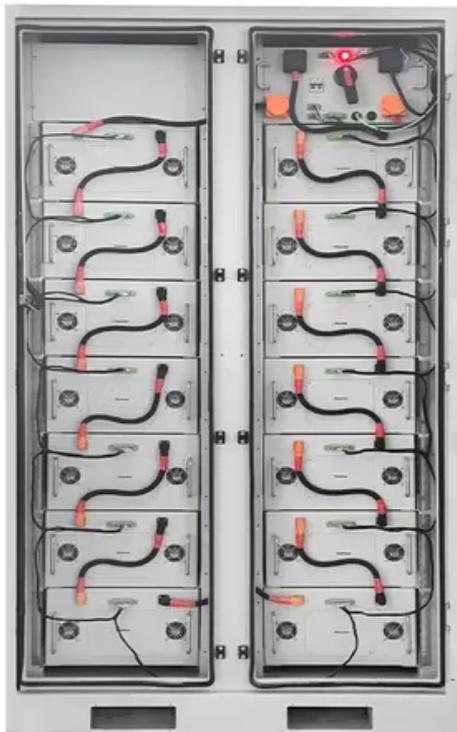


## ContainerPower Energy Solutions

# What are the energy-saving measures for base station power supply systems

To Strive forward No Energy Waste



- ✓ All in one
- ✓ 100~215kWh High-capacity
- ✓ Intelligent Integration

## Overview

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What is the energy-saving technology of base stations?

This technical report focuses on energy-saving technology of base stations. Some energy saving technologies since 4G era will be explained in details, while artificial intelligence and big data technology will be introduced in response to the requirement of an intelligent and self-adaptive energy saving solution.

How can a base station save energy?

There are two main methods of base station energy saving, including hardware and software.

What are the standardized energy-saving metrics for a base station?

(1) Energy-saving reward: after choosing a shallower sleep strategy for a base station, the system may save more energy if a deeper sleep mode can be chosen, and in this paper, the standardized energy-saving metrics are defined as  $R_{ie} = E_{SM} - 0 E_{SM} = i E_{SM} - 0 E_{SM} = 3$ .

What are the basic energy saving functions with multiple levels?

The basic energy saving functions with multiple levels are designed for different coverage scenarios, time of day and traffic loads. The recommended strategy for the fundamentals is as following: Symbol shutdown: symbol shutdown can be scheduled in millisecond level thus it can be applied to most scenario even during medium traffic load.

How do you measure the power consumption of a base station?

The power consumption in the base station is measured from the DC power input to the cabinet-top power output of the base station antenna. The power efficiency of a base station can be measured by dividing the cabinet-top power by the DC input power of the base station.

Why do base stations waste so much energy?

When there is little or no communication activity, base stations typically consume more than 80% of their peak power consumption, leading to significant energy waste . This energy waste not only increases operational costs, but also burdens the environment, which is contrary to global sustainability goals .

## What are the energy-saving measures for base station power supply?

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