

Abstract

Multilevel inverter topologies are increasingly being used in medium and high power applications due to their many advantages such as low power dissipation on power switches, low harmonic contents and low electromagnetic interference (EMI) outputs. Also they enable the use of renewable energy sources, such as photovoltaic, wind, and fuel cells. This paper presents Modeling and simulation of three phase five-level neutral clamped (NPC) PWM inverter for grid connected PV system. The proposed system fundamentally consists of PV array, a DC/DC converter, a DC/AC inverter and LCL filter connected to the grid through three phase transformer. To track the maximum power point, Perturb and Observe (P&O) method is used. The Performance and validity of the system is verified through MATLAB/Simulink and the results are compared with a three-level neutral clamped (NPC) PWM inverter in terms of THD.

© 2013 Praise Worthy Prize S.r.l. - All rights reserved