

ABSTRACT

Electricity had being people's main necessity. People's need of electrical power is also different; it depends on the usage of electrical power itself. However, the fee of electrical consumption of a certain building does not controlled based on the consumption. The record from PLN side is still on an average for the usage of electrical charge of a certain building, without knowing how much the real electrical charge is. Therefore, a device have been made to help PLN to decrease electrical charge of charge limit by using the arrangement of charge .Customer can know how much the electrical consumption during peak load and exit time of peak load recorded daily or monthly.

This device is using current sensor ACS712 is used to detect the flow of electricity and turn it into a voltage. Voltage sensor is used to lowering the voltage of PLN. Phase detector sensor is used to get the value of $\cos \varphi$. Microcontroller is used to calculations. RTC is used to run a function of time and calendar in real time, is peak load and non peak load times. LCD is used to display the power used in a building by times and MMC is used to media storage.

Test result carried out starting from the measurement hardware block is micro blocks, sensors, and MMC. Result from these tests was stated that the system can work well. LCD can display well on the burden of unused power by times is WBP and WLBP. Power shown is rill power in Watt unit, according to the formula $P=V \times I \times \cos \varphi$ and MMC can store data by measurement results.

Keyword :*current sensor, voltage sensor, phase detector sensor, microcontroller, RTC, LCD, MMC, WBP, WLBP*