve		
1	Q(P) Curve Function	Enable Q(P) Curve when it is required by local grid standards and requirements.
2	Mode Selection	Set Q(P) curve mode, supporting basic mode and slope mode.

No.	Parameters	Description
3	Pn-point Power	The percentage of the output reactive power to the rated power at Pn point, n=1, 2, 3, 4, 5, 6. For example, setting to 90 means Q/Prated%=90%.
4	Pn-point Reactive Power	The percentage of the output active power to the rated power at Pn point, n=1, 2, 3, 4, 5, 6. For example, When set to 90, it means: P/Prated% = 90%.
5	Over-excitation Slope	When the Q(P) curve mode is set to slope mode, configure the power variation slope as either a positive or negative value.
6	Under-excitation Slope	
7	Pn-point Power	Ratio of reactive power to rated power at Pn points (n=1, 2, 3). For example, setting to 90 means Q/Prated%=90%.
8	Pn-point Reactive Power	Ratio of active power to rated power at Pn points (n=1, 2, 3). For example, When set to 90, it means: P/Prated% = 90%.
9	Time Constant	The reactive power must reach 95% of the target value within 3 time constants, following a first-order low-pass filter curve.

8.1.9.2 Setting the Active Power Mode



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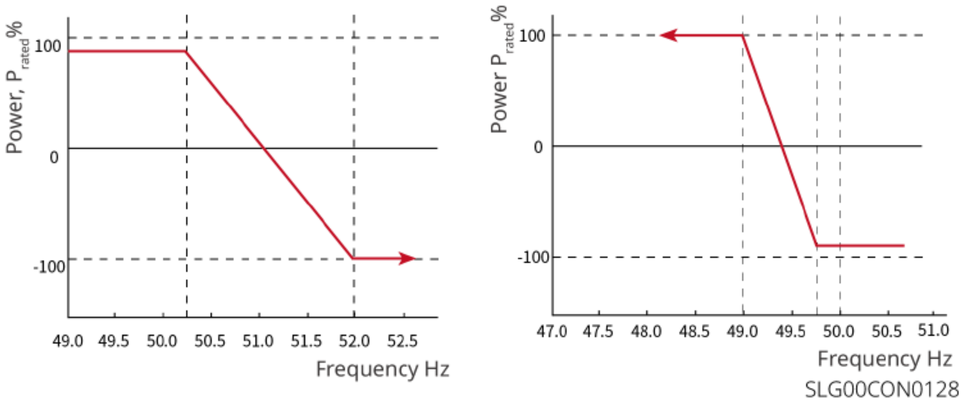
Step 1: Tap **Home > Settings > Advanced Settings > Safety Parameter Settings > Active Power Mode Settings** to set the parameters.

Step 2: Set the parameters based on actual needs.

P(F) Curve



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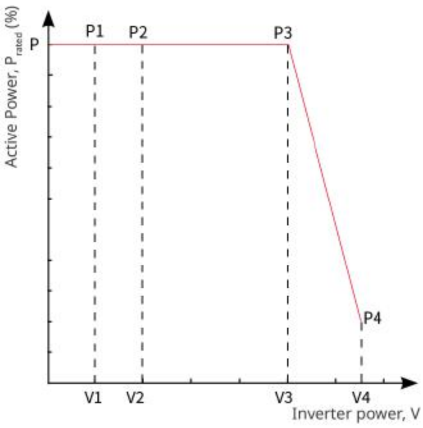
P(U) Curve



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No.	Parameters	Explanation
1	Generation Power Limit	Set the change slope when the active output power increases or decreases.
2	Power Gradient	Set the active power change slope.
Overfrequency Unloading		
1	P(F) Curve	Enable P(F) Curve when it is required by local grid standards and requirements.
2	Over-Frequency Load Shedding Mode	Set the overfrequency unloading mode based on actual needs. • Slope mode: adjusts power based on the over frequency point and load reduction slope. • Stop mode: adjusts the power based on the over-frequency start point and over-frequency end point.
3	Overfrequency Threshold	The inverter output active power will decrease when the utility grid frequency is too high. The inverter output power will decrease when the utility grid frequency is higher than **Overfrequency Threshold**.
4	Import/Export Electricity Conversion Frequency	When the set frequency value is reached, the system switches from selling electricity to buying electricity.
5	Overfrequency Endpoint	The inverter output active power will decrease when the utility grid frequency is too high. The inverter output power will stop decreasing when the utility grid frequency is higher than **Overfrequency Endpoint**.

No.	Parameters	Explanation
6	Over-Frequency Power Slope Reference Power	Adjust the inverter output power based on Apparent Active Power, Rated Active Power, Momentary Active Power, Or Max. Active Power.
7	Power response to overfrequency gradient	The inverter output active power will increase when the utility grid frequency is too high. Indicates the slope when the inverter output power decreases.
8	Tentional Delay Ta	Indicates the delayed response time when the inverter output power is higher than the **Overfrequency Threshold**.
9	Hysteretic Function	Enable the hysteretic function.
10	Frequency Hysteresis Point	During over-frequency load reduction, if the frequency decreases, the power output is based on the lowest point of the load reduction power until the frequency is less than the hysteresis point and the power is restored.
11	Hysteresis Waiting Time	For over-frequency load reduction and frequency decrease, when the frequency is less than the hysteresis point, the power recovery waiting time, that is, it takes a certain amount of time to recover the power.
12	Hysteresis Power Recovery Slope Reference Power	For over-frequency load reduction and frequency decrease, when the frequency is less than the hysteresis point, the power recovery benchmark, that is, the power recovery is based on the recovery slope * the rate of change of the reference power. Support: Pn rated power, Ps apparent power, Pm current power, Pmax maximum power, power difference (△P).

No.	Parameters	Explanation
13	Hysteretic Power Recovery Slope	For over-frequency load reduction and frequency reduction, when the frequency is less than the hysteresis point, the power change slope when the power is restored.
Underfrequency Loading		
1	P(F) Curve	Enable P(F) Curve when it is required by local grid standards and requirements.
2	Underfrequency Load Mode	Set the underfrequency unloading mode based on actual needs. • Slope mode: adjusts power based on the underfrequency point and load increase slope. • Stop mode: adjusts the power based on the underfrequency start point and underfrequency end point.
3	Underfrequency Threshold	The inverter output active power will increase when the utility grid frequency is too low. The inverter output power will increase when the utility grid frequency is lower than **Underfrequency Threshold**.
4	Import/Export Electricity Conversion Frequency	When the set frequency value is reached, the system switches from selling electricity to buying electricity.
5	Underfrequency Endpoint	The inverter output active power will increase when the utility grid frequency is too low. The inverter output power will stop increasing when the utility grid frequency is lower than **Underfrequency Endpoint**.

No.	Parameters	Explanation
6	Over-Frequency Power Slope Reference Power	Adjust the inverter output power based on Apparent Active Power, Rated Active Power, Momentary Active Power, Or Max. Active Power.
7	Under-Frequency Power Slope	The inverter output active power will increase when the utility grid frequency is too low. The slope of the inverter output power when it rises.
8	Tentional Delay Ta	Indicates the delayed response time when the inverter output power is lower than the **Underfrequency Threshold**.
9	Hysteretic Function	Enable the hysteretic function.
10	Frequency Hysteresis Point	During underfrequency loading, if the frequency increases, the power is output according to the lowest point of the loaded power until the frequency is higher than the hysteresis point and the power is restored.
11	Hysteresis Waiting Time	For underfrequency loading, the frequency increases, when the frequency is higher than the hysteresis point, the waiting time for power recovery, that is, it takes a certain amount of time to recover the power.
12	Hysteresis Power Recovery Slope Reference Power	For underfrequency loading, the frequency increases, when the frequency is higher than the hysteresis point, the benchmark for power recovery, that is, the power recovery is carried out according to the recovery slope * the rate of change of the benchmark power. Support: Pn rated power, Ps apparent power, Pm current power, Pmax maximum power, power difference (△P).

No.	Parameters	Explanation
13	Hysteretic Power Recovery Slope	For under-frequency loading, frequency increase, when the frequency is higher than the hysteresis point, the power change slope when power is restored.
14	P(U) Curve	Enable P(U) Curve when it is required by local grid standards and requirements.
15	Vn Voltage	The percentage of actual voltage to the rated voltage at Vn point, n= 1, 2, 3, 4. For example, setting Vn Voltage to 90 means V/Vrated%=90%.
16	Vn Active Power	The percentage of the output active power to the apparent power at Vn point, (n= 1, 2, 3, 4). For example, setting **Vn Reactive Power** to 48.5 means P/Prated%=48.5%.
17	Output Response Mode	Set the active power output response mode. Supports: • PT-1 Behavior, realize active scheduling based on the first-order LPF curve within the response time constant. • Gradient Control, realize active scheduling based on the power change slope.
18	Power Gradient	When the output response mode is set to Gradient Control, active power scheduling is achieved according to the power change gradient.
19	First-order Low-pass Filter Time Parameter	Set the time constant within which the active power changes based on the first order LPF curve when the Output Response Mode is set to be First-order Low-pass Filter Time Parameter.
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 consistent with the rated power value.

8.1.9.3 Setting Protection Parameters

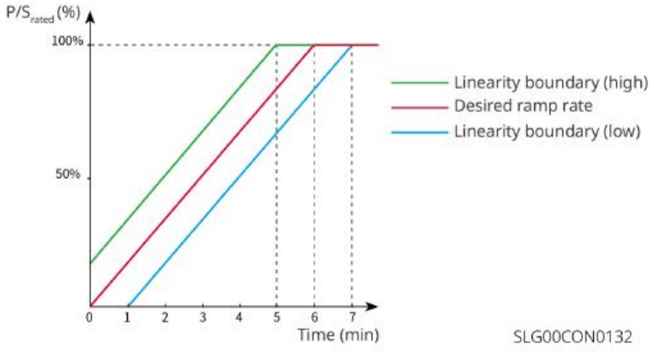
Step 1 : Tap **Home > Settings > Advanced Settings > Safety Parameter Settings >**

Protection Parameters to set the parameters.
Step 2: Set the parameters based on actual needs.

No.	Parameters	Description
1	OV Stage n Trip Value	Set the grid overvoltage protection threshold value, n=1,2,3,4.
2	OV Stage n Trip Time	Set the grid overvoltage protection tripping time, n=1,2,3,4.
3	UV Stage n Trip Value	Set the grid undervoltage protection threshold value, n=1,2,3,4.
4	UV Stage n Trip Time	Set the grid undervoltage protection tripping time.
5	10min Overvoltage Trip Threshold	Set the 10min overvoltage protection threshold value.
6	10min Overvoltage Trip Time	Set the 10min overvoltage protection tripping time.
7	OF Stage n Trip Value	Set the grid overfrequency triggering n-th order protection point, n=1,2,3,4.
8	OF Stage n Trip Time	Set the grid overfrequency trigger n-th order trip time, n=1,2,3,4.
9	UF Stage n Trip Value	Set the grid underfrequency triggering n-th order protection point, n=1,2,3,4.
10	UF Stage n Trip Time	Set the grid underfrequency trigger n-th order trip time, n=1,2,3,4.

8.1.9.4 Setting Connection Parameters

Step 1 : Tap **Home > Settings > Advanced Settings > Safety Parameter Settings > Protection Parameters** to set the parameters.
Step 2: Set the parameters based on actual needs.



No.	Parameters	Description
Ramp Up		
1	Upper Voltage	The inverter cannot connect to the grid if it is powered on for the first connection and the grid voltage is higher than the **Upper Voltage**.
2	Lower Voltage	The inverter cannot connect to the grid if it is powered on for the first connection and the grid voltage is lower than the **Lower Voltage**.
3	Upper Frequency	The inverter cannot connect to the grid if it is powered on for the first connection and the grid frequency is higher than the **Upper Frequency**.
4	Lower Frequency	The inverter cannot connect to the grid if it is powered on for the first connection and the grid frequency is lower than the **Lower Frequency**.
5	Observation Time	The waiting time for connecting the inverter to the grid when meeting the following requirements. 1. The inverter is powered on for the first connection. 2. The utility grid voltage and frequency meet certain requirements.
6	Soft Ramp Up Gradient	Enable the start up power slope.
7	Soft Ramp Up Gradient	Indicates the percentage of incremental output power per minute based on the local requirements when the inverter is powered on for the first time.
Reconnection		

No.	Parameters	Description
8	Upper Voltage	The inverter cannot connect to the grid if it is reconnecting due to a fault and the grid voltage is higher than the **Upper Voltage**.
9	Lower Voltage	The inverter cannot connect to the grid if it is reconnecting due to a fault and the grid voltage is lower than the **Lower Voltage**.
10	Upper Frequency	The inverter cannot connect to the grid if it is reconnecting due to a fault and the grid frequency is higher than the **Upper Frequency**.
11	Lower Frequency	The inverter cannot connect to the grid if it is reconnecting due to a fault and the grid frequency is lower than the **Lower Frequency**.
12	Observation Time	The waiting time for connecting the inverter to the grid when meeting the following requirements. 1. The inverter is reconnecting to the grid due to a fault. 2. The utility grid voltage and frequency meet certain requirements.
13	Reconnection Gradient	Enable the start up power slope.
14	Reconnection Gradient	Indicates the percentage of incremental output power per minute based on the local requirements when the inverter is powered on for the first time. For example, setting Reconnection Gradient to 10 means the reconnect slope is 10%P/Srated/min.

8.1.9.5 Setting Voltage Ride Through Parameters

Step 1 : Tap **Home > Settings > Advanced Settings > Safety Parameter Settings > Voltage Ride Through** to set the parameters.
Step 2 : Set the parameters based on actual needs.

No.	Parameters	Description
LVRT		
1	UVn Voltage	The ratio of the ride through voltage to the rated voltage at UVn point during LVRT. n=1,2,3,4,5,6,7。
2	UVn Time	The ride through time at UVn point during LVRT. n=1,2,3,4,5,6,7
3	Enter Into LVRT Threshold	The inverter will not be disconnected from the utility grid immediately when the grid voltage is between Enter Into LVRT Threshold and Exit LVRT Endpoint.
4	Exit LVRT Endpoint	
5	Slope K2	K-factor for reactive power during LVRT.
6	Zero Current Mode	The system outputs zero current during LVRT.
7	Entry Threshold	Set the entry threshold of zero current mode.
HVRT		
1	OVn Voltage	The ratio of the ride through voltage to the rated voltage at OVn point during HVRT. n=1,2,3,4,5,6,7。
2	OVn Time	The ride through time at OVn point during HVRT. n=1,2,3,4,5,6,7。
3	Enter High Crossing Threshold	The inverter will not be disconnected from the utility grid immediately when the grid voltage is between Enter High Crossing Threshold and Exit High Crossing Threshold.
4	Exit High Crossing Threshold	
5	Slope K2	K-factor for reactive power during HVRT.

No.	Parameters	Description
6	Zero Current Mode	The system outputs zero current during HVRT.
7	Entry Threshold	Set the entry threshold of zero current mode.

8.1.9.6 Setting Frequency Ride Through Parameters

Step 1 : Tap **Home > Settings > Advanced Settings > Safety Parameter Settings > Frequency Ride Through** to set the parameters.
Step 2 : Set the parameters based on actual needs.

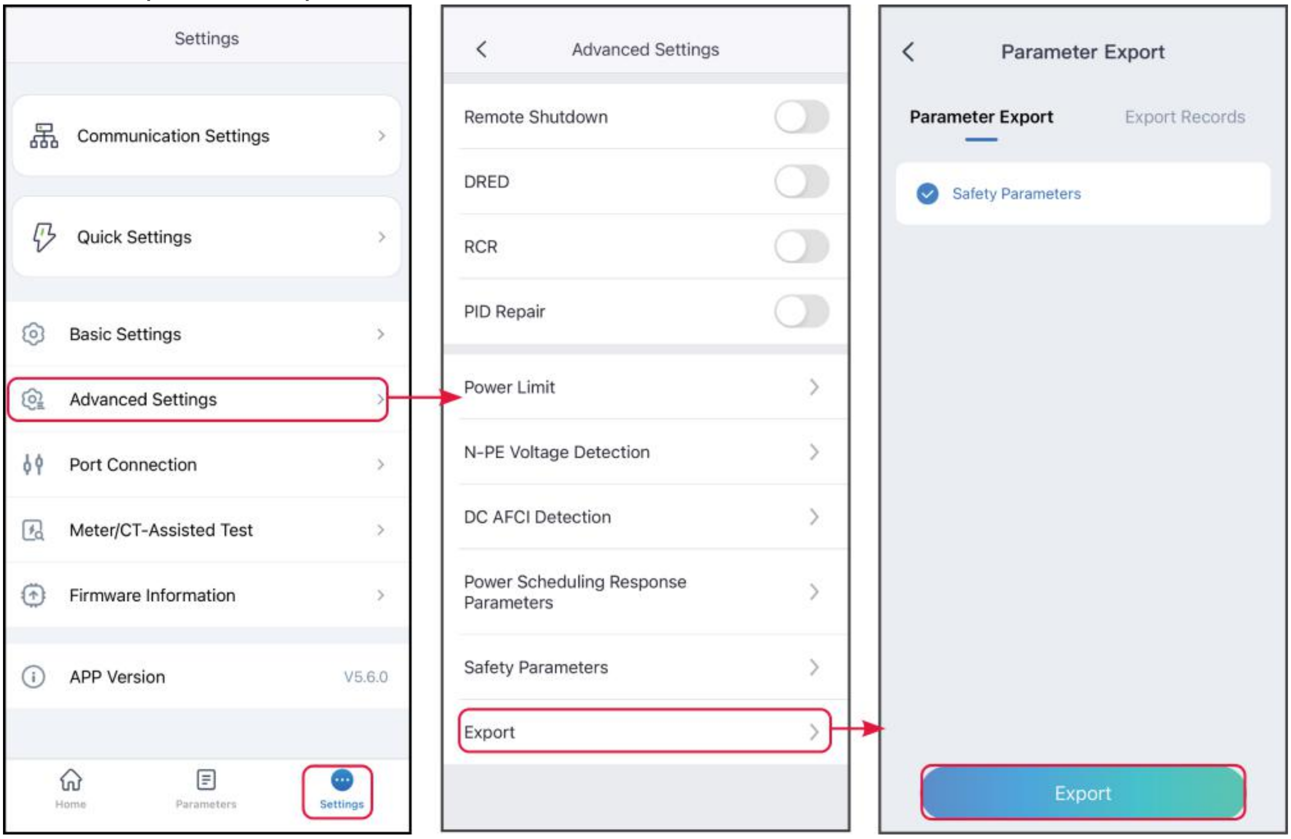
No.	Parameters	Description
1	UFn Frequency	The frequency at the UFn point during frequency ride through.
2	UFn Frequency	The frequency at the UFn point during frequency ride through. n=1,2,3。
3	UFn Time	The ride through duration at the UFn point during frequency ride through. n=1,2,3。
4	OFn Frequency	The frequency at the OFn point during frequency ride through. n=1,2,3。
5	OFn Time	The ride through duration at the OFn point during frequency ride through. n=1,2,3。

8.1.10 Exporting Parameters

8.1.10.1 Exporting Safety Parameters

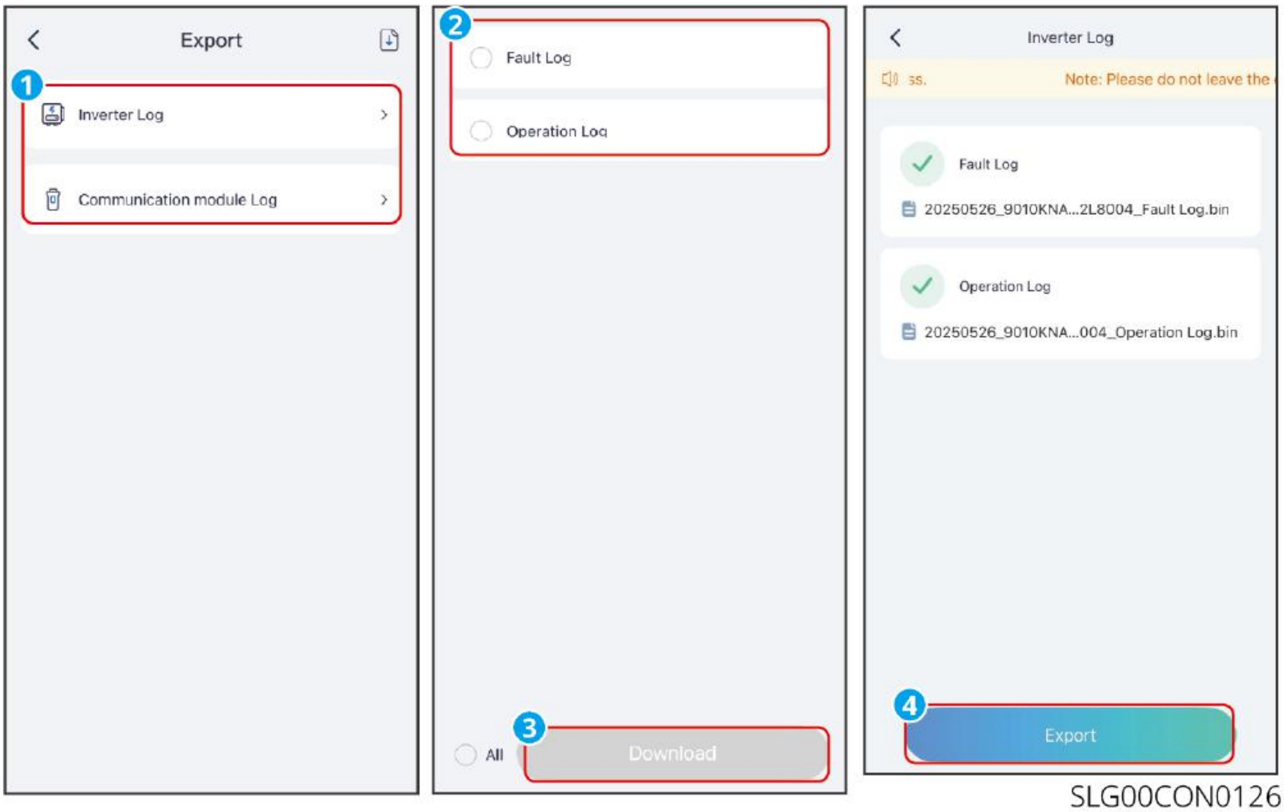
After selecting the safety code, some models support exporting safety parameter files.

Step 1 : Tap **Home > Settings > Advanced Settings > Export** to export the parameters.
Step 2 : Select Safety Parameters, and tap **Export** to start downloading the current safety parameter file. When the export is complete, tap **Share** and choose how you want to open the exported file.



8.1.10.2 Exporting Log Parameters

Step 1 : Tap **Home > Settings > Advanced Settings > Export**.
Step 2 : Select the device type to export logs, such as inverter logs, communication module logs, etc.
Step 3: Select the log type to export, download and export the log file. After the export is complete, tap **Share** and choose how to open the exported file according to actual needs.



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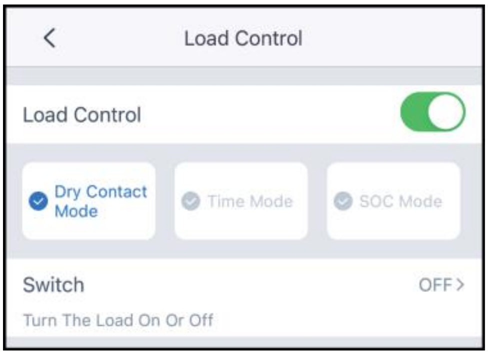
8.1.11 Setting Generator/Load Control

8.1.11.1 Setting Load Control

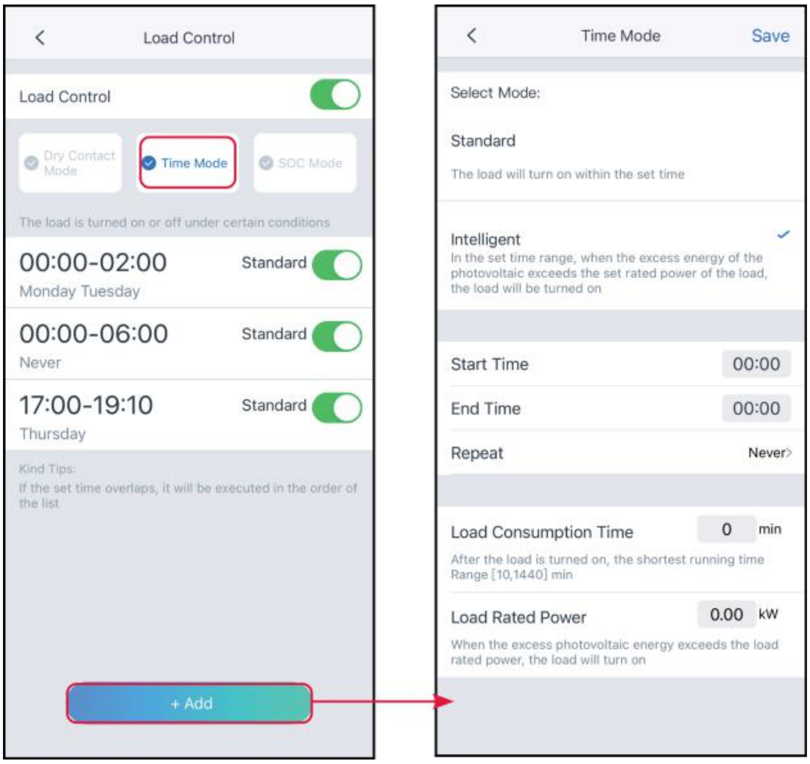
NOTICE
• Loads and generators can be controlled by SolarGo app when the inverter supports load control function. • For ET40-50kW series inverters, the load control function is supported only when the inverter is used with STS. The inverter supports load control of the GENERATOR port or the BACKUP LOAD port.

Step 1: Tap **Home > Settings > Port Connection** to set the parameters.
Step 2: Select **Generator Control** or **Load Control** based on actual needs.

- Dry Contact Mode: when the switch is ON, the loads will be powered; when the switch is OFF, the power will be cut off. Turn on or off the switch based on actual needs.



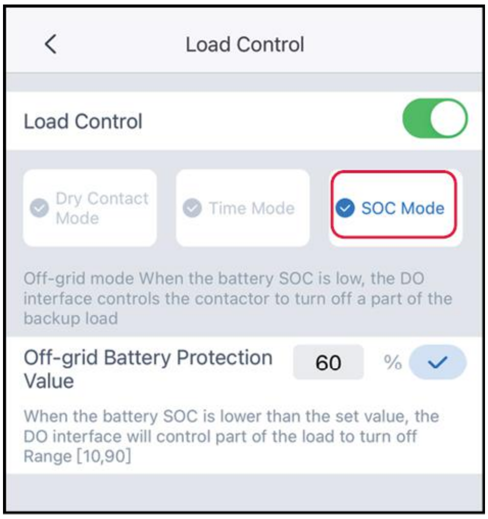
- Time Mode: set the time to enable the load, and the load will be powered automatically within the setting time period. Select standard mode or intelligent mode.



No.	Parameters	Description
1	Standard	The loads will be powered within the setting time period.
2	Intelligent	Once the excess energy of the photovoltaic exceeds the load nominal power within the time period, the loads will be powered.

No.	Parameters	Description
3	Start Time	The time mode will be on between the Start Time and End Time.
4	End Time	
5	Repeat	The repeat days.
6	Load Consumption Time	The shortest load working time after the loads been powered. The time is set to prevent the loads be turned on and off frequently when the PV power fluctuates greatly. Only for Intelligent mode.
7	Load Rated Power	The loads will be powered when the excess energy of the photovoltaic exceeds the nominal power of load. Only for Intelligent mode.

- SOC Mode: the inverter has integrated dry contact controlling port, which can control whether the load is powered or not by contactor. In off-grid mode, the load connected to the port will not be powered if the BACKUP overload is detected or the battery SOC value is lower than the Off-grid battery protection value. Set Off-grid Battery Protection Value based on actual needs.



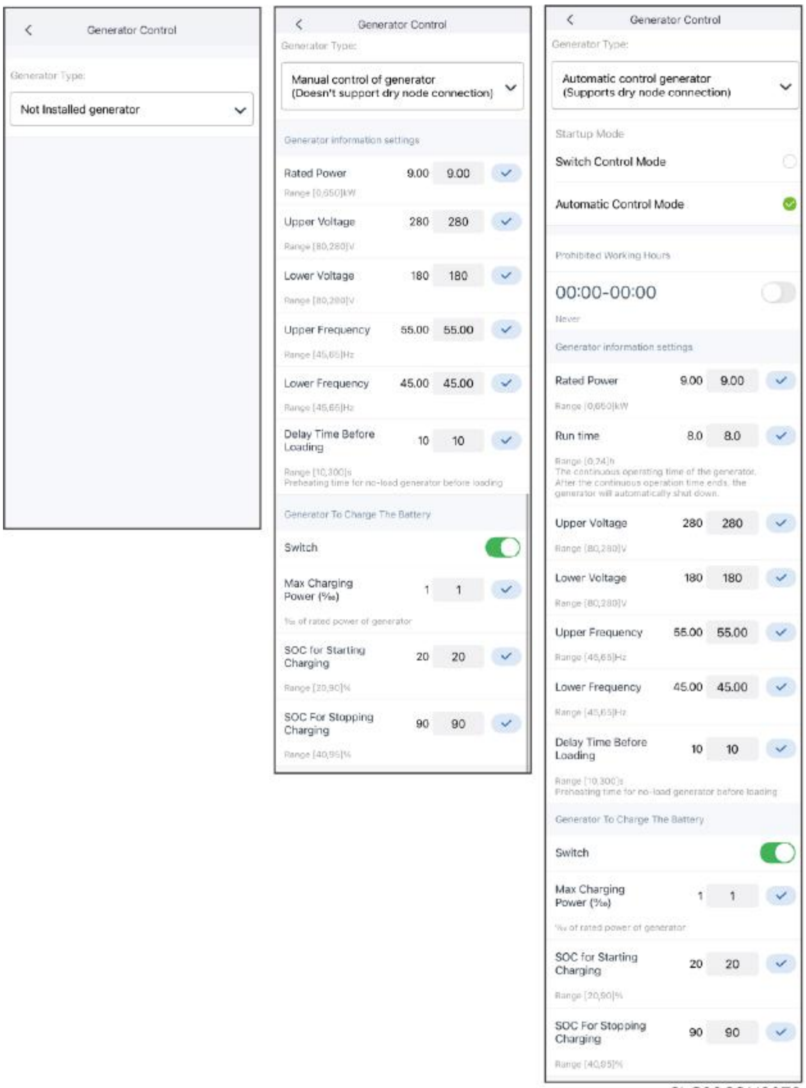
8.1.11.2 Setting the Generator Parameters

NOTICE

- When the inverter supports the generator control function, the generator can be controlled through the SolarGo App.
- For ET40-50kW series inverters, the generator can be connected and controlled only when the inverter is used with STS.

Step 1 : Tap **Home > Settings > Port Connection** to set the parameters.
Step 2: Select Generator Connection or Load Connection based on actual needs.
Step 3 : When setting the generator control function, select the generator type according to the actual access situation. Currently supported:**Not Installed, Manual Control Of Generator** or **Automatic Control Generator.** And set the parameters according to the selected generator type.

- Not Installed: If no generator is connected in the system, select Not Installed.
- Manual Control Of Generator(Doesn’t Support Dry Node Connection): Start or stop the generator manually. The inverter cannot control the generator when Manual Control Of Generator(Doesn’t Support Dry Node Connection) is selected.
- Automatic control generator (Supports dry node connection): If the generator has dry contact port and is connected to the inverter, set the generator control mode to Switch Control Mode or Automatic Control Mode based on actual needs.
    - Switch Control Mode: The generator will start working when the Generator Dry Node Switch is on, and stop automaticallly after reaching Run Time.
    - Automatic Control Mode: The generator will work during Run Time, but stop working during Prohibited Working Hours.



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No.	Parameters	Description
1	Startup Mode	Switch Control Mode/Automatic Control Mode
Switch Control Mode		
2	Generator Dry Node Switch	Only for Switch Control Mode.
3	Run Time	Set the generator’s continuous runtime, after which the generator will be turned off.
Automatic Control Mode		
4	Prohibited Working Hours	Set the time period during which the generator cannot work.

No.	Parameters	Description
5	Run Time	Set the generator's continuous runtime, after which the generator will be turned off. If the generator start-up operation time includes prohibited working time, the generator will stop running during this time period; after the prohibited working time, the generator will restart running and timing.

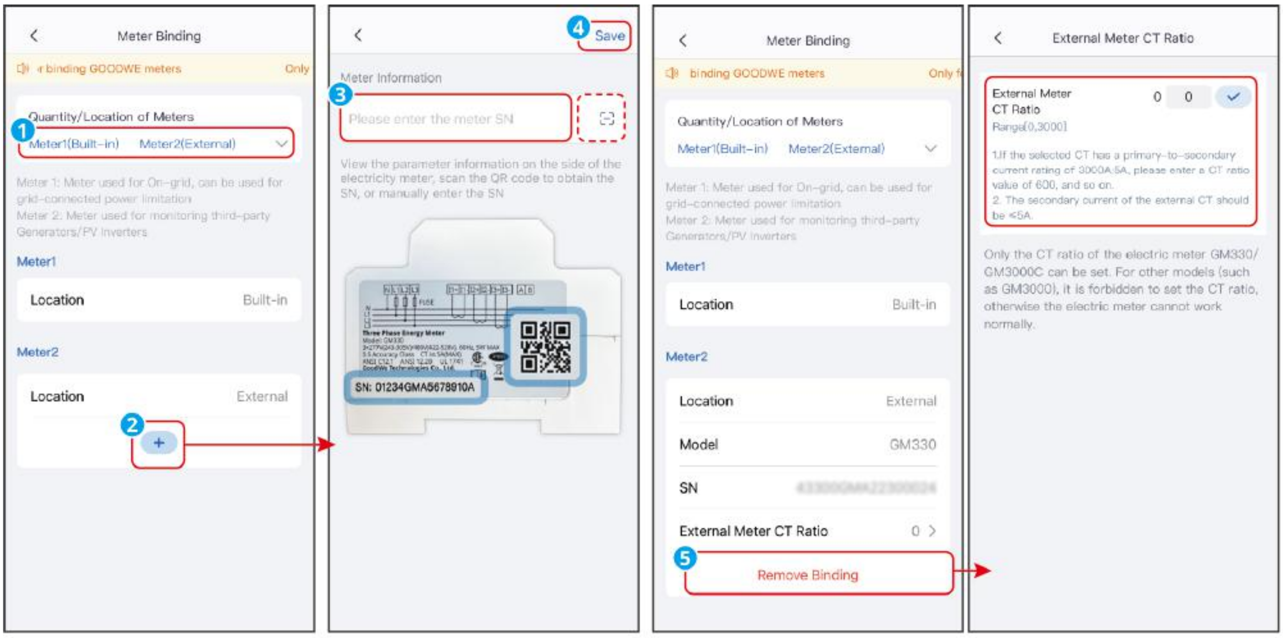
No.	Parameters	Description
Generator Information Settings		
1	Rated Power	Set the rated power of the generator.
2	Run Time	Set the continuous running time of the generator. The generator will be shut down after the continuous running time ends.
3	Upper Voltage	Set the operation voltage range of the generator.
4	Lower Voltage	
5	Frequency Cap	Set the operation frequency range of the generator.
6	Lower Frequency	
7	Preheating time	Set the generator no-load preheating time.
Parameter settings for generator charging batteries		
8	Switch	Select whether to use the generator to generate electricity to charge the battery.
9	Max.charging power (‰)	The charging power when the generator generates electricity to charge the battery.
10	Start charging SOC	When the battery SOC is lower than this value, the generator generates electricity to charge the battery.
11	Stop charging SOC	When the battery SOC is higher than this value, stop charging the battery.

8.1.12 Setting the Meter Parameters

8.1.12.1 Bind/Unbind Meter

NOTICE
• When the PV system uses both the grid-connected inverter and the energy storage inverter 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. • Applicable only to GoodWe meters.

Step 1 : Tap **Home > Settings > Meter Function > Meter Binding** to enter the binding interface.
Step 2 : Tap **Quantity/Location of Meters** 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). the interface of Meter 1 (built-in) Meter 2 (external) is used as an example to explain how to bind the meter.
Step 3 : As shown in the figure below, when you choose to use an external meter, you need to manually add the external meter information. Tap + 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 and click √ to complete the setting. If you use other meters, you do not need to set the meter CT ratio.
Step 4 : (Optional) If you need to unbind the external meter, please tap **Remove Binding**.



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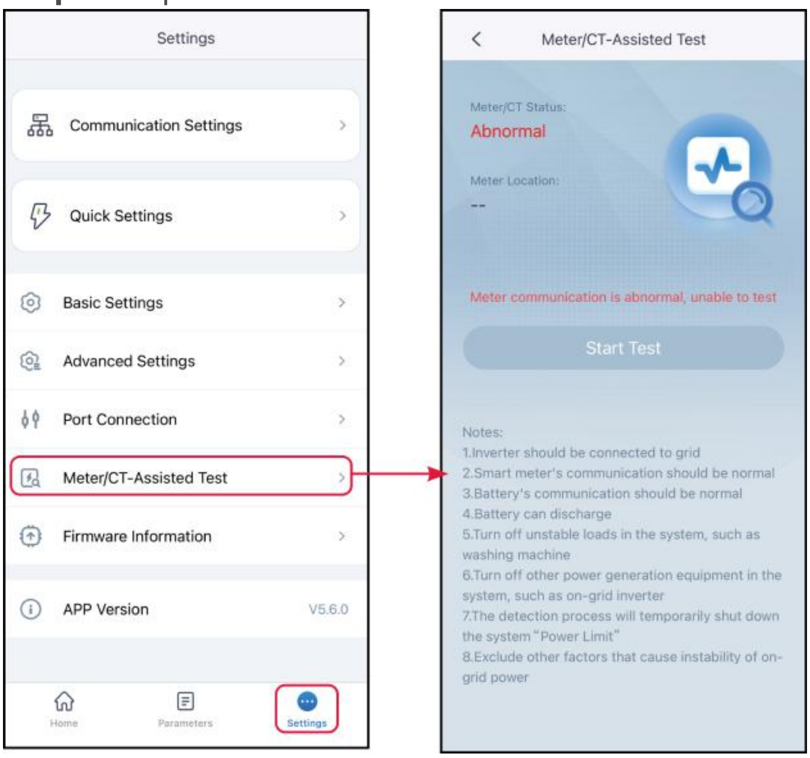
8.1.12.2 Meter/CT-Assisted Test

Meter/CT-Assisted Test is used to auto-check if the Smart Meter and CT are connected in the right way and their working status.

Step 1 : Tap **Home > Settings > Meter/CT Assisted Test** to set the function.

Step 2 : Tap **Start Test** to start test. Check Test Result after test.



8.1.13 Equipment Maintenance

8.1.13.1 Checking Firmware Information/Upgrading Firmware Version

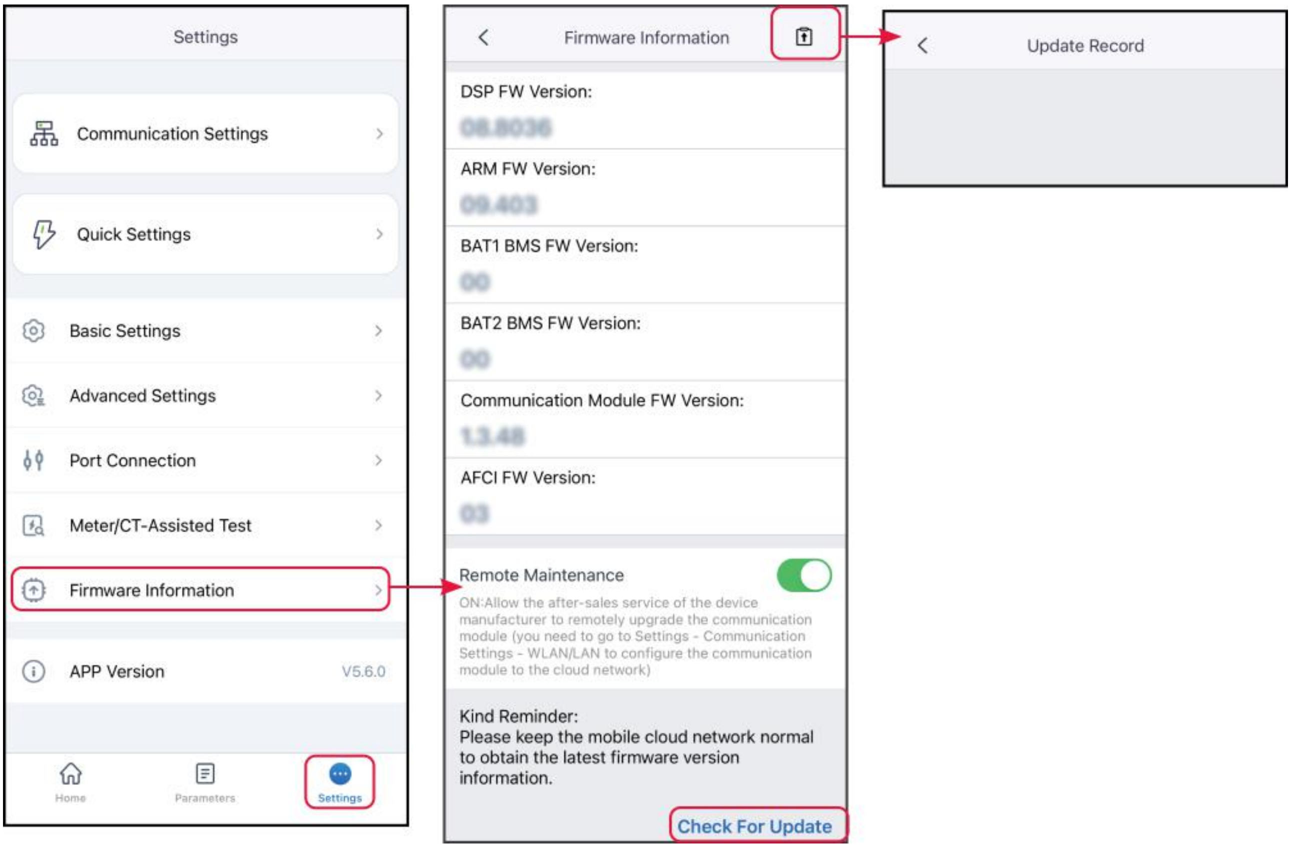
Upgrade the DSP version, ARM version, BMS version, AFCI version, or STS version of the inverter, or firmware version of the communication module. Some devices do not support upgrading the firmware version through SolarGo app.

NOTICE
If the Firmware Upgrade dialog box pops up once logging into the app, click Firmware Upgrade to directly go to the firmware information page.

8.1.13.1.1 Regular Upgrade

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

Step 1 : Tap **Home > Settings > Firmware Information** to check the firmware version. If the firmware upgrade dialog box pops up, tap **Firmware Upgrade** and turn to the upgrade interface.
Step 2 : (Optional) Tap **Check For Update** to confirm whether the latest firmware version is available for updating.
Step 3: Tap **Firmware Upgrade** to enter the firmware upgrade interface.
Step 4 : (Optional) Tap **Learn More** to view firmware-related information, such as the current version, the latest version, firmware update records, etc.
Step 5 : Tap **Upgrade** and complete the upgrade according to the prompts on the interface.

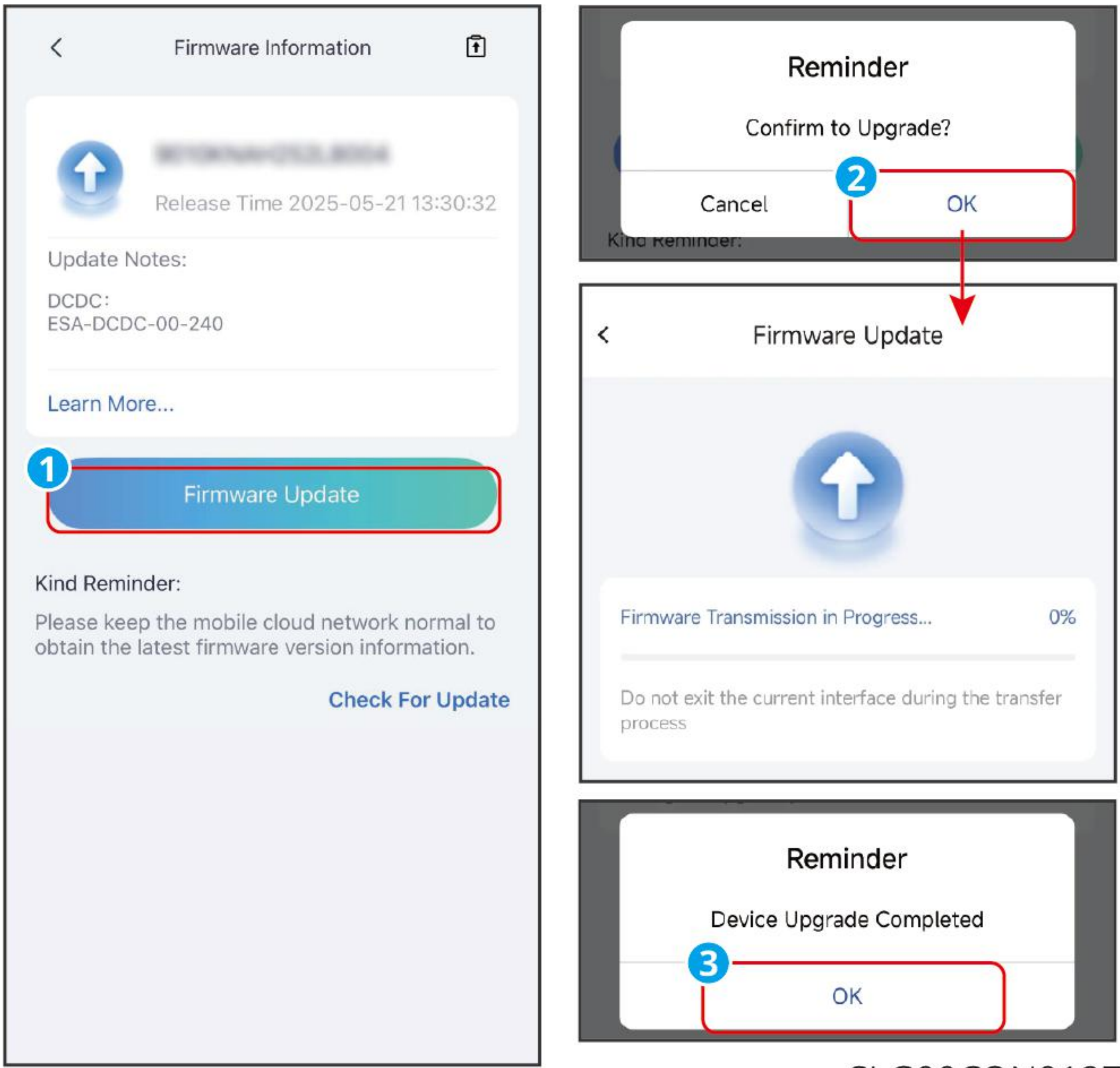


8.1.13.1.2 One-click Upgrade

NOTICE

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

Step 1 : Tap **Home > Settings > Firmware Information**. Tap **Firmware Information** as prompted to enter the firmware upgrade page.
Step 2 : Tap **Upgrade** and follow the prompts to complete the upgrading. If you only need to upgrade a specific firmware version, tap **Learn More** to check the firmware related information and tap **Firmware Upgrade** below the firmware version you want to upgrade, and follow the on-screen prompts to complete the operation.
Step 3 : Tap **Learn More** to view all current firmware version information.
Step 4: (Optional)Tap ,to view the version upgrade record.



SLG00CON0127

8.1.13.1.3 Automatic Upgrade

NOTICE

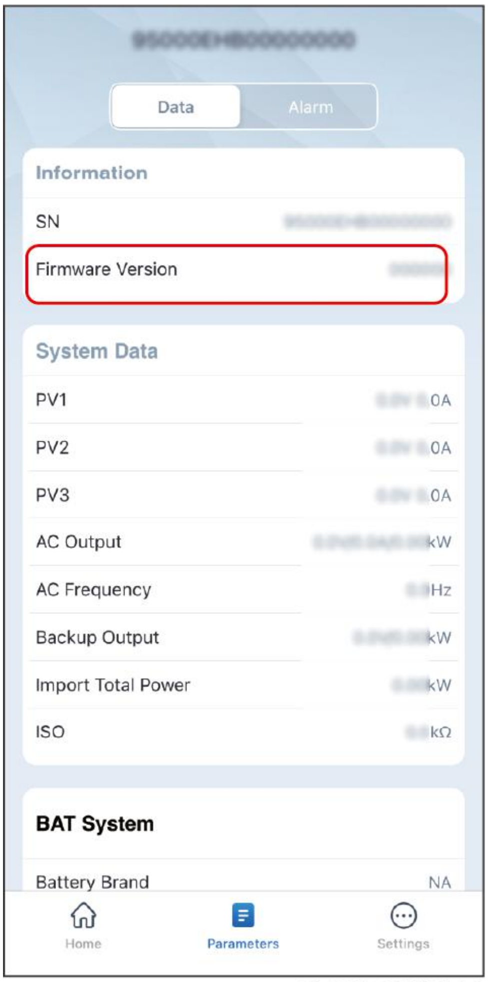
- When using WiFi/LAN Kit-20 or WiFi Kit-20 module communication and the module firmware version is V2.0.1 or above, the device automatic upgrade function can be enabled.
- After the device automatic upgrade function is enabled, if the module version is updated and the device has been connected to the network, the corresponding firmware version can be automatically upgraded.

Step 1 : Tap **Home > Settings > Firmware Information**.

Step 2 : Enable or disable the automatic device upgrade function according to actual needs.

8.1.13.1.4 Checking Firmware Information

Step 1: Tap **Parameters** > **Firmware Version** to check the version information.

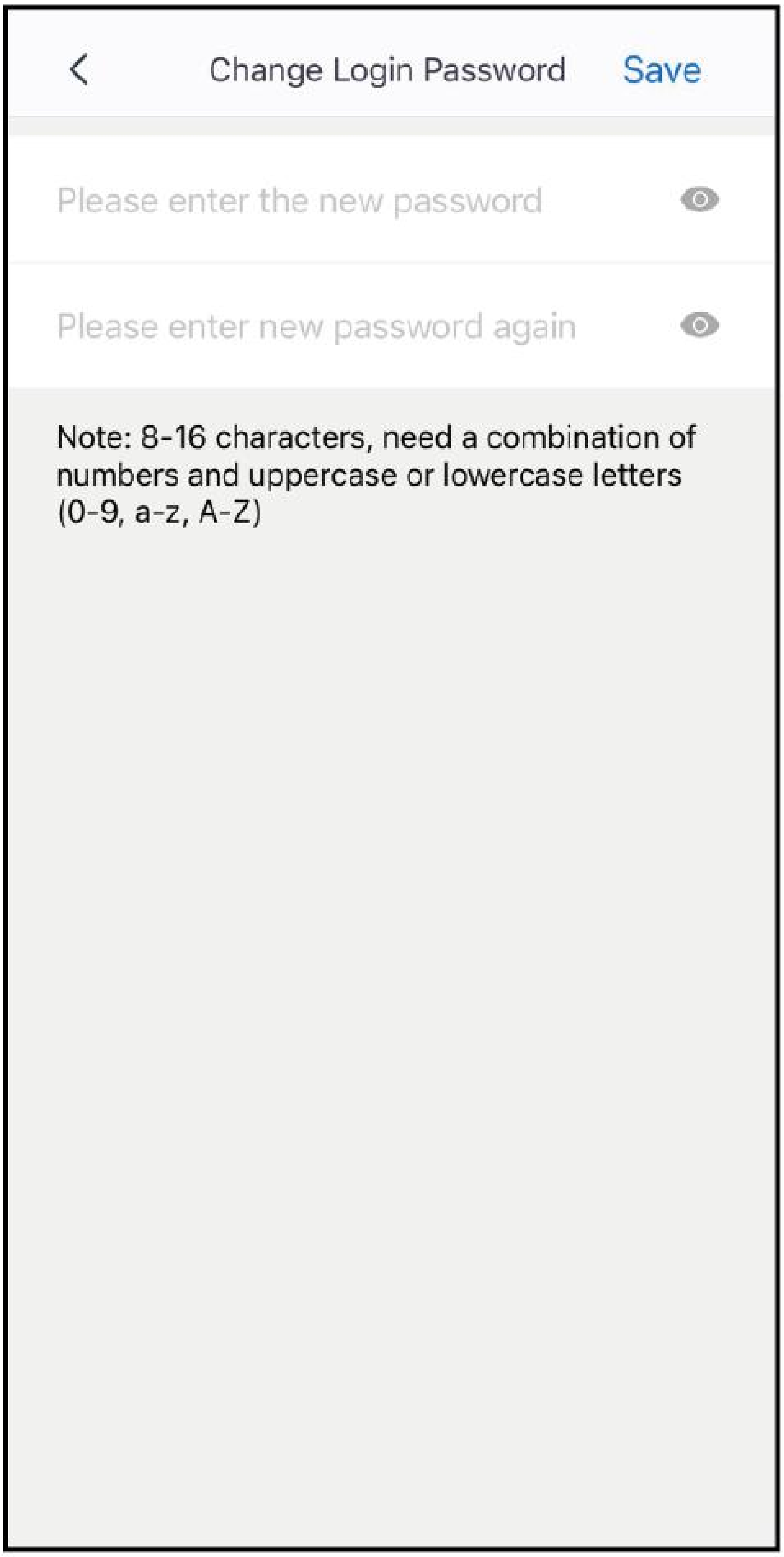


SLG00CON0191

8.1.13.2 Change the Login Password

NOTICE
The login password can be changed. Keep the changed password in mind after changing it. Contact the after-sales service if you forget the password.

Step 1 : Tap **Home > Settings > Change Login Password** to change the password.
Step 2 : Change the password based on actual needs.



SLG00CON0088

9 Station Monitoring

NOTICE

The parameters may vary depending on the account type or power station type. The actual interface takes precedence.

9.1 Product Introduction

SEMS+ App is a monitoring platform to manage power plants and devices, and check the operating data and alarming information of the power plant.

9.1.1 Applicable Product Model

SEMS+ App can be used to monitor and manage GoodWe products, such as inverters, smart meters, smart loggers,chargers, batteries and so on.

9.1.2 Downloading and Installing the App

Make sure that the mobile phone meets the following requirements:

- Operating system: Android 6.0 or later, iOS 13.0 or later.
- Internet connection via browser.
- WLAN/Bluetooth capabilities.

Download Methods:

Method I

Search SEMS+ on Google Play (Android) or App Store (iOS) to download and install the App.

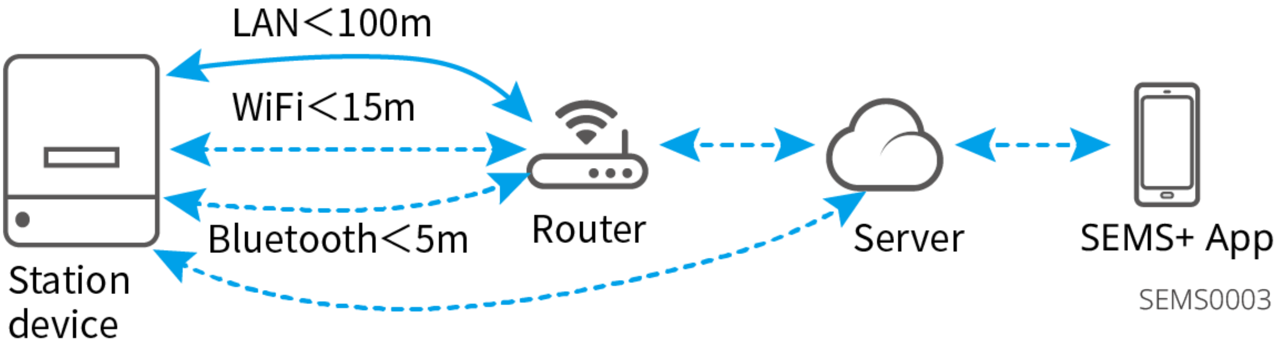
SEMS0001

Method II

Scan the QR code below to download and install the App.

SEMS0002

9.1.3 App Connection



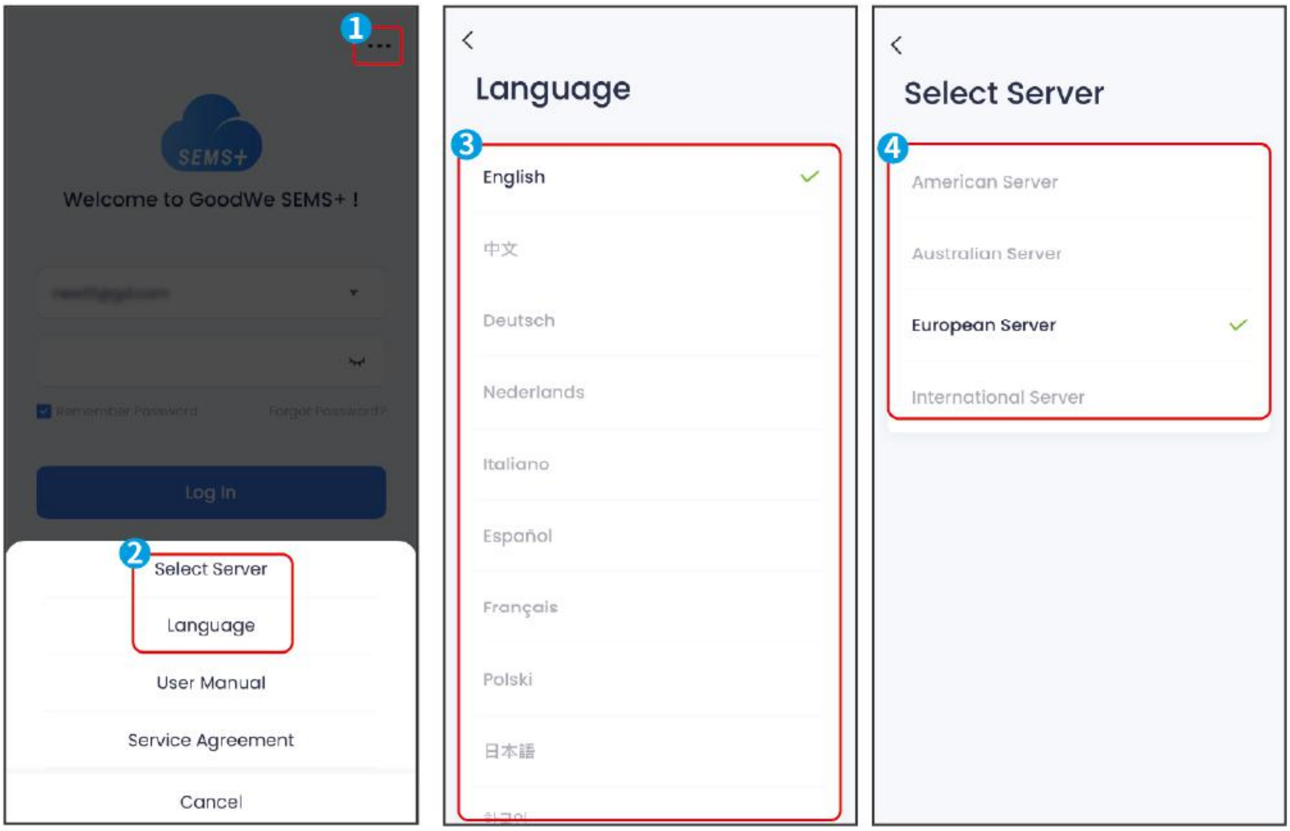
SEMS0003

9.1.4 Setting Language and Server

NOTICE
The server is automatically matched based on login account information. To set it manually, ensure that the selected region matches the region of the account. Otherwise, login may fail.

Select the language and the server based on the actual situation.

SEMS0004

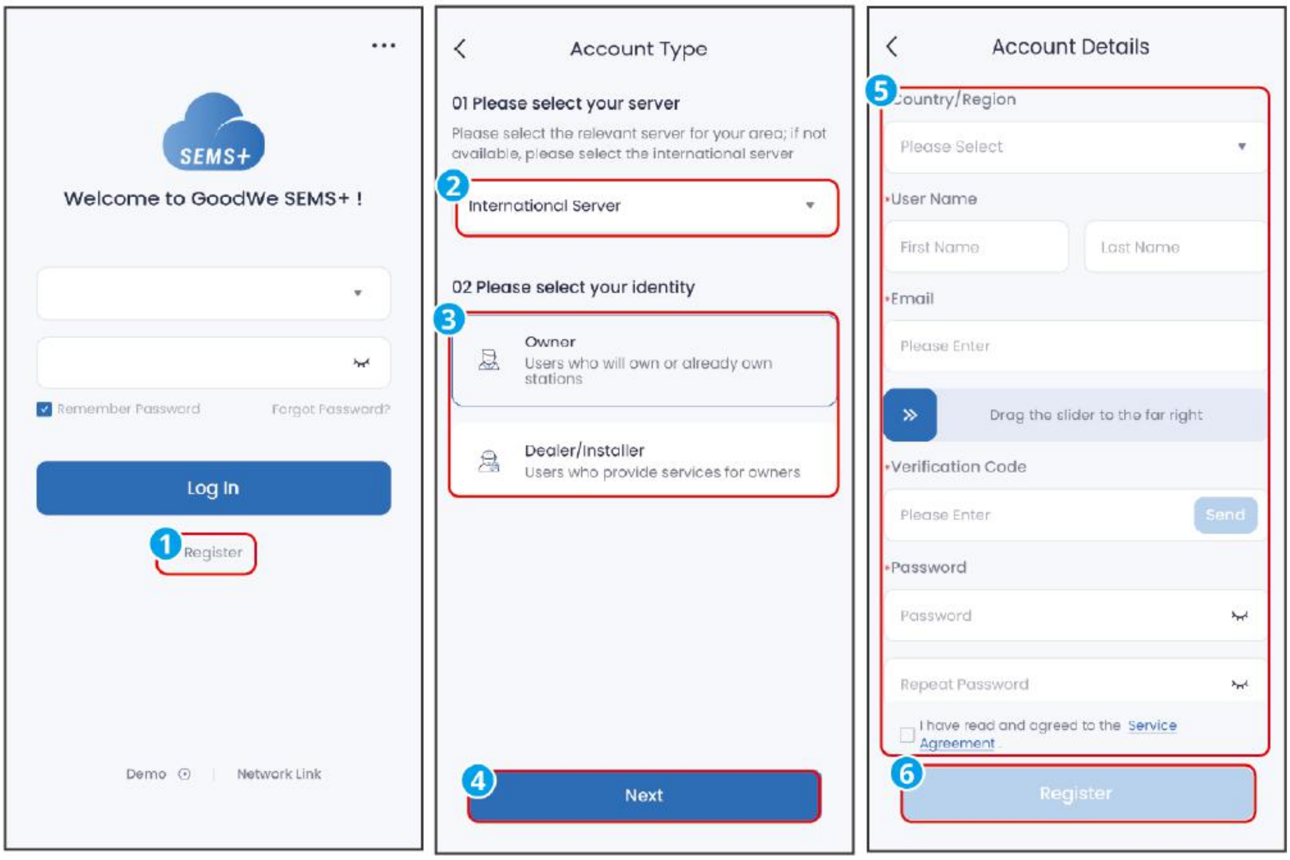


9.1.5 Managing the Account

9.1.5.1 Registering an Account

Step 1: Tap **Register** to enter the account registration interface.
Step 2: Select the account type based on your actual needs and tap **Next**.
Step 3: Enter your account information based on the actual situation and tap **Register** to complete the registration.

SEMS0005

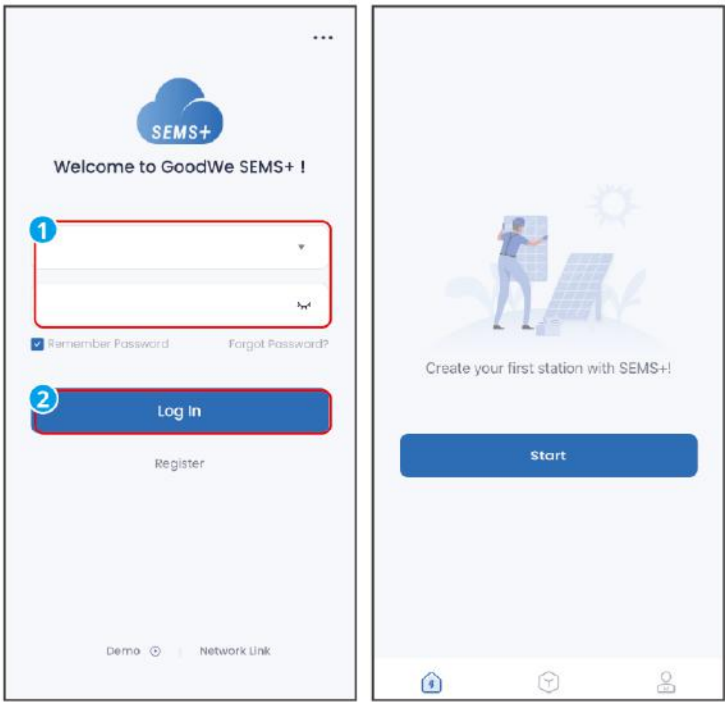


9.1.5.2 Logging in to the App

NOTICE
• Register an account or obtain an account from your dealer before logging in. • Check and manage power station after logging in. The actual interface takes precedence.

Step 1: Enter the username and password, read, and agree to the login agreement. Tap **Log In**.

SEMS0006

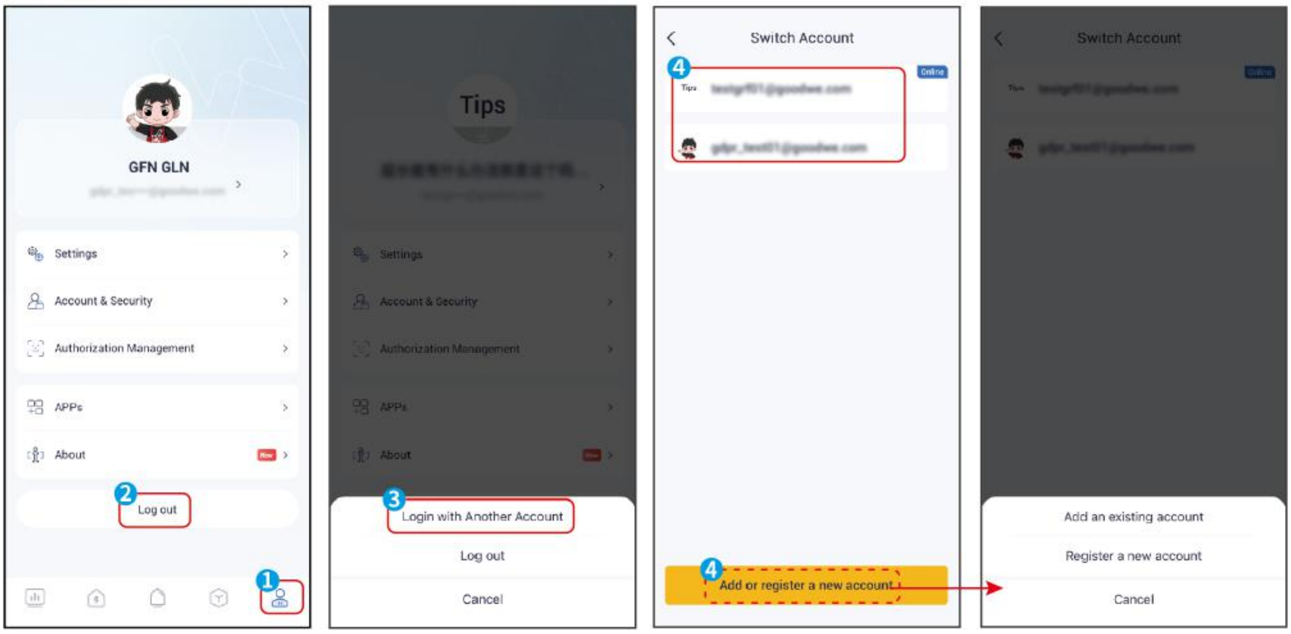


9.1.5.3 Switching Accounts

Step 1: Go to **My** tab, and tap **Log Out > Log with Another Account**.

Step 2: Select an already added account or add a new account based on actual needs.

SEMS0007

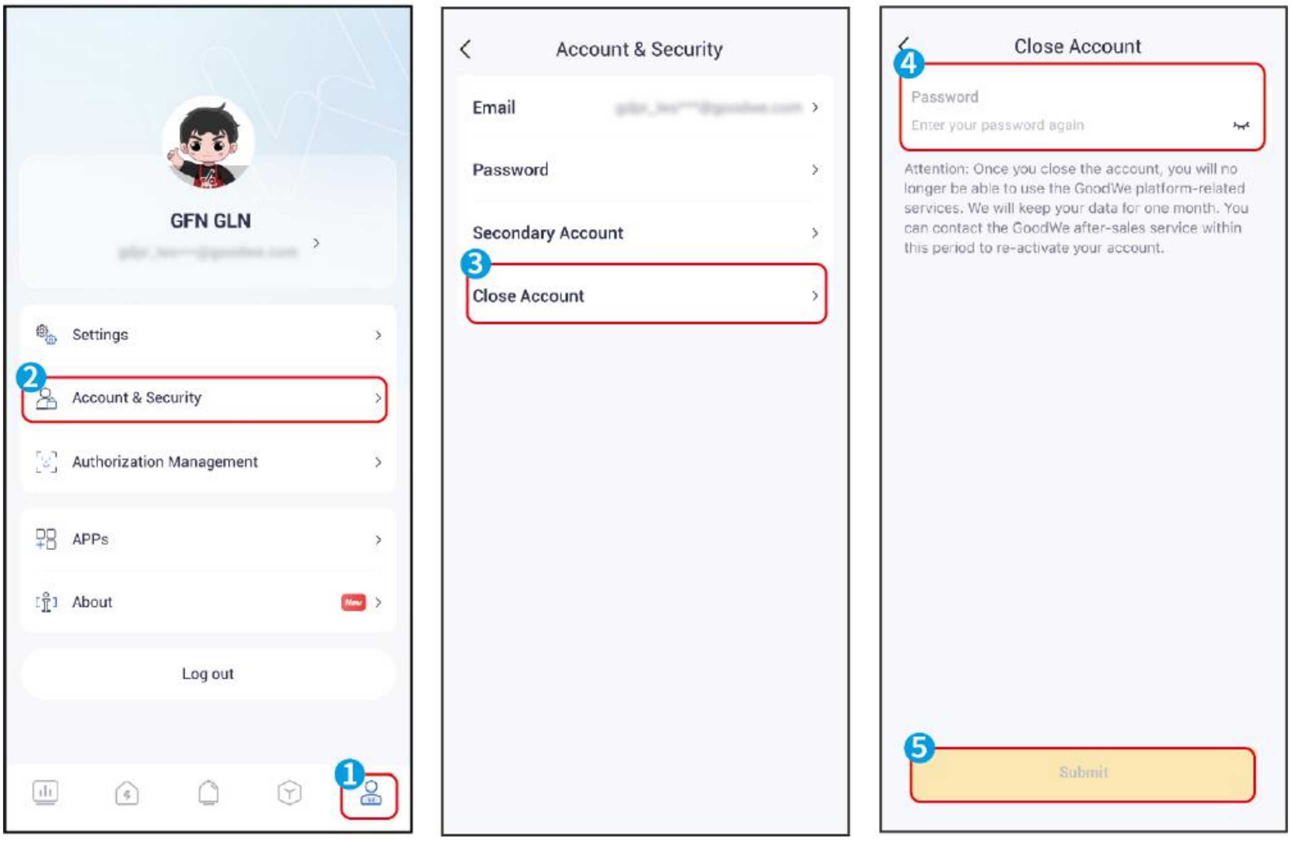


9.1.5.4 Deleting an Account

Step 1: Go to **My** tab and tap **Account&Security**.

Step 2: Tap **Close Account**, input the account password, and **Submit.**

SEMS0008



9.1.5.5 Account Permission Descriptions

The SEMS+ App supports various types of accounts with different permissions. Refer to the table below for details.

Primary menu	Submenu	Third-Level Menu	Fourth-Level Menu	Fifth-Level Menu	Permissions
Login & Register	-	-	-	-	Administrator, Technician, Browser, End User, Visitor
Overview	Monitoring Information	-	-	-	Administrator, Technician, Browser, End User, Visitor
	Create Station	-	-	-	Administrator,

					Technician, End User and Visitor
Station	Station List	-	-	-	Administrator, Technician, Browser, End User, Visitor
	Station Details	Monitoring	-	-	Administrator, Technician, Browser, End User, Visitor
		Device	Add Device	-	Administrator, Technician, End User
			Device List	Search Device	Administrator, Technician, Browser, End User, Visitor
				Replace Device	Administrator, Technician, End User
				Edit Device	Administrator, Technician, End User
				Delete Device	Administrator, Technician, End User
			Device Details	Device Monitoring Info	Administrator, Technician, Browser, End User, Visitor
				Device Remote Control	Administrator, Technician, End User
				Device Remote Upgrade	Administrator, Technician
		Alarms	-	-	Administrator, Technician, Browser, End User, Visitor
		Station Configuration	Edit Station	-	Administrator, Technician, End User
			Delete	-	Administrator,

			Station		Technician, End User
			Replacement History	-	Administrator, Technician, Browser, End User
			User Information	-	Administrator, Technician, End User
			Home Configuratio n	-	Administrator, Technician, Browser, End User, Visitor
	Create Station	-	-	-	Administrator, Technician, End User and Visitor
Alarm	-	-	-	-	Administrator, Technician, Browser
Services	Services	Warranty	-	-	Administrator, Technician, Browser, End User, Visitor
		Report Center	-	-	Administrator, Technician, Browser, End User
		GoodWe News	-	-	Administrator, Technician, Browser, End User, Visitor
		Announceme nts	-	-	Administrator, Technician, Browser, End User, Visitor
		Community	-	-	Administrator, Technician, Browser, End User, Visitor
	Tools	Create Station	-	-	Administrator, Technician, End User and Visitor
		Network Link	-	-	Administrator, Technician, Browser,

					End User, Visitor
		DNSP	-	-	Administrator, Technician, Browser, End User, Visitor
	Help	-	-	-	Administrator, Technician, Browser, End User, Visitor
My	User Profile	-	-	-	Administrator, Technician, Browser, End User, Visitor
	User Information	-	-	-	Administrator, Technician, Browser, End User, Visitor
	Setting	-	-	-	Administrator, Technician, Browser, End User, Visitor
	Account Security	Email	-	-	Administrator, Technician, Browser, End User, Visitor
		Password	-	-	Administrator, Technician, Browser, End User, Visitor
		Secondary Account	-	-	Administrator, Technician, Browser
		Close Account	-	-	Administrator, Technician, Browser, End User, Visitor
	Auth Management	Remote Control Auth	-	-	Administrator, Technician, Browser, End User, Visitor
		Monitoring Auth	-	-	End User
	Apps	-	-	-	Administrator, Technician, Browser,

					End User, Visitor
	About	-	-	-	Administrator, Technician, Browser, End User, Visitor
	Logout	Logout	-	-	Administrator, Technician, Browser, End User, Visitor
		Login anther Account	-	-	Administrator, Technician, Browser, End User, Visitor

9.1.6 Setting the Network Information

The SEMS+ App allows connecting devices via Bluetooth or WiFi and configuring network parameters to realize remote monitoring or management.

NOTICE

The device name varies depending on the inverter model or smart dongle model.

- 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-***
- AC Charger:***

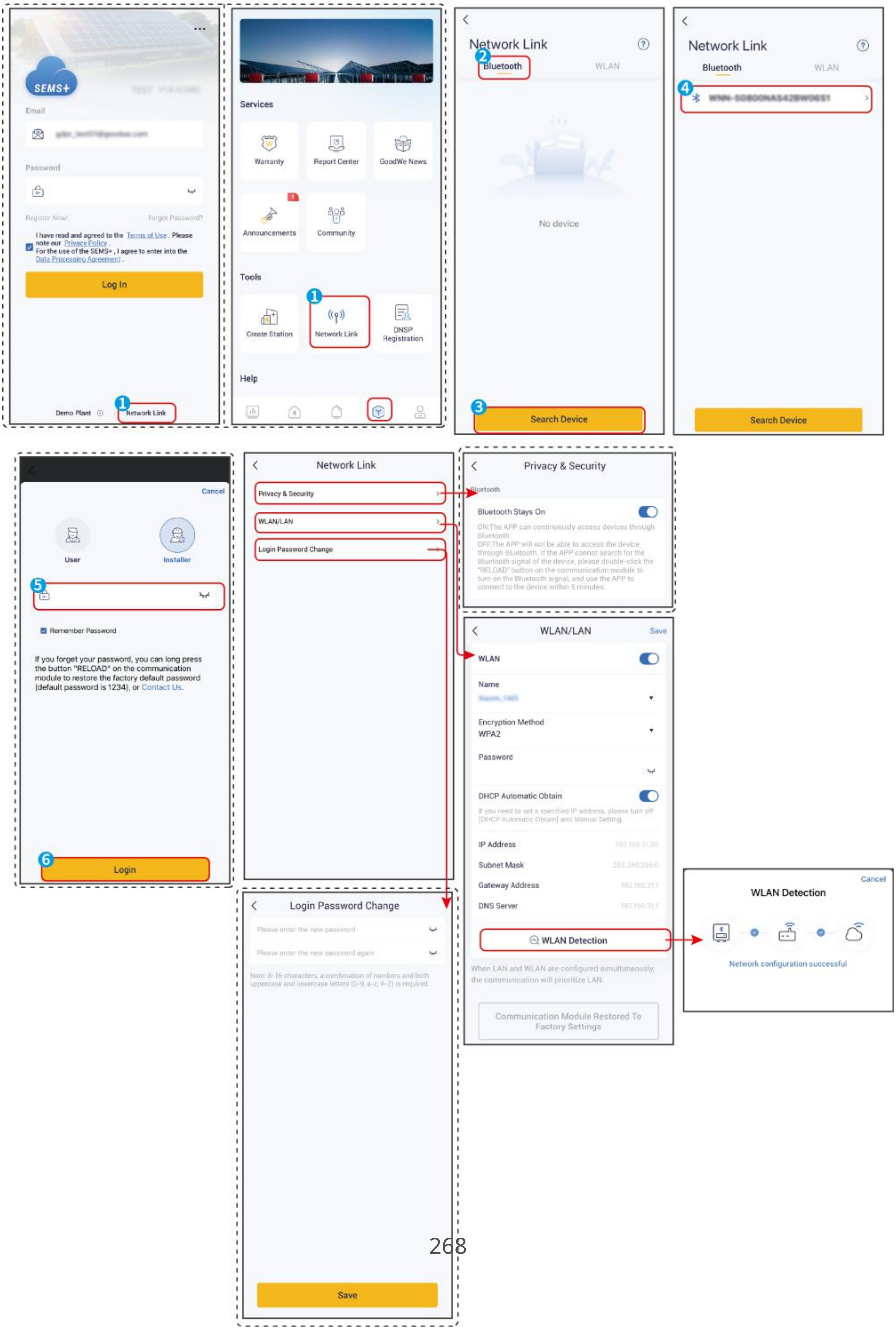
9.1.6.1 Connecting via Bluetooth

NOTICE

- Before connecting, ensure: Your phone's Bluetooth is enabled. The device is powered on and communicating properly.
- The App interface and parameters may vary depending the device type or smart dongle model. The actual interface takes precedence.

Step 1: Open the app and select **Network Link** on the homepage or in the **Service** interface.
Step 2: Tap **Bluetooth** and select the device by the serial number.
Step 3 : If prompted, log into the App according to your role and enter the password. Default password: 1234. If no login prompt appears, you will directly enter the communication settings interface.
Step 4: (Optional) Enable **Bluetooth Stays ON** if required. Otherwise, the Bluetooth signal will turn off after the connection.
Step 5: Set the **WLAN** or **LAN** parameters based on actual situation. Tap **Save** to complete the settings. Tap **WLAN Detetion** to check the communication status.
Step 6: (Optional) Tap **Login Password Change** to input a new password, and **Save.**

SEMS0009



No.	Parameters	Description

No.	Parameters	Description
1	Bluetooth Stays ON	Enable the function, the bluetooth of the device will be contentious on to keep connected to SEMS+. Otherwise, the bluetooth will be off in 5 minutes.
WLAN/LAN		
2	WLAN	Enable or disable WLAN.
3	Name	Select the name of the router network to be used.
4	Encryption Method	
5	Password	
6	DHCP Automatic Obtain	Enable DHCP when the router is in dynamic IP mode. Disable DHCP when a switch is used or the router is in static IP mode.
7	IP Address	Do not configure the parameters when DHCP is enabled. Configure the parameters according to the router or switch information when DHCP is disabled.
8	Subnet Mask	
9	Gateway Address	
10	DNS Server	

9.1.6.2 Connecting via WiFi

NOTICE

- Before connecting, ensure: Your phone's Bluetooth is enabled. The device is powered on and communicating properly.
- The App interface and parameters may vary depending the device type or smart dongle model. The actual interface takes precedence.

Step 1: Open the WiFi setting on the phone and connect to the inverter's WiFi signal (Solar-WiFi***). Default password: 12345678

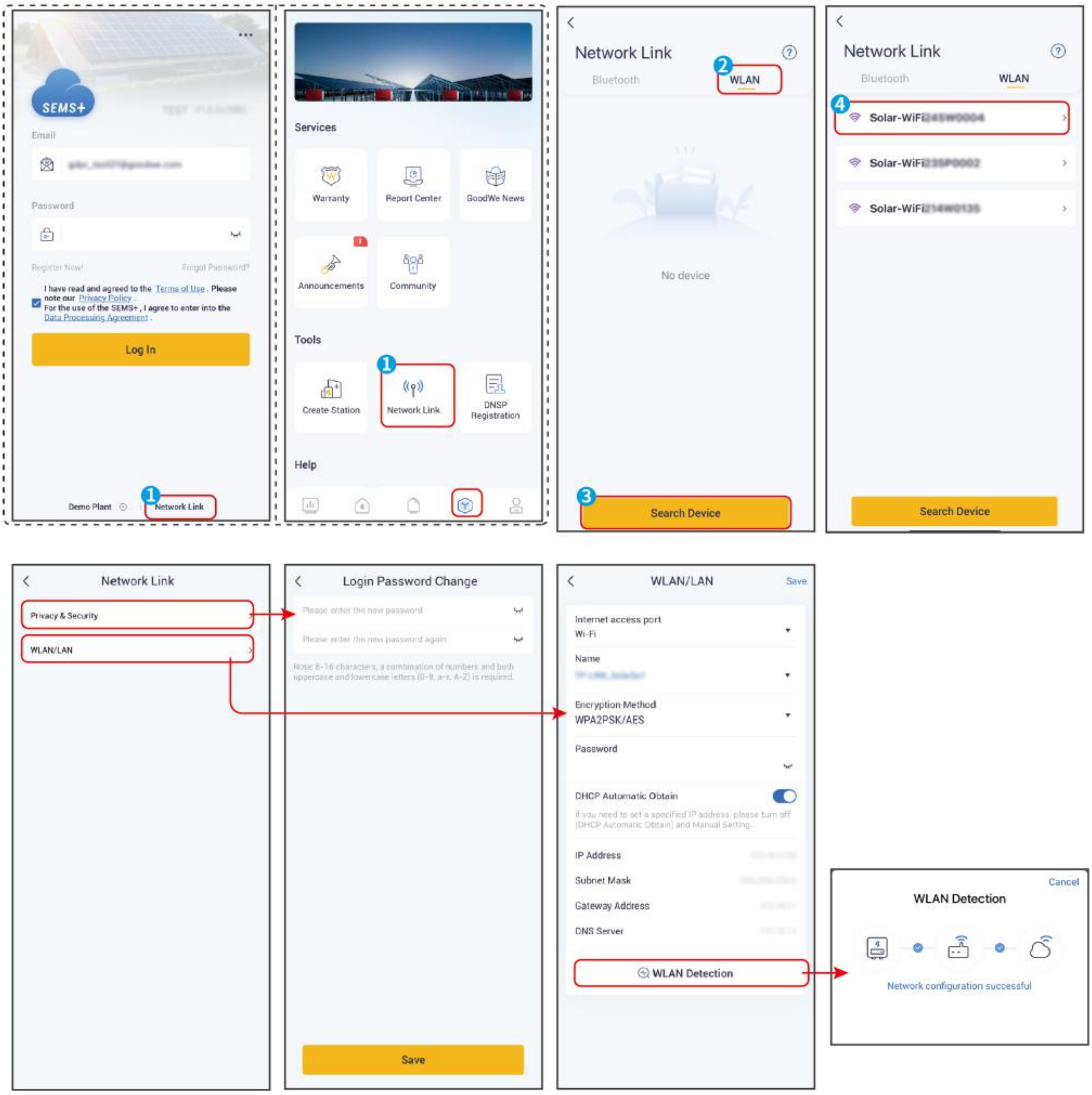
Step 2: Open the app and select **Network Link** on the homepage or in the **Service** interface.

Step 3: Tap **WLAN** and select the device by the serial number.

Step 4: Modify the WiFi hotspot password if needed. If changed, reconnect to the inverter's WiFi signal using the new password.

Step 5: Set the **WLAN** or **LAN** parameters based on actual situation. Tap **Save** to complete the settings. Tap **WLAN Detetion** to check the communication status.

SEMS0010



No.	Parameters	Description
Privacy&Security		
1	Login Password Change	Modify the WiFi hotspot password if needed. If changed, reconnect to the inverter’s WiFi signal using the new password.
WLAN/LAN		
2	Internet Access Port	Set the communication mode as **Wi-Fi** or **LAN** based on actual needs.

No.	Parameters	Description
3	Name	Select the name of the router network to be used.
4	Encryption Method	
5	Password	
6	DHCP Automatic Obtain	Enable DHCP when the router is in dynamic IP mode. Disable DHCP when a switch is used or the router is in static IP mode.
7	IP Address	Do not configure the parameters when DHCP is enabled. Configure the parameters according to the router or switch information when DHCP is disabled.
8	Subnet Mask	
9	Gateway Address	
10	DNS Server	

9.1.7 Station Monitoring

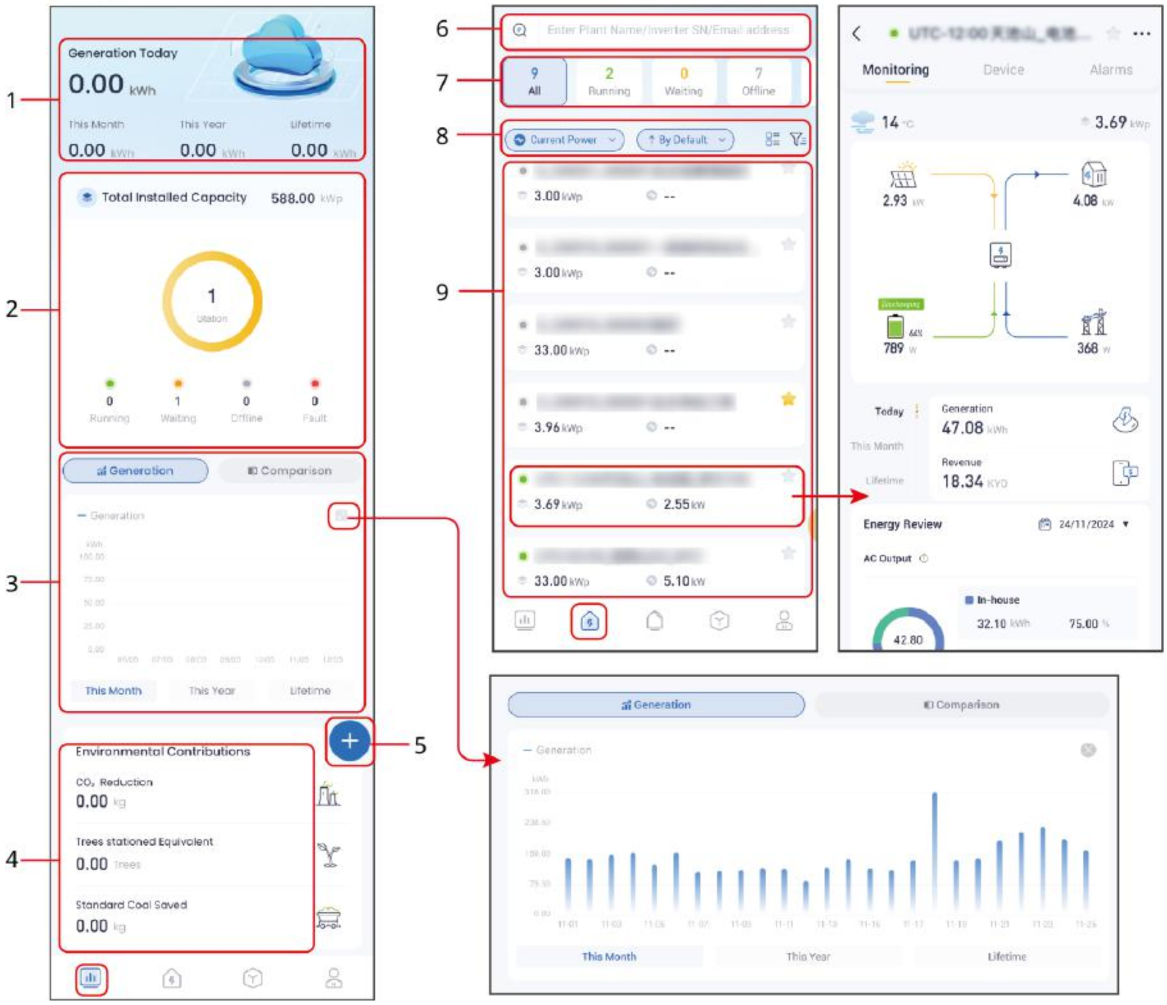
NOTICE
The parameters may vary depending on the account type or power station type. The actual interface takes precedence.

9.1.7.1 Checking Station Information

9.1.7.1.1 Checking Overview Information of All Stations

After logging in, you can view an overview of all stations linked to your account from the homepage.
Or sort the list of all power stations through different sorting and filtering conditions on the power station page to view the detailed information of the power stations.

SEMS0018



No.	Description
1	Displays the overall generation information of all stations, including: Generation Today, Generation This Month, Generation This Year, and Generation Lifetime. Generation This Year will not be displayed if the station amount exceeds 10.
2	Displays the total installed capacity and the working status of the stations. Working status: Running, Waiting, Offline, and Faulted. The stations status is running only when all the devices of the station are working properly.
3	Displays statistical chart of Generation Today, This Year, and Lifetime.Or displays comparison chart comparing current and past generation. Tap to expand the chart.
4	Displays environmental contributions like **CO_2 Reduction**, **Trees Stationed Equivalent,** and **Standard Coal Saved**.
5	Creating a New Station

No.	Description
6	Searching Stations Enter the device SN, power station name or email address to quickly search for the corresponding power station.
7	Power station operation status. Display the current operation status of power stations and the number of power stations operating in each status. Tap the operation status to filter power stations in the corresponding operation status.
8	• Set KPI indicators displayed in the power station list: Current Power, Rev. Today, Rev. Total, Gen. Today, Gen. Total • Set the sorting method of the power station list: By Default, By Capacity • Set the display mode of the power station list: Station Card, Station List • Set the filtering conditions for the power station list: Scope, Category, Capacity
9	Power station list. Tap the power station name to view the detailed information of the power station. The displayed content varies depending on the station type. The actual interface takes precedence

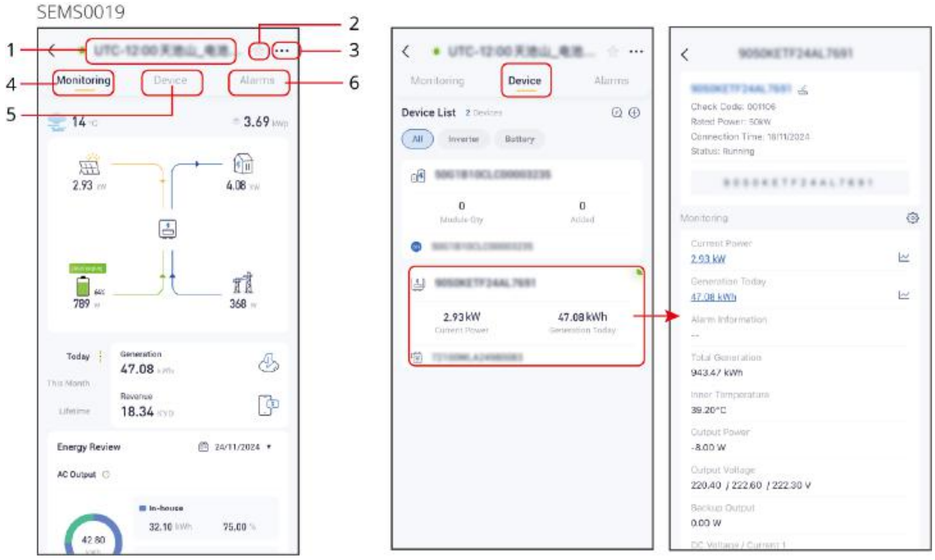
9.1.7.1.2 Checking Detailed Information of Single Station

Step 1: Enter the device SN, power station name or email address to quickly search for the corresponding power station.
Step 2: Tap the power station name to enter the power station details page.

SEMS0052

9.1.7.1.2.1 Checking Detailed Information of Power Station (Traditional Mode)

SEMS0019



No.	Description
1	The current name of the power station.
2	Favoriting a Station
3	Configuring Station Information. Supported functions: Configure basic information of the power station, modify user information, add power station photos, set PV module layout, etc.
4	Displays current power station operation information in chart form, such as energy flow diagrams, power generation, load power consumption, AC output, and other information.
5	• Device List Displays devices in the current power station, such as inverters, batteries, data collectors, charging piles, etc. • Tap the device card to view detailed device information.
6	Alarm information.

9.1.7.1.3 Checking Alarm Information

9.1.7.1.3.1 Checking Alarm Information of All Power Stations

Step 1 Tap **Alarms** tab to enter the alarm page.
Step 2 (optional) Use the search bar to locate alarms by station name or device serial number.
Step 3 Select the alarm to view detailed information.

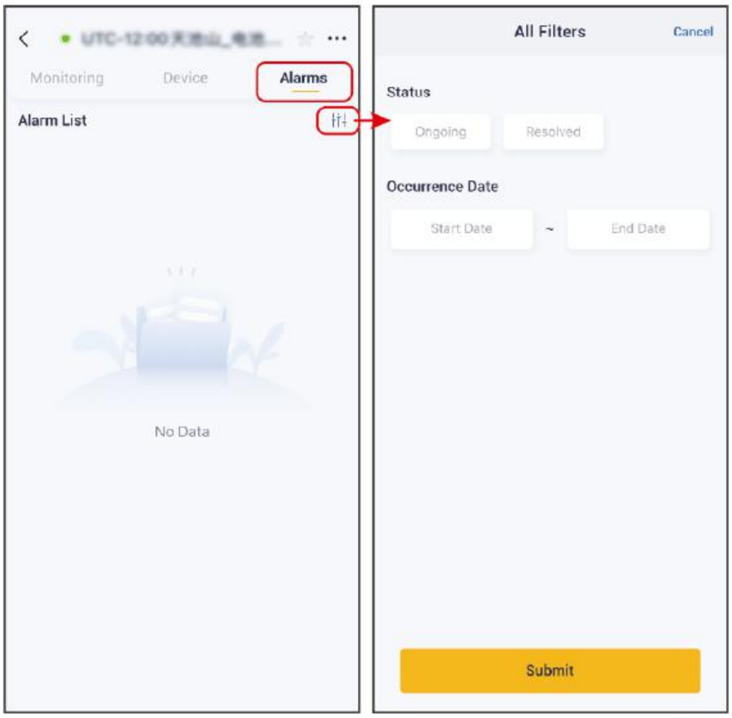
SEMS0020

9.1.7.1.3.2 Checking Detailed Information of Current Power Station (Traditional Mode)

Step 1: If there are multiple power stations, tap the power station name to enter the power station details page.

Step 2: Tap **Alarms** to enter the alarm page to view alarm details. Tap to filter alarm information based on actual needs.

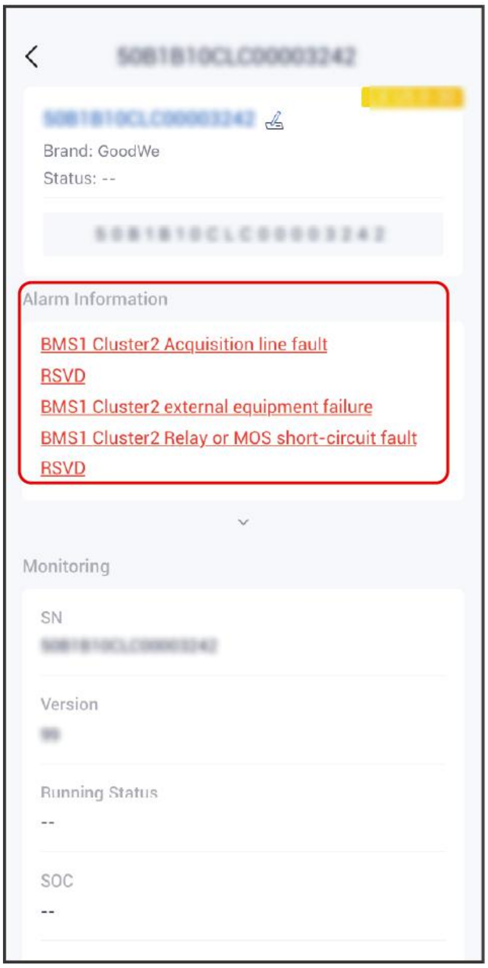
SEMS0021



9.1.7.1.3.3 Checking Alarm Information of Current Devices

Step 1: If there are multiple power stations, tap the power station name to enter the power station details page.
Step 2: Select a device from the device list and enter the device details page. If there are alarms, the device details page allows direct viewing of the 10 latest ongoing alarms.

SEMS0022



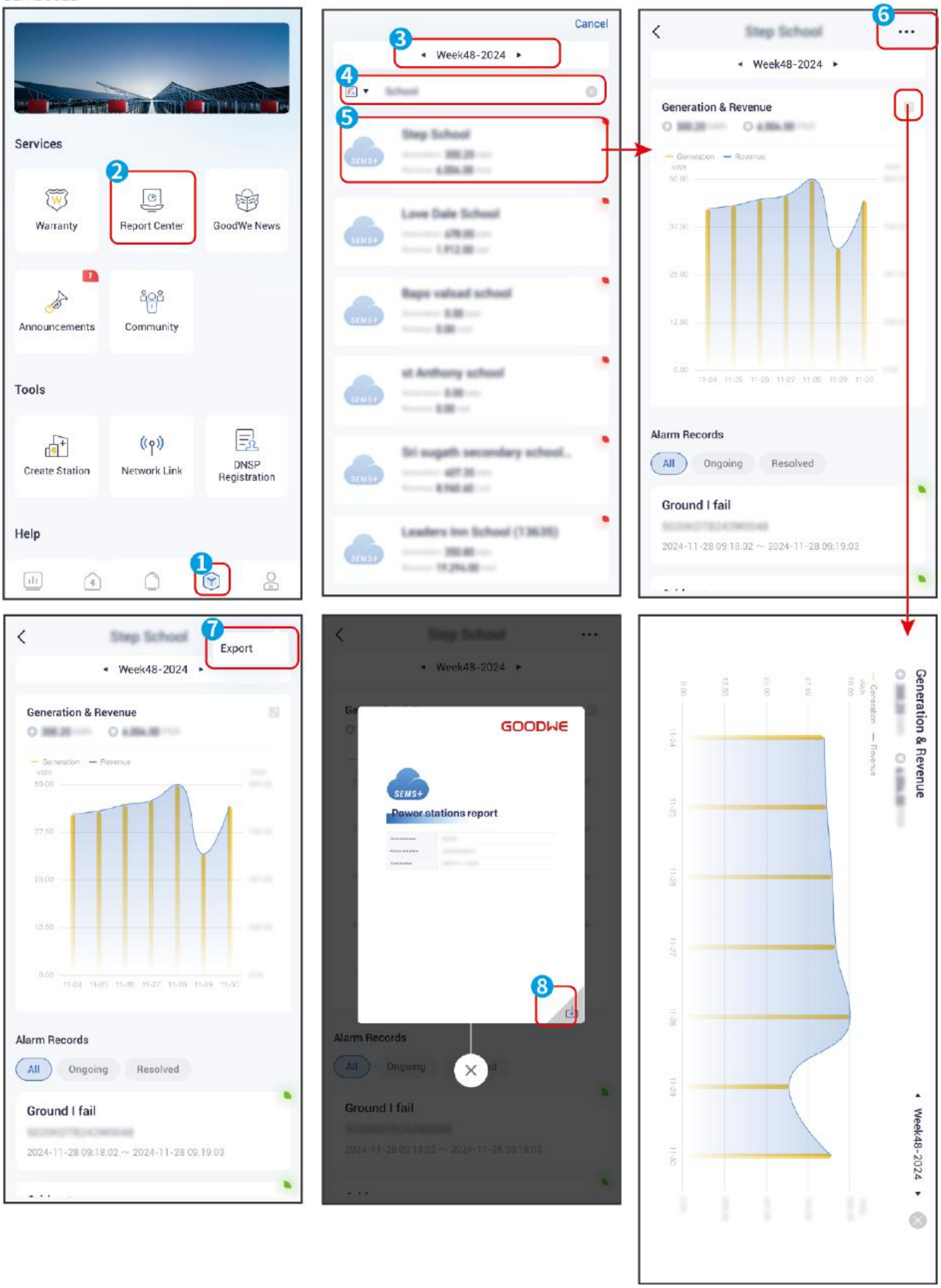
9.1.7.1.4 Checking Station Reports

Viewing Reports

Step 1: Tap **Service > Report Center**.

Step 2: Select a time period, search for the desired station, and tap the station name to view the report center. Tap ••• > **Export** to download the report if needed.

SEMS0023

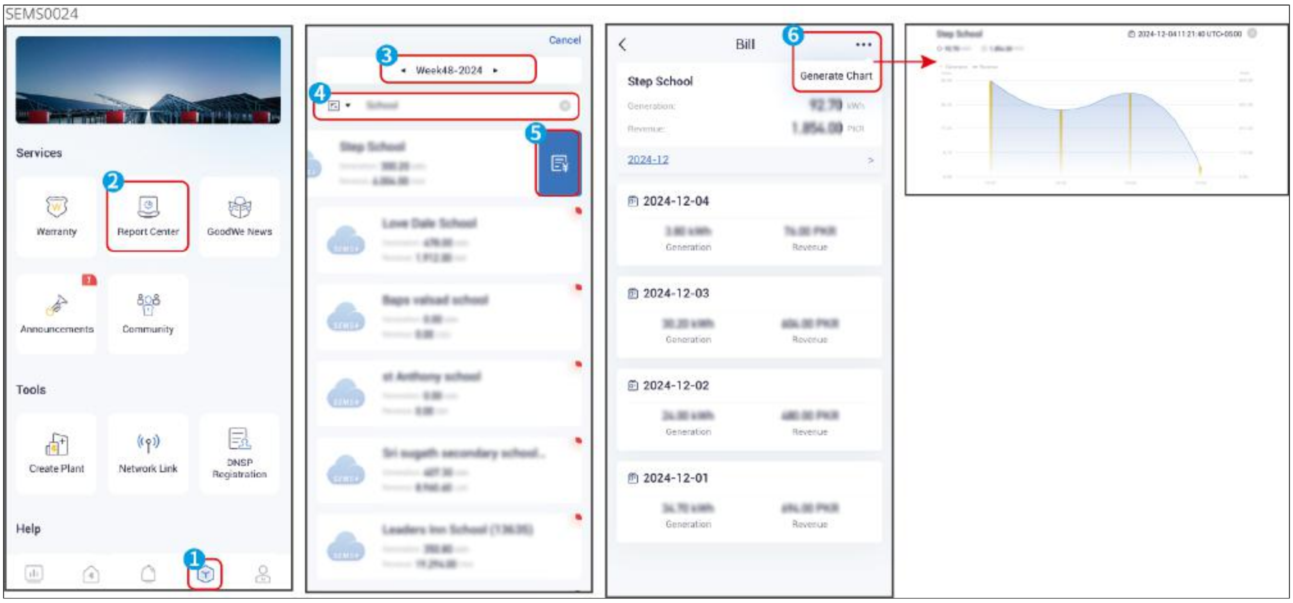


Viewing Bills

Step 1: Tap **Service > Report Center**.

Step 2: Search for the desired station. Find the station, swipe left and tap to view billing details of the month.

SEMS0024

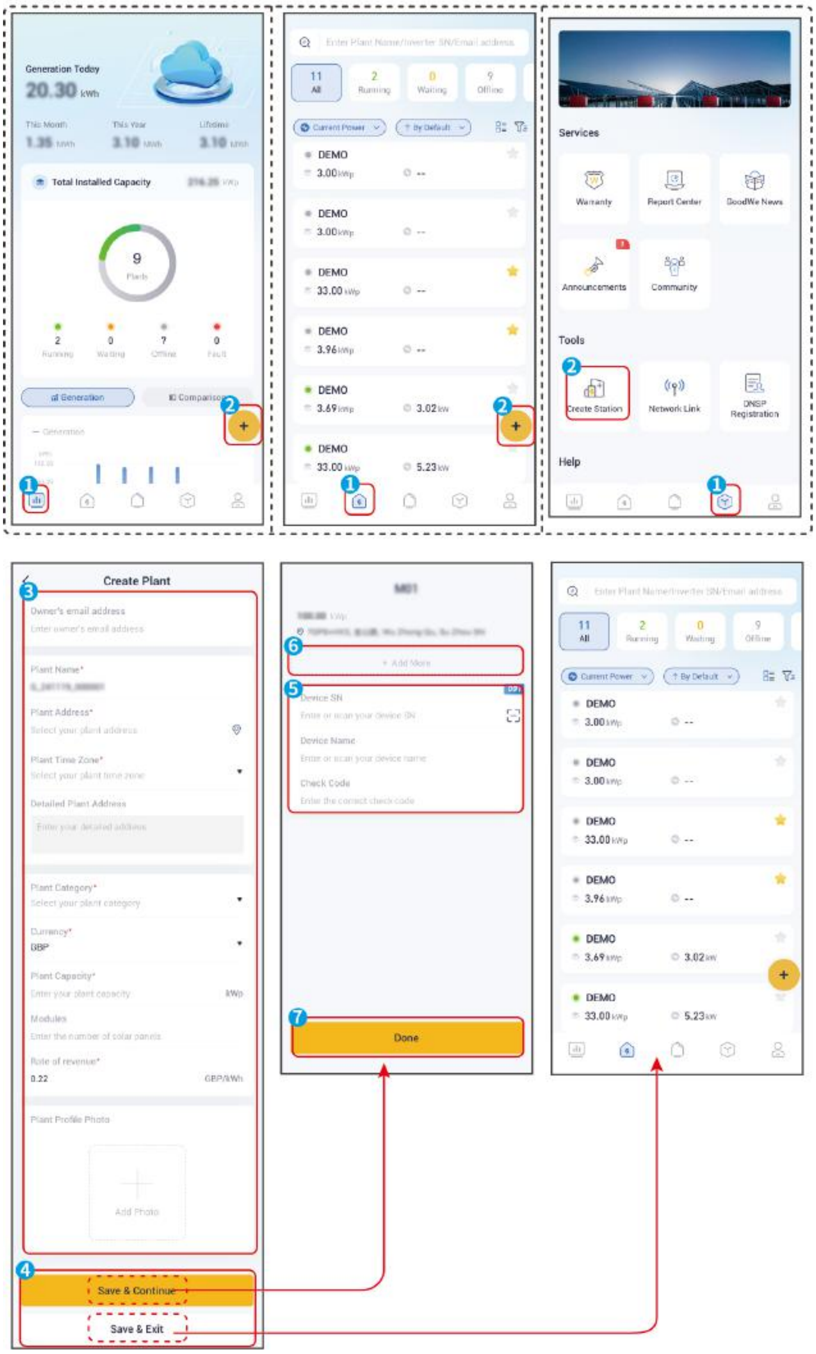


9.1.7.2 Managing Stations

9.1.7.2.1 Creating a Station

Step 1: Tap on overview or station page, or tap **Create Station** on service page.
Step 2: Enter station information on the**Creat Station** page.
Step 3: Tap **Save&Exit** to complete creating a station, without devices added. Or tap **Save&Continue** to add devices. Support adding multiple devices.

SEMS0011

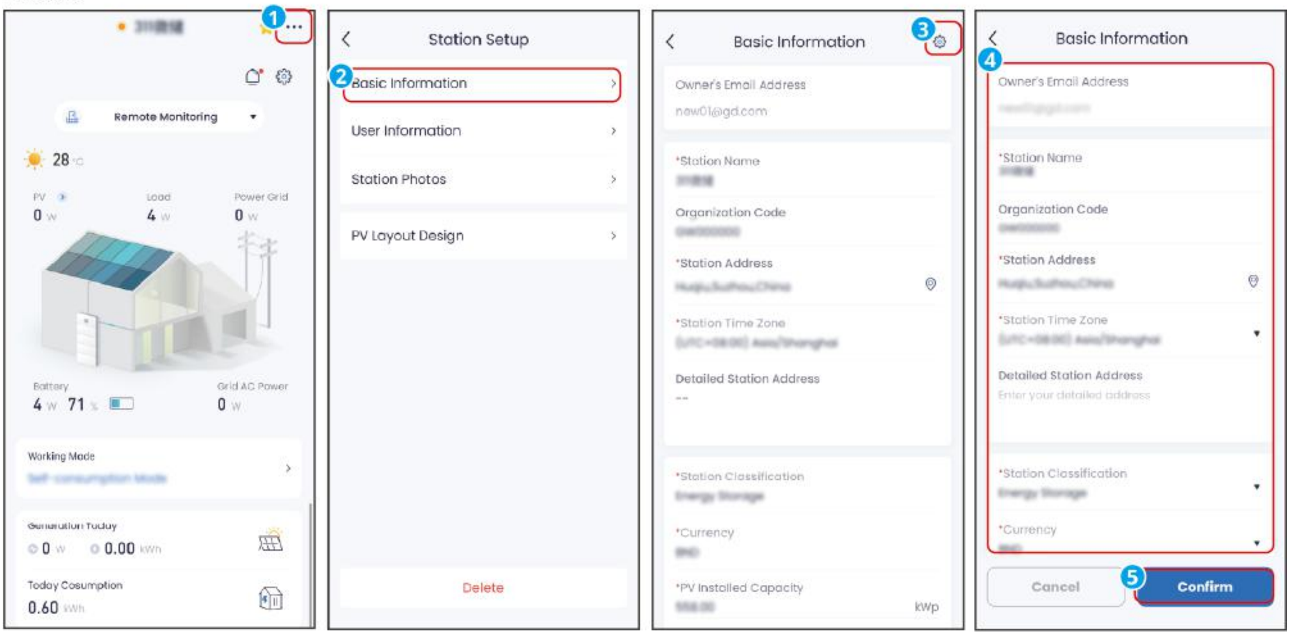


9.1.7.2.2 Configuring Station Information

NOTICE
The configuration information of the station can be updated as needed. When the information filled in is inconsistent with the actual situation of the power station, the actual situation of the power station shall prevail.

Step 1: (Optional) Select the station to be updated from the station list.
Step 2: Tap ••• > **Basic Information** to check the basic information.
Step 3: Tap to modify the information, and tap Confirm **to save the changes.**

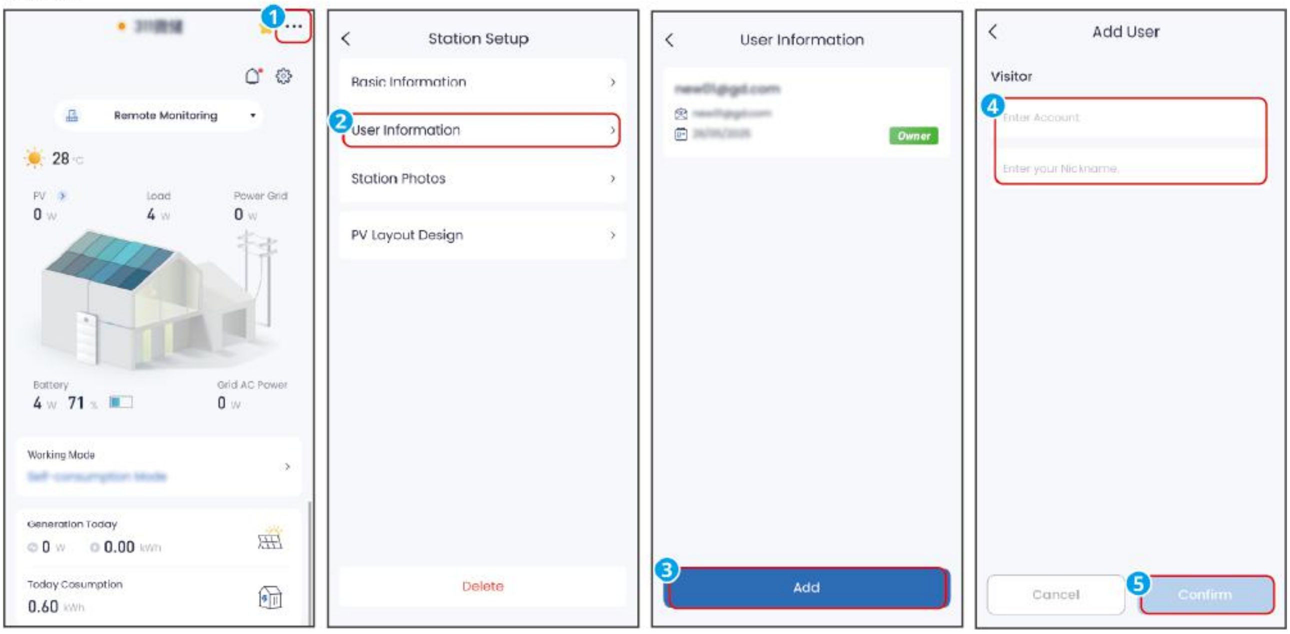
SEMS0012



9.1.7.2.3 Managing Station Visitors

SEMS+ App allows users to add visitors to the power station and view basic information. Visitors have limited access and cannot view all information.
Step 1: (Optional) Select the station to be updated from the station list.
Step 2: Tap ••• > **User Information** > **Add**.
Step 3: Input the visitor's information and tap **Confirm**.

SEMS0013



To delete a visitor, go to the User Information page, select the visitor, and tap **Delete**.

SEMS0054

9.1.7.2.4 Managing Station Photos

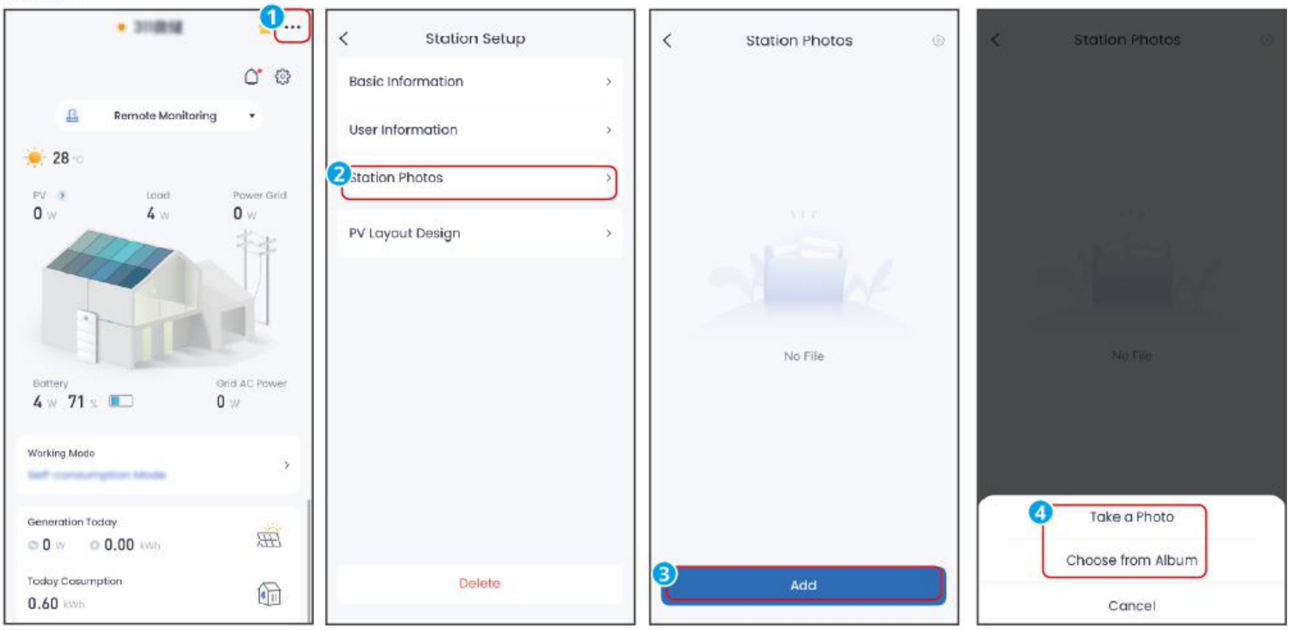
Adding photos to a station helps users find what they need faster.

Step 1: (Optional) Select the station to be updated from the station list.

Step 2: Tap ••• > **Station Photos** > **Add**.

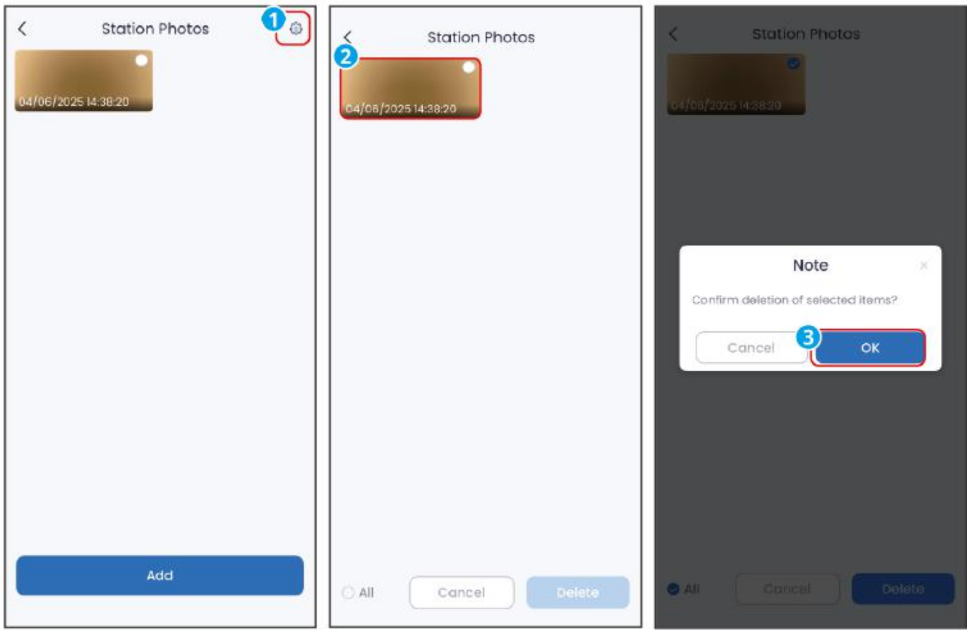
Step 3: Follow the prompts to add photos by **Take a Photo** or **Choose from Album**.

SEMS0014



To delete a photo, follow the steps below.

SEMS0055



9.1.7.2.5 Configuring the Page Information

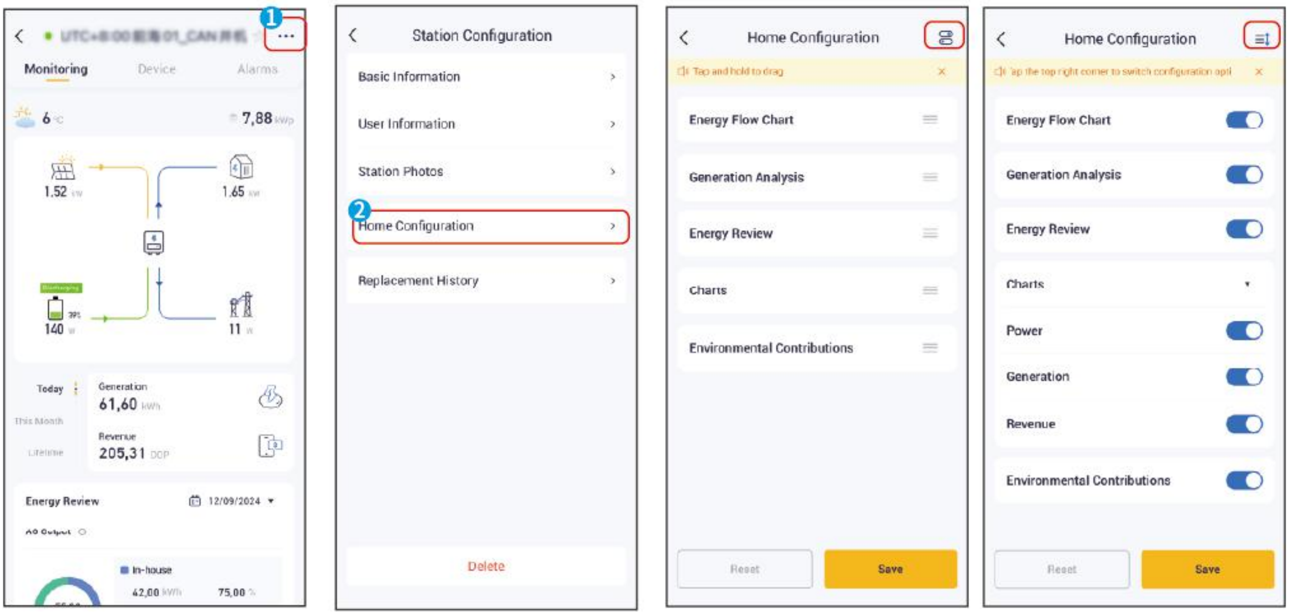
Change what's shown on the station details page, such as showing, hiding, or repositioning the Energy Flow Chart.

Step 1: (Optional) Select the station to be updated from the station list.

Step 2: Tap ••• > **Home Configuration** on the station page.

Step 3: Refer to the on-screen prompts to select the information content to be displayed, or adjust the display order of various information based on actual needs.

SEMS0015



9.1.7.2.6 Set PV Module Layout

Set the PV Layout Design parameters based on the actual conditions of PV modules. The information here is only for recording the PV layout and will not change the actual PV layout.

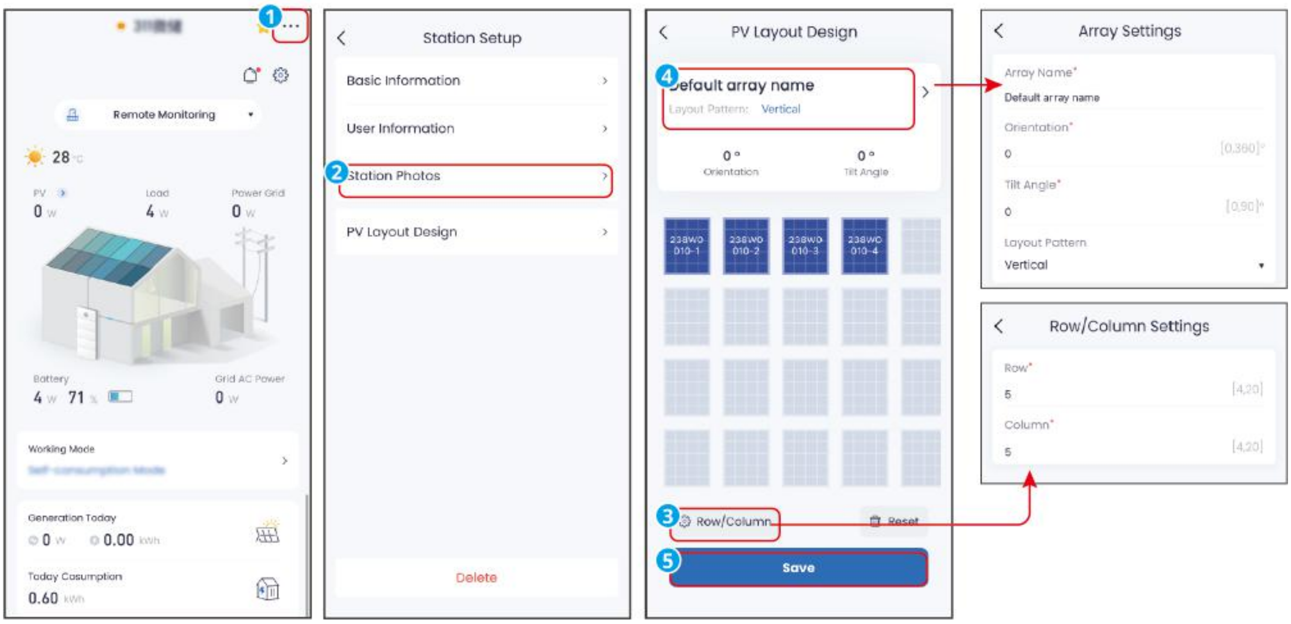
Step 1: (Optional) Select the station to be updated from the station list.

Step 2: Tap ••• > **PV Layout Design** to enter the interface.

Step 3: Tap **Row/Column** ,and set the arrangement of modules in each row and each column based on the actual installation of PV modules.

Step 4: Tap **Array Name** to enter the **Array Settings** interface, and set the name, angle, and orientation information of the PV array based on the actual situation.

SEMS0056



9.1.7.2.7 Deleting a Station

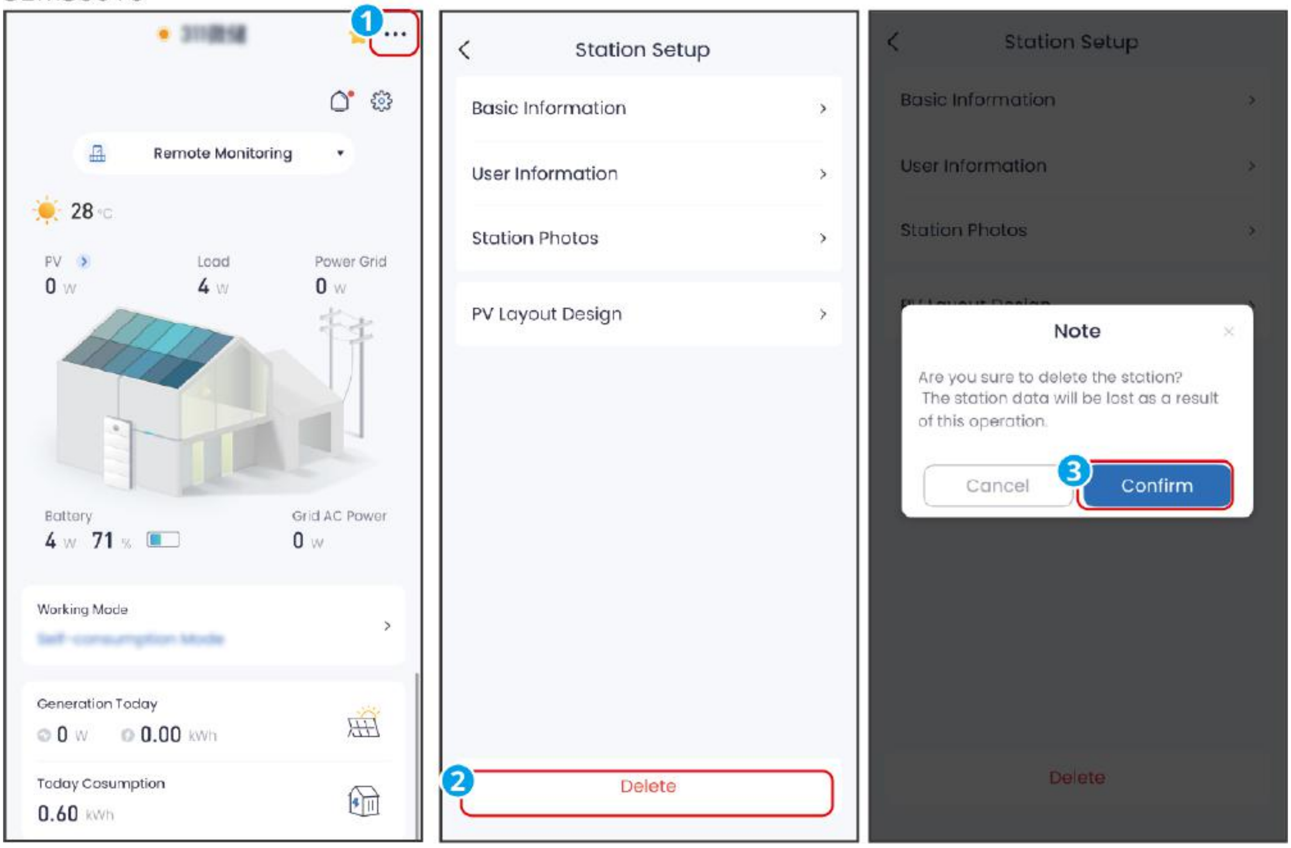
NOTICE
For station visitors, deleting a station means unbinding it from their account.

Step 1:(Optional) If there are multiple power stations, tap he power station name to enter the power station details page.

Step 2: Tap ••• on the station page.

Step 3: Tap**Delete** and **Confirm** to delete the station.

SEMS0016



9.1.7.2.8 Favoriting a Station

To favorite a station, tap the star icon next to the station name. Tap the icon again to unfavorite it.

Tap and Select Favorited in the filtering Scope to display all the favorited power stations.

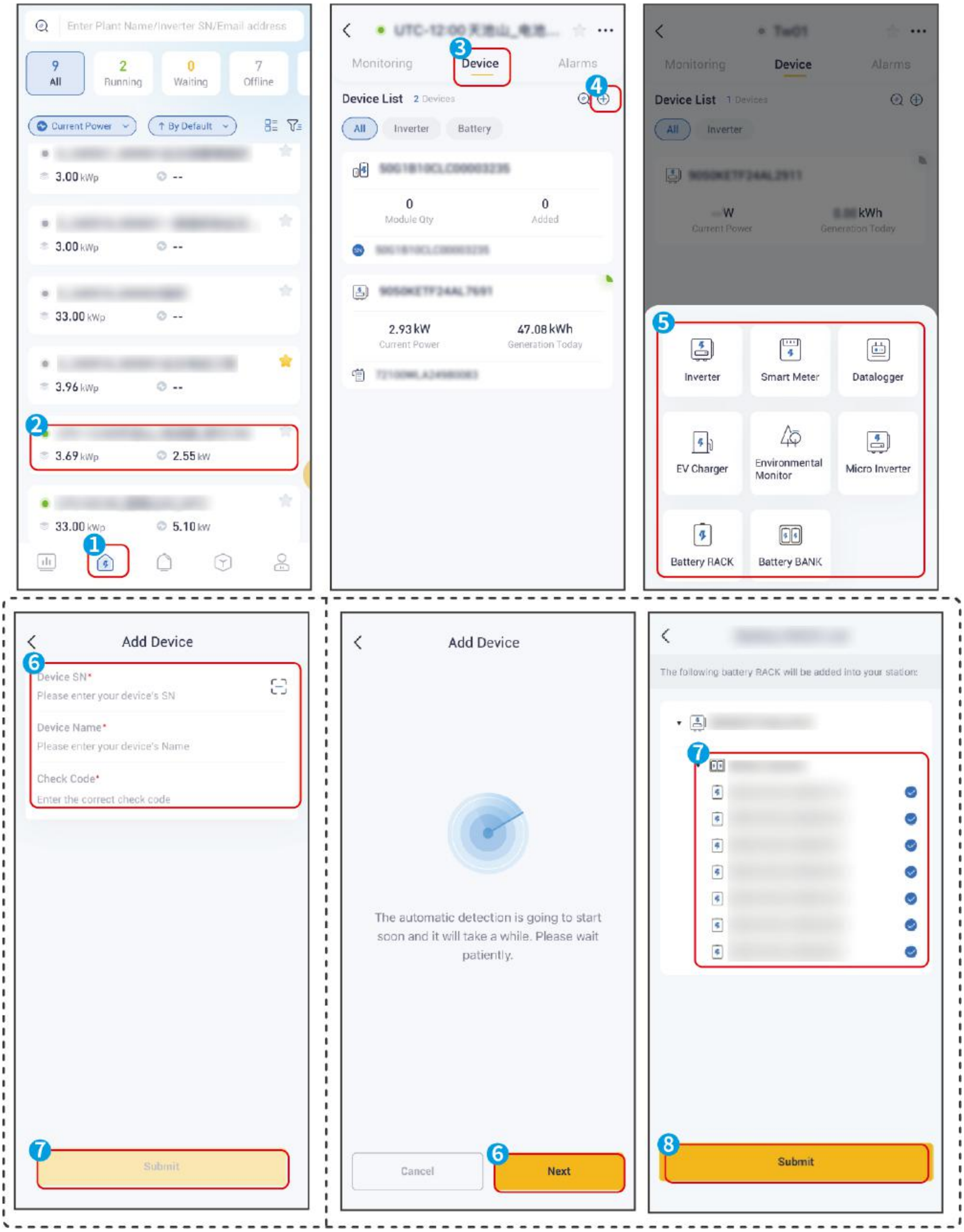
9.1.7.3 Managing Devices

9.1.7.3.1 Adding a Device

NOTICE
• Supported device types may vary based on the station type. • If the environmental monitor is connected to a smart logger, add the environmental monitor to the station and view the its data.

Step 1: Select a station from the station list.
Step 2: Tap **Device** > ⊕ to enter the device addition interface.
Step 3:Select the type of device to add.
Step 4: Follow the instructions to scan or manually input device information. To add the scanned devices, choose devices from the scanned device list. To manually add a device, scan the device SN code or input required device information. To add multiple devices, repeat the steps as needed.
Step 5: When manually adding devices, if you need to add multiple devices, return to the power station details page and repeat steps 3 and 4.

SEMS0025



Enter Plant Name/inverter SN/Email address
9 All
2 Running
0 Waiting
7 Offline
Current Power
By Default
3.00 kWp
3.00 kWp
33.00 kWp
3.96 kWp
3.69 kWp
2.55 kW
33.00 kWp
5.10 kW
Monitoring
Device
Alarms
Device List 2 Devices
All
Inverter
Battery
0 Module Qty
0 Added
2.93 kW Current Power
47.08 kWh Generation Today
Device List 1 Devices
Current Power
Generation Today
Inverter
Smart Meter
Datalogger
EV Charger
Environmental Monitor
Micro Inverter
Battery RACK
Battery BANK
Add Device
Device SN*
Please enter your device's SN
Device Name*
Please enter your device's Name
Check Code*
Enter the correct check code
Submit
The automatic detection is going to start soon and it will take a while. Please wait patiently.
Cancel
Next
The following battery RACK will be added into your station:
Submit

9.1.7.3.2 Editing Device Information

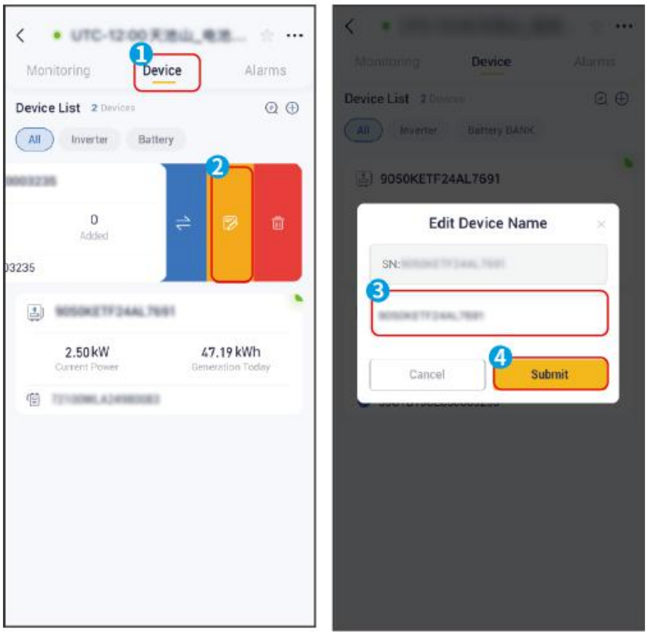
The device name can be modified.

Step 1:(Optional) If there are multiple power stations, tap he power station name to enter the power station details page.

Step 2: Tap **Device** to enter the device page. Select the device and swipe left, tap .

Step 3: Input new device name and tap **Submit**.

SEMS0027



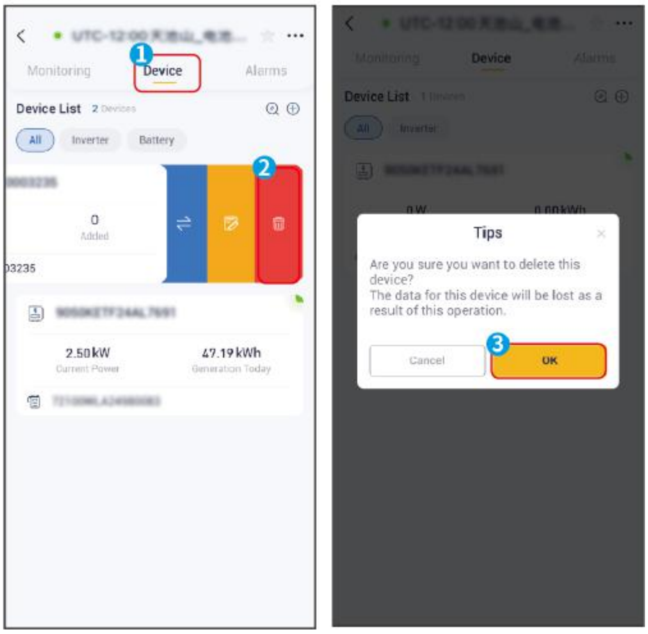
9.1.7.3.3 Deleting a Device

Step 1:(Optional) If there are multiple power stations, tap he power station name to enter the power station details page.

Step 2: Tap **Device** to enter the device page. Select the device and swipe left, tap .

Step 3:: Read the prompt and tap **OK** to delete the device.

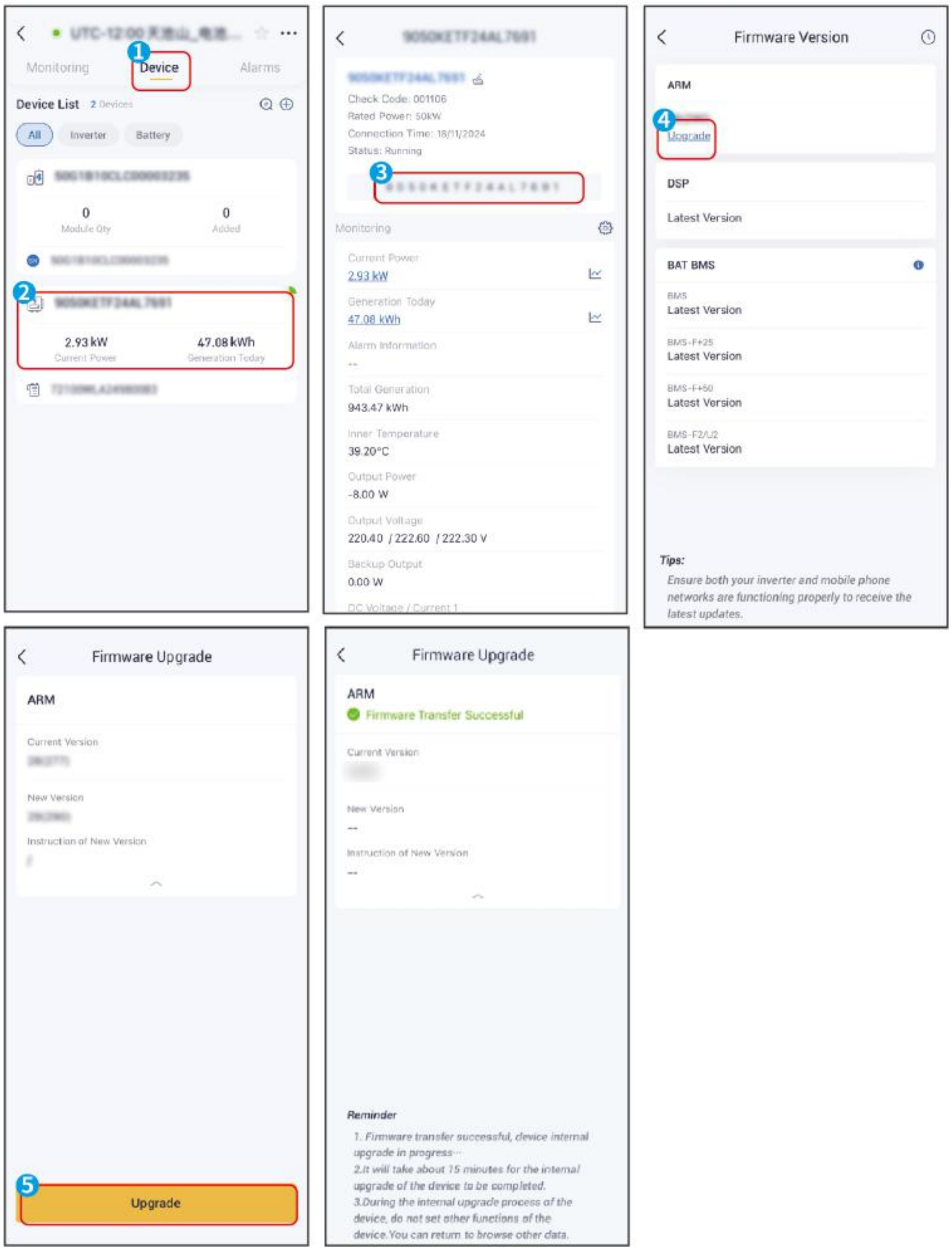
SEMS0028



9.1.7.3.4 Upgrade the Firmware

Step 1: (Optional) Select the station to be updated from the station list.
Step 2: Tap **Device** to open the device details page and select the device to be upgraded.
Step 3: Tap the device serial number to enter the **Firmware Version** page. If the upgrade is available, tap **Upgrade** and follow the instructions. Tap 🕓 to find the upgrade history.

SEMS0029



9.1.7.4 Managing Device Remotely

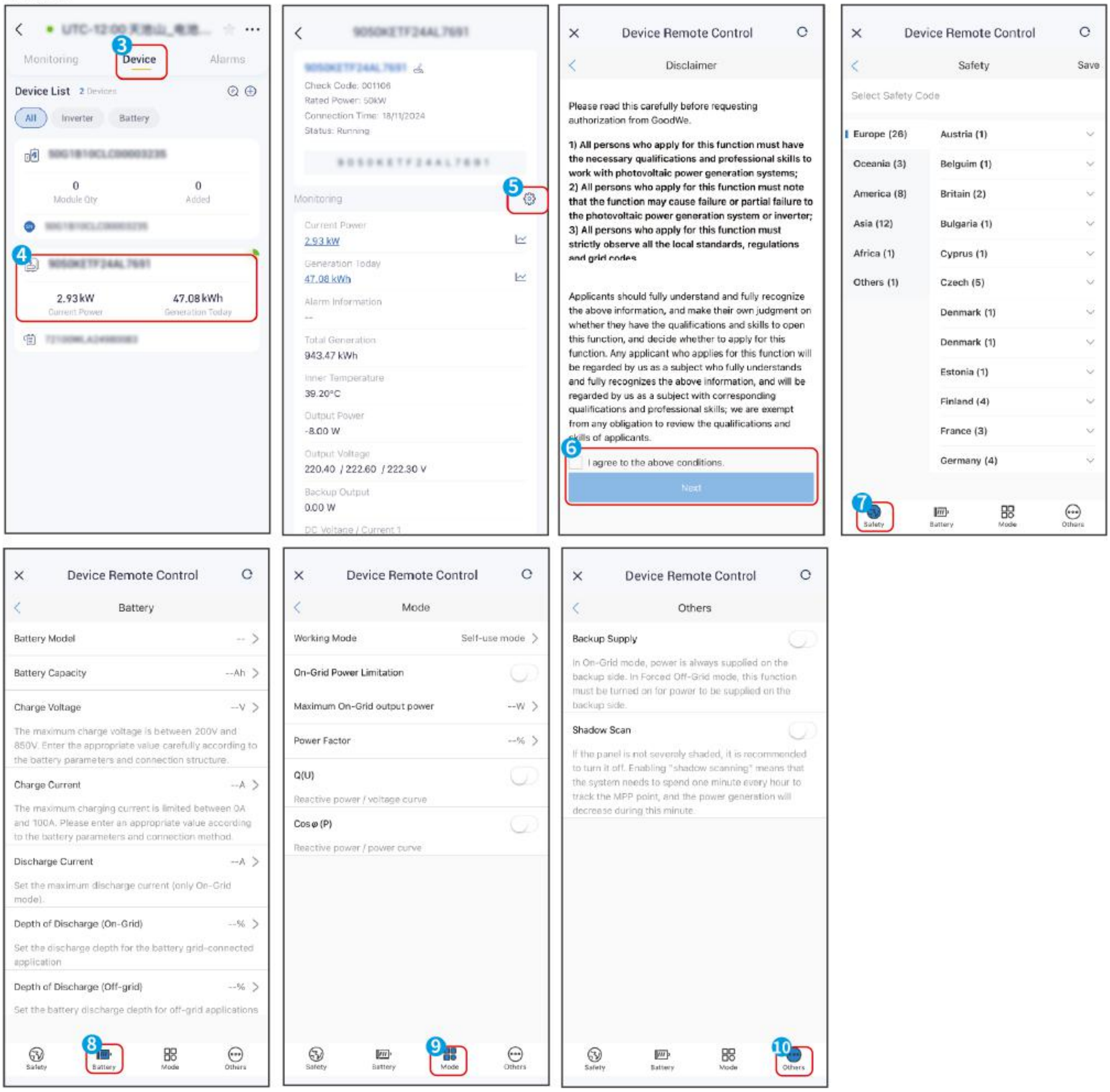
NOTICE

- Set the device parameters via SEMS+ App after creating a plant and adding devices to it.
- Before setting any parameters, read through user manual of the App and the inverter or charger to learn the product functions and features. Incorrectly configured parameters, such as grid settings or start/stop commands, may result in devices failing to connect to the grid, potentially affecting power generation.
- λOnly trained professionals familiar with local regulations and electrical systems should perform parameter settings.
- Different account permissions allow for remote setting of different parameters. The interface will be displayed based on the actual account in use, and please refer to the actual interface.
- The setting page varies depending on accounts type and device model.

9.1.7.4.1 Configuring Hybrid Inverter Parameters

Step 1: (Optional) Select the station to be updated from the station list.
Step 2: Tap **Device** to enter the device page and choose the device to be configured.
Step 3: Tap , read the prompts and set parameters as needed.

SEMS0031



No.	Parameters	Description
1	Safety	Set the safety country in compliance with local grid standards and application scenario of the inverter.
Battery		
2	Battery Model	Set the model of the connected battery.
3	Depth of Discharge (On-Grid)	The maximum depth of discharge of the battery when the system is working on-grid.

No.	Parameters	Description
4	Depth of Discharge (Off-Grid)	The maximum depth of discharge of the battery when the system is working off-grid.
5	Backup SOC Holding	The battery will be charged to preset SOC protection value by utility grid or PV when the system is running on-grid. So that the battery SOC is sufficient to maintain normal working when the system is off-grid.
6	SOC Protection	Start battery protection when the battery capacity is lower than the Depth of Discharge.

No.	Parameters	Description
7	Battery Heating	When a battery with heating function is connected, this option will be displayed on the interface. After enabling the battery heating function, when the battery temperature does not support battery startup, PV power generation or purchased electricity will be used to heat the battery. Heating modes: • GW5.1-BAT-D-G20/GW8.3-BAT-D-G20 ◦ Low-power mode: Maintain the minimum power input capability of the battery. It turns on when the temperature is below -9℃ and turns off when the temperature is -7℃ or higher. ◦ Medium-power mode: Maintain moderate power input capability of the battery. It turns on when the temperature is below 6℃ and turns off when the temperature is 8℃ or higher. ◦ High-power mode: Maintain high power input capability of the battery. It turns on when the temperature is below 11℃ and turns off when the temperature is 13℃ or higher. • GW14.3-BAT-LV-G10 ◦ Low-power mode: Maintain the minimum power input capability of the battery. It turns on when the temperature is below 5℃ and turns off when the temperature is 7℃ or higher. ◦ Medium-power mode: Maintain moderate power input capability of the battery. It turns on when the temperature is below 10℃ and turns off when the temperature is 12℃ or higher. ◦ High-power mode: Maintain high power input capability of the battery. It turns on when the temperature is below 20℃ and turns off when the temperature is 22℃ or higher.
8	Daily Heating Period	Set the battery heating time period based on actual needs.

No.	Parameters	Description
9	Battery Wake-up	After being enabled, the battery can be woken up when it shuts down due to undervoltage protection.
10	Battery Breathing Light	• Only applicable to the ESA 3-10kW inverter series. Set the blinking duration of the device's breathing light. Options available: Always on, Always off, 3min. • The default mode is to stay on for three minutes after power-on and then turn off automatically.
Mode		

11	Working Mode	Set the working mode based on actual needs.
		
		• Self-use mode:
		  ◦ Back-up mode: The back-up mode is mainly applied to the scenario where the grid is unstable ¡When the grid is disconnected, the inverter turns to off-grid mode and the battery will supply power to the load; when the grid is restored, the inverter switches to on-grid mode.
		  ◦ Eco mode: It is recommended to use economic mode in scenarios when the peak-valley electricity price varies a lot. Select Economic mode only when it meets the local laws and regulations. Set the battery to charge mode during Vally period to charge battery with grid power. And set the battery to discharge mode during Peak period to power the load with the battery.
		• Smart charging: In some countries/regions, the PV power feed into the utility grid is limited. Select Smart Charging to charge the battery using the surplus power to minimize PV power waste.
		• Peak shaving mode:Peak shaving mode is mainly applicable to peak power limited scenarios. When the total power consumption of the load exceeds the power consumption quota in a short period of time, battery discharge can be used to reduce the power exceeding the quota.

No.	Parameters	Description
12	On-Grid Power Limitation	Enable On-Grid Power Limitation when power limiting is required by local grid standards and requirements.
13	Maximum On-Grid Output Power	Set the value based on the actual maximum power feed into the utility grid.
14	Power Factor	Set the power factor based on actual needs.
15	Q(U)	Enable Q(U) Curve when it is required by local grid standards and requirements.
16	COS(φ)	Enable Cosφ Curve when it is required by local grid standards and requirements.
17	P(F)	Enable P(F) Curve when it is required by local grid standards and requirements.
Others		
18	Backup Supply	After enabling Backup Supply, the battery will power the load connected to the BACK-UP port of the inverter to ensure Uninterrupted Power Supply when the power grid fails.
19	Shadow Scan	Enable Shadow Scan when the PV panels are severely shadowed to optimize the power generation efficiency.

10 System Management

10.1 System Shutdown

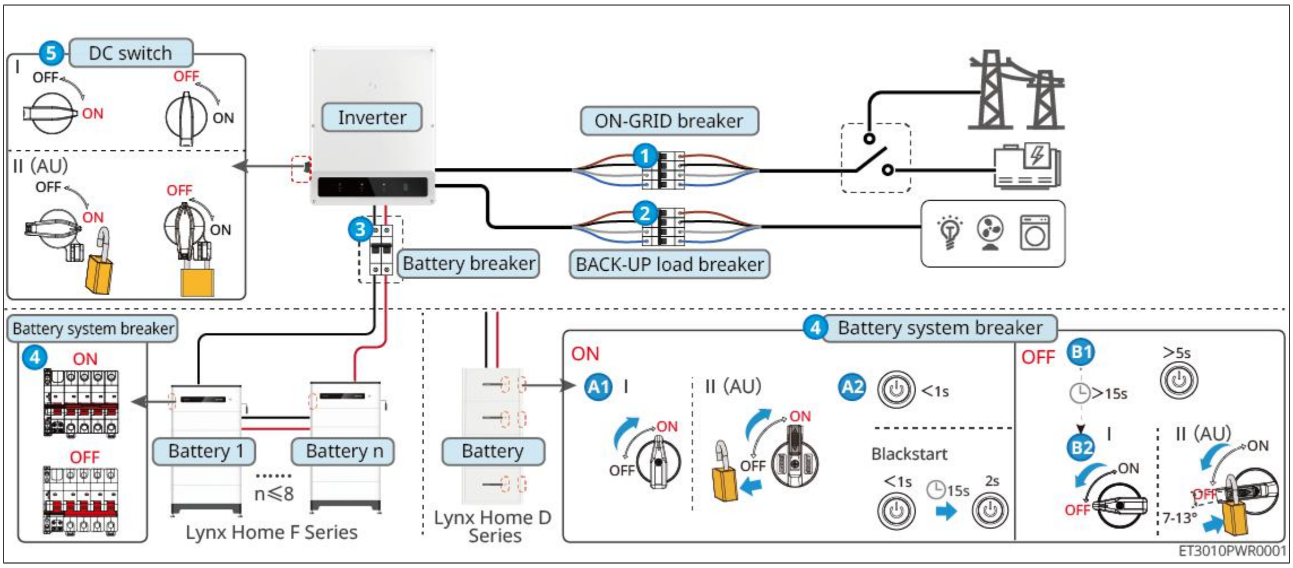
DANGER

- When performing maintenance or operations on devices within the system, please disconnect the system from the power supply. Working on energized equipment may cause equipment damage or risk of electric shock.
- After disconnecting the power supply, the internal components of the equipment require a certain amount of time to discharge. Please wait according to the requirements stated on the label until the equipment is completely discharged.
- Use the air switch power-on method to restart the battery.
- When shutting down the battery system, strictly adhere to its shutdown requirements to prevent damage to the battery system.
- If there are multiple batteries in the system, shutting down any single battery will cause all batteries to shut down.

WARNING

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

Single Device Scenario

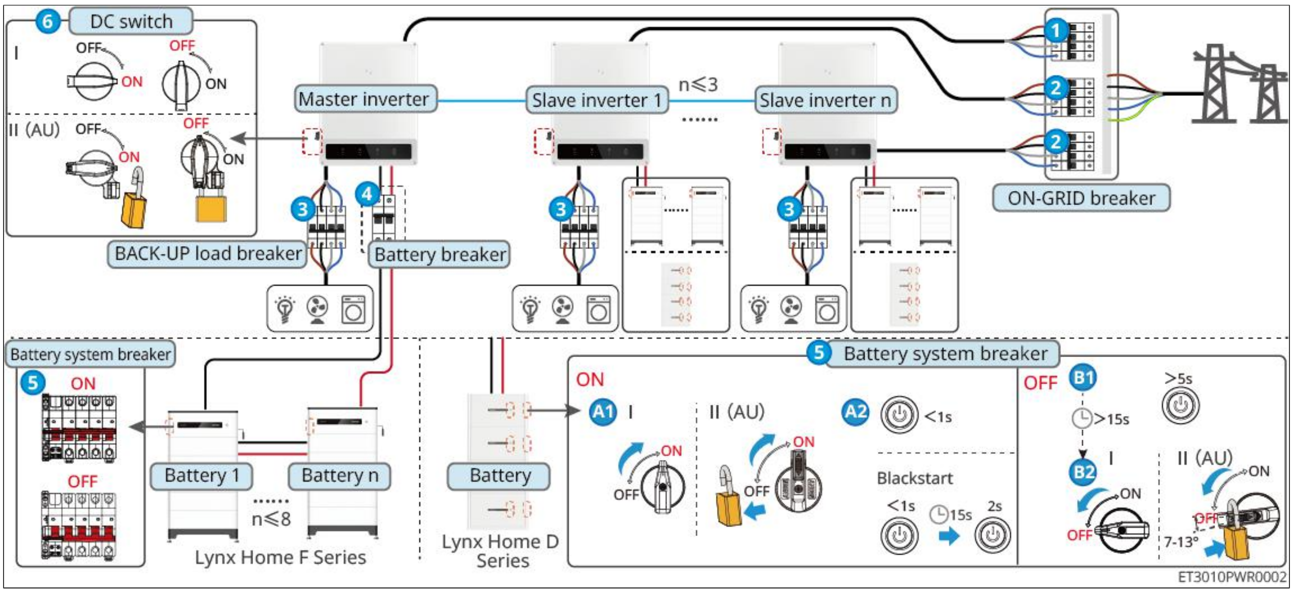


Power On/Off Procedure:

❶→❷→❸→❹→❺

❸： Optional based on local laws and regulations.

Parallel Operation Scenario



Power On/Off Procedure:

❶→❷→❸→❹→❺→❻

❹： Optional based on local laws and regulations.

10.2 Device Removal

DANGER

- Ensure the device is powered off.
- Wear personal protective equipment when operating the device.
- Use standard disassembly tools when removing terminal blocks to avoid damaging the terminals or the device.
- Unless otherwise specified, device disassembly follows the reverse order of assembly, and this document will not reiterate this further.

1. Turn off the system.
2. Use labels to mark the types of cables connected in the system.
3. Disconnect the connecting cables of the inverter, battery, smart meter in the system, such as: DC cables, AC cables, communication cables, PE cable.
4. Remove devices such as smart communication rod, inverter, battery, smart meter.
5. Store the devices properly. If they need to be reused later, ensure that the storage conditions meet the requirements.

10.3 Device Decommissioning

If the device can no longer be used and needs to be decommissioned, dispose of it in accordance with the requirements of local regulations for the handling of electronic waste in the country or region where it is located. The device must not be disposed of as regular municipal waste.

10.4 Regular Maintenance

WARNING

- If you identify any issues that may affect the battery or the energy storage inverter system, contact customer support. It is prohibited to disassemble the device on your own.
- If you find that the internal copper wires of the conductors are exposed, do not touch them. There is a risk of high voltage. Contact customer support. It is prohibited to disassemble the device on your own.
- In the event of other unexpected situations, immediately contact customer support. Follow the instructions of the service personnel or wait for their arrival and on-site intervention.

Maintenance Content	Maintenance Method	Maintenance Period	Maintenance Purpose
System Cleaning	Check for foreign objects or dust on heat sinks, fans, and air intake/exhaust vents. Check if the installation space meets requirements and if debris has accumulated around the equipment.	Once every six months	Prevent failures caused by overheating.
System Installation	Check if the equipment is securely installed and if mounting screws are loose. Check if the equipment's external casing is damaged or deformed.	Once every six months to once a year	Confirm the stability of the equipment installation.
Electrical Connections	Check if electrical connections are loose, if cable insulation is damaged, and if copper conductors are exposed.	Once every six months to once a year	Confirm the reliability of electrical connections.
Sealing	Check if the gaskets at cable entry ports meet requirements. If gaps are too large or ports are not sealed, resealing is necessary.	Once a year	Confirm the machine is sealed and its waterproofing is intact.

Maintenance Content	Maintenance Method	Maintenance Period	Maintenance Purpose
Battery Maintenance	If the battery has not been used for a long time or has not been fully charged, regular recharging is recommended.	Once every 15 days	Protect battery lifespan.

10.5 Troubleshooting

10.5.1 Viewing Detailed Fault/Warning Information

All detailed information about energy storage system faults and warnings is displayed in the **[SolarGo App]**and **[SEMS+ APP]**. If an abnormality occurs with your product and you do not see relevant fault information in the **[SolarGo App]**and **[SEMS+ APP]**, please contact the service center.

- **SolarGo App**

Via **[Home]** > **[Parameters]** > **[Warnings]**, view the energy storage system warning information.

- **SEMS+ APP**

1. Open the SEMS+ App and log in with any account.
2. Via **[Power Plant]** > **[Warnings]**, you can view information about all power plant faults.
3. Click on a specific fault name to view details such as the occurrence time, possible causes, and solution method.

10.5.2 Fault Information and Resolution Methods

Please troubleshoot according to the following methods. If these methods do not help, contact the service center.
When contacting the service center, gather the following information to enable a quick resolution of the problem.

1. Product information, such as serial number, software version, device installation time, fault occurrence time, fault occurrence frequency, etc.

2. Device installation environment, such as weather conditions, whether components are shaded or have shadows, etc. For problem analysis, it is recommended to provide photos, videos, and other files from the installation environment.
3. Grid status.

10.5.2.1 System Troubleshooting

If a problem occurs that is not listed, or if the problem or abnormality cannot be prevented according to the instructions, immediately stop system operation and contact your seller immediately.

Order	Fault	Solution
1	Cannot find the wireless signal of the smart communication module	1. Ensure no other device is connected to the smart communication module's wireless signal. 2. Ensure the SolarGo app is updated to the latest version. 3. Ensure the smart communication module is powered correctly and the blue indicator light is blinking or steadily lit. 4. Ensure the smart device is within the communication range of the smart communication module. 5. Refresh the device list in the app. 6. Restart the inverter.
2	Cannot connect to the wireless signal of the smart communication module	1. Ensure no other device is connected to the smart communication module's wireless signal. 2. Restart the inverter or communication module and try reconnecting to its wireless signal. 3. Ensure Bluetooth pairing and encryption were successful.
3	Cannot find the router's SSID	1. Place the router closer to the smart communication module or use a WiFi repeater to boost the WiFi signal. 2. Reduce the number of devices connected to the router.

Order	Fault	Solution
4	After completing all configuration, the smart communication module does not connect to the router	1. Restart the inverter. 2. Check if the network name (SSID), encryption type, and password in the WiFi configuration match the router settings. 3. Restart the router. 4. Place the router closer to the smart communication module or use a WiFi repeater to boost the WiFi signal.
5	After completing all configuration, the smart communication module does not connect to the server	Restart the router and the inverter.

10.5.2.2 Inverter Troubleshooting

fault code	fault name	fault cause	Troubleshooting recommendation
F01	Grid disconnected	1. Utility grid power outage. 2. AC line or AC Switch disconnected.	1. The alarm automatically disappears after Grid connected recovery. 2. Check whether the AC line or AC Switch is disconnected.
F02	Grid Overvoltage	Utility gridvoltage exceeds the allowable range, or the duration of overvoltage surpasses the high voltage ride-through setting.	1. If it occurs occasionally, it may be due to a temporary abnormality in Utility grid. Inverter will resume normal operation after detecting that Utility grid is functioning

fault code	fault name	fault cause	Troubleshooting recommendation
			properly, without requiring manual intervention. 2. If it occurs frequently, check whether Utility gridvoltage is within the allowable range. • If the Utility gridvoltage exceeds the permissible range, please contact the local power operator. • If the Utility gridvoltage is within the allowable range, it is necessary to modify the InverterGrid Overvoltage point after obtaining approval from the local power operator.HVRTEnable or disable the Grid Overvoltage function. 3. If the issue persists for an extended period, please check whether the AC-side breaker and output cables are properly connected.

fault code	fault name	fault cause	Troubleshooting recommendation
F03	Grid Undervoltage	Utility gridvoltage is below the permissible range, or the duration of low voltage exceeds the low voltage ride-through setting value.	1. If it occurs occasionally, it may be due to a temporary anomaly in Utility grid. The Inverter will resume normal operation after detecting that Utility grid is functioning properly, without requiring manual intervention. 2. If it occurs frequently, check whether Utility grid voltage is within the allowable range. • If Utility gridvoltage exceeds the permissible range, please contact the local power operator. • If the Utility gridvoltage is within the allowable range, it is necessary to modify the InverterGrid Undervoltage point after obtaining consent from the local power operator.LVRTEnable or disable the Grid Undervoltage function. 3. If the issue persists for an extended period, please check whether the AC-side breaker and

fault code	fault name	fault cause	Troubleshooting recommendation
			output cables are properly connected.
F04	Grid Rapid Overvoltage	Abnormal detection of Utility gridvoltage or ultra-high voltage triggers fault.	1. If it occurs occasionally, it may be due to a temporary abnormality in Utility grid. Inverter will resume normal operation after detecting that Utility grid is normal, without requiring manual intervention. 2. If it occurs frequently, check whether Utility grid voltage is within the allowable range. • If Utility gridvoltage exceeds the permissible range, please contact the local power operator. • If the Utility gridvoltage is within the allowable range, it is necessary to modify the InverterGrid Undervoltage point after obtaining consent from the local power operator.LVRTEnable or disable the Grid Undervoltage function. 3. If the issue persists for an extended period, please check whether the

fault code	fault name	fault cause	Troubleshooting recommendation
			breaker on the AC side and the output cables are properly connected.

fault code	fault name	fault cause	Troubleshooting recommendation
F05	10minOvervoltage Protection	In10minThe sliding average of Utility gridvoltage exceeds the safety regulation range.	1. If it occurs occasionally, it may be due to a temporary abnormality in Utility grid. Inverter will resume normal operation after detecting that Utility grid is functioning properly, without requiring manual intervention. 2. Check whether Utility gridvoltage has been operating at a high voltage for an extended period. If this occurs frequently, verify whether Utility gridvoltage is within the allowable range. • If the Utility gridvoltage exceeds the permissible range, please contact the local power operator. • If the Utility gridvoltage is within the allowable range, the Utility grid must be modified with the consent of the local power operator.10minOvervoltage Protection point.

fault code	fault name	fault cause	Troubleshooting recommendation
F06	Grid Overfrequency	Utility grid anomaly: Utility grid actual Frequency exceeds local Utility grid standard requirements.	1. If it occurs occasionally, it may be due to a temporary anomaly in Utility grid. The Inverter will resume normal operation after detecting that Utility grid is functioning properly, without requiring manual intervention. 2. If frequent occurrences, check whether Utility grid Frequency is within the allowable range. • If Utility gridFrequency exceeds the permissible range, please contact the local power operator. • If Utility gridFrequency is within the allowable range, the Grid Overfrequency point needs to be modified after obtaining consent from the local power operator.

fault code	fault name	fault cause	Troubleshooting recommendation
F07	Grid Underfrequency	Utility grid anomaly: Utility grid actual Frequency is below the local Utility grid standard requirement.	1. If it occurs occasionally, it may be due to a temporary anomaly in Utility grid. The Inverter will resume normal operation after detecting that Utility grid is functioning properly, without requiring manual intervention. 2. If it occurs frequently, please check whether Utility grid and Frequency are within the allowable range. • If Utility gridFrequency exceeds the permissible range, please contact the local power operator. • If the Utility gridFrequency is within the allowable range, the Grid Overfrequency point needs to be modified after obtaining consent from the local power operator.

fault code	fault name	fault cause	Troubleshooting recommendation
F08	Grid Frequency Instability	Utility grid anomaly: Utility grid actual Frequency variation rate does not comply with local Utility grid standard.	1. If it occurs occasionally, it may be due to a temporary abnormality in Utility grid. Inverter will resume normal operation after detecting that Utility grid is normal, without requiring manual intervention. 2. If it occurs frequently, check whether Utility grid and Frequency are within the allowable range. • If Utility gridFrequency exceeds the permissible range, please contact the local power operator. • If Utility gridFrequency is within the allowable range, please contact your dealer or after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F163	Grid Phase Instability	Utility grid anomaly: Utility grid voltage phase variation rate does not comply with local Utility grid standard.	1. If it occurs occasionally, it may be due to a temporary abnormality in Utility grid. Inverter will resume normal operation after detecting that Utility grid is normal, without requiring manual intervention. 2. If it occurs frequently, check whether Utility grid and Frequency are within the allowable range. • If Utility gridFrequency exceeds the permissible range, please contact the local power operator. • If Utility gridFrequency is within the allowable range, please contact your dealer or after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F09	Anti-islanding Protection	Utility grid has been disconnected, maintaining Utility grid voltage due to the presence of load. According to safety regulation Protection, on-grid has been stopped.	1. If it occurs occasionally, it may be due to a temporary abnormality in Utility grid. Inverter will resume normal operation after detecting that Utility grid is normal, without requiring manual intervention. 2. If it occurs frequently, check whether Utility grid and Frequency are within the allowable range. • If Utility gridFrequency exceeds the permissible range, please contact the local power operator. • If the Utility gridFrequency is within the allowable range, please contact your dealer or after-sales service center.
F10	LVRT Undervoltage	Utility grid anomaly: Utility grid voltage duration exceeds the specified high-low transition time limit.	

fault code	fault name	fault cause	Troubleshooting recommendation
F11	HVRT Overvoltage	Utility grid anomaly: Utility grid voltage duration exceeds the specified high-low transition time.	1. If it occurs occasionally, it may be due to a temporary abnormality in Utility grid. Inverter will resume normal operation after detecting that Utility grid is normal, without requiring manual intervention. 2. If this occurs frequently, please check whether Utility grid, voltage, and Frequency are within the allowable range and stable. If not, contact the local power operator; if yes, contact your dealer or after-sales service center.
F43	Grid Waveform Abnormal	Utility grid anomaly: Utility grid voltage detection triggered fault due to abnormality.	
F44	Grid Phase Loss	Utility grid anomaly: Utility gridvoltage has a single-phase voltage dip.	

fault code	fault name	fault cause	Troubleshooting recommendation
F45	Grid Voltage Imbalance	Utility grid phase voltage difference is too large.	1. If it occurs occasionally, it may be due to a temporary abnormality in Utility grid. Inverter will resume normal operation after detecting that Utility grid is normal, without requiring manual intervention. 2. If it occurs frequently, please check whether Utility grid, voltage, and Frequency are within the allowable range and stable. If not, contact the local power operator; if yes, contact your dealer or after-sales service center.
F46	Grid Phase Sequence Failure	Inverter and Utility grid wiring abnormality: wiring is not in positive sequence	1. Check whether the wiring of Inverter and Utility grid is in positive sequence. After the wiring is corrected (e.g., by swapping any two live wires), fault will automatically disappear. 2. If the wiring is correct and fault persists, please contact the dealer or GoodWe Customer Service Center.

fault code	fault name	fault cause	Troubleshooting recommendation
F47	Grid Rapid Shutdown Protection	Quickly shut down the output upon detecting the Grid disconnected operating condition.	1. The Grid connected automatically disappears after recovery.
F48	Utility grid neutral line loss	Split-phase Utility grid neutral loss	1. The alarm automatically disappears after Grid connected recovery. 2. Check whether the AC line or AC Switch is disconnected.
F160	EMS/Forced off-grid	EMSIssue forced off-grid command, but the off-grid function is not enabled.	Enable off-grid function
F161	Passive Anti-islanding Protection	-	-
F162	Grid Type Fault	Actual Grid type (two-phase or split-phase) does not match the set safety regulations.	Switch the corresponding safety regulations according to the actual Grid type.

fault code	fault name	fault cause	Troubleshooting recommendation
F12	30mAGfciProtection	During operation, the input-to-ground insulation resistance becomes low.	1. If it occurs occasionally, it may be caused by temporary abnormalities in the external circuit. The fault will clear automatically and resume normal operation without manual intervention. 2. If the issue occurs frequently or persists for an extended period without recovery, please check whether the PV String ground impedance is too low.
F13	60mAGfciProtection	During operation, the input-to-ground insulation resistance becomes low.	1. If it occurs occasionally, it may be caused by temporary abnormalities in the external circuit. After the fault is cleared, normal operation will resume without manual intervention. 2. If the issue occurs frequently or persists for an extended period, please check whether the PV String ground impedance is too low.

fault code	fault name	fault cause	Troubleshooting recommendation
F14	150mAGfciProtection	During operation, the input-to-ground insulation resistance becomes low.	1. If it occurs occasionally, it may be caused by temporary abnormalities in the external circuit. The fault will clear automatically and resume normal operation without manual intervention. 2. If the issue occurs frequently or persists for an extended period, please check whether the PV String ground impedance is too low.
F15	Gfcislowly varying Protection	During the operation of Inverter, the input-to-ground insulation resistance becomes low.	1. If it occurs occasionally, it may be caused by temporary abnormalities in the external circuit. It will return to normal operation after fault is cleared, without requiring manual intervention. 2. If the issue occurs frequently or persists for an extended period, please check whether the PV String ground impedance is too low.

fault code	fault name	fault cause	Troubleshooting recommendation
F16	DCIPrimary Protection	The DC component of the inverter output current exceeds the safety regulations or the default allowable range of the equipment.	1. If the abnormality is caused by an external fault, the Inverter will automatically resume normal operation after the fault disappears, without requiring manual intervention. 2. If this alarm occurs frequently and affects the normal power generation of the power station, please contact the distributor or GoodWe after-sales service center.
F17	DCISecondary Protection	The DC component of the inverter output current exceeds the safety regulations or the default allowable range of the machine.	1. If the abnormality is caused by an external fault, the Inverter will automatically resume normal operation after the fault disappears, without requiring manual intervention. 2. If this alarm occurs frequently and affects the normal power generation of the power station, please contact the distributor or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F18	Low Insulation Resistance	1. PV String is short-circuited to ground with Protection. 2. The environment of PV StringInstallation is consistently humid, and the line-to-ground insulation is poor. 3. Battery port line-to-ground Low Insulation Resistance.	1. Check the impedance between PV String/Battery port and ground Protection. A resistance greater than 80kΩ is normal. If the measured resistance is less than 80kΩ, locate and rectify the short circuit point. 2. Check whether the PE cable of the Inverter is properly connected. 3. If it is confirmed that the impedance is indeed lower than the default value in rainy weather, please reset the "Inverter" "insulation resistanceProtection point" via the App. Australia and New Zealand markets Inverter. In the event of insulation resistance fault, alarms can also be triggered through the following methods: 1. Inverter is equipped with a buzzer, which will sound continuously for 1 minute when a fault occurs; if the fault is not resolved, the buzzer will sound again every 30

fault code	fault name	fault cause	Troubleshooting recommendation
			minutes. 2. If Inverter is added to the monitoring platform and the alarm notification method is configured, alarm information can be sent to customers via email.
F19	Grounding Abnormal	1. The PE cable of Inverter is not connected. 2. When the output of PV String is grounded, the output side of Inverter is not connected to an isolation transformer.	1. Please confirm whether the Inverter of PE cable is not connected properly. 2. In the scenario where the output of PV String is grounded, please confirm whether the output side of Inverter is connected to an isolation transformer.
F49	L-PE Short Circuit	Output phase line toPELow impedance or short circuit	Detect output phase line toPEImpedance, find out Locations with low impedance and repair them.

fault code	fault name	fault cause	Troubleshooting recommendation
F50	DCVPrimary Protection	Abnormal load fluctuation	1. If the abnormality is caused by an external fault, the Inverter will automatically resume normal operation after the fault disappears, without requiring manual intervention. 2. If this alarm occurs frequently and affects the normal power generation of the power station, please contact the distributor or GoodWe after-sales service center.
F51	DCVSecondary Protection	Abnormal load fluctuation	1. If the abnormality is caused by an external fault, the Inverter will automatically resume normal operation after the fault disappears, without requiring manual intervention. 2. If this alarm occurs frequently and affects the normal power generation of the power station, please contact the distributor or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F20	Hardware power limit Protection	Abnormal load fluctuation	1. If the abnormality is caused by an external fault, the Inverter will automatically resume normal operation after the fault disappears, without requiring manual intervention. 2. If this alarm occurs frequently and affects the normal power generation of the power station, please contact the distributor or GoodWe after-sales service center.
F21	Internal Comm Loss	Reference specific subcode reason	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F52	Leakage currentGFCIMultiple fault shutdowns	North American safety regulations require that after multiple fault, the system must not automatically recover and requires manual intervention or waiting.24hPost-recovery	1. Please check if the PV String ground impedance is too low.
F53	DC arcAFCIMultiple fault shutdowns	North American safety regulations require that after multiple fault, the system must not automatically recover and requires manual intervention or waiting.24hpost-recovery	1. After the machine is re-on-grid, check whether the voltage current of each circuit is abnormally reduced to zero. 2. Check whether the DC-side terminal is securely connected.
F54	External Comm Loss	Inverter external device communication lost, possibly due to peripheral power supply issues, Communication Protocols mismatch, or unconfigured corresponding peripherals.	Judgment is made based on the actual model and detection enable bits. Peripherals not supported by certain models will not be detected.

fault code	fault name	fault cause	Troubleshooting recommendation
F55	Back-upport overload fault	1. Prevent Inverter from continuous overload output.	1. Disconnect some off-grid loads to reduce the off-grid output power of the inverter.
F56	Back-upport overvoltage fault	2. Prevent damage to the load caused by Inverter output overvoltage.	1. If it occurs occasionally, it may be caused by load switching and does not require manual intervention. 2. If it occurs frequently, please contact the dealer or GoodWe after-sales service center.
F107	On-grid PWM Sync Failure	Abnormal occurrence in carrier synchronization on-grid	1Check if the synchronization line connection is normal. 2Check if the master-slave configuration is normal. 3Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F57	External connectionBoxfault	Waiting for grid disconnectionBoxExcessive relay switching time	1. InspectionBoxIs it functioning properly; 2. InspectionBoxIs the communication wiring correct?
-	Generator Failure	1. This fault will always be displayed when the generator is not connected. 2. When the generator is in operation, failure to meet the generator safety regulations will trigger this fault.	1. When the generator is not connected, ignore this fault; 2. The occurrence of this fault when the generator experiences fault is a normal situation. After the generator recovers, wait for a period of time, and the fault will be automatically cleared. 3. The fault will not affect the normal operation of the off-grid mode. 4. The generator and Utility grid are connected simultaneously and meet safety requirements. Utility grid prioritizes on-grid and operates in the Utility grid on-grid state.
F22	Generator Waveform Detection Fault		
F23	Generator Abnormal Connection		
F24	Generator Low Voltage		
F25	Generator High Voltage		
F26	Generator Low Frequency		
F27	Generator High Frequency		
F109	External connectionSTSfault	Inverter andSTSAbnormal connection cable	Check the Inverter andSTSIs the wiring sequence of the harness connection one-to-one corresponding in order.

fault code	fault name	fault cause	Troubleshooting recommendation
F58	CTMissing fault	CTConnection line disconnected (Japanese safety regulation requirement)	InspectionCTWhether the wiring is correct.
F110	Export Limit Protection	1. Fault reporting and grid disconnection 2. meterUnstable communication 3. Reverse power flow condition occurs	1. Check if there are any other error messages in Inverter. If so, perform targeted troubleshooting. 2. InspectionmeterIs the connection reliable? 3. If this alarm occurs frequently and affects the normal power generation of the power station, please contact the distributor or GoodWe after-sales service center.
F111	Bypassoverload	-	-
F112	Black Start Failure	-	-
F28	Parallel operationIOSelf-check abnormality	Parallel communication cable is not securely connected or parallel operation failed.IOChip damage	Check if the parallel communication cable is securely connected, and then inspect again.IOIs the chip damaged? If so, replace it.IOChip.

fault code	fault name	fault cause	Troubleshooting recommendation
F59	Parallel operationCANCommunication anomaly	Parallel communication line is not securely connected or some machines are offline.	Check whether all machines are power on and ensure the parallel communication cables are securely connected.
F29	Parallel Grid Line Reversed	Some machines have the Utility grid line connected in reverse with others.	Reconnect the Utility grid line.
F60	Parallel operationBack-upreverse connection	Partial machinesbackupLine reversed with other connections	reconnectionbackupLine.
F61	INV Soft Start Failure	Off-grid cold start INV Soft Start Failure	Check whether the inverter module of the machine is damaged.
F113	Offgrid AC Ins Volt High	-	-
F30	AC HCT Check Abnormal	AC sensor sampling anomaly	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F62	AC HCT Failure	HCTSensor abnormality detected	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F31	GFCI HCT Check Abnormal	Leakage current sensor sampling anomaly detected	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F63	GFCI HCT Failure	Leakage current sensor anomaly detected	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F32	Relay Check Abnormal	Relay abnormality, reason: 1Relay abnormality (relay short circuit) 2Relay sampling circuit abnormality. 3Abnormal AC side wiring (possible loose connection or short circuit)	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F64	Relay Failure	1Relay abnormality (relay short circuit) 2Relay sampling circuit abnormality. 3Abnormal AC measurement wiring (possible loose connection or short circuit)	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F164	DC arc fault (string)17~32)	1DC side connection terminal loose; 2DC side connection terminal loose contact; 3Core damage and poor contact	1After the machine is re-on-grid, check whether the voltage current of each circuit is abnormally reduced to zero. 2Check if the DC-side terminal is securely connected.

fault code	fault name	fault cause	Troubleshooting recommendation
F165	DC arc fault (string)33~48)	1DC side connection terminal loose; 2DC side connection terminal loose contact; 3Core damage and poor contact	1After the machine is re-on-grid, check whether the voltage current of each circuit is abnormally reduced to zero. 2Check if the DC-side terminal is securely connected.
F33	FlashRead/Write Error	Possible causes: flashContent has been modified;flashEnd of life;	1. Upgrade to the latest version of the program 2. Contact the distributor or GoodWe after-sales service center.
F42	DC arc fault (string)1~16)	1DC side connection terminal loose; 2DC side connection terminal loose contact; 3Core damage and poor contact	1After the machine is re-on-grid, check whether the voltage current of each circuit is abnormally reduced to zero. 2Check if the DC side terminal is securely connected.
F34	AFCI Check Failure	During the arc self-test process, the arc module failed to detect the arc fault.	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F65	AC Terminal Overtemperature	AC Terminal Overtemperature, possible causes: 1InverterInstallation Location non-ventilated. 2Ambient temperature is too high. 3Internal fan operation abnormal.	1Check if the ventilation of InverterInstallation Location is adequate and if the ambient temperature exceeds the maximum allowable range. 2If there is no ventilation or the ambient temperature is too high, please improve its ventilation and heat dissipation conditions. 3If ventilation and ambient temperature are normal, please contact the dealer or GoodWe after-sales service center.
F35	Cabinet Overtemperature	Cabinet Overtemperature, Possible causes: 1InverterInstallation Location non-ventilated. 2Ambient temperature is too high. 3Internal fan operation abnormal.	1Check if the ventilation of InverterInstallation Location is adequate and if the ambient temperature exceeds the maximum allowable range. 2If there is no ventilation or the ambient temperature is too high, please improve its ventilation and heat dissipation conditions. 3If ventilation and ambient temperature are normal, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F66	INVModule temperature too high	Inverter module temperature too high, possible causes: 1InverterInstallation Location is not ventilated. 2Ambient temperature is too high. 3Internal fan operation abnormal.	
F67	BoostModule temperature too high	BoostModule temperature too high, possible causes: 1InverterInstallation Location non-ventilated. 2Ambient temperature is too high. 3Internal fan operation abnormal.	

fault code	fault name	fault cause	Troubleshooting recommendation
F68	AC Capacitor Overtemperature	Output filter capacitor temperature is too high, possible causes: 1InverterInstallation Location non-ventilated. 2Ambient temperature is too high. 3Internal fan operation abnormal.	
F114	Relay Failure2	Relay abnormality, reason: 1Relay abnormality (relay short circuit) 2Relay sampling circuit abnormality. 3Abnormal AC side wiring (possible loose connection or short circuit)	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F69	PV IGBT Short circuit	Possible causes: 1. IGBTshort circuit 2Abnormal sampling circuit	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F70	PV IGBTOpen-circuit voltage	1. Software issue causing failure to send waves. 2. Drive circuit abnormality 3. IGBTOpen circuit	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F71	NTCabnormall	NTCTemperature sensor abnormality detected	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F72	PWM Abnormal	PWMAbnormal waveform detected	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F73	CPUInterruption exception	CPUInterruption anomaly occurred	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F74	Microelectronic Failure	Functional safety detects an anomaly	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F75	PV HCTfault	boostcurrent sensor abnormality	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F76	1. 5VBaseline anomaly	Reference Circuit	

fault code	fault name	fault cause	Troubleshooting recommendation
F77	0. 3VBaseline anomaly	Reference Circuit	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F78	CPLDVersion identification error	CPLDVersion identification error	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F79	CPLDCommunication fault	CPLDandDSPCommunication content error or timeout	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F80	Model Type Error	Regarding the model identification error fault	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F115	SVGPrecharge failure	SVGPrecharge hardware failure	Contact the distributor or GoodWe after-sales service center.
F116	nightSVG PIDPrevention of fault	PIDPrevent hardware anomalies	Contact the distributor or GoodWe after-sales service center.
F117	DSPVersion identification error	DSPSoftware version identification error	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F36	Bus Overvoltage		Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F81	P-Bus Overvoltage		
F82	N-Bus Overvoltage		
F83	DeputyCPU1)		

fault code	fault name	fault cause	Troubleshooting recommendation
F84	DeputyCPU1)	BUSOvervoltage, possible causes: 1. PVvoltage too high 2InverterBUSSampling anomaly; 3The poor isolation effect of the rear-end double-split Inverter causes mutual interference between the two Inverter on-grid, resulting in DC overvoltage alarms from one Inverter on-grid.	
F85	DeputyCPU1)		
F86	Bus Overvoltage(Deputy CPU2)		
F87	DeputyCPU2)		
F88	DeputyCPU2)		
F89	P-Bus Overvoltage(CPLD)		
F90	N-Bus Overvoltage (CPLD)		
F118	MOSContinuous Overvoltage	1. Software issue causes the inverter drive to shut down earlier than the flyback drive. 2. Inverter drive circuit abnormality prevents turn-on. 3. PVvoltage too high 4. MosSampling anomaly;	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F119	Bus Short Circuit	1. Hardware damage	In case of occurrenceBUSAfter the fault short circuit, the Inverter remains in an off-grid state. Please contact the dealer or GoodWe after-sales service center.
F120	Bus Sample Abnormal	1. BusSampling hardware	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F121	DCLateral Sampling Anomaly	1. Bus sampling hardware 2. Batteryvoltage Sampling Hardware fault 3. DcrlyRelay Failure (Note: The term "Dcrly" appears to be a placeholder or code that cannot be directly translated without additional context. If it refers to a specific technical term in the photovoltaic or electrical field, please provide further details for accurate translation.)	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

<table>
<tr><th>fault code</th><th>fault name</th><th>fault cause</th><th>Troubleshooting recommendation</th></tr>
<tr><td>F37</td><td>PVInput overvoltage</td><td>PVvoltage input is too high, possible causes:
Incorrect PV array configuration, with too many PV Battery panels connected in series, causing the open-circuit voltage of the string to exceed the maximum operating voltage of the Inverter.</td><td>Check the series configuration of the corresponding PV array strings to ensure that the open-circuit voltage of the strings does not exceed the maximum working voltage of the Inverter. Once the PV array is correctly configured, the Inverter alarm will automatically disappear.</td></tr>
<tr><td>F38</td><td>PVContinuous hardware overcurrent</td><td>1. Unreasonable module configuration
2. Hardware damage</td><td rowspan="2">Disconnect the AC output side switch and DC input side switch,5After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.</td></tr>
<tr><td>F39</td><td>PVContinuous software overcurrent</td><td>1. Unreasonable module configuration
2. Hardware damage</td></tr>
<tr><td>F91</td><td>FlyCap Software Overvoltage</td><td>Flying capacitor overvoltage, possible causes:
1. PVvoltage too high
2Flying capacitor sampling anomaly</td><td></td></tr>
</table>

fault code	fault name	fault cause	Troubleshooting recommendation
F92	FlyCap Hardware Overvoltage	Flying capacitor overvoltage, possible causes: 1. PVvoltage too high 2Flying capacitor sampling anomaly	Disconnect the AC output side switch and DC input side switch,5After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F93	FlyCap Undervoltage	FlyCap Undervoltage, Possible causes: 1. PVEnergy deficit; 2Flying capacitor sampling anomaly	
F94	FlyCap Precharge Failure	FlyCap Precharge Failure, Possible causes: 1. PVEnergy deficiency; 2Flying capacitor sampling anomaly	
F95	FlyCap Precharge Abnormal	1. Unreasonable control loop parameters 2. Hardware damage	
F96	String overcurrent(String1~16)	Possible causes: 1. String Overcurrent 2. String current sensor anomaly	
F97	String overcurrent(String17~32)		

fault code	fault name	fault cause	Troubleshooting recommendation
F40	String reverse connection(String1~16)	PVString reverse connection	Check if the string is reverse-connected.
F98	String reverse connection(String17~32)	PVString reverse connection	Check if the strings are reverse connected.
F99	String loss(String1~16)	String fuse disconnected (if applicable)	Check if the fuse is blown.
F100	String loss(String17~32)	String fuse disconnected (if applicable)	Check if the fuse is blown.
F122	PVIncorrect access mode setting	PVThere are three access modes in total, with four channels.MPPTFor example: 1. Parallel mode: that isAAAAMode(homol	InspectionPVIs the access mode correctly set?ABCD、AACC、AAAA), reset in the correct mannerPVConnection mode. 1. Confirm the actual connected circuitsPVIs the

fault code	fault name	fault cause	Troubleshooting recommendation
		ogous mode),PV1-PV4homologous4RoadPVConnect the same photovoltaic panel 2. Partial Parallel Mode: That isAACCMode,PV1andPV2homologous connection,PV3and PV4homologous connection 3. Stand-alone mode: i.e.ABCDMode(non-homologous),PV1、PV2、PV3、PV4Independent connection,4RoadPVEach connected to a photovoltaic panel IfPVThe actual connection mode and equipment configurationPVThis fault will be reported if the access mode does not match.	connection correct. 2. IfPVCorrectly connected, passedAppor screen check the current settingsPVDoes the "connection mode" correspond to the actual connection mode? 3. If the currently setPVThe "access mode" does not match the actual access mode and needs to be adjusted.Appor screen willPVSet the "Access Mode" to the mode consistent with the actual situation. After setting is completed,PVandACPower supply disconnect and restart. 4. After the settings are completed, if the currentPVThe access mode is consistent with the actual access mode, but this fault is still reported. Please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
-	String reverse connection(String33 ~48)	PVString reverse connection	Check if the strings are reverse connected.
-	String loss(String33~48)	String fuse disconnected (if applicable)	Check if the fuse is blown.
-	String overcurrent(String3 3~48)	Possible causes: 1. String Overcurrent 2. String current sensor anomaly	
F123	Multi-string PV Phase Mismatch Failure	PV input mode setting error	Check whether the PV connection mode is correctly set (ABCD, AACC, AAAA) and reset it to the correct PV connection mode. 1. Verify that all connected PV strings are correctly wired. 2. If the PV is correctly connected, check whether the currently set "PV connection mode" corresponds to the actual connection mode via the App or screen. 3. If the currently set "PV

fault code	fault name	fault cause	Troubleshooting recommendation
			Connection Mode" does not match the actual connection mode, it is necessary to set the "PV Connection Mode" to the mode consistent with the actual situation via the App or screen. After completing the setting, disconnect the PV and AC power supply and restart. 4. After completing the settings, if the current "PV Connection Mode" matches the actual connection mode but this fault still appears, please contact the dealer or GoodWe after-sales service center.
F101	Battery1Precharge fault	Battery1Pre-Charge circuit fault (such as pre-Charge resistor burnout, etc.)	Check whether the pre-Charge circuit is in good condition. Only after Battery power on, verify whether the Battery voltage matches the busbar voltage. If they do not match, please contact the distributor or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F102	Battery1Relay Failure	Battery1The relay fails to operate normally.	After Batterypower on, check whether the Battery relay operates and if a closing sound is heard. If it does not function, please contact the dealer or GoodWe after-sales service center.
F103	Battery1overvoltage at connection point	Battery1The input voltage exceeds the rated range of the machine.	Verify if Batteryvoltage is within the machine's rated range.
F104	Battery2Precharge fault	Battery2Pre-Charge circuit fault (pre-Charge resistance burnout, etc.)	Check whether the pre-Charge circuit is in good condition. Only after Battery power on, verify whether the Battery voltage matches the busbar voltage. If they do not match, please contact the distributor or GoodWe after-sales service center.
F105	Battery2Relay Failure	Battery2The relay fails to operate normally.	After Batterypower on, check whether the Battery relay operates and if a closing sound is heard. If it does not function, please contact the distributor or GoodWe after-sales service center.
F106	Battery2overvoltage at connection point	Battery2The input voltage exceeds the rated range of the machine.	Verify if Battery voltage is within the machine's rated range.

fault code	fault name	fault cause	Troubleshooting recommendation
F124	Battery1Reverse connection	Battery1Reverse polarity of positive and negative terminals	Check whether the polarity of Battery and the machine terminals is consistent.
F125	Battery2Reverse polarity fault	Battery2Reverse polarity of positive and negative terminals	Check whether the polarity of Battery and the machine's wiring terminals is consistent.
F126	BAT Connection Abnormal	BAT Connection Abnormal	Check if the Battery is functioning properly.
-	BMS Status Bit Error	BMS Module fault	Disconnect the AC output side switch and DC input side switch, wait for 5 minutes, then close the AC output side switch and DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F127	BAT Overtemperature	Battery temperature is too high, possible causes: 1InverterInstallation Location is not ventilated. 2Ambient temperature is too high. 3Internal fan operation abnormal.	
F128	Ref Voltage Abnormal	Reference Circuit	

fault code	fault name	fault cause	Troubleshooting recommendation
F129	Cabinet Under Temperature	Cabinet Under Temperature, Possible causes: 1. The ambient temperature is too low.	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.
F130	ACsideSPDfault	ACFailure of lateral lightning protection device	ReplacementACSide lightning protection device.
F131	DCsideSPDfault	DCFailure of lateral lightning protection device	ReplacementDCLateral lightning protection device.
F132	Internal Fan Abnormal	Internal Fan Abnormal, Possible causes: 1Abnormal fan power supply; 2mechanical interlock(Locked rotor); 3Fan aging and damage.	Disconnect the AC output side switch and DC input side switch,5 After a few minutes, close the AC output side switch and the DC input side switch. If fault persists, please contact the dealer or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F133	External Fan Abnormal	External Fan Abnormal, Possible causes: 1Abnormal fan power supply; 2Mechanical fault(Locked rotor); 3Fan aging and damage.	
F134	PIDDiagnosis of abnormalities	PIDHardware fault orPVvoltage too highPIDPause	PVExcessive voltagePIDSuspend WARNING without processing,PIDHardware fault can be turned off by closingPIDSwitch Reclosing ClearancePIDfault, replacementPIDdevice

fault code	fault name	fault cause	Troubleshooting recommendation
F135	Trip-Switch Trip Warning	Possible causes: Overcurrent orPVReverse connection causes the trip switch to trip.	Please contact the dealer or GoodWe after-sales service center. The reason for disconnection is due to an occurrence.PVShort circuit or reverse connection, need to check for any historical issues.PVShort circuit or historyPVReverse connection of WARNING. If present, maintenance personnel should inspect the corresponding issue.PVSituation. After confirming there is no fault, the trip switch can be manually closed, and then pass throughAppInterface Clear History fault Operation Clears This WARNING.

fault code	fault name	fault cause	Troubleshooting recommendation
F136	HistoryPV IGBT Short Circuit	Possible causes: Overcurrent caused the trip switch to open.	Please contact the distributor or GoodWe after-sales service center. Maintenance personnel should follow the historicalPVShort circuit WARNING subcode, check for short circuit occurrenceBoostCheck whether there is any fault in the hardware and external string; After confirming there is no fault, it can pass.AppInterface Clear History fault Operation Clears This WARNING.
F137	HistoryPVReverse polarity WARNING(String1~16)	Possible causes: OccurrencePVReverse connection causes the trip switch to trip.	Contact the distributor or GoodWe after-sales service center. The maintenance personnel must follow the historicalPVReverse connection WARNING subcode, check whether the corresponding string has a reverse connection, inspectPVIs there a voltage difference in the panel configuration? After checking, if there is no fault, it can be passed.AppInterface Clear History fault operation clears this WARNING.

fault code	fault name	fault cause	Troubleshooting recommendation
F138	historyPVReverse polarity WARNING(String17~32)	Possible causes: OccurrencePVReverse connection causes the trip switch to trip.	Contact the distributor or GoodWe after-sales service center. Maintenance personnel must follow the historicalPVReverse connection WARNING subcode, check whether the corresponding string has a reverse connection, inspectPVIs there a voltage difference in the panel configuration? After the inspection is completed and no fault is found, it can be passed.AppInterface Clear History fault Operation Clears This WARNING.
F139	FlashRead/Write Error	Possible causes: flashContent has been modified;flashEnd of life;	1. Upgrade to the latest version of the program. 2. Contact the distributor or GoodWe after-sales service center.

fault code	fault name	fault cause	Troubleshooting recommendation
F140	Meter Comm Loss	This alarm may only be reported after enabling the power limit function. Possible causes: 1. Meter not connected; 2. The communication line connection between the meter and Inverter is incorrect.	Check the meter wiring and ensure the meter is correctly connected. If fault persists after inspection, please contact the distributor or GoodWe after-sales service center.
F141	PVPanel type identification failed	PVPanel identification hardware anomaly	Contact the distributor or GoodWe after-sales service center.
F142	PV String Mismatch	PVPV String Mismatch, same circuitMPPTThe configurations of the next two strings are different.	Check the two strings of open-circuit voltage, and configure the strings with the same open-circuit voltage to the same circuit.MPPTProlonged PV String Mismatch poses safety hazards.
F143	CTNot connected	CTNot connected	InspectionCTWiring.
F144	CTReverse connection	CTreverse connection	InspectionCTWiring.
F145	PE Loss/PE Loss	Ground wire not connected	Check the ground wire.

fault code	fault name	fault cause	Troubleshooting recommendation
F146	String terminal temperature high(String1~8)	37176RegisterPVterminal temperature alarm subcode1Set	-
F147	String terminal temperature high(String9~16)	37177RegisterPVterminal Temperature Alarm Subcode2Set position	-
F148	String terminal temperature high(String17~20)	37178registerPVterminal temperature alarm subcode3Set position	-
F149	historyPVReverse polarity WARNING(String33~48)	Possible causes: OccurrencePVReverse connection causes the trip switch to trip.	Please contact the dealer or GoodWe after-sales service center; maintenance personnel should follow the history.PVReverse connection WARNING subcode, check whether the corresponding string has a reverse connection, inspectPVIs there a voltage difference in the panel configuration? After the inspection is completed and no fault is found, it can be passed.AppInterface Clear History fault operation clears this WARNING.
F150	Battery1voltage low	Batteryvoltage is below the set value	-
F151	Battery2voltage low	Batteryvoltage is below the set value	-

fault code	fault name	fault cause	Troubleshooting recommendation
F152	Low Voltage of BAT Power	Battery non-Charge mode, voltage below shutdown voltage	-
F153	BAT1 Voltage High	-	-
F154	BAT2 Voltage High	-	-
F155	On Line Low Insulation Resistance	PV String is short-circuited to the Protection ground. 2. The environment of PV StringInstallation is consistently humid, and the line-to-ground insulation is poor.	1. Check the impedance between PV String and Protection to ground. If a short circuit is found, rectify the short circuit point. 2. Check whether the PE cable of the Inverter is properly connected. 3. If it is confirmed that the impedance is indeed lower than the default value under rainy or cloudy conditions, please reconfigure the "insulation resistanceProtection point."
F156	Micro-grid Overload Warning	Excessive input at the backup terminal	Occasional occurrences do not require action; if this alarm appears frequently, please contact the dealer or GoodWe after-sales service center.
F157	Manual Reset	-	-

fault code	fault name	fault cause	Troubleshooting recommendation
F158	Generator Phase Sequence Abnormal	-	-
F159	Multiplexed Port Configuration Abnormal	Reuse (Generator) port configured for microgrid or large load, but actually connected to a generator.	Use the App to change the reuse (generator) port configuration.
F41	Generator Port Overload	1. Off-grid side output exceeds the specifications stated in the technical documentation. 2. Off-grid side short circuit 3. Off-grid terminal voltage too low 4. When used as a high-power load port, the load exceeds the specifications stated in the datasheet.	Confirm the off-grid side output voltage, current, Power, and other data to identify the cause of the issue.
F108	DSP Communication Fail	-	-

fault name	fault cause	Troubleshooting recommendation
Parallel Comm Timeout Shutdown	In parallel operation, if the slave unit exceeds400No communication with the host within seconds	Check whether the parallel communication harness is securely connected and verify that there are no duplicate slave addresses.
One-click Remote Shutdown	Check via the App whether the one-touch shutdown function is enabled.	Deactivate one-touch shutdown.
Offline Shutdown	-	-
Remote Shutdown	-	-
Child Node Communication Failure	Internal communication exception	Restart the machine and observe whether the fault is eliminated.
DG Communication Failure	Abnormal communication link between the control board and the diesel generator	1. Check the link communication harness and observe whether fault is eliminated; 2. Attempt to restart the machine and observe whether the fault is eliminated; 3. If the fault persists after restarting, please contact GoodWe's after-sales service center.
Battery Over Voltage	1. The voltage of a single cell is too high. 2. voltage collection line anomaly	

fault name	fault cause	Troubleshooting recommendation
	1. Battery total pressure too high 2. Abnormal voltage collection line	Record the fault phenomenon, restart the Battery, wait for a few minutes, and confirm whether the fault disappears. If the problem persists after restarting, please contact the GoodWe after-sales service center.
Battery Under Voltage	1. Single cell voltage too low 2. Abnormal voltage collection line	
	Battery total pressure is too low 2. voltage collection line anomaly	
Battery Over Current	1. Chargecurrent is too large, Battery current limiting is abnormal: sudden changes in temperature and voltage value 2. Inverter response anomaly	
	Battery dischargecurrent is too large	
Battery Over Temperature	1. Ambient temperature too high 2. Temperature sensor abnormality	
	1. Ambient temperature is too high 2. Temperature sensor abnormality	
Battery Under Temperature	1. Ambient temperature is too low 2. Temperature sensor abnormality	
	1. Ambient temperature is too low 2. Temperature sensor abnormality	
Battery Pole Over Temperature	Pole temperature too high	

fault name	fault cause	Troubleshooting recommendation
Battery Imbalance	1. Excessive temperature difference in different stages. Battery will impose restrictions on BatteryPower, that is, limit the charging Dischargecurrent. Therefore, this issue is generally unlikely to occur. 2. The cell capacity degrades, leading to excessive internal resistance, which causes significant temperature rise and large temperature differences during current. 3. Poor welding of battery cell tabs, leading to excessive current and rapid temperature rise in the cell. 4. Temperature sampling issue; 5. power cable loose connection	
	1. Inconsistent aging levels of battery cells 2. Issues with the board chips can also lead to excessive voltage differences in the battery cells. 3. Imbalance issues in the battery pack can also lead to excessive voltage differences between cells. 4. Wiring harness issues leading to	
	1. Inconsistent aging levels of battery cells 2. Issues with the board chip can also lead to excessive voltage differences between battery cells. 3. Imbalance issues in the battery pack can also lead to excessive voltage differences between cells. 4. Wiring harness issues lead to	

fault name	fault cause	Troubleshooting recommendation
Insulation Resistance	Insulation resistance failure	Check if the ground wire is properly connected and restart the Battery. If the issue persists after restarting, please contact GoodWe after-sales service center.
Pre-charge Failure	Precharge failure	It indicates that during the precharge process, the voltage across the precharge MOS consistently exceeds the specified threshold. After restarting the system, observe whether this fault persists, and check if the wiring is correct and if the precharge MOS is damaged.
Collection Line Failure	Collection line poor contact or disconnect	Check the wiring and restart the Battery. If the issue persists after restarting, please contact the GoodWe after-sales service center.
	Single PV module voltage collection line poor contact or disconnected	
	Monomer temperature acquisition line poor contact or disconnected	

fault name	fault cause	Troubleshooting recommendation
	Dual-channel current comparison error is too large, or current acquisition line circuit is abnormal.	Check the wiring and restart the Battery. If the issue persists after restarting, please contact GoodWe's after-sales service center.
	Dual-channel voltage comparison error is too large, or the comparison error between MCU and AFE voltage is too large, or the voltage acquisition line loop is abnormal.	
	Temperature acquisition line circuit abnormal or poor contact, disconnected	
	Overvoltage level 5 or overtemperature level 5, fuse the three-terminal fuse	To replace the three-section fuse, please contact the GoodWe after-sales service center to replace the main control board.
Relay or MOS Over Temperature	Relay or MOS Over Temperature	The fault indicates that the MOSFET temperature has exceeded the specified threshold. Power off and let it stand for 2 hours to allow temperature recovery.
Shunt Over Temperature	Shunt Over Temperature	The fault indicates that the shunt tube temperature has exceeded the specified threshold. Power off and allow it to stand for 2 hours to wait for temperature recovery.

fault name	fault cause	Troubleshooting recommendation
BMS1 Other Failure 1 (RES)	Relay or MOS open circuit	Upgrade the software, power off and let it sit for 5 minutes, then check if fault persists after restarting. 2. If the problem persists, replace the Battery package.
	Relay or MOS short circuit	1. Upgrade the software, power off and let it sit for 5 minutes, then restart to check if fault persists. 2. If the issue persists, replace the Battery package.
	Communication abnormality between the master cluster and slave cluster, or inconsistency of battery cells among clusters.	1. Check the Battery information and software version of the slave unit, as well as whether the communication line connection with the master unit is normal. 2. Upgrade the software
	Abnormal circuit harness in Battery system, resulting in no loop formation in interlocking signal	Check if the Terminal resistorInstallation is correct

fault name	fault cause	Troubleshooting recommendation
	Abnormal communication between BMS and PCS	1. Verify that the interface definition of the communication line between Inverter and Battery is correct. 2. Please contact GoodWe's after-sales service center to check the backend data and verify whether the Inverter and Battery software are correctly matched.
	Abnormal communication harness between BMS master and slave control	1. Check the wiring and restart the Battery; 2. Upgrade the Battery. If the issue persists after restarting, please contact GoodWe's after-sales service center.
	Communication loss between main and negative chips	
	Circuit breaker, shunt trip abnormality	Let the device stand powered off for 5 minutes, then restart to check if fault persists. 2. Check for any looseness or misalignment in the blind-mating connectors and communication pins at the bottom of the PACK and PCU.

fault name	fault cause	Troubleshooting recommendation
	MCU self-test failed	Upgrade the software and restart the Battery. If the issue persists after restarting, please contact the GoodWe after-sales service center.
	1. The software version is too low or the BMS board is damaged. 2. The number of Inverter parallel units is large, and the Battery experiences excessive impact during pre-charging.	1. Upgrade the software and observe whether fault persists. 2. In the case of parallel operation, perform a black start on Battery first, then start Inverter.
	Internal fault of MCU	Upgrade the software and restart the Battery. Typically, this is to detect damage to the MCU or external components. If the issue persists after restarting, please contact the GoodWe after-sales service center.
	Total control current exceeds the specified threshold	1. Let the system stand idle for 5 minutes, then restart and check if fault persists. 2. Check if the Inverter is set with Power too high, causing it to exceed the bus load.

fault name	fault cause	Troubleshooting recommendation
	Cell inconsistency in parallel clusters	Confirm whether the cells in the cluster Battery are consistent.
	Cluster Battery reverse polarity of positive and negative terminals	Check whether the positive and negative poles of the string combiner box are reversed.
	Severe overheating or overvoltage triggering the fire protection system	Contact GoodWe After-Sales Service Center.
Air Conditioner Failure	Air conditioning abnormal failure	Try restarting the system. If the fault persists, please contact GoodWe After-Sales Service Center.
	Cabinet door not closed	Check if the cabinet door is properly closed.
	Power supply voltage too high	Verify that the power supply voltage value meets the air conditioning input voltage requirements, and proceed with re-power on only after confirmation.
	Power supply shortage	
	No voltage input	
	Unstable power supply	
	Compressor voltage instability	Try restarting the system. If the fault persists, please contact GoodWe after-sales service center.
	Sensor poor contactor damaged	
	Abnormal air conditioning fan	
	There is an abnormality in the voltage or current inside the DCDC.	

fault name	fault cause	Troubleshooting recommendation
BMS2 Other Failure 2 (RES)	DCDC overload or heat sink temperature too high	Refer to the specific DCfault content for details.
	Abnormal cell acquisition or inconsistent aging levels	Please contact GoodWe After-Sales Service Center.
	Fan operation not executed properly	Please contact GoodWe after-sales service center.
	Output port screw loose or poor contact	1. BatteryShut down, check wiring and output portscrew status 2. After confirmation, restart the Battery and observe whether the fault persists. If it does, please contact the GoodWe after-sales service center.
	Battery has been used for too long or the battery cell is severely damaged.	Please contact the GoodWe after-sales service center to replace the pack.
	1. The software version is too low or the BMS board is damaged. 2. The number of Inverter parallel units is large, and the Battery experiences excessive impact during pre-charging.	Upgrade the software and observe whether fault persists. 2. In the case of parallel operation, perform a black start on Battery first, then start Inverter.
	Heating film damaged	Please contact GoodWe After-Sales Service Center.

fault name	fault cause	Troubleshooting recommendation
	The three-terminal fuse of the heating film is blown, rendering the heating function unusable.	Please contact GoodWe after-sales service center.
	Software model, Cell Type, and hardware model mismatch	Check whether the software model, serial number (SN), Cell Type, and hardware model match. If they do not match, please contact GoodWe's after-sales service center.
	Thermal management board communication disconnection	Let the device stand powered off for 5 minutes, then restart to check if fault persists. 2. If the fault is not restored, contact GoodWe after-sales service to replace the pack.
	Thermal management board communication disconnection	Let the device stand powered off for 5 minutes, then restart to check if fault persists. 2. If the fault is not restored, contact GoodWe after-sales service to replace the pack.

fault name	fault cause	Troubleshooting recommendation
	Thermal management board communication disconnection	Let the device stand powered off for 5 minutes, then restart to check if fault persists. 2. If the fault is not restored, contact GoodWe after-sales service to replace the pack.
	pack fan fault signal trigger	Let the device stand powered off for 5 minutes, then restart to check if fault persists. 2. If the fault is not restored, contact GoodWe after-sales service to replace the pack.
DCDC Failure	Output portvoltage too high	Check the output portvoltage. If the output portvoltage is normal and the fault still cannot be resolved after restarting Battery, please contact GoodWe after-sales service center.

fault name	fault cause	Troubleshooting recommendation
	The DCDC module detected that the Battery voltage exceeded the maximum Charge voltage.	Stop Charge and Discharge until SOC drops below 90% or remains idle for 2 hours. If the issue persists and restarting fault does not resolve it, please contact GoodWe After-Sales Service Center.
	Radiator temperature too high	Let the radiator stand for 1 hour to allow the temperature to drop. If the issue persists and restarting the fault does not resolve it, please contact GoodWe's after-sales service center.
	Battery dischargecurrent is too large	Check if the load exceeds the Battery's Discharge capacity. Turn off the load or stop the PCS for 60 seconds. If the issue persists after restarting the fault, please contact GoodWe's after-sales service center.
	Output port power harness positive and negative poles are reversed with the combiner box Battery or PCS.	Turn off the Battery manual switch, check if the output port wiring is correct, and restart the Battery.

fault name	fault cause	Troubleshooting recommendation
	The output Power relay cannot close.	Check whether the output port wiring is correct and if there is a short circuit. If the issue persists after restarting fault, please contact GoodWe after-sales service center.
	Power device temperature too high	Let the Battery stand for 1 hour to allow the temperature of internal Power components to decrease. If the issue persists and restarting the fault does not resolve it, please contact GoodWe's after-sales service center.
	Relay sticking	Restart fault still exists. Please contact GoodWe after-sales service center.
Battery Rack Circulating Current Failure	1. Cell imbalance 2. First power on incomplete charge correction	-

fault name	fault cause	Troubleshooting recommendation
BMS2 Other Failure 3 (LES)	Communication exception with Linux module	1. Check if the communication link is functioning properly. 2. Upgrade the software, restart the Battery, and observe whether the fault persists. If it does, please contact GoodWe's after-sales service center.
	Excessive temperature rise of the battery cell	Abnormal battery cell, contact GoodWe after-sales service to replace the pack.
	SOC below 10%	Perform Charge on Battery.
	SN writing does not comply with the rules	Check if the SN digits are normal. If abnormal, please contact GoodWe after-sales service center.
	1. Battery Cluster Daisy Chain Communication Exception 2. Inconsistent aging levels of battery cells within Battery clusters	1. Check the contact condition of a single cluster Battery pack. 2. Verify the usage of each cluster Battery, such as cumulative charge Discharge capacity, cycle count, etc. 3. Please contact GoodWe after-sales service center.

fault name	fault cause	Troubleshooting recommendation
	Excessive Humidity within the pack	-
	Fuse tripped	Contact GoodWe after-sales service to replace the pack.
	Low battery level	Perform Charge on Battery.
BMS2 Other Failure 4 (LES)	Circuit breaker anomaly	Contact GoodWe after-sales service to replace the pack.
	External device abnormality	Contact GoodWe after-sales service to replace the pack.
Contactor Fault 1	-	-
Contactor Fault 2	-	-
Overload Protection (Jinggui)	Continuous overload (exceeding 690kVA) for 10s	Please contact GoodWe after-sales service center.
Overload (Smart Inverter)	Continuous overload (exceeding 690kVA) for 10s	Please contact GoodWe after-sales service center.
Communication Abnormality Between Host and Meter When AC is Powered On in Parallel System	1. The meter may not be connected to the host. 2. The meter communication cable may be loose.	1. Check if the meter is connected to the host. 2. Check if the meter communication cable is loose.

fault name	fault cause	Troubleshooting recommendation
Slave Power Meter in Parallel System is Abnormal	The meter is connected to the slave unit.	Set the meter connection machine as the master.
Slave Device in Parallel System Communication Timeout with Master After AC Power-On for More Than 10 Minutes	1. Incorrect slave address setting 2. Slave communication line is loose	1. Check whether the slave address is duplicated. 2. Check if the parallel communication cable is loose.

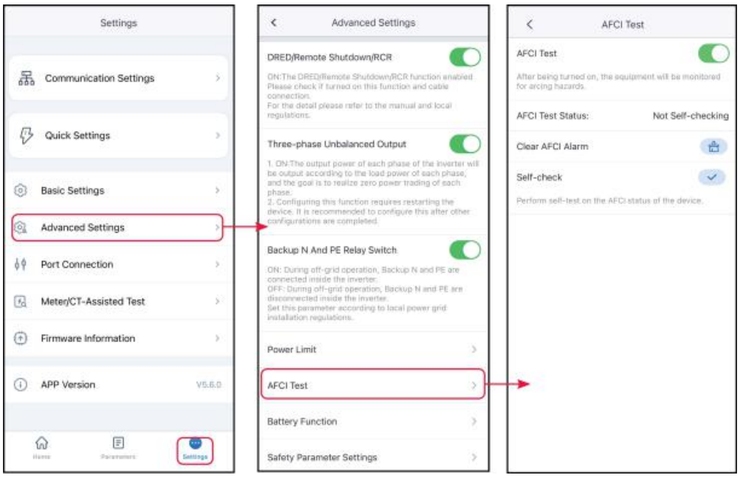
10.5.3 Post-Fault Processing

In an energy storage system, after certain faults are resolved, additional processing is required for the system to return to normal operation.

10.5.3.1 Clearing AFCI Fault Alerts

【Used Software】: SolarGo App
【Clearing Method】:

1. Go to**[Home Page]** > **[Settings]** > **[Advanced Settings]** > **[DC Arc Detection]**.
2. Click the**[Clear AFCI Fault Alert]** 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
ON:The DRED/Remote Shutdown/RCR function enabled
Please check if turned on this function and cable connection.
For the detail please refer to the manual and local regulations.
Three-phase Unbalanced Output
1. ON:The output power of each phase of the inverter will be output according to the load power of each phase, and the goal is to realize zero power trading of each phase.
2. Configuring this function requires restarting the device. It is recommended to configure this after other configurations are completed.
Backup N And PE Relay Switch
ON: During off-grid operation, Backup N and PE are connected inside the inverter.
OFF: During off-grid operation, Backup N and PE are disconnected inside the inverter.
Set this parameter according to local power grid installation regulations.
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.

11 technical parameters

11.1 Inverter Parameters

Technical Specifications	GW15K-ET	GW20K-ET	GW25K-ET	GW29.9K-ET	GW30K-ET
Battery Input Data					
Battery Type	Li-Ion	Li-Ion	Li-Ion	Li-Ion	Li-Ion
Battery Nominal Voltage (V)	500	500	500	500	500
Battery Voltage Range (V)	200~800	200~800	200~800	200~800	200~800
Start-up Voltage (V)	200	200	200	200	200
Number of Battery Inputs	1	1	2	2	2
Max. Continuous Charge Current (A)	50	50	50×2	50×2	50×2
Max. Continuous Discharge Current (A)	50	50	50×2	50×2	50×2
Max. Charge Power (W)	15000	20000	25000	30000	30000
Max. Discharge Power (W)	15000	20000	25000	30000	30000
PV String Input Data					
Max. Input Power (W)*1	22500	30000	37500	45000	45000
Max. Input Voltage (V)*2	1000	1000	1000	1000	1000
MPPT Operating Voltage Range (V)	200~850	200~850	200~850	200~850	200~850
MPPT Voltage Range at Rated Power (V)	400~850	400~850	450~850	450~850	450~850
Start-up Voltage (V)	200	200	200	200	200

Technical Specifications	GW15K-ET	GW20K-ET	GW25K-ET	GW29.9K-ET	GW30K-ET
Nominal Input Voltage (V)	620	620	620	620	620
Max. Input Current per MPPT (A)	30	30	30	30	30
Max. Short-Circuit Current per MPPT (A)	38	38	38	38	38
Max. Reverse Current to Array (A)	0	0	0	0	0
Number of MPPTs	2	2	3	3	3
Number of Strings per MPPT	45690	45690	37289	37289	37289
AC Output Data (Grid Connection)					
Rated Output Power (W)	15000	20000	25000	29900	30000
Max. Output Power (W)	15000	20000	25000	29900	30000
Rated Output Power at 40 ℃(W) *14	15000	20000	25000	29900	30000
Max. Output Power at 40 ℃ (W)*14	15000	20000	25000	29900	30000
Rated Apparent Power to Grid (VA)	15000	20000	25000	29900	30000
Max. Apparent Power to Grid (VA)*3 *15	16500	22000	27500	29900	33000
Rated Apparent Power from Grid(VA)	15000	20000	25000	30000	30000
Max. Apparent Power from Grid (VA) *12	15000	20000	25000	30000	30000

Technical Specifications	GW15K-ET	GW20K-ET	GW25K-ET	GW29.9K-ET	GW30K-ET
Rated Output Voltage (V)	380/400, 3L/N/PE	380/400, 3L/N/PE	380/400, 3L/N/PE	380/400, 3L/N/PE	380/400, 3L/N/PE
Output Voltage Range (V)*4	0~300	0~300	0~300	0~300	0~300
AC Grid Nominal Frequency (Hz)	50/60	50/60	50/60	50/60	50/60
AC Grid Frequency Range (Hz)	45~65	45~65	45~65	45~65	45~65
Max. AC Output Current to Grid (A) *11	23.9	31.9	39.9	43.3	47.8
Max. AC Current from Grid (A) *13	22.7	30.3	37.9	45.3	45.5
Rated AC Current from Grid (A)	21.7 @230V 22.7 @220V	29.0 @230V 30.3 @220V	36.2 @230V 37.9 @220V	43.3 @230V 45.3 @220V	43.5 @230V 45.5 @220V
Max. Output Fault Current (Peak & Duration) (A)	241.5A@126ms	241.5A@126ms	241.5A@126ms	241.5A@126ms	241.5A@126ms
Inrush Current (Peak & Duration) (A)	264A@53us	264A@53us	264A@53us	264A@53us	264A@53us
Rated Output Current (A)*5	21.7	29	36.2	43.3	43.5
Power Factor	~1 (Adjustable from 0.8 leading~0.8 lagging)	~1 (Adjustable from 0.8 leading~0.8 lagging)	~1 (Adjustable from 0.8 leading~0.8 lagging)	~1 (Adjustable from 0.8 leading~0.8 lagging)	~1 (Adjustable from 0.8 leading~0.8 lagging)

Technical Specifications	GW15K-ET	GW20K-ET	GW25K-ET	GW29.9K-ET	GW30K-ET
Max. Total Harmonic Distortion	≤3.05%	≤3.05%	≤3.05%	≤3.05%	≤3.05%
Maximum Output Overload Protection (A)	94	94	94	94	94
AC Output Data (Backup)					
Backup Rated Apparent Power (VA)	15000	20000	25000	29900	30000
Max. Apparent Output Power Off-grid(VA)*6	15,000(18,000@60s , 24,000@3s)	20,000(24,000@60s , 32,000@3s)	25,000(30,000@60s)	30,000(36,000@60s)	30,000(36,000@60s)
Max. Apparent Output Power On-grid (VA)	15000	20000	25000	29900	30000
Rated Output Current (A)	22.7	30.3	37.9	45.5	45.5
Max. Output Current (A)	22.7(27.3@60s, 36.4@3s)	30.3(36.4@60s, 48.5@3s)	37.9(45.5@60s)	45.5(54.5@60s)	45.5(54.5@60s)
Max. Output Fault Current (Peak & Duration) (A)	94	94	94	94	94
Inrush Current (Peak & Duration) (A)	264@53us	264@53us	264@53us	264@53us	264@53us
Maximum Output Overload Protection (A)	94	94	94	94	94
Rated Output Voltage (V)	380/400	380/400	380/400	380/400	380/400
Rated Output Frequency (Hz)	50/60	50/60	50/60	50/60	50/60

Technical Specifications	GW15K-ET	GW20K-ET	GW25K-ET	GW29.9K-ET	GW30K-ET
Output THDv (@Linear Load)	<3%	<3%	<3%	<3%	<3%
Efficiency					
Max. Efficiency	98.0%	98.0%	98.0%	98.0%	98.0%
European Efficiency	97.5%	97.5%	97.5%	97.5%	97.5%
Max. Battery to AC Efficiency	97.5%	97.5%	97.5%	97.5%	97.5%
MPPT Efficiency	99.9%	99.9%	99.9%	99.9%	99.9%
Protection					
PV String Current Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated
PV Insulation Resistance Detection	Integrated	Integrated	Integrated	Integrated	Integrated
Residual Current Monitoring	Integrated	Integrated	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated	Integrated	Integrated
Battery Reverse Polarity Protection	Integrated	Integrated	Integrated	Integrated	Integrated
Anti-Islanding Protection	Integrated	Integrated	Integrated	Integrated	Integrated
AC Overload Protection	Integrated	Integrated	Integrated	Integrated	Integrated
AC Short-Circuit Protection	Integrated	Integrated	Integrated	Integrated	Integrated

Technical Specifications	**GW15K-ET**	**GW20K-ET**	**GW25K-ET**	**GW29.9K-ET**	**GW30K-ET**
AC Overvoltage Protection	Integrated	Integrated	Integrated	Integrated	Integrated
DC Switch*7	Integrated	Integrated	Integrated	Integrated	Integrated
DC Surge Protection	Type II	Type II	Type II	Type II	Type II
AC Surge Protection	Type III	Type III	Type III	Type III	Type III
AFCI*16	Optional	Optional	Optional	Optional	Optional
Rapid Shutdown	Optional	Optional	Optional	Optional	Optional
Remote Shutdown	Integrated	Integrated	Integrated	Integrated	Integrated
General Data					
Operating Temperature Range (℃)	-35~+60	-35~+60	-35~+60	-35~+60	-35~+60
Operating Environment	Outdoor	Outdoor	Outdoor	Outdoor	Outdoor
Relative Humidity	0 ~ 95%	0 ~ 95%	0 ~ 95%	0 ~ 95%	0 ~ 95%
Max. Operating Altitude (m)	4000	4000	4000	4000	4000
Cooling Method	Intelligent Fan Cooling	Intelligent Fan Cooling	Intelligent Fan Cooling	Intelligent Fan Cooling	Intelligent Fan Cooling
Display	LED, WLAN+APP	LED, WLAN+APP	LED, WLAN+APP	LED, WLAN+APP	LED, WLAN+APP
BMS Communication	RS485 / CAN	RS485 / CAN	RS485 / CAN	RS485 / CAN	RS485 / CAN
Meter Communication	RS485	RS485	RS485	RS485	RS485

Technical Specifications	**GW15K-ET**	**GW20K-ET**	**GW25K-ET**	**GW29.9K-ET**	**GW30K-ET**
Portal Communication	WiFi+LAN+Bluetooth	WiFi+LAN+Bluetooth	WiFi+LAN+Bluetooth	WiFi+LAN+Bluetooth	WiFi+LAN+Bluetooth
Weight (kg)	48	48	54	54	54
Dimensions W×H×D (mm)	520×660×220	520×660×220	520×660×220	520×660×220	520×660×220
Noise Level (dB)	<45	<45	<45	<60	<60
Topology	Non-isolated	Non-isolated	Non-isolated	Non-isolated	Non-isolated
Nighttime Self-consumption (W) *8	<15	<15	<15	<15	<15
IP Protection Rating	IP66	IP66	IP66	IP66	IP66
DC Connector	Stäubli Electrical Connectors AG	Stäubli Electrical Connectors AG	Stäubli Electrical Connectors AG	Stäubli Electrical Connectors AG	Stäubli Electrical Connectors AG
AC Connector	OT	OT	OT	OT	OT
Environmental Category	4K4H	4K4H	4K4H	4K4H	4K4H
Pollution Degree	III	III	III	III	III
Overvoltage Category	DC II / AC III	DC II / AC III	DC II / AC III	DC II / AC III	DC II / AC III
Protection Class	I	I	I	I	I
Storage Temperature (℃)	-45~+85	-45~+85	-45~+85	-45~+85	-45~+85

Technical Specifications	**GW15K-ET**	**GW20K-ET**	**GW25K-ET**	**GW29.9K-ET**	**GW30K-ET**
Decisive Voltage Class (DVC)	Battery：C PV：C AC：C Com：A	Battery：C PV：C AC：C Com：A	Battery：C PV：C AC：C Com：A	Battery：C PV：C AC：C Com：A	Battery：C PV：C AC：C Com：A
Mounting Method	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted
Active Anti-Islanding Method	AFDPF + AQDPF *9	AFDPF + AQDPF *9	AFDPF + AQDPF *9	AFDPF + AQDPF *9	AFDPF + AQDPF *9
Electrical Supply System Type	Three-phase grid	Three-phase grid	Three-phase grid	Three-phase grid	Three-phase grid
Country of Origin	China	China	China	China	China

*1: In Australia, for most photovoltaic modules, the maximum input power can reach 2*Pn, for example, the maximum input power of GW15K-ET can reach 30000W. Furthermore, the maximum input power is not continuous and is 1.5 times the rated power.
*2: For a 1000V system, the maximum operating voltage is 950V.
*3: According to local grid regulations.
*4: Output voltage range: phase voltage.
*5: For a 380V grid, the rated output current is 22.7A for GW15K-ET, 30.3A for GW20K-ET, 37.9A for GW25K-ET, 45.3A for GW29.9K-ET, and 45.5A for GW30K-ET.
*6: Can only be achieved with sufficient PV and battery power.
*7: DC switch: GHX6-55P (for Australia).
*8: No backup output.
*9: AFDPF: Active frequency drift with positive feedback, AQDPF: Active Q drift with positive feedback.
*10: Not all certifications & standards are listed, please refer to the official website for details.
*11: For a 380V grid, the maximum AC output current to the public grid is 25A for

GW15K-ET, 33.3A for GW20K-ET, 41.7A for GW25K-ET, 49.8A for GW29.9K-ET, 50A for GW30K-ET.
*12: When the load is connected to the inverter's backup port, Maximum apparent power from the public grid can reach 22.5K for GW15K-ET, 30K for GW20k-ET, 33K for GW25K-ET, 33K for GW29.9K-ET, and 33K for GW30K-ET.
*13: When the load is connected to the inverter's backup port, Maximum AC current from the public grid can reach 34A for GW15K-ET, 45A for GW20k-ET, 50A for GW25K-ET, 50A for GW29.9K-ET, and 50A for GW30K-ET.
*14: Rated output power at 40 ℃(W) and Maximum output power at 40 ℃ (W) apply only to Brazil.
*15: For Austria, the Maximum output power (W) is 15K for GW15K-ET, 20K for GW20K-ET, 25K for GW25K-ET, 29.9K for GW29.9K-ET, and 30K for GW30K-ET.
*16: For Brazil, AFCI is integrated.

Technical Data	**GW12KL-ET**	**GW18KL-ET**	**GW20K-ET**	**GW30K-ET**
Battery Input Data				
Battery Type	Li-Ion	Li-Ion	Li-Ion	Li-Ion
Battery Rated Voltage (V)	500	500	500	500
Battery Voltage Range (V)	112~650	112~650	200~800	200~800
Start-up Voltage (V)	112	112	180	180
Number of Battery Inputs	1	2	1	2
Max. Continuous Charging Current (A)	50	50*2	50	50*2
Max. Continuous Discharging Current (A)	50	50*2	50	50*2
Max. Charging Power (kW)	12	18	20	30
Max. Discharging Power (kW)	12	18	20	30
PV String Input Data				
Max. Input Power (kW)	24	36	30	45

Technical Data	GW12KL-ET	GW18KL-ET	GW20K-ET	GW30K-ET
Max. Input Voltage (V)*1	800	800	1000	1000
MPPT Operating Voltage Range (V)	200~650	200~650	200~850	200~850
MPPT Voltage Range at Rated Power (V)	260~650	260~650	400~850	450~850
Start-up Voltage (V)	200	200	200	200
Rated Input Voltage (V)	380	380	620	620
Max. Input Current per MPPT (A)	30	30	30	30
Max. Short-circuit Current per MPPT (A)	38	38	38	38
Max. Reverse Current to Array (A)	0	0	0	0
Number of MPPT Trackers	2	3	2	3
Number of Strings per MPPT	45690	37289	45690	37289
AC Output Data (Grid-connected)				
Rated Output Power (kW)	12	18	20	30
Max. Output Power (kW)	12	18	20	30
Rated Output Power at 40 ℃(kW) *8	12	18	20	30
Max. Output Power at 40 ℃ (kW)*8	12	18	20	30
Rated Apparent Output Power to Grid (kVA)	12	18	20	30
Max. Apparent Output Power to Grid (kVA)	13.2	19.8	22	33

Technical Data	GW12KL-ET	GW18KL-ET	GW20K-ET	GW30K-ET
Rated Apparent Power from Grid(kVA)	12	18	20	30
Max. Apparent Power from Grid (kVA) *6	12	18	20	30
Rated Output Voltage (V)	220, 3L/N/PE	220, 3L/N/PE	380, 3L/N/PE	380, 3L/N/PE
Output Voltage Range (V)*2	0~165	0~165	0~300	0~300
AC Grid Rated Frequency (Hz)	60	60	60	60
AC Grid Frequency Range (Hz)	55~65	55~65	45~65	45~65
Max. AC Output Current to Grid (A)	34.6	52	33.3	50
Max. AC Current from Grid (A) *7	31.5	47	30.3	45.5
Rated AC Current from Grid (A)	31.5	47	30.3	45.5
Max. Fault Output Current (Peak & Duration) (A)	241.5A@126 ms	241.5A@126 ms	241.5A@126 ms	241.5A@126 ms
Surge Current (Peak & Duration) (A)	264A@53us	264A@53us	264A@53us	264A@53us
Rated Output Current (A)	31.5	47	30.3	45.5
Power Factor	~1 (Adjustable from 0.8 leading ~ 0.8 lagging）	~1 (Adjustable from 0.8 leading ~ 0.8 lagging）	~1 (Adjustable from 0.8 leading ~ 0.8 lagging）	~1 (Adjustable from 0.8 leading ~ 0.8 lagging）

Technical Data	GW12KL-ET	GW18KL-ET	GW20K-ET	GW30K-ET
Max. Total Harmonic Distortion	<3%	<3%	<3%	<3%
Maximum Output Overload Protection (A)	94	94	94	94
AC Output Data (Backup)				
Rated Backup Apparent Power (kVA)	12	18	20	30
Max. Off-grid Output Apparent Power (kVA)*3	12.0(14.4@60s , 19.2@3s)	18.0(21.6@60s)	20.0(24.0@60s , 32.0@3s)	30.0(36.0@60s)
Max. Grid-connected Output Apparent Power (kVA)	12	18	20	30
Rated Output Current (A)	31.5	47	30.3	45.5
Max. Output Current (A)	31.5(37.8@60s, 50.4@3s)	47(56.4@60s)	30.3(36.4@60s, 48.5@3s)	45.5(54.5@60s)
Max. Fault Output Current (Peak & Duration) (A)	94	94	94	94
Surge Current (Peak & Duration) (A)	264@53us	264@53us	264@53us	264@53us
Maximum Output Overload Protection (A)	94	94	94	94
Rated Output Voltage (V)	220, 3L/N/PE	220, 3L/N/PE	380, 3L/N/PE	380, 3L/N/PE
Rated Output Frequency (Hz)	60	60	60	60
Output THDv (@Linear Load)	<3%	<3%	<3%	<3%

Technical Data	GW12KL-ET	GW18KL-ET	GW20K-ET	GW30K-ET
Grid-connected to Standalone Mode Switching	20ms	20ms	20ms	20ms
Standalone to Grid-connected Mode Switching	20ms	20ms	20ms	20ms
Efficiency				
Max. Efficiency	98.0%	98.0%	98.0%	98.0%
European Efficiency	97.5%	97.5%	97.5%	97.5%
Max. Battery to AC Efficiency	97.5%	97.5%	97.5%	97.5%
Protection				
PV String Current Monitoring	Integrated	Integrated	Integrated	Integrated
PV Insulation Resistance Detection	Integrated	Integrated	Integrated	Integrated
Residual Current Monitoring	Integrated	Integrated	Integrated	Integrated
PV Reverse Polarity Protection	Integrated	Integrated	Integrated	Integrated
Battery Reverse Polarity Protection	Integrated	Integrated	Integrated	Integrated
Anti-islanding Protection	Integrated	Integrated	Integrated	Integrated
AC Overload Protection	Integrated	Integrated	Integrated	Integrated
AC Short-circuit Protection	Integrated	Integrated	Integrated	Integrated

Technical Data	GW12KL-ET	GW18KL-ET	GW20K-ET	GW30K-ET
AC Overvoltage Protection	Integrated	Integrated	Integrated	Integrated
DC Switch	Integrated	Integrated	Integrated	Integrated
DC Overvoltage Protection	Type II	Type II	Type II	Type II
AC Overvoltage Protection	Type III	Type III	Type III	Type III
AFCI	Integrated	Integrated	Integrated	Integrated
Rapid Shutdown	Optional	Optional	Optional	Optional
Remote Shutdown	Integrated	Integrated	Integrated	Integrated
General Data				
Operating Temperature Range (℃)	-35~+60	-35~+60	-35~+60	-35~+60
Storage Temperature (℃)	-45~+85	-45~+85	-45~+85	-45~+85
Relative Humidity	0 ~ 95%	0 ~ 95%	0 ~ 95%	0 ~ 95%
Max. Operating Altitude (m)	4000	4000	4000	4000
Cooling Method	Intelligent Fan Cooling	Intelligent Fan Cooling	Intelligent Fan Cooling	Intelligent Fan Cooling
User Interface	LED, WLAN+APP	LED, WLAN+APP	LED, WLAN+APP	LED, WLAN+APP
BMS Communication	RS485 / CAN	RS485 / CAN	RS485 / CAN	RS485 / CAN
Communication	RS485, WiFi+LAN+Bluetooth, 4G+Bluetooth(Optional)	RS485, WiFi+LAN+Bluetooth, 4G+Bluetooth(Optional)	RS485, WiFi+LAN+Bluetooth, 4G+Bluetooth(Optional)	RS485, WiFi+LAN+Bluetooth, 4G+Bluetooth(Optional)

Technical Data	GW12KL-ET	GW18KL-ET	GW20K-ET	GW30K-ET
Communication Protocols	Modbus-RTU (SunSpec Compliant), Modbus-TCP	Modbus-RTU (SunSpec Compliant), Modbus-TCP	Modbus-RTU (SunSpec Compliant), Modbus-TCP	Modbus-RTU (SunSpec Compliant), Modbus-TCP
Weight (kg)	48	54	48	54
Dimensions W×H×D (mm)	520×660×220	520×660×220	520×660×220	520×660×220
Noise Level (dB)	<45	<60	<45	<60
Topology	Non-isolated	Non-isolated	Non-isolated	Non-isolated
Night-time Self-consumption (W) *4	<15	<15	<15	<15
IP Protection Rating	IP66	IP66	IP66	IP66
Corrosion Resistance Class	C4	C4	C4	C4
DC Connector	MC4	MC4	MC4	MC4
AC Connector	OT	OT	OT	OT
Environmental Category	4K4H	4K4H	4K4H	4K4H
Pollution Degree	III	III	III	III
Overvoltage Category	DC II / AC III	DC II / AC III	DC II / AC III	DC II / AC III
Protection Class	I	I	I	I
Decisive Voltage Class (DVC)	Battery：C PV：C AC：C Com：A	Battery：C PV：C AC：C Com：A	Battery：C PV：C AC：C Com：A	Battery：C PV：C AC：C Com：A

Technical Data	GW12KL-ET	GW18KL-ET	GW20K-ET	GW30K-ET
Mounting Method	Wall-mounted	Wall-mounted	Wall-mounted	Wall-mounted
Active Anti-islanding Protection Method	FDPF + AQDPF *5	FDPF + AQDPF *5	AFDPF + AQDPF *5	AFDPF + AQDPF *5
Type of Electrical Power Supply System	Three-phase Grid	Three-phase Grid	Three-phase Grid	Three-phase Grid
Country of Origin	China	China	China	China

*1: For a 1000V system, the maximum operating voltage is 950V.
*2: Output voltage range: phase voltage.
*3: Can only be achieved with sufficient PV and battery power.
*4: No backup output.
*5: AFDPF: Active frequency drift with positive feedback, AQDPF: Active Q drift with positive feedback.
*6: When the load is connected to the inverter's backup port, Maximum apparent power from the public grid can reach 18kVA for GW12KL-ET, 19.8kVA for GW18KL-ET, 30kVA for GW20k-ET, and 33kVA for GW30K-ET.
*7: When the load is connected to the inverter's backup port, Maximum AC current from the public grid can reach 47.2 A for GW12KL-ET and 52A for GW18KL-ET; and can reach 45A for GW20k-ET and 50A for GW30K-ET.
*8: Rated output power at 40 ℃(W) and Maximum output power at 40 ℃ (W) apply only to Brazil.

11.2 Battery Parameters

11.2.1 Lynx F's Home

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			

Technical Parameters		LX F6.6-H	LX F9.8-H	LX F13.1-H	LX F16.4-H
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 Discharge/Charge Current (A)*2		25			
Nominal Power (kW)*2		5.12	7.68	10.24	12.8
Operating Temperature (℃)		Charging: 0 ~ +50; Discharging: -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 Rating		IP55			
Installation Location		Groundable			
Standards & Certifications	Safety	IEC62619, IEC62040, CEC			
	EMC	CE，RCM			

Technical Parameters		LX F6.6-H	LX F9.8-H	LX F13.1-H	LX F16.4-H
	Transportation	UN38.3			
*1: Test conditions, 100% DOD, charging/discharging at 0.2℃ at +25±2 °C for the battery system at the beginning of life. System usable energy may vary depending on the inverter used. *2: Nominal discharge/charge current and power reduction occurs depending on temperature and state of charge (SOC).					

11.2.2 Lynx home F Plus+

Technical Specifications	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 Discharge/Charge Current (A)*2	25			
Nominal Power (kW)*2	5.12	7.68	10.24	12.8
Operating Temperature (℃)	Charging: 0 ~ +50; Discharging: -20 ~ +50			

Technical Specifications		LX F6.6-H	LX F9.8-H	LX F13.1-H	LX F16.4-H
Relative Humidity		0~95%			
Max. Operating Altitude (m)		2000			
Communication		CAN			
Weight (kg)		115	158	201	244
Dimensions (W×D×H mm)		600*610*380	600*765*380	600*920*380	600*1075*380
Enclosure Rating		IP55			
Storage Temperature (°C)		-20 ~ +45 (≤ One month); 0 ~ +35 (< One year)			
Installation Method		Groundable			
Round-trip Efficiency		96.4%			
Cycle Life		≥ 3500 @1C/1C			
Standards & Certifications	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 the battery system at beginning of life. System usable energy may vary depending on the inverter. *2 : Reduction of nominal discharge/charge current and power occurs depending on temperature and state of charge (SOC). *3 : Based on cell voltage range 2.5~3.65V @25±2°C under 1C/1C test conditions and 80% EOL.					

11.2.3 Lynx Domestic 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 Discharge/Charge Current (A)*3	35							
Max. Continuous Discharge/Charge Current (A)	35							
Nominal Power (kW)*3	4.48	6.72	8.96	11.2	13.44	15.68	17.92	20.16

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
Operating Temperature Range (℃)*4	-20~+50							
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
IP Protection Rating	IP55							
Storage Temperature (℃)	-20~+45 (≤One month) ; 0~+35 (≤One year)							
Mounting Method	Ground Mounting							
Round-trip Efficiency	94%							
Cycle Life*5	> 4000							
Safety	IEC62619, IEC62040-1, IEC63056, VDE2510, CE							
EMC	CE, RCM							

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
Standards and Certifications	Transportation	UN38.3							

11.2.4 Lynx home D

Technical Specifications	GW5.1-BAT-D-G20	GW8.3-BAT-D-G20	GW5.1-BAT-D-G21	GW8.3-BAT-D-G21
Rated Energy (kWh)	5.12	8.32	5.12	8.32
Usable Energy (kWh)*1	5	8	5	8
Battery Type	LFP ($LiFePO_4$)			
Operating Voltage Range (V) (Single-phase System)	350~550			
Operating Voltage Range (V) (Three-phase System)	700~950			
Max. Input Current (System) (A)	12	19	12	19
Max. Output Current (System) (A)	13.2	21	13.2	21
Max. Input Power (System) (kW)*2	5	8	5	8
Max. Output Power (System) (kW)*2	5	8	5	8

Technical Specifications	GW5.1-BAT-D-G20	GW8.3-BAT-D-G20	GW5.1-BAT-D-G21	GW8.3-BAT-D-G21
Peak Output Power (System) (kW)*2	7.5 @10s	12 @10s	7.5 @10s	12 @10s
Charging Temperature Range (°C)	-18~55		2~55	
Discharging Temperature Range (°C)	-20~55		-20~55	
Relative Humidity	5-95%			
Max. Operating Altitude (m)	4000			
Noise Level (dB)	≤29			
Communication	CAN			
Weight (kg)	57.5±1	79±1	57.5±1	79±1
Dimensions (W×H×D mm)	800*326*270			
Optional Functional Configuration	Heating		/	
Ingress Protection (IP)	IP66			
Storage Temperature (℃)	-20~55			
Max. Storage Duration	12 months (-20℃~35℃) 6 months (35℃~45℃)			
Expandability	6 units			
Mounting Method	Floor / Wall			
Cycle Life	≥6000 (25±2℃, 0.5C, 90%DOD, 70%EOL)			
Country of Origin	China			

Technical Specifications		GW5.1-BAT-D-G20	GW8.3-BAT-D-G20	GW5.1-BAT-D-G21	GW8.3-BAT-D-G21
Standards & Certifications	Safety	IEC62619, IEC60730, EN62477，IEC63056，IEC62040， CE, CEC, VDE2510			
	EMC	CE, RCM			
	Transportation	UN38.3, ADR			

11.3 Technical Parameters of Smart Electricity Meter

11.3.1 GM330

Technical Parameters		GM330
Measurement Range	Supported Network Types	Three-phase, split-phase, single-phase
	L-L Voltage Range (Vac)	172~817
	L-N Voltage Range (Vac)	100~472
	Rated Frequency (Hz)	50/60
	CT Transformation Ratio	nA:5A
Communication Parameters	Communication Method	RS485
	Communication Distance (m/ft)	1000/3280
Accuracy Parameters	Voltage/Current	Class 0.5
	Active Energy	Class 0.5
	Reactive Energy	Class 1
General Parameters	Dimensions (WxHxD mm/in)	72x85x72/2.83x3.35×2.83
	Enclosure	4-module
	Weight (g/lb)	240/0.53
	Installation Method	DIN rail

Technical Parameters		GM330
	User Interface	4 LEDs, reset button
	Power Consumption (W)	≤5
Environmental Parameters	IP Rating	IP20
	Operating Temperature Range (°C/°F)	-30~+70/-22~+158
	Storage Temperature Range (°C/°F)	-30~70/-22~+158
	Relative Humidity (non-condensing)	0~95%
	Max. Operating Altitude (m/ft)	3000/9842
Certification Parameters	Certificates	UL1741/ANSI

11.3.2 GM3000

Technical Parameters		GM3000
Application		Three-phase
Voltage	Rated 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 speed9600/ModBus protocol/Max communication cable length100m)

Display		LED, USB, Reset button
Device	Dimensions (Length x Width x Heightmm)	36 x 85 x 66.5
	Weight（g）	450
	Ingress Protection Rating	IP20(for indoor use)
	Mounting Method	DIN rail mounting
Operating Temperature		-25 ~ +60° C
Storage Temperature		-25 ~ +60° C
Humidity		<95% non-condensing
Operating Altitude(m)		< 2000m
Safety Service Life (years)		≥25

11.3.3 GMK330

model	**GMK330**
Measurement Range	
Supported Grid Types	1P2W/3P3W/3P4W
Operating Voltage (Vac)*	3P4W：90~264 L-N 3P3W：90~264 L-L
Frequency (Hz)	50/60
CT ratio	120A: 40mA 200A: 50mA*
Number of CTs	3
Accuracy Parameters	
voltage/current	Class 0.5
Active Energy	Class 0.5
Reactive Energy	Class 1
Communication Parameters	

model	GMK330
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
Operating Temperature Range (℃)	-30-+70
Storage Temperature Range (℃)	-30-+70
Relative Humidity (non-condensing)	0-95%
Max. Operating Altitude (m)	3000

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

11.4 Technical Parameters of the Intelligent Communication Belt

11.4.1 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 Type	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

11.4.2 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

11.4.3 WiFi/LAN Kit-20

Technical Parameters		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 (Width×Height×Thickness mm)	48.3*159.5*32.1
	Weight (g)	82
	Ingress Protection Rating	IP65
	Installation Method	Plug into USB port
Operating Temperature Range (℃)		-30~+60
Storage Temperature Range (℃)		-40~+70
Relative Humidity		0-95%
Max. Operating Altitude (m)		4000

12 Appendix

12.1 Frequently Asked Questions

12.1.1 How to Perform a Meter/CT Assisted Test?

The meter test function allows you to check whether the meter's CT is correctly connected, and the current operating status of the meter and CT.

- Method 1:

1. Go to the test page via **[Home]** > **[Settings]** > **[Meter/CT Assisted Test]**.
2. Click start test, wait for the test to complete, and check the results.

- Method 2:

1. Click on > **[System Setup]** > **[Quick Setting]** > **[Meter/CT Assisted Test]** to go to the test page.
2. Click start test, wait for the test to complete, and check the results.

12.1.2 How to Upgrade the Device Version?

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

- **Upgrade Notification:**

The user opens the app, an upgrade notification appears on the main page, and the user can choose whether to upgrade. If they choose to upgrade, they complete the upgrade by following the on-screen instructions.

- **Regular Upgrade:**

Via **[Main Page]** > **[Settings]** > **[Firmware Information]**, navigate to the firmware information display interface.
Click check for updates. If a new version is available, complete the upgrade by following the on-screen instructions.

- **Forced Upgrade:**

The app sends upgrade information, and the user must perform the upgrade as instructed; otherwise, they will not be able to use the app. Complete the upgrade by following the on-screen instructions.

Upgrading Inverter Software Version

- The inverter supports software upgrade via USB flash drive.
- Before using a USB flash drive to upgrade the device, contact the service center to obtain the software upgrade package and upgrade method.

12.2 Shortening

Abbreviation	English Description	Description
Ubatt	Battery Voltage Range	Battery voltage range
Ubatt,r	Nominal Battery Voltage	Nominal battery voltage
Ibatt,max (C/D)	Max. Charging Current Max. Discharging Current	Maximum charging/discharging current
EC,R	Rated Energy	Rated energy
UDCmax	Max.Input Voltage	Maximum input power
UMPP	MPPT Operating Voltage Range	MPPT voltage range
IDC,max	Max. Input Current per MPPT	Maximum input current per MPPT
ISC PV	Max. Short Circuit Current per MPPT	Maximum short-circuit current per MPPT
PAC,r	Nominal Output Power	Nominal output power
Sr (to grid)	Nominal Apparent Power Output to Utility Grid	Nominal apparent power to grid
Smax (to grid)	Max. Apparent Power Output to Utility Grid	Maximum apparent power to grid
Sr (from grid)	Nominal Apparent Power from Utility Grid	Nominal apparent power from grid
Smax (from grid)	Max. Apparent Power from Utility Grid	Maximum apparent power from grid
UAC,r	Nominal Output Voltage	Nominal output voltage
fAC,r	Nominal AC Grid Frequency	Nominal AC grid frequency

Abbreviation	English Description	Description
IAC,max(to grid)	Max. AC Current Output to Utility Grid	Maximum output current to grid
IAC,max(from grid)	Max. AC Current From Utility Grid	Maximum input current
P.F.	Power Factor	Power factor
Sr	Back-up Nominal apparent power	Nominal apparent power in island mode
Smax	Max. Output Apparent Power (VA) Max. Output Apparent Power without Grid	Max. apparent AC power
IAC,max	Max. Output Current	Maximum output current
UAC,r	Nominal Output Voltage	Maximum output voltage
fAC,r	Nominal Output Freqency	Nominal output frequency
Toperating	Operating Temperature Range	Operating temperature range
IDC,max	Max. Input Current	Maximum input current
UDC	Input Voltage	Input voltage
UDC,r	DC Power Supply	DC input
UAC	Power Supply/AC Power Supply	Input voltage range/AC input
UAC,r	Power Supply/Input Voltage Range	Input voltage range/AC input
Toperating	Operating Temperature Range	Operating temperature range
Pmax	Max Output Power	Maximum power
PRF	TX Power	Output power
PD	Power Consumption	Power consumption
PAC,r	Power Consumption	Power consumption
F (Hz)	Frequency	Frequency
ISC PV	Max. Input Short Circuit Current	Maximum input short-circuit current
Udcmin-Udcmax	Range of input Operating Voltage	Operating voltage range
UAC,rang(L-N)	Power Supply Input Voltage	Adapter input voltage range
Usys,max	Max System Voltage	Maximum system voltage
Haltitude,max	Max. Operating Altitude	Maximum operating altitude

Abbreviation	English Description	Description
PF	Power Factor	Power factor
THDi	Total Harmonic Distortion of Current	Current harmonic distortion
THDv	Total Harmonic Distortion of Voltage	Voltage harmonic distortion
C&I	Commercial & Industrial	Commercial and industrial
SEMS	Smart Energy Management System	Smart energy management system
MPPT	Maximum Power Point Tracking	Maximum power point tracking
PID	Potential-Induced Degradation	Potential-induced degradation
Voc	Open-Circuit Voltage	Open-circuit voltage
Anti PID	Anti-PID	Anti-PID protection
PID Recovery	PID Recovery	PID recovery
PLC	Power-line Commucation	Power-line communication
Modbus TCP/IP	Modbus Transmission Control / Internet Protocol	Modbus over TCP/IP
Modbus RTU	Modbus Remote Terminal Unit	Modbus over serial line
SCR	Short-Circuit Ratio	Short-circuit ratio
UPS	Uninterruptable Power Supply	Uninterruptible power supply
ECO mode	Economical Mode	Economical mode
TOU	Time of Use	Time of use
ESS	Energy Stroage System	Energy storage system
PCS	Power Conversion System	Power conversion system
RSD	Rapid shutdown	Rapid shutdown
EPO	Emergency Power Off	Emergency power off
SPD	Surge Protection Device	Surge protection
ARC	zero injection/zero export Power Limit / Export Power Limit	Reverse flow protection
DRED	Demand Response Enabling Device	Demand response enabling device
RCR	Ripple Control Receiver	-
AFCI	AFCI	AFCI protection against DC arc

Abbreviation	English Description	Description
GFCI	Ground Fault Circuit Interrupter	Ground fault circuit interrupter
RCMU	Residual Current Monitioring Unit	Residual current monitoring unit
FRT	Fault Ride Through	Fault ride-through
HVRT	High Voltage Ride Through	High voltage ride-through
LVRT	Low Voltage Ride Through	Low voltage ride-through
EMS	Energy Management System	Energy management system
BMS	Battery Management System	Battery management system
BMU	Battery Measure Unit	Battery measurement unit
BCU	Battery Control Unit	Battery control unit
SOC	State of Charge	State of charge
SOH	State of Health	State of health
SOE	State Of Energy	Remaining battery energy
SOP	State Of Power	Battery charging/discharging capability
SOF	State Of Function	Battery functional state
SOS	State Of Safety	Safety state
DOD	Depth of discharge	Depth of discharge

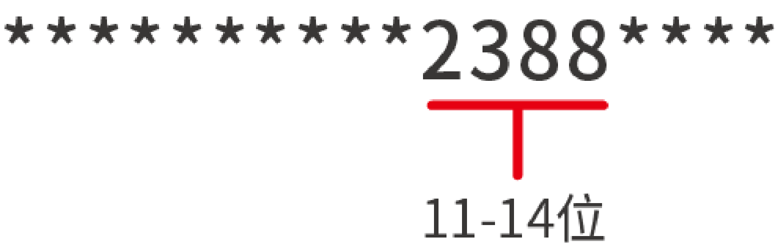
12.3 Term Definitions

- **Explanation of Surge Categories**
  - **Surge Category I**: Equipment connected to circuits with measures that limit transient overvoltages to a relatively low level.
  - **Surge Category II**: Appliances supplied from the fixed electrical installation. This category includes apparatus, portable tools, and other loads for household and similar use. If special requirements for reliability and suitability are placed on these devices, Surge Category III shall be applied.
  - **Surge Category III**: Equipment in the fixed electrical installation whose reliability and suitability must meet special requirements. Includes switching devices in the fixed installation and industrial equipment permanently connected to the fixed installation.
  - **Surge Category IV**: Equipment used at the origin of the electrical installation, including measuring instruments and primary current protective devices.
- **Explanation of Wet 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 Environment Categories:**
  - **Outdoor Inverter**: Ambient air temperature range -25 to +60 °C, suitable for environments with Pollution Degree 3.
  - **Type II Indoor Inverter**: Ambient air temperature range -25 to +40 °C, suitable for environments with Pollution Degree 3.
  - **Type I Indoor Inverter**: Ambient air temperature range 0 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, but occasional temporary conductive pollution due to condensation must be expected.
  - **Pollution Degree 3**: Conductive pollution or non-conductive pollution that becomes conductive due to condensation.
  - **Pollution Degree 4**: Persistent conductive pollution, for example caused by conductive dust or rain and snow.

12.4 Meaning of Battery SN Code



LXD10DSC0002

Positions 11-14 in the product SN code represent the manufacturing time code. The manufacturing date in the image above is 2023-08-08

- Positions 11 and 12 are the last two digits of the manufacturing year, for example, the year 2023 is represented as 23;

- Position 13 is the manufacturing month, for example, August is represented as 8; Specifically as follows:

Month	January–September	October	November	December
Month Code	1~9	A	B	C

- Position 14 is the manufacturing day, for example, the 8th day is represented as 8; Numbers are used preferentially, for example, 1~9 represents the 1st~9th day, A represents the 10th day, and so on. The letters I and O are not used here to avoid confusion. Specifically 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

12.5 Safety Country

No.	Safety Code	No.	Safety Code
Europe			
1	IT-CEI 0-21	43	CZ-C
2	IT-CEI 0-16	44	CZ-D
3	DE LV with PV	45	RO-A
4	DE LV without PV	46	RO-B
5	DE-MV	47	RO-D
6	ES-A	48	GB-G98
7	ES-B	49	GB-G99-A
8	ES-C	50	GB-G99-B

No.	Safety Code	No.	Safety Code
9	ES-D	51	GB-G99-C
10	ES-island	52	GB-G99-D
11	BE	53	NI-G98
12	FR	54	IE-16/25A
13	FR-island-50Hz	55	IE-72A
14	FR-island-60Hz	56	IE-ESB
15	PL-A	57	IE-EirGrid
16	PL-B	58	PT-D
17	PL-C	59	EE
18	PL-D	60	NO
19	NL-16/20A	61	FI-A
20	NL-A	62	FI-B
21	NL-B	63	FI-C
22	NL-C	64	FI-D
23	NL-D	65	UA-A1
24	SE-A	66	UA-A2
25	SE MV	67	EN 50549-1
26	SK-A	68	EN 50549-2
27	SK-B	69	DK-West-B-MVHV
28	SK-C	70	DK-East-B-MVHV
29	HU	71	DK-West-C-MVHV
30	CH	72	DK-East-C-MVHV
31	CY	73	DK-West-D-MVHV
32	GR	74	DK-East-D-MVHV
33	DK-West-A	75	FR-Reunion
34	DK-East-A	76	BE-LV（>30kVA）
35	DK-West-B	77	BE-HV
36	DK-East-B	78	CH-B
37	AT-A	79	NI-G99-A
38	AT-B	80	NI-G99-B
39	BG	81	NI-G99-C

No.	Safety Code	No.	Safety Code
40	CZ-A-09	82	NI-G99-D
41	CZ-B1-09	83	IE-LV
42	CZ-B2-09	84	IE-MV
Globle			
1	60Hz-Default	5	IEC 61727-50Hz
2	50Hz-Default	6	IEC 61727-60Hz
3	127Vac-60Hz-Default	7	Warehouse
4	127Vac-50Hz-Default		
America			
1	Argtina	30	US-ISO-NE-480Vac
2	US-208Vac	31	US-ISO-NE-208Vac-3P
3	US-240Vac	32	US-ISO-NE-220Vac-3P
4	Mexico-220Vac	33	US-ISO-NE-240Vac-3P
5	Mexico-440Vac	34	PR-208Vac
6	US-480Vac	35	PR-240Vac
7	US-208Vac-3P	36	PR-480 Vac
8	US-220Vac-3P	37	PR-208Vac-3P
9	US-240Vac-3P	38	PR-220Vac-3P
10	US-CA-208Vac	39	PR-240Vac-3P
11	US-CA-240Vac	40	Cayman
12	US-CA-480Vac	41	Brazil-220Vac
13	US-CA-208Vac-3P	42	Brazil-208Vac
14	US-CA-220Vac-3P	43	Brazil-230Vac
15	US-CA-240Vac-3P	44	Brazil-240Vac
16	US-HI-208Vac	45	Brazil-254Vac
17	US-HI-240Vac	46	Brazil-127Vac
18	US-HI-480Vac	47	Brazil-ONS
19	US-HI-208Vac-3P	48	Barbados
20	US-HI-220Vac-3P	49	Chile-BT
21	US-HI-240Vac-3P	50	Chile-MT
22	US-Kauai-208Vac	51	Colombia

No.	Safety Code	No.	Safety Code
23	US-Kauai-240Vac	52	Colombia<0.25MW 1P
24	US-Kauai-480Vac	53	Colombia<0.25MW 3P
25	US-Kauai-208Vac-3P	54	IEEE 1547-208Vac
26	US-Kauai-220Vac-3P	55	IEEE 1547-20Vac
27	US-Kauai-240Vac-3P	56	IEEE 1547-240Vac
28	US-ISO-NE-208Vac	57	IEEE 1547-230/400Vac
29	US-ISO-NE-240Vac		
Oceania			
1	Australia-A	4	Newzealand
2	Australia-B	5	Newzealand:2015
3	Australia-C	6	NZ-GreGrid
Asia			
1	China A	25	JP-420Vac-50Hz
2	China B	26	JP-420Vac-60Hz
3	China's high pressure	27	JP-480Vac-50Hz
4	China's highest pressure	28	JP-480Vac-60Hz
5	China Power Station	29	Sri Lanka
6	China 242 Shandong	30	Singapore
7	China 242 Hebei	31	Israel-OG
8	China PCS	32	Israel-LV
9	Taiwan	33	Israel-MV
10	Hongkong	34	Israel-HV
11	China 242 Northeast	35	Vietnam
12	Thailand-MEA	36	Malaysia-LV
13	Thailand-PEA	37	Malaysia-MV
14	Mauritius	38	DEWA-LV
15	Korea	39	DEWA-MV
16	India	40	Saudi Arabia
17	India-CEA	41	JP-690Vac-50Hz
18	Pakistan	42	JP-690Vac-60Hz

No.	Safety Code	No.	Safety Code
19	Philippines	43	Srilanka
20	Philippines-127Vac	44	IEC 61727-127Vac-50Hz
21	JP-50Hz	45	IEC 61727-127Vac-60Hz
22	JP-60Hz	46	JP-550Vac-50Hz
23	JP-440Vac-50Hz	47	JP-550Vac-60Hz
24	JP-440Vac-60Hz	48	India-Higher
Africa			
1	South Africa-LV	4	Ghana
2	South Africa-B-MV	5	Ghana-HV
3	South Africa-C-MV		

12.6 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

Region	Default value	U1	U2	U3	U4
	Inverter reactive power level (Q) % of S_{rated}	44 % supplying	0%	0%	60 % absorbing
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

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

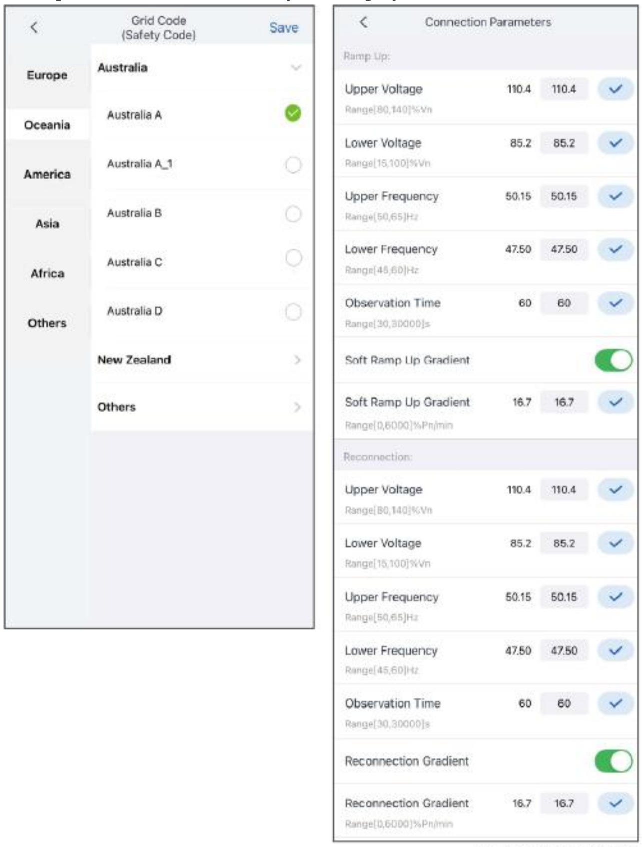
Region	f_{URF}
Australia A	50.15 Hz

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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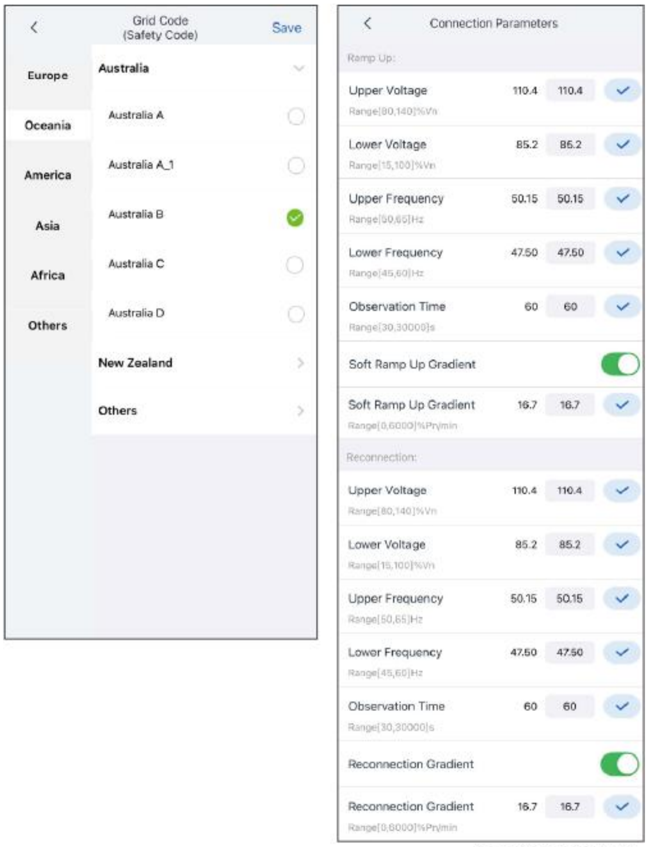

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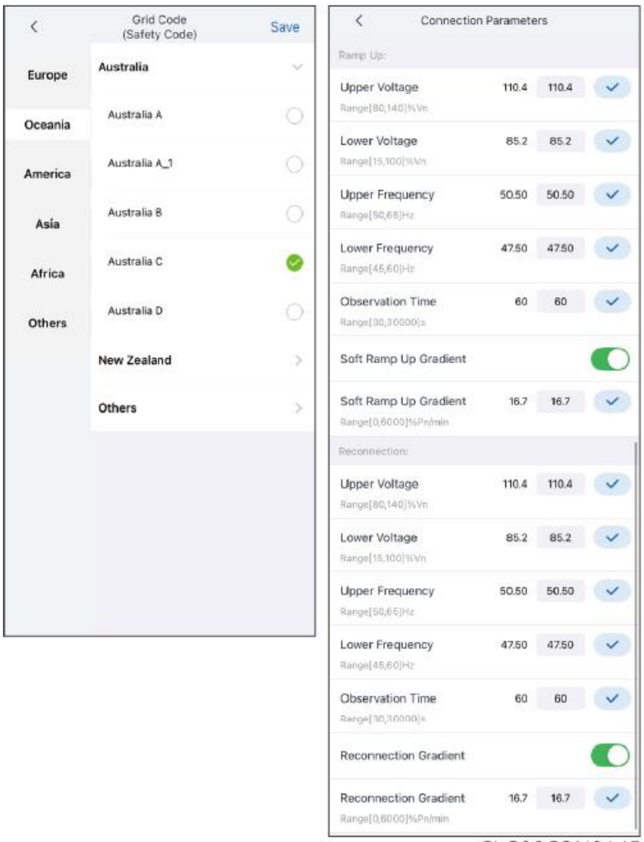

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