

Solar Storage Container Solutions

Three-phase grid-connected inverter vector control



Overview

This paper introduces an improved three-vector robust coordination model predictive control for three-phase two-level (3P-2L) grid-connected inverters. Initially, an improved three-vector model predictiv.

What is a three-vector model predictive control strategy for grid-connected inverters?

Aimed at the issues of the fixed range of vector selection, fixed amplitude, and fixed direction in the conventional single and double vector model predictive control for grid-connected inverters, such as the large current pulsation and poor steady-state performance of the system, a three-vector model predictive control strategy is proposed.

What is a three-phase grid-connected converter?

The three-phase grid-connected converter is widely used in renewable and electric power system applications. Traditionally, control of the three-phase grid-connected converter is based on the standard decoupled d - q vector control mechanism.

What is model predictive control strategy for grid-connected voltage inverters?

In 2004, Professor J. Rodriguez proposed a model predictive control strategy for grid-connected voltage inverters . Later, the main research of model predictive control strategy is to reduce the amount of calculation, reduce the number of switching , , , and reduce current harmonics.

What is a 3 phase inverter?

These inverters incorporate transformers to regulate the direct current (DC) voltage supplied to the inverter and to provide isolation between the PV system and the grid 8, 9. An advanced adaptive control method for a distributed generation system that uses a 3-phase inverter.

How to control a three-phase voltage inverter?

At present, the mainstream control strategies for three-phase voltage inverters mainly include vector control and direct power control. But in vector control, the selection of its proportional-integral control parameters can only be obtained by experience, which requires a large amount of experimental data to support.

What is the standard vector control method for a three-phase grid-connected converter?

Traditionally, control of the three-phase grid-connected converter is based on the standard decoupled d – q vector control mechanism. Nevertheless, the study of this paper shows that there is a limitation in the conventional standard vector control method. Some of the limitations have also been found recently by other researchers.

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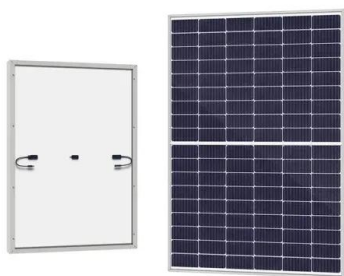


Vector Current Control Derived from Direct Power Control for Grid

Nov 26, 2018 · We propose a vector current control derived from direct power control (VCC-DPC) for a three-phase voltage source inverter (VSI) in the synchronous rotating frame through ...

Direct-current vector control of three-phase grid-connected ...

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Feb 13, 2019 · Three-phase grid-connected

inverter modeling depends on the equivalent resistance and inductance between the inverter and the grid. However, these parameters are ...



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Modeling three-phase grid-connected inverter system using ...

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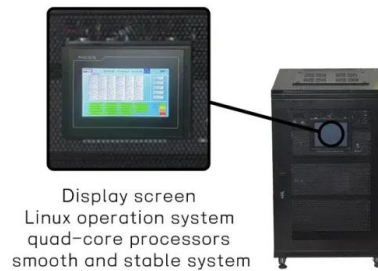


Finite control set model predictive current control for three phase

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