

High-voltage battery diagnostics with the mega macs

- Hella Gutmann Solutions is taking a dual-track approach to the increasingly important field of high-voltage battery diagnostics
- HV battery diagnostics 'Basic': possible as part of the e-mobility functions of the mega macs diagnostic devices
- HV battery diagnostics 'Pro': for objective and certified determination of the State of Health (SoH) under development

The high-voltage battery is considered the heart and most expensive component of a battery electric vehicle (BEV). Crucial factors such as performance, range and overall value of the vehicle are directly dependent on the capacity of the lithium-ion drive battery. The power packs, made up of up to 120 battery cells, are part of the e-vehicle underbody and are not easily replaceable. Thus, knowledge of their state of health (SoH) is of significant interest to retailers, workshops, insurers, banks, fleet operators and, last but not least, vehicle owners.

With the 'Basic' battery diagnosis and the certified 'Pro' battery diagnosis, Hella Gutmann is pursuing two solutions for the different requirements of the interest groups. The 'Basic' evaluation of the SoH by reading out the vehicle's internal parameters gives garages the opportunity to quickly make a statement on the condition of the high-voltage storage unit, for example, as part of their service. The parameters defined in the battery management system by the respective vehicle manufacturer, such as cell voltages, cell resistances and SoH, provide information for detecting low-power cells. They also form an excellent basis for good customer advisory services, for example with regard to optimum usage behavior and maintaining the value of a vehicle. HV battery diagnostics 'Basic' can be carried out in a few minutes with the latest mega macs devices from software version 67 as part of the e-mobility functions.

Press release

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In addition, to enable an assessment of the SoH independent of manufacturer definitions and thereby objective vehicle evaluation, Hella Gutmann is developing the HV battery diagnosis 'Pro' in cooperation with Battery Quick Check GmbH, a joint venture of TÜV Rheinland and TWAICE Technologies GmbH. The pool of expertise incorporates the partners' expertise in vehicle data, energy storage analysis algorithms and certified data processing. Unlike existing solutions on the market, Hella Gutmann and its partners do not rely on time-consuming battery strains while driving. Instead, software-controlled strains are carried out via the mega macs X diagnostic device and wallbox during the charging process. Recorded measured values are evaluated algorithmically. HV battery diagnostics 'Pro' can therefore be carried out stationary.

Evaluation by proven analysis algorithms provides objective facts on the actual SoH of the high-voltage battery and also allows a conclusion to be drawn about previous usage behavior. This is an important point, because the occurrence of rapid charges or deep discharges significantly accelerates the aging process of a lithium-ion battery. A certificate from TÜV Rheinland documents the manufacturer-independent condition assessment of the high-voltage battery and forms the watertight basis for expert reports and vehicle evaluations. The market launch of the Pro' HV battery diagnostics is planned in Germany before the end of 2022, following completion of a field test.

Note: This text and corresponding photo material can also be found in our press database at: www.hella-gutmann.com/de/hella-gutmann/presse/ or <https://www.hella.com/hella-com/en/Press-7633.html>

Hella Gutmann Solutions GmbH, Ihringen: The company has about 500 employees, is headquartered in Ihringen/Breisach, Germany, and belongs to the Hella Gutmann Group, which is a corporation of HELLA GmbH & Co. KGaA. The product portfolio focuses on professional equipment for auto repair shops, car dealerships, and vehicle testing organizations. Core products are data, the software, devices and tools for diagnostics, exhaust emission tests, headlight adjustment, system checks as well as the corresponding measuring technology. About 45,000 automotive companies in 24 countries work with the equipment and professional expertise of Hella Gutmann Solutions every day. They benefit from the high German quality standards and customer-oriented services such as the Technical Help Line, technical training, technical data, and sales & marketing support.

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