



Hybrid



Electric

# Explore our Technologies

## Integrated Drive Module (iDM)

for Hybrid and Electric Vehicles

# Integrated Drive Module (iDM)

## Description

- 3 in 1: Drive Module for Electrical Vehicles with fully integrated Electrical Machine, Power Electronics and Transmission
- Operating Voltage: 250 – 450 V<sub>DC</sub>

## 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 Cooled
- Optional e-Park-Lock System

## Specifications iDM 2.0

<b>Operating Voltage</b>	250 – 450 V <sub>DC</sub>
<b>Continuous Power @ wheels, @ 330 V<sub>DC</sub></b>	Scalable 45 – 85 kW
<b>Peak Power @ wheels, @ 330 V<sub>DC</sub></b>	Scalable 90 – 160 kW
<b>Continuous Torque @ wheels</b>	Scalable 1,400 – 2,000 Nm
<b>Peak Torque @ wheels</b>	Scalable 2,400 – 3,800 Nm
<b>Status</b>	In Development

## Innovation Highlights

### Electronics

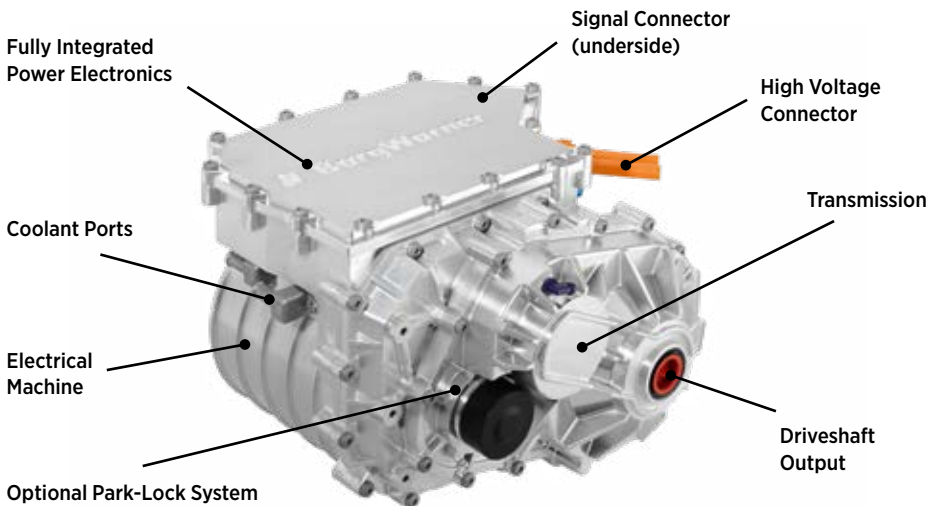
- Full Integration for smallest package and lowest complexity
- CAN/CAN FD, FlexRay optional
- State of the art Power Electronics for lowest losses
- Full Software Functionality with option for high level controls as vehicle dynamics and energy management
- ASIL D Capable, AUTOSAR
- Scalable Design

### Electrical Machine

- IPM Machine
- 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 11 – 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



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