

Study DC/DC Converter in a Photovoltaic System for Driving an Electric Motor

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Abstract

This is the simulation for practical approach of the boost converter, in photovoltaic panels, used for supply for PMG motor. The electric motor used PMG 132 is a 7.2 kW engine power used to power an autonomous system. This voltage must be constant whatever the load across the converter. The photovoltaic panels will be connected to a bus standard 35.2V. The output voltage of converter is 72V. Increasing the voltage is controlled by the duty cycle. Component sizing was performed according to the voltage / input current and duty cycle. For electricity to power the engine we studied two types of photovoltaic panels with different technologies for better efficiency: Solar Panel CIGS and Solar Polycrystalline.