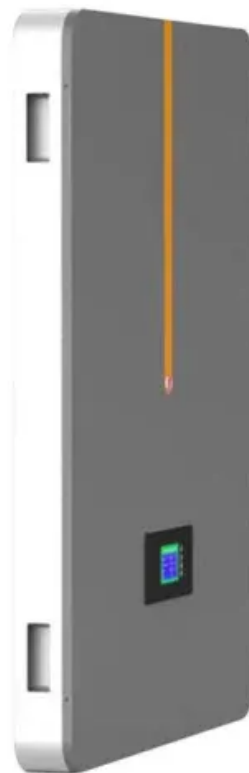


SolarInnovate Energy Solutions

Modular energy storage system



Overview

Modular energy storage refers to self-contained systems designed for flexible deployment, typically housed in standardized enclosures such as shipping containers. What is modular energy storage system?

Stem's Modular Energy Storage System (ESS) solution is a utility-scale energy storage system optimized for total cost of ownership and performance. Stem's Modular ESS scales with power and capacity.

How does the modular ESS work?

The Modular ESS integrates state-of-the-art Lithium Ion Battery System/DC Blocks and Power Conversion Systems (PCS) from top-tier Original Equipment Manufacturers (OEMs). These components undergo integration, testing and validation using Stem's Modular Energy Controller (MEC) and Digital Transformer.

What is a battery energy storage system (BESS)?

To address this challenge, battery energy storage systems (BESS) are considered to be one of the main technologies. Every traditional BESS is based on three main components: the power converter, the battery management system (BMS) and the assembly of cells required to create the battery-pack.

Why should a battery pack be modular?

This is because the reusability of the design and even the repair or replacement of cells becomes much more challenging in a battery-pack with a large number of cells. Modularity allows easily customizing the design for different voltage, power and energy levels.

Are new technology solutions required for more reliable modular battery-packs?

With the results obtained in this research, it is numerically demonstrated that

new technological solutions towards more reliable modular BESSs are mandatory. In parallel, this improvement may enable the incorporation of new control strategies and new replacement systems of damaged battery-packs.

What are the benefits of a modular system?

While at the same time, it may provide improvements like the possibility to perform active thermal distribution control strategies and active cell/module balancing strategies , . In addition to the technical benefits that a modular system can offer, it can also provide greater reliability levels if properly designed.

Modular energy storage system



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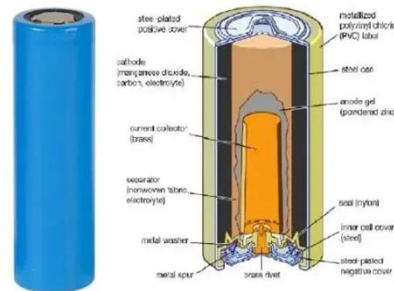


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How Modular Battery Systems

Are Revolutionizing Energy Storage

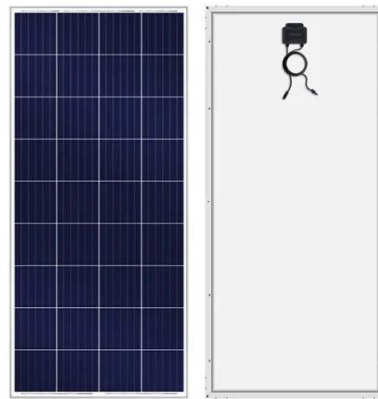


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