Solplanet
Manual

Android   IOS

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Contents

1 About This Document

1.1 Overview

This document describes the common operations of the Solplanet app.

1.2 Intended Audience

This document is intended for:

- ➢ Installers
- ➢ Users

2 Download "Solplanet" App

You can scan the QR code, download the Solplanet APP application.

Android   Ios

Figure 1. QR code for download the Solplanet APP application

3 Account related

If you do not have an account, you need to register an account first.

3.1 Create an account

- ➢ Step1. Open Solplanet APP, then click "Do not have an account"
- ➢ Step2. After selecting the identity you want to register (End user/ Business user), click "Next step"
- ➢ Step 3. After selecting your desired registration method (mobile phone/email), enter the correct mobile
- ➢ Step 4. Correctly enter the verification code received by mobile phone SMS/email
- ➢ Step 5. Enter the login password you wish to set for this login account, and click "Register". At this point, the account registration is complete.

For details, please refer to Figure 2.
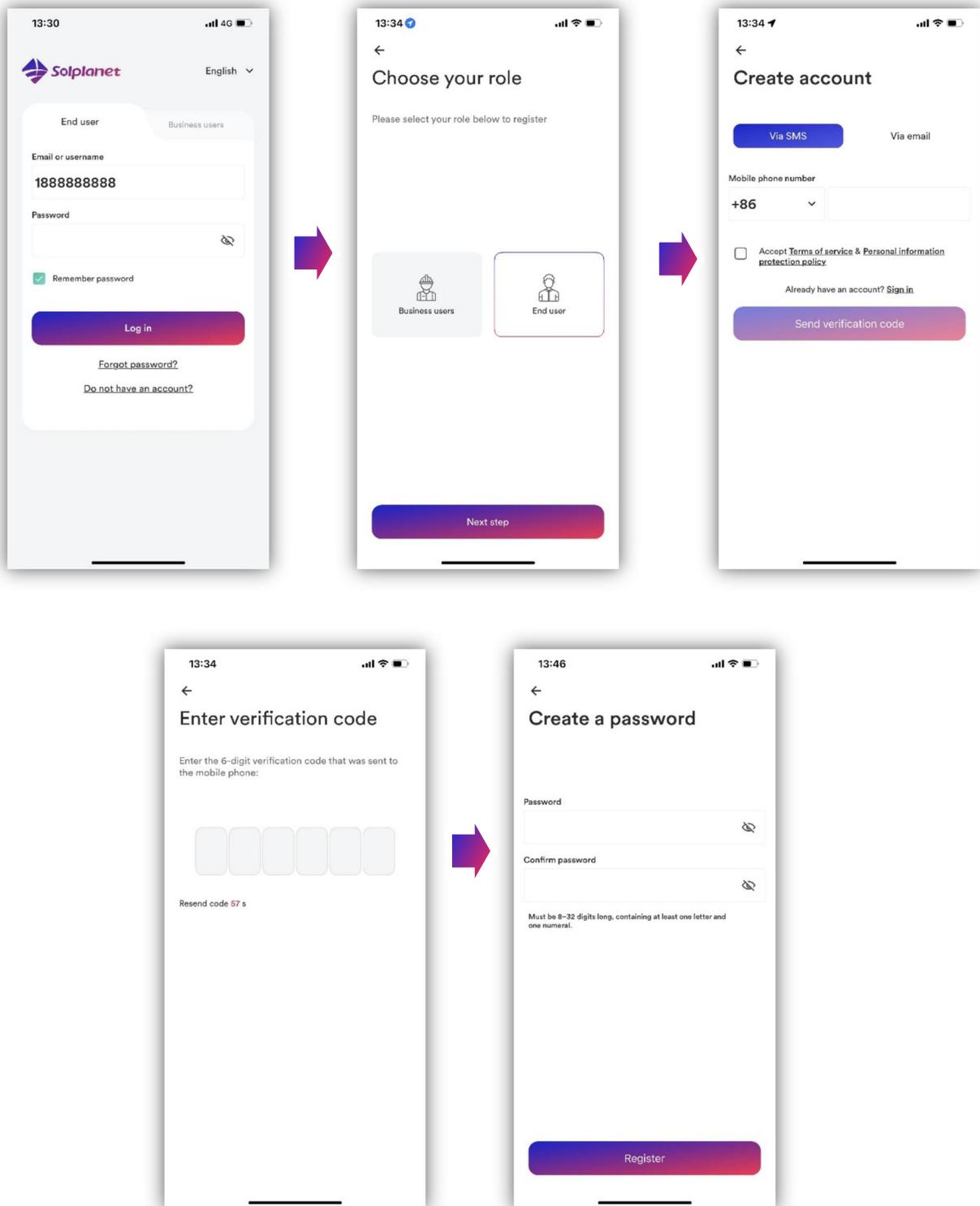
Figure 2. Register for a new account

3.2 Forgot password

➢ Step1. Open Solplanet APP, then click "Forgot password"
➢ Step2. Via mobile phone is default by system, You may also perform password retrieval via email by switching
   a. Enter registered mobile phone number or email
   b. Your mobile phone or email will receive a 6-digit pure digital verification code, and please enter it
   c. After the verification code is successful, please enter your desired new password（8-32 bits, supports

mixed letters and numbers）

d. After the reset is successful, you can log in to the app with the new password

For details, please refer to Figure 3.
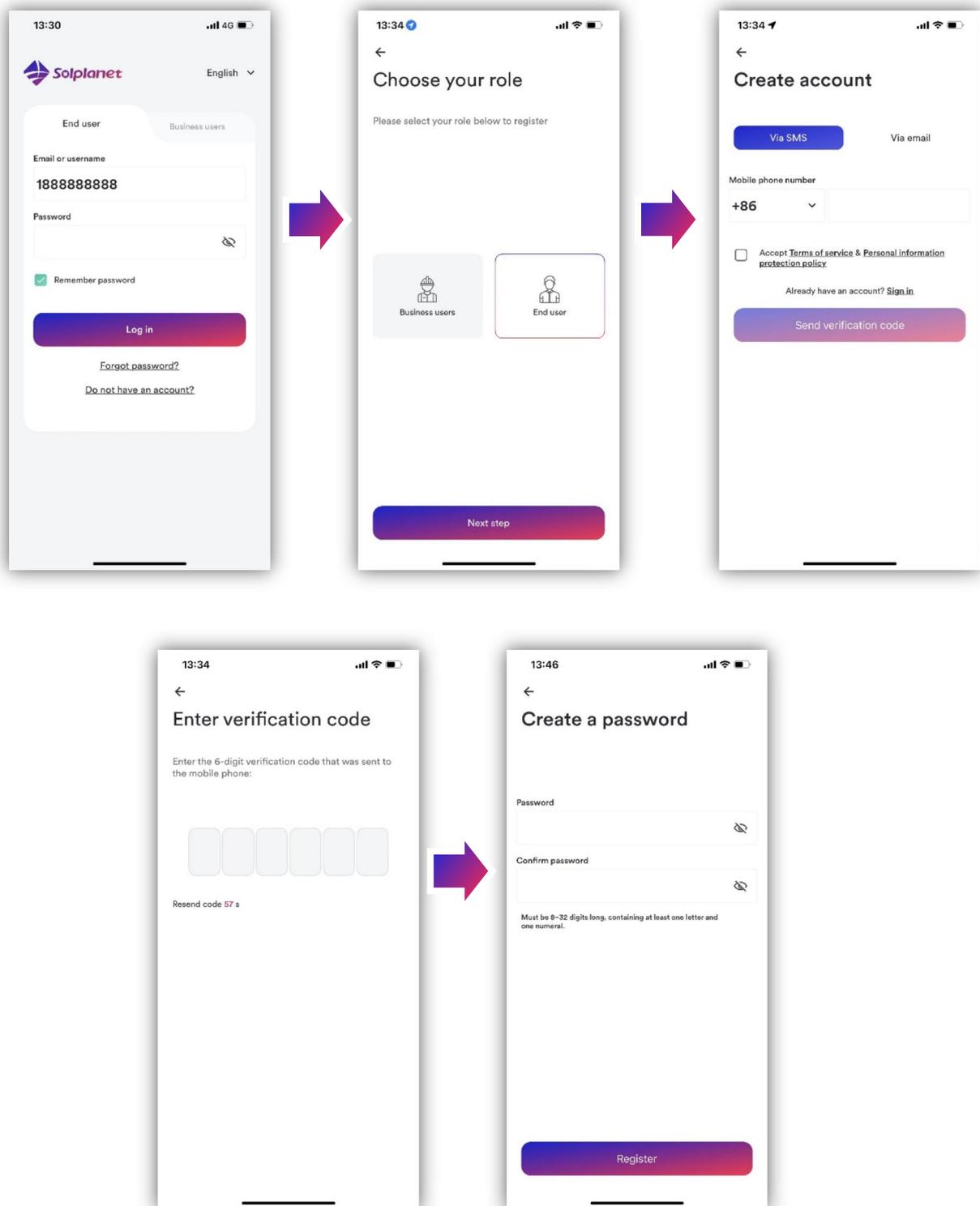
Figure 3. Forgot password

3.3 Data migration

● This function is used for customers in the Aiswei application to upgrade to enterprise users of the Solpalnet application, and at the same time copy all the power station information under the customer account in the Aiswei application to the Solplanet application.

● End users in the Aiswei app do not need to perform data migration and can log in directly with their Aiswei account.

● After the data migration of this function, the account level will be automatically upgraded to a business user.

● The data migration function can only migrate your own power station, not the shared power station.

➢ Step 1. In the login window, switch the login identity to "Business Users"

➢ Step 2. Click the "Data Migration" button to enter the lower page. Enter your company name, "AiSWEI" application account and password, and click "Start Migration" to complete the power plant data migration. For details, please refer to Figure 4.1.
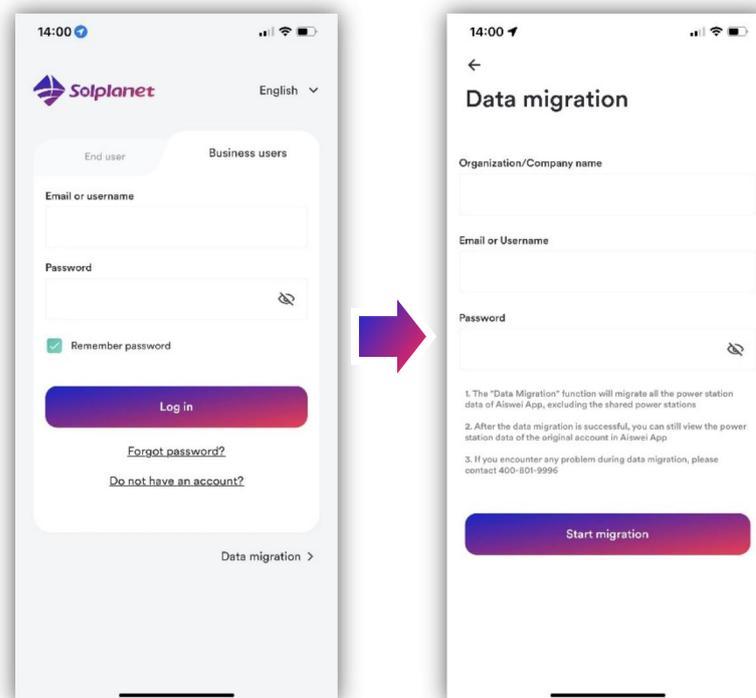
Figure 4.1. Data migration

● If you have registered a corporate user account through the "Solplanet" application and want to copy the power station information of the AiSWEI application. You can transfer power station information through the "Data Migration" entry on the "Me" page (as shown in Figure 4.2), and the operation steps are the same as the "Data Migration" on the login page above."
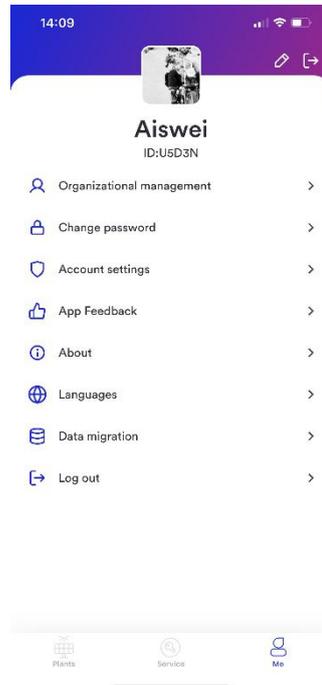
Figure 4.2. "Me"page

4 Create a new plant

➢ Step1. Text your account and password,then click "Login" (if you do not have account, refer to "3 Register" above)

➢ Step2. Click on the "+" icon

➢ Step3. Click the "Create or Modify a Plant" icon

➢ Step4. Scan dongle QR code or manually enter the serial number and the registration code

➢ Step5. Click "+ Create new plant"

➢ Step6. Enter PV plant information in all fields marked with a red asterix and tap "Create"
      Optional: turn on the App location services

➢ Step7. Click "Add dongle to this plant" and click "Add to plant"

➢ Step8.Click"Connect to dongle access point"

➢ Step9. Click the inverter serial number that matches your inverter,then click"Grid Code Settings" .Select the correct grid code and click "Save". The page will refresh, returning to the previous page.

Notice:

Both Business users and end users can set the grid code and protection parameters of the inverter when they create a power station for the first time.

➢ Step10. Click "Next step" ,to set up export power limitation or consumption monitoring tap "Yes" otherwise tap "Skip" and proceed to step 12

➢ Step11. Select the brand of the meter you installed, and set this page according to your needs. Click"Save"and click "Next step".

Notice:

If want the "Export Power Contorl" you set to take effect, you need to click "Save" first, and then click "Next step". If you click "Next step" directly, the settings on this page will not take effect.

➢ Step12. Click "Continue", select WiFi network from list and enter WiFi password ,then click "continue"

➢ Step13. Next, you need to observe whether the Led blue light of the dongle stays on. If it is always on, it means that the network configuration is successful, and you can click "Complete" to complete the configuration. Otherwise, you need to go back to the previous step and re-enter the Wi-Fi password.

For details, please refer to Figure 5.
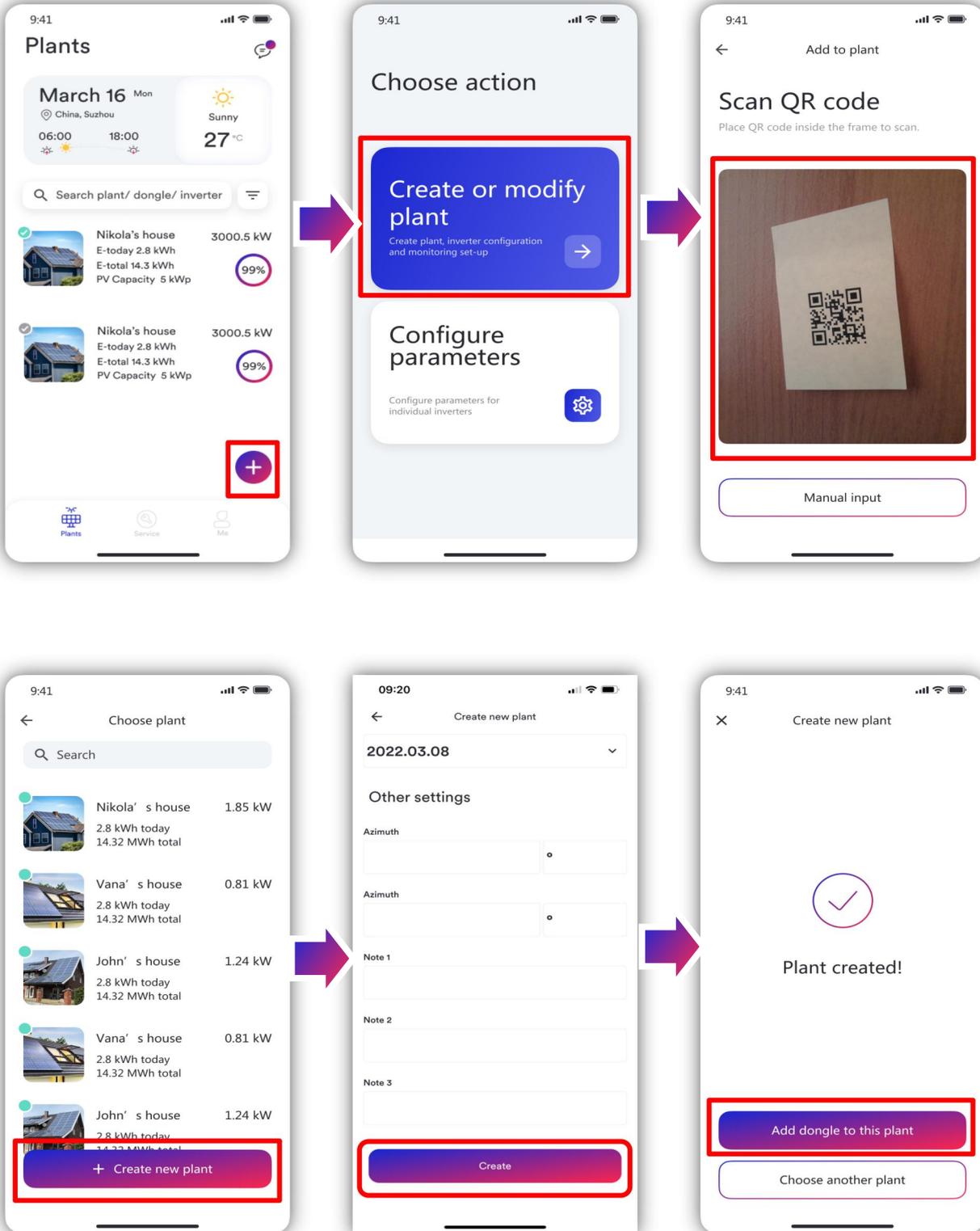
Figure 5. Create plant
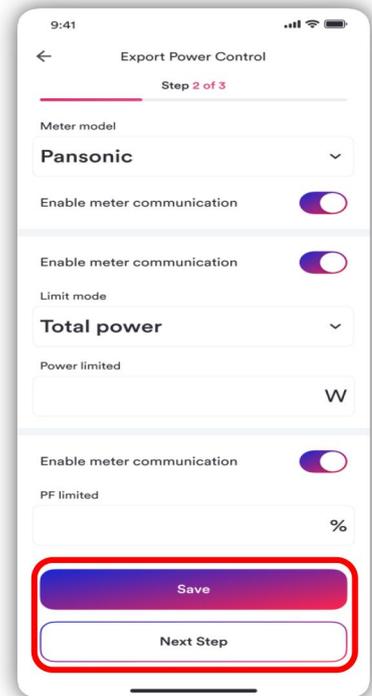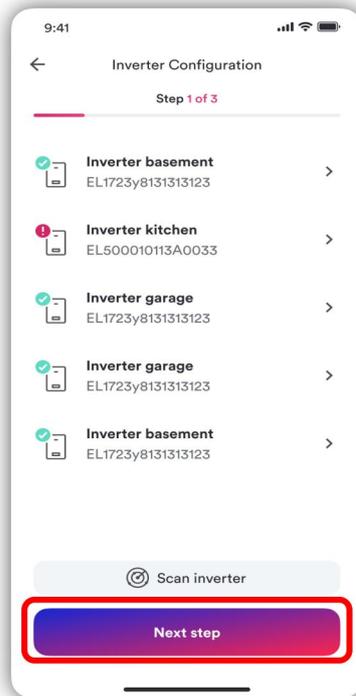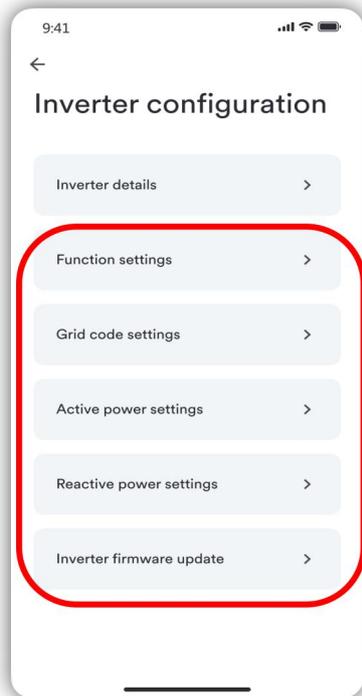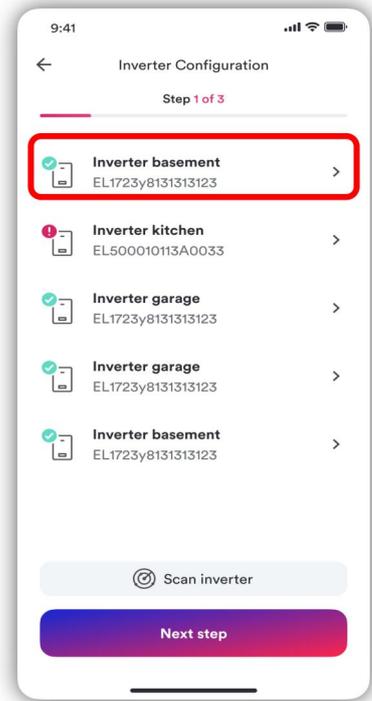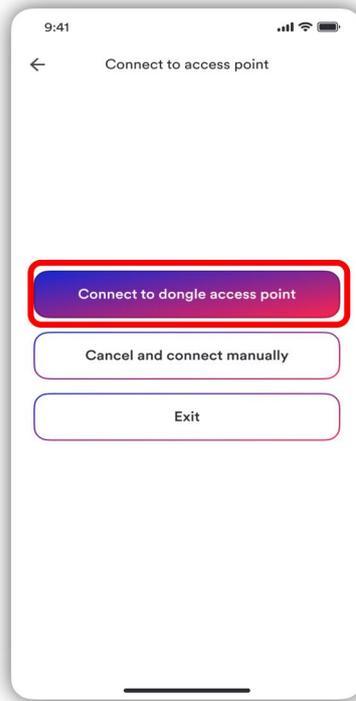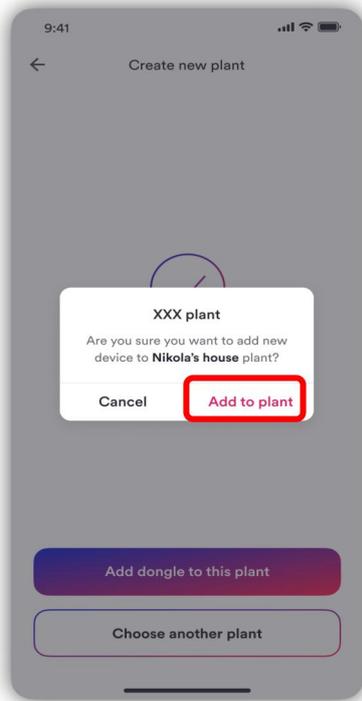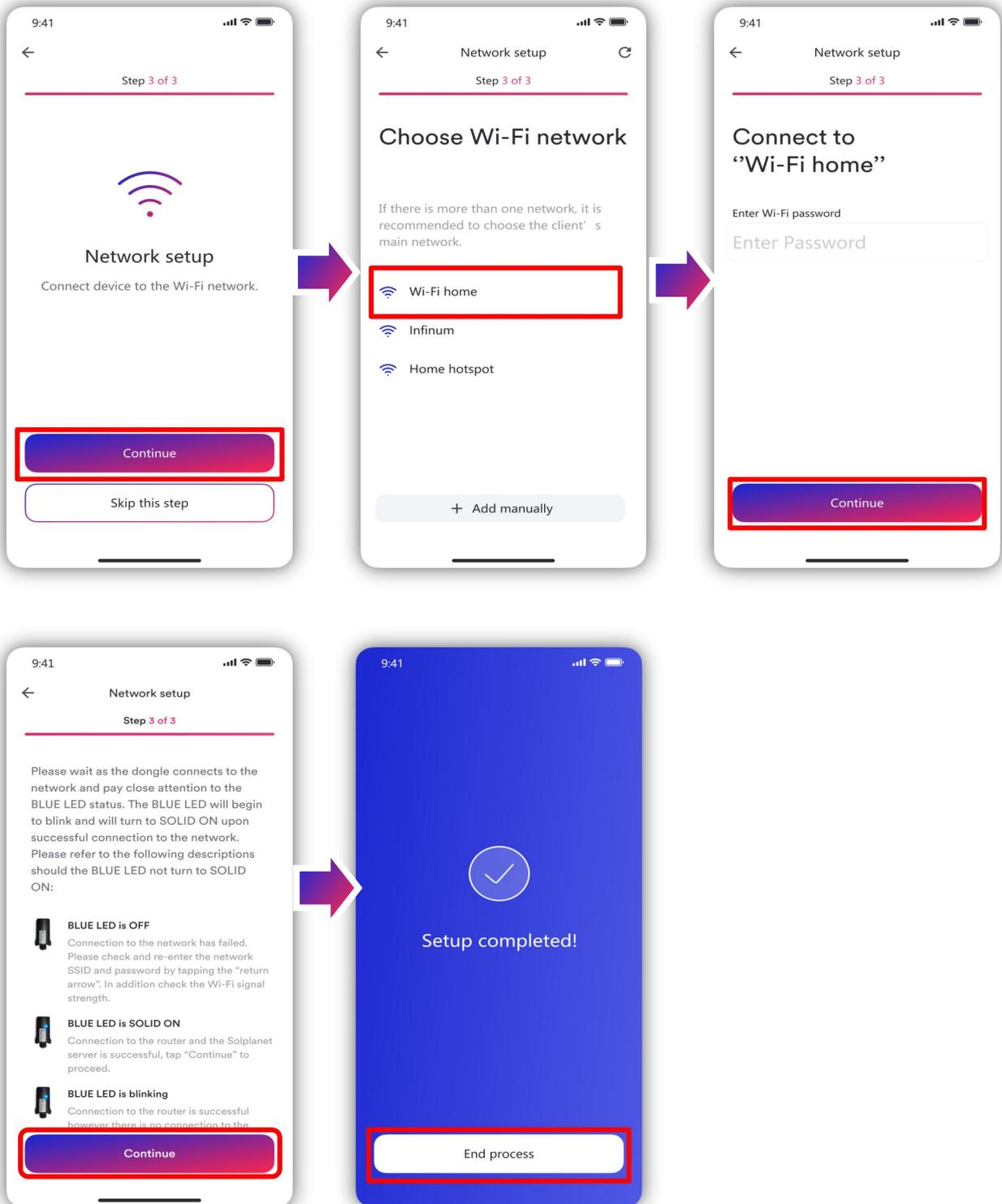
5 Setting parameters

5.1 Confirm the connection method

5.1.1.1 Set by "Network configuration"
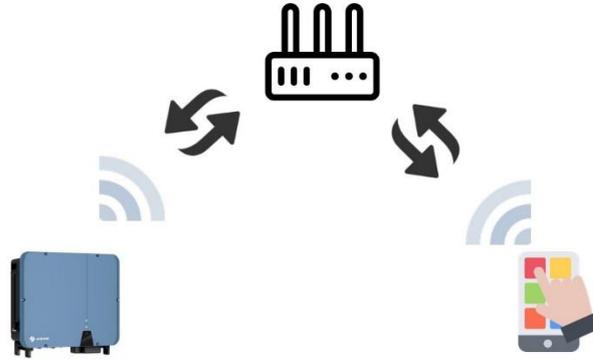
If you have configured any Wi-Fi network for the inverter before （the blue LED on the dongle should be solid ON）, you can use this mode to modify the parameters

➢ Step1. Connect smart phone to same Wi-Fi network the dongle is connected to
➢ Step2. Click on the "+" icon
➢ Step3. Click the "Configure parameters" icon
➢ Step4. Scan dongle QR code or manually enter the serial number and the registration code
➢ Step5. Select the "Network" entry, where you can set inverter-related parameters（gird code etc）, change network, set export power limitation, and set dongle parameters etc.

Notice:

Business users and end users have different permissions here. Business users can modify the inverter grid code and protection parameter settings for the inverter. However, end users can only perform firmware upgrade operations here.

For details, please refer to Figure 6.
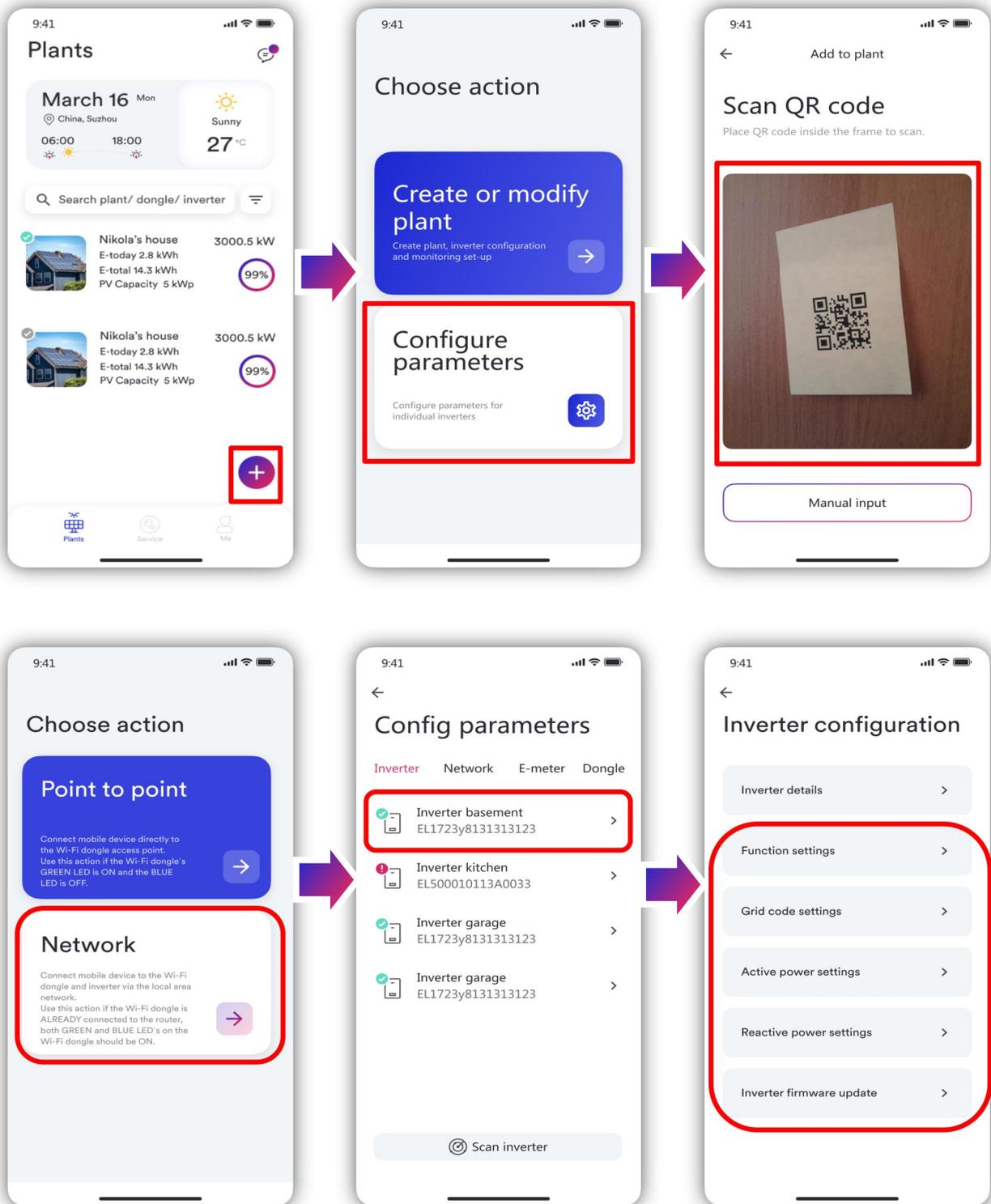
Figure 4. Network configuration

5.1.1.2　　Set by "Device hotsport configuration"
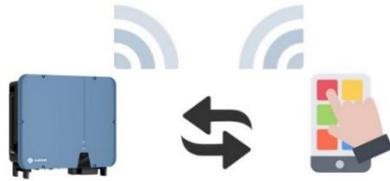
If you have not configured any Wi-Fi network for the inverter before（Only the green light is on）, you can use this mode to modify the parameters.

➢ Step1. Click on the "+" icon
➢ Step2. Click the "Configure parameters" icon
➢ Step3. Scan dongle QR code or manually enter the serial number and the registration code
➢ Step4. Select the "point to point" entry, where you can set inverter-related parameters（gird code etc）, change network, set export power limitation, and set dongle parameters etc.

Notice:

Business users and end users have different permissions here. Business users can modify the inverter grid code and protection parameter settings for the inverter. However, end users can only perform firmware upgrade operations here.

For details, please refer to Figure 7.
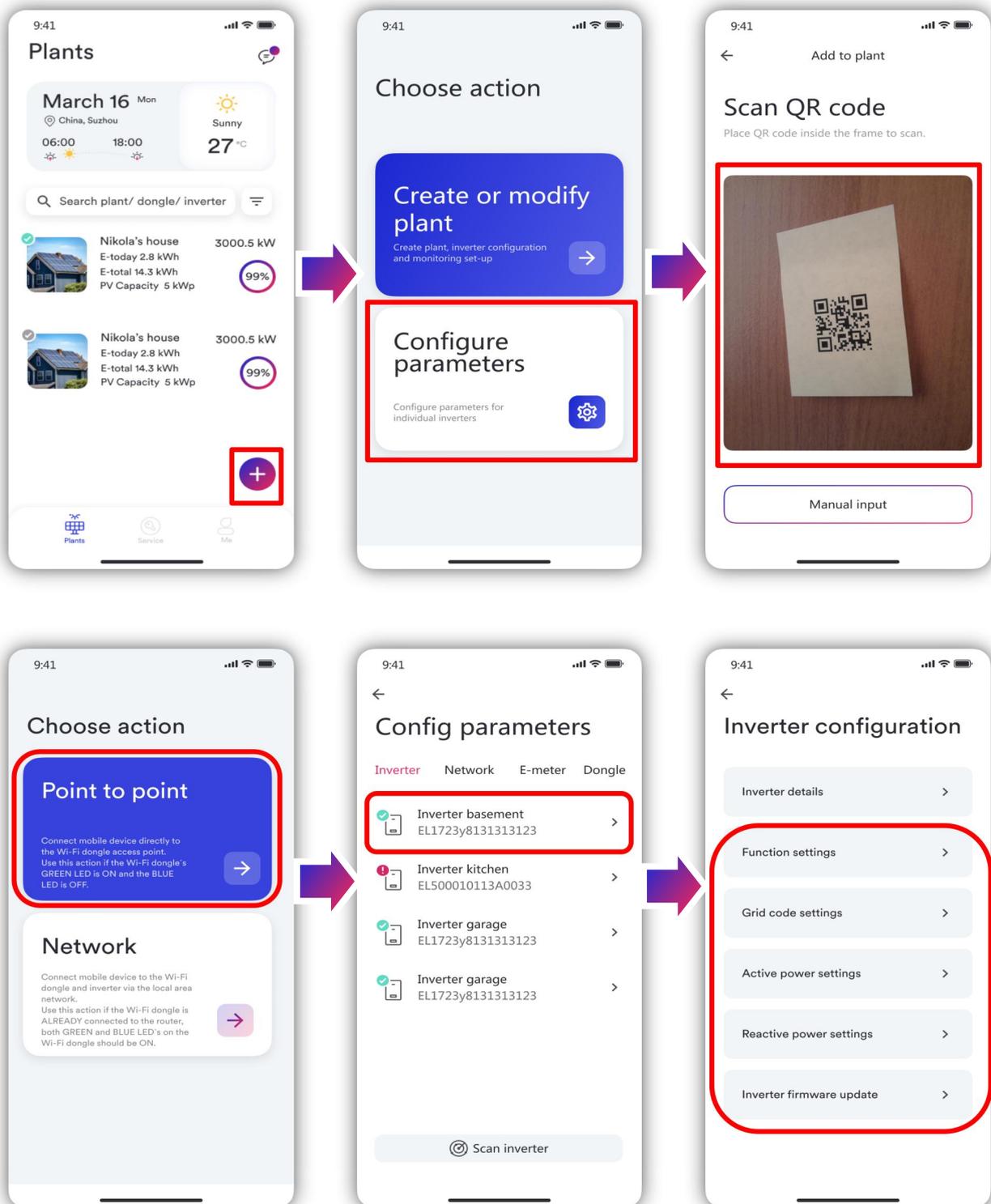
Figure 7. Device hotsport configuration

5.2 Smart dongle

As shown in Figure 8, the basic information of the smart dongle can be viewed in this page.

1. **View the status of cloud platform connection: normally connection to the cloud platform is indicated by a green tick; abnormal connection to the cloud platform is indicated by a red exclamation mark, the network exception code is in parentheses, and the code description is shown in appendix 2**

2. **Click this button to synchronize the phone's time to the monitoring device. If the monitoring device can access the cloud platform through the external network, the monitoring device will be synchronized with the time of the cloud platform**

3. **Click the Reset Smart Dongle button will restore the factory settings. You need to reconfigure the network before you can use it. For details, see 5.5 WLAN.**

4. **Click the Restart Smart Dongle button will restart the Smart Dongle. You need to rescan and configure parameters in the APP**
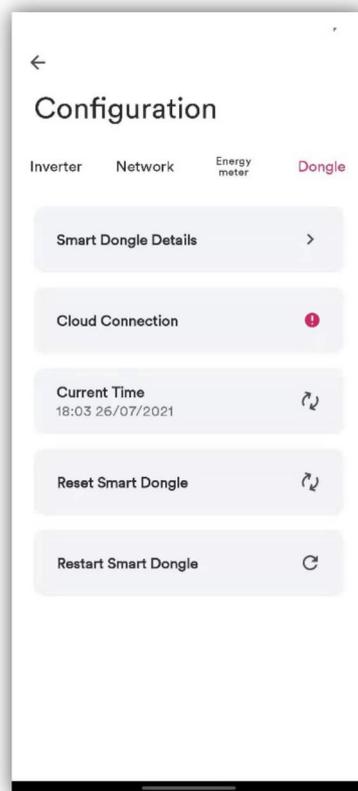
Figure 8. Smart dongle information page

5.3 Active power limitation setting

The company's monitoring device can be connected via smart meter protocol for controlling power output or user power consumption analysis, as shown in Figure 9.

The monitoring device is currently compatible with Eastron (http://www.eastrongroup.com/) smart meter models as follows:

SDM630CT
SDM630DC
SDM230
SDM220
SDM120

Click the meter "switch" button to enable or disable meter data monitoring function.

Click on the meter type to select the installed meter. If the meter has been selected and is in the working monitoring state, you need to turn off the meter function first, and then select the meter type again.

Click the Enable active power limitation button to turn on or off the active power limitation function. Target power limit needs to be set after enabling active power limitation function.

Click the Enable reactive power limitation button to turn on or off the power factor adjustment function. PF value needs to be set for reactive power limitation.
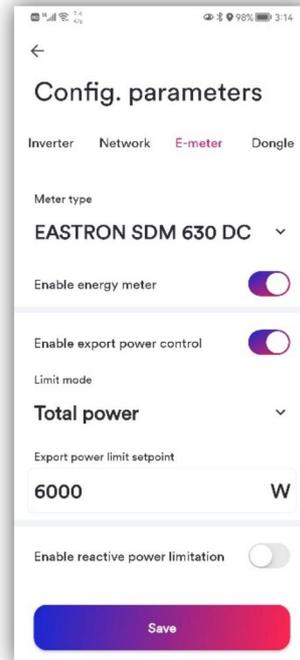
Figure 9 Smart meter page

5.4 Inverter list
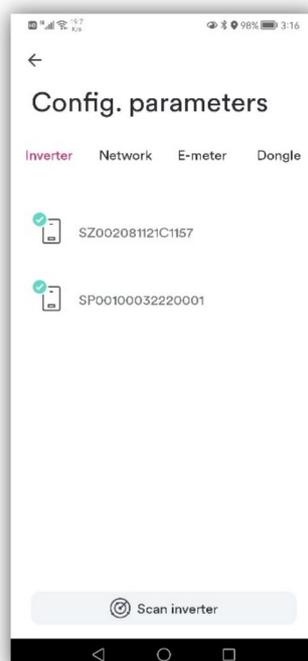
Figure 10 Inverter list

1.As shown in Figure 10, This page provides a list of monitored inverters. If there are multiple inverters to be monitored, click "Scan inverter" and wait for 5 minutes.

2. As shown in Figure 10.1, the inverter configuration should be set carefully under the guidance of professionals.
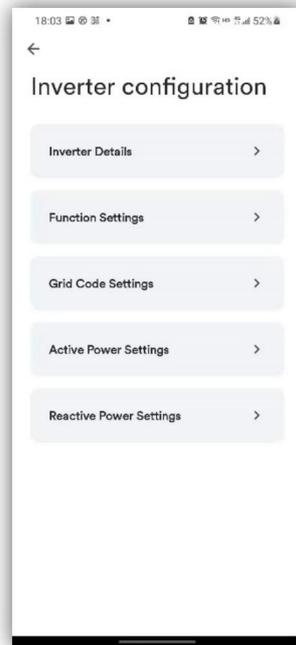
Figure 10.1 Inverter list details

> | **i** | **Inverter parameter configuration requires very professional inverter and power grid knowledge. If the configuration is wrong, it may damage the inverter or cause the grid to be abnormal, so please operate under the guidance of professionals.** |

5.4.1 Inverter details

1. Please refer to appendix 1 for the explanation of inverter error codes.

2. The page displays the inverter serial number and inverter details as shown in Figure 11.

3. You can view ac, dc, E-today, E-total, H-Total, power, data update time, error code, and PF value.

Figure 11 Inverter information

5.4.2 Function settings

As shown in Figure 12, each function has an enable switch. Once turned on, the function will be enabled.
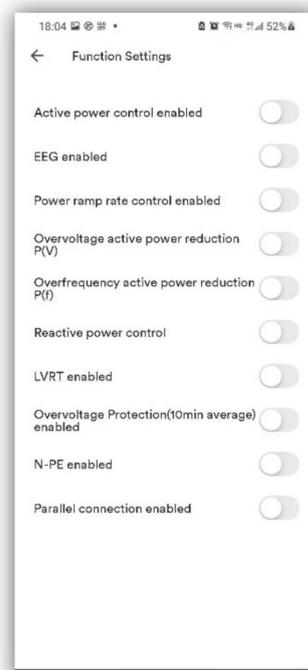
Figure 12 Function settings

5.4.3 Grid code settings

1. As shown in Figure 13, this page is used to switch the safety standard code
National standard:

The currently selected national standards are displayed on the right side of "National Standards". Normally, the national standards required by the power grid companies in various regions are covered when the equipment leaves the factory, and you do not need to reset it.

If the current national standard is not set reasonably according to the requirements of your local power grid company, please click "national standard" to select the correct national standard option and click to set it.
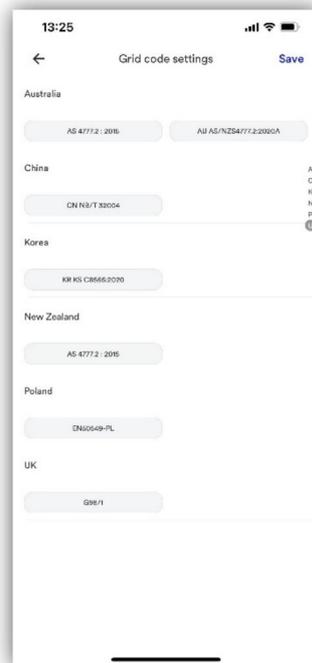
Figure13 Grid code settings

5.4.4 Startup parameter settings

Start voltage and start frequency

Click 'Startup parameter settings', the next page will display the parameters, as shown in Figure 14.

The appropriate start voltage range and frequency range can be set according to the requirements of the local power grid company.

Figure 14 Startup parameter settings

5.4.5　Grid voltage protection settings

Voltage monitoring: Click "Grid voltage protection", the next page will display the parameters, as shown in Figure 15.

There are three threshold levels for overvoltage and undervoltage protection. The Stage 1 threshold represents the minimum range, and the Stage 3 threshold represents the maximum range.

All thresholds need to follow the following principles:

Maximum Stage 1 threshold ≤ maximum Stage 2 threshold ≤Maximum Stage 3 threshold

Minimum Stage 1 threshold ≥ minimum Stage 2 threshold ≥ Minimum Stage 3 threshold

Stage 1 operate time ≤ Stage 2 operate time ≤ Stage 3 operate time
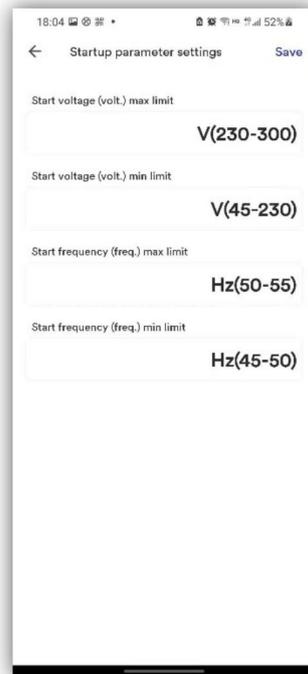
Figure 15 Grid voltage protection settings

5.4.6   Grid frequency protection settings

Frequency monitoring: Click "Grid frequency protection", the next page will display the parameters, as shown in Figure 16.

There are three threshold levels for overfrequency and underfrequency protection. The Stage 1 threshold represents the minimum range, and the Stage 3 threshold represents the maximum range.

All thresholds need to follow the following principles:

Maximum Stage 1 threshold ≤ maximum Stage 2 threshold ≤ Maximum Stage 3 threshold

Minimum Stage 1 threshold ≥ minimum Stage 2 threshold ≥ Minimum Stage 3 threshold

Stage 1 operate time ≤ Stage 2 operate time ≤ Stage 3 operate time
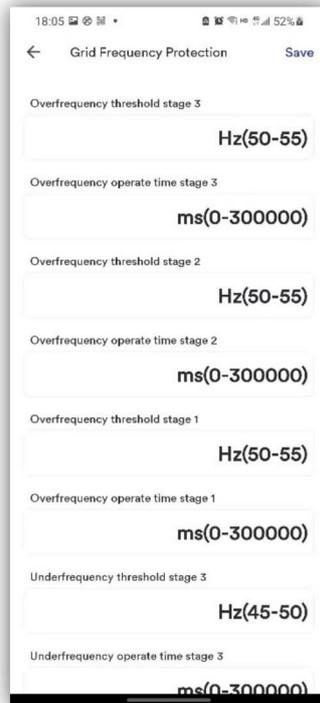
Figure 16 Grid frequency protection settings

5.4.7   Reconnection time settings

Connection and reconnection time: Click "Reconnection time settings", the next page will display the parameters, as shown in Figure 17.

Before the inverter is connected or reconnected to the grid, the observation time for observing that all voltage and frequency values are within the specified range can be set on this page.
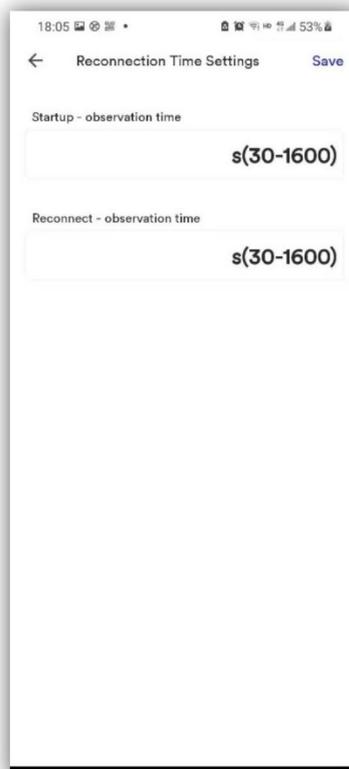
Figure 17 Reconnection time settings

5.4.8 Other protection settings

Inverters used with ungrounded or functionally grounded arrays should have a method of measuring the DC insulation resistance from the photovoltaic input (array) to ground before starting operation. The minimum insulation resistance can be set on this page, as shown in Figure 18.

Figure 18. Other protection settings

5.4.9 Active power settings

During AC operation and while controlling or changing powers, the active power generated by the inverter shall not exceed the prescribed gradient, expressed as a percentage of the nominal active power of the inverter per minute. You can set the "Active power increase gradient" and "Active power reduction gradient" as required, as shown in Figure 19.

The grid company may require you to reduce the set value of active power. You can set the "active power" according to your needs.
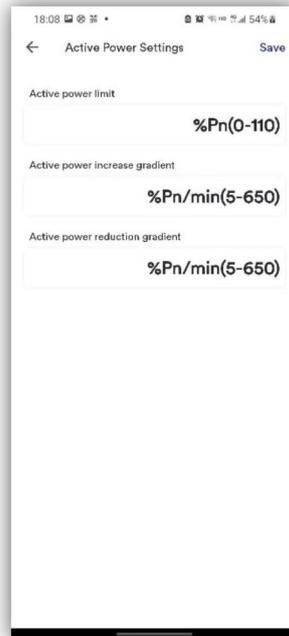
Figure 19 Active power settings

5.4.10 Ramp rate settings

After connection or reconnection, the active power generated by the inverter shall not exceed the prescribed gradient, expressed as a percentage of the nominal active power of the inverter per minute. You can set the "Startup - active power increase gradient" and "Reconnect- active power increase gradient" as required, as shown in Figure 20.

Figure 20 Ramp rate settings

5.4.11 Overfrequency response settings

Overfrequency response settings is as shown in Figure 21:

Overfrequency active power reduction P (f)

The inverter can enable the active power overfrequency response at a programmable frequency threshold having programmable droop. Four modes can be selected here.

Fixed gradient and non-hysteresis: ΔP is a percent active power as a Pn, and the inverter provides active power overfrequency response control with non-hysteresis.

Fixed gradient and hysteresis: ΔP is a percent active power as a Pn, and the inverter provides active power overfrequency response control with hysteresis.

Variable gradient and non-hysteresis: ΔP is a percentage of active power to PM, and the inverter provides active power overfrequency response control with non-hysteresis.

Variable gradient and hysteresis: ΔP is a percentage of active power to PM, and the inverter provides active power overfrequency response control with hysteresis.

The figure below describes the difference between control with hysteresis and non-hysteresis.
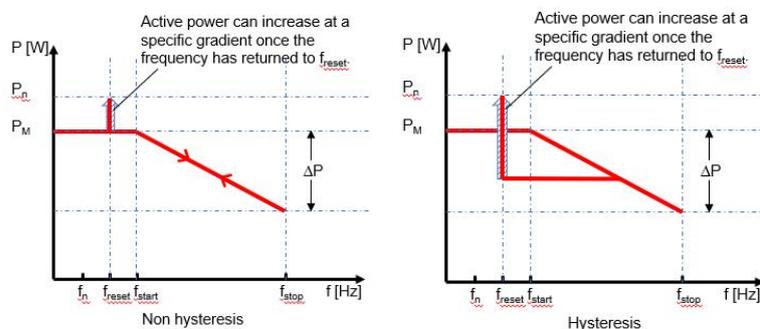
fn: Rated frequency

freset: Reset frequency

fstart: Start frequency

fstop: Stop frequency

ΔP : Percentage of active power reduction

The intentional delay time of p (f) is only active for frequency after fstart, and the intentional delay time plus the inherent dead time should be less than 2s.

The minimum delay time of active power release is a delay time that can increase active power after the Freset frequency.
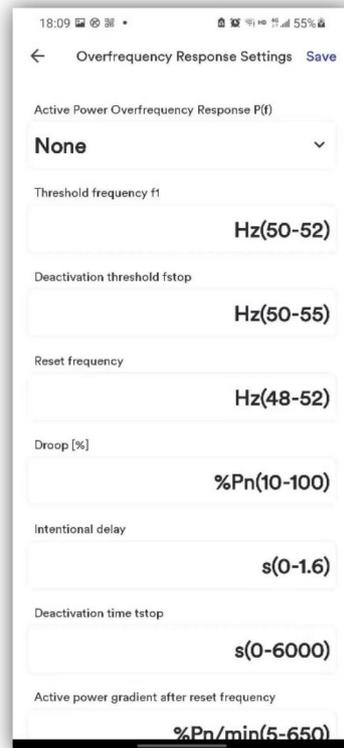
Figure 21 Overfrequency response settings

5.4.12 Overvoltage response settings

Overvoltage response settings is as shown in Figure 22:

Overvoltage active power reduction P (v)

The inverter can enable the active power overvoltage response at a programmable voltage threshold having programmable droop. Five modes can be selected here.

Fixed gradient and non-hysteresis: ΔP is a percent active power as a Pn, and the inverter provides active power overvoltage response control with non-hysteresis.

Fixed gradient and hysteresis: ΔP is a percent active power as a Pn, and the inverter provides active power overvoltage response control with hysteresis.

Variable gradient and hysteresis: ΔP is a percentage of active power to PM, and the inverter provides active power overvoltage response control with hysteresis.

Variable gradient and hysteresis: ΔP is a percentage of active power to PM, and the inverter provides active power overvoltage response control with hysteresis.

The difference between control with hysteresis and non-hysteresis is described below.
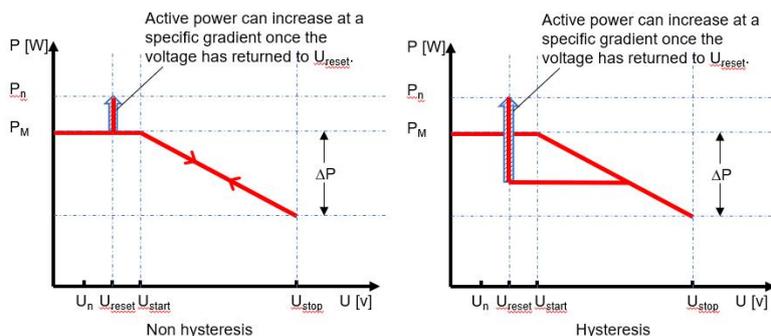
fn: Rated voltage

freset: Reset voltage

fstart: Start voltage

fstop: Stop voltage

ΔP : Percentage of active power reduction

The intentional delay time of p (f) is only active for voltage after Ustart, and the intentional delay time plus the inherent dead time should be less than 2s.

The minimum delay time of active power release is a delay time that can increase active power after the Ureset voltage.

Figure 22 Overvoltage response settings

5.4.13 Reactive power settings

Reactive power settings are shown in Figure 23:

The inverter may need to control voltage by generating and absorb reactive power. There are seven reactive power control modes. Only one mode can be activated each time.

From the perspective of the national grid, the inverter is used as a load standard. This refers to the inverter in Quadrant II (under-Excited) or III (Overexcited) as follows.
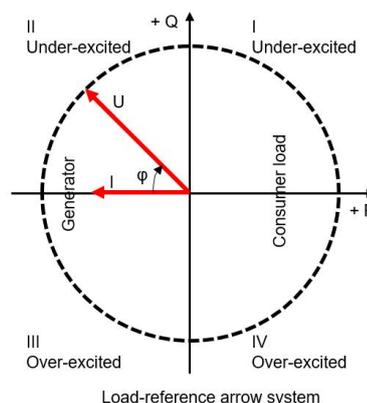
Over-excited reactive power is also called capacitor reactive power or advance power factor

Under-excited reactive power is also called inductive reactive power or hysteresis power factor

Click 'Reactive power mode' to select mode. Then first set the 'triple time constant'. The change in reactive power may need to correspond to the first filter. "Triple time constant" is the three time constants of the filter, which is 95% of the nominal value.
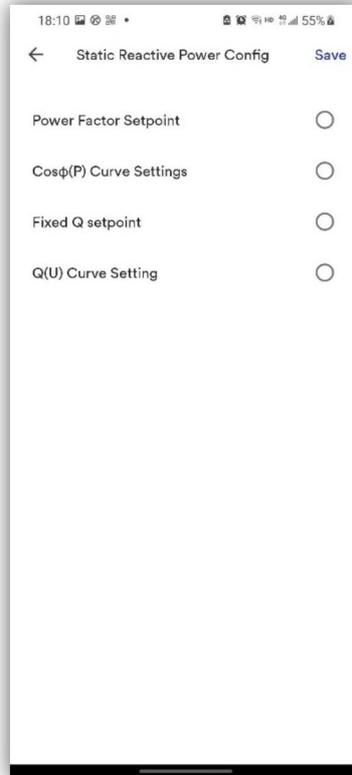
Figure 23 Static reactive power

5.4.14 Time constant

Time constant settings is as shown in Figure 24:
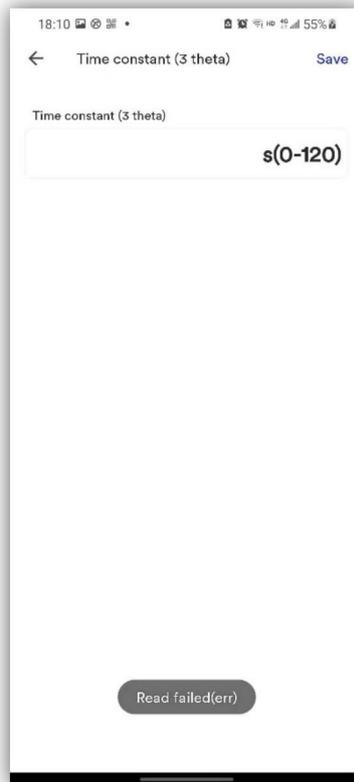
Figure 24 Time constant

5.4.15 Power factor settings

COSφ setpoint configuration is as shown in Figure 25:
Can set fixed displacement coefficient cosφ
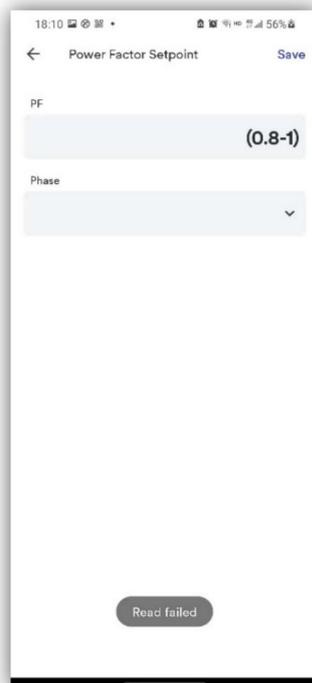
Figure 25 Power factor setpoint

5.4.16 Cos（P）curve settings

Cos (P) curve settings is as shown in Figure 26:

Power related control mode COS (P) controls output COSφ as a function of active power output

There are four adjustable coordinate points on the curve, as shown below

cosφ(P) Curve
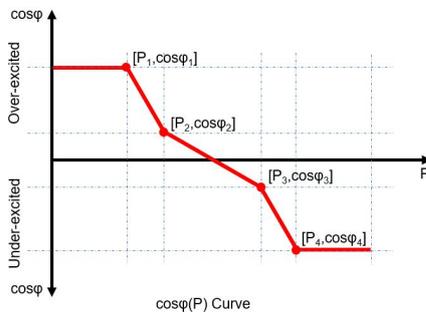
The coordinate point is the active power and displacement coefficient cosφ as the proportion of Pn.

Some grid companies may require two voltage thresholds as the percentage of Un to activate or deactivate this feature. Voltage threshold is often referred to as "locked" and "lockout" voltage

The activation threshold (percentage of Un) corresponds to the "locked" voltage.

The deactivation threshold (percentage of Un) corresponds to the "lockout" voltage.

Figure 26. Cos（P）curve settings

5.4.17 Fixed reactive power settings

Fixed reactive power setting is as shown in Figure 27:

A percentage of fixed reactive power to Pn can be set.

Figure 27 Fixed Q setpoint

5.4.18 Q-U curve adjustment

Cos (P) curve settings is as shown in Figure 28:

Voltage-related voltage control mode Q（U）controls reactive power output as a function of voltage.

There are four adjustable coordinate points, the difference between non-hysteresis control and hysteresis control in the curve is as shown below.
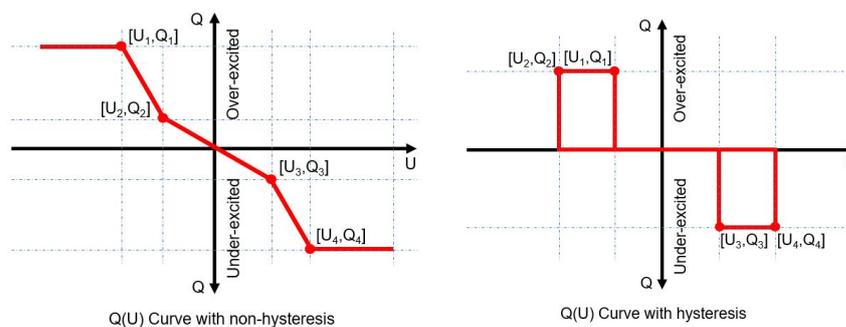
The coordinate point is the percentage of the voltage (the percentage of Un) and the reactive power (Pn).

Some grid companies may require two active power thresholds as the percentage of Pn to activate or deactivate this feature. The active power threshold is often referred to as "non-hysteresis" and "hysteresis" active power.

The activation threshold (percentage of Pn) corresponds to the "locked" active power.

The deactivation threshold (percentage of Un) corresponds to the "lockout" voltage.

Figure 28 Q-U curve adjustment

5.4.19 Inverter Firmware upgrade

If you want to upgrade the firmware of the inverter, as shown in Figure 29:

Step1: Save the firmware to your smart phone.

Step2: Click the update button to find the firmware in your smart phone.

Step3:Wait for the uploading and keep the power during the upgrade process, and the whole process will take about 10 minutes at least. After 10 minutes, you can check the firmware with the tool app.
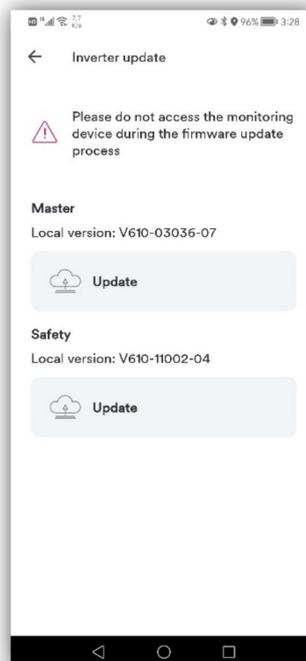
Figure 29 Q-U curve adjustment

5.4.20 Energy storage settings

If you have an energy storage inverter, you can set information such as battery here， choose the brand of battery you install, the number of blocks, and set the battery operating mode you want.as shown in Figure 30:
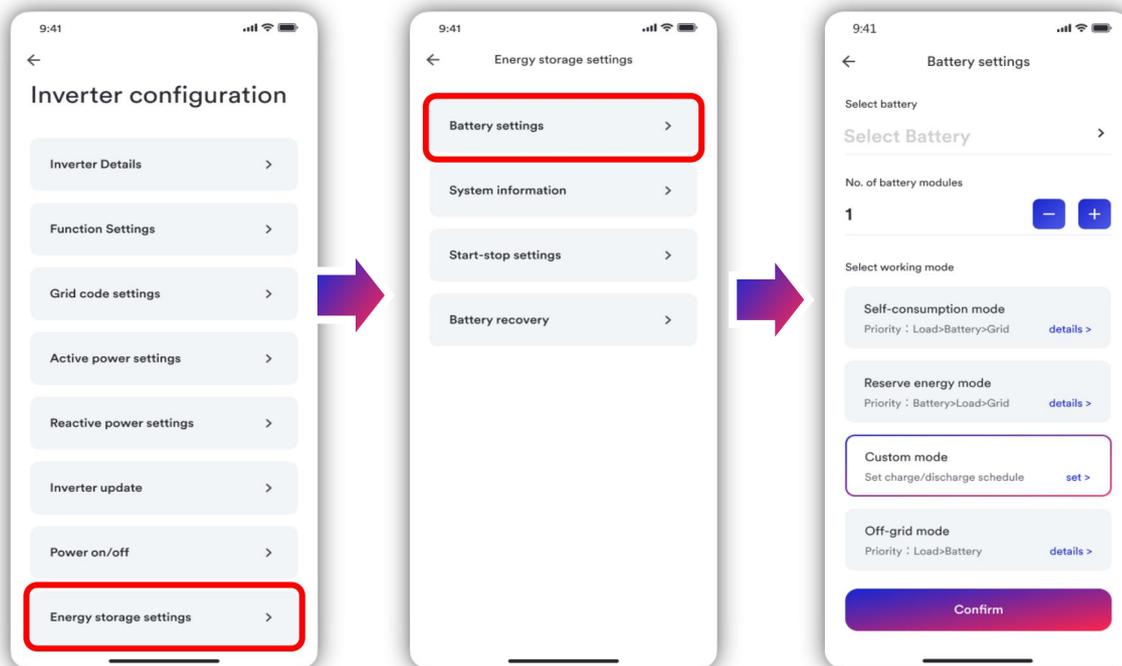
Figure 30 Energy storage battery settings

Introduction to battery working mode

Self-consumption mode

Priority： Load > Battery > Grid

·This mode uses the available power from the PV panels and battery to minimise the power consumption from the electricity grid.

·Excess power generated by the PV

panels will charge the battery.

·When completely charged the excess power may be exported to the grid.

Reserve storage mode

Priority： Battery > Load > Grid

·This mode is similar to the self-consumption mode however a certain amount of battery capacity will be reserved for emergency power use during, for example, a grid failure or black-out.

·The reserve capacity can be adjusted according to the specific needs

Custom mode

This mode is mainly used for the peak-to-valley price difference in the electricity price, and the charging and discharging time period and charging and discharging power can be customized.

Off-grid mode

Priority： Load > Battery

·This mode allows the PV plant to operate without a connection to the electricity grid

·PV panels and a battery is required for this mode

·Ensure that the load does not exceed the maximum rating of the inverter and the maximum discharge capacity of the battery

5.5 WLAN

Router Page: Configure the monitoring device to connect the network through Wi-Fi, as shown in Figure 31.
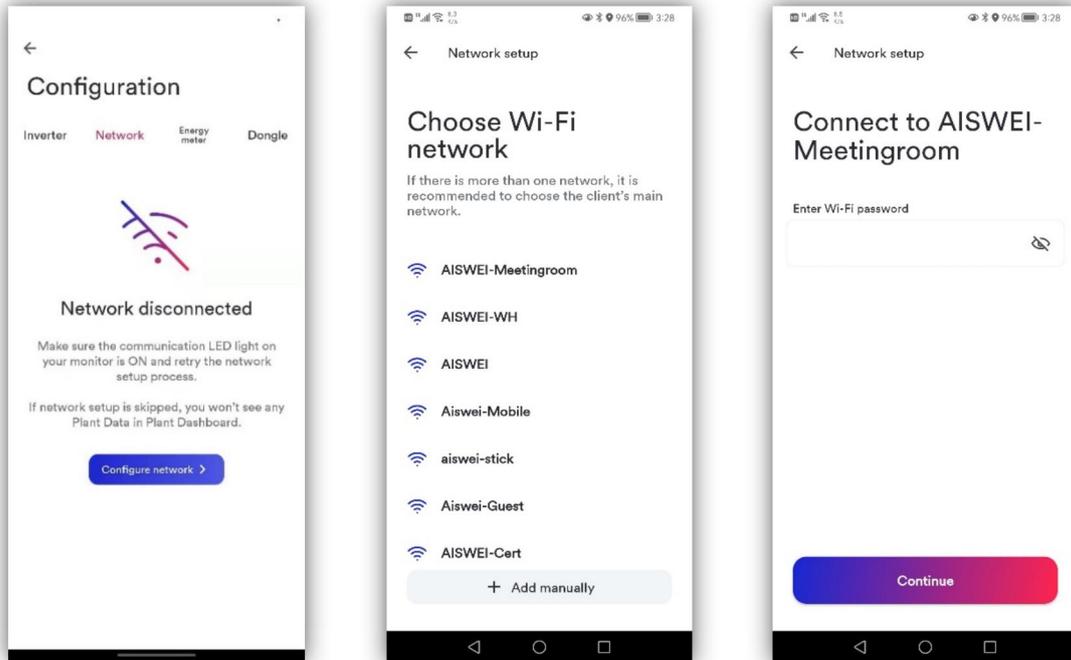
Figure 31 Network - router configuration

Step1: Click "Configure network" and get the router SSID nearby the wifi stick.

Step2: Choose the router SSID and enter the password. WiFi stick will connect to the router, you can judge whether the router is successfully connected according to the status of the blue LED light:

1. Blue LED off: WiFi stick can't connect to the router, because error password or too far from the router.
2. Blue LED flashing: WiFi stick connects to the router successfully, but can't connect to the cloud server.
3. Blue LED light on: WiFi stick connects to the router and to the cloud server successfully.

If you can't find the SSID in the wifi list, you can add the SSID manually as shown in Figure 32.
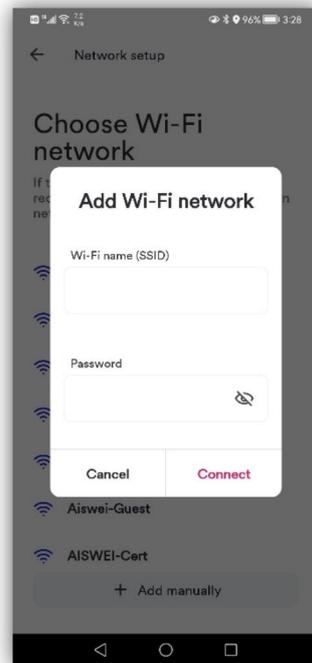
Figure 32 Network - router configuration manually

5.6 Firmware upgrade

Device upgrade is generally done by service personnel with user authorization. When network is unavailable, you can use your mobile phone to download the mobile app device firmware via the mobile phone network (currently only Android version is available), and then send it to the monitoring device to upgrade, see Figure 33.
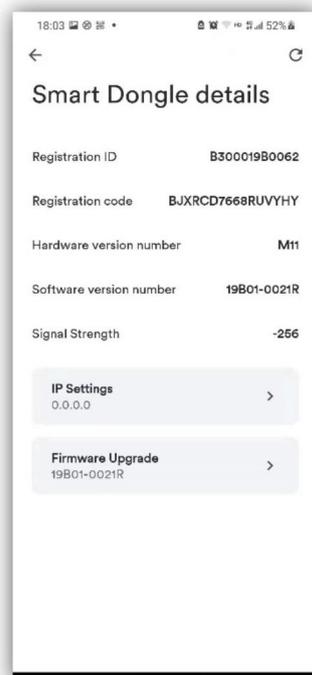
Figure 33   Firmware upgrade

6 Share Plant

➢ Step1. Choose the Plant to be shared
➢ Step2. Click the Share icon in the upper right corner
➢ Step3. Enter the account you want to share, then click "OK"
➢ Step4. Click "OK"，Plant is successfully shared！

For details, please refer to Figure 34.
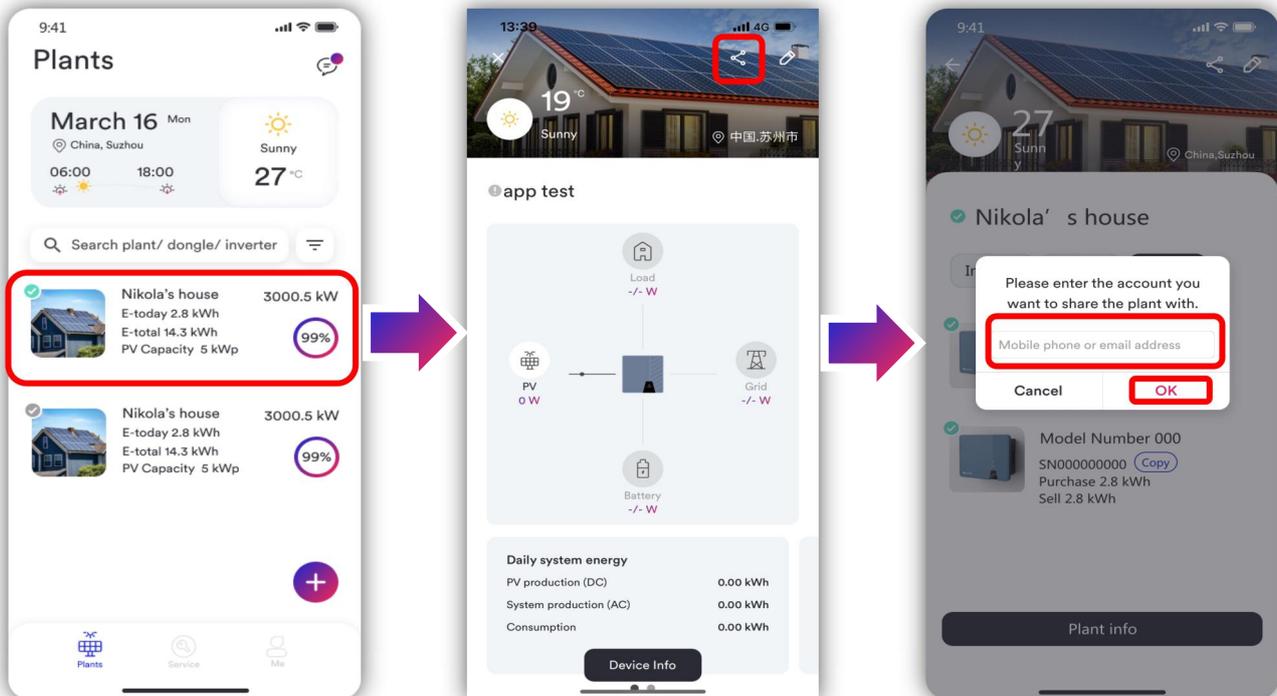
Figure 34. Share Plant

7 Troubleshooting

If there is a faulty device under your account ID, you can view the fault in the two dimensions of "current" and "history" through the "message" column in the upper right corner of the home page. Click on the specified fault to view the details and get a solution.
 For details, please refer to Figure 35.
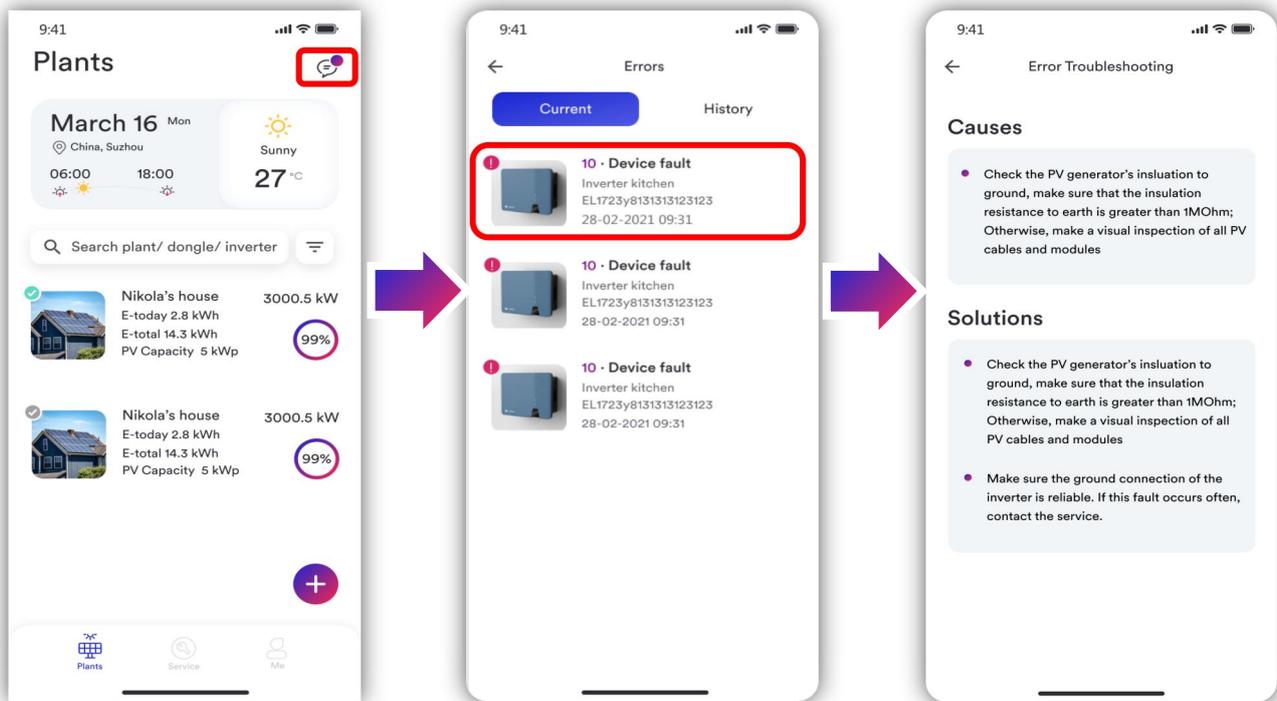
Figure 35. Troubleshooting

8 Contact us

If you encounter technical issues related to our product, please contact our regional service department within working hours.

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E-Mail: service.china@aiswei-tech.com

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E-Mail: service.APAC@solplanet.net

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    Service

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    E-Mail: service.nl@solplanet.net

Solplanet Turkey

    Sales

    Tel: +90 554 631 1089

    E-Mail: sales.tr@solplanet.net

    Service

    Tel: +90 850 346 0024

    E-Mail: service.tr@solplanet.net

Appendix 1

E01　Communication Fails Between M-S

Please follow the following instructions for troubleshooting

- Switch off DC & AC power, and restart after 5 minutes.

- If the failure cannot be solved, please replace the inverter.

E02　EEPROM R/W Fail

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E03　Relay Check Fail

Please follow the following instructions for troubleshooting

- Disconnect the AC air switch and use a multimeter to measure the AC voltage. It should be the voltage between line and the neutral(the value is about 230V), and the voltage between neutral and the ground (the value is within 20V).

- If the measured voltage is abnormal, the failure is caused by the system voltage. If the measured voltage is normal, please switch on the air switch and proceed to the next step.

- Measure the AC voltage UL1-N，UL2-N，UL3-N，UN-PE by multimeter.

- If the measured voltage is normal, it is caused by the inverter fault, please contact with service center.

- If the measured voltage is abnormal, please check the air switch and the cable (wiring errors,

looseness, short-circuit, insulation, etc.).

E04 DC Injection High

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E05 The result of Auto Test Function is fail

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E06/E46 DC Bus Voltage Value High

Please follow the following instructions for troubleshooting

- When installing the inverter, please use the multimeter to measure the DC voltage to make sure the voltage within the MPPT voltage range.

- If the DC voltage exceed the MPPT voltage range, please reconfigure the PV modules. If the DC voltage is within the MPPT voltage range, please replace the inverter.

- If the fault reported limited times and the inverter recovered again, it is caused by the abnormal inverter data detection.

- If the inverter cannot recover working, please switch off DC & AC power, and restart after 5 minutes. If the failure cannot be solved, please replace the inverter.

E07 The voltage reference inside is abnormal

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E08   AC HCT Failure

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E09   GFCI Device Failure

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E10   Device fault

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E11   M-S version unmatch

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E12   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E13   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E14   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E15 Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E16   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E17   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E18   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E19   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E20   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E21   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E22   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E23   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E24   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E25   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E26   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E27   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E28   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E29   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E30   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E31   Reserved

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E32   ROCOF Fault

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E33   Fac Failure:Fac Out of Range

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E34   AC Voltage Out Of Range

Please follow the following instructions for troubleshooting

- Disconnect the AC air switch and measure the AC voltage. It should be the voltage between line and the neutral(the value is about 230V), and the voltage between neutral and the ground (the value is within 20V).

- If the measured voltage is abnormal, the failure is caused by the system voltage. If the measured voltage is normal, please switch on the air switch and proceed to the next step.

- Measure the AC voltage UL1-N，UL2-N，UL3-N，UN-PE by multimeter.

- If the measured voltage is normal, it is caused by the inverter fault, please contact with service center.

- If the measured voltage exceeds the safety requirement, please check system voltage.

E35   Utility Loss

Please follow the following instructions for troubleshooting

- If the inverter fault disappears and the inverter can connect to the grid, please check whether an auto-recovery air switch is applied in AC side.

- If the fault is continuous, please disconnect the AC air switch and measure the AC voltage. It should be the voltage between line and the neutral(the value is about 230V), and the voltage between neutral and the ground (the value is within 20V).

- If the measured voltage is less than 20V, the failure is caused by the system voltage. If the measured voltage is normal, please switch on the air switch and proceed to the next step.

- Measure the AC voltage UL1-N，UL2-N，UL3-N，UN-PE by multimeter.

- If the measured voltage is normal, it is caused by the inverter fault, please contact with service center. If the measured voltage exceeds the safety requirement, please check system voltage.

E36 GFCI Failure

Please follow the following instructions for troubleshooting

- The failure will appear when the inverter detects that the system leakage current exceeds the safety standards requirement.

- Please check whether the failure appears when the weather is wet and rainy. Whether the failure disappears when the weather is dry and sunny. If that, the failure is not caused by the inverter.

- Connect the string one by one to check which string cause this failure. Then check the failure string isolation.

- To make sure whether the grounding cable is not loose, not tight connection and connection area is not enough.

- If there is the same model inverter working on site, please exchange the inverter to the failure one to confirm whether failure is caused by the inverter.

E37　PV Over Voltage

Please follow the following instructions for troubleshooting

- The failure will appear when the inverter detects that the system input DC voltage exceeds the inverter max DC voltage.

- Remove all the strings from inverter，and use the multimeter to measure the voltage between PV+ and PV- for each string. All the voltage shall not exceed the inverter max DC voltage.

- If the measured voltage is normal, it may be caused by the inverter fault, please contact with service center.

E38　ISO Fault

Please follow the following instructions for troubleshooting

- The failure will appear when the inverter detects that the system insulation resistance exceeds the safety standards requirement.

- Please check whether the failure appears when the weather is wet and rainy. Whether the failure disappears when the weather is dry and sunny. If that, the failure is not caused by the inverter.

- Connect the string one by one to check which string cause this failure. Then check the failure string isolation.

- To make sure whether the grounding cable is not loose, not tight connection and connection area is not enough.

- If there is the same model inverter working on site, please exchange the inverter to the failure one to confirm whether failure is caused by the inverter.

E40　Over Temperature In Inverter

Please follow the following instructions for troubleshooting

- The failure will appear when the inverter detects high temperature in the inverter.

- Check the sundries in the inverter fan or heatsink, which may cause inverter overtemperature.

- Please check the inverter installation ambient temperature (below 40℃), and don't make the inverter exposing in the sunshine. If the failure is not solved, please contact with service center.

E41　Consistent Fault:Vac differs for M-S

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E42　Consistent Fault:Fac differs for M-S

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E43　Consistent Fault: Ground I differs for M-S

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E44　Consistent Fault:DC inj. Differs for M-S

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E45　Consistent Fault:Fac,Vac differs for M-S

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E47 Consistent Fault

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E48 Average volt of ten minutes Fault

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E49 PV1-SPD Fault

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E50 PV2-SPD Fault

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E51 Fuse Fault

Please follow the following instructions for troubleshooting

- The fuses status are checked when the inverter is running. If the fuse status is abnormal, the inverter will show the fuse fault.

- Please disconnect the AC air switch, DC switch, and also remove the DC strings from the inverter.

- Switch off the power and discharge for more than 5min, then remove the fuses in the inverter

- Use the multimeter to measure the fuse resistance. If the fuse is open circuit, it can be judged fuse fault.

- If the failure is not solved, please contact with service center.

E52   Miss N Fault

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E53   ISO check:before enable constant current,ISO voltage > 300mv

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E54   ISO check:after enable constant current,ISO voltage out of range(1.37v+/-20%)

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E55   ISO check:N P relay change,ISO voltage sudden below 40mv

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E56   GFCI protect fault:30mA level

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E57   GFCI protect fault:60mA level

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E58 GFCI protect fault:150mA level

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E59 PV1 string current abnormal

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E60 PV2 string current abnormal

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E61 DRMS Communication Fails(S9 Open)

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E62 DRMS order disconnection device(S0 Close)

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E63 L-PE Short Circuit Fault

Please follow the following instructions for troubleshooting

- The failure will appear when the inverter detects that the system AC voltage exceed the safety standards requirement. The fault is only existed in three phase inverter.

- Please disconnect the AC air switch and measure the AC voltage. It should be the voltage between line and grounding cable(the value is about 230V), and the voltage between neutral and the ground (the value is within 20V).

- If the measured voltage value is abnormal, it may be caused by system voltage. It's better to check the transformer voltage, the cable wiring, looseness, short circuit, insulation etc.

- If the failure is not solved, please contact with service center.

E64   PV input mode error

Please follow the following instructions for troubleshooting

- Troubleshooting was not found, please contact with service center.

E65   PE Connection Fault

Please follow the following instructions for troubleshooting

- The failure will appear when the inverter detects that the N-PE is over voltage.

- Use the multimeter to measure the inverter N-PE voltage .

- Please make sure whether the grounding cable is not loose, not tight connection and connection area is not enough.

- If the failure is not solved, please contact with service center.

E305   Inverter Offline

Please follow the following instructions for troubleshooting

- Please check whether the current time is due to the lack of light at night and the inverter is not running.

- Please check the inverter indicator or display screen. If it is not on, it is offline caused by the inverter not starting. Need to confirm whether the inverter switch is turned on or whether the inverter is faulty

- Ensure that the connection between the collector and the inverter is tight. If all the indicators of the collector are off, the collector is faulty and needs to be replaced.

- If the indicator of the collector is normal, the offline may be caused by weak local network signal

- If the failure is not solved, please contact with service center

NA-acdc   AC/DC Terminals Burnt Out

Please follow the following instructions for troubleshooting

- The terminal spare parts could be bought from service center

- It is necessary to tighten the connection when making the terminals. After that, through external force to check whether there is any loosening.

- Make sure that the cables and terminals are not suffer from strong stress.

NA-lightsoff   Indicator Light/Screen Not Bright

Please follow the following instructions for troubleshooting

- Confirm the inverter DC switch is on the position of "1" or "on".

- Use multimeter to confirm PV+ and PV- polarity. The red probe connects to positive pole, and the black connects to negative. The value should be positive.

- Use the multimeter to confirm whether the DC voltage is within the inverter voltage range or not.

- Confirm that the DC terminal connection is not loose.

- Use the energy meter or clamp meter to check whether the inverter is running. If it works, it may caused by communication cable short circuit internal.

W161   Fuse Warning

Please follow the following instructions for troubleshooting

- The fuses status are checked when the inverter is running. If the fuse status is abnormal, the inverter will show the fuse fault.

- Please disconnect the AC air switch, DC switch, and also remove the DC strings from the inverter.

- Switch off the power and discharge for more than 5min, then remove the fuses in the inverter

- Use the multimeter to measure the fuse resistance. If the fuse is open circuit, it can be judged fuse fault.

- If the failure is not solved, please contact with service center.

W165   PE Connection Fault

Please follow the following instructions for troubleshooting

- The failure will appear when the inverter detects that the N-PE is over voltage.

- Use the multimeter to measure the inverter N-PE voltage .

- Please make sure whether the grounding cable is not loose, not tight connection and connection area is not enough.

- If the failure is not solved, please contact with service center.