

# Franklin Home Power

The Franklin Home Power (FHP) system integrates multiple on-site sources of power generation into a robust energy control system that is managed via a simple mobile app. FHP contains an aGate, the FranklinWH mobile app and aPower batteries.



## aGate - Intelligent Energy Controller

- Micro-grid interconnect device (MID)
- Stackable continuous output power 5kW to 38.4kW
- Compatible with any brand of solar inverter and standby generator
- Optional Smart Circuits Module for intelligent load management (installed internally)
- Optional Generator Module, for intelligent integrations of standby generators in power infrastructure
- Outage detection with < 16ms seamless power transfer
- Compatible for grid-tied and off-grid applications
- MPU avoidance with NEC 2017, NEC 2020 and UL1741 PCS Certification

## aPower - Lithium Iron Phosphate Battery

- LFP cell battery, scalable 13.6–204kWh (15 units per aGate)
- 12-year warranty, 43MWh energy throughput

## FranklinWH App - Easy Energy Management

- Simple one-touch programming for Self-Consumption, Time of Use, and Emergency Backup operations
- Redundant communication options ensure connectivity: Ethernet, Wifi, 4G
- Quick and easy commissioning with remote diagnostic capabilities
- Real-time and historic energy monitoring and control of power generation and consumption, in one app

# Franklin Home Power

The Franklin Home Power (FHP) system integrates the grid, solar generation, batteries and even generators, into a robust energy control system that is managed via a simple mobile app. The FHP provides real time monitoring and control for a home's day-to-day energy usage, and supplies energy from multiple power sources during grid outages.

The FHP's energy management is provided by the aGate X, an intelligent controller that integrates all power sources and automatically detects grid outages to seamlessly transition a home to backup power within 16ms.

An aGate X Smart Circuits Module is available for controlling of and automated load shedding for heavy energy loads during an outage. It provides custom scheduling of unique loads for more efficient use. A Generator Module can also be added to the aGate X for standby generator integration, providing maximum energy resilience and independence. The FHP is designed for daily cycling and emergency backup power. The aGate X complies with NEC 2017, NEC 2020, and UL1741 PCS Certification for main panel upgrade (MPU) avoidance.

The FHP system pairs the aGate X with the aPower X, a lithium iron phosphate (LFP) battery designed by FranklinWH. A single battery has large 13.6kWh capacity with continuous power of 5kW, and its peak power 10kW can last for 10s. Up to 15 aPower X batteries can be connected to a single aGate X.



One aGate X															
aPower X Units	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Capacity(kWh)	13.6	27.2	40.8	54.4	68	81.6	95.2	108.8	122.4	136	149.6	163.2	176.8	190.4	204
Cont. power(kW)	5	10	15	20	25	30	35	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.4
Peak power(kW)	10	20	30	40	50	60	70	76.8	76.8	76.8	76.8	76.8	76.8	76.8	76.8

For FHP system >8 units, please reach out to info@franklinwh.com

## Safe

- Lithium iron phosphate battery
- Automotive grade lithium cells
- Advanced Battery Management System (BMS) with State of Health (SOH) pro-active battery technology.

## Scalable

- Up to 15 aPower X units can be used with a single aGate X
- Usable energy expandable from 13.6kWh to 204kWh
- Continuous output power ranges from 5kW to 38.4kW

## Intelligent

- Micro-grid interconnect device (MID) functionality
- Auto-detect grid outages, seamless power transfer
- Black-start functionality; daily PV restart capabilities

## Easy & Flexible

- Compatible with any solar inverter/standby generator
- Generator monitoring and controls via the FranklinWH app
- Pre-assembled, indoor/outdoor/wall/floor installation
- Multiple conduit entries
- App-based, remote commissioning

## Reliable

- 12-year warranty
- NEMA 3R enclosure
- Corrosion-proof

## Performance

Battery Chemistry	Lithium Iron Phosphate (LFP)
Usable Battery Energy	13.6 kWh per unit, scalability up to 15 units <sup>1</sup>
Aggregate Throughput	43 MWh
Communications	Ethernet / 4G / Wifi
Nominal AC Voltage	120V / 240V, 60 Hz
Continuous / Peak Discharge Power	5 kW / 10 kW
Switch Over Time (grid to micro-grid)	<16 ms
Round Trip Efficiency	89% <sup>2</sup>
Noise Emission (optimal)	<30 dB (A)
User Interface	FranklinWH App
Warranty	12 years

## Electrical Interface

Coupling	AC Coupled
Feed-in Phase	Split Phase
Connection Support	L1 / L2 / N / PE

## Work Modes

Self-Consumption
Time of Use
Emergency Backup

<b>Maximum Supply Fault Current</b>	20 kA
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## Electrical Connections

aPower Over Current Protection Device	100A Max
Solar Input Over Current Protection Device	80A Max
Backup Load Port Over Current Protection Device	200A Max
Generator Over Current Protection Device <sup>3</sup>	200A Max
Smart Circuits Over Current Protection Device <sup>4</sup>	Opt. a 1 × 80A Max @240 V & 1 × 50A Max @240V Opt. b 1 × 80A Max @240 V & 2 × 50A Max @120V

## Mechanical

Dimensions (H × W × D)	aGate: 31.5 × 21.7 × 6.3 in (800 × 550 × 160 mm) aPower: 45.3 × 29.5 × 11.4 in (1150 × 750 × 290 mm)
Weight	aGate: 50 lb (23 kg) aPower: 408 lb (185 kg)
Installation	Wall mount or floor mount

## Environmental

Operating Temperature	-4°F to 122°F (-20°C to 50°C)
Operating Humidity (RH)	Up to 100% RH, condensing
Altitude	Maximum 9,843 ft (3,000 m)
Ingress Rating	IP67 (Battery and power converter system) IP56 (Wiring compartment)
Storage Condition	14°F to 113°F (-10°C to 45°C) Up to 95% RH, non-condensing
Enclosure Type	NEMA type 3R
Environment	Indoor and outdoor rated

## Compliance & Certificates

Certificates	<b>aGate:</b> UL 1741 PCS, UL 67 <sup>5</sup> , UL 869A <sup>5</sup> , UL 916 <sup>5</sup> , CAN/CSA C22.2 No. 107.1-16 <b>aPower:</b> UL 9540, UL 1741SA, UL 1741SB, UL 1973, UL 9540A, IEEE 1547, IEEE 1547.1, UN 38.3, CAN/CSA C22.2 No. 107.1-16
Seismic	AC156, OSHPD, IEEE 693-2005 (high)
Environmental	California Proposition 65 RoHS Directive 2011 / EU
Emissions	FCC Part 15 Class B, ICES 003

1: Please contact us for solution design support if you have large capacity requirements.

2: At beginning of life, AC to battery to AC, 50% power rating.

3: Generator Module is optional.

4: Smart Circuit Module is optional.

5: Sections from these standards were used during the safety evaluation and included in the UL 1741 listing.

**Address:** 1731 Technology Dr., Suite 530 San Jose, CA 95110 **Telephone:** +1 888-837-2655 **Email:** info@franklinwh.com **Website:** www.franklinwh.com

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The FranklinWH app allows remote monitoring and management of your whole home energy management system at any time, from anywhere. Homeowners can see historical and real-time energy usage and patterns, can set and choose personalized energy-saving plans for family, and enjoy life with the help of our robust features. Installers can use it for a rapid commissioning and faster debugging.



### Smart Energy Management

- Use energy per homeowner’s discretion:
  - Self-Consumption
  - Time of Use
  - Emergency Backup
- Fully visibility into energy production and consumption
- Remotely control household’s energy from anywhere at any time
- Heavy load shedding/controls via Smart Circuits to manage backup energy supply
- Local & remote debugging supported

### Simple & Reliable

- Intuitive, easy to use
- Real-time and historic energy activity
- One app to monitor and control all power generation
- Multiple comms: Ethernet/Wifi/4G

## APP Features

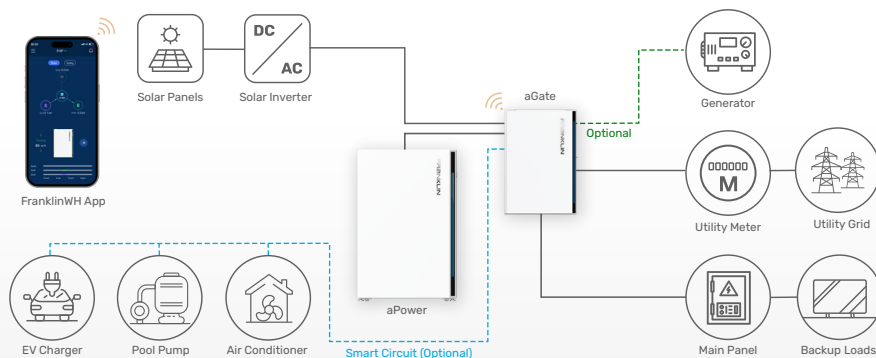
### Functionality

Operating System	Android & iOS
Generator Output Setting	Power, current, voltage frequency, time plan
Smart Circuit Setting	Time plan, manual switch, circuits merge, SOC threshold
Storm Hedge Setting	Enable & Disable
SOC Setting	Self-consumption, Time of Use
LED Strip Setting	Switch on/off, time plan
Access Point Setting	Modify name and password
Power Sources Monitor	Working status, current flow
Backup Remaining Display	Duration
History Data	Daily, monthly, yearly
Summary Report	Daily, monthly, yearly
Downtime Maintenance	Keep home powered during aPower X maintenance
Grid Compliance	HECO SRD V2.0, CA UL 1741 SA, User Defined
Grid Program	NEM+ / CSS / CGS / CGS+ / NEM 2.0 / BB & NEM / BB & CSS / BB & CGS+ / Smart export
Account Security	Password verification support

### Application Mode Programming

Self-Consumption	
Time of Use	
Emergency Backup	

### FranklinWH’s solution for Whole Home backup

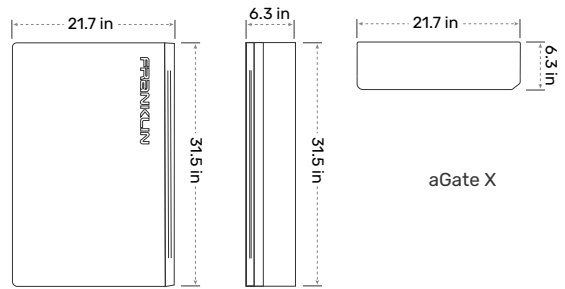


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The **aGate X** is available with two optional accessories that can be added to customize the homeowner's FHP experience:

- **Smart Circuits Module:** manual and scheduled control for unique electric circuits, via the FranklinWH app.
- **Generator Module:** standby generator integration, redundant power source to the aPower X.



## Performance

Switch Over Time (grid to micro-grid)	< 16ms
User Interface	FranklinWH app
Maximum Supply Fault Current	20 kA
Communications	Ethernet / 4G / Wifi

## Electrical Connections

aPower Over Current Protection Device	100A Max
Solar Input Over Current Protection Device	80A Max
Backup Load Port Over Current Protection Device	200A Max
Generator Over Current Protection Device <sup>1</sup>	200A Max
Smart Circuits Over Current Protection Device <sup>2</sup>	Option A: (1) × 80A Max @240V & (2) × 50A Max @120V Option B: (1) × 80A Max @240V & (1) × 50A Max @240V

## Electrical Interface

Coupling	AC Coupled
Feed-in Phase	Split Phase
Split Phase	L1 / L2 / N / PE

## Mechanical

Dimensions (H × W × D)	aGate X: 31.5 × 21.7 × 6.3 in (800 × 550 × 160 mm)
Weight	aGate X: 50 lb (23 kg)
Installation	Wall mount

## Compliance & Certificates

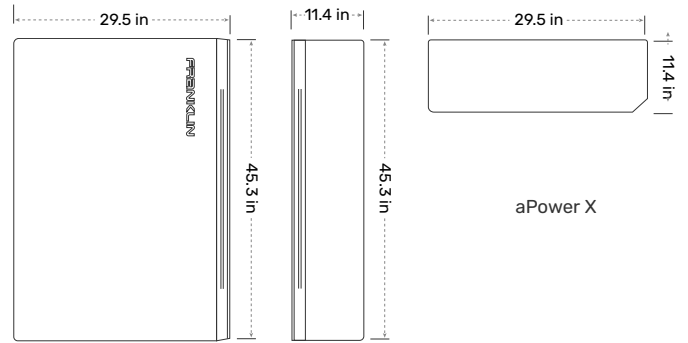
aGate X	UL1741 PCS, UL 67 <sup>3</sup> , UL 869A <sup>3</sup> , UL 916 <sup>3</sup> , CAN/CSA C22.2 No. 107.1-16
Seismic	AC156, OSHPD, IEEE 693-2005 (high)
Environmental	California Proposition 65 RoHS Directive 2011 / EU
Emissions	FCC Part 15 Class B, ICES 003

## Environmental

Operating Temperature	-4°F to 122°F (-20°C to 50°C)
Operating Humidity (RH)	Up to 100% RH, condensing
Altitude	Maximum 9,843 ft (3,000 m)
Storage Condition	14°F to 113°F (-10°C to 45°C) Up to 95% RH, non-condensing
Enclosure Type	NEMA 3R
Environment	Indoor and outdoor rated

1: Generator Module is optional.  
 2: Smart Circuit Module is optional.  
 3: Sections from these standards were used during the safety evaluation and included in the UL 1741 listing.

The **aPower X** is a lithium iron phosphate (LFP), AC-coupled battery that is proprietary to the FHP system. With an all-in-one form factor, the aPower X battery is self-contained with battery cells, a battery management system, and an AC inverter.



**Performance**

Battery Chemistry	Lithium Iron Phosphate (LFP)
Usable Battery Energy	13.6 kWh per unit, scalable up to 15 units <sup>4</sup>
Warranted Energy Throughput (12yrs)	43 MWh
Nominal AC Voltage	120V / 240V, 60 Hz
Maximum Continuous / Peak Discharge Power (10 s)	5 kW / 10 kW
Round Trip Efficiency	89% <sup>5</sup>
Noise Emission (optimal)	< 30 dB (A)
User Interface	FranklinWH app

**Electrical Interface**

Coupling	AC-Coupled
Feed-in Phase	Split Phase
Split Phase	L1 / L2 / N / PE

**Application Mode Programming**

Self-Consumption	
Time of Use	
Emergency Backup	

**Mechanical**

Dimensions (H x W x D)	aPower X: 45.3 x 29.5 x 11.4 in (1150 x 750 x 290 mm)
Weight	aPower X: 408 lb (185 Kg)
Installation	Wall mount or floor mount

**Compliance & Certificates**

aPower X	UL 9540, UL 1741SA, UL 1741SB, UL 1973, UL 9540A, IEEE 1547, IEEE 1547.1, UN 38.3, CAN/CSA C22.2 No. 107.1-16
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Enclosure Type	NEMA 3R
Environment	Indoor and outdoor rated

4: Please contact us for solution design support if you have large capacity requirements.  
5: At beginning of life, AC to battery to AC, 50% power rating.



# Franklin Home Power (FHP) Limited Warranty for End Users

Effective Date: August 2022

# Franklin Home Power (FHP) Limited Warranty for End Users

This limited warranty applies to Franklin Home Power energy storage system installed in the United States, United States Territories, and Canada, which consists of the following Franklin Home Power products (hereinafter 'Products', or 'FHP'):

Product Name	Product Model
aPower	aPower X
aGate	aGate X

This warranty only applies when the products are purchased from an authorized reseller and installed by an installer who is certified by FranklinWH Technologies Ltd. Co. (hereinafter 'FranklinWH') or its affiliate, FranklinWH Energy Storage Inc.

The Limited factory warranty includes a product warranty and a performance warranty.

## Product Warranty

FranklinWH warrants that your Products will be free from defects for twelve (12) years starting from 1) the date of the initial installation; or 2) twelve (12) months from the manufacture date, whichever comes first. FranklinWH will offer remedies according to the Remedies section.

## Performance Warranty

FranklinWH guarantees that the FranklinWH aPower will have the rated energy capacity of 13.6 kWh when this limited warranty begins, and the capacity retention will be not less than 70% of the rated capacity when 1) the 12-year warranty period expires, or 2) the aggregate energy throughput reached 43MWh, whichever comes first. Provided the products are installed and used as per the requirements in the installation manual and the user manual.



Rated Energy Capacity	Energy Retention	Aggregate Throughput
13.6 kWh <sup>1</sup>	70% at the end of the 12-year warranty period	43 MWh

*NOTE:*  
1. The rated capacity measurement should be performed on a new system at 25 degrees Celsius and 2.5kW charge and discharge power.

The communication module in the aGate X, including Ethernet, WiFi, and 4G, carries a 5-year warranty.

## Remedies

If your FHP system is defective within the warranty period, FranklinWH will, in its sole discretion, repair or replace your faulty device (aPower/aGate) with an equivalent product (new or refurbished). The remaining warranty period will be transferred to the repaired or replacement product. Under no circumstances will the original warranty period be extended as a result of your FHP product being repaired or replaced.

FranklinWH can also refund you the actual purchase price of the defective products less reasonable depreciation based on use at the time of the warranty claim when 1) FranklinWH is unable to provide a replacement and repair is not commercially practicable or cannot be timely made, or 2) You are willing to accept such a refund.

In the event of a defect, to the extent permitted by law, the above-mentioned repair, replacement or refund are the sole and exclusive remedies that FranklinWH provides. And all such liability shall terminate upon expiration of the warranty period.

## Warranty Claim Process

In order to make a claim under this Limited Warranty, please contact your installer or reseller who sold you the FHP system. If you are unable to contact your installer or reseller, you can contact FranklinWH using the following contact information. In this case, FranklinWH will process your warranty claim and may assign a service personnel, either from FranklinWH or an authorized service partner, to follow up your case.

For a warranty claim to be processed, please get ready the following information.

- 1) Proof of the original purchase of your FHP system, or any subsequent transfers of ownership.
- 2) A description of the alleged defects.
- 3) The serial number of the aPower X and aGate X, and their installation date.

If a replacement is needed, before sending the defective device back to FranklinWH, an RMA (Return Merchandise Authorization) number must be obtained from FranklinWH, otherwise FranklinWH will not bear the shipment cost, or the returned device might be refused.

# Contact Information

Telephone: 888-851-3188

Email address: [service@franklinwh.com](mailto:service@franklinwh.com)

## Exceptions of Warranty

This Limited Warranty does not apply to, and FranklinWH will not be responsible for any defect or damage that's caused by the following cases.

1. Product damage and defect caused by improper use, misuse, abuse, or negligence.
2. Damage caused by accidents, shipping, handling, or improper storage.
3. Products are installed other than what's specified in the installation manual.
4. Products are installed by personnel without appropriate electrical qualification and license for battery installation required by the federal and local laws.
5. Products are not purchased from a FranklinWH authorized sales channel.
6. Products are not installed or serviced by installers bearing FranklinWH's installation certification.
7. Products are disassembled or dismantled without the prior consent of FranklinWH.
8. Damage caused by physical or electrical stresses such as, inclusive but not exclusive of, inrush current, lightning, flood, tidal wave, fire, or incidental damage; or input voltage that creates operating conditions beyond the maximum or minimum limits listed in the applicable Covered Product Data Sheet, including high input voltage from generators or lightning strikes.
9. Defect or performance failure that's caused by improper repair of the products carried out by technicians not approved by FranklinWH.
10. Defective or damage that's not reported to your certified installer or FranklinWH within 2 weeks of the occurrence.
11. Damage or performance failure caused by accidents or force majeure events, including but not limited to lightning, flood, earthquake, fire, or other events outside the reasonable control of FranklinWH.
12. Removal and reinstallation of your FHP system at a location other than the original installation location, without the express written consent of FranklinWH.
13. For the avoidance of doubt, software programs installed in the Covered Products and the recovery and reinstallation of such software programs and data are not covered under this Limited Warranty.

In addition, this limited warranty does not cover 1) normal wear and tear or deterioration, or superficial defects, losing glue, dents, or marks that do not impact the performance of your FHP system; 2) noise or vibration that is not excessive or uncharacteristic and does not impact your FHP system's performance; 3) damage or deterioration that occurs after the expiration or voiding of the warranty period.

In order to provide the full 12-year warranty, FranklinWH requires the ability to update your FHP system software through a remote network connection. During the upgrade process, the operation of FHP may be interrupted for a short time. By installing FHP and connecting it to the Internet, you agree that FranklinWH can update your FHP through these remote upgrades without notice. If your FHP has not been connected to the Internet for a month, we will notify you to connect your FHP to the Internet. If the device continues to be disconnected, we will always provide you with a limited warranty of four years from the date you first install the FHP, subject to the exclusions and limitations specified in this limited warranty. It is important to register your system so that FranklinWH can contact you for system updates. We can only offer the four-year limited warranty to a system that is not registered at the time of the installation.

## Limitation on Use

THE FHP SYSTEM IS NOT INTENDED FOR USE AS A PRIMARY OR BACKUP POWER SOURCE FOR LIFE-SUPPORTING SYSTEMS, OTHER MEDICAL EQUIPMENT, OR ANY OTHER USE WHERE PRODUCTS FAILURE COULD LEAD TO INJURY TO PERSONS OR LOSS OF LIFE OR CATASTROPHIC PROPERTY DAMAGE. FranklinWH DISCLAIMS ANY AND ALL LIABILITY ARISING OUT OF ANY SUCH USE OF YOUR FHP PRODUCTS. FURTHER, FranklinWH RESERVES THE RIGHT TO REFUSE TO SERVICE THE FHP PRODUCTS USED FOR THESE PURPOSES AND DISCLAIMS ANY AND ALL LIABILITY ARISING FROM REFUSAL TO SERVICE YOUR FHP PRODUCTS IN SUCH CIRCUMSTANCES.

## Limitation of Liability

EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, IN NO EVENT WILL FranklinWH BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSSES, COSTS OR EXPENSES HOWEVER ARISING, WHETHER IN CONTRACT OR TORT, INCLUDING WITHOUT LIMITATION ANY ECONOMIC LOSSES OF ANY KIND, ANY LOSS OR DAMAGE TO PROPERTY, OR ANY PERSONAL INJURY. FranklinWH' LIABILITY ARISING OUT OF A CLAIM UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE AMOUNT YOUR PAID FOR YOUR FHP ENERGY STORAGE SYSTEM.

SOME STATES DO NOT ALLOW, OR RESTRICT, THE EXCLUSION OR LIMITATION OF DAMAGES, INCLUDING INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU, OR MAY ONLY APPLY TO A LIMITED EXTENT.

## Disclaimer of Warranty

THIS LIMITED WARRANTY IS THE ONLY EXPRESS WARRANTY MADE IN CONNECTION WITH YOUR FHP PRODUCTS. Any other warranties, remedies, and conditions, whether oral, written, statutory, express, or implied (including any warranties of merchantability and fitness for purpose, and any warranties against latent or hidden defects) are expressly disclaimed. If such warranties cannot be disclaimed, FranklinWH limits the duration of and remedies for such warranties to the duration and remedies described in this Limited Warranty.

## Modifications and Waivers

No person or entity, including a FranklinWH employee or authorized representative, can modify or waive any part of this limited warranty. FranklinWH may occasionally offer to pay some or all of the cost of certain repairs that are not covered by this limited warranty, either for specific covered products or on an ad-hoc, case-by-case basis. FranklinWH reserves the right to do the above at any time without incurring any obligation to make a similar payment to other owners of the FHP system. If FranklinWH hereafter posts any new or modified version of this limited warranty, such new or modified version will apply to products ordered subsequent to the date of such posting.

**FRANKLINWH**

**FranklinWH Energy Storage Inc.**

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