

ABSTRACT

IMPLEMENTATION OF IOT ON HOUSEHOLD ELECTRICAL ENERGY MONITORING USING MICROCONTROLLER PT. SYNTEK AUTOMATION INDONESIA

By

HERLINA RACHEL AYUSTINA PUTRI

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In the era of industrial Development 4.0 technological developments are increasingly rapidly in the field of IoT, and more and more electronic tools are implemented and developed into the IoT platform. At PT Syntek Automation Indonesia develops technology in the field of IoT in the field of energy and control, one of the development of electronic tools is to make the implementation of the IoT system in monitoring household electrical energy using microcontroller.

This home electrical energy monitoring uses a Raspberry pi with Node-RED programming connected to the LDR sensor used to calculate the energy used in the house. With the method of calculating impulses contained in the meter IE using the internet connected with the Raspberry Pi, when the LDR sensor detects flicker then the Raspberry Pi will receive data then displayed on the Blynk dashboard that has been connected with Node-red on the Raspberry Pi.

With this monitoring, home residents can monitor the electrical energy used in the house. At this monitoring obtained the results of the system design measurements of $X1 = 48.74 \pm 0.03$ for readings on the meter and $X2 = 0.0623 \pm 0.0007$ for reduced power read on the dashboard Blynk app.

Keywords: Raspberry pi, monitoring, LDR sensors, Blynk