

Flywheel energy storage motor speed regulation





Overview

The implementation of the “dual carbon” goal, nationally in China, has accelerated the profound transformation of the energy industry, and the development and utilization of large-scale clean.

Which motor is used in a flywheel energy storage system?

The most commonly used motor in a flywheel energy storage system (FESS) is a permanent magnet synchronous motor (PMSM), which has the characteristics of small torque ripple, wide speed regulation range, small operation loss, and fast dynamic response.

What is a flywheel energy storage system?

As a physical energy storage device, a flywheel energy storage system (FESS) has a quick response speed, high working efficiency, and long service life. The FESS provides a high energy density and environmental friendliness that is unattainable by traditional battery energy storage systems.

How does PMSM control a flywheel energy storage system?

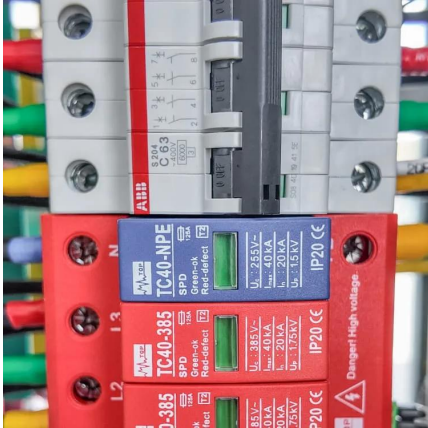
The control of PMSM is the key to affecting the charging and discharging performance of the flywheel energy storage system. 1-4 The space vector control of the synchronous motor in a flywheel energy storage system generally adopts inner and outer cascading loops, called a double-closed loop control structure.

Why is Sensorless control technology preferred in flywheel energy storage system?

Therefore, sensorless control technology is preferred. Furthermore, the PMSM is the core of energy exchange in the flywheel energy storage system, and the accuracy and speed of the motor control strategy determine the overall charging and discharging control performance of the system.



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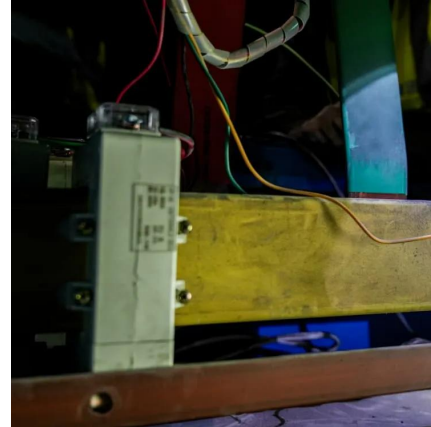
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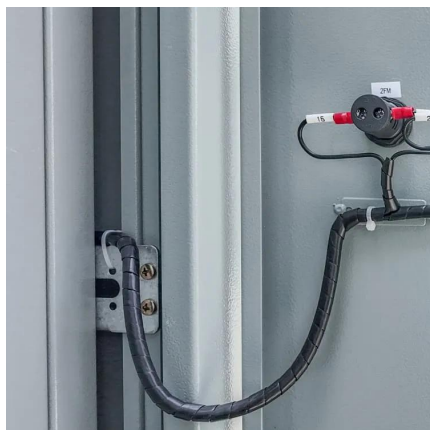
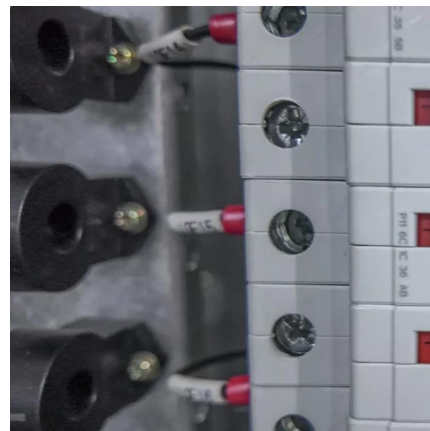


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