

# AC DC Power Supply - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

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## Abstracts

The AC DC Power Supply Market size is estimated at USD 31.55 billion in 2024, and is expected to reach USD 43.08 billion by 2029, growing at a CAGR of 6.43% during the forecast period (2024-2029).

AC-DC power supply devices have become increasingly popular over the years, as they play a crucial role in providing energy to electric loads for consumption and operation. The growing demand for power supply in various industries and industrial equipment is anticipated to boost its demand further.

### Key Highlights

AC-DC power supply converters are used to maintain a stable voltage supply for a variety of devices, such as laptops, smartphones, and tablets. The demand for these converters is increasing as more and more devices are sold. However, due to the low-quality materials used in the manufacturing of AC-DC Power supply adapters, the finished products are of poor quality. The universal AC-DC adapter is currently being tested. Owing to the Internet of Things (IoT) technology, AC-DC power supply adapters with a power output of just a few watts are currently available on the market.

The primary objective of AC/DC power supplies is to generate a regulated voltage output for electronic and electrical devices. As the production and demand for electronic devices like laptops, computers, mobile phones, and other consumer electronics continue to rise, the need for a consistent DC power supply for these gadgets is also increasing.

The AC/DC converters are expected to witness an increase in demand from the consumer electronics sector, which is projected to dominate the global market. With the proliferation of smartphones, tablets, and other portable electronic devices, the demand for AC-DC power supply devices is increasing rapidly to keep these devices charged and operational. As these devices become more powerful and feature-rich, more sophisticated power management solutions are necessary to ensure optimal performance and battery life. Further, the Internet of Things (IoT) is driving the demand for connected devices that require power supply solutions.

The market is experiencing growth due to the rising use of Internet of Things (IoT) in different areas like smart homes, smart cities, Machine-to-machine (M2M) communications, and Industrial IoT (IIoT). The increasing implementation of home and building automation systems is also contributing to market expansion. However, obstacles are anticipated in the market growth because of regulatory and safety standards that vary by region and country. The power supply devices market is expected to encounter difficulties because of strict design requirements for input power and nonstandard AC and DC inputs.

The geopolitical tensions over access to critical raw materials such as rare earth metals, minerals, and semiconductor materials used in power devices are disrupting the supply chains and driving up manufacturing costs. Dependence on specific regions or countries for critical resources exposes manufacturers to geopolitical risks and vulnerabilities. For instance, over the last year, there has been a significant rise in geopolitical tensions between the United States and China, leading to a complete transformation of global supply chains that have been in place for the past ten years.

## AC DC Power Supply Market Trends

### Consumer Segment is Expected to be the Largest End-user Industry

The increasing adoption of wearable devices such as smartwatches, fitness trackers, and other devices is fueling the demand for compact and efficient power supply solutions. These devices need power-efficient components to enhance battery life and enable uninterrupted usage, driving demand for AC-DC power supply devices. The recent advancement in smartphone technologies and rising demand for 5G smartphones have driven the sales of mobile devices. Efforts by smartphone makers such as Samsung, Apple, Xiaomi, Oppo, and Vivo to innovate their products are also driving up demand for AC DC power adapters.

According to GSMA, the Asia-Pacific, Latin America, and Sub-Saharan Africa are expected to experience the highest surge in smartphone adoption by 2023 due to the growing affordability of these devices. The average selling prices of smartphones are decreasing, and various initiatives are proving successful in driving uptake. It is projected that by 2030, there will be 9 billion smartphone connections, which will account for 92% of total connections. The increasing Internet penetration, marketing activities by smartphone vendors, and increasing subscriptions in social media are expected to boost smartphone sales, leading to a significant increase in demand for power supplies.

The growing sales of consumer electronics contribute to the market growth. For instance, according to the Consumer Technology Association, the retail revenue of consumer electronics (CE) in the United States has recorded continuous growth over the years. The retail sales of consumer electronics are expected to reach USD 512 billion by 2024, compared to USD 498 billion in 2023. This significant growth in the consumer segment is likely to create demand for power supply devices with different specifications.

Moreover, the increased use of laptops and desktops plays a key role in driving consumers' demand for power supply devices. In addition to the battery, crucial internal components such as CPUs and GPUs rely on DC power, highlighting the importance of a dependable DC supply. When the CPU/GPU does not require high performance, it can operate on a lower voltage, resulting in power savings.

The significance of power supplies in digital cameras is growing rapidly as power supplies are essential in converting the high-voltage alternating current (AC) from the power grid into low-voltage direct current (DC), which is essential for most digital cameras' operation. In April 2023, Powerstream Technology introduced a wall plug Universal AC input adjustable output adapter specifically designed for digital cameras. This AC/DC adapter is compact, of superior quality, and operates as a switch mode regulated power supply with adjustable output, making it compatible with various digital camera models.

### Asia-Pacific to Register Significant Growth

According to the Ministry of Industry and Information Technology, China is the largest country in the production and sales of consumer electronics through its enhanced

innovation and brand-building capacity. With the increasing investments in the region to enhance its consumer electronics production capabilities, the market is expected to gain traction.

China has one of the largest telecommunications markets in the world, driven by rapid urbanization, increasing internet penetration, and the adoption of advanced communication technologies. Telecommunications infrastructure, including mobile networks, data centers, and communication towers, relies on power supply devices such as rectifiers, converters, and backup power systems to ensure uninterrupted operation.

The telecommunications sector in India is witnessing rapid growth due to increasing smartphone penetration, digitalization initiatives, and expanding internet connectivity. As telecom companies continue to expand their networks and upgrade infrastructure to support emerging technologies like 5G, the demand for high-efficiency power supplies with advanced features such as remote monitoring and energy optimization is expected to increase.

India's consumer electronics industry is driven by factors, including rising disposable incomes, urbanization, and technological advancements. Power supply devices such as AC adapters, chargers, and battery management systems are integral components of consumer electronics products such as smartphones, laptops, TVs, and home appliances. With a large population and increasing consumer demand for electronic gadgets, there is a continuous need for efficient and compact power supply solutions that offer fast charging, energy efficiency, and compatibility with a wide range of devices.

## AC DC Power Supply Industry Overview

The AC DC power supply market is semi-consolidated as most top players, including Delta Electronics Inc, Siemens AG, ABB Ltd, Murata Manufacturing Co. Ltd, and TDK-lambda Corporation (TDK Corporation), have long-standing credibility in the market. Thus, market penetration is also high, with supplier-distribution solid relations.

In March 2024, Delta Electronics (Thailand) PCL, a subsidiary of Delta Group, inaugurated its new Delta Plant 8 and R&D Center at Bangpoo Industrial Estate, Thailand, to facilitate Delta's expansion of production and development of electric

vehicle (EV) power electronics products for global customers. The new factory and R&D center, which has 30,400 square meters of floor space, aim to increase production capacity for the rapidly growing EV business.

In February 2024, at the 2024 Applied Power Electronics Conference (APEC), Murata announced the launch of three new power product solutions designed to help solve the power electronics industry's challenges, constraints, and limitations. These include the PE25208, a revolutionary ultra-high efficiency charge pump IC aimed to fuel the future of portable consumer electronics, including laptops and other USB PD high-power applications, and the PE24109 and PE24110, two compact, low-profile, and ultra-high efficiency step-down DC-DC converter solutions for low output voltage applications targeting applications such as high density, optical transceiver modules.

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