GermanSolarZA

Voltage reconstruction in inverter

Overview

What is the current reconstruction method for two-level three-phase inverters?

A different current reconstruction method was studied for two-level three-phase inverters in . The authors suggested the current reconstruction strategy based on online offset compensation. This method is applied for two-level three-phase inverters, and it is also appropriate for operations with a low modulation index.

Can a three-phase inverter be reconstructed using a single shunt method?

Different aspects of using the single-shunt reconstruction method for three-phase inverters were discussed in [7, 8, 9], where the authors studied the zero voltage sampling method and three-phase current reconstruction using three shunts placed in the collectors of bottom inverter transistors, respectively.

Can a three-level inverter operate a single-shunt current reconstruction?

The three-level inverter operation with a modulation index less than 0.2 is achievable, and single-shunt current reconstruction is possible to perform. The proposed method can be used as part of a hybrid solution, together with the SVM shift method. As a disadvantage, due to the asymmetric SVM pattern, the current ripple increased.

Can a voltage injection method be used to reconstruct phase currents?

Abstract: This paper presents a voltage injection method for reconstructing phase currents from current signals measured on single current-shunt circuits with cost-effective and high-performance configurations in the pulsewidth modulation (PWM) inverters that are used for digital appliances.

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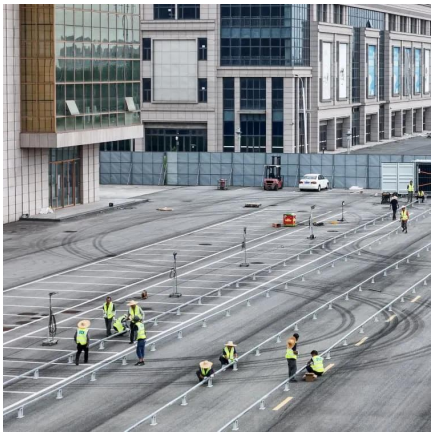

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Thus, the accurate voltage reconstruction of the inverter output voltage is an important issue for the flux observation and the speed estimation of ac drive [2], [3].

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[Single-Shunt Measurement of Three-Phase Currents for a ...]

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The fault-tolerant control of two-level three-phase voltage source inverters has been extensively studied1-3, including two reconstruction aspects: hardware topology and ...

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