



FranklinWH App User Manual

Version 2.0.0

Issued on: Nov 08, 2024

©2024 FranklinWH Energy Storage Inc. All rights reserved.

All information in this Manual is subject to the copyright and other intellectual property rights of FranklinWH Energy Storage Inc. This manual may not be modified, copied or reproduced, in whole or in part, without the prior written permission of FranklinWH Energy Storage Inc.

Please visit www.franklinwh.com/au/support for the latest FranklinWH documents.

All brands and trademarks mentioned in this document are the property of their respective owners, and their use in this document does not imply the sponsorship or recognition of their products or services.

Please read this document carefully to ensure the best reliability of the product and your warranty eligibility. For further information about the warranty, please refer to the *FranklinWH Limited Warranty*.

This document is intended for use by professional installation and maintenance service providers only and no statements, information or recommendations in this document constitute any express or implied warranty.



Please read this document carefully before installing or using the FranklinWH equipment. Failure to follow any instructions or warnings in this document may result in damage to the equipment, personal electric shock, severe injury, or even death.

Product Information

The FranklinWH system is composed of aPower, aGate and other electrical components. This document applies only to the following products: aPower, aGate and the FranklinWH App.

FranklinWH Energy Storage Inc. (FranklinWH) reserves the right to make any improvements to the product, and the contents in this document shall be subject to updates without further notification.

All images and pictures provided in this Manual are only for demonstration purposes and may differ in detail from the product, based on the product version.

Feedback

If you have any questions or comments, please send us an email at: service-au@franklinwh.com

Disposal of Scrapped Products

Scrapped products (including their internal chemicals and electrical materials) should not be disposed of with household wastes. Please refer to your local laws and regulations regarding disposal.







CONTENTS

Frar	nklinWH App for Energy Management	1
	Start Using the FranklinWH App	1
	FranklinWH App Features Summary	1
	Additional Support	2
Acc	ount Management	2
	Creating Your FranklinWH Account	2
	Resetting Your Password	3
	Deleting Your FranklinWH Account	3
Con	necting Your FranklinWH System to the Internet	3
	Wifi Connection	4
	How to Set Up	4
	Wired Ethernet Connection	5
	How to Set Up	5
	Cellular Connection	5
	Troubleshooting	5
Ene	rgy Data	6
	How to Use Energy Analysis	6
	How to Use Energy Graphs	6
	System Components	9
	Backup History	11
Ene	rgy Cost Savings	
	Cost Savings	12
	Environmental Value Estimation	13
	Cost Savings Forecast Comparison	14
	Frequently Asked Questions	14
Syst	tem Operation Mode	15
	Emergency Backup	15



How to Apply	16
How It Works	16
How to Set Up	16
Self-Consumption	16
How to Apply	16
How It Works	17
How to Set Up	17
Time of Use	17
How to Apply	17
How It Works	18
How to Set Up	18
Tariff Settings	18
How It Works	19
Setting Up Your Tariff from List	19
Setting Up a Custom Tariff	20
Grid Charge & Export	24
Grid Charge	24
How It Works	25
Energy Export	25
How It Works	26
Backup Reserve	26
How It Works	26
How to Set Up	26
Storm Hedge	27
How It Works	27
How to Set Up	28
Go Off-Grid	29
How It Works	29
How to Set Up	29
Smart Circuits	30



How It Works	30
How to Configure It	30
Generator	32
How It Works	32
How to Configure It	32
Direct Connect	35
Connect via aGate hotspot	35
Device Info	35
aPower LED	37
How to Use It	37
Voice Smart Assistant	38
When to Use It	38
How It Works	39
How to Use It	39
System Alerts and Notifications	
Grid Outages and Off-Grid	40
Load Shedding	40
Black Start	41
Generator	42
Storm Hedge	42
FranklinWH System Overload	42
Appendix 1: Best Practices During a Power Outage	43
Preparing for a Power Outage	43
System Overload	43
Not Enough Stored Power	43
Black Start	44
Generator Connection to the FranklinWH System	44
How to Restart a FranklinWH System	44
Resetting Your System	44
Local Monitoring	45



FranklinWH App for Energy Management

The FranklinWH App provides an all-in-one experience to control your home energy management system anytime, anywhere. To begin, download the FranklinWH App from the App Store or Google Play Store, then sign in with your FranklinWH Account.

The following operation applies to the FranklinWH App, Version. 2.0.0.



Local, physical settings always override app settings. Remote operation via the mobile application cannot be used as evidence of circuit safety, which must be checked and confirmed through on-site inspection. Not performing on-site inspection before work may lead to personal injury or even death.

Start Using the FranklinWH App

Before you begin using your FranklinWH system, learn more about to get started with the FranklinWH App.

- Create a FranklinWH Account
- Connecting Your FranklinWH System to the Internet
- Restart Your FranklinWH System

FranklinWH App Features Summary

The FranklinWH App allows you to monitor and control your home energy system from anywhere with a comprehensive view of your home energy sources. You can select from various available energy consumption plans or customize to optimize energy efficiency and save more money. View real-time energy flows, day-to-day energy usage, and the current performance of the energy system.

Backup Security

Your FranklinWH system is designed to ensure that you have enough power to keep your home loads running and maintain comfortable even during grid outages.

- **Emergency Backup**
- Backup Reserve
- Storm Hedge
- Go Off-Grid



Data and Insights

Using the FranklinWH App, you can gain insights into your home's energy usage.

- Energy Data
- System Operation Modes
- Tariff Settings

Energy Optimization

Get the maximum value out of your FranklinWH system and power your home as efficiently as possible.

- Self-Consumption
- Time of Use
- Grid charge & export

Additional Support

For any technical issues you may have with your FranklinWH system, you can submit a request through the FranklinWH App to get help. After submitting a request, FranklinWH will connect you with an installer or technical support for further assistance. If you have any additional questions about the FranklinWH App or system, please contact us.

Account Management

Your FranklinWH account includes personal resources, guides and important updates. With the FranklinWH App, you can do everything from remotely monitoring your home's energy usage, to controlling Smart Circuits, and more.

Creating Your FranklinWH Account

If you don't yet have a FranklinWH account, follow these steps to create it:

- 1. Open the FranklinWH App and tap the Sign in button.
- 2. Tap Sign up.
- 3. Enter your personal information. You need to read and check the box to accept the user agreement.
- 4. Tap **Next** to enter your account email and password.
- 5. Tap **Next** to receive a verification code and then enter it. Do not share this code with anyone.



Resetting Your Password

If you have forgotten your password, you can receive a verification email to reset it. Follow these steps:

- 1. Open the FranklinWH App and tap the **Sign in** button.
- 2. Tap Forgot password.
- 3. Enter your bound email address.
- 4. Get the verification code and enter it.
- 5. Enter the new password and confirm again.

If you want to change your account password in the FranklinWH App, follow these steps:

- 1. Sign in your FranklinWH Account.
- 2. On your energy home screen, tap **More**, then tap your avatar to enter the **Personal Info** screen.
- 3. Tap **Change Password**, enter the old and new passwords in sequence and confirm again.

Note: If you are unable to sign in to your FranklinWH account after changing your password, please contact your installer or <u>FranklinWH service team</u>.

Deleting Your FranklinWH Account

- 1. Open the FranklinWH App.
- 2. Sign in your FranklinWH Account.
- 3. On your energy home screen, tap **More**, then tap your avatar to enter the **Personal Info** screen.
- 4. Tap **Delete Account**, and a pop-up will prompt you to contact the <u>FranklinWH service</u> <u>team</u>.

Connecting Your FranklinWH System to the Internet

Connecting your FranklinWH system to the Internet allows you to monitor your system and receive periodic device software updates via the FranklinWH App. We recommend configuring your system with as many supported internet connection types as possible, including Wifi, Ethernet and 4G. This way, each aGate will intelligently switch to the best available connection. A Wifi or Ethernet connection is preferred to the 4G cellular network, as 4G is easily affected by carrier services and weather conditions.



Note: If the system is not connected to the internet, it will continue to operate in the last operating mode set and serve as a backup power source during an outage, but it will not allow you to remotely monitor via the FranklinWH App. Local configuration can only be done via the aGate hotspot. Extended periods without an active internet connection will prevent software updates and may impact on the product warranty.

Wifi Connection

Wifi is the most common connection method. Your installer can configure the Wifi connection on the aGate during commissioning or via the FranklinWH App at any time after commissioning. We strongly recommend connecting your system through Wifi if available at your home and the signal is strong and stable when standing next to the aGate.

Supported Standards

- 2.4GHz
- 5GHz

Not Supported

- Captive portals
- Enterprise security

Note: If you are experiencing Wifi connection issues, check your network connection type or check your network signal strength. If your Wifi signal is weak, consider using a Wifi extender or powerline adapter if they meet the supported 10/100 Mpbs standard.

If you change your Wifi password after the system is connected, the system will be unable to connect, and you'll need to reconfigure the Wifi in the app with the new password.

How to Set Up

With your home network running, follow these steps to connect each aGate to the home router's Wifi:

- 1. On your energy home screen, tap **Settings** > **Network** > **Configure Wifi**.
- 2. Tap **Next** to jump to the Wifi list interface, select your home Wifi from the list. If your home Wifi is not found, you can tap **Add network** to add it.
- 3. Enter the Wifi password, then tap Complete.

Note: Once connected to your home Wifi, the current system energy flow and data will begin syncing to the FranklinWH App. If your device does not begin reporting data within 2 hours of connecting to Wifi, contact the <u>FranklinWH service team</u>. If you are unable to connect your system to Wifi, learn more about connecting via Ethernet or 4G.



Wired Ethernet Connection

Hard-wired Ethernet is the most stable and reliable network connection. Since the system's Ethernet interface is located in the energized area inside the aGate, the wired Ethernet physical connection must be installed and managed by a FranklinWH Certified Installer. We strongly recommend that you have your installer connect the Ethernet cable to the FranklinWH system during the initial installation to avoid future system offline caused by connection instability.

How to Set Up

Turn on your home router. If there is no available Wifi at your home, please follow these steps to configure Ethernet Connection:

- 1. On your energy home screen, tap **Settings** > **Network** > **Configure Ethernet**.
- 2. Tap **Next** and wait for approximately two minutes later, it will show the network port connection status on the screen.

Cellular Connection

4G cellular should only be used as a backup network connection. If there is an appropriate local service provider, the system will automatically establish a cellular connection and provide a certain amount of initial free traffic. If you have not purchased a data package, you can still continue to use the cellular network. We recommend that you configure your FranklinWH system with Ethernet or Wifi to avoid interruptions to your local 4G service.

Troubleshooting

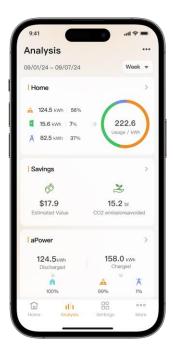
- If the connection to the Wifi network fails, restart your FranklinWH system, wait approximately five minutes and try again.
- A Wifi signal strength between two or three bars is required for successful connection to your home network. If a signal strength of two or three bars is not achieved, relocate your access point or consider alternative connectivity options.



Energy Data

The FranklinWH App provides multi-dimensional data classification display, rich graph types combined with data statistics that help you to gain rapid insights into your home's energy usage, including solar produced and consumed, aPower charging and discharging, grid imports and exports, etc.

How to Use Energy Analysis



Energy information analysis will help you understand energy use over time and maximize the benefits of your renewable energy at home. On your energy home screen, tap **Analysis**.

The Analysis page displays statistics on your home's energy use over time, graph overviews of the components of your energy system, energy savings details, and backup history. Tap the three dots on the top right and tap **Sort data**. You can order by dragging the graph modules as you prefer.

How to Use Energy Graphs

Energy graphs are categorized by the <u>components of your energy system</u>, with each graph displaying a key part of your home's energy use and generation. To view the energy graph (as an example of home energy), follow these steps:

- 1. On your energy **Analysis** screen.
- 2. Tap on the **Home** bar.

3. Tap the icon for the component that you would like to view with the bar at the bottom of the screen.



The size of the graph is relative to the amount of energy generated or consumed and not to the component you are viewing.

The top of the graph shows the total usage for each component in percentage and kilowatt hours (kWh). Tap the icon for the component you would like to view, using the bar at the bottom of the screen to convert your graph. This will help you better understand the sources and destinations for all energy produced and consumed within each component.

You can also tap one of the components to highlight the corresponding energy data in the statistics graph. The colors used in the statistics are consistent with the components. For example, if you tap on the Solar component, the color is yellow, and the solar data will show up in yellow on the statistics graph below.



History & Time Period Selection



The graphs provide all your system's historical data at any time, right at your fingertips.

You can view data by day, week, month, year, or total. Use the timescale selector in the upper right corner (defaults to Week) to switch between these views.

On the Day view, the energy statistics graph will display stacked area charts with timestamps of the power data. The Week, Month, Year, and Total views use bar charts to visualize total energy.

Long press on the statistics graph display area to activate the gesture control and thus drag the vertical axis swipe to go back and forth between time periods.

You can also access and review data for a specific day, month or year in the past. In the timescale selector in the top right corner of the graph screen, tap **Select Date**. To return back to the latest data available, use the timescale selector in the upper right corner and switch to Day.

Download My Data

Tap the three dots on the top right, then tap **Download My Data** to export your system data in xlsx format for further analysis. Data will be exported based on your current timescale (Day, Week, Month, Year or Total) and selected time period (e.g., Jan, Feb, Mar, etc.).



System Components

Home



Your home is the center of your energy ecosystem. The values at the top of the screen show your home energy use, where it comes from and what percentage of energy is used. Home energy use is displayed in blue.

aPower



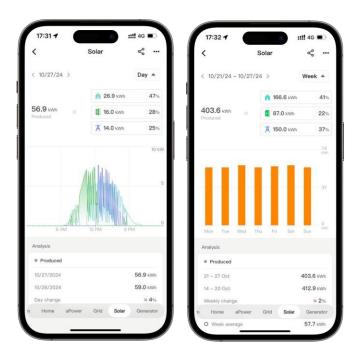
Your aPower provides energy storage, improves your home's self-sufficiency and provides economic benefits while keeping your energy clean at any hour of the day. The values at the top of the screen show aPower's charging and discharging. When your aPower is



charging, the graph displays negative values. When your aPower is discharging to power your home or exporting energy to the grid, the graph will display positive values. aPower data is shown in green.

The Charging Capacity graph shows your charge capacity percentage over time and always shows your current backup reserve.

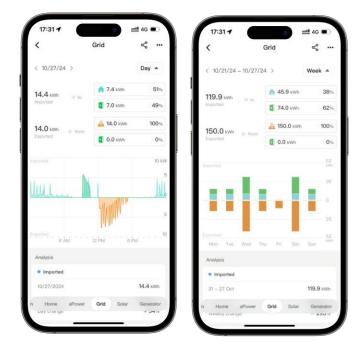
Solar



Solar is the source of your system's clean, renewable energy, which reduces your dependence on the grid. The values at the top of the screen show where your solar energy was sent and used. Destinations include your home, aPower, or the grid. Solar data is shown in yellow.



Grid



The values at the top of the screen shows energy totals for imports and exports. Destinations for imports include your home and aPower batteries. Sources for exports come from your aPower or solar system. The lower area displays grid imports and exports over time. Grid data is shown in purple.

Backup History



With the FranklinWH App, you can tap on **Backup history** to view times of backup power supply, total backup time lengths, and particulars of each individual backup power supply operation.



Energy Cost Savings

Disclaimer

The cost savings shown here are an estimate only, to assist you in understanding the relative benefits that your energy system can bring you. This is not intended to provide an exact metric for electric utility bill reconciliation and does not consist of a guarantee.

Cost Savings



The FranklinWH system provides energy management with battery storage, most often integrated with your existing or new solar system. Electricity bills are reduced by improving solar power usage and decreasing your reliance on the grid during peak Time of Use (TOU) rate periods.

With the FranklinWH App, you can tap **Savings** to view your home's estimated overall savings, as well as the savings contributions from your solar and FranklinWH systems. You can view the relative value of energy generated on a single day, week, month, year, or over the lifetime of the system.

The Energy Cost Savings estimate is calculated from the amount of electricity that FranklinWH has made available for your home, from solar and battery, over a selected period. This can include solar energy supplied to home loads, solar energy fed back into the grid, aPower battery energy supplied to home loads, and aPower energy fed back into the grid.

The savings is calculated by multiplying the amount of electricity saved at different times by the grid energy price for that time period. This is based on your tariff schedule or the



information found on your utility bill. You can set the tariff schedule for your system in the <u>Tariff Settings</u> page of the app.

Note: Calculating the benefits of the aPower batteries supplying the home loads requires deducting the cost of the grid to charge the batteries. In states such as California, regulations prohibit batteries from discharging to the grid if the grid was used to charge the batteries.

Environmental Value Estimation



Four formulas are used for converting savings to equivalent environmental values, to help you estimate the contribution of your electricity consumption behavior to the environment:

- Carbon Dioxide Emission Reduction: Calculated based on your solar power generation and the national electricity average carbon emission factor determined at <u>EIA.gov</u>.
- Equivalent Number of Trees Planted: Calculated based on your reduced carbon dioxide emissions and the carbon dioxide absorption capacity of mature trees determined by the <u>USDA</u>.
- Equivalent Electric Vehicle Driving Mileage: Calculated based on your reduced carbon dioxide emissions and the average electricity consumption per 60 miles for an electric vehicle (EV) determined from data on the <u>Electric Vehicle Database</u>.
- Equivalent Fuel Consumption: Calculated based on your reduced carbon dioxide emissions and the carbon dioxide emission factor of internal combustion engine (ICE) vehicles determined by the EPA.



Cost Savings Forecast Comparison



The Savings Forecast is calculated based on your household's total electricity consumption and generation over the last three months, using your currently configured tariff and electricity dispatch strategy. FranklinWH will compare the projected savings with your actual savings over the last three months to help you choose a suitable electricity plan for your household.

Note: We use this information and our models to estimate the potential cost savings you may achieve. To ensure the cost savings estimate is as accurate as possible, your historical data must be at least 7 days.

Frequently Asked Questions

How accurate are Cost Savings?

While these values use standard measurements, it is important to emphasize that the cost savings displayed in the FranklinWH App are all estimates, not guarantees, and you should not consider them for reconciliation of your electric utility bills. These values may differ from other calculations for a variety of reasons, including but not limited to aggregation, taxes and local fees, meter inaccuracies, data gaps, energy usage, non-bypassable charges or service fees, rounding, etc.

If I change my tariff in the FranklinWH App, will it affect my utility bill?

Changing your tariff in the FranklinWH App does not change your tariff schedule with your utility. If you wish to switch to a new tariff, please contact your utility. Similarly, switching your tariff with your utility does not automatically update the tariff in your FranklinWH App. You may change your tariff in the FranklinWH App at any time.



• The Energy Value statistics feature has just been released. How does it calculate historical cost savings in the lifecycle dimension?

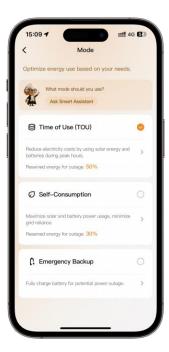
If your tariff rate data is continuous, we will calculate the estimated historical cost savings using your currently configured tariff rate data. If you have missing tariff rate data, we will calculate the estimated historical cost savings for you in the next calculation cycle after you have accumulated the tariff rate data.

System Operation Mode

The FranklinWH system supports several operating modes, including Emergency Backup, Self-Consumption, and Time of Use, to optimize energy use based on your needs.

- Emergency Backup
- <u>Self-Consumption</u>
- Time Of Use

Tap **Settings** on the home screen and navigate to the **Mode** screen. You can then select the system operation mode.



Emergency Backup

Emergency Backup is the mode that sets your aPower batteries to prioritize charging to 100% capacity from solar and utility grids and then maintain energy reserves for sudden energy needs, such as a blackout, grid failure, weather event, or other emergency.



How to Apply

If your area frequently suffers from one of the following, it is recommended to select Emergency Backup mode:

- Grid Outage
- Extreme Weather
- Natural Disasters

How It Works

When Emergency Backup mode is selected, your aPower batteries are always kept charged 100% by solar and grid power.

In the event of a grid failure, the aPower batteries will automatically power the household loads. As soon as the grid is restored, the system will automatically return to charging the aPower battery.

How to Set Up

To set up Emergency Backup mode in the FranklinWH App, follow these steps:

- 1. On your energy home screen, tap **Settings**.
- 2. Enter Mode, select Emergency Backup.
- 3. You may customize the backup duration and the recovery mode type after backup.

Self-Consumption

Self-Consumption is an operational mode that allows your aPower batteries to charge during the day from your solar panels with the PV generation that exceeds household consumption. At night or whenever the sun isn't shining, your stored energy will power your home, avoiding grid power unless power demands exceed stored power. This helps you maximize use of solar energy to meet your home's power needs, reducing reliance on the grid to lower your electric bill.

How to Apply

If your needs meet are one of the following, it is recommended that you select Self-Consumption mode:

- Electricity bill savings
- PV capacity is greater than household load demand
- Tariffs are not affected by peak and valley periods



How It Works

When Self-Consumption mode is selected, your aPower batteries will store the excess electricity generated by the solar system after powering for the household loads in real-time. If the solar production is insufficient to power all the household loads, the aPower batteries will discharge as a supportive power source, thus reducing the amount of electricity imported from the grid.

How to Set Up

To set up Self-Consumption mode in the FranklinWH App, follow these steps:

- 1. On your energy home screen, tap **Settings**.
- 2. Enter Mode, select Self-Consumption.
- 3. Set your preferred **Reserved energy for outage** by adjusting the slider at the top of the screen.

Time of Use

Time of Use (TOU) is a working mode which allows you to optimize energy usage to maximize savings through smart charging and discharging of your aPower batteries.

If the electricity rate in your area changes throughout the day, based on demand, you can select the TOU mode to customize the on-peak and off-peak times according to the electricity rate. With TOU, the system will select solar and aPower batteries power during peak rate periods. During the off-peak periods, the system will use power from the grid, the PV system, and the batteries in balance according to household loads.

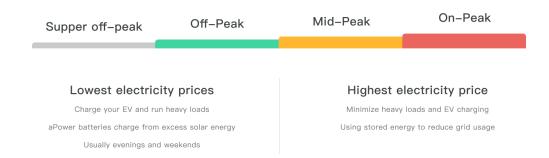
How to Apply

If your needs meet one of the following, it is recommended that you select TOU mode:

- Arbitrage via TOU
- Your utility provider has a Tariff rate plan



How It Works



TOU mode uses utility rate structures where energy prices may vary depending on the time of day, the day itself, or the season. TOU modes are divided into the following time periods:

- Super-off-peak: Lowest electricity price
- Off-peak: Lower electricity price
- Mid-peak: Moderate electricity price
- On-peak: Highest electricity price

When TOU mode is enabled, your aPower batteries will take full advantage of energy prices to charge from or feed the grid at different times throughout the day.

How to Set Up

Once you have set up your utility rate plan, follow these steps to enable TOU mode:

- 1. On your energy home screen, tap **Settings**.
- 2. Enter **Mode**, select **Time of Use**.
- 3. Set your preferred rate plan by tapping the <u>Tariff Settings</u>.
- 4. Set your preferred **Reserved energy for outage** by adjusting the slider at the top of the screen.

Once enabled, you can monitor the performance of your solar and FranklinWH system by reviewing the visuals on the FranklinWH App home screen and by reviewing the Analysis tab.

Tariff Settings

How much you pay for electricity in your home depends on how much you import from the grid and your tariff. A tariff is a pricing structure offered by the utility, which



determines the cost of the power you purchase from the grid. This price varies based on several factors, including seasonality and time of day. With the FranklinWH App you can add your utility tariff for more accurate value calculations and system optimization.

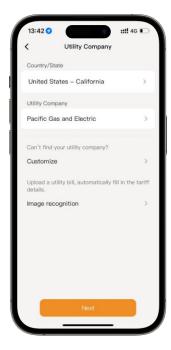
How It Works

The FranklinWH App supports a comprehensive list of predefined tariff from United States utilities. To confirm your tariff, please review your utility bill from the utility's website or call the utility provider for assistance.

<u>Time of Use</u> optimizes how aPower batteries are charged and discharged based on your rate plan. This helps to maximize the value of energy generation and reduce the cost of energy consumption, often referred to as load shifting.

<u>Energy Cost Savings</u> estimates the economic benefits you can achieve by saving energy over a period of time. These values are calculated based on the time of day, the amount of solar generation, energy consumption, and energy exported to the grid, in addition to load shifting.

Setting Up Your Tariff from List





To get started, open the FranklinWH App and follow these steps:

- 1. On your energy home screen, tap **Settings** > **Tariff Settings**.
- 2. Select your **Utility Company**, tap **Next**.
- 3. Select your **Tariff**, tap the preview icon to enter the summary page, and review the details to confirm.
- 4. Tap Save.

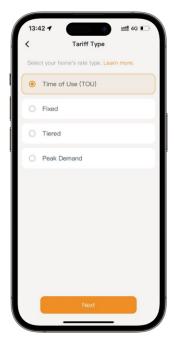


Note: You can also upload your utility bill to auto-fill tariff details. If you don't have a utility bill, you can access the utility provider's website to search for it.

Setting Up a Custom Tariff

If we do not currently support your tariff, you can customize a tariff in the FranklinWH App. The elements of customized tariffs are listed below:

• **Tariff Type:** Utility providers offer different pricing options based on your usage patterns.



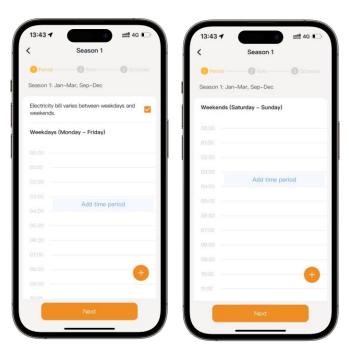
- Time of Use (TOU): In some regions, use costs may vary depending on the time of day, with higher rates during peak demand hours and lower rates during off-peak times. This structure can significantly affect your energy bill, especially if you consume much of your electricity during peak times.
- **Tiered:** A rate plan in which the utility designates a specific range of electricity usage and prices it accordingly. This type of plan is ideal if you are aware of your typical electricity usage and can reliably stay in the less expensive tiers over the course of your billing cycle.
- **Fixed:** Charge homeowners a standard fee for each kWh of electricity they use each billing period. While your bill changes depending on how much electricity you use, the rate stays the same throughout the day, and typically year-round. This is ideal if you want a more consistent and predictable monthly bill.
- Peak Demand: A peak demand tariff measures the demand you place on the electricity network during the specified peak time. Encouraging to control energy demand during peak periods to reduce costs.



• **Seasons:** Seasonal time of use tariffs have different rates and periods at different times of the year.

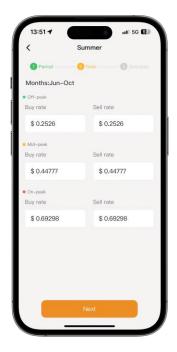


• Weekends & Weekdays: There may be different rates and periods for weekends and weekdays.



- Time Periods: Your utility energy prices may vary depending on the supply and demand of day. Commonly referred to as Super-off-peak (Lowest electricity price),
 Off-peak (Lower electricity price), Mid-peak (Moderate electricity price), On-peak (Highest electricity price).
- Rate: Your rate will include the cost of importing (buying) or exporting (selling) energy.





• **Scheduling modes:** Seamlessly connecting solar, aPower batteries and the grid, with intelligent energy management, aGate supports energy scheduling modes and usage in various scenarios, thus maximizing energy efficiency and cost-effectiveness.



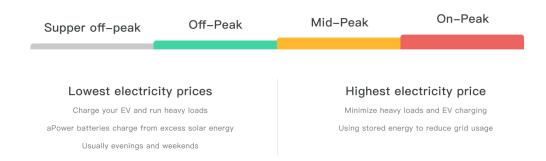
To get started, open the FranklinWH App and follow these steps:

- 1. On your energy home screen, tap **Settings** > **Tariff Settings**.
- 2. If you can't find the utility, tap **Customized**.
- 3. Select your tariff type (for example, Time of Use), then tap **Next**.
- 4. View the **Tariff Setup Guide** details, then tap **Begin Set Up**.



- 5. Enter your **Utility Company** name and **Tariff** name, then tap **Next**.
- 6. Tap **Edit** in the upper right corner to modify the season name and select the designated months, then tap **Next**.
- By default, electricity rates vary on weekdays or weekends. An Add time period popup will prompt when tapping the time row, tap the prompt window to configure time periods.
- 8. Scroll down to select start time and end time, then set the peak and off-peak time periods. Tap **Confirm** to save the configuration after the time period is set.

The unselected time periods will be set to Mid-peak by default.



Note: Long press the added time period to activate gesture control. Long-press drag the added time period or drag the dot to change the time boundaries.

9. Repeat the previous steps to configure the peak and off-peak time periods for the weekend.

Note: In Step 7, unchecking the option for varying rates on weekdays and weekends will keep the rates the same for both, so you don't need to set them separately.

- 10. Enter the **Buy rate** and **Sell rate** for each period, then tap **Next**.
- 11. Tap **Advanced**, you can choose the scheduling mode for different time periods, and then tap **Apply**.
- 12. View the tariff summary. Tap **Edit** to change or **Reset** for a new custom tariff.





Grid Charge & Export

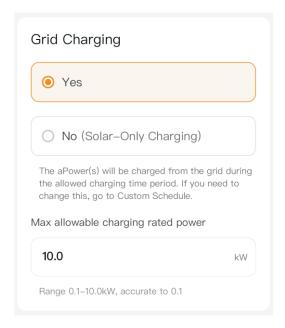
The Grid Charge & Export settings supported by the FranklinWH system impact how the system exports and imports energy to and from the grid. These settings may have other effects on your utility company. If you are unclear about these settings, please confirm with your certified installer before adjusting them in the FranklinWH App.

Grid Charge

You can enable the aPower battery to automatically charge from the grid if there is limited solar power.



How It Works



When aPower battery can charge from the grid, the following options will be available in the FranklinWH App:

Grid charging: Default is **No**. Enable when you're allowed to charge from the grid. The aGate will use the grid to charge the batteries in Time of Use mode during off-peak or super-off-peak periods. When disabled, aPowers will only be charged from solar.

If Grid charging is set to Yes, set the Max power of charging from the grid value.

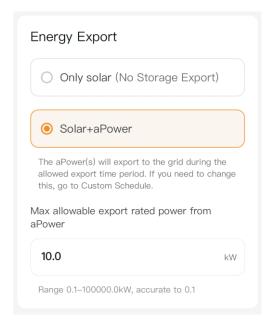
Energy Export

Your battery typically powers your home, but with the Energy Export feature, you can also schedule it to export stored energy to the grid.

When this feature is enabled, the battery will prioritize your home's energy needs, and then export any excess energy to the grid during the peak times.



How It Works



Energy Export: In Time of Use mode, your system will send solar and stored battery energy to the grid during on-peak periods.

If **Solar + aPower** is selected, set the **Max power of export to the grid** value based on the utility requirements and site conditions.

Backup Reserve

Backup Reserve allows you to determine how much of your aPower batteries stored energy will automatically be saved as backup power. With the ability to adjust your aPower battery state of charge (SOC) threshold in the app, you can control the level of energy security that your aPower batteries provide during a grid outage.

How It Works

Your Backup Reserve represents a portion of an aPower's stored energy. The remaining portion is allocated to <u>Self-Consumption</u> mode or <u>Time of Use</u> mode. During an outage, your Backup Reserve becomes available and the aPower begins to discharging to power your home. Depending on the duration of the outage, your aPower may discharge below your set reserve percentage. When the outage is resolved, your aPower will prioritize charging above your reserve percentage before resuming normal operation.

How to Set Up

To set up a backup reserve in Self-Consumption mode, open the FranklinWH App and follow these steps:



- 1. On your energy home screen, tap **Settings**.
- 2. Enter Mode, select Self-Consumption.
- 3. Set your preferred **Reserved energy for outage** by adjusting the slider at the top of the screen.

Note: If the aPower battery available SOC is set to 100%, effectively Emergency Backup mode, the FranklinWH system will charge to full power (aPower battery actual SOC value = 100%) from solar and then not discharge from the batteries. In the event of a grid failure, the system will power the household loads. If the Reserve SOC is set to 100%, Self-Consumption or Time of Use modes cannot be used. This will negatively impact the potential economic benefits of those modes and increase your reliance on the grid.

Low vs. High Backup Reserve

If you prefer to reserve more energy for use during a grid outage or if your area is more prone to outages, you can set a higher reserve percentage. If you prefer to optimize your aPower's performance in Self-Consumption mode or Time of Use mode, you can set a lower reserve percentage.

If you set the Reserve SOC value to below 20%, a prompt will be displayed If the Reserve SOC is too low, your aPower may not have enough stored energy to provide backup support in the event of an outage.

If a grid outage occurs while your aPower battery reserve SOC value is 5%, you will immediately lose power to your home, aPower will wait to recharge itself from solar the next morning. In the morning, your aPower will periodically provide power to your home until there is enough solar power available to both power your home and recharge itself. Learn more about <u>Best Practices during a Grid Outage</u>.

Storm Hedge

Severe weather is a major cause of grid outages. Storm Hedge ensures that your aPower batteries have enough stored energy to power the home during an outage. You can maximize savings by keeping a low reserve energy percentage in Self-Consumption or Time of Use mode, while still having peace of mind that the FranklinWH system will automatically react to protect you during severe weather events.

How It Works

Storm Hedge mode is only triggered during severe weather events that are more likely to damage power lines and result in power outages.

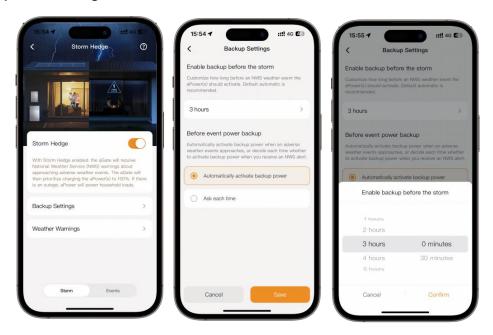
When the Storm Hedge feature is enabled, the FranklinWH App will receive a notification from the National Weather Service (NWS) about a severe weather event and sends you a warning via the app. Your system will then automatically enter <u>Emergency Backup</u> mode,



and the aPower batteries will begin to charge to maximum capacity to automatically maximize your protection from grid outages. Once the severe weather ends, your FranklinWH system will automatically return to the previously set mode. If Storm Hedge is not activated based on your local weather conditions and you want additional energy security, set a higher level of Backup Reserve in anticipation of a grid outage.

How to Set Up

Setting Up Storm Hedge



You can enable or disable Storm Hedge. To get started, open the FranklinWH App and follow these steps:

- 1. On your energy home screen, tap **Settings** > **Storm Hedge**.
- 2. Enable the toggle next to **Storm Hedge**. You can disable or re-enable Storm Hedge at any time.
- 3. Under **Backup Settings**, set the backup power duration time before storm. By default, backup power is automatically activated after sending a storm notification. You can also choose to manually activate backup power.
- 4. Under **Weather Warnings**, tap the slider next to the different storm types to enable notifications.



Updating Storm Hedge Location

Storm Hedge uses your home location to determine if a weather event will impact your home. You can verify and update your home location in the FranklinWH App by following these steps:

- 1. On your energy home screen, tap More > Site Devices.
- 2. Review the information in the **Device address** to verify that it is accurate. If not, follow the on-screen instructions in the app to update your address.

Opting Out of a Storm

You can also opt out of a Storm Hedge during a severe weather event by following these steps in the FranklinWH App:

- 1. On your energy home screen, tap **Settings** > **Storm Hedge**.
- 2. Tap **Event** in the bar at the bottom of the screen to enter the event list page. Tap the weather event info box to enter the event notification details page.
- 3. Tap **Exiting storm monitoring**. Storm Hedge mode will deactivate during the current weather event, and your system will return to its previously selected mode.

Go Off-Grid

Go Off-Grid disconnects your home from the local electrical grid, simulating a grid outage. Your solar production will be prioritized to power your home and then charge your FranklinWH system. With the ability to disconnect using the FranklinWH App, your system provides you with direct control of your home energy ecosystem, increasing your energy independence and security.

How It Works

Once you activate Go Off-Grid, your system disconnects from the grid. This does not open or close breakers or disconnect your service. Your FranklinWH system will solely use solar power and energy stored in your aPower battery to power your home. This allows you to become familiar with how your system behaves during an outage. Your system will reconnect to the grid when you reconnect through the app, your aPower battery runs out of energy, or your aPower battery is unable to support your essential loads while off-grid. Although the duration of grid outages may vary, there are best practices you can follow to extend the backup duration of your FranklinWH system.

How to Set Up

In order to use Go Off-Grid, your phone must be paired with each aGate. For aGate pairing: via aGate hotspot.



Going Off-Grid

To activate Go Off-Grid, open the FranklinWH App and follow these steps:

- 1. On your energy home screen, tap **Settings**.
- 2. Enter the Go Off-Grid page, tap the Go Off-Grid button.

Note: The transition may take a few seconds. You'll receive a notification when your system is off-grid.

Reconnecting to the Grid

To reconnect to the grid, open the FranklinWH App and follow these steps:

- 1. On your energy home screen, tap **Settings**.
- 2. Enter the Go Off-Grid page, tap the Re-Connect to Grid button.

Smart Circuits

The FranklinWH system can use the Smart Circuits Module to provide homeowners with direct control of three unique circuits. The Smart Circuits Module is an optional component of the aGate.

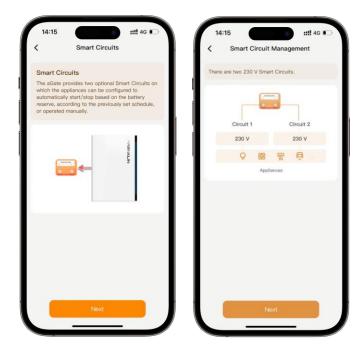
How It Works

Homeowners can configure the power supply plan for the three Smart Circuits to automatically start/stop based on battery reserve, thus shed large power loads connected on Smart Circuits to conserve more energy in grid outages. The circuits may also be manually controlled as needed.

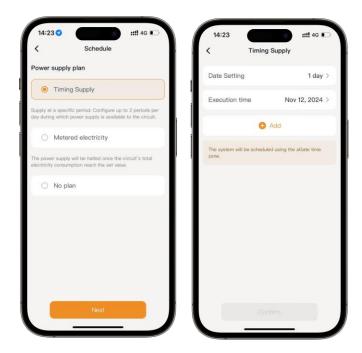
How to Configure It

- 1. On your energy home screen, tap **Settings** > **Smart Circuits**.
- 2. After reading the Smart Circuits feature description, tap Next.





- 3. Tap the Circuit Name bar, input the new circuit name, and then tap Next.
- 4. Turn on the **SOC Threshold** slider to enable the setting, and then tap **Next**.
- 5. Customized power supply solutions for a circuit.



You can set the cycle interval and execution time, allowing the system to work intelligently and meet your power consumption requirements.

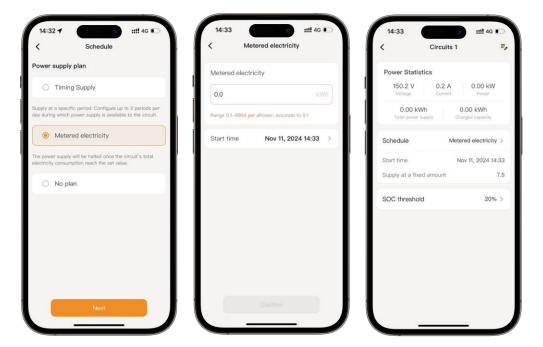
6. After setting up the power supply plan for the circuit, enter the smart circuits details page.

Note: You can also tap the button next to the circuit name to manually turn the circuit on or off.



7. Repeat the above steps to configure all Smart Circuits.

Only Smart Circuit 1 supports metered electrical schedule settings. You can set the pre-charge amount and start time to be used for charging an electric car.



Generator

The FranklinWH system can connect to a household backup power generator. This connection is an optional component of the aGate.

How It Works

When the FranklinWH system is working off-grid, the generator may serve as a backup power source for the household load and to recharge the aPower. The combination of a generator and the FranklinWH system can provide uninterrupted power to homes for a long time period, lowering the fuel consumption over time of the generator.

How to Configure It

- 1. On your energy home screen, tap **Settings** > **Generator**.
- 2. After reading the Generator feature description, tap **Installation**.



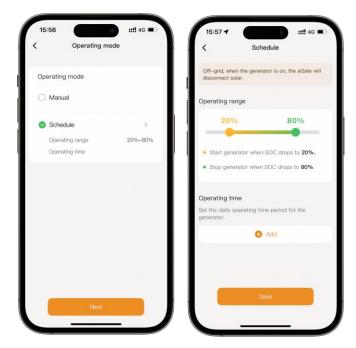




Check the generator wiring instructions.

- 3. Set the generator parameters.
 - **Starting control type:** Select the generator type.
 - **Generator rated power:** Refer to the value on the generator name plate.
 - **Best power duty:** Set the best duty efficiency point of the generator (70% by default). Please refer to the generator manual or consult the generator supplier for the optimal setting.
 - Alarm delay after starting failure: Set the delay period for generator startup. If generator startup fails, the system will push a message to the customer.
- 4. Set the generator's operating mode.
 - **Manual:** Default is manual. Customers may manually start or shut down the generator.
 - **Schedule:** Check the **Schedule** option. The generator will run in accordance with the set time periods or the SOC lower and upper limit values.





- > SOC lower limit: In off-grid mode with the operating mode set to Schedule, the generator will be started when SOC of batteries connected to the same aGate fall to or below the SOC low limit.
- > SOC upper limit: In off-grid mode with the operating mode set to Schedule, the generator will be automatically shut down when the batteries connected to the same aGate reach the SOC upper limit.
 - i. Set your preferred **Operating Range** for outage by adjusting the slider at the top of the screen.
 - ii. Tap on the plus icon (as shown) to enter the Operating time settings page. The system allows up to 3 non-overlapping periods (00:00-23:59 allowed for each) with an interval of at least 1 minute.
- 5. Return to the **More** page, tap **Next**. A pop-up will prompt you that installation is successful. Enter the generator details page, and then tap **Settings**.
- 6. Tap **Generator exercise** and turn on **Generator exercise** slider to enable parameter setting.
 - Duration: Set exercise duration.
 - Interval: Set exercise interval period.
 - Day in week: Set the day in week for the exercise.
 - Start time: Set the exercise start time.



Direct Connect

You can use Direct Connect to pair the aGate via the FranklinWH App.

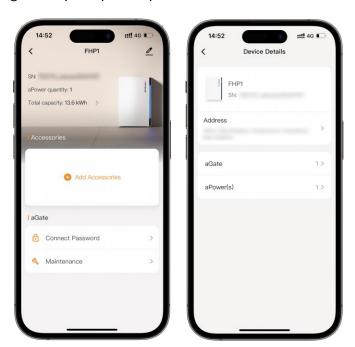
Connect via aGate hotspot

Connecting the aGate via a hotspot. Take the aGate Offline scenario as an example.

- 1. On your energy home screen, tap **aGate Offline** prompt pop-up to jump to the **Commission** screen, then select **Network Setting**.
- 2. Default check the **Connect via aGate hotspot** option. Tap **Connect** to jump to the phone Wifi setting interface.
- 3. Select the aGate hotspot network which is named AP_last 9 digits of SN.
- 4. Enter the hotspot password. The default password is the 12 digits after the aGate serial number.

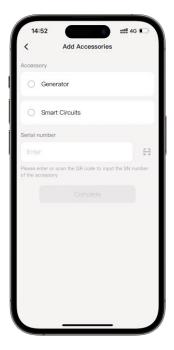
Device Info

On the **Device Info** page, you can view the current aGate's serial number, the number of connected aPowers, and the energy capacity, etc. Tap the area above the screen to access the device details page and quickly view your device information.

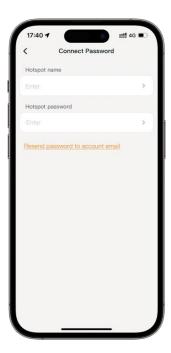


Tap **Add Accessories**, then select the corresponding accessory. Scan the equipment QR code, or manually input the **SN**. Tap **Complete**.



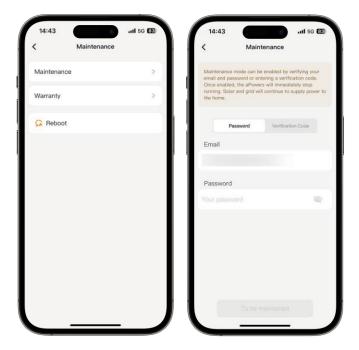


Tap **Connect Password**, view the aGate Hotspot name and password. Users may remotely modify the password on the FranklinWH App and, if forgotten, retrieve the password via email.



Tap **Maintenance**, you can enable maintenance mode by verifying your email and password or entering a verification code. Once enabled, the aPowers will immediately stop running. Solar and grid will continue to supply power to the home.





Tap Warranty to view the limited warranty for your FranklinWH system.



aPower LED

Using the FranklinWH App, you can easily set the on/off schedule for the aPower LED light strip and activate **Do Not Disturb** mode to fit your needs and minimize interruptions.

How to Use It

1. On your energy home screen, tap **Settings** > **aPower LED**.



- 2. Turn on the LED switch slider to enable setting.
- 3. Turn on the **Light-on schedule** slider to set the time period.

Voice Smart Assistant

You can summon the Smart Assistant at any time, completing all operations with simple voice commands, freeing your hands. Whether you are searching, asking questions, or getting personalized recommendations, the voice assistant utilizes advanced speech recognition and natural language processing technologies to provide you with a smart and intuitive application experience, especially suitable for users who need assistive features.

When to Use It

Q&A

You can talk to the Smart Assistant directly to ask questions. The Smart Assistant will rapidly search and summarize the answer for you based on the knowledge base and FAQ. The answer will be shown to you as a link, and you can click on the link to view the details. This makes it easier and faster for you to get the information you need.

Instruction Setting

- You can send specific instructions to the Smart Assistant to help you configure the parameters of specific function modules.
- On the Mode screen, tap Ask Smart Assistant to enable the Smart Assistant to
 interact with you. The Smart Assistant will guide you through some preset
 questions to collect information about your home's electricity needs. Once this
 information is obtained, the Smart Assistant will recommend a suitable operating
 mode for your home. Ultimately, the selected operating mode will only take effect
 after your confirmation.

• Intelligent Navigation

The Smart Assistant can directly take you to the target screen based on the jump instruction you send, without the need to navigate through the app step by step. This is particularly helpful for deep-level screens, saving you time.

Energy Management

You can ask your Smart Assistant for details on your home's energy usage, including real-time consumption and historical trends, to easily understand and manage your energy use more effectively.



How It Works

The Smart Assistant supports both voice and text input. You can tap the **Voice Interaction** button to ask a question via voice, the app will automatically convert the voice to text and get the answer. Answers can be played back via voice. Also, you can tap the **Text Input** button to type and submit your question, which is more accurate. After each answer, there are **Satisfied** or **Unsatisfied** buttons. If you are unsatisfied with the answer, you can also describe the reason in detail.

Note: Please wait a few seconds after asking each question. The response time will vary depending on the type of question. For instructions involving settings, processing may take longer. We are continuously optimizing response speed and look forward to your feedback.

How to Use It

Method 1:

- 1. On your energy home screen, tap the **Smart Assistant** icon.
- 2. Or on your energy home screen, tap **More** > **Assistant**.
- 3. On the **Assistant** page, you'll find preset questions organized by scenario to help you ask questions more easily.
- 4. Tap **Exchange** to switch to another set of preset questions.
- 5. Tap **Learn** to interact directly with the assistant using these preset questions. While interacting with the assistant, you'll quickly get answers to your questions.

Method 2:

- 1. On your energy home screen, tap **Settings** > **Mode**.
- 2. Tap **Ask Smart Assistant**, and then you can configure the settings without manually interacting by simulating the intelligent voice dialog.
- 3. You'll find preset questions organized by scenario to help you ask questions more easily. Tap **Exchange** to switch to another set of preset questions.
- 4. Tap **Learn** to interact directly with the assistant using these preset questions. While interacting with the assistant, it will recommend an operating mode suitable for your home based on your electricity usage habits and backup power needs.

System Alerts and Notifications

You may receive push notifications and/or alerts in the FranklinWH App when your system experiences issues that may require basic troubleshooting, or when your system status changes (e.g., Going Off-Grid or Storm Hedge activation). Your phone and the



FranklinWH system must be connected to the internet to receive push notifications and alerts.

Note: Internet connection may be unavailable during some grid outages, preventing delivery of FranklinWH App notifications. However, even without the connection, your FranklinWH system is expected to operate normally during an outage.

Grid Outages and Off-Grid

Grid Outage

Notification

aPower battery is 90% charged and available to power your home.

Caution: Reduce your home's heavy loads to extend your backup duration while off-grid.

Grid Reconnected

Notification

Your FranklinWH system has returned to on-grid operation.

Caution: The system will continue to operate normally. If the system is discharged below your reserve energy during an outage, it will prioritize charging from solar or grid to meet your set reserve energy before resuming Self-Consumption mode or Time-of-Use mode.

Low Reserved While Off-Grid

Notification

aPower battery reserve is low, reducing the load to extend the backup duration.

Caution: Immediately reduce your home's power use to extend backup duration, otherwise the system may fully discharge during this outage.

Load Shedding

Notification



As the power consumption of the appliance is too large and is about to reach the SOC threshold in the Smart Circuits power supply, the appliance should be cut off.

Caution: Immediately reduce the heavy loads in your home or reset the SOC threshold in the Smart Circuit power supply via the FranklinWH App to sustain power to loads.

Black Start

Waiting for Solar While Off-Grid

Notification

The aPower battery SOC is extremely low, and the FranklinWH system stopped providing power. When the solar energy supply is sufficient, the system will automatically start at specified times each day.

Caution: If the solar energy supply is sufficient, the electricity generated by the solar system will charge the aPower battery. If the solar power is insufficient, the system will re-enter sleep mode, waiting for the next automatic startup.

Waiting for User Input While Off-Grid

Push Notification

Automatic retries did not have sufficient solar to resume FranklinWH system operation. Reduce your load and manually resume when solar is present by toggling on/off the aPower switch.

Caution: After receiving this notification, manually turn off the round button on the side of the aPower, turn it back 20 seconds later, and the system will be started.

Black Start Unable to Use

Push Notification

aPower battery power is exhausted and has shut down. The FranklinWH system will be unavailable and is waiting for the grid or generator to return.

Caution: aPower battery is empty and unable to resume power until the grid or generator returns.



Generator

Generator Output

Warning

The generator output AC voltage is not detected.

Generator Input Exception

Warning

The generator output AC voltage or frequency is detected to be abnormal.

Storm Hedge

Notification

Storms are forecast for your area and the aPower battery is charging to provide backup power. Your system will be on Storm Hedge until the storm ends.

FranklinWH System Overload

Overload Alert

Notification

The FranklinWH system is overloaded, immediately reducing heavy loads in your home.

Overload Protection

Push Notification

The FranklinWH system is overloaded. Reduce your load and the FranklinWH system will automatically retry within 5 minutes.

Overload Lockout

Push Notification



The FranklinWH system is frequently overloaded. Please turn off all your loads and manually restart the system after shutting down.

Appendix 1: Best Practices During a Power Outage

During a power outage, you can back up any number of home loads as long as their combined wattage does not exceed the total wattage rating of the FranklinWH system. The best way to extend the backup time of the system is to reduce or postpone the use of high-power appliances such as air conditioners, car chargers, electric water heaters and dishwashers.

Preparing for a Power Outage

When you receive an outage notice from your utility provider or a weather notice that could result in an outage, you'll probably want to consider the uncertainty of the outage's length, which may last days rather than hours, and that the solar energy production is likely to be lower during an outage. Before a power outage occurs, consider switching to Emergency Backup mode in the FranklinWH App. In the event of an extreme weather notification from the National Weather Service, Storm Hedge mode automatically switches the FranklinWH system to Emergency Backup to prepare for possible grid outages that may occur during extreme weather events. Certain weather conditions can cause reduced solar energy production, such as snow deposited on solar panels. Consider inspecting panels daily during adverse weather conditions and safely removing obstructions.

System Overload

Starting high power loads during a power outage may overload the FranklinWH system and cause it to stop delivering power to your home. If this happens, please turn off the large loads. The FranklinWH system will try to restart within one minute after overloading. If the overload continues 20 times, the system will enter a self-locking state, and you will need to manually restart the system to resume power to your home.

Not Enough Stored Power

During a power outage, the reserve power of the FranklinWH system will gradually decrease with load usage. If the power drops to 5%, the system will push a low battery notification to your FranklinWH App while continuing to provide backup power. The load is powered until the power is exhausted and the system enters sleep mode.



Black Start

When your FranklinWH system is in sleep mode, due to low power, it will automatically wake up at 10:00am, 12:00pm, and 2:00pm to try to use solar energy to charge the system. Conditions involving excessive loads, or solar production exceeding the system tolerance during the wake-up period, will prevent charging the batteries. These conditions may result in the system entering sleep state again. To improve the wake-up success rate, please turn off all loads before the system initiates Black Start. You can also manually restart the system after reducing the loads and wake up the system for a black start when there is sufficient sunlight to begin charging the FranklinWH system.

Generator Connection to the FranklinWH System

If your home has a voltage sensing, dry contact, or ATS type generator, the FranklinWH system will automatically start the generator during an outage when the battery state of charge (SOC) drops to the preset generator starting threshold. When the battery SOC reaches its preset generator upper threshold, the generator will automatically stop and your household loads will be powered by the batteries, allowing you to save fuel avoid unnecessary generator run time.

If your home has a portable generator, during a power outage you'll need to pay attention to the system state of charge, and manually turn on or off the portable generator to supply the home loads when the generator is needed.

How to Restart a FranklinWH System

If your FranklinWH system stops providing power to your home, it may be in Standby mode after running low on power or being repeatedly overloaded. If your system is connected to the internet, you will receive push notifications when the FranklinWH system goes to sleep or experiences an overload.

To restart your FranklinWH system, turn off all energy-intensive loads to reduce the amount of power required. You can initiate a reboot by turning off the power switch on all aPower units, waiting two minutes, then turning them back on.

Resetting Your System

If a manual restart fails to bring the FranklinWH system back online, you can use the system control switch, the red switch on the aGate EMS, to restart both the aGate and aPower to reset the entire system. Turn off the aGate and aPower for at least 2 minutes, then turn on all units to reset and power cycle the system.

If the power cycle fails, there may not be enough energy stored to start the aPowers, and you will need to wait for either the utility grid connection to be restored, a black start from solar, or for the generator to be connected to bring the aPower back online.



Local Monitoring

If your internet and cellular networks go down, you can monitor the FranklinWH system through the aGate local hotspot, by connecting the FranklinWH App through the System Direct Connect setting.