Transient Protection Device - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Transient Protection Device Market is expected to register a CAGR of 5.1% during the forecast period.

Key Highlights
- The focus of major economies like the United States, China, Japan, India, etc., on developing energy-efficient electrical systems across multiple industrial sectors is adding to the upsurge in demand for transient protection devices. For instance, the Research Designs and Standards Organization (RDSO), a unit of the Indian Railways has developed a center called CAMTECH (Centre for Advanced Maintenance Technology). CAMTECH aims to increase the productivity and performance of all railway assets and workforce by upgrading maintenance technologies and procedures by including lightning and transient protection device arrangements in integrated power supply for signalling installations.
- In recent years, to achieve carbon neutral environment, the demand for renewable energy has increased, and ensuring the reliability of power grids has become more important. In addition, there is a requirement to enhance the resilience of transmission and substation equipment for large-scale lightning strikes. Resultantly, the demand for transient protection devices is expected to witness an uptick.
- Additionally, the rising demand for smart power strips is also contributing to boost the market's growth. Customers are in great demand for Wi-Fi-enabled power strips due to their ability to automatically create schedules, timers, and monitor energy usage. Therefore, several businesses are working towards offering Wi-Fi-enabled power strips, to serve as a comprehensive solution to their customers. For instance, APC is offering a smart transient protection WI-FI enabled Power strip with 3 Alexa Smart Plugs, USB Charger Ports, and 2160 Joules of Smart Plug transient Protection.
- Further, the need for smart home-enabled transient protection devices is predicted to rise with the rise in smart gadget use, smart home technology, and smart city projects. For instance, in October 2021, the US Department of Energy (DOE) announced the allocation of USD 61 million to ten pilot projects that would use new technologies to turn thousands of homes and businesses

into advanced, energy-efficient structures. These Connected Communities may communicate with the electrical grid to optimize their energy consumption, lowering carbon emissions and energy prices.
- However, the challenges in designing compact transient protection devices with enhanced protection levels will likely restrain the market's growth. For example, high functional transient protection devices include numerous components that must be placed in parallel arrays in the circuit. Individual suppression components may have to endure greater energy than the adjacent due to poor mechanical design, and this is causing fluctuations in the performance level between the theoretical model and real devices.
- Moreover, the COVID-19 pandemic also has had a negative impact on the Transient Protection Device market's growth by severely impacting the supply for the device production. Further, due to a lack of site access and deficiencies in raw materials, manufacturers of various electronic components, including transient protection devices, faced short-term operational challenges.

Transient Protection Device Market Trends

An Increase in the Need for Transient Protection Devices in Smart Cities is Expected to Drive the Market's Growth

- The Chinese government routinely encourages smart city collaboration as part of the Belt and Road Initiative's Digital Silk Road Initiative. Cooperation within ASEAN is strengthened by the ASEAN-China Strategic Partnership Vision 2030, whereby China has vowed to support ASEAN's initiatives for technological transformation, such as the ASEAN ICT Master Plan 2020 and the ASEAN Smart City Network.
- Furthermore, various governments in the American region are also boosting the adoption of smart cities. For instance, Las Vegas is testing three pilot projects, with the government allocating USD 500 million to find ways to connect the entire city by 2025.
- According to Asian Development Bank, about half of the population in the countries making up the Association of Southeast Asian Nations (ASEAN) live in urban areas, and 70 million more people are expected to become urban dwellers by 2025. Hence, the ASEAN Sustainable Urbanization Strategy recognizes technological advancements such as smart city projects and smart buildings as a solution to tackle these urbanization challenges. These initiatives are supported by international investments, which the OECD estimates will total around USD 1.8 trillion for all urban city infrastructure projects between 2010 and 2030. The demand is anticipated to be driven by the investment in digitized infrastructure, which would increase the need for asset security.
- A broad variety of interconnected automatic systems such as temperature control, multimedia systems, telecommunications, and security systems are used in smart buildings that are particularly sensitive to the effects of thunderstorms and lighting. As a result, any transient that enters the structure, not only through the power supply lines but also through the data lines, might harm a wide range of sensitive electronic equipment, including computers, alarm systems, transducers, PLCs, and audio-visual equipment. Networked components, on the other hand, are particularly vulnerable to lightning strikes and transients in general since they rely on a continual supply of power and data for their continued functioning and availability.
- Moreover, failure of equipment in a smart building could bring all interconnected systems to a halt, resulting in the breakdown of buildings and work environments, as well as the related expenses. These all can be eliminated or can be reduced by integrating powerful transient protection devices into the systems. Transient protection devices are also used in power management for smart equipment used in smart buildings.

Asia-Pacific is Expected to Witness a Significant Growth

- The APAC region is witnessing a robust growth in the transient protection devices market owing to the enhanced living standards of the population, rising disposable income, and increasing adoption of smart homes. For instance, according to the Ministry of Statistics and Programme Implementation, Disposable Personal Income in India increased to INR 23,85,73,760 Million in

2021 from INR 19,96,89,740 INR Million in 2020. Furthermore, According to the Statistics Bureau of Japan, Disposable Personal Income in Japan decreased to JPY 359.51 Thousand in May from JPY 436.85 Thousand in April 2022

- The key element impacting the market for smart homes in the region is the increased desire for energy-efficient lighting and security solutions through the application of smart electronic products, boosting the transient protection device market. For example, in China, the Ministry of Housing and Urban-Rural Development and the Ministry of Public Security jointly released recommendations on speeding the development of digital houses, stating that policies, methods, and standards for digital homes should be in place by the end of 2022.
- Additionally, the Industry 4.0 initiative is being applied to vehicles and electrical machinery to enable remote data capture, remote diagnostics, and remote maintenance. Such initiatives have augmented the need for data centers, servers, and communication systems. For Instance, China has been growing in data centers with support from governmental authorities. Recently, the Chinese government issued a three-year plan (2021-2023) which calls for 200 exaflops of data center computing by 2023. Furthermore, The government bodies' steps to incentivize hyper-scale data centers are also driving their construction. For instance, in April 2021, the Indian Ministry of Electronics and Information Technology (MeitY) announced that it plans to develop a scheme to incentivize investments in hyper-scale data centers in the country and increase the current capacity over ten-fold in a short period. Rising of Data Centers in the region is indirectly causing the growth of Transient protection devices in the region.
- In addition, the digital transformation in the region is also driving the market growth. For instance, in May 2022 the Huawei APAC Digital Innovation Congress brought together over 1500 people from over ten nations in APAC to discuss the future of digital innovation and the digital economy. The event is co-hosted by Huawei and the ASEAN Foundation, with government officials, specialists, researchers, partners, and analysts among the attendees. These initiatives in the region show the potential for growth of the transient protection device market in the APAC region.
- Moreover, the rising of building technology in China is driving the transient protection device market in the region. For instance, in February 2021, Hitachi Building Technology and China Telecom Guangzhou signed an MOU to work cohesively to develop smart building solutions to provide smarter, more efficient, and secure products & services that will provide unified security, energy, and device management services to buildings and complexes in China. With a focus on infrastructure support and optimization, upgrading, and integration of infrastructure.

Transient Protection Device Industry Overview

The Transient Protection Device market is highly fragmented, as the market is highly competitive and consists of several major players. The competitive rivalry in the market depends on the company's aggressive strategies in new product development, capacity expansion, mergers and acquisitions, strategic collaborations, partnerships, and agreements, as well as investment in R&D activities.

- May 2022 - Legrand a manufacturer of transient protection devices opened its first retail shop in India, the Legrand Studio in Hyderabad. This mega retail store would house all of Legrand's India group company's products with the goal of strengthening Legrand's footprints in the country. In addition, Legrand has over 30 interactive product showrooms in India, including Innova, Studio, and Shop-in-Shop formats.
- March 2022 - ELAC, a well-known high-performance speaker manufacturer announced its plans to enter the equipment protection product area with the Protek line of transient protectors. ELAC set out to create a line of equipment protection devices with more modern features and greater performance levels. App control, Wi-Fi, Bluetooth, and Alexa / Google Assistant compatibility set it apart from much of the competition in the market.

Additional Benefits:

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

Table of Contents:

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