ABSTRACT

Electrical energy consumption of each customer are recorded by the officer PLN each end of the month. In the process of manually recording it often goes wrong that will harm the customer or the PLN. Therefore, we need a system that is able to overcome some of the problems mentioned above.

In this thesis, has created a system that can provide ease of PLN in the process of recording the power consumption. This system consists of a camera as the interface to taken as input data, and MATLAB programs as data processors.

In general, the block system consists of 3 phase, pre-processing, feature extraction, and classification stage. To get a good results then pre-processing phase remove the unwanted noise and search for the existence of sets of numbers that contain information. Then the feature extraction phase, image numbers that have been obtained was extract for a characteristic that are different from other figures. At the stage classification method of neural networks are used to obtain the desired results. The result stored in the form of files in a computer that can be processed for the purposes of the next.

The test results obtained percentage system accuracy of the system to reach 100 percent in the morning and afternoon shooting distance of one meter with the degree of slope from 0 to 20 degrees, also in testing the similarity rate between the numbers 0 and 8, 1 and 7, 5 and 6, 6 and 8, and 8 with 9. In the test of the system with shooting distance one meter and the degree of slope 25 and 30 degree are 80 and 0 percent. Then in the test of the system with shooting distance two meter and the degree of slope 0 until 20 degree in morning and afternoon, the all of the result are under 100 percent. The time needed to process a single image was 3.8 seconds.

Keywords: MATLAB, Neural Network, Stand Meter