

ALL-IN-ONE Balcony ESS

+Expansion Battery(5120MPlus)

Smart Plug

Wireless connectivity and load management between smart sockets and the balcony-integrated system are achieved via the APP management platform.

>94%

Discharging efficiency of battery's useable energy is over 94%

0W

Anti-reflux power accuracy is 0W

<30mins

Installation time is less than 30mins

2400W

Output of UPS is maximum 2400W

<10ms

The instantaneous UPS switch over less than 10ms, critical load never loses power

Balcony/RV/Camping

Multi scenarios

EXPANSION BATTERY FEATURES



6000

Cycle Life@25°C



6000W

Peak Power



Increase 8%

Energy Density



93%

Max Recommended DOD (Capacity)



Solid-State

Battery Cells better safety



IP 65

Supports indoors and outdoors



No DIP Switch

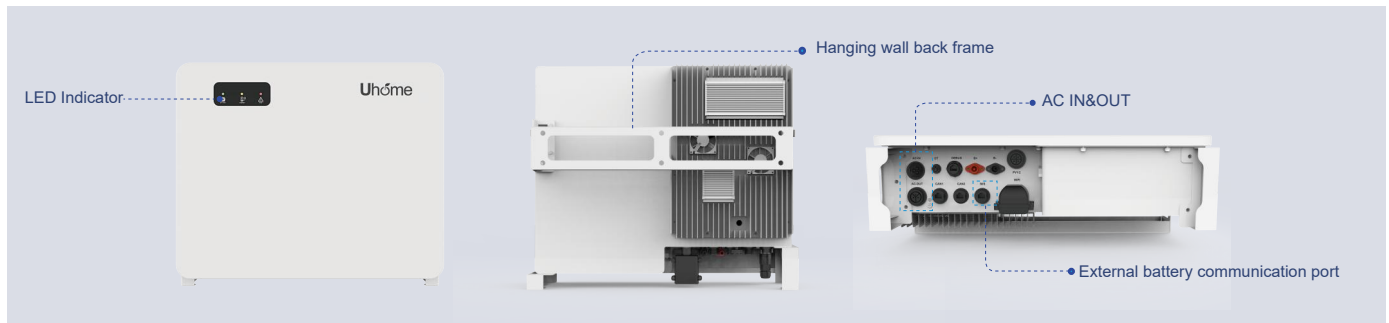
Easy for commission



Versatile Installation

Wall/Ground Mounting

Technical Specifications

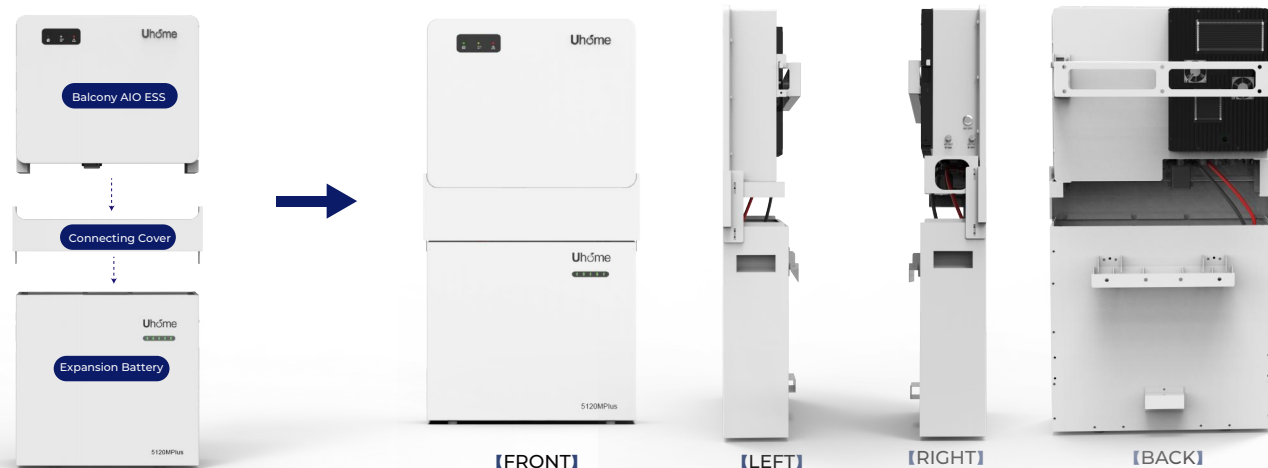


Model		Uhome DINV024-B3
Basic Parameters		
Nominal Power		2400W
Peak Power		4800W
Machine Architecture		Bidirectional AC/DC Inverter / Buck-boost MPPT
Number of Input and Output Phases		Single Phase Input/Output
AC Output		
AC Output Wiring		Single-phase, two-wire(L,N)+Ground wire
Output Nominal Voltage		230 V
Output Voltage Accuracy		±1%
Output Frequency		50/60Hz
Output Waveform		Pure Sine Wave
Output Distortion THDV		<2%(Linear load)
		<7%(Nonlinear load)
Overload Capacity		5 Min@105%~120%Rated Load
		10s@120%~150%Rated Load
		5s@>150%Rated Load
Efficiency		
Grid Charging		Max. 93% (Basic)
Battery Discharge		Max. 94% (Basic)
MPPT		99.9%
PV Charge		Max. 95%
Eco Mode		<13W(Dormancy,No Output); <30W(No Load)
Shutdown Leakage Current		<100uA
AC Output(On Grid)		
output Wiring		Single-phase two-wire(L,N)+Ground wire
Output Voltage		230 Vac
Output Frequency		50/60Hz
Input Power Factor		≥0.95
Battery and Charge		
Nominal Capacity		2.56kWh
Max Dis/Charge Depth		90%
Nominal Battery Voltage		51.2V
Battery Type		LiFePO ₄
Discharge Cut-off Voltage		49.6 V(Continuously Adjustable)
Charge Current		Maximum 50A ,Can Be Set Digitally,Default 25A
Protection Feature		Overload Protection, Over-Temperature Protection, Input Over-Voltage Protection, Input Under Voltage Protection, Over-Charge Protection, Over-Discharge Protection

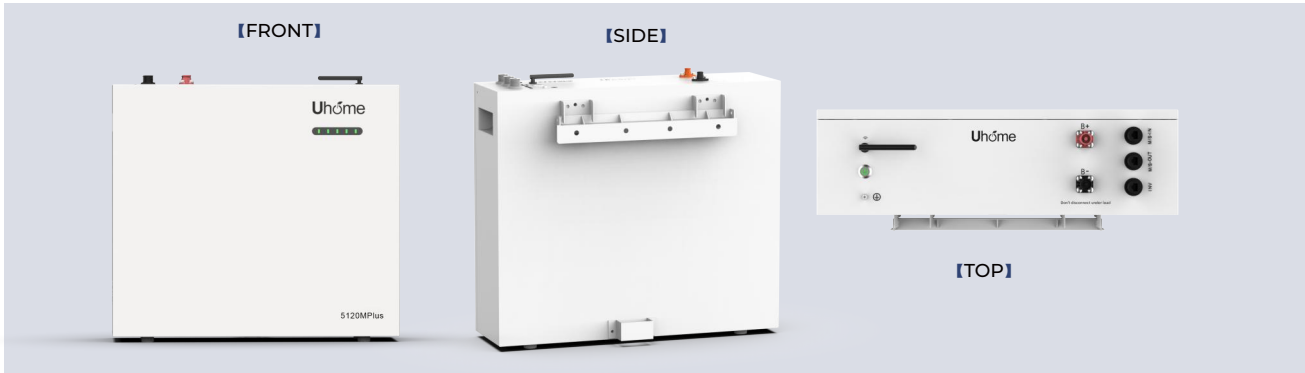
Technical Specifications

Solar Charge	
PV Max Input Power	800W*2
PV Max Open-Circuit Voltage	100VDC
PV Operating Voltage Range	10-100VDC
PV Input Current	0-16A*2
General Parameter	
Grid-Connected Power	The grid-connected power can be set to 0~2400W (the default grid-connected power is less than 800W)
Parallel Connection Number	2-6pcs
Customer APP(WIFI Bluetooth Module Customer)	Mobile APP manages and controls grid-connected time and power, on-grid standard selection, etc
Communication Interface	WIFI/CAN
LED Indicator	Operating status: AC/OUT、CHARGE、FAULT
Software Update	Remote/Local
Operating Temperature Range	Normal full power working environment temperature -10-45 C, above 45 C, the power will be derated to 55 C before shutting down
Operating Humidity Range	0-98%(No Condensation)
Cooling Method	Forced air cooling
IP Rating	IP65
Dimension	569*460*165 mm
Weight	32KG
Safety and Electromagnetic Compatibility Standards	IEC62619/IEC63056/VDE2510-50/ICE/EN62109/EN300328/EN300386/EN50549-1/VDE4105and Other Relevant European Standard
Work Mode	
Self-consumption Mode (allow feeding, prohibit feeding - enable feeding)	<p>A/ PV priority: Priority is given to load supply, excess energy is used to charge the battery, and the remaining energy is fed back to the grid;</p> <p>B/When the photovoltaic energy is insufficient, the battery will be prioritized for compensation, followed by the supply of mains electricity.</p> <p>Notes:</p> <p>A/ Self-consumption mode (allow feeding, prohibit feeding - enable feeding);</p> <p>B/ When two modes are used together ,in case of conflict between self-consumption mode and time-of-use mode , the latter takes priority).</p> <p>The selection of feeding countries corresponds to different feeding power levels in different countries. Germany has a feeding power of 800W, while other countries have a feeding power of 1600W.</p>
Off-grid Mode(UPS)	<p>Grid supplies the power to loads directly, automatically switchover UPS supply when the grid outage(<10ms).</p> <p>A/ Discharge: Photovoltaic priority, insufficient photovoltaic energy, battery compensation, followed by grid supplementation;</p> <p>B/ Charging: Photovoltaic priority, insufficient photovoltaic energy, compensation for mains charging.</p>

PRODUCT RENDERING [Dimension] [Weight]



Technical Specifications



Model	5120MPlus(Expansion Battery)	
Total Energy*	5.4kWh	
Usable Energy(DC)*	4.9kWh	
Peak Power(Discharge)	6kW for 3s	
Voltage	48~56Vd.c	
Nominal Voltage	51.2Vd.c	
Max Charge Voltage	57.6Vd.c	
Rated Discharge Current	100A	
Rated Charge Current	60A	
Weight	50±1kg	
Dimension(L*W*H)	569*165*560mm	
Max Recommended DOD	93%	
Operating Condition	Indoor/Outdoor	
Operating Temperature (Cell)	Charge	From 0~55 C
	Discharge	From -20~55 C
WIFI Bluetooth Frequency Range	2400MHz~2483MHz	
Bluetooth Max. Transmisson Power	7.5dBm	
WIFI Max. Transmisson Power	17.8dBm	
Recommended Humidity	<60%(No condensed water)	
Over Voltage Category	II	
Cooling Type	Natural convection	
Case Material	Metal	
Color	Black or White	
Installation	Wall/Ground/Rack Mounting	
IP Rating	IP 65	
Communication	CAN/ RS485	
Protection Mode	Dual hardware protection	
Battery Protection	Over-current/Over-voltage/Short circuit/ Under-voltage/Over temperature	
Safety	Cell UL 1973/CE	
Hazardous Material Classification	9	
Transportation	UN 38.3	
Battery Type	Semi-Solid State Battery(Please refer to the instructions on the next page for details)	
Product Warranty	10 years warranty, 6000 cycles life 1)For better battery life cycles,we suggest charge in 0.5C @25°C 2)For better battery life cycles,we suggest discharge in 0.5C @25°C	

Testing conditions based on temperature 25 C at the beginning of life.

*Total Energy/Usable Energy measured under specific conditions from uhome 0.2C CC-CV.

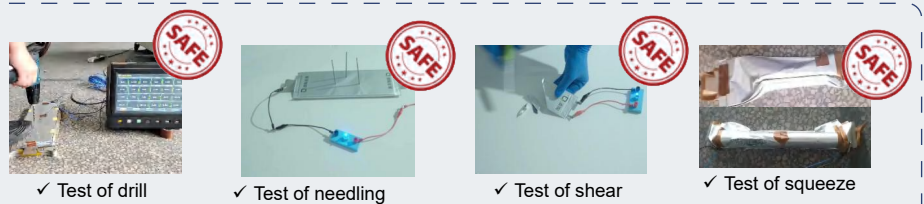
What Is Semi-Solid State

In solid-state lithium-ion batteries, lithium ions travel between electrodes through a solid electrolyte during the charging and discharging processes. However, full solid-state batteries encounter challenges related to limited contact efficiency between the electrodes and the electrolyte. To overcome this issue, a promising solution is to incorporate small amounts of liquid electrolytes, which can optimize battery performance and extend lifespan.

Semi-solid state batteries, the 1st generation of all solid state, offer enhanced safety compared to traditional LFP batteries, as the solid components significantly reduce the risk of leakage. Additionally, the special small amounts inclusion of liquid electrolytes improves ion conductivity, thereby enhancing overall battery performance.

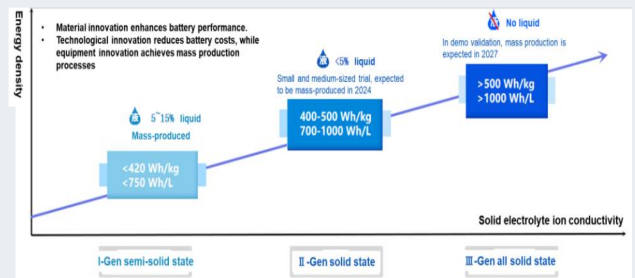
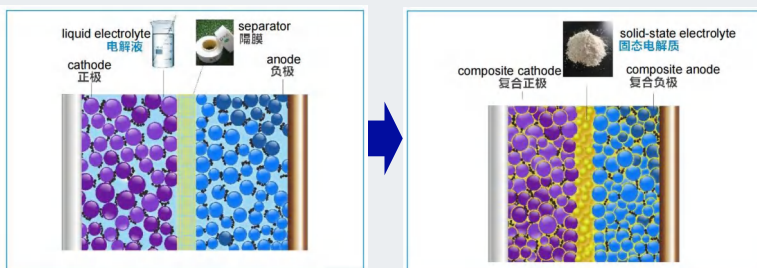


The core and barrier of solid-state LIBs is the innovative development of materials.



Our products have undergone multiple rigorous tests.

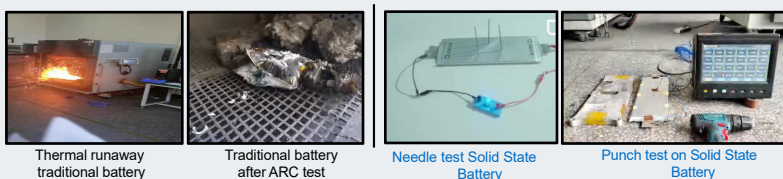
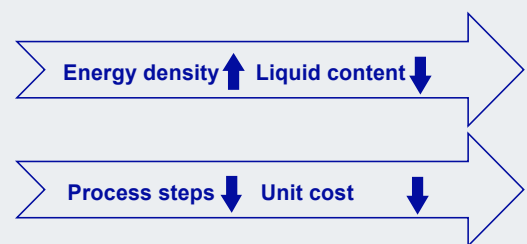
Core Advantages



MUCH SAFER: The liquid electrolyte content of semi-solid state batteries is reduced to 5% -10%, and the semi-solid structure significantly reduces the risk of leakage. The solid-state electrolyte layer suppresses lithium dendrite growth and reduces the probability of thermal runaway.

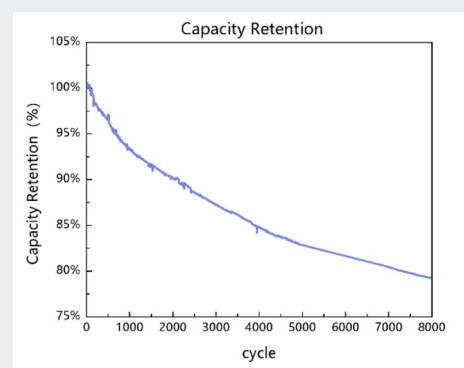
LONGER SPAN LIFE: Solid electrolytes slow down the corrosion and volume expansion of electrode materials, improving long-term stability.

HIGHER COST-EFFECTIVENESS: The semi-solid state battery adopts in-situ solidification technology, and only requires partial modification of the liquid battery production line to achieve mass production, greatly reducing equipment investment costs.



300°C ARC Test (Accelerating Rate Calorimeter)		
Items	Solid state LFP Battery	Traditional LFP
Max. temperature rise rate (dT/dt) _{max} (°C/S)	0.235	2.129
Temperature point T _{max} (°C)	No thermal runaway	471.4

Note: Definition conditions for thermal runaway, temperature rise rate dT/dt ≥ 1°C/S



High Safety

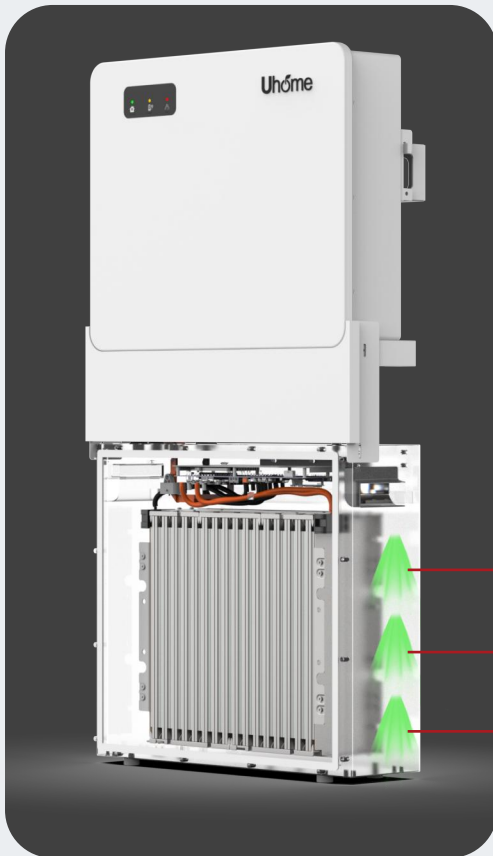


Long Battery Life



More affordable

Built-in Aerosol Fire Protection System



Security upgrade and fire protection are guaranteed

The aerosol spray state is white, and here is a clear illustration, so green is used to indicate visibility.

Core Advantages

Insulation and thermal runaway protection:

The thermal conductivity of aerogel is extremely low ($0.013 - 0.025 \text{ W}/(\text{m} \cdot \text{K})$), which is only $1/5 - 1/3$ of that of traditional materials, and can effectively block the heat transfer between electric cores;

Excellent flame retardant performance:

Silica aerogel can withstand high temperature of $800 \text{ }^\circ\text{C}$ without decomposition, which is superior to traditional polyurethane and other materials, significantly reducing fire risk;

Capable of quickly extinguishing fires:

The hot aerosol fire extinguishing device can release a large amount of inert gas within 10-13 seconds, quickly extinguishing fires in enclosed spaces such as data cabinets;

Lightweight design:

The density of aerogel is as low as $0.16 \text{ mg}/\text{cm}^3$ (all carbon aerogel), and the thickness is only $1/5 - 1/3$ of that of traditional materials under the same thermal insulation effect, which can reduce the weight of battery pack and increase the energy density by $5\% - 10\%$;

More environmentally friendly and cost-effective:

The service life of aerogel is 4 times that of traditional materials, and long-term use reduces maintenance costs;