Microgrid voltage reactive controller

In this paper, an improved voltage control strategy for microgrids (MG) is proposed, using an artificial neural network (ANN)-based adaptive proportional-integral (PI) controller combined...

Abstract: This paper presents the mathematical model and control of a voltage source inverter (VSI) connected to an alternating current (AC) microgrid. The VSI considered in this paper is...

The proposed method enables electric vehicles (EVs) to actively participate in power system voltage control as reactive power adjusting mechanisms. This means that EVs can contribute ...

This paper presents an adaptive voltage controller for secondary control (SC) of standalone AC microgrid systems, adaptive parametric estimation features inherent in Model ...

Voltage control in distribution systems integrating microgrids is a steady-state optimization problem, with non-linear and discrete characteristics, and with a strong hierarchical structure. This fact will imply ...

Abstract: Nowadays, interface converters based hybrid AC/DC microgrids have gained great interests in smart grids. The interface converters can perform tasks such as accurate power ...

This framework, with layers including an internal voltage and current controller loop and DFTC strategies, aims to enhance MG performance and ensure stability in key parameters such as ...

Therefore, subjecting to the issue that DG units rationally shares reactive power, this paper proposes a reactive power-voltage control strategy for a microgrid based on adaptive virtual impedance.

This study fills that gap by offering a comprehensive overview of microgrid architectures and hierarchical control methods, with a special emphasis on their application to various topologies.

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