

ABSTRACT

ANALYSIS OF SOLAR PANEL DESIGN AS A 12 V DC WATER PUMP DRIVE IN THE LABORATORY

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Most Indonesian countries whose territory is in the form of waters still experience difficulties in meeting the needs of their population, especially in communities that are quite far from electricity sources. Most residents today get a clean water supply by using water pumps to suck water from the ground using electrical energy. Thus in this study will test the performance and conduct analysis of water pumps that are driven using electric themes from solar panels. To achieve this goal, measurements of the power generated by solar panels were carried out starting at 09.30 WIB until 13.30 WIB for three days carried out in Building B of the Department of Mechanical Engineering of the Bengkalis State Polytechnic. Data collection carried out is to measure the intensity of sunlight, voltage, power, current, water discharge. Solar panels with a capacity of 100 wp, the lowest power generated solar panels 15.5 W at 12.10 pm, while the highest power is 150.6 WP at 11.30 pm with an intensity of 103635 lux. The average water discharge produced is 28.5 liters / minute.

Keywords : Electrical Energy, Solar Panel, Sunlight intensity, Pump, Power