***ABSTRACT***

*Residential rental rooms often cause some problems from different energy needs and monthly bills. This is because there is only one kWh meter from PLN to supply all the dwelling rooms. In fact the use of electric energy every room is not the same, but they must pay the same bill with the other rooms. How to determine the cost of electricity bills for each room is perceived to be unfair to every occupant of the room, so it takes a tool that can monitor the use of electric energy per room. Based on that, the reaserch of "Monitoring System of Rental Room Electrical Energy Usage based on Arduino Mega 2560" was made to monitor the electricity usage in each room using SMS (Short Message Service).*

*This design is carried out through 3 stages of research procedure which is designing hardware ACS712 (20), ZMPT101B, Relay, Sim 900A, IDE Aruduino. Program Design and system for the whole 3 rental occupancy room, using SIM900A communication system as data transmission information of electrical quantity and control of the rental rooms.*

*Based on the results and testing, it can be concluded that the system can be used as a media to turn off or turn on the rental room and as a media to deliver the data monitoring of how much the amount of electricity has been used, with the results of the average Error Voltage 0.210%, Current 1,545%, Power 1.265%, Pf 1.735%, Energy U (Main room ) 2.231%, Energy 1 (Room 1) 1.852%, Energy 2 (Room 2) 4.174% and Energy 3 (Room 3) 2.231%.*

***Keywords*** *: Monitoring,, Arduino Mega 2560, Sim 900A*