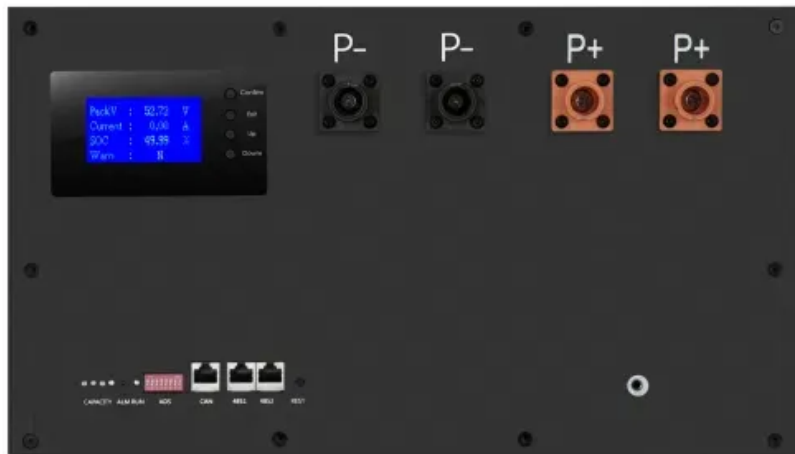


SolarInnovate Energy Solutions

Electricity price for communication base stations



Overview

How many types of equipment are in a base station room?

Table 2. Power consumption of four types of equipment in each period. The pricing method of flat electricity price is that the average price of 0.675 yuan/kWh is adopted at any time. The equipment types in the base station room include: transmission equipment (PTN, etc.), communication equipment (BBU, RRU, AAU, etc.), and air conditioner.

What if the working power is k (kw) in a base station?

If the working power of the first type electrical equipment (BBU, PTN, etc.) in a base station is k (kW), then the first type equipment in a single base station will be charged at the flat pricing and at peak-valley pricing are:

How many types of base stations are there?

Statistics show that the number of four types of base stations are 20, 24, 11 and 24, with PUE mean values of 1.63, 1.45, 1.47 and 1.57 respectively. There is no obvious difference in PUE of all types of base stations throughout the year.

How does mobile data traffic affect the energy consumption of 5G base stations?

The explosive growth of mobile data traffic has resulted in a significant increase in the energy consumption of 5G base stations (BSs).

What is 5G base station?

1. Introduction 5G base station (BS), as an important electrical load, has been growing rapidly in the number and density to cope with the exponential growth of mobile data traffic . It is predicted that by 2025, there will be about 13.1 million BSs in the world, and the BS energy consumption will reach 200 billion kWh .

What is a minimal 5G BS energy consumption optimization model?

Therefore, the problem can be formulated as a minimal 5G BS energy consumption optimization model, i.e., the energy consumption reduced by reasonably switching off the idle or lightly loaded BSs and reasonably associate UEs with BSs (i.e., the BS switching state and BS-UE association state scheme).

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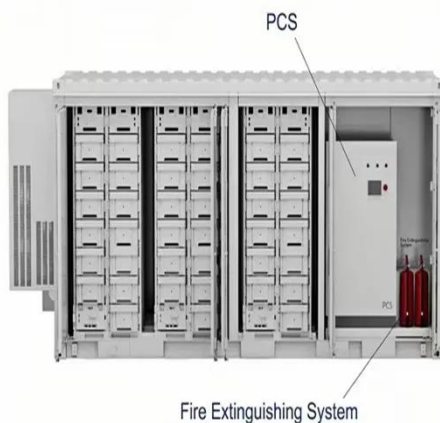


Study on Cost Difference Between Peak-Valley Pricing and Flat Pricing

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Aug 1, 2023 · The communication traffic of BSs changes over time, and it assumed that the load time interval and the time-of-use electricity price are fixed, therefore, the minimization of the

...

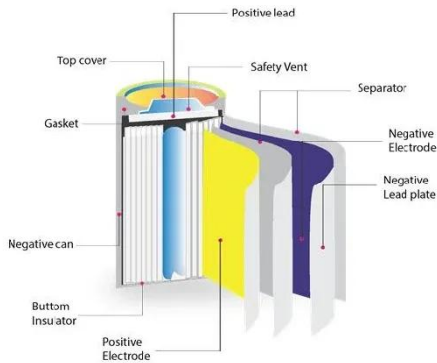
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