ŁOTWA SYSTEM

Bhutan Liquid Cooling Energy Storage Management

Overview

As electric vehicles (EVs) are gradually becoming the mainstream in the transportation sector, the number of lithium-ion batteries (LIBs) retired from EVs grows continuously. Repurposing retired EV LIB.

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.

Does liquid cooling BTMS improve echelon utilization of retired EV libs?

It was presented and analyzed an energy storage prototype for echelon utilization of two types (LFP and NCM) of retired EV LIBs with liquid cooling BTMS. To test the performance of the BTMS, the temperature variation and temperature difference of the LIBs during charging and discharging processes were experimentally monitored.

What is liquid cooling BTMS?

The liquid-cooling BTMS consists of pumps, air conditioner, pipes, valves and cooling plates mounted on the sides or bottom of the battery modules. The temperature of the battery modules during charging and discharging processes is experimentally tested. A full-scale thermal-fluidic model of the ESS prototype is established.

Does ambient temperature affect the cooling performance of liquid-cooling systems?

In the actual operation, the ambient temperature in LIB ESS may affect the heat dissipation of the LIB modules. Consequently, it is necessary to study the effect of ambient temperature on the cooling performance of the liquid-cooling system.

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