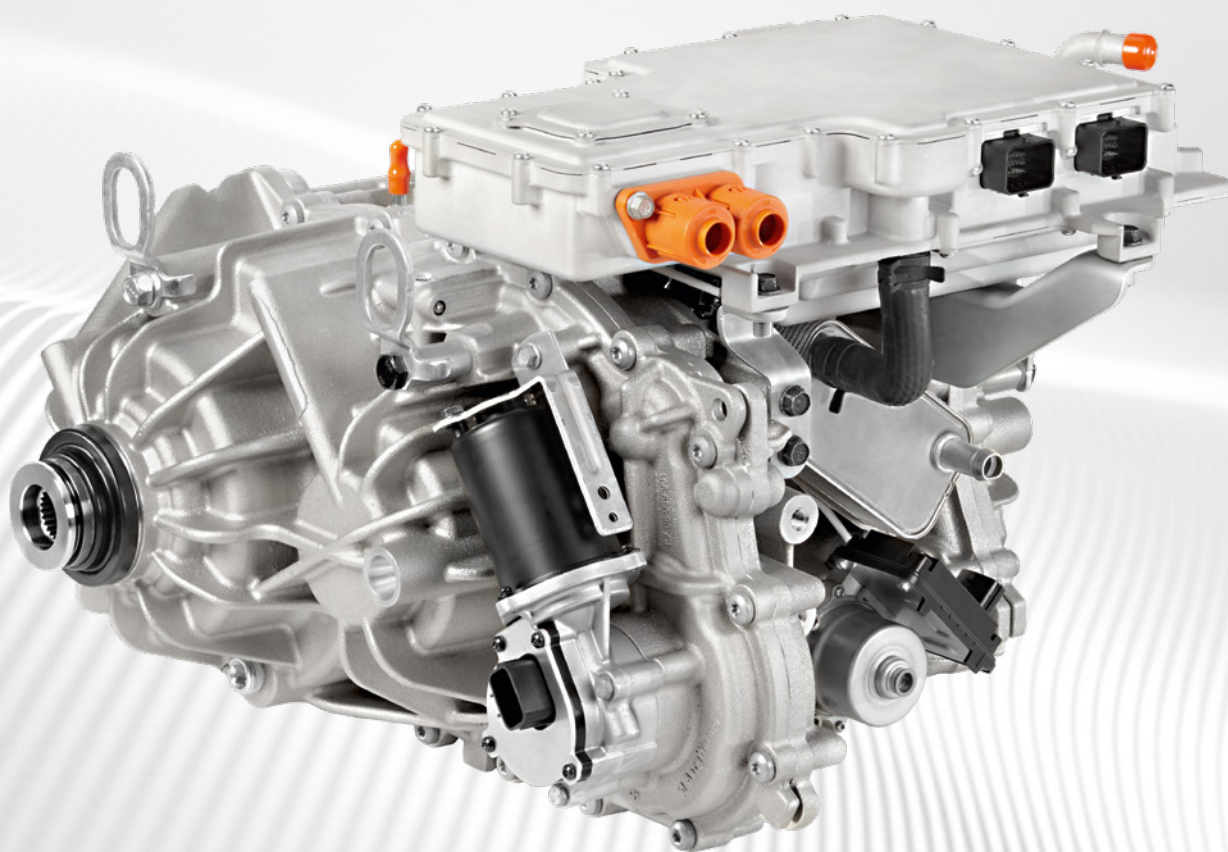


Explore our Technologies

Integrated Drive Module

(iDM)

for Hybrid and Electric Vehicles



Integrated Drive Module (iDM) from BorgWarner

BorgWarner's Integrated Drive Module (iDM)

combines power electronics, electric motor and mechanical components within one single eAxle unit.

Description

- 3 in 1: Drive Module for Electrical Vehicles with fully integrated Electrical Machine, Power Electronics and Transmission
- Operating Voltage: 400 V & 800 V
- Three scalable iDM families are designated by the outer diameter of the electrical machine, iDM146, iDM200 and iDM220

Features and Benefits

- Easy Vehicle Integration
- Scalable and Modular Architecture
- Optimized System Efficiency
→ World Class Battery Energy Consumption
- State of the art Torque and Power Density
- High Speed Electrical Machine
- Water and Oil cooling variants
- Optional e-Park-Lock System

Specifications iDM

Operating Voltage	400 V & 800 V
Continuous Power	Scalable 40 - 150 kW
Peak Power	Scalable 70 - 500 kW
Continuous Torque @ wheels	Scalable 700 - 2500 Nm
Peak Torque @ wheels	Scalable 1500 - 5000 Nm

Innovation Highlights

ELECTRONICS

- BorgWarner proprietary Viper power module for highest power density
- Full Integration for smallest package and lowest complexity
- CAN / CAN FD, FlexRay optional
- Silicon IGBT or Silicon Carbide MOSFET options available for optimal cost to performance tradeoff
- Full Software Functionality with option for high level controls as vehicle dynamics and energy management
- ASIL D Capable, AUTOSAR
- Scalable Design

ELECTRICAL MACHINE

- IPM Machine for optimal efficiency - non-PM solutions available
- Optimized for highest drive cycle efficiency
- Fully integrated with the transmission and electronics
- HVH / SW Technology for small package and high efficiency
- Developed and optimized for iDM in terms of NVH and integration
- Scalable design

TRANSMISSION

- 2-Stage Reduction
- Ratio 8 - 12.5:1 for iDM
- Optimized for high drive cycle efficiency and lowest system NVH
- Innovative passive lubrication system for lowest losses
- Optional Park-Lock System with integrated Actuator / ECU
- Scalable Design

