

## **Protective Relays Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)**

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### **Report description:**

The protective relay market is anticipated to grow at a CAGR of 5.98% throughout the forecast period. As more investment is being poured into infrastructure projects in many parts of the world, energy usage is rising, and smart grid technologies are becoming more and more popular in managing energy use. This, in turn, will increase the demand for protective relays as these are frequently utilized in parallel systems to reduce the danger of harm because of system failure.

#### Key Highlights

Approximately 44% of unintentional electrical deaths happened in construction and extraction operations in May 2022, and 20% of the deaths throughout installation, maintenance, and repair work were recorded in 2020, according to a National Fire Protection Association study. This suggests the need for protective power circuit solutions, such as protective relays, in commercial settings as well as in homes and workplaces to lessen the risk of electric exposure brought on by over-current, under-frequency, over-voltage, and other electrical problems.

Increasing electricity demand worldwide due to numerous factors, including infrastructural development, is anticipated to increase the demand for safety equipment, including protective relays, over the coming years. For instance, after a 6% spike last year, global power demand is predicted to increase by 2.4% in 2022, matching its average increase rate for the five years preceding the Covid-19 pandemic.

Furthermore, the expansion of the renewable energy industry is expected to attract new infrastructure investments that would increase demand for protective relays because of the growing environmental concerns surrounding the depletion of conventional energy sources.

The unprecedented coronavirus outbreak has significantly impacted the world's power infrastructure, halting several investments and developing vital renewable electricity technologies. Owing to the execution of severe lockdown measures, the pandemic has also significantly hampered commerce, travel, and industrial activity. This has prevented the introduction of protective relays in

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line and network infrastructural advancements.

Notwithstanding the ongoing pandemic in several nations, the energy demand has significantly recovered due to strong attention to capacity development, commercial power, and other positive developments in the power industry, which has boosted the demand for protective relays and is expected to increase over the coming years. However, throughout the projected period, the market would have bottlenecks because of high installation costs and maintenance costs.

## Protective Relay Market Trends

### Renewable Energy is expected to Increase the Demand the Use of Protective Relays

The increasing need for solar power, along with the expanded installation and upgrade of the smart grid, is the primary driver of demand for protective relays over the forecast period. A smart grid uses Protective Relaying Devices (PRD) at various operational layers and in a variety of applications so that it may automatically prevent or reduce power outages, power condition issues, and service interruptions. They are built so that the supply to end consumers is not interrupted if one network component fails. Because it is environmentally benign, eco-green, and mostly because it is sustainable, renewable energy (RE) has been selected as an alternative power source. Solar energy is one type of renewable energy with a significant potential to improve energy security and partially fulfill global power demand.

One main reason for the market's expansion is the combination of rapid industrialization and the rising demand for sustainable energy resources from the power industry. In order to prevent or lessen power outages, the growing use of renewable electricity resources has raised product usage at various operational stages in the smart grid network. Additionally, the expansion of power substation buildings throughout the world bolsters market expansion.

Data from the Power Ministry show that India's power consumption increased by 13.6% annually to 132.98 billion units (BU) in April 2022, pushed along by a significant increase in thermal generation. The protective relay sector is anticipated to gain pace in the coming years because of the rising demand for energy from renewable resources and the easing of coronavirus regulations. According to International Energy Agency (IEA), World renewable electricity generation is anticipated to increase by more than 60% from 2020 values to about 4 800 GW by 2026, which is equal to the present total worldwide capacity of nuclear and conventional fuels put together. Through 2026, the expansion in the world's electricity capacity is expected to come from renewable sources, virtually exclusively from solar PV will provide more than half. Thus, the increasing adoption of renewable energy sources will likely contribute to market growth over the forecast period.

### Asia-Pacific to Witness the Fastest Growth

The Asia-Pacific region is driven by two densely populated countries, India and China. The essential factor supporting the need for the protective relay market is the acceleration of the demand for energy in the countries, particularly in China, Japan, and India, where the rising population has spurred the demand for domestic infrastructure and power consumption. For instance, according to United Nations, India will become the most populated country in the coming years, with a population of 1.5 billion by 2030 and 1.66 billion by 2050.

Furthermore, India's installed renewable power capacity (including hydro) was 161.28 GW as of July 2022, making up 39.91% of the nation's total operational power capacity. By 2030, the country intends to have built 450 Gigawatts (GW) of renewable energy, of which 280 GW (more than 60%) will be solar. Thus, increasing demand for renewable energy in the country is expected to contribute to market growth over the forecast period.

In addition, India is home to 18% of the world's population yet consumes just 6% of its primary energy, reported to NITI Aayog. Since 2000, India's energy consumption has nearly quadrupled, and there is huge room for additional rapid expansion.

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Urbanization will be a significant trend that will diverge from this one, which will benefit the market for protective relays. China is the world leader in renewable power installations as of 2021. The capacity of all renewable energy sources in the nation increased by almost 13.4% from the year before to 1020.2 GW in 2021. The primary renewable energy resources in the country are solar energy, hydropower, and wind energy. Growth in infrastructural investment in the Asia Pacific region will increase power consumption in several developed and emerging economies, which is expected to contribute to market growth. For instance, in May 2022, In order to support initiatives in the Indo-Pacific area, Japan, India, the United States, and Australia intend to contribute at least USD 50 billion in infrastructural developments in the Asia-Pacific region during the next five years.

### Protective Relay Market Competitor Analysis

The protective relay market is highly competitive and fragmented. Some of the prominent players in the protective relay market include ABB Ltd, Siemens AG, Toshiba Corporation, Mitsubishi Electric Corporation, and Schneider Electric, amongst others. Product launches, high expenses on research and development, partnerships and acquisitions, etc., are the prime growth strategies adopted by these companies to sustain the intense competition.

February 2022 - Schneider Electric added the newest generation thermal tracking technology to its EasyPact EXE vacuum circuit breaker series, which links building infrastructures, big corporate buildings, and industrial units to the energy grid. In order to provide facility managers, panel builders, and original equipment producers with a simpler, more environmentally friendly, and secure client experience, the innovative product adds IoT sensors.

May 2021 - ABB introduced a new member of the Relion product family that is intended to provide safe, intelligent, and environmentally friendly electrification. The REX610 is intended to simplify basic energy transmission applications' safety and control.

### Additional Benefits:

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

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