

# SOLAX ADAPTER BOX

For Smart Home Energy Management with Heat Pump



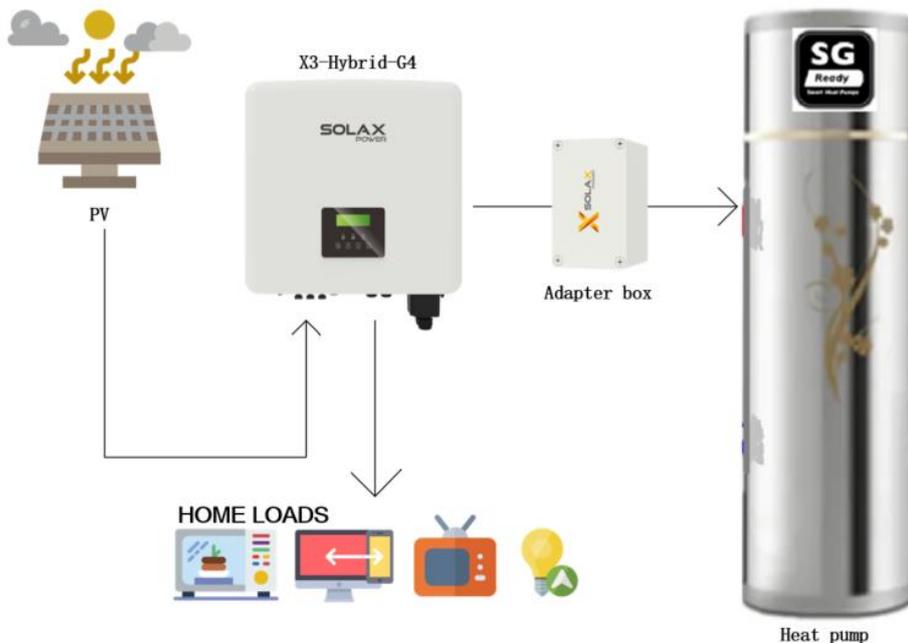
## Introduction

For many households that are looking for an all-in-one intelligent solar home energy management solution, SolaX now integrates a heating solution into its existing home energy management system.

Thanks to the newly developed SolaX Adapter Box, homeowners can now connect the smart grid heat pump to the SolaX energy storage systems, and realize direct control of the heat pump through SolaX inverter.

You can command the sun energy to supply your heat pump through settings on the SolaX inverter, and thus maximize solar self-consumption and reduce electricity bills.

For people that are living in places with high Feed-in tariff, who prefers to sell more solar energy to the grid to generate income, you can flexibly change settings and decide the best way that works for you through the intelligent energy control of SolaX inverter.



## Advantages

### ***Cost-saving***

Maximize PV energy to provide electricity and heat, saving more on electricity bill

### ***Eco-friendly***

Clean solar energy utilization

### ***Intelligent Controlling***

SolaX inverter intelligently controlling on and off status of the heat pump

### ***Simple and Flexible***

Set once and forget, you decide how and when heat pump works for you

Easy tracking of system performance on SolaX Cloud

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## **Compatibility**

Inverter: X1-G4&X3-G4; Mic G2; Pro G2

Heat pump: No requirement for heat pump power, only require the heat pump support **SG Ready**.



## **Working Modes**

With SolaX Adapter Box, SolaX inverter will be your smart home energy manager to control the overall usage of energy in the house and maximize energy self-consumption in a smarter way.

There are overall three heat pump operation modes that you can choose from:

### **Mode One: Disable**

The adapter box function is disabled under this operation mode.

### **Mode Two: Manual**

In this operating mode, you can change the adapter box from on to off, or from off to on through settings on the inverter or through SolaX mobile app.

### **Mode Three: SmartSave**

In this operating mode, users can set a series of parameters on the SolaX inverter to intelligently control how and when the heat pump works for them.

- feed-in power threshold

Once the feed-in power is greater than or equal to the set value, the adapter box will turn on and the heat pump will heat the water up to a higher temperature.

- consumption power threshold

Once the power consumption (from the grid) is greater than or equal to the set value, the adapter box will be turned off, SolaX system stops providing electricity to heat pump.

- battery SOC threshold

Once the battery SOC drops to the set value, the adapter box will turn off, SolaX system stops providing electricity to heat pump.

- minimum heat pump working hour

Minimum working hours, heat pump will work at least this time every time been activated. High priority than other power threshold settings.

- cumulative heat pump working hour

Max working hour limitation per day. High priority than other power threshold settings.

- scheduled heat pump working periods

Set the heat pump working periods flexibly. High priority than other power threshold settings.

## Appendix

### User Scenarios Under SmartSave Mode (With Default Setting)

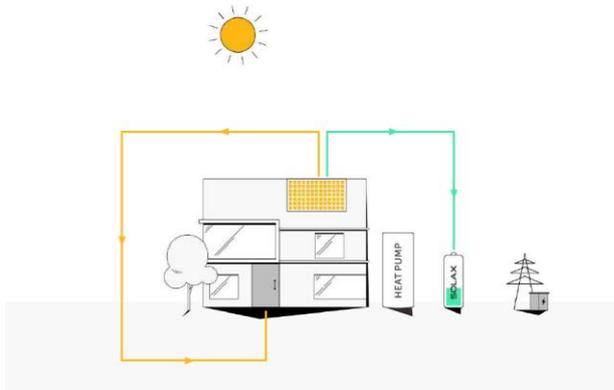
6:30 - 10:30

The sun is rising and SolaX system starts to convert solar energy into electricity for household loads.



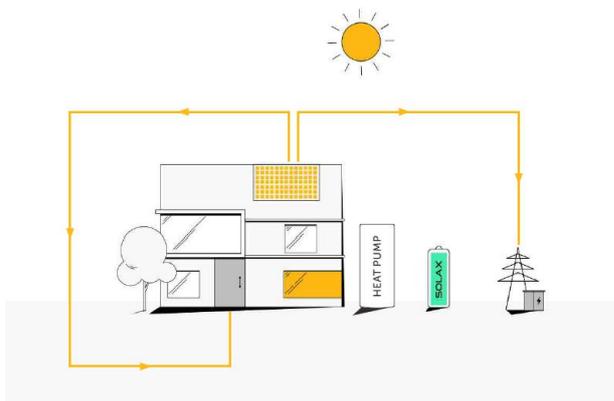
10:30 - 13:00

When PV panels are generating more energy, SolaX system will use the surplus solar energy to charge the SolaX Triple Power batteries for later use.



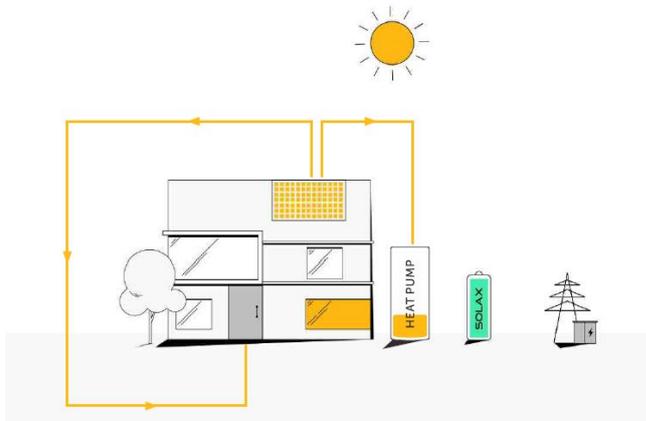
13:00 - 14:00

When the batteries are fully charged, and there're still excess power to be converted to grid power, SolaX system will sell the excess electricity to the grid for fit.



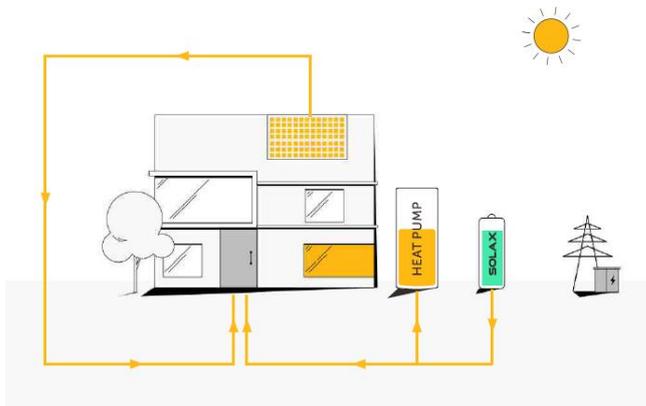
14:00 - 16:00

When feed-in power reaches the threshold value, the adapter box will be turned on, and the heat pump will heat the water up to a higher temperature.



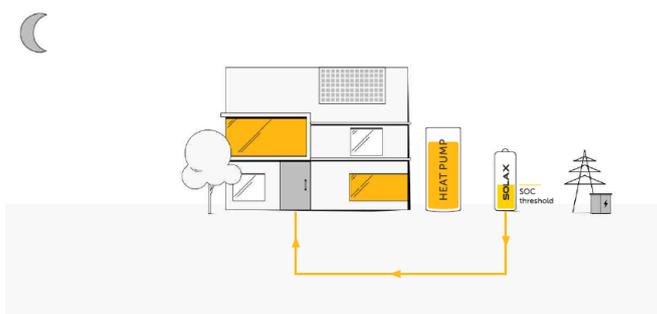
16:00 - 18:00

Solar energy generated from PV panels is decreasing as the sun setting down. When it cannot meet the energy demand of the household loads, batteries will discharge and provide electricity for household loads.



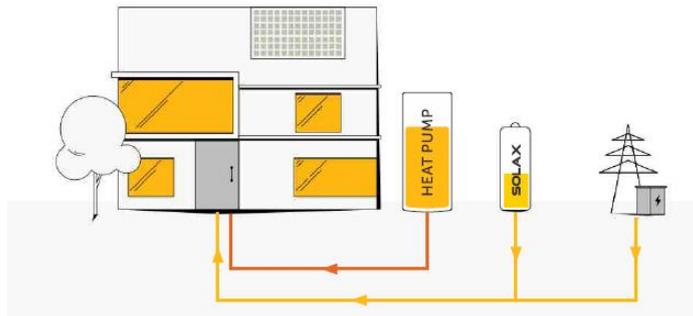
18:00 - 19:00

If the battery SOC drops to the default threshold value, SolaX system will stop providing electricity to heat pump.



19:00 - 22:00

SolaX batteries are still providing energy to light up the house. Family members can use the hot water which is already heated up during the day.



Because of SolaX System's smart energy management, households powered by solar energy can maximize their energy self-consumption during day and night, and thus greatly reduce their electricity bill, or even achieve an energy-independent lifestyle.

With the flexibility and intelligence of SolaX system, households with different electricity and heat requirements can always find the best solution to meet their specific demands by simply setting up preferred parameters on the SolaX inverter.