

Liquid-cooled constant temperature battery station cabinet analysis





Overview

In this paper, the box structure was first studied to optimize the structure, and based on the liquid cooling technology route, the realization of an industrial and commercial energy storage thermal management scheme for the integrated cabinet was studied to ensure that the temperature between the cabinets was consistent and reduce the system capacity loss caused by the liquid-cooled battery module was inconsistent. What is liquid cooling in lithium ion battery?

With the increasing application of the lithium-ion battery, higher requirements are put forward for battery thermal management systems. Compared with other cooling methods, liquid cooling is an efficient cooling method, which can control the maximum temperature and maximum temperature difference of the battery within an acceptable range.

Does liquid-cooling plate connection affect thermal performance of battery pack?

The effects of liquid-cooling plate connections, coolant inlet temperature, and ambient temperature on thermal performance of battery pack are studied under different layouts of the liquid-cooling plate. Then, A new heat dissipation scheme, variable temperature cooling of the inlet coolant, is proposed.

Does a composite cooling system improve battery performance and temperature uniformity?

Yang et al. combined air cooling and microchannel liquid cooling to investigate the thermal performance of a composite cooling system and found that the system facilitated improved battery performance and temperature uniformity.

Why does a liquid cooling plate reduce the temperature of a battery?

The reason for this phenomenon was the temperature difference between the coolant and the battery pack. The liquid cooling plate can extract more heat from the battery pack, leading to a quicker reduction in temperature.



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