SOLAR TRACKER

TEAM: DECEPTICONS

Abstract

Of all the renewable energies, solar energy is the only energy gained its popularity and importance quickly. Through the solar tracking system, we can produce an abundant amount of energy which makes the solar panel's working much more efficient. Perpendicular proportionality of the solar panel with the sun rays is the reason lying behind its efficiency. Pecuniary, its installation charge is high provided cheaper options are also available. This project is discussed all about the design and construction mechanism of the prototype for the solar tracking system having a single axis of freedom.

The Solar Tracker was made as a prototype to solve the problem, mentioned above. It is completely automatic and keeps the panel in front of sun until that is visible. The unique feature of this system is that instead of taking the earth as its reference, it takes the sun as a guiding source. Its active sensors constantly monitor the sunlight and rotate the panel towards the direction where the intensity of sunlight is maximum. The Solar panel or module is a packaged interconnected assembly of solar cells. In order to maximize the power output from the solar panels, one needs to keep the panels in an optimum position perpendicular to the solar radiation during the day. As such, it is necessary to have it equipped with a Sun tracker. Compared to a fixed panel, a mobile solar panel driven by a Sun tracker may boost consistently the energy gain of the solar panel.The main control circuit is based upon Ardunio Uno. Programming of this device is done in the manner that the LDR sensor, in accordance with the detection of the sun rays, will provide direction to the Servo Motor that in which way the solar panel is going to revolve. Through this, the solar panel is positioned in such a manner that the maximum amount of sun rays could be received. In comparison with the other motors, Servo motor is the simplest and the suave one, the torque of which is high and speed of which is slow enough. We can program it for changing the direction not withstanding the fact that it rotates only in one direction subject to exception as far as programming is concerned.

WORKFLOW

- 12:30 PM TO 3 PM - DESIGNING
- 3 PM TO 5 PM - CODING
- 5 PM TO 2 AM - PROTYPING
- 2 AM TO 5 AM - PPT PREPARATION

SL. NO.	PARTICIPANTS NAME	COLLEGE & UNIVERSITY
1	ANSIL REJI	ILAHIA COLLEGE OF ENGINEERING AND TECHNOLOGY,APJAKTU
2	ASHIQ SATHYAN	ILAHIA COLLEGE OF ENGINEERING AND TECHNOLOGY,APJAKTU
3	BASIL SAJEEV	ILAHIA COLLEGE OF ENGINEERING AND TECHNOLOGY,APJAKTU