

The voltage of the self-made inverter fluctuates





Overview

How do inverters work?

These systems often require the capability to operate either connected to the main grid or in islanded mode where inverters also help control voltage, frequency, and power flow, ensuring stable and efficient integration of renewable energy into the grid.

How do grid-forming inverters achieve power support and voltage optimization?

This paper proposes a robust voltage control strategy for grid-forming (GFM) inverters in distribution networks to achieve power support and voltage optimization. Specifically, the GFM control approach primarily consists of a power synchronization loop, a voltage feedforward loop, and a current control loop.

What happens when two inverters are inserted into a system?

At $t = 2$ s, two inverters are inserted into the system. The output power of the inverter increases, which reduces the output of the power grid and decreases the power transmission loss. At $t = 4$ s, one inverter is disconnected from the system. The other two inverters continue to provide power compensation for the system.

How a GFM inverter is controlled?

The GFM inverter is controlled as a voltage source, which achieves control objectives by generating the output voltage amplitude and phase reference. The structure of the control module primarily consists of power control and voltage control.



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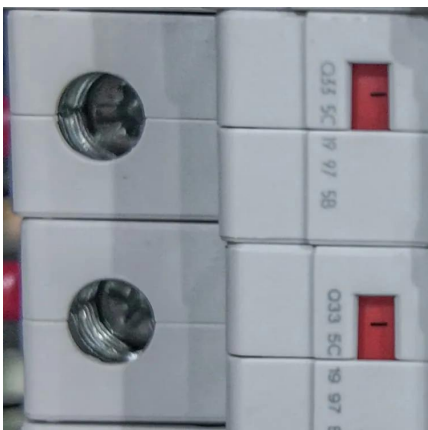
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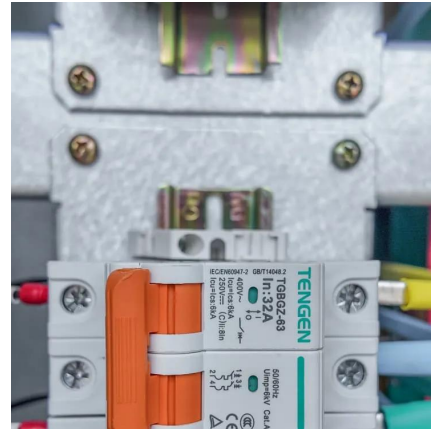
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