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Flywheel energy storage motor generates electricity in one hour





Overview

How does a flywheel energy storage system work?

Flywheel Energy Storage Systems (FESS) rely on a mechanical working principle: An electric motor is used to spin a rotor of high inertia up to 20,000-50,000 rpm. Electrical energy is thus converted to kinetic energy for storage. For discharging, the motor acts as a generator, braking the rotor to produce electricity.

How does a motor drive a flywheel?

The speed of the flywheel undergoes the state of charge, increasing during the energy storage stored and decreasing when discharges. A motor or generator (M/G) unit plays a crucial role in facilitating the conversion of energy between mechanical and electrical forms, thereby driving the rotation of the flywheel .

How does a flywheel work?

A flywheel is driven by a reversible electric machine that initially operates as a motor to supply energy to the inertial mass. With the drive system disconnected, the flywheel stores energy in its rotation. Upon request, this latter will be transformed into electrical energy by the generator.

How is flywheel technology reshaping electricity generation?

As the demand for cleaner, more reliable, and more sustainable energy solutions grows, innovative technologies are reshaping the way electricity is generated, stored, and distributed. One such groundbreaking innovation is flywheel technology for electricity generation.



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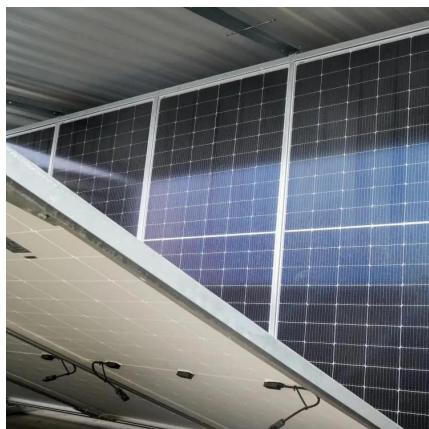


[A review on flywheel energy storage technology in fifty years](#)

The power of FES array should be 10~100 MW and release power long as one hour. Key words: flywheel energy storage, wind power, electrical vehicle, power quality, frequency regulation

[Flywheel Energy Storage System](#) [SpringerLink](#)

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