



# System Integration Guide for SimpliPHI<sup>®</sup> 6.6 Battery Backup Packages



**BRIGGS & STRATTON**  
ENERGY SOLUTIONS

This document is intentionally limited in scope so that it can serve as a quick reference guide. More detailed installation and technical information can be found in the linked references and manuals. We encourage installers to be familiar with the product manuals and to consult them as needed. The aim here is to consolidate the most relevant details and to provide instructions on how to appropriately configure the system components for battery backup applications.

## Briggs & Stratton offers the following Battery Backup Packages described in this guide:



Package	Inverter	Batteries	Additional Backup Hours per Battery	Total Backup Hours	Recommended Package	Notes
Essential Power	Sol-Ark 8K	1 or more SimpliPHI 6.6	10	10.8	Sol-Ark 8K Inverter & 1 or more SimpliPHI 6.6 Batteries	* 50% of backup loads where the average continuous load is 1.23kW
Managed Power	Sol-Ark 12K	2 or more SimpliPHI 6.6	7	14.5	Sol-Ark 12K Inverter & 2 or more SimpliPHI 6.6 Batteries	* 75% of backup loads where the average continuous load is 1.23kW
Whole Home Power	Sol-Ark 15K	3 or more SimpliPHI 6.6	5	16.4	Sol-Ark 15K Inverter & 3 or more SimpliPHI 6.6 Batteries	* 100% of backup loads where the average continuous load is 1.23kW

**Warning:** Installation of energy storage systems should only be done by qualified electricians knowledgeable of the appropriate safety practices and electrical code. This document offers summarized installation, programming, and operating information. In-depth instructions can be found in the manufacturer provided operating manuals that are linked and referenced in the text. Failure to follow and comply with guidance provided in the manufacturer provided operating manuals may result in loss of warranty. This guide should be used in addition to (and not as a substitute for) reading the manufacturer manuals. Equipment users should also stay up to date with the latest recommendations regarding their ESS equipment. The most up to date information can be found at <https://energy.briggsandstratton.com> and <https://www.sol-ark.com>.

# Contents

Section 1: Helpful Links and Resources .....	4
Section 2: Checklist of Tools and Common Hardware .....	4
Section 3: System Components .....	5
Section 4: Installation Location and System Layout .....	6
Section 5: Overview of the Installation Process .....	8
Section 6: Mounting the Inverter .....	8
Section 7: Mounting the Battery .....	9
Section 8: Mounting the EnergyTrak Gateway .....	11
Section 9: Installing Conduit and Wiring the System .....	11
Essential Power .....	11
Managed Power .....	12
Whole Home .....	12
Section 10: Powering, Configuring, and Commissioning the Inverter .....	18
Battery Programming .....	19
Smart Loads Programming .....	20
Section 11: Setting Up the MySolArk App and Plant .....	21
Section 12: Commissioning the Battery and Setting Up EnergyTrak .....	24
Section 13: Monitoring the System With the MySolArk and EnergyTrak Apps .....	29

# Section 1

## Helpful Links and Resources

1. Sol-Ark Inverter Manuals: [Sol-Ark 15K-2P-N](#), [Sol-Ark 12K-2P-N](#), [Sol-Ark 8K-2P-N](#), [AC Coupling Guide](#)
2. Sol-Ark Warranty Documents: [15K-2P-N-Warranty](#), [12K-2P-N Warranty](#), [8K-2P-N Warranty](#)
3. Briggs & Stratton Battery and EnergyTrak Manuals: [SimpliPHI 6.6 Battery](#), [EnergyTrak](#)
4. Briggs & Stratton Warranty Documents: [Limited Warranty for ESS Products](#)
5. Support: Technical Support Email: [ESSTech@BASCO.com](mailto:ESSTech@BASCO.com) Phone: 805-668-0657 x 1

# Section 2

## Checklist of Tools and Common Hardware

Experienced Installers know that each installation site can offer unique challenges and requirements for tools. Eliminating parts runs increases efficiency. The list below is designed to highlight tools and hardware you might wish to bring with you to the jobsite.

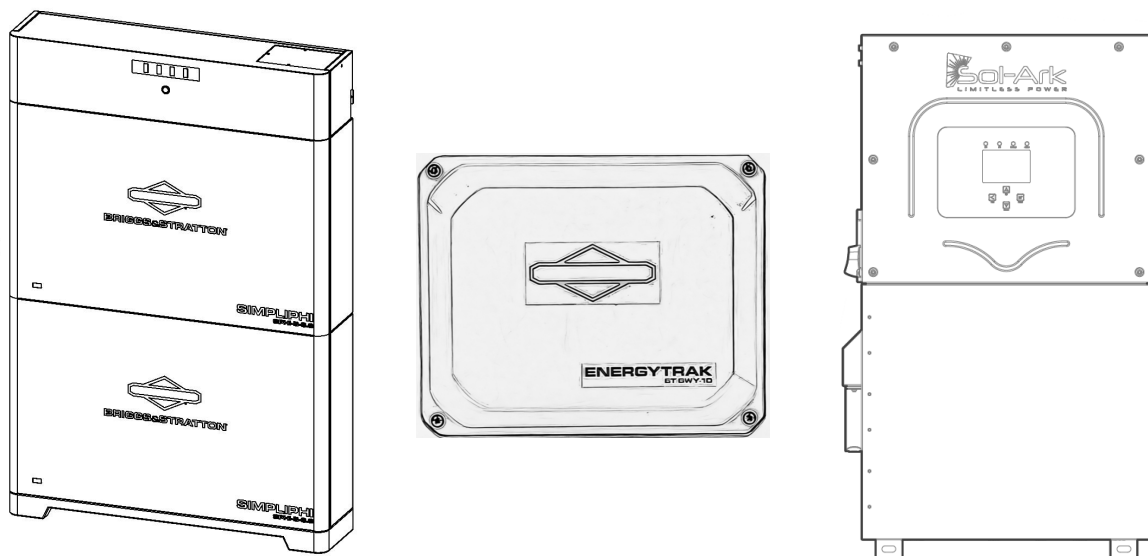
Commonly Useful Tools		Commonly Useful Installation Hardware & Components
<input type="checkbox"/> Tape Measure	<input type="checkbox"/> Lineman Pliers	<input type="checkbox"/> Lag Screws
<input type="checkbox"/> Stud Finder	<input type="checkbox"/> Needle Nose Pliers	<input type="checkbox"/> Washers
<input type="checkbox"/> Level/Laser Level	<input type="checkbox"/> Flush/Side Cutters	<input type="checkbox"/> Wall Anchors
<input type="checkbox"/> T20 Torx Driver/Bits	<input type="checkbox"/> Wire Cutters	<input type="checkbox"/> Tapcon Screws/Anchor Bolts
<input type="checkbox"/> Phillips #1 Screwdriver	<input type="checkbox"/> Wire Strippers	<input type="checkbox"/> Self-Tapping Screws
<input type="checkbox"/> Phillips #2 Screwdriver	<input type="checkbox"/> Utility Knife	<input type="checkbox"/> Colored Electrical Tape
<input type="checkbox"/> Square #2 Driver	<input type="checkbox"/> Wire Crimpers	<input type="checkbox"/> Battery Cabling
<input type="checkbox"/> Torque Wrench	<input type="checkbox"/> Channel Locks	<input type="checkbox"/> Colored Heat Shrink
<input type="checkbox"/> Metric + Sae Socket Sets/Drivers	<input type="checkbox"/> Vice Grips	<input type="checkbox"/> Battery Cable Lugs
<input type="checkbox"/> Drill, Drill Bits	<input type="checkbox"/> Battery Cable Cutter	<input type="checkbox"/> Silicone Sealant
<input type="checkbox"/> Hammerdrill	<input type="checkbox"/> Battery Cable Crimper	<input type="checkbox"/> Cable Zip Ties
<input type="checkbox"/> Impact Drill Bits	<input type="checkbox"/> Heat Gun	<input type="checkbox"/> Pencil/Sharpie
<input type="checkbox"/> Impact Driver	<input type="checkbox"/> Ratcheting Caulking Gun	
<input type="checkbox"/> Band Saw	<input type="checkbox"/> Rj45 Crimper	
<input type="checkbox"/> Angle Grinder	<input type="checkbox"/> Rj45 Cable Tester	
<input type="checkbox"/> Mallet/Hammer	<input type="checkbox"/> Electrical Multimeter	
<input type="checkbox"/> Hole Punch Set	<input type="checkbox"/> Ac/Dc Amp Clamp	
<input type="checkbox"/> Stepper Drill Bit	<input type="checkbox"/> Fish Tape	
<input type="checkbox"/> Deburring Tool		



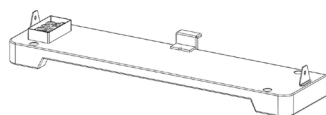
# Section 3

## System Components

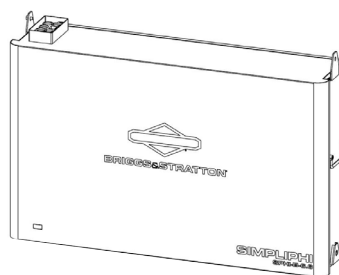
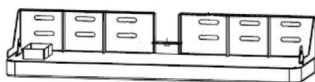
Each SimpliPHI 6.6 Battery Backup Package consists of a 6.6 Battery Stack, EnergyTrak Gateway, and Sol-Ark Inverter.



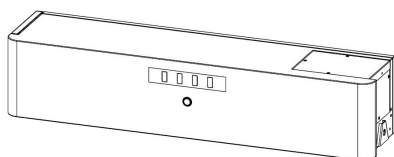
SimpliPHI 6.6 Battery Stack consist of a base unit (floor or wall mount), battery modules and a battery controller.



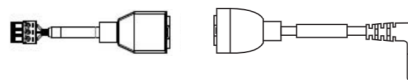
Floor base OR Wall Base



Battery Modules



Battery Controller



Dongles

# Section 4

## Installation Location and System Layout

It is highly advisable to carefully decide on a mounting location and system layout and discuss this layout with homeowners prior to arrival at the jobsite. Achieving a “clean” installation involves careful planning of not just where the battery backup system components are located, but also how conduit will be run to connect them. Multiple factors should be considered as to where the system will be installed. Once this is decided a system layout can be created by hand or by using the aid of software.

All components of the energy storage packages have IP65/NEMA 3R and are suitable for indoor or outdoor installations. Multiple factors should be considered when determining equipment mounting locations including: ease of access, aesthetics, security, operational temperature limits, exposure to direct sunlight, noise level of inverter fans (<30dB), cable runs, expandability, potential flood hazards, potential inadvertent for vehicle impact, local regulations and codes, in addition to mechanical considerations such as locations of studs or structural supports for wall brackets and hardware.



**Operational Temperatures:** For optimal battery performance, install in an area where ambient temperature does not drop below freezing, 32°F (0°C), or go above 104°F (40°C). In areas where temperatures below freezing are a common concern, installations indoors such as inside a garage on a wall adjacent to a heated room can help keep batteries at appropriate temperatures. Sol-Ark Inverters are rated to operate in ambient temperatures from -13°F to 131°F, but will derate in temperatures above 113°F. Inverters, especially those processing large amounts of DC solar power, produce heat and may cause discomfort to homeowners if installed in spaces with limited airflow.



Direct sunlight can cause unwanted heating effects and can over time lead to damaged inverter displays. Avoid installing both the battery and the inverter in locations where they will receive excessive direct sunlight. Solar shades can be used to limit the negative effects of direct sunlight.



The inverter's cooling fans can create noise and unwanted sound should be a consideration when choosing an installation location.



If flooding is a concern, it is recommended that batteries be installed using a wall mount base unit at heights safe from potential water levels.



When installing in garages avoid locations that could result in accidental vehicle impact. Some locations may require protection such as parking bollards or curbs.

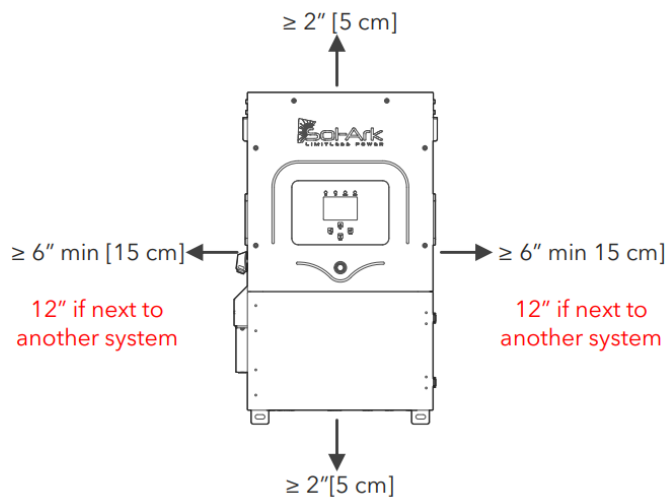


Electrical code requirements exist for battery storage systems. Local code requirements should be reviewed and followed when installing battery backup systems. Common restrictions include keeping batteries a minimum of 3 ft (914 mm) from doors and windows directly entering the dwelling unit when installed on the outside of a home. Batteries cannot be installed in habitable spaces. Installers should familiarize themselves with relevant codes and standards, such as the NEC and NFPA 855, and UL9540.

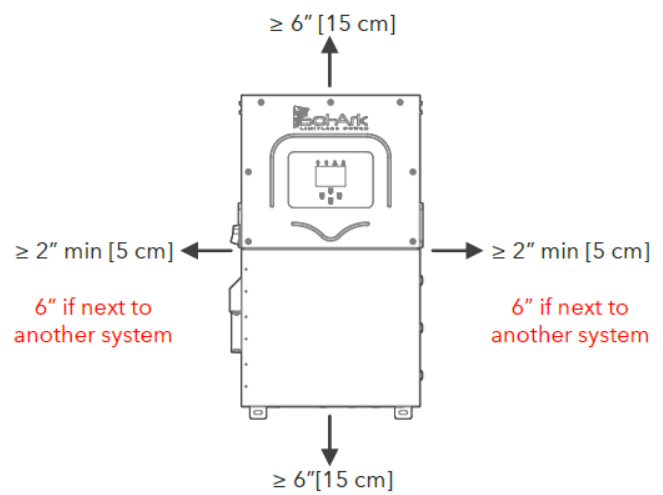
Minimum mounting clearances for inverter, and between battery stacks are shown in the figure below.

*"Another system" refers to an additional inverter.*

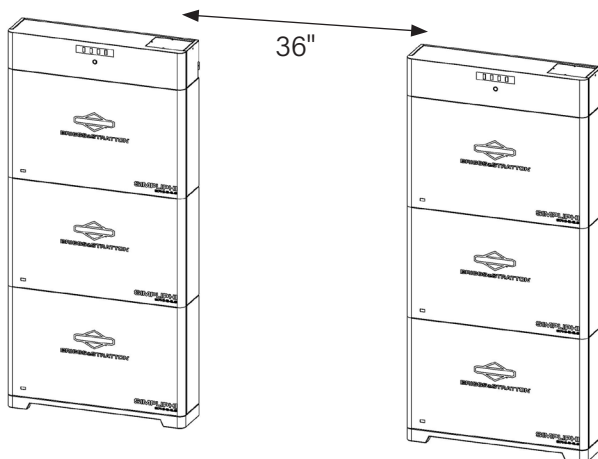
Sol-Ark 8K and 12K Spacing



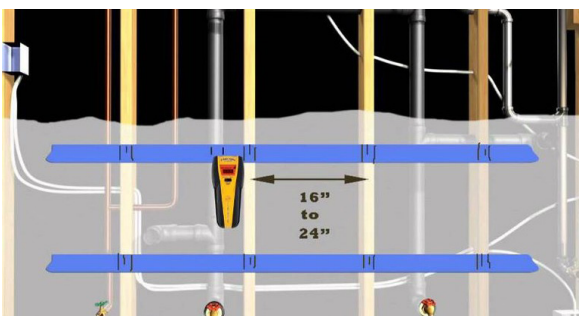
Inverter Installation



Minimum spacing between parallel battery stacks:



Care should be taken to consider space for conduit and cabling. If mounting the system to a wall that uses structural studs, it is helpful to use a stud finder and mark their locations. Stud positioning will influence the positions of mounting brackets. Use of a wire gutter beneath the inverter can make managing conduit and cabling much easier. Applications are available such as **Solarview** (<https://web.solarview.app/>) and **SketchUp** (<https://www.sketchup.com>) that can be used to provide visual demonstrations of what the layout will look like on a customer's wall.



# Section 5

## Overview of the Installation Process

After determining a system location, it can be helpful to create a wall layout using masking tape to mark equipment positions and mounting bracket locations. Installation of the battery backup system generally proceeds through the following stages:

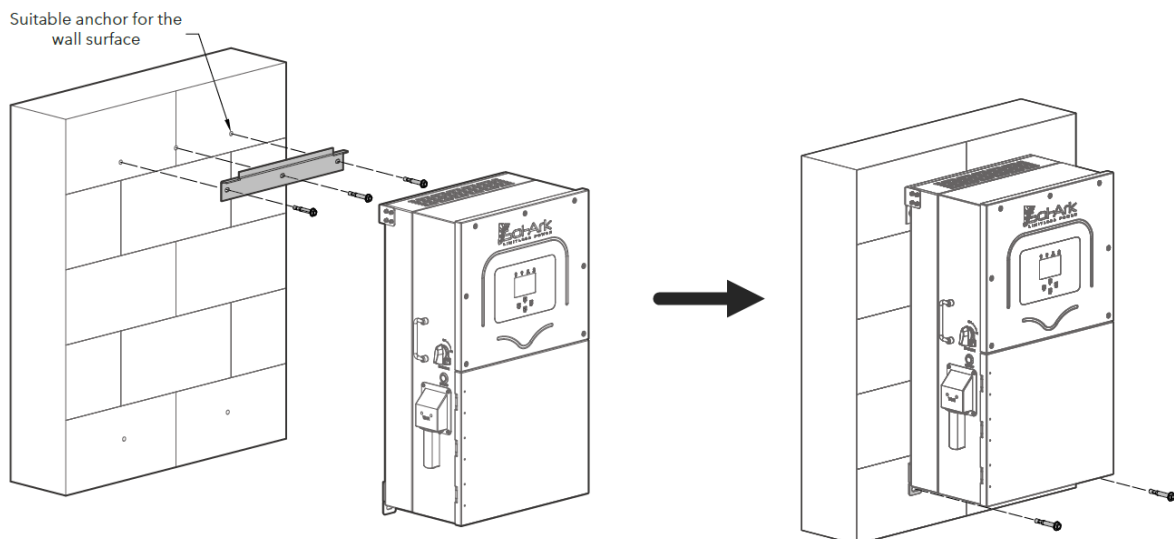
1. The inverter bracket and inverter are mounted to the wall
2. The battery mounts and wall brackets are added and the battery stack is mounted
3. The EnergyTrak gateway is mounted
4. Conduit is added connecting the system components
5. Wiring and communication cabling is installed
6. The system is programmed and commissioned

If you need Technical Support support during the installation process please reach out to the Briggs & Stratton Energy Storage Technical Support Team: [ESSTECH@BASCO.com](mailto:ESSTECH@BASCO.com), 805-640-6700 x 1.

# Section 6

## Mounting the Inverter

After choosing a mounting location for the inverter the inverter wall bracket is hung. If the stud spacing is irregular or inadequate, it may be helpful to use some half slotted strut to allow easier positioning of the bracket. Remember to include the required spacing around the inverter. After the inverter bracket is secured the inverter can be hung on the bracket and secured into position. For more detailed instructions, consult the Sol-Ark Inverter Manual linked in Section 1.



# Section 7

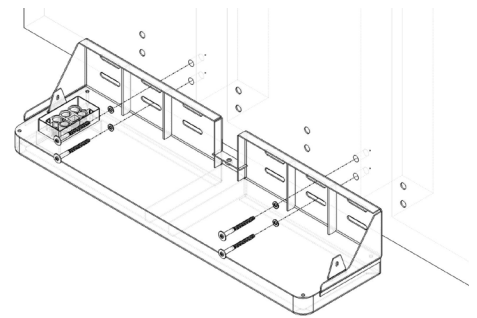
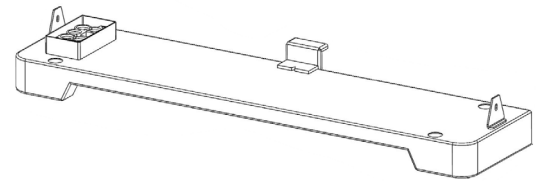
## Mounting the Battery

The battery can be either floor or wall mounted. For more detailed instructions consult the battery operator's manual linked in Section 1.

### 1. Installing the Mounting Base

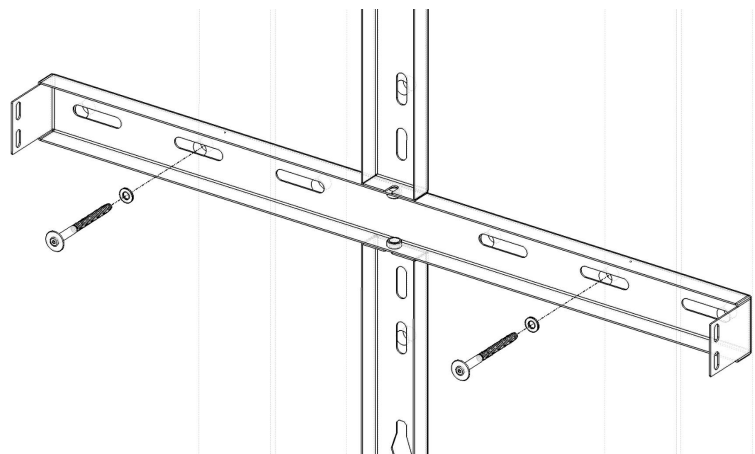
**Floor Mounting Base:** Begin by securing the floor base. It should be positioned so that it is centered between two studs if applicable. Make sure that the floor base is level, it may be necessary to use shims on uneven floors. (The presence of a protruding stem as is common in garages, may necessitate the alternative use of a wall-mount base.)

**Wall Mounting Base:** Begin by centering the wall base between studs if applicable. The wall mount base must be mounted into a minimum of two (2) load bearing beams, studs, or a solid material, with appropriate fasteners. The wall mount base is designed to hold up to three SimpliPHI 6.6 Modules and one Controller with a combined weight of up to 435 pounds. Mark and pre-drill the holes for the fasteners. While installing the base ensure that it is level and that all fasteners are torqued to manufacturers specifications.



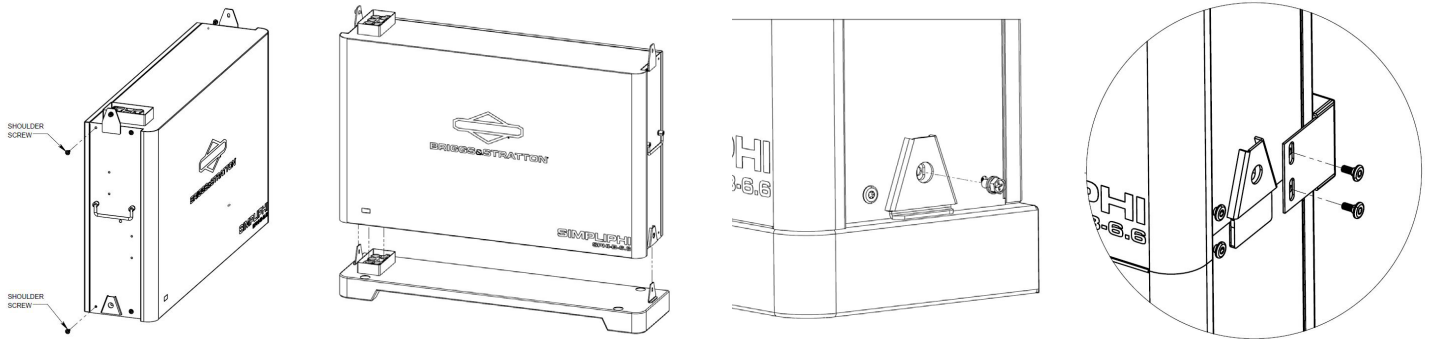
### 2. Installing the Wall Brackets

Join the wall brackets together using the provided 10 mm stainless steel bolts. For vertical alignment it is helpful to draw a plumb line up from the center of the base. Mount the wall brackets to the base using a 10#mm bolt, then secure the brackets to the wall. It is important to ensure that the vertical members are plumb and that the horizontal members are level.



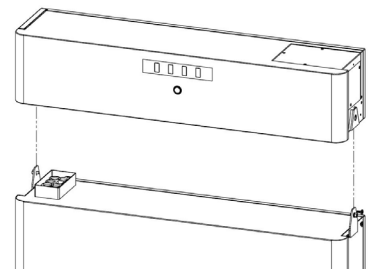
### 3. Installing the 6.6 Battery Modules

Prior to stacking the battery modules on the base, remove all four of the rear shoulder screws on each module and set them aside to be used to secure the battery modules to the wall brackets. Use the folding handles to lift the battery module onto the base, using the alignment tabs to guide it into position. Secure the battery module to the base using the provided M4 x 10mm machine screws. Then secure the battery module to the wall bracket by replacing the shoulder screws. Repeat the process to add additional 6.6 battery modules.



### 4. Installing the 6.6 Battery Stack Controller

Remove the two rear shoulder screws from the back of the controller. Then add the controller to the top of the battery stack. Use two M4 x 10mm screws to secure it to the tab of the module below. Secure the controller to the wall brackets using the shoulder screws.



### 5. Installing the Cover Plates

The side plate covers are installed by slipping them down on top of the shoulder screws.





# Section 8

## Mounting the EnergyTrak Gateway

The EnergyTrak gateway enclosure comes with wall mounting tabs. Attach the tabs to the back of the enclosure using the provided stainless steel machine screws. Then mount the gateway on the wall using appropriate fasteners based on the type of mounting surface. A penetration will need to be made through the enclosure for the wiring and communications cables. It may be easiest to mount the gateway after the conduit has been added.

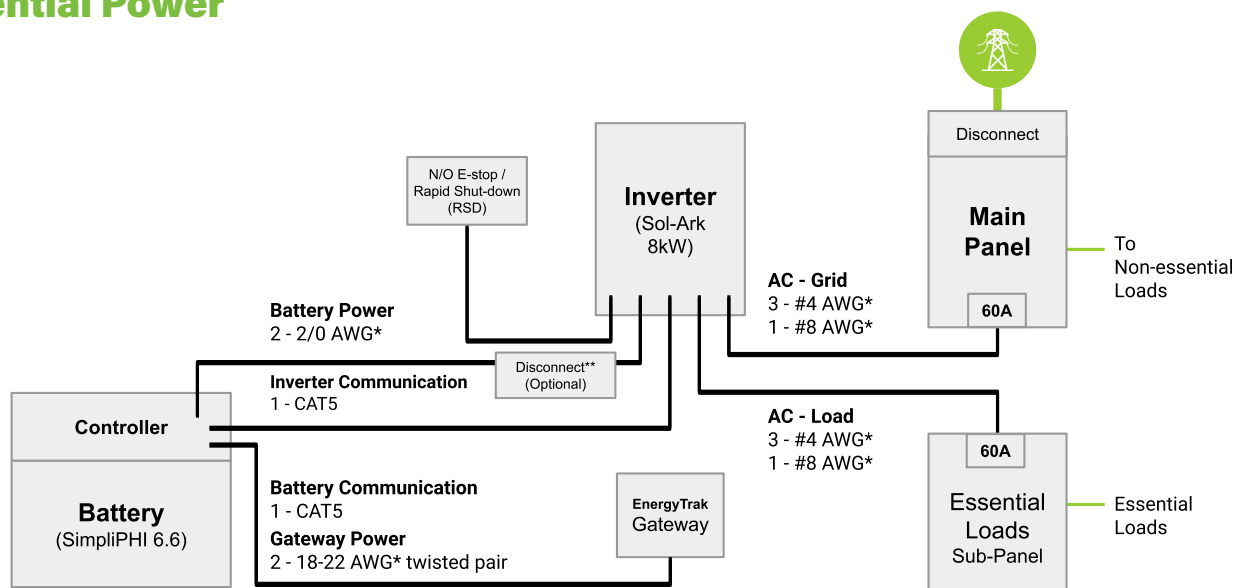


# Section 9

## Installing Conduit and Wiring the System

Wiring of the battery backup system is similar for the Essential Power and Managed Power packages. Both involve the installation of a new backed up essential loads panel.

### Essential Power

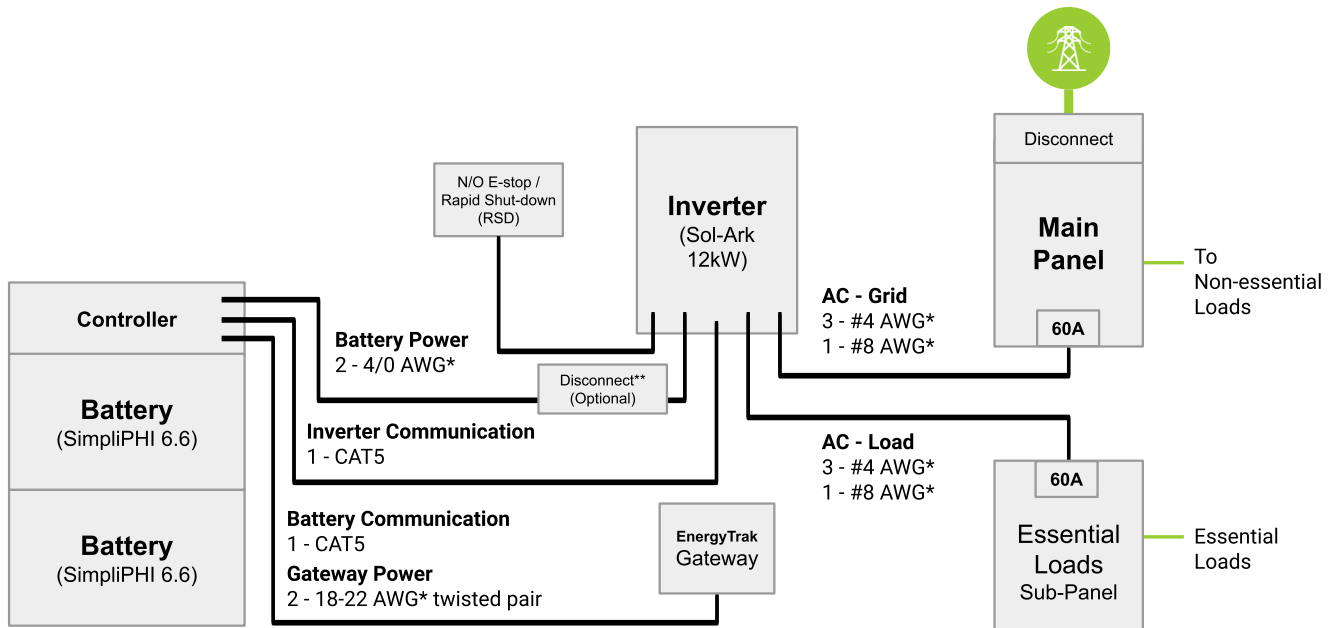


\* Typical copper (CU) wire sizes. Installers should adjust as necessary to follow NEC and AHJ requirements.

\*\* If required by AHJ, install a single-pole DC disconnect.



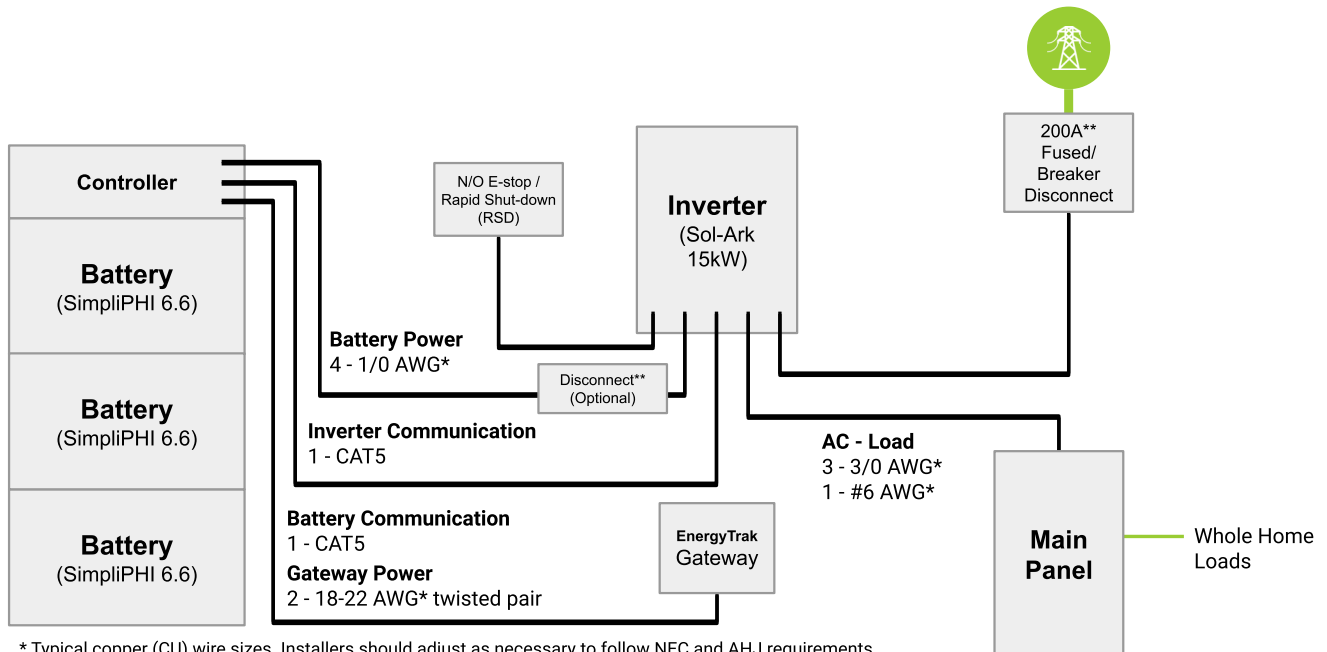
## Managed Power



\* Typical copper (CU) wire sizes. Installers should adjust as necessary to follow NEC and AHJ requirements.

\*\* If required by AHJ, install a single-pole DC disconnect.

## Whole Home

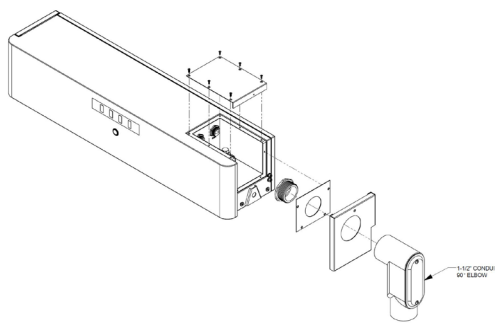


\* Typical copper (CU) wire sizes. Installers should adjust as necessary to follow NEC and AHJ requirements.

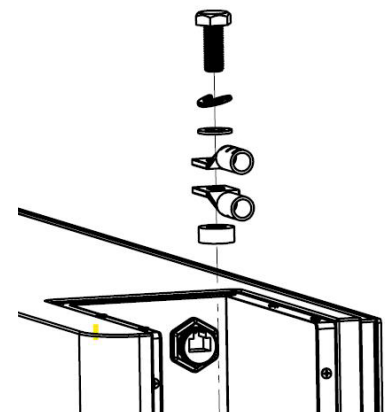
\*\* If required by AHJ, install a single-pole DC disconnect.

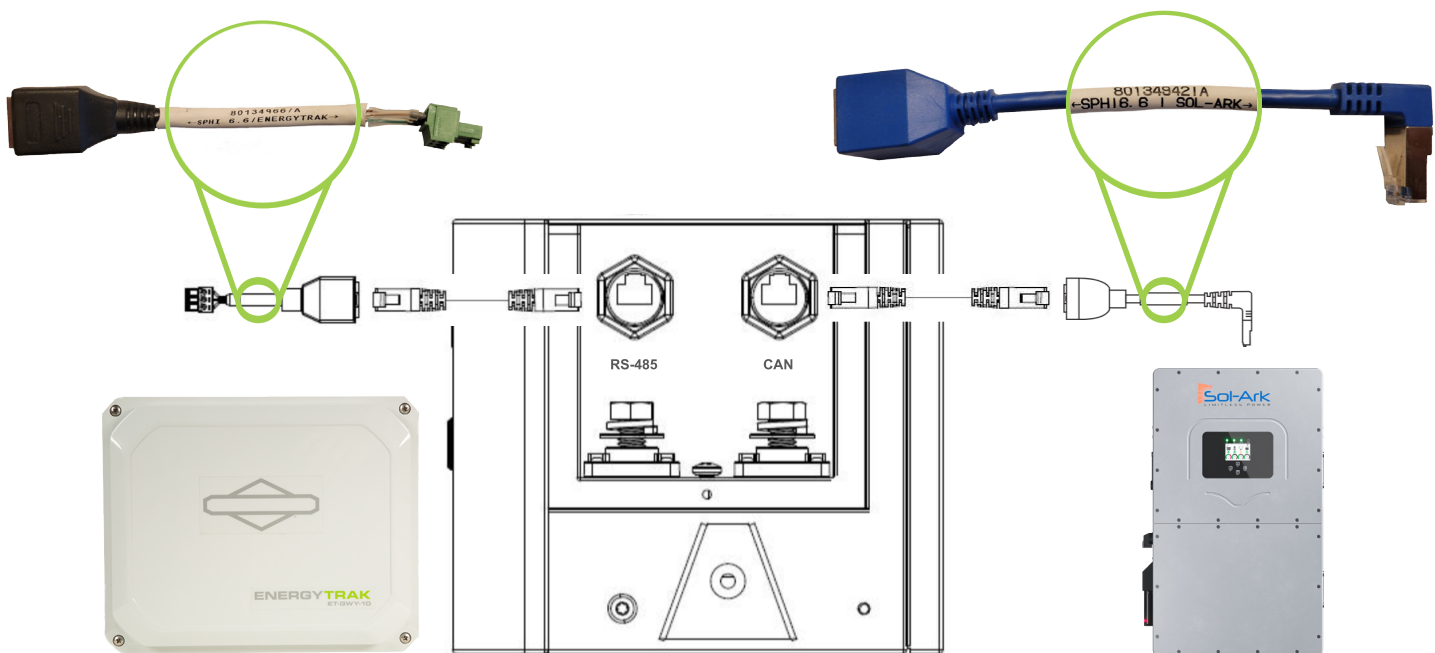
\*\*\* Match electrical service. For 100A service, recommend service/ main panel upgrade.

The 6.6 battery stack controller comes with two dongles, a black one (p/n 80134966) used for connecting it to the gateway and a blue one (p/n 80134942) used for connecting it to Sol-Ark inverters. The battery power cabling and the communications cables can be passed through a single 2" conduit run. The 2" conduit attaches to the inner side cover of the wiring bay on the controller as is shown in the pictures below. The cover will need to be punched out to receive the conduit. The location of the punchout on the side plate can be marked with the side plate installed and the top cover removed. This will give the opportunity to insure adequate space for the retaining ring. Make sure that your conduit does not prevent the top plate from sitting flush. The waterproofing of the wiring bay is made through the seal of the conduit to the inner side plate and the sealing surfaces of the inner side plate and top plates to the controller. The outer side plate does not participate in the sealing process and it can be slotted or punched so that it fits over the conduit as is shown in the example. The opening on the outer side plate must be large enough to allow it to lift up and slip down onto the shoulder screw clips.



To complete the battery wiring, connect the battery cabling to the terminal lugs. For a Sol-Ark 8K and 12K inverters a minimum of 2/0 battery cabling is typically used. For Sol-Ark 15K inverters we recommend the use of dual 1/0 or 2/0 battery cables with one set run to each of the 15K inverter's dual 200A DC battery breakers. The dual battery cables can be installed using the provided copper spacers as shown in the figure. If required by your local AHJ connect the included grounding cable to the battery controller chassis.





The communications cables should be shielded if run inside conduit with power cables. Labeling the communications cables if they are the same color will help avoid confusion. Make sure to use the dongles that are included with the 6.6 controller if using the SimpliPHI 6.6 battery. (Only use the black dongle that comes included with the gateway if you are using AmpliPHI 3.8 or SimpliPHI 4.9 batteries.)



Though it is optional, the use of a wire gutter beneath the Sol-Ark inverter can be helpful in simplifying the conduit and wiring process. Knockout positions and spacing can be found in the Sol-Ark Manual. Templates are also available for purchase online that can be helpful in improving the speed and accuracy of placing punchouts on a gutter.



This mobile training wall demonstrates the use of a wire gutter to simplify the process of wiring a Whole-Home battery backup package. On the wall, a 200A meter main and disconnect is shown in the top right and a 200A Load center is shown. Connections between these electrical panels are made with 2 inch conduit. Similarly, two inch conduit is shown connecting the battery controller to the inverter and 3/4" conduit is demonstrated to connect the gateway.



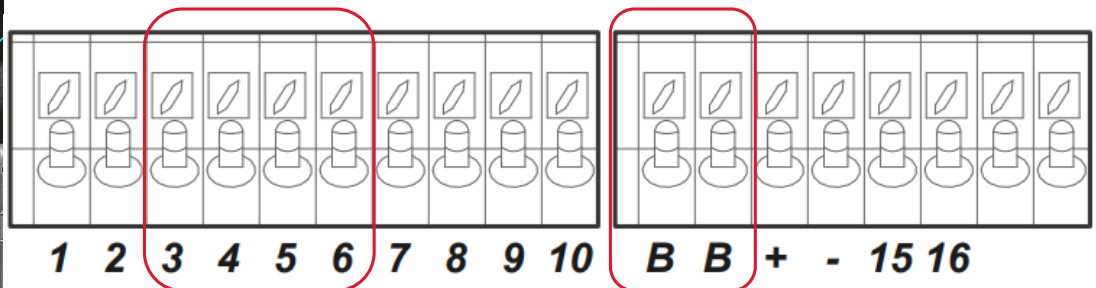
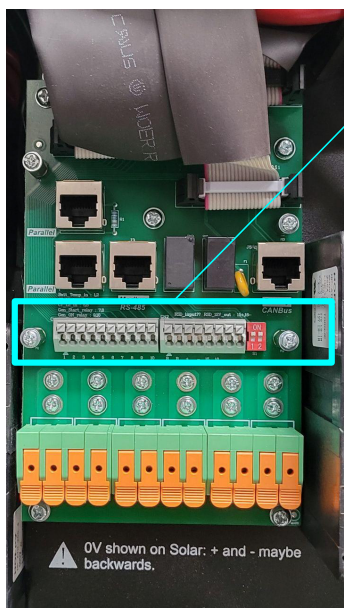
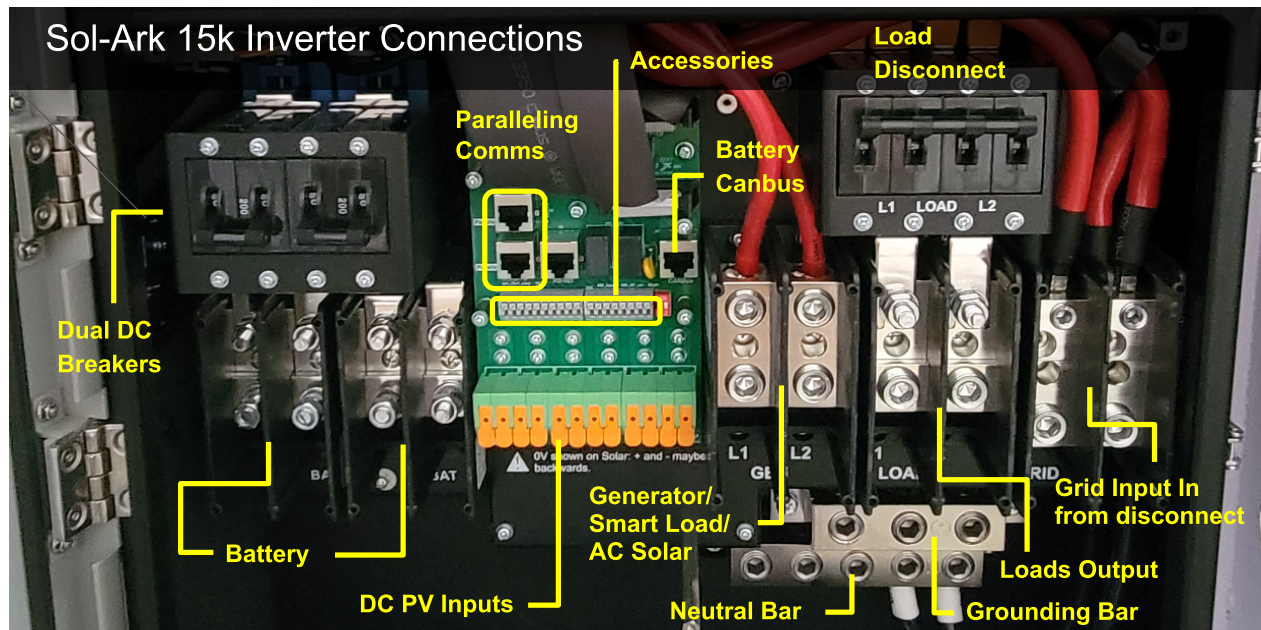


Figure 13: Inverter pinouts for sensors and accessories

- (1,2) **Battery temperature sensor:** Not polarity sensitive. Used for voltage compensation for Lead Acid batteries
- (+3, -4) CT1 & (+5, -6) CT2: Current transformer (CT) inputs
- (7,8) **Gen Start Relay:** Normally open relay for generator two-wire start
- (9,10): Not in use
- (B, B) **Emergency Stop:** Normally open dry contact for emergency stop
- (+, -): Not in use
- (+15, -16): 12Vdc (-3%) power supply for RSD transmitters (100mA max, 12Vdc, 1.2W)

A single penetration into the gateway is sufficient to run the power cabling, ethernet cable, and battery communications cable. The wiring diagram for the gateway is shown in the figure below and more details can be found in the ET manual linked in Section 1. The gateway power is provided by using 18-22 AWG twisted pair with the included ring terminals to connect the battery. The internet connection to the gateway can be made through a wired (recommended) or WI-FI connection to the local network. When the wiring of the gateway is complete, leave the fuse holder open. The gateway will be the last device powered up in the commissioning process.





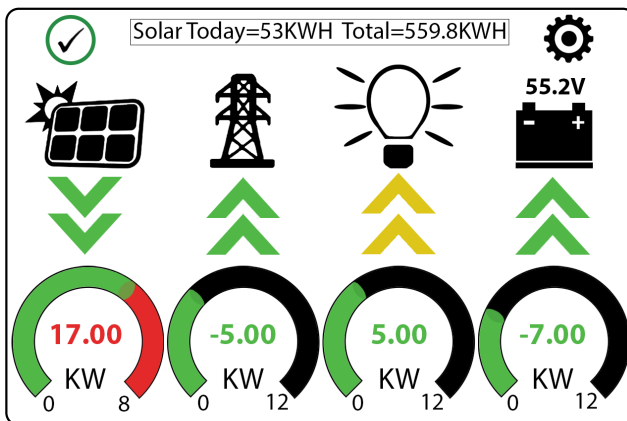
# Section 10

## Powering, Configuring, and Commissioning the Inverter

After completing all power and communications wiring the inverter needs to be programmed to communicate with the battery stack's controller. The default factory setting on the inverter is to disable the BMS Lithium Batt comms setting. For proper battery function, this setting needs to be enabled. **(NOTE: If the BMS box is not checked, improper CAN bus communication by the inverter may prevent the battery controller from providing DC power.)**

To enable communication follow these steps:

1. With 6.6 battery OFF and the DC Breaker/s on the inverter in the OFF position, power on the inverter by establishing grid power
2. Enter Settings (gear icon) → Battery Setup
3. On the Batt tab, check the box for BMS Lithium Batt
4. Click OK to save the setting



The 'Batt Setup' screen has tabs for Batt, Charge, Discharge, Smart Load, and Wind Turbine. The 'Batt' tab is selected. It contains the following settings:

Parameter	Value	Option
Batt Capacity	200Ah	<input type="checkbox"/> Use Batt V Charged
Max A Charge	100A	<input checked="" type="checkbox"/> Use Batt % Charged
Max A Discharge	185A	<input type="checkbox"/> No Battery
TEMPCO	-0mV/C/Cell	<input checked="" type="checkbox"/> BMS Lithium Batt 00
		<input checked="" type="checkbox"/> Activate Battery

Buttons: CANCEL, OK

Now that the inverter has been configured to communicate with the battery module controller, the batteries can be switched on. To turn on the batteries:

1. With DC Breaker/s on the inverter in the OFF position, hold down the power button on the battery controller for 10 seconds. The green status indicator light on each battery should come on, and then the green power button and battery fuel gauge on the controller will illuminate
2. Using a multimeter you should now be able to verify voltage on the DC terminals
3. Switch on the inverter's DC breaker/s
4. This will energize the inverter's DC bus. Note: The in-rush current of the inverter may trigger the controller's OCP (over current protection) causing battery power output to be turned off temporarily. This is normal and DC power should automatically re-establish in 60 seconds
5. The batteries should now be on and communicating with the inverter



## Battery Programming

Many battery settings will automatically populate, though some can still be adjusted. Closed loop communication dictates some of the battery settings in the inverter. The table below lists battery setting recommendations for battery backup. Gray tabs are settings that are set by closed loop communications:

Settings → Batt Setup → Batt Tab	
<b>Batt Capacity</b>	133Ah x (# 6.6 Modules)
<b>Max A Charge</b> <sup>1</sup>	65A x (# 6.6 Modules)
<b>Max A Discharge</b> <sup>2</sup>	130A, 208A, 273A (1, 2, or 3 6.6 Modules)
<b>TEMPCO</b>	-0mv/c/cell
<b>Use Batt V Charged</b>	Unchecked
<b>Use Batt % Charged</b>	Checked
<b>No Battery</b>	Do not check this box
<b>BMS Lithium Batt</b>	Checked
<b>Activate Battery</b>	Checked

Notes:

<sup>1</sup> This is a global (DC solar + AC solar + grid) battery charge limit maximum. Battery stack controller also communicates its own value based on battery conditions and the system uses the lower of these two values. BMS Li Batt info will default to 65A until a charge cycle starts and then increase to the maximum allowable value.

<sup>2</sup> This is a global battery discharge limit maximum. Battery stack controller also communicates its own value based on battery conditions and the system uses the lower of these two values.

Settings → Batt Setup → Charge Tab	
<b>Gen Charge</b> (Check Box)	Check to enable charging from gen port
<b>(Gen) StartV</b>	(% not V used by BMS)
<b>(Gen) Start%</b> <sup>3</sup>	20% (initiates 2 wire start if gen avail)
<b>(Gen) A</b> <sup>4</sup>	Max: 65A x (# 6.6 Modules)
<b>Grid Charge</b> (Check Box)	Checked (enables charge from grip port)
<b>(Grid) StartV</b>	(% not V used by BMS)
<b>(Grid) Start%</b>	50% (initiates grid charge if available)
<b>(Grid) A</b> <sup>5</sup>	Max: 65A x (# 6.6 Modules)
<b>Float</b> <sup>5</sup>	Variable (BMS controlled)
<b>Absorb</b>	Variable (BMS controlled)
<b>Equalize</b>	Variable (BMS controlled)
<b>(Equalization) Days 30</b>	(Equalization) 0.0 Hours
<b>Generator Exercise Cycle Day &amp; Time</b>	User defined (set values to 0 to disable)
<b>Gen Force</b> (Check Box)	Checking forces genstart charge cycle

<sup>3</sup> If the Auto Generator Start is utilized, the AGS is triggered when the batteries reach this SOC setpoint when the grid is unavailable. Once triggered, the generator charges the batteries until they reach approximately 95% SOC, at which point the generator turns off. This 95% SOC parameter is not programmable.

<sup>4</sup> This is the battery charging amperage (in A DC) that will be drawn from the generator port during a charge cycle (generator or AC solar) if the gen charge box is checked. If present, DC solar can supplement this amperage.

<sup>5</sup> This is the battery charging amperage (in A DC) that will be drawn from the grid port during a charge cycle if the grid charge box is checked. If present, DC solar can supplement this amperage. The Sol-Ark prioritizes the grid as the batteries' charging source.

## Settings → Batt Setup → Discharge Tab

<b>Shutdown<sup>1</sup></b>	5%
<b>Low Batt<sup>2</sup></b>	20%
<b>Restart<sup>3</sup></b>	50%
<b>Batt EmptyV<sup>4</sup></b>	45.0V
<b>Batt Resistance</b>	20mOhms / (# of 6.6 Modules)
<b>Batt Charge Efficiency</b>	99%
<b>BMS_Err_Stop<sup>5</sup></b>	Unchecked

<sup>1</sup> Upon reaching the shutdown setpoint, the inverter will stop supporting loads. Setting is also know as Low Battery Cut Out (LBCO)

<sup>2</sup> Upon reaching Low Batt setpoint, a low battery alarm will be triggered

<sup>3</sup> In a grid down situation in which batteries are charging from solar after a shutdown has been triggered, the loads will remain off until exceeding the Restart Batt SOC %.

<sup>4</sup> This is programmed so that the inverter knows the voltage at which the battery bank will shut down to protect itself from over discharge. If charging is available and the activate Li Batt is checked, the inverter will wake the battery to deliver charge.

<sup>5</sup> If checked the Inverter will cease using battery when the battery communicates an error

## Smart Loads Programming

If not being used as a generator input, this port can be used to power a smart loads sub-panel or to connect AC coupled solar. When used as a smart loads output, a sub-panel (80A continuous max) can be powered drawing power out of this port that can be regulated (on or off) based on battery percentage. Alternatively, the port can be used to bring in AC coupled solar that can be used to charge the batteries, even in the loss of grid power. The Sol-Ark AC Coupling guide provides information about using the port for AC coupling.

## Settings → Batt Setup → Charge Tab

<b>(Box) Gen Charge</b>	Check to enable charging from gen port
<b>(Gen) StartV</b>	(% not V used by BMS)
<b>(Gen) Start%<sup>6</sup></b>	20% (initiates 2 wire start if gen avail)
<b>(Gen) A<sup>7</sup></b>	Max: 65A x (# 6.6 Modules)
<b>(Box) Grid Charge</b>	Checked (enables charge from grip port)
<b>(Grid) StartV</b>	(% not V used by BMS)
<b>(Grid) Start%</b>	50% (initiates grid charge if available)
<b>(Grid) A<sup>8</sup></b>	Max: 65A x (# 6.6 Modules)
<b>Float<sup>8</sup></b>	Variable (BMS controlled)

<sup>6</sup> Smart Loads are no longer powered via solar and/or batteries when the battery SOC % drops below this value. (If the AC coupled input to gen box is checked with grid power unavailable, AC coupled solar will STOP producing power-charging the batteries and powering loads, if the battery SOC level rises above this setpoint)

<sup>7</sup> Smart Loads are powered via solar and/or batteries when the battery SOC % increases above this value. (If the AC coupled input to gen box is checked with grid power unavailable, AC coupled solar will START producing power-charging the batteries and powering loads, if the battery SOC level drops below this setpoint)

<sup>8</sup> When enabled, this setting also changes the meaning of the Smart Loads OFF/ON Batt (explained above) and disables the use of the Gen breaker completely.

**Warning: When using the Gen port for AC coupled solar never set Smart Load OFF Batt % to be lower than Smart Load ON Batt %. This can damage the batteries in a loss of grid event.**

# Section 11

## Setting Up the MySolArk App and Plant

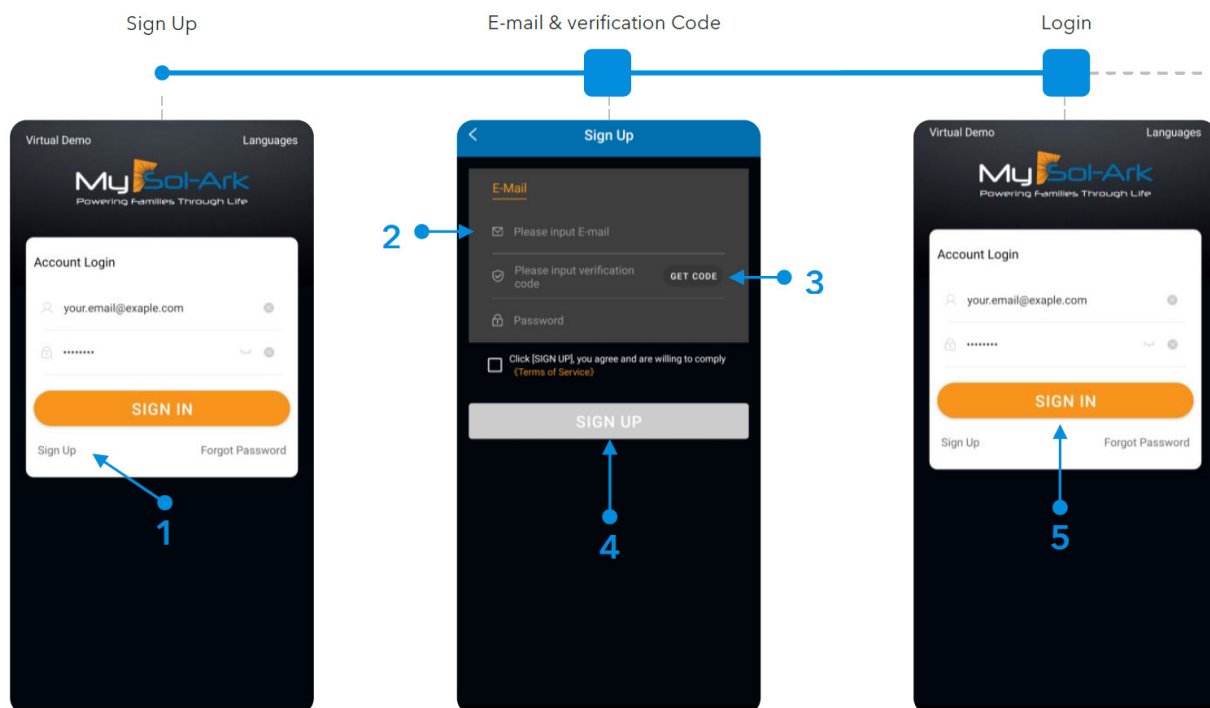
Once the inverter has been set up the MySolArk app can be set up. This app gives installers the ability to remotely monitor and remotely configure the inverter. It also gives the Sol-Ark team the ability to see the site details remotely in case a need arises to troubleshoot. Once set up the installer can share the power "Plant" site with the customer, either as a manager or as a

### 1. Create a "Plant" On MySolArk

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. Use the QR codes provided to download the MySolArk app for Android/ Google Play (left) or iOS/ Apple App Store (right).

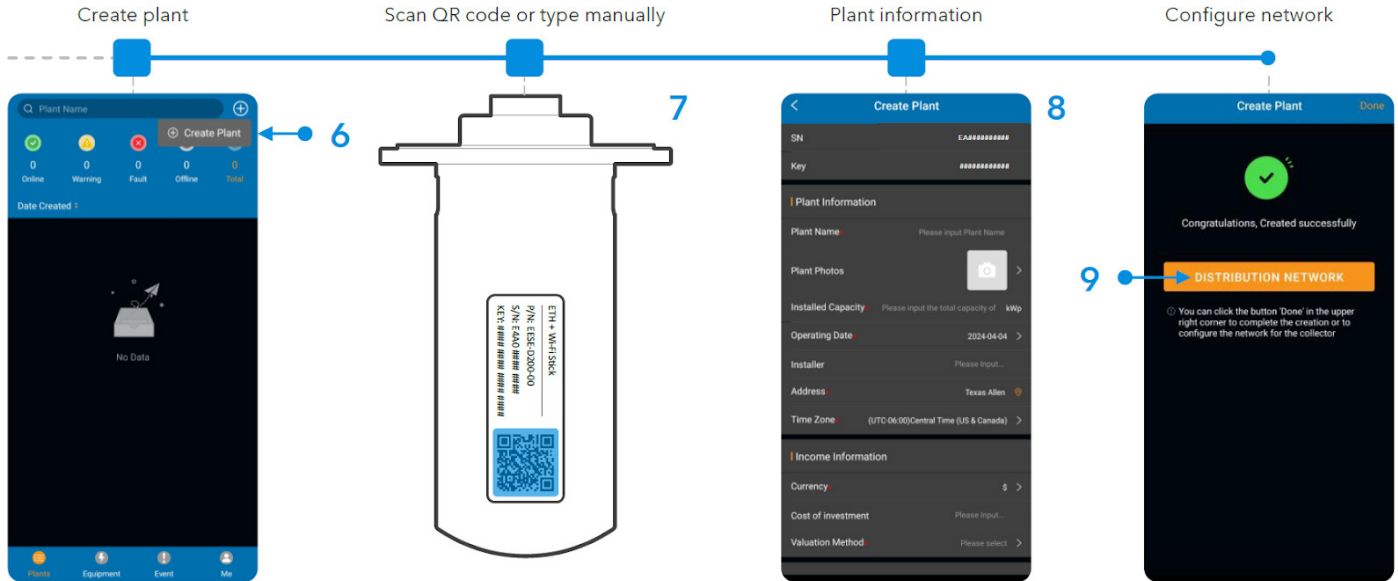


Login to your account or if you don't have one, create an account and login



Once logged in tap “Create Plant” (+) in the top right of the app:

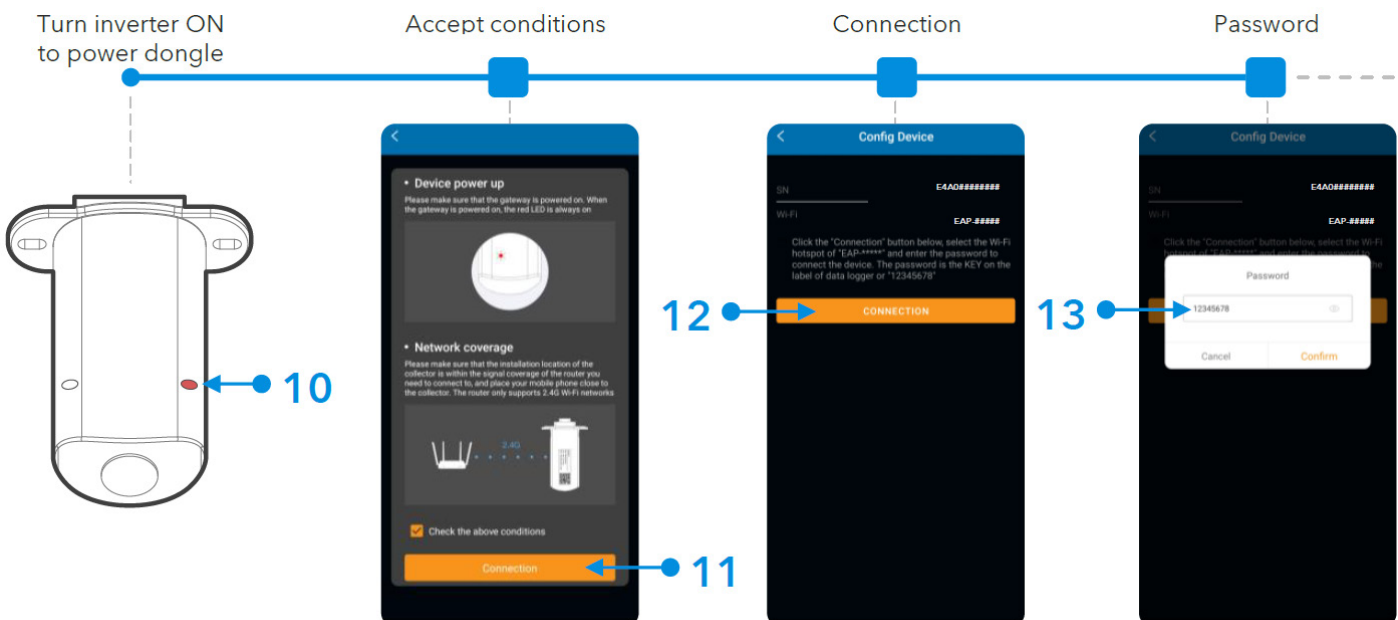
- i. Scan the QR code on the Sol-Ark WI-FI dongle
- ii. Enter the plant information

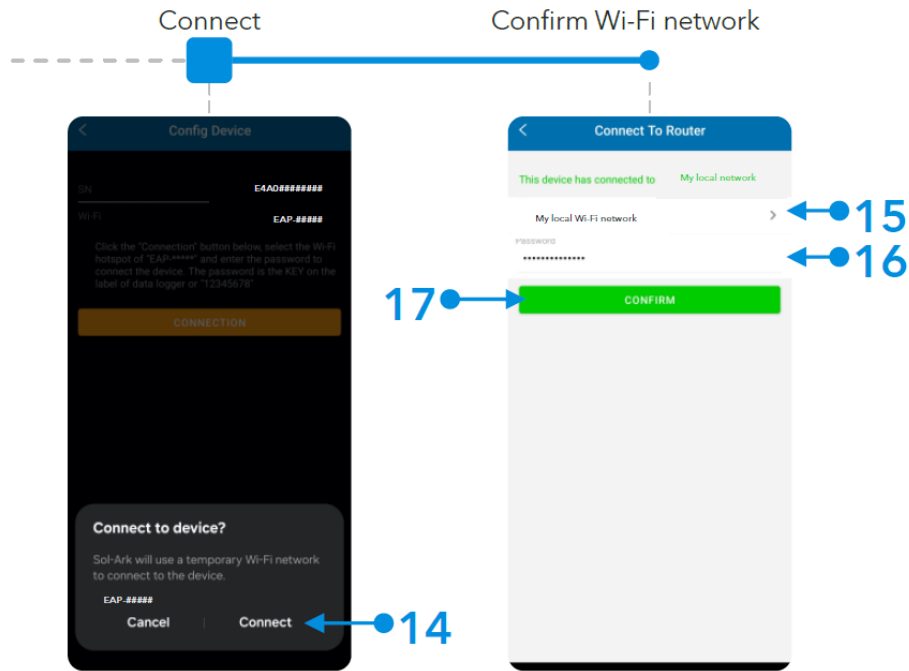


## 2. Establish an Internet Connection for the Plant by Entering the WIFI Password (if Not Hard-Wired)

Follow the steps below to enter the site’s WI-FI information

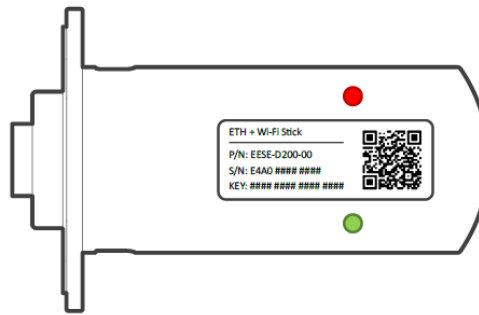
(This can also be done manually by using your smart phone to connect directly to the WI-FI dongle’s WI-FI direct network (EAP-#### network → Password= 12345678) and then going to the IP address 10.10.10.1 with your browser (see the Sol-Ark manual for more detailed instructions.)





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.mysolarark.com](http://www.mysolarark.com) to access the desktop version of MySolArk.

After the inverter has been successfully connected to the internet, the user should be able to see live telemetry. It usually takes about 5 minutes for this process to complete.

# Section 12

## Commissioning the Battery and Setting Up EnergyTrak

The last step in the process is to set up EnergyTrak and commission the battery stack. This will connect the battery system to the internet, giving the system access to remote firmware updates and providing the installer and homeowner with detailed battery information. It also gives the Briggs and Stratton team the ability to communicate with the system remotely if assistance is ever needed.

### 1. Search for EnergyTrak and Download the App



### 2. Create a Business Account: Visit <https://shorturl.at/3b100>

For improved security, creating your first Pro Admin account is controlled by Briggs & Stratton, and can take up to 1 business day to complete.

#### Request Your Company's First Pro Account

This form is to request the creation of your company's first Pro user account, a Pro Admin.

If your business already has a Pro Admin account, you do NOT need to complete this request form. Pro Admin users within your company can quickly create an account for you using the EnergyTrak app. See the [EnergyTrak Install and User Manual](#) for more information.

If you are a SimpliPHI ESS or EnergyTrak system owner, please contact your service provider or our support team for help creating a System Owner account.

**Briggs & Stratton Consumer Support**

[energytrak@basco.com](mailto:energytrak@basco.com)

833-463-6482

In order to create your business's first Pro account, we require the below information (\*required):

Legal Business Name: \*

Business Name in EnergyTrak (if different from legal name):

Business Physical Address (street, city, state, zip): \*

User first and last name: \*

Primary State You Install: \*

User phone number: \*

User Email Address: \*

☐ I am an existing Briggs & Stratton Dealer, Distributor, or other Partner.

**SUBMIT FORM**

### 3. Login to the App and Click the "Create New Site" Button

CREATE NEW SITE

BRIGGS&STRATTON

## Create New Site

Please enter site info

Site name

Street address

City

State ZIP code

CANCEL SAVE

BRIGGS&STRATTON

## The Smith's 15K Example

919 State St, New York, NY 17551

SITE EQUIPMENT EVENTS

### System status

Last updated now

READY FOR SETUP

CHANGE CONFIGURATIONS

START COMMISSIONING

BRIGGS&STRATTON

## System commissioning

Overview of steps to complete setup

- 1 Confirm installation details.
- 2 Connect to gateway and set up Internet connection.
- 3 Confirm connected equipment.
- 4 Confirm configuration.
- 5 Set up System Owner user.

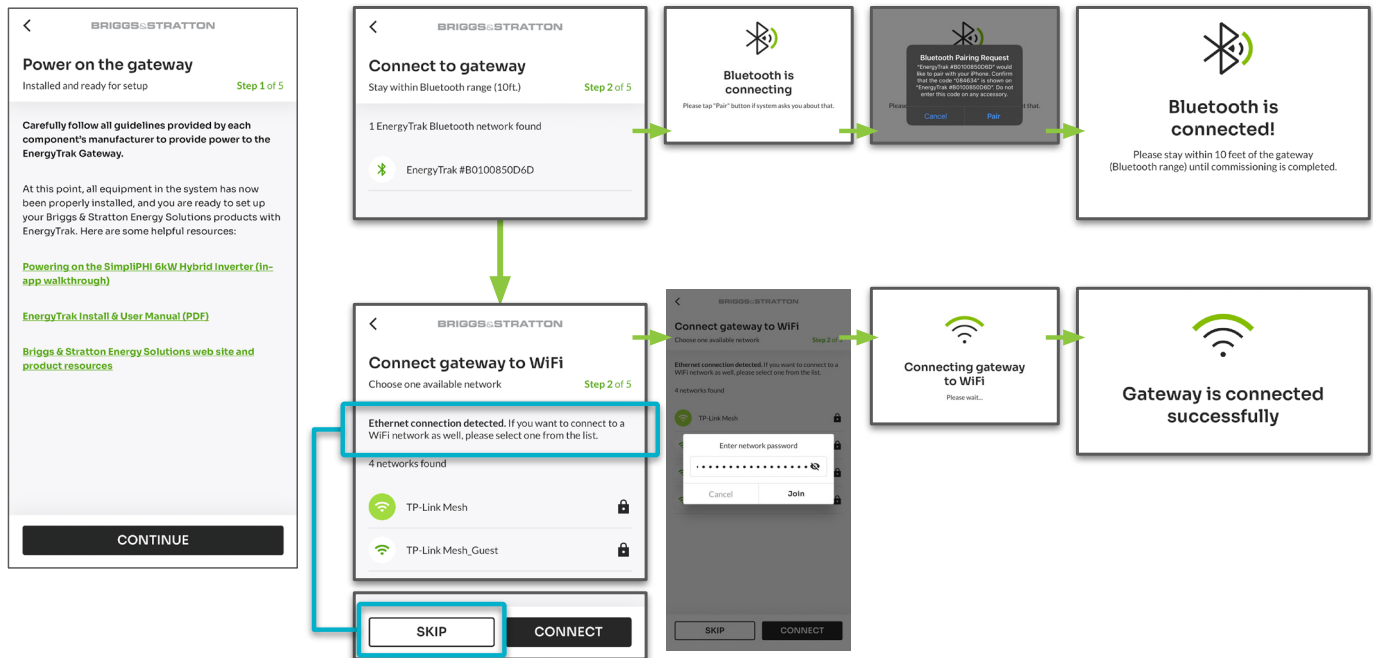
CONTINUE

### 4. Power On the Gateway by Closing the Fuse Holder

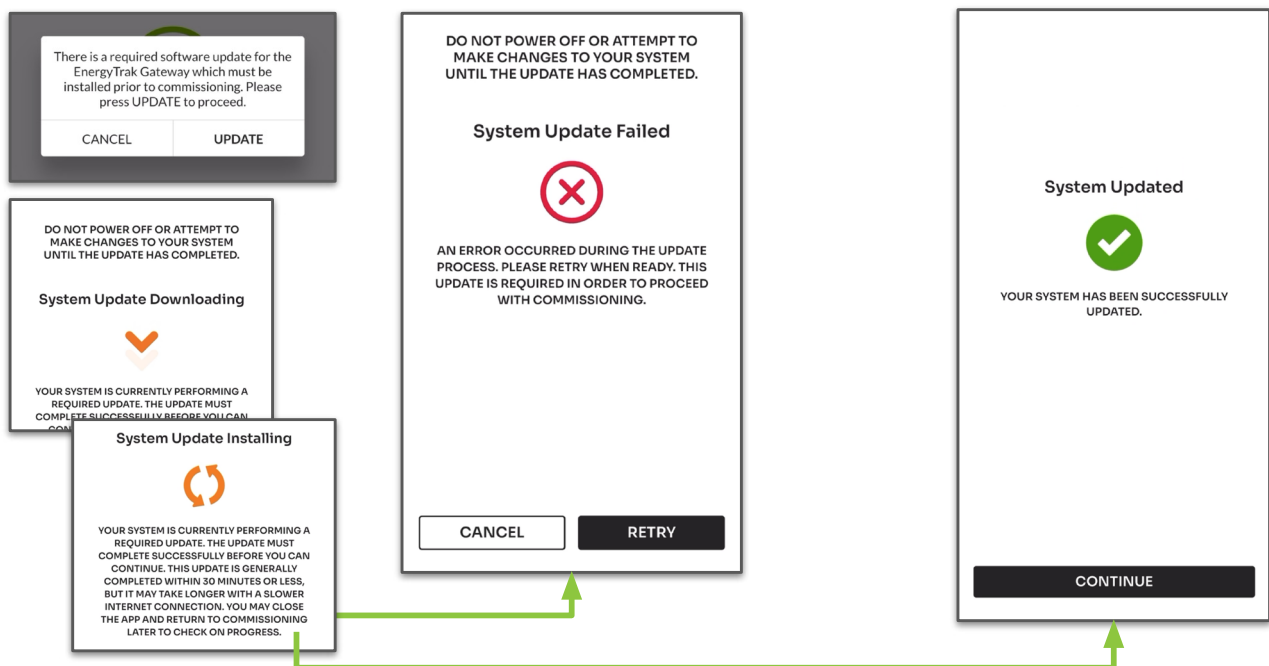




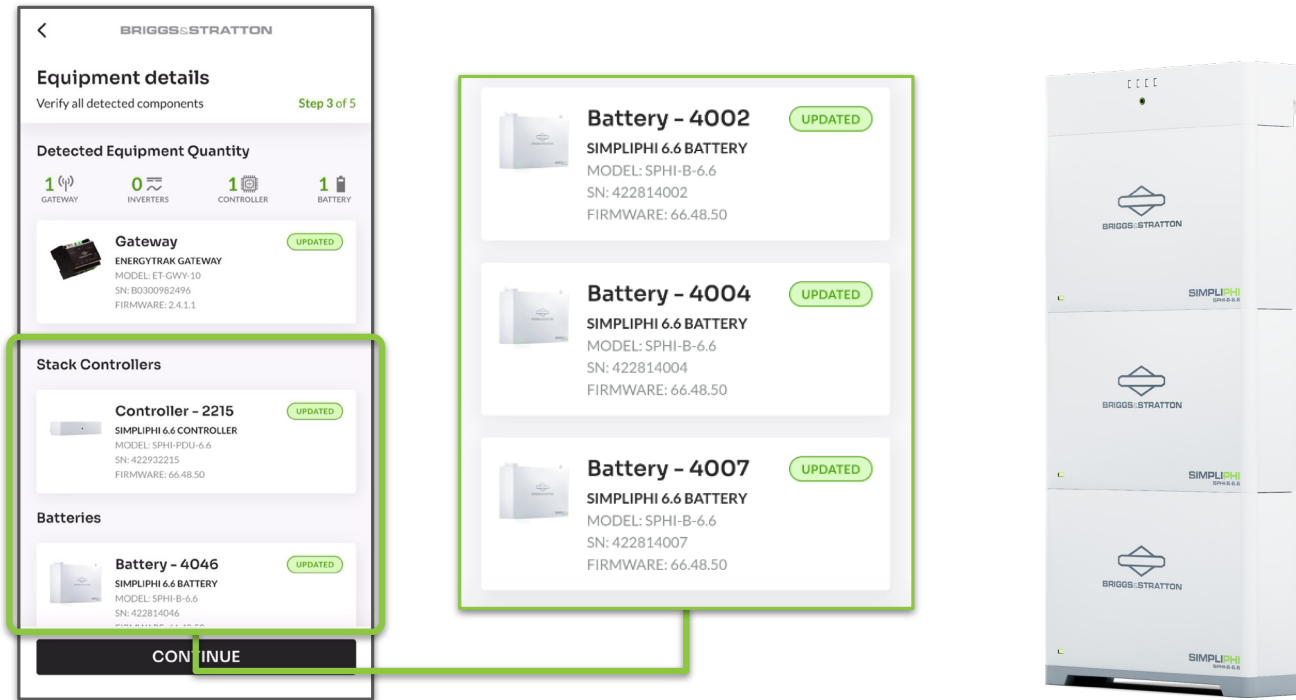
## 5. Connect Mobile Device to Gateway & Gateway to Internet



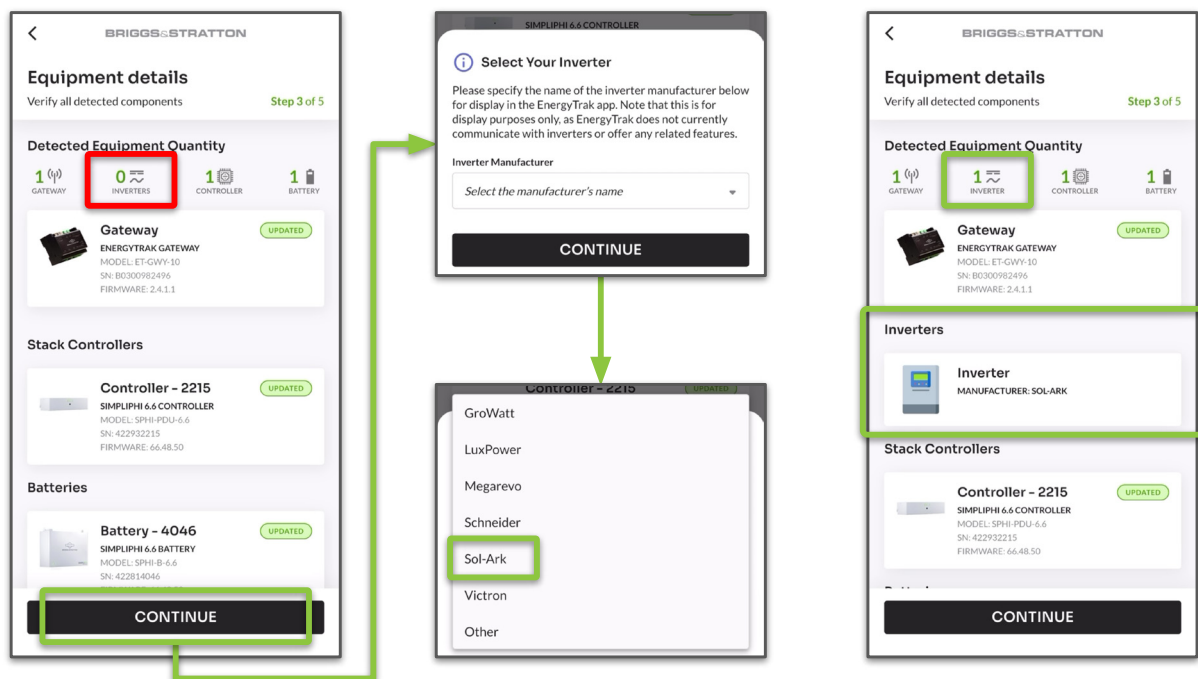
## 6. Update Gateway Software (if App States it is Required)



## 7. Confirm Installed Equipment is Detected on the "Equipment Details" Screen



## 8. Select "Inverter Manufacturer"



## 9. Add System Owner and Finalize Configuration

The diagram illustrates the final steps of the system configuration process. It begins with a mobile app screen titled "Add system owner" from Briggs & Stratton, labeled as "Step 5 of 5". This screen contains input fields for the owner's first name, last name, email (pre-filled with "email@companyname.com"), and phone number (pre-filled with "+1 (000) 000-0000"). At the bottom are "SKIP" and "ADD" buttons. A green arrow points from the "ADD" button to a "Finalize configuration?" screen. This screen informs the user that their settings will be applied and instructs them to press "APPLY CONFIGURATION". Another green arrow points down to the final "And you're done!" screen, which features a checkmark icon and a "VIEW YOUR SITE" button. A final green arrow points from the "VIEW YOUR SITE" button back to the "Add system owner" screen.

**BRIGGS&STRATTON**

### Add system owner

Add system owner to this site Step 5 of 5

Owner's first name

Owner's last name

Owner's email

email@companyname.com

Owner's phone number

+ 1 (000) 000-0000

**SKIP** **ADD**

**Finalize configuration?**

You have finished specifying the settings which will be applied to this site and its system. When you press "APPLY CONFIGURATION" below, the EnergyTrak Gateway will apply these settings to the connected equipment and the EnergyTrak Cloud.

**And you're done!**

You have now configured your system for operation. You can view the site for a live view of system operation. Please note that refresh time is dependent on the Internet connection of both the EnergyTrak Gateway and the mobile device running the app.

**VIEW YOUR SITE**

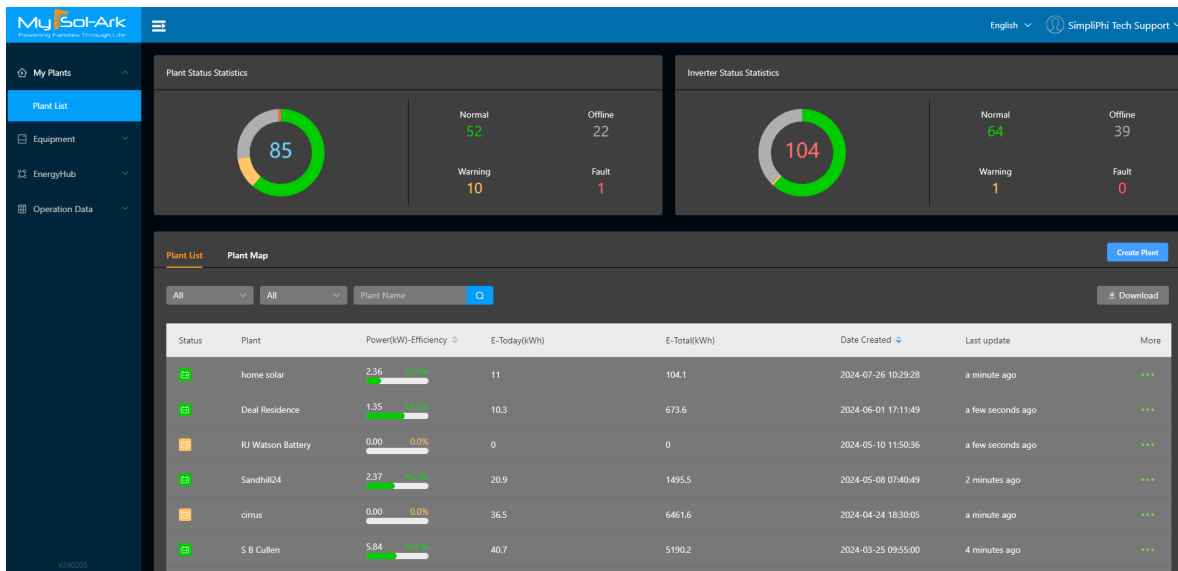
After the gateway has been successfully connected to the internet and the site has been commissioned, the user should be able to see live telemetry within the EnergyTrak App. It usually takes about 60 minutes for this process to complete.

# Section 13

## Monitoring the System With the MySolArk and EnergyTrak Apps

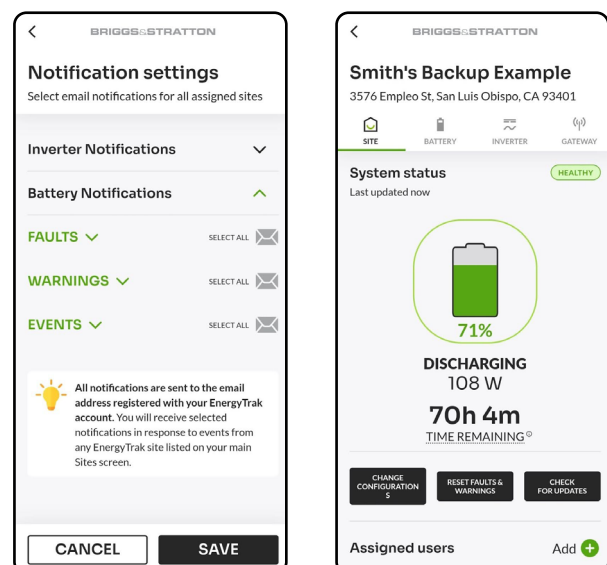
The battery backup system can be monitored by the installer and the homeowner through the use of MySolArk and EnergyTrak Apps. Through the use of MySolArk a company can gain access to:

- Free Fleet monitoring
- Monitor home loads, generator start/stop time, and solar production (if present)
- Remotely monitor inverter behavior and adjust parameters
- Respond to errors without visiting site
- EnergyTrak is required to see battery level data



EnergyTrak allows Installers to:

- Receive over the air battery firmware updates without having to visit the site
- See detailed real-time information about each battery, enabling report troubleshooting and support
- See potential run-time of the battery (in hours) based on active loads





**BRIGGS & STRATTON**  
**ENERGY** SOLUTIONS

**BRIGGS & STRATTON**  
POST OFFICE BOX 702  
MILWAUKEE, WI 53201 USA

Copyright © 2024 Briggs & Stratton. All rights reserved.

BS1481 - 11-1-24