

Data center Lithium Battery

SHVP120A01



High safety

LFP battery cells, three-level BMS architecture, and certified by authoritative bodies.



Long life

Long calendar life design, lower TCO.



High reliability

Independent charging and discharging circuit, AC & DC dual power supply, ensuring constant connectivity.

Highly resilient data center energy

High-rate lithium batteries are highly compatible with UPS and HVDC equipment.



Battery



UPS/HVDC



IT load

- High-voltage box with functions such as terminal voltage collection, current collection, control, and protection.



- The battery cell type is lithium iron phosphate, and it comes standard with L1 module-level fire protection.
- Integrated BMU with conventional parameter monitoring and alarm functions such as voltage and temperature, as well as battery balancing management.

Tips Data centers lithium battery solution

Shoto Data center Lithium Battery Solution. It uses highly safe and reliable lithium iron phosphate battery cells, which have the advantages of integration, intelligence, energy saving and environmental protection. It adopts centralised monitoring, convenient maintenance, unattended operation, standardised cabinet installation and other methods.

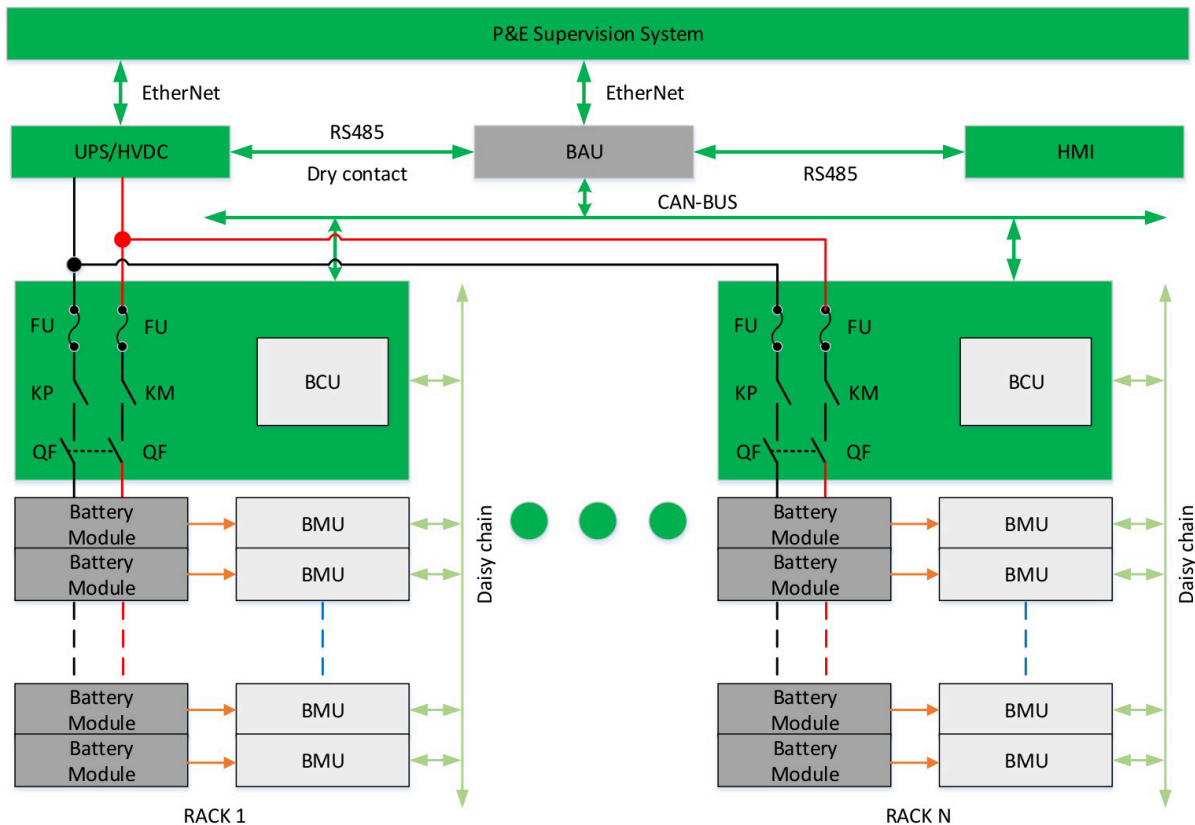


Figure 1 System topology diagram

System features:

- The BMS adopts a three-level management architecture, supporting real-time data collection, status monitoring, and control protection;
- The system has a comprehensive software protection and hardware protection function design and has passed UL certification, ensuring high safety and reliability.
- It has good equipment compatibility, excellent EMC interference resistance, and provides a rich communication interface.

Tips

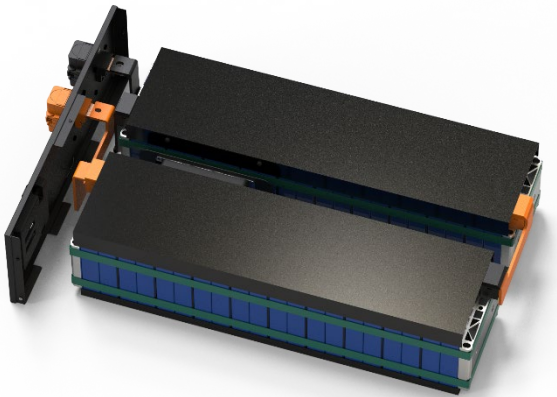
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Item	Parameter
Electrochemical system	LFP
Rated voltage (Vdc)	512
Rated capacity (Ah)	120
Rated energy (kWh)	61.4
Number of battery modules	10
Number of high-voltage boxes	1
Voltage range (Vdc)	432~568
Maximum operating temperature	Charge 0°C to 40°C
	Discharge -20°C to 40°C
Recommended ambient temperature	15°C to 35°C
Heat dissipation method	Natural cooling
Charging current	$\leq 0.2C$, 0°C < battery temperature < 10°C
	$\leq 1C$, 10°C \leq battery temperature < 40°C
	$\leq 0.5C$, 40°C \leq battery temperature < 65°C
	$\leq 0.2C$, 65°C \leq battery temperature < 70°C
Maximum discharge power	272kW
Battery module type	51.2V120Ah (3P16S)
Dimensions	600×1000×2000mm/600×1000×2300mm
Weight ($\pm 3\%$)	902kg
Parallel number	Supports up to 16 cabinets in parallel
Storage temperature	-20~45°C
Altitude	0–4000 m, above 2500 m, use 3%/500 m derating
Humidity	5%~95%RH
Protection rating	IP20
Protective function	Overvoltage, overtemperature, undervoltage, undertemperature, etc.
Communication interface	RS485, CAN, dry contact, Ethernet port
Communication protocol	Modbus TCP/RTU, CAN2.0B
Compatible device types	UPS、HVDC
Calendar life	10 years, 25 \pm 5°C
Firefighting	Perfluorohexane (standard), aerosol (optional)
Certification Information	UN38.3, IEC 60068-2-64:2019 Vibration testing, CE-EMC, UL1973, UL 9540A, RoHS

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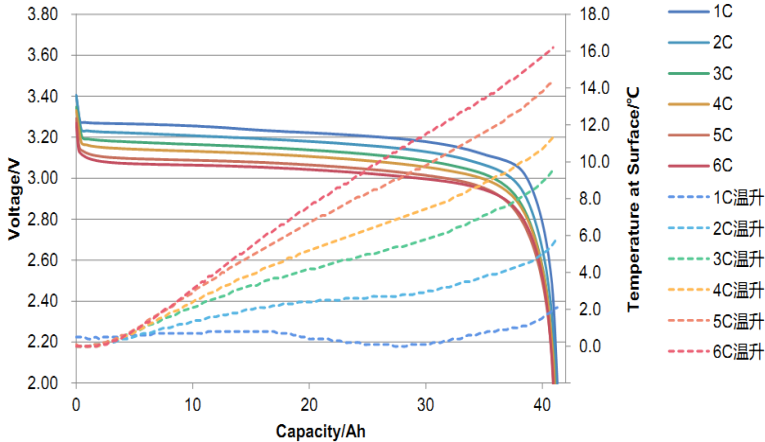
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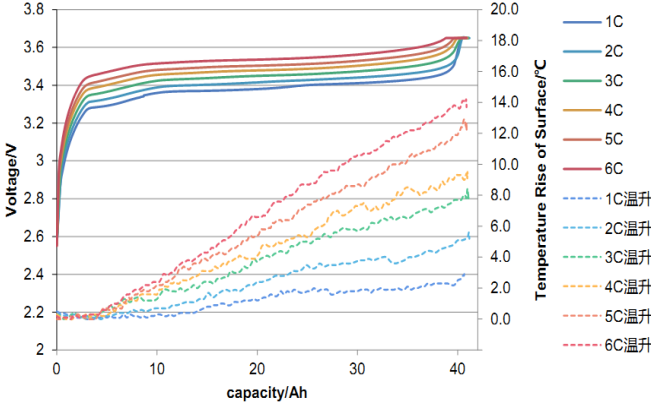
Item	Detail	
Model	SHVP051120M01	
Output power	30min	12.2kW
	15min	24.3kW
	13min	27.2kW
Applicable scenario	≥10min backup power supply	

Battery charge-discharge curve

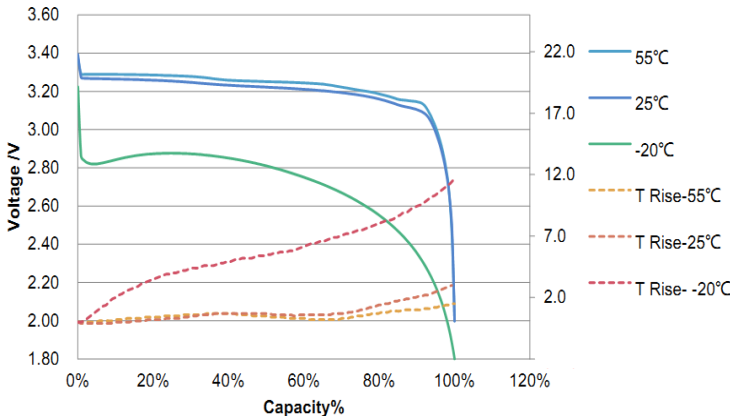
Battery cell discharge characteristic curve



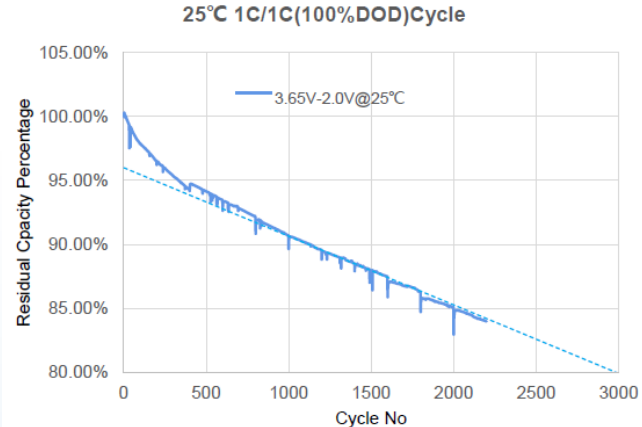
Battery cell charging characteristic curve



Discharge curves at different temperatures



Cycle performance curve



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