Distance protection in microgrids

Overview

To solve the two problems, a new inverse-time distance (ITD) protection for medium-voltage AC microgrids was proposed in this paper. The conventional overcurrent protection is ineffective in isolating faults in microgrids due to the low fault current levels contributed by inverter-interfaced distributed generations (IIDGs). The design of both systems must consider the system topology, what generation and/or storage resources can be connected, and microgrid operational states (including grid-connected, islanded, and transitions between the two).

Distance protection in microgrids

[A Communication-Assisted Distance Protection for AC Microgrids]

To solve the two problems, a new inverse-time distance (ITD) protection for medium-voltage AC microgrids was proposed in this paper. The primary ITD protection was designed to meet the FRT ...

Microgrids protection: A review of technologies, challenges, and future

Protection of AC/DC Microgrids - AC/DC microgrids pose unique challenges due to their combination of AC and DC networks. Efficient protection strategies for these systems are still in the ...

[Advanced protection technologies for microgrids: Evolution, ...]

Impedance or distance protection is a highly reputed protective scheme in AC microgrids and power systems. In this method, the impedance of a line is measured to identify the location of ...

[Artificial neural network-based enhanced distance protection]

This paper proposes an artificial neural network (ANN)-enhanced distance protection scheme to improve fault detection accuracy, classification, and localization in DER-rich microgrids.

[Central protection method for microgrids based on distance protection]

Ensuring the reliable operation of microgrids remains a formidable challenge due to their inherent vulnerabilities. One of the most significant challenges facin.

[Adaptive distance protection for microgrids]

Due to the increasing penetration of distributed generation resources, more and more microgrids can be found in distribution systems. This paper proposes a phasor measurement unit based distance ...

Microgrid Protection

Different approaches may be used to detect events in or near microgrids, properly operate, and reliably protect the microgrid, its equipment, and the surrounding area's electric power system. Estimated ...

[Distance protection for microgrids in distribution system]

This paper adopts distance protection for one mid-voltage level microgrid in Aalborg, Denmark. Different operation modes of the network are analyzed and tested in the paper.

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