Espay Solar Energy S.L.

Smart Microgrid System Detection Method

Overview

Therefore, this research proposes modified dragonfly algorithm with adaptive neuro-fuzzy inference system (MDA-ANFIS) for real-time fault detection in microgrid using power line communication (PLC). The proposed MDA-ANFIS is employed on PLC noise dataset that consists PLC noise signals acquired. The microgrid at Marine Corps Air Station (MCAS) Miramar is one such deployment that has fostered the integration of different technologies, including 5G and Advanced Metering Infrastructure (AMI). The objective of this paper is to develop an anomaly detection framework for the smart microgrid.
Abstract—100% inverter-based renewable units are becoming more prevalent, introducing new challenges in the protection of microgrids that incorporate these resources. This is particularly due to low fault currents and bidirectional flows.

Smart Microgrid System Detection Method

Machine Learning Methods for Fault Diagnosis in AC Microgrids: A

The combination of protection with machine learning may be motivating in order to achieve the goal of intelligent operation in the smart grid. In this paper, fault detection, classification and location ...

Integrating fault detection and classification in microgrids using

When the operating condition of MG changes, the protection system must identify it, and the way it determines the changes is of crucial importance for the safe and reliable operation of MG. ...

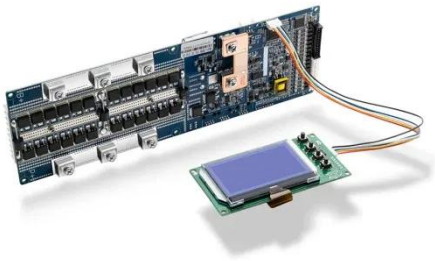
Fault Detection and Diagnosis in Smart Grids Using Modified

The traditional methods for detection of faults in microgrid have faced significant challenges like inability to handle various fault scenarios. Therefore, this research proposes modified dragonfly ...

A hybrid machine learning and ied-

based fault detection scheme for

To overcome existing limitations, this paper presents a new intelligent fault detection method for microgrids, utilizing advanced signal processing techniques such as MVMD for feature ...



Intelligent Fault Diagnosis Using Deep Learning for a Microgrid with

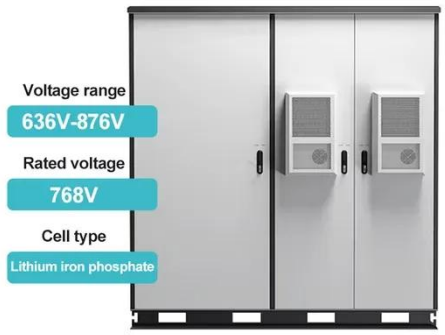
Abstract-- Fault diagnosis is essential to attain the microgrid's stable, reliable, and economical operation. However, a microgrid's fault current varies drastically based on the connected ...

Machine Learning-Based Protection and Fault Identification of ...

The effectiveness of the proposed methods is examined under seven distinct fault types, each featuring varying fault resistance, in a 100% inverter-based microgrid consisting of four inverters.

Network security risk detection method for smart microgrid monitoring

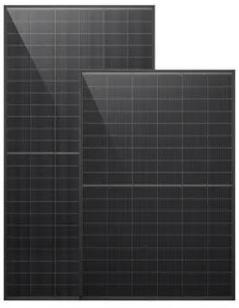
In this paper, a network security risk detection method based on Artificial



Immune Algorithm for the smart microgrid monitoring system is proposed, which has the advantages of high ...

Advanced fault detection methodologies and communication protocols ...

This critical study provides valuable information for researchers and professionals aiming to refine fault detection and isolation methods and improve the efficiency of DC microgrid systems.



Anomaly Detection in a Smart Microgrid System Using

We implement predictive analytics using machine learning to deal with cyber-uncertainties and threats within the microgrid environment. An autoencoder neural network is implemented to classify

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