ABSTRACT

At the present time, it takes a lot of DC motor with a large capacity for use in industries as well as other systems such as turbine propulsion system or generator drive. DC motor is an electrical energy converter device into motion energy is powered by a DC voltage. DC motor with a large capacity will require a driver as driving. Therefore it takes a DC to DC Converter for DC motor drive.

DC to DC Converter is a converter that converts the power source of direct current (DC) from one voltage level to another. DC to DC Converter has been made in this thesis using a buck converter topology in which the topology of the voltage biased at a DC to DC Converter can be set according to the desired set point. DC to DC Converter has been created using Pulse Width Modulation (PWM). In this method the PWM signal generated by the microcontroller through ADC contained therein by setting the duty cycle so that the output voltage generated according to the desired duty cycle setting based on the existing set point.

DC to DC Converter has been made in this thesis can drive a DC motor without a load capacity of 200 volts 9 amps. With power ration given to the DC to DC Converter at 30 volts, the resulting output voltage is 16.5 volts with a current of 1.02 amperes.

Key words: *DC to DC Converter*, *DC motor driver*, *Pulse Width Modulation*