

DESIGN AND ANALYSIS OF DUAL INPUT DC CONVERTER FOR HYBRID ELECTRIC VEHICLE SYSTEM

The large number of automobiles are in use around the world has caused serious problems of environment and human life. Nowadays air pollution, global warming, petroleum resources are serious problems. Thus the DC-DC converter has proposed for Hybrid Electric Vehicles to replace conventional vehicles in near future. Two energy storage devices uses in Hybrid Electric Vehicles such as main energy systems and rechargeable energy systems. Energy storage and supply devices vary their output voltage with load variation and the DC link create major challenge for vehicle integrating systems. Thus the DC-DC converter can be used to interface the element in the Hybrid Electric Vehicles system by boosting or chopping the voltage levels. Power electronic converters play an essential role in the incorporation of these green energy sources into the vehicle system. For Automobile constraints, the power converter structure has to be reliable, less weight, small volume, low electromagnetic interference and low voltage/current ripple. The Dual Input DC converter have been simulated using MATLAB for a input voltage of 36-48 V, duty ratio of 0.8 and switching frequency is 5 kHz. The hardware prototype model of Dual input DC converter will be developed to analyze the performance of the converter for hybrid electric vehicle system.