

ABSTRACT

The design of electrical energy storage from the panel still has problems that are difficult to avoid including, overcharging the battery and overcharging too long causing the battery to run out (over-discharging). In this research, we will design a battery management system to monitor battery performance. One method of the battery management system is to estimate the value of SOC (State of Charge).

The parameters of the battery SOC value can indicate the capacity of the battery when charging and battery usage in percent. SOC estimation method used is Coulomb Counting (CC), the basic principle of CC is to calculate the incoming or outgoing electric charge. The results of the calculation of the electric charge are the parameters for determining the SOC value. From the SOC value generated, monitoring with a SOC emptying limit of up to 20% will be carried out with a cut-off and filling with the SOC up to 100% will be cut-off. The CC method obtains a maximum error value of 24% while the minimum error produced is 7.8%.

Keywords: Battery Management System, State of Charge, Coulomb Counting