

Abstract

A variety of power electronics equipment with three phase AC/DC converter in industry and systems, cause significant inherent problem of Reactive power generation and higher harmonics current flowing into the utility power source. As a result input line current includes harmonics that must be filtered out by an input filter. The PWM rectifier uses six switches in series with Diode to connect the three- phase source to load directly.

An input LC filter is required to suppress the current harmonics injected in to ac mains. The PWM technique is developed using sinusoidal Pulse Width modulation. Converter characteristics so as to operate it under the condition of sine wave line current shaping and unity power factor.

Power factor is directly controlled directly and unity power factor is achieved. The simulation is done on MATLAB and simulated results shows unity power factor. Logic of control technique for the sinusoidal PWM is developed using the ALTERA-MAX+PLUSIIbaseline software.