

A-Core Container

Large-scale grid-connected power inverter cabinet



Overview

What is a photovoltaic grid-connected cabinet?

Photovoltaic grid-connected cabinet is a distribution equipment connecting photovoltaic power station and power grid, and is the total outgoing of photovoltaic power station in the photovoltaic power generation system, and its main role is to act as the dividing point between the photovoltaic power generation system and the power grid.

What is grid-side inverter control?

Grid-Side Inverter Control The grid-side inverter control technique is crucial for guaranteeing efficient operation of the MMIs in PV grid-connected systems. The most wide-spread control methods in MMIs are instantaneous active and reactive power and synchronous reference frame methods [124, 125].

Can large-scale PV systems support electrical grids?

Large-scale PV systems can support electrical grids in terms of reducing reactive power, ensuring fault-ride-through capabilities, providing support to the grid's voltage and reducing the fault current contribution .

How does a centralized DC/AC inverter work?

A centralized DC/AC inverter is connected to the common DC bus to transfer the electrical power to the MV AC grid through a step-up transformer, which is necessary to boost the voltage from the common DC bus level to the MV grid level [15, 16]. Figure 1. Traditional large-scale PV plant .

What is a Modular Multilevel inverter (MMI)?

Modular multilevel inverters (MMIs) are the best solution to connect these large-scale PV plants to the medium-voltage (MV) grid, due to their numerous merits, such as providing better power quality, having higher efficiency, providing better reliability, and their scalability.

What is a multilevel inverter?

The term “multilevel” was first used to describe the three-level converters but it was later expanded to include many other inverter topologies. The main topologies of the MMIs family are neutral point clamped (NPC), flying capacitor (FC), cascaded H-Bridge (CHB), and modular multilevel converter (MMC) .

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