

# 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

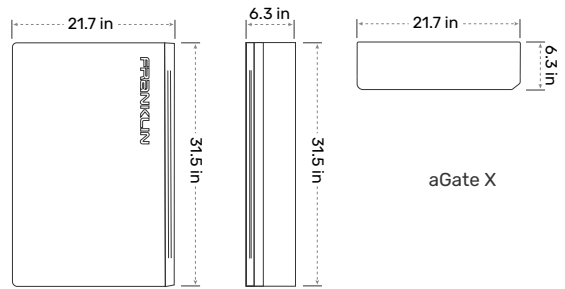
- Compatible with any solar inverter/standby generator
- Generator monitoring and controls via the FranklinWH app
- Pre-assembled, indoor/outdoor/wall/floor installation
- Multiple conduit entries
- App-based, remote commissioning

## Reliable

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

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
Warranty	12 years
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 (W*H*D)	aGate X: 21.7 x 31.5 x 6.3 in (550 x 800 x 160 mm)
Weight	aGate X: 50 lb (23 Kg)
Installation	Wall mount

## Compliance & Certificates

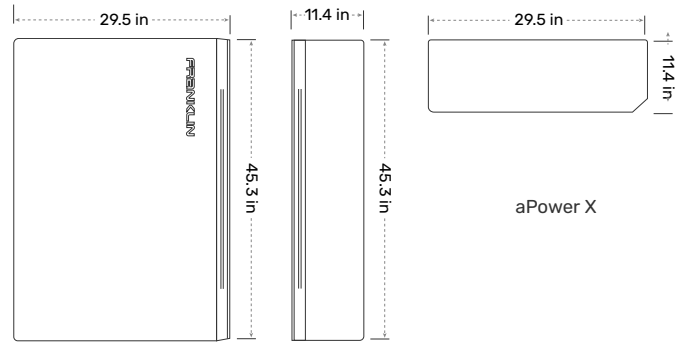
aGate X	UL1741 PCS, UL 67 <sup>3</sup> , UL 869A <sup>3</sup> , UL 916 <sup>3</sup>
Seismic	AC156, OSHPD, IEEE 693-2005 (high)
Environmental	California Proposition 65 RoHS Directive 2011 / EU
Emissions	FCC Part 15 Class B, ICES 003

## 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 System Energy	13.6 kWh per unit, scalable up to 15 units <sup>4</sup>
Warranted Energy Throughput (12yrs)	43 MWh
Inverter Topology	Isolated
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
Warranty	12 years

**Electrical Interface**

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

**Application Mode Programming**

Self-Consumption
Load Shifting
Backup Standby

**Mechanical**

Dimensions(W*H*D)	aPower X:29.5 x 45.3 x 11.4 in (750 x 1150 x 290mm)
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
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)
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 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.

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
  - Backup Standby
  - Load Shifting
- 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

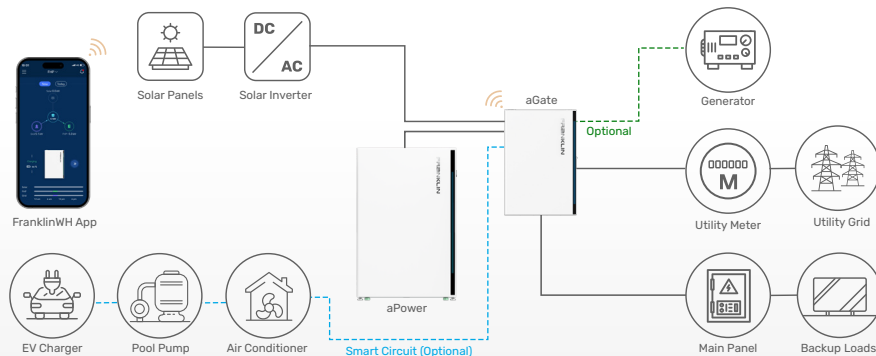
### Functionality

Operating System	Android & iOS
Generator Output Setting	Power, current, voltage frequency, time plan
Smart Circuit Setting	Time plan, manual switch, circuits merge, SOC threshold
Emergency Backup Setting	Enable & Disable
SOC Setting	Self-consumption, load shifting
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	
Load Shifting	
Backup Standby	

### FranklinWH’s solution for Whole Home backup



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