

ABSTRACT

The development of renewable energy is now growing rapidly. Various research relating to instrumentation in the application of renewable energy has been developed as a solution to the problems in the field of energy. One of the problems that exist today are related to the distribution of renewable energy in the process of charging the battery. The problems related to battery quality may decline if the charging process is not good. So that the distribution of power output to less than optimal battery. The system serves to provide a more stable energy distribution and to find the maximum power point so that the distribution of power output of the system can be optimized are charging control.

MPPT (Maximum power point tracking) is an optimal charging control for charging. That is because looking MPPT maximum power point of the system so that the voltage is wasted will be changed to maximize the current output of the system. So that power is supplied to the battery can be optimized and more stable. In this study MPPT charging control is designed using optimization methods hill climbing. Testing is done using three variations of the load ie, 10 Ohm, 20 Ohm and 33 Ohm. Average power in the test hill climbing method amounted to 12.49 Watt and without method 12.44 Watt. The average efficiency of the testing methods hill climbing by 96.10% and 95.62% without method.

Keywords: MPPT, Hill climbing, Kontrol pengisian.