

ABSTRACT

Electricity is one of the natural resources that is very important to meet the various needs of people from all walks of life. However, the fact is that the availability of electrical energy is not evenly distributed in several parts of Indonesia at this time. For example, in remote areas that have not been reached by the flow of electrical energy from PLN, this is the basis for the author's problem formulation to develop a means of providing electrical energy that is easy to mobilize to various areas. The tool is called Powerbox Portable. The powerbox is designed with a multicharge system so that it can charge the battery via 2 AC and DC inputs where the battery charging will receive an AC energy source from PLN of 220V and a DC voltage source, namely photovoltaic originating from solar energy. In this study, we will discuss and design a prototype battery charging battery through an AC source of 220 volts which will charge the battery with a 12 volt DC voltage by changing and testing the battery charging battery which will be used to turn on the load as needed. By using the State of Charge and State of Health methods the author can determine the battery capacity when emptying the load. Thus the portable powerbox through an AC source can charge the battery. It is hoped that the portable powerbox will make it easier to mobilize to various targeted areas.

Keywords: *powerbox, multicharge, ac&dc input, load*