Lithium battery pack intelligent charging

Iontra"s charge control MCU chips leverage deep electrochemical and electrodynamic insights to dramatically improve battery charging performance. These MCUs can increase charging ...

Abstract: This paper proposes an intelligent framework for the efficient fast charging of Li-ion batteries while strictly following physical constraints and thermal safety. Using an electrothermal coupled ...

Building upon this, the present study introduces an innovative charging strategy for lithium-ion battery packs, leveraging the deep deterministic policy gradient (DDPG) algorithm to ...

The article initially examines various common charging strategies, followed by an in-depth exploration of the effects of multi-level fast charging strategies on battery life, charging efficiency, ...

With increasing concerns about charging and range anxiety in electric vehicles (EVs), developing safe and fast charging control strategies is particularly important for ensuring the safety of ...

In this study, we have introduced an innovative deep reinforcement learning (DRL) methodology to address the challenges of the fast-charging and balance maintenance of lithium-ion ...

What sets the NOCO GENIUS1 apart is its precise thermal sensor that adjusts charging based on ambient temperature, preventing overcharge in summer or undercharge in winter. It ...

To fill this gap, a review of the most up-to-date charging control methods applied to the lithium-ion battery packs is conducted in this paper. They are broadly classified as...

Here, we enable lithium-ion batteries with intelligence by integrating a conformal array of multifunctional sensors into the packing foil.

This article examines what makes smart batteries truly "smart," explores essential components of lithium-ion battery packs, and provides a review of how this technology enhances ...

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