

## **Electric Vehicle High-Voltage Dc-Dc Converter Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)**

Market Report | 2023-01-23 | 191 pages | Mordor Intelligence

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### **Report description:**

The Electric Vehicle High-Voltage DC-DC Converter Market is estimated to be 814.79 million in 2021. It is expected to reach USD 2,167.33 million by 2027, registering a CAGR of 14.05% from 2022 to 2027.

The COVID-19's impact on the electric vehicle market was inevitable, as it affected nearly every other industry in the market. However, the electric vehicle (EV) market is expanding rapidly due to the rapidly increasing Y-o-Y adoption rate of mild-hybrid electric vehicles worldwide. Despite the pandemic, electric vehicle sales increased dramatically in China and Europe, indicating active market growth during the forecast period.

The electric vehicle markets across the world are experiencing a shift as consumers are seeking affordable products. This potential shift in consumer preferences has been diverted toward used vehicles. Since 2020, the demand for used vehicles has increased in almost every part of the world. The increase in demand for used cars is likely to affect the market.

The pandemic has affected almost every industry around the globe; however, the demand for the electric vehicle DC-DC converter market is growing significantly, owing to factors such as the continuous demand and sales of electric vehicles every year. For instance, despite the pandemic, the sales of electric vehicles, such as passenger cars, have shown positive growth in various countries in the regions, such as Asia-Pacific and Europe.

Rising vehicle electrification is likely to increase the demand for power converter components. Rising investments in the domain of electric vehicle development by various leading manufacturers in the global automotive industry, including Honda, Ford, Toyota, and Tesla, among others, are bolstering the product development and industry growth in the global electric vehicle high voltage DC-DC converter market.

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## EV High-Voltage DC-DC Converter Market Trends

### Increased Electric Vehicle Adoption Globally

Increased sales of BEVs and PHEVs, as well as lower costs of powertrain components due to advancements in materials and improved packaging arrangement, are also driving the market studied. Furthermore, the high cost of batteries has necessitated the improvement of converters and other power electronics, as well as the performance of vehicles.

Governments all over the world have also launched various schemes and policies to encourage buyers to opt for electric vehicles over conventional vehicles. One such initiative that encourages the purchase of electric vehicles is the California ZEV program, which aims to have 1.5 million electric vehicles on the road by 2025. Other countries offering various incentives include India, China, the United Kingdom, South Korea, France, Germany, Norway, and the Netherlands.

The sales of electric vehicles were growing significantly post the outbreak of COVID-19. Governments across the world have imposed lockdowns, which resulted in an economic slowdown and negatively impacted the sales of electric vehicles and charging infrastructure systems. According to the Society of Electric Vehicle Manufacturers (SMEV), registration of electric vehicles in India declined by 20% in FY21 as compared to FY20. The supply of other components, such as lithium-ion battery packs and inverters, got impacted. A power inverter is an integral part of electric vehicles. It converts energy from batteries to a traction motor, which propels the vehicle.

Consumer acceptance has been a major challenge for electric vehicle manufacturers. Despite the advantages that electric vehicles offer, there has been a reluctance from the consumers, owing to factors such as lack of charging infrastructure and the high cost of EVs (EVs' costs are almost the same as that of entry-level luxury cars). Countries, such as India, had announced their plan to improve the charging infrastructure and set up over 50,000 charging stations across the country but had to put their plans on hold back because of COVID-19.

Significantly, some OEMs plan to reconfigure their product lines to produce only electric vehicles. For instance, in 2021,

General Motors announced its plans to raise its spending on electric and autonomous vehicles to USD 20 billion by 2025. The company is expected to launch 20 new electric models by 2023 and aims to sell more than 1 million electric cars a year in the United States and China over the forecast period.

Volkswagen is planning to spend USD 36 billion on electric cars across its mass-market brands by 2024. According to the company, by 2025, at least 25% of its global sales will be electric vehicles.

### Asia-Pacific Dominating the Market.

Asia-Pacific holds the majority share in the global electric vehicle market. With countries like China leading the electric vehicle sales, the market is expected to grow significantly in the forecast period.

China and Japan are inclined toward innovation, technology, and the development of advanced electric vehicles. Moreover, countries such as Indonesia are engaged in large electric mobility projects.

China is a key player in the global electric vehicle industry. Moreover, the government of China is encouraging people to adopt electric vehicles. The country is planning to completely switch to electric mobility by 2040. The Chinese electric passenger car

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market is also one of the largest worldwide, and it has been growing rapidly over the last few years and is expected to grow higher in the forecast period, which is also going to have a positive impact on the demand for electric vehicle high voltage DC-DC Converter Market. Several key players in the market are partnering with other players to develop power electronics components. For instance,

In November 2021, G-Pulse and Silicon Mobility announced a partnership to develop a high voltage multiphase interleaving bidirectional DC-DC converter platform for new energy vehicles (NEVs), such as fuel cell electric vehicles (FCEVs), battery electric vehicles (BEVs), hybrid electric vehicles (HEVs), and plug-in hybrid electric vehicles (PHEVs) (PHEV).

In May 2021, TDK Corporation (TDK) announced it entered a partnership with Contemporary AmperexTechnology Co., Limited (CATL) to strengthen its businesses, such as electric components for electric vehicles and DC-DC converters. TDK will supply automotive electrical components and power supply products to CATL for automotive power units.

The Indian electric vehicle market is in its growing stage. Automobile manufacturers in India, such as TATA, Mahindra, MG, etc., are taking initiatives to provide affordable electric driving options. Moreover, the government is also supporting electric mobility to reduce the exhaust emissions of greenhouse gases in the country.

Additionally, automobile manufacturers in India are also taking initiatives and investing in R&D practices to provide affordable electric cars in India; for instance,

In February 2021, Hyundai announced to spend INR 1,000 crore on the development of new affordable EVs. The vehicles would be manufactured locally, and the company is in talks with local vendors to source the components. Hyundai may also seek a strategic partnership with its sister brand, Kia, as it also has plans to add EVs to its portfolio in India. The company is also working on a mass-market, more affordable electric car for India that is expected to debut by 2024.

Due to the aforementioned factors, the demand for DC-DC converters in vehicles is likely to witness an increase. This is expected to propel the growth of the studied market over the forecast period.

#### EV High-Voltage DC-DC Converter Market Competitor Analysis

The key players in the electric vehicle high-voltage DC-DC converter market include Tesla, Toyota Industries, Denso Corporation, Robert Bosch GmbH, Continental AG, Infineon Technologies, Hella GmbH, and others.

These players are investing heavily in R&D in order to gain a competitive edge over other players. For instance,

In April 2022, Toyota Industries Corporation announced the launch of a single compact and lightweight module with an integrated charger and DC/DC converter. This is Toyota's first ESU (Electricity Supply Unit) for usage in electric cars (EVs), and it will be placed as the core unit that handles charging and power conversion operations in the bZ4X. By merging the two components required for EV operation, the business was able to achieve a 23% decrease in size and a 17% reduction in weight when compared to the traditional installation of separate components.

In March 2022, TDK Corporation announced the introduction of additional models to the popular CCG series of isolated DC-DC converters. The 1.5W and 3W rated parts operate convection cooled at full load from -40 to +85°C. All voltage combinations are available with terminations for either surface-mount or through-hole placement. Applications include data and

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telecommunications, test, measurement, process control, broadcast, and battery-powered equipment.

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