

Energy storage power station power storage transformer





Overview

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.

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 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.

What is a flexible energy storage powers system (fesps)?

In view of the aforementioned shortcomings, a flexible energy storage powers system (FESPS), featuring dual functions of power flow regulation and energy storage on the basis of the energy-sharing concept, has been proposed in this paper.

How is the load supplied by the superior power grid?

The load is supplied by the superior power grid separately from 01:00 to 05:00. During the period from 06:00 to 08:00, the load is transferred by the power flow. Period of 09:00 and during the period 18:00–19:00, the load is jointly supplied by the renewable energy, energy storage or/and power flow transfer.



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