Abstract

The objective of the present work is to obtain a three level ac output, which is obtained by a 3-phase, 3-level multi level inverter. An inverter receives dc supply for its input and produces ac output. Here the dc input to the multilevel inverter is obtained by a single-phase un-controlled full wave rectifier. 230 V, 50 Hz single-phase ac supply is directly taken from supply mains, stepped down to 48 V by a step down transformer and is rectified by the rectifier circuit. Using a simple L-C filter at the rectifier output terminals the obtained dc supply can be made ripple free. The rectifier circuit consists of 4 number diodes and in each half cycle a pair of diodes conduct and pulsated dc obtained and finally rectified to obtain a pure dc. The obtained dc from the rectifier is directly fed to the multi level inverter. The switching sequence of switches used in the multilevel inverter inverts the dc input and a 3-phase, 3-level ac output is obtained. Simulation of the firing pulse generation circuit and multi-level inverter was done using MATLAB 7.5 and Simulink.

References

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**Index Terms**

Computer Science  
Power Systems

**Keywords**

Multi-Level Inverter  
Matlab  
Simulink  
PWM  
Diode Clamping