

GRID TIED SOLAR PANEL INTERFACING USING $2^{(N+1)}$ -1 LEVEL CASCADED MULTILEVEL INVERTER WITH COMMON H- BRIDGE

T. CHANDRASEKAR, A. KANNABHIRAN, AND G. VARATHAN

Abstract

This paper presents a single phase 31 level cascaded multilevel inverter grid connected inverter. Each inverter bridge is connected to a 200W solar panel. Maximum power point tracking algorithm is implemented based on new topological cascaded multilevel inverter ($2^{(N+1)}$ -1 level, where N is the number of half bridge) [2] to assure optimal operation of the inverter when connected to the power grid. Simulation results are shown for voltage and current during power transfer mode and FFT analysis is carried out to measure the percentage of harmonic.

Keywords: Multilevel Inverter, Common H bridge, Solar panel, Photovoltaic, MPPT, UPWM