



On the path to electromobility: Hella develops pioneering battery solutions for mild hybrid vehicles

- Dual Voltage Battery Management System and PowerPack 48 Volt support 48-volt mild hybridization
- New battery solutions enable savings of 5 to 6 grams of CO₂ per kilometer driven

Lippstadt, June 4, 2019. Hella, the lighting and electronics expert, is driving forward the topics of energy efficiency and electrification and supporting customers holistically on their path to electromobility. As a subsystem supplier, the company develops and manufactures products that support all stages of automotive electrification. With the new products Dual Voltage Battery Management System and PowerPack 48 Volt, the company is now one of the first on the market to offer innovative battery module solutions for partially electric cars, so-called mild hybrid vehicles. The new solutions enable savings of 5 to 6 grams of CO₂ per kilometer and thus help to achieve CO₂ targets in the short term.

Starting 2020, newly registered vehicles in the EU will not be allowed to exceed a limit value of 95 grams of CO₂ per kilometer. "However, the internal combustion engine will not disappear overnight. In order to achieve the specified limit values, the vehicles must be electrified," says Björn Twiehaus, Head of Product Center Energy Management and member of the Executive Board of the Electronics business division at Hella. For example, Hella has developed the Dual Voltage Battery Management System for the compact and mid-range class. The system allows vehicles with internal combustion engines to be converted to a mild hybrid. It combines the conventional separate core elements such as 48 V battery, 12 V battery and voltage transformer (DC-DC converter) within a single product in the package space of a conventional lead-acid battery. This makes it easy to integrate the system into the existing vehicle architecture. Another advantage: The Dual Voltage Battery Management System eliminates the need for a lead-acid battery in the car. The innovative system consists of lithium-ion cells that are

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switched intelligently depending on the application. Thus the capacity can be used specifically in the 12-volt or 48-volt vehicle electrical system.

HELLA has designed the PowerPack 48 Volt for vehicles in higher power rating classes. It combines a 48-volt lithium-ion battery pack including battery management and DC-DC converter. In addition to the 12-volt battery, the PowerPack 48 is also drawn into the vehicle. It enables hybrid functions such as recuperation (ability to recover energy while braking) or active coasting (the internal combustion engine is switched off while driving) as well as other comfort functions for the luxury class. These include ambient lighting, automatic climate control and active chassis control.

The new products primarily serve the growing market of 48-volt mild hybrids. According to studies by the London-based analysis company IHS Markit, the annual share of new registrations in this area will rise worldwide from 6 million in 2020 to 35 million in 2030.

"Hybridization with 48 volts is particularly promising because it requires only minor intervention in the vehicle architecture while also offering efficient energy recovery methods and improved energy efficiency," says Twiehaus. "With the new products, Hella is actively advancing the technology and enabling customers to enter the field of electric mobility."

HELLA already offers products for all types of drives – from battery sensor systems for micro-hybrids (start/stop automatic system) to power electronics for mild hybrids and battery electronics for high-voltage applications in all-electric vehicles.

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