

SolarTech Power Solutions

How much load current does a communication base station have



Overview

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The primary data in terms of power consumption and traffic load have been measured hourly on fully loaded 10 base stations for 10 days. The regression analysis shows the existence of a direct relationship between power consumption and traffic generated. A linear equation is developed is $Y = 1.713 \times X$.

A base station represents an access point for a wireless device to communicate within its coverage area. It usually connects the device to other networks or devices through a dedicated high bandwidth wire of fiber optic connection. Base stations typically have a transceiver, capable of sending and.

Due to the widespread installation of Base Stations, the power consumption of cellular communication is increasing rapidly (BSs). Power consumption rises as traffic does, however this scenario varies from geolocation to geolocation because sites in rural and urban areas have variable traffic loads.

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 is a base station?

What is Base Station?

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