

5120M/5120M Pro/10240M

PIONEER SOLID-STATE BATTERY ESS



6000
Cycle Life@25°C



Solid-State
Battery Cells better safety



1.5C
Faster Discharging



IP 20/IP 65
Fearless of outdoor installation,
strong environmental adaptability



No DIP Switch
Easy for commission



Versatile Installation
Wall/Ground/Rack Mounting



Great Expandability
Supports parallel connection
of 16 units



● Technical Specifications

Product Image			
Model	LFP 5120M	LFP 5120M Pro	LFP 10240M
Battery Type	Semi-solid state pouch		
Nominal Energy	5.12kWh	6.1kWh	10.2kWh
Usable Energy*	4.7kWh	Not less than 5.4kWh	9.4kWh
Nominal Capacity	100Ah	120Ah	200Ah
Nominal Voltage	51.2V		
Operating Voltage	48~56V		
Under Lead-acid Mode	Recommended Current	50A	
	Recommended Voltage	48~55.2V	
Recommended Charge&Discharge Current	50A/50A	60A/60A	100A/100A
Max Charge/Discharge Current	80A/100 A	80A/100 A	100A/120 A
Peak Discharge Current	150A(3S)		
Peak Discharge Power	7.68kW(3S)		
Recommended Depth of Discharge (DOD)	93%		
Charging Temp. Range	From 0~55 C		
Discharging Temp. Range	From -20~55 C		
Cycle Life	>6000@25 C		
Scalability	16 Parallel		
WIFI Module	Uhome		
Communication	CAN/ RS485		
IP Rating	IP20	IP65	IP20
Recommended Humidity	5%~95%(No condensed water)		
Cooling Type	Natural cooling		
Color	White(optional)		
Installation	Rack/Wall/Ground mounted	Wall/Ground mounted	Ground/Rack mounted
Net Weight	46kg	57±1kg(Top Cover optional)	88kg
Dimension(L*W*H)	535*442*165mm	440*588*165mm	442*920*165mm
Protection	Over-current/Over-voltage/Short circuit/ Under-voltage/Over temperature		
Warranty	10 years*		
Certification	UN38.3/CE/IEC62619		

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

*Total Energy/Usable Energy measured under specific conditions by Uhome 0.2C CC-CV and based on recommended DOD(93%);

Semi-Solid State Battery Introduction

What is Semi-Solid State Battery

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.

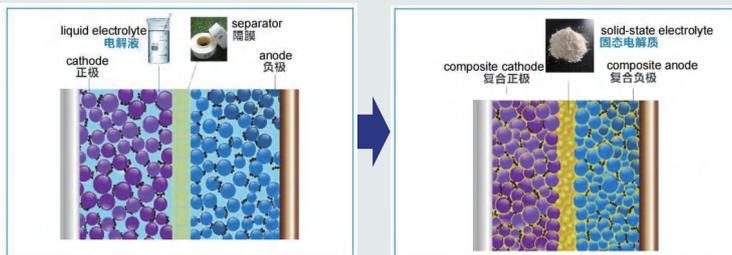


The core and barrier of solid-state LIBs is the innovative development of materials.

✓ Test of drill ✓ Test of needling ✓ Test of shear ✓ Test of squeeze

Our products have undergone multiple rigorous tests.

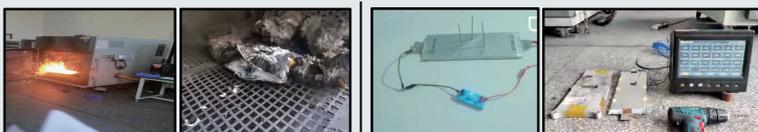
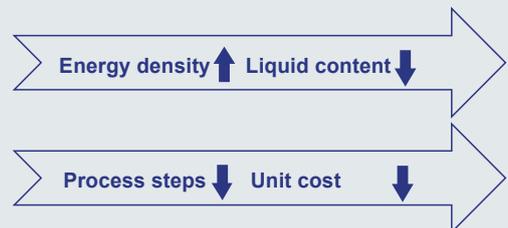
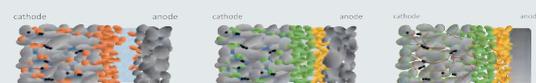
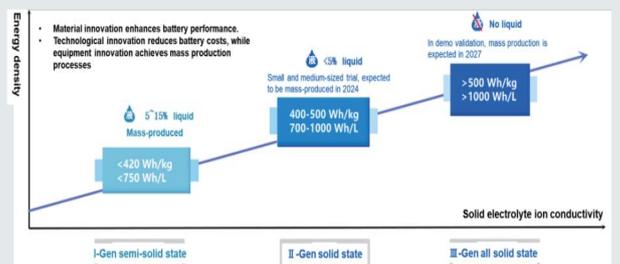
Core Advantages



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.

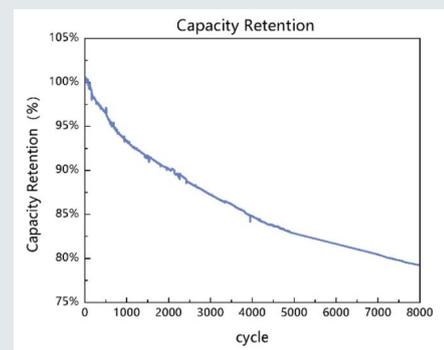
LONGER SPAN LIFE: Solid electrolytes slow down the corrosion and volume expansion of electrode materials, improving long-term stability.

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