How to avoid circulating current in photovoltaic inverters

Overview

The circulating current can be avoided by providing galvanic isolation between the parallel VSCs using multiple winding line frequency transformer [6], [7]. The proposed control structure contains n − 1 zero-sequence control loops, with n being the number of inverters connected in parallel. However, when the inverters share a common DC source and AC bus, a circulating current is generated, which causes output current distortion and system power losses. In this paper, the solutions, including hardware and software, are proposed to suppress the ground current.

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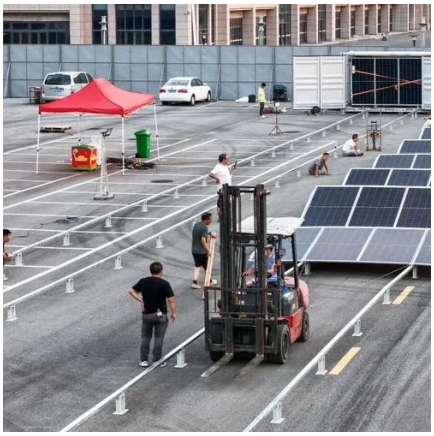
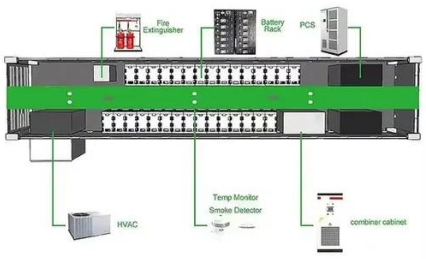


Elimination of circulating current in parallel operation of single

Abstract This paper presents the control strategy for parallel operation of an inverter to eliminate DC & AC circulating current.

Evaluation of Circulating Current Suppression Methods for ...

As a result, the harmonic perfor-mance of the WECS can be significantly improved. However, the interleaving of the carrier signals may lead to the flow of circulating current between parallel VSCs ...



Control strategy for current limitation and maximum capacity

An improved LVRT control strategy for a two-stage three-phase grid-connected PV system is presented here to address these challenges.

Review of Methods for Reducing Circulating Currents in ...

The circulating current flows between the inverters when the reference voltages difer according to the dead time, imperfect symmetry in hardware, and dependent control of parallel inverters.

Repetitive Control Circulating Current Suppression Strategy for

Aiming at the zero sequence circulating current problem of multi machine photovoltaic grid connected inverter, a repetitive control strategy is proposed.

A Control Scheme to Suppress Circulating Currents in Parallel

However, the parallel connection of inverters produces circulating currents that may result in malfunctions of the system. In this work, a control technique for the elimination of the low ...

Mitigation of Circulating Currents in Parallel-Connected Solar PV

This work presents a comprehensive study focused on real-time implementation, analysis and mitigation of circulating current issues in parallel-connected solar PV inverters.

Frontiers , A ground current suppression

method for systems with a

In this paper, the solutions, including hardware and software, are proposed to suppress the ground current. The hardware solution is to connect filter capacitors back to the DC-bus, directing ...

Control strategy for current limitation and maximum capacity

To provide over current limitation as well as to ensure maximum exploitation of the inverter capacity, a control strategy is proposed, and performance the strategy is evaluated based on the three ...

(PDF) Research on Circulating Current Suppression Control of ...

Circulating current suppression can effectively improve the reliability and redundancy of parallel inverter systems. The mechanism and influencing factors of the low- and high-frequency

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