

Is a DC-AC inverter based on a dual-active-bridge converter?

Based on the commonly used two-stage isolated inverter, this study proposed a novel DC-AC inverter that combines dual-active-bridge (DAB) converter, switched capacitor and full-bridge inverter. Utilising the strategy of phase-shift shoot-through control, DAB will generate a high-frequency pulse DC link cooperated with switched capacitor.

How does a high frequency inverter work?

High-Frequency Inverter Technology The full bridge (S1...S4) generates a high-frequency square-wave signal with 40 - 50 kHz, which is transmitted via the HF transformer (Tr1). The bridge rectifiers (D1...D4) convert the square-wave signal back to DC voltage and store it in the intermediate circuit (L1+C2).

How can a full-bridge inverter achieve zero-voltage switching (ZVS)?

Utilising the strategy of phase-shift shoot-through control, DAB will generate a high-frequency pulse DC link cooperated with switched capacitor. As a result, during the shoot-through period, when the DC link is in zero-voltage-stage, the full-bridge inverter could realise zero-voltage switching (ZVS) through discrete pulse modulation.

Which power supply topologies are suitable for a high frequency inverter?

The power supply topologies suitable for the High-Frequency Inverter includes push-pull, half-bridge and the full-bridge converter as the core operation occurs in both the quadrants, thereby, increasing the power handling capability to twice of that of the converters operating in single quadrant (forward and flyback converter).

The push-pull forward high-frequency link inverter is composed of a push-pull forward DC-DC converter, an absorption circuit and a DC-AC inverter bridge in cascade, as shown in Figure 1. ...

This paper proposes a new modulation technique dual three-pulse modulation (DTPM) to switch dual full-bridge output capacitorless dc/dc converters to develop a pulsating ...

There are many formulas to calculate DC-link capacitance in pulse-width modulated inverters of electric vehicles. This article illustrates ...

Utilising the strategy of phase-shift shoot-through control, DAB will generate a high-frequency pulse DC link cooperated with switched ...

A high frequency link photovoltaic (PV) power conditioning system which includes a high frequency resonant inverter, a rectifier, and a line commutated inverter, operating near ...

The widely used high frequency fixed DC link inverter suffers from low reliability due to its bulky electrolytic

capacitors. Another disadvantage of a HF DC link inverter is the lack of ...

A parallel inverter based on the duty cycle extended active clamp forward mode inverter with high frequency pulse dc link is proposed. The circuit topology, steady principle, ...

**ABSTRACT** The High-Frequency Inverter is mainly used today in uninterruptible power supply systems, AC motor drives, induction heating and renewable energy source ...

High-frequency link matrix converters and inverters represent a transformative development in power electronics, combining direct AC-AC conversion with high-frequency ...

A novel combined soft switching technique and a novel topological family of the static inverter with high frequency pulse dc link are proposed in this paper. The topological ...

Utilising the strategy of phase-shift shoot-through control, DAB will generate a high-frequency pulse DC link cooperated with switched capacitor. As a result, during the shoot ...

Yang, Dongfeng, et al. proposed a novel two-stage grid-connected inverter topology that utilizes a high-frequency link transformer to isolate the DC-DC stage from the grid ...

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Utilising the strategy of phase-shift shoot-through control, DAB will generate a high-frequency pulse DC link cooperated with switched capacitor.

In order to ensure high-frequency auxiliary inverter with the high quality of the output voltage, the single-reference six-pulse width modulation (SRSPWM) hybrid modulation strategy is ...

The higher frequency bin is at the inverter switching frequency per equation (3) if a balanced three-phase PWM inverter scheme is ...

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