

ABSTRACT

Penetrating the times, the world is entering the era of energy reform. Electrical energy has become a fundamental aspect of building civilization. Electrical energy is needed to meet daily needs, both in the needs of industry, education, offices, telecommunications, households, and so on. The electrical energy used is often not well monitored. This is because monitoring is done manually by seeing firsthand how many kWh there is on the electricity meter.

Seeing this, the author thinks to make a final project entitled Design and Implementation of Power Measurement in the Internet-based Smart Socket of Things. Smart Socket is a socket whose job is to calculate the power load of a device. These devices are rented room sets. The implementation is that the rented room devices are connected to the socket then the socket calculates the power load of the devices. The calculated power load is then uploaded and stored to the cloud online and stored offline on microsd.

The results obtained were based on testing the Design and Implementation of Power Measurement on the Internet-based Smart Socket based on successfully succeeded by integrating the PZEM004T sensor into the ESP8266 NodeMCu and the Internet of Things and MicroSD Data Logger. The accuracy value of the PZEM004T sensor voltage is 99.79% and the error is 0.21%. PZEM004T sensor current accuracy is 93.20% and error is 6.80%. The PZEM004T sensor power accuracy value is 99.14% and error is 0.86%. PZEM004T sensor power factor accuracy value is 93.85% and error is 6.15%. In testing the Wi-Fi Module ESP8266 NodeMCU gets a delay value of 20 seconds.

Keywords: Smart Socket, Internet of Things