

SolarInvert Energy Solutions

Three-party construction of communication base station energy management system



Overview

What are the basic parameters of a base station?

The fundamental parameters of the base stations are listed in Table 1. The energy storage battery for each base station has a rated capacity of 18 kWh, a maximum charge/discharge power of 3 kW, a SOC range from 10% to 90%, and an efficiency of 0.85.

What are the operational constraints of 5G communication base stations?

The operational constraints of 5G communication base stations studied in this paper mainly include the energy consumption characteristics of the base stations themselves, the communication characteristics, and the operational constraints of their internal energy storage batteries.

What is the energy consumption of 5G communication base stations?

Overall, 5G communication base stations' energy consumption comprises static and dynamic power consumption. Among them, static power consumption pertains to the reduction in energy required in 5G communication base stations that remains constant regardless of service load or output transmission power.

What is a BS in energy management?

The MG is managed by an energy management controllers (EMCs) that coordinates the dispatch of energy in the MG by interacting with information from other EMCs. This information can be interacted with through a communication network. Therefore, BSs are the main intermediaries between communication and energy systems.

What is the equipment composition of a 5G communication base station?

Figure 1 illustrates the equipment composition of a typical 5G communication base station, which mainly consists of 2 aspects: a communication unit and a power supply unit.

How does a base station work?

As shown in Figure S3 each user accesses a base station, and the BS then allocates a channel to each new user when there is remaining channel capacity. If all of the channel capacity of a BS is occupied, a user cannot access this BS and must instead access another BS that is farther away.

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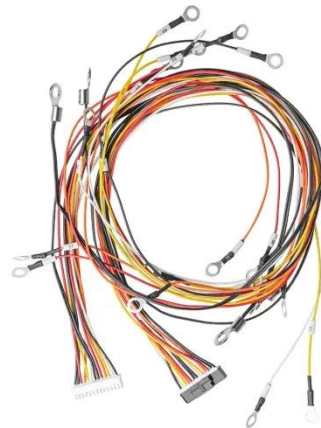
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The widespread installation of 5G base

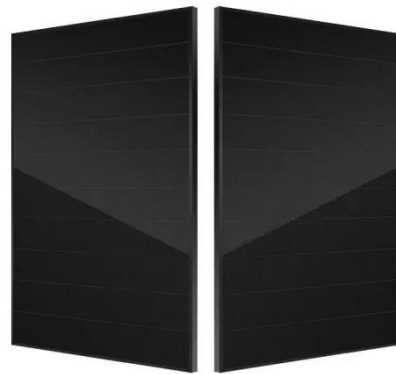


stations has caused a notable surge in energy consumption, and a situation that conflicts with the aim of attaining carbon neutrality. ...

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Energy consumption comprehensive management system of communication

The communication base station energy consumption comprehensive management system platform is a combination of hardware and software, through energy consumption data ...



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Communication base station energy storage monitoring system

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The present invention relates to mobile communication base station energy-saving monitoring Management Integrated Control System, including field monitoring control application layer, ...

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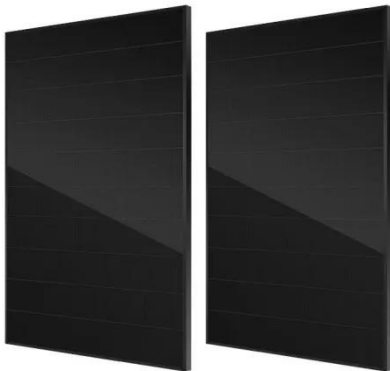
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cooperative system composed of 5G
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