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Global EV Charging Station Power Module Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global EV Charging Station Power Module market size is expected to reach $ 10399 million by 2032, rising at a market growth of 30.6% CAGR during the forecast period (2026-2032).

EV Charging Station Power Module is an important component for electric vehicle (EV) charging equipment. It typically includes a series of electronic components and a power management system that converts and manages electrical energy so that electric vehicles can charge efficiently. EV Charging Station Power Module is the only core product with technical threshold in the entire charging pile industry.

As the core component of the charging pile, the Power Module belongs to a large category of power supply products. Its core function is to convert the AC power in the grid into DC power that can charge the battery. The charging module not only provides energy and power, but also controls and converts the circuit, which ensures the stability of the power supply circuit and is suitable for charging various types of power batteries. The performance of the Power Module not only directly affects the overall performance of the charging pile, but is also related to charging safety issues, and is the core of building a high-power charging infrastructure.

Power Module is mainly composed of: semiconductor power devices, integrated circuits, magnetic components, PCB, capacitors, chassis fans, etc. The key of the Power Module is the MOS tube switch. When the charging module is working, the three-phase AC power supply is rectified and filtered, and then becomes a DC input voltage for the DC/DC conversion circuit. The controller acts on the power switch MOS tube through the drive circuit to convert the rectified and filtered DC voltage into an AC voltage, and the AC voltage at this time is pulse width modulated. Then, the AC voltage is

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transformed and isolated by the high-frequency transformer, rectified and filtered again to obtain a DC pulse, and then charged to the battery pack.

In 2025, global EV Charging Station Power Module sales reached approximately 3,283.3 k units, with an average global market price of around US$ 435 per unit. The single-line production capacity is about 50 k units, and the industry gross profit margin is about 28%.

The global EV Charging Station Power Module market is growing rapidly, driven by the increasing demand for electric vehicles (EVs) and the need for an expansive, reliable charging infrastructure. Key trends influencing this market include:
1. Market Growth and Expansion

The global EV charging station power module market is expected to grow at a significant CAGR over the next several years, largely fueled by government initiatives promoting EV adoption and stringent emission regulations.

Regions like North America, Europe, and Asia-Pacific are leading the way, with countries such as the U.S., China, and Germany investing heavily in EV infrastructure.
2. Technological Advancements

High-Efficiency Power Modules: The development of high-efficiency power modules (such as silicon carbide (SiC) and gallium nitride (GaN) based power electronics) is enhancing the performance and efficiency of charging stations, reducing power losses.

Fast and Ultra-Fast Charging: Growing consumer demand for reduced charging time is driving innovation in fast and ultra-fast charging technologies (50-350 kW), leading to the development of more advanced power modules.

Wireless Charging: Although still in its early stages, wireless EV charging is expected to emerge as a future trend, requiring new power module technologies for efficiency and reliability.
3. Modular Power Architecture

EV charging station manufacturers are increasingly adopting modular power architecture for its flexibility, scalability, and ease of maintenance. Modular power solutions enable better load balancing, efficient energy distribution, and enhanced system redundancy.
4. Smart Charging and Integration with Renewable Energy

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Power modules in charging stations are increasingly being integrated with smart grid technology and renewable energy sources (solar, wind). This integration allows for better energy management, including dynamic load balancing, demand response, and optimized energy storage.

V2G (Vehicle-to-Grid) technology is also growing in popularity, allowing EVs to feed power back into the grid, requiring bidirectional power modules in charging stations.
5. Cost Reduction and Energy Efficiency

Reducing costs and improving energy efficiency are primary goals for manufacturers of EV charging station power modules. The advancement of SiC and GaN technologies helps in lowering production costs while enhancing power density and energy efficiency.
6. Government Support and Policies

Governments around the world are offering incentives, tax credits, and subsidies to promote the adoption of EVs and charging infrastructure. For example, the U.S. Bipartisan Infrastructure Deal allocates billions of dollars for EV charging infrastructure, significantly boosting the market for power modules.

This report studies the global EV Charging Station Power Module production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for EV Charging Station Power Module and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of EV Charging Station Power Module that contribute to its increasing demand across many markets.

Highlights and key features of the study
Global EV Charging Station Power Module total production and demand, 2021-2032, (K Units)
Global EV Charging Station Power Module total production value, 2021-2032, (USD Million)
Global EV Charging Station Power Module production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (K Units), (based on production site)
Global EV Charging Station Power Module consumption by region & country, CAGR, 2021-2032 & (K Units)
U.S. VS China: EV Charging Station Power Module domestic production, consumption,

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key domestic manufacturers and share
Global EV Charging Station Power Module production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (K Units)
Global EV Charging Station Power Module production by Type, production, value, CAGR, 2021-2032, (USD Million) & (K Units)
Global EV Charging Station Power Module production by Application, production, value, CAGR, 2021-2032, (USD Million) & (K Units)

This report profiles key players in the global EV Charging Station Power Module market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Infypower, UUGreenPower, TELD, Tonhe Electronics Technologies, Winline Technology, Huawei, Shenzhen Sinexcel Electric, Shenzhen Increase Tech, Kstar Science&Technology, XYPower, etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World EV Charging Station Power Module market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (K Units) and average price (US$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global EV Charging Station Power Module Market, By Region:

United States

China

Europe

Japan

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South Korea

ASEAN

India

Rest of World

Global EV Charging Station Power Module Market, Segmentation by Type:

Below 20kW and 20kW

30kW

40kW and Above

Global EV Charging Station Power Module Market, Segmentation by Application:

Urban Road Public EV Charging Stations

Highway EV Charging Stations

Commercial EV Charging Stations

Others

Companies Profiled:

Infypower

UUGreenPower

TELD

Tonhe Electronics Technologies

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Winline Technology

Huawei

Shenzhen Sinexcel Electric

Shenzhen Increase Tech

Kstar Science&Technology

XYPower

AcePower

WattSaving

Key Questions Answered:

1. How big is the global EV Charging Station Power Module market?
2. What is the demand of the global EV Charging Station Power Module market?
3. What is the year over year growth of the global EV Charging Station Power Module market?
4. What is the production and production value of the global EV Charging Station Power Module market?
5. Who are the key producers in the global EV Charging Station Power Module market?
6. What are the growth factors driving the market demand?

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