

SolarTech Power Solutions

Frequency range of base station solar communication



Overview

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There are two types of communication systems: radio frequency (RF) and free space optical (FSO), FSO is also referred to as laser communications (lasercom). Figure 9.1: Satellite uplink, downlink, and crosslink. Credit: D. Stojce (2019). Most spacecraft communications systems are radio frequency.

Solar-powered base station signals are transmitted using a combination of advanced technology and renewable energy sources. 1. Solar panels convert sunlight into electricity, 2. The generated electricity powers the base station, 3. Signals are transmitted using radio waves, 4. Energy storage.

Also, it is predicted that the carbon emissions of information and communication technologies (ICT) will increase from 170 metric-tons in 2014 to 235 metric-tons by 2020. This increase in the power consumption and carbon footprint of cellular networks has led to various initiatives for “green”.

Energy consumption is a big issue in the operation of communication base stations, especially in remote areas that are difficult to connect with the traditional power grid, as these consume large amounts of electricity daily. In this aspect, solar energy systems can be very important to meet this.

The communication base station installs solar panels outdoors, and adds MPPT solar controllers and other equipment in the computer room. The power generated by solar energy is used by the DC load of the base station computer room, and the insufficient power is supplemented by energy storage.

IFLY Solar Powered base station is a Rapid Deployable Critical Mission Radio Communication solution has been specially designed for first-responder emergency and security services. When networks are down, or you're beyond cellular coverage, It instantly offers stable communication network to users.

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