North America Protective Relays - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

Market Report | 2025-04-28 | 120 pages | Mordor Intelligence

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Report description:

The North America Protective Relays Market is expected to register a CAGR of 5.6% during the forecast period.

Key Highlights
- A protective relay is a device that is designed to trip a circuit breaker whenever an electrical fault is detected. It triggers an alarm if any abnormality is found within the electrical circuit. These protective relays can be differentiated on a number of factors, such as actuating parameters or based on the applications.
- The demand for protective relays has been growing across the region with an increase in electricity consumption and more focus of governments towards infrastructural investments. Other factors which are driving the market are the increasing prevalence of renewable energy along with the rising investments towards renewable energy projects in the North American region.
- Organizations in the region make use of protective relays for various applications, not only in the power sector but in other sectors also such as infrastructure, including projects such as rural electrification, electrification of road and rail networks, etc. The region also has a higher level of industrialization as compared to other regions.
- Moreover, with the advent of smart grid networks across the region, the demand for smart protective relays is also anticipated to rise. Further, owing to the increasing environmental concerns regarding the excess utilization of conventional sources of energy, the growth of the renewable energy sector is anticipated to draw new infrastructural investments that will spur the demand for protective relays.
- The region has also been increasing its production of energy from renewable sources such as solar, wind, geothermal, ocean, and hydro. In order to connect these renewable power sources to the main grid, there has been an upgradation of the transmission and distribution systems. Therefore, with the increase in newer transmission and distribution systems, the demand for the protective relay will also increase.

North America Protective Relays Market Trends

Increasing Adoption of Renewable Energy Will Increase the Demand of Protective Relays

- Renewable energy has been chosen as an alternative power source primarily because it is eco-friendly, eco-green, and mainly due to its sustainable nature. The North American region has been showcasing increased application areas for protective relays owing to the increased focus on renewable energy projects and the rapid growth in a number of solar and energy plants. Moreover, according to the American Public Power Association report, around 44.3% of the total electricity generation capacity was derived from natural gas in 2020.
- Further, according to the US Energy Information Administration's (EIA) Annual Energy Outlook (2021), the share of renewable energy in the US electricity generation mix may rise from 21% in 2020 to 42% by 2050.
- On the other hand, Canadian, renewable energy production, majorly hydropower, accounts for a significant share of electricity generation. According to the Government of Canada Portal, around 67% of Canada's electricity comes from renewable sources and 82% from non-GHG emitting sources. Further, Canada is one of the largest producers of hydroelectricity.
- The Canadian Government is investing in renewable energy and upgrading its electricity grid to make clean, affordable electricity options more accessible in communities across Canada. In June 2021, the Canadian Government launched a USD 964 million program to support smart renewable energy and grid modernization projects that will lower emissions by investing in clean energy technologies, like wind, storage, hydro, solar, geothermal, and tidal.

United States is Expected to Hold Major Market Share

- The United States electric power industry continues to transition towards cleaner energy by modernizing its energy grids to smarter grids. This will enable electric companies to enhance the grid's resilience and operations and help in gaining more visibility into the system operations and thereby avoid outages in the region.
- The upgradation of aging infrastructure is expected to drive the growth of the market. For instance, as of July 2021, the United States' aging power grid and clean energy sector were set to get major boosts under a USD 550 billion bipartisan infrastructure deal planned by the White House and the Senate.
- Various governments are undertaking modernization drives to upgrade their power grid, driving the demand for protective relays in the region. For instance, the Missouri Public Service Commission made a utility investment of USD 6.3 billion for grid modernization, which was taken up by Ameren, and the company finished around 900 projects as of Feb 2020.

North America Protective Relays Industry Overview

The North American Protective Relays Market is highly competitive owing to the presence of multiple domestic and international vendors operating in the region. The market appears to be moderately concentrated, with multiple players adopting strategies such as product innovation, mergers, and acquisitions to expand their reach. Some of the major players operating in the market are ABB Ltd., Schneider Electric SE, Woodward Inc., Schweitzer Engineering Laboratories, among others.

- Mar 2020 - ABB announced that it had upgraded its REX640 protection relay that further enhances communication security and flexibility in advanced power generation and distribution applications. The REX640 supports a variety of communication protocols, such as IEC 60870-5-104 for power system automation. The IEC 60870-5-104 also enables easier and direct connection to an

upper-level system, such as SCADA (Supervisory Control and Data Acquisition), without any gateway.
- May 2021 - Basler Electric, which is a designer and manufacturer of power control and protection devices, launched its BE1-FLEX, which is a protective relay platform. This is the latest product in the company's BE1 family of digital protection devices. The BE1-FLEX is customizable both in the factory and in the field. Also, the BE1-FLEX can be adapted to solve various future protection challenges without having to be removed from its installation.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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