

Dual inverter voltage vector





Overview

How does dual inverter work?

By using dual inverter, the actual number of motor phase voltage level is increased. For example, dual two-level inverter operates in three-level mode with equal DC-bus voltages, and operates in four-level mode when the dc voltages are in 2:1 ratio [15].

How to select the desired voltage vector of inverter1?

The desired voltage vector of inverter1 will be chosen among zero vector and basic voltage vectors lying in the feasible region of voltage vector distribution mentioned in Section 2.2, the one makes inverter1's output power closest to the desired value will be selected. The specific algorithm will be introduced as follow.

What is a dual-vector modulated MPC strategy for two-level voltage source inverters?

To fill this gap, a novelty dual-vector modulated MPC strategy is presented for two-level voltage source inverters with a new duty cycle calculation method as well as a detailed theoretical analysis. First, twelve hybrid voltage vectors are constructed according to the eight basic voltage vectors of the two-level voltage source inverter.

How many voltage vectors does a two-level voltage source inverter have?

As is known, there are eight voltage vectors for two-level voltage source inverters, including u_0 (000), u_1 (100), u_2 (110), u_3 (010), u_4 (011), u_5 (001), u_6 (101), and u_7 (111), which are shown in Figure 2. Figure 1. Topology of two-level voltage source inverters. Figure 2. The eight basic voltage vectors.

How can a dual inverter generate a mid-point voltage difference?

Thus, and can be generated by two independent space vector pulse width modulation (SVPWM) controllers. Because the two power sources are



electrically isolated, the mid-point voltage difference is floating and varying along with the switching states of dual inverter.

Can voltage vector distribution reduce inverter switching frequency?

Based on the integral synthesizing of the desired stator voltage vector, the proposed voltage vector distribution method could reduce the inverter switching frequency while making the primary power source follow its desired output power.



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[Power Flow Control Strategy Based on the Voltage Vector Distribution](#)

In this paper, the dual inverter's voltage vector distribution and power flow principles are discussed. Based on the analyses of the overlapping area of the two inverters' modulation ...

Power Sharing and Voltage Vector Distribution Model of a Dual Inverter

Based on a drive system model with voltage vector distribution, this paper proposes a desired power sharing calculation method and three different voltage vector distribution methods.



[A Dual-Vector Modulated Model Predictive Control Method for Voltage](#)

To address this issue, a dual-vector modulated MPC method is presented, where two voltage vectors are selected and utilized to control the voltage source inverter in every ...



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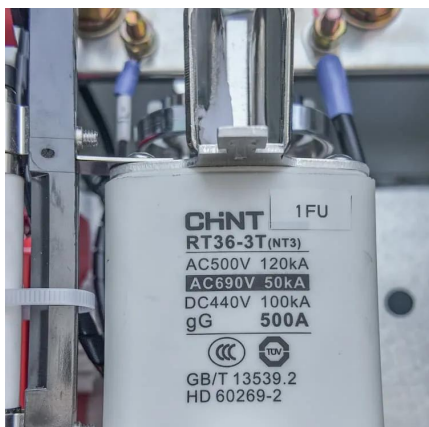
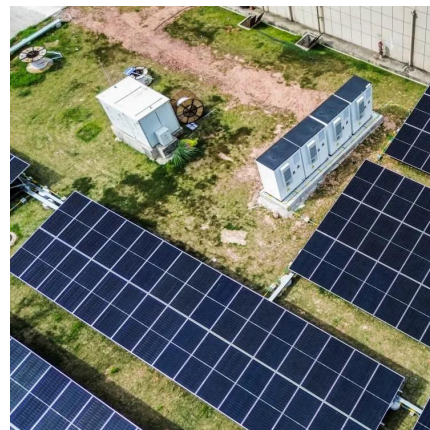


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