



LLSE CONTAINERS

# Factors affecting pack battery performance





## Overview

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What factors affect battery performance?

These determining factors include temperature, State of Charge (SOC), rest time, power rate, depth of discharge, and heat . . . Each of these factors contributes to the overall performance and its degradation process, whether the battery is operational or static.

How does temperature affect the performance of a battery pack?

Uneven temperature distribution leads to different charge and discharge behaviours causing electrical unbalance in the modules which reduces the performance of the battery pack. When a battery pack is integrated with the vehicle, it becomes a more complex system confronting many safety problems (Garg et al., 2016).

Why is a battery pack a safety problem?

When a battery pack is integrated into the vehicle, it becomes a more complex system encountering many safety problems. The problems are at micro level which requires a deeper understanding of fundamentals in physics and chemistry in the cell.

How does charging/discharging cycle rate affect battery performance?

Additionally, the charging/discharging cycle rate, especially high rates, significantly impacts cycle stability and thermal management design. The combined effects of these factors can lead to nonlinear changes in battery performance, exacerbating the aging process and potentially triggering safety issues.



## Factors affecting pack battery performance



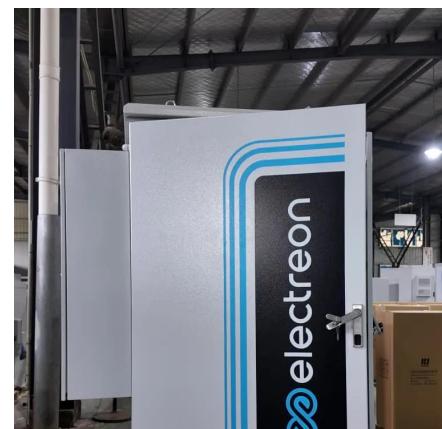
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Jul 30, 2023 · A lithium-ion battery pack is mainly made up of battery cells, battery management system, connector, thermal cooling system and other components. Among them, battery cell is

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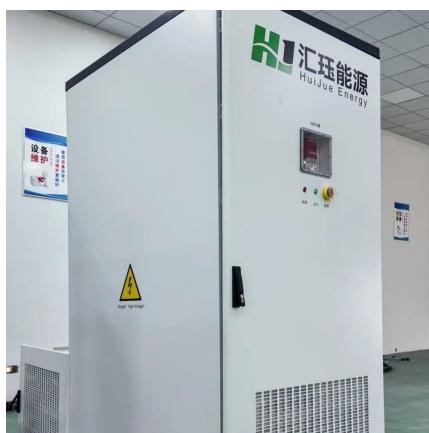


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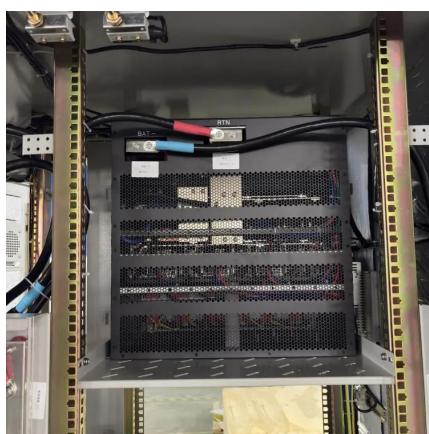
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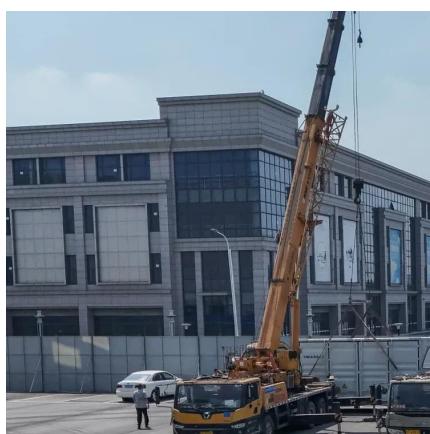


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...



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### From Single Cells to Battery Packs-Understanding Performance

Explore how single lithium cells differ from complete battery packs in performance, efficiency, and design. Learn how system optimization enhances safety, power output, and lifespan for ...



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