510 kWh battery storage

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In the ever-evolving landscape of renewable energy storage solutions, China stands at the forefront of innovation, particularly in the realm of energy storage systems. As the demand for reliable and efficient energy storage grows, Chinese manufacturers have stepped up to the challenge, introducing cutting-edge technologies to address the nation’s evolving energy needs. Today, we highlight top 10 5MWh energy storage systems in China.

Recently, CRRC Zhuzhou exhibited a new generation of 5. Compared with the CESS 1.0 standard 20-foot 3.72MWh, the CESS 2.0 has a capacity of 5.016MWh in the same size, a 34% increase in volumetric energy density, a 30%+ reduction in the energy storage cabin area, a 10% reduction in power consumption, and a reduction in project construction costs. 15%, the maximum efficiency of the energy storage inverter reaches 99%, it has strong grid friendliness and has the ability to build a grid.

Sungrow launches the "three-power fusion" PowerTitan 2.0 energy storage system. It is reported that the system uses 314Ah large-capacity battery cells to achieve a capacity of up to 5MWh in a single 20-foot cabinet, saving 29% of the floor space, and only 2,000 square meters per 100MWh.

Compared with the traditional “one cabinet, one PCS”, this system’s AC storage implements “one cluster, one PCS” for the first time, with cluster-level current sharing control and no inter-cluster barrel effect. The system’s full life cycle discharge capacity is increased by 8%. It adopts liquid-cooled PACK + liquid-cooled PCS “full liquid cooling” heat dissipation, and is equipped with AI bionic heat balance technology. It has three temperature control modes: rapid cooling, slight cooling, and heating. It can intelligently switch according to the battery core, ambient temperature, and operating conditions. Electric energy consumption is reduced by 45%.

On August 23, CATL’s 5MWh EnerD series liquid-cooled energy storage prefabricated cabin system took the lead in successfully achieving the world’s first mass production delivery.

EnerD series products use CATL’s new generation of energy storage dedicated 314Ah batteries, equipped with CTP liquid cooling 3.0 high-efficiency grouping technology, optimizing the grouping structure and conductive connection structure of the cells, achieving a 20-foot single cabin power increase from 3.354MWh to 5.0 MWh.

Compared with the previous generation of products, the new EnerD series liquid-cooled energy storage prefabricated cabins save more than 20% in floor space, reduce construction work by 15%, and reduce commissioning, operation and maintenance costs by 10%.

Mercury MAX 5MWh liquid-cooled container adopts the 1P104S large PACK solution, which increases the

energy density by about 20%, effectively optimizing the production process and saving costs; the compact design and reasonable matching of the power of the hydrothermal system can further improve the energy density of the energy storage system. As well as reducing energy consumption; the single 5MWh battery energy storage system makes it easier to select the energy storage converter (PCS) and configure the power station.

On October 24, Intertek Tianxiang Group (hereinafter referred to as “Intertek”) issued a series of ETL, CB, CE and other certificates for Chint Power’s liquid-cooled energy storage system POWER BLOCK2.0 for ground power stations. This product is the first 20-foot 5.0MWh container energy storage system in the industry that has passed UL/IEC certification.

This system is currently the liquid-cooled energy storage system with the highest volume specific capacity in the world. A standard 20-foot container can accommodate 5MWh, which reduces the cost per unit watt hour. At the same time, in order to achieve long-term reliability and security of the system, it adopts a comprehensive global security design. Its intelligent liquid cooling temperature control technology and multi-stage variable diameter liquid cooling pipeline design can effectively improve the system cycle life and project revenue throughout the life cycle.

On November 1, ZTT released the “MUSE-3.0 liquid cooling system”. The system is equipped with a 314Ah lithium iron phosphate battery with a battery life cycle of >=10,000 times. It is equipped with a BMS with multi-level balancing function to ensure product service life of >=15 years. 5MWh large capacity, 339.6kWh/m^2 modular high energy density design, 35% higher energy density than the previous generation product, can reduce the project base station footprint by more than 40% and 35% of transportation and hoisting costs.

The system energy of Trina Energy Storage’s new generation of flexible liquid-cooled battery compartment Elementa 2 has been increased from 3.727MWh of the previous generation to 5.015MWh. It uses the self-developed 314Ah Trina core. The cycle life can exceed 10,000 times, the energy density is 179.4Wh/kg, and the energy efficiency is as high as 96%.

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