

Inverter output voltage booster





Overview

What is a boost inverter scheme for higher-level output?

This article presents a boost inverter scheme for higher-level output that involves input voltage boosting. The proposed topology can be reconfigured to produce 9 and 13 levels of output voltage with alternative topologies and a voltage gain of four or three, respectively.

Is a boost-inverter suitable for a wide input voltage rang?

Abstract: Traditional inverter is a buck type converter, and the two-stage inverter with a boost converter is too complex. For suiting for a wide input voltage rang, this paper proposes a integrated boost-inverter. The proposed boost-inverter integrates a boost conveter without adding extra power switches.

What is a boost-inverter?

The proposed boost-inverter integrates a boost conveter without adding extra power switches. It can realize the boost function and buck function. Moreover, its negative pole of DC input source and AC output voltage is connected directly, which eliminates the high-frequency leakage current of both DC side and AC side.

What is the boost factor of a switched-capacitor inverter?

In this paper, considering the nature of switched-capacitor inverters and their primary challenges, an 11-level structure with a boost factor of 2.5, along with reduced voltage and current stress, is proposed. This structure requires a single voltage source, 10 switches, 3 capacitors, and 2 diodes.



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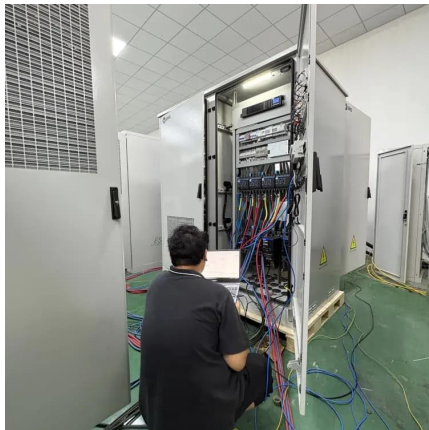


13 levels ...



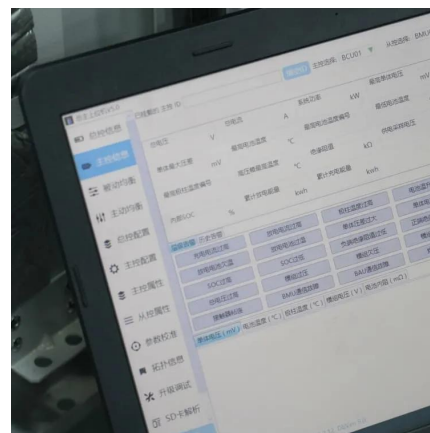
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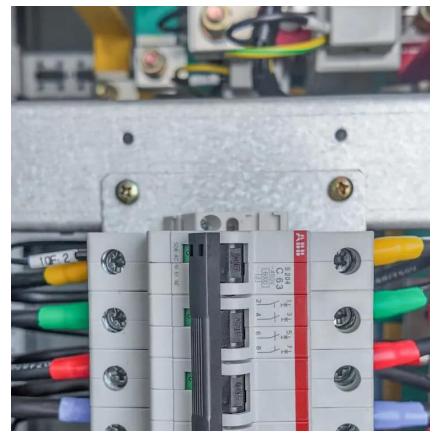


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