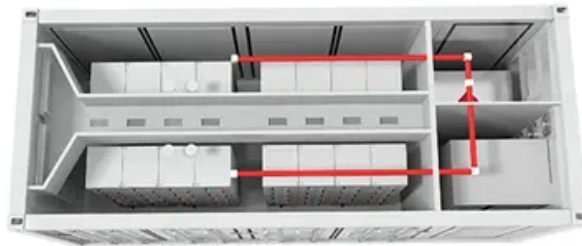


Microgrid Optimal Dispatch



Overview

In this paper, we propose an optimal scheduling method for microgrids based on the distributed economic model predictive control (DEMPC) model. The expansion of electric microgrids has led to the incorporation of new elements and technologies into the power grids, carrying power management challenges and the need of a well-designed control architecture to provide efficient and economic access to electricity. The methodologies integrate renewable energy sources (solar PV and wind turbines), battery energy storage. This repository contains the source code of the manuscript entitled "A model for optimal energy management in a microgrid using biogas", written by Maria Izabel Santos, André Maravilha, Michel Bessani, Wadaed Uturbey, and Lucas Batista, published in 2023 in the Evolutionary Intelligence journal. Optimal dispatch allows microgrids to better balance renewable energy sources with demand response strategies, resulting in greater efficiency and reliability. This blog post will explain the concept of optimal dispatch and show you how to write MATLAB code that implements this strategy.

Microgrid Optimal Dispatch

ESS



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Uncertainties from generation sources and loads have introduced tremendous challenges to the optimal dispatch of microgrids. This paper presents a novel two-stage min-max-min robust optimal dispatch ...

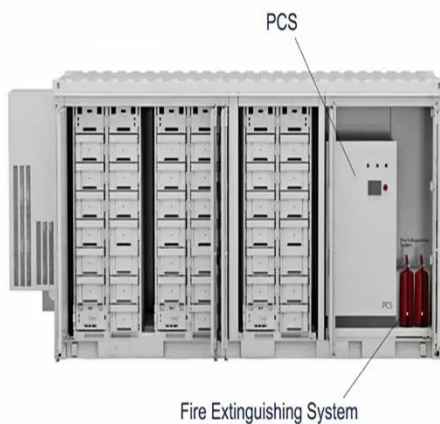
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Optimal dispatch for a microgrid incorporating renewables

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In this paper, a microgrid optimal dispatch based on a distributed economic model predictive control algorithm was proposed. A distributed economic model predictive control algorithm ...

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Distributed predefined-time optimal economic dispatch for microgrids

In a microgrid, optimal economic dispatch, minimizing generation power



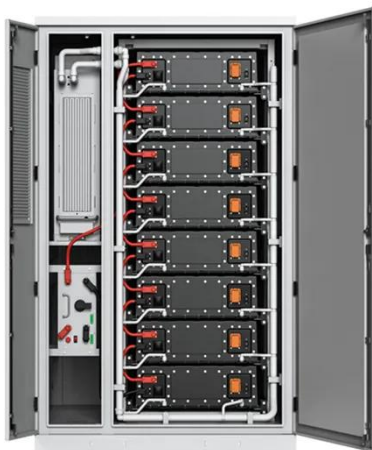
cost with transmission loss under power balance equality constraint and power generator maximum/minimum ...

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The optimal dispatch strategy is obtained by minimizing the conventional generators fuel cost, the transaction costs of the transferable power and maximizing the microgrid operator's ...

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