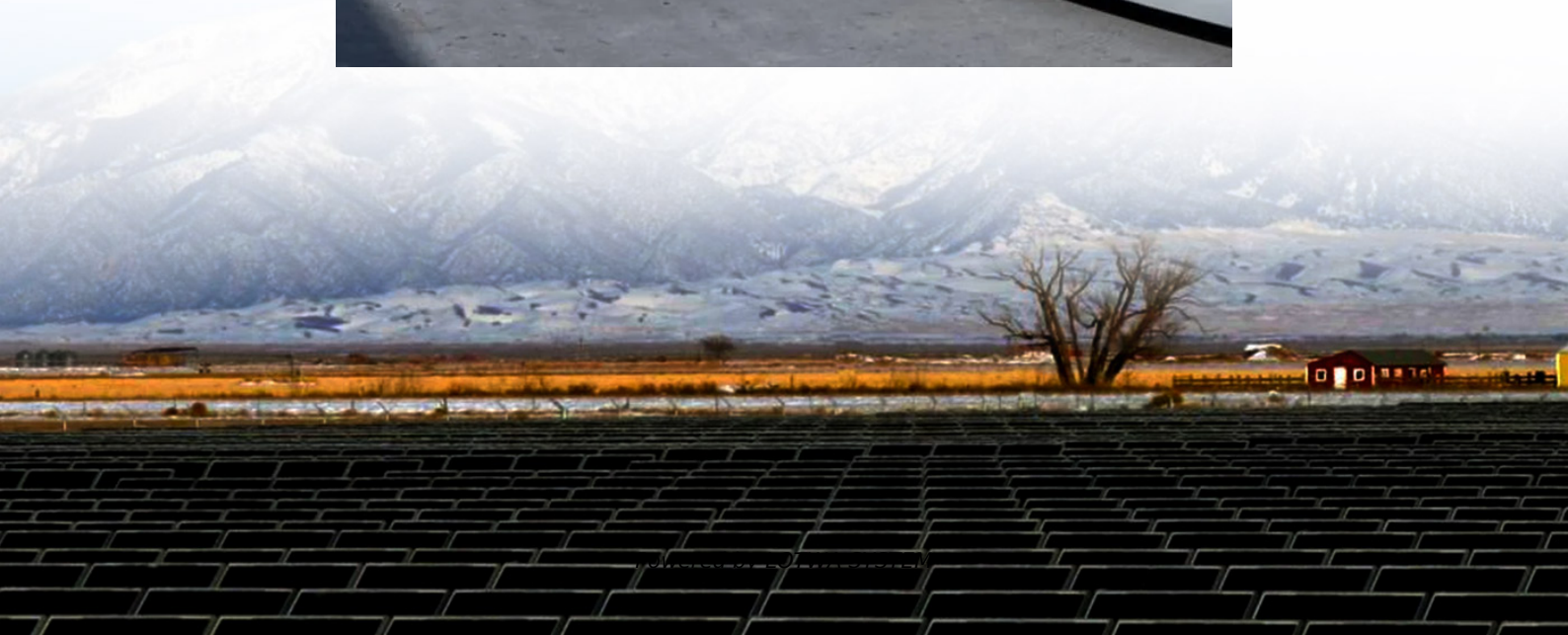


10kV energy storage power supply





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 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.

Why is energy storage important?

Energy storage can solve the power grid's requirements of transient stability and short-term power balance and can be used for long-term power regulation. It can effectively deal with the systemic peak valley regulation and blocking of transmission and distribution lines [1, 2].

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.



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