Microgrid Automatic Voltage Regulator

This paper proposes an optimization formulation which allows optimal control of voltage regulators and capacitor banks without remote control and communication capabilities.

This paper presents novel techniques to apply combined the load frequency control and automatic voltage regulation of two interconnected microgrids. The two microgrids are operated by ...

To address this, this paper introduces a novel control technique known as the tilt-proportional-integral-derivative second-order derivative controller (TPIDD 2) to concurrently manage ...

An adaptive approach for optimal tuning of a SMC for an automated voltage regulator system is displayed in this study. The approach is centered on hybrid of the GA and MOPSA. In ...

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...

MRAC is particularly adept at supporting voltage regulation, making it resilient to load changes and intermittent renewable energy sources. While the potential of MRAC in distributed AC ...

The DVC 350 is a digital automatic voltage regulator (AVR) for controlling alternators which require rated field currents up to 5 A. Designed for a wide range of alternators with SHUNT, ...

By dynamically adjusting reactive power and improving voltage profiles, the proposed solution supports both stable grid operations and cost-effective EV charging.

Uncontrolled state changes can occur if optimal microgrid restoration and dispatch algorithms, used for generating control commands for distributed energy resources, do not incorporate the behavior of ...

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