

Sensors for position measurement

Steering-angle sensor (steering speed)

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 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.

Steering-angle sensor

Steering-angle sensors measure the angle and/or the speed of the steering-wheel angle. Hella has been manufacturing relative measurement steering-angle sensors in series production since 2001 in electro-hydraulic steering systems.



Highlights

- Robust, temperature-resistant sensor behavior
- Adaptable to individual installation conditions

Mechanical data	
Dimensions	71 mm x 56 mm x 37 mm
Dimensions of rotor	Ø 39 mm x 7 mm
Rotor	punched bent parts made of stainless steel for pressing in place on the steering shaft
Installation location	engine compartment: inserted in the steering gear
Operating temperature	-40 °C to +125 °C
Measuring range	output signal repeats every 60°

Electrical data	
Voltage supply	5 V or VBat
Current consumption	<10 mA per channel
Output signal	PWM with programmable frequency
Accuracy	≤2 % versus full scale over service-life and temperature
Resolution	10 bit
EMC	meets all the usual automotive requirements