

PQ control of off-solar container grid inverter





Overview

To enhance the controllability and flexibility of the IBRs, this paper proposed an adaptive PQ control method with a guaranteed response trajectory, combining model-based analysis, physics-informed reinforcement learning, and power hardware-in-the-loop (HIL) experiment. What is a p/q control strategy for photovoltaic grid-connected inverters?

In photovoltaic grid-connected (GC) and DG systems, one of the objectives that the grid-connected inverters (GCI) is the control of current coming from the photovoltaic modules or DG units. In this way, this paper describes a simple P/Q control strategy for three-phase GCI. Initially, the proposed control of the grid side is introduced.

What is the optimal p-q control issue for a microgrid?

The optimal P-Q control issue of the active and reactive power for a microgrid in the grid-connected mode has attracted increasing interests recently.

What is a PQ inverter?

An inverter in this control mode must be placed in a network with other "grid-forming" sources (e.g., swing, droop, or VSG) as it is "grid following". An inverter in the PQ mode is effectively controlled as a current supply, only ever regulating the current exchanged with the grid.

How to improve p-q control performance of three-phase grid-connected inverters?

Of course, the P-Q controllers of three-phase grid-connected inverters can be optimized by other theoretical PID methods. However, the P-Q control performance of three-phase grid-connected inverters can be further improved by adopting multi-objective evolutionary algorithms.



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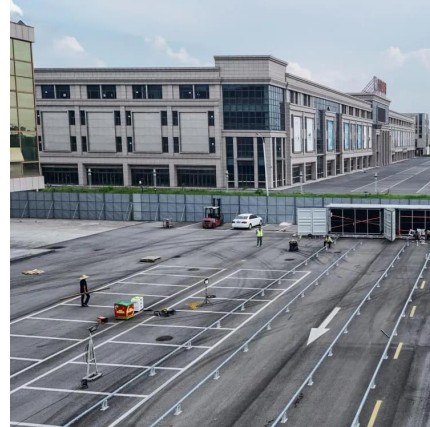
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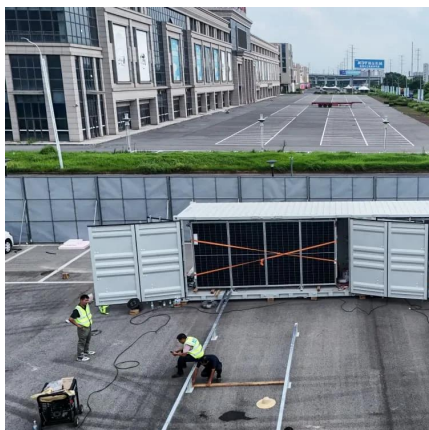
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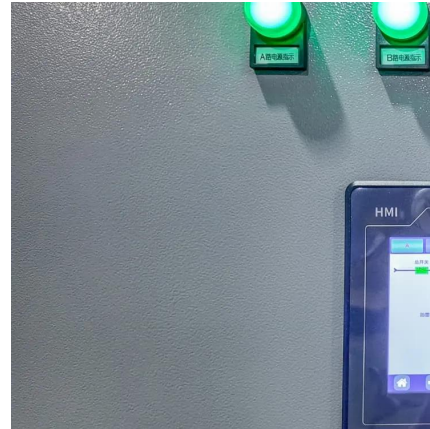
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