

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

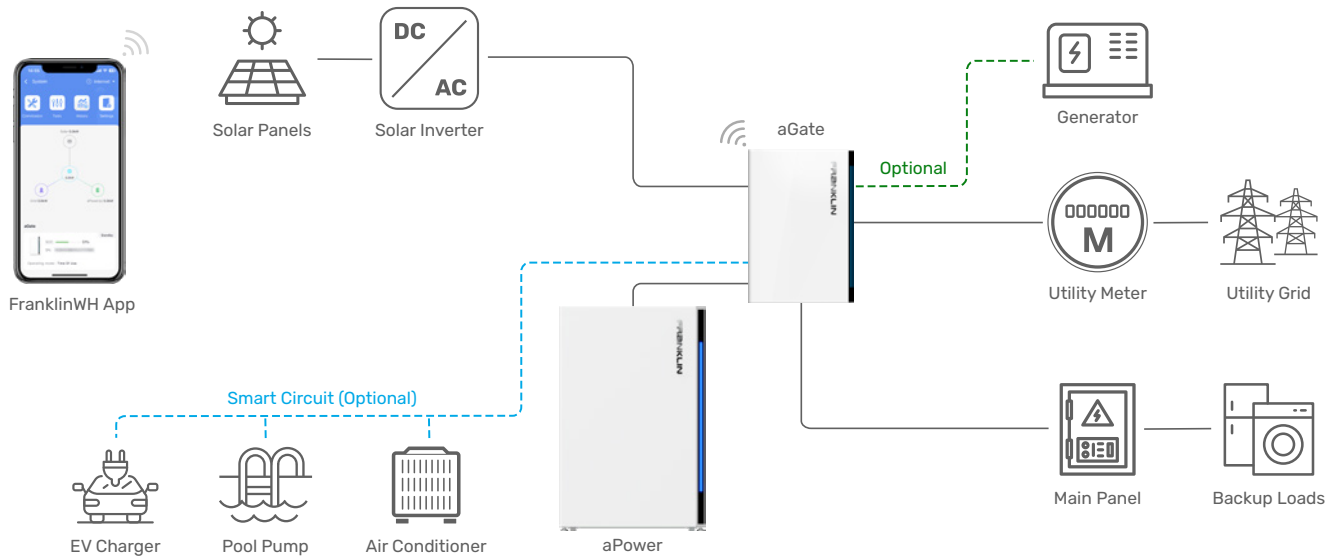
- Compatible with any solar inverter/standby generator
- Generator monitoring and controls via the FranklinWH app
- Pre-assembled, indoor/outdoor/wall/floor installation
- Multiple conduit entries
- App-based, remote commissioning

Reliable

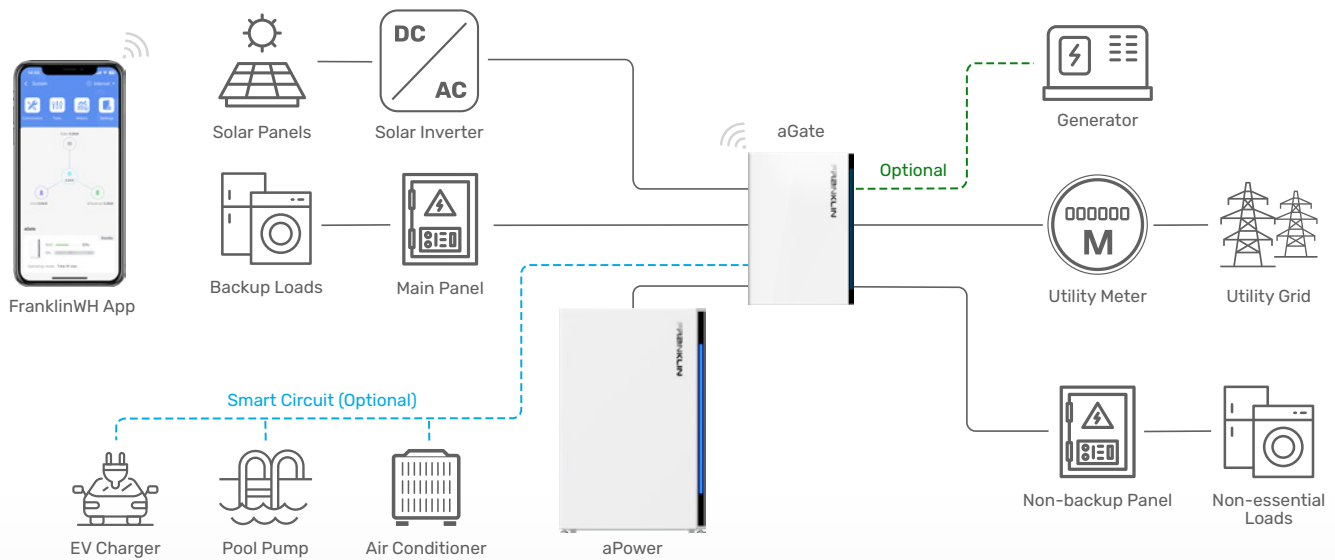
- 12-year warranty
- NEMA 3R enclosure
- Corrosion-proof

Franklin Home Power Solution

Whole Home Backup



Partial Home Backup



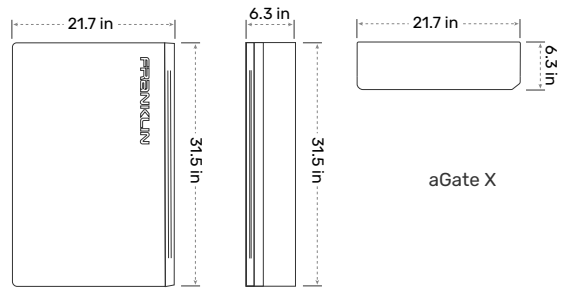
Address: 1731 Technology Dr., Suite 530 San Jose, CA 95110 Telephone: +1 888-837-2655 Email: info@franklinwh.com Website: www.franklinwh.com

Copyright 2024 FranklinWH Energy Storage Inc. All rights reserved. The Franklin logo, FranklinWH, and other trademarks or service names are the trademarks of FranklinWH Energy Storage Inc. The document is for informational purposes only, data subject to change. 2023-12-01



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 ¹ | 200A Max |
| Smart Circuits Over Current Protection Device ² | 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 x H x 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

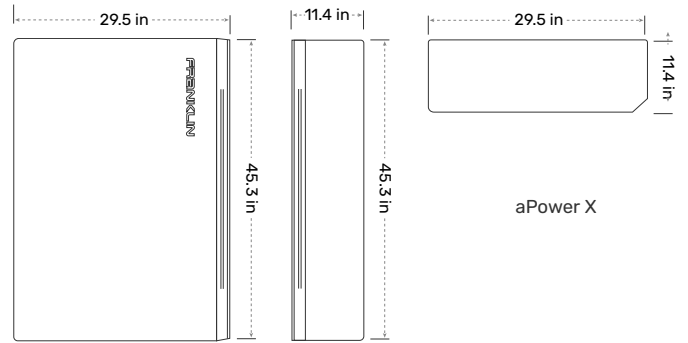
| | |
|---------------|---|
| aGate X | UL1741 PCS, UL 67 ³ , UL 869A ³ , UL 916 ³ |
| Seismic | AC156, OSHPD, IEEE 693-2005 (high) |
| Environmental | California Proposition 65 RoHS Directive 2011 / EU |
| Emissions | FCC Part 15 Class B, ICES 003 |

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) |
| 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 ⁴ |
| 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% ⁵ |
| 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 (W x H x 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
 - 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

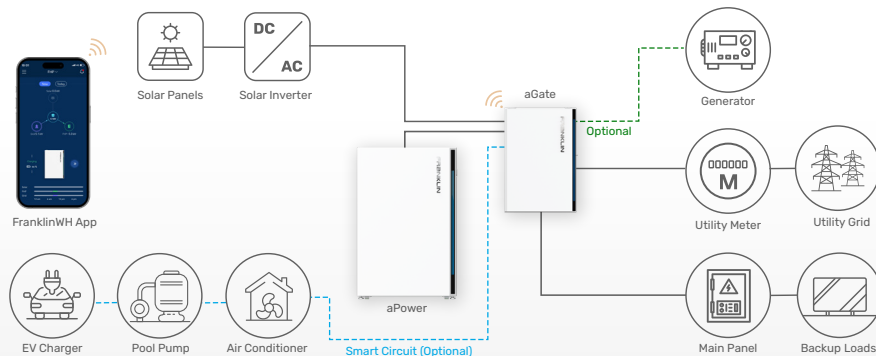
Functionality

| | |
|--------------------------|--|
| 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



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

Copyright 2023 FranklinWH Energy Storage Inc. All rights reserved. The Franklin logo, FranklinWH, and other trademarks or service names are the trademarks of FranklinWH Energy Storage Inc. The document is for informational purposes only, data subject to change. 2023-02-28