ABSTRACT

Electricity is the most important energy for Indonesian people today. The economy can grow with electricity. Therefore, electricity is very necessary for the national economy. On the other hand, electricity costs are a major cost for a business or household. Many businesses are trying to increase the efficiency of the electricity they use to reduce their costs. Reducing electricity for household needs is also the most important thing to reduce utility costs. Real time data and usage history are required to reduce energy costs. Therefore, an energy monitoring system is needed to determine energy consumption in order to analyze monthly energy consumption. In this study, an electrical energy monitoring system has been built with an Internet of Things-based NodeMCU. This research is different from other studies that use Arduino and intrusion sensors. In this study the microcontroller used is NodeMCU which can be connected to a wireless network. With a wireless network connection, this system is based on the Internet of Things, so power consumption data can be monitored in real time via Android. In addition, this energy monitoring system uses energy sensors, which are sensors that do not damage existing cables or systems. This sensor uses a current transformer to get information about the voltage, current and power used. This system can be used for multiple lanes with a maximum of 2 lanes. This system aims to increase the efficiency of the use of electrical energy. Based on the information above, the author chose the title of the Final Project Design and construction of an electrical energy control system with NodeMCU based on the Internet of Thing.

Keyword: **Electricity, Internet of Things, Microcontroller, Nodemcu**