

## SolarTech Power Solutions

# How to operate distributed energy storage cabinets in parallel



## Overview

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How do distributed energy storage device units (ESUs) reduce service period?

The distributed energy storage device units (ESUs) in a DC energy storage power station (ESS) suffer the problems of overcharged and undercharged with uncertain initial state of charge (SOC), which may reduce the service period of ESUs. To address this problem, a distributed secondary control based on diffusion strategy is proposed.

What is the difference between decentralized control system and distributed control system?

While, in general, the decentralized control system adopts droop control, which results in a steady-state errors of the output voltage . The distributed control method overcomes the shortcomings of both decentralized control system and centralized control system .

What is Energy Storage Power Station (ESS)?

For the features of renewable energy, the generated output power is random and intermittent. Thus, to increase the accommodation and the utilization of wind energy, an energy storage power station (ESS) is configured to realize peak shaving for the bulk power grid system [5, 6].

What is a distributed secondary control based on diffusion strategy?

To address this problem, a distributed secondary control based on diffusion strategy is proposed. In the first layer, each ESUs operates with its local controller by droop control. In the second layer controller, diffusion strategy coordinate the SOC of multiple distributed ESUs with uncertain initial SOC.

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