

SOLAR TRACKING USING MICROCONTROLLER

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ABSTRACT

In today's world, the high tech automation it has become mandatory to achieve precision control technique. Heart of this project is microcontroller 89C52 from Atmel. Process control is again a very diverse field involving many different environment parameters. Our aim is to design the system, which will automatically track the sun's position and accordingly change the direction of the solar plate to get the maximum output. To made a solar tracking system which will automatically track sun's position to growing the efficiency of solar system.

KEYWORDS: Microcontroller, resistor, solar panel, stepper motor

INTRODUCTION

The circuit present here is a microcontroller based automatic Solar Tracking System. Here the system, which will automatically track the sun's position. working capability of solar system. The project aims to create solar energy for our various applications which is generated by solar so, we first convert it into electrical energy. In this we also used battery which is charge by solar energy. The circuits includes power supply inbuilt.

MATERIALS AND METHODS

Materials:

- 1) Microcontroller
- 2) Motor Driver
- 3) Stepper Motor
- 4) Solar panel

Block Diagram:-

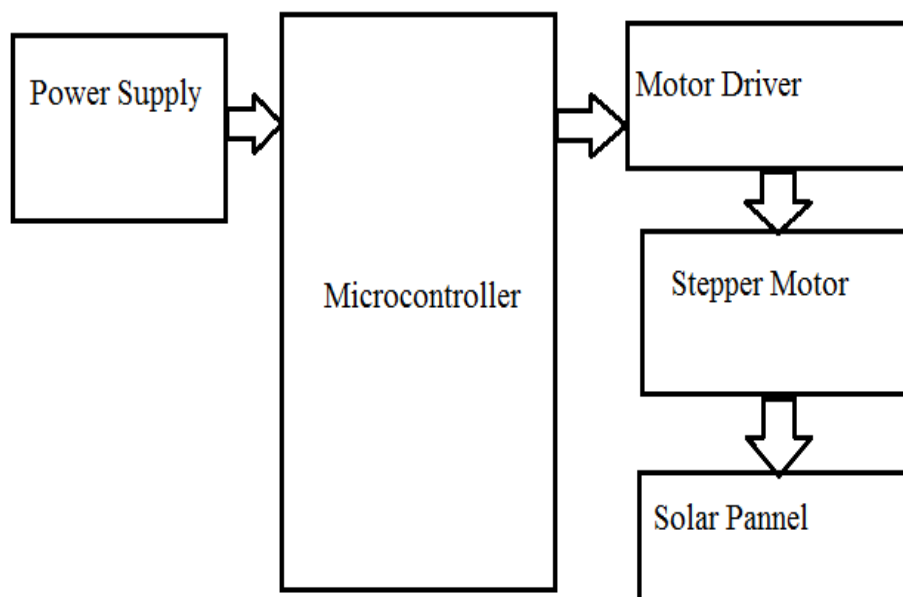


Figure.1 Block Diagram

DESCRIPTION OF BLOCK DIAGRAM

To acquire maximum intensity the solar tracking is used with the help of microcontroller continuous solar tracking is done and battery is charged which in turn is further used. The driving circuit is used to provide isolation between VLSI chip & motor. The motor is main part with the help of which the panel starts rotating along with sun. The panel is one of the medium through which can collect sun rays and convert it into electric energy.

ADVANTAGES

1. Renewable energy source
2. Energy conservation
3. High efficiency
4. Simple in construction

APPLICATION

1. Battery charger
2. Home application
3. private sectors.
4. Industrial field
5. Infrastructural as well as Agricultural sectors.

CONCLUSION

In this project by using solar panel and stepper motor we can save the solar energy. The panel is one of the medium through which can collect sun rays and convert it into electric energy, which is used for various purposes.

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FUTURE SCOPE

- During rains, rainfall sensors can be used to keep the system working.
- Make emergency control better, more powerful microcontrollers can be used.
- Wireless communication.

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