DESIGN OF DC – DC BUCK BOOST CONVERTER ON SOLAR TRACKING SYSTEM MINI PLANT BASED ON ARDUINO

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Abstract
Photovoltaic (PV) is a solar power generating system stations the most developed in this time. Improving performance of PV can be done through a method using solar tracking system to obtain maximum output with solar tracking. Instability output pv cause the trouble for power pv using to load. It is caused by the changes of intensity of sun erratic. Because of that, required a system stabilizer pv output power or which is recognized with dc – dc buck boost converter. This system consists of voltage divider, a series of totempole, microcontroller, and buck boost converter sequence. Dc – dc buck boost converter system tested used to charging using photovoltaic source of electricity. There are two power source used by, they are fixed and solar tracker. Experimental results show that the created system can be used for charging storage system (accumulator) with a capacity of voltage for a fixed and tracker each 11.7 volts with charging duration 8 hours and 12.2 volts with a charging duration of 5 hours.

Keywords: Photovoltaic fixed, solar tracking system, and dc – dc buck boost converter.
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