Abstract

In this paper, Artificial Neural Network, one of the Artificial Intelligence (AI) techniques, for the Volt / Var control in power distribution systems with dispersed generation (DG) is proposed. Artificial neural networks have been considered due to their ability for real time control, simpler calculations and adaptability to different operating conditions. Neuro-controllers are much more effective, fast acting than conventional controllers. Neural network for controlling Step voltage regulator (SVR) with line rise compensation (LRC) / line drop compensation (LDC) function has been presented. The neural network based controller has been simulated for a radial distribution system with DG and the neuro-controller shows promising results after testing.

Reference

AI Applications to Distribution System with Distributed Generation

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Index Terms

Power Engineering

Control Systems

Key words

Artificial Intelligence

Artificial neural network

Dispersed generation
Distribution system

- Line drop compensation
- Line rise compensation

Step Voltage regulator

Voltage / Reactive power control