

A-Core Container

Solar dual charging and dual protection inverter



Overview

What is a hybrid solar inverter?

This advanced functionality ensures maximum energy harvesting from your solar panels. The Bluesun 10kW/12kW Hybrid Inverter is designed to optimize solar power efficiency with support for two independent solar inputs and simultaneous dual maximum power point tracking (MPPT) capabilities.

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What is a dual-input power converter?

The dual-input power converter provides stable power to the full-bridge inverter, ensuring high-quality output for the load. Fig. 3 illustrates the operation of the dual-input power converter in a standalone solar power system.

How efficient is a 200 W PV system with a dual-input power converter?

A 200 w standalone PV system with a dual-input power converter is proposed. The proposed global MPPT algorithm achieves an efficiency of up to 99 %. The proposed inverter control strategy reduces THD to below 0.087 %. The system can be expanded into a plug-and-play microinverter.

How does an MCU control a dual-input power converter?

Next, the MCU controls the power MOSFETs Q A to Q D in the inverter, enabling the system to output a 110-volt RMS power supply to the end-user. If the dual-input power converter cannot maintain the output voltage at 55 V, the MCU will initiate the proposed Global MPPT algorithm.

What does a solar inverter do?

In a solar power system, the inverter plays a crucial role in converting the DC power generated by solar panels into AC, which is required for residential or industrial use. Depending on the system design, inverters can be either grid-tied or off-grid [12, 13].

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