

ECE MINOR PROJECT-1
on
DUAL AXIS SOLAR TRACKER



INCHARGE

Mrs. Shradha Saxena

SUBMITTED BY

Dev Uppal (20102071)

Rohit Goel (20102115)

Department of ECE
Jaypee Institute of Information Technology, Noida, U.P., India

AIM: To design a Dual Axis Solar Tracker

INTRODUCTION:

The capability of electrical phenomenon (PV) panel to come up with energy roughly follows the intensity of the daylight on the panel. A dual-axis star programmable logical controller primarily based automatic trailing system and its higher-up and system is meant and enforced during this project. The automated trailing system controls elevation and orientation angles of star panels such the panels perpetually maintain perpendicular to the day light. The measured variables of our automatic star trailing system are compared with those of a fixed-angle PV system. The results indicated that the automated star trailing system is low-priced, reliable and economical.

Objectives:

- i) The main purpose of this to gift a bearing system which can cause higher alignment of electrical phenomenon (PV) array with sun light-weight and to reap alternative energy.
- ii) The proposed system changes its direction in two axis to trace the coordinate of sunlight.

METHODOLOGY:

We will fix four LDR on the sides of the solar plate so it starts calculating and comparing that from which direction the maximum intensity sunlight is coming. After comparing the servo motors start moving and turn the face of the solar plate towards that direction. By doing this practice we can generate maximum electricity than other solar panels. For moving the solar plate, we are using two servo motors.

Components Required:

VPC Card board 3mm, VPC Card board 5mm, Solderless Breadboard, LM 358 IC x 2, 555 Timer IC, LDR Sensor x 4, L293D Motor Driver, 10k Resistor x 4, 1k Resistor x 5, Blue LED x 4, 104pf Capacitor, 103pf Capacitor, 10k Variable Resistor, 100k Variable Resistor, 4148 Diode x 2, MG996 Servo motor, 5v LED Light, 5v DC Fan, 5v 6W Solar Panel, dc to dc boost converter LM2587, LiPo Battery Charger Module Mini TP4056 IC, On/Off Switch x 3, 18650 Battery Holder – 1 Cell, 18650 Battery Cell 3.7V.

Circuit Diagram:

