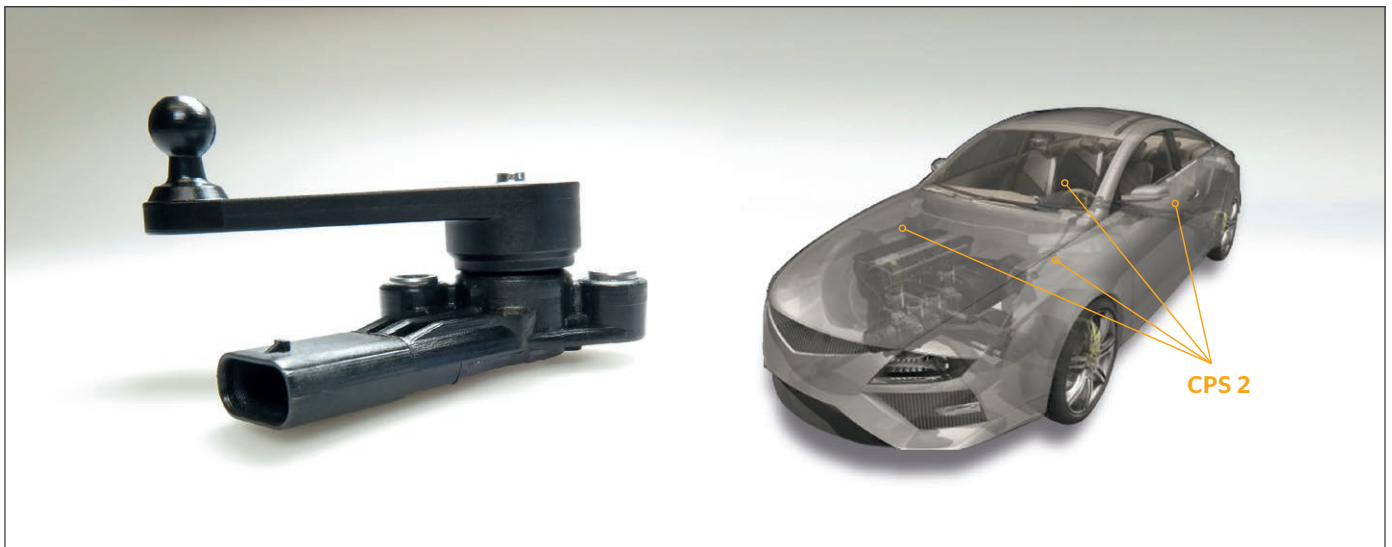


Chassis Position Sensor

CPS 2



General Description

The CPS 2 is an angular sensor developed by Continental, following the first generation of CPS with first SOP end of 2017. This sensor has a cost optimized and lean design which combines the experience and knowledge from our previous Ride Height and Pedal Angle Sensors.

The design is very robust because the electronics are fully separated from the mechanical functions. Thus the sensor is sealed from any possible environmental damage.

The angular Hall IC allows a full 360° measurement range which is programmable according to customer requirements, e.g. 4 x 90°, 3 x 120°, etc.

The signal can be analog with PWM or PSI5 output. Especially, the PSI5 option covers high safety requirements and special features (internal calculation of angular speed).

The standard version of the CPS sensor is equipped with a directly attached 3-pin MLK connector, but in case of space restrictions a different connector type or lever design is possible as well.

Application

The CPS is primarily used for measuring the movement of the wheels/axle in relation to the chassis. This principle can be used for chassis control systems, active damping control and head-lamp leveling.

Key Features

- › Hall-Principle (angular)
- › Measuring range: Standard 4 x 90°
- › Customer specific 360° programmable
Resolution 12bit/90°
- › Free programmable offset
- › 2 threaded bushings
- › Qualified for automotive systems
- › Safety compliance: ASIL A
- › Electrical interfaces: analog, PWM or PSI5 (v2.1 and v1.3)

Chassis Control Applications

- › Headlight leveling according to ECE regulations
- › Advanced front lighting (AFL) systems
- › Ride height control
- › Active suspension systems
- › Inclination and pitch control

Performance Characteristics

› Sensor type	CPS 2
› Measurement range	Programmable
› Offset	Programmable
› Sensitivity	Programmable
› Output range for analog	0,5 V - 4,5 V
› Offset error (total error)	± 2 %

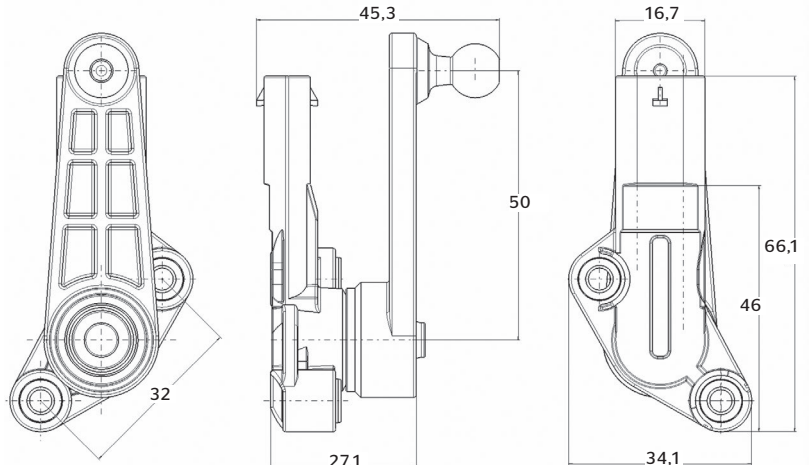
Mechanical Characteristics

› Case material	PBT + 30 % GF HR
› Weight	< 25 g
› Protection class	IP6K9K (with mating connector mounted)
› Mounting method	Fixed with 2 x M5 screws
› Connector type	3 pin TYCO MLK Terminals SN, 0,63 x 1,2 mm
› Length with connector	66,0 mm
› Height	45,3 mm
› Height without ball joint	27,2 mm
› Width	34,1 mm
› Distance fixtures	32,0 mm

Electrical Characteristics

Parameter	Min.	Typ.	Max.
› Supply voltage*	4,7 V	5 V	5,25 V
› Supply current*			15 mA
› Operating temperature	-40 °C		+125 °C
› Overvoltage			18 V
› Reverse polarity*			16 V

*According to
PSI5 standard,
V1.33



Exemplary illustration of a vehicle installation

Additional Information

Directive 2000/53/EC

The CPS sensor complies with the requirements of the Directive 2000/53/EC which specifies the use of lead and other hazardous substances in electrical components and modules for automotive applications.

Mounting Position

The CPS fulfills the requirements resulting from a mounting in the wheel house, e. g. high temperature, mechanical vibration, ice water.