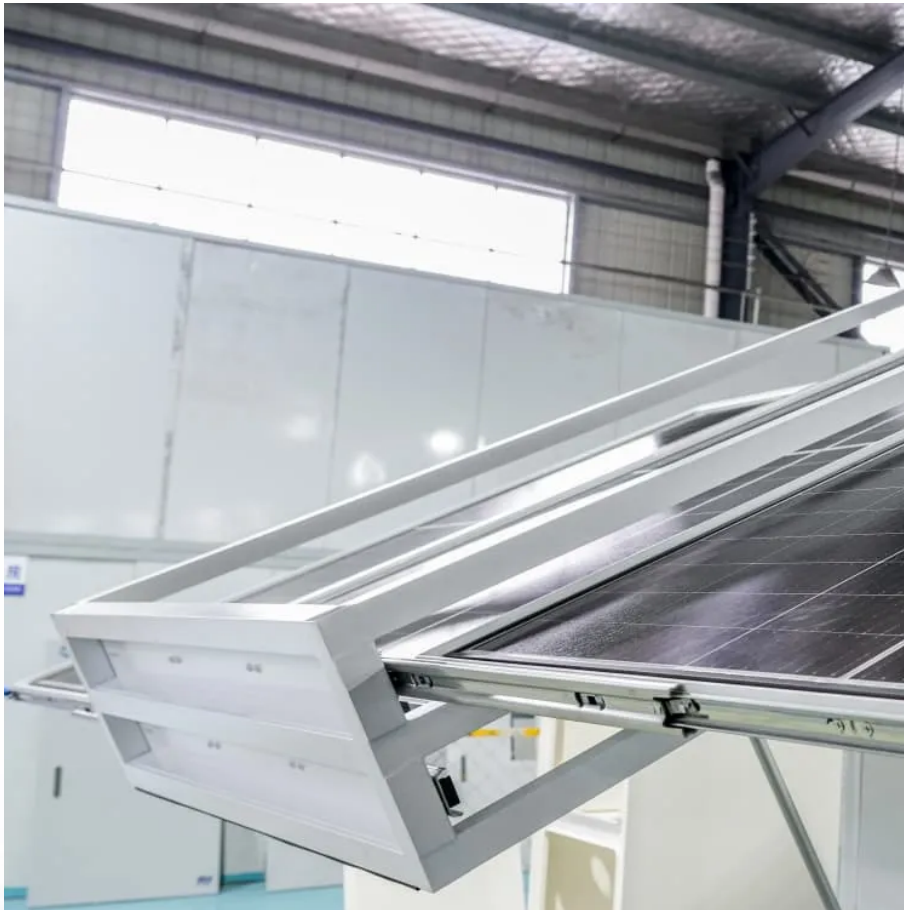


The greater the inverter power the greater the loss





Overview

Are power losses arising in a high-power inverter critical?

In high-power FCs, losses arising in the uncontrolled rectifier and autonomous voltage inverter may be critical. The current investigation deals with studying power losses in the inverter and rectifier circuits. Currently, these losses can be accurately calculated using various methods.

What are power losses in a voltage source inverter (VSI)?

The power losses in a voltage source inverter (VSI) are the sum of the additional constant power losses of the local power supply, the inverter circuits as well as the main power conversion losses.

Can a voltage source inverter work off-grid?

Although the presented and tested exemplary experimental model is a basic H-bridge inverter with the first modulation scheme, the presented idea can be used for any voltage source inverter (VSI) working off-grid but the results (focusing the power conversion losses in one serial equivalent resistor) concern all types of inverters.

What is a serial equivalent resistance in a voltage source inverter?

Results The concept of using one serial equivalent resistance (that is dependent on the switching frequency and the load current and that presents all of the static and dynamic power losses of the power conversion) enables the easy calculation of the losses and the efficiency of the voltage source inverter.



The greater the inverter power the greater the loss



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