ABSTRACT

MURNASIH. *Automatic Water Filter System Aquarium Based On PLC (Programmable Logic Controller)*. Advisor: SYUFRIJAL and READYSAL MONANTUM.

This study aims to create a Water Filter System Automatic In-Based Aquarium PLC (Programmable Logic Controller). This research was conducted at the Laboratory PLC Faculty of Engineering Department of Electrical Engineering State University of Jakarta in October 2012 until January 2013. The method used is the method of making and laboratory experiments to test connecting the PLC program then moved into the simulator by changing filters aquarium water aquarium. Instruments of this study is PLC, light sensor, DC motor series, CX-Programmer software, simulator replacement filters.

The first step is to make a dirty filter replacement simulator with a clean filter and the light sensor circuit, followed by making a series of laneways DC motors driving simulator and make ladder diagram program.

From the results of testing the light sensor that can read the filth filter, then the pump will aquarium Off and DC motor will drive the simulator and each stop DC motor using limit swicth. Input to the PLC that LDR Light Sensor and Limit Switch and output DC Motor and Pump aquarium. The conclusion of this study is LDR light sensor is used as a detector filter, if the filter is clean or dirty, and can be used as input in the system replacement filter-based Programmable Logic Controller.

Keywords: Light Sensor, Series DC motors, PLC