

ABSTRACT

The blackouts that often occur in Indonesia are due to maintenance or problems with the PLN mains electricity, so that the public often feels rotating blackouts. The application of PLTS as a source of backup electricity has been widely used in housing or often called the Solar Home System (SHS), especially in areas where electricity is not reached by PLN. With an Automatic Transfer Switch (ATS) system, PLN electricity and solar power can be combined.

In this final project, designed an Automatic Transfer Switch (ATS) automatic control system on mini PLTS so that the system can switch sources automatically. The state of charge (SOC) on the battery is a reference for the automatic switch system on ATS, with the Open Circuit Voltage (OCV) method the percentage of battery voltage can be measured. The Depth of Discharge test is carried out directly in order to obtain the SOC at the correct cut in and cut off for the power supply.

By using standardized components the ATS switching system runs properly. SOC measurements using the OCV method obtained a percentage of 100% at 13.1V on a 12V 17Ah power supply. By direct testing on the power supply DOD, the right percentage for cut in and cut off was obtained, namely 90% to 40%.

Keywords : *Solar Power Plant, Automatic Transfer Switch, SOC, DOD.*