CHiNT POWER

Front panel of the inverter

DG-WF-NE

DG-H-NE

Quick Guide for Dongle Gateway

06/30/2023

Revision 8

Table of Contents

Warranty Policy

- The warranty policy of this product is specified in the contract; otherwise, the standard warranty is 2 years.

- For warranty terms, please refer to the CPS accessories warranty policy in place at time of purchase.

Safety Precautions

⚠️ **NOTICE**

Before performing operations, read through this manual and follow all the precautions to prevent accidents. The safety precautions provided in this document do not cover all the safety precautions. CPS shall not be liable for any consequence caused by the violation of the safety operation regulations and design, production, and usage standards.

Declare

CPS shall not be liable for any consequence caused by any of the following events.

- Transportation

- The storage conditions do not meet the requirements specified in this document.

- Violate the operation instructions and safety precautions in this document for installation, cable connecting, and maintenance.

- Operation in extreme environments which are not covered in this document.

- Unauthorized modifications to the product or software code.

- Installation or use in environments which are not specified in related international standards.

- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Personal Requirements

- Only qualified electrical technicians are allowed to install and operate the dongle gateway.

- Operation personnel should receive professional training.

- Operation personnel should read through this document and follow all the precautions.

- Operation personnel should be familiar with the safety specifications about the electrical system.

- Operation personnel should understand the composition and working principles of the grid-tied PV power system and local regulations.
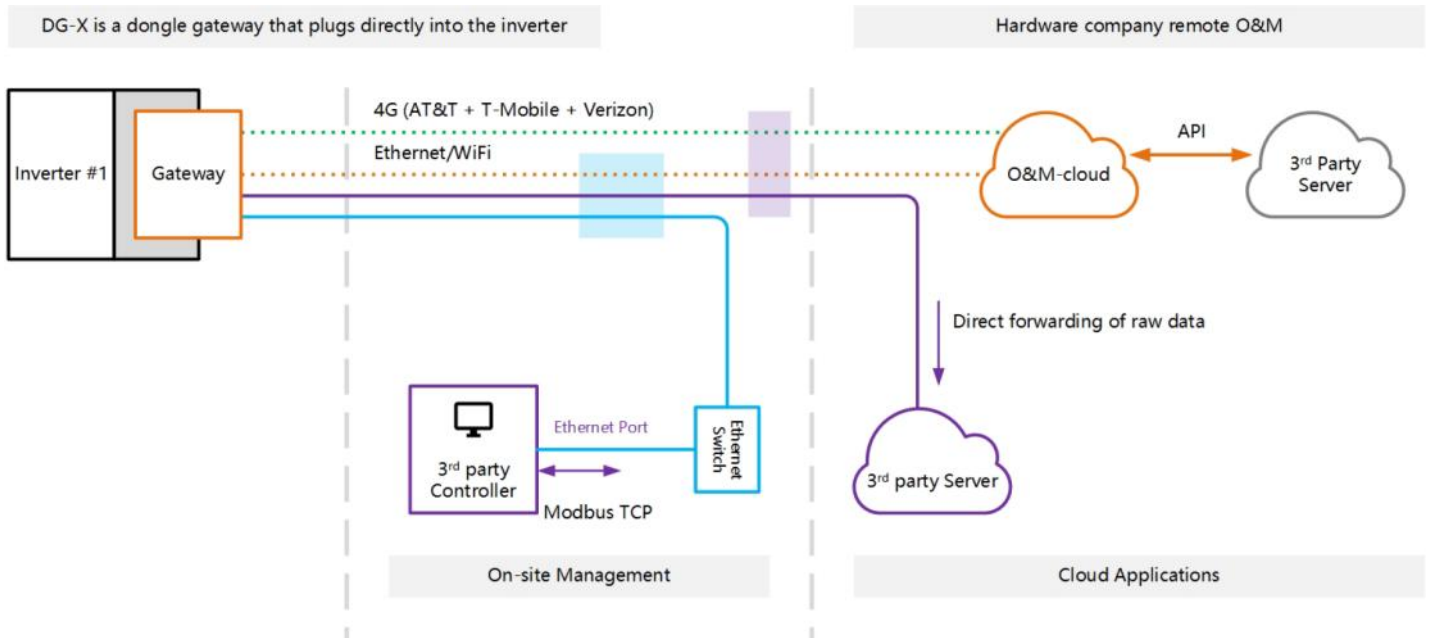
Product Specifications

	DG-H-NE	DG-WF-NE
Inverter Interface		
No. of Ports	1 (DB9)	✓
Protocol	Modbus RTU	✓
Modbus RTU Mode	Master	✓
WLAN Interface		
WLAN Standard	802.11 b/g/n	✓
Frequency Band	2.4 GHz	✓
Wireless Security	WEP, WPA/WPA2	✓
Antenna	Built-in	✓
Bluetooth Interface		
Standard	BLE 4.2	✓
Antenna	Built-in	✓
Cellular Interface		
Cellular Standards	LTE-FDD/LTE-TDD, WCDMA	
No. of SIM Slot	1	
Cellular Antenna	Built-in	
Power Parameters		
Input Voltage	4.5 to 8 Vdc	3.6 to 5.5 Vdc
Power Consumption	1 W, Max. 2.5 W	1 W, Max. 2.5 W

Environment Limits

Operating Temperature	-20℃ to 60℃, Natural convection
Storage Temperature	-40 to 85°C
Ambient Relative Humidity	5 to 85% (non-condensing)

Physical Characteristics

Housing	Plastic
IP Rating	IP 65
Dimensions	115 mm / 70 mm / 30 mm (4.52 in x 2.76 in x 1.18 in)
Weight	50g (0.11 lb)

Standards and Certifications (DoC)

CE-EMC	EN 55032
	EN 55035
	EN 61000-3-2
	EN 61000-3-3
CE-RED	EN 301 908
	EN 300 328
	EN 301 489-1 / -17 / -52
	EN 62368-1
CE-LVD	EN 62368-1
FCC SDoC	Part 15B
FCC ID	Part 15C

Typical System Design

One-to-one

DG-X is a dongle gateway that plugs directly into the inverter

Hardware company remote O&M

Inverter #1 | Gateway

4G (AT&T + T-Mobile + Verizon)

Ethernet/WiFi

O&M-cloud

API

3rd Party Server

Direct forwarding of raw data

Ethernet Port

3rd party Controller

Ethernet Switch

Modbus TCP

3rd party Server

On-site Management

Cloud Applications

Model : DG-H-NE / DG-WF-NE

The DG-H-NE / DG-WF-NE One-to-one connection to a single inverter/ESS, connected to the cloud platform via WiFi or 4G.
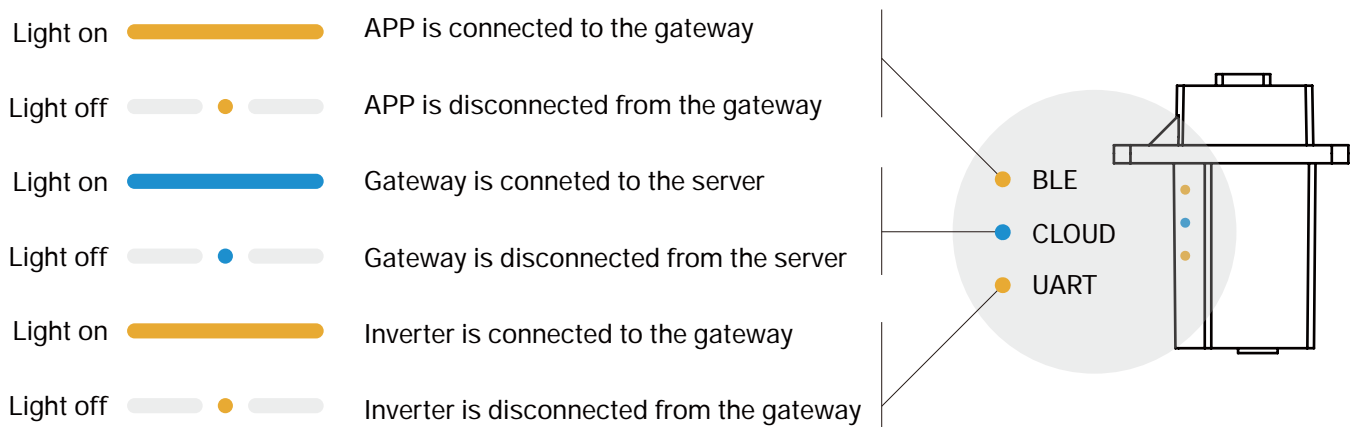
The DG-H-NE is capable of storing 30 days of offline data if the Internet is disconnected, and the DG-WF-NE is capable of storing 5 days.

Hardware Installation

LED Indicators (DG-H-NE)

Light off		Normal
Light on		LTE / SIM Fault
Light off		Gateway is disconnected from the server
Light on		Gateway is conneted to the server
Light off		Inverter is disconnected from the gateway
Light on		Inverter is connected to the gateway
Blink		The gateway is searching for the providers
Blink		Standby
Fast blink		Data transmission

ALARM
CLOUD
UART
LTE

LED Indicators (DG-WF-NE)

Light on		APP is connected to the gateway
Light off		APP is disconnected from the gateway
Light on		Gateway is conneted to the server
Light off		Gateway is disconnected from the server
Light on		Inverter is connected to the gateway
Light off		Inverter is disconnected from the gateway

BLE
CLOUD
UART

Notice:

CPS SIM can only be used in CPS gateway.
By default, CPS Gateway support customers' unrestricted use of the existing and future remote O&M functions of CPS Portal.

SO DATA PLAN CONSUMPTION STATISTICS ARE NOT PROVIDED.

At the same time, CPS gateway does not guarantee the 3rd party SIM card. The user needs to manually enter the APN.

CPS SIM card supports local provider's network. e.g. AT&T + T-mobile + Verizon at the same time in USA.
After the gateway is powered on and works normally, it will select and connect to the provider network with the strongest or most stable signal.

CPS gateway uses essentially the same initialization logic and interaction interface across the entire product family.

Initialize Related Devices

Scan the QR-code to complete APP download and installation by using the mobile phones that can access the Internet. Or search for "Chint Connect" in Apple Store and Google Play.

The Android/iPhone user interface may look slightly different but the setup procedure will be the same as shown.

Check the Internet Connection
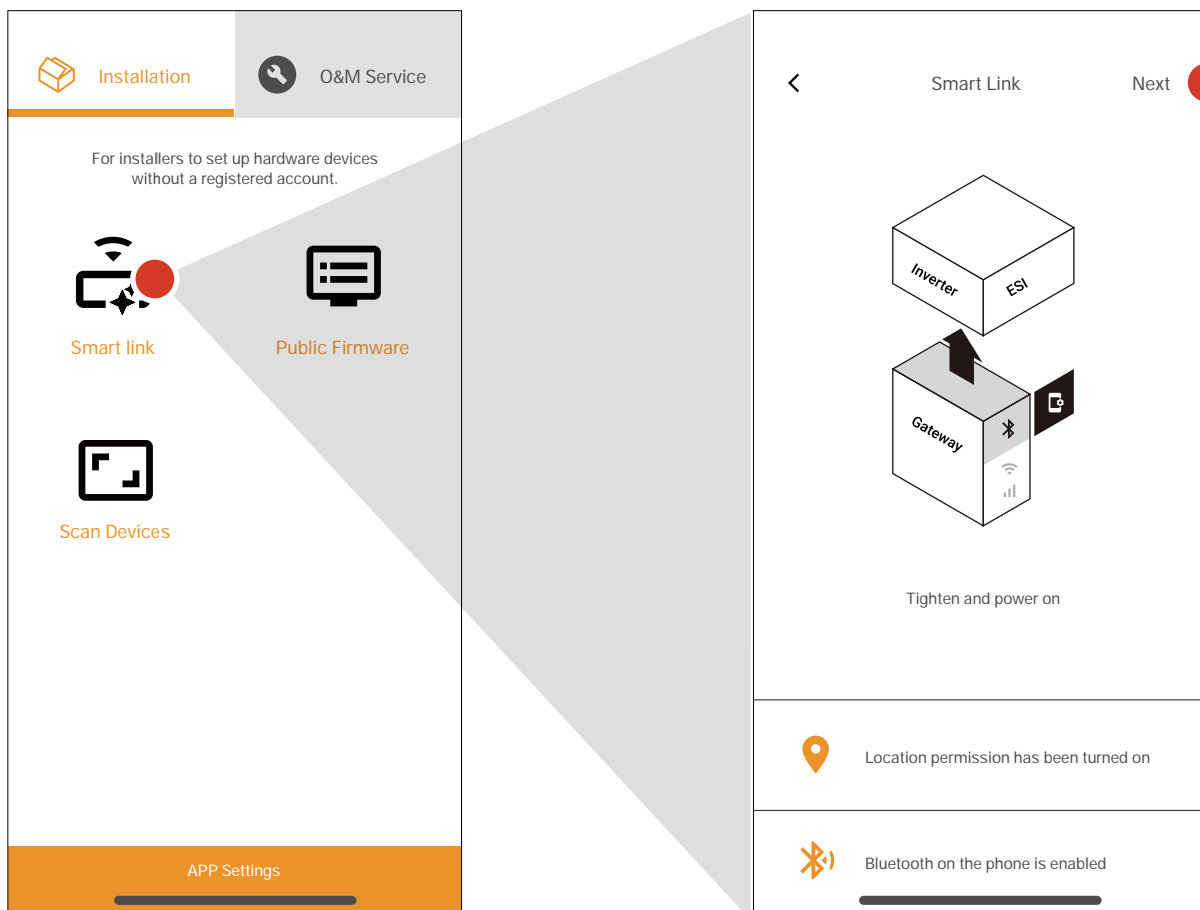
Make sure your phone can connect to the Internet when you run the app for the first time. The APP needs to sync some important data from the cloud.

Click "smart link" and the app will prompt you to obtain some phone permissions. There is no abnormal prompt, click "next" to enter.

Connect to the gateway

CUGW-5XX2123000203

Refresh the list

The BLE with the changed name cannot be automatically recogniazed by scanning !

Connecting

Connected to CUGW-5XX2123000203

Status ...

Processing ...
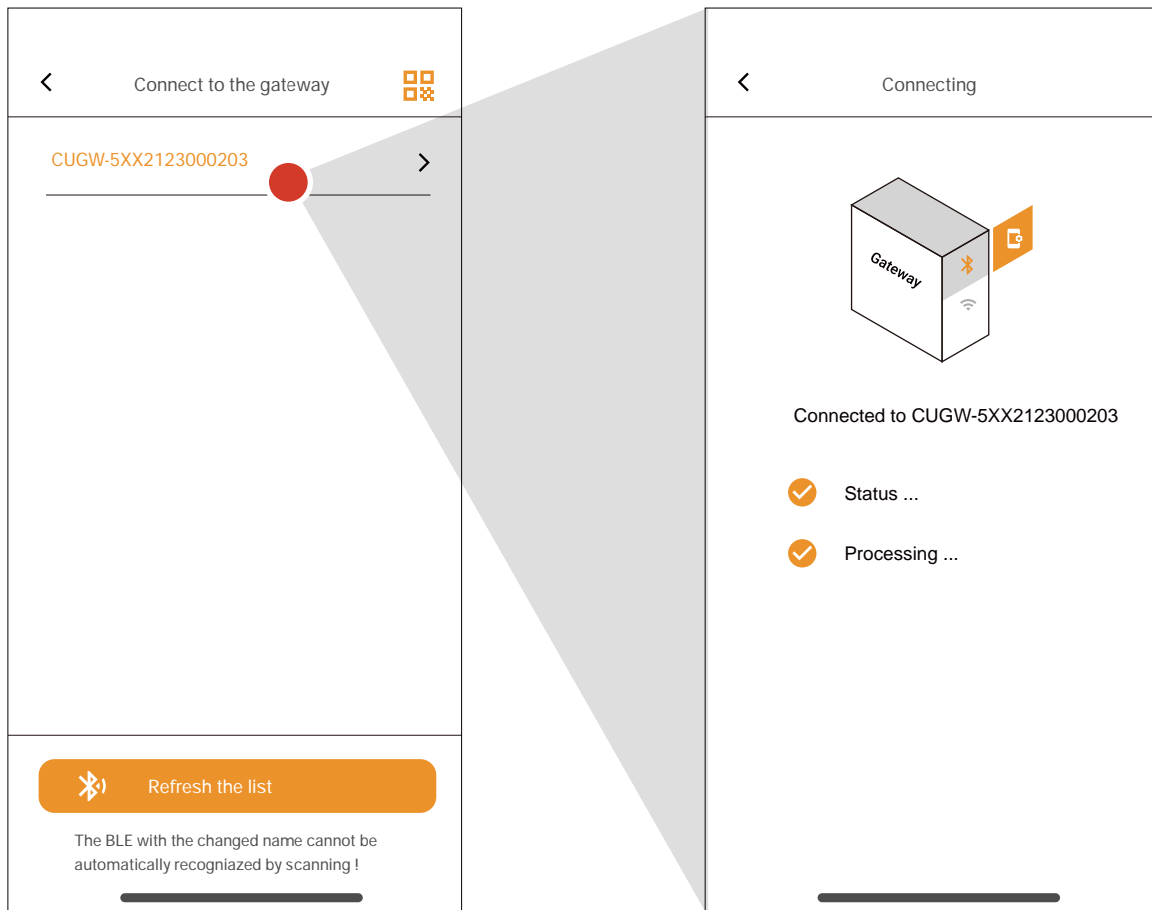
The gateway SN is included in the BLE signal name, and the app will list the scanned signals. Select the SN consistent with the target gateway label and click to enter.

During the process of connecting and entering the gateway configuration interface, the APP will prompt detailed information in case of any abnormality. Easy for users to diagnose problems.

SN barcode

The BLE name includes the SN
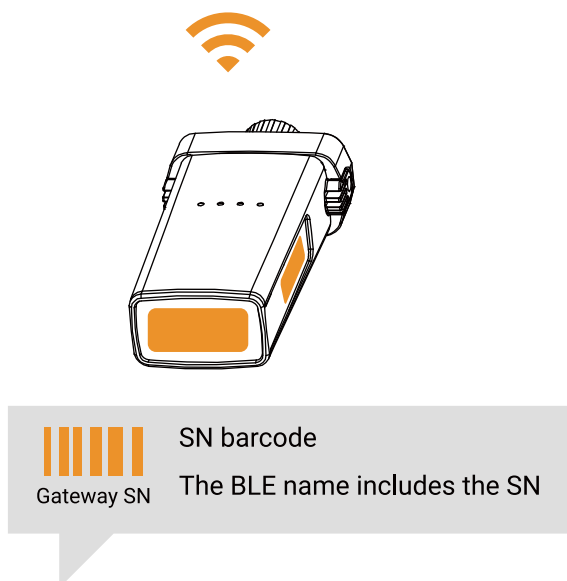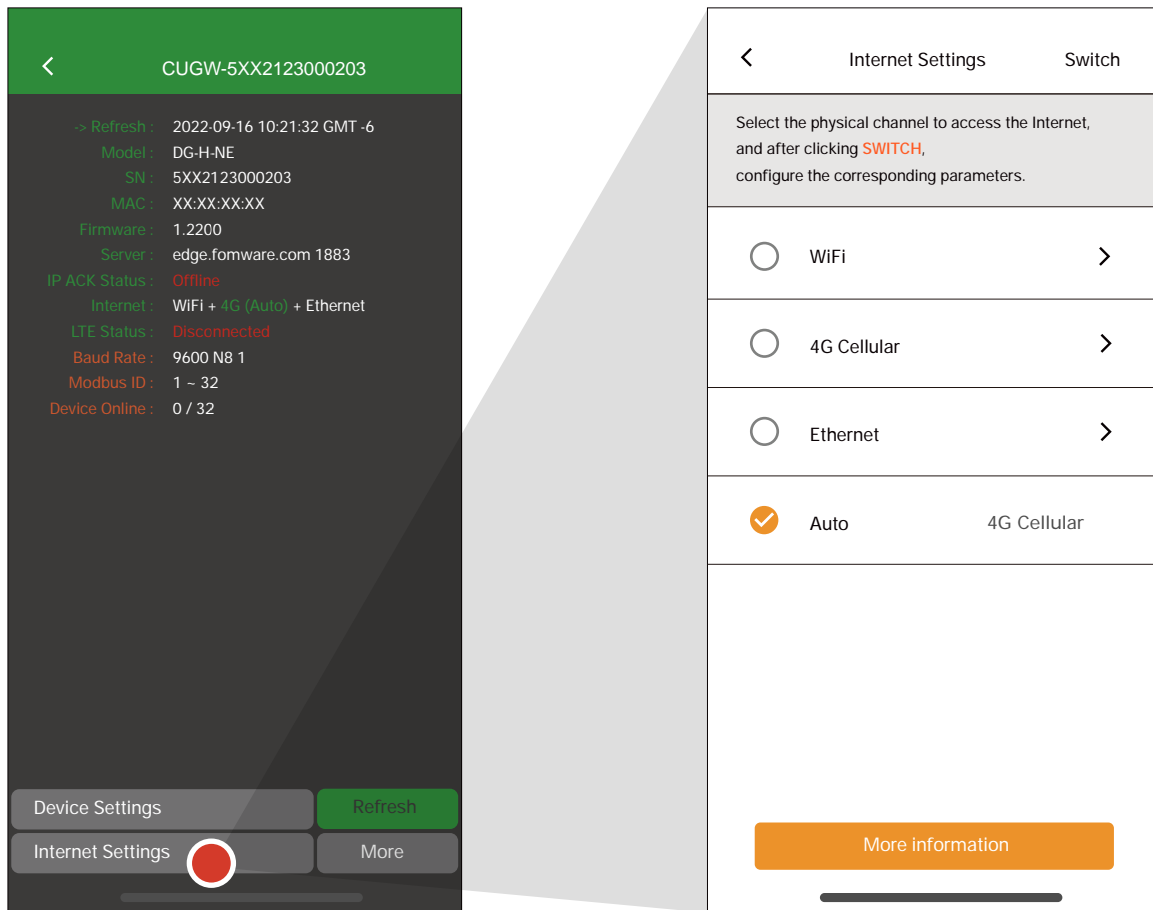
Gateway SN

Ensuring that the gateway can connect to the Internet is the most important step.

Different gateway models have different optional networking channels

if the "Status" is "Online", the gateway is connected to the target server.

When the gateway status becomes "Online", the gateway will automatically create related objects on the portal, and the administrator can remotely set the required parameters.

Unless the factory default does not include 4G, the gateway connects to the Internet via 4G by default.

In this case, it is assumed that the SIM card is inserted into the gateway.

WiFi		Save

Notice:
5 GHz WiFi Router is not supported.
Does not support redirect authentication, common in **hotel WiFi routers**.

WiFi SSID ● ＞

Password ＞

DHCP ＞

Auto DNS ＞

Click on "Internet Settings", select "WiFi" after "Switch".

Enter the correct WLAN information.

Caution :
After clicking "WiFi SSID" to configure, the APP will automatically fill in the WiFi SSID currently used by the phone.

If the user cannot judge the network status of the WLAN router, the user can configure the WiFi hotspot of the mobile phone to the gateway for reference.

WiFi Password

Cancel   OK

WiFi SSID

WiFi currently connected to the phone:
Free WI-FI for ABC

Click on the WIFI name above,
Input box will be filled in automatically

Cancel   OK

Modbus Device Settings
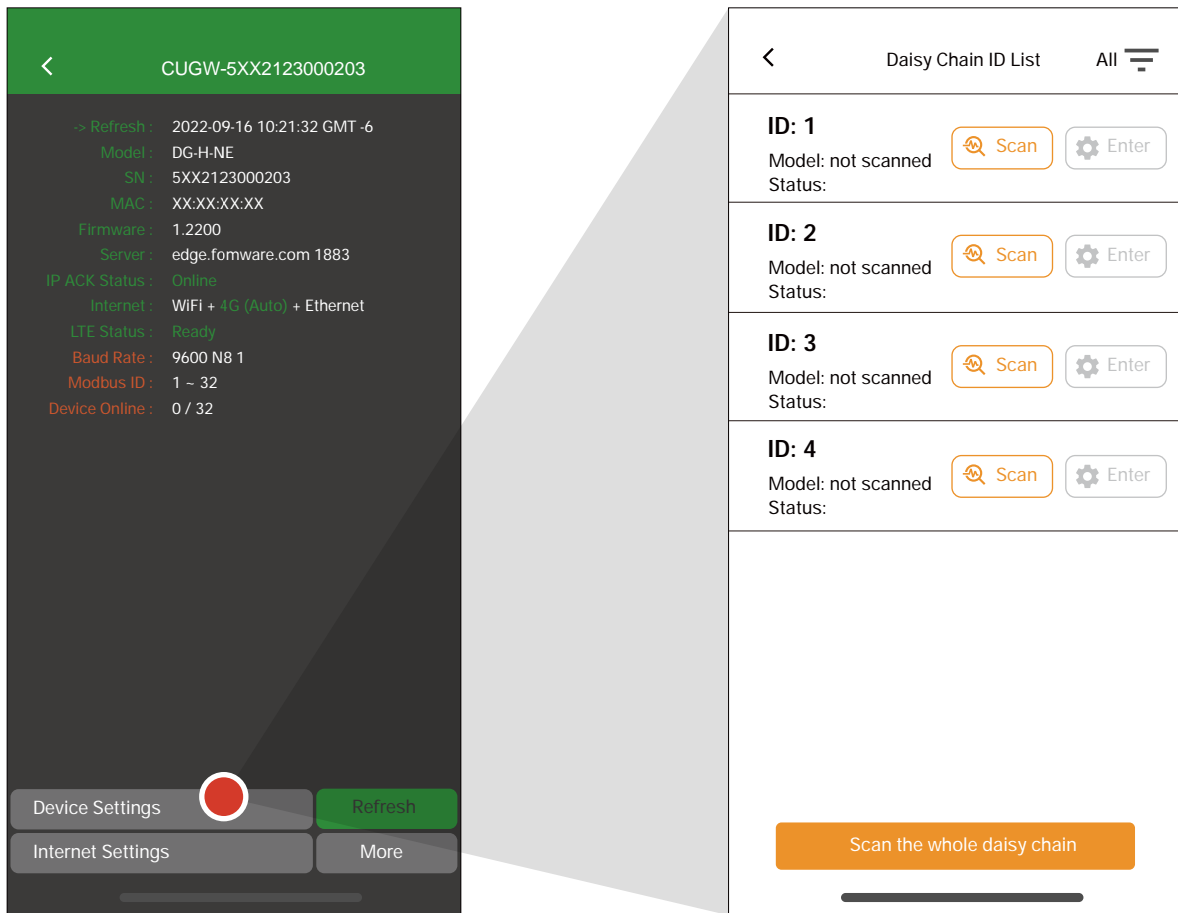
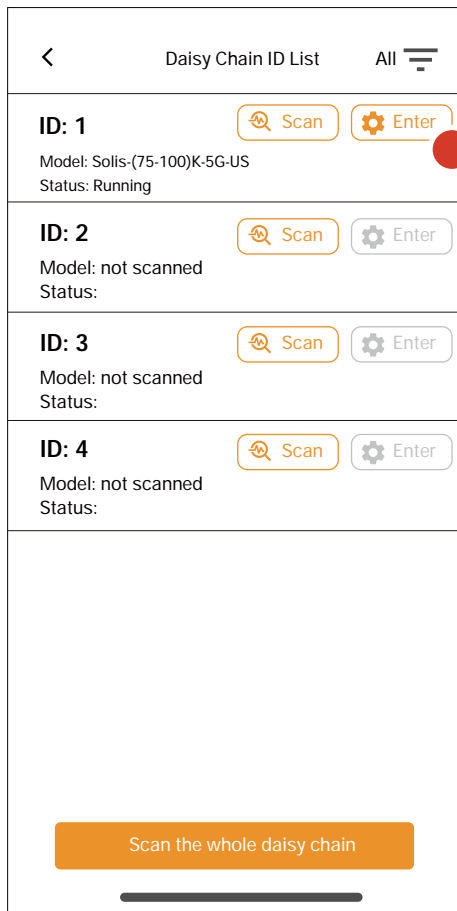The gateway is configured with a default modbus ID range.

Click "Device Settings" and the gateway will scan the daisy chain. After scanning, a device list will appear with the default ID.

The user can either rescan the target IDs individually in the list, or scan the daisy chain in full.
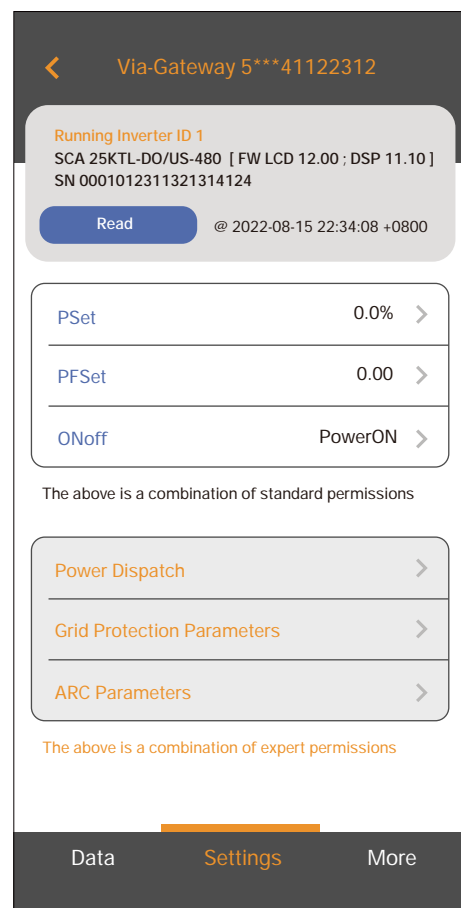
Click "more" and then "Modbus ID Range" to set different Modbus ID address segments on a RS485 daisy chain for discovering various hardware devices
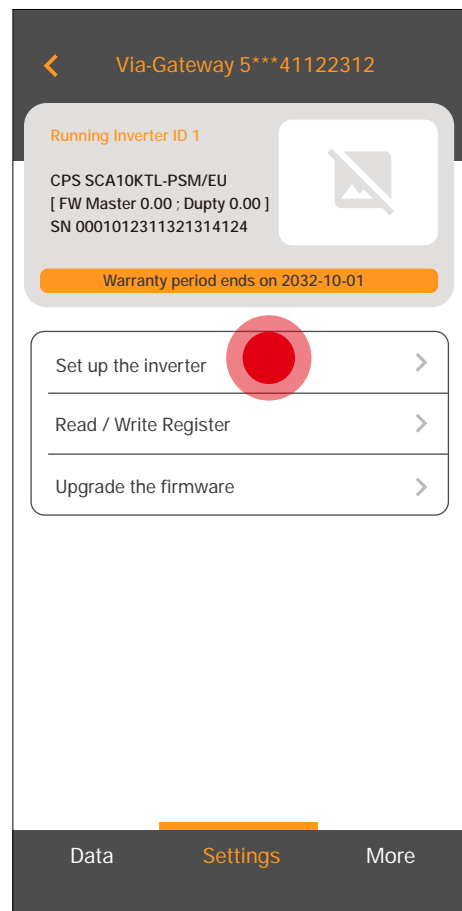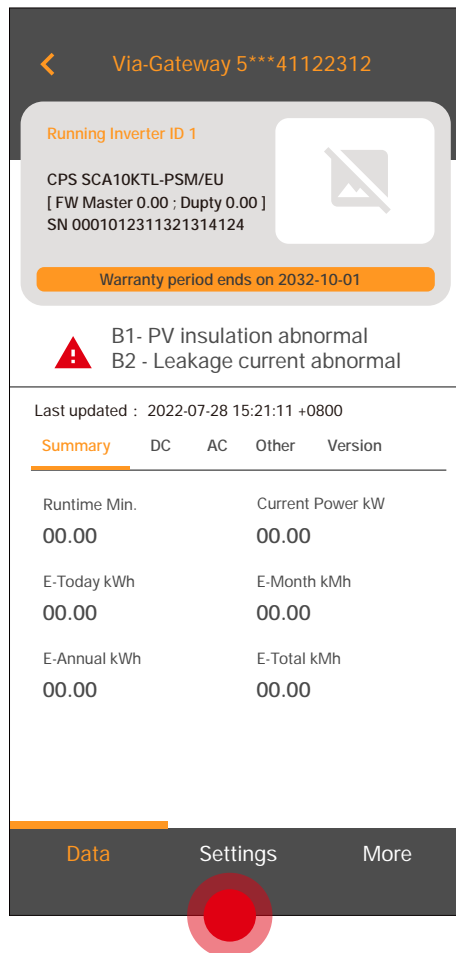
Modbus ID Range   Save

Support the discontinuous ID in the range of 1 - 246.
Modbus ID 165, 222, 251, 252, 253, 254
should not be used.

⚙ 1 - 10 :
SCA100KTL-DO   ⊖

⊕ New Device ID

New ID Range

✏ ID Range   ② Product   ③ Protocol

ID Start From: End In:

246   9

1   **10**

2   11

Cancel   Next

New ID Range

✓ ID Range   ✏ Product   ③ Protocol

HYUNDAI INV

1P-INV-XX

3P-INV-CPS

Wattnode Meter

Previous   Next

New ID Range

✓ ID Range   ✓ Product   ✏ Protocol

SCH125KTL-DO/US-480

SCH100KTL-DO/US-480

SCA 50KTL-DO/US-480

SCA 25KTL-DO/US-480

Previous   OK

Changing the Inverter Settings

Daisy Chain ID List   All

ID: 1   🔍 Scan   ⚙ Enter
Model: Solis-(75-100)K-5G-US
Status: Running

ID: 2   🔍 Scan   ⚙ Enter
Model: not scanned
Status:

ID: 3   🔍 Scan   ⚙ Enter
Model: not scanned
Status:

ID: 4   🔍 Scan   ⚙ Enter
Model: not scanned
Status:

Scan the whole daisy chain

‹   Via-Gateway 5***41122312

Running Inverter ID 1

SCA 25KTL-DO/US-480
[FW LCD 12.00 ; DSP 11.10]
SN 0001012311321314124

Warranty period ends on 2032-10-01

⚠ No Alarm

Last updated : 2022-07-28 15:21:11 +0800

| Summary | DC | AC | Other | Version |

Runtime Min.   Current Power kW
100000   100000

E-Today kWh   E-Month kMh
100000   100000

E-Annual kWh   E-Total kMh
100000   100000

Data   Settings   More

Click "Device Settings" to view the
inverter data. If the inverter needs to be
initialized, the APP will prompt to set
parameters such as grid code or clock.

‹   Via-Gateway 5***41122312

Running Inverter ID 1
SCA 25KTL-DO/US-480 [FW LCD 12.00 ; DSP 11.10]
SN 0001012311321314124

Read   @ 2022-08-15 22:34:08 +0800

PSet   0.0% ›

PFSet   0.00 ›

ONoff   PowerON ›

The above is a combination of standard permissions

Power Dispatch   ›

Grid Protection Parameters   ›

ARC Parameters   ›

The above is a combination of expert permissions

Data   Settings   More

Australian specification related

The APP logs in to the inverter setting interface through BLE.

The inverter will shows specific B1/B2 alarms to follow the Australian protocol.

Click "Settings" to change the grid code of the inverter. The user can directly read the current grid code setting.
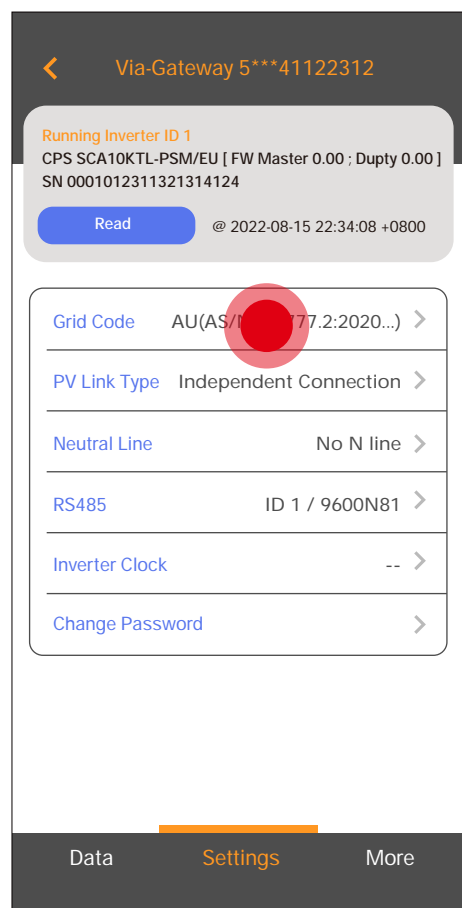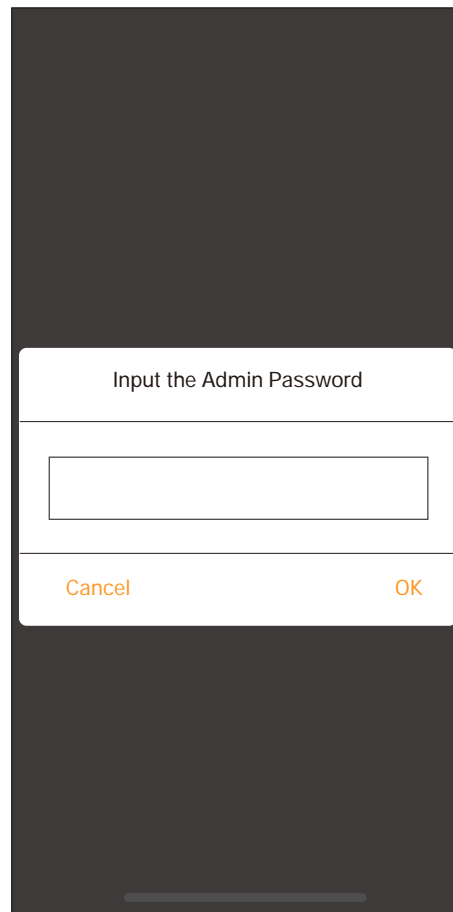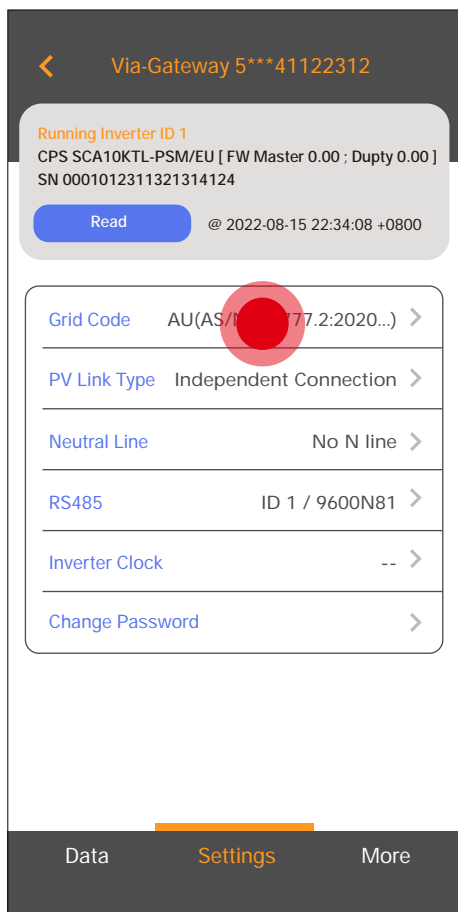
Input the password before change the grid code "register value".
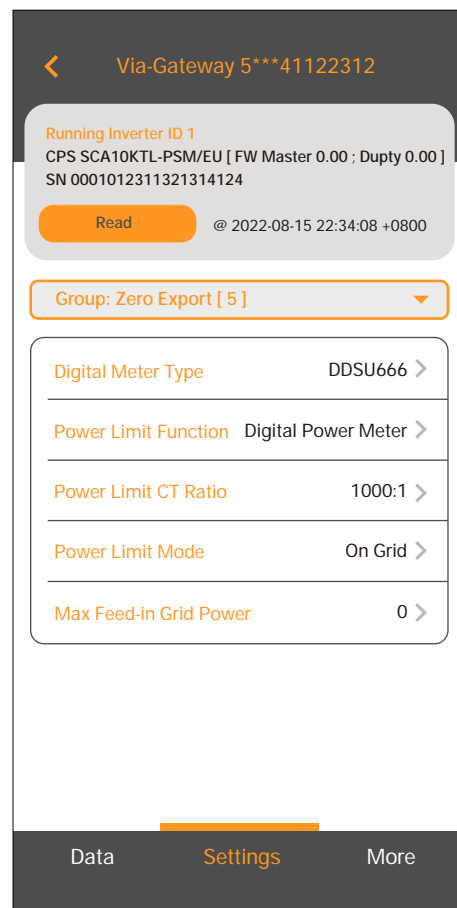
Select the "grid code" and save the configuration.
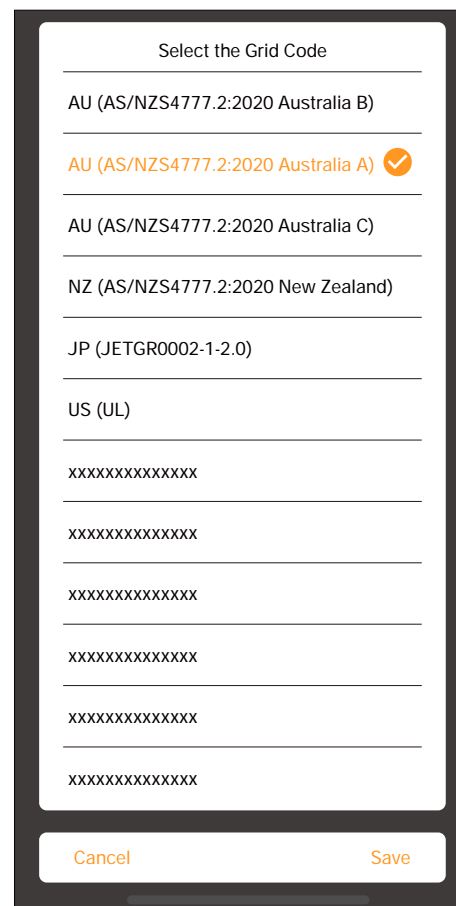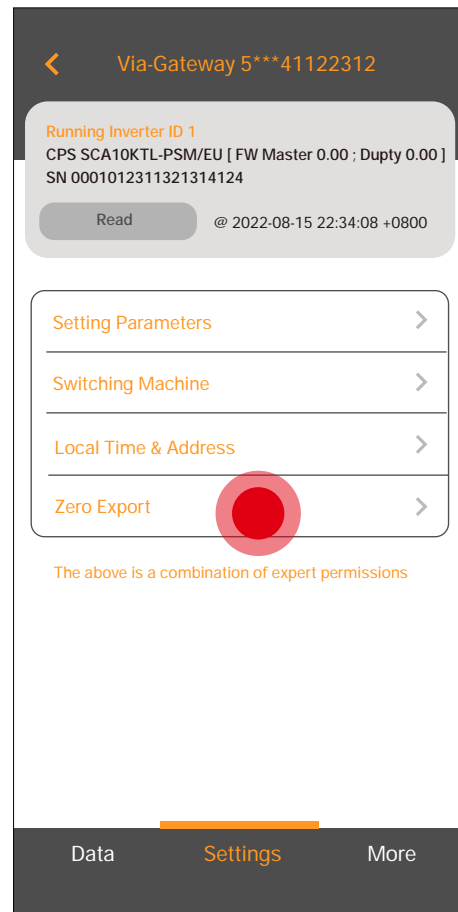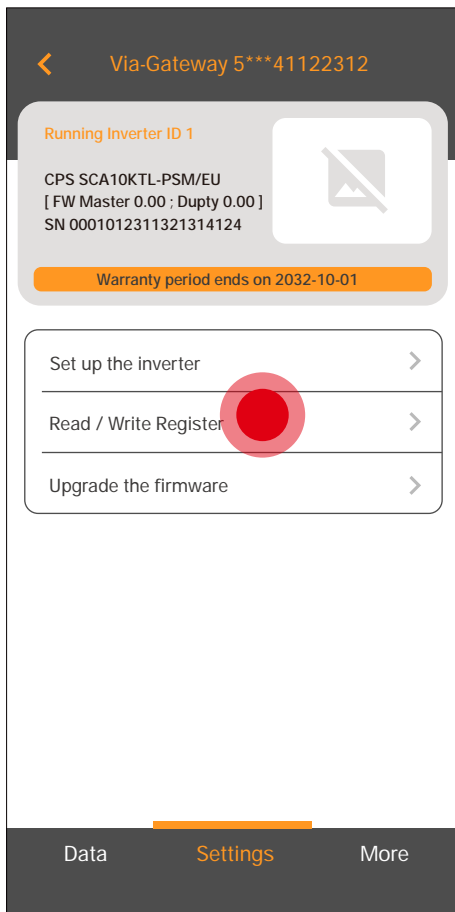
The user needs to set "Zero Export" for this inverter in the "Zero Export" scenario for a single inverter.

For "Zero Export" for Daisy chain scenario, please refer to SE Box related product introduction.

No account registration required, connect hardware immediately.

Standing in front of the gateway and inverter etc, ready to start setting up?

Is this your first attempt to register an account with this app?

No, my account was created by CPS or CPS customers.

Yes

Portfolio Owner / Customer

- Manually created "Customer/Entity" in the "Account Tree" .

Let's start with "End User"
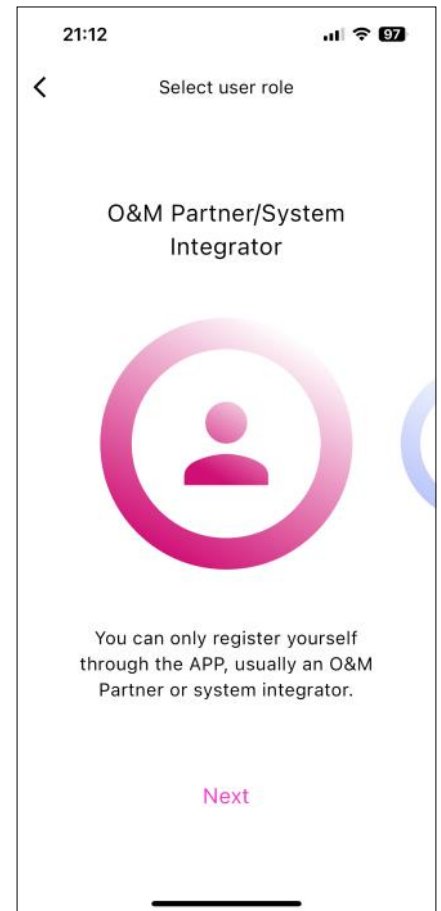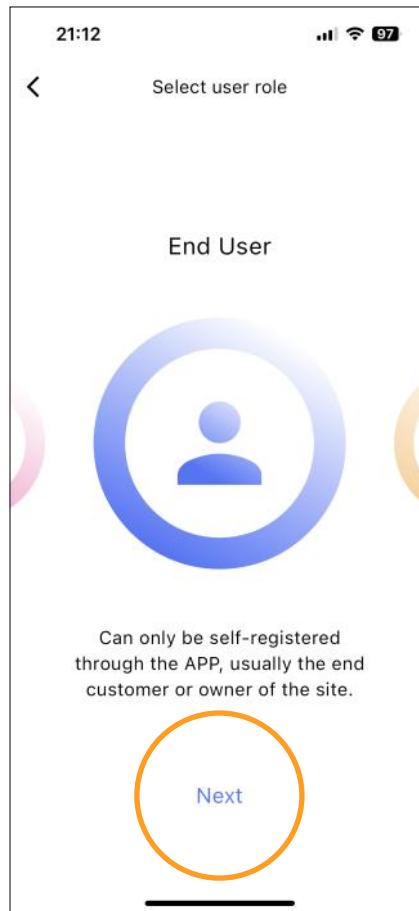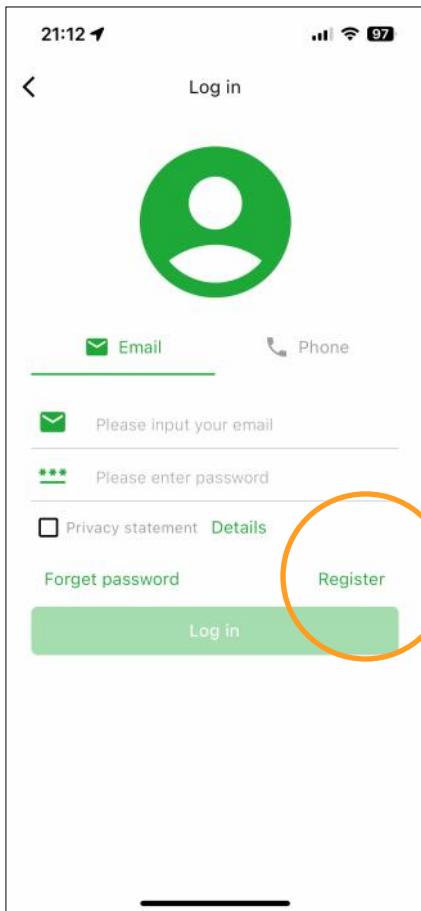
- Self-registered "Customer/Entity"

Click to the next step

Account Tree

Portal Admin

Customer Admin

Customer

End User

Installation

O&M Service

For installers to set up hardware devices without a registered account.

Smart link

Public Firmware
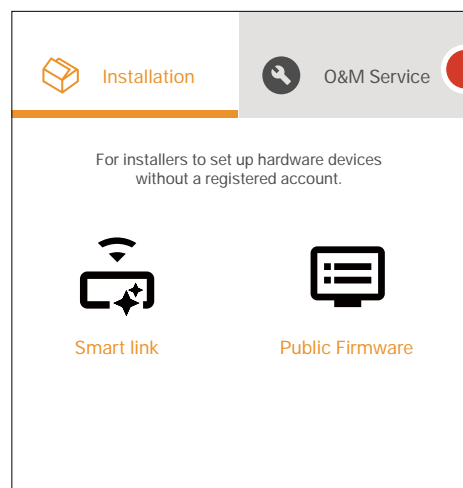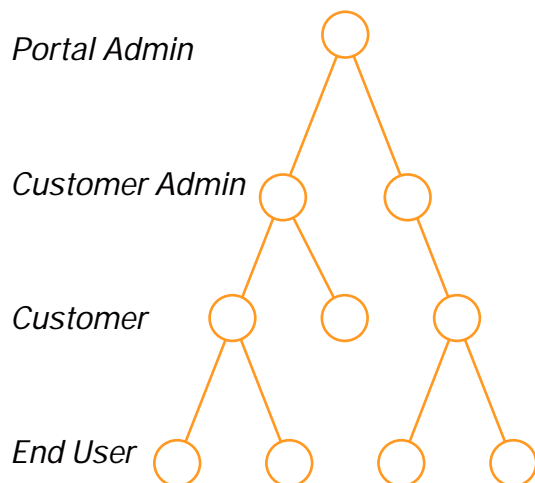
Create a "Master Account" for "My Portfolio" (End User)

The real, non-duplicate email or cell phone number used for registration will receive a verification code from the platform.

Once entered correctly, the account will be registered successfully.
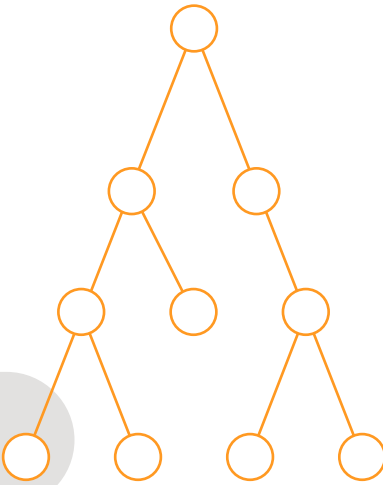
In this section, you will register a new account as "End User".

When the user slides the registration screen, the "OM Partnet" user role is another account type that allows the user to register themselves through the APP.

OM Partner is a service or integrator account role with a cross-organizational perspective.

The Concept of "Portfolio Owner" / "O&M Partner"

Portfolio Owner = 👤 Account + 📍 Project / Site
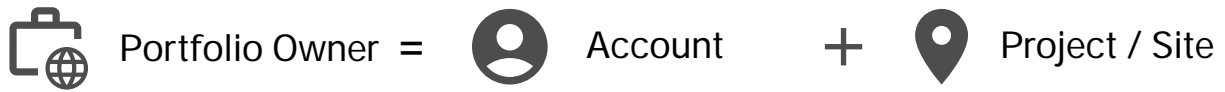
Portfolio Types	User Roles	Account Tree
Customer	*Portal Admin*	
	Customer Admin	
	Customer	
End User	*End User*	

📁 **My Portfolio**

👤 Portfolio Owner
"End User" Account

🔗➕ **Bind**

🔗 **Unbind**

📍 Project / Site
Gateway SN
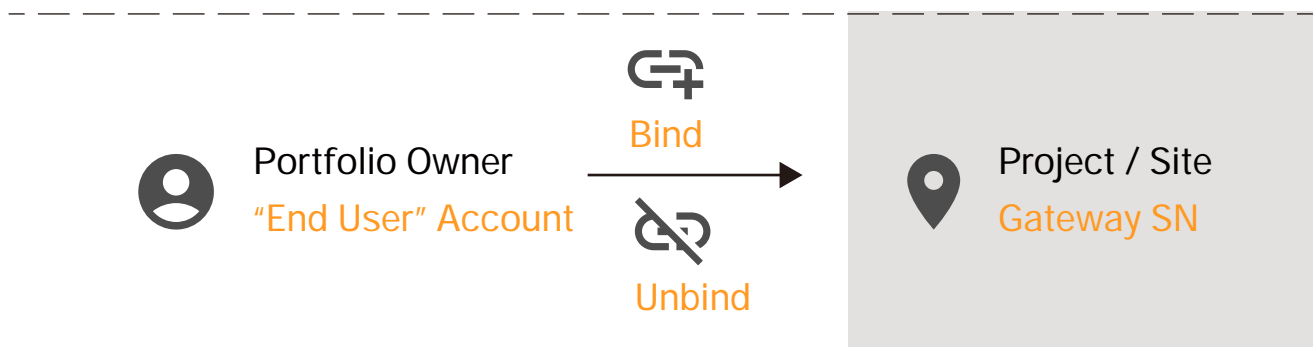
"End User" or other user role to associate a "Project/Site" with "My Portfolio" by binding the gateway SN.

Detach a "Project/Site" from "My Portfolio" by unbinding the gateway.

Portfolio Owner
Account

Bind

Unbind

Project / Site
Gateway SN

OM Partner is a service or integrator account role with a cross-organizational perspective.

Any "Portfolio Owner" can select the target "Project/Site" and authorize/disauthorize "OM Partner" to access the target "Project/Site" by binding/unbinding the "O&M Partner" service code.

Bind   **Unbind**

O&M Partner
Account

O&M Partner / System Integrator

User Roles	Account Tree
Portal Admin	
Customer Admin	
Customer	
End User	

Create "Sub-Portfolio" (Why Can't I Create Them)

My Portfolio	Master Account / Entity Name		
	Portal Admin	**Customer Admin**	**Customer**
Add ⊕	⊕	⊕	⊕
Sub Portfolio	Customer Admin		
	Customer	Customer	
	End User	End User	End User
	Master Account / Entity Name		
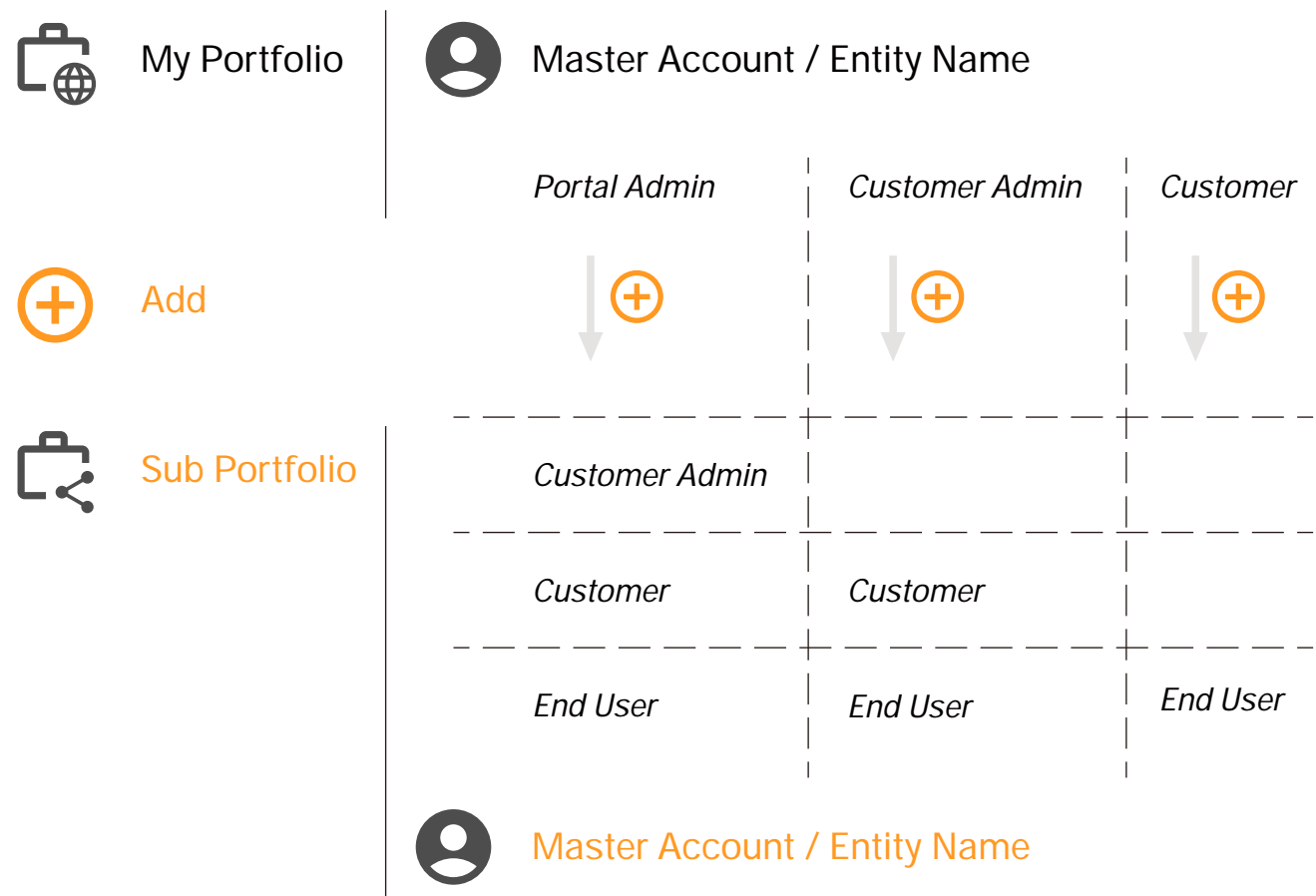
When the "Portfolio Owner" is a Portal Admin role, you can create a "Sub Portfolio" for the Customer Admin/Customer/end user role.

When the user is a "Portfolio Owner" in the End User role, no other role or "Sub Portfolio" can be created.

Any "Master Account" can create a series of "Associate Account", solving the problem of setting different permissions or boundaries for different employees managing a large number of assets within an entity.

End User
How To Create "Project/Site"
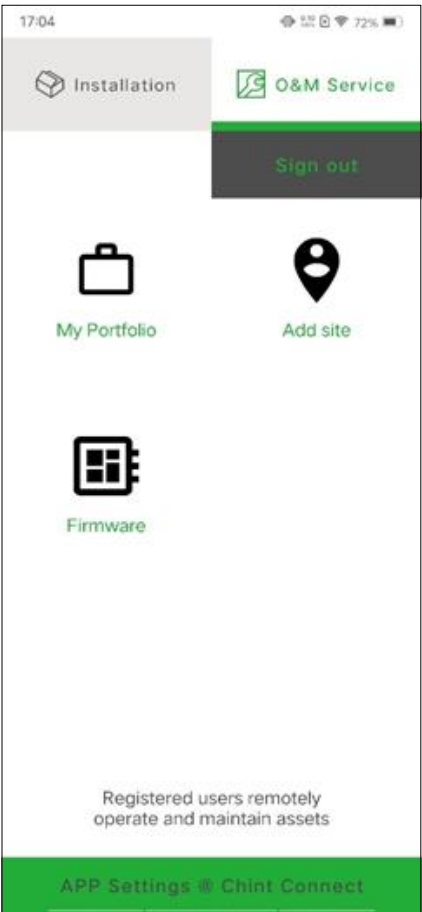
After logging in to your "End User" account, click the "Add Site" button on the app screen.

Users can scan the SN barcode on the gateway or manually enter the relevant SN number.

If the SN is correct, the "Project/Site" associated with the gateway SN is associated with the target "Portfolio Owner" account.

Users can enter the name/sn of the site or device in the site list to quickly find the target.

End User
How To Bind/Unbind "O&M Partner" To "Project/Site"
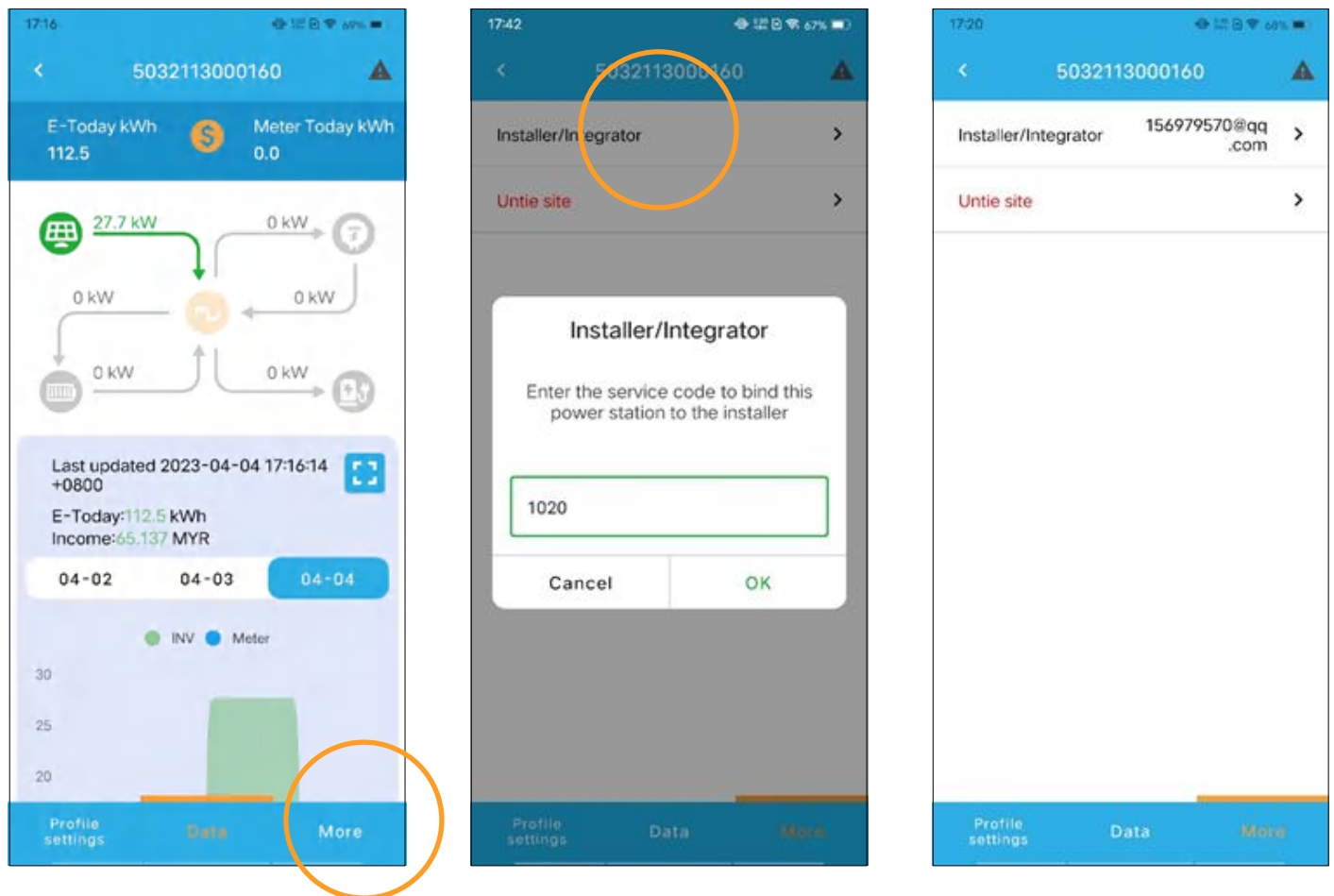
"End User" Enter the service code of "O&M Partner" on the target site, then the site can be viewed by "O&M Partner" for data and O&M correlation.

In the target site, click on "O&M Partner" again to unbind the existing authorization relationship.

End User
How To Unbind "Project/Site" From "My Portfolio"
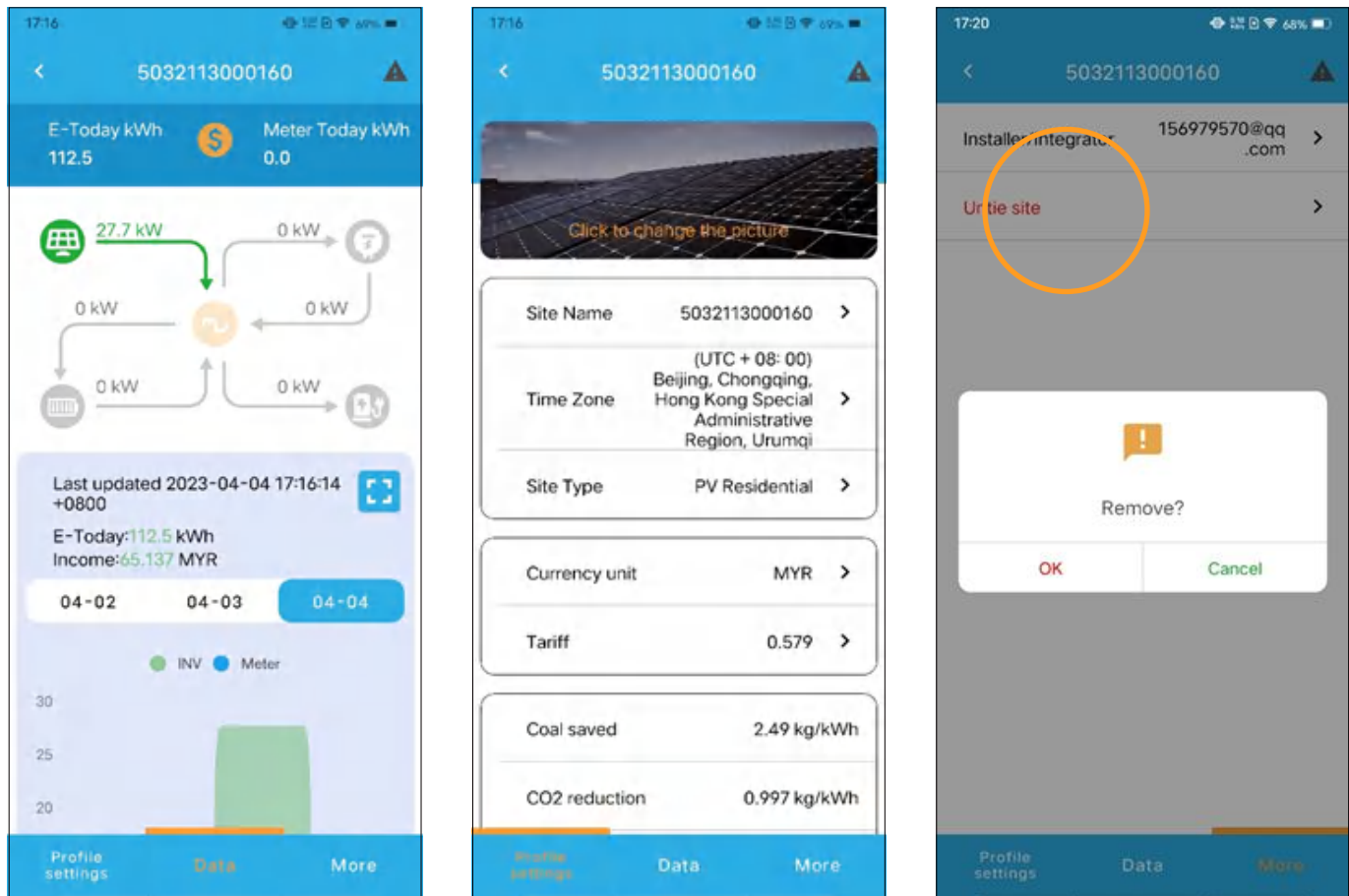
"End User" Enter the service code of "O&M Partner" on the target site, then the site can be viewed by "O&M Partner" for data and O&M correlation.

In the target site, click on "O&M Partner" again to unbind the existing authorization relationship.

End User
Edit the Profile of "Project/Site"
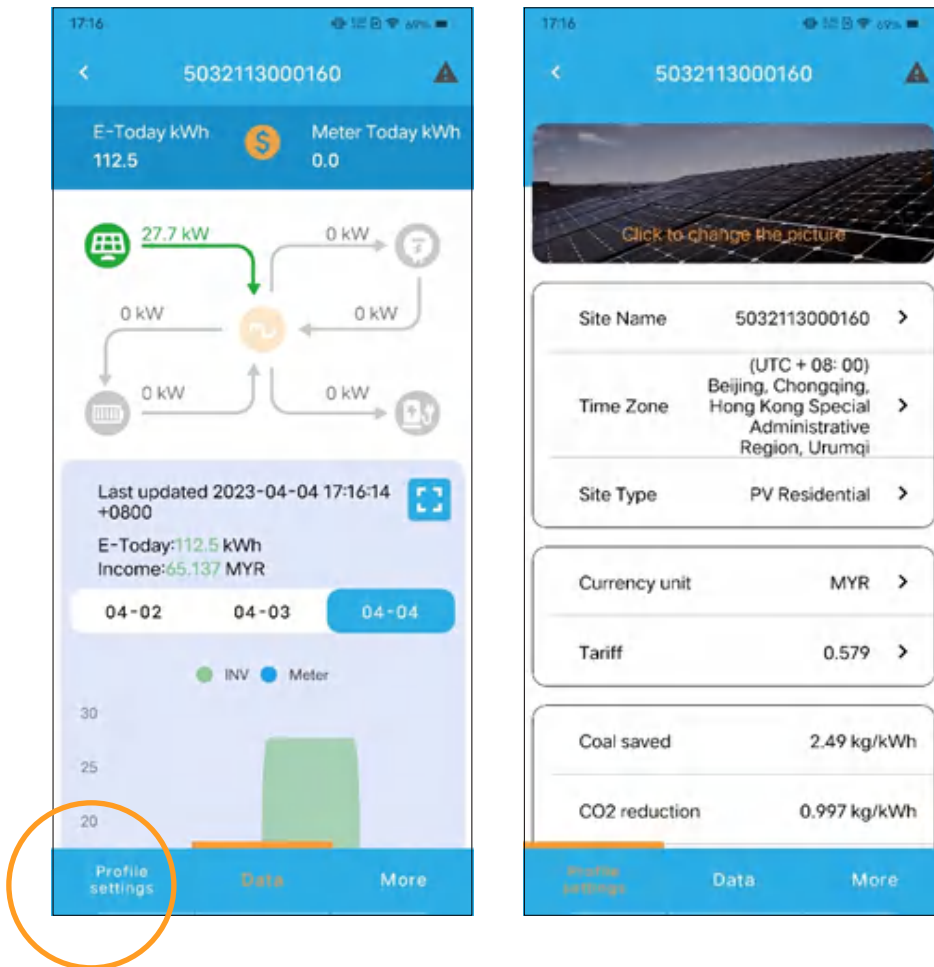
Newly created sites have some important basic information that needs to be set up correctly, such as time zone, site type, revenue units, etc.

End User
Check Basic Site Data
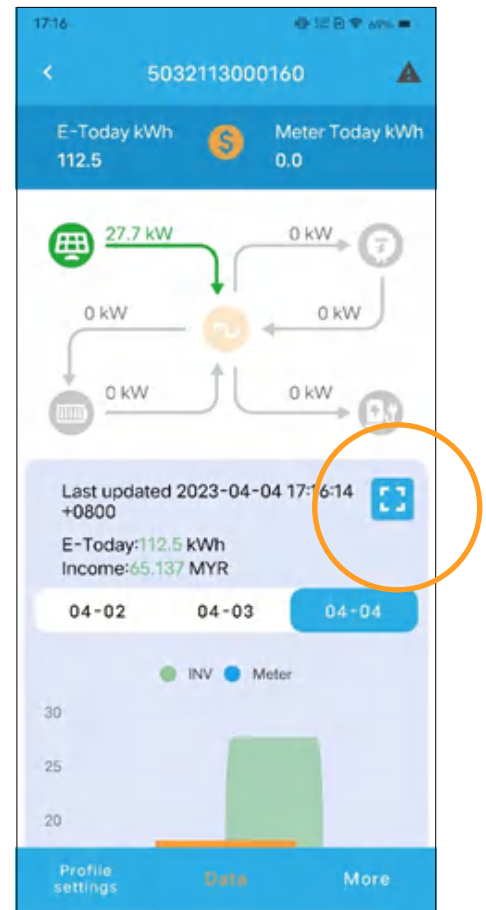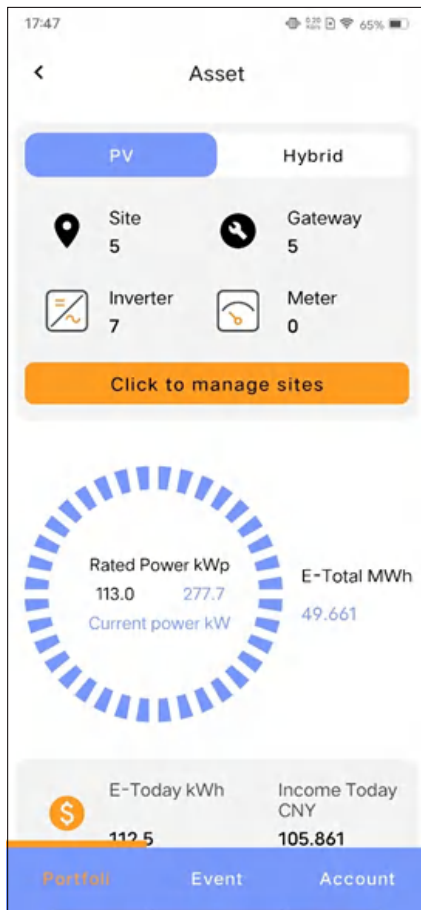
To see more specific data details, you can go to full screen from the thumbnails and then you can view different parameters for different devices.
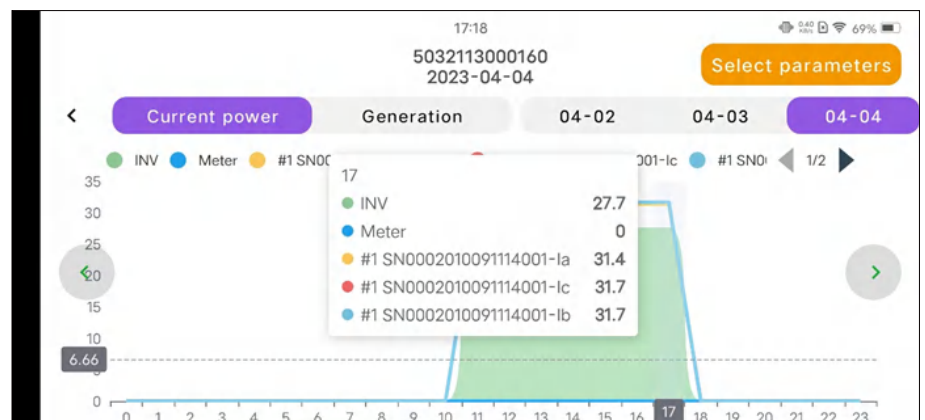
End User
Check Basic Device Event
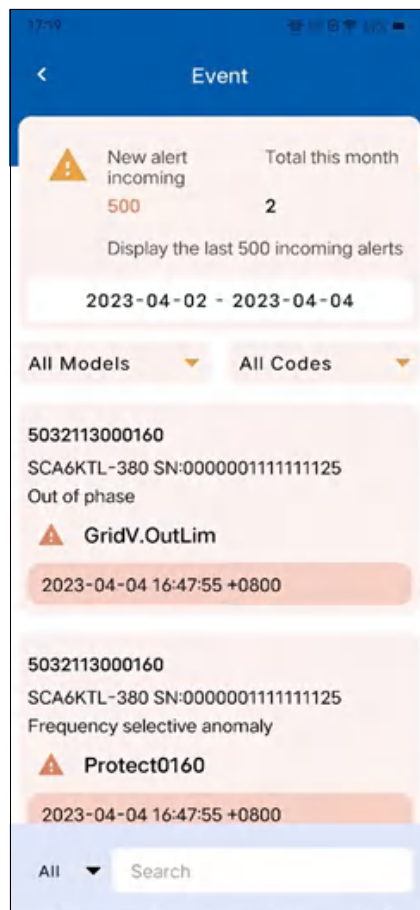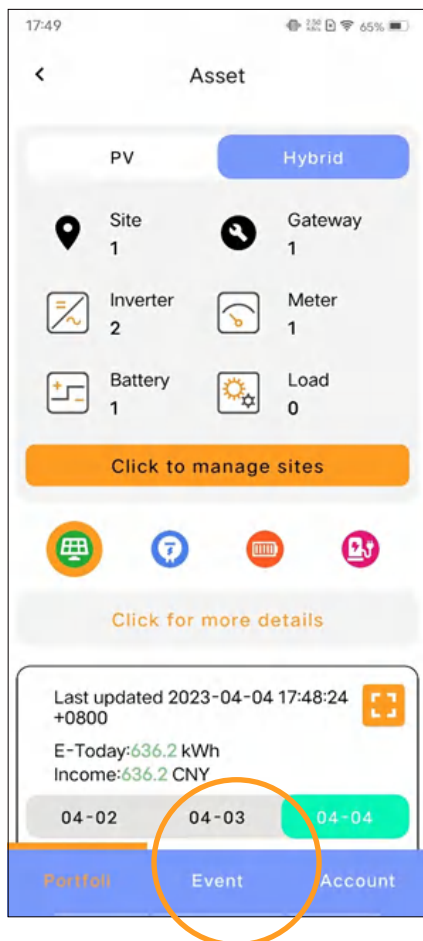
Ability to view event alerts in multiple dimensions, including global or specific sites, different event categories, and time intervals.

End User
Remotely Change the Device's Registers
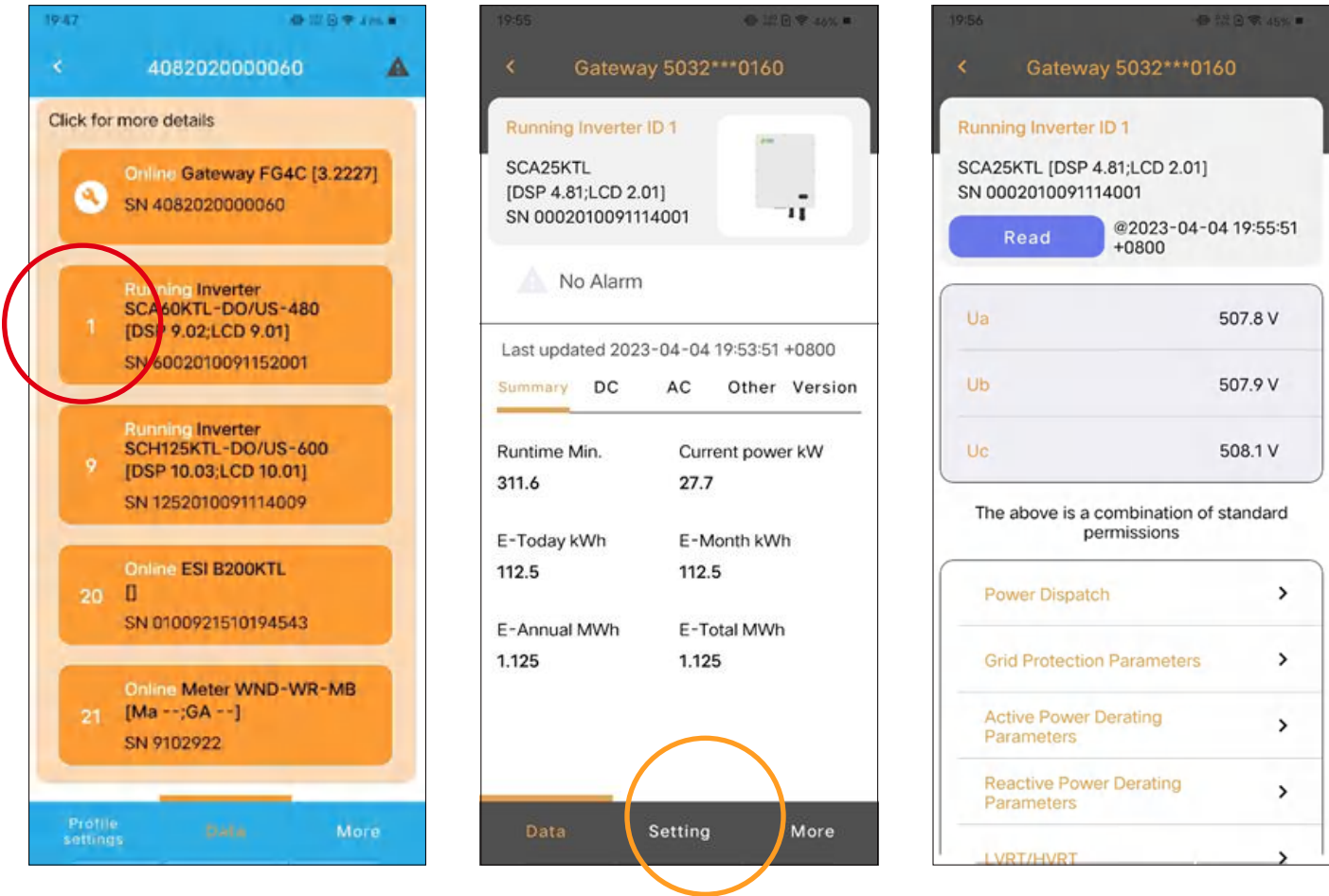
On the site details page, click on the target device in the device list to enter the detailed data and settings page for the specific device.

The user is able to read and write to the registers of the device if he has the relevant privileges.

End User
Remotely Change the Gateway's Parameters
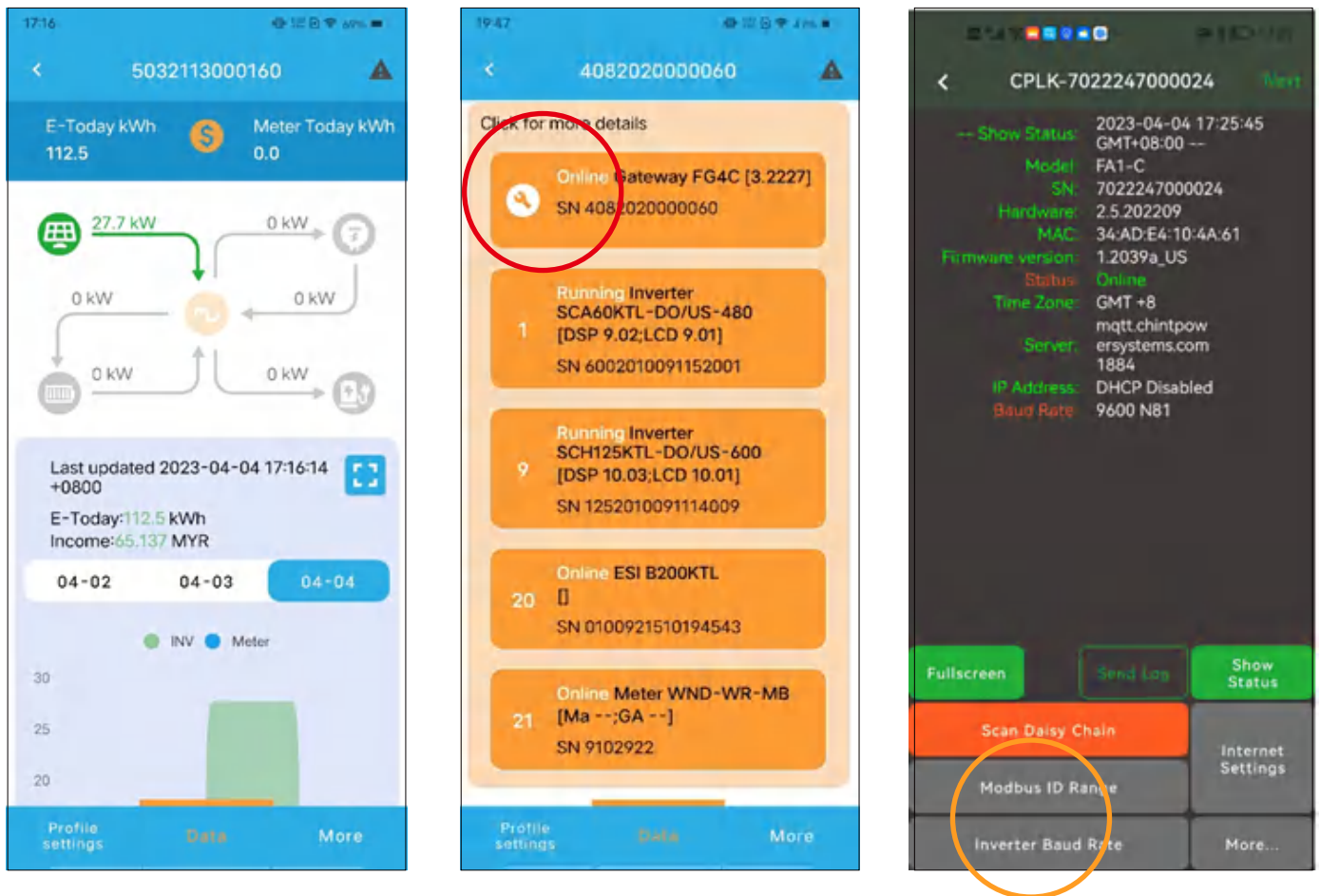
On the site details page, click on the target device in the device list to enter the detailed data and settings page for the specific device.

The user is able to change the settings of the gateway if he has the relevant privileges.

Customer
Assign the Site To An Account
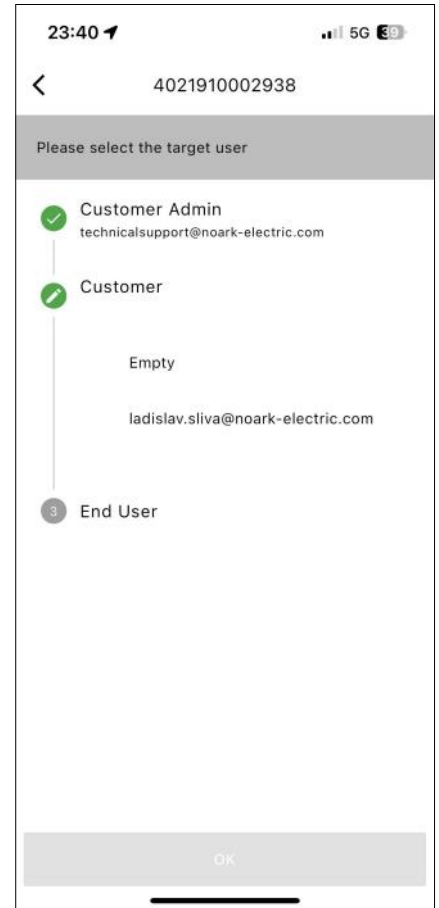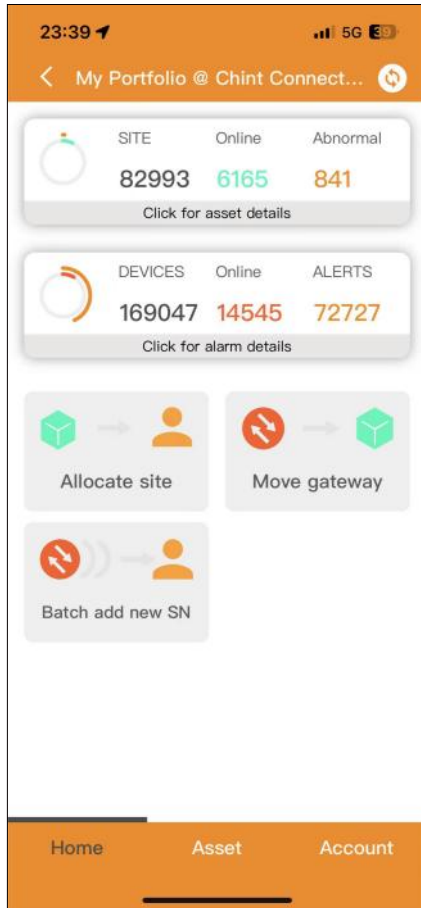
After logging in, click "Allocate Site", the app will list all sites under the account, and users can fuzzy search the target site.

When the target site is selected, swipe left to display "Delete" and "Allocate site".

Must be clearly assigned to target accounts on a hierarchical basis according to the "Account Tree" relationship.

Customer
Move the Gateway To A Site
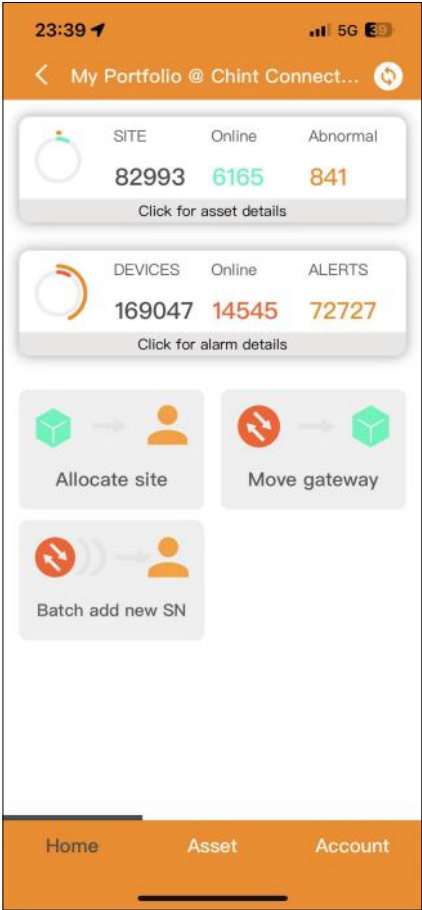
After logging in, click "Move Gateway", the app will list all gateways under the account, and users can fuzzy search the target gateway.

When the target gateway is selected, swipe left to display "Delete" , "Rename" and "Move gateway".

Check the target site, or fuzzy search and find the site.

When the gateway is moved to the target site, relevant statistics will be automatically merged.
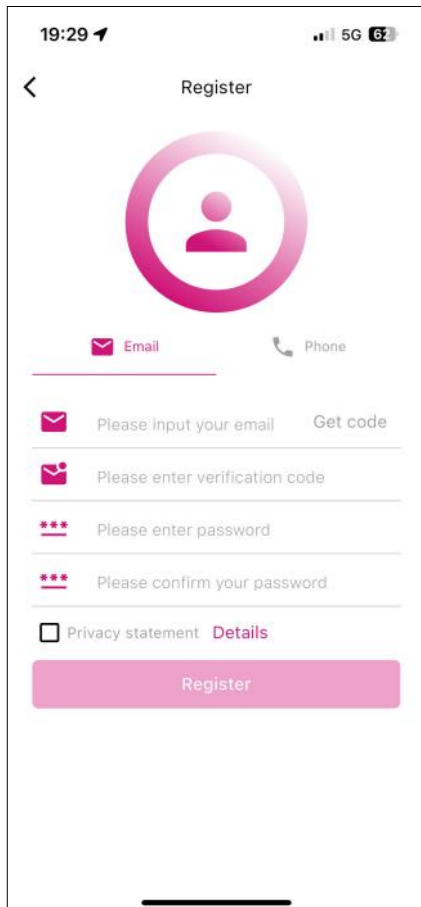
Customer
Batch Add New Gateway SN
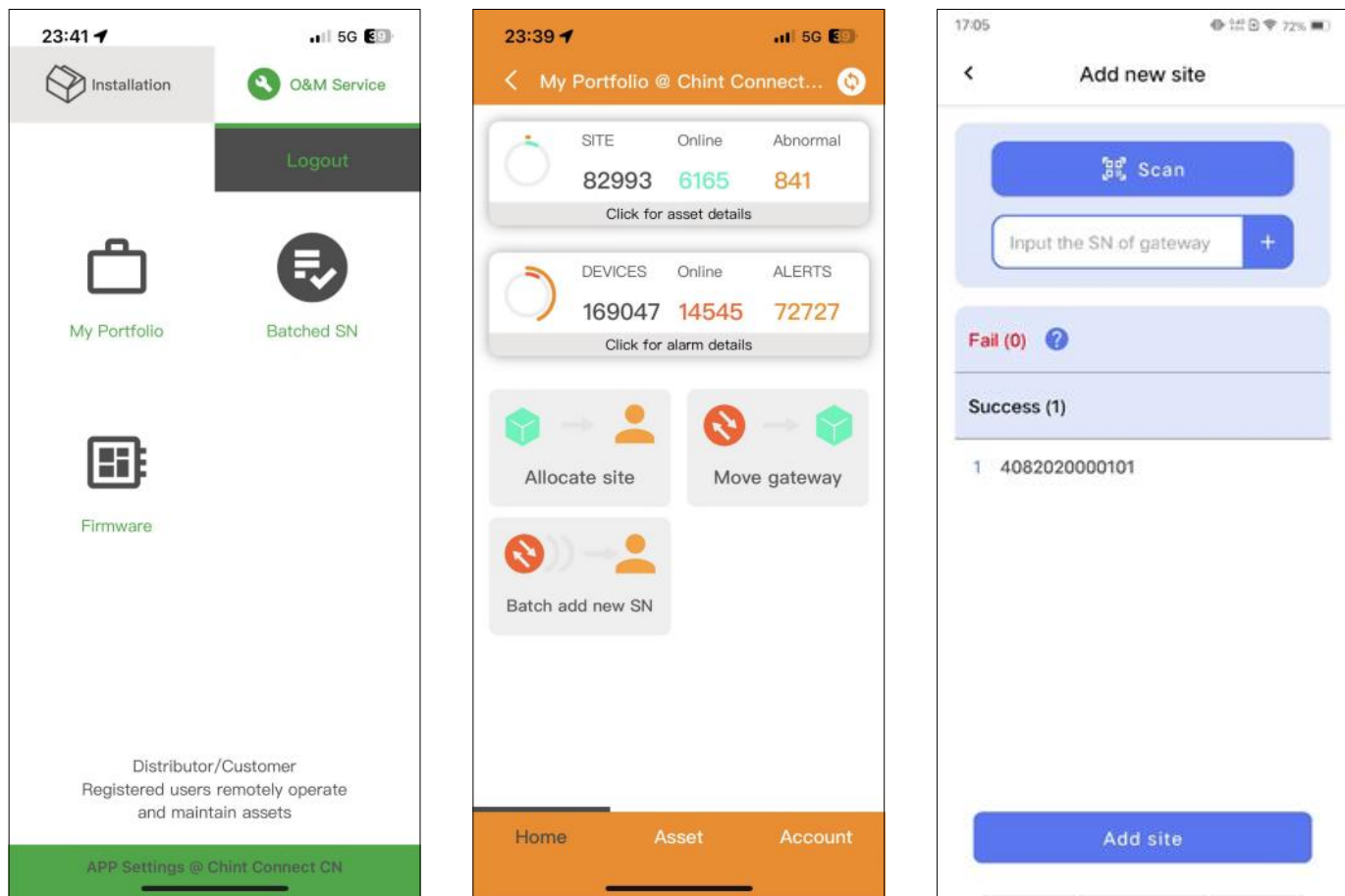
Users can add objects in bulk before gateways are shipped to target customers or periodically import gateways to be managed.

The difference is that "Batched SN" or "Batch Add New SN" is used to import inactive gateways, i.e. gateways that are not powered on, before they are shipped.

Gateways that have been successfully connected can be added in bulk on the web.

O&M Partner
What is "Service Code"

Users can self-register "O&M Partner" accounts through the APP.

When "Portfolio Owner" needs O&M Partner's services, select the target site and enter the "Service Code". and user can establish the connection.

O&M Partner
Use API to Integrate/Develop

OM Partner can integrate the "Edge Gateway + Cloud Application" capability into its own system by using CPS Portal's API service.

Please contact CPS or CPS customers for Open API documentation and technical support.

Charging policies for API technical services may vary from product to product and region to region. Please contact CPS sales for details.

www.chintpower.com

+86 21 37791222 -866300
service.cps@chint.com