

Review on Grid Connected PV System using Transformerless Inverter with Virtual DC Bus Concept

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Abstract: *The photovoltaic based power generation systems are popular nowadays. For low power grid connected application, a single phase converter can be used. In PV application it is possible to remove the transformer in the inverter to reduce losses, cost and size. Galvanic connection of the grid and the DC sources in transformerless system can introduce additional common mode ground leakage currents due to the ground parasitic capacitance. These current reduce the efficiency of power conversion stage and affect the quality of grid current. To eliminate this common mode leakage current, virtual DC bus concept is used in this paper. By connecting the grid neutral line directly to the negative pole of the dc bus, the stray capacitance between PV panels and ground is bypassed. The CM ground leakage current can be suppressed completely.*

Keywords: transformerless system

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