



# PRODUCT INFORMATION

## BATTERY MANAGEMENT SYSTEM (BMS)

- First integrated HV BMS system solution launched in 2016 with Mercedes Benz
- 10 years' experience of overall system design
- 1.2M vehicles in field without major issues up to 5 customer
- Safety standards and processes proven up to ASIL D on system level
- Dedicated innovation team

## PRODUCT FEATURES

HELLA battery electronics ensure the safe and reliable function of Lithium-Ion batteries for full hybrid and electric vehicles. The highly efficient Battery Management System can be provided as an integrated single-source system solution or as standalone components. All components are well matched to ensure maximum performance.

The modular and scalable design offers the required degree of variability to ensure an optimal integration of the battery management system to various battery architectures.

- For full-hybrid and electric vehicles
- Ensuring the safe and reliable function of Lithium-Ion batteries
- Monitoring of voltage, temperature and current

### Advantages

- Complete Battery Management System including electronics from one supplier
- Maximum performance in terms of cost, battery life-time, extended range and safety
- Easy integration of customer applications through AUTOSAR software approach (model-based development)
- Modular scalable design with high degree of variability

# BATTERY MANAGEMENT SYSTEM

A Battery Management System (BMS) is an electronic system that supervises and controls rechargeable battery packs, acting as a smart guardian to ensure safety, optimize performance, and extend lifespan by monitoring voltage, current, temperature, balancing cells, and preventing unsafe conditions like overcharging or overheating. It's crucial for devices like EVs, solar storage, and portable electronics, providing vital data (like State of Charge/Health) and managing charge/discharge cycles.

## Key Functions:

- Protection: Prevents damage from over-voltage, under-voltage, over-current, extreme temperatures, and short circuits, often by disconnecting the battery.
- Monitoring: Tracks voltage, current, and temperature across individual cells and the pack.
- Cell Balancing: Ensures all cells charge and discharge evenly for maximum capacity and longevity.
- State Estimation: Calculates critical metrics like State of Charge (SOC - remaining energy) and State of Health (SOH - overall battery health).
- Communication: Reports data and status to the user or other system components.

## What does HELLA offer?

**Premium Technical Expertise and Service:** Our technical repair shop service, being provided through our experts, is rounding off our technical service. In addition to Tech World, our Partner World offers targeted content for wholesalers, helping them to better serve their customers.

**Target-oriented Marketing Services:** Entire communication to market and supporting the W/D with a powerful communication package.

**Vast Data Management Services:** HELLA's sophisticated data management services allow for precise and efficient parts identification, ensuring that wholesalers and workshops can quickly find the right parts.

**Tailormade Logistic Solutions:** Our logistics are designed to meet the specific needs of our partners, ensuring timely and reliable delivery of products.

Discover the **HELLA Electronic range** by following the link above. This comprehensive portfolio offers advanced automotive electronics for all stages of vehicle electrification, from intelligent battery sensors for micro-hybrids to high-voltage battery management systems for fully electric vehicles. Our selection includes various sensors (brake, climate, rain/light, and transmission range), actuators, power electronics (DC/DC converters and onboard chargers), control units, vacuum pumps, radar systems, and smart vehicle access solutions. HELLA is committed to providing innovative and reliable electronic components that enhance the performance, safety, and efficiency of modern vehicles.

Discover the entire range by scanning the QR code.



Product features, specifications and availability are subject to change without notice.

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