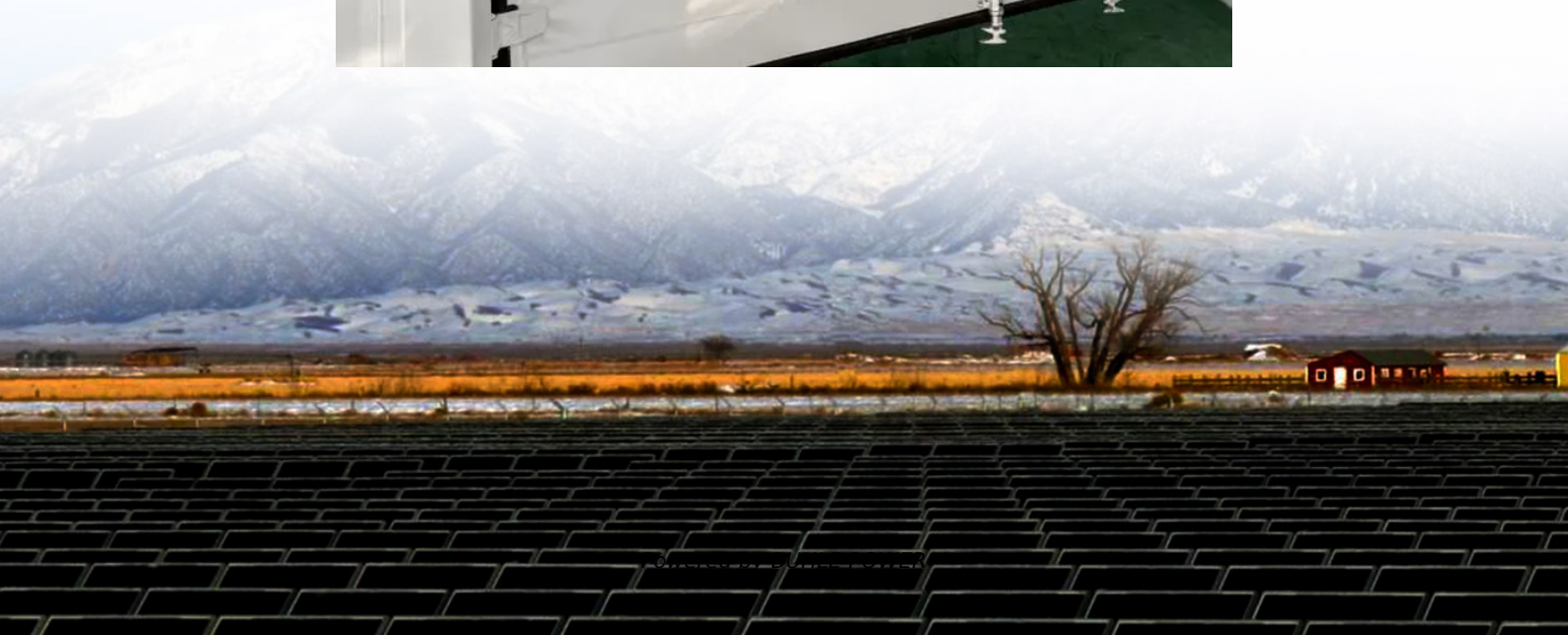


The voltage-building function of solar power station generator





Overview

Photovoltaic (PV) power generation has developed very rapidly worldwide in the recent years. There is a possibility that the PV power generation will switch from an auxiliary power supply, as of today, to a main.

Can a solar PV plant participate in frequency and voltage control?

A comprehensive control strategy for a utility-scale solar PV plant is proposed to simultaneously participate in frequency and voltage control without the aid of any energy storage. The frequency response is accomplished by maintaining some active power reserves that enable the PV plant to participate in both over- and under-frequency events.

Why should PV generators be integrated into the grid?

With the increased integration of PV generators into the grid, the system operators start to require PV generators have capabilities to stay online during the fault, and provide the active power and the reactive power supports when being required to do so.

How does a PV generator work?

By controlling the instantaneous three-phase inverter output voltages , and , the PV generator controls the active power output and the reactive power interchanges with the external grid.

How is a PV generator modeled in a power system steady state study?

A PV generator is modeled as a constant active power and reactive power source in power system steady state studies. When PV generation changes due to the ambient environment, the power system steady state studies do not investigate the transients of the power system caused by the change in PV generation.



The voltage-building function of solar power station generator



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Photovoltaic Power

24.1.3 Photovoltaic Generation of Power
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2.2 Solar Power Solar power generation is categorized mainly into photovoltaic and photothermal power generation. Photovoltaic power generation involves the use of solar photovoltaic cells to ...





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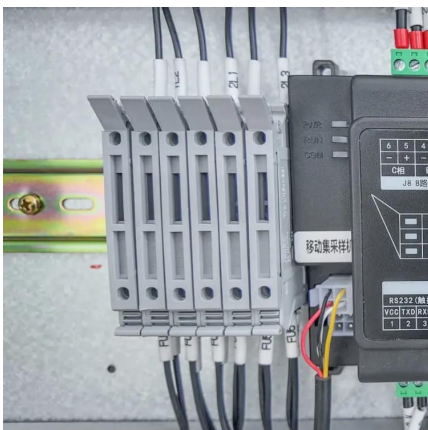


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