

## ContainerPower Energy Solutions

# Energy storage power station module composition and function



## Overview

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The high proportion of renewable energy access and randomness of load side has resulted in several operational challenges for conventional power systems. Firstly, this paper proposes the concept of a flexi.

What is a flexible energy storage power station (fesps)?

Firstly, this paper proposes the concept of a flexible energy storage power station (FESPS) on the basis of an energy-sharing concept, which offers the dual functions of power flow regulation and energy storage. Moreover, the real-time application scenarios, operation, and implementation process for the FESPS have been analyzed herein.

Can a shared energy storage concept perform dual functions of power flow regulation?

This paper proposes an FESPS developed on the basis of a shared energy storage concept, which can execute the dual functions of power flow regulation and energy storage.

What is energy storage/reuse based on shared energy storage?

Energy storage/reuse based on the concept of shared energy storage can fundamentally reduce the configuration capacity, investment, and operational costs for energy storage devices. Accordingly, FESPS are expected to play an important role in the construction of renewable power systems.

What time does the energy storage power station operate?

During the three time periods of 03:00–08:00, 15:00–17:00, and 21:00–24:00, the loads are supplied by the renewable energy, and the excess renewable energy is stored in the FESPS or/and transferred to the other buses. Table 1. Energy storage power station.

How can energy storage system reduce the cost of a transformer?

Concurrently, the energy storage system can be discharged at the peak of power consumption, thereby reducing the demand for peak power supply from

the power grid, which in turn reduces the required capacity of the distribution transformer; thus, the investment cost for the transformer is minimized.

What is the configuration capacity of fesps?

The configuration capacity of FESPS is only 70% of that of conventional shared energy storage power station, which considerably reduces the configuration capacity and investment cost of energy storage equipment. Fig. 13.

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