

Liquid-cooled Container Energy Storage System

The liquid-cooled container energy storage system is a DC battery system composed of lithium iron phosphate batteries, BMS, thermal management system, fire protection system, power distribution system and other equipment. Depending on different scenarios, it can be rapidly deployed and networked in coordination with AC-side systems such as converters, to provide safe, reliable and long-life power support.



1. Adopts a standardized battery cluster architecture, with independent electrical isolation and hierarchical protection for each cluster. Single-point faults can be accurately cut off without spreading or affecting the operation of the entire cabin, ensuring sufficient safety redundancy.
2. Equipped with a bottom plate-type full-area liquid cooling system, the temperature difference of cells in the entire cabin is $\leq 3^{\circ}\text{C}$, adapting to various extreme outdoor working conditions.
3. The closed liquid cooling cycle design eliminates hidden dust accumulation risks and does not require frequent maintenance. The self-consumption of temperature control auxiliary equipment is low, saving more than 50% energy compared with air cooling, and reducing full-cycle energy consumption.
4. Equipped with three-level BMS full-area monitoring + Pack-level clean fire protection, it has the capability of extremely early warning of thermal runaway, effectively blocking thermal spread with comprehensive and reliable protection.
5. Adopts an integrated prefabricated design, pre-installation and commissioning are completed in the factory. On-site operation can be launched only after simple connection, featuring short construction period and low civil engineering investment.
6. The standardized modular structure supports flexible parallel capacity expansion of multiple cabinets, enabling rapid construction of MW-level and 100MW-level energy storage power stations to meet multi-scenario deployment requirements.
7. Supports unattended intelligent operation and maintenance, with modular plug-and-replace design, short fault shutdown time, high equipment availability and significantly reduced O&M costs.
8. The system's comprehensive round-trip efficiency is $\geq 92\%$, with long-life battery design, the LCOE per kWh over the full life cycle is better, which improves the project return on investment.

Product Model	VN5015-052S	VN5015-104S	VN3035-104S
Cell Chemistry	LFP		
Cell Brand	CATL	REPT	CATL
Cell Rated Capacity (Ah)	314	314	285
Series-parallel Structure	12P416S	12P416S	8P416S
System Rated Energy (kWh)	5015	5015	3035
System Charge-discharge Rate	0.5C	0.5C	1C
System Rated Power (kW)	2,507	2,507	3,035
System Rated Voltage (V)	1,331		
Cooling Method	Liquid Cooling		
Fire Protection System	Aerosol / Water Fire Protection		
Operating Temperature Range	-30 to 50°C (Derated Operation above 45°C) / -22 to 122°F		
Operating Humidity Range	0~100%(<95%Non-condensing)		
Noise Level	<85dB		
Anti-corrosion Grade	C5		
Altitude	<5,000m(16,400 ft)-(Derated Operation@ >2000m)		
Ingress Protection Rating	IP55		
Weight	<45t	<43t	<35t
Dimensions(L*W*H)(mm)	6250*2650*3100	6058*2438*2896	6096*2650*3100
Certification Certificate			

Specifications and models are subject to change without prior notice.

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