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# Bidirectional charging of energy storage containers for data centers

## Overview

Can unidirectional and bidirectional charging be integrated into a hybrid energy storage system?

In the case of bidirectional charging, EVs can even function as mobile, flexible storage systems that can be integrated into the grid. This paper introduces a novel testing environment that integrates unidirectional and bidirectional charging infrastructures into an existing hybrid energy storage system.

What data can be collected from a charging system?

With this setup, not only can charging-related data be collected (e.g., cell and battery voltages, current, SoC, and state of health) but also driving data (e.g., speed, acceleration, steering angle, energy consumption, and power).

Can a stationary hybrid storage system provide unidirectional and bidirectional charging infrastructures?

This work presents a combination of a stationary hybrid storage system with unidirectional and bidirectional charging infrastructures for electric vehicles.

How does a DC energy storage system work?

The system not only converts DC storage energy to the loads or the grids bidirectionally, but also supplies high quality power, such as low total harmonic distortion (THD) current to the girds or the load consumers, or low ripple charging current to the energy storage units.

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The energy storage system is usually constructed with key energy storage units and power conversion system. The key storage units have great impact on the system cost and size, and ...

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