

BorgWarner's eAxle "iDM" Takes Electric Propulsion to a New Level

- Integrates state-of-the-art transmission, electric motor and power electronics
- Modular solution offers customers exceptional flexibility
- BorgWarner takes a big step towards an environmentally friendly future

Auburn Hills, Michigan, January 24, 2019 – BorgWarner's drive modules simplify the design of future pure electric drives significantly, and it is predicted that they will continue to do so in the years to come. While the forerunner – the electric drive module (eDM) – has already entered serial production, the fully integrated drive module (iDM) featuring specially developed power electronics is expected to follow as the next logical step. The product family is available in three different versions (iDM XS, iDM S, iDM M) and is easy to integrate either at the front or the rear axle of passenger cars and light commercial vehicles depending on the architecture and the application. Alongside pure electric vehicles, BorgWarner's solution is also suitable for P4 hybrid vehicles, where the motor is located at the rear axle of the front-wheel-drive vehicle. The solution integrates highly efficient power electronics with an advanced transmission system and industry-leading drive motor technology featuring BorgWarner's efficient bar wound stator solution to form a scalable compact package.

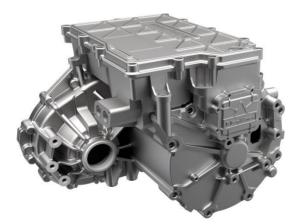
"With the iDM, BorgWarner delivers a product family of highly integrated propulsion solutions to drive our customers' hybrid and electric vehicles. At the same time, we are strengthening our position as the supplier of choice for hybrid and pure electric propulsion solutions," said Dr. Stefan Demmerle, President and General Manager, BorgWarner PowerDrive Systems. "We deliver key elements for electric vehicles: the electric motor, the transmission, the power electronics and the thermal management system. Our comprehensive portfolio makes us a product leader in clean technology solutions and a strong partner for automakers worldwide as they move toward a cleaner and more environmentally friendly future."

The latest component of the iDM – the integrated, specially developed power electronics – allows a small package, low complexity and minimum losses. In addition, it offers full software functionality with an option for the high-level control of vehicle dynamics and energy management. The software architecture meets current market requirements and is easy to adapt to common platforms like AUTOSAR as well as allowing safety aspects such as ASIL D to be realized. To handle the increasing volume of data exchange within modern vehicle systems, BorgWarner's state-of-the-art power electronics can be used with a CAN or a CAN FD bus.

In general, the key benefits of the iDM include its scalable and modular architecture and the wide range of gear ratios and electric motor sizes available, making it flexibly adaptable to customer demands. Operating at 250 to 450 volts of direct current (VDC), the iDM has exceptional torque and power densities ranging from 90 kW to 160 kW and 2,500 Nm to 3,800 Nm. The advanced transmission technology offers smooth and quiet operation and the patented bar wound stator motor technology delivers exceptional performance with superior noise, vibration and harshness characteristics. All components used in the iDM module are part of BorgWarner's portfolio of proven technologies and are also available as stand-alone solutions. BorgWarner continues to drive innovation and expand its position as a key partner for global OEMs.

About BorgWarner

BorgWarner Inc. (NYSE: BWA) is a global product leader in clean and efficient technology solutions for combustion, hybrid and electric vehicles. With manufacturing and technical facilities in 66 locations in 18 countries, the company employs approximately 29,000 worldwide. For more information, please visit borgwarner.com.



BorgWarner's iDM integrates power electronics, the company's transmission technology and its electric motor with patented bar wound stator technology to form a compact propulsion solution.

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