ABSTRACT

Now this electronic technology is growing rapidly in the continuity of human life. This technology is expected to facilitate and assist humans in performing an activity. As one example with the establishment of a system that can perform several activities, such as the ability to move objects from one place to another is called a system of heavy equipment or cranes. Crane is generally driven by an electric motor, electric motor itself is a tool to convert electrical energy into mechanical energy. At the output of the electric motor crane usually unstable because of the burden that the lift is different each time, the motor speed is not stable efficiency can result in a lack of time and make people feel uncomfortable using a crane. This is what underlies the need for the use of fuzzy logic in order to create a stable system.

On the occasion of this thesis the author has been realized crane models that work automatically according to the load that will be given. In this system would be designed a sensor that can read the rotation speed of the motor is specifically tailored to laying. The speed sensor will then be used as input to be connected to the microcontroller. ATmega16 microcontroller that is used is that the readings will be displayed in a 16x2 LCD. On the drive servo motors used for modeling in this system. To gain control of the appropriate use of Fuzzy Logic Controller method, this method is used as the output of a microcontroller based speed sensor input. Hopefully, through this method obtained a more stable system.

In designing these tools, motion control motor had been use the Fuzzy Logic Controller. In the fuzzy logic method is found that the motor can be set according to the reading of the input speed sensor. Although the motion of the motor is not maximized, but the overall system is stable with the display of the PWM signal as a reference.

Keyword : *Crane, Motor Servo, Speed Sensor, Fuzzy Logic.*