

A-Core Container

The function of the power module in the base station power cabinet



Overview

A power module is essentially a compact power supply that integrates power semiconductors (like GANs or SiCs), control circuitry (digital or analog), and passive components (such as inductors, transformers, and capacitors) into a single package. What is a base station power cabinet?

The base station power cabinet is a key equipment ensuring continuous power supply to base station devices, with LLVD (Load Low Voltage Disconnect) and BLVD (Battery Low Voltage Disconnect) being two important protection mechanisms in the power cabinet.

What is base station Power?

Base station power refers to the output power level of base stations, which is defined by specific maximum limits (24 dBm for Local Area base stations and 20 dBm for Home base stations) and includes tolerances for deviation from declared power levels, as well as specifications for total power control dynamic range. How useful is this definition?

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What are the components of a base station?

Power Supply: The power source provides the electrical energy to base station elements. It often features auxiliary power supply mechanisms that guarantee operation in case of lost or interrupted electricity, during blackouts. **Baseband Processor:** The baseband processor is responsible for the processing of the digital signals.

What is the output voltage of a communication base station?

Assume the output voltage of a communication base station's power system is 48V, with the LLVD threshold set to 40V. When the mains power fails and the battery starts supplying power, the power system continuously monitors the output voltage through the voltage detection circuit.

How a power module converts input energy into output energy?

During the power conversion process of the power module, switching power devices (such as MOSFETs, BJTs, IGBTs, etc.) play a crucial role. When the switching device is conducting, the power module can convert input energy into output energy.

What is a power module?

Power module plays a critical role in contemporary electronic systems, offering stable and efficient power conversion across a broad spectrum of applications. In this article, we will explore the design principles, specifications, and applications of the power module, and conclude with our top power module recommendation from FSP.

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