

ABSTRACT

Electricity use of the payment system, both prepaid and postpaid still has some problems. One of the problem is still the theft of electricity or electricity use illegally. It happened because of the lack of monitoring conducted by the PT.PLN. So, at this moment there are still some aggrieved party.

In this research using Arduino Uno board as data processor. Parameters which can be measured by a device that has been designed consisting of current, voltage, and power. For current measurement in this study using a sensor SCT013-000. And to measure the voltage using a voltage transformer type CT. The results of measurements on the device directly transmitted in real time to a Web Server through a LAN network. Interface is used between network devices with ethernet module ENC28J60 is connected to arduino via SPI communication. Measurement results are sent to the web server at intervals for 3 seconds.

Testing conducted four sessions. The test sessions consists from current measurement, voltage measurement, power measurement, and testing devices between communications and web server. On testing current measurement errors obtained average value of 3.6964 %. On testing voltage measurement obtained average error value of 0.933 %. On testing power measurement value obtained average error value of 9,215 % . And for communications between device and web server testing that generates communication is stable and able to transmit data in continues with delay 3 seconds.

Keywords : SCT013-000, Transformator CT, ENC28J60, One Phasa Electric