

DESIGN AND CONSTRUCTION OF PLN ELECTRICAL MANAGEMENT PANEL AND SOLAR CELL BASED ON USAGE LOAD TO SAVE ELECTRIC POWER BASED ON IOT

Bayu Zulfachnur Ramadhan

Electrical Engineering Study Program, Faculty of Science & Technology

University of Technology Yogyakarta

Jl. Ringroad Utara Jombor Sleman Yogyakarta

E-mail bayuzulfachnurramadhan@gmail.com

ABSTRACT

Currently, the use of electrical energy in households is mostly uncontrolled so that the payment for electrical energy is very high. One way that can be implemented is to use PLTS as renewable energy and so far switching on PLTS on grid has had a drawback where when switching the generating source there is a flicker that can occur. harm electronic equipment. Voltage flickers will cause damage to electronic equipment that is sensitive to voltage fluctuations. The aim of this research is to produce an automatic switching system for PLTS and PLN as an IoT-based electricity bill saver. The test results for the success rate of automatic switching are 100%. The results of testing the Ina219 sensor obtained an average error percentage of 3.38% and testing the PZEM004T sensor obtained voltage and current error percentage values of 1% and 9.8% respectively.

Keywords: Electrical management panel, Switching, PLN, PLTS.