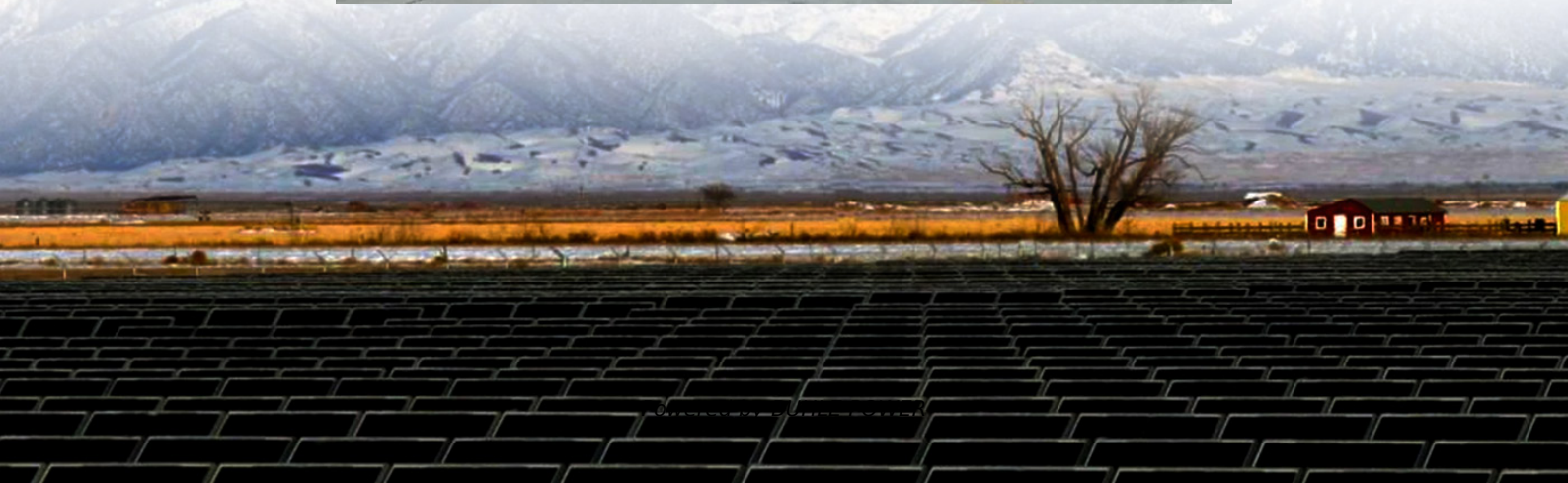


School uses photovoltaic energy storage container for bidirectional charging





Overview

How can bidirectional charging/discharging a battery achieve maximum PV power utilization?

In addition, with the proposed strategies, the bidirectional charging/discharging capability of the battery is able to achieve the maximum PV power utilization. All the proposed strategies can be realized by the digital signal processor without adding any additional circuit, component, and communication mechanism.

Can solar power be used in schools and hospitals?

Although extensively studied in the context of larger distribution grids (Boonluk et al., 2020, Pompern et al., 2023), research on smaller-scale PV applications for individual buildings, such as schools, homes, and hospitals, remains limited (Tostado-Véliz, Icaza-Alvarez, & Jurado, 2021).

Why are RBES methods used in PV and battery systems?

RBES methods are widely used in PV and battery systems because of their simplicity and effectiveness. RBES have efficient decision-making capabilities which incorporate embedded domain knowledge (Zhou et al., 2023). These methods leverage predefined rules and algorithms to optimize energy management, cost savings, and system efficiency.

Why should a PV Charger abandon the maximum power point tracking function?

Traditionally, in order to realize these charging strategies, the PV charger should abandon the maximum power point tracking function to maintain the power flow balance. As a result, the output power of the PV array will be decreased.



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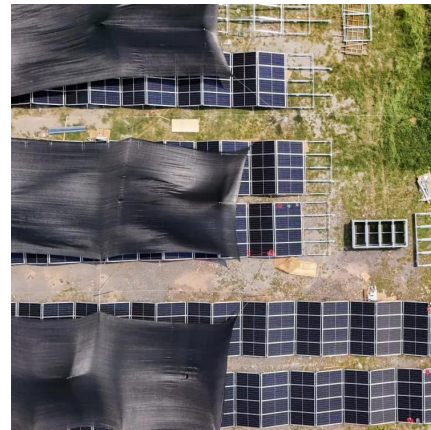


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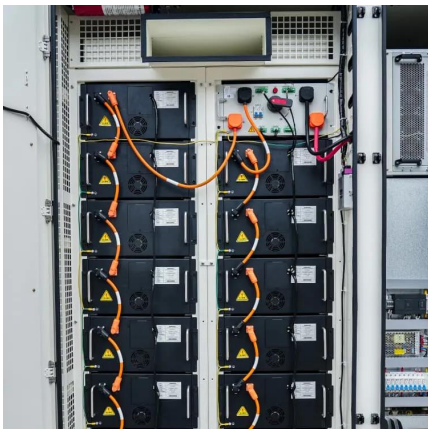
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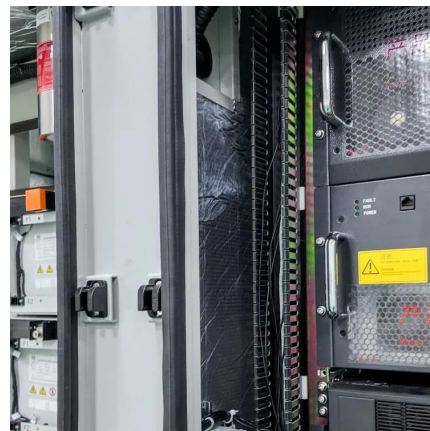
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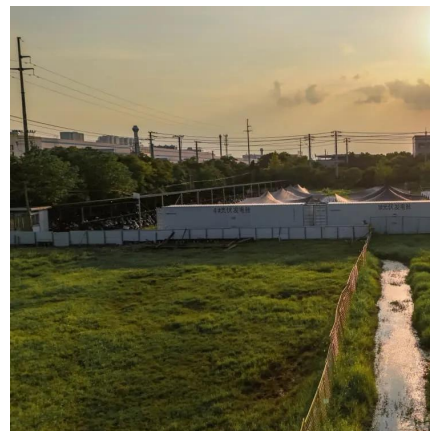
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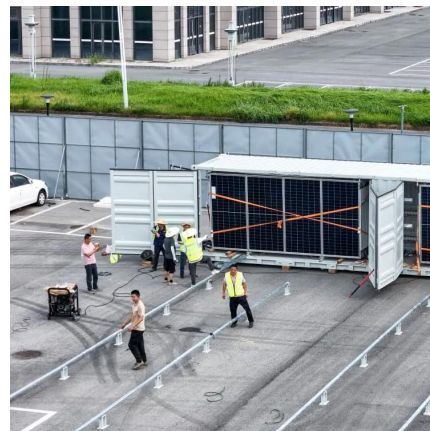
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