

# Finland 220kV Relay Protection Configuration



## 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 and. 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 and. 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'). The application. Finland's main grid is one of Europe's most reliable electricity transmitters. Nevertheless, faults and disturbances occur approximately 300 times a year. Fingrid is Finland's transmission system. The documents presented should serve as a model to various utilities in preparing similar documents for setting protection relays installed at 220kV, 400kV and 765kV EHV and UHV transmission systems. ABB Relion REF601 protection and control relay offers main protection for overhead lines and cable feeders in solidly earthed, resistance-earthed or isolated networks. PLCC/FOTE Panels to be mounted in PLCC Room. 220kV TBC bay interface in Normal-Inter-Transfer mode from all other bays shall be. "Relay protection detects a change in voltage caused by a direct lightning strike on the transmission line and knocks the line off by disconnecting the electrical power from it.

## Article Content

May 17, 2026

A Design of 220 kV Line Protection Action Deduction System Based ...

Based on the numerical simulation, this paper proposes an action deduction system which can comprehensively consider the protection logic function and the conditions of software and hardware.

Jan 24, 2026

Line protection calculations and setting guidelines for relays ...

The documents presented should serve as a model to various utilities in preparing similar documents for setting protection relays installed at 220kV, 400kV and 765kV EHV and UHV transmission ...

Aug 03, 2025

Medium-voltage solution to the Rantatunneli project Tampere, ...

About the project ntly in progress, and the tunnel is planned to be completed in 2017. After its completion, the tunnel will promote the development of Tampere's central areas, while also ...

Dec 21, 2025

220kV Line-1 Protection Drawings | PDF | Relay | Switch

This document provides a list of drawings and equipment for 220kV LINE-1 protection panels P2A and P2B. It includes GA drawings, legends, schematics, equipment schedules and wire schedules for the ...

Aug 13, 2025

Relay Protection in HV/MV Substations: Calculations, ...

Effective relay protection in HV/MV substations requires a thorough approach encompassing calculations, precise settings, meticulous coordination, ...

Aug 26, 2025

Control & Relay Protection Philosophy for 220kV Khimat Sub ...

Isolator system 220kV System: - Four isolator configuration (Three Bus isolators and a Line/TRF isolator) 66kV System: - Three isolator configuration (Two Bus isolator and a Line isolator)

Apr 20, 2026

Relay protection of the main grid and customer connections

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 ...

Sep 27, 2025

Relay Protection for 22kV Grids | PDF | Electric Power ...

Relay Protection Protection of the Main Grid and Customer Connections - Free download as PDF File (.pdf), Text File (.txt) or read online for free. The document discusses the relay protection principles ...

Apr 14, 2026

Relay protection counters the adverse effects of disturbances

Fingrid uses distance and differential relays to protect the main grid and locate short circuits and earth faults. The location information can be used to isolate the faulty line from the grid in ...

May 06, 2026

relay protection

However, not all of them need to be repaired on-site, thanks to relay protection in the main grid. Fingrid is Finland's transmission system operator. We secure reliable electricity cost effectively ...

Mar 01, 2026

Protection relay system of the customer substation

This instruction describes the setting requirements for overcurrent and earth fault protection in customer substations. The currents and times presented in the instruction are minimum requirements.

## Contact Us

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