

Press Release

Schaeffler starts volume production of its high voltage inverter brick

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- First large-scale production of high voltage inverter brick for leading Chinese automotive manufacturer
- Production ramp-up in Tianjin, China within just one year despite inverter module's much increased performance parameters
- Cutting-edge silicon carbide (SiC) technology from development partner ROHM for greater efficiency and performance
- Thanks to modular and scalable design, the inverter brick is readily integrated and can be used for a wide range of battery-electric, plug-in and range extender vehicles

For many years, Schaeffler has been setting standards in motion technology through its pioneering innovations and developments. With the launch of volume production of the high voltage inverter brick in Tianjin, China, Schaeffler has reached an important milestone in its electrification strategy. This first volume production is for a leading Chinese car manufacturer that is going to equip its new electric vehicle models with ultra-modern inverter brick technology.

The Schaeffler inverter subassembly is the essential power device building block (brick) to control the electric drive via logic signals. This is where the high-frequency current pulses are produced that set the vehicle's electric motor in motion. The performance characteristics of the inverter brick now being produced are impressive: At customer's request, Schaeffler increased the output of the block by increasing the maximum possible battery voltage to much more than the usual 800 V – and with RMS currents of up to 650 A, which turn the sub-module into a compact power pack.

"Through our strategic approach of incorporating scalability and modularity into our e-mobility solutions – from individual components to a highly integrated electric axle – we developed the readily integrated inverter brick. Based on our generic platform development, it took us just one year to bring this optimal product for the popular X-in-1 architectures in China to volume production readiness," says Thomas Stierle, CEO of the E-Mobility Division at Schaeffler.

Modularity and scalability as the key to easy integration

As a core component of an inverter, a brick has to meet strict requirements. The characteristics of the sub-module are indicative of the factors behind the current sales success and start of volume production: Thanks to the innovative silicon carbide (SiC) power semiconductor produced by the Schaeffler partner ROHM, the frame-mounted sub-module with high power density is compact, efficient and readily integrated into various inverters thanks to its modular and scalable design. The sub-module incorporates the power module for pulse width modulation (PWM) of the current pulses, the DC link capacitor, a DC link and a cooler. Moreover, the brick has a DC boost function, thanks to which a vehicle with 800 V architecture can also be charged at a 400 V charging station at a charging speed of 800 V. To satisfy the increased performance requirements of the Chinese car manufacturer, ROHM optimized the drain-source voltage of the SiC Chips integrated in the block according to the OEM expectations.

“We are glad about the launch of volume production for Schaeffler’s inverter brick with our 4th generation SiC power components,” says Dr. Kazuhide Ino, Member of the Board and Managing Executive Officer at ROHM. “With our SiC technology we are making a substantial contribution to increasing the efficiency and performance of electric cars. Working with Schaeffler as our partner, we are thus fostering innovation and sustainability in the automotive industry,” Dr. Ino adds.

The strategic partnership of Schaeffler (originally initiated under Vitesco Technologies) with ROHM has existed since 2020 and serves to secure capacity for energy-efficient SiC power semiconductors.

Continuous development of inverter technology

The inverter brick now in volume production is yet another example of the strategy of developing other sub-modules that was initiated in 2023 with an overmolded inverter. Schaeffler is currently pressing ahead with the ongoing development of its inverter technology with an even greater degree of integration for future vehicle architecture.

Schaeffler inverter at IAA Mobility 2025

The inverter brick is part of Schaeffler’s Power Motion product family, and the inverter technology will be showcased at the Schaeffler booth at IAA MOBILITY 2025 in Munich. Under the banner “The Motion Technology Company”, Schaeffler will present its expanded and innovative product range for software, electrification, drivetrain, chassis, and body applications at the IAA Summit from September 9 to 12 in Hall B3, Booth B40.

For more information on the trade fair, please visit our [website](#).

Schaeffler Group – We pioneer motion: The Schaeffler Group has been driving forward groundbreaking inventions and developments in the field of motion technology for 80 years. With innovative technologies, products, and services for electric mobility, CO₂-efficient drives, chassis solutions and renewable energies, the company is a reliable partner for making motion more efficient, intelligent, and sustainable – over the entire life cycle. Schaeffler describes its comprehensive range of products and services by means of eight product families: From bearing solutions and all types of linear guidance systems through to repair and monitoring services. Schaeffler is with around 110,000 employees and more than 250 locations in 55 countries, one of the world's largest family-owned companies and one of Germany's most innovative companies.

Exemplified: High voltage inverter brick produced in high volumes in Tianjin for a leading Chinese car manufacturer. Photo: Schaeffler

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Thomas Stierle, CEO E-Mobility Division Schaeffler (left) and Dr. Kazuhide Ino, Member of the Board and Managing Executive Officer at ROHM. Image: Schaeffler

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