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Data Center Power Distribution Units and Power Supply Units Market - A Global and Regional Analysis: Focus on Products and Applications - Analysis and Forecast, 2025-2035

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Abstracts

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Introduction of Data Center PDUs and PSUs Market

The data center PDUs and PSUs market encompasses a wide range of power distribution and supply solutions, including power distribution units (PDUs), power supply units (PSUs), and related power management technologies, all essential for the efficient operation of data centers. This market has been driven by the growing demand for reliable and energy-efficient power solutions to support modern businesses' increasing data processing and storage requirements. Innovations in power distribution technologies, such as intelligent PDUs, modular PSUs, and real-time monitoring systems, are responding to the rising need for scalable, cost-effective, and sustainable energy solutions in data centers. The data center PDUs and PSUs market is highly competitive, with key players such as Eaton, Delta Power Solutions, Vertiv Group Corp., Schneider Electric, and ABB leading the industry. Additionally, the increasing focus on energy efficiency, sustainability, and uptime reliability has been shaping consumer preferences, encouraging companies to invest in cutting-edge power management solutions. This dynamic data center PDUs and PSUs market continues to evolve, driven by technological advancements and the growing demands of data center operations.

Data Center PDUs and PSUs Market Introduction

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The data center PDUs and PSUs market includes a variety of solutions, such as power distribution units (PDUs), power supply units (PSUs), energy storage devices, and power management technologies, all critical for ensuring the reliable operation of data centers. As demand for data storage and processing capacity increases, the need for efficient and dependable power sources grows. Innovations in power distribution and management systems, such as intelligent PDUs, modular PSUs, and energy-efficient power solutions, are gaining prominence as they provide scalable and reliable energy for large data centers. Leading companies such as Eaton, Delta Power Solutions, Vertiv Group Corp., Schneider Electric, and ABB dominate the data center PDUs and PSUs market, continually advancing their product offerings to stay competitive. Additionally, an increasing focus on sustainability and cost-effectiveness has been driving investment in eco-friendly power solutions and energy-efficient systems. The data center PDUs and PSUs market has been evolving rapidly to meet the rising demands of data center operations and the growing need for efficient power management.

Industrial Impact

The data center PDUs and PSUs market have a significant industrial impact, driving substantial economic activity and employment within the technology, energy, and infrastructure sectors. The demand for efficient power distribution and supply solutions fosters innovation in power management technologies, benefiting industries such as electronics, energy storage, and telecommunications. As data centers become increasingly vital for digital infrastructure, the need for advanced PDUs and PSUs continues to grow, leading to developments in energy efficiency, modular designs, and intelligent power management systems.

Additionally, the data center PDUs and PSUs market support the growth of related sectors, including cloud computing, IT services, and big data analytics. These sectors rely heavily on uninterrupted and efficient power supply, where advancements in PDUs and PSUs play a crucial role in ensuring reliability and reducing operational costs. The increasing focus on sustainability has been prompting investments in eco-friendly power management solutions, reducing the environmental footprint of data centers, and encouraging the adoption of renewable energy sources.

Moreover, the data center PDUs and PSUs market's emphasis on optimizing power efficiency and reliability drives collaborations across industries, including energy providers, research institutions, and technology companies. These collaborations enhance technological advancements, improving data centers' overall sustainability and

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resilience. Overall, the data center PDUs and PSUs market is a key driver of technological innovation, economic growth, and the future of global digital infrastructure.

Data Center PDUs and PSUs Market Segmentation:

Segmentation 1: by Application

- By PSUs
  - Hyperscale Data Centers
  - Colocation and Retail Data Centers
  - Enterprise Data Centers
  - Others
- PDUs
  - Hyperscale Data Centers
  - Colocation and Retail Data Centers
  - Enterprise Data Centers
  - Others

PSUs to Dominate the Data Center PDUs and PSUs Market (by Application)

The data center PDUs and PSUs market, by application, is predominantly driven by PSUs. The PSU segment was valued at $7,640.5 million in 2024 and is projected to reach $60,966.9 million by 2035. This segment has been experiencing remarkable growth due to the increasing demand for efficient and reliable power supply solutions within data centers. PSUs play a crucial role in ensuring the continuous operation of data centers by providing stable and uninterrupted power, which is essential for the growing digital infrastructure. The dominance of PSUs in the application segment has been further driven by the rapid expansion of data centers, which require higher capacities to manage increasing data storage and processing needs. Additionally,

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innovations in power efficiency, modular designs, and energy management systems have contributed to the growth of PSUs, enabling them to support large-scale, high-performance data centers.

Segmentation 2: by Product

By PDU Placement

Horizontal (1U/2U)

Vertical (0U)

By PDU Type

Intelligent PDUs

Basic PDUs

By PSU Type

AC-DC

DC-DC

Segmentation 3: by Supply Architecture

12 V DC Rack?Level PSU Architecture

48 V DC Rack-Level PSU Architecture

400V ± DC Rack Power Architecture

Segmentation 4: by Region

North America

Europe

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Asia-Pacific

Rest-of-the-World

Recent Developments in the Data Center PDUs and PSUs Market

Eaton introduced the Rack PDU G4 on November 2, 2023, as a scalable and intelligent power distribution solution for data centers and edge facilities. Designed to meet the growing demands of modern data centers, this innovative PDU supports a wide range of power requirements globally, from 3kVA single-phase to 23kVA 3-phase power. With features such as universal input models, secure-by-design cybersecurity, and real-time performance management, the Rack PDU G4 enhances efficiency, reduces deployment costs, and improves power reliability, all while supporting large-scale data center operations.

On May 11, 2024, Delta announced the launch of its new SMART PDU I-Type, a compact and intelligent power management solution designed for telecom operators and data centers. This 1U DC distribution unit offers up to 21 programmable breakers and remote management capabilities, optimizing power distribution while reducing operational costs. Its compact design maximizes rack space, providing an efficient and flexible solution for space-constrained environments in data centers, improving power control and energy efficiency.

On October 4, 2023, ABB introduced the TruFit power distribution unit (PDU), a space-saving and highly configurable solution for data centers. Designed for three-phase 50-800 kVA applications, the TruFit PDU optimizes floor space with its front-access design, saving up to 36% in space. It features PowerView Pro, a multifunctional monitoring system that automates thermal monitoring and provides a comprehensive view of equipment health and performance, ensuring efficiency and identifying potential issues in real-time.

On May 1, 2023, Legrand introduced its next-generation intelligent rack PDUs, the Server Technology PRO4X and Raritan PX4, designed to meet the evolving needs of data centers. These advanced PDUs combine decades of engineering expertise with cutting-edge features, such as total harmonic distortion measurement and waveform capture capabilities, offering unmatched power quality monitoring. The PRO4X and PX4 improve capacity planning, workload

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optimization, and uptime reliability, providing data center operators with the tools needed to manage power distribution effectively and proactively prevent issues.

How can this report add value to an organization?

Product/Innovation Strategy: The product segment helps the reader understand the different types of products available globally. Moreover, the study provides the reader with a detailed understanding of the data center PDUs and PSUs market by products based on category and preparation.

Growth/Marketing Strategy: The data center PDUs and PSUs market has seen major development by key players operating in the data center PDUs and PSUs market, such as business expansion, partnership, collaboration, and joint venture. The favored strategy for the companies has been synergistic activities to strengthen their position in the data center PDUs and PSUs market.

Competitive Strategy: Key players in the data center PDUs and PSUs market have been analyzed and profiled in the study of data center PDUs and PSUs products. Moreover, a detailed competitive benchmarking of the players operating in the data center PDUs and PSUs market has been done to help the reader understand how players stack against each other, presenting a clear data center PDUs and PSUs market landscape. Additionally, comprehensive competitive strategies such as partnerships, agreements, and collaborations will aid the reader in understanding the untapped revenue pockets in the data center PDUs and PSUs market.

Methodology: The research methodology design adopted for this specific study includes a mix of data collected from primary and secondary data sources. Both primary resources (key players, market leaders, and in-house experts) and secondary research (a host of paid and unpaid databases), along with analytical tools, have been employed to build the predictive and forecast models.

Data and validation have been taken into consideration from both primary sources as well as secondary sources.

Key Considerations and Assumptions in Market Engineering and Validation

Detailed secondary research has been done to ensure maximum coverage of manufacturers/suppliers operational in a country.

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To a certain extent, exact revenue information has been extracted for each company from secondary sources and databases. Revenues specific to product/service/technology were then estimated based on fact-based proxy indicators as well as primary inputs.

The average selling price (ASP) has been calculated using the weighted average method based on the classification.

The currency conversion rate has been taken from the historical exchange rate of Oanda and/or other relevant websites.

Any economic downturn in the future has not been taken into consideration for the data center PDUs and PSUs market estimation and forecast.

The base currency considered for the data center PDUs and PSUs market analysis is US$. Currencies other than the US$ have been converted to the US$ for all statistical calculations, considering the average conversion rate for that particular year.

The term “product” in this document may refer to “service” or “technology” as and where relevant.

The term “manufacturers/suppliers” may refer to “service providers” or “technology providers” as and where relevant.

Primary Research

The primary sources involve data center PDUs and PSUs industry experts, including data center PDUs and PSUs product providers. Respondents such as CEOs, vice presidents, marketing directors, and technology and innovation directors have been interviewed to obtain and verify both qualitative and quantitative aspects of this research study.

Secondary Research

This study involves the usage of extensive secondary research, company websites, directories, and annual reports. It also makes use of databases, such as Businessweek

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and others, to collect effective and useful information for a market-oriented, technical, commercial, and extensive study of the global market. In addition to the data sources, the study has been undertaken with the help of other data sources and websites.

Secondary research was done to obtain critical information about the industry's value chain, the data center PDUs and PSUs market's monetary chain, revenue models, the total pool of key players, and the current and potential use cases and applications.

Key Market Players and Competition Synopsis

The data center PDUs and PSUs market is characterized by intense competition among several global industry leaders. Major companies such as Eaton, Delta Power Solutions, Vertiv Group Corp., Schneider Electric, ABB, and Legrand dominate the data center PDUs and PSUs market by providing a comprehensive range of advanced products. These companies invest consistently in research and development to enhance efficiency, reliability, and intelligent power management features.

The data center PDUs and PSUs market has been further shaped by ongoing technological advancements and the entry of emerging players who introduce new solutions for energy optimization and remote management. This dynamic environment ensures that the data center PDUs and PSUs market remains highly competitive, responsive to evolving customer requirements, and driven by the need for efficiency and scalability.

Some prominent names established in the data center PDUs and PSUs market are:

- Eaton
- Delta Power Solutions
- Vertiv Group Corp.
- Schneider Electric
- Legrand
- CHINT Group
- Honeywell International Inc.

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HARTING Technology Group

Huawei Technologies Co., Ltd.

ZTE Corporation

Siemens

ATEN INTERNATIONAL Co., Ltd.

Murata Manufacturing Co., Ltd.

FSP GROUP

Rittal Pvt. Ltd.

Advanced Energy

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