

# Electric Vehicle Motor (EVM) Controller Market to Reach USD 17.7 Bn by 2035, Growing at 10.8% CAGR | TMR

*Rising EV adoption, government emission regulations, and demand for high-performance, energy-efficient vehicles are fueling market expansion.*

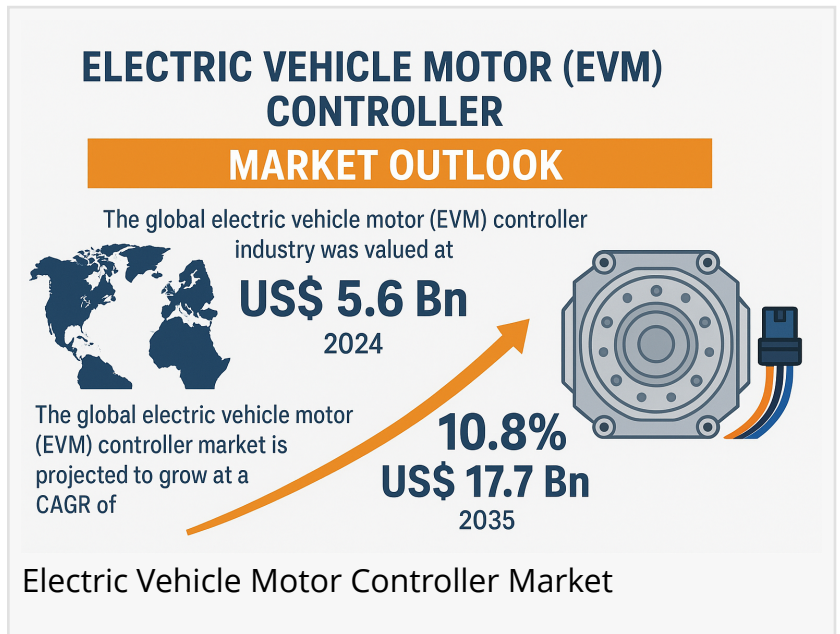
WILMINGTON, DE, UNITED STATES,  
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EINPresswire.com/ -- The global [electric vehicle motor \(EVM\) controller market](#)

is poised for robust growth over the next decade. Valued at US\$ 5.6 Bn in 2024, the market is projected to expand at a CAGR of 10.8% from 2025 to 2035, reaching US\$ 17.7 Bn by 2035.

Growth is primarily driven by

increasing EV adoption across passenger cars, two-wheelers, and commercial vehicles, coupled with stringent government regulations on emissions and rising demand for intelligent, energy-efficient mobility solutions.



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## Market Overview

An electric vehicle motor controller is the brain of an EV powertrain, regulating electricity flow between the battery and motor to optimize speed, torque, direction, and braking. EVM controllers also enable regenerative braking, fault detection, real-time monitoring, and energy recovery, making them critical for improving vehicle range, safety, and efficiency.

Key technologies include Direct Torque Control (DTC), Field-Oriented Control (FOC), Silicon Carbide (SiC)-based systems, inverter-less designs, and hybrid controllers. Increasing integration with autonomous driving technologies, AI, and IoT is transforming motor controllers into

advanced, connected systems.

## Analyst Viewpoint

According to analysts at Transparency Market Research, battery electric vehicles (BEVs) are the largest segment, as they rely entirely on motor controllers for powertrain operation. Innovations such as AI-enabled optimization, predictive diagnostics, and connectivity with vehicle networks are shaping the next generation of EV motor controllers.

While Asia Pacific dominates the global market due to EV adoption in China, Japan, and South Korea, Europe and North America are also showing strong momentum, supported by government incentives, climate goals, and investments in EV infrastructure.

## Key Market Drivers

### Growing Demand for High-performance & Long-range EVs

Consumers are seeking EVs with higher acceleration, longer ranges, and smoother handling. EVM controllers enable efficient power delivery, enhance driving dynamics, and optimize battery usage, making them crucial for next-gen EVs.

### Government Incentives and Emission Regulations

Subsidies, tax credits, and stricter emission norms are accelerating EV adoption. Regulations such as the EU's CO<sub>2</sub> targets and California's ZEV mandate are compelling automakers to adopt advanced motor controllers.

### Technological Advancements in Motor Controllers

Features such as regenerative braking, real-time fault detection, AI-based energy optimization, and integration with autonomous systems are enhancing performance, efficiency, and safety.

### Cost-effectiveness and Scalability

Advances in semiconductor design, mass production, and sustainable manufacturing are reducing costs, making EVM controllers more accessible for both premium and mass-market EVs.

## Segment Analysis

### By Propulsion

Battery Electric Vehicles (BEV): Leading segment; growing demand for zero-emission vehicles

boosts adoption.

Hybrid Electric Vehicles (HEV)

Plug-in Hybrid Electric Vehicles (PHEV)

Fuel Cell Electric Vehicles (FCEV)

By Motor Type

Alternating Current (AC)

Direct Current (DC)

Permanent Magnet Synchronous Motor (PMSM)

By Controller Type/Technology

Direct Torque Control (DTC)

Field-Oriented Control (FOC)

Silicon Carbide (SiC)

Vector Control

Inverter-less

Hybrid

By Vehicle Type

Passenger Vehicles

Commercial Vehicles

Two-wheelers

Off-road Vehicles

By End-use

OEMs

## Aftermarket

### Regional Insights

Asia Pacific: Dominates the market, with China leading due to large-scale EV manufacturing, battery production, and government support. Japan and South Korea also show strong growth.

Europe: Growth led by Germany, Norway, and the U.K., driven by emission reduction targets and EV subsidies.

North America: U.S. and Canada benefit from high EV production, Tesla's innovation ecosystem, and favorable policies.

Latin America & Middle East & Africa: Emerging regions with rising adoption, though limited by infrastructure challenges.

### Key Players

The global EVM controller market is highly competitive, with companies focusing on R&D, scalability, and sustainable production. Leading players include:

Suzhou Veichi Electric Co., Ltd.

A Bacancy Company

Embitel

ADVANCED Motion Controls

Tesla

Air International Thermal Systems

Continental Engineering Services

Fuji Electric FA Components & Systems Co., Ltd.

Robert Bosch GmbH

Tata AutoComp Systems Ltd.

ABB

# DENSO CORPORATION

Attron Automotive

Kinetic Communications Ltd.

## Recent Developments

July 2025 – Kinetic Communications Ltd. launched a fully automated MCU production line in Pune, India, designed with Industry 4.0 principles, capable of producing 180,000 units annually with features like regenerative braking and cruise control.

Feb 2024 – Attron Automotive unveiled its alpha series motors and CTR072500 controller at Bharat Mobility Expo 2024, offering peak efficiency above 97% with cost-effective, high-performance designs.

## Opportunities and Challenges

Opportunities: Rising EV penetration in emerging economies, integration of AI & IoT, cost optimization, and expansion of EV infrastructure.

Challenges: High R&D costs, reliance on semiconductor supply chains, and regional disparities in EV adoption.

## Future Outlook

The electric vehicle motor (EVM) controller market will continue expanding as EV adoption accelerates worldwide. Growth will be fueled by:

Increasing demand for zero-emission vehicles

Government policies & subsidies supporting EV adoption

AI-enabled, smart motor controllers for performance and efficiency

Cost-effective manufacturing and sustainable design practices

Integration of controllers with autonomous and connected vehicle ecosystems

Companies that invest in affordable, scalable, and innovative EVM controllers will be best positioned to capture market opportunities in the decade ahead.

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