SolarTech Power Solutions

Battery cabinet communication high voltage distribution system

Overview

This article will introduce in detail how to design an energy storage cabinet device, and focus on how to integrate key components such as PCS (power conversion system), EMS (energy management system), lithium battery, BMS (battery management system), STS (static transfer switch), PCC (electrical connection control) and MPPT (maximum power point tracking) to ensure efficient, safe and reliable operation of the system.What type of batteries are used in energy storage cabinets?

Lithium batteries have become the most commonly used battery type in modern energy storage cabinets due to their high energy density, long life, low self-discharge rate and fast charge and discharge speed.

What is energy storage cabinet?

Energy Storage Cabinet is a vital part of modern energy management system, especially when storing and dispatching energy between renewable energy (such as solar energy and wind energy) and power grid.

Why do energy storage cabinets use STS?

STS can complete power switching within milliseconds to ensure the continuity and reliability of power supply. In the design of energy storage cabinets, STS is usually used in the following scenarios: Power switching: When the power grid loses power or fails, quickly switch to the energy storage system to provide power.

How to design an energy storage cabinet?

The following are several key design points: Modular design: The design of the energy storage cabinet should adopt a modular structure to facilitate expansion, maintenance and replacement. Battery modules, inverters, protection devices, etc. can be designed and replaced independently.

Why is a battery management system important?

This translates into making the battery packs lower cost with higher energy densities. Every single watt-hour stored and retrieved from the cells is critical to extend the driving range. The main function of a battery management system (BMS) is to monitor cell voltages, pack voltages and pack current.

What is the rated power of a static switching module?

At present, the company mainly operates a series of static switching modules with rated power of 200KW 120KW 105KW. AC voltage range 400/230V (-20%~15%). Maximum Power Point Tracking (MPPT) is a power control technology widely used in solar energy storage systems.

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