

Dual-axis solar automatic tracking system





Overview

What is a dual axis solar tracking system?

Among these advancements, dual-axis solar tracking systems have emerged as a promising approach to augment solar energy capture. The dual-axis solar tracking system operates by dynamically orienting solar panels along both the azimuth and elevation axes, allowing them to precisely follow the sun's position throughout the day.

Can automatic dual-axis solar tracking improve the efficiency of a solar photovoltaic panel?

This study demonstrates an automatic dual-axis solar tracking system that can improve the efficiency of a solar photovoltaic panel by tracking the sun's movement across the sky. The purpose of this study is to evaluate the efficiency of a dual-axis solar panel and compare it to the efficiency of a single-axis solar panel.

How much power does a dual axis solar tracker produce?

A comparison of Power Produced with static system V/s the Dual Axis system was conducted. The Average power attained from the solar panel was 0.886437 W for stationary solar and 1.136140 W for Dual Axis Solar Tracker. Thus, there is an increase in effectiveness up to 28 %.

Can programmable logic control a dual axis solar tracking system?

Sungur focused on the design of programmable logic control for a dual-axis solar tracking system and experimentally verified that 42.6% more energy could be obtained from the system than from PV panels at fixed positions.



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