

ABSTRACT

The excessive use of fuel oil for vehicles in this modern age can accelerate the expiration of fossil fuels which is predicted will run out only tens of years later. One of the best alternative to save the oil for for the future is an electrical vehicle which is using one or more electric motors or motor traction as its driving force. Unfortunately the electric vehicle to date in Indonesia is less developed due to various factors, especially the issue of cost.

By taking on the problems of high cost of battery the electric vehicles, I will develop an alternative battery power system of using DC Chopper Boost Converter in my research. The output voltage accumulator 12 Volt 7.2 Ah is increased to 36 Volt by DC Chopper Boost Converter using the concept of switching regulator and PWM signal controller by MOSFET IRF540 and UC3843 IC at 133.3 kHz switching frequency as the driver Brushless DC motors 300 Watt.

The results at this stage of testing and analysis has been obtained showing maximum efficiency DC Chopper Boost Converter in resistive and inductive load reached 86.29% and able to replace the battery performance of electric vehicles with drop the voltage on the output side is 1.76 Volt. The efficiency Boost Converter of DC Brushless load on the electric vehicle is only about 56.61% and have the highest working point at Boost converter output current reaches 0.2 Ampere with 70.29% efficiency rate.

Keywords: accumulator, DC Chopper Boost Converter, switching regulators, driver motor DC Brushless