

## Abstract

The faulty performance of two level three phase voltage inverter is studied under open-switch conditions. This inverter is three phase two level six IGBT voltage source inverter feeding a three phase balanced resistive-inductive load. The inverter three phases currents zero harmonic components are used as diagnostic indices. A knowledge algorithm is based to get information on which IGBT is in open-switch fault condition. This algorithm testing shows that the system could not only detect the open-switch fault, but also identify the faulty switch. Presented simulation results confirm the effectiveness of the proposed methodology