SAVANT
POWER SYSTEM

Savant Power System Deployment Guide - Savant Power & Light App

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This document guides the installer through the process of deploying and configuring a Savant Power System using the Savant Power & Light app. Topics covered in this Deployment Guide include:

- Installation and setup of the Savant Power Director
- Pairing Savant Power Modules with the Power Director and testing circuits
- Connection and integration of Savant Power Storage 20 and other supported battery storage systems
- System configuration using the Savant Power & Light app including Energy Scenes
- Software and device firmware update procedure

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Important Safety Information - Read First

Before installing, configuring, or operating any equipment, Savant recommends that each dealer, integrator, installer, etc., access and read all relevant technical documentation. Savant Power technical documentation can be located by visiting Savantpower.com. Vendor documentation is supplied with the equipment.

Read and understand all safety instructions, cautions, and warnings in this document and the labels on the equipment.

Safety Classifications In this Document

NOTE:	Provides special information for installing, configuring, and operating the equipment.
IMPORTANT!	Provides special information that is critical to installing, configuring, and operating the equipment.
CAUTION!	Provides special information for avoiding situations that may cause damage to equipment.
WARNING!	Provides special information for avoiding situations that may cause physical danger to the installer, end user, etc.

Electric Shock Prevention

ELECTRIC SHOCK!	The source power poses an electric shock hazard that has the potential to cause serious injury to installers and end users.
ELECTRICAL DISCONNECT:	The source power outlet and power supply input power sockets should be easily accessible to disconnect power in the event of an electrical hazard or malfunction.

Weight Injury Prevention

WEIGHT INJURY!	Installing some of the Savant equipment requires two installers to ensure safe handling during installation. Failure to use two installers may result in injury.

Safety Statements

All safety instructions below must be read, understood, and carefully followed under all applicable circumstances when working with any Savant equipment.

1. **Follow all input power ratings marked on product near power input!**
2. If fuse replacement is required, replacement fuse should match fuse rating marked on the product.
3. Do not use equipment near water.
4. Clean only with dry cloth.
5. Do not block any ventilation openings or install near any heat sources such as heat registers, stoves, radiators, amplifiers, etc.
6. Refer all servicing to qualified service personnel. Servicing is required when any part of the apparatus has been damaged in any way, or fails to operate normally for any reason.
7. Use only attachments/accessories specified by the manufacturer, following all relevant safety precautions for any such attachments/ accessories.
8. For applicable equipment, use the included power cord with the grounding prong intact to insure proper grounding of the device.
9. If the provided plug does not fit the desired outlet, contact a licensed electrician to replace the obsolete outlet.
10. Protect any power cord from being walked on, pinched, strained, or otherwise potentially damaged, especially at the outlet or device connections.
11. Disconnect any outlet powered apparatus from its Power Source during lightning storms or when unused for long periods of time.
12. To completely disconnect equipment from AC mains power, disconnect the power supply cord plug from the AC receptacle on the device.
13. For any hardwired or fixed in-wall apparatus, carefully follow all wiring diagrams and instructions. All electrical wiring and servicing should be performed by a properly licensed electrician.

1. Before You Begin

Before completing the steps listed in this document, it is important to understand its place within the Savant Power ecosystem. This document covers all aspects of the **Configuration** phase of Savant Power System installation, using the Savant Power & Light app. This document assumes that the reader has read all documentation associated with the equipment in use, has installed all equipment correctly, and has access to the breaker panel to be configured.

Savant Documentation

This document assumes the installer has read and completed the applicable steps within the following Savant documentation for any installation. Review and complete all steps listed in the documentation that applies to the equipment being installed:

System Design	Deployment	Quick Reference Guides
009-2264 Savant Power System Design Guide	Savant Power Storage 20 Installation Guide	Savant Power Director
009-2265 Savant Power System Design Worksheet	009-2222-01 Savant Power System Deployment Guide - Sol-Ark	Savant Power Modules
	009-2227 Savant Power System Deployment Guide - Schneider	Savant Current Track Modules

Third Party Documentation

The following are third party installation manuals relevant to the type of inverter to be installed.

Manufacturer	Manual
Tesla	Tesla PowerWall 2
Sonnen	Operation and user manual Sonnen eco Gen 3.1
SolarEdge	SolarEdge System Installation Guide
Franklinwh	Franklinwh Quick Installation Guide

Products

The following items are required for deploying a Savant Power System using the Savant Power & Light app:

- Savant Power Director (HST-DIRECTOR) ☐
- iOS or Android Device ☐
- Savant Power Modules ☐

OPTIONAL:

- CAT5 or Higher Ethernet Cable ☐
- Uninterruptible Power Supply (UPS) ☐
- SmartEnergy Monitor (SEM-2015) ☐
- Panel Bridge Controller (PBC-1000) ☐
- Savant Smart Controller (SSC-02485) ☐

2. Introduction

Follow the steps below to successfully deploy and configure a Savant Power System.

Deployment Steps

1. Install Director ☐
   See Director Setup
2. Install and Configure Power Modules ☐
   See Power Module Setup

Savant Power & Light App Setup

1. Complete App Setup ☐
   See Savant Power & Light App Setup
2. Update Software & Firmware ☐
   See Appendix B: Software & Firmware Update

System Configuration

1. Create Breaker Panel & Pair All Panels ☐
   See Panel Configuration
2. Test Functionality ☐
   See Test Circuits
3. Configure Energy Monitor ☐
   See Energy Monitoring (If Applicable)
4. Add Power Sources ☐
   See Add Power Source (If Applicable)
5. Configure Dedicated Circuits ☐
   See Configure Dedicated Circuits (If Applicable)
6. Create Energy Scenes ☐
   See Create Energy Scenes
7. Upload Configuration to Director ☐
   See Upload Config

3. Director Setup

The Director and energy storage system must be mounted and powered on before continuing deployment. The example below shows a basic wire diagram from the Director to the Savant Power Inverter. Refer to Appendix A for information on wiring 3rd party energy storage systems.

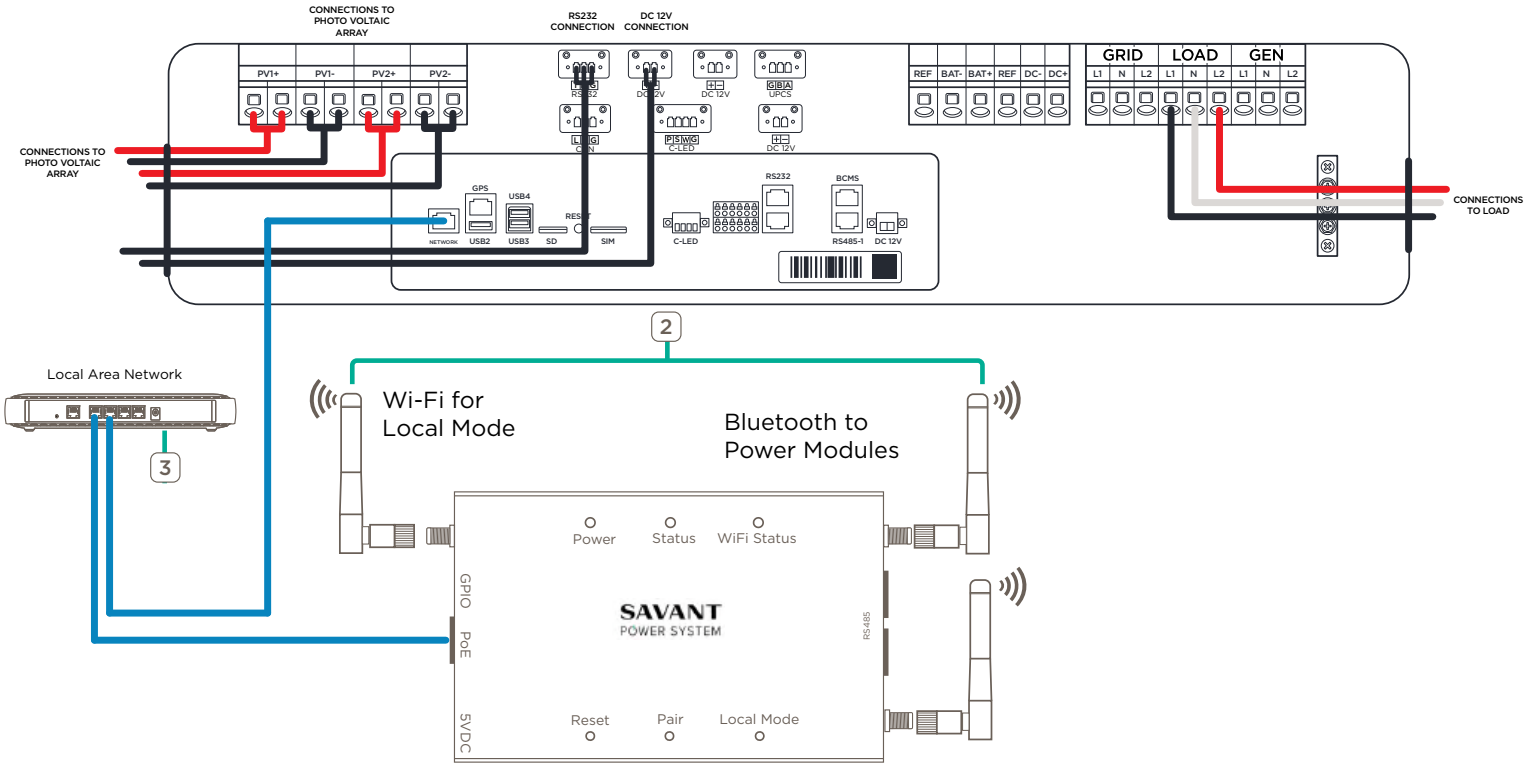
Installation

1. Mount the Director in a location chosen during the design phase.
2. Screw in the Wi-Fi and Bluetooth antennas to the SMA connector ports.
3. The Savant Power Director and Savant Power Inverter communicate over IP. Connect the PoE port of the Director and Network port of the inverter to the local area network using a CAT5 or higher ethernet cable.
4. (Optional) Connect the Director to a UPS.

⚠ **IMPORTANT!:** For wireless networks, Complete App Onboarding, following section 6.5 Wireless Setup (If Applicable).

Savant Power Storage 20 Inverter Wiring

The example below shows a basic wire diagram from the Director to the Savant Power Inverter. Refer to Appendix A for information on wiring 3rd party energy storage systems.



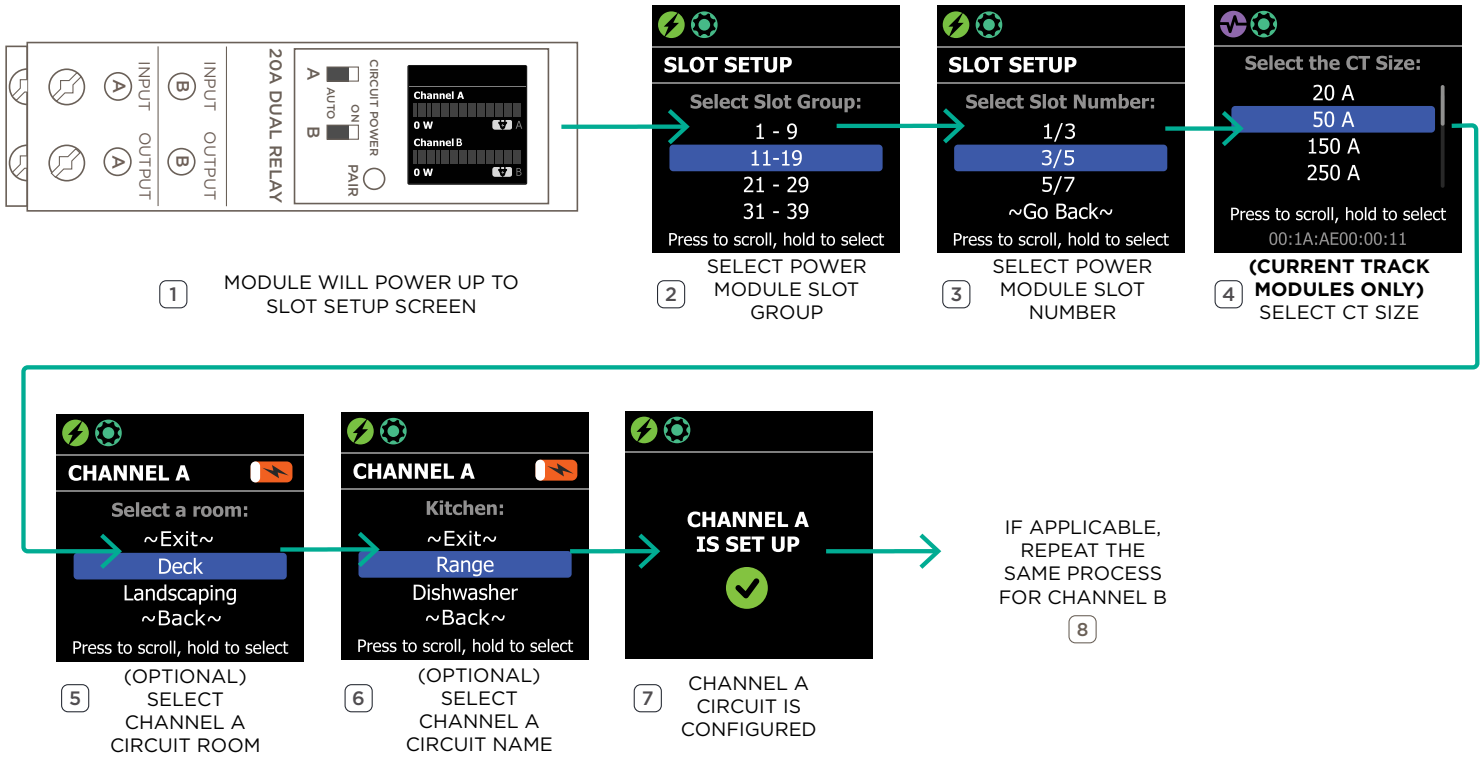
4. Power Module Setup

Once wired and installed according to the relevant Power Module Quick Reference Guide, apply power to all breaker panels containing Power Modules. The LCD screen for all Power Modules will light up. Once all Power Modules are powered on fully, their Module Data must be configured.

Module Data consists of three parts:

Slot	The starting slot a Power Module occupies within the breaker panel.
Circuit Name	Name of each circuit controlled by its respective Power Module Channel.
Room Name	The name of the room the circuit provides power to.
CT Size	(Current Track Modules Only) The current monitor size for the circuit.

Room and Circuit names are configured on a per-channel basis. A **Channel Circuit** is the relay within Power Module that controls the circuit it is wired to. Dual relay Power Modules have **Channel A Circuit** and **Channel B Circuit**, while single relay modules have only **Channel A Circuit**. The image below shows the process of configuring the Power Module Slot Group, Slot Numbers, and the optional Channel Room Name and Channel Circuit Name of a dual relay Power Module:

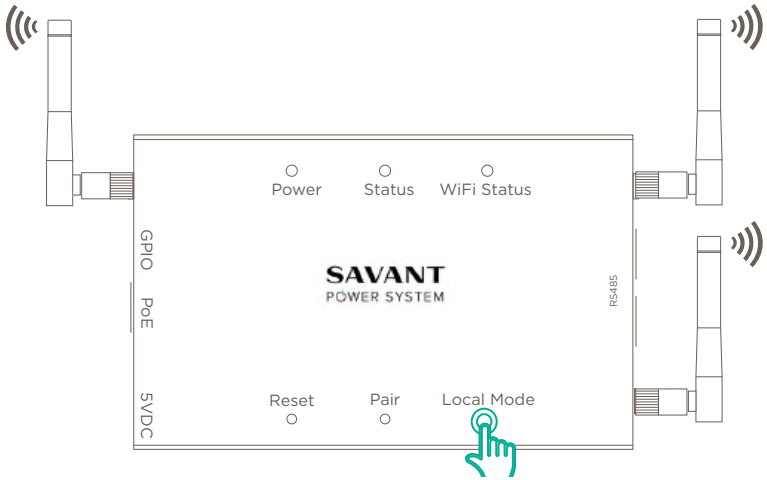


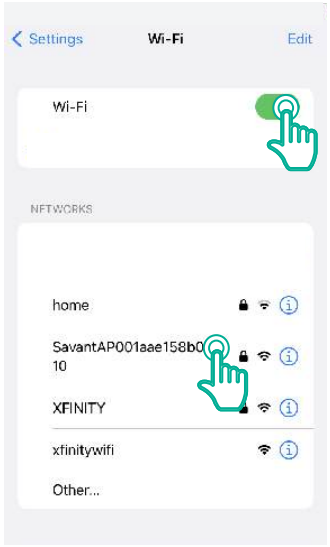
IMPORTANT!: Channel name and room can be configured afterwards within the Power & Light App. Complete App Setup and see Channel Circuit Name & Group.

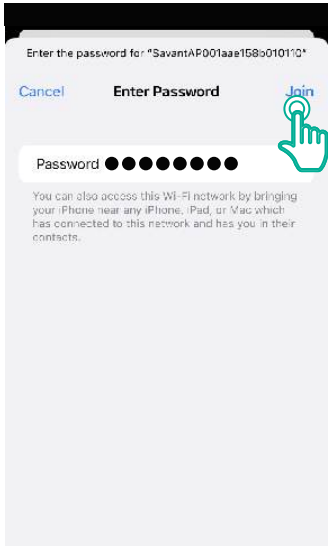
5. Director Hotspot (Optional)

IMPORTANT: Complete this section ONLY if an existing local network is not available. The Director must have an internet connection. For locations without an existing local area network, the Director can be placed into **Local Mode** and used as a hotspot for configuration with the Savant Power and Light App.

- The hotspot will timeout after 10 hours. Press Local Mode again to disable or re-enable the hotspot.







1 PRESS AND RELEASE THE **LOCAL MODE** BUTTON ON THE DIRECTOR. THE DIRECTOR STATUS LED WILL TURN SOLID AMBER.

IMPORTANT!: WHEN A DEVICE IS CONNECTED TO THE HOTSPOT A NOTIFICATION MAY APPEAR ASKING TO KEEP USING WI-FI OR USE CELLULAR DATA. KEEP USING WI-FI MUST BE SELECTED. TURNING OFF CELLULAR DATA ON YOUR DEVICE DURING CONFIGURATION MAY BE HELPFUL.

2 ON THE MOBILE DEVICE, ENABLE **WIFI** AND CONNECT TO DIRECTOR HOTSPOT

IMPORTANT!: DIRECTOR HOTSPOT IS TITLED **SAVANTAP**<DIRECTORUID>

3 ENTER DIRECTOR HOTSPOT PASSWORD

IMPORTANT!: DIRECTOR HOTSPOT PASSWORD IS THE DIRECTOR SERIAL NUMBER (S/N)

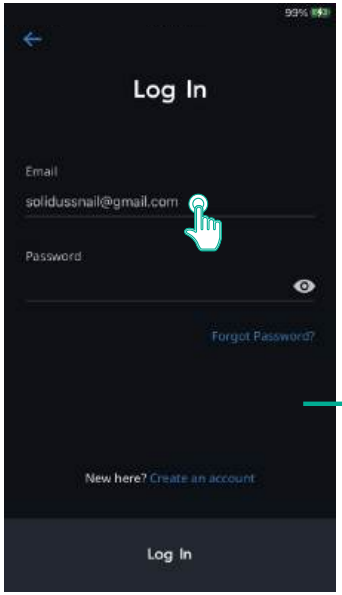
EXAMPLE: KF6331000442

6. Savant Power & Light App Setup

Follow the steps below to complete Director setup using the Savant Power & Light app.

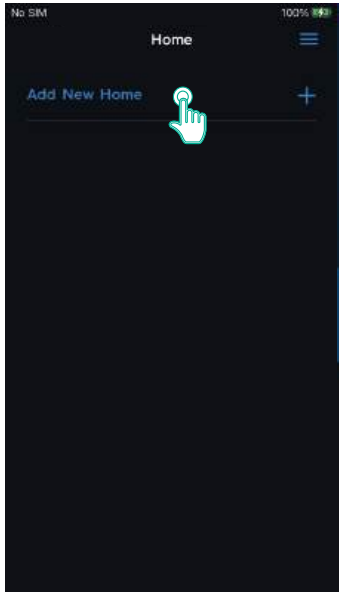
6.1. Create Home

A Home is a representation of the Savant Power System in the Power & Light app.

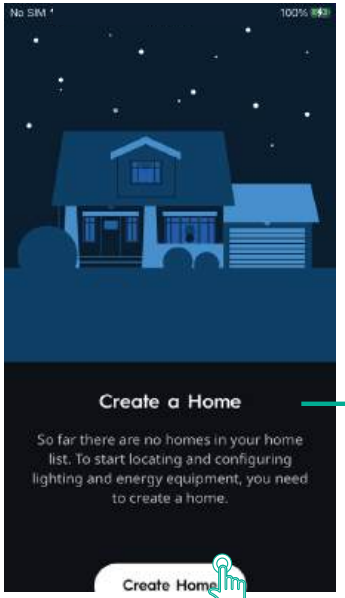


1 SIGN UP FOR A NEW ACCOUNT OR USE AN EXISTING ACCOUNT TO LOG IN.

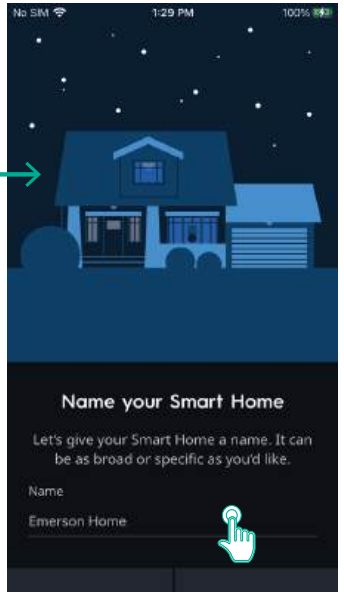
2 TAP SYSTEM CONFIGURATION



3 TAP ADD NEW HOME



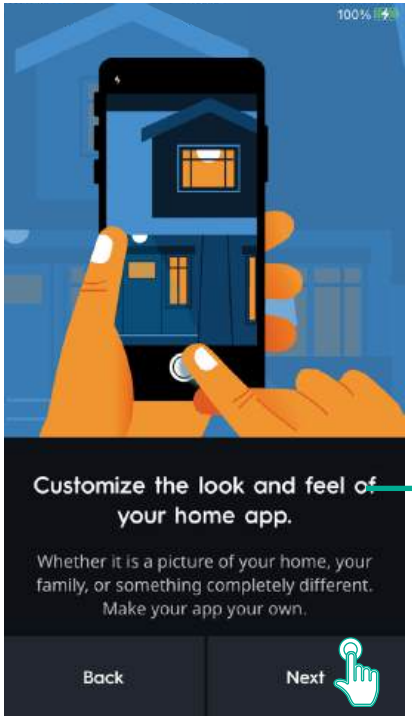
4 TAP CREATE HOME



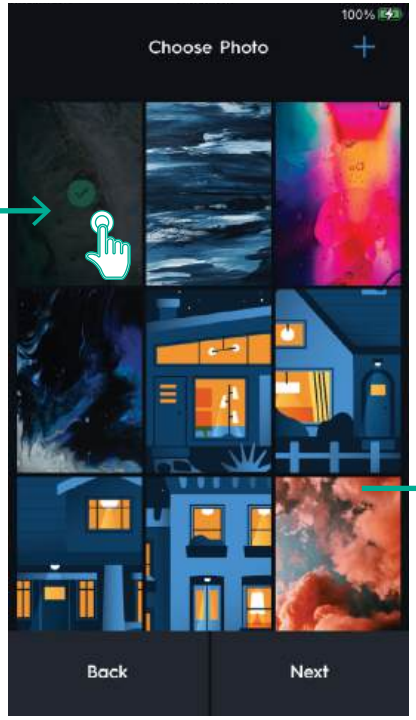
5 ENTER HOME NAME AND TAP NEXT

6.2. Add Photo

A photo represents the Home within the Power & Light App.

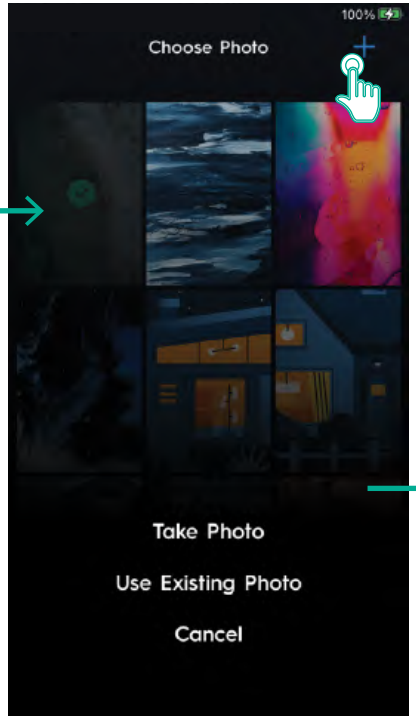


1 TAP NEXT

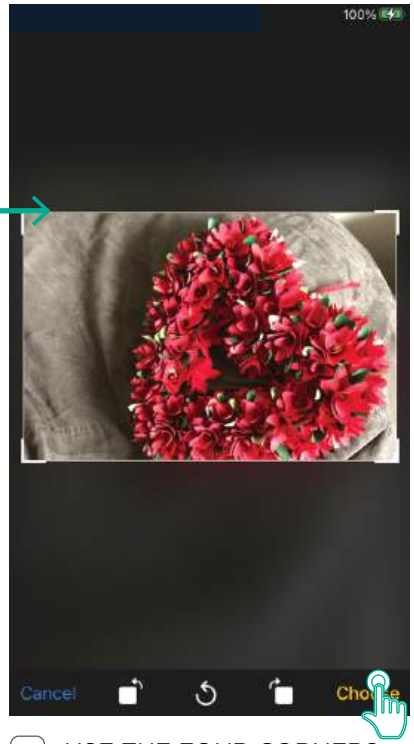


2 SELECT AN IMAGE FROM THE AVAILABLE PHOTOS AND TAP NEXT

OR



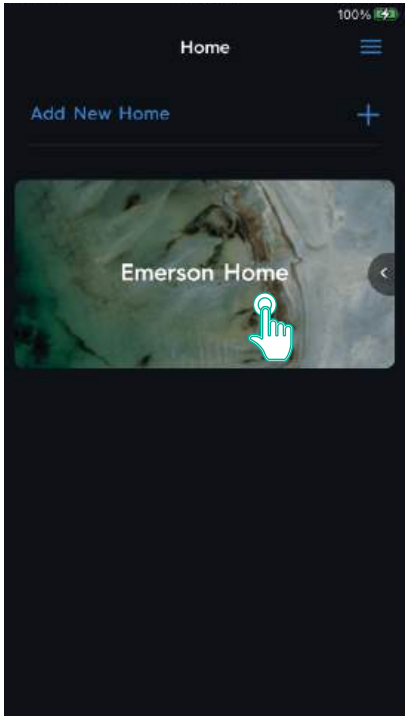
TAP THE PLUS SIGN, THEN SELECT TAKE A PHOTO TO TAKE A NEW PHOTO OR USE EXISTING PHOTO TO SELECT A PHOTO FROM THE PHONE GALLERY



3 USE THE FOUR CORNERS OF THE SELECTED IMAGE TO CROP PHOTOS THEN TAP CHOOSE

6.3. Set Up Home

Follow the steps below to add a Director and configure the Home.



1 TAP ON THE HOME

2 SELECT POWER SYSTEM

3 THE POWER & LIGHT APP AUTOMATICALLY SCANS FOR ALL DEVICES

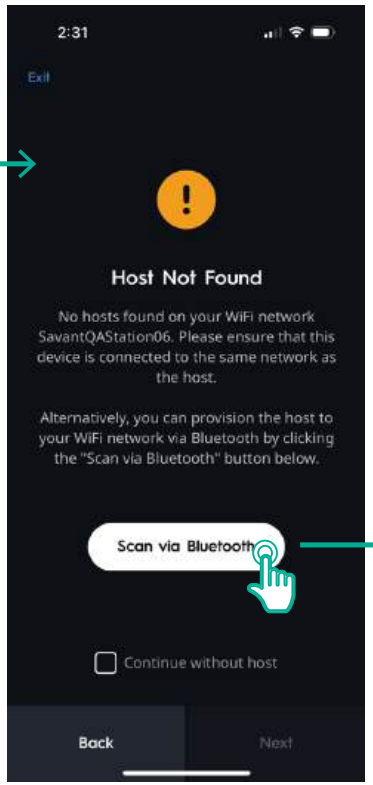
NOTES:

- After this process the user may be prompted for a software update. For more information, see Appendix B: Software & Firmware Updates.
- If a Director has already been configured an additional menu will be included in this flow to **Get the Configuration**, **Save Configuration**, or **Skip** which allows editing of a locally saved Configuration. See Section 10

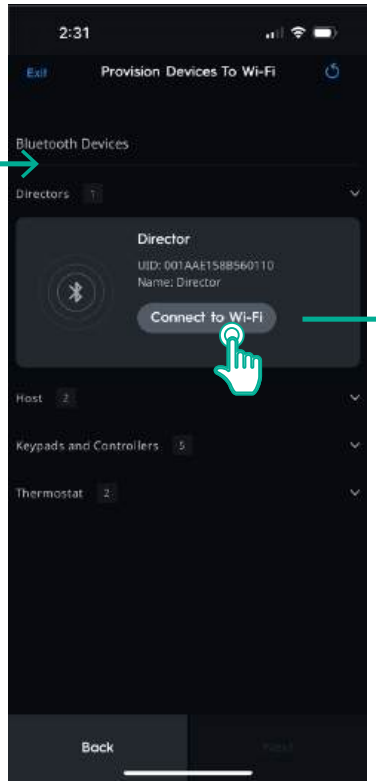
6.4. Wireless Setup (If Applicable)

For new homes requiring that the Director communicates using the wireless network, make sure the iOS or Android device is on the same network the Director will be connected to and has the Savant Power & Light app installed. The Power & Light App will automatically query the network for all Savant devices. Then follow the steps below.

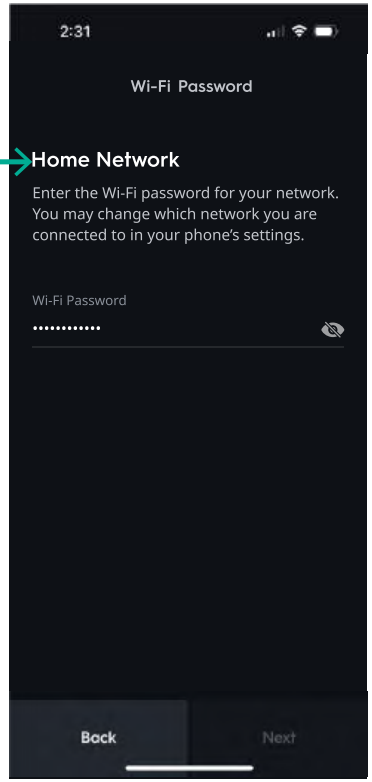
1 SELECT THE TYPES OF DEVICES TO BE CONFIGURED



2 WIFI ONLY: TAP SCAN VIA BLUETOOTH



3 SEARCH FOR THE DIRECTOR AND TAP CONNECT TO WI-FI

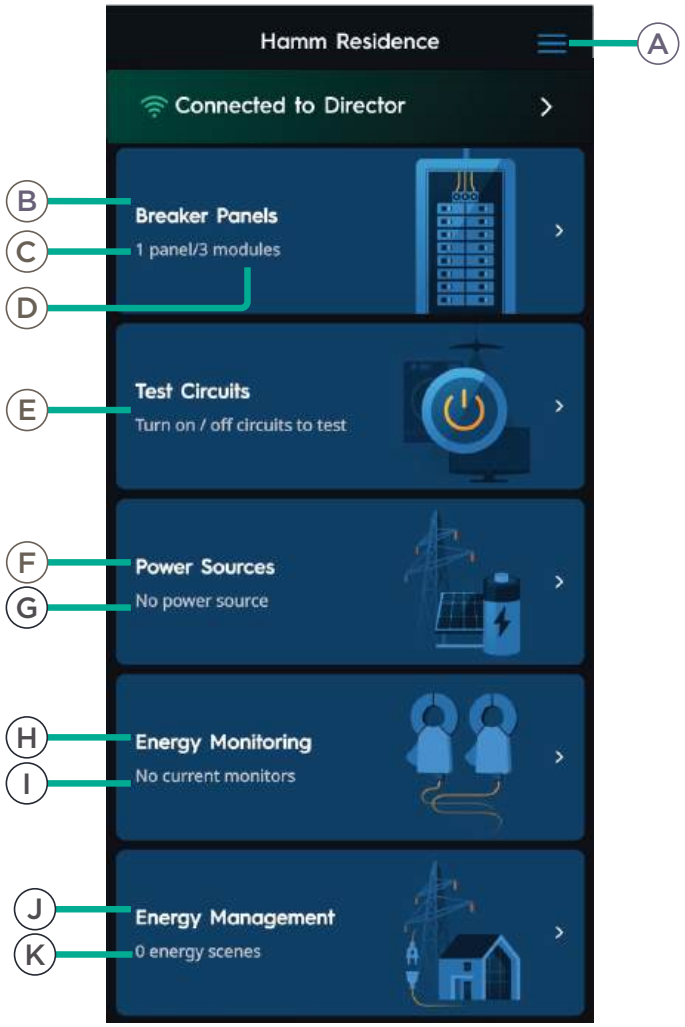


4 ENTER THE WIFI NETWORK PASSWORD AND TAP NEXT

NOTE: The Director can be manually onboarded to a different Wi-Fi network by holding the reset button on the Director for 5 seconds, then releasing. From the Home screen, select **Provision To Wi-Fi** and add the Director to a Wi-Fi network.

7. Dashboard

The Home Dashboard displays all available setup options. Depending on individual system components and design, some options may not be used. The table below provides information about each tile and its function.



A	Menu	Tap to open the **Menu** screen, to reveal the following options: **General** – Profile Settings – About – Update Software – Provision Devices to Wi-Fi – Devices on Network **Home** – Home Name & Photo – Host – Rooms & Circuits – Log Out
B	Breaker Panels	Tap to view Breaker Panels.
C	Panels	Quantity of Breaker Panels configured.
D	Power Modules	Quantity of Power Modules configured.
E	Test Circuits	Tap to view the Test Circuits screen and manually control all Power Module circuits.
F	Power Sources	Tap to view and configure a Power Source.
G	Power Source Type	Type of Power Source configured.
H	Energy Monitoring	Tap to view and configure Current Monitors and Contactors.
I	Current Monitors	Quantity of detected Current Monitors over configured Current Monitors.
J	Energy Management	Tap to view Energy Scenes.
K	Energy Scenes	Quantity of Energy Scenes configured.

8. Panel Configuration

System configuration for each Home within the Savant Power & Light app is represented by virtual breaker panels containing each Power Module placed in the slot matching the physical panel layout on site. Modules are then paired with the virtual panel via the app, and the configuration is synced to the Power Director. The following sections describe how to add Panels and Power Modules to the Director configuration using the Savant Power & Light app.

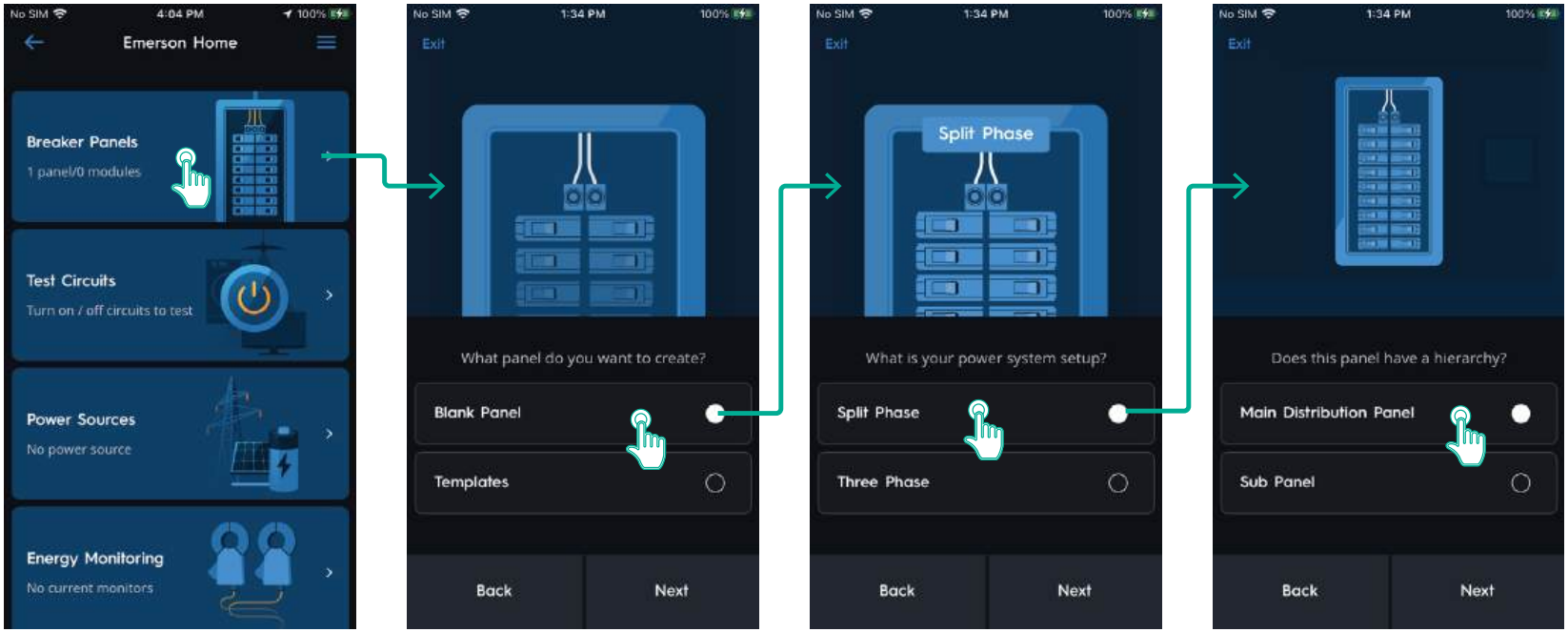
NOTE: In da Vinci 10.2.3 and below panel configurations with battery or power source only options are not supported, at least one module is needed. In da Vinci 10.5 and higher, panel configurations with battery or power source only options are available. See Section 11 for battery only or power source options.

8.1. Add Breaker Panel

Follow the steps below to add a breaker panel and Power Modules to the Home configuration. This process can be repeated for each additional breaker panel as needed.

NOTES:

- A Main Distribution Panel must be created before adding a Sub Panel
- See Appendix E: Breaker Panel Settings for additional menu details. .

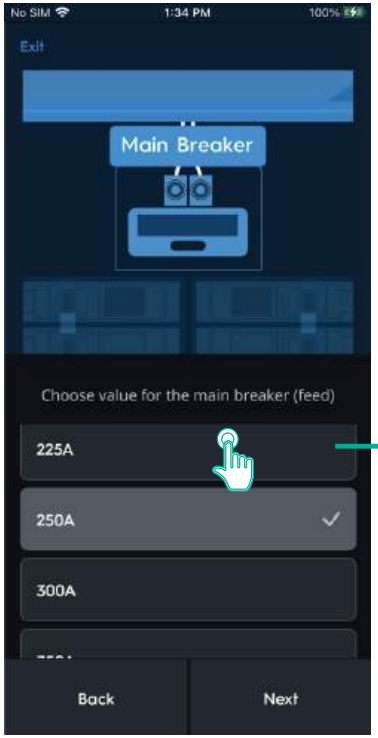


1 TAP BREAKER PANELS

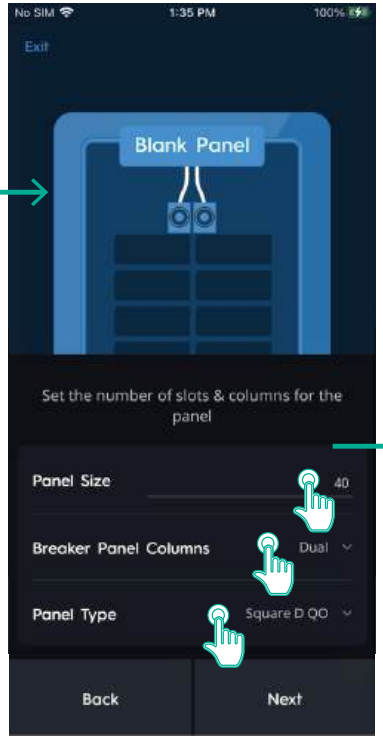
2 TAP BLANK PANEL, TAP NEXT

3 CHOOSE SPLIT OR THREE PHASE AND TAP NEXT

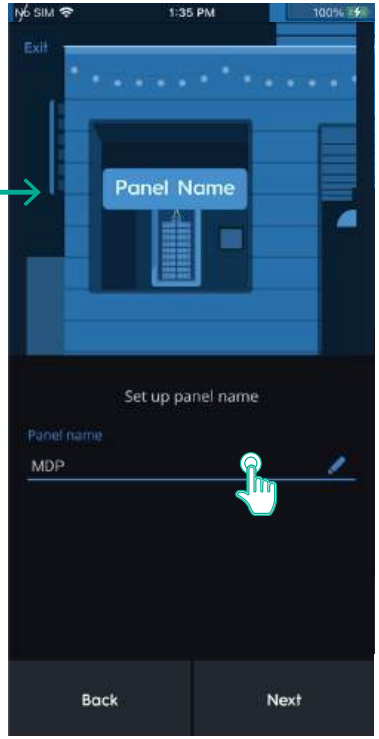
4 SELECT PANEL HIERARCHY AND TAP NEXT



5 CHOOSE MAIN BREAKER FEED AMPERAGE AND TAP NEXT



6 CHOOSE NUMBER OF SLOTS, COLUMNS AND PANEL TYPE THEN TAP NEXT



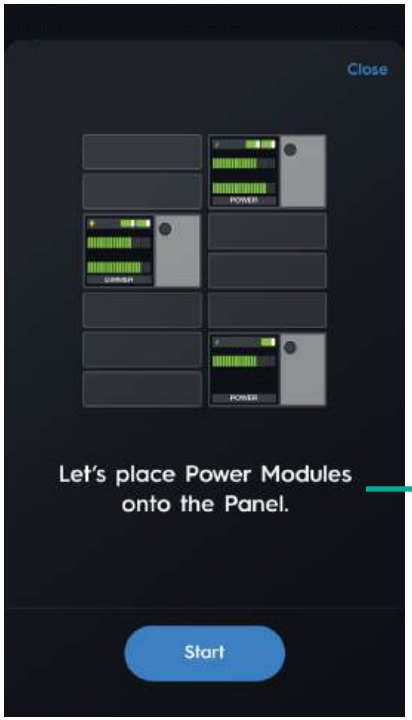
7 NAME THE BREAKER PANEL AND TAP NEXT

NOTE: These settings can be configured later by swiping left on the breaker panel within the Breaker Panel menu and tapping the pencil icon.

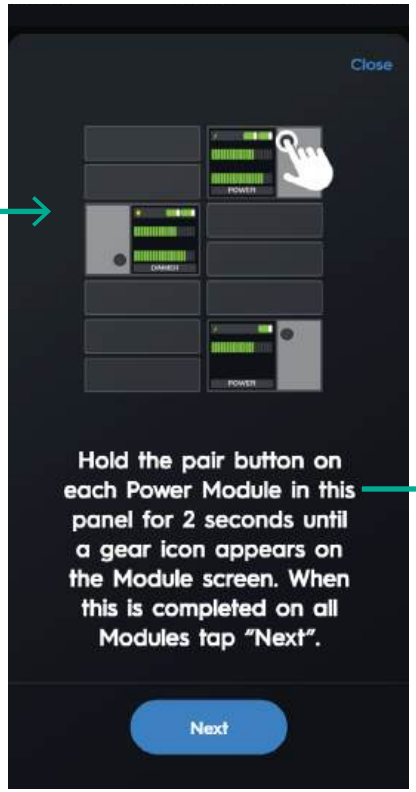
8.2. Panel Pairing Wizard

Once a Panel has been created following the steps in the previous section, the Panel Pairing Wizard will automatically start. Follow the steps below to pair all Power Modules in the breaker panel.

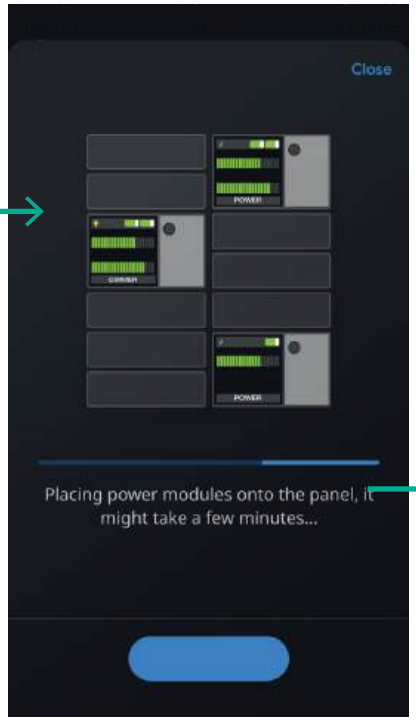
- Panel Pairing Wizard can be relaunched at any time by selecting the ellipsis(...) in the top right corner of the Panel Template Overview.



1 THE PANEL PAIRING PROMPT WILL APPEAR, TAP START



2 HOLD THE PAIR BUTTON ON EACH POWER MODULE FOR 2 SECONDS UNTIL A GEAR ICON APPEARS ON THE MODULE SCREEN. WHEN THIS IS COMPLETE ON ALL MODULES, TAP NEXT.



3 ALL POWER MODULES WILL BE AUTOMATICALLY ADDED TO THE PANEL DURING THIS TIME.

4 THE BREAKER PANEL WITH ALL PAIRED POWER MODULES WILL APPEAR WHEN THE PROCESS IS COMPLETE.

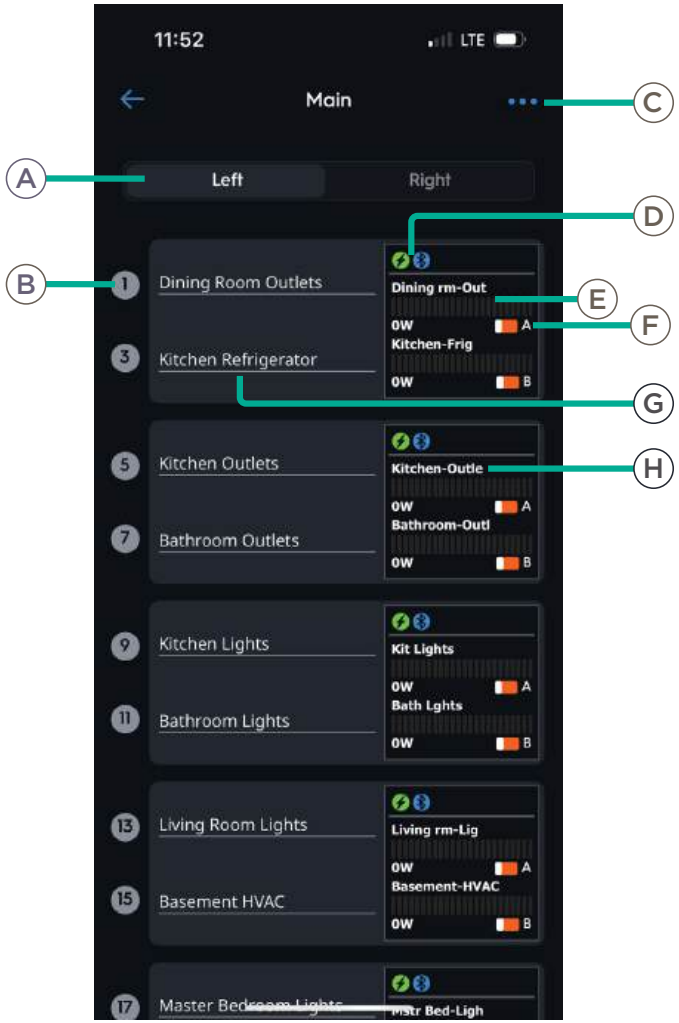
IMPORTANT NOTES:

- When a Power Module becomes paired it will automatically turn the load on.

8.3. Panel Template Overview

The Panel Template Overview is a visual representation of the Breaker Panel. Paired Power Modules are shown in their assigned slot group and display their current status.

- Tap a Power Module to edit its settings (see section 8.5 below)
- Tap an empty panel slot to add Power Modules or Breakers.

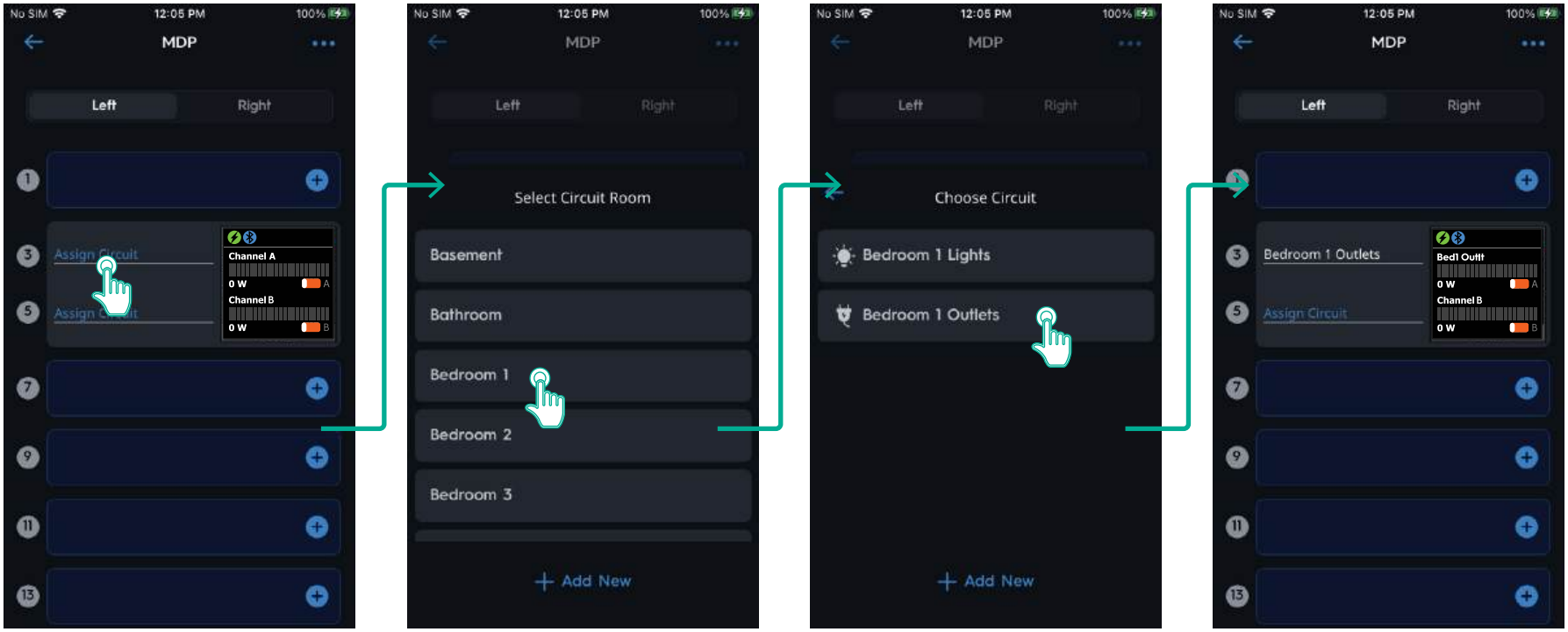


Panel		
A	Panel Side	Which side of the panel is being displayed.
B	Slot Number	Individual slot in the panel. Tap to test the associated load.
Module		
C	Menu	Tap to change zoom setting, save panel template, or launch the Panel Pairing Wizard.
D	Load Type Indicator	Indicates whether the Power Module controls a Lighting or Energy type load.
	Bluetooth Connection	Indicates the Power Module is paired to the Director
E	Power Meter	Current load out of maximum load per channel, in watts.
F	Switch Status	Indicates if the circuit is Powered On or Powered Off.
G	Circuit Name	Name of associated circuit. Tap to assign or re-assign Circuit Name.
H	Display Name	Shorthand name for the circuit.

8.4. Assign Circuit Location & Name

If the Circuits controlled by a Power Module are already configured the Name and Location will be automatically added to the Panel Template. Otherwise, tap Assign Circuit to configure the Name and Location. Circuit names can be edited at any time by tapping the Name again.

Channel Circuit Name



1 TAP ASSIGN CIRCUIT

2 SELECT CIRCUIT ROOM OR TAP ADD NEW TO CREATE A CUSTOM ROOM

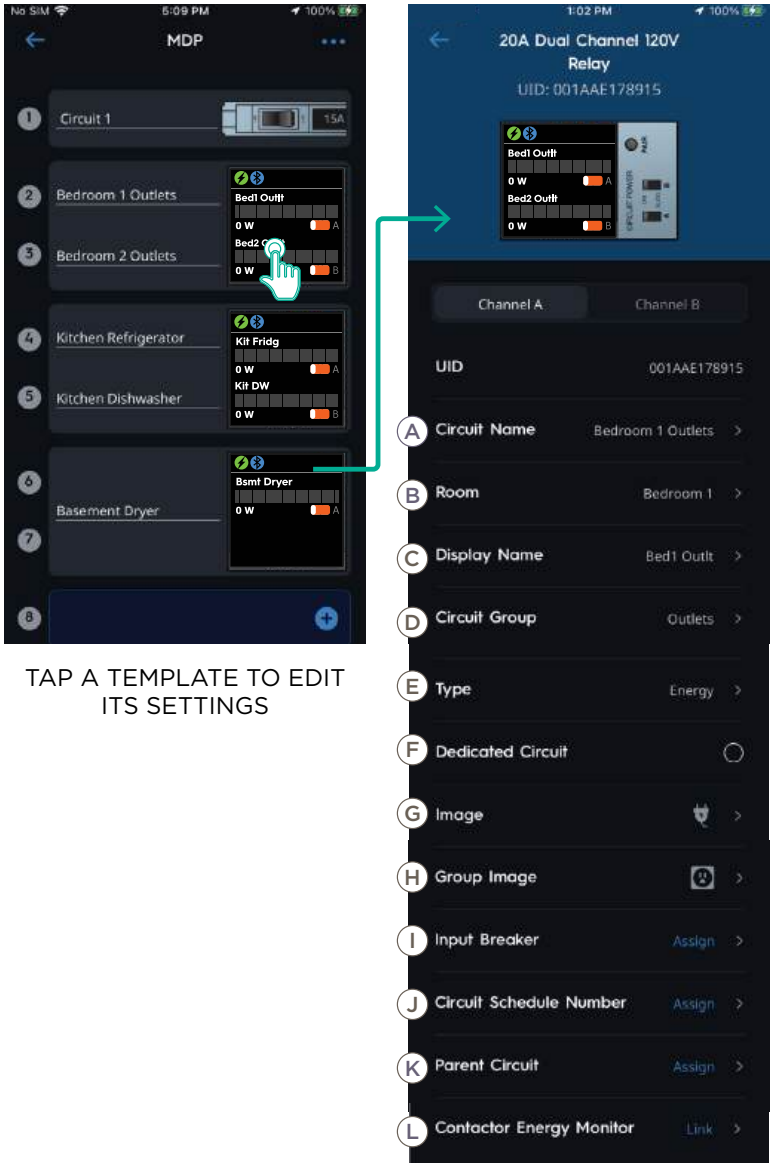
3 SELECT CIRCUIT NAME OR TAP ADD NEW TO ENTER A CUSTOM NAME

4 THE CIRCUIT NAME IS ADDED TO THE MODULE TEMPLATE

8.5. Configure Power Module Templates

Power Module settings can be accessed by tapping the Power Module Screen in the slot group. The process is the same regardless of Module type, but settings will differ.

Power Module Template

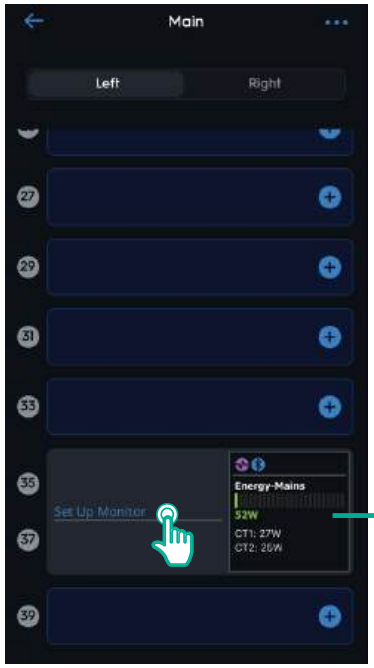


TAP A TEMPLATE TO EDIT ITS SETTINGS

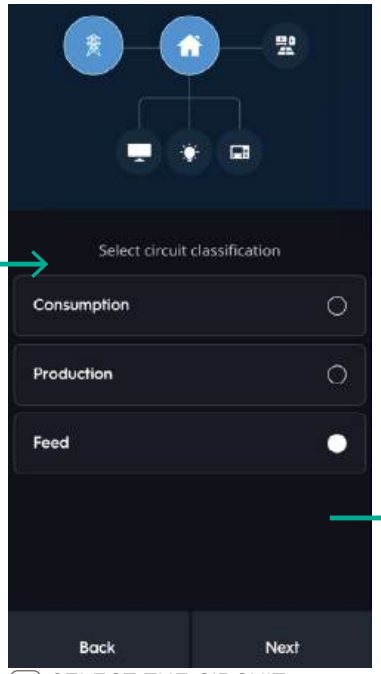
	Setting	Definition
A	Circuit Name	Name of the Channel Circuit.
B	Room	Location in the Home the circuit is associated to
C	Display Name	Name displayed on the Power Module LCD screen
D	Circuit Group	Assign a Group to organize circuits by category
E	Type	Tap to choose Energy or Lighting Module.
F	Dedicated Circuit	Enable to set Channel Circuit as a Dedicated Circuit.
G	Image	Assign an Image to identify the circuit type
H	Group Image	Image representing the Channel Circuit Group.
I	Input Breaker	Assign the Input Breaker the Power Module channel is wired to.
J	Circuit Schedule Number	User defined schedule number for circuit.
K	Parent Circuit	Tap to assign parent circuit.
L	Contactor Energy Monitor	Tap to assign Contactor Energy Monitor.

8.6. Set Up Current Track Modules (CTM)

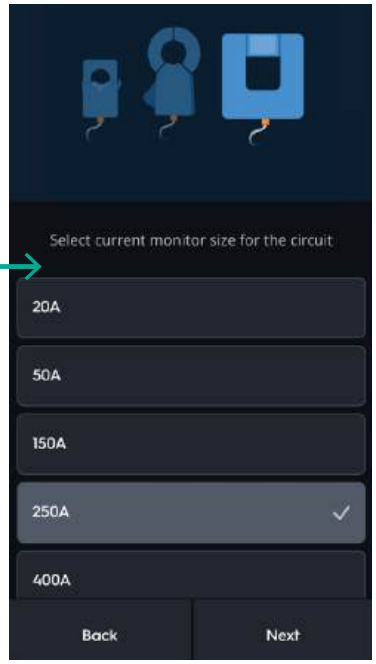
After pairing a CTM, follow the steps below to complete the setup.



1 TAP SET UP MONITOR.



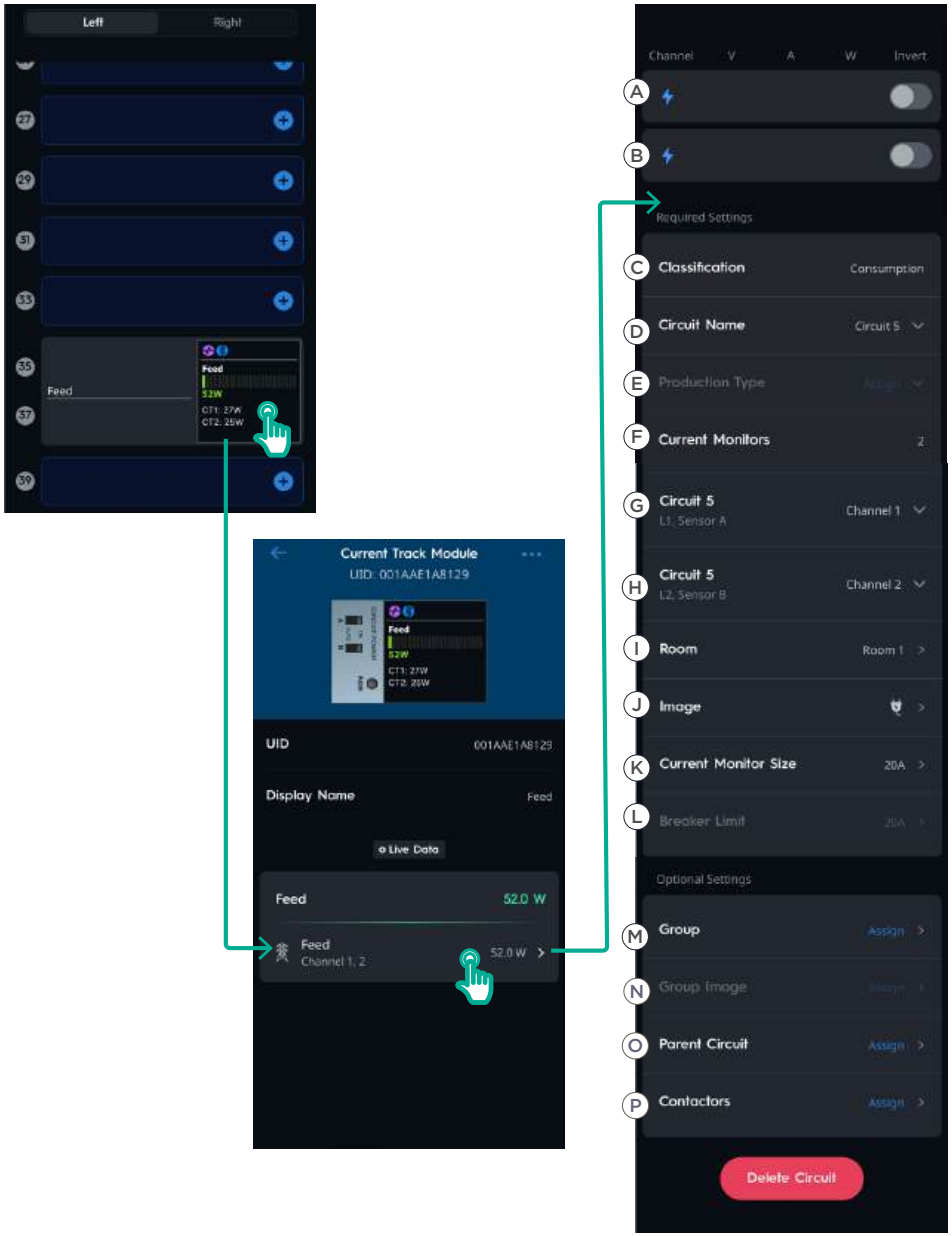
2 SELECT THE CIRCUIT CLASSIFICATION, THEN TAP NEXT.



3 CHOOSE THE CURRENT MONITOR SIZE FOR THE CIRCUIT, THEN TAP NEXT TO FINALIZE THE SETUP.

Current Track Module Template

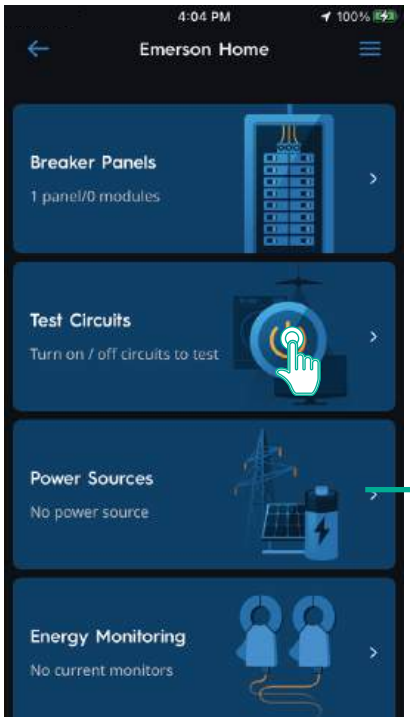
Once setup is complete, the app will return to the Panel Templates Overview screen. Tap the Current Track Module Screen in the slot group, then tap **Feed** to review and adjust additional settings if needed.



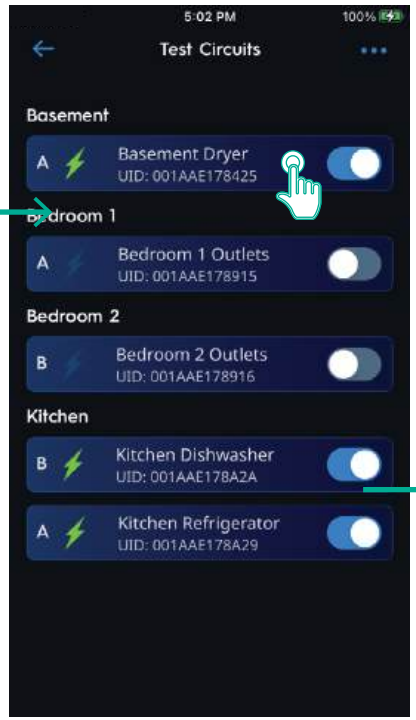
	Setting	Definition
A	Channel A	Live volt, amperage, and wattage reported by the circuit connected to Channel A.
B	Channel B	Live volt, amperage, and wattage reported by the circuit connected to Channel B.
C	Classification	Whether the Current Track Module is measuring a Consumption or Production type circuit.
D	Circuit Name	Name of the Circuit.
E	Production Type (Production Only)	Generator, Battery, or Solar.
F	Current Monitors	Quantity of Current Monitors
G	Channel 1	CT connected to channel 1 of the Power Module.
H	Channel 2	CT connected to channel 2 of the Power Module.
I	Room	Location of the circuit monitored by the Current Track Module
J	Image	Image representing the Channel Circuit.
K	Current Monitor Size	Amperage rating for installed current monitor.
L	Breaker Limit	Optional amp limit.
M	Group	Group within the Savant Power Home.
N	Group Image	Image representing the Channel Circuit Group.
O	Parent Circuit	Tap to assign parent circuit.
P	Contactors	Tap to assign Contactor Energy Monitor.

9. Test Circuits

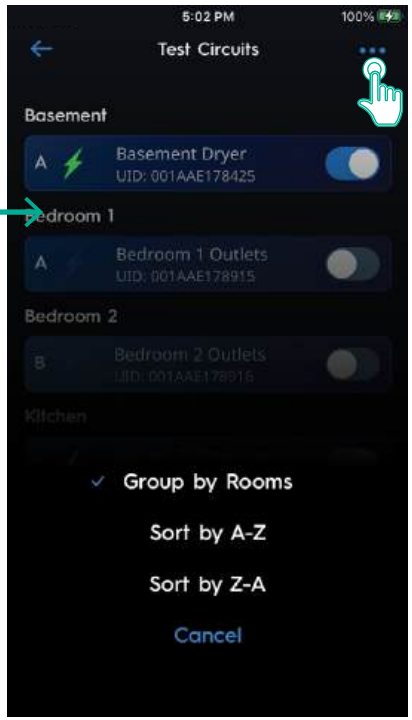
The **Test Circuits** menu allows each circuit to be tested by turning it On or Off.



1 TAP TEST CIRCUITS



2 TAP CIRCUIT SWITCH TO TOGGLE CHANNEL CIRCUIT ON OR OFF



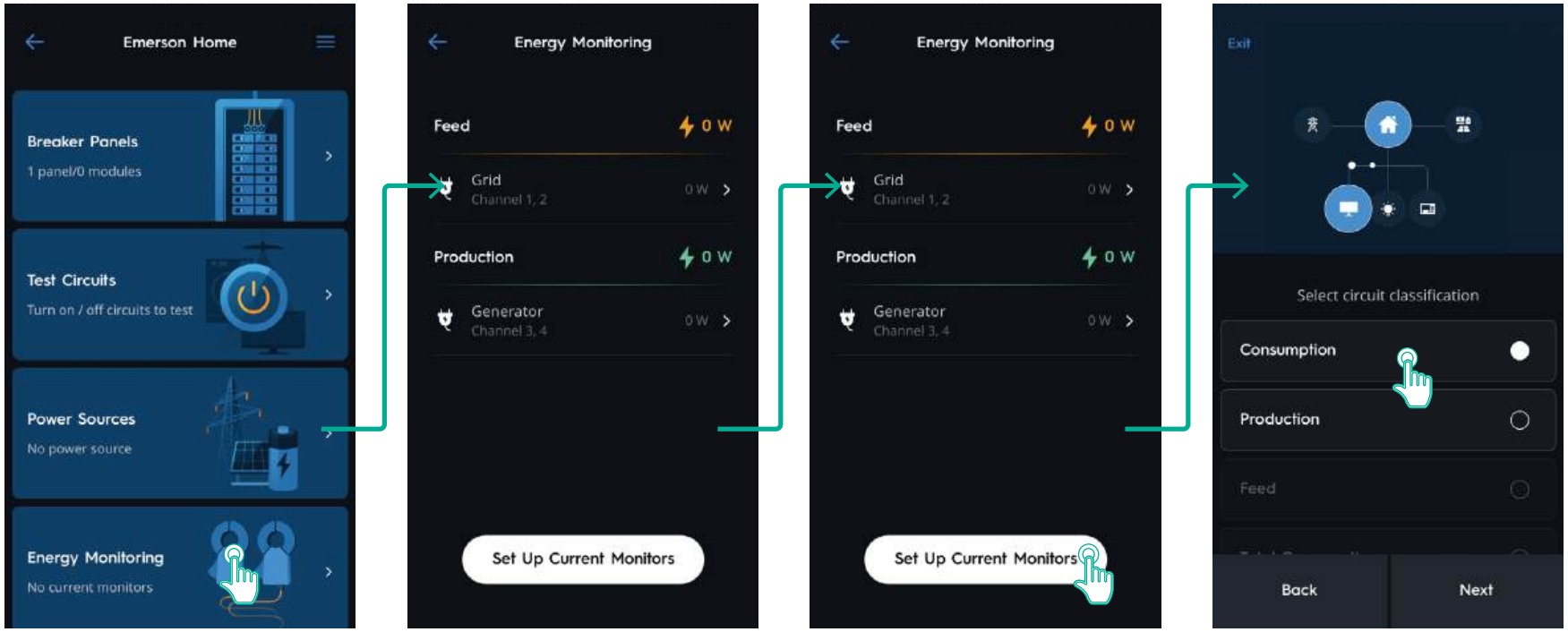
3 TAP THE ... ICON TO SORT LOADS OR GROUP BY ROOM

10. Energy Monitoring

Energy Monitoring devices are configured within the Energy Monitoring tab of the Savant Power & Light App. This tile is only available when an energy monitoring device is discovered by the Director. All physical connections between the energy monitoring device(s) and the circuit(s) being monitored should be made before continuing.

10.1. Add Energy Monitor

The steps below represent adding a SmartEnergy Monitor to a Config to monitor a EV charger with contactor.

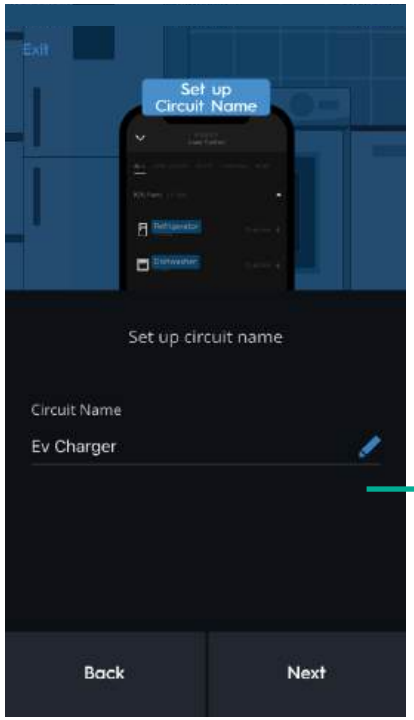


1 TAP ENERGY MONITORING

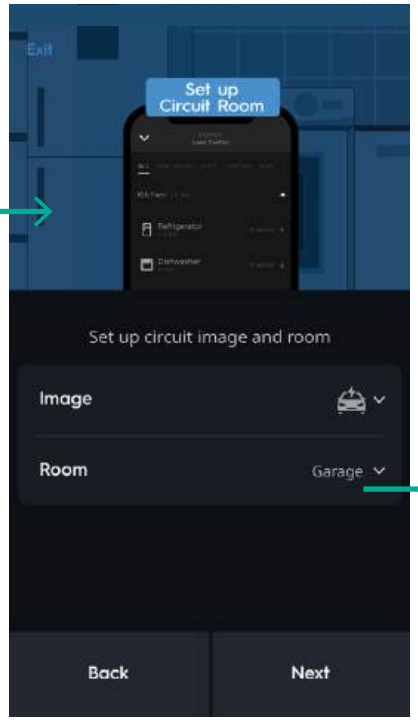
2 ALL CONFIGURED CURRENT MONITORING DEVICES WILL APPEAR HERE.

3 TAP AN EXISTING MONITOR OR TAP SET UP CURRENT MONITORS

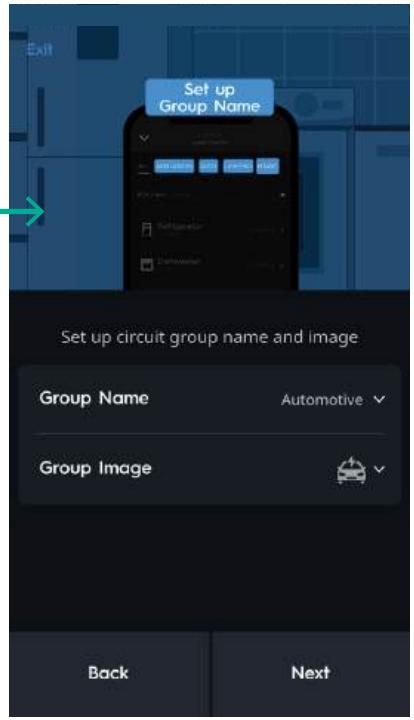
4 CHOOSE CIRCUIT CLASSIFICATION AND TAP NEXT



5 ENTER THE CIRCUIT NAME AS IT WILL APPEAR IN THE APP AND TAP NEXT



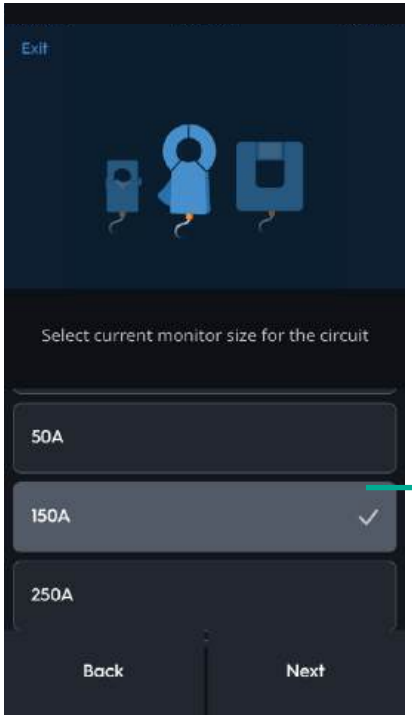
6 CHOOSE CIRCUIT IMAGE AND ROOM AND TAP NEXT



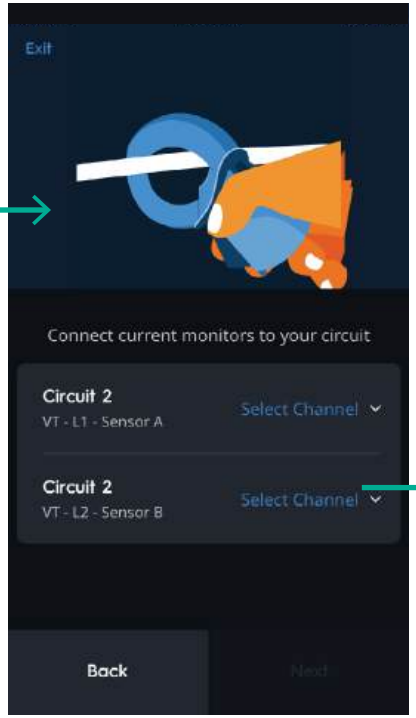
7 CHOOSE CIRCUIT GROUP NAME AND GROUP IMAGE AND TAP NEXT

10.2. Configure Channels

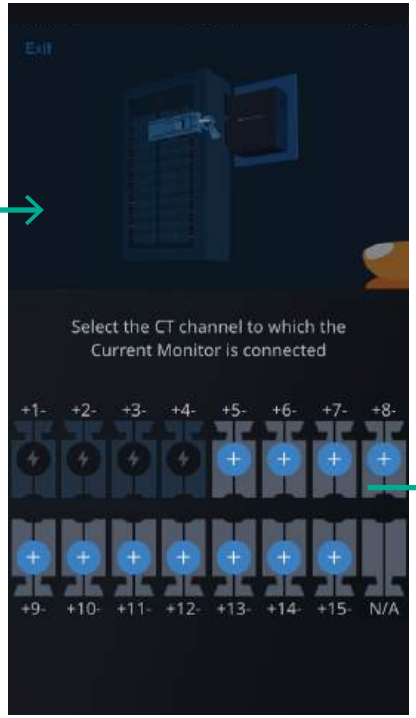
After naming and grouping the energy monitor, the following prompts will automatically appear to guide the installer through configuring channels.



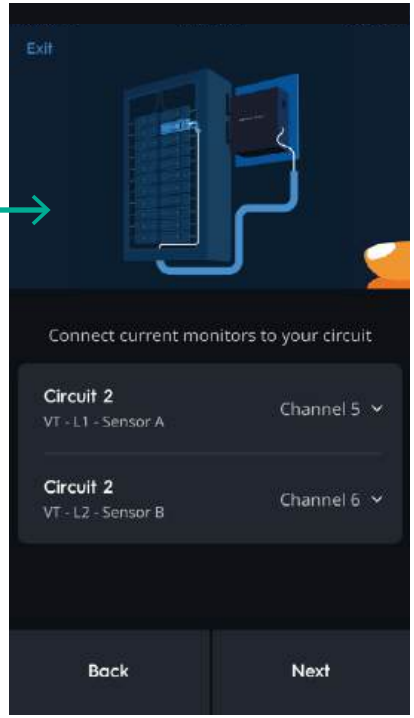
1 CHOOSE CURRENT MONITOR SIZE AND TAP NEXT



2 TAP SELECT CHANNEL ON ON SENSOR A OR SENSOR B



3 TAP THE CT CHANNEL THE SENSOR IS CONNECTED TO

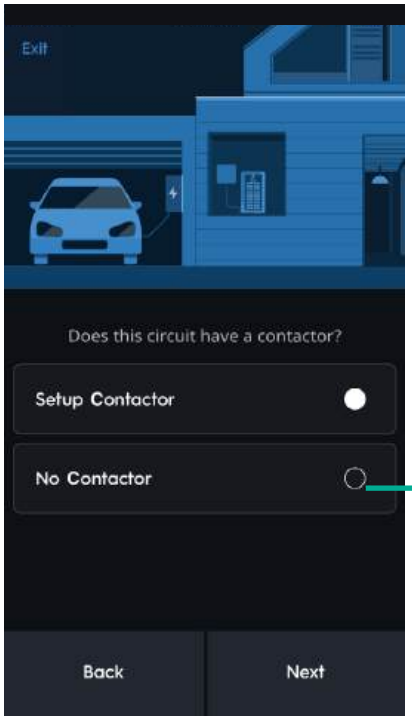


4 TAP NEXT

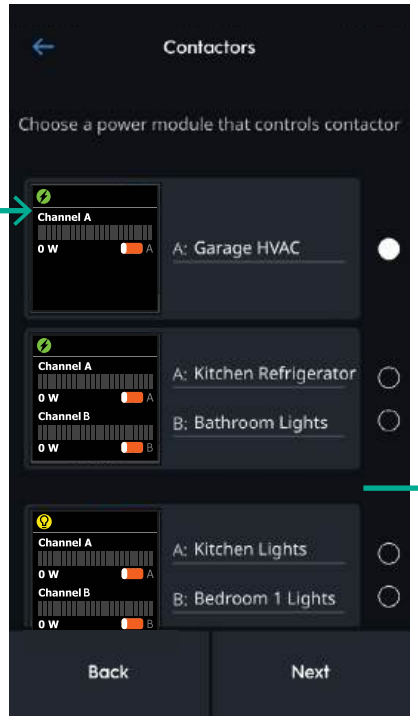
.

10.3. Contactor Setup (If Applicable)

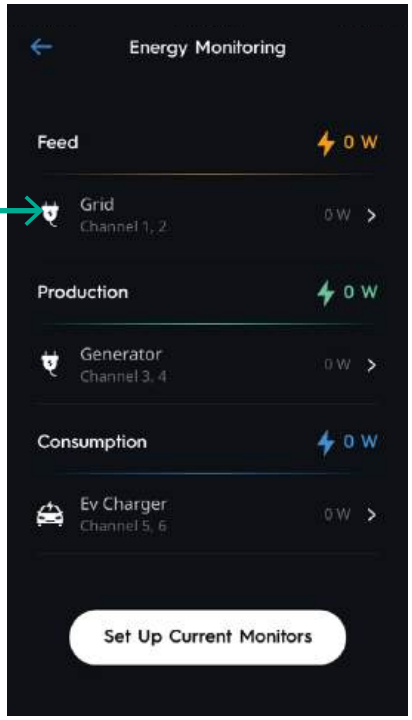
If the Monitored circuit has a contactor, it must be configured before continuing. If not, skip this section.



1 SELECT SETUP CONTACTOR AND TAP NEXT



2 TAP THE POWER MODULE THAT CONTROLS THE CONTACTOR AND TAP NEXT



3 THE MONITORED CIRCUIT WILL APPEAR IN THE ENERGY MONITORING SCREEN

11. Power System Configuration

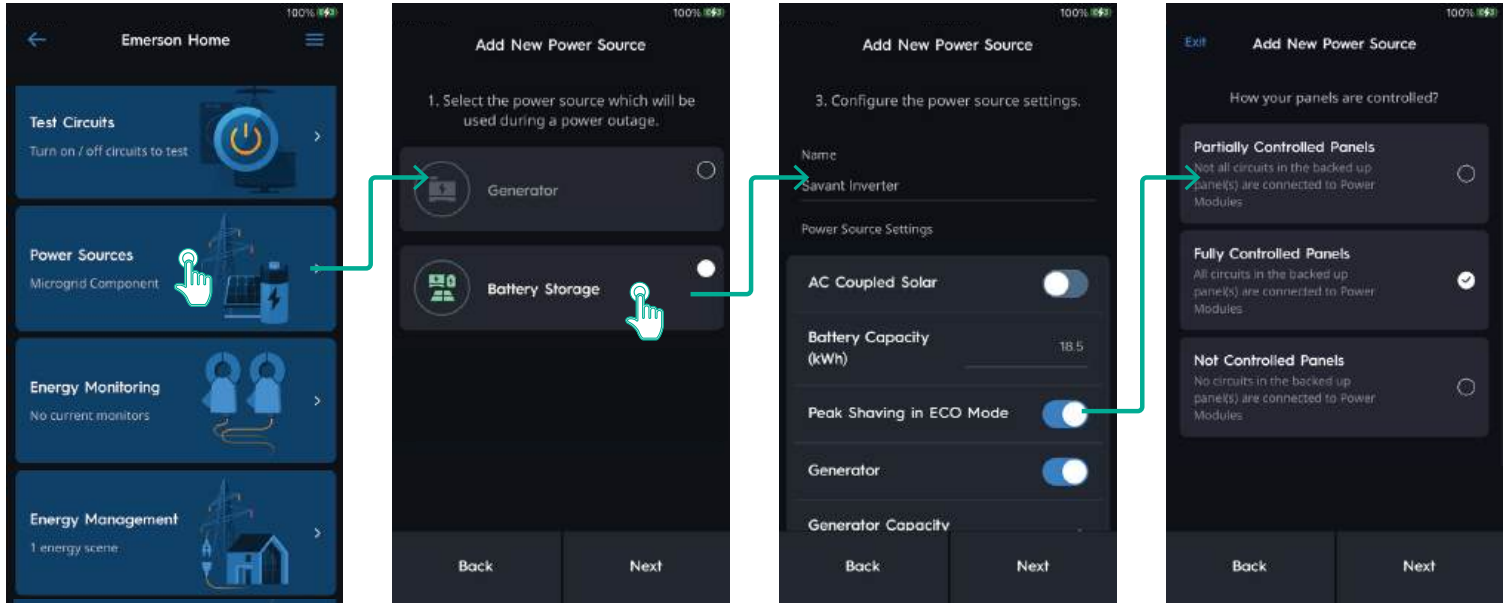
This section of the guide describes the process for adding a Power Source (generator or battery storage system) to the configuration and setting up Energy Management.

11.1. Add Power Source

A **Power Source** is a generator, battery, or microgrid installed in the home that provides an alternative source of power. Complete this section if the Savant Power System has been designed to include a Power Source.

IMPORTANT NOTES:

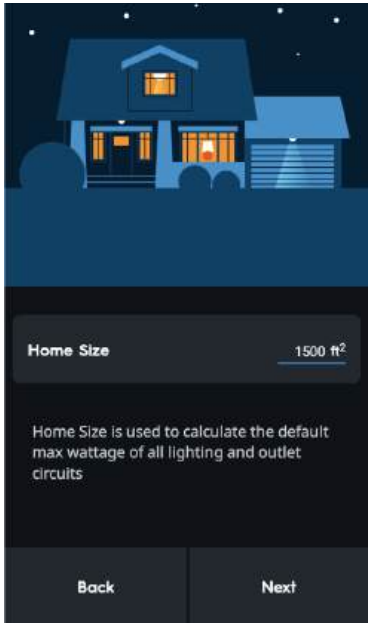
- For inverter-specific settings, see Appendix D: Inverter Settings.



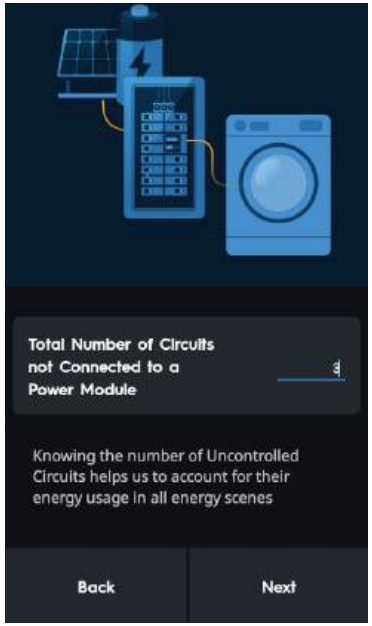
1. TAP POWER SOURCE
2. TAP ADD A NEW POWER SOURCE, THEN CHOOSE THE POWER SOURCE TYPE AND TAP NEXT
3. ENTER THE POWER SOURCE NAME AND FILL OUT ALL APPLICABLE FIELDS

   SEE APPENDIX D: POWER SOURCE SETTINGS FOR SETTING DEFINITIONS
4. CHOOSE WHETHER ALL BREAKER PANELS ARE FULLY, PARTIALLY OR NOT CONTROLLED BY POWER MODULES

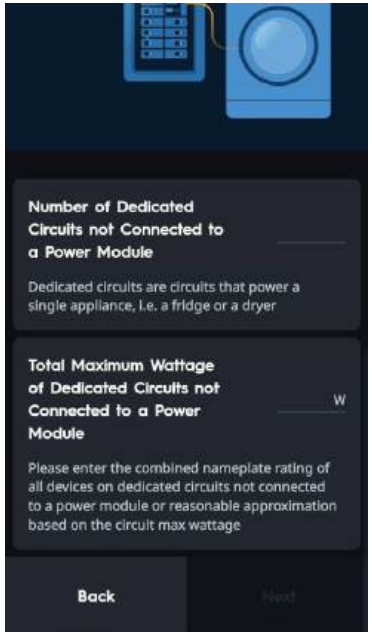
HELPFUL INFO: Configuration for **Whole Home Backup** systems or systems with **No Controlled Panels** will end at step 4 above. Additional configuration is required and continued in the next section for **Non-Whole Home Backup** systems.



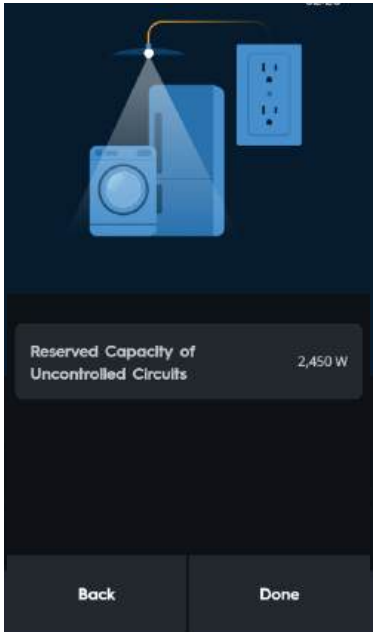
5 ENTER HOME SIZE AND TAP NEXT



6 ENTER THENUMBER OF CIRCUITS NOT CONNECTED TO A POWER MODULE AND TAP NEXT



7 ENTER THE REQUIRED NUMBERS FOR EACH FIELD AND TAP NEXT

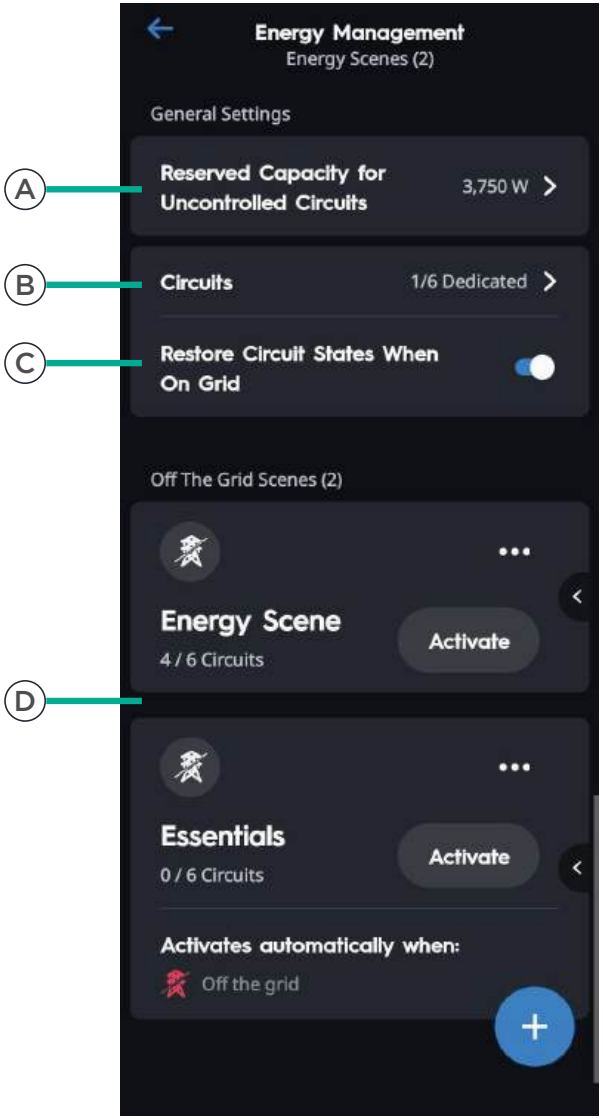


8 THE APP WILL AUTOMATICALLY CALCULATE RESERVE CAPACITY OF UNCONTROLLED CIRCUITS. TAP DONE

HELPFUL INFO: To edit Power Source parameters after initial configuration, from the Dashboard tap **Energy Management**, then tap **Reserved Capacity** for **Uncontrolled Circuits**.

11.2. Energy Management Overview

The Energy Management screen is to configure circuits within the Savant Power System. Depending on the type of backup power source some options may not be required. From the Home screen tap Energy Management.

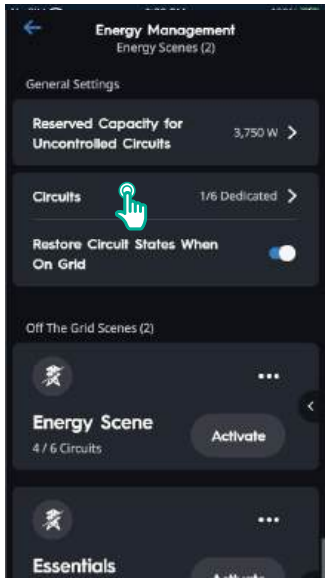


	Setting	Description
Ⓐ	Reserved Capacity for Uncontrolled Circuits:	This menu allows the user to configure settings related to Uncontrolled Circuits. **NOTE:** This menu is only available when setting up a non-whole home Power System.
Ⓑ	Circuits	This menu functions to setup circuit attributes. This menu must be configured for Energy Scenes to function properly.
Ⓒ	Restore Circuits States When On Grid:	Enable to restore loads to their on-grid state prior to a grid outage.
Ⓓ	Energy Scenes:	Add/Create/Edit Energy Scenes to control how the Power System behaves during an Off Grid event

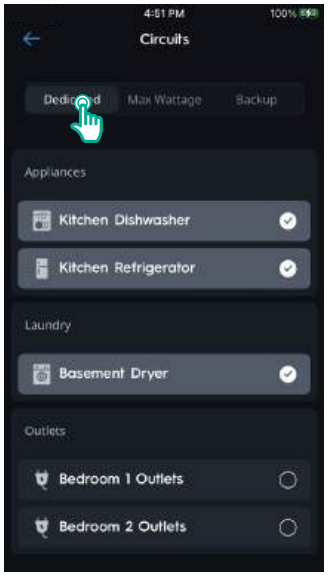
11.3. Energy Management

Follow the steps below to complete setting up Energy Management.

1 TAP ENERGY MANAGEMENT

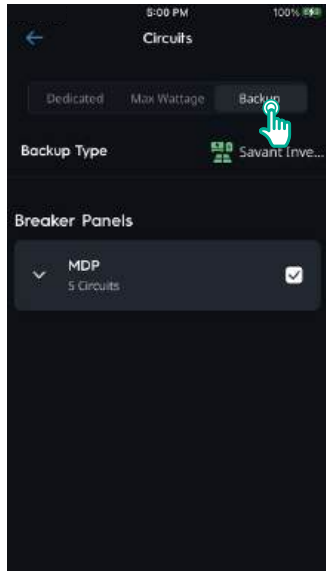


2 TAP CIRCUITS



3 TAP DEDICATED TO CONFIGURE WHICH CHANNEL CIRCUITS ARE DEDICATED

4 TAP MAX WATTAGE TO CONFIGURE MAXIMUM WATTAGE FOR DEDICATED CIRCUITS



5 TAP BACKUP TO ASSIGN WHICH BREAKER PANEL IS BACKED UP BY THE POWER SOURCE

See the table below for more information on the three tabs in the Circuits Screen (steps 3-5).

Tab	Description
Dedicated	Dedicated Circuits are circuits that power a single appliance, i.e. a fridge or a dryer.
Max Wattage	The maximum nameplate rating for each individual dedicated circuit.
Backup	Which Breaker Panel is backed up by the Power Source.

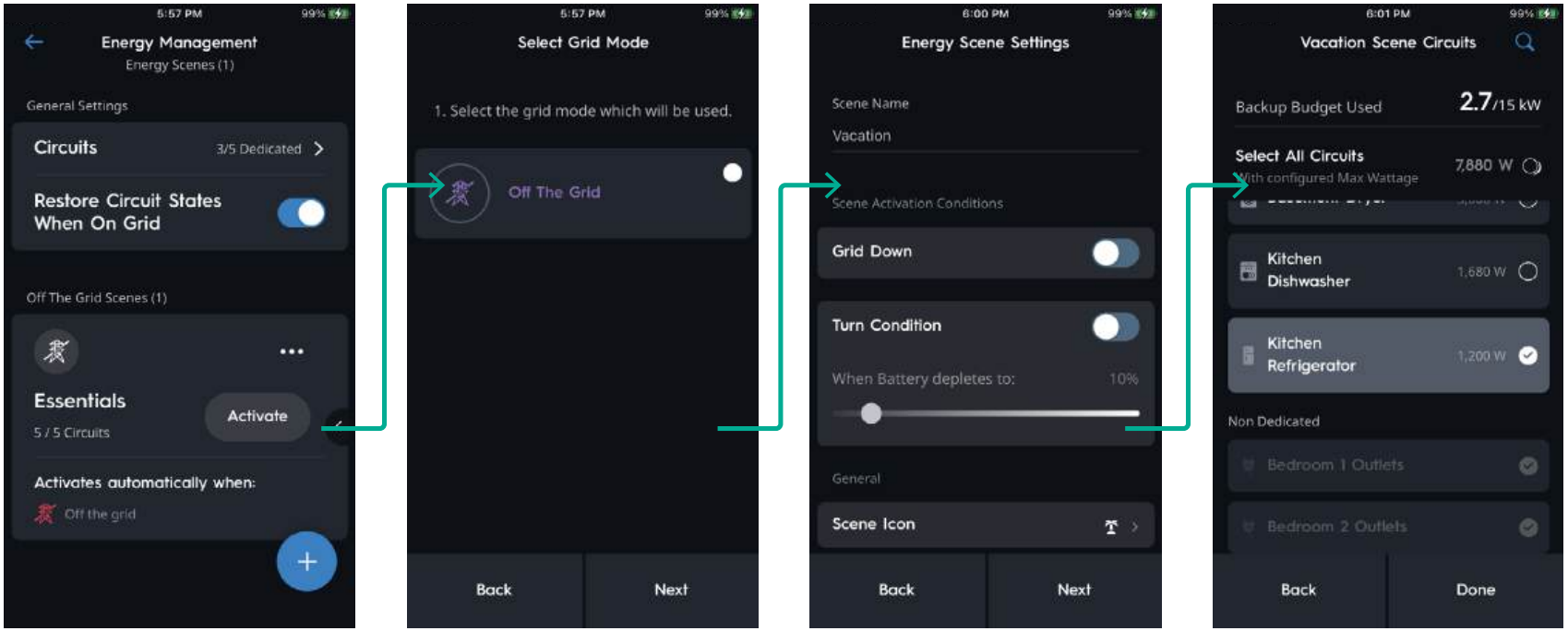
11.4. Energy Scenes

In the event of a grid outage - the Energy Scene most closely matching the current conditions will be automatically applied, this may be based on variables including battery state of charge or date and time in addition to grid status

Energy Scene Priority List

1. In the event of a power outage, the **Essentials** scene will be activated and power critical circuits, while shedding non-critical circuits.
2. If the battery state of charge has reached a level that matches a battery level in an Off Grid Scene condition **when the grid goes down**, that particular Off Grid Scene will activate.
3. If the battery reaches a state of charge that matches a battery level in an Scene condition **while the grid is down**, that Off Grid Scene will activate.

The **Essentials** Energy Scene is automatically created when a Power Source is added. Additional scenes use the battery state of charge or a schedule as optional triggers. To create additional Energy Scenes, tap **Energy Management**, then follow the steps below.



1. TAP THE PLUS SIGN TO CREATE A NEW SCENE

   NOTE: SWIPE LEFT ON AN EXISTING SCENE AND TAP THE PENCIL TO EDIT

2. SELECT GRID MODE AND TAP NEXT

3. NAME THE SCENE AND CONFIGURE SCENE CONDITIONS

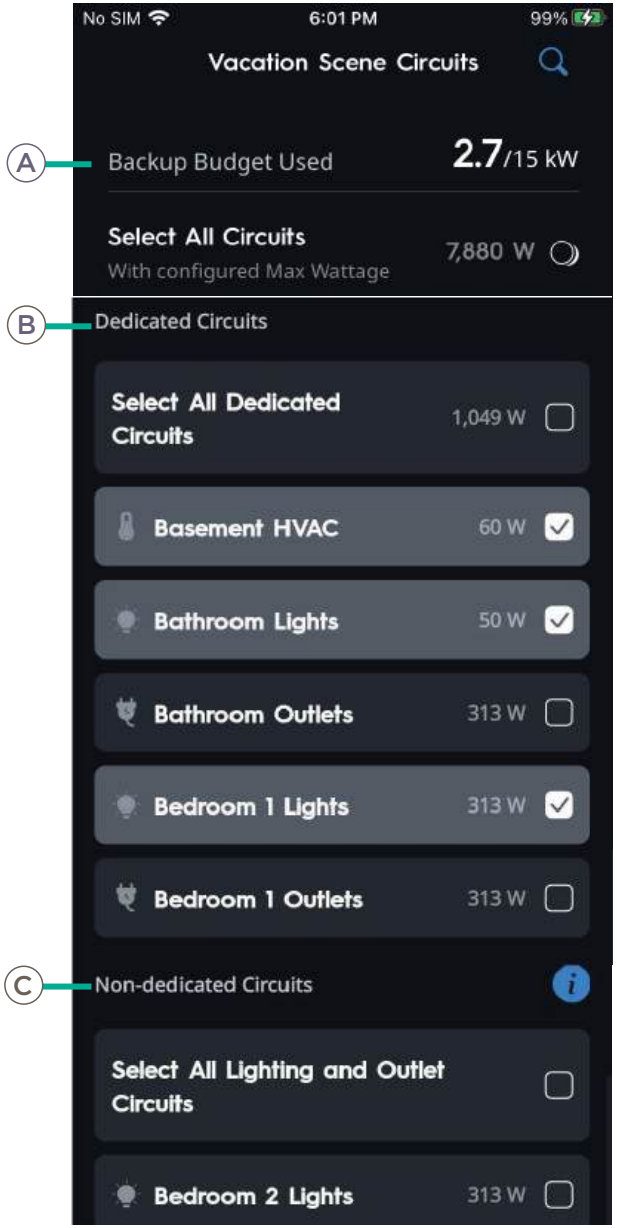
4. TAP A CIRCUIT TO ENABLE IT. ONLY ENABLED CIRCUITS ARE AVAILABLE WHEN THE ENERGY SCENE IS ACTIVE

⚠ **IMPORTANT NOTE!:** The **Activate** button to test Energy Scenes will not function until the configuration is synced to the Director.

11.5. Critical Circuits & Backup Budget

NOTE: This section is informational only.

	Setting	Description
Ⓐ	**Backup Budget**	The maximum continuous output capacity the Power Source can provide in a power outage. Whole Home Power Systems will not be restricted by a Backup Budget. When a circuit is added to the Energy Scene, the circuit's max wattage is subtracted from the Backup Budget. For more information see the Savant Power System Design Guide.
Ⓑ	**Dedicated Circuits**	Circuits added to the scene are considered Critical Circuits. Critical Circuits will turn On or remain On when an Off Grid event occurs and the Energy Scene is applied. Critical Circuits can be manually turned On or Off while the Grid is Down.
Ⓒ	**Non-dedicated Circuits**	Circuits not added to the scene are considered Non-Critical. In Non-Whole Home Backup systems Non-Critical Circuits will turn Off and become disabled when an Off Grid Event occurs and the Energy Scene is applied. They cannot be manually turned On. In Whole Home Backup systems Non-Critical Circuits will turn Off but are not disabled when an Off Grid Event occurs and the Energy Scene is applied. They can be manually turned On while the Grid is Down. ⚠ **IMPORTANT!** Lighting Module Circuits set as Non-Critical will turn Off when an Off Grid Event occurs. Lighting Circuits are never disabled and always allowed to turn back On. Lighting Circuits set as Critical will remain in their current On or Off state when an Energy Scene applied. Lighting Circuits Max Wattage is always included in the Backup Budget Used even if marked Non-Critical.

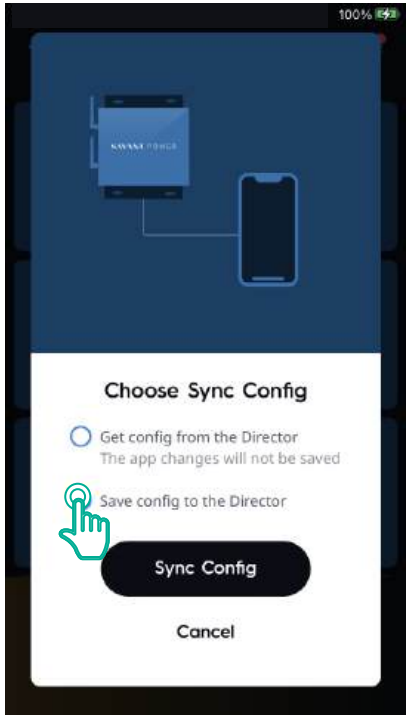


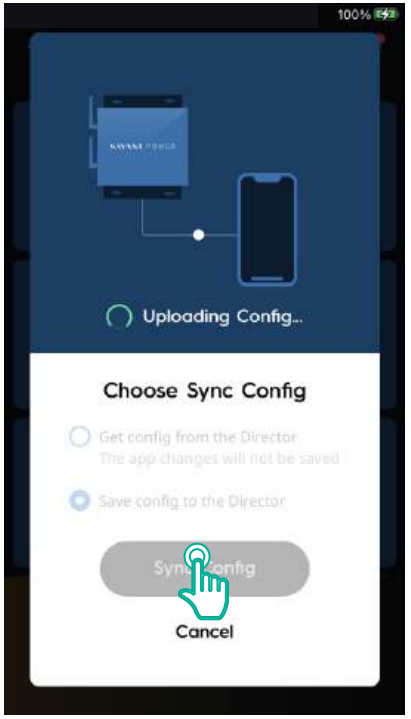
12. Get or Sync Config

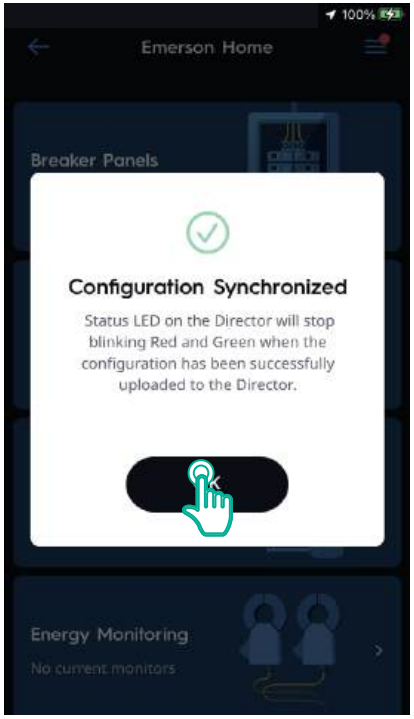
All devices and their settings are stored as a **Config** file on the mobile device.

- **Get Config** is when the Config is downloaded from the Director to the mobile device for editing.
- **Sync Config** is when the Config is uploaded from the mobile device to the Director to save any changes made.
- **Skip:** When Savant Power and Light connects to a Director, Skip allows navigating directly in to the Configuration if there is a configuration locally saved on the mobile device.

The following steps represent the process of Syncing a Config to the Director.

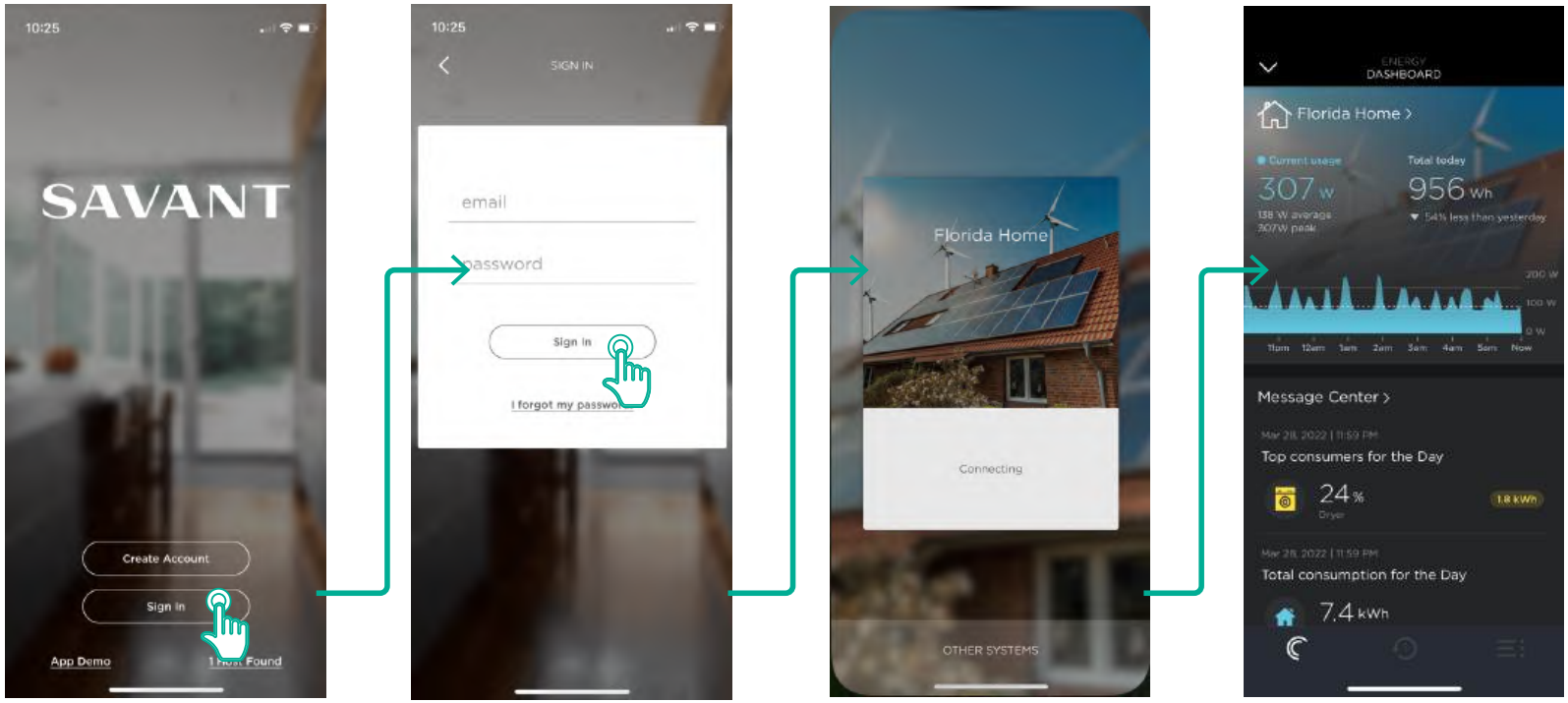






13. Savant App Integration

Once the Config has been uploaded, all changes are made to the Config and uploaded to the Director. The user can now access all of the information and settings provided by the completed installation using the Savant App.



1. Tap **Create Account** or tap **Sign In.**
2. Enter the Savant App email address and password and tap **Sign In.**

The Energy Dashboard lists data from all configured power sources and circuits.

14. Confirm System Functionality

Once the configuration is synced to the Director, Savant Power & Light app configuration is complete. However, it is important to test the system to ensure correct functionality

1. Check that All Circuits are Named Correctly on Power Module Display ☐
2. Confirm that Circuit Power Readings appear Correctly on Power Module Display ☐
3. Ensure that All Circuits can be Powered On and Off ☐
4. Check that All Loads Report Energy Readings Properly ☐
5. Check that Total Consumption, Battery, and Grid Power are Reported Properly ☐
6. Take the System Off the Grid and Check that the appropriate Off Grid Scene Triggers ☐
7. Test all Configured Off-Grid Scenes — Check that the Load States are Set Accordingly ☐
8. Bring the System Back onto the Grid and Check that All Loads are Restored ☐

Appendix A: 3rd Party Power Source Wiring

Tesla & Enphase

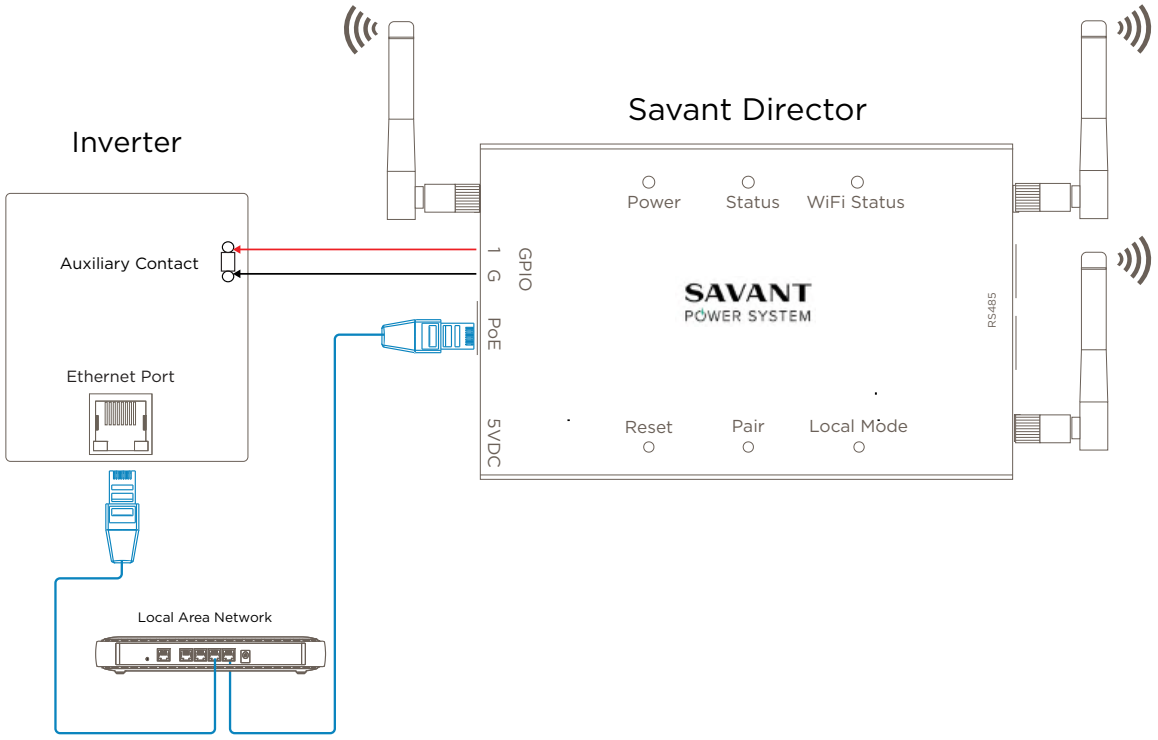
Follow the diagram and instructions below to establish communication between the Director and a Tesla or Enphase inverter.

IMPORTANT!:

- Ethernet and auxiliary contact location will vary between inverter types.
- The inverter and the Director must be connected to the same home network (wired or Wi-Fi).
- A microgrid power source and Savant Director must be on the same subnet to be able to communicate.
- Enphase inverters require a GPIO connection between the inverter and Director. Savant recommends, but does not require, a GPIO connection between a Tesla inverter and Director; however, if the GPIO is being used to detect the grid, the GPIO on the Director must be connected to Aux 3/4 on the Tesla Gateway. Follow the steps below:

Configuring Tesla for Grid Detection

1. Connect the GPIO on the Director to Aux 3/4 on the Tesla inverter.
2. From the Tesla Pros app, navigate to **Settings > Advanced Settings > Low Voltage Relay Contro**l and set Configuration Type to **Off-grid Load Shedding**, then **DONE**.

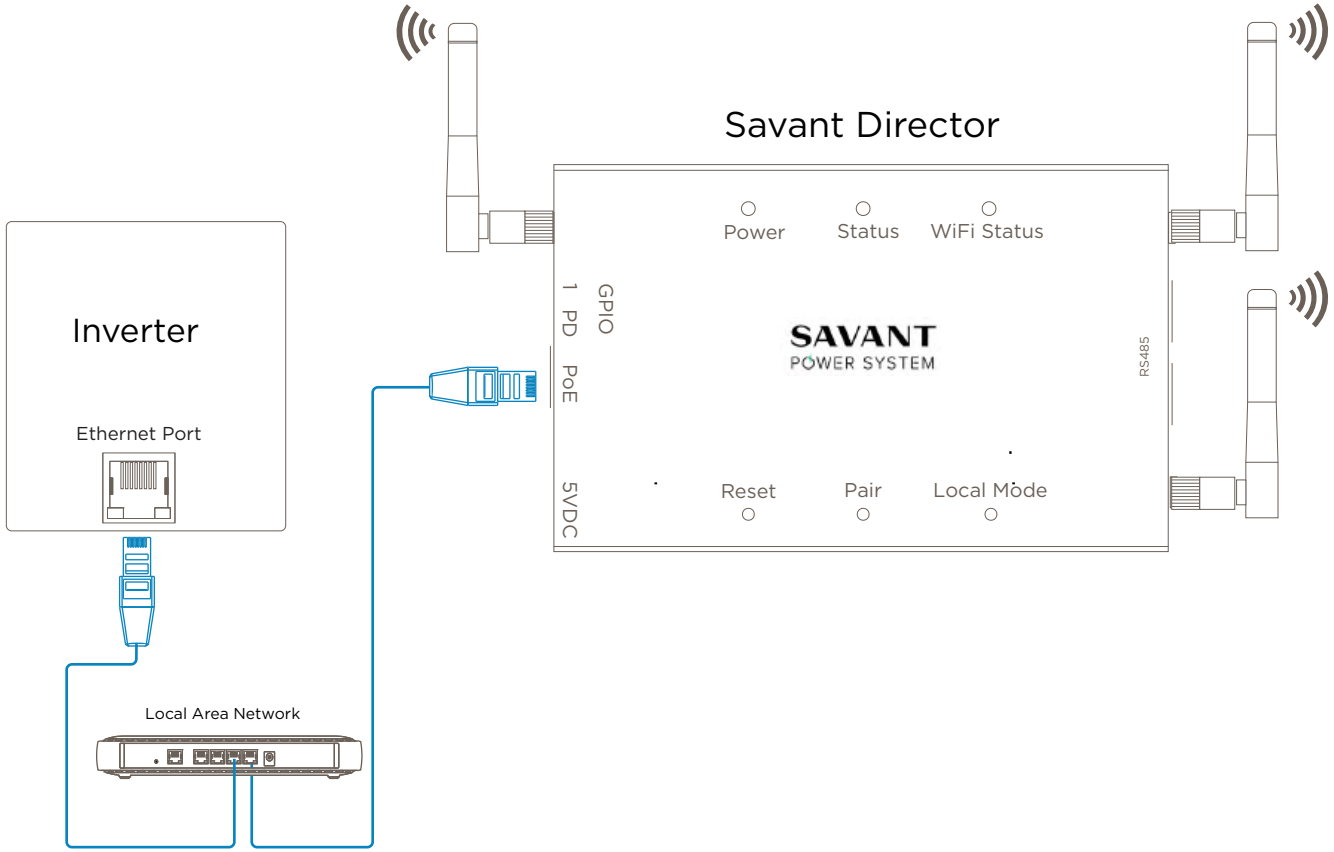


SolarEdge

Follow the diagram below to establish communication between the Director and a SolarEdge inverter.

IMPORTANT!:

- Ethernet port location will vary between inverter types.
- The inverter and the Director must be connected to the same home network (wired or Wi-Fi).
- A microgrid power source and Savant Director must be on the same subnet to be able to communicate
- SolarEdge support must be contacted to unlock the inverter so a Director is able to communicate to it.

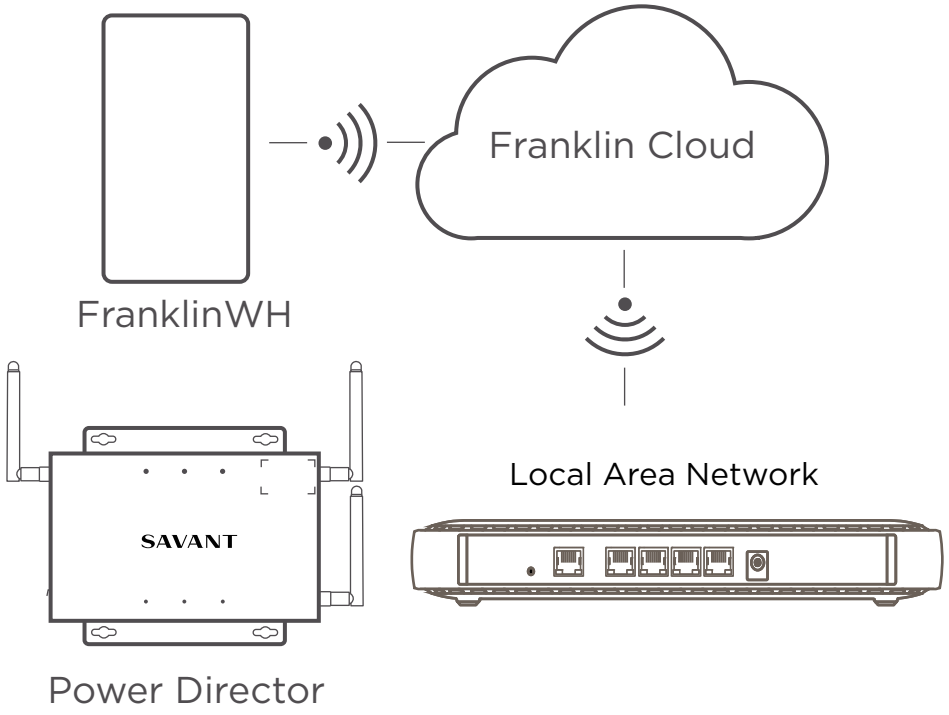


FranklinWH

The diagram below is an example of the communication between a Savant Director and a FranklinWH inverter. There is no physical connection to the Director, however the FranklinWH must be connected to the Franklin Cloud for successful communication with Savant

IMPORTANT!:

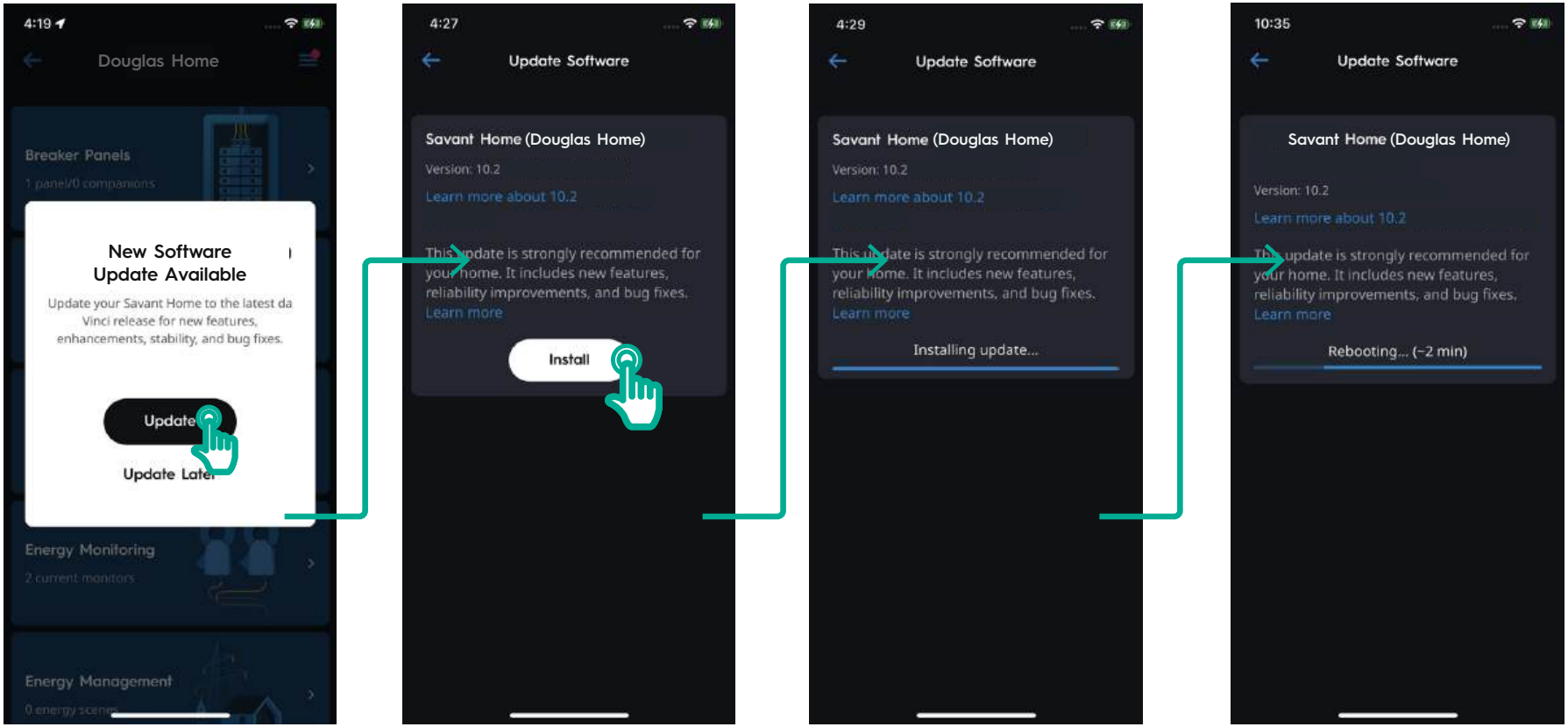
- The Franklin cloud API only updates every 5-15 minutes so energy data shown in the Savant App may be delayed.



Appendix B: Software & Firmware Update

Director & Devices

If updates are available the Savant Power and Light app will automatically prompt the user to update Director software and any Savant devices within the Savant Power System whenever the Home is accessed.



1 THE POWER & LIGHT APP WILL PROMPT THE USER. TAP UPDATE

2 TAP INSTALL

3 THE UPDATE WILL INSTALL AUTOMATICALLY

4 ONCE THE UPDATE FINISHES, THE SYSTEM WILL REBOOT

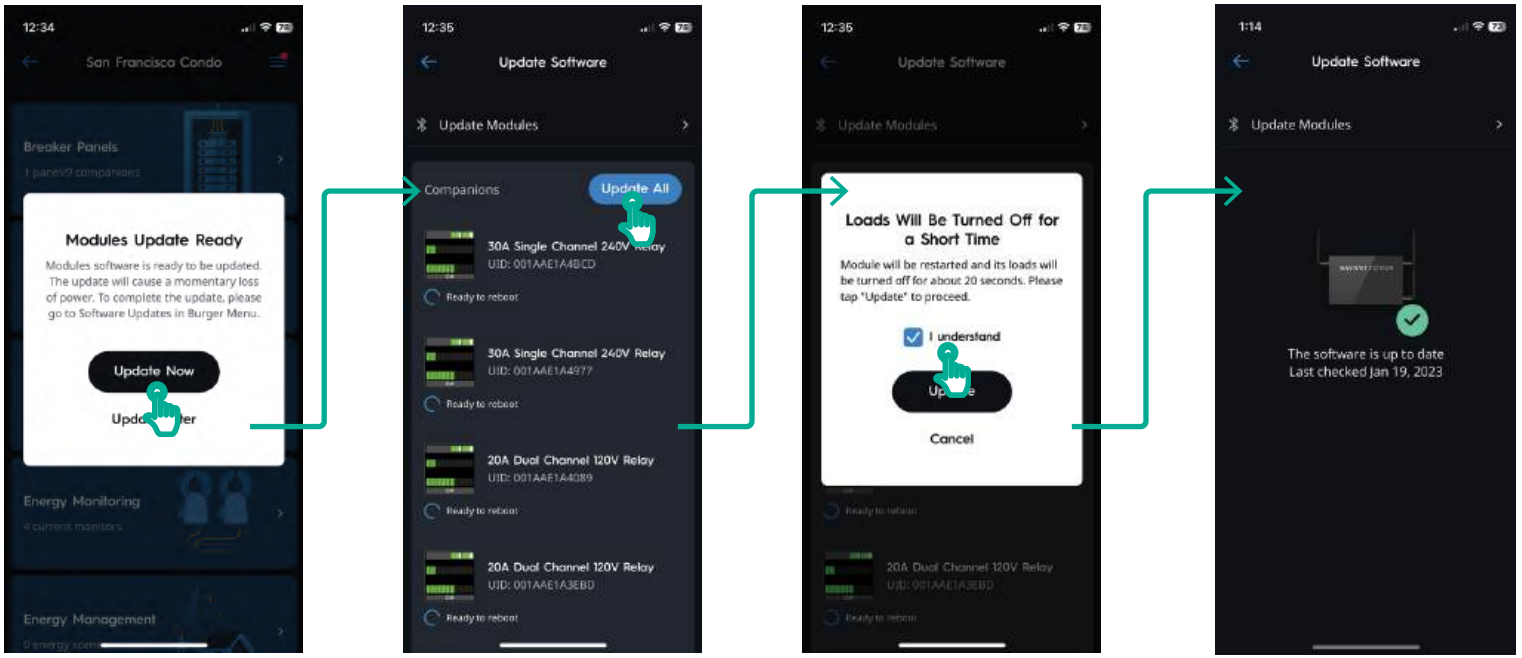
NOTES:

- The Director Status LED will flash amber and green until the update is complete.
- Savant Power & Light app will not allow edits to the system while an update is in progress.

Power Modules

Power Modules may require a firmware update following a Director software update. The Director will automatically deliver the firmware update to the Power Modules. The time required to download firmware can vary based on the number of Power Modules. The Savant Power and Light app will indicate when the firmware update is ready to be completed:

⚠ **IMPORTANT NOTE!:** Power Modules will power off for about 20 seconds when completing the firmware update. All loads controlled by Power Modules will be temporarily turned off during this time.



1 THE POWER & LIGHT APP WILL PROMPT WHEN UPDATE IS AVAILABLE. TAP UPDATE NOW

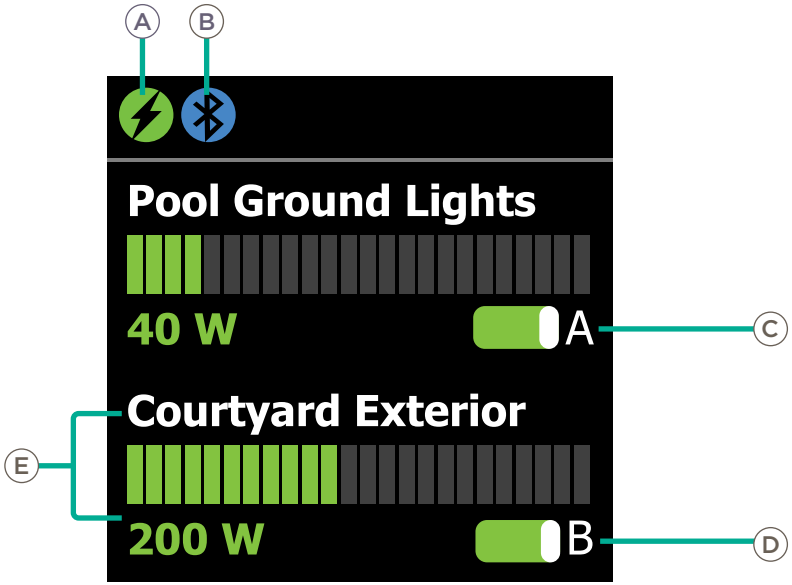
2 TAP UPDATE ALL

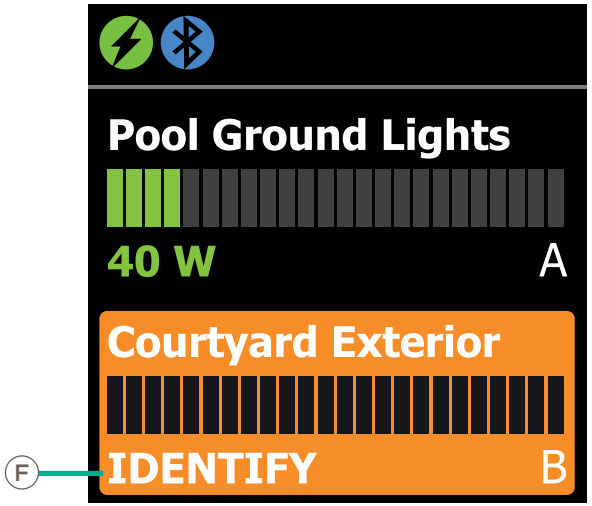
3 CHECK I UNDERSTAND AND TAP UPDATE

4 ALL MODULES WILL UPDATE AND REBOOT. WHEN COMPLETE, NO MODULES WILL DISPLAY

Appendix C: Power Module Information

Power Modules screens will display information about the circuits they control. This information is also represented in the Power & Light app when paired to the Director. See the image below for icon placement and the table for icon descriptions.





Status Icons

	Icon	Description
A	Module Type	Power Module
		Current Track Module
		Dimmer Module
B	Module State	Module is paired to the Director.
		Module is in pairing mode
C	Channel A Circuit Switch	See Circuit Power Switches.
D	Channel B Circuit Switch	See Circuit Power Switches.
E	Channel Info	Circuit Name and current consumption (in watts)
F	Identify	Indicates the module is being located via the **Identify Device** feature.

Circuit Power Switches

The Power Module LED screen and Breaker Panel screen represent the current state of the circuits a Power Module controls as the Circuit Switches. The tables below lists all possible states and their definitions. Definitions are applicable to the type of Home Backup.

Partial Home

Icon	Definition
	Grid is Down. Load is configured as Critical and is On.
	Grid is Down. Load is configured as Critical and is Off.
	Grid is Down. Load is configured as Non-Critical and disabled/Off.
	Grid is Available. Load is configured as Critical and is On.
	Grid is Available. Load is configured as Non-Critical and is On.
	Grid is Available. Load is configured as Critical and is Off.
	Grid is Available. Load is configured as Non-Critical and is Off.

PAIR Button Functions

The Pair button is located on the front of the Power Module. Depending on the length of the press, the function of the Pair button differs. Review the table below for specific functions.

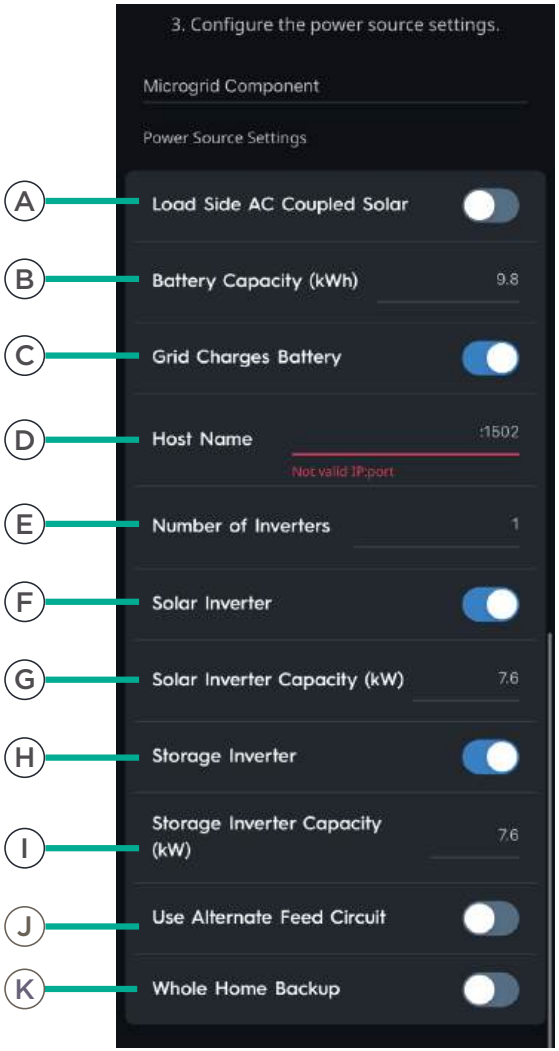
Length of Press	Action	Description
Tap	Cycle	Cycle through actions available in the menu displayed on the Power Module LED screen.
1 Second	Select	Selects the option highlighted within the menu.
1 Seconds	Clear Names & Slots	Clears the names and assigned slot numbers (when viewing the reset info module screen).
5 Seconds	Reboot	Reboots the Power Module.

Appendix D: Inverter Settings

This Appendix covers all inverter settings and their definitions. All settings listed within this section must conform to the parameter settings according to site design listed in the inverter specific Savant Power System Deployment Guide.

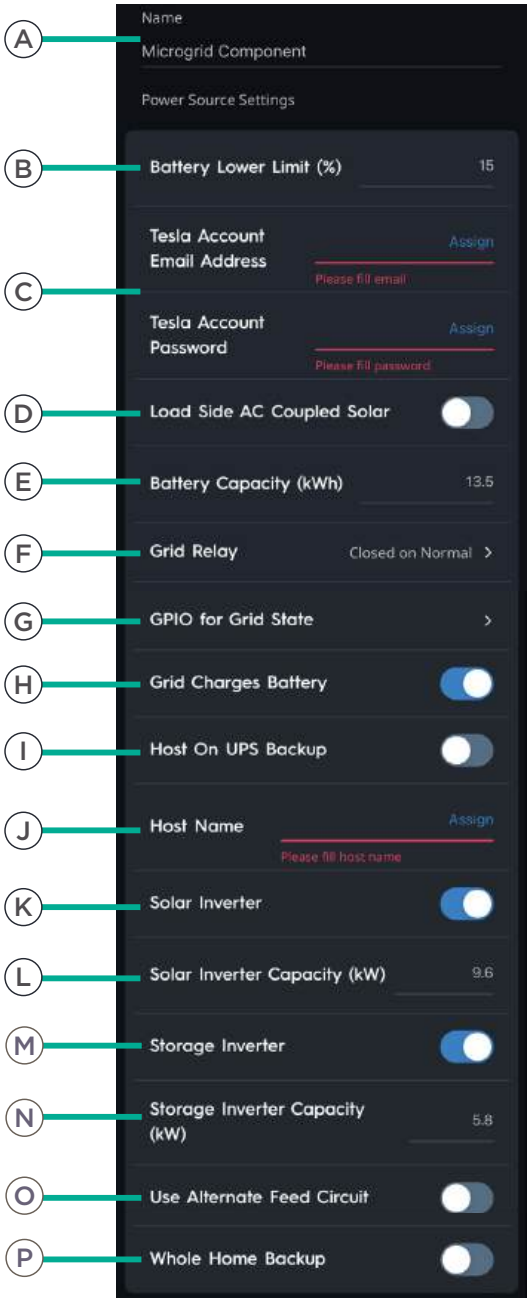
⚠ **IMPORTANT NOTE!:** To get an Inverter's IP address connect to the Home, select the menu icon at top right, and choose **Devices on Network**.

SolarEdge



	Setting	Description
A	Load Side AC Coupled Solar	Enable when AC Coupled solar panels are present.
B	Battery Capacity (kWh)	The capacity of the battery in kWh.
C	Grid Charges Battery	**Enabled:** Grid will charge the installed battery. **Disabled:** Grid will not charge the installed battery.
D	Host Name	IP Address and port of the inverter.
E	Number of Inverters	Quantity of installed inverters.
F	Solar Inverter	Whether solar panels are present within the Savant Power System.
G	Solar Inverter Capacity (kW)	Total capacity of the solar panels connected to the inverter in kW.
H	Storage Inverter	**Enabled:** Storage or Solar inverter is available to the Power Source. **Disabled:** Storage or Solar inverter is not available to the Power Source..
I	Storage Inverter Capacity (kW)	Rated capacity of the inverter.
J	Use Alternative Feed Circuit	Monitor Feed with Current Track Module instead of Inverter data
K	Whole Home Backup	Whether the inverter is capable of powering the entire home during a power outage. For more information, see the Savant Power System Design Guide.

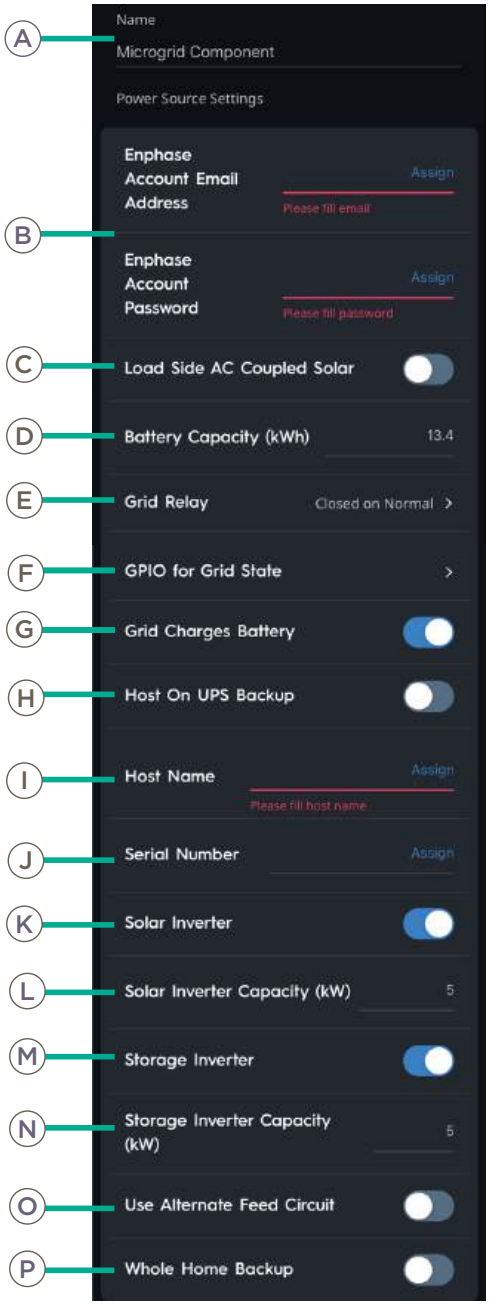
Tesla



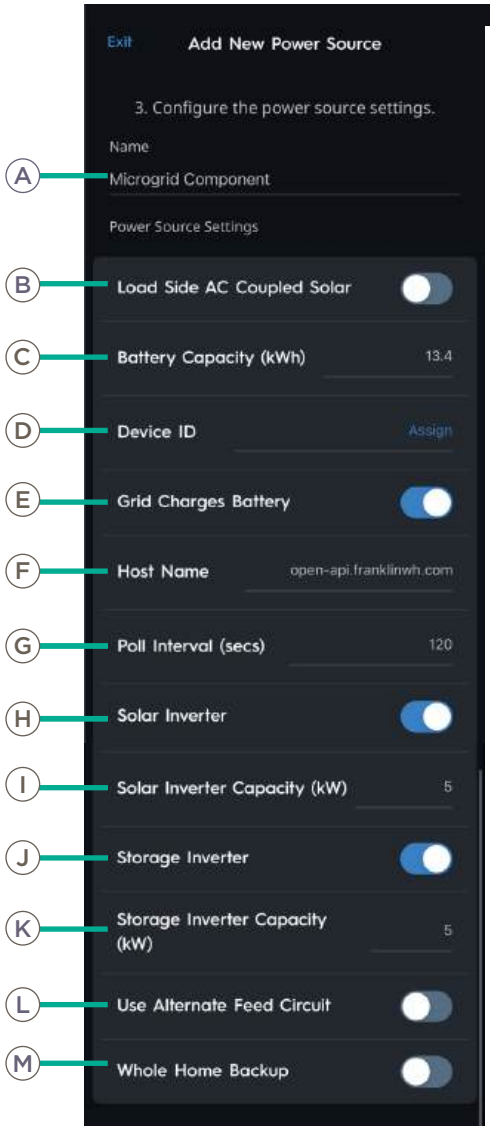
	Setting	Description
A	Name	Name of the inverter as it will appear in the Power & Light app.
B	Battery Lower Limit	Affects battery scaling of the Savant Power system. **Example:** When set to 20%, the Savant Power System will reflect the battery is at 0% within the Power & Light app at 20%.
C	Tesla Account Email	Enter Tesla Gateway account email here.
	Tesla Account Password	Enter Tesla Gateway account password here.
D	Load AC Coupled Solar	Enable when AC Coupled solar panels are present.
E	Battery Capacity	The capacity of the battery in kWh.
F	Grid Relay	Use GPIO to monitor Grid State (On/Off) if using GPIO connection, this setting must be toggled on.
G	GPIO for Grid State	Choose GPIO 1 or 2 input on the Director
H	Grid Charges Battery	**Enabled:** Grid will charge the installed battery. **Disabled:** Grid will not charge the installed battery.
I	Host on UPS Backup	Enable if Host is connected to a UPS
J	Host Name	IP Address and port of the inverter.
K	Solar Inverter	Whether solar panels are present within the Savant Power System.
L	Solar Inverter Capacity (kW)	Total capacity of the solar panels connected to the inverter in kW.
M	Storage Inverter	**Enabled:** Storage or Solar inverter is available to the Power Source. **Disabled:** Storage or Solar inverter is not available to the Power Source..
N	Storage Inverter Capacity (kW)	Rated capacity of the inverter.
O	Use Alternative Feed Circuit	Monitor Feed with Current Track Module instead of Inverter data
P	Whole Home Backup	Whether the inverter is capable of powering the entire home during a power outage. For more information, see the Savant Power System Design Guide.

⚠ **IMPORTANT NOTE!:** The Tesla Account must be the Customer Account used to log into the Telsa Gateway. This account can sometimes differ from the credentials used to log into the Telsa App. Follow the Tesla Documentation to log into the Gateway as a customer account to verify the credentials are correct.

Enphase

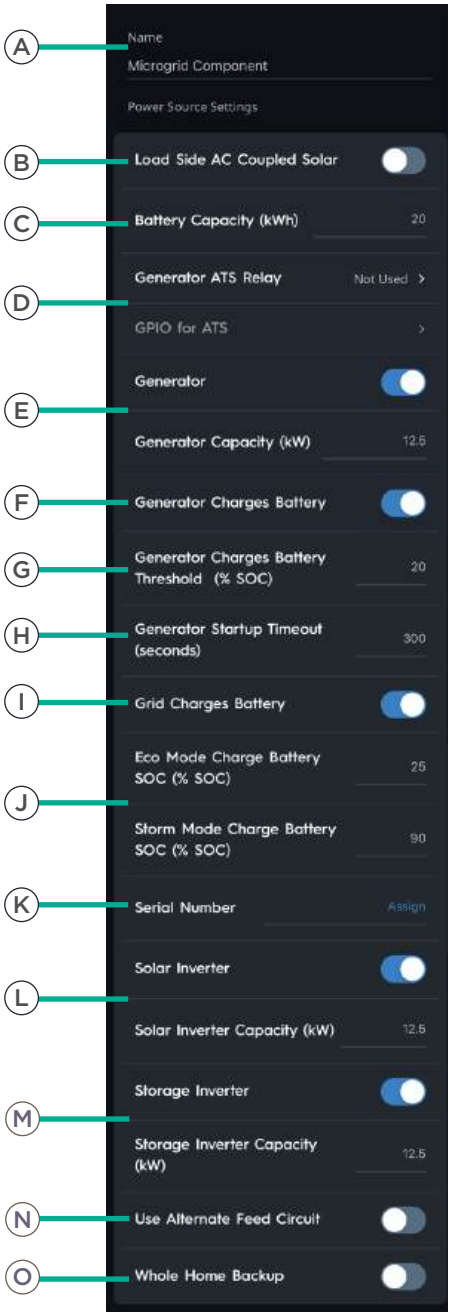


	Setting	Description
A	Name	Name of the inverter as it will appear in the Power & Light app.
B	Enphase Account Email Enphase Account Password	Enter in the Enphase account email address and password.
C	Load Side AC Coupled Solar	Enable when AC Coupled solar panels are present.
D	Battery Capacity (kWh)	The capacity of the battery in kWh.
E	Grid Relay	Use GPIO to monitor Grid State (On/Off) if using GPIO connection, this setting must be toggled on.
F	GPIO for Grid State	Choose GPIO 1 or 2 input on the Director
G	Grid Charges Battery	**Enabled:** Grid will charge the installed battery. **Disabled:** Grid will not charge the installed battery.
H	Host on UPS Backup	Enable if Host is connected to a UPS
I	Host Name	IP address of the inverter.
J	Serial Number	Enphase serial number
K	Solar Inverter	Whether solar panels are present within the Savant Power System.
L	Solar Inverter Capacity (kW)	Total capacity of the solar panels connected to the inverter in kW.
M	Storage Inverter	**Enabled:** Storage or Solar inverter is available to the Power Source. **Disabled:** Storage or Solar inverter is not available to the Power Source.
N	Storage Inverter Capacity (kW)	Rated capacity of the inverter.
O	Use Alternative Feed Circuit	Monitor Feed with Current Track Module instead of Inverter data
P	Whole Home Backup	Whether the Savant Power System can support the total live load of the Savant Power System. For more information, see the Savant Power System Design Guide.



	Setting	Description
A	Name	Name of the inverter as it will appear in the Power & Light app.
B	Load Side AC Coupled Solar	Enable when AC Coupled solar panels are present.
C	Battery Capacity (kWh)	The capacity of the battery in kWh.
D	Device ID	Franklin Device ID.
E	Grid Charges Battery	**Enabled:** Grid will charge the installed battery. **Disabled:** Grid will not charge the installed battery.
F	Host Name	Preconfigured link to Franklin cloud
G	Poll Interval (secs)	Time in seconds between status updates.
H	Solar Inverter	Whether solar panels are present within the Savant Power System.
I	Solar Inverter Capacity (kW)	Total capacity of the solar panels connected to the inverter in kW.
J	Storage Inverter	**Enabled:** Storage or Solar inverter is available to the Power Source. **Disabled:** Storage or Solar inverter is not available to the Power Source.
K	Storage Inverter Capacity (kW)	Rated capacity of the inverter.
L	Use Alternative Feed Circuit	Monitor Feed with Current Track Module instead of Inverter data
M	Whole Home Backup	Whether the Savant Power System can support the total live load of the Savant Power System. For more information, see the Savant Power System Design Guide.

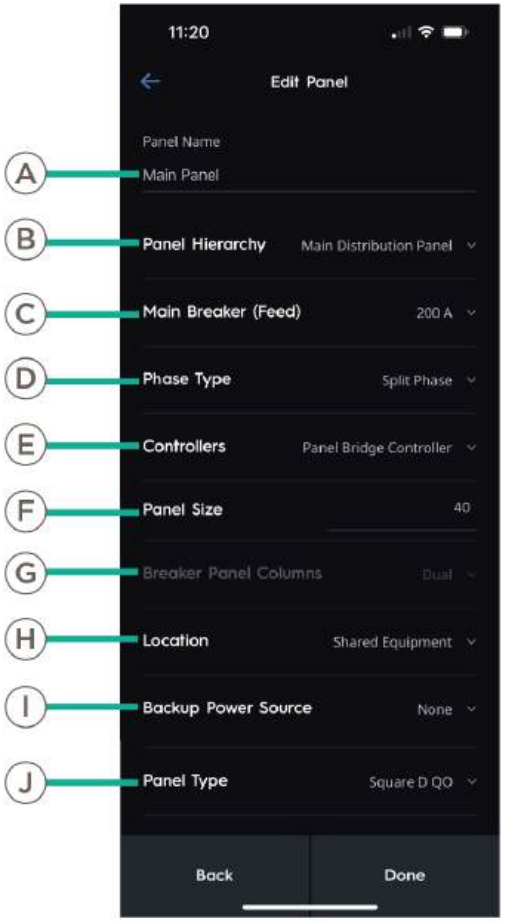
Savant Power Storage 20



	Setting	Description
A	Name	Name of the inverter as it will appear in the Power & Light app.
B	Load AC Coupled Solar	Enable when AC Coupled solar panels are present.
C	Battery Capacity	The capacity of the battery in kWh.
D	Generator ATS Relay	Select Relay State to detect generator is active.
	GPIO for ATS	The GPIO input the generator is wired to.
E	Generator	**Enabled:** Savant Power System includes a generator. **Disabled:** System Power System does not include a generator.
	Generator Capacity (kW)	Rated capacity of the generator in kW.
F	Generator Charges Battery	**Enabled:** Generator will charge the installed battery. **Disabled:** Generator will not charge the installed battery.
G	Generator Charges Battery Threshold (% SOC)	Percentage at which the generator will activate to charge the battery if no other source is available.
H	Generator Startup Timeout (seconds)	Amount of time before the generator is considered to have failed starting.
I	Grid Charges Battery	**Enabled:** Grid will charge the installed battery. **Disabled:** Grid will not charge the installed battery.
J	Eco Mode Charge Battery SOC (% SOC)	Percentage in which the system will automatically enter Eco Mode.
	Storm Mode Charge Battery SOC (% SOC)	Percentage in which the system will maintain the battery charge at when in Storm Mode.
K	Serial Number	Savant Power Storage 20 serial number (case sensative).
L	Solar Inverter	Whether solar panels are present within the Savant Power System.
	Solar Inverter Capacity (kW)	Total capacity of the solar panels connected to the inverter in kW.
M	Storage Inverter	**Enabled:** Storage or Solar inverter is available to the Power Source. **Disabled:** Storage or Solar inverter is not available to the Power Source..
	Storage Inverter Capacity (kW)	Rated capacity of the inverter.
N	Use Alternative Feed Circuit	Monitor Feed with Current Track Module instead of Inverter data
O	Whole Home Backup	Whether the inverter is capable of powering the entire home during a power outage. For more information, see the Savant Power System Design Guide.

Appendix E: Breaker Panel Settings

The breaker panel within the Power & Light app refer to the manufacturers documentation to confirm the following settings are correct before uploading the configuration to the Director.



	Setting	Description
A	Panel Name	Name of the breaker panel as it will appear in the Power & Lighting app.
B	Panel Hierarchy	**Main Distribution Panel:** Panel will control distribution of power throughout the Savant Home. **Sub Panel:** Panel is subordinate to a Main Distribution Panel.
C	Main Breaker (Feed)	Current output from the main feed into this panel.
D	Phase Type	Quantity of phases in this panel.
E	Controllers	Which controller is controlling the panel.
F	Panel Size	Quantity of slots in the breaker panel.
G	Panel Breaker Columns	Quantity of columns in the breaker panel.
H	Location	Room within the Power & Light App the breaker panel is located.
I	Backup Power Source	Which Power Source is backing up the panel.
J	Panel Type	Make and Model of the breaker panel.

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