



## Emergency Power Off Introduction and Installation Guide

Version 1.1.01

Issued on: January 13, 2023

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Please read this document carefully before installing or using the Franklin Home Power 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.

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### Product Information

Franklin Home Power (FHP) is composed of aPower, aGate and other electrical components, and this document applies only to the following products: aPower X and aGate X.

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@franklinwh.com](mailto:service@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..



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## System Overview

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### WARNING

Emergency Power Off (EPO) instantly disconnects the aGate X from these electrical connections: solar PV, generator, FHP main battery system, and disconnects the connection between the Utility grid and backup port on the aGate X. Auxiliary power remains ON. Do not use the EPO for maintenance operations or in any condition other than an emergency.

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When an emergency situation occurs, such as fire or a smoking battery, the user may manually press the EPO (Emergency Power Off) button to power off the system, where it is safe to do so. The external EPO is an optional component. If the user wishes to have the external EPO function, he/she needs to consult with the installer to have the EPO installed.

Please note the following when choosing the external EPO:

- Must be labeled as "Emergency Stop Button", "Emergency Stop Device", "Emergency Stop Unit".
  - Must have an ON/OFF switch that maintains its position after being manually set to either status.
  - Must have a clear indication of the ON/OFF positions.
  - Must be outdoor rated (NEMA 3R or higher).
  - The maximum low voltage wire running between the EPO switch and the aGate X should not exceed 150 feet (45 m).
  - The EPO shall have a rated voltage of 5V or higher.
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### NOTE

If the external EPO is not connected to the Franklin Home Power (FHP) system, please keep the factory default settings (the EPO module is short connected on the EMS module as shown in the figure).



## State Description

The EPO ON/OFF states are as follows:

**ON:** When the NC (normal close) of EPO is connected, EPO is in the ON state. And the system is working normally.

**OFF:** When the EPO button is pressed, the EPO is in the OFF state. That means the EPO function has been activated to protect the system. At this time, aPower X will be shut off and all relays inside aGate X (including the Supply Relay, the Generator Relay, the Smart Circuits Relay, and the Solar Relay) will be disconnected.

## Installation

### Preparation



**NOTE**

Only FranklinWH certified and qualified technicians should install, maintain or replace the EPO.

Recommended Tools:

- Personal Protection Equipment (goggles, gloves, protective shoes, anti-dust respirator, etc.) to protect personal safety.
- Phillips head screwdriver (PH#3X4")
- Phillips electric screwdriver, Phillips torque screwdriver
- Multimeter

### Steps



**DANGER**

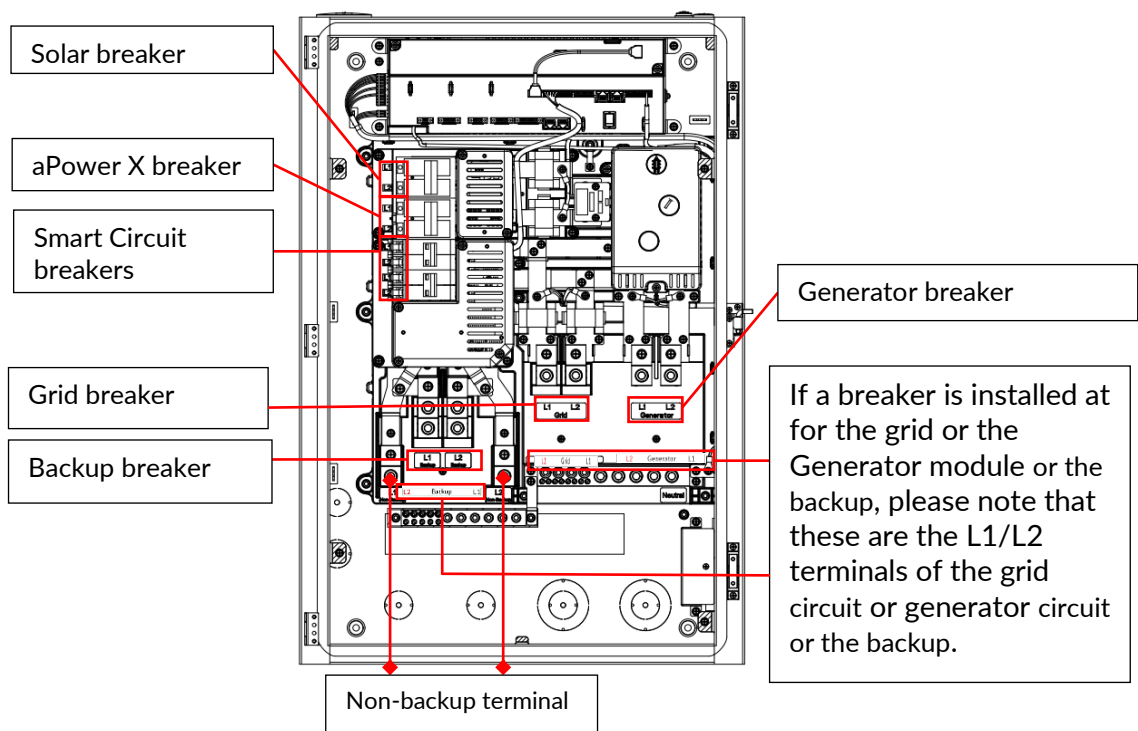
Before the installation starts, please disconnect all breakers in the aGate X (including the Solar, aPower X, Smart Circuits, grid, generator, and backup breakers), the system control switch, and all ON/OFF switches of external devices, and then lock the breakers and switches by a LOTO (Lockout Tagout), so as to completely power off the whole FHP system. Wait at least five (5) minutes before proceeding with further operations.

Screws and their corresponding tightening torques.

Screws	Cross head cross screwdriver	Tightening torque
M4	PH2	1.03lbf·ft (1.4N·M)
M5	PH2	2.21lbf·ft (3.0N·M)
M6	PH3	4.42lbf·ft (6.0N·M)

**EPO Installation Steps:**

- Step 1. Open the aGate X door.
- Step 2. Disconnect the aGate X power switch and all breakers and switches in the aGate X that are connecting external devices.
- Step 3. Wait at least five (5) minutes, and then loosen and remove the six M5×12 screws using a Phillips head screwdriver, and remove the inner panel from the aGate X.
- Step 4. Use a multimeter to measure and check that the AC voltages at both input and output terminals of the aGate X (as shown below) are zero (0), to ensure that all electrical equipment have been disconnected from the aGate X.



- Step 5. Remove the short connector on the EPO of the EMS module.

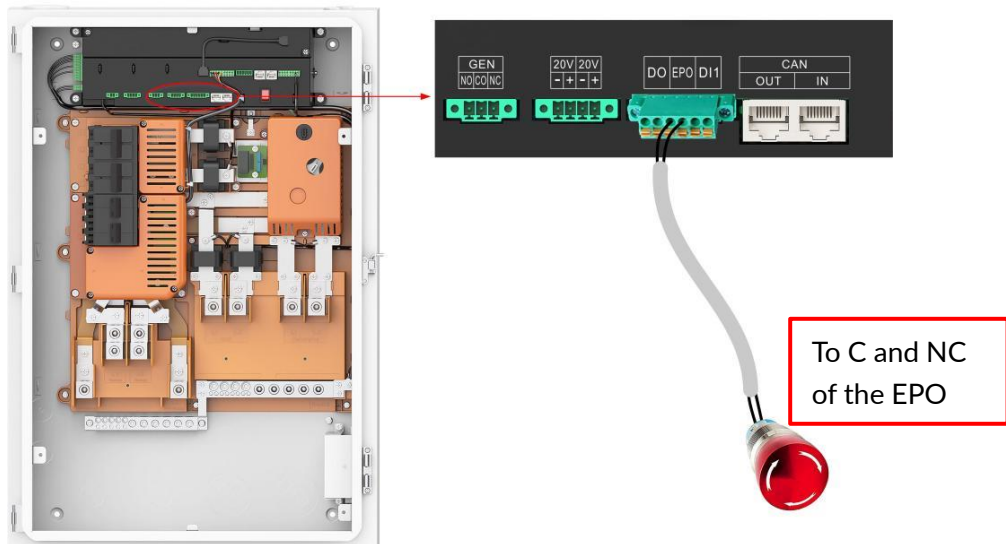


Step 6. Connect pins 3 and 4 (labeled EPO) on the EMS to the C (common) and NC (normal close) of the EOP. Use wire 16-24 AWG.



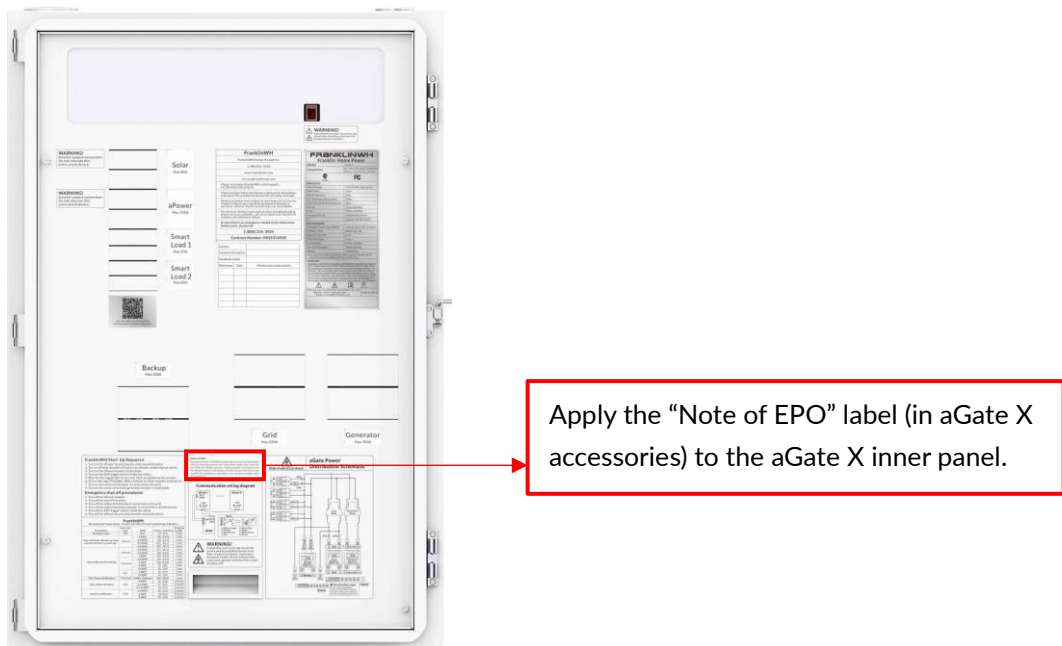
**NOTE**

The cable diameter should be between 24AWG and 16AWG.



Step 7. Install the aGate X inner panel and tighten the M5x12 screws using a Phillips electric screwdriver, and then tighten the screws to the recommended torque using a Phillips torque screwdriver.

Step 8. Paste “Note of EPO” label.



Step 9. Close the door to complete the EPO installation.