

ABSTRACT

POWER SUPPLY SYSTEM ALKALINE WATER PRODUCER WITH SOLAR CELL MODULE USING BATTERY STORAGE

Alkaline water has a pH that is more basic than ordinary water with a pH of about 8.0-11.0. According to technology expert Ray Kurzweil, alkaline water has a high potential oxidation reduction (ORP), which has the ability to neutralize free radicals. The power supply used for electrolysis of this water comes from renewable energy sources, namely by using energy from sunlight. The utilization of solar energy directly through solar cell modules certainly cannot be used in 24 hours or full day. To overcome this, another source of power is needed which can be used when the power generated by solar cells is insufficient. The source of the backup power supply used is a battery.

This system uses a battery power supply where the battery is filled with the main source in the form of a solar cell. The output of the battery enters the DC-AC inverter to increase its voltage then goes into the rectifier circuit to make the output become DC so that it can be used in the form of electrolysis water load.

On completion of this final assignment, with a backup power supply system made, it can be done electrolysis of water which can increase the pH by 1.44 within 6 hours with an output voltage of 246.2 volts, the output current is 28.45 mA, the power generated is 7.03 watt.

Keywords: Solar cell, Alkaline Water, Electrolysis, Battery charging, pH