

Abstract

Mahmoud O El Wadee

An Islanding Detection Scheme Based On Fast Angle Estimation Technique for Inverter Based Distributed Generation

this paper introduces a new passive islanding detection technique for inverter based grid connected distributed generation (DG) systems. This method is based on fast estimation of voltage angle; it was compared with another passive islanding detection method based on power factor angle estimation. The two methods are simulated using MATLAB/SIMULINK program. Furthermore, an experimental system is implemented to facilitate the comparison between the two methods. Simulation results as well as experimental results explore the successfulness of the proposed method. The main advantages of the proposed voltage angle detection method based on ADALINE algorithm are its independency on the load power factor; its quick response as it detects islanding condition in less than 0.1 second.