

# **Block diagram of solar tracking system**





## Overview

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How does a solar tracking system work?

The circuit diagram for a solar tracking system is relatively simple. It uses a microcontroller or a IC circuit to control servo motors that move the solar panel in two axes - up-down and left-right. The microcontroller receives inputs from four Light Dependent Resistors (LDRs) that detect the sunlight's intensity in two directions.

How do you design a solar tracking system?

There are different ways to design a solar tracking system, but a popular method involves using an electronic circuit to control the movement of the solar panel. The circuit diagram for a solar tracking system is relatively simple.

What are the components of a solar tracking system?

The main components in the solar tracking system are standard photovoltaic solar panels (PV), a deep cycle rechargeable battery, battery charger, stepper motor, signal conditioning circuits and a BasicX-24p microcontroller. Solar energy conversion is one of the most addressed topics in the field of renewable energy.

Can a solar tracking system generate maximum solar power?

Maximum solar power can be generated only when the Sun is perpendicular to the panel, which can be achieved only for a few hours when using a fixed solar panel system, hence the development of an automatic solar tracking system.

Why do solar trackers generate more electricity than stationary solar panels?

- Trackers generate more electricity than their stationary counterparts due to increased direct exposure to solar rays. This increase can be as much as 10 to 25% depending on the geographic location of the tracking system.
- A tracking system helps the solar panels keep oriented to the sun at the



optimum possible angle.

Can solar trackers improve photovoltaic energy production?

Solar energy is one of the most promising renewable energy resources. Sun trackers can substantially improve the electricity production of a photovoltaic (PV) system. This paper propose. block diagram of the developed closed-loop solar tracking system is illustrated in Figure 1, describing the composition and interconnection of the system.



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### [Dual Axis Solar Tracker using LM339 and L293D](#)

We have already learned How to Make a Single Axis Solar Tracking System in the previous blog tutorial. This blog is base on Dual Axis Solar Tracker using LM339 and L293D motor driver IC. Here we will discuss ...

### [Solar tracking system , PPTX , Track and Field , Sports](#)

This document describes a solar tracking system that uses sensors and a programmable logic controller (PLC) to automatically orient solar panels towards the sun. It discusses the need for solar trackers to maximize solar panel output ...



### [Automatic Sun Tracker Circuit Diagram](#)

Generally, such a system includes a variety of components including a solar panel, a sun-tracking controller, a stepper motor (which drives the panels), a set of reflectors, and a wiring harness connecting all the elements.

### [Block Diagram of Arduino Based Solar Tracker. A](#)

Block Diagram of Arduino Based Solar Tracker. A solar panel, an Arduino microprocessor, and sensors make up the solar tracking system. Light



must be emitted by the sun for this system to function



### SMART IRRIGATION SYSTEM USING DUAL AXIS ...

Even though this system requires more investment but it solves more irrigation problem after long run of this system. A fairly large solar panel tracker would cost several hundred dollars and will increase the energy ...

### Ppt on automatic solar tracking system

It discusses the need for solar trackers to improve efficiency over stationary panels, provides an overview of the hardware and software components used including solar panels, LDR sensors, servo motors, microcontroller, and ...



### **Design, Construction and Test of a Solar Tracking System ...**

Abstract-For optimal harnessing of solar radiation, it is important to orient the solar collectors or PV modules with the changing direction of the daily solar irradiation. A solar tracking system ...





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