

Distribution characteristics of energy base stations





Overview

How much energy does a communication base station use?

In this region, the communication base stations are equipped with energy storage systems with a rated capacity of 48 kWh and a maximum charge/discharge power of 15.84 kW. The self-discharge efficiency is set at 0.99, and the state of charge (SOC) is allowed to range between a maximum of 0.9 and a minimum of 0.1. Figure 3.

What is the difference between a micro base station and a macro base station?

The micro base station serves indoor blind spots with minimal power consumption. The macro base station exhibits greater potential for demand response. This section primarily analyzes the current mainstream commercial 5G macro base stations. The load of a 5G base station primarily consists of communication equipment and auxiliary components.

What is a distributed collaborative optimization approach for 5G base stations?

In this paper, a distributed collaborative optimization approach is proposed for power distribution and communication networks with 5G base stations. Firstly, the model of 5G base stations considering communication load demand migration and energy storage dynamic backup is established.

What are the parameters of BS Energy Storage?

The channel bandwidth B allocated by the user is 1 MHz, the upper limit of the BS's traffic processing capacity L_{\max} is 10 4 Mbps, and the traffic demand L_j of a single user is 100 Mbps. The detailed parameters of the BS energy storage are shown in Table 1. ω is taken as small as 0.14 Yuan/kWh to encourage energy storage participation.



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