

ABSTRACT

Electrical energy is one of the most important needs of the community and is the most important resource needed in various activities. To find out how many sources of electrical energy are used in each house, use electrical energy monitoring. Monitoring is also useful for saving electrical energy so that household waste does not occur. In households, there are various kinds of electronic devices that can be connected to internet services. Devices that are connected or connected to internet services can run automatically remotely controlled by a computer known as the Internet of Thing or often referred to as IoT. IoT technology can be connected with a variety of tools, such as detectors or sensors. This study tries to operate a power source sensor using BLE (Bluetooth Low Energy) technology with Arduino UNO which is applied to monitor the electrical energy used in households with the internet network via the ubidots web. The HLW8012 sensor is overall good for power monitoring which monitors voltage, current, and active power as measured by PWM in microseconds. The test is carried out through data collection by using 10 times the use of electronic devices to be used as a comparison of the results of use, using an ammeter, multimeter, and wattmeter measuring device. Tests were carried out using lights, fans and magic com. The use of an average lamp with a power value of 4.99 watts, a current of 0.0326 amperes, a voltage of 228.16 volts. The use of an average fan with a power value of 34.87 watts, a current of 0.153 amperes, a voltage of 226.81 volts. The use of magic com has an average power value of 394.60 watts, a current of 1.806 amperes, a voltage of 218.46 volts.

Keywords: IoT, BLE, sensor HLW8012, Arduino UNO, energy load, household.