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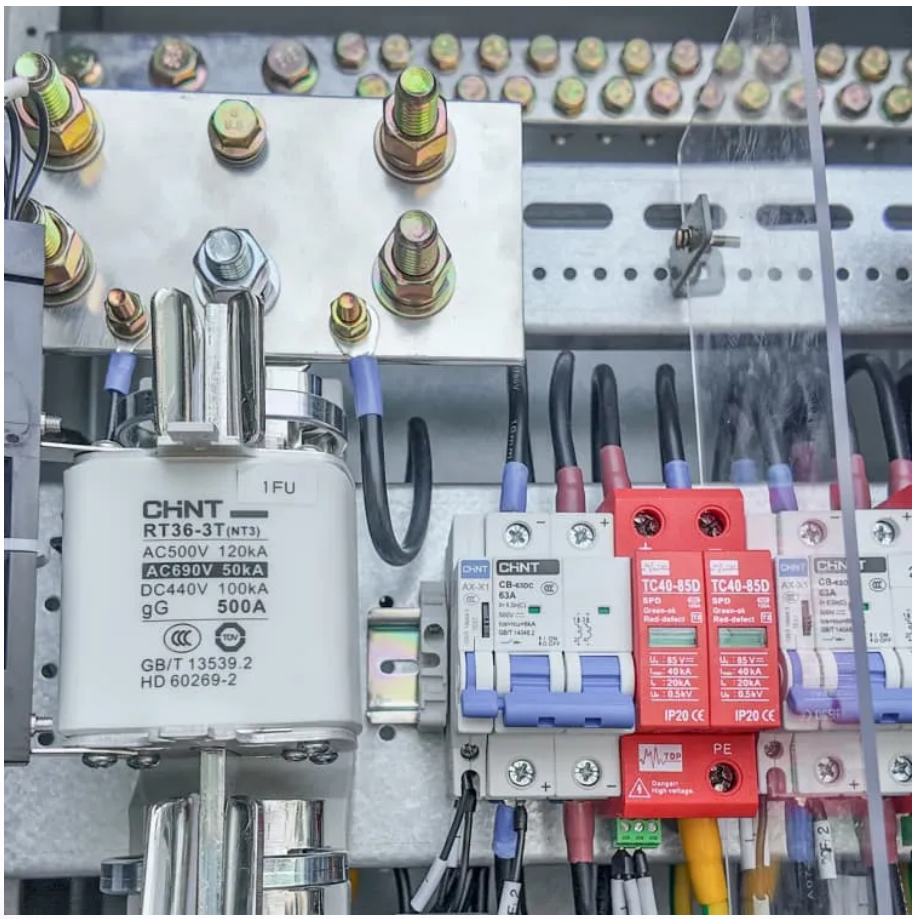
Congo Kinshasa Energy Storage Frequency Regulation Project



Overview

Announced last month, this $800 million initiative aims to solve the country's notorious "power paradox" – abundant hydropower resources paired with frequent blackouts.Which energy storage technology provides fr in power system with high penetration?

The fast responsive energy storage technologies, i.e., battery energy storage, supercapacitor storage technology, flywheel energy storage, and superconducting magnetic energy storage are recognized as viable sources to provide FR in power system with high penetration of RES.

What is the model of SCES energy storage?

The model of SCES energy storage proposed and used in Refs. [95, 96], is given in Fig. 11. The model employs two phase compensation blocks with time constants T 1, T 2, T 3, T 4, a gain block K s c, and time constant of SCES (T s c).

Does SCES provide primary and secondary frequency regulation?

An adaptive generalized predictive control is proposed for SCES to provide primary and secondary frequency regulation . In Ref. , it is showed that the inertial support provided by SCES can be improved using derivative-droop control instead of only derivative control.

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