

# Sensors for position measurement

## Suspended-pedal sensor with potentiometer

### Hella position sensors using CIPOS technology

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

Alongside the in-house development, the contactless sensor concept CIPOS (Contactless Inductive Position Sensor), Hella also uses established potentiometer technology. This has been in series production since 1996 and has already proven itself millions of times over. As well as the low costs involved, the straightforward design of the sensor concept is a major advantage of the potentiometer. 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

- Economic and highly reliable concept
- Compact design
- Mechanical design can be adapted to customer requirements
- Customer-specific pedal force with distinct hysteresis
- Redundant return force
- Optional kick-down function
- Robust in relation to environmental influences
- In series production since 1996

Electrical data	
Voltage supply	5 V
Current consumption	1–10 mA per channel
Output signal	analog and digital switching signals
Characteristic curve	freely selectable plateau ranges
Accuracy	linearity and synchronism $\leq 1.5\%$ over service-life and temperature

#### Contact

Hella KGaA Hueck & Co.  
Heinrich Berglar

Rixbecker Str. 75  
59552 Lippstadt, Germany

Phone: +49(0)2941 38-87 85  
Fax: +49(0)2941 38-29 14

E-mail: Heinrich.Berglar@hella.com  
Internet: www.hella.com

