

## PDEOZE PowerContainer

# Solar energy tracking system



## Overview

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An automatic solar tracking system (STS) is an emerging technology that rotates a solar panel or solar concentrator to various positions throughout the day by monitoring the current position and path of the sun. What is a solar tracking system?

A solar panel precisely perpendicular to the sun produces more power than one not aligned. The main application of solar tracking system is to position solar photovoltaic (PV) panels towards the Sun. Most commonly they are used with mirrors to redirect sunlight on the panels.

How can solar trackers improve energy production?

These efforts emphasize the significance of enhancing solar panel efficiency and energy production with sophisticated tracking and control systems. Recent developments in solar tracker systems include exploring different module geometries, materials, and tracking mechanisms to boost efficiency.

How does a solar tracker work?

A solar tracker operates through a sophisticated combination of sensors, control systems, and mechanical components working in harmony. The system continuously monitors the sun's position and adjusts panel orientation to maintain optimal energy capture throughout the day.

Are solar tracking systems cost-effective?

Additionally, solar tracking systems can be cost-effective in the long run, as the increased energy production offsets the initial investment. Moreover, by maximizing energy production from renewable sources, solar tracking systems contribute to a reduced reliance on fossil fuels, thereby minimizing environmental impact.

What are the different types of solar tracking systems?

There are three main types of solar tracking systems: fixed-axis, single-axis,

and dual-axis. Fixed-axis systems are the simplest and least expensive but have limited efficiency since they are fixed at a certain angle. Single-axis tracking systems follow the sun's movement from east to west and can significantly increase energy production.

How to track solar power?

The tracking of the horizontal solar axis, the vertical-axis trackers, and the dual-axis trackers. • The most efficient tracking method is the dual trackers, which increases power output by an average of 32% compared to the case where there is no tracking.

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