ABSTRACT

Smart home system (Smart Home) is a system of application that combines technology and services that are specific to the home environment with certain functions, one of which is to increase efficiency in saving energy usage at home. Nowadays, power socket is often found in an electronic device while the device is not being used, it can cause energy waste

The power socket monitoring and control system integrated with the internet is designed using several components in the form of PZEM-004T sensor, Wemos D1 Mini, Relay and RTC DS3231. To conduct surveillance and control can be done on Progressive Web Application (PWA). This tool can also provide notifications related to the use of electric power consumption and socket status using the Telegram messenger application.

The accuracy of the PZEM-004T sensor is 98.66% on the reading of electric power, 96.32% on the reading of the energy used, 99.74% on reading the voltage, and 99,37% on reading the electric current. Large savings in electricity consumption that can be generated from smart power sockets are 28.2%. The delay required for the device to send data to appear on PWA is affected by the distance of the device from the access point. At a distance of 5 meters delay of 5.985 seconds, at a distance of 9 meters delay of 6.096 seconds, and at a distance of 14 meters delay of 6.387 seconds

Keywords: *Smart Power Socket, Smart home, IoT, PWA*