

Single-phase solar inverter directly connected to the grid





Overview

An ever-increasing interest on integrating solar power to utility grid exists due to wide use of renewable energy sources and distributed generation. The grid-connected solar inverters that are the key device.

Is a switching-cell inverter suitable for grid-connected photovoltaic systems?

This paper presents a high-reliability current source inverter with a switching-cell structure for grid-connected photovoltaic systems. When compared to the conventional current source inverter, the proposed converter has no open-circuit issue, which can minimize the overlap time interval.

Can a single-phase Common-Ground-type nonisolated PV Grid-connected inverter solve the problems?

Abstract: To solve the problems of existing nonisolated PV grid-connected inverters, such as leakage current, power pulsation, and harmonic current, a single-phase common-ground-type nonisolated grid-connected inverter with power decoupling capability is proposed in this article.

Which inverter is used in grid-connected PV system?

In grid-connected PV system, inverter with the current control mode is extensively used because a high power factor can be obtained by a simple control circuit, and also suppression of transient current is possible when any grid disturbances occur. Table 3.

Are single-phase inverters connected to a utility grid?

There are numerous standards defining the interconnection and disconnection of single-phase inverters to utility grid available. The solar inverters are one of the most extensively researched topics in emerging power electronics due to their variety in circuit and control architectures.



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