

ABSTRACT

DESIGN OF CONTROLLING SYSTEM FOR DC POWER HOUSE

Electrical energy is one of the most important energy for human survival. There are about 20 percent of Indonesia's population as many as ten million heads of families scattered in remote areas can not enjoy electricity. The outreach of remote areas makes uneven distribution of electricity. For that we need a source of electricity that can be produced by nature. The natural resources that are easily found in remote areas are sunlight. It takes solar panels to convert sunlight into a power source. Irregular use of power can result in rapid accumulator batteries damaged and the power generated by solar panels will quickly run out. Therefore it is necessary to control the load so that power can be channeled regularly. Also made a scheduling of the load to be used. Scheduling with look up table method will be easily understood by local people, because the working principle is not complicated. There are two look up tables that look up table 100%, and look up table 30%. A relay is required to disconnect and connect the load automatically. RTC module will make scheduling more practical. The use of direct current source power load will make the power generated does not experience a very large loss. The results obtained from the system is a maximum Voltage of 20,93 Volt solar panels, which is at 12:45 pm. Control by using look up table runs as desired. The power generated by the solar panel for one day is 181,800155 Watt-hour, with power consumption of 306,0634 Watt-hour. The power stored on the accumulator battery is 112,736305 Watt-hour, while the power supplied by the accumulator battery for one day is 216,63835 Watt-hour in sunny conditions throughout the day. The system works according to the capacity of the battery at that time. With the DC power house is the problem of local electricity can be resolved

Keywords: *Solar panel, relay, RTC module*