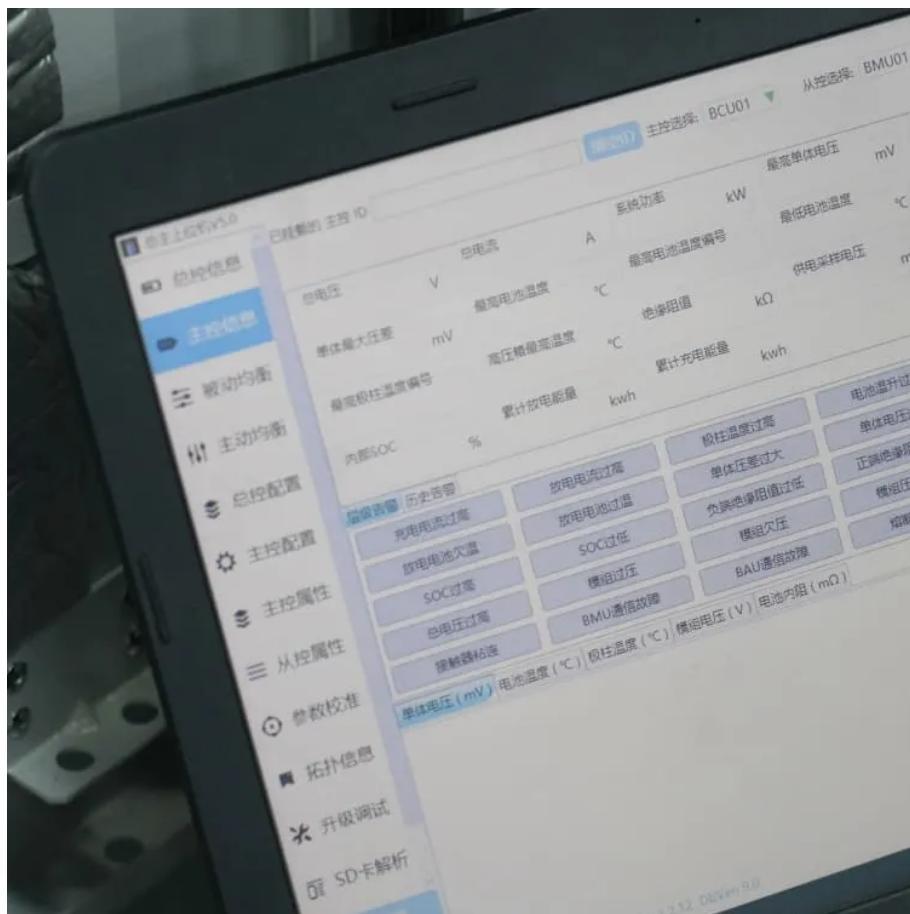




WALMER ENERGY

Solar inverter IGBT protection





Overview

What are IGBTs in inverters?

IGBTs (Insulated Gate Bipolar Transistors) are key components in modern inverters, enabling efficient switching of high voltages and currents. This guide explains the best practices for integrating IGBTs into inverters—covering selection, driving, cooling, and protection.

Are IGBT failures in solar inverters preventable?

IGBT failures in solar inverters are complex but preventable. By understanding the root causes and applying targeted design, monitoring, and maintenance strategies, system operators can reduce failure risk, extend equipment life, and ensure safer, more reliable PV operations.

Are insulated-gate bipolar transistors a good choice for solar inverter applications?

For solar inverter applications, it is well known that insulated-gate bipolar transistors (IGBTs) offer benefits compared to other types of power devices, like high-current-carrying capability, gate control using voltage instead of current and the ability to match the co-pack diode with the IGBT.

What is an insulated gate bipolar transistor (IGBT)?

In modern power conversion systems, from variable frequency drives (VFDs) to solar inverters and electric vehicle powertrains, the Insulated Gate Bipolar Transistor (IGBT) is the workhorse. The relentless push for higher efficiency, greater power density, and lower system costs has driven the development of faster-switching IGBTs.



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