



Steering Systems USA: HELLA presents steering and brake systems for autonomous and electric driving in the U.S.

- **Steering systems and steering angle sensors with CIPOS® technology suitable for autonomous driving**
- **Motor position sensors and integrated braking solutions designed for electric vehicles**
- **CIPOS® technology as a crucial element in the world of electromobility and driverless driving**

Lippstadt, June 21, 2018. HELLA, the lighting and electronics specialist, is presenting state-of-the-art steering and braking solutions at the Steering Systems USA in Detroit. The specialty summit brings European and American electronics and steering professionals together to promote autonomous driving, energy efficiency and electrification. HELLA is a leading provider of steering control modules with more than 22 million in the current market and supplies products to five leading steering system suppliers.

Steering control modules not only facilitate vehicle maneuvering and improve fuel efficiency but also lay the foundation for implementing various functions of automated driving, such as lane keeping assistance and automated parking. At the conference, HELLA is showcasing steering control modules as fail-safe or fail-operational. This means that in the event of a fault in the electronics, the system will be able to continue safe operations, making the steering control module suitable for level 4 automated driving, a condition which the Society of Automotive Engineers (SAE) defines as being able to operate under certain conditions without any form of human intervention.

HELLA also is displaying the latest generation of its well-known steering angle sensor, Torque and Angle Sensor (TAS). These sensors, based on Contactless Inductive Position Sensor (CIPOS®) technology, measure the torque and angle of the steering wheel with high accuracy. As a result, they are a major factor in the move toward driverless driving. Data from the sensors is already being used by the lane keeping assist function, which, semi-autonomously, can keep a car in the correct lane by means



of automatic steering impulses sent to the driver. This also ensures the necessary redundancy for more complex future autonomous driving functions.

In addition, the company also is taking a step forward in the area of electrification and will exhibit its new Motor Position Sensors (MPS) as an efficient alternative to resolver or magnetic sensors for Brushless Direct-Current (BLDC) or Permanent Magnet Synchronous Motor (PSMS). The MPS, which are smaller and lighter than resolver solutions, provide feedback about the motor position to the engine control.

In the field of electrohydraulic brake systems, which are increasingly required for electrically-powered vehicles, HELLA is showing an integrated braking solution for the first time in the U.S. It is a compact and reliable solution where the engine and pedal travel sensors are integrated in a housing with two separate circuit boards. This results in a reduction of interfaces (ASICs) and plug connections compared to the use of two individual sensors.

All sensor solutions from HELLA are developed in accordance with the ISO norm for functional safety of electrical / electronic systems in vehicles (ISO26262) and are compatible with automotive requirements up to ASIL D. In addition, all mentioned sensors are based on the CIPOS® technology, which is a key technology for electromobility and autonomous driving. The technology's electromagnetic compatibility (EMC) ensures robust data transmission, a feature which is particularly relevant for electric vehicles, given the very high currents required. It also is resistant to vibration, humidity, contamination and extreme temperatures ranging from minus 40° C to over 170 °C, allowing it to be used in all vehicle applications. Thanks to CIPOS® technology, all HELLA sensors can be flexibly adapted to suit individual customer requirements in terms of dimensions, type (through-hole, shaft end or segment sensor) and number of pole pairs.

PRESS RELEASE



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