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Energy storage device output to 10kv



Overview

Is a 10 kV/1 MW high-capacity PCS scheme correct?

On this basis, a 10 kV/1 MW high-capacity PCS prototype was designed. Additionally, by simulation and experiment, we proved the correctness of the PCS scheme. The topology and control strategy proposed in this paper can provide cases and technical support for the subsequent promotion and application of new energy and power station energy storage.

How many kV is a PCS module?

The source drain voltage of the device is $V_{ds} = 1.2$ kV, and 15 modules are used for each phase in series for 18 kV, meeting the insulation requirements of the 10 kV voltage level. The rated capacity of each module is 23.8 kW, and the rated through current is about 34 A, with a sufficient through current margin. Figure 15. PCS prototype.

How does a PCS support energy storage?

A PCS can schedule and support the bidirectional flow of electric energy on demand under different operation modes, which is the core equipment supporting the operation of energy storage. Large-scale energy storage is favorable currently.

What are the research directions of energy storage PCSs?

Therefore, the key research directions of energy storage PCSs are high-voltage access, single-machine large capacity and modularization. Some scholars have proposed cascaded modular topology in terms of topology [5, 6]. The cascaded H-bridge (CHB) converter obtains the most attention and applications due to its good performance.

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