# *DESIGN OF AN INTERNET OF THINGS (IOT) BASED MONITORING SYSTEM FOR EFFICIENCY COSTS OF ELECTRIC ENERGY USE OF SPOTLIGHTS IN ELECTRICAL ENGINEERING BUILDINGS*


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## *ABSTRACT*


*Electrical energy in spotlights in the Bengkalis State Polytechnic Electrical Engineering building is still inefficient, especially due to delays in turning off the spotlights. This causes energy waste and increases electricity costs. With basic electricity tariffs continuing to increase, an internet of things (IoT) based floodlight monitoring and control system is needed that can be accessed remotely to increase the efficiency of energy use and reduce electricity costs. The test results show that the total cost for three days is IDR 38,717 with a total energy consumption of 26,800 kWh. The comparison between measuring instruments is not much different or accurate with an average value of first day voltage error calculated at 0.47 %, accuracy of 99.53 %, average current error of 0.21 %, accuracy of 99.79 %, average the second day's voltage error was calculated at 0.22 %, the accuracy was 99.78 %, the average current error was 1.19 %, the accuracy was 98.81 %, the third day's average voltage error was calculated at 0.16 %, the accuracy was 99.84 %, average current error 0.71 %, accuracy 99.29 %.*



***Keywords****: PZEM-004T, floodlight monitoring, cost, Internet of Things, energy.*