

Planning and management of wind-solar hybrid solar container communication stations





Overview

What is a new operation strategy for wind and solar hybrid energy storage?

This paper proposes a new operation strategy for wind and solar hybrid energy storage systems. The strategy is optimized by power allocation and a multi-objective genetic algorithm, and the conclusions are drawn following:.

Can a wind-solar hybrid energy storage system ensure a stable supply grid?

This paper proposes a wind-solar hybrid energy storage system (HESS) to ensure a stable supply grid for a longer period. A multi-objective genetic algorithm (MOGA) and state of charge (SOC) region division for the batteries are introduced to solve the objective function and configuration of the system capacity, respectively.

What is a hybrid energy storage system?

In utilizing the wind and solar complementary system, the first part is the power generation system, load system, control system, grid system, and energy storage system are all smoothed out. Hybrid energy storage implemented in this work consists of battery and thermal storage.

How does a hybrid energy storage module satisfy energy conservation constraints?

The dynamic operation of the system satisfies the energy conservation constraint, that is, the difference between the wind-solar complementary output power generation and the grid-connected power is adjusted by the hybrid energy storage module, which can be expressed as Eq. 26: (2)
Equipment operation constraints.



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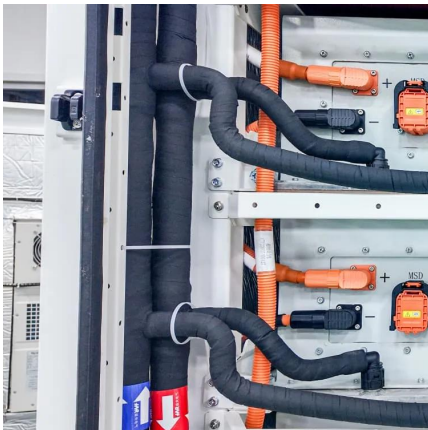
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