SolarInvert Energy Solutions

White communication base station energy method

Overview

What is base station energy saving?

There are mainly two method of base station energy saving, which are hardware power saving and software energy saving. It is based on lowering the basic energy consumption of the base station.

Can high RF efficiency reduce the power consumption of a base station?

From the perspective of energy saving, antennas with high RF efficiency can be used to reduce the power consumption of the base station by reducing the transmit power of the radio unit while maintaining the same coverage quality. The following describes the details from the two perspectives.

What is base station energy consumption index (ECI)?

Brief description about components of the base station Energy Consumption Index (ECI)—It represents the efficiency of BS power utilization. The lower value of ECI means greater EE as mentioned in Eq. 6 below. Its unit is J/bit.

What are base station features?

Base Station features: These include hardware attributes and configuration details of the BS, which are key in predicting energy consumption. Features in this category are the number of antennas (Antennas), the transmis-sion mode (Mode), the BSID, and the type of radio unit (RUType).

What is the RF transmit power of a base station?

The RF transmit power of the entire base station is 800 W. To achieve the same coverage, that is, the same effective coverage power, the transmit power of radio units required by conventional antennas and high efficiency antennas is compared in the following table.

How much power does a base station use?

For a base station with typical configurations, the transmit power can be reduced by 36%, that is, 288 W.

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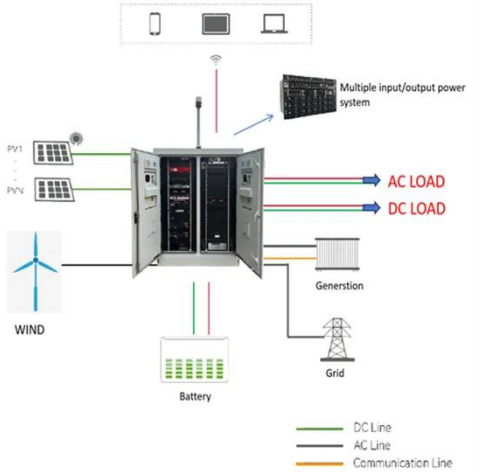

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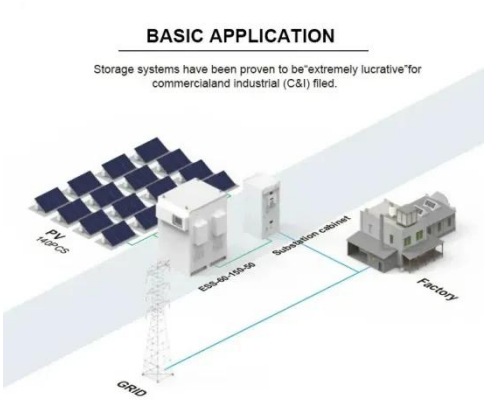

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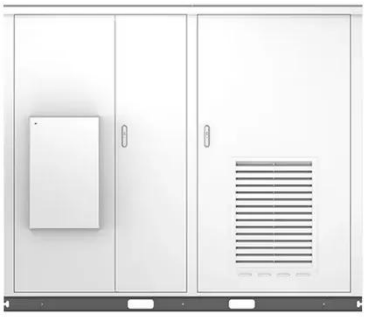

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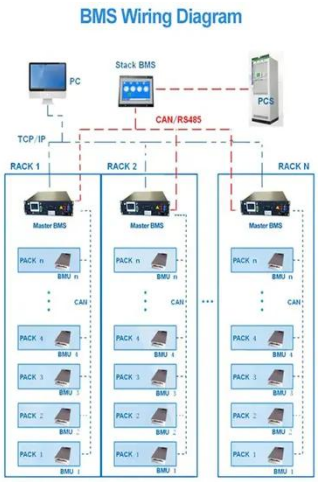

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