

What is a port microgrid?

The multiple energy assets owned by the port microgrid and its intelligence allow it to optimally shift the combinations of renewable generation, storage, dispatchable units, and grid assets to provide the most cost-effective means of supply power.

Is there a standard communication protocol for DC microgrids?

... Currently, there is no standard communication protocol for DC microgrids. Therefore, it is necessary to analyze the protocols used in other applications and the new ones that are available and could be implemented in a microgrid. ...

What is a smart port microgrid?

Energy: In the face of ever-increasing energy consumption and costs, a smart port microgrid provides a unique opportunity for integrating the latest smart grid technologies to improve energy functionality and enable advanced management and control of energy consumption, .

Can port microgrid planning improve port performance?

This section presents a case study of the port microgrid planning for the Barbours Cut terminal at the Port of Houston, TX, reported by Molavi et al. that illustrates how the proposed framework can be used to identify the best approach to systematically and holistically improve a port's performance through the integration of the microgrid.

A smart port is empowered by advanced digital technologies, intelligent equipment, and software applications working together to optimize the port operations and revitalize the existing ...

A microgrid is a comprehensive system that includes energy storage, different energy sources, and loads within a certain boundary. It functions seamlessly, whether it is linked to, or works ...

Therefore, on the basis of the VSPC strategy, cluster control of the master MG and multiple VSCs of the multi-port SOP enables slave-side ports to exhibit virtual synchronisation ...

This chapter provides an insight into communication requirements, system architecture, standards, protocols and tools used in microgrid communications. The chapter concludes with a case ...

PDF | On Jul 29, 2019, Shantanu Kumar and others published Microgrid communications - protocols and standards | Find, read and cite all the research you need on ResearchGate

Abstract This paper explores microgrids' application at ports and presents a systematic framework for evaluating the benefits of microgrid integration in creating sustainable value through ...

The increase in greenhouse gas emissions (GHG) from the transportation sector, along with the ongoing depletion of fossil fuels, emphasizes the necessity for increased focus on energy ...

Security: Microgrid communication networks are vulnerable to cyberattacks that can disrupt operations, compromise data integrity, and even cause blackouts. Robust security measures, including ...

Don Young Port of Alaska Meter Study and Microgrid Options Evaluation Examined microgrid options for resilient operations of the port and nearby Joint Base Elmendorf-Richardson

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