

Home Energy Management System

EzManager

User Manual

GOODWE

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NOTICE

This document is updated periodically due to product version upgrades or other reasons. Unless otherwise agreed, the content of this document does not replace the safety precautions on product labels. All descriptions in this document are provided for guidance only.

Preface

Overview

This document provides information about the home energy management device, including product information, installation and wiring, configuration and commissioning, troubleshooting, and maintenance. Before installing or using the product, carefully read this manual to understand the product safety information and familiarize yourself with its functions and features. This document may be updated periodically. Visit the official website for the latest documentation and more product information.

Applicable Products

This document applies to the home energy management device, model EzManager3000, hereinafter referred to as EzManager.

Symbol Definitions

 DANGER
Indicates a highly hazardous situation that, if not avoided, will result in death or serious injury.
 WARNING
Indicates a moderate potential hazard that, if not avoided, could result in death or serious injury.
 CAUTION
Indicates a low potential hazard that, if not avoided, could result in moderate or minor injury.
NOTICE
Emphasizes or supplements information and may also provide tips or tricks for optimizing product use to help you solve a problem or save time.

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1 Safety Precautions

Always observe the safety precautions in this document when operating the equipment.

WARNING

The equipment is designed in strict accordance with safety regulations and has passed testing. However, as electrical equipment, it must be operated in accordance with the relevant safety instructions. Improper operation may result in serious injury or property damage.

1.1 General Safety

NOTICE

- This document is updated periodically due to product version upgrades or other reasons. Unless otherwise agreed, the content of this document does not replace the safety precautions on product labels. All descriptions in this document are provided for guidance only.
- Read this document carefully before installing the equipment to learn about the product and the precautions.
- All work on the equipment must be performed by qualified electrical technicians who are familiar with the applicable standards and safety regulations in the project location.
- When operating the equipment, use insulated tools and wear personal protective equipment to ensure personal safety. When handling electronic components, wear anti-static gloves, an anti-static wrist strap, anti-static clothing, and other protective equipment to prevent electrostatic discharge damage to the equipment.
- Unauthorized disassembly or modification may damage the equipment; such damage is not covered by the warranty.
- The equipment manufacturer is not liable for equipment damage or personal injury resulting from failure to install, use, or configure the equipment in accordance with this document or the applicable user manual. For more information about the product warranty, visit the official website: <https://en.goodwe.com/warranty>.

1.2 Personnel Requirements

NOTICE

- Personnel responsible for installing and maintaining the equipment must undergo rigorous training, understand all safety precautions, and master the correct operating procedures.
- Only qualified professionals or trained personnel are permitted to install, operate, maintain, or replace the equipment or its components.

1.3 Personal Safety

DANGER

- When working on the equipment, use insulated tools and wear personal protective equipment to ensure personal safety.
- If the equipment short-circuits, do not approach or touch it. Disconnect the power immediately.
- Before making electrical connections to the equipment, disconnect all upstream switches to ensure that the equipment is de-energized.

1.4 Equipment Safety

DANGER

Before installing the equipment, ensure that the installation location is secure and stable.

WARNING

- Use appropriate tools and operate them correctly when installing or maintaining the equipment.
- Observe applicable local standards and safety regulations when operating the equipment.
- Unauthorized disassembly or modification may damage the equipment; such damage is not covered by the warranty.

1.5 Safety Symbols and Certification Marks

DANGER

- After installation, ensure that the labels and warning signs on the enclosure are clearly visible. Do not cover, alter, or damage them.
- The descriptions of the warning labels on the enclosure are for reference only. Refer to the labels affixed to the actual equipment.

No.	Symbol	Meaning
1		Potential hazards exist while the equipment is operating. Take appropriate protective measures when operating the equipment.
2		High voltage hazard. High voltage is present while the equipment is operating. Ensure that the equipment is de-energized before performing any operations on it.
3		Read the product manual carefully before operating the equipment.
4		The equipment must not be disposed of as household waste. Dispose of it in accordance with local laws and regulations, or return it to the equipment manufacturer.
5		CE Certification Mark.

1.6 EU Declaration of Conformity

1.6.1 Devices with Wireless Communication Capabilities

Equipment with wireless communication functionality that is sold on the European market complies with the requirements of the following directives:

- Radio Equipment Directive 2014/53/EU (RED)
- Restrictions of Hazardous Substances Directive 2011/65/EU and (EU) 2015/863 (RoHS)
- Waste Electrical and Electronic Equipment 2012/19/EU
- Registration, Evaluation, Authorization and Restriction of Chemicals (EC) No

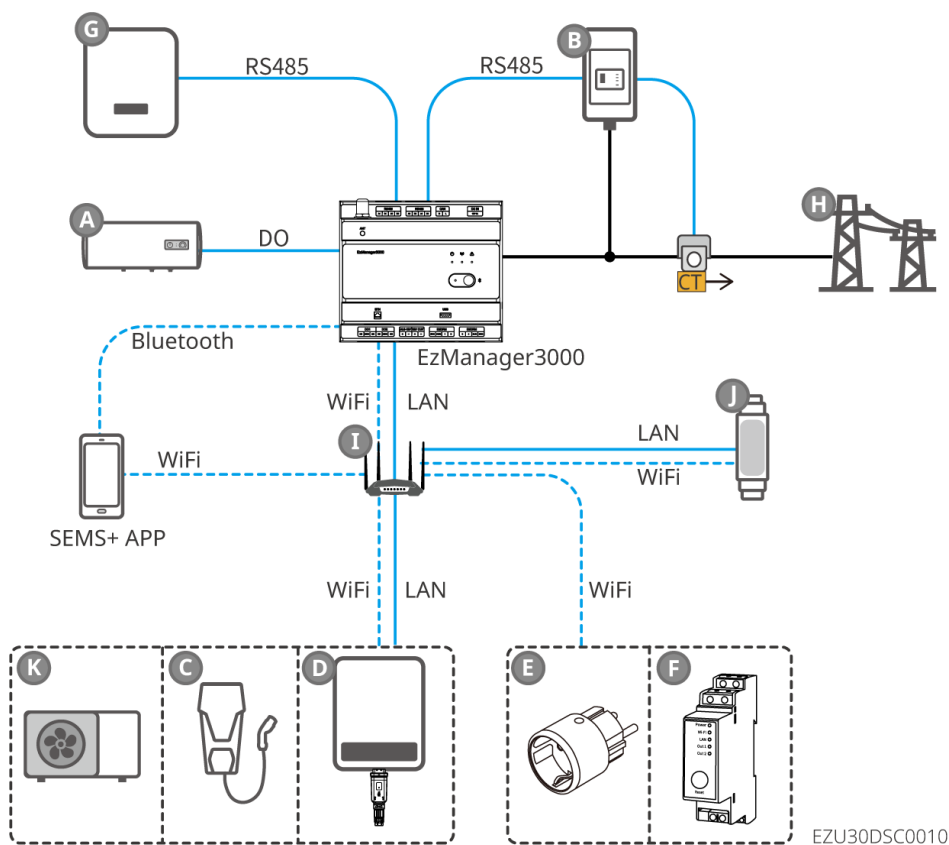
1907/2006 (REACH)

2 System Overview

2.1 Function Description

EzManagerFor home energy management devices, it supports centralized scheduling and management of household energy. SupportsAI mode, Self-consumption, grid-connected power control, and other plant-level power control functions to optimize energy at the plant level.

- Connect Intelligent meters, grid-connected inverters, and other devices via RS485.
- Connect an SG Ready heat pump via DO. Supports connection of up to one heat pump.
- Connect a router via WiFi/LAN, and connect energy storage inverters, EV chargers, Intelligent plugs, GoodHeat heat pumps, and other devices to the router via WiFi/LAN. Supports connection of up to 12 Intelligent devices. For reliable communications, LAN is recommended.
- Supports connection of up to two EV chargers simultaneously.
- Supports mixed connections of grid-connected inverters and energy storage inverters. The supported quantity for mixed connections depends on the actual model.
- For supported inverter models and quantities, refer to [the Inverter and IoT Device Compatibility List](#).
- If a third-party grid-connected inverter is used in the system, its data cannot be collected by EzManager, which may affect EMS dispatch. Use with caution.



- | | | | |
|------------------------|------------------------|-----------------------------|-----------------------------|
| (A) SG Ready heat pump | (B) Intelligent meter | (C) EV charger | (D) Energy storage inverter |
| (E) Intelligent plug | (F) Intelligent switch | (G) Grid-connected inverter | (H) Grid |
| (I) Router | (J) Intelligent Relay | (K) GoodHeat Heat Pump | |

2.2 Model Description

This document mainly covers the following product models:

EzManager3000

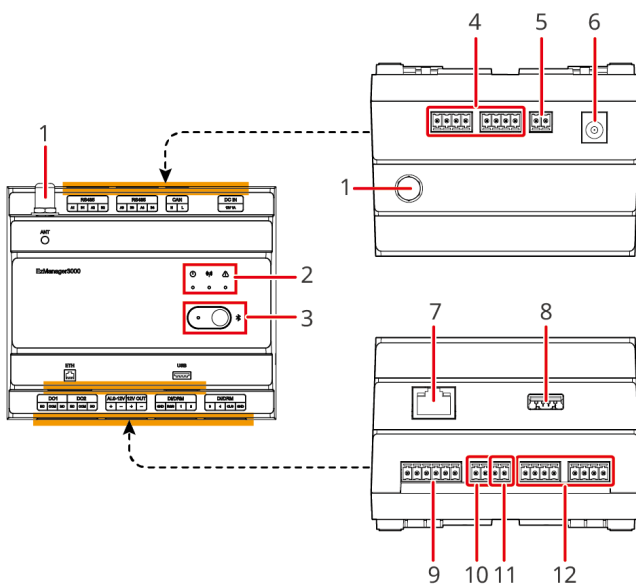
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2

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No.	Meaning	Description
1	Product Function	EzManager: Home Energy Management System
2	Generation Code	3000: Third-generation unit

2.3 Appearance

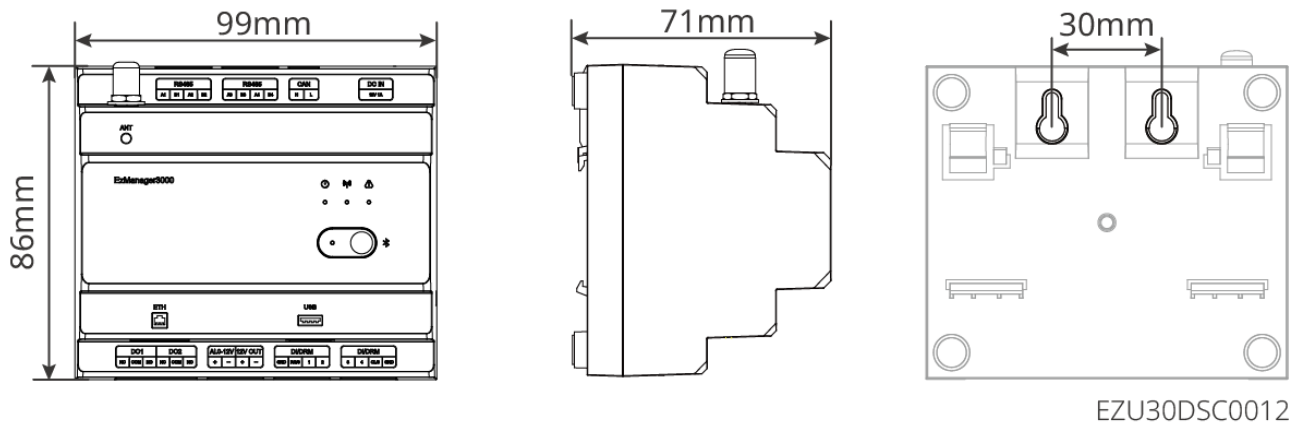


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No.	Name	Description
1	External WiFi Antenna Connector (ANT)	- Used to enhance the WiFi signal. - If the device is installed inside a metal enclosure, on a metal roof, or beneath a concrete roof, it is recommended to use an external suction-cup antenna to enhance the signal.
2	LED Indicators	Indicate the device operating status, such as power, communication, and upgrade status.
3	Bluetooth Indicator & RST Button	- Indicates the device Bluetooth status, such as whether Bluetooth is enabled or disabled. - Use the button to enable Bluetooth, restart the device, reset the password, and perform other functions.
4	RS485 Communication Port (RS485)	- Supports connecting devices such as intelligent energy meters and grid-tied inverters via the RS485 port. - Supported energy meters: GM330/GMK330/GMK110/GM3000, etc. - Supported grid-tied inverters: SDT G2 series, XS G1 series, DNS G1 series, etc. For more information about supported models and software version requirements, refer to the Inverter and IoT Device Compatibility List. - Connecting an SDT G2 in a hybrid system may reduce metering accuracy.
5	CAN Communication Port (CAN)	Reserved port.
6	Power Input Port (DC IN)	12 V DC power input connector, which can be used to power the device.

No.	Name	Description
7	Ethernet Port (ETH)	- Ethernet connection port for connecting to a router. Inverters, EV chargers, GoodHeat Intelligent heat pumps, and other devices can connect to EzManager through the router. - Supported Intelligent plug: Shelly Plus Plug S, firmware version V1.4.4 or later. - Supported Intelligent switch: Shelly PLUS 2PM - Supported Intelligent relay: Shelly PRO 2PM - Supported EV chargers: GoodWe HCA G2 series, etc. - Supported energy storage inverters: GoodWe ESA series, ET 15–30 kW series, ES G2 series, ET G2 series, etc. - Supported GoodHeat heat pumps: tri-generation series. - For more information on supported models and firmware requirements, refer to the Inverter and IoT Device Compatibility List.
8	USB Port (USB)	- Connect a USB flash drive to update the device firmware. - USB flash drive requirements: FAT32 format.
9	DO Communication Port (DO1/2)	Connect an SG Ready heat pump.
10	AI Signal Port (AI.0–12V)	Analog AI signal input port; only used with the 12 V output port to enable one-touch shutdown.
11	12 V Output Port (12V OUT)	12 V DC output port; used only with the AI signal port to enable one-touch shutdown, or with the DO communication port to connect an SG Ready heat pump.
12	DI Communication Port (DI)	DI signal input port supporting active or passive contact signals, and functions such as RCR.

2.4 Dimensions



2.5 Indicator Description

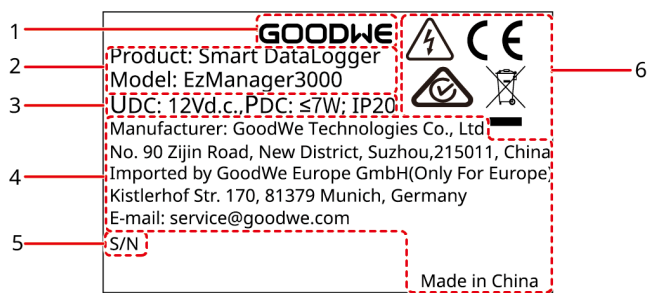
Indicator Light	Indicator Light Status	Description
		Solid green: The device is powered normally.
		Green off: The device is powered off or the power supply is abnormal.
		Solid green: The device is communicating with the server normally.
		Green flashing four times: The device is connected to the router, but the connection to the server is abnormal.
		Green flashing twice: The device is Not Connected to the router.
		Yellow flashing four times: EzManager is upgrading.
		Blue indicator solid: Bluetooth is enabled, and an external device is connected to EzManager.

Indicator Light	Indicator Light Status	Description
		Blue indicator flashing slowly (500 ms on/500 ms off): Bluetooth is enabled and waiting for an external device to connect.
		Blue indicator flashing rapidly (50 ms on/50 ms off): EzManager is resetting the login password used to connect to the SEMS+ App.
		Blue indicator off: Bluetooth is disabled.

Operation Button	Function Description
Double-click	Enable Bluetooth.
Press and hold for 1–3 s	Restart EzManager.
Press and hold for 10–20 s	- Reset the login password used by EzManager to connect to the SEMS+ App via Bluetooth. Default password: 1234. - After pressing and holding the button, the indicator flashes rapidly. When  the indicator changes from rapid to slow flashing, the password has been reset.
Press and hold for more than 60 s	- Restore factory settings and restart EzManager. - After pressing and holding the button, ,  and  indicators light up simultaneously. Once they go out, the device starts to restart. - Only configuration files, communication settings, login passwords, etc. are restored.

2.6 Nameplate Description

The nameplate is for reference only. The actual product shall prevail.



EZU30DSC0014

No.	Description
1	GoodWe Trademark
2	Product Type and Model
3	Product Technical Specifications
4	Manufacturer, Importer, and Other Information
5	Device Serial Number Information
6	Product Safety Symbols and Certification Marks

3 Equipment Inspection and Storage

3.1 Equipment Inspection

Before accepting delivery of the product, carefully check the following:

1. Check the outer packaging for damage, such as deformation, holes, cracks, or other signs that may indicate damage to the equipment inside. If damage is found, do not open the package and contact your distributor.
2. Check that the equipment model is correct. If it does not match, do not open the package and contact your distributor.

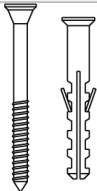
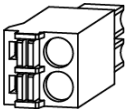
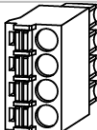
3.2 Scope of Delivery

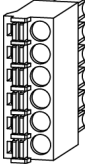
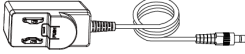
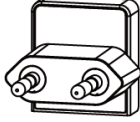
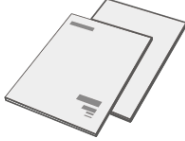
WARNING

- Check that the type and quantity of the supplied items are correct and that there is no visible damage. If anything is damaged, contact your distributor.
- After removing the supplied items from the packaging, do not place them on rough, uneven, or sharp surfaces to prevent the paint from being scratched.

NOTICE

The adapter illustration is for reference only. Designs may vary by region; refer to the actual product.

Components	Description	Components	Description
	EzManager x1		Expansion bolts x2
	2-pin communication terminal x1		4-pin communication terminal x5

Components	Description	Components	Description
	6-pin communication terminal x1		External antenna x1
	Power adapter x1		Adapter x1
	Tubular terminals x28		Documentation x1

3.3 Equipment Storage

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

Time requirements:

- If the equipment has been in storage for more than two years, or has been installed but not operated for more than 6 months, it is recommended that qualified personnel inspect and test it before it is put into service.
- To ensure that the electrical performance of the electronic components inside the equipment remains satisfactory, it is recommended that the equipment be energized once every 6 months during storage. If it has not been energized for more than 6 months, qualified personnel should inspect and test it before it is put into service.

Packaging requirements:

Ensure that the outer packaging has not been opened.

Environmental requirements:

- Store the equipment in a cool place and protect it from direct sunlight.
- Ensure that the storage environment is clean, with suitable temperature and humidity and no condensation. Do not install the equipment if condensation is present on its ports.

- Keep the equipment away from flammable, explosive, corrosive, and other hazardous materials during storage.

4 Installation

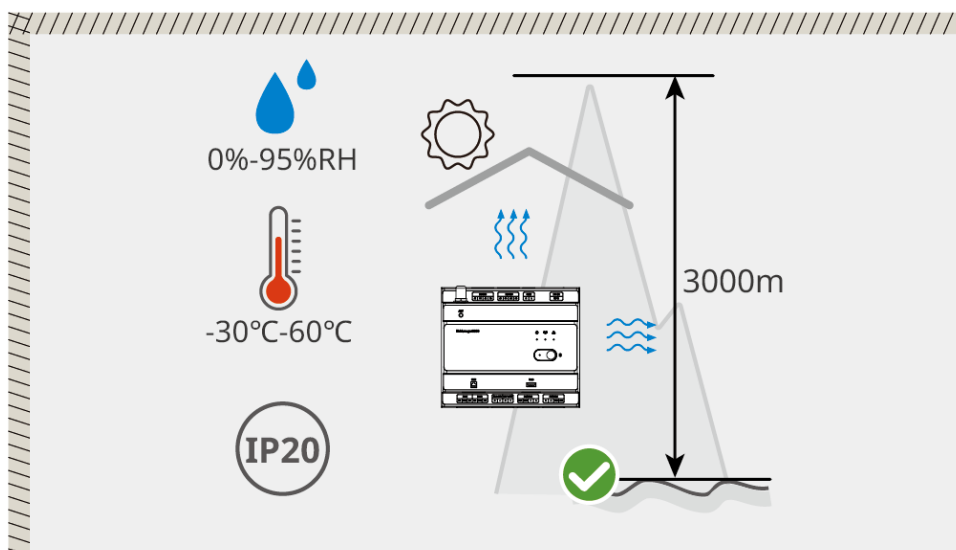
DANGER

Use the items supplied with the equipment for installation and electrical connections. Any equipment damage resulting from failure to do so is not covered by the warranty.

4.1 Installation Requirements

4.1.1 Installation Environment Requirements

1. Do not install the equipment in environments that are flammable, explosive, or corrosive.
2. The equipment Ingress Protection Rating is suitable for indoor installation. The temperature and humidity of the installation environment must be within the appropriate ranges.
3. Install the equipment out of reach of children.
4. The installation space must meet the equipment ventilation and heat dissipation requirements, as well as the required operating clearance.
5. Install the equipment at a height that allows for easy operation and maintenance. Ensure that the equipment indicators and all labels are easy to see, and that the terminals are easily accessible.
6. The equipment installation altitude must be below the Max. Operating Altitude.
7. Keep the equipment away from 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, ensure that the equipment is more than 30 m away from the source of radio-frequency interference.



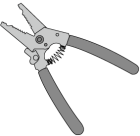
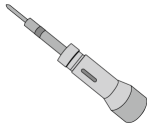
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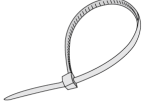
4.1.2 Tool Requirements

NOTICE

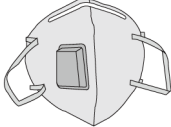
The following tools are recommended for installation. Other auxiliary tools may be used on site as necessary.

Installation Tools

Tool Type	Description	Tool Type	Description
	Wire stripper		Crimping tool
	Hammer drill (Ø6 mm drill bit)		M4 torque wrench
	Rubber mallet		Vacuum cleaner

Tool Type	Description	Tool Type	Description
	Marker		Spirit level
	Cable ties	-	-

Personal Protective Equipment

Tool Type	Description	Tool Type	Description
	Insulating gloves, protective gloves		Dust mask
	Safety glasses		Safety shoes

4.1.3 Equipment Installation

CAUTION

- When drilling, ensure that the holes do not pass through water pipes, cables, or other items inside the wall to avoid hazards.
- When drilling, wear safety goggles and a dust mask to prevent dust from entering your respiratory tract or eyes.
- Ensure that the equipment is securely installed to prevent it from falling and injuring personnel.

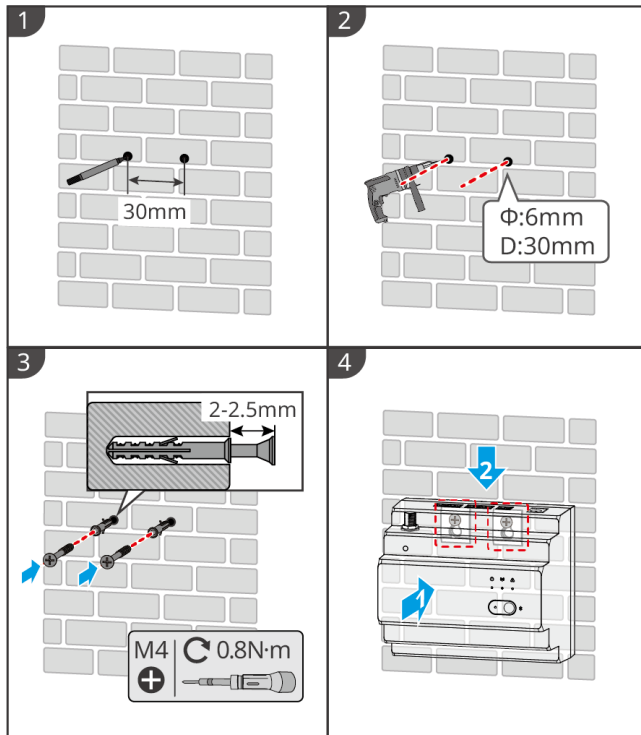
Wall-Mounting

Step 1: Position the equipment level against the wall and use a marker to mark the drilling locations.

Step 2: Drill the holes using a hammer drill. Hole diameter: 6 mm; hole depth: 30 mm.

Step 3: Install the expansion screws. Leave 2–2.5 mm of each screw protruding to hang the equipment.

Step 4: Hang the equipment on the expansion screws. Ensure it is securely mounted and cannot fall.



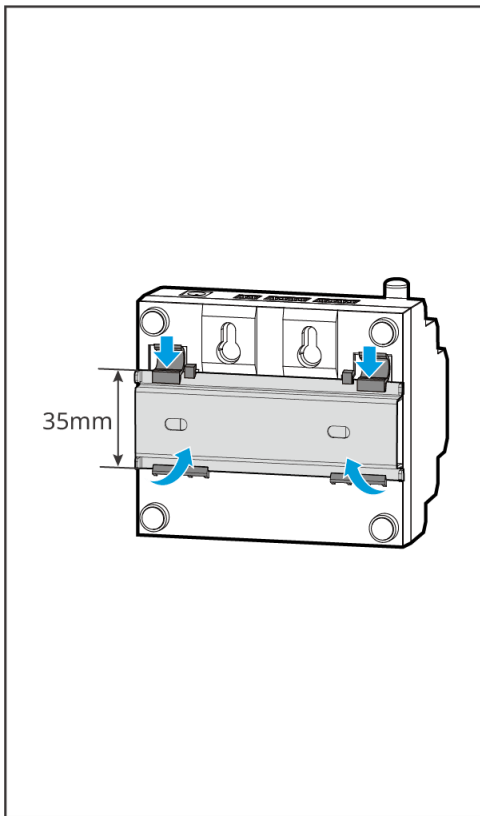
EZU30INT0011

DIN Rail Mounting

NOTICE

- Provide your own standard 35 mm DIN rail.
- For DIN rail mounting, install the rail mounting bracket on the equipment.
- Install the DIN rail on a firm, stable surface, such as a wall or support bracket.

Step 1: Hook the equipment onto the standard 35 mm DIN rail from bottom to top, and ensure it is securely installed.



EZU30INT0012

Desktop Installation

The bottom of the equipment has an anti-slip design and supports desktop installation.

NOTICE

- Place the equipment on a level desktop to prevent it from slipping and being damaged.
- Place the equipment out of reach to prevent accidental contact from interrupting the signal.

5 System Wiring

DANGER

- All operations performed and the specifications of cables and components used during electrical connections must comply with local laws and regulations.
- Before making electrical connections, ensure that the equipment is de-energized. Never work on energized equipment, as this may result in electric shock or other hazards.
- Bundle cables of the same type together and route them separately from cables of other types. Do not twist or cross cables.
- Excessive tension on a cable may result in a poor connection. When wiring, leave sufficient cable slack before connecting the cable to the equipment terminal.
- When crimping a terminal, ensure that the cable conductor is in full contact with the terminal. Do not crimp the cable insulation together with the terminal. Failure to do so may prevent the equipment from operating or, due to an unreliable connection, cause overheating during operation and damage to the equipment terminal block.

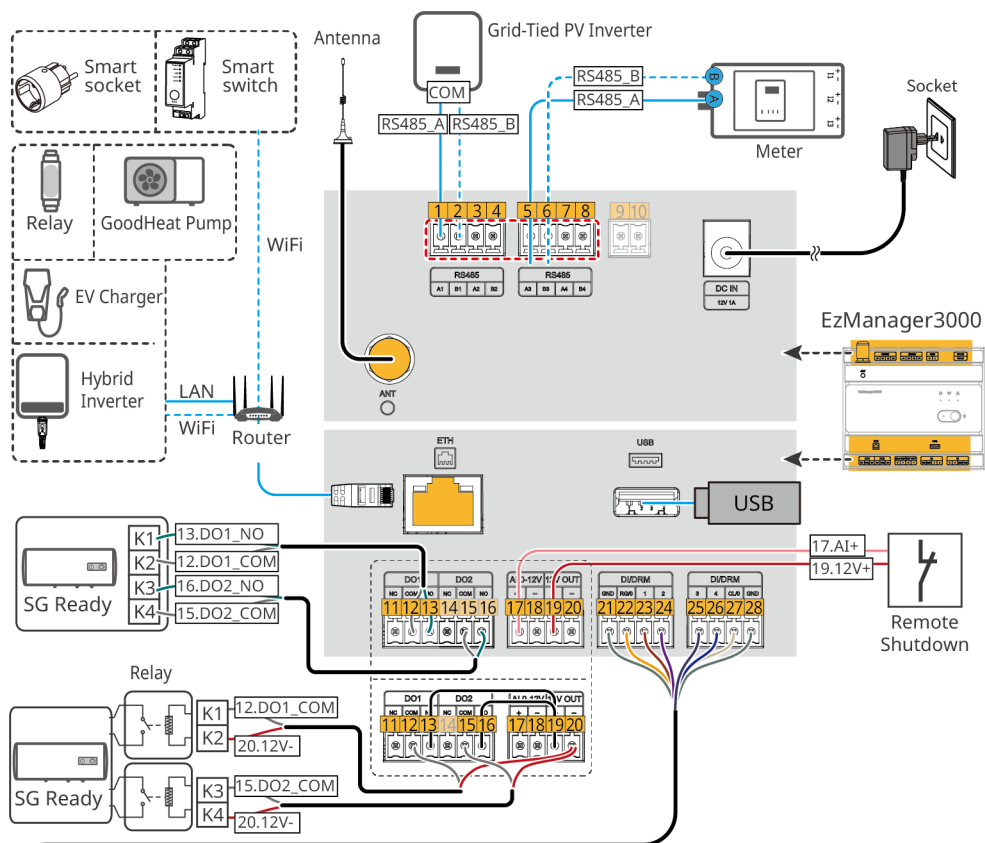
NOTICE

- Wear personal protective equipment, such as safety shoes, protective gloves, and insulating gloves, when making electrical connections.
- Electrical connection work may only be performed by qualified personnel.
- Cable colors shown in the illustrations are for reference only. Actual cable specifications must comply with local regulations.
- To ensure a proper seal, after installing the cable gland in the cable entry hole, seal the opening with firestop putty.

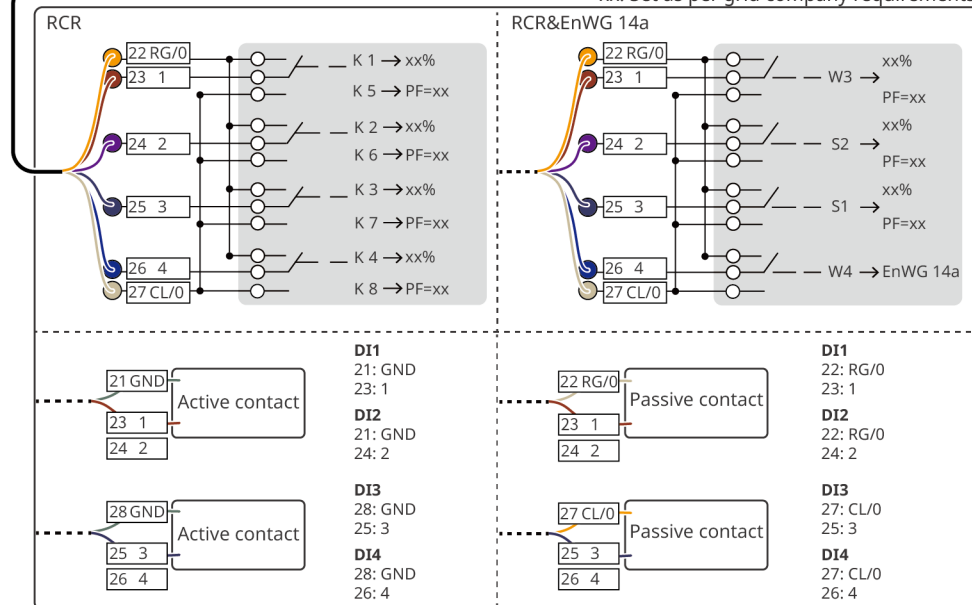
5.1 System Wiring Diagram

NOTICE

- Set the active power, reactive power, and other RCR device values shown in the wiring diagram via the SEMS+ App according to the actual requirements of the utility. Refer to [the SEMS+ App User Manual](#).
- Select a suitable external meter based on the system configuration and ensure that it is connected to EzManager; otherwise, the system will not operate properly.



xx: Set as per grid company requirements.



EZU30ELC0019

5.2 Preparations Before Wiring

Before making electrical connections, prepare cables according to the recommended specifications in the table below.

No.	Silkscreen Label	Cable	Recommended Specifications	Source
1	RS485	RS485 Communication Cable	- Outdoor Shielded Twisted-Pair Cable - Copper-Core Cable - Conductor cross-sectional area: (24 AWG–16 AWG) 0.2 mm²–1.0 mm²	Customer-supplied
2	CAN	CAN Communication Cable		Customer-supplied
3	DO1/2	DO Signal Cable	- Outdoor Copper-Core Cable - Conductor cross-sectional area: (24 AWG–16 AWG) 0.2 mm²–1.0 mm²	Customer-supplied
4	AI.0-12V	AI Communication Cable		Customer-supplied
5	12V OUT	12 V Output Cable		Customer-supplied
6	DI	DI Signal Cable		Customer-supplied
7	ETH	LAN Communication Cable	CAT 5E or higher-rated outdoor shielded Ethernet cable	Customer-supplied

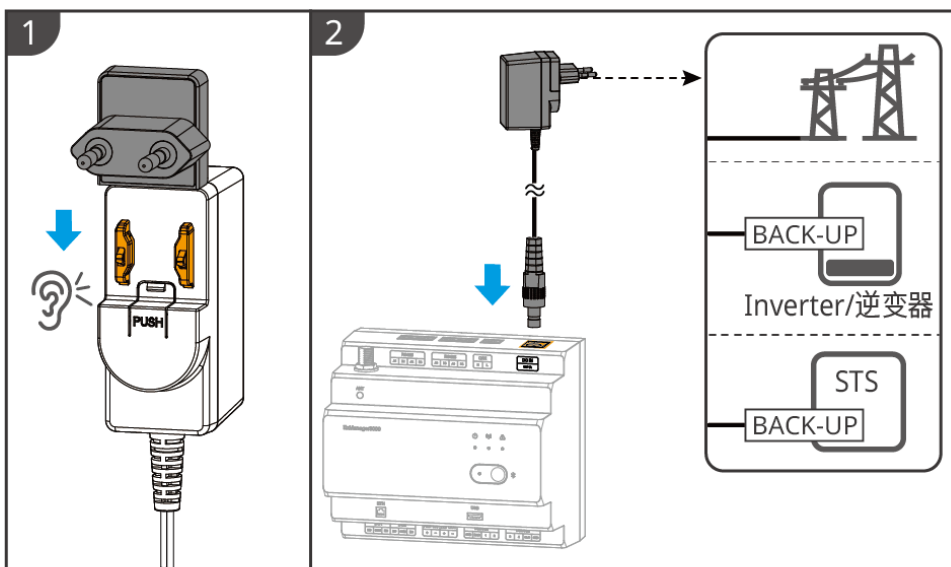
5.3 Connecting the AC Power Cable

NOTICE

- Connect the supplied power adapter to the DC IN port to power the device.
- In a grid-connected system, draw power from the grid. In a microgrid system, draw power from the inverter or the BACKUP side of the STS, depending on the actual system configuration.
- Power adapter rating: 12 V/1.5 A.
- When ET Series inverters are used in hybrid systems, they do not support powering the HEMS from the BACK UP side.

Procedure

1. Attach the adapter plug to the power adapter.
2. Connect the power cable to the device's DC IN port and a household AC outlet.

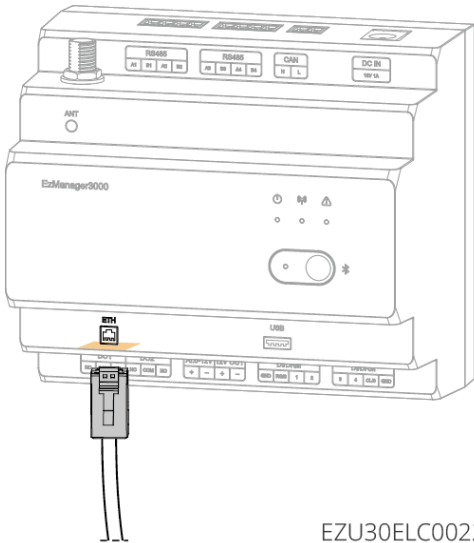


EZU30ELC0025

5.4 Connecting the Network Cable

NOTICE

- EzManager supports connecting to a router via LAN.
- Intelligent devices, EV chargers, energy storage inverters, and other devices can connect to EzManager through a router.



EZU30ELC0022

5.5 Connect the Communication Cable

NOTICE

- Communication functions are optional. Connect the wiring according to the actual application.
- To use functions such as RCR and one-click shutdown, enable the corresponding function in the SEMS+ App after completing the wiring.
- To set the heat pump operating mode, select the desired mode in the SEMS+ App after completing the wiring.

Communication Port Definitions

No.	Port Definition	Description
1	RS485_A1	

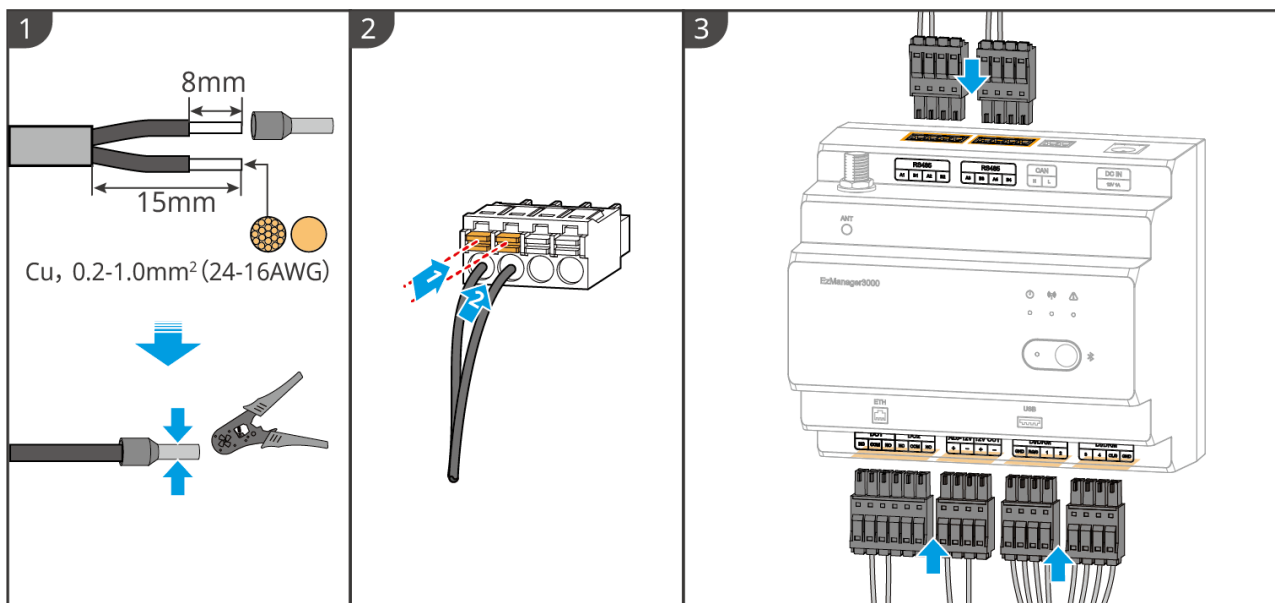
No.	Port Definition	Description
2	RS485_B1	RS485 communication port. Used to connect devices such as grid-tied inverters and Intelligent meters.
3	RS485_A2	
4	RS485_B2	
5	RS485_A3	
6	RS485_B3	
7	RS485_A4	
8	RS485_B4	
9	CAN_H	CAN communication port; reserved.
10	CAN_L	
11	DO1_NC	
12	DO1_COM	
13	DO1_NO	
14	DO2_NC	
15	DO2_COM	

No.	Port Definition	Description
16	DO2_NO	- Digital signal output port. - NO: Normally open contact - COM: Common terminal - NC: Normally closed contact - Supports dry-contact DO output. DO contact rating: 30 V DC @ 1 A. - Supports connection to an SG Ready heat pump, which is controlled via dry-contact signals. - The heat pump operating mode can be set through the SEMS+ App. - Operating Mode 1 (signal 1:0): Turn off the heat pump. - Operating Mode 2 (signal 0:0): Energy-saving mode; the heat pump operates in Energy-saving mode. - Operating Mode 3 (signal 0:1): Increase the hot water reserve while maintaining basic heat pump operation. - Operating Mode 4 (signal 1:1): Start the heat pump. - Depending on the type of SG Ready heat pump, the following two control methods are supported: - Use the 12 V power output port to drive an external relay for heat pump control. Select the relay specifications according to actual requirements. - Drive the heat pump directly via the DO port.
17	AI IN+	Used together with the 12 V power output port to implement the one-button shutdown function.
18	AI_GND	
19	12 V power output +	

No.	Port Definition	Description
20	12 V power output -	- Rated power output: 12 V @ 100 mA; Voltage Range: 9.5 V–13.2 V - Used together with the AI port to implement the one-button shutdown function. - Used together with the DO port to implement the SG Ready heat pump control function.
21	DI_GND	- Digital signal input port. - RCR (Ripple Control Receiver) signal control port, meeting grid dispatch requirements in Germany and other regions. - Supports connection of active and passive contact signals. Active contacts support an input voltage of 0–12 V; an input voltage of 8–12 V is interpreted as a high level. - The recommended DI signal cable transmission distance is no more than 10 m.
22	DI_RG/0	
23	DI_1	
24	DI_2	
25	DI_3	
26	DI_4	
27	DI_CL/0	
28	DI_GND	

Communication Cable Connection Procedure

1. Prepare a communication cable of the appropriate specification, strip it to the required length, and crimp on ferrules.
2. Connect the crimped cable to the communication terminal.
3. Insert the communication terminals into the corresponding communication ports.



EZU30ELC0021

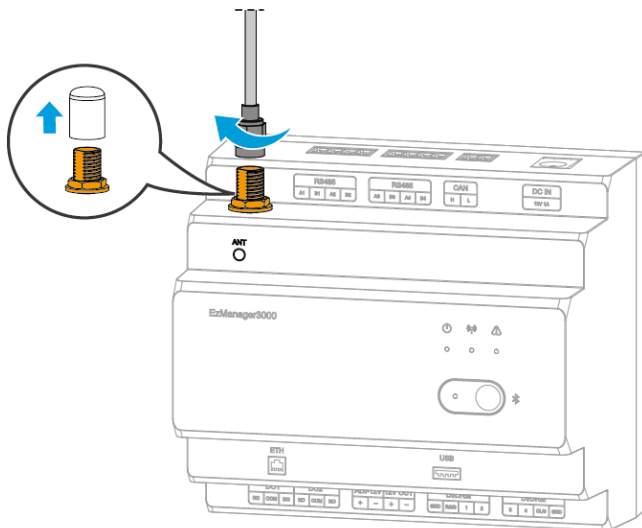
5.6 Install the External Wi-Fi Antenna

NOTICE

- EzManager has a built-in Wi-Fi module. To improve signal reception, you can install the external antenna included with the accessories.
- After installing the external antenna, set the antenna type to External Antenna in the SEMS+ App.

Procedure:

1. Remove the dust cap from the ANT connector.
2. Install the external antenna and tighten it clockwise.
3. Secure the external magnetic-mount antenna in a suitable location.



EZU30ELC0023

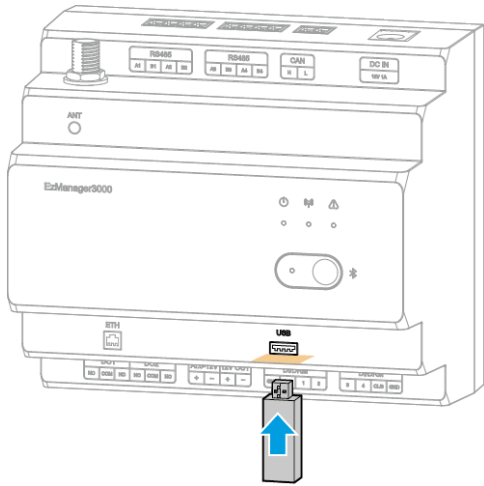
5.7 Connect the USB Port

NOTICE

- A USB flash drive can be connected to the USB port to update the device software. Contact the after-sales service center to obtain the software update package.
- Use a FAT32-formatted USB flash drive (not supplied).

To update the software using a USB flash drive, follow these steps:

1. Contact After-Sales Support to obtain the device firmware upgrade package, and prepare a USB flash drive formatted as FAT32 with a capacity of no more than 32 GB.
2. Create a new folder named collector in the root directory of the USB flash drive, and save the device firmware upgrade package in the collector folder.
3. Insert the USB flash drive into the USB port on the EzManager. Once the EzManager detects the device firmware upgrade package and starts the upgrade, the upgrade indicator will flash rapidly. If the upgrade indicator does not flash rapidly, the upgrade has not started. Check the upgrade package and the USB flash drive.
4. The EzManager will restart automatically when the upgrade is complete. Remove the USB flash drive to prevent the upgrade from running again.



EZU30ELC0024

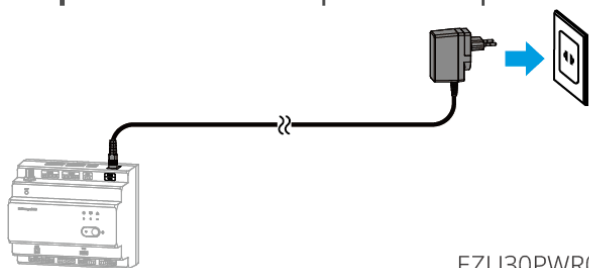
6 System Commissioning

6.1 Pre-Power-on System Checks

No.	Inspection Item
1	The equipment is securely installed; the installation location allows easy operation and maintenance; the installation space provides adequate ventilation and heat dissipation; and the installation environment is clean and orderly.
2	Ensure the power cables, communication cables, network cables, and other connections are correct and secure.
3	Ensure the cables are bundled in accordance with routing requirements, arranged properly, and free from damage.
4	Ensure the equipment input signals and input power parameters are within the equipment's operating range.

6.2 Power on the System

Step 1 : Connect the power adapter to a household power outlet.



EZU30PWR0004

6.3 Indicator Description

Indicator Light	Indicator Light Status	Description
		Solid green: The device is powered normally.
		Green off: The device is powered off or the power supply is abnormal.
		Solid green: The device is communicating with the server normally.
		Green flashing four times: The device is connected to the router, but the connection to the server is abnormal.
		Green flashing twice: The device is Not Connected to the router.
		Yellow flashing four times: EzManager is upgrading.
		Blue indicator solid: Bluetooth is enabled, and an external device is connected to EzManager.
		Blue indicator flashing slowly (500 ms on/500 ms off): Bluetooth is enabled and waiting for an external device to connect.
		Blue indicator flashing rapidly (50 ms on/50 ms off): EzManager is resetting the login password used to connect to the SEMS+ App.
		Blue indicator off: Bluetooth is disabled.

Operation Button	Function Description
Double-click	Enable Bluetooth.
Press and hold for 1–3 s	Restart EzManager.

Operation Button	Function Description
Press and hold for 10–20 s	- Reset the login password used by EzManager to connect to the SEMS+ App via Bluetooth. Default password: 1234. - After pressing and holding the button, the indicator flashes rapidly. When  the indicator changes from rapid to slow flashing, the password has been reset.
Press and hold for more than 60 s	- Restore factory settings and restart EzManager. - After pressing and holding the button, ,  and  indicators light up simultaneously. Once they go out, the device starts to restart. - Only configuration files, communication settings, login passwords, etc. are restored.

7 System Configuration

EzManager supports commissioning via the SEMS+ App.

The SEMS+ App is software for remote power station monitoring and on-site device commissioning. It enables installers or system owners to:

- Monitor power station operation remotely and configure operating parameters for the power station and devices.
- Connect to devices locally, view their operating status, and configure device parameters.

For detailed functions, see the 《[the SEMS+ App User Manual](#)》. The user manual is available on the official website or by scanning the QR code below.



the SEMS+ App User Manual

7.1 Download and Install the SEMS+ App

Phone Requirements

- Phone operating system requirements: Android 7.0 or later, iOS 15.1 or later.
- The phone must support a web browser and be connected to the Internet.
- The phone must support WLAN/Bluetooth.

Download Methods

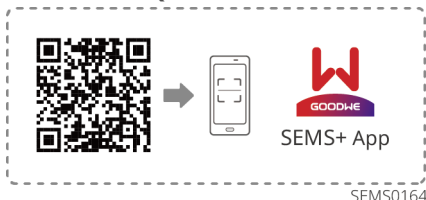
Method 1:

Search for SEMS+ in Google Play, the App Store, Huawei, HONOR, Xiaomi, OPPO, or vivo app stores, then download and install it.



Method 2:

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



Add a Home Screen Widget

- SEMSt+ can be added to your phone's home screen when the app version is V2.5.2 or later.
- The steps for adding a home screen widget vary by operating system. Follow the steps for your device.
- Once the widget has been added, you can quickly check the power station's operating status without opening the app.

7.2 Register an Account

Procedure

1. Tap "Register" on the app home page to open the account registration screen.
2. Select the server and account type based on your needs, then tap "Next".
3. Enter the account information as required, then tap "Confirm" to complete registration.

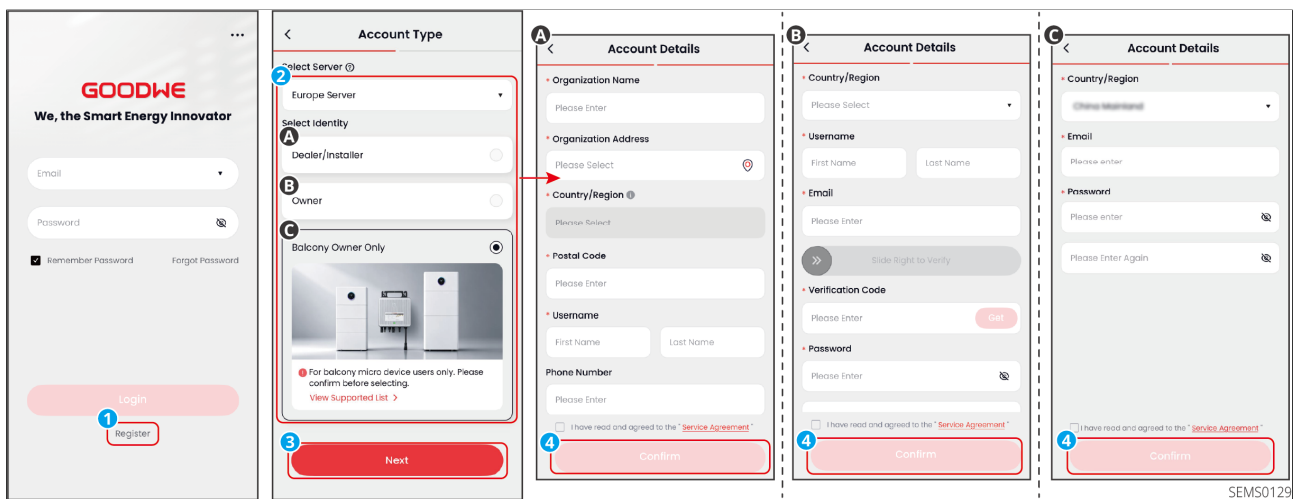


Figure1 Register an Account

7.3 Log in to Your Account

NOTICE

- Before logging in to the app, register an account or obtain an account and password from your dealer.
- After logging in, you can view or manage plant information. The actual screens may vary. The information displayed varies depending on the account type, region, plant type, and other factors.

Procedure

1. Enter your account and password, then tap "Log In".

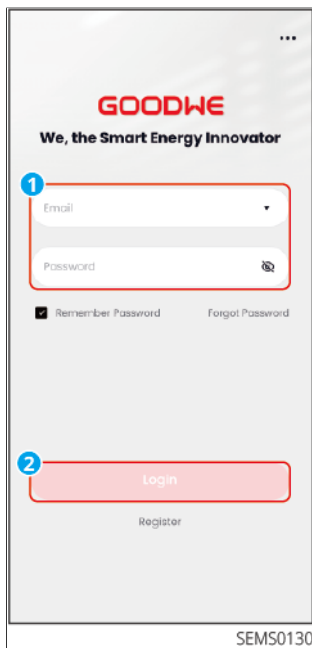


Figure2 Log in to Your Account

7.4 Create a Plant

You can create a plant based on your needs.

7.4.1 Enter Power Station Information

Create a Plant (Installer/Dealer)

Procedure

1. After logging in to the app, tap "Create Plant" if no plants are associated with your account. If your account already has a plant, tap "+" on the plant list screen to open the new plant information form.
2. Follow the on-screen instructions to enter basic information, including the plant address, name, capacity, and power, as applicable.
3. To add plant visitors, enter the organization code and visitor information. Tap "Done" to create the plant.
4. Choose whether to add plant devices as applicable. For instructions, see the [7.4.2.Add a Device\(Page 47\)](#) section.

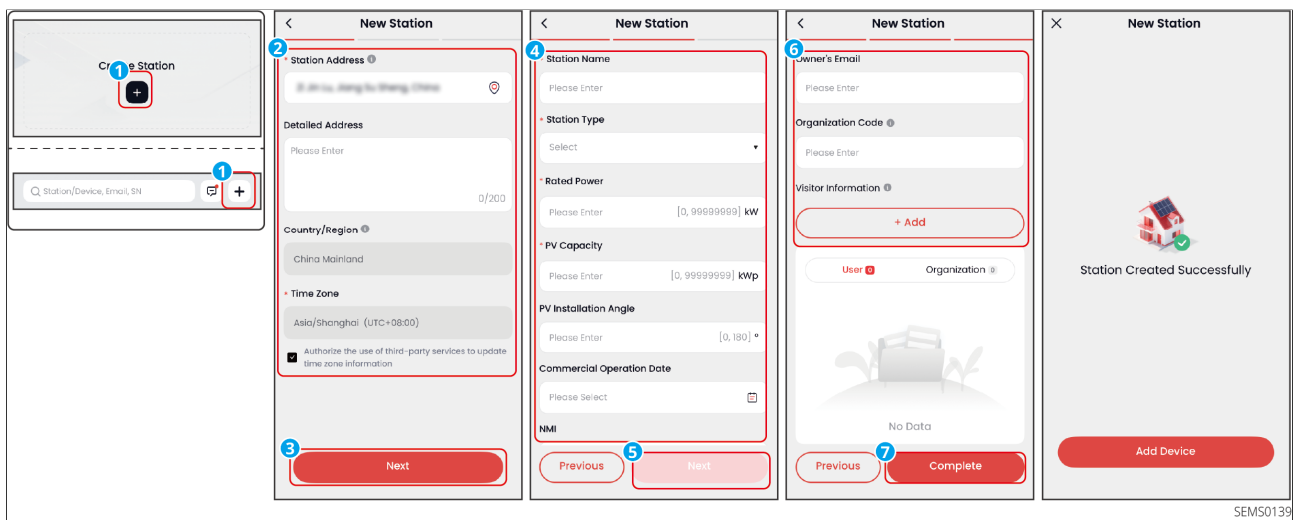


Figure3 Enter Plant Information (Installer/Dealer)

Parameter	Function Description
Plant Type	Select the plant type as applicable. Options include: Residential PV Plant, Residential Storage Station, C&I Storage Plant, and C&I PV Plant.
Plant Name	Set the plant name as required.
Rated Power	Set the station's total installed capacity.
PV Capacity	Set the total installed PV capacity at the station.
Battery Capacity	Set the total battery capacity at the station.
PV Installation Angle	Set the PV panel Installation Angle.
Commercial Operation Date	Set the station's grid connection date

Create a Power Station (Owner) Procedure

1. After logging in to the app, tap "Create Power Station" as prompted. If your account already has a power station, tap "+" on the station list screen to open the new station information form.
2. Follow the on-screen instructions and enter basic information such as the station name, address, and type based on the actual details.

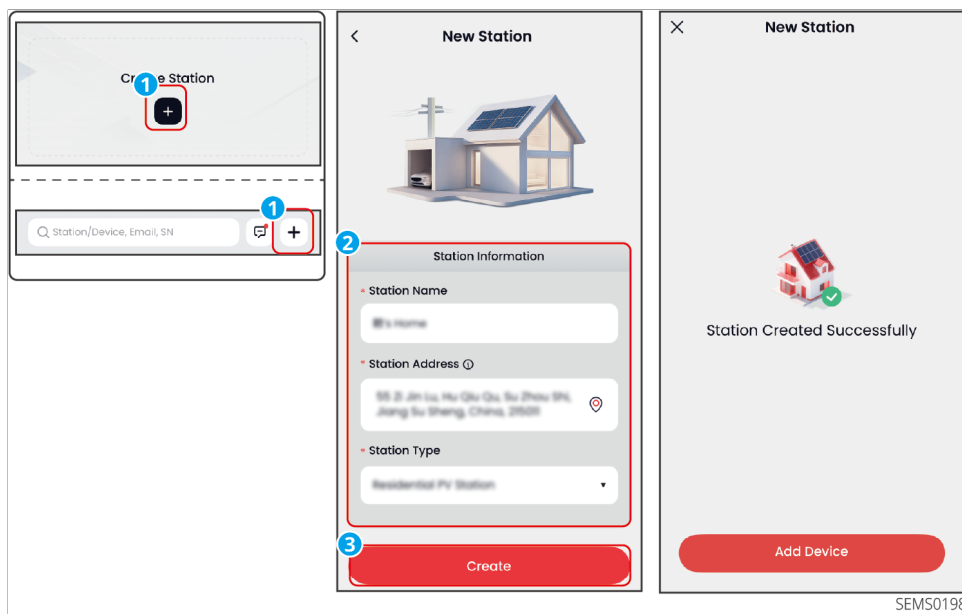


Figure4 Enter Power Station Information (Owner)

7.4.2 Add Plant Devices

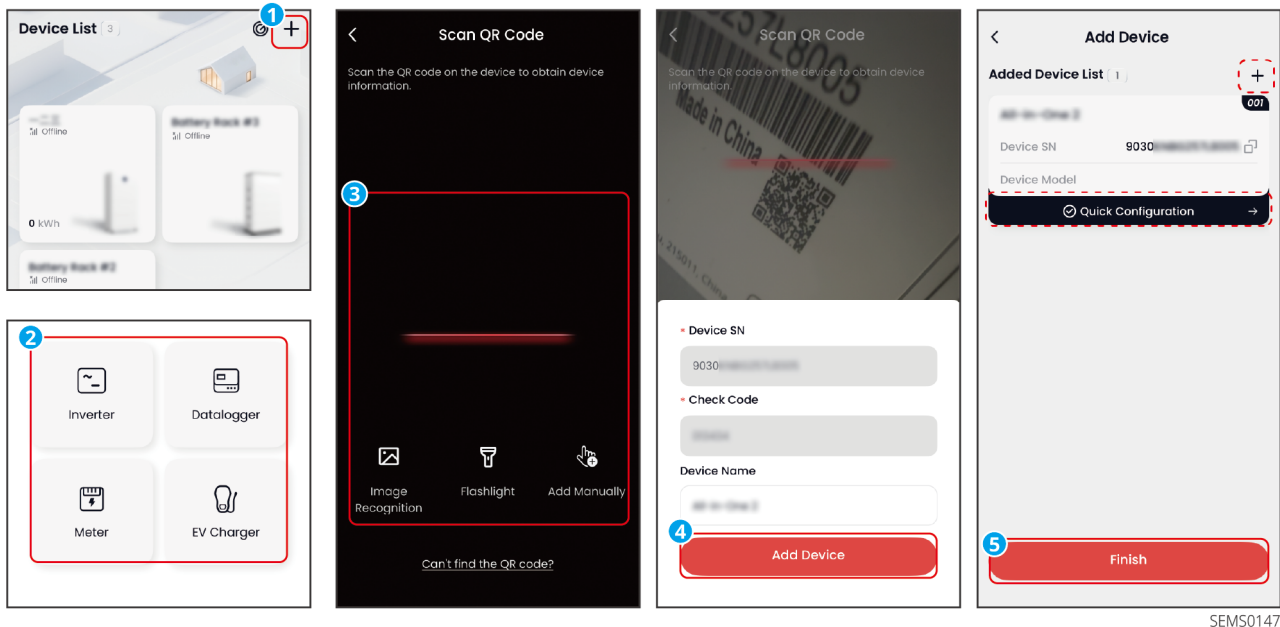
After creating a plant, you can add devices to it as required.

- When a Home Energy Management System (HEMS) has been added to the plant:
 - You can add associated devices under HEMS at the same time, or add devices not associated with HEMS to monitor all devices at the same plant.
 - Use a local Bluetooth connection to connect the energy storage inverters, EV chargers, intelligent switches, and other devices in the network to the same router as the HEMS. Otherwise, the HEMS cannot identify these devices. For GoodWe products, see the [Local Access Devices](#) section; for third-party products, see the device user manual.

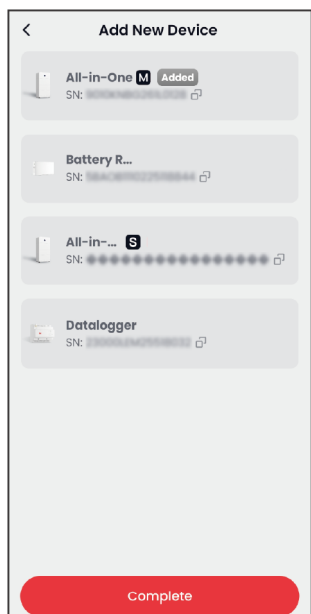
Steps to Add a Device Manually

1. On the plant home page, tap **+**.
2. Add devices as needed. Select a device type, then scan the device SN or enter it manually.
3. After scanning, verify that the device serial number and verification code are correct. Change the device name if required, then tap "Add Device" to complete the process.
4. (Optional) To continue adding devices to the current plant, tap **+** and repeat the steps for entering the device SN.

5. (Optional) Tap "Quick Configuration" to modify settings such as safety compliance and network configuration. For details, see [Quick Configuration](#).



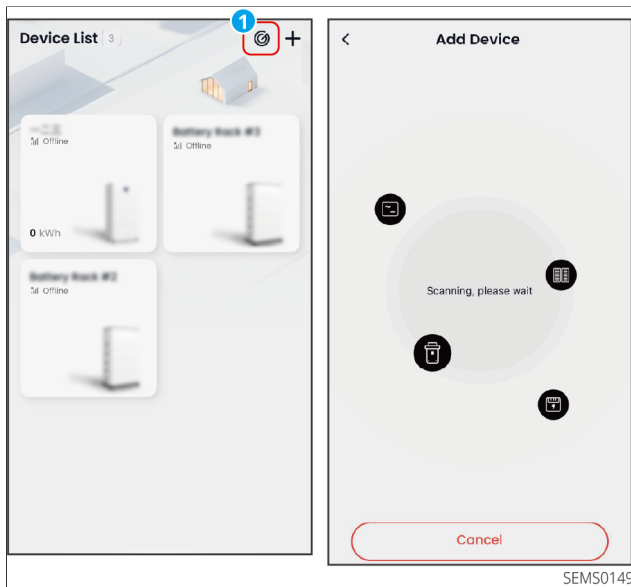
6. After Quick Configuration is complete, devices in the same system, such as meters and batteries, are identified automatically and do not need to be added manually again. Tap "Done" to complete device addition. After devices have been added, if new devices are connected to the system, they will be scanned automatically and a notification will be displayed.



Steps for adding devices by scanning

After manually adding an inverter to the plant, you can scan for and add devices associated with the inverter, such as batteries.

1. On the device list screen, tap .
2. In the list of scanned devices, select the devices you want to add, then tap "Add".
3. To continue adding devices that were not scanned, tap "Continue Adding"; otherwise, tap "Done".



7.4.3 Quick Configuration (Home Energy Management System)

NOTICE

- After a device is added to a plant for the first time, use Quick Configuration to ensure basic operation.
- Before starting Quick Configuration, ensure that all devices are powered on and operating properly.
- To use a Home Energy Management System (HEMS) to manage and dispatch inverters, EV chargers, or other smart home devices, such as smart switches and smart plugs, ensure that all devices are connected to the same local area network (LAN) as the HEMS and have been successfully networked.
- Refer to [the Inverter and IoT Device Compatibility List](#) to ensure that the device models and software versions in the system meet the requirements.

Procedure

1. After adding devices, tap "Quick Configuration" as prompted, or go to "Services" > "Local Access" to open the device list.
2. On the device list screen, select the "Bluetooth" tab.
3. Swipe down or tap "Search for Devices." Check the signal name against the device serial number, then tap it to open the Quick Configuration screen. If you accessed the settings screen through "Local Access," tap "Quick Configuration" on the home screen.
4. Configure the network as prompted.
5. If other devices in the system have already been configured for networking and are connected to the same LAN as the HEMS, they will be found automatically on the "Device Networking" screen. We recommend selecting all devices found to complete the networking process. If a device is not found, you can add it manually.
6. Set the operating mode as prompted. For details about operating modes, refer to the [System Operating Modes](#) section.
7. Tap "Finish" to complete Quick Configuration.

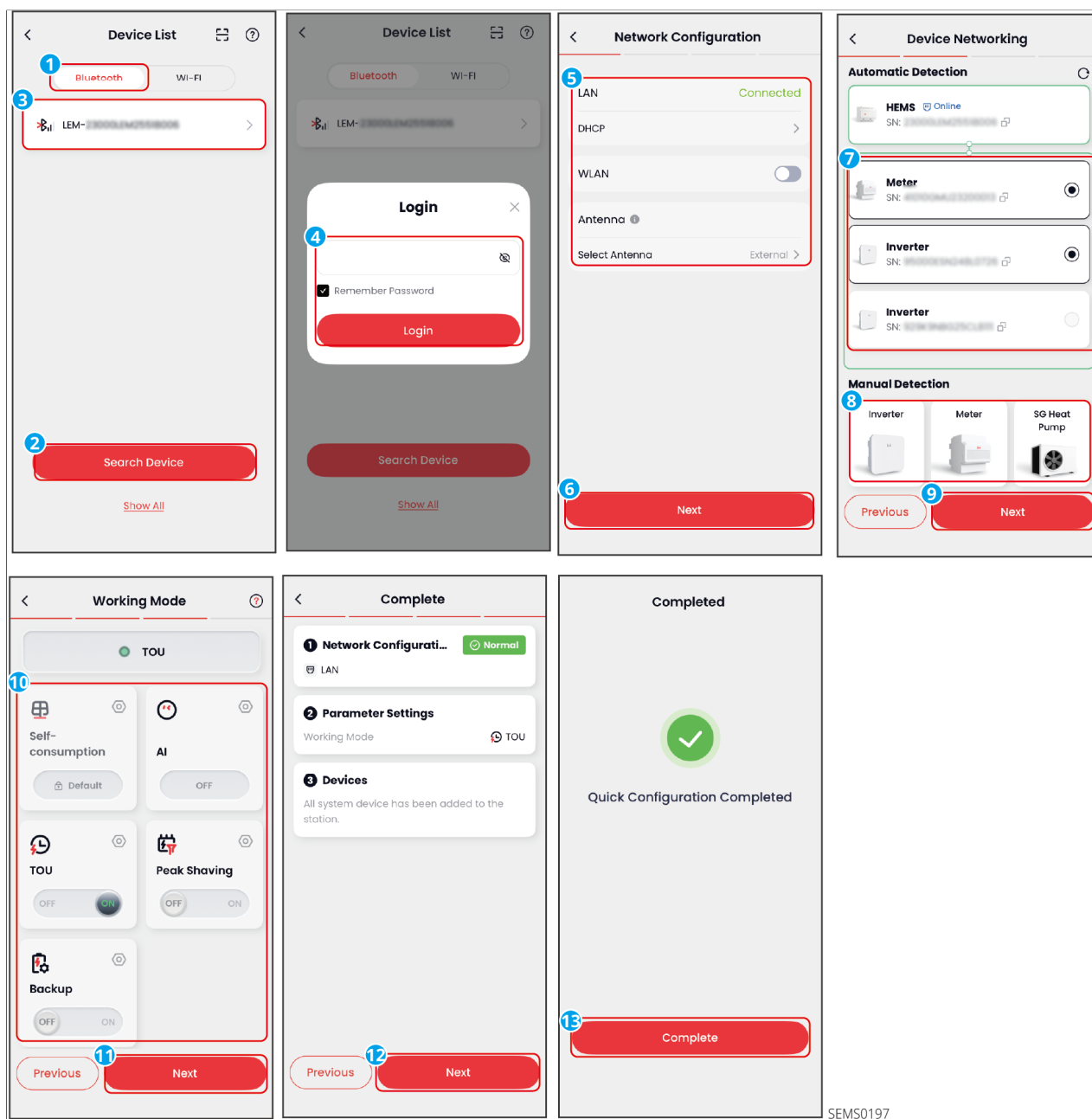


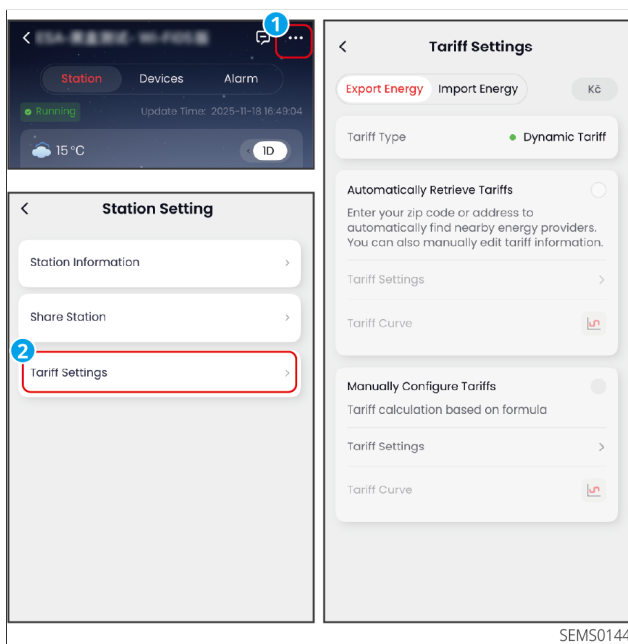
Figure5 Quick Configuration of the Home Energy Management System

7.5 Configure Tariff Information

View or configure the plant's tariff information based on actual conditions. Use of electricity market tariffs is supported only in some European countries or regions. Currently, only Nord Pool is supported.

Procedure

1. On the plant details screen, tap...> "Tariff Settings" to open the tariff settings screen.
2. Select "Export Tariff" or "Import Tariff", then set the tariff type. The options are "Fixed Tariff", "Time-of-Use Tariff", and "Dynamic Pricing".
 - Fixed Tariff: Set the tariff according to the actual rate.
 - Time-of-Use Tariff: Set tariff information for different time periods according to actual rates. Multiple tariff schedules can be configured. The default tariff is applied to any periods for which no Time-of-Use Tariff is set.
 - Dynamic Pricing: Obtain dynamic tariffs from the utility and adjust the actual import and Export Energy tariffs dynamically by combining them with the tariff surcharge set by the user.
 - Tariffs can be retrieved automatically based on the selected electricity provider, or configured manually.
 - Available only in certain regions and for certain devices.
3. Tap , enter the tariff information as applicable, and save it.



SEMS0144

Figure6 Configure Tariff Information

7.6 Set the System Operating Mode

Select the system operating mode based on factors such as the tariff, electricity

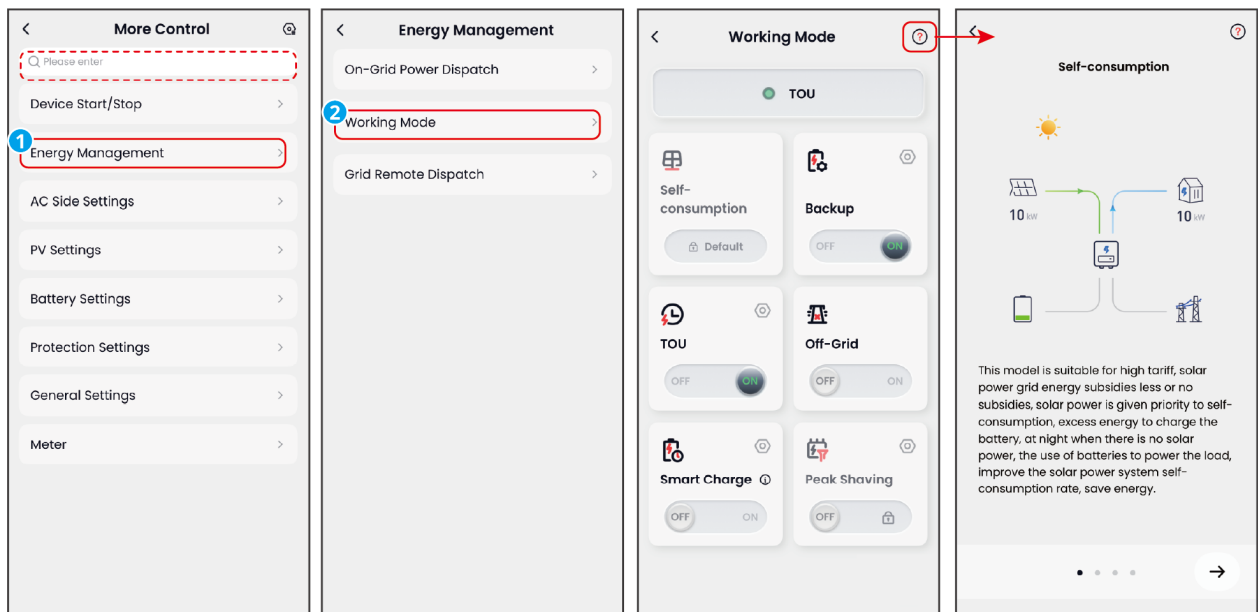
demand, or power supply conditions. Once configured, the system automatically coordinates PV, battery, and grid operation to dispatch energy according to actual needs.

NOTICE

- The default operating mode is Self-consumption Mode.
- The working modes available for configuration vary by system. Refer to the interface for details.
- When the working mode is configured through the inverter, the priority is: Off-grid Mode > Demand Management > Intelligent Charging > TOU > Backup Mode > Self-consumption.
- When the working mode is configured through the home energy management system, the priority is: Backup Mode > AI Mode > Demand Management > TOU Mode > Self-consumption.

Procedure

1. Go to "Energy Management" > "Working Mode," or search for "Working Mode" on the parameter control screen to open the working mode settings screen.
2. Set the working mode according to your needs. To learn more about working modes, click?



SEMS0159

Self-consumption

The system's default operating mode.

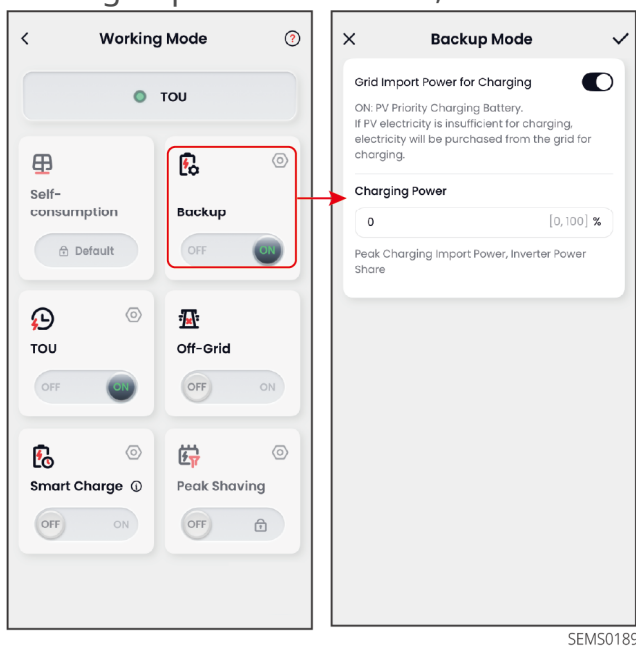
PV power is used first to supply the loads. Any surplus power charges the battery, and any remaining power is exported to the grid. When PV generation is insufficient, the battery supplies the loads. If the battery charge is also insufficient to meet load demand, the grid supplies the loads.

Backup Mode

Recommended for areas with an unstable grid.

During a Grid Power Outage, the inverter switches to off-grid mode, and the battery discharges to supply the loads and ensure that the BACKUP loads remain powered.

When grid power is restored, the inverter switches to grid-connected mode.



Parameter Name	Description
Grid Import for Charging	Enable this function to allow the system to import power from the grid.
Charging Power	Peak power during grid import, expressed as a percentage of the inverter's Rated Power.

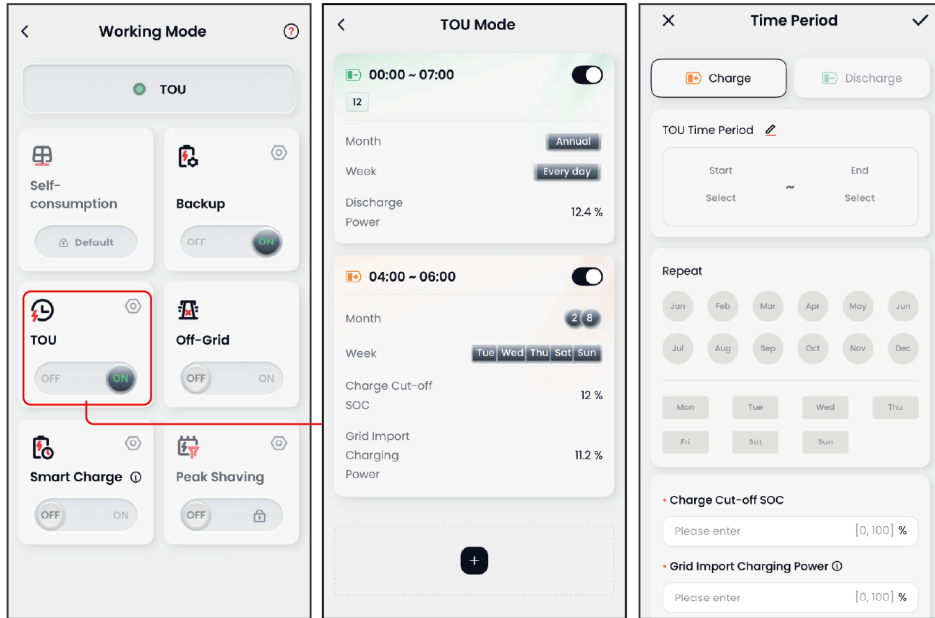
TOU Mode

Suitable for areas with a large difference between peak and off-peak Tariffs.

Subject to local laws and regulations, configure the system to import or export power according to the grid's peak and off-peak Tariffs. For example, during low-tariff

periods, set the battery to charging mode to import power from the grid for charging. During high-tariff periods, set the battery to discharging mode to supply the loads or Export Energy to the grid.

You can configure multiple time periods as needed and name them accordingly.



SEMS0185

Parameter Name	Description
Start Time	Within the period between the start time and End Time, the battery charges or discharges according to the configured charging/discharging mode and Rated Power. Outside this period, the system operates in Self-consumption Mode.
End Time	
Charging/Discharging Mode	Set to charging or discharging as required. - Charging: PV power is prioritized for charging the battery. - Discharging: PV Priority to Export Power to the grid.
Charging Cutoff SOC	When the battery reaches the set SOC, it stops importing power from the grid for charging.
Grid Import Charging Power	Charging power, expressed as a percentage of the inverter's Rated Power.

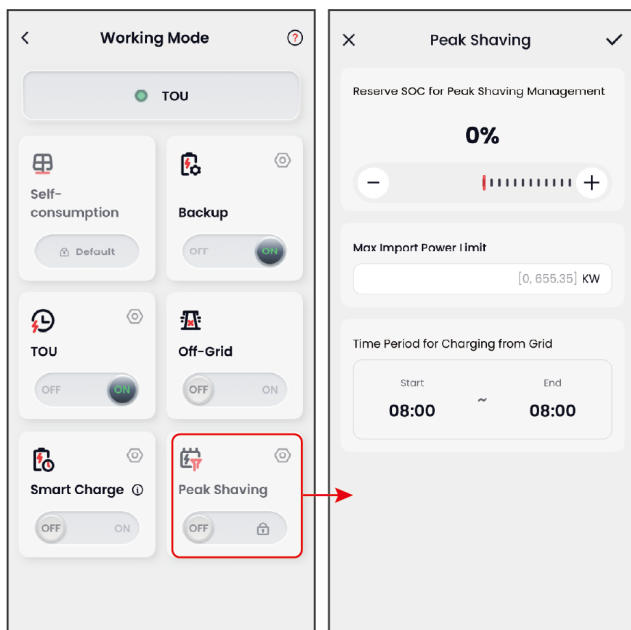
Parameter Name	Description
Power Limited Type	In discharge mode, some models support two options: discharging the battery or exporting energy to the grid. Discharging stops when the battery reaches the "Discharge Cutoff SOC."
Discharge Cutoff SOC	
Discharge Power	Discharge power, expressed as a percentage of the inverter's Rated Power.

Off-grid Mode

- Suitable for areas without grid access. The PV system and battery form a standalone off-grid system. PV generation supplies the loads, and any surplus energy charges the battery. When PV generation is insufficient to meet the load demand, the battery supplies the loads.
- Some models support manual or automatic activation of off-grid mode.
 - Manual Off-grid: The user manually switches the system to off-grid Operating Mode.
 - Automatic Off-grid: When the battery SOC is above the "Off-grid SOC Upper Limit," the system automatically switches to off-grid operation. When the battery SOC falls below the "Off-grid SOC Lower Limit," the system automatically switches back to grid-connected operation.

Demand Control

Suitable for scenarios where peak grid import power is limited. When the total load power approaches the import quota limit, the battery discharges to reduce the amount of power imported above the quota.

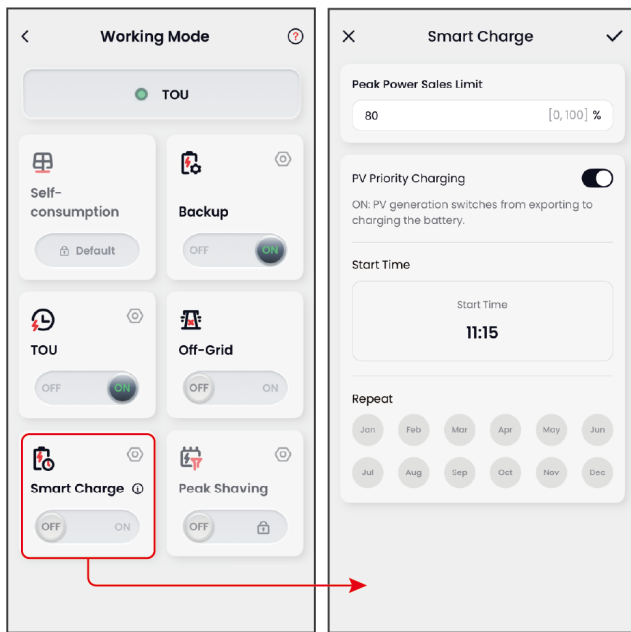


SEMS0187

Parameter Name	Description
SOC Reserved for Demand Control	In Demand Control Mode, the reserved SOC is allocated for demand control. When the battery SOC is above the reserved SOC, the demand control function is disabled.
Peak Grid Import Limit	Set the Maximum Power allowed for grid import. If the load power exceeds the sum of PV system generation and this limit, the battery discharges to supply the excess power.
Time Period for Charging from Grid	- During the Time Period for Charging from Grid, the battery can be charged from the grid when load consumption is below the grid import quota. Outside this time period, the battery can only be charged using PV generation. - Multiple time periods can be set according to actual requirements.

Intelligent Charging (Delayed Charging)

Suitable for areas with grid-connected power output limits. Set the peak power limit and Charging Time to use PV generation exceeding the grid connection limit to charge the battery, reducing PV energy waste.

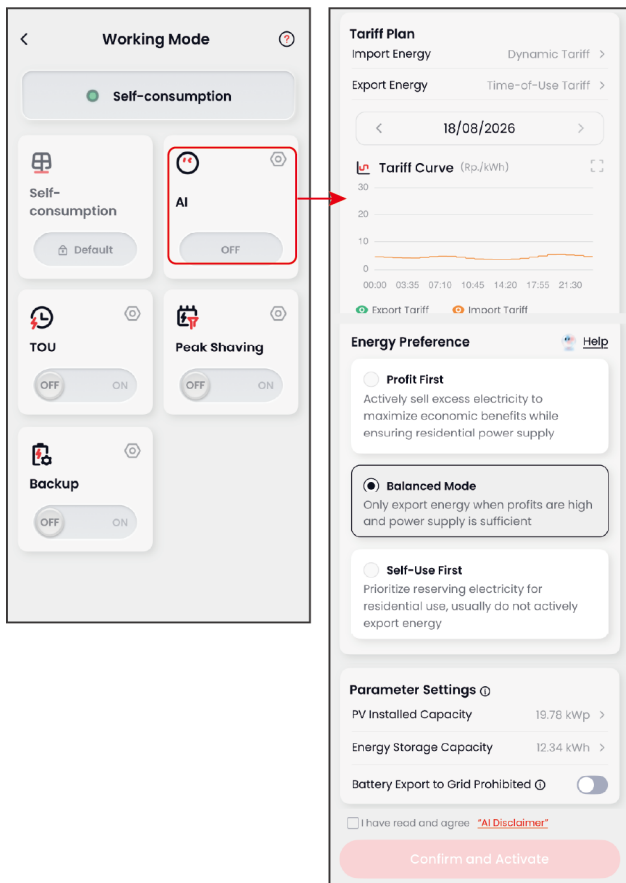


SEMS0186

Parameter Name	Description
Peak Power Sales Limit	Set the peak power limit according to grid standards in certain countries or regions. The peak power limit must be lower than the locally mandated output power limit.
PV-Priority Charging	During the Charging Time period, surplus PV generation after supplying the loads is prioritized for battery charging. Outside the Charging Time period, surplus PV generation after supplying the loads is prioritized for Export Energy.
Start Charging Time	

AI Mode

AI Mode can be enabled when a Home Energy Management System (HEMS) is used in the system.



SEMS0181

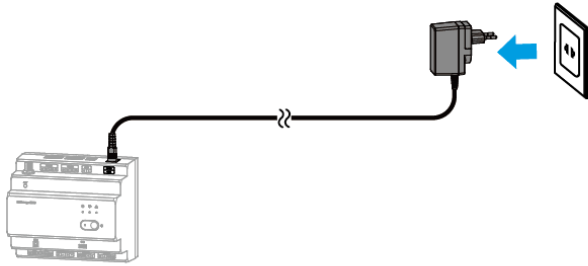
Set the electricity tariff according to user requirements and combine it with AI-based calculations to optimize dispatch and maximize energy and economic efficiency. When using AI Mode, the forecast curve may deviate from actual conditions during the initial power station data collection phase.

- Before enabling AI Mode, set a tariff plan. AI Mode is not supported when the tariff plan uses a fixed rate.
- Select a Time-of-Use Tariff or Dynamic Pricing. Supported options:
 - Dynamic Pricing: Obtain dynamic tariffs from the utility and combine them with the user-configured tariff surcharge to dynamically adjust the actual import and export energy tariffs.
 - Time-of-Use Tariff: Users can configure tariff information for different time periods based on actual tariffs. Multiple tariff schedules can be configured.
- Set your energy-use preferences for AI Mode according to your actual needs. If you have any questions, tap the "Help" button.

8 System Maintenance

8.1 Power off the System

Step 1: Unplug both ends of the power adapter from EzManager and the household power outlet.



EZU30PWR0005

8.2 Equipment Removal

DANGER

- Ensure the equipment is de-energized.
- Wear personal protective equipment when working on the equipment.

Step1: Disconnect all electrical connections to the equipment, including the power and communication cables.

Step2: Remove the equipment.

Step3: Store the equipment properly. If it will be used again, ensure that the storage conditions meet the requirements.

8.3 Equipment Disposal

When the equipment can no longer be used and must be disposed of, dispose of it in accordance with the electrical waste disposal requirements stipulated by the laws and regulations of the country/region where it is located. Do not dispose of the equipment as household waste.

8.4 Periodic Maintenance

WARNING

- If you identify any issue that may affect the battery or energy storage inverter system, contact after-sales service. Do not disassemble the equipment yourself.
- If copper strands are exposed inside a conductive wire, do not touch them-high-voltage hazard. Contact after-sales service. Do not disassemble the equipment yourself.
- In the event of any other emergency, contact after-sales service immediately. Follow their instructions or wait for an after-sales service technician to perform the work on site.

Maintenance item	Maintenance method	Maintenance interval	Maintenance objective
System cleaning	Check whether the installation space meets the requirements and whether debris has accumulated around the equipment.	Once every six months	Prevent cooling faults.
System installation	1. Check that the equipment is securely installed. 2. Check the equipment for damage or deformation.	Once every 6 months to once a year	Confirm that the equipment is securely installed.
Electrical connections	Check for loose electrical connections, damaged cables, or exposed copper conductors.	Once every 6 months to once a year	Confirm that the electrical connections are secure.

8.5 Troubleshooting

Troubleshoot the fault using the methods below. If these methods do not resolve the issue, contact the after-sales service center.

When contacting the after-sales service center, collect the following information to help resolve the issue quickly.

1. Product information, such as the serial number, software version, equipment installation date, fault occurrence time, and fault frequency.
2. Equipment installation environment, It is recommended to provide photos, videos, or other files to help analyze the issue.
3. Grid conditions.

No.	Fault symptoms	Cause of fault	Corrective actions
1	 Power indicator off	Power cable connection is loose	Reconnect the equipment power cable securely.
		Power adapter is not firmly plugged in	Reconnect the power adapter to the power outlet.
		Power adapter fault	If the connection is confirmed to be normal but there is still no power, contact your dealer or the after-sales service center to replace the power adapter.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
2	 Communication indicator off	Abnormal equipment operation	Unplug and reconnect the power cable, then restart the equipment.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.

No.	Fault symptoms	Cause of fault	Corrective actions
3	 Upgrade indicator continuously lit	Abnormal equipment operation	Unplug and reconnect the power cable, then restart the equipment.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
4	Unable to upgrade the system using a USB flash drive	USB flash drive format issue	Please confirm that the USB flash drive is formatted as FAT32.
		Incorrect upgrade package path	Create a new folder named collector in the root directory of the USB flash drive, and place the device upgrade package in the collector folder.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
5	Wired network connection failed	Incorrect network parameter configuration	Please reconfigure the network parameters, such as the acquisition method and IP address.
		Equipment fault	Please contact your distributor or after-sales service center.
6	External RS485 device unavailable	Abnormal RS485 wiring	Reconnect the RS485 communication cable and confirm that the wires are connected in the correct order.
		Incorrect RS485 communication parameters	Check that the parameters match the port actually connected, and confirm that the communication parameters are correct.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.

No.	Fault symptoms	Cause of fault	Corrective actions
7	Wi-Fi signal is weak; unable to connect to the router	Inappropriate antenna selection	- Enclosed environments (e.g., indoors or inside a metal cabinet): Use an external antenna (e.g., a magnetic-mount antenna) or place the antenna in an open area. - Open environments: The built-in antenna can be used.
		Not Connected	Check that the external antenna is securely connected to the device's antenna port. If an external antenna cannot be used, switch to the built-in antenna in the app.
		EzManager is too far from the router	Adjust the device location so that it is as close to the router as possible.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
8	Power Limit function is not working	RS485 cable is loose or disconnected	Check the RS485 wiring of the inverter/meter and ensure that the connections are correct and secure.
		Power Limit function is disabled	Check in the app whether the Power Limit function is enabled.
		The inverter software version does not support the Power Limit function	Please contact your distributor or after-sales service center to confirm whether the inverter model and software version support the Power Limit function.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.

No.	Fault symptoms	Cause of fault	Corrective actions
9	RCR function is not working	RS485 cable is loose or disconnected	Check the inverter's RS485 wiring and ensure that the connections are correct and secure.
		Incorrect wiring of the external device	Please confirm whether the RCR device is wired correctly.
		This function has not been configured and enabled in the App	Please check via the App whether the function has been enabled.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
10	Rapid shutdown function is ineffective	Incorrect wiring of the external device	Please confirm whether the rapid shutdown device is wired correctly.
		This function has not been configured and enabled in the App	Please check via the App whether the function has been enabled.
		The external device does not support rapid shutdown, or the function has not been enabled	Please check the external device to ensure that it supports rapid shutdown and that the function is enabled.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
11	DO interface control of the heat pump is ineffective	Incorrect wiring of the heat pump	Please confirm whether the heat pump is wired correctly.
		This function has not been configured and enabled in the App	Please check via the App whether the function has been enabled.

No.	Fault symptoms	Cause of fault	Corrective actions
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
12	Bluetooth cannot connect	Bluetooth is not enabled	Double-click the EzManager button. After the blue indicator flashes twice, connect via Bluetooth.
		EzManager is installed in a metal enclosure without using an external antenna	Use an external suction-cup antenna, install it outside the metal enclosure, and enable the external antenna in the App.
		EzManager is too far from the phone or other terminal device with the App installed	Please move the phone closer to EzManager.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
		After Bluetooth connection fails when away from the device, the Bluetooth indicator flashes, but the Bluetooth device cannot be found	Double-click the EzManager indicator button to enable the Bluetooth signal.
		The Bluetooth indicator is flashing, but the device cannot be discovered or identified	Double-click the EzManager indicator button to enable the Bluetooth signal.

No.	Fault symptoms	Cause of fault	Corrective actions
13	The inverter cannot be found when creating a power station	Bluetooth Always On has been enabled in the SEMS+ App, but the Bluetooth indicator still turns off and the device cannot be discovered	Double-click the EzManager indicator button to enable the Bluetooth signal.
		The device's Bluetooth signal cannot be discovered, and it still cannot be found after double-clicking the indicator button	Restart EzManager.
		Incorrect module software version paired with the energy storage inverter	Please upgrade the module software via the App and ensure that the software version is 2.3.32 or later. For detailed instructions, refer to the App User Manual.
13	The inverter cannot be found when creating a power station	The module paired with the energy storage inverter and EzManager are not configured on the same network	Please use the App to connect the inverter module and EzManager to the same router.
		The Modbus TCP function of the module paired with the energy storage inverter is not enabled	Please use the app to view and enable the Modbus TCP function.

No.	Fault symptoms	Cause of fault	Corrective actions
		The inverter is already in use at another plant.	Remove the inverter from the original plant.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
14	The meter cannot be added when creating a plant.	The actual RS485 port to which the meter is connected does not match the software configuration.	Use the app to set the meter connection port to the actual RS485 port in use.
		The selected meter model does not match the actual meter model.	Use the app to select the meter model actually in use.
		The RS485 wires are connected in reverse.	Please check whether the meter wiring is correct.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.
15	The EV charger cannot be added when creating a plant.	The EV charger and EzManager are not configured on the same network.	Use the app to check and connect the EV charger and EzManager to the same router.
		The EV charger's Modbus TCP function is not enabled.	Please use the app to view and enable the Modbus TCP function.
		Equipment fault	If the fault persists after ruling out the issues above, contact your dealer or the after-sales service center.

No.	Fault symptoms	Cause of fault	Corrective actions
16	After setting the AI Mode through the app, the operating mode is displayed as another mode.	The user enables AI Mode for the first time after creating a plant.	For new users, AI Mode generally takes effect 24 hours after being enabled.
		The user enables AI Mode for the first time on the current day.	When AI Mode is enabled for the first time on the current day, it takes effect in the second or third hour due to the data transmission delay.
17	In AI Mode, the battery does not charge or charges at a very low power level during low-Tariff periods.	The battery SOC upper limit is set improperly.	Please check the battery SOC setting through the remote settings interface of the energy storage inverter to ensure that the setting is correct and reasonable.
		The current period is not the lowest-Tariff period.	Please confirm whether a lower Tariff is available after this period.
		Sufficient PV Energy Generation is expected after this period, so charging can be performed using PV power.	Please confirm whether there is a period of sufficient PV Energy Generation after this period.
		Electricity consumption is about to exceed the demand limit.	Please check the demand electricity consumption limit. If the setting does not match the actual requirement, change it to the correct value. If it matches, the upper limit has been reached and electricity consumption will be restricted.

No.	Fault symptoms	Cause of fault	Corrective actions
		The current battery SOC is sufficient for subsequent loads, so charging is not required.	Please check the current battery SOC.
18	In AI Mode, the battery does not discharge or discharges at very low power during high Tariff periods	The battery SOC lower limit is set incorrectly	Please check the battery SOC setting through the remote settings interface of the energy storage inverter to ensure that the setting is correct and reasonable.
		The current period is not the highest Tariff period; reserve energy for later discharge	Please confirm whether a higher Tariff applies in a later period.
		PV Energy Generation is sufficient during the current period; discharging at the same time may cause exported energy to exceed the limit	Please confirm the current PV Energy Generation and Power Limit value.
		Power Limit	Please confirm that the Power Limit function is configured correctly.

No.	Fault symptoms	Cause of fault	Corrective actions
19	In AI Mode, the battery does not charge when PV Energy Generation is sufficient	The Export Energy Tariff is high during the current period, so exporting energy is prioritized. PV Energy Generation is also expected to remain sufficient in later periods, allowing the battery to charge	Please confirm PV Energy Generation for the current and subsequent periods.
		A period with a negative Tariff occurs later, making it more suitable for charging	Please confirm whether a negative Tariff applies in a later period.
20	In AI Mode, the battery discharges during low Tariff periods	A period with a negative Tariff occurs later, making it more suitable for charging	Please confirm whether a negative Tariff applies in a later period.
		Sufficient PV Energy Generation is expected after this period, so charging can be performed using PV power.	Please confirm PV Energy Generation for the current and subsequent periods.

9 Ezmanager3000 Technical Specifications

Model	EzManager3000
Device Management	
Energy Storage Inverter	≤ 4
Grid-Tied Inverter	≤ 4
EV Charger	≤ 2
Heat Pump	1 (SG-Ready)
Shelly Devices	≤ 12
Power Supply	
Power Adapter	AC Input: 100–240 V, 50/60 Hz DC Output: 12 V
DC Input (V)	12V
Power Consumption (W)	≤7
Communication Interfaces	
RS485	COM*4
LAN	1
WIFI	802.11 b/g/n
Bluetooth	Bluetooth 5.2
Digital/Analog Inputs/Outputs	DI*4、DO*2、CAN*1、AI*1
Power Output Port	12V, 100mA
Communication Protocols	
Ethernet	Modbus-TCP
RS485	Modbus-RTU
User Interface	
LED	LED*4
USB	USB 2.0*1
Mechanical Specifications	
Dimensions (W × H × D, mm)	99*85.6*71
Weight (kg)	0.2
Mounting Method	Wall, DIN rail, or desktop mounting
Environmental Parameters	

Model	EzManager3000
Operating Temperature Range (°C)	-30~+60
Storage Temperature Range (°C)	-40~+70
Relative Humidity	0-95% (non-condensing)
Max. Operating Altitude (m)	3000
Ingress Protection Rating	IP20
Applicable Standards	
Certification	CE-RED (EN18031) 、RCM

10 Appendix

10.1 Terminology

Overvoltage Category Definitions

Overvoltage Category I: Equipment connected to circuits equipped with measures to limit transient overvoltages to a relatively low level.

Overvoltage Category II: Energy-consuming equipment supplied by fixed electrical installations. This category includes appliances, portable tools, and other household and similar loads. Overvoltage Category III applies when special requirements for the reliability and suitability of such equipment are specified.

Overvoltage Category III: Equipment in fixed electrical installations for which special requirements apply to reliability and suitability. This includes switching devices in fixed electrical installations and industrial equipment permanently connected to fixed electrical installations.

Overvoltage Category IV: Equipment used at the supply input of an electrical installation, including measuring instruments and upstream overcurrent Protection devices.

Definitions of Damp Location Categories

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

Environmental Category Definitions

Outdoor inverter: Ambient air temperature range: -25 to +60°C; suitable for environments with Pollution Degree 3;

Indoor Type II inverter: Ambient air temperature range: -25 to +40°C; suitable for environments with Pollution Degree 3;

Indoor Type I inverter: Ambient air temperature range: 0 to +40°C; suitable for environments with Pollution Degree 2;

Pollution Degree Classification

Pollution Degree 1: No pollution or only dry, non-conductive pollution;

Pollution Degree 2: Normally, only non-conductive pollution is present; however, occasional temporary conductive pollution caused by condensation must be expected;

Pollution Degree 3: Conductive pollution is present, or non-conductive pollution becomes conductive due to condensation;

Pollution Degree 4: Persistent conductive pollution, such as pollution caused by conductive dust, rain, or snow.

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