

SolarTech Power Solutions

Charging and discharging of energy storage batteries in photovoltaic power stations



Overview

Optimizing the energy storage charging and discharging strategy is conducive to improving the economy of the integrated operation of photovoltaic-storage charging. The existing model-driven stochastic o.

What is a photovoltaic charging station?

Photovoltaic charging stations are usually equipped with energy storage equipment to realize energy storage and regulation, improve photovoltaic consumption rate, and obtain economic profits through “low storage and high power generation” .

What is the scheduling strategy of photovoltaic charging station?

There have been some research results in the scheduling strategy of the energy storage system of the photovoltaic charging station. It copes with the uncertainty of electric vehicle charging load by optimizing the active and reactive power of energy storage .

What is the income of photovoltaic-storage charging station?

Income of photovoltaic-storage charging station is up to 1759045.80 RMB in cycle of energy storage. Optimizing the energy storage charging and discharging strategy is conducive to improving the economy of the integrated operation of photovoltaic-storage charging.

What is the optimal operation method for photovoltaic-storage charging station?

Therefore, an optimal operation method for the entire life cycle of the energy storage system of the photovoltaic-storage charging station based on intelligent reinforcement learning is proposed. Firstly, the energy storage operation efficiency model and the capacity attenuation model are finely modeled.

How is the energy storage charging and discharging strategy optimized?

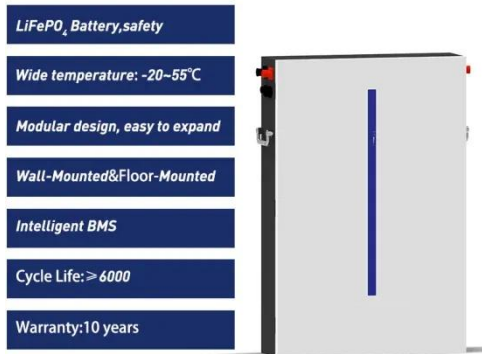
The model is trained by the actual historical data, and the energy storage

charging and discharging strategy is optimized in real time based on the current period status. Finally, the proposed method and model are tested, and the proposed method is compared with the traditional model-driven method.

How to avoid overcharging and overdischarging of energy storage system?

In avoid overcharging and overdischarging of the energy storage system. Despite the fact that constant- discharging, other methods such as FLC or MPC have shown better performances. The main benefits keeping the battery SOC within secure limits. Moreover, the reduction o the investment cost in energy storage capacity and the life expectancy increase.

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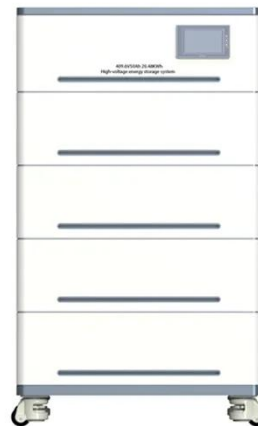


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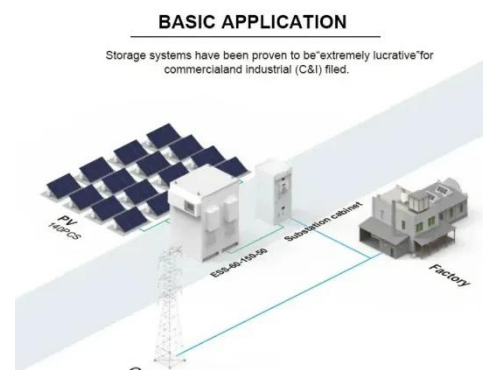


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