



AUTOMATED SOLAR TRACKING SYSTEM

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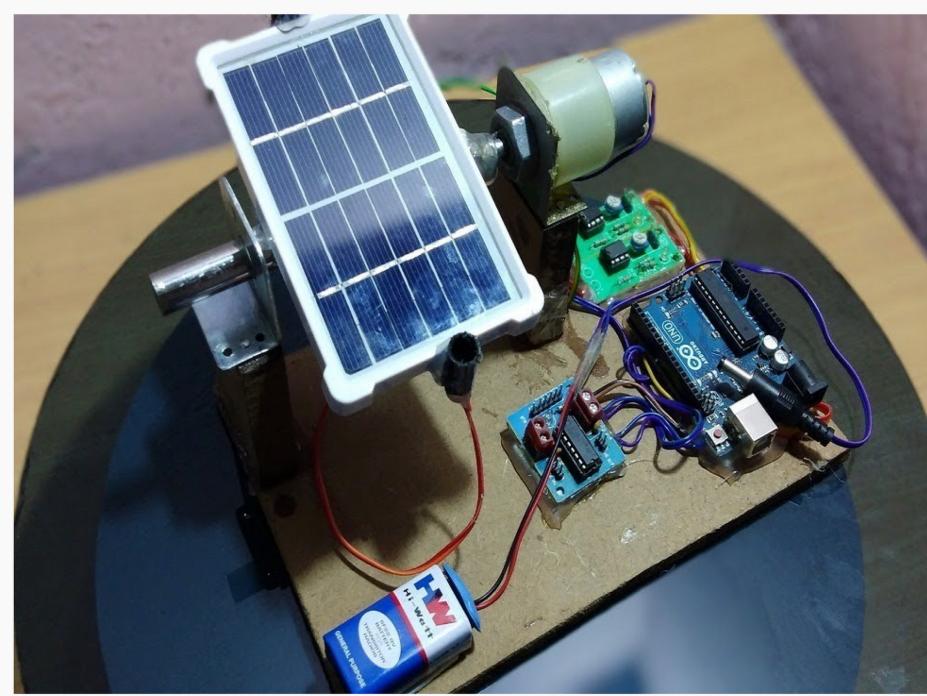
ELECTRONICS CLUB

INTRODUCTION

Why do we use it?

Of all the renewable energies, solar energy is the only energy that gained popularity and importance quickly. Through the solar tracking system, we can produce an abundant amount of energy which makes the solar panel's workability much more efficient. The perpendicular proportionality of the solar panel with the sun rays is the reason lying behind its efficiency.

IMAGE / DIAGRAM



METHODOLOGY

How does it work?

A typical solar tracking system adjusts the face of the solar panel or reflective surfaces to align with the sun as it moves across the sky.

This project is all about the design and construction mechanism of the prototype for the solar tracking system having a single axis of freedom. The ASTS prototype consists of two LDRs, a solar panel, a servo motor, and ATmega328 Microcontroller. Two light-dependent resistors are arranged on the edges of the solar panel. Light-dependent resistors produce low resistance when light falls on them. The servo motor connected to the panel rotates the panel in the direction of the Sun. The panel is arranged in such a way that light on two LDRs is compared and the panel is rotated towards LDR which has a high intensity that is, low resistance compared to others. The Servo motor rotates the panel at a certain angle.

REAL LIFE ?

An Insight

The corresponding real-life model to this prototype would use Embedded Software (written in C) for microcontroller AT89c52 and the sensors used could be upgraded to 4-quadrant sensors.

REFERENCES

