

Pioneer Solid-State Lithium-ion Battery ESS

6140SM/S 24.56-79.82kWh

- High-performance high-voltage storage system.
- Modular design for ultimate flexibility.
- Suitable for a wide range of applications.
- Expandable up to 79.82 kWh capacity.
- Plug-and-play for quick installation



PRODUCT FEATURES



Ultra safe with
solid-state battery cells



Built-in fire extinguishing
system(optional)



SOC balancing between
packs & clusters



Easy installation:save
time and costs



Flexible expansion: up to
8 clusters in parallel





Built-in
intelligent BMS



WAN Port
& WIFI


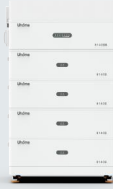
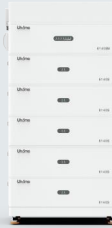

● Technical Specifications

Battery Module Image		
Model	6140SM(Master)	6140S(Slave)
Battery Type	Semi-solid state Prismatic	
Nominal Energy	6.14kWh	
Usable Energy*	5.83kWh	
Nominal Capacity	120Ah	
Nominal Voltage	51.2V	
Operating Voltage	41.6~57.6V	
Under Lead-acid Mode	Recommended Current	50A
	Recommended Voltage	48~55.2V
Recommended Charge&Discharge Current	80A/100A	
Max Charge/Discharge Current	120A/120A	
Peak Discharge Current (2min 25℃)	125A	
Peak Discharge Power (2min 25℃)	6.144kW	
Recommended Depth of Discharge (DOD)	95%	
Charging Temp. Range(Cell)	From 0~55℃	
Discharging Temp. Range(Cell)	From -20~55℃	
Operating Ambient Temperature (Pack)	With heating module:-30~55℃ / No heating module:-20~55℃	
Cycle Life	≥8000@25℃	
Scalability	1 Master series	Up to 12 Slave series
WIFI Module	Built-in	
Communication	CAN/ RS485	
IP Rating	IP65	
Recommended Humidity	5%~95%(No condensed water)	
Cooling Type	Natural cooling	
Color	White(optional)	
Installation	Stack-mounting	
Net Weight	59±1kg	56±1kg
Dimension (W*H*D)	620*170*400mm	
Protection	Over-current/Over-voltage/Short circuit/Under-voltage/Over temperature	
Heating Module	Yes	
Balancing Module	Yes	
Fire Protection	Built-in aerosol(optional)	
Warranty	10 years*	
Certification	CE/UN38.3/IEC62619/IEC62477	

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

*Total Energy/Usable Energy measured under specific conditions by Uhome 0.2C CC-CV and based on recommended DOD(95%);


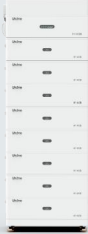

● Technical Specifications

Product Image					
Model		24.56kWh	30.70kWh	36.84kWh	42.98kWh
Battery Type		Semi-solid state Prismatic			
Nominal Energy		24.56kWh	30.70kWh	36.84kWh	42.98kWh
Usable Energy*		23.33kWh	29.16kWh	34.99kWh	40.83kWh
Nominal Capacity		120Ah			
Nominal Voltage		204.8V	256V	307.2V	358.4V
Operating Voltage		166.4~230.4V	208~288V	249.6~345.6V	291.2~403.2V
Under Lead-acid Mode	Recommended Current	50A			
	Recommended Voltage	192~220.8V	240~276V	288~331.2V	336~386.4V
Recommended Charge&Discharge Current		80A/100A			
Max Charge/Discharge Current		120A/120A			
Peak Discharge Current (2min 25℃)		125A			
Peak Discharge Power (2min 25℃)		24.57kW	30.72kW	38.84kW	42.98kW
Recommended Depth of Discharge (DOD)		95%			
Charging Temp. Range(Cell)		From 0~55℃			
Discharging Temp. Range(Cell)		From -20~55℃			
Operating Ambient Temperature (Pack)		With heating module:-30~55℃ / No heating module:-20~55℃			
Cycle Life		≥8000@25℃			
Scalability		4S	5S	6S	7S
WIFI Module		Built-in			
Communication		CAN/ RS485			
IP Rating		IP65			
Recommended Humidity		5%~95%(No condensed water)			
Cooling Type		Natural cooling			
Color		White(optional)			
Installation		Stack-mounting			
Net Weight		227±4kg	283±5kg	339±6kg	395±7kg
Dimension (W*H*D)		620*680*400mm	620*850*400mm	620*1020*400mm	620*1190*400mm
Protection		Over-current/Over-voltage/Short circuit/Under-voltage/Over temperature			
Warranty		10 years*			
Certification		CE/UN38.3/IEC62619/IEC62477			

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

*Total Energy/Usable Energy measured under specific conditions by Uhome 0.2C CC-CV and based on recommended DOD(95%);




● Technical Specifications

Product Image				
Model		49.12kWh	55.26kWh	61.4kWh
Battery Type		Semi-solid state Prismatic		
Nominal Energy		49.12kWh	55.26kWh	61.4kWh
Usable Energy*		46.66kWh	52.49kWh	58.33kWh
Nominal Capacity		120Ah		
Nominal Voltage		409.6V	460.8V	512V
Operating Voltage		332.8~460.8V	374.4~518.4V	416~576V
Under Lead-acid Mode	Recommended Current	50A		
	Recommended Voltage	384~441.6V	432~496.8V	480~552V
Recommended Charge&Discharge Current		80A/100A		
Max Charge/Discharge Current		120A/120A		
Peak Discharge Current (2min 25℃)		125A		
Peak Discharge Power (2min 25℃)		49.12kW	55.26kW	61.4kW
Recommended Depth of Discharge (DOD)		95%		
Charging Temp. Range(Cell)		From 0~55℃		
Discharging Temp. Range(Cell)		From -20~55℃		
Operating Ambient Temperature (Pack)		With heating module:-30~55℃ / No heating module:-20~55℃		
Cycle Life		≥8000@25℃		
Scalability		8S	9S	10S
WIFI Module		Built-in		
Communication		CAN/ RS485		
IP Rating		IP65		
Recommended Humidity		5%~95%(No condensed water)		
Cooling Type		Natural cooling		
Color		White(optional)		
Installation		Stack-mounting		
Net Weight		451±8kg	507±9kg	563±10kg
Dimension (W*H*D)		620*1360*400mm	620*1530*400mm	620*1700*400mm
Protection		Over-current/Over-voltage/Short circuit/Under-voltage/Over temperature		
Warranty		10 years*		
Certification		CE/UN38.3/IEC62619/IEC62477		

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

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● Technical Specifications

Product Image			
Model	67.54kWh	73.68kWh	79.82kWh
Battery Type	Semi-solid state Prismatic		
Nominal Energy	67.54kWh	73.68kWh	79.82kWh
Usable Energy*	64.16kWh	69.99kWh	75.82kWh
Nominal Capacity	120Ah		
Nominal Voltage	563.2V	614.4V	665.6V
Operating Voltage	457.6~633.6V	499.2~691.2V	540.8~748.8V
Under Lead-acid Mode	Recommended Current	50A	
	Recommended Voltage	528~607.2V	576~662.4V
Recommended Charge&Discharge Current	80A/100A		
Max Charge/Discharge Current	120A/120A		
Peak Discharge Current (2min 25℃)	125A		
Peak Discharge Power (2min 25℃)	67.54kW	73.68kW	79.82kW
Recommended Depth of Discharge (DOD)	95%		
Charging Temp. Range(Cell)	From 0~55℃		
Discharging Temp. Range(Cell)	From -20~55℃		
Operating Ambient Temperature (Pack)	With heating module:-30~55℃ / No heating module:-20~55℃		
Cycle Life	≥8000@25℃		
Scalability	11S	12S	13S
WIFI Module	Built-in		
Communication	CAN/ RS485		
IP Rating	IP65		
Recommended Humidity	5%~95%(No condensed water)		
Cooling Type	Natural cooling		
Color	White(optional)		
Installation	Stack-mounting		
Net Weight	619±11kg	675±12kg	731±13kg
Dimension (W*H*D)	620*1870*400mm	620*2040*400mm	620*2210*400mm
Protection	Over-current/Over-voltage/Short circuit/Under-voltage/Over temperature		
Warranty	10 years*		
Certification	CE/UN38.3/IEC62619/IEC62477		

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

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Product Advantages



What is Semi-Solid State

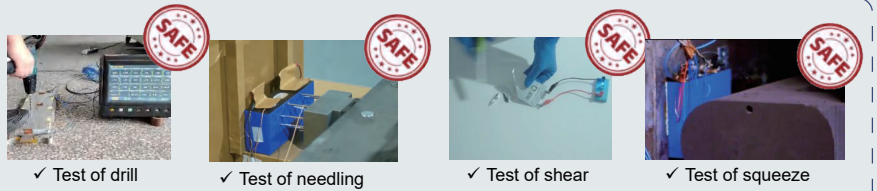
In solid-state lithium-ion batteries, lithium ions travel between electrodes through a solid electrolyte during the charging and discharging processes. However, full solid-state batteries encounter challenges related to limited contact efficiency between the electrodes and the electrolyte. To overcome 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 solid electrolyte base material used by our company is a functional ceramic material

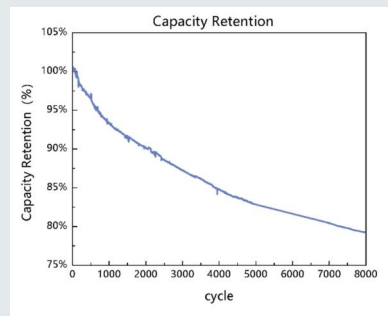
The core and barrier of solid-state LIBs is the innovative development of materials.



Our products have undergone multiple rigorous tests.

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.



High Safety



Long Battery Life

Built-in Aerosol Fire Protection System(Optional)



Security upgrade and fire protection are guaranteed

The aerosol spray is white, green is used for better visibility while illustrating.