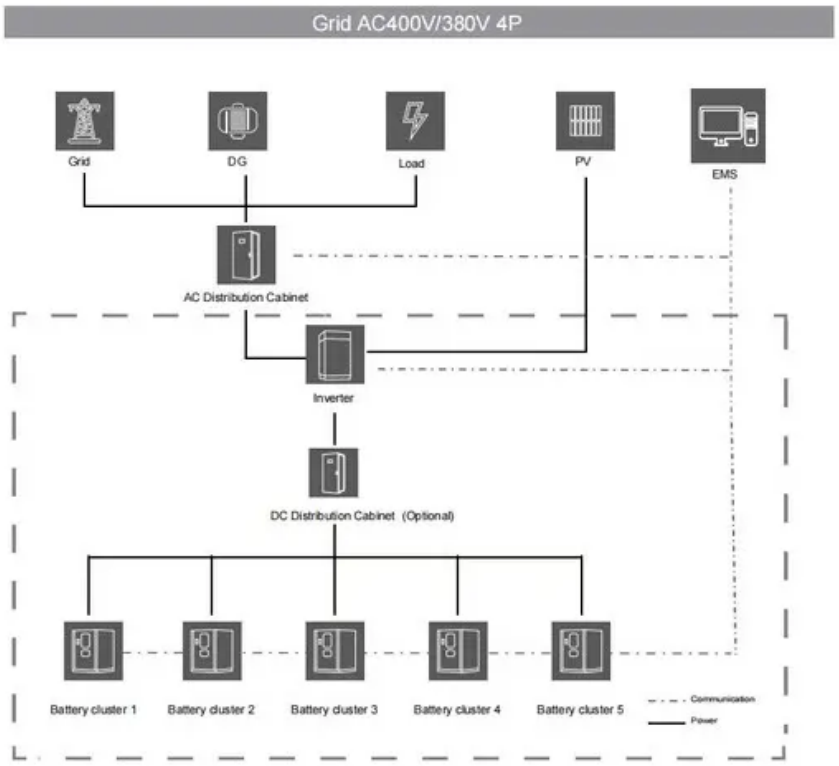
SolarInnovate Energy Solutions

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].

Can dual-vector modulated MPC control two-level voltage source inverters?

6. Extensions Although the proposed dual-vector modulated MPC is aiming to control two-level voltage source inverters, further studies in this paper show that it can also be used to control other types of inverters by only changing the voltage vectors according to the corresponding inverter, which is another important contribution of this paper.

Can model predictive control control a two-level voltage source inverter?

Abstract: Recently, model predictive control (MPC) methods have been widely used to achieve the control of two-level voltage source inverters due to their superiorities. However, only one of the eight basic voltage vectors is applied in every control cycle in the conventional MPC system, resulting in large current ripples and distortions.

How to select the desired voltage vector of inverter1?

The desired voltage vector of inverter1 will be chosenamong 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.

How to control two-level voltage source inverters?

Recently, the control methods of two-level voltage source inverters have been widely studied to achieve smooth and flexible energy conversion [1–5]. As is

known, vector control is widely used to control two-level voltage source inverters in renewable energy generation systems as it can achieve power decoupling control.

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

Thus, and can be generated bytwo 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.

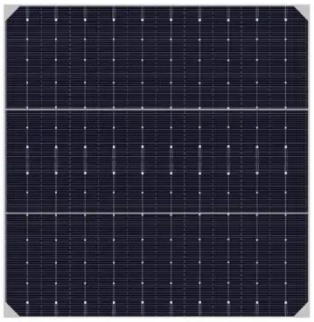
Dual inverter voltage vector

The performance analysis of dual-inverter three phase fed ...

Nov 16, 2019 · 2.1 Voltage Space vector of dual-inverter two level with Induction motor 3-phase Prior to reviewing the PWM methods of the dual-inverter fed system, the space vector voltages ...

SVPWM control strategy for a three phase five level dual inverter ...

Jul 1, 2020 · The conventional SVPWM has more complexity in reference vector identification and switching time calculation. The reference vector for proposed five level SVPWM scheme is ...



Double-Vector Model-Free Predictive Current Control Method for Voltage

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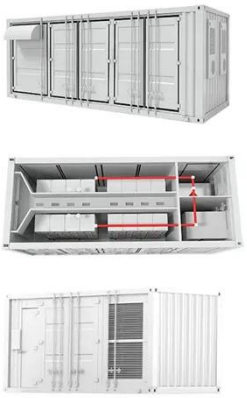

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