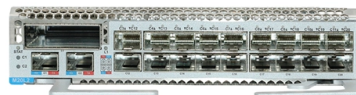


Relay protection of 110kV substations



Overview

The 110 and 220 kV lines of the main grid are protected by means of two primary protection schemes (two distance relays or a distance and a differential line relay) or a primary protection relay (distance relay) and a backup protection relay (overcurrent). The 110 and 220 kV lines of the main grid are protected by means of two primary protection schemes (two distance relays or a distance and a differential line relay) or a primary protection relay (distance relay) and a backup protection relay (overcurrent). Generator protection covers: phase-to-phase short circuits in stator windings, stator ground faults, inter-turn short circuits in stator windings, external short circuits, symmetrical overload, stator overvoltage, single- and double-point grounding in the excitation circuit, and loss of excitation. Fingrid's application guideline for relay protection presents the operating principles of the relay protection in Fingrid's 110, 220 and 400 kV power networks and the requirements for operation of the protection systems of Fingrid customers (hereinafter referred to as 'customer'). This study introduces a new diagnostic framework that combines improved particle swarm optimization, K-means clustering. Numerical relays are based on the use of microprocessors. The first numerical relays were released in 1985. Numeric. Provide high-speed transformer differential protection for up to five terminals as well as advanced monitoring, metering, automation, and control.



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110 kV substation relay protection

110 kV substation relay protection Xianjie Feng¹ and Zejie Fei Department of Architectural Engineering, Dongguan University of Technology, Dongguan 523808, China 1 E-mail: fengxianjie@126 Abstract.

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Relay protection of the main grid and customer connections

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