



Guide for PCS initialization Process

Rev 1.0.2 /09/12

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1. Introduction

1.1 What is EMA Manager

EMA Manager is a one-stop application specially made for APsystems registered professional solar installers. The content of the EMA Manager is the APP version of features available in installer account via the web portal.

The EMA Manager APP will allow installers to register end-users, new PV systems, to monitor performance and ensure easy access to all key data without having to log into their laptop.

1.2 About this Guide

This document introduces the PCS initialization Process function.

1.3 Need to Know

Once the PCS initialization process operation is completed, the next local access will directly enter the local home page.

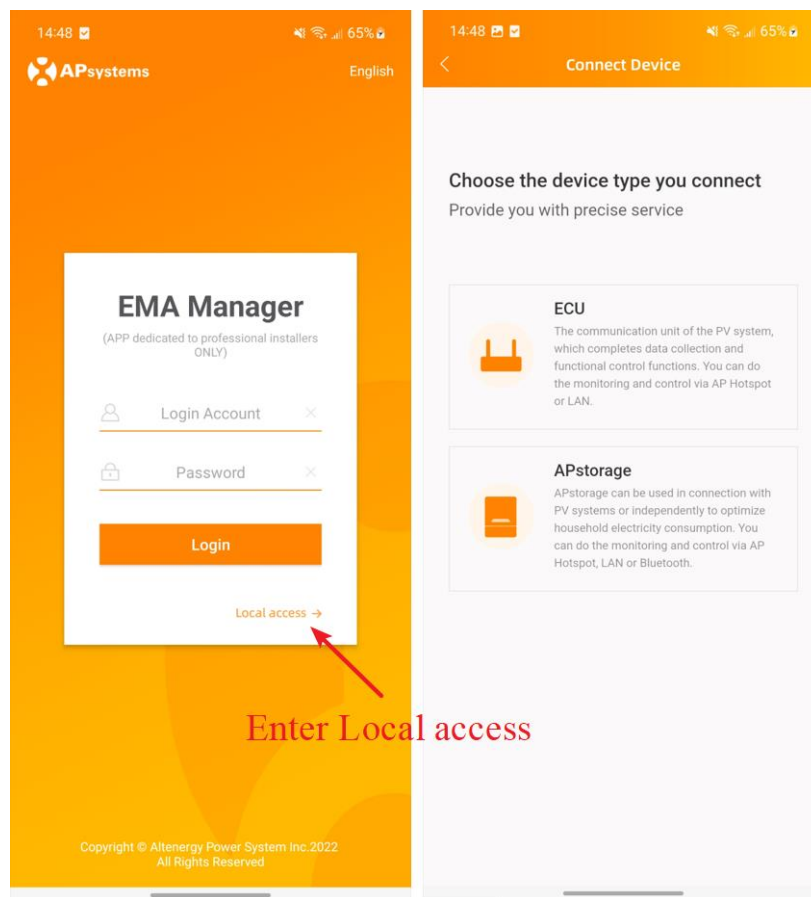
2. Local Access: PCS initialization Process

The APstorage PCS has been designed with local connection and management functionality. You can access this local functionality through EMA Manager.

2.1 Connect Device

Click “**Local access**” to enter this function.

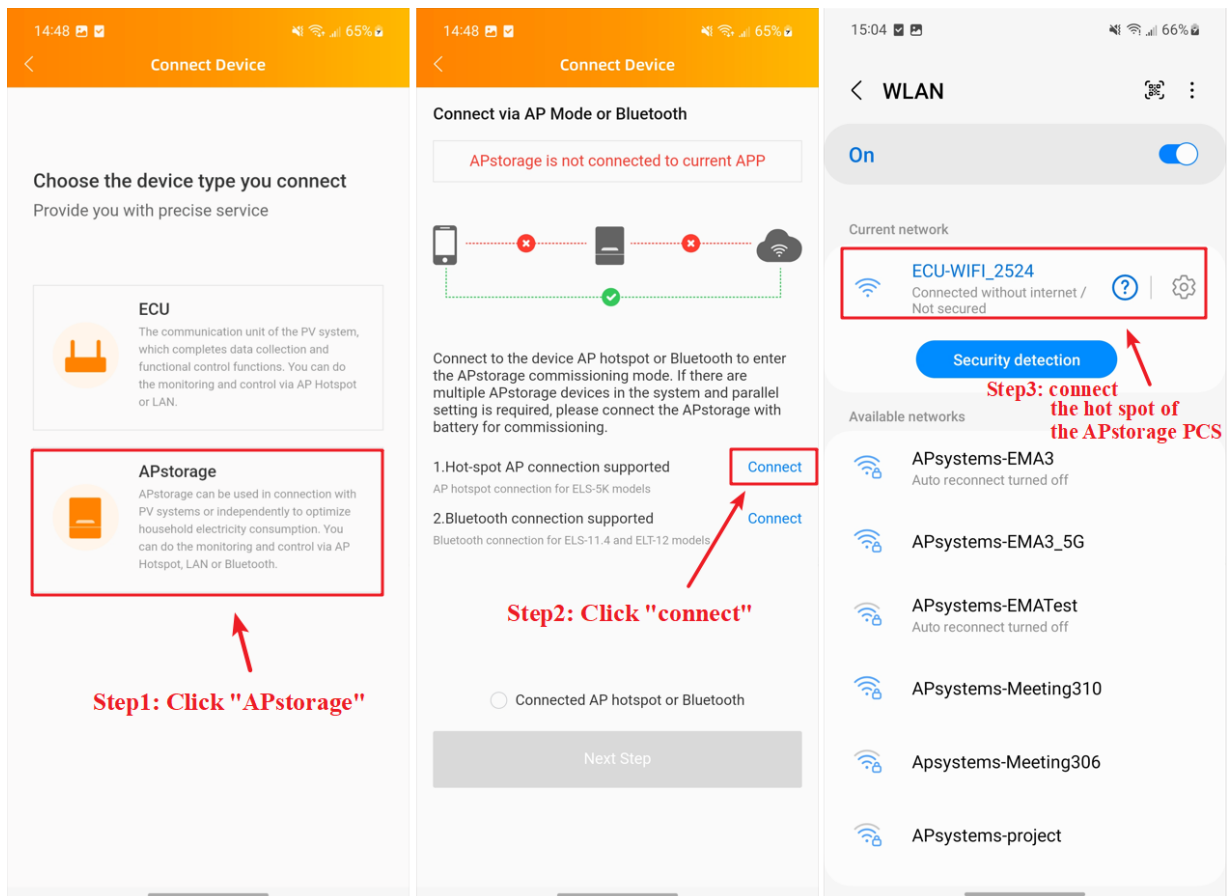
On the [Connect Device] page, you can see two entrances for connecting devices, which respectively correspond to devices of ECU and devices of APstorage. Here, we will mainly explain how to connect the APstorage devices.



We provide two ways to connect to the energy storage device. One is to connect via hotspot, which is mainly for ELS-5K models devices, and the other is to connect via Bluetooth, which is for ELS-11.4 and ELT-12 models devices.

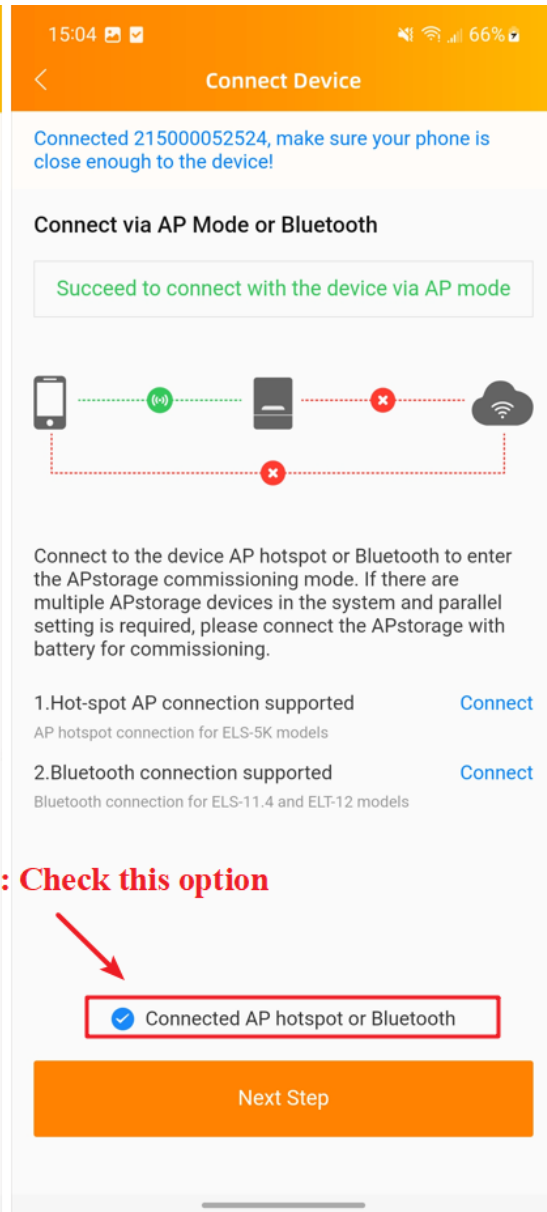
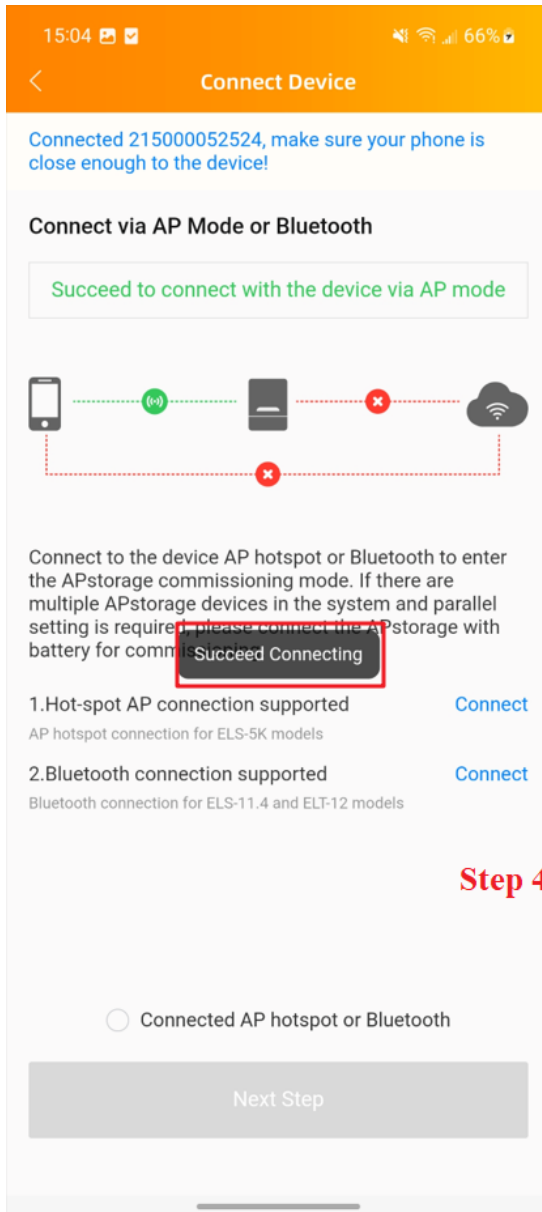
2.1.1 Hot-spot AP connection supported

- Step 1: Click **"APstorage"**.
- Step 2: Click **"Connect"** as indicated in the picture to open Wi-Fi setting in your smartphone,
- Step 3: Connect to the hot spot of the APstorage PCS, the format of the hot spot is ECU-WIFI_XXXX, XXXX being the last four digits of the built-in ECU.



- Step 4: Return to the EMA Manager and you will find a prompt indicating a successful connection on the page. After that, check the option **"Connected AP hotspot or Bluetooth"** and then you can click **"Next Step"** to the next item.

Note: If a pop-up window appears indicating **"AP hotspot connection failed"** when you go back, please repeat step 2.

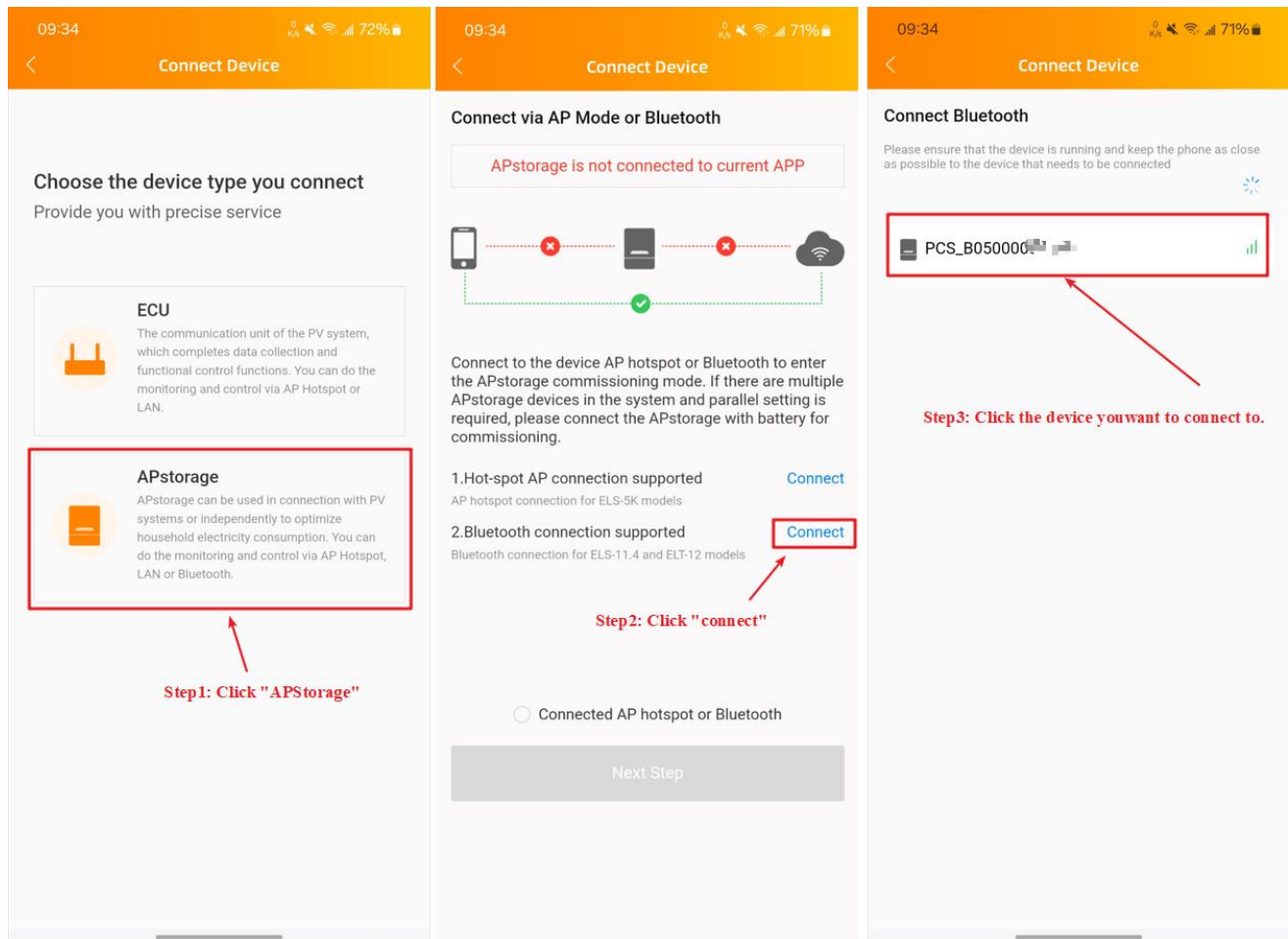


Step 4: Check this option



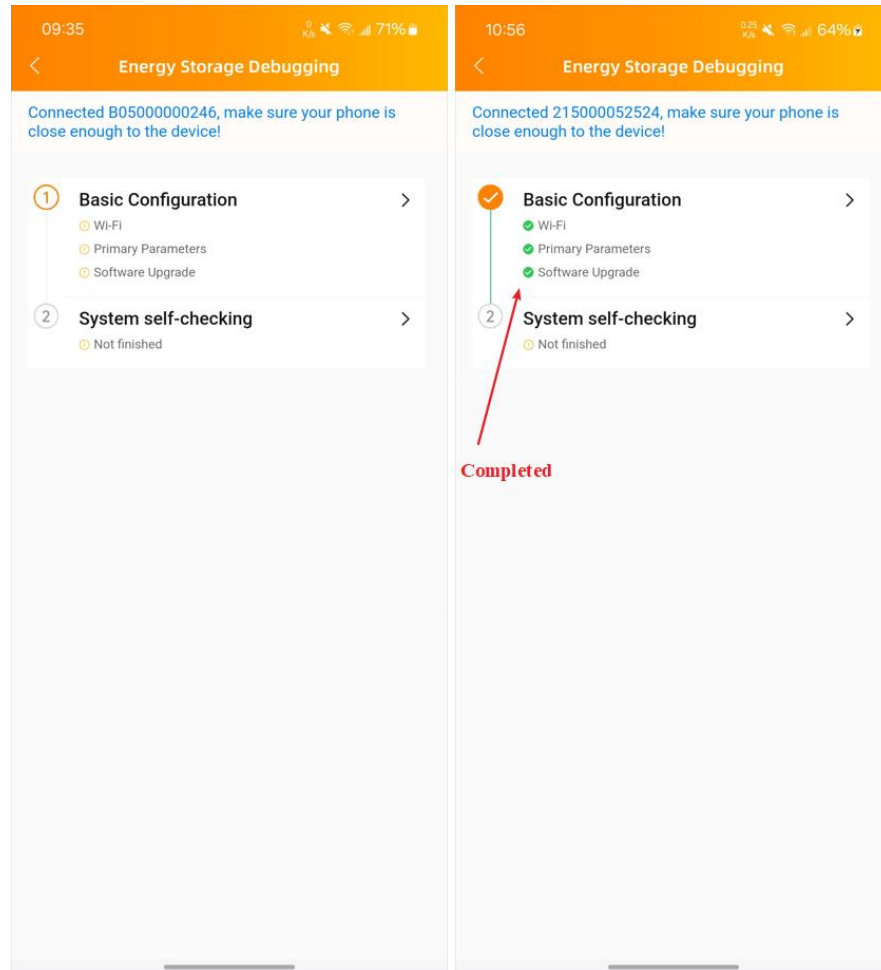
2.1.2 Bluetooth connection supported

- Step 1: Click **"APstorage"**.
- Step 2: Click **"Connect"** as indicated in the picture to enter the device's Bluetooth list.
- Step 3: Choose and connect to the Bluetooth of the APstorage PCS, the format of the Bluetooth is PCS_BXXXXXXX, BXXXXXXX being the device UID.
- Step 4: Wait for the device connection status to be updated, and you will find a prompt indicating a successful connection on the page. After that, check the option **"Connected AP hotspot or Bluetooth"** and then you can click **"Next Step"** to the next setting.
- **Note:** If the device fails to connect, please check whether the device is working properly and then repeat step 2.



2.2 Energy Storage Debugging

This is an operation progress wizard. The steps that have been completed will be marked with a green tick



2.3 Basic Configuration

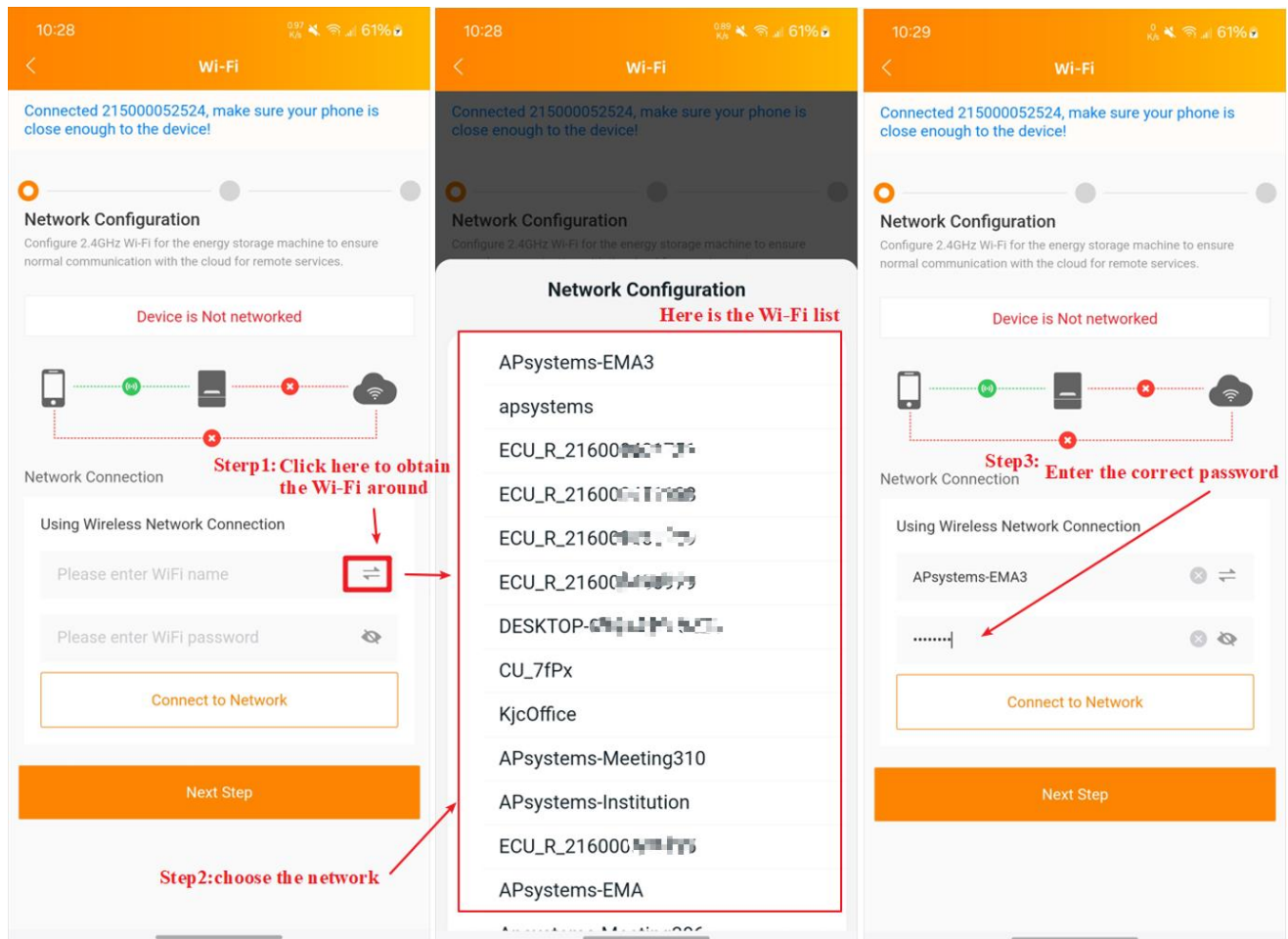
2.3.1 Wi-Fi

Click **"Basic Configuration"** and enter **[Wi-Fi]** page to configure the network for the energy storage machine.

Note

- ◆ You can skip this configuration and directly proceed to the next setting. But this will prevent the subsequent configuration for **"Software Upgrade"** settings item from being carried out.

- Select the network to connect,
- Enter the correct password,
- Click the **"Connect to Network"** button to configure the network.



2.3.2 Primary Parameters

On this page, you can configure the main operating parameters for the energy storage machine to ensure normal operation.

10:29 0.25 KB 61%

< Primary Parameters

Connected make sure your phone is close enough to the device!

✓ — ○

Primary Parameters

Configure the main operating parameters for the energy storage machine to ensure normal operation.

PV System >

Unconfigured

Connect a PV system. If you use the APsystems PV system, make sure the ECU is in the same LAN with the APstorage. If you use the third-party PV system, you need to install a contactor.

Grid Profile * >

Unconfigured

Clarify the grid standards used by the energy storage machine to comply with laws and regulations and achieve optimal performance tuning.

Battery Company * >

Unconfigured

Collect the battery company,type and ID.

Meter Settings >

Configured

If no meter type is specified, the system will default to CT for metering.

Third-Party Generator >

Unconfigured

Connect to a third-party generator to optimize household electricity consumption.

Next Step

2.3.2.1 PV Systems

Click **“PV Systems”** button, then enter the specific function configuration page. Different choices correspond to different subsequent system self-checking items.

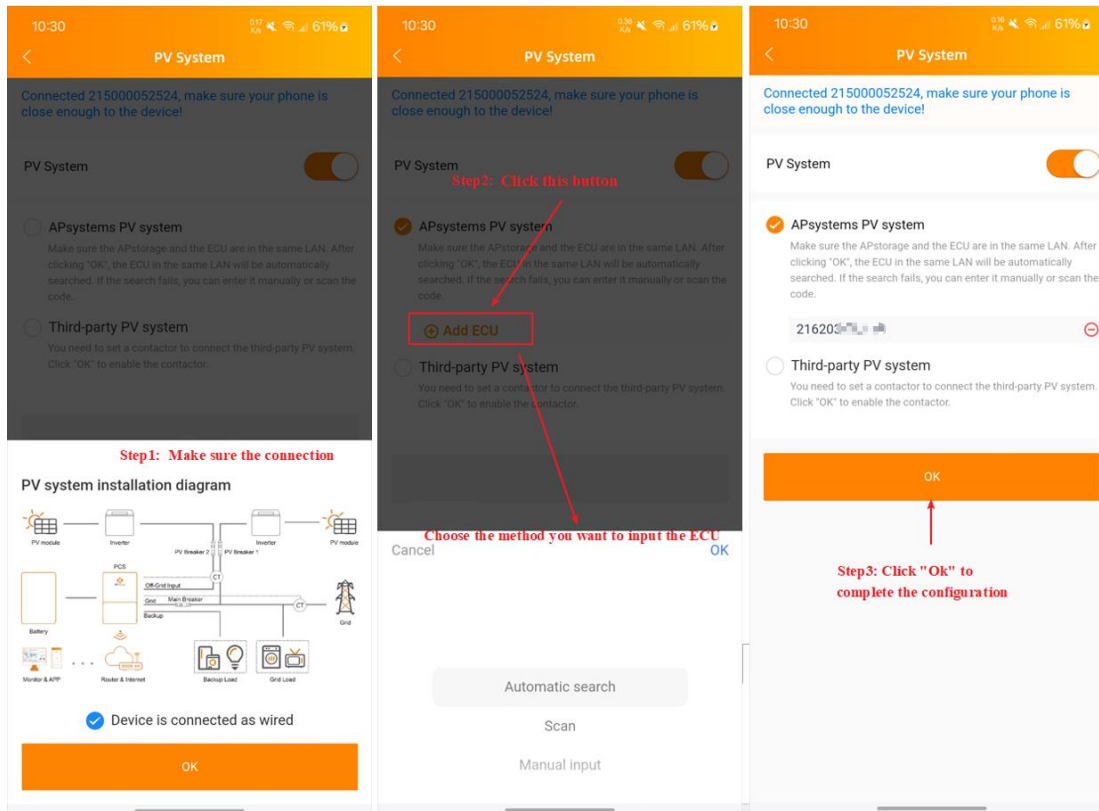


Note

- Pure Energy Storage System: Save the off state and not associated with the PV system. You can see the system's self-inspection content in [“2.4.2 Pure Energy Storage System self-checking”](#).
- Apsystems PV system: Choose **“Apsystems PV system”** to be associated with the Apsystems' ECU. You can check the relevant self-checking content in [“2.4.1 Apsystems PV System self-checking”](#).
- Third-Party PV System: Check **“Third-party PV system”** and associate the APstorage with the third-party PV system. Relevant self-checking content can be found in [“2.4.3 Third-party PV System self-checking”](#).

- Here, we will provide a detailed introduction to the Apsystems PV system.
- Step 1: Confirm the wiring situation according to the illustration.
 - Step 2: Check **“Apsystems PV system”** and click **“Add ECU”** button to select the way (will be introduced below) you want to add the ECU.
 - Step 3: After entering the ECU ID, click the **“OK”** button to complete the settings.

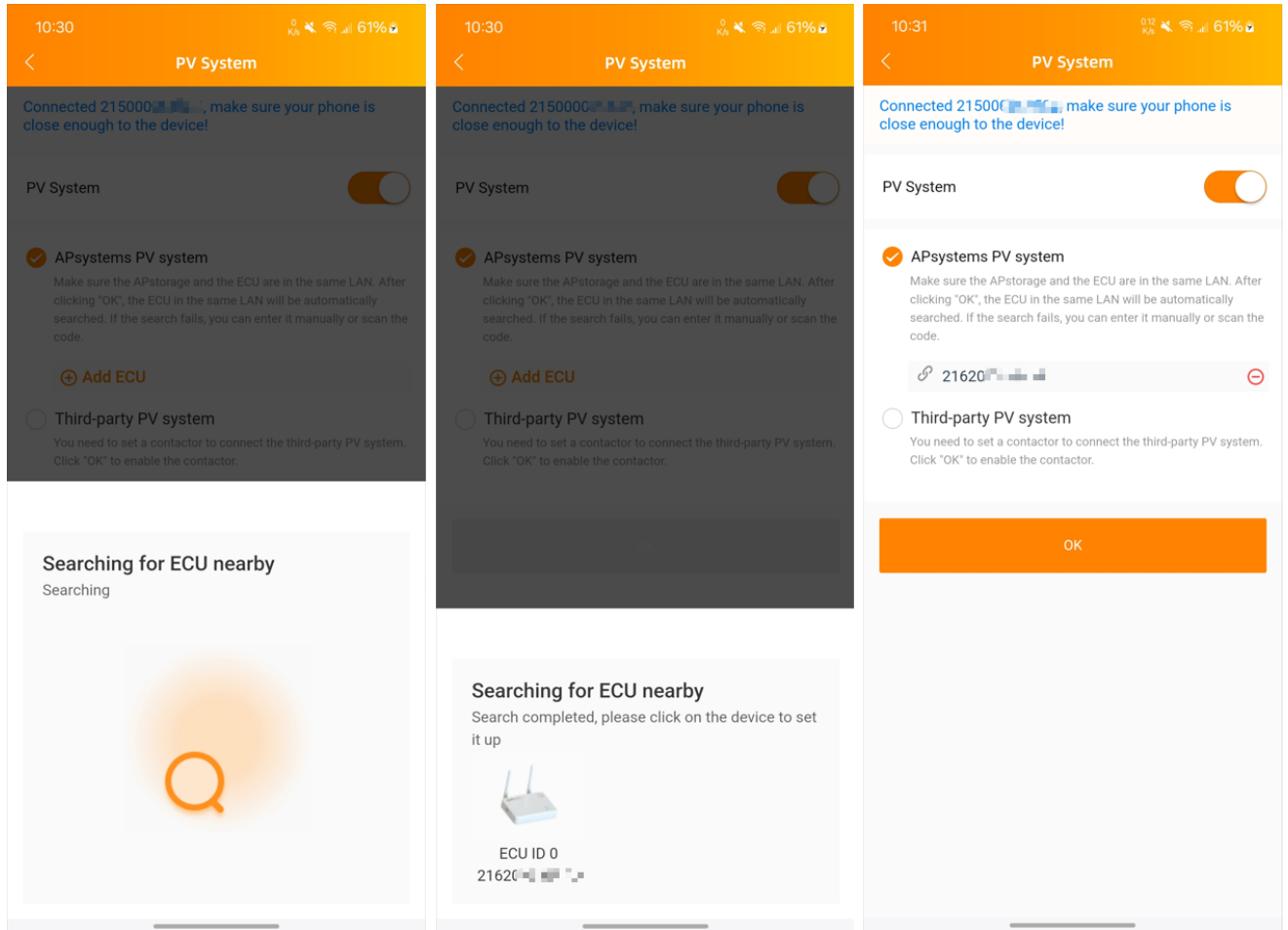
Note: At this time, if you enter this settings page again, the connection status of the ECU and APstorage PCS will be updated.



- The following is an explanation of these three adding methods in the “Step 2”.

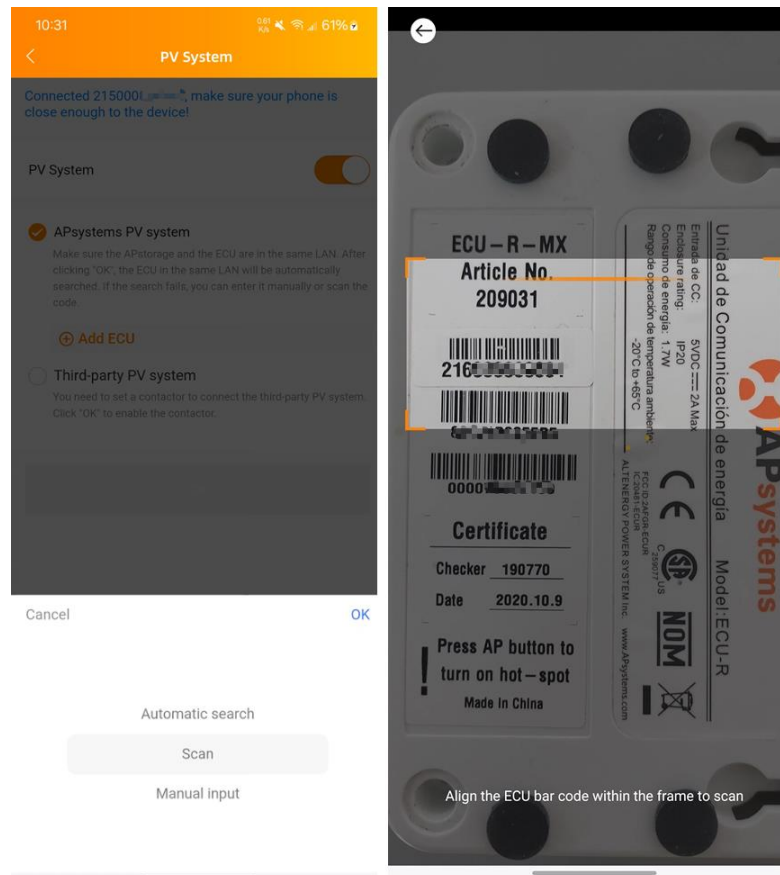
◆ Automatic search

If you select the **“Automatic search”** option, the device will actively search for surrounding APsystems’ ECU that support connection.



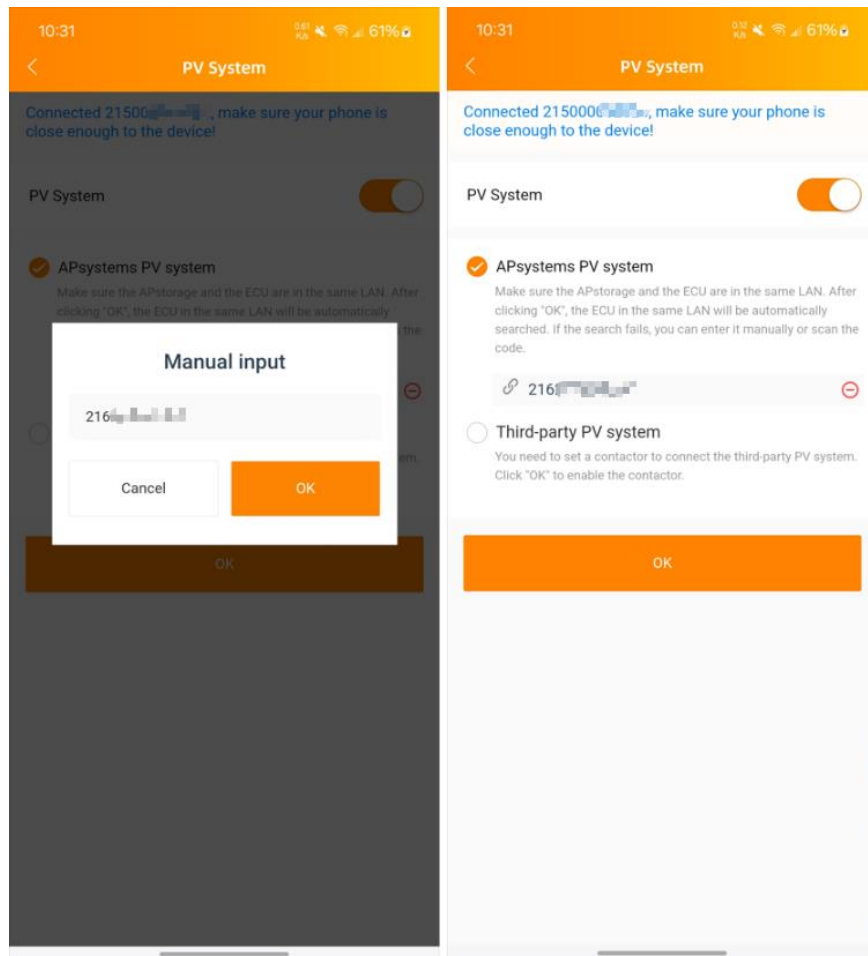
◆ Scan

Scan the ECU ID on the photovoltaic ECU correctly according to the picture.



◆ Manual input

Manually enter the ECU ID that needs to be associated.



2.3.2.2 Grid Profile (Required)

Click to enter the configuration page of the **[Grid Profile]** function. On this page, you will be able to select the power grid standard to be configured.



Note

- ◆ It can be manually configure indicated by the “✎” icon.
- ◆ This is a mandatory configuration item with icon “* ”.

The first screenshot shows the 'Primary Parameters' screen. The 'Grid Profile *' option is highlighted with a red box and a red arrow pointing to it with the text 'Click here'. The second screenshot shows the 'Grid Profile' screen with a red box around the 'Select Grid Profile' dropdown menu. The third screenshot shows the 'Grid Profile' screen with various configuration options, including 'Reconnect time', 'Start AC frequency high', 'Start AC voltage low', 'Start AC voltage high', 'Volt-watt response mode', 'Overvoltage power response power gradient', 'Over voltage power limit over voltage', 'Over voltage power limit start voltage', and 'Over frequency power limit ramp up frequency'. An 'OK' button is visible at the bottom.

2.3.2.3 Battery Company (Required)

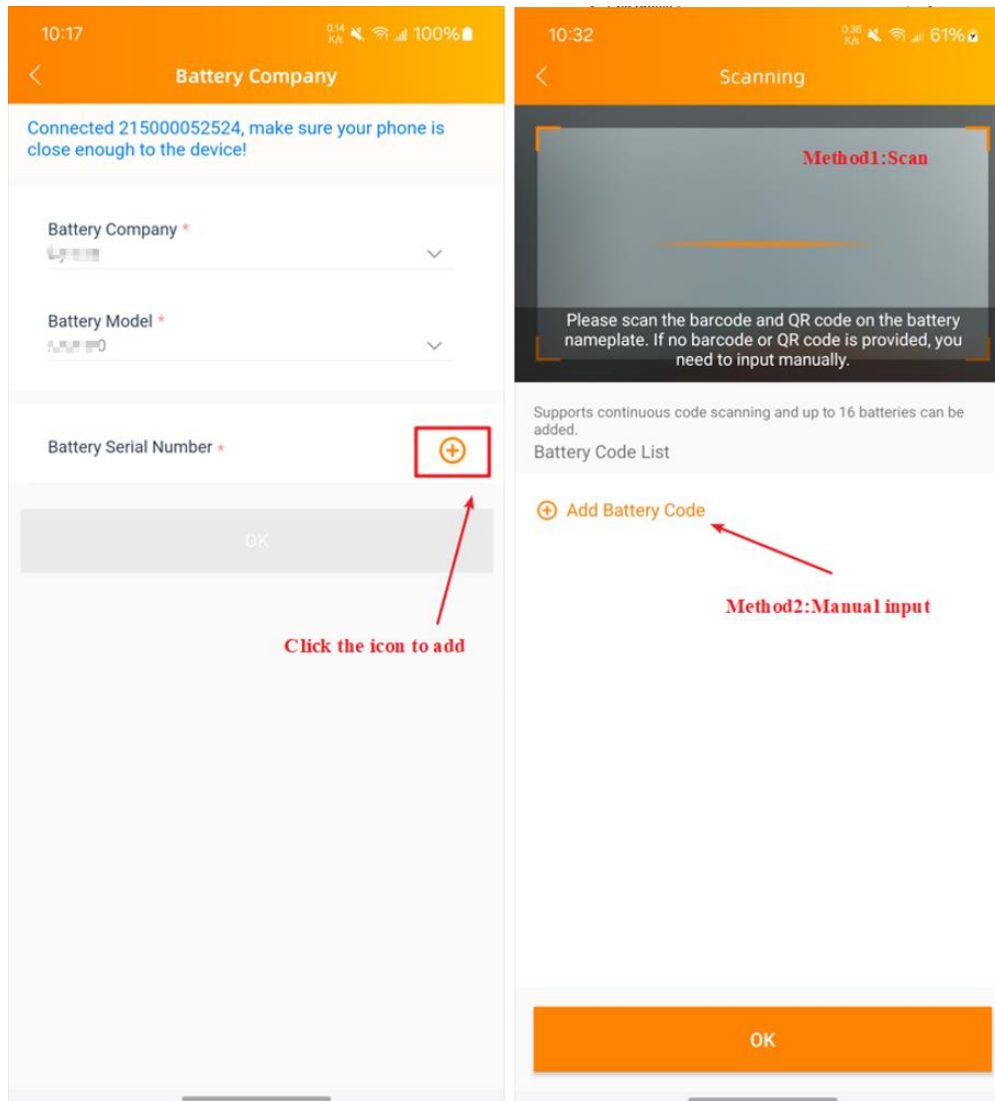
Click **“Battery Company”** button to obtain the detailed configuration of the battery in terms of company, model and serial number.



Note

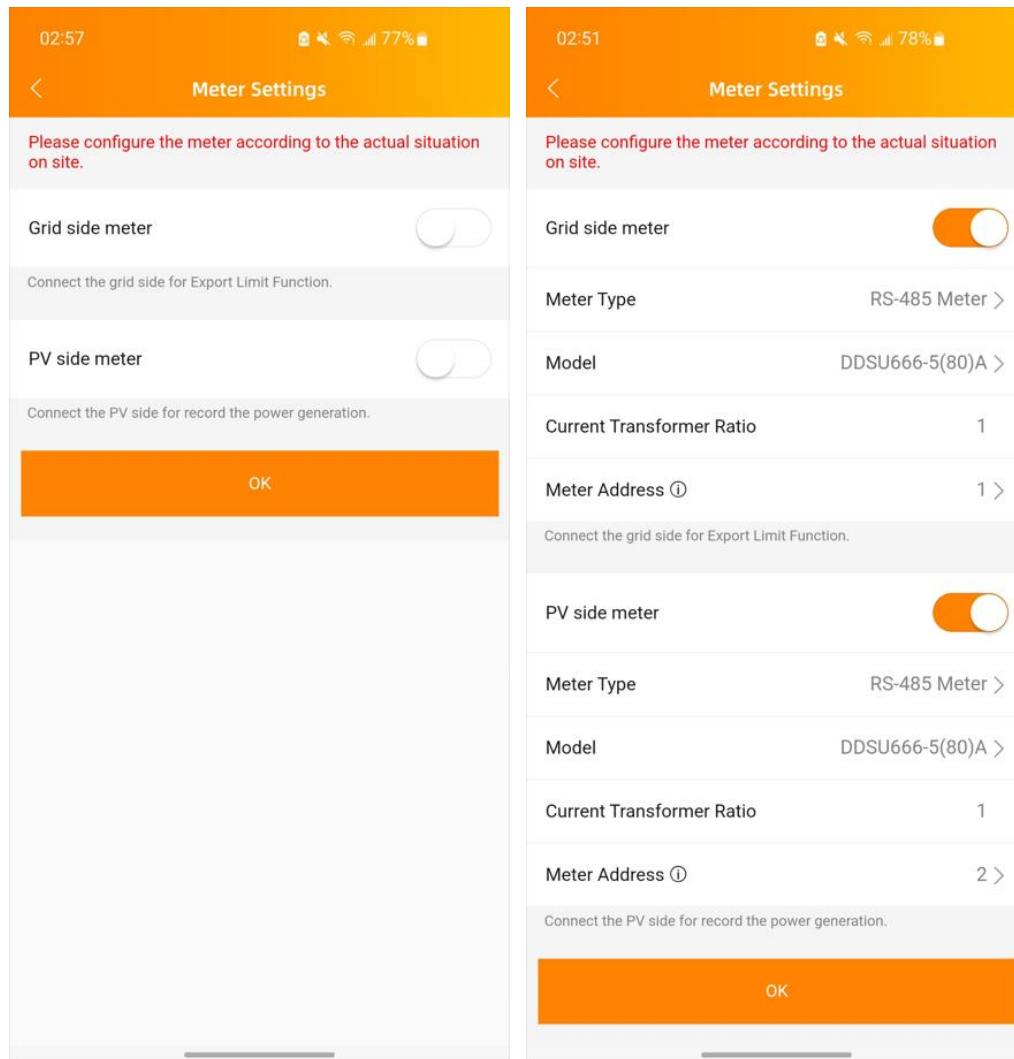
- ◆ This is a mandatory configuration item with icon “*”.
- ◆ There are two ways to add the serial number, namely manual input and scanning the Barcode or QR code.
- ◆ Only 16 batteries can be added at most.

- Select “Battery Company”,
- Select “Battery Model”,
- Click “⊕” to add battery serial number by scanning or manual input,
- Click “OK” to complete.



2.3.2.4 Meter Settings

Click **“Meter Settings”** button to configure the grid-side and PV-side meters in detail.

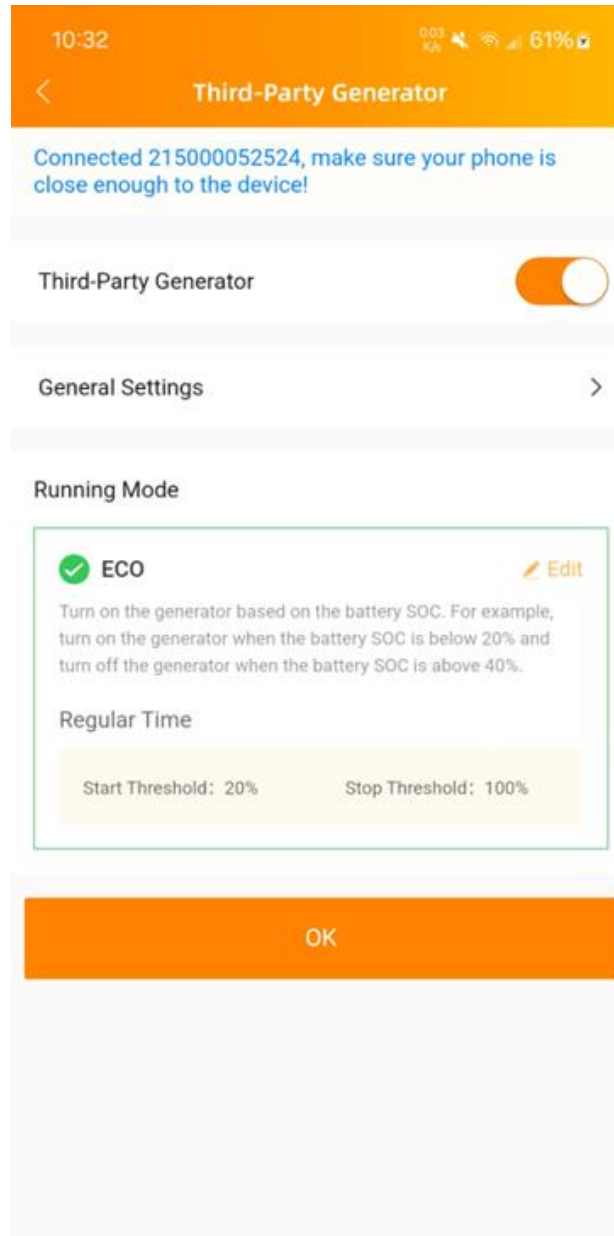


Note

- ◆ If the device supports this feature, you will see the feature entry in the list.
- ◆ Please configure the meter according to the actual situation on site.

2.3.2.5 Third-Party Generator

If you need to configure a third-party generator for the device, then please fill in the relevant information and settings in this configuration item according to the actual situation.



Note

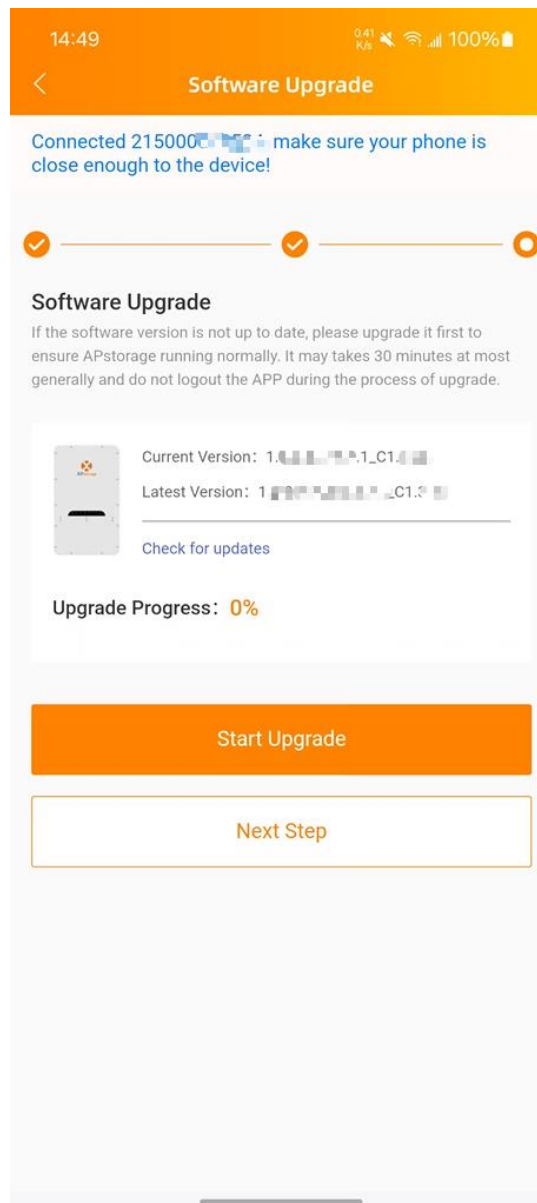
- ◆ This functional configuration is mutually exclusive with the third-party photovoltaics, and this information will be prompted when this function is clicked.

2.3.3 Software Upgrade

After completing the configuration of **[Primary Parameters]**, the next step, you will enter the **“Software Upgrade”** settings item. On this page, you can know whether the currently connected APstorage PCS needs to be upgraded.

Note

- ◆ It's not necessary to perform the upgrade during the initialization process. Click **“Next Step”** and you can enter the next settings page without performing an upgrade.



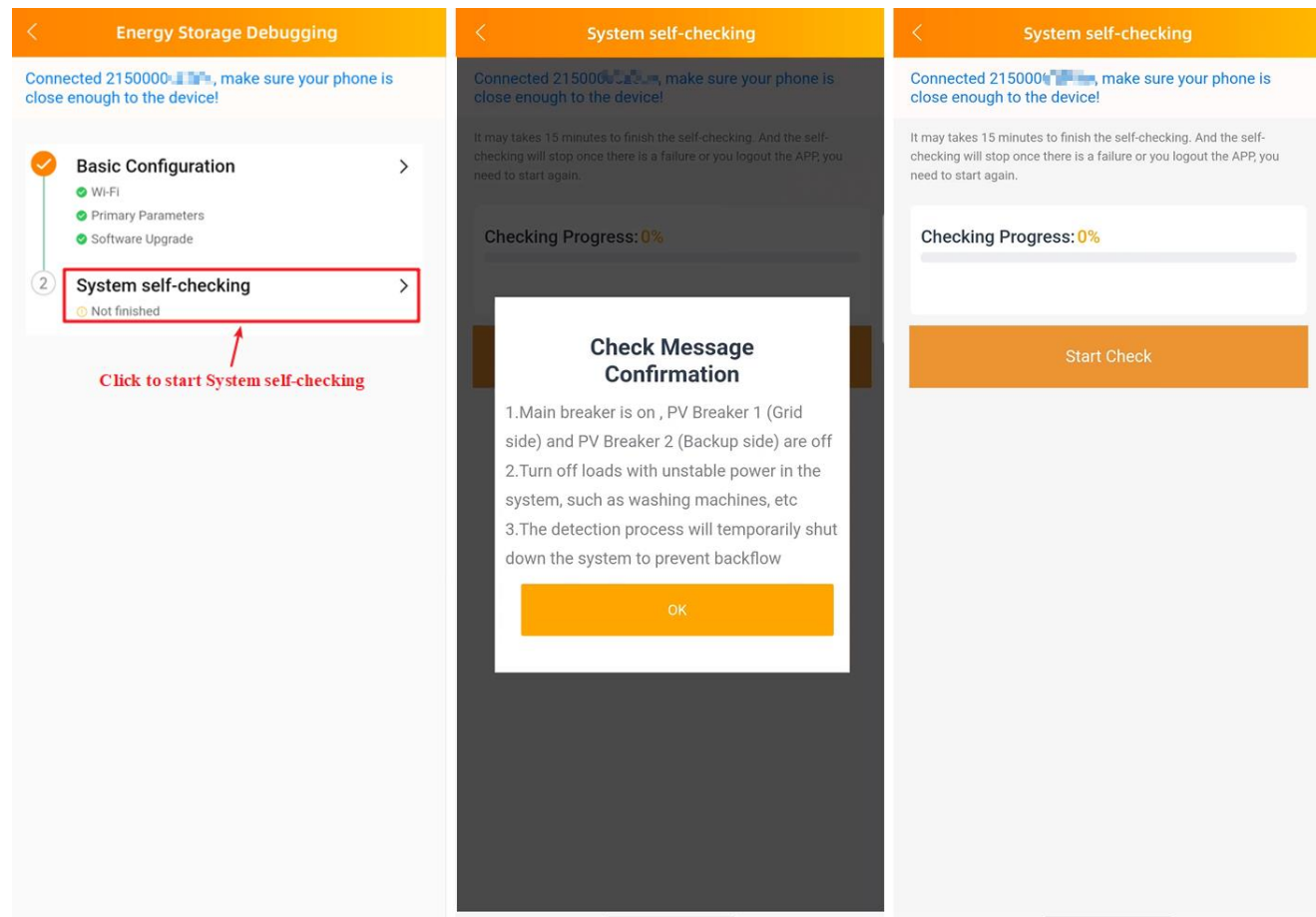
2.4 System self-checking

After completing all the previous configurations, you will enter the **“Energy Storage Debugging”** page. Access the **“System self-checking”** page, and it will guide us to conduct inspections of the device.

Note

- ◆ For the specific inspection items, the self-checking items will vary depending on the different compositions of the system, please refer to the actual situation when checking.

- Click **“System self-checking”**, enter the [System self-checking] page,
- Confirm the message and click **“OK”** in the pop-up window,
- Click **“Start Check”** to get inspecting.



2.4.1 APsystems PV System self-checking

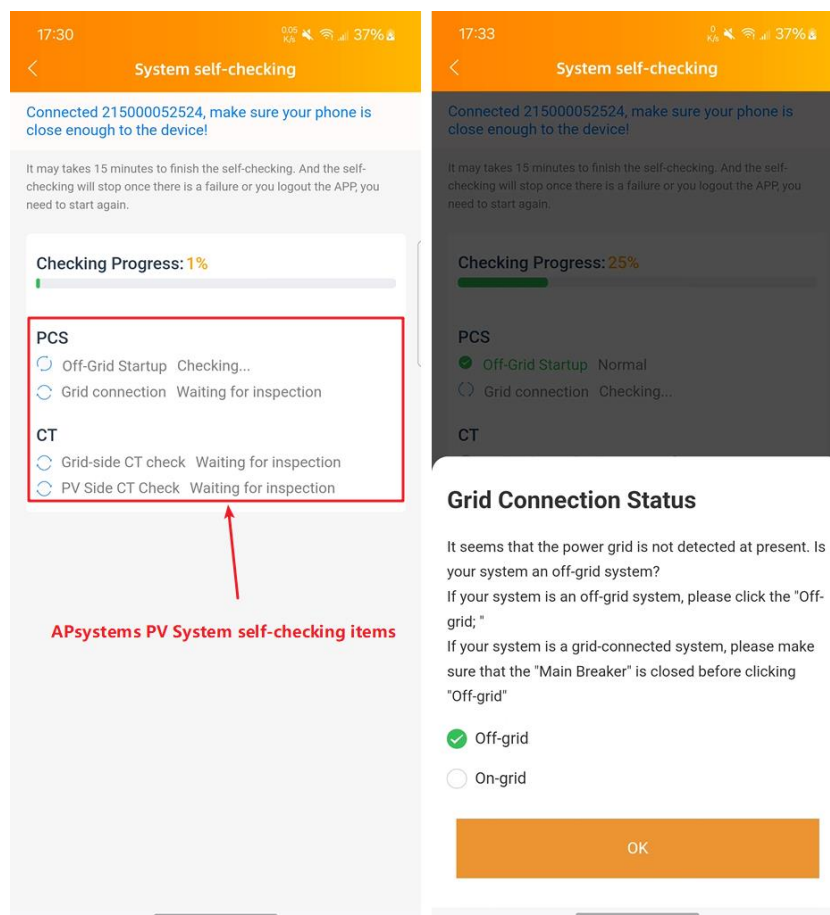
If you selected the “*APsystems PV system*” in Chapter 2.3.2.1, its self-checking items are as follows.

Note

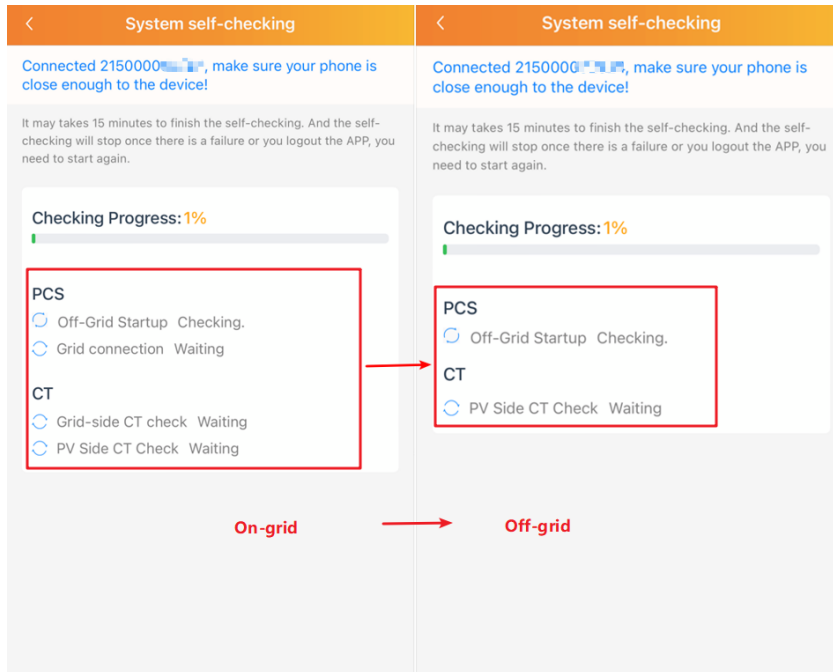
- ◆ There are different inspection items for different systems. And we have provided descriptions of the inspection items for two systems (the on-grid system and the off-grid system).

2.4.1.1 Off-grid system

- Check “Off-grid” and click “OK” to update the display of inspection items.

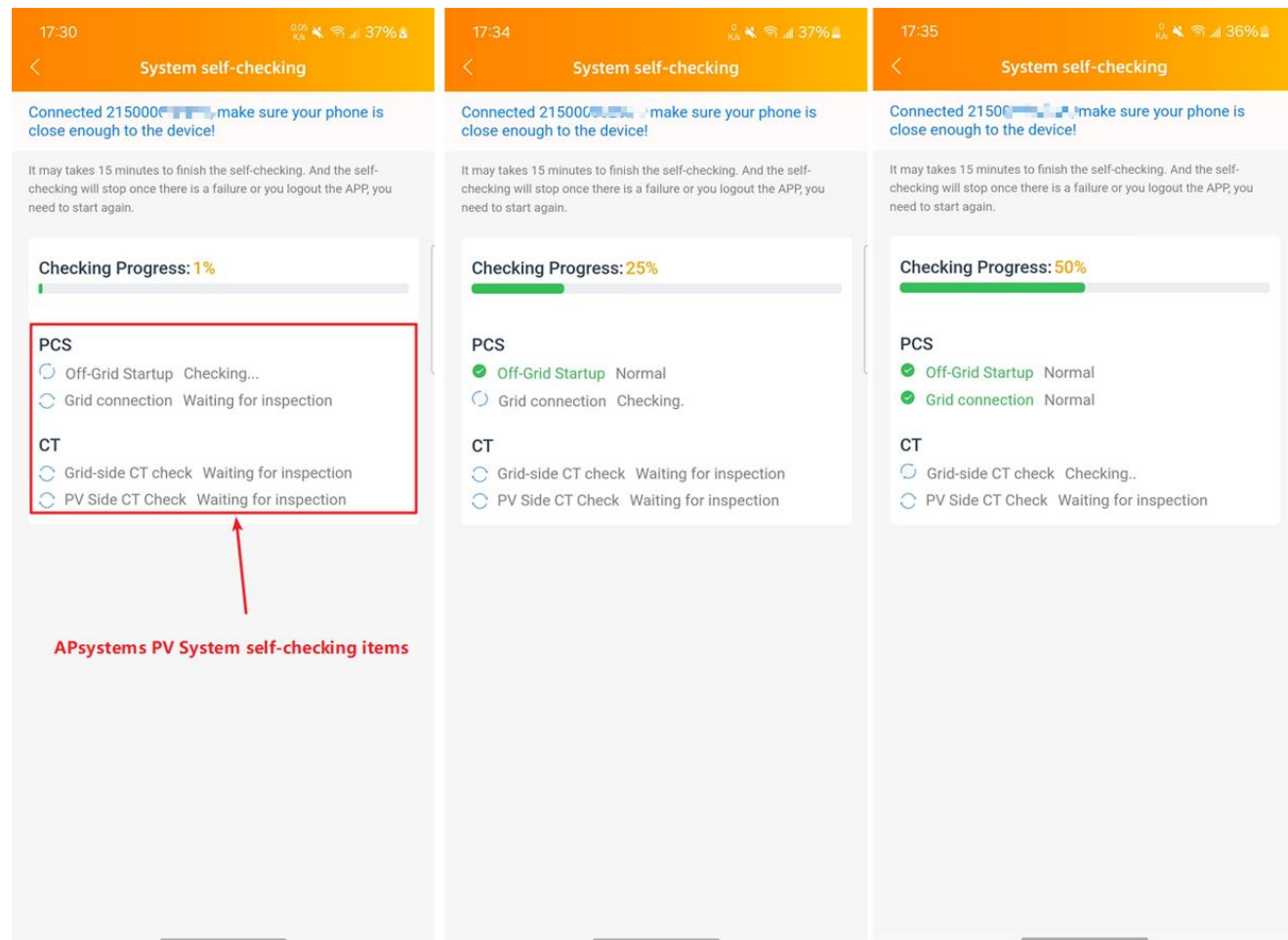


The content of the self-checking items for the off-grid system is as follows.



2.4.1.2 On-grid system

Here is the inspection process for the on-grid system.



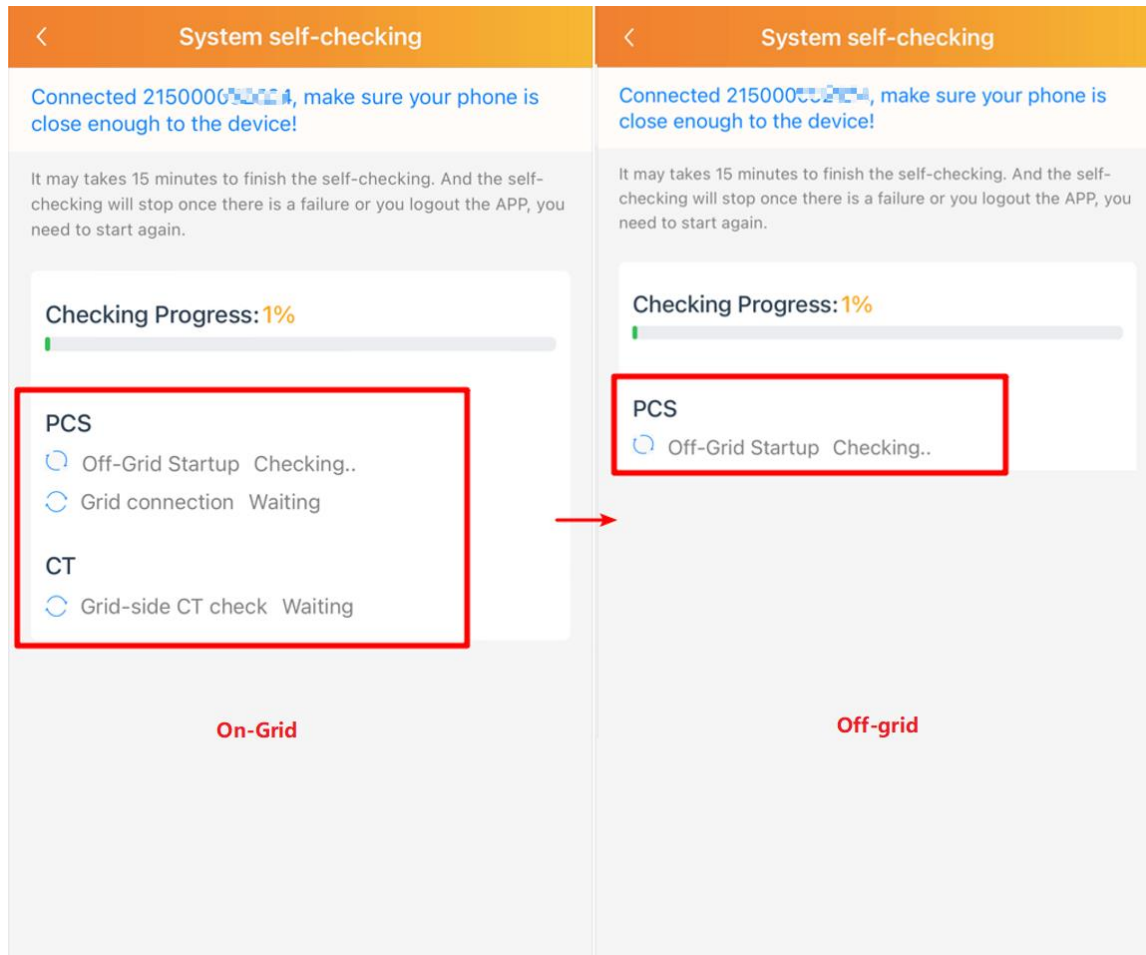
Note

- ◆ When checking **"Grid-side CT check"** and **"Grid-side CT check"**, a pop-up window as shown in the following figure will appear on the page, allowing you to choose whether to perform the corresponding self-checking.

2.4.2 Pure Energy Storage System self-checking

Not associated with the PV system: When setting “PV System”, choose not to enable it.

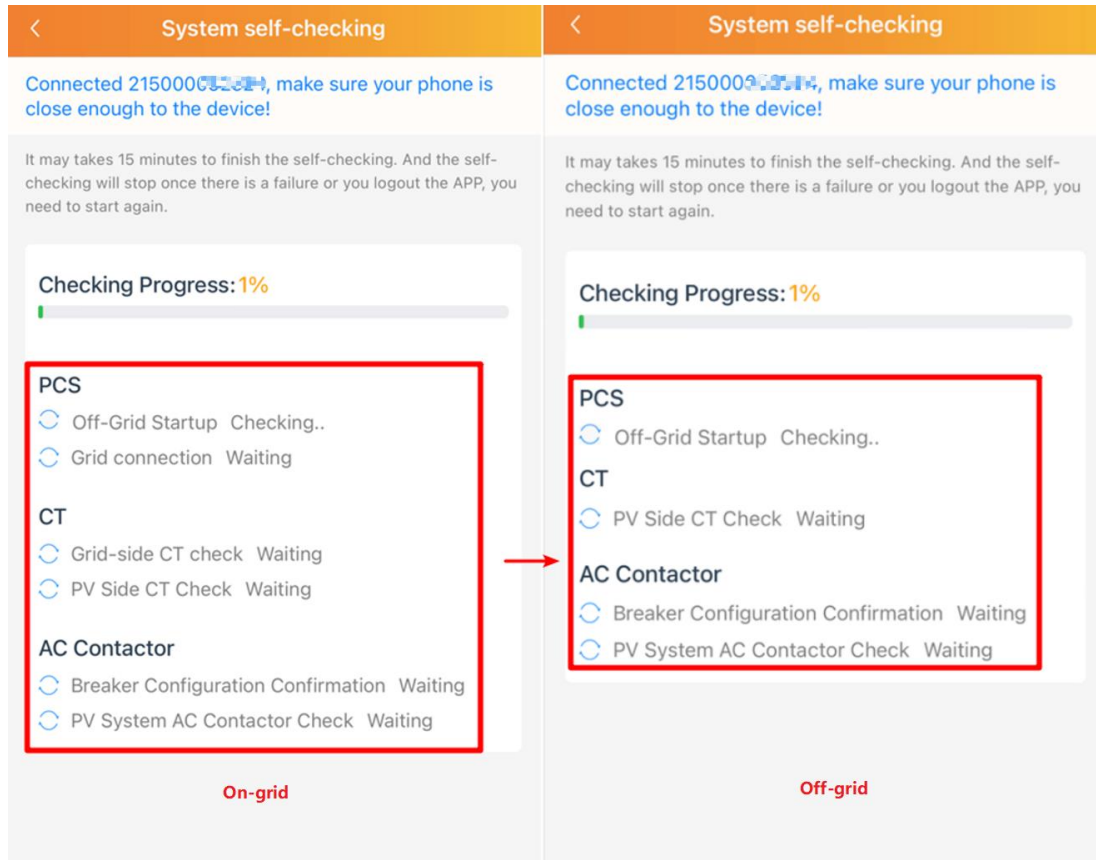
Here are the self-checking menu items for on-grid system and the off-grid system.



2.4.3 Third-Party PV System self-checking

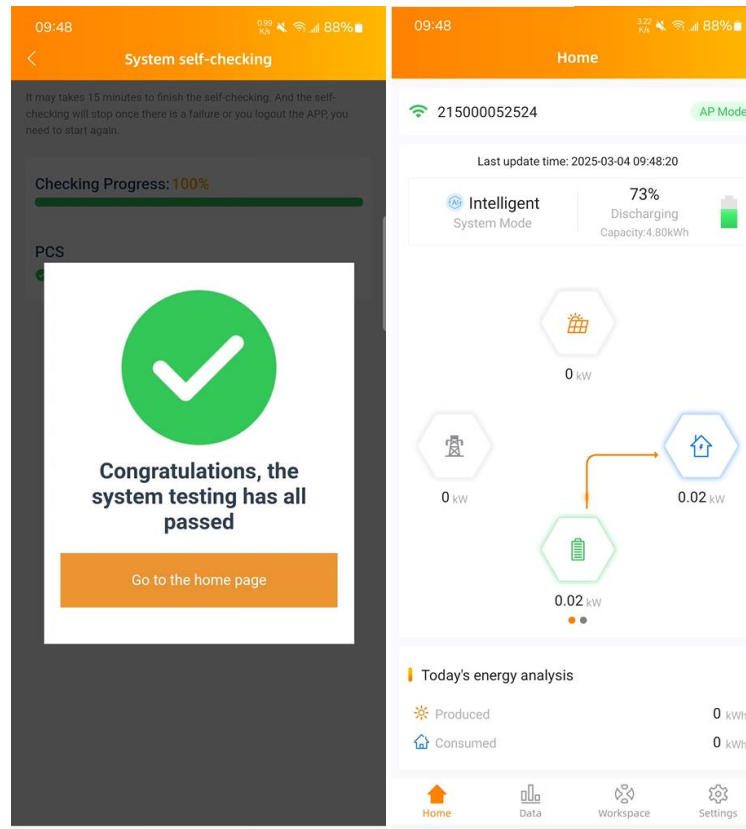
Associated with the Third-party PV system: When setting “PV System”, you choose the “**Third-Party PV System**” to set.

The self-checking menu items for on-grid system and the off-grid system is as follows:



3. Home Page

Once the system self-checking is completed, click the ***“Go to the home page”*** button in the pop-up window to enter the local homepage.



Note: If you don't click the ***“Go to the home page”*** button, the self-check step will still be entered during the next local access.

4. Market Contact Information

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