

Control of a Battery Supported Dynamic Voltage Restore

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Abstract

Control of a Dynamic Voltage Restorer (DVR) based on Space Vector PWM is described. The control algorithm is able to compensate for any type of voltage sag and uses a software phase-locked loop to track phase jumps during a fault. The control algorithm restores the depressed voltages to the same phase and magnitude as the nominal pre-sag voltages and then gradually tracks to the phase of the depressed voltages. Experimental results are shown to validate the control algorithm using a 3-phase prototype with a power rating of 10kVA.