

ABSTRACT

ELECTRICAL ENERGY SUPPLY SYSTEM FOR AUTOMATIC CLOTHESLINE DRIVE BY UTILIZING SOLAR CELL

Renewable energy is a natural energy source that can be used continuously. Solar heat is one of the most important energy sources for carrying out daily activities such as drying clothes that have just been washed. But if the weather conditions are cloudy and indicates rain, it becomes a problem because clothes that are being dried are often left away or people who are at home forget to take the clothesline.

In this final project, an automatic clothesline drive is designed with electricity supply using solar panel. To store electrical energy produced from solar panels used a battery. This battery is used as a power supply for an automatic clothesline drive system.

The battery used for this automatic clothesline drive system is 12 V with the capacity 7.2 Ah. This battery supplies power for Arduino, DC motors, and lamp. Total power needed for automatic clothesline drive during sunny weather ranges from 70.44 Watt - 72.50 Watt. Whereas when the weather is cloudy the power needed is 66.84 Watt. The solar panel used in this automatic clothesline drive system is 20 Wp. According to the specifications contained in the panel and when compared with the results of the test, the solar panels used has an average efficiency 0.83%.

Keywords: *Electrical energy supply for clothesline drive, solar panel module, battery power supply.*