

ABSTRACT

A large electrification percentage is obtained from the balance between electricity demand and availability in Indonesia. Indonesia has an electrification rate of 95.35% in 2017. The results of observations on the use of electricity in society that get the result of awareness in energy, are evidenced by the lights that still on during the day, the air conditioner that still on when there are no residents, and the television that stays on when the owner sleeps, so the need for electricity increases but the fact is electricity is limited. This power monitoring tool is useful for collecting the amount of power entering a building and recording the readings in Microsoft Excel to make it easier for the public to review the amount of power used so that energy monitoring can be carried out and the electrification rate can be increased.

The making of this monitoring tool goes through 4 main stages, identification of tools and materials, designing monitoring tool, creating monitoring tool, testing and evaluation. The identification tools and materials is useful for preparing the tools and materials used, then enters the design stage which shows a schematic circuit of the work is the electric power monitoring tool. The stage of making tools is the stage that realizes the design stage. The tool is made according to the design that has been prepared, then enters the testing phase to find out the results of the work of the electric power monitoring tool and an evaluation is carried out to improve the work of the monitoring tool.

Microcontroller is able to send data to Microsoft Excel using the PLX-DAQ. This software has a writing speed of between 27 data per minute and has a maximum amount of data written as 10660 data. The current sensor has a reading error of 3.31%, the voltage sensor has a reading error of 0.34% and the power calculation has an error 3.52%.

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