

Sensors for position measurement

Suspended-pedal sensor

Hella position sensors using CIPOS technology

An important task of sensor systems in today's vehicles is to determine positions. The wide range of mechatronic systems used in modern vehicles requires position sensors both for reporting the drivers' intentions (measurement of reference values) and determining the state of the engine or vehicle (measurement of actual values).

Alongside established potentiometer technology, Hella also supplies its in-house development, the contactless sensor concept CIPOS (Contactless Inductive Position Sensor). It has been in series production since 1999 and has already proven itself millions of times over. In addition to its insensitivity toward temperature and mechanical tolerances, which is a direct result of its working principle, the straightforward design of the sensor concept is a major advantage of CIPOS. It allows the sensors to be integrated easily and thus implemented economically in the overall application.

Suspended-pedal sensor



Pedal sensors are used to determine pedal position and produce pedal characteristics. Hella was the first manufacturer to develop integrated electronic pedal sensors for diesel and gasoline engines, which are used in passenger cars equipped with drive-by-wire systems, as well as in electric vehicles. The pedal sensors have been designed in such a way that the pedal, the generation of pedal force and the signal generation are combined in one modular unit.

Highlights

- Mechanical design can be adapted to customer requirements
- Customer-specific pedal force with distinct hysteresis
- Redundant return force
- Optional kick-down function
- High electromagnetic compatibility
- In series production since 1999

Electrical data	
Voltage supply	5 V oder VBat
Current consumption	≤15 mA per channel
Output signal	analog, PWM and digital switching signals
Characteristic curve	programmable plateau ranges and signal gradient
Accuracy	linearity and synchronism ≤1 % over service-life and temperature
Resolution	10 bit
EMC	meets all the usual automotive requirements

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