

ABSTRACT

The development of highly advanced technology causes an increase in electrical power requirements. This increased need is not accompanied by human awareness in conserving electricity used. Often, when leaving an electronic device that is not needed, it will remain on or stand by. Therefore, innovation is needed in order to be able to control the use of electrical energy automatically.

Wireless smart energy meters are technological innovations that can help in monitoring and controlling electrical energy in the home. This prototype consists of a microcontroller, Relay module, LCD and several sensors. The sensors used are current and voltage sensors to detect power. In addition, this prototype also uses the Real Time Clock (RTC) module to detect the time to be displayed in real time. Wireless smart energy meters will be tested using 3 different electronic devices that value the input power and time of use.

The results obtained were based on testing that the design of the wireless smart energy meter was successfully realized using the RTC module that can display the time according to real time. The design of this prototype produces sensor accuracy values of 85.85 for current sensors and 97.96 for voltage sensors which then provide power and total KWH information from the use of electronic devices that are connected all the time. The relay module on the wireless smart energy meter can disconnect the current on each device used when the power usage has reached the specified limit so that the user can control power usage at home automatically.

Keywords: *Real Time Clock, wireless smart energy meter, electric power monitoring*