

A Novel Microcontroller Based Islanding Protection of Distributed Generation Systems

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Abstract : The customer demand for better power quality and higher reliability has forced the power industry to use distributed generations (DGs) such as wind power and photo voltaic arrays. Islanding is a phenomenon occurs when a power grid becomes electrically isolated from the power system and the distribution system is energized by distributed generators. It is necessary to disconnect all distributed generators immediately after islanding occurrence. Therefore a DG system should have the capability to detect islanding phenomena. In this paper, a novel micro controller based relay for anti-islanding protection of a typical DG system is proposed. The simulation results using Proteus software verify the proper operation and effectiveness of the proposed protective relay.

Keywords : islanding, distributed generation (DG), protective relay, micro controller, proteus software

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