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FORVIA HELLA Introduces Next-Generation Intelligent Battery Sensor in China

- It is a critical monitoring component for start-stop systems and 12V low-voltage power networks
- The key advantages include cost efficiency, high level of functional safety, localized development and superior flexibility

International automotive supplier FORVIA HELLA introduces its next-generation Intelligent Battery Sensor (IBS) in China. As a critical monitoring component for start-stop systems and 12V low-voltage power networks, this innovative product is purpose-built to meet China's new energy vehicle market demands for cost efficiency and technological customization, through deep localization of the supply chain, hardware cost optimization, and enhanced functional safety. The new IBS is scheduled for mass production in China by middle of 2026 and with deployment across a range of pure electric vehicle models developed specifically for the Chinese market by both domestic and joint-venture brands in China.

"Competition in China's new energy vehicle industry has evolved from market expansion to technological innovation. Customers now demand greater cost sensitivity, development agility, and functional safety from components", says Dr. May Deng, Senior Director of Business Group Electronics Technical Center Energy Management China at FORVIA HELLA. "The next-generation IBS embodies FORVIA HELLA's 'In China, For China' strategy. By leveraging localized semi-conductor, fully local R&D, and a modular design, we have significantly reduced hardware costs and built a rapid-response system spanning from requirement alignment to product service. This approach not only accelerates development cycles, but also fulfills our commitment to reducing costs without compromising quality or flexibility – enabling end users to enjoy a safer, smarter mobility experience."

FOR MORE INFORMATION, PLEASE CONTACT

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Leveraging high-precision real-time monitoring technology, FORVIA HELLA's new IBS comprehensively collects and computes key battery parameters such as voltage, current and temperature, building a multidimensional perception system that enables real-time monitoring of the battery's entire state. Based on real-time data, the sensor can accurately calculate the State of Charge (SoC) and State of Health (SoH), effectively avoiding risks such as overcharging, over-discharging, and high-temperature damage. It also optimizes charging strategies in real time, such as adaptive adjustment of cold-start current and power limitation at high temperatures, significantly extending battery life and improving energy utilization efficiency. The built-in predictive maintenance function detects battery health degradation trends in advance and issues early warnings before potential failures can paralyze the 12V system, providing dual protection for vehicle safety and convenience.

By adopting locally sourced semi-conductors, the hardware cost of this sensor is significantly reduced compared to the previous generation, while maintaining a wide operating voltage range from 6V to 18V, a current range of +/-1500A, and extreme temperature adaptability from -40°C to 125°C – covering all climate scenarios in the Chinese market. The product maintains the cost-effectiveness and reliability of lead-acid batteries while fully meeting the complex electrical requirements of new energy vehicles.

To address the high continuity requirements of 12V power supply in new energy vehicles, the product complies with Functional Safety Level Asil B by default and can be upgraded to Level Asil C based on customer needs, ensuring stable power supply for safety-critical components such as radars and cameras in intelligent assisted parking scenarios.

In addition, the software is entirely developed by the local team, shortening development cycles and allowing rapid adaptation to customer project changes. The modular design enables flexible integration within the engine compartment, while optimizing wiring harness and bolt options simplify grounding and significantly reduce integration complexity for OEMs.

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