Uhome

OUR ENVIRONMENT, OUR ENERGY, OUR FUTURE

First Solid-State Lithium-ion Battery ESS

LFP 5120M/10240M

6000
Cycle Life@25°C

Solid-State
Battery Cells better safety

1.5C
Faster charging& Discharging

7680/ 10200W
Peak Power

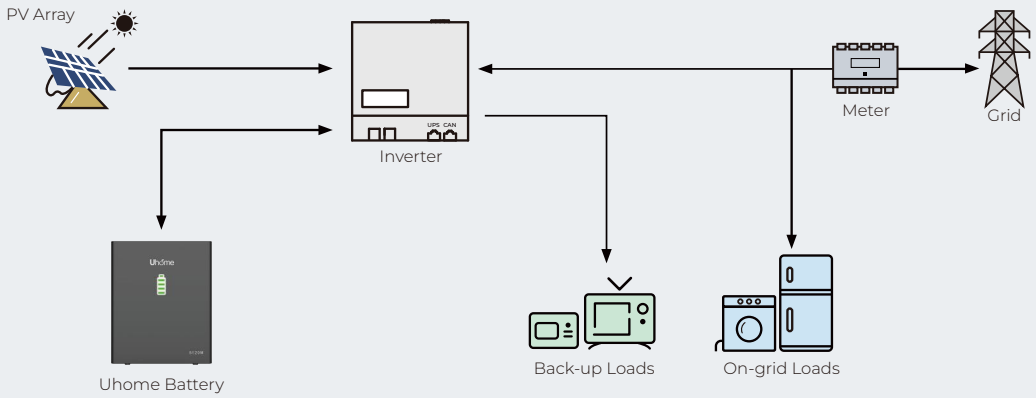
Increase 8%
Energy Density

No DIP Switch
Easy for commission

93%
Max Recommended DOD
(Set at 90% DOD simultaneously)

Versatile Installation
Wall/Ground/Rack Mounting

16P
Supports parallel connection of 16 units, with batteries co-mmunicating with inverters as the host.



Model		LFP 5120M	LFP 10240M
Technical Specifications			
Total Energy*		**5.1kWh**	**10.2kWh**
Usable Energy(DC)*		4.6kWh	9.4kWh
Max Charge Power		5.12kW	10.2kW
Max Discharge Power		7.68kW	10.2kW
Peak Power(Only Discharge)		8kW for 3s	8kW for 3s
Voltage		48~56Vd.c	
Nominal Voltage		51.2Vd.c	
Max Charge Voltage		57.6Vd.c	
Max Discharge Current		150A	150A
Max Charge Current		100A	120A
Peak Discharging Current		200A/10s	
Weight		46kg	89kg
Dimension(L*W*H)		442*165*535mm	442*165*920mm
Max Recommended DOD		93%	
Operating Condition		Indoor	
Operating Temperature	Charge	From 0~50℃	
	Discharge	From -20~55℃	
WIFI Frequency Range		2.4GHz	
Recommended Humidity		<60%(No condensed water)	
Cooling Type		Natural convection	
Case Material		Metal	
Color		Black or White	
Installation		Wall/Ground/Rack Mounting	
IP Rating		IP 20	
Max Connection Number		16P	
Communication		CAN/ RS485	
Protection Mode		Dual hardware protection	
Battery Protection		Over-current/Over-voltage/Short circuit/ Under-voltage/Over temperature	
Safety		Cell CE	
Hazardous Material Classification		9	
Transportation		UN 38.3	
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℃ 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.

✓ Test of drill

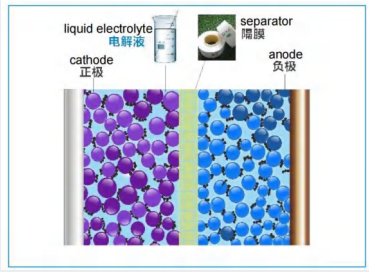
✓ Test of needling

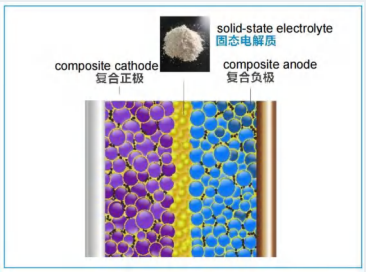
✓ Test of shear

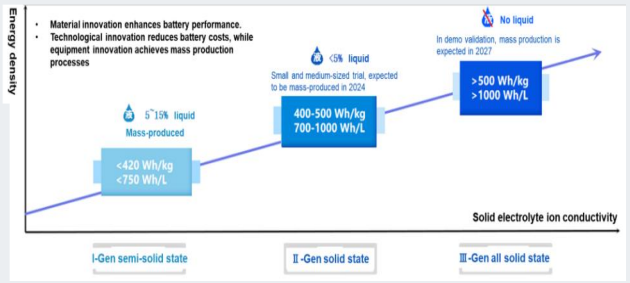
✓ Test of squeeze

Our products have undergone multiple rigorous tests.

Product Advantages



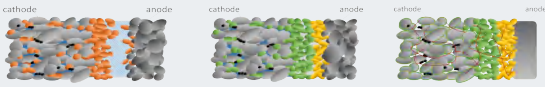




MUCH SAFER: The liquid electrolyte content of semi-solid state batteries is reduced to 5% -10%, and the semi-solid structure significantly reduces the risk of leakage. The solid-state electrolyte layer suppresses lithium dendrite growth and reduces the probability of thermal runaway.

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.

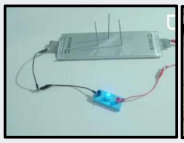


Energy density ↑ Liquid content ↓

Process steps ↓ Unit cost ↓

Thermal runaway traditional battery

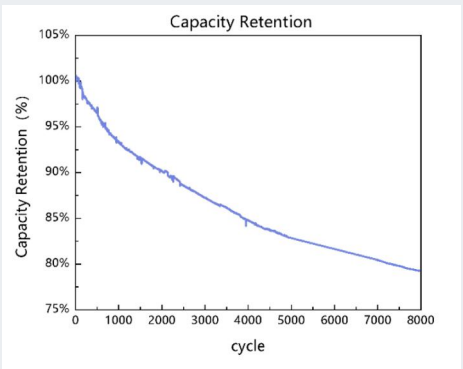
Traditional battery after ARC test



Needle test Solid State Battery

Punch test on Solid State Battery

300℃ ARC Test (Accelerating Rate Calorimeter)		
Items	**Solid state LFP Battery**	**Traditional LFP**
Max. temperature rise rate (dT/dt)max(℃/S)	0.235	2.129
Temperature point Tmax (℃)	No thermal runaway	471.4
Note: Definition conditions for thermal runaway, temperature rise rate dT/dt ≥ 1℃/S		



High Safety

Long Battery Life

More affordable