

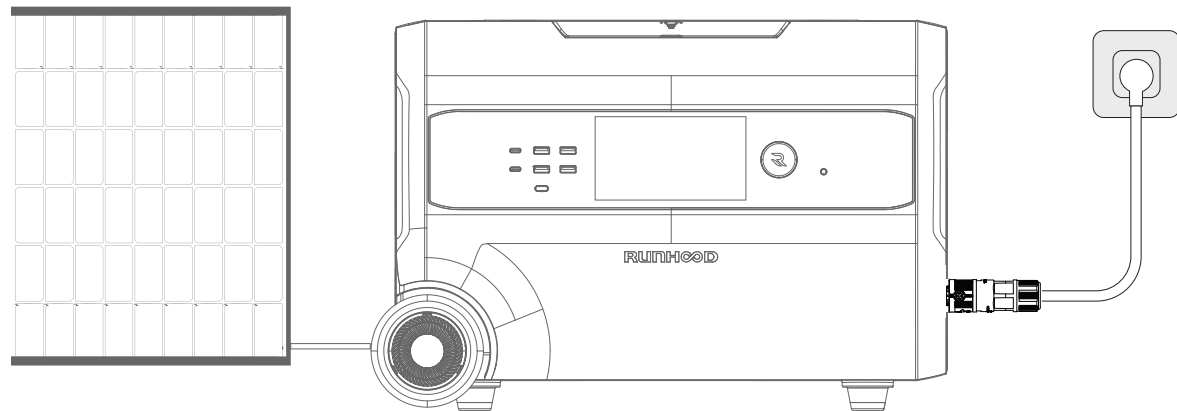


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F2400

BALCONY POWER STORAGE SYSTEM

QUICK GUIDE



IOS

Android

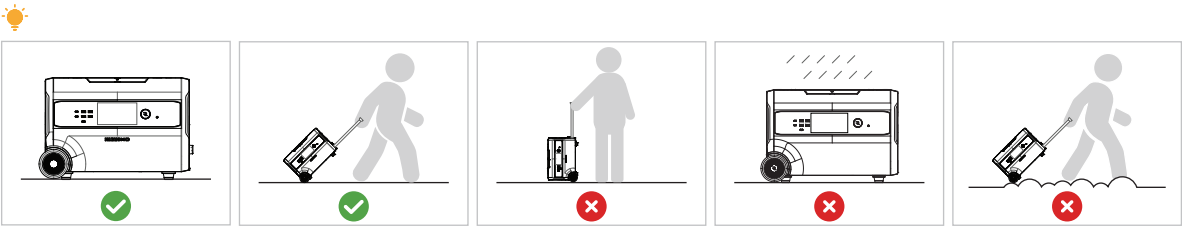
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Warning Sign

When using this product, basic precautions should always be followed, including the following:

- 1) Read all the instructions before using the product.
 - 2) Do not leave children, persons with reduced physical, sensory, or mental capabilities alone with the product.
 - 3) Use of an attachment not recommended or sold by power pack manufacturer may result in a risk of fire, electric shock, or injury to persons.
 - 4) To reduce risk of damage to the electric plug and cord, please unplug the power plug from the wall outlet before unplugging the power cord from the device when moving the product.
 - 5) Please call qualified maintenance personnel to repair the device when the device needs to be repaired. Do not use parts not recommended by the RUNHOOD to repair the product.
 - 6) Warning Risk of Explosive Gases: Follow these instructions and those published by battery manufacturer and manufacturer of any equipment you intend to use in vicinity of the battery.
 - 7) Do not use the product over its output rating.
 - 8) Do not use a battery pack or appliance that is damaged or modified.
 - 9) Do not charge, use, or store the product in a bathroom or an area exposed to rain or moisture.
 - 10) Do not expose device to fire or excessive temperature.
- RUNHOOD does not assume any product problems and other responsibilities caused by the customer's failure to comply with the above requirements.
- 11) Do not place the product on its side or upside down while in use or storage.
 - 12) The accessories included in the box should only be used with the product.



RUNHOOD does not assume any product problems and other responsibilities caused by the customer's failure to comply with the above requirements.

Warning Symbol Description

	Danger of high voltages. Danger to life due to high voltages in the Energy storage system.
	Danger! Risk of electric shock!
	Do not touch the product in 5mins after shutdown.

Information About This Guide

This guide introduces the F2400 and B2400 in terms of unpacking, product overview, installation, electrical connectors, key and display instructions, customer service and safety guidelines. One F2400 can support up to seven B2400 extended battery modules and can be used with smart plugs.

Unboxing

Check before installation

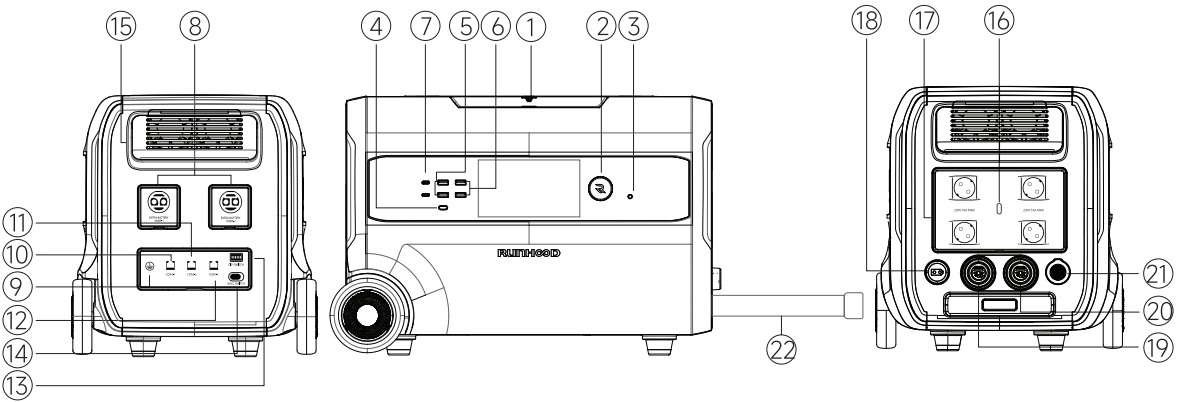
Before unpacking the equipment, check the outer packaging for damage such as holes and cracks, and read the model number of the equipment. If you find damage or the model is not the requested one, do not unpack the device and contact Runhood customer service as soon as possible. Check the delivery items after unpacking, check whether the items delivered are intact and complete, and there is no obvious damage. If an item is missing or damaged, contact Runhood's customer .

F2400-EU	AC charging cable/ AC on-grid cable 1,5m	XT60F car charging cable 1,6m	Solar to XT60F charging cable 3,5m	AC on-grid plug (blue)	AC back-up plug (black)

Optional accessories:
The following accessories must be ordered separately.
Runhood B2400 Expansion Battery (Optional)

B2400	Extra battery cable A 0.6m	Extra battery cable B 1.5m	Smart plug
F2400 Water-proof Bag	B2400 Water-proof Bag	Flat MC4 expansion cable 0.3m	

Overview
F2400 Product Overview



- 1.LED Lighting

2.Main Power Switch ON/OFF

3.Wi-Fi Reset Switch

4.DC and USB Output Switch ON/OFF

5.USB-A*2 DC 28W

6.USB-A*2 DC 12W

7.USB-C*2 DC 100W

8.DC Parallel Connection Port PORT-1、PORT-2

9.Grounding Screw

10.Hybrid Inverter or EMS Communication Port COM-1

11.Debugging Communication Port COM-2
- 12.Dry Junction Communication Port COM-3

13.DIP Switch(Default is OFF)

14.Grid-Connection Mode Switch On/Off

15.Vents

16.AC Output Socket Switch ON/OFF

17.AC Output Socket

18.PV or DC Charging Input Port

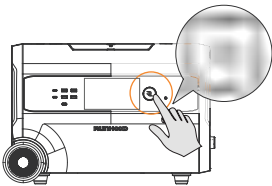
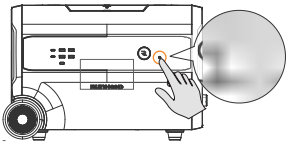
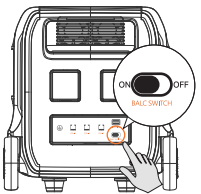
19.AC Input and AC On_Grid Output Port

20.BACK-UP Output Port

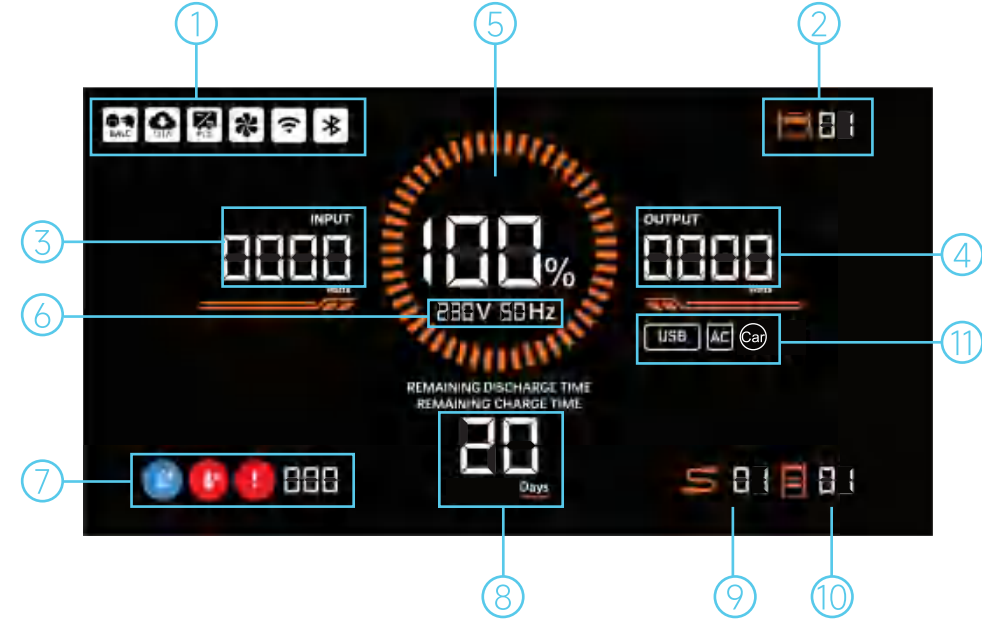
21.Cigarette Lighter Output Port

22.Pull Rod

F2400 Button Introduction

Button	Action	Function
	Press and hold 1.5 seconds until hearing the 'beep'.	Turn on the F2400.
	When the 'DC and usb output switch','AC output socket switch'and 'grid-connection mode switch'is off and the F2400 is not charging,press and hold 3 seconds until hearing the 'beep'.	Turn off the F2400.
	When the F2400 is not charging,Press and hold 10 seconds until hearing three'beep'.	Force turn off the F2400.
	Press and hold 10 seconds.	Reset wifi settings.
	Switch to ON.	Enter the "Grid-connection mode".
	Switch to OFF.	Exit the "Grid-connection mode".

F2400 LCD Function



- 1.Status Prompt Identification.

2.F2400 Parallel Status Identification and F2400 Code.

3.Charging Power.

4.Discharging Power.

5.Percentage of Remaining Battery Capacity.
- 6.AC Output Voltage and Frequency.

7.Abnormal State Identification.

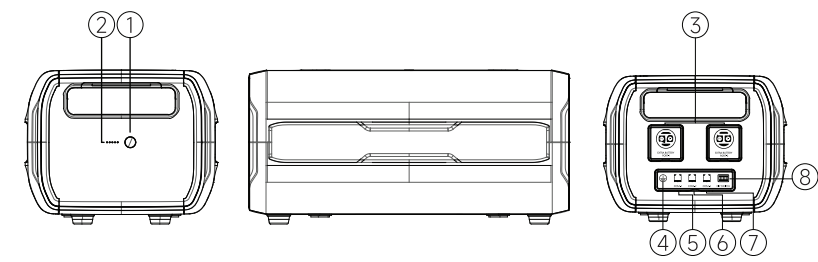
8.Charge/Discharge Remaining Time.

9.Parallel Connection Quantity: The maximum quantity is 8 units.

10.Parallel Available Quantity: The maximum quantity is 8 units.

11.Output Switch Status Identification.

B2400 Product Overview



- 1 . Main Power Switch ON/OFF

2 . Battery Indicator Light

3 . DC Parallel Connection Port PORT-1, PORT-2

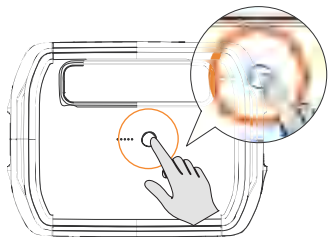
4 . Grounding Screw
- 5 . Hybrid Inverter Communication Port COM-1

6 . Debugging Communication Port CoM-2

7 . Dry Junction Communication Port COM-3

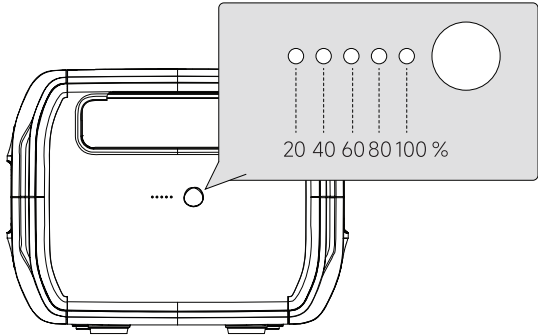
8 . DIP Switch(Default is OFF)

B2400 Button Introduction

Button	Action	Function
	When B2400 is not connected to F2400,press and hold 1.5 seconds until hearing the 'beep'.	Turn on the B2400.
	When B2400 is not connected to F2400,press and hold 3 seconds until hearing the 'beep'.	Turn off the B2400.
	When B2400 is not connected to F2400,Press and hold 10 seconds until hearing three 'beep'.	Force turn off the B2400.

B2400 LED Indicator Function

The indicator function: The B2400 has a total of five indicator lights, LED1-LED5. Each light indicates 20% SOC.



Installation

Environmental requirements
Do not place the modules near direct sunlight, fire or explosive materials. · Ensure that the site is protected from potential hazards such as flooding. Measure the distance Reserve sufficient space for heat dissipation.

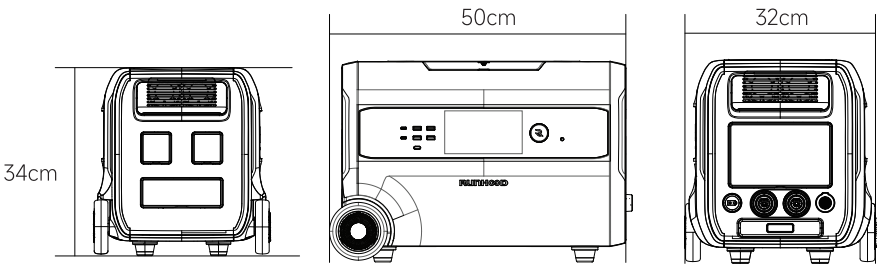
Capacity Expansion Specification

Expansion	Battery Capacity	Diagram
F2400×1	2.4KWh	
F2400×1 + B2400×1	4.8KWh	
F2400×1 + B2400×2	7.2KWh	
F2400×1 + B2400×3	9.6KWh	
F2400×1 + B2400×4	12.0KWh	
F2400×1 + B2400×5	14.4KWh	
F2400×1 + B2400×6	16.8KWh	
F2400×1 + B2400×7	19.2KWh	

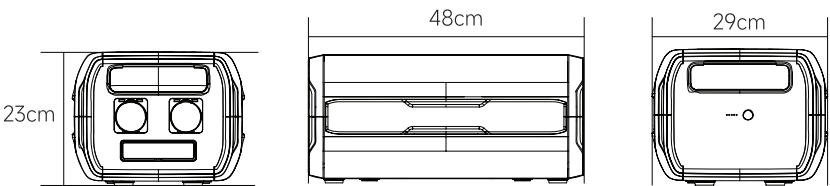
Note: DO NOT CONNECT TWO F2400 IN ONE BATTERY SET,ONLY ONE F2400 IN ONE BATTERY SET

Product Dimensions

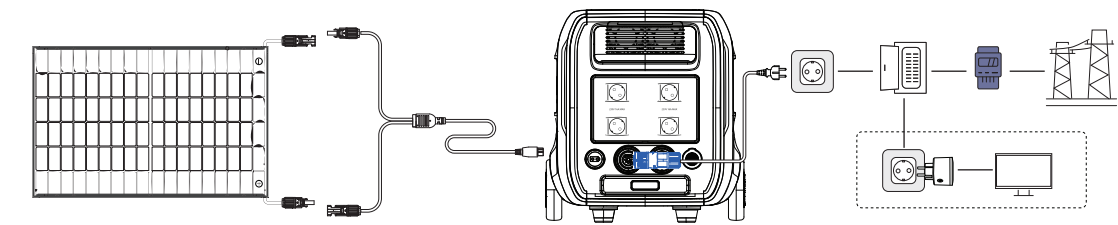
F2400



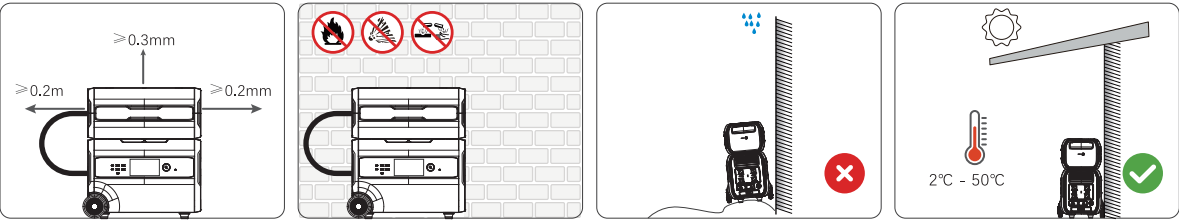
B2400 Expansion Battery



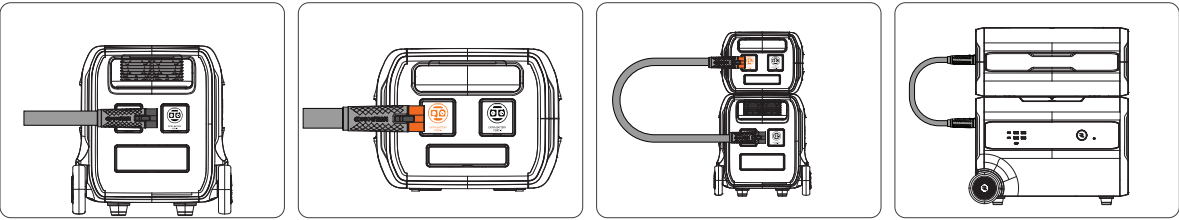
Installation Steps



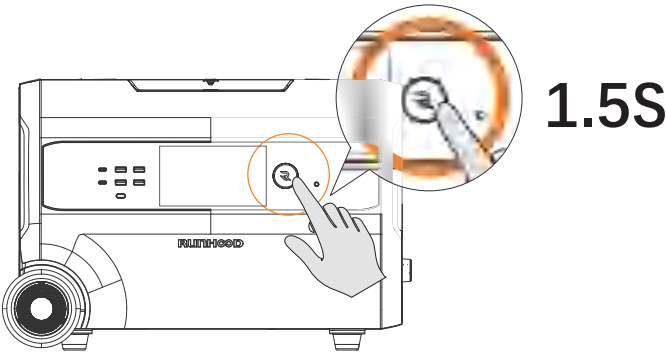
Step 1:
Select installation location
Please reserve sufficient space before installation. Place the device against the wall. It is recommended to not stack more than two units. If stacking exceeds two units, add additional securing measures to prevent the stacked devices from tilting forward or falling. When installing the equipment, the F2400 needs to be connected to a main socket or distribution box. Please install indoors. If installed on balcony, a waterproof package is recommended.



Step 2:
When connected in parallel, F2400 is used as the host, and the wiring is as follows.



Step 3:
Press the main power switch button for 1.5s



Step 4:

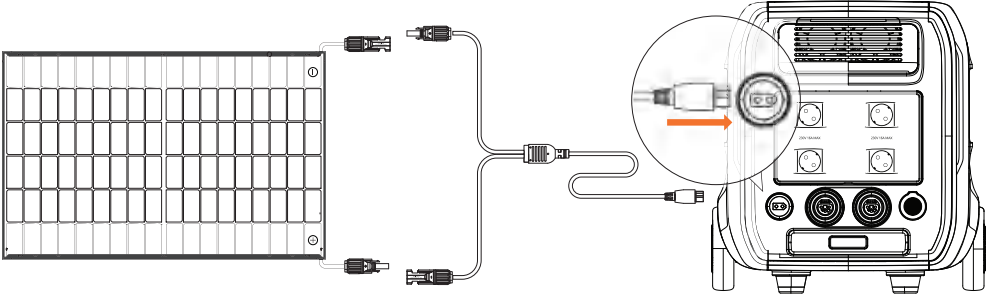
Connected photovoltaic panel

Install the solar panel and connect it to the DC input port of F2400 using a Solar to XT60F charging cable.

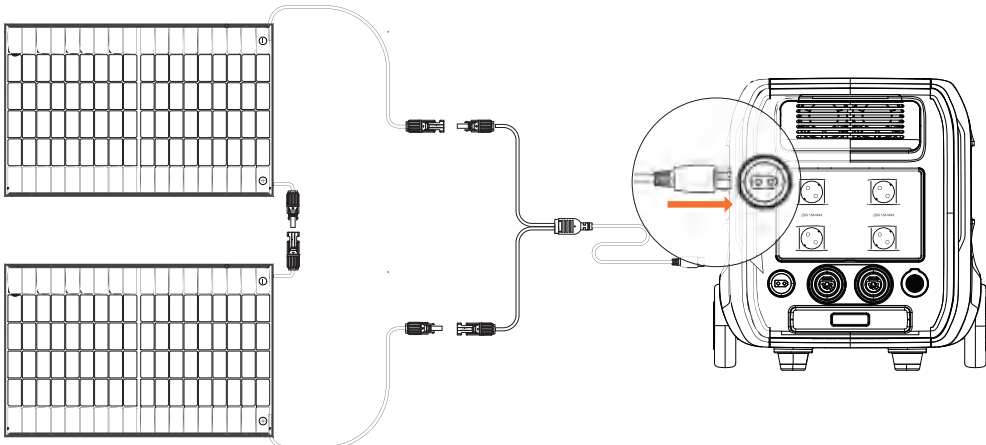
Note: The parameters of the photovoltaic plate need to meet the following range:Rated 12-60Vdc, Supports the Maximum Voltage of 150V, DC 25A, 1200W Max.

For example: PV Panel Parameter: 40Vdc,12.5A, 400W

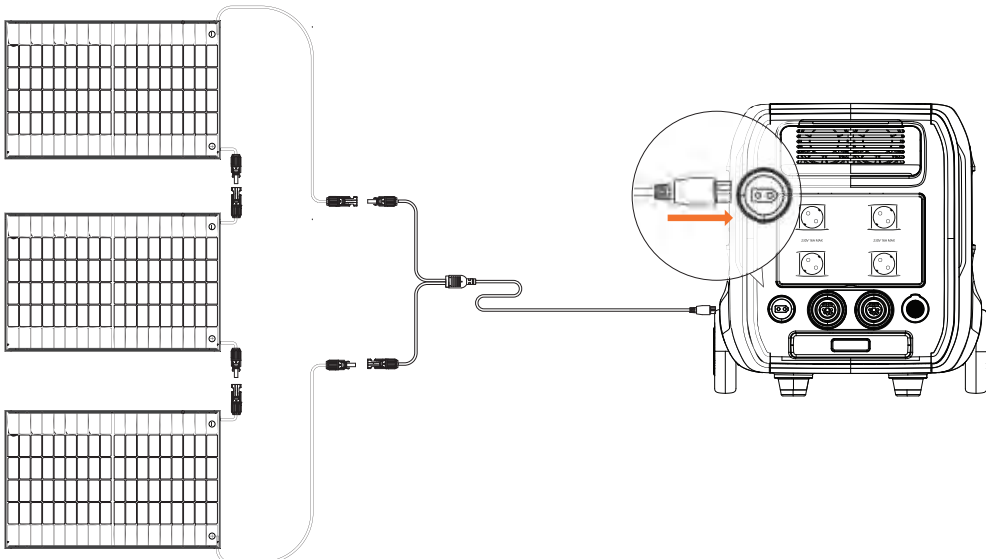
1.Panel Connection Method (PV Input: 40Vdc,12.5A, 400W)



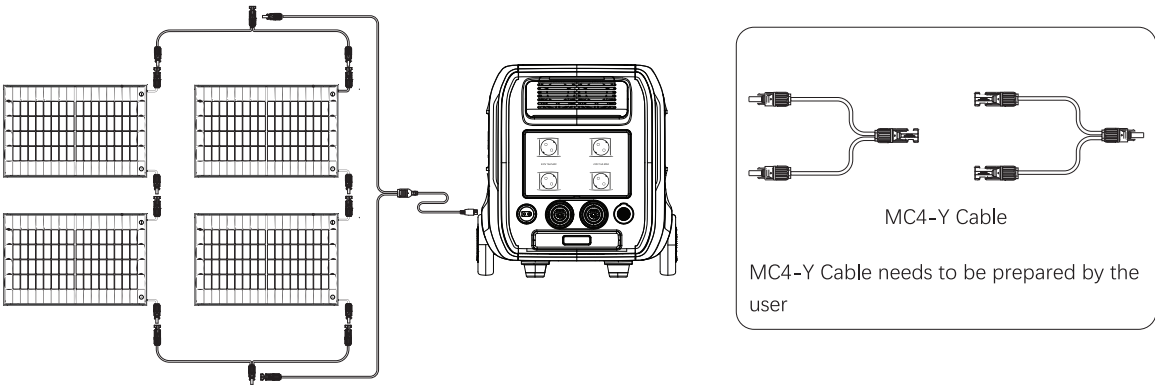
2.Panel Connection Method (PV Input: 80Vdc, 12.5A, 800W)



3. Panel Connection Method (PV Input: 120Vdc, 12.5A, 1200W)

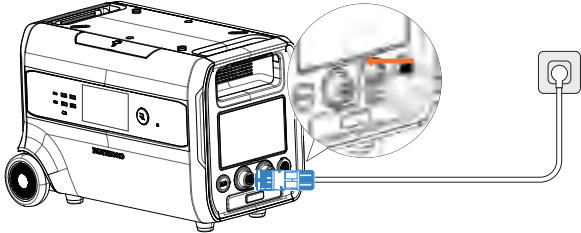


4. Panel Connection method (PV Input: 80Vdc, 25A, 1600W)



Step 5:

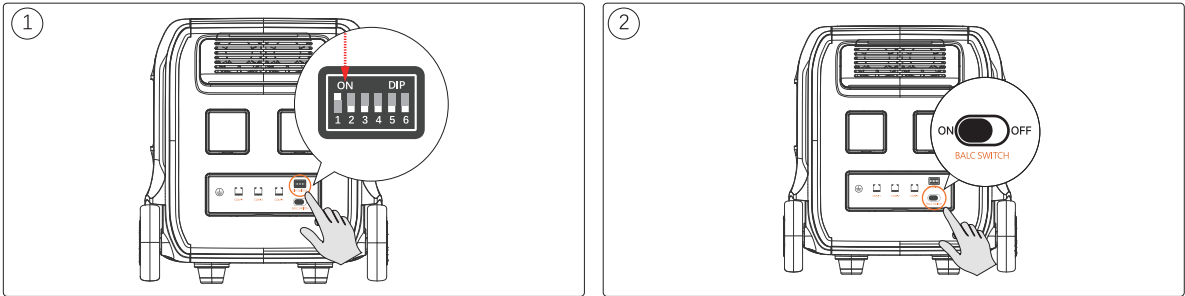
Plug the AC on-grid cable into the wall.



Step 6:

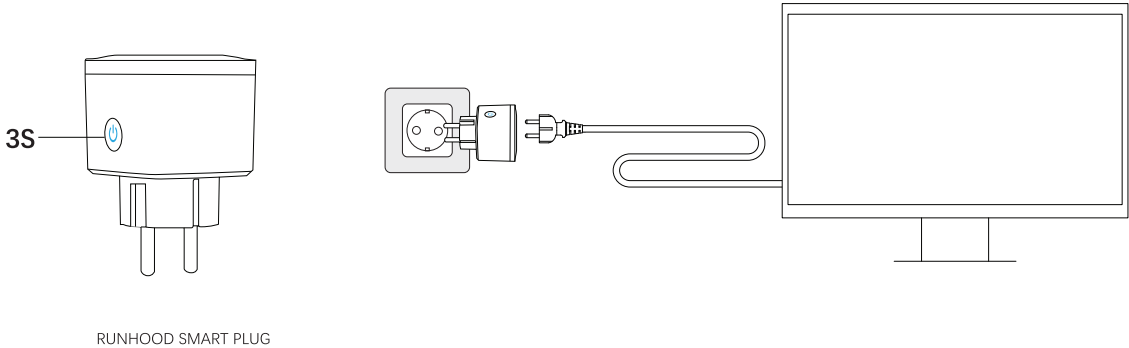
1.Check whether the dial address 1 is on. If it is not on, please change the dial address 1 to on.

2. Turn on the grid-connection mode switch. If no smart plug or APP is connected, the 800W output will be fed-into to the home socket automatically.



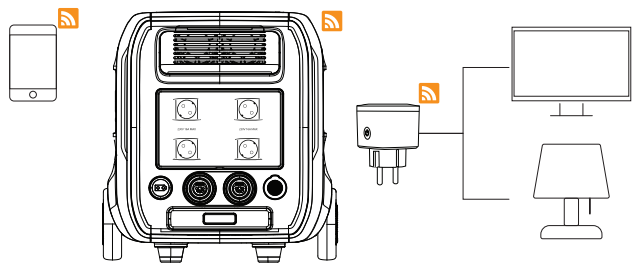
Step 7:

Install the load on the smart plug. Press and hold the smart plug for 3 seconds until the indicator light keeps flashing and enters the distribution network state.



Step 8:

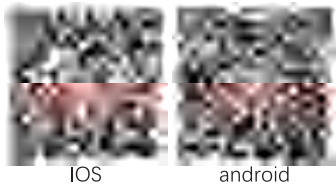
Now to configure the network, the following is the operation of the App.



Use the App

Download the App

Search for " Runhood " and download the app in the App Store or Google Play. Or scan the QR code below to enter the corresponding App store or Android store .



Account registration

Select the country or region after starting the app, you will be on the login page. Please note that the country or region in which you select must be correct. The wrong country or region may cause the device connection to fail.

Registration/Login

If you do not have an account yet, you can click [Register] to register an account: Please prepare an email for the registration process. Passwords must be contain uppercase and lowercase letters, numbers and symbols.

Setting Initialization

Network configuration

Before configuring, make sure that the network connection is working well and that there is a strong Wi-Fi signal. Do not set the device too far from the router.

Step 1		If the device is in the power-off state, press the main power switch button for 1.5 seconds to power it on.
Step 2		1.When the device is in the power-on state , allow the App to obtain the Bluetooth permission of the mobile phoneenable bluetooth, scan the Bluetooth device and connect it. 2.Make sure that the Bluetooth function of your phone is turned on and that the anchor app has the right to access Bluetooth. 3.Click the [+] or [Add device] button in the upper right corner to enter the add device page. 4.The Runhood App automatically searches for your device. Once the device is found, it will appear. 5.Manually click the [Add] button to enter the network configuration page.
Step 3		1.After connecting the F2400 device via Bluetooth, you should select a Wi-Fi network for the device. Select the Wi-Fi network from the list and enter the password. Note: The device only supports 2.4 GHz Wi-Fi. Make sure the password is correct.
Step 4		1.Your device should now be successfully configured for the network. 2.If the configuration process fails, follow these tips: · Check whether the Wi-Fi router is working normally. · Place the router closer to the device. · Make sure the Wi-Fi password is correct.

Add Runhood Smart Plug (optional)

If you have purchased an Runhood smart plug, please scan the QR code below for more information.



Smart Plug operation steps:

Step 1		1.Turn on your phone's Bluetooth and connect your phone to Wi-Fi. 2.Long press the power button on the Smart Plug for 3 seconds until the indicator light keeps flashing to enter the network distribution state. 3.Launch Runhood App, click the "Add" button on the homepage, and search for Smart Plug devices.
Step 2		1.Click the "Add" button to enter the network configuration page, scan to the Wi-Fi Link, and enter your Wi-Fi password. 2.Click the connect button and wait for the device to be successfully configured. The network configuration success indicator lights up and stays on of off constantly (Staying on constantly means the socket switch is currently on, staying off constantly means the socket switch is currently off).
Step 3		1.Click on the added smart plug to enter the smart plug list. Click on any list to view the usage details of the current smart plug and customize the name and other information of the smart plug.

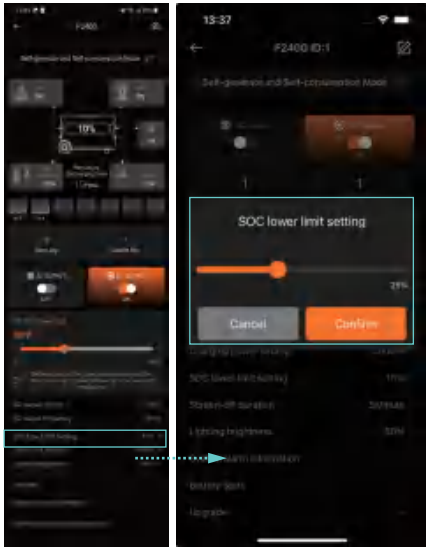
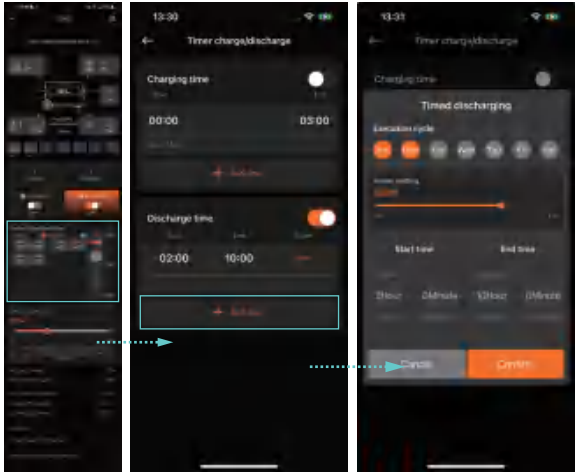
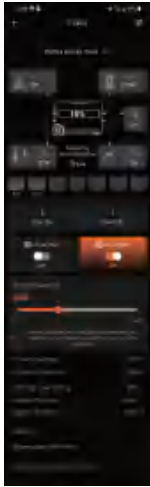
On-grid Function

The F2400 comes with a 2400W AC grid-connection bidirectional inverter. When using the grid-connection mode, securely connect the AC on_grid output port of the F2400 to the power grid, and turn on the grid-connection mode switch. The total power capacity of the F2400 can be extended to a maximum of 8*2.4KWh through parallel operation. The maximum grid connected output power is 2400W, with a standard configuration of 800W. The F2400 can control grid-connection power output with a smart plug.

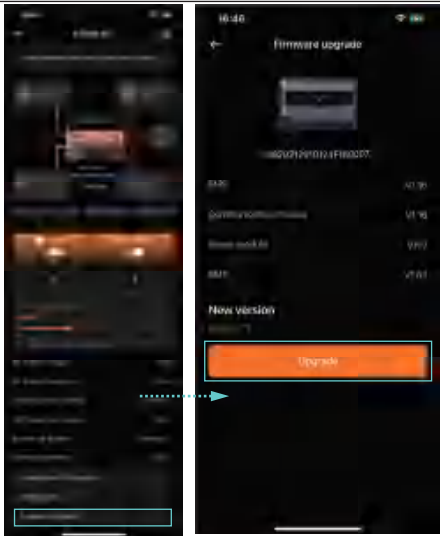
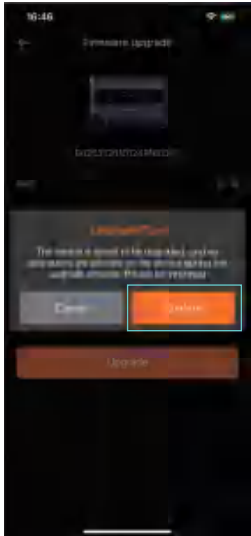
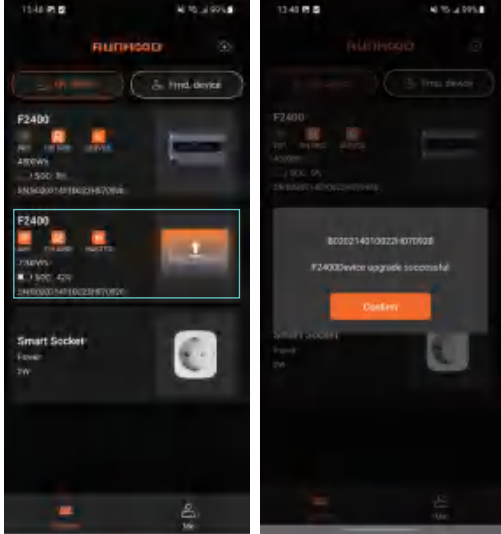
Step 1		The device is in a powered on state, and turn on the grid-connection mode switch of the F2400 device to ensure that the device is in grid-connected state.
Step 2		Enter the balcony photovoltaic grid-connected management mode and switch the mode on the device details page.
Step 3		Users can adjust the power by themselves within the scope permitted by laws and regulations. When it exceeds a certain limit, users will not be able to adjust the power by themselves. A professional electrician is required to upload a valid electrician certificate number. The power can be adjusted to 2400W only after it is reviewed and approved.

The system defaults to Self-generate and Self-consumption Mode. When there is no smart plug configured, the self use mode defaults to 800W grid connected output. If a smart plug is configured, the grid connected power can be adjusted according to the load power of the smart plug.

In grid-connected mode, the working mode of F2400 is as follows:

Mode Selection		1. Self-consumption Mode This mode is suitable for regions with low electricity generation costs and high electricity prices, prioritizing the use of solar and battery energy, and minimizing the use of grid energy as much as possible. Users can customize the SOC minimum limit, the default minimum limit is 10%-50%
		2. Timer Charge/Discharge Mode By manually setting the charging and discharging time periods, such as setting the nighttime low electricity price period as the charging time period, the system charges the energy storage at maximum power during this period, and sets the high electricity price period as the discharging time period. The battery can only discharge during the discharging time period, saving household electricity costs. Users can customize the power value during the discharge time period. Note: The Timer Charge and Discharge function is only available in Time Mode but can be disabled in other modes. PV charging is not restricted by scheduled charging and discharging time periods.
		3. Battery Priority Mode This mode is suitable for applications that need to store power to prevent power outages. The F2400 will prioritize keeping the battery fully charged, avoiding using the battery's power as much as possible. If the SOC is below 100% at first, the F2400 will charge the battery until it is full. Then keep the battery SOC above 95%.

Firmware Update

Step 1		Make sure all your devices are configured for Wi-Fi and have a stable network connection. If there is a major update to the firmware of the F2400 device, there will be a corresponding upgrade prompt on the App page. (There will be a small red dot to prompt the upgrade) When there is no new version, it will show that the current version is the latest one.
Step 2		Click the upgrade button and click "Confirm" in the pop-up dialog box to enter the upgrade state. After the device is successfully upgraded, the system will pop up a prompt that the upgrade is successful.
Step 3		If no update is required, you can skip this step. Note: The update may take a few minutes. Please be patient. If the update fails, check that your devices are enabled and connected to Wi-Fi.

Frequently Asked Question

1.Q: What is the maximun PV input power that F2400 can support?

A: The F2400 supports a maximum of 1200W PV input power.

2.Q: What solar panels should I choose?

A: It is recommended that you choose a photovoltaic panel with MC4 connector. Please noting that the open circuit voltage after the photovoltaic panel combination should not exceed 150V, and the maximum current should not exceed 25A.

3.Q: How many batteries can F2400 expands?

A: The F2400 can be connected with seven B2400 by Extra battery cables.

4.Q: What are the charging methods of F2400?

- A: F2400 can be charged in the following 5 ways.
- AC socket. (1800W Max.)
 - Plug-in Solar panel charging. (1200W Max.)
 - Car charger. (Please start the car engine while the F2400 is charing, 12V 10A Max.)
 - AC socket + Solar panel XT60. (If there is only one F2400, the charging power is 2000W Max.; If the F2400 is connected to some B2400, the charging power is 1800W + 1200W = 3000W Max.)
 - Generator charging. (1800W Max.)

5.Q: What devices can the AC output sockets of the F2400 power?

A: The rated power of the F2400 is 2400W, which can power most household appliances. It is recommended to confirm the power requirements of the electrical equipment before use, and ensure that the total power of all the loads connected to the F2400 does not exceed the rated power.

6.Q: How long does it take for the F2400 to be fully charged?

A: It takes about 75 minutes to charge to 80% via AC socket and about 100 minutes to fully charge.

7.Q: Why can't my F2400 charge?

A: - Check whether the battery is faulty. If it is, refer to the manual to remove the fault. If it still cannot be charged, please find the battery through the App and confirm the working mode of the battery. Switch the battery grid-connected working mode to battery priority mode, and the battery will start charging.

-If the battery continues to fail to charge, please contact the Runhood dealer and provide the battery serial number for assistance.

8.Q: Why can't my F2400 and smart plug communicate via wifi?

A: -Please restart the device that cannot use wifi. If it cannot be restored, reconfigure the network. Note that the network must contain the 2.4GHz band, and the F2400 and smart plug must be connected to the same network environment.

-If the F2400 or Smart Plug continues to fail to connect network, please contact the Runhood dealer and provide the battery serial number for assistance.



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Technical Data

		F2400	B2400
Battery	Cell specifications	LiFePO4 (LFP64151, 50Ah)	
	Cell model	LFP64151/50Ah	
	Grouping method	15S1P	
	Capacity	2400Wh	
	Rated current	Charging : 40A ; Discharge : 50A	
	Maximum current	Charging : 40A ; Discharge : 80A	
	Voltage range	40.5-54Vdc	
	Temperature range	Charging : -15℃~55℃ ; Discharge : -25℃~55℃	
	Number of cycles	8000 cycles to 70%+ capacity@25℃	
LCD screen	LCD	Support(Segment code screen)	
Battery indicator light	-	-	Support (Five lights)
Lamp	LED	Support (Flip)	-
Key	Key1	Main power switch on/off	
	Key2	AC on/off	-
	Key3	DC on/off	-
	Key4	Wifi reset	-
DC	Input	Rated 12~60Vdc, Supports the maximum voltage of 150V, DC 25A, 1200W Max.	-
	Output	USB-A(*2) 5V/2.4A 12W Max.	-
		USB-A(*2) QC3.0 5V/3A, 9V/3A, 12V/2.4A, 28W Max.	-
		USB-C(*2) PD3.0 5V/3A, 9V/3A, 15V/3A, 20V/5A, 100W Max.	-
		Car port 12V/10A, 120W Max.	-
AC	Input	230Vac, 50Hz, 10A, 1800W Max.	-
	Output	230Vac, 50Hz, total 2400W Max. (Peak 4800W) (Socket*4 & Back-Up*1)	-
	On-Grid	230Vac, 50Hz, 2400W Max. Default 800W	-
Wifi/Bluetooth		Support	-
Extra battery port (*2)		Power and communications	
Extra battery packs quantity		7 Max	
External communication		RJ45 *3 Com1:Hybrid inverter Com2: Debugging/Inverter Com3: Dry junction	
Grounding point		Grounding identification	
DIP switch		Address / Termination resistance	
Grid-Connection Mode Switch		ON : on-grid 、 OFF : off-grid	-
Operating ambient temperature range		-20℃~40℃	
Relative humidity		0~80%Rh	
Ingress protection /IP		IP20	
Noise emission (Typical)		<40dB	<20dB
Cooling concept		Fan cooling	Natural cooling
Operation altitude		2000m	
Weight		29kg	22kg
Dimensions		503mm*323mm*344mm	481mm*289mm*231mm