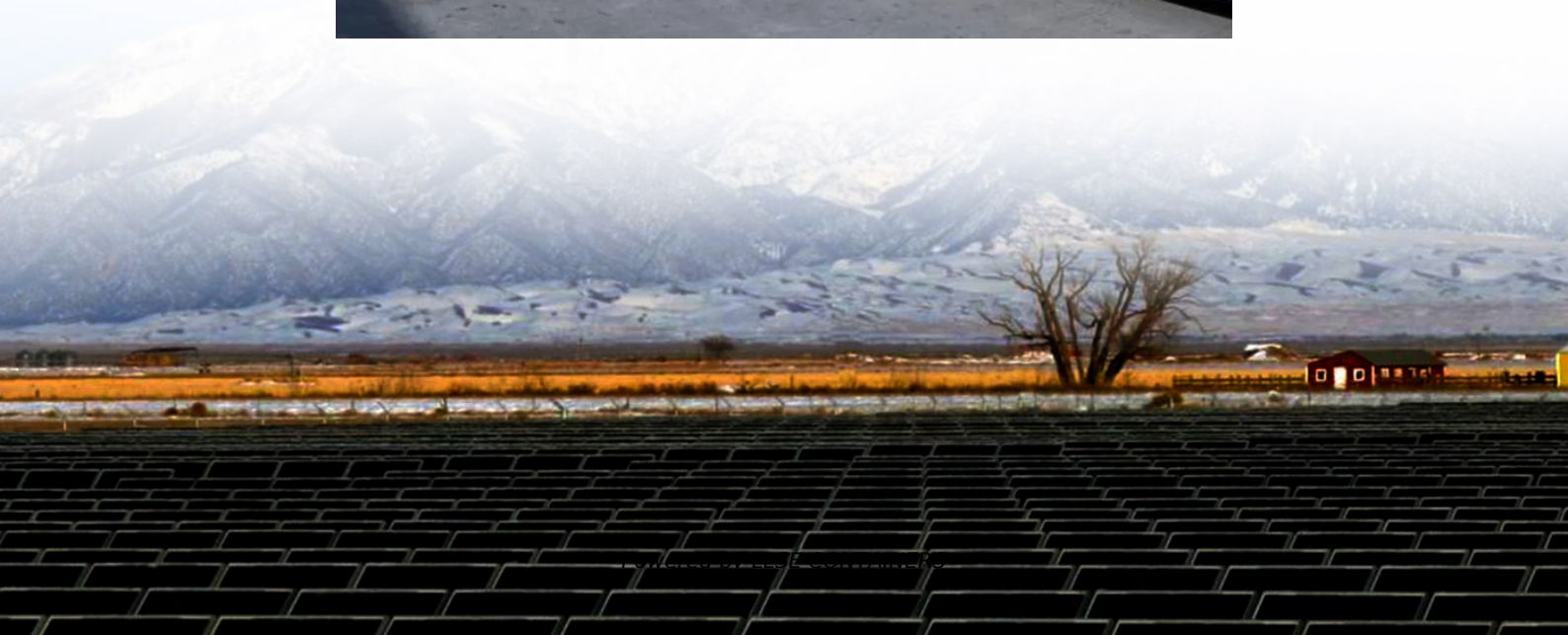


DC Bias Inverter





Overview

Is there a DC bias current in a converter?

From Equation (7) the DC bias current flowing through the magnetization branch is given in Equation (6) at steady state. For DC excitation calculation, V_{dc} and V_{ac} are shorted. Ideally, the value of V_{dc} and V_{ac} are expected to be zero. So, there will be no DC bias current present in the converter.

Why does a DC bias current flow in a transformer?

The DC bias current generally flows due to the mismatch in static and transient switching of active devices, leading to eventual saturation of the transformer. This paper proposes an active method to precisely control the dead time of the devices (8–100 ns) without sacrificing the voltage utilization of the converter.

Do CGSC inverters have low-DC bias characteristics?

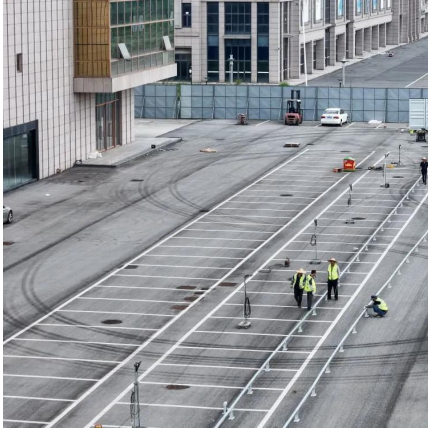
However, the existing CGSC inverters have a drawback in that the unbalanced AC output voltage waveform will lead to DC bias. To address this problem, a CGSC five-level inverter with low-DC bias characteristics is proposed in this article.

Does a power loop converter have a DC bias current?

Ideally, the value of V_{dc} and V_{ac} are expected to be zero. So, there will be no DC bias current present in the converter. However, converter associated with power loop inductances may exhibit deviations in switching transients among the devices in the bridge.



DC Bias Inverter

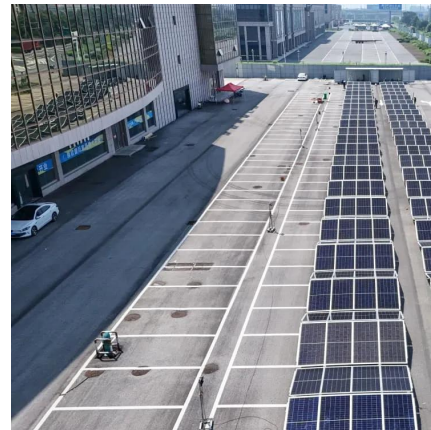


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