

Production of high frequency inverter output stage





Overview

What is a high frequency inverter?

In many applications, it is important for an inverter to be lightweight and of a relatively small size. This can be achieved by using a High-Frequency Inverter that involves an isolated DC-DC stage (Voltage Fed Push-Pull/Full Bridge) and the DC-AC section, which provides the AC output.

What is a converter power stage?

The converter power stage is based on a resonant inverter (the $\Phi 2$ inverter) that provides low switch voltage stress and fast settling time. The proposed power stage is operated at fixed switching frequency and duty ratio. To achieve output control and high efficiency across a wide load range, we adopt on/off control -.

What are the components of an inverter output stage?

The output stage consisted of DC bus capacitors C2 and C3 and three-phase bridge arms (each phase bridge arm comprising four IGBT power devices and two clamping diodes), with an LC filter installed between the inverter output and the load for filtering.

What is the output stage of a three-phase inverter?

The output stage of the three-phase inverter primarily comprised a dual closed-loop control system utilizing the SVPWM modulation algorithm, an NPC three-level inverter circuit, an LC filter circuit, and a three-phase load module. Based on the SVPWM algorithm, the maximum amplitude of the three-phase voltage output was $U_{dc} / \sqrt{3}$.



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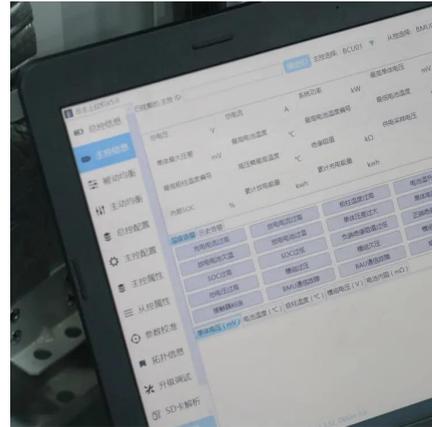
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