EN

MY SOL-ARK
USER GUIDE

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1. MySolArk Features

"MySolArk" is a powerful and comprehensive tool designed for remote system monitoring of Sol-Ark inverters and solar systems. This remote monitoring solution offers detailed insights into energy generation and power consumption, allowing users to track system performance with great precision. MySolArk displays all relevant electrical data on easy-to-understand energy generation graphs, providing a comprehensive overview of electrical usage.

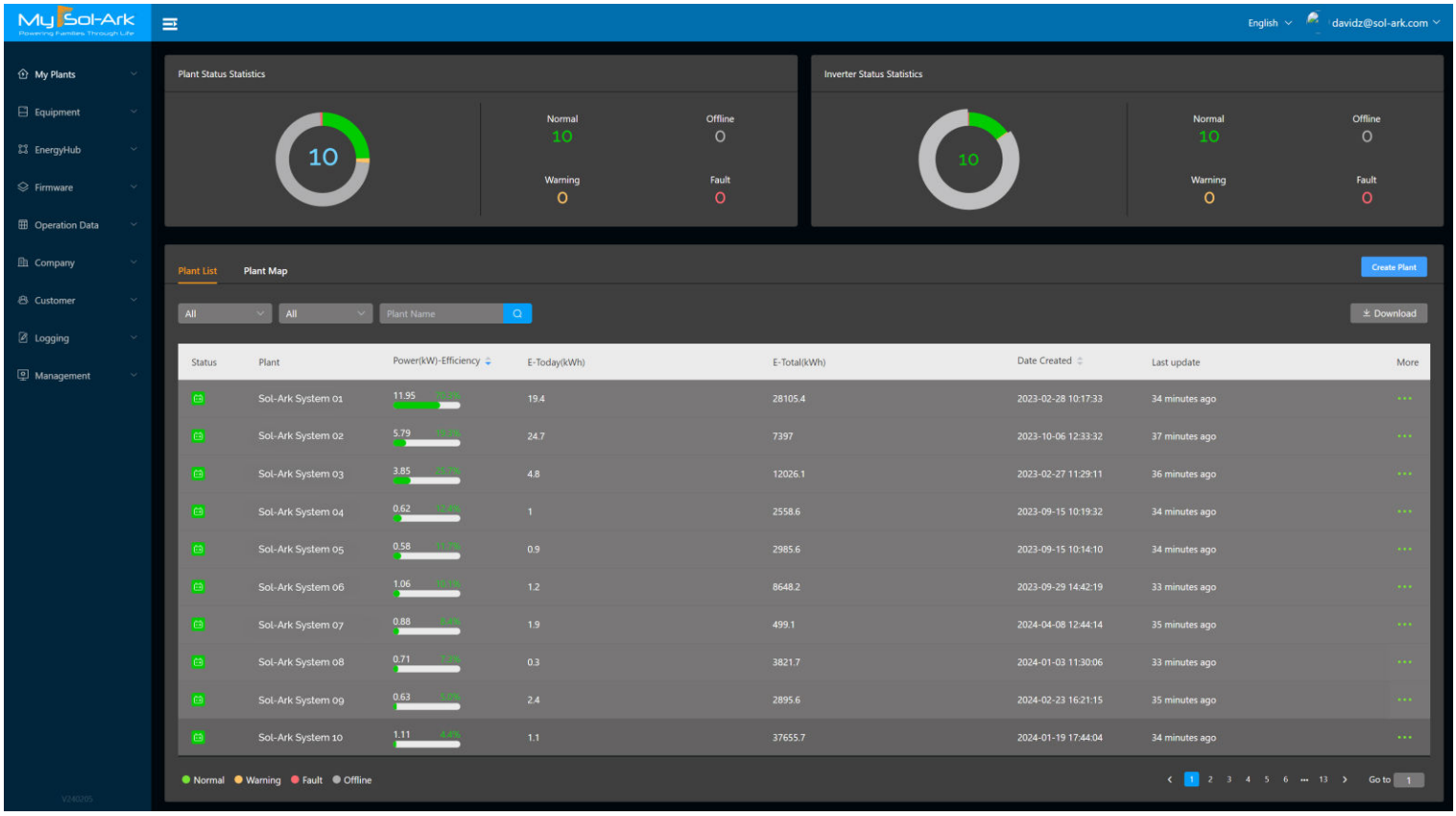
Beyond its monitoring capabilities, MySolArk offers users the flexibility to remotely adjust inverter settings, allowing them to seamlessly configure their system from any location. This ensures that users can fine-tune parameters to optimize performance effortlessly. With MySolArk, users can confidently manage their solar systems and inverters to ensure peak performance and efficiency at all times. Visit www.mysolark.com to access the desktop version of MySolArk.

1.1 My Plants

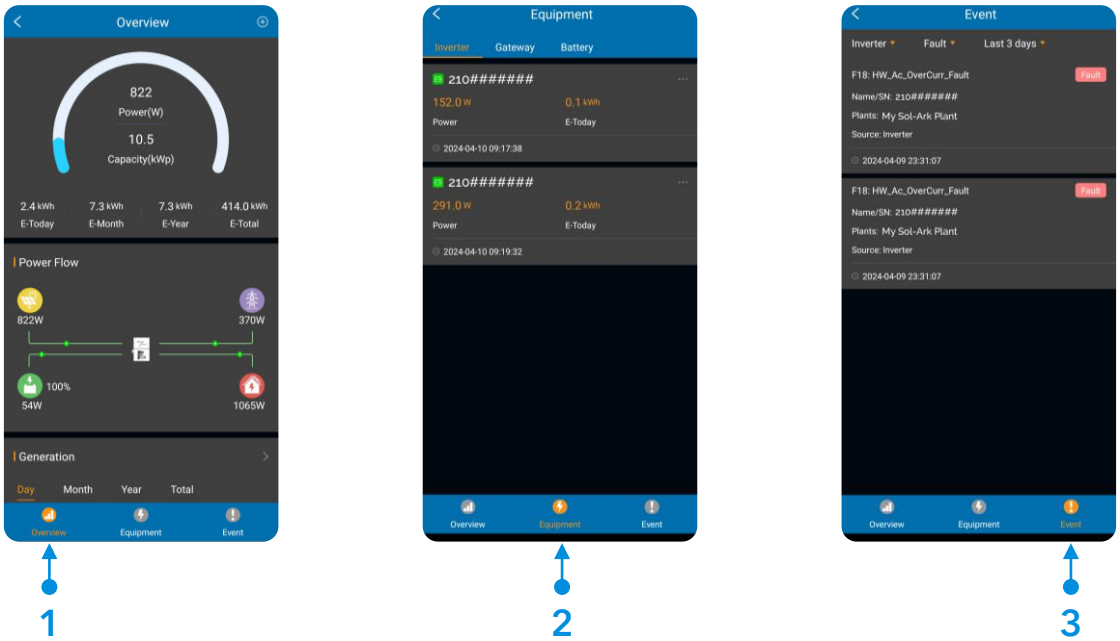
A Sol-Ark inverter, along with any integrated component on the system like grid, solar panels, batteries, generators, microinverters, and home loads, are all centrally managed within a designated "Plant" on MySolArk. A plant is the digital representation of the solar system, where the user can monitor the performance and operation of their Sol-Ark inverter. Creating a plant is the initial step to remotely monitor a solar system, in which the users must add their Sol-Ark inverter(s) and define site-specific characteristics.

The "My Plants" menu allows users to create, edit, visualize, search, and manage their plants. This menu provides basic system performance information, such as power and generated energy as well as the status of the plants and the inverters within them. By selecting a plant, users can access the Overview page for system-specific details.

To create a plant, simply select the "Create Plant" option or use the "+" button on the mobile app. The user will have to add a “gateway” in order to add a Sol-Ark inverter to their plant. For detailed instructions, refer to section 2 of the MySolArk Setup guide.



1.2 Plant Management



Overview

The **overview** screen is a very powerful tool and one of the most useful sections of MySolArk. This screen allow users to check the current status of their system, the power flow of all integrated components, weather information, plant information, abnormal statistics, and detailed energy generation graphs for system performance assessment.

Current Status

This section shows the current amount of solar power (W) being generated at that instant and the equivalent percentage (%) based on the total installed capacity. Additionally, this menu tracks the total amount of solar energy generated and it is neatly organized in daily, monthly, yearly, and total energy generation.

NOTE: The installed capacity is determined during the initial creation of the plant, however it can be modified later on by editing the plant's information. Must be set in kW.

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Power Flow

This section displays all integrated components of the system along with the current amount of power being produced or consumed by each item. The power flow layout will adjust based on the type of system (Off-Grid / Grid-tie) and other integrated components (Generator / Microinverters), incorporating the total power managed by the Sol-Ark inverter.

Status

This section provides the status of the inverter(s) in the plant, indicating various states such as Normal, Offline, Warning, or Fault states.

Abnormal Statistics

This section shows the total amount of abnormal statistics such as faults or warnings. These can be simple notifications like setting changes or inverter faults due to overloads. Refer to your inverter installation and user manual for more information.

Weather Info.

This section displays meteorological data. It uses Ambien Weather to get real-time weather information of the plant's location.

Investment Return Rate

This section illustrates the total return compared to the initial investment. The initial investment amount is determined during the creation of the plant but can also be adjusted later by editing the plant's information.

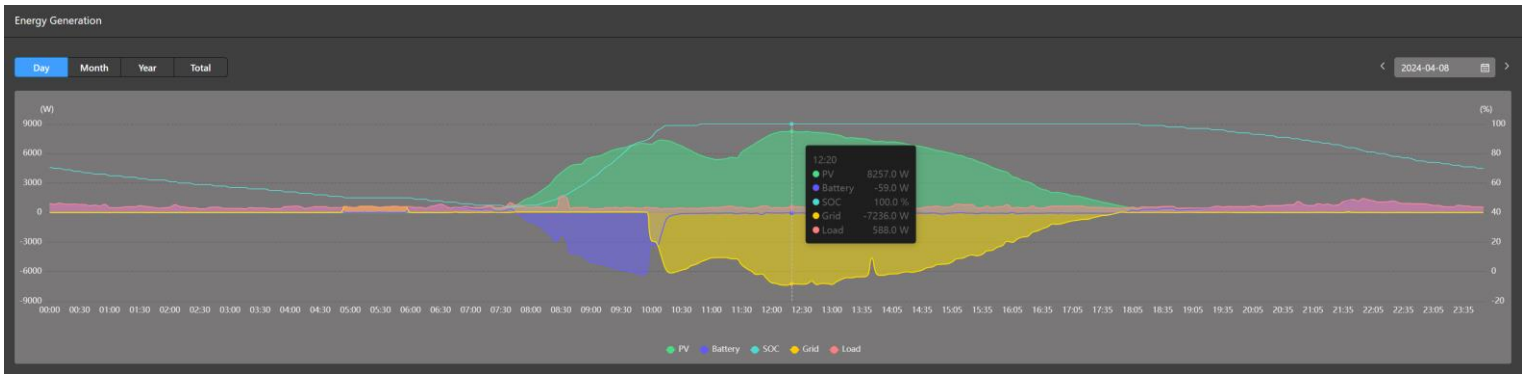
Energy Conservation

Provides interesting data about the system such as the reduction of CO2 and SO2 emissions, equivalent trees planted and amount of burnt coal avoided.

Energy Generation

The energy generation graph is one of the most useful tools within MySolArk as this section is a visual representation of the system's performance across time. With it, a system can be assessed and diagnosed across multiple recorded instances. Power data such as solar production (PV), battery power, state of charge (SOC), grid power and load consumption can be visualized at any desired point. Users can select / tap the parameters on the legend to show or hide data. This helps users visualize a particular set of variables and focus on their data of interest.

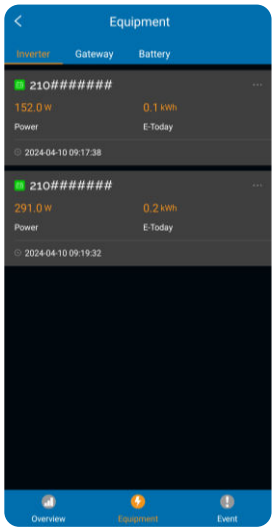
The energy generation data is recorded and saved every 5 minutes, giving ample monitoring resolution. This data can be accessed and visualized at any moment, giving users the ability to go back and identify specific behaviors of their solar system. Data is saved as long as the Wi-Fi dongle (gateway) has internet access and is capable of transmitting data to MySolArk. Furthermore, the energy generation can be filtered and viewed for every day, every month, every year, and even the total generation.

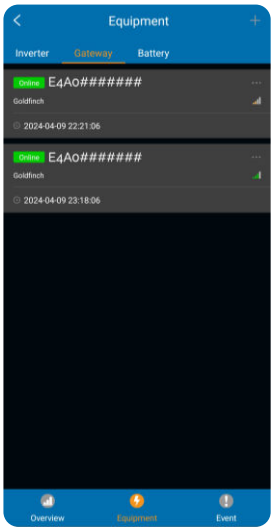


Equipment

The **equipment** screen provides information pertaining to individual Sol-Ark inverters and gateways that have been added to the plant. This section presents detailed insights into individual power production and energy generation, allowing users to visualize the performance and contribution of each inverter. It includes data such as current status, power flow, and energy generation graphs, facilitating comprehensive monitoring and analysis.

Whenever an inverter is added to a plant, the device will appear under the “Equipment” tab and it will be listed under its serial number (SN) by default. Similarly, its gateway will be listed under the “Gateway” tab. The user can change the name of the inverter by taping “…” and selecting “Set Name”. This can be useful in multi-inverter systems. By tapping on the inverter and the gateway, users can access and visualize details, status, and all energy generation information of a particular inverter.



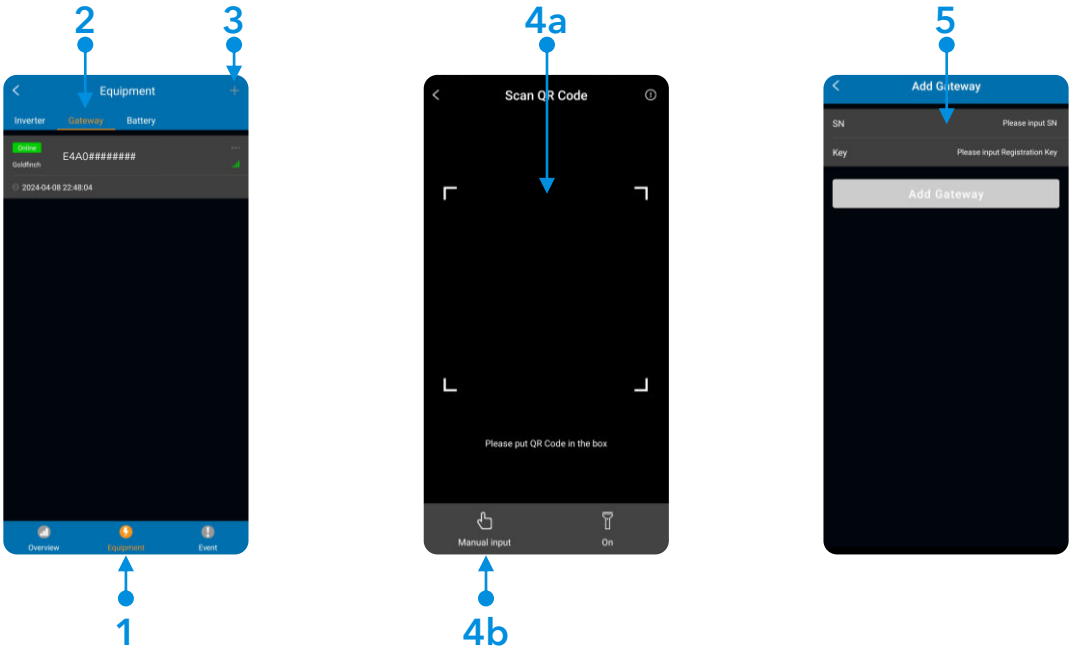


Add Inverters

You can integrate additional inverters into your system whenever you have a multi-inverter setup, such as parallel 30K, 15K, 12K, or 8K-1P inverters. This capability enables users to monitor all devices within a single unified system. MySolArk tracks the overall energy production and consumption, as well as individual inverter performance.

The sequential steps for incorporating additional inverters are as follows: Select the plant in which you want to add the inverter, then navigate to the "Gateway" tab and select the "+" button to add a device. Verify the Serial Number and Key found on the product label of the Wi-Fi dongle. You can either scan the QR code or input the numbers manually. Upon scanning or inputting the numbers, an additional inverter will be successfully added to your system.

NOTE: The newly added gateway **MUST** be configured and connected to a local Wi-Fi network. Follow STEP 2 or alternate method STEP 3 of Section 2 “MySolArk Setup Instructions”, otherwise the inverter will not be connected to MySolArk and will not transmit any data.



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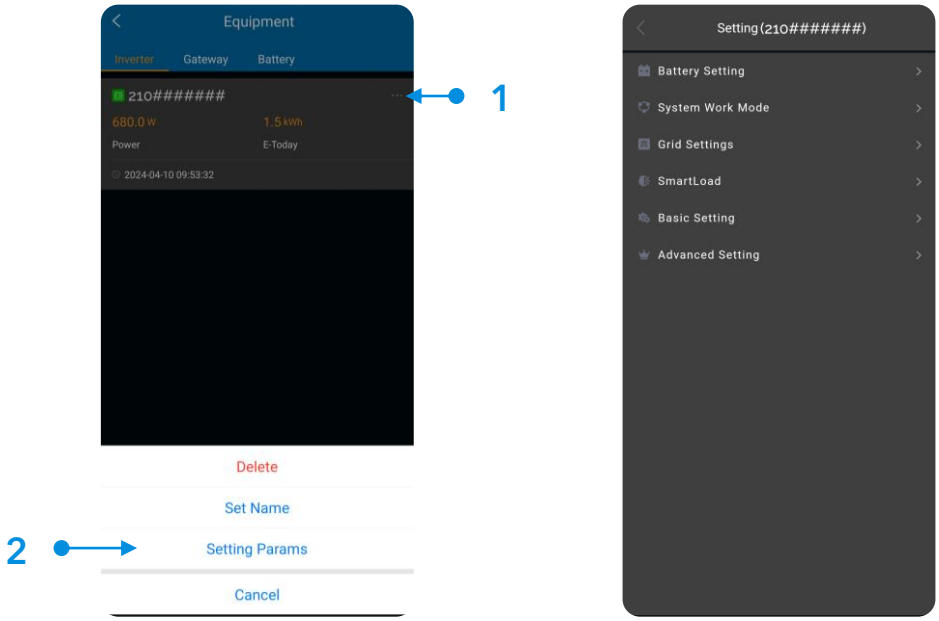
Setting Parameters

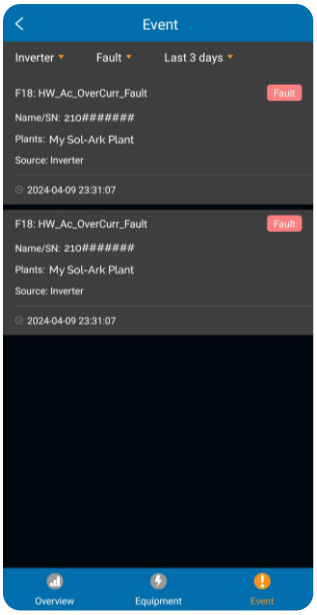
MySolArk offers users the flexibility to remotely adjust inverter settings, allowing them to seamlessly configure their system from any location. This is achieved by taping "…" on the desired inverter and selecting the "Setting Params" option. All configurable parameters seen on the inverter itself can be modified and tweaked remotely from these set of menus. The user **MUST** press "Save" after modifying the settings under a particular menu, otherwise the changes will be disregarded. One must allow some time for MySolArk to upload the settings and the inverter to execute the changes, this will take a few minutes.

NOTE: To edit the parameters of an inverter, the user must have management permissions.



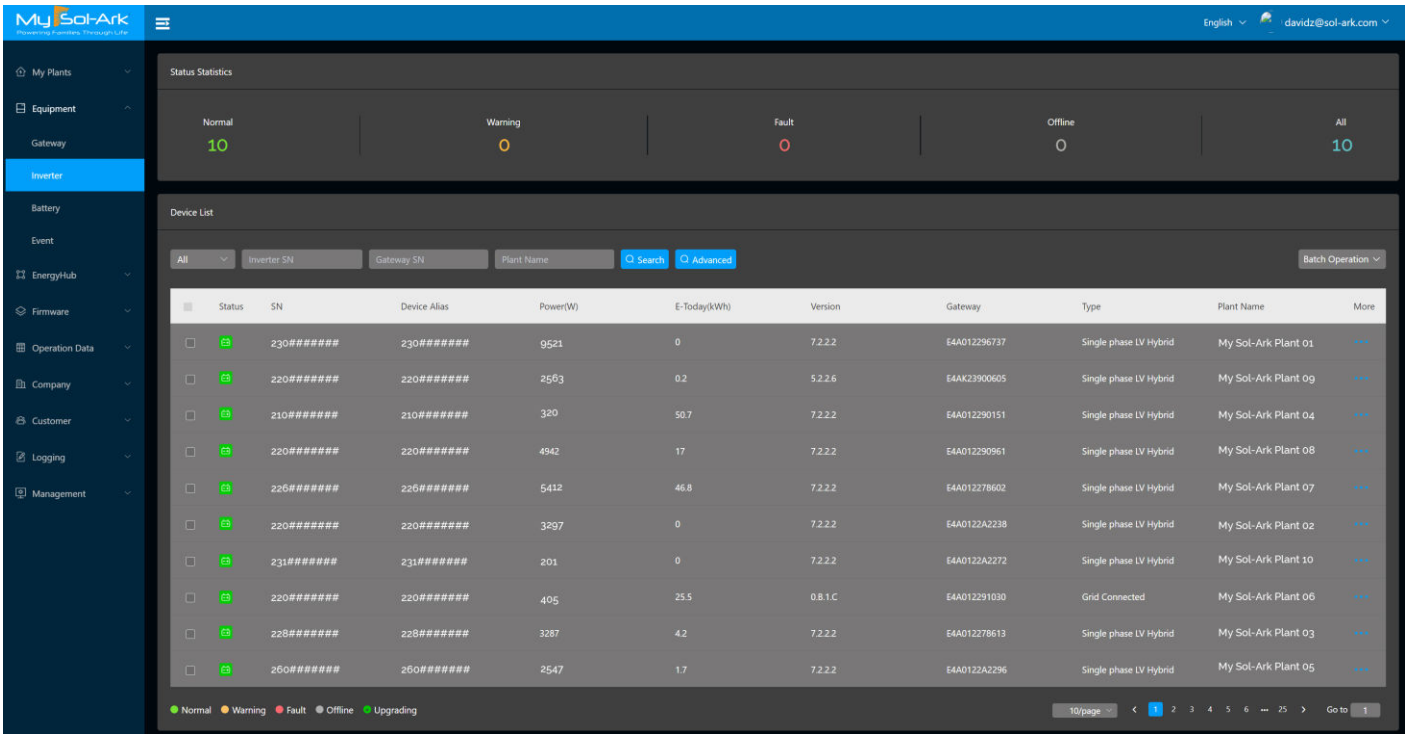
Event

The **event** screen provides information on certain events such as inverter notifications, faults, or warnings. Whenever a Sol-Ark inverter enters into a fault state, the event screen will capture the error code and the time of the event. This tool is very useful for system diagnosis and assessment, as well as troubleshooting. With it, the user can pinpoint the precise moment a fault occurred, visualize the electrical data using the energy generation graphs and get to the root of the issue.

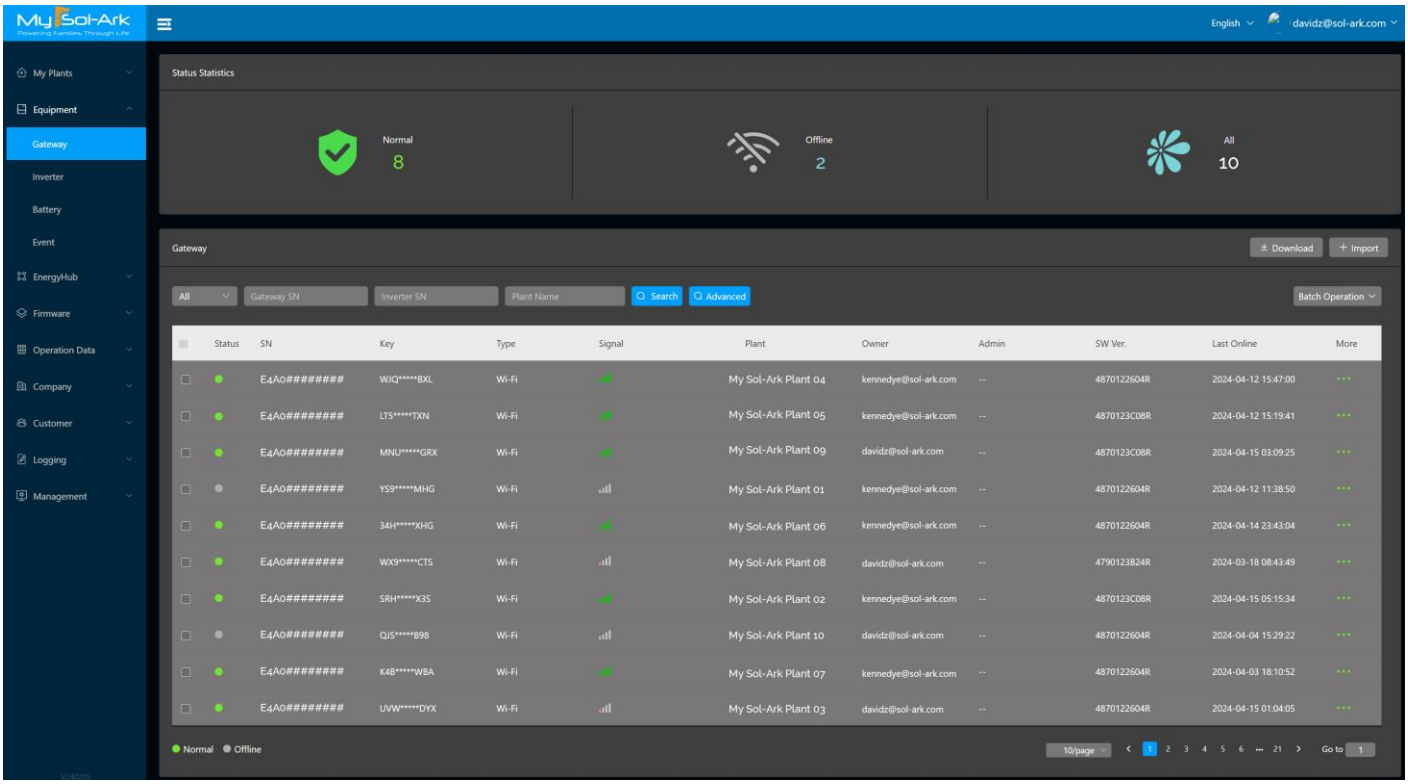


1.3 Equipment (Inverters and Gateways)

The main **Equipment** menu of MySolArk will list all the inverters and gateways that have been added. Similar to the "My Plants" menu, the equipment tool can be used to edit, visualize, search, filter, and manage inverters and getaways without having to directly access a plant. This tool will display basic information about the inverter such as status, serial number (SN), firmware version, the gateway connected to it, as well as the plant it has been added under. Furthermore, setting changes to the inverter can be done by clicking or tapping "…" and selecting "Parameter Settings" as described in section 1.2, Setting Parameters.



Similar to the Inverter menu, the Gateway menu will list all the gateways that have been added. Here, information such as status, serial number (SN), Key, signal, firmware version, and the plant it has been added under will be displayed.



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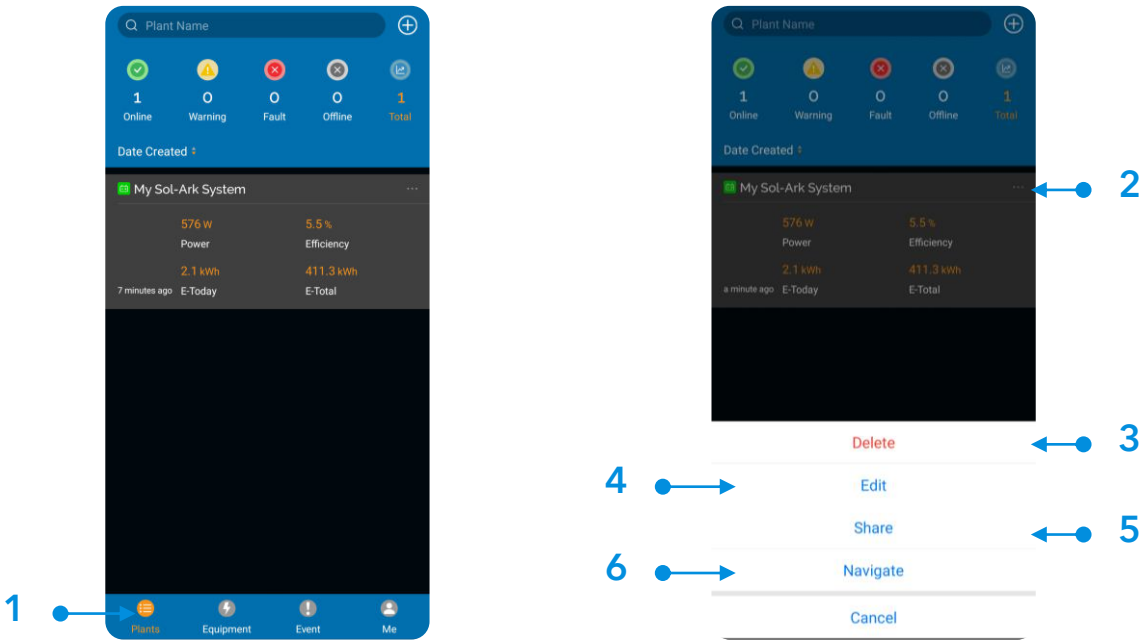
1.4 Other Tools

Edit / Share / Delete / Navigate Plant

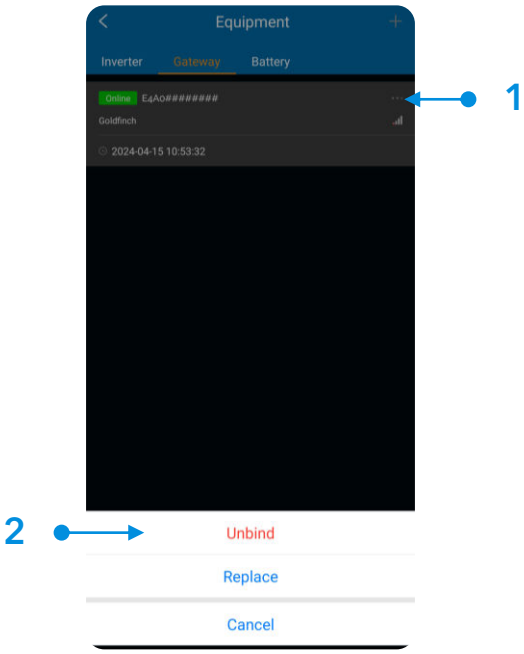
After a plant has been created in MySolArk, the user can edit the plant, share it with other users or deleted it completely if desired. Details and information can be easily modified by taping the "…" button of the plant in the "Plants" menu. MySolArk can also display the geographical location distribution information of the plant created.

NOTE: To edit, share or delete a plant, the user must have required management permissions. The shared account **MUST** also be a registered MySolArk account.



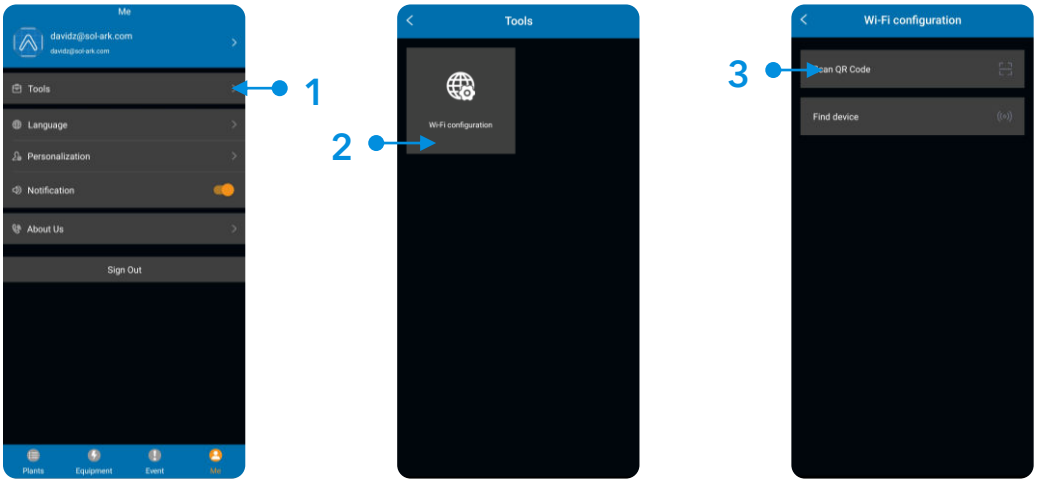
Unbind Gateway

Whenever an inverter is added to the wrong plant or the user wants to simply remove an inverter, they can use the unbind tool. To do this, navigate to the gateway in question, tap the "…" button and "Unbind" the gateway. With this feature, the inverter will no longer be tied to the plant and it can be added to a different plant if meeded.



Wi-Fi Configuration

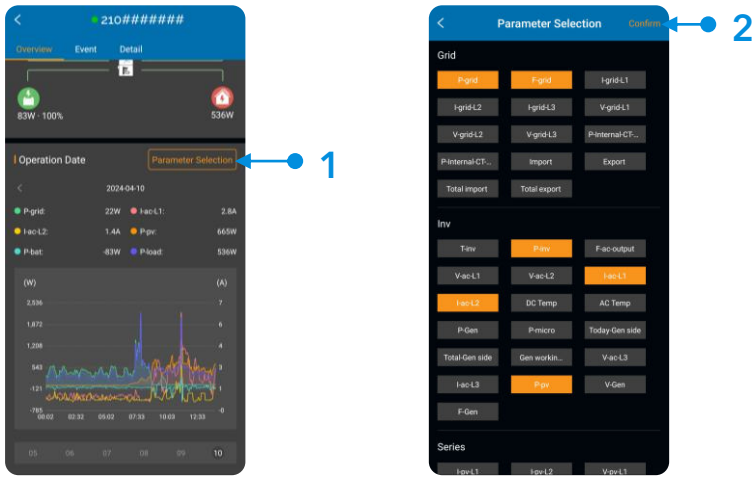
The Wi-Fi configuration tool can be used to easily connect a gateway (Wi-Fi dongle) to a local Wi-Fi network. During the creation of a plant, this tool is used to connect a new dongle to the network, however the Wi-Fi configuration tool can be accessed later on whenever new devices need to be added which will require a Wi-Fi connection. STEP 3 of the "MySolArk Setup Instructions" show an alternate way of connecting gateways to a local Wi-Fi network.

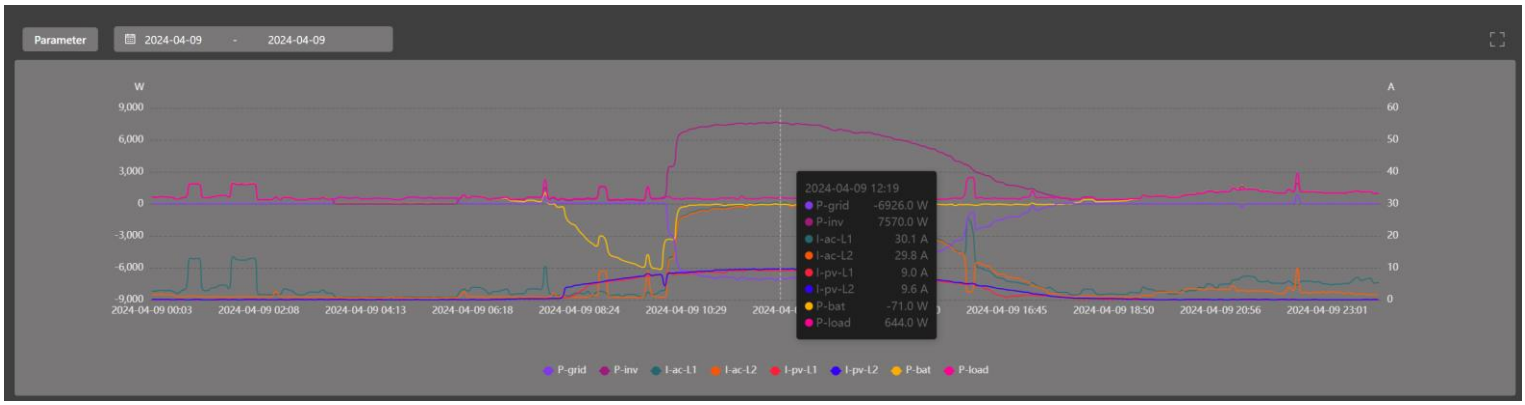


Operational Data and Parameter Selection

The parameter selection tool is a powerful way of visualizing all the intricate information of a particular Sol-Ark inverter, its performance and energy management within the system as a whole. This tool allows user-defined data to be plotted, displayed, and compared across time. The parameter selection tools offers a plethora of electrical variables that can be visualized, including but not limited to power generation data, energy storage data, grid behavior, solar power production and more.

As opposed to the "Energy Generation" tool under the "Overview" section of a plant, the Parameter Selection tool allows the user to do a deep dive and understand each and every aspect of their Sol-Ark inverter. Similarly, a moment in time can be captured and all electrical data can be visualized at that instant. This tool is great for troubleshooting or general inverter assessment.





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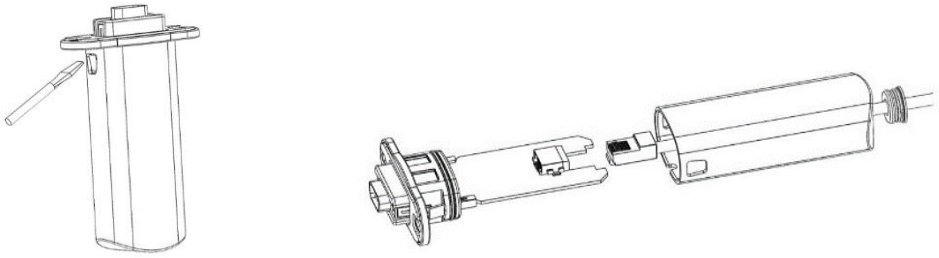
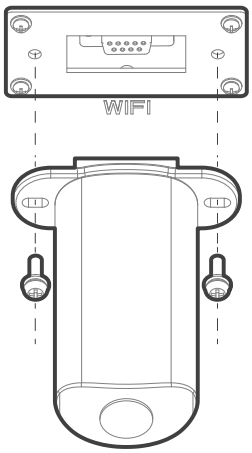
2. MySolArk Setup Instructions

2.1 Connection to MySolArk through Ethernet

A. Remove the plastic enclosure of the Wi-Fi dongle by pressing the plastic latches with a flat screwdriver as shown in the figure below.
B. Insert the Ethernet cable through the rubber seal and plastic enclosure.
C. Connect the Ethernet cable to the RJ45 port.
D. Reassemble the dongle housing and plug the dongle into the Sol-Ark DB-9 port.
E. Use two M4X10 screws to secure the dongle to the port.
F. Follow "STEP 1" instructions in order to create a plant on MySolArk.





2.2 Connection to MySolArk through Wi-Fi

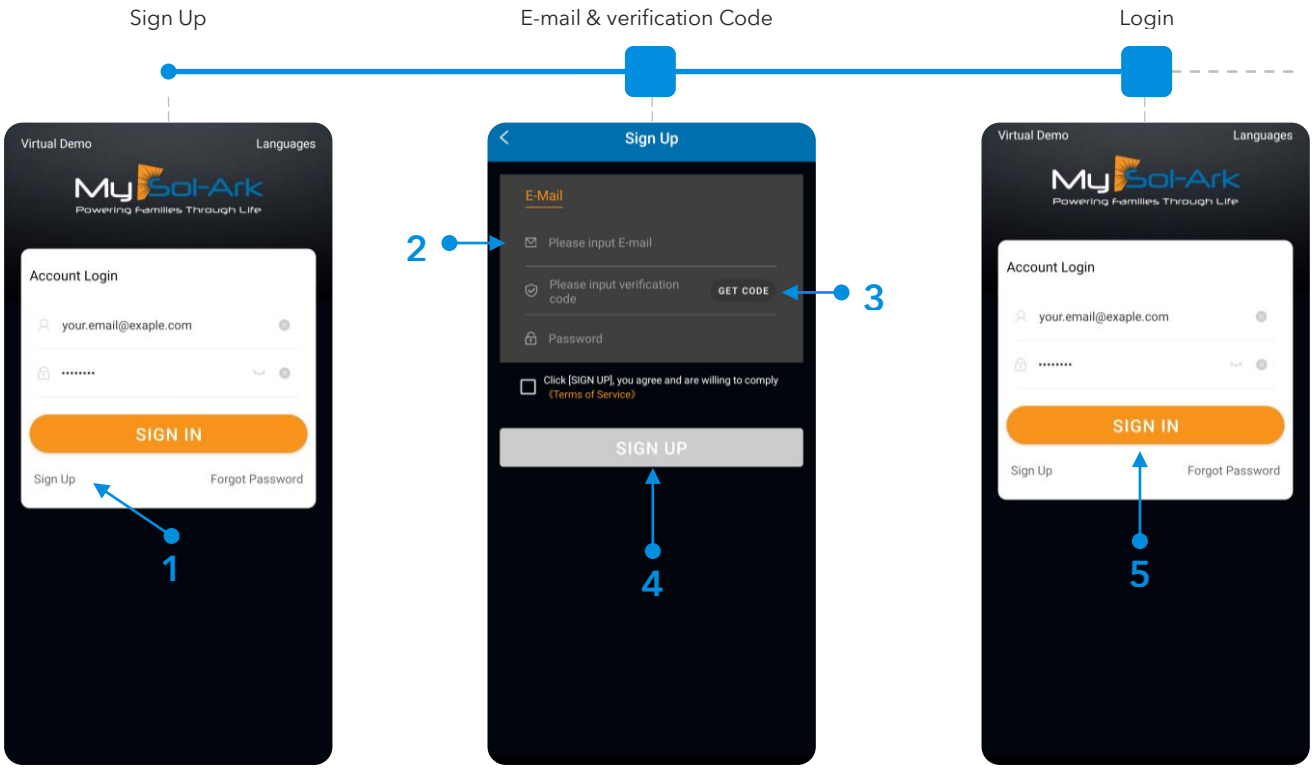
A. Plug the Wi-Fi dongle into the Sol-Ark DB-9 port.
B. Use two M4X10 screws to secure the dongle to the port.
C. Follow "STEP 1" through "SETP 3" in order to:
   a. Create a plant on the MySolArk monitoring platform.
   b. Connect the dongle to MySolArk through a Wi-Fi network.

STEP 1: Create a "Plant" on MySolArk

A. Download and install the **"MySolArk"** app for android or apple smartphones. QR codes are provided below.

Google Play Store *MySolArk* *Apple App Store*

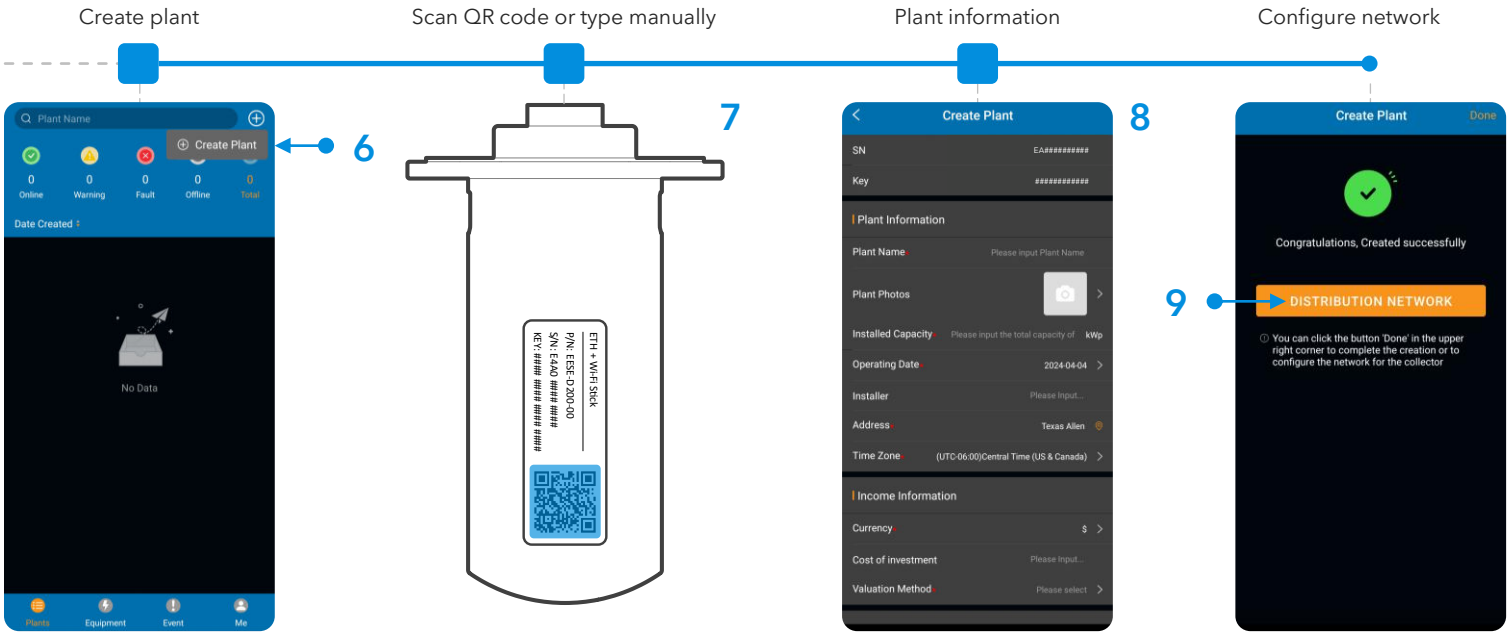
B. Create a MySolArk account and login.



C. Create Plant.

For Installers

Installers are advised to first create the plant and configure the system before sharing it with the owner. Once the plant has been created and configured, the installer can share and grant manager permissions to the owner by navigating to "My Plants" → "…" → "Share" → "Add Account". The homeowner must create their own MySolArk account first.



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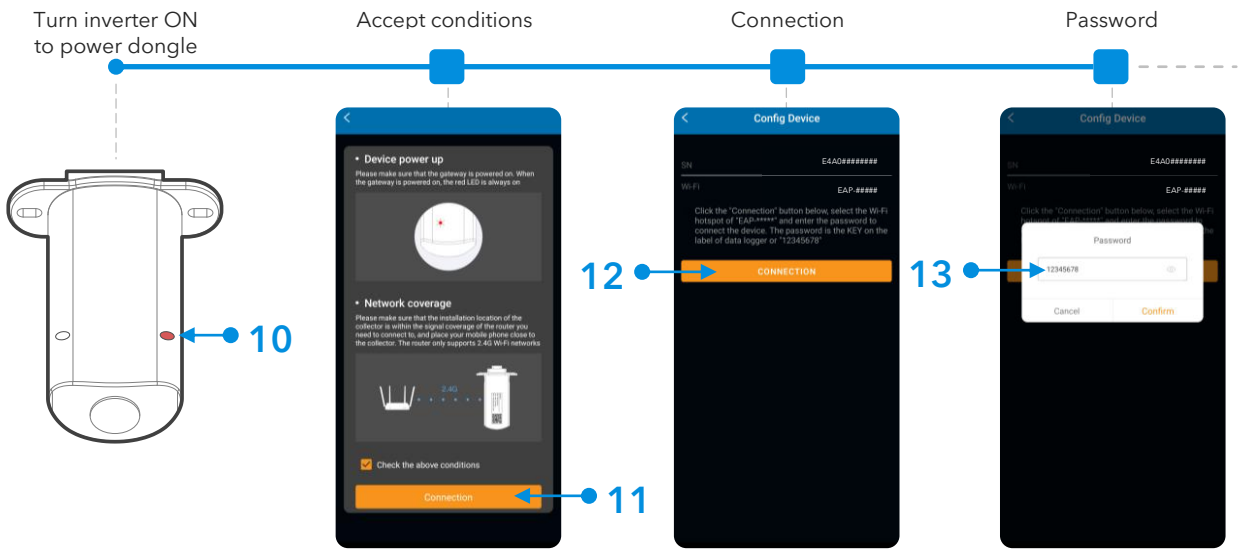
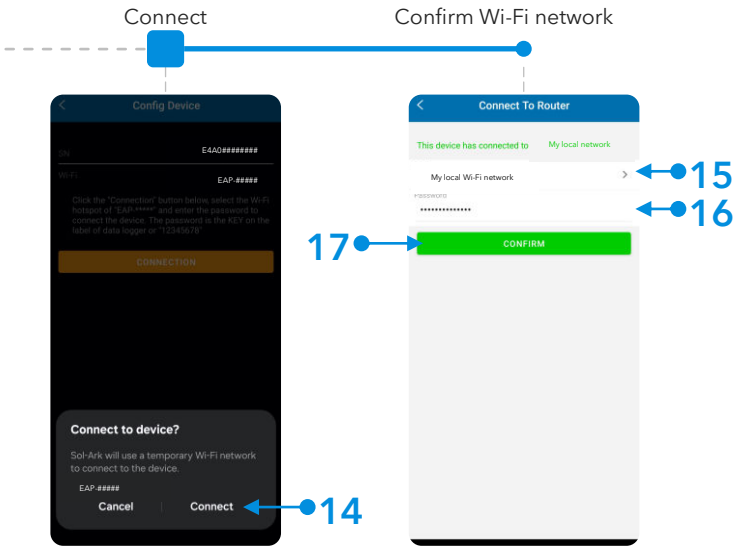
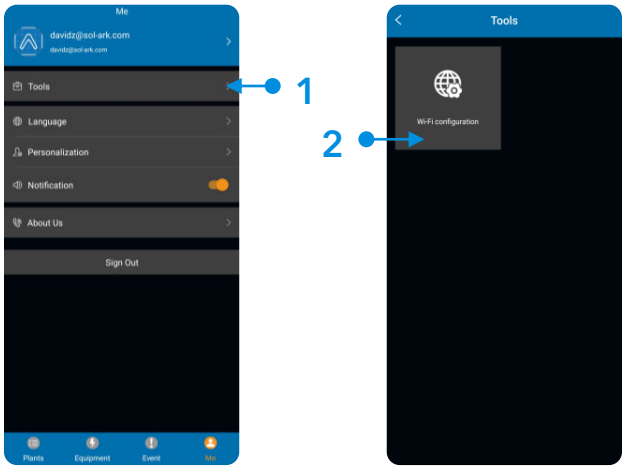
STEP 2: Configure Wi-Fi network though MySolArk

D. Configure Wi-Fi network.



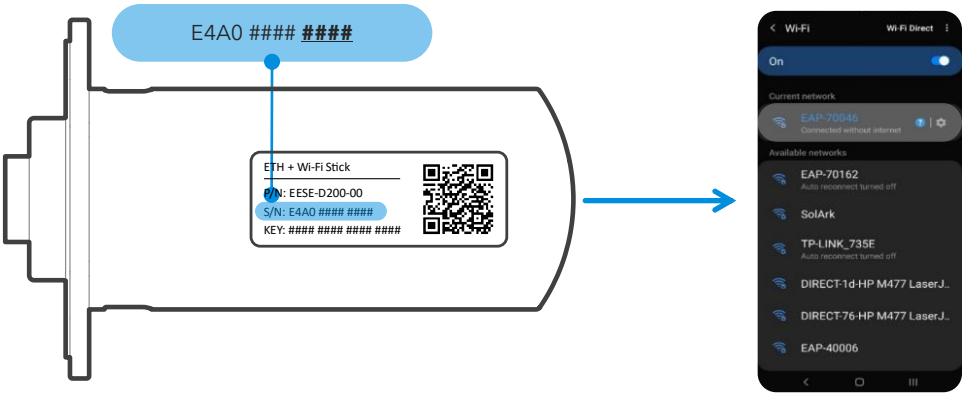


NOTE: The "Wi-Fi configuration" tool can be accessed at any other time by tapping "Me" at the bottom right corner, then "Tools" and finally "Wi-Fi configuration". STEP 3 shows an alternative method of connecting the Wi-Fi dongle to a local network through an IP address.



STEP 3 (alternate method): Configure Wi-Fi Network Through an IP Address

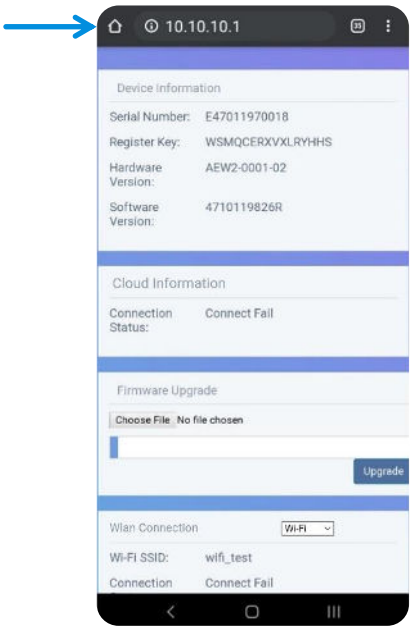
A. An alternative to the "Distribution Network" configuration at the end of step C or the use of the "Wi-Fi configuration" tool, is by configuring a Wi-Fi network through an IP address.
B. On a Smart Phone or Computer connect to the EAP-##### network. You can do this by going to: **Settings** → **Wi-Fi** → Select the **EAP-#####** network → **Password= 12345678**. The EAP-##### network contains the last 5 digits of the Dongle Serial Number. You can find this number on the label.
C. A message such as "Connected without internet" will appear once the device is connected to the EAP-#####.



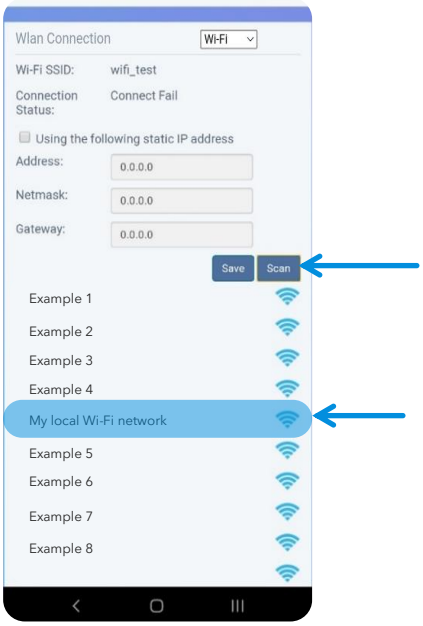
EAP-##### Network Password= 12345678
NOTE: *The Wi-Fi dongle does NOT provide internet access. It needs an external internet provider to connect to. The dongle is compatible with Wi-Fi signal broadcasted at 2.4 GHz* ***(it is not possible to use 5 GHz)***

D. Once connected, open an internet browser on that same device such as Safari, Chrome, Firefox, Edge, or any other browser.
E. On the address bar (http://.....), type the following IP address: **10.10.10.1** as shown in the figure below. If you cannot access the configuration page, try again on a different device.
F. Scroll down to the "Wlan Connection" section and press the "Scan" button to scan for local Wi-Fi networks.
G. Nearby Wi-Fi networks will appear. Select the local network you would like to connect to, input your credentials, and tap "Connect".
H. Once connected, a "Connection Successful" message will appear. Press the "Save" button next to "Scan" to save settings.
I. Wait a moment (~5 minutes). The dongle will then connect to the Wi-Fi network and will now have access to MySolArk.

NOTE: **DO NOT** connect to the **EAP-#####** network as that is the Wi-Fi dongle itself. The device does not provide internet access.



a) Internet browser IP address



b) Wi-Fi network scan

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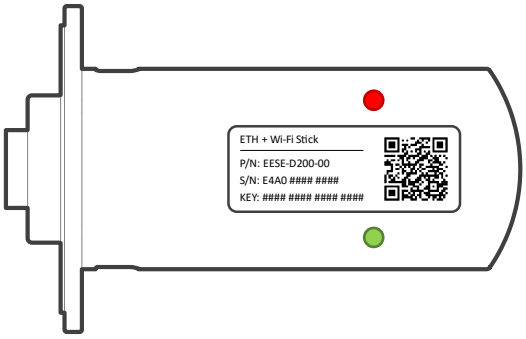
If the connection is a success, you will see the following LED indicators.

- **SOLID** 🔴**:** Connected and powered by the Sol-Ark inverter.
- **SOLID** 🟢**:** Connected to the router and to MySolArk.



Wi-Fi dongle LED indicators

> *Connecting the through the 10.10.10.1 IP address is only meant to provide internet access to the Wi-Fi dongle.*
> ***Users must still create a MySolArk account and must create a Plant.***
> *Visit www.mysolark.com to access the desktop version of MySolArk.*

2.3 LED Indicator and troubleshooting

When both the red and green LEDs on the Wi-Fi dongle are consistently illuminated, it signifies normal operation, while flashing indicates data transmission. If this isn't the case, reference the next table of LED indications for troubleshooting and corrective measures.

🔴 **RED LED**: Device communication indicator.

🟢 **GREEN LED**: MySolArk server communication indicator.

LED	State	Indication
🔴	Initial flashing, then constant illumination	Normal communication.
	Initial flashing but no further illumination	Communication failure. Check proper device connection.
	LED not illuminating	Power supply or device is abnormal. Contact technical support.
🟢	5 second illumination interval	Normal communication.
	1 flash every minute	Router not connected.
	3 flashes every minute	Connected to router but no internet access. Usually, a VPN or firewall issue. Ports 80 and 51100 must be enabled.
	4 flashes every minute	Device communication error. Contact support.
🔴🟢	2 synchronized flashes	Ethernet cable inserted
🔴🟢	3 synchronized flashes	Ethernet cable disconnected

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