

# Liquid cooling safety technology for communication base station energy storage system





### **Overview**

By integrating real-time thermal analytics, fail-safe design principles, and bestin-class cooling efficiency, LiquidShield delivers a field-ready, fire-resilient solution optimized for secure, scalable BESS deployment across critical infrastructure and government use cases. What is a liquid cooling system?

The advanced liquid cooling system ensures a cell temperature difference of less than 3%, effectively preventing system overheating and enhancing energy efficiency. This optimized cooling system allows for stable performance and improved longevity of the battery energy storage system.

What is a liquid cooling thermal management system?

The liquid cooling thermal management system for the energy storage cabin includes liquid cooling units, liquid cooling pipes, and coolant. The unit achieves cooling or heating of the coolant through thermal exchange. The coolant transports heat via thermal exchange with the cooling plates and the liquid cooling units.

Are data centres and telecommunication base stations energy-saving?

Data centres (DCs) and telecommunication base stations (TBSs) are energy intensive with  $\sim\!40\%$  of the energy consumption for cooling. Here, we provide a comprehensive review on recent research on energy-saving technologies for cooling DCs and TBSs, covering free-cooling, liquid-cooling, two-phase cooling and thermal energy storage based cooling.

What is a liquid cooling unit?

The product installs a liquid-cooling unit for thermal management of energy storage battery system. It effectively dissipates excess heat in high-temperature environments while in low temperatures, it preheats the equipment. Such measures ensure that the equipment within the cabin maintains its lifespan.

What is pknergy liquid cooled energy storage system?



The PKNERGY liquid-cooled energy storage system solution can be equipped with a self-developed battery pack balancer, increasing the system's usable capacity by 10%. This further unlocks the potential of the liquid-cooled BESS, maximizing its performance and efficiency.

What is a 5MWh liquid-cooling energy storage system?

The 5MWh liquid-cooling energy storage system comprises cells, BMS, a 20'GP container, thermal management system, firefighting system, bus unit, power distribution unit, wiring harness, and more. And, the container offers a protective capability and serves as a transportable workspace for equipment operation.



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<u>Liquid Cooling Energy Storage: Why It's the Coolest Innovation ...</u>

Enter liquid cooling energy storage --a gamechanger that's redefining efficiency, safety, and sustainability in the energy sector. In this blog, we'll dive into why this technology is ...

### 2.5MW/5MWh Liquid-cooling Energy Storage System Technical ...

The project features a 2.5MW/5MWh energy storage system with a non-walk-in design which facilitates equipment installation and maintenance, while ensuring long-term safe and reliable ...



# Silent "Heat War" in Energy Storage Stations: Kehua S³-EStation ...

In response to the severe challenges posed by heat island effects, Kehua has launched the new generation S³-EStation 2.0 5MWh Smart Liquid Cooling Energy Storage ...



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