ABSTRACT

Measuring tools for electricity consumption in apartment still using analouge kWh meter, where the records still done manually by officer who come to location and register the records position as the number of billing. This way is certainly less practical in adition to waste time and cost.kWh meter recording system that exist today is using token system that can be purchased in the right place such as ATM, bank, mini market,etc. In use of token contain numeric code which should be typed on kWh meter keypad. In terms of user convenience, this approach still contain several deficiencies, the user must come to the place directly to purchase token. Secondly should type directly in kWh meter location. Third to check residual usage the user must often look at the position of number kWh meter.

In this final project, designed and realized a prototype device based on IP registrar kWh meters to overcome these shortcomings. The system consists of a sensor (measuring) the current and voltage litrik PLN.The design of kWh smartmetering system on apartment, was designed by integrating Arduino microcontroller and webserver as user interface. Arduino combine with ethernet shield get input from current sensor and voltage sensor to obtain electrical data were subsequently processed as data usage and become input for webserver. While the ouput of pulse kWh webserver become input data for arduino to drive and cut off relay if read pulse   0 kWh

Based on the results of testing that has been done, on the current sensor readings kWh smartmetering system has an error of 14,80 %, voltage sensor has 1,36 % and the calculation of this kWh smartmetering has 17,64 %

Key Word : kWH smartmetering , microcontroller, arduino uno, ethernet shield, current sensor, voltage sensor, relay