

Three-phase grid-connected inverter repetitive control





Overview

How does a three-phase grid-connected inverter work?

For the LCL three-phase grid-connected inverter, the gain of the PR controller can obtain infinite gain at fundamental frequency, thus realizing non-static error control of the fundamental component of the grid-connected current. However, due to load changes and various interferences, the actual power grid frequency will fluctuate.

What is a repetitive feedback controller for a grid-connected two-level voltage-source inverter?

This paper discusses the design of a repetitive feedback controller for a grid-connected two-level three-phase voltage-source inverter connected between a DC source and the grid through an LCL filter. The controller incorporates a classical two loop feedback of the output current and the capacitor current in addition to a repetitive feedback loop.

Does a proportional-resonance controller control a three-phase grid-connected inverter under unbalanced grid conditions?

Abstract:Proposed in this article is bidirectional real and reactive power control of a three-phase grid-connected inverter under unbalanced grid conditions using a proportional-resonance controller. Different unbalanced grid conditions have been studied, such as unbalanced three-phase load and unbalanced grid impedance.

What control methods are used to control a three-phase inverter?

A variety of control techniques have been used to control the power and current of grid-connected three-phase inverters, including proportional-integral (PI) and proportional- resonant (PR) control methods [4,5]. These approaches, on the other hand, simply examine balanced grid situations.



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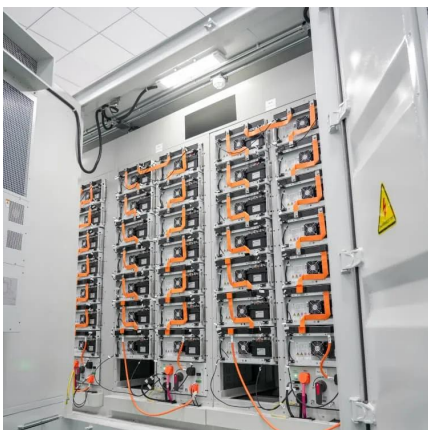
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Three-Phase Grid

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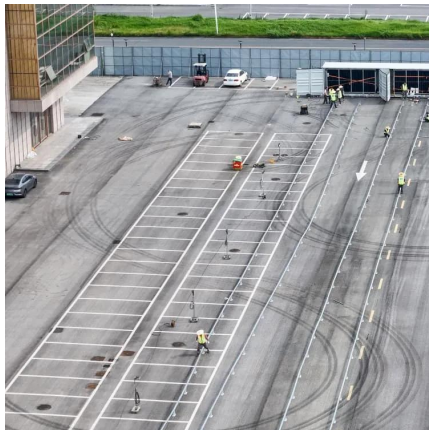
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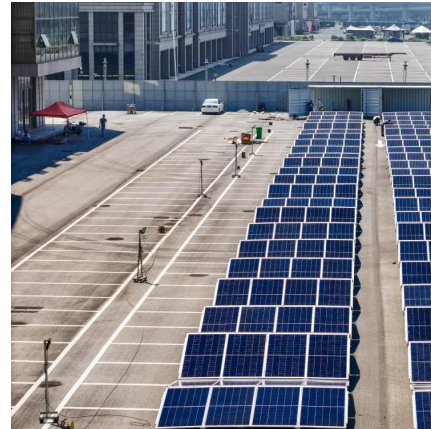


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