

Introduction



Guardian – Gateway Installation and Operation Manual

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Introduction

The Guardian hub is a monitoring and controls device for your Fortress eFlex and eVault MAX battery products. It uploads your Fortress batteries' data to the cloud over Wi-Fi or Ethernet connection. You can view key information on your battery system in the Guardian companion app such as charge percentage, time until full charge, voltage, current, and more. Additionally, if you are enrolling in a VPP program with your local utility the Guardian is able to work with your Fortress Power Envy inverter to meet compliance requirements. Check with your local utility and/or create a support ticket for further details.

Guardian Packing List

Guardian Packing List

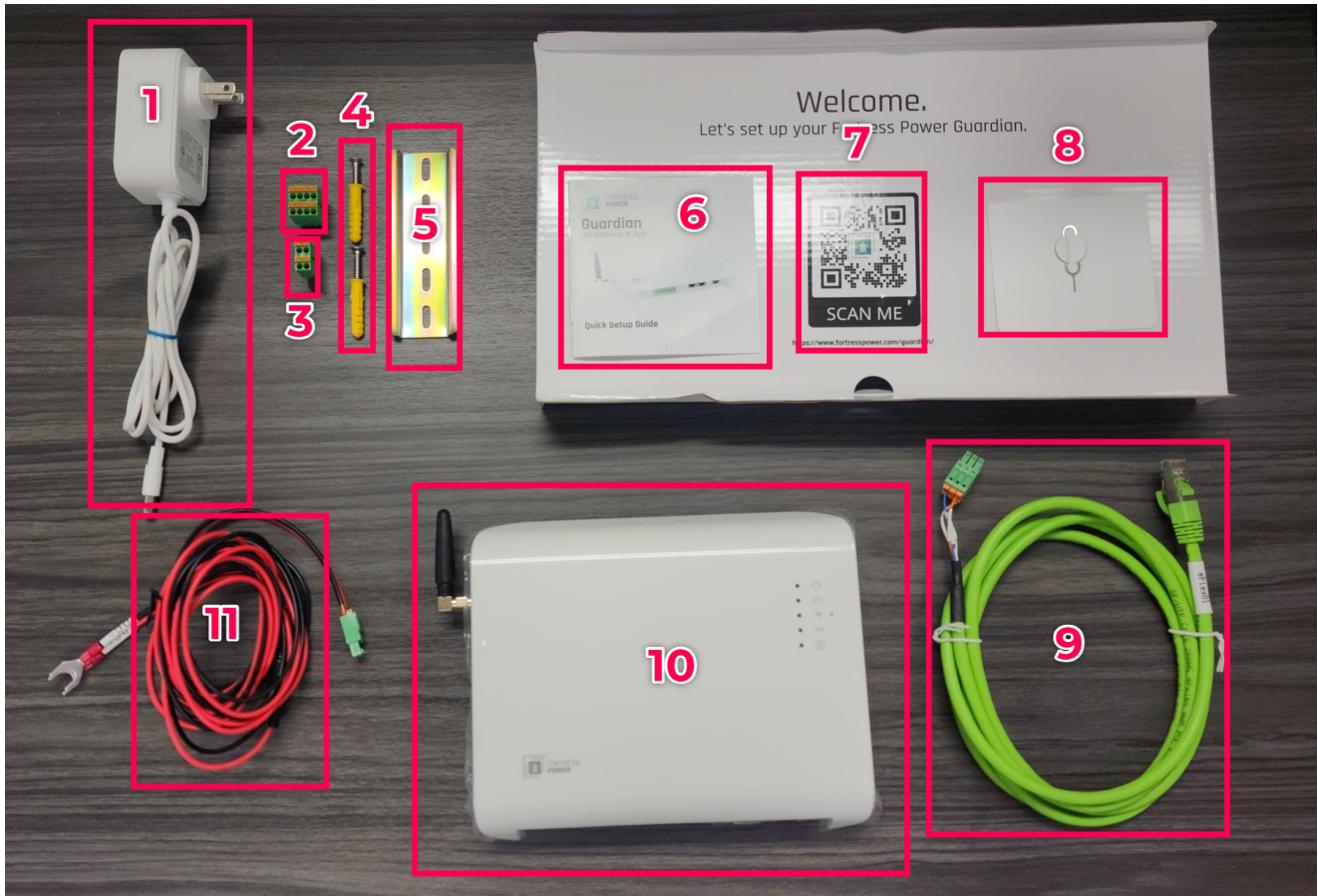


Figure 1: Guardian Packing List

- 1: 120V AC Power Supply
- 2: 4P*2 Terminal Plug
- 3: 2P*2 Terminal Plug
- 4: Wall Mount Screw
- 5: Din Rail
- 6: QuickStart Guide
- 7: QR code for latest QuickStart Guide and Guardian Manual
- 8: Guardian Reset Pin
- 9: Guardian/Battery Communication Cable
- 10: Guardian Monitoring Hub
- 11: 48V DC Power Supply

The following items are not included in every box but may be included in yours depending on the serial number.

CANtool (Figure 2): This is included in many boxes with serial numbers starting with 2303 to help installers and customers update their batteries before commissioning their Guardian. Please visit our support page for details on how to use the CANtool, or simply fill out a support ticket to have an agent help you with your commissioning.

Envy/Guardian Communication Cable (Figure 3): This cable is used in conjunction with a Fortress Power Envy inverter. If you need this cable for VPP with your local utility and it is not included in the box you received, please fill out a technical support ticket with a brief description of your installation and your preferred shipping address. Please follow the steps in this manual for installation of this cable with your Envy inverter.



Figure 2: USBCAN tool



Figure 3: Envy/Guardian Communication Cable

Resetting the Hub

Resetting the Guardian hub.

The Guardian has a reset button that can be pressed for 5 seconds to restore the Guardian to factory settings. Only use this function if directed by technical support. You can use the included pin to press the button.

Physical Features

Physical Features

- [IP23 Rated](#)
- Two power supply sources, one is an AC/DC adapter wall socket, the other a DC input from your battery system.
- Connects to internet over home WI-FI connection or an ethernet cable.
- CAN bus communication port for your Fortress battery products.
- SD card input.
- Reset Button.
- Status Lights (details in physical specifications).

Specifications

Specifications

Electrical Specifications

Power Consumption	5W – 24V@1A power supply.
AC/DC Adapter	120V / 5A 24V DC 5.5mm
Supported Communication Types	1x MODBUS/TCP, 2x MOBUS/RTU, 2xCAN 2.0
Operation Frequency	2.4GHz, 5GHz
Antennae	SMA standard connector
Environment	Indoor or inside a Jbox
Local Communication	not yet available / 2024 eta

Physical Specifications

Weight (device only)	0.8 lbs. – 0.4kg
Dimensions (device only) (W x H x D)	7.25 “ x 6 ” x 1.25 “
Shipping package dimensions	14" x 8" x 5"
Shipping package weight	3.6 lbs
Housing/	IP23 /
Mounting system	Din Rail Mount
Status Display LEDs	From top to bottom: Power, Cloud connection, Bluetooth or Wi-Fi connection, Serial communication with battery, Error signal

Download the App

Commission the Fortress Guardian hub using the Fortress Power Guardian App.

Apple:

<https://apps.apple.com/us/app/fortress-power-guardian/id1632364415>

Google Playstore:

<https://play.google.com/store/apps/details?id=com.app.fortresspower>

Mounting the Guardian

The Guardian is Din Rail mountable. Mount the Guardian to a wall using the included Din Rail or by using the included Din Rail in the Flextower or DuraRack.

If the installation is outdoors, you must install the Guardian inside a plastic junction box.



Wiring the Hub

Wiring up your Guardian Hub

Step 1: After unboxing the Guardian, please connect the Battery/Guardian communication cable to your Guardian as showing in Figure 1. Note that if you wish to hardwire your internet to the Guardian, you should use the port highlighted in yellow.



Figure 1: Guardian Port Callout

Step 2 (Optional): If you plan to power the Guardian with just the battery power please use the Port highlighted in blue above along with the included power supply cable. Please be sure to double check the polarity of the DC supply cable before plugging into the Guardian to ensure a proper connection.

Step 3: Please connect your Guardian/Battery communication cable to your battery at this time. If you have multiple batteries be sure to connect the Guardian to the last battery in the bank. See Figures 2 and 3 below. ****Note that for the eVault MAX battery you must ensure the dip switch is in the "Off" position as the Gateway will act as the terminating resistance for communication.****



Figure 2: eFlex Communication Port

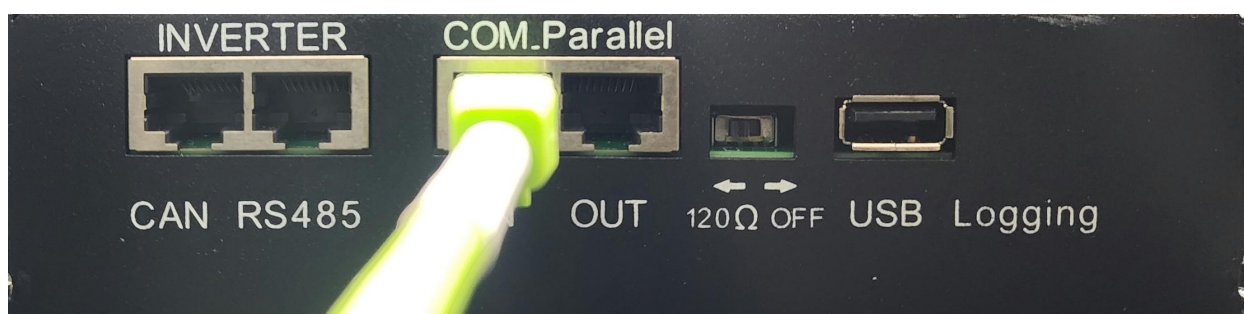


Figure 3: eVault MAX Communication Port

Step 4: Please proceed with the next section of this manual for commissioning steps within the Guardian App.

Wiring with Envy Inverter

To participate Fortress Power VPP/Energybroker programs (WattsSmart, LUMA, CT Etc...) please follow the steps below.

Wire the Guardian with an Envy Inverter

Step 1: When setting up a Guardian with an Envy inverter, Please use the plug shown in Figure 1 to wire into the Guardian connection port shown in Figure 2. For reference, the cable pin-out is Orange to the Guardian's RS485 1A and Orange/White to the Guardian's RS485 1B.

If you have not done so, please follow the steps provided in the "Wiring the Hub" section of this manual before proceeding here.



Figure 1: Envy/Guardian Communication Cable.



Figure 2: Guardian Port Connection Callout.

Step 2: After you have finished wiring this step please plug the other end of the Envoy/Guardian cable into your Envoy inverter as shown in Figure 3.

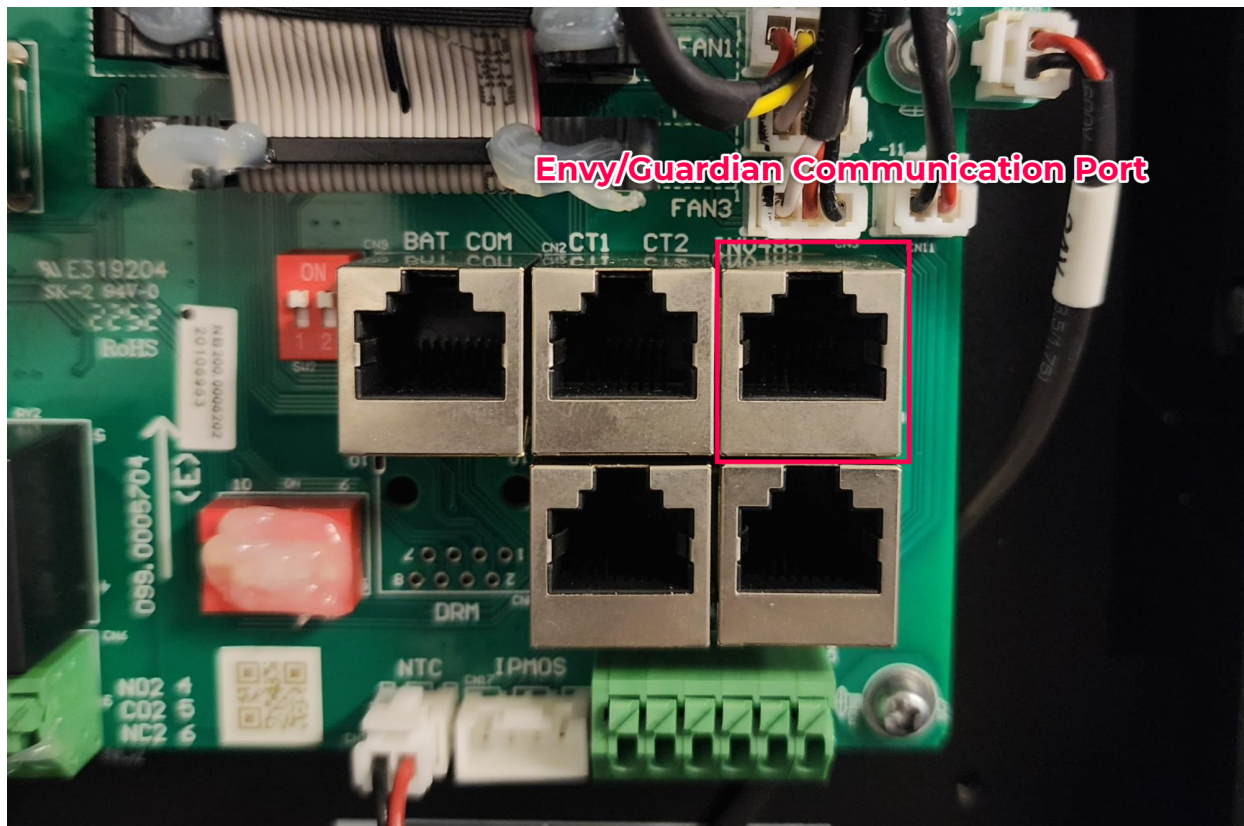


Figure 3: Envoy/Guardian Connection Port in Envoy Inverter.

Step 3: PLEASE CONTACT TECHNICAL SUPPORT TO VERIFY CONNECTION TO THE ENVOY INVERTER AT THIS TIME. (215-710-8976)

Step 4: After completing this step, please go ahead and power on the Guardian and proceed with commissioning through the Guardian App.

Powering the Hub

The Guardian hub comes with an 120V AC power supply wall plug.

The Guardian may also be DC wired to a 48V power supply (i.e. Fortress batteries which can be useful in off-grid installations or for customers using a VPP partnership with their local utility.

A 120V AC power supply and 48V power supply cables are included in each Guardian box.

Commissioning

Configuring the Guardian

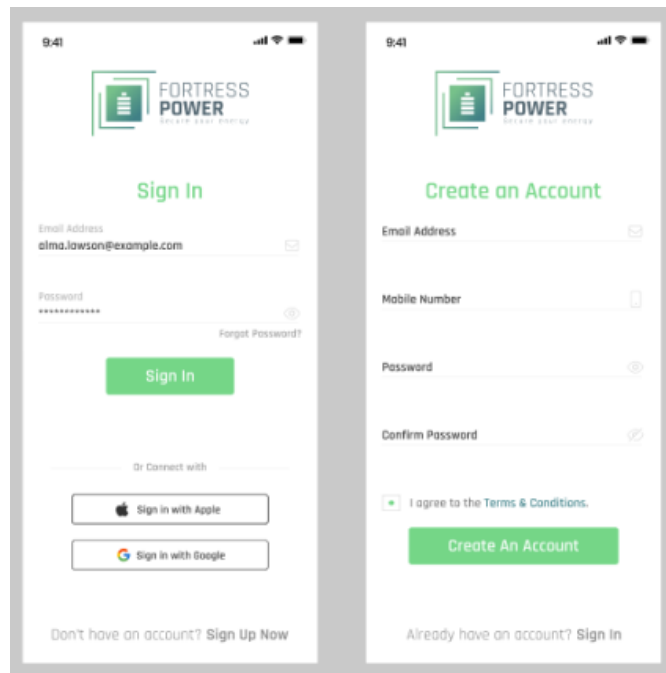
A cell phone app is used (with Bluetooth) to set up internet access.

Hardwired Ethernet may be used if Wi-Fi is not available.

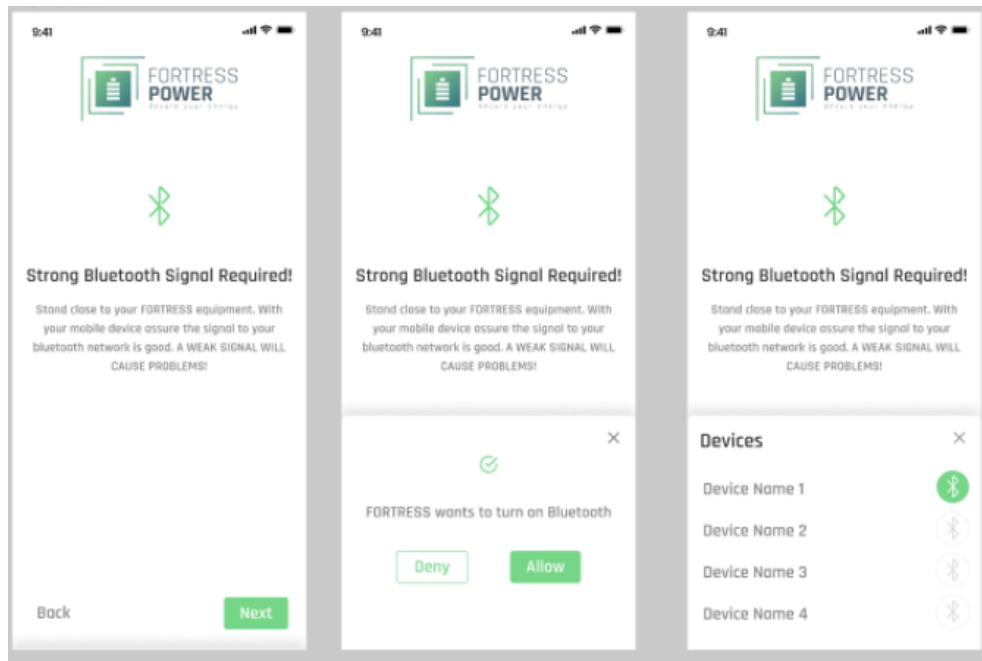
Note that it can take up to 10 minutes for the Guardian to validate the Ethernet connection when it is first plugged in.

Please visit the Google Play store or Apple App store and search for the **Fortress Guardian App**.

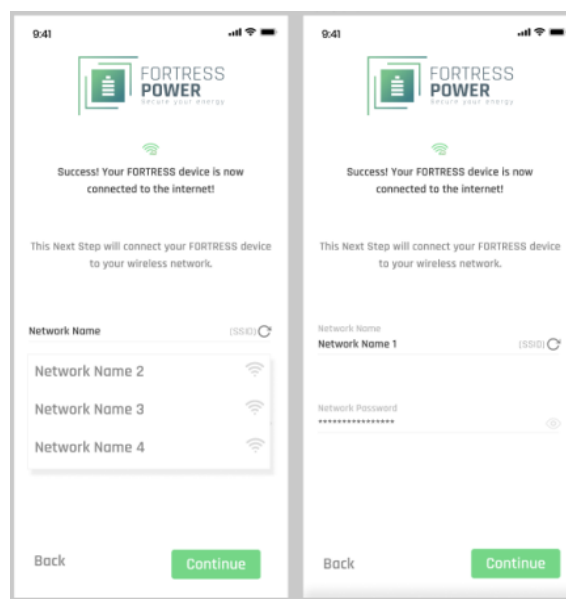
- Login or Signup for the Guardian App by entering new account credentials or authenticating with a provider such as Google or Apple.



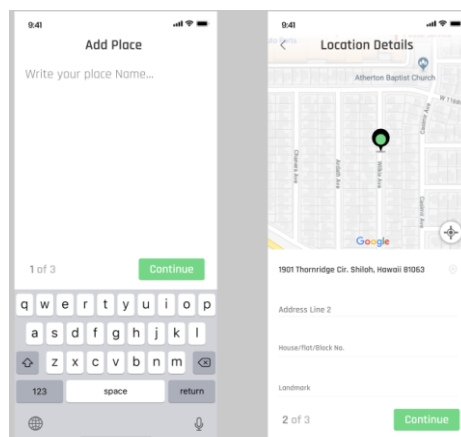
- Connect your phone to the Guardian hub over Bluetooth connection:



- Connect your Guardian hub to the internet over your home Wi-Fi (You can skip this part if using Ethernet):



- Name your Fortress system and provide your address:



- Configure your Guardian Hub's information in the app. It should populate automatically:

<

Add Gateway

Commission Date

06 May 2024 01:30 pm

Model Name

Guardian

Serial Number

23036RBF0444

3 of 3

Save

- Scan for batteries:

9:41

Gateway Info

Model

1523589

Number

#12356

Installer

abcd1234

Batteries

1 2 3 4 5

eVault Max 18.5kWh

Serial Number

12596253

Battery

#1 (Master)

☒ Simply dummy text

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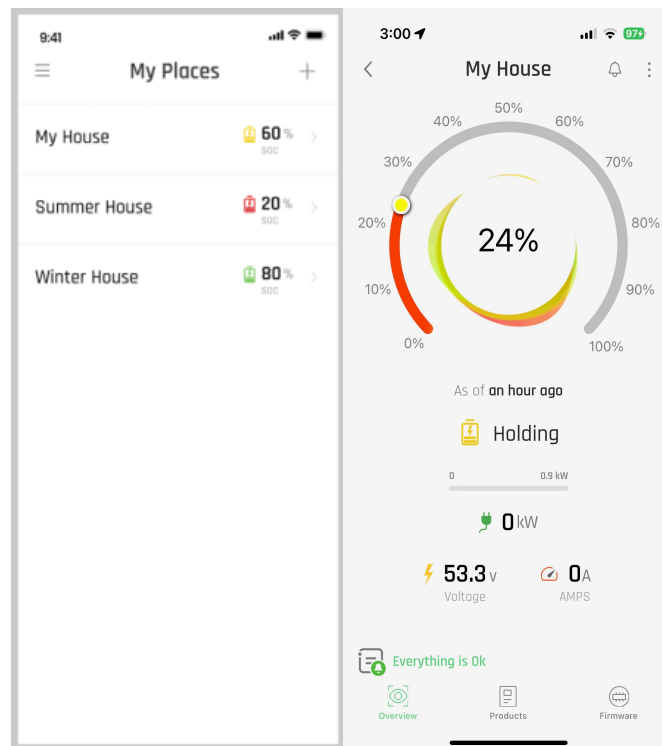
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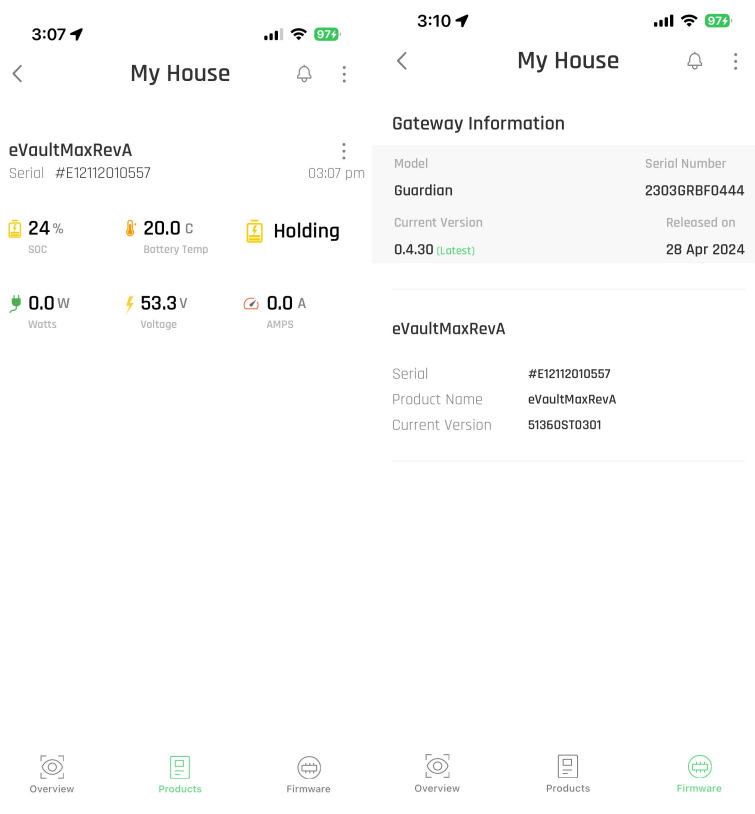
Scan for batteries

Save & Next

- After submitting your battery information, you should now be able to see your newly created place. If you press on it, you will see a general overview of your battery system.

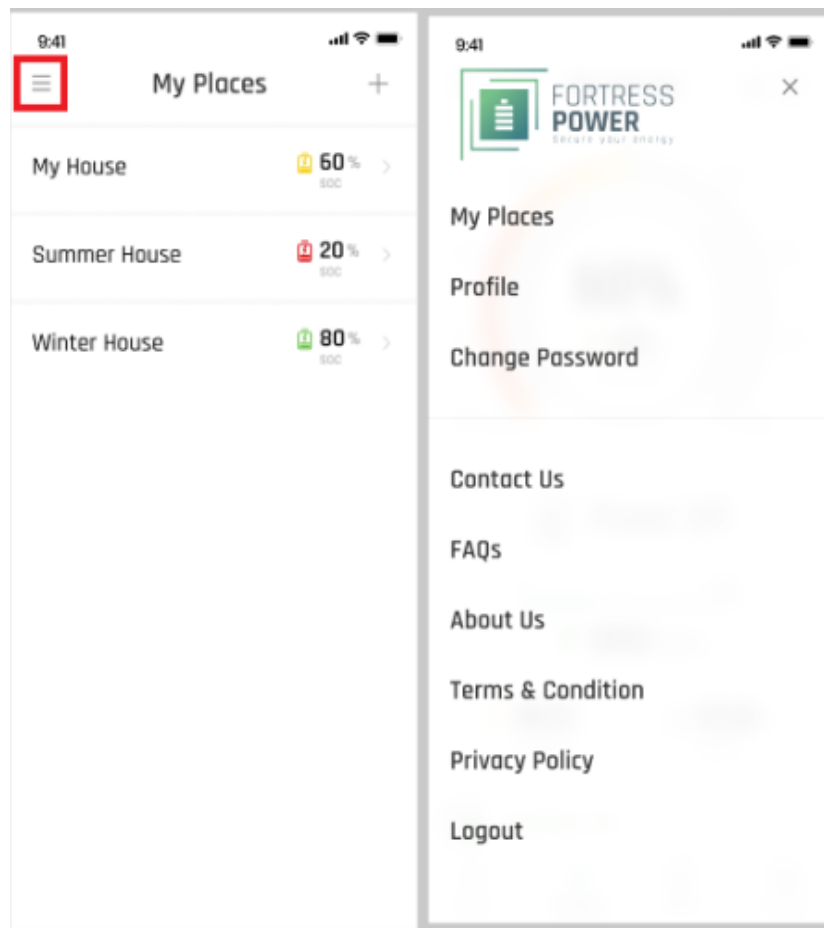


- Press any of the tabs highlighted in red above to get more information on your Fortress battery system:



Changing Guardian Settings

- In the My Place section click on the dashboard icon in the top left to view the companion app dashboard:



- Press on profile to update email and phone number information and on change password to update account password:

The image shows two side-by-side screenshots of mobile application screens. The left screenshot is the 'Profile' screen, featuring a hamburger menu icon in the top left, the title 'Profile', and two input fields: 'Email Address' with the value 'tim.jennings@example.com' and 'Mobile Number' with the value '(406) 555-0120'. A green 'Update' button is positioned at the bottom. The right screenshot is the 'Change Password' screen, also with a hamburger menu icon in the top left and the title 'Change Password'. It contains three password input fields: 'Current Password', 'New Password', and 'Confirm Password'. Each field has a small eye icon to the right, indicating a toggle for password visibility. A green 'Update' button is located at the bottom of this screen as well.

Troubleshooting and Firmware

Troubleshooting

To troubleshoot Guardian issues, please fill out a support ticket at <https://support.fortresspower.com>

Firmware Revision

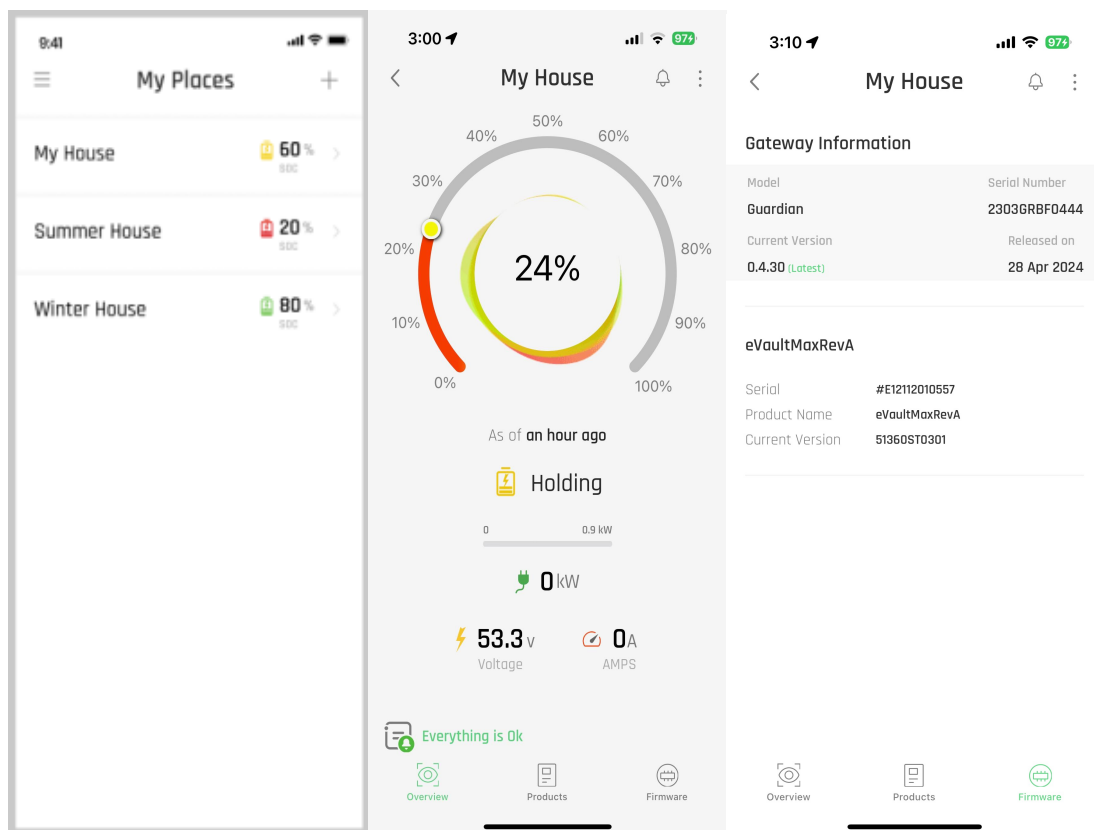
The initial firmware version of the Guardian is 0.1.0.

Please check <https://fortresspower.com/firmware> for release information.

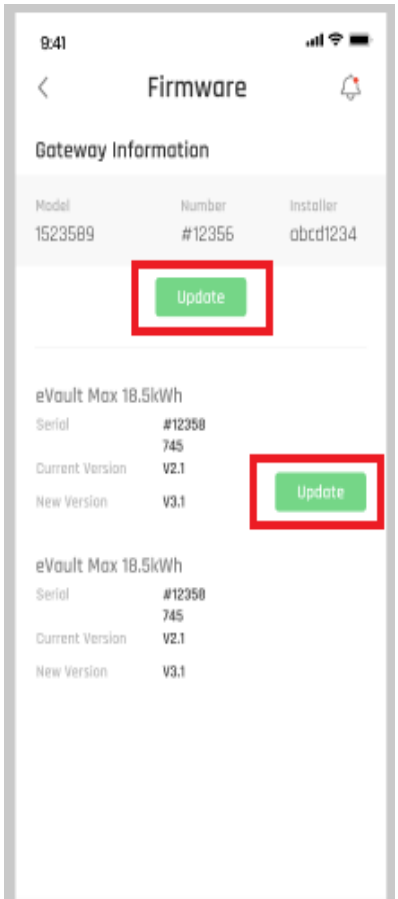
The Guardian is new hardware, so be prepared to update Guardian firmware at each site visit until ~2024.

Upgrading Firmware

- Select the place where you want to update firmware, then select a firmware option from the icons below:



- Update the firmware of the Guardian hub by pressing the update button within the app. This can be done for the Guardian and battery firmwares as shown below.



9:41



Firmware



Gateway Information

Model	Number	Installer
1523589	#12356	abcd1234

Update

eVault Max 18.5kWh

Serial	#12358
	745
Current Version	V2.1
New Version	V3.1

Update

eVault Max 18.5kWh

Serial	#12358
	745
Current Version	V2.1
New Version	V3.1