DC Microgrid Virtual Generator

In DC microgrids (DCMGs), the SGs equations are inefficient. Therefore, in this article, the equations of a separately excited DC machine are used to control the GFMC. These equations ...

This paper examines the control strategy of DC microgrids in islanding mode, applying the parameter adaptive VDCM control strategy to a bidirectional DC/DC converter linking a hybrid ES ...

Abstract: This article proposes a new control strategy for power electronic converters interfacing two dc networks. The proposed control, based on a modification of the dc virtual generator concept, has grid ...

This chapter introduces an advanced control strategy for virtual synchronous generators tailored for hybrid AC-DC microgrids, specifically designed to mitigate the aforementioned challenge.

otovoltaic and energy storage based on the virtual DC generator (VDCG) is proposed in this paper. The interface converters of the photovoltaic power generation system and the energy storage system ...

In order to enhance the "flexible features" of the interface converter connected to the DC bus, a control strategy of DC microgrid with photovoltaic and energy storage based on the virtual DC ...

Thus, a modified virtual DC generator control strategy is proposed, which combines the average current controller with the virtual DC generator to enhance current sharing effect.

This paper provides control techniques for the AC frequency and the DC voltage for an isolated/islanded hybrid AC/DC MG using intelligent virtual synchronous generators (VSGs) and ...

Therefore, a power management scheme is presented here that can perform proper and precise power sharing in a hybrid AC/DC MG. This HMG consists of one energy storage system ...

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