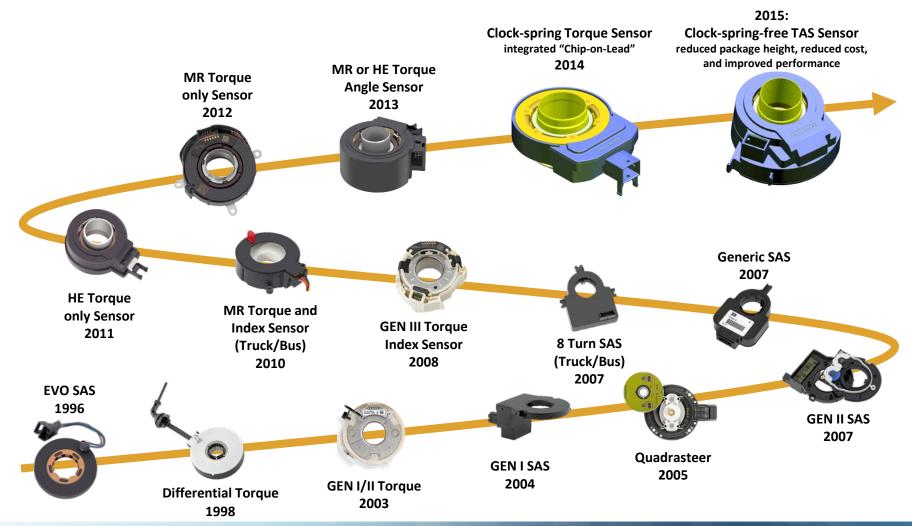
# Product Focus Steering and Stability Control Sensors

**BOURNS**<sup>®</sup> Automotive Division

## **Steering and Stability Control**



## **Product Evolution Steering Sensors**



### **Bourns Torque Sensor Testimonials!**



"The electric power steering that all Accord models now have ......behaves as electric systems should, with a mostly linear weighting, a good sense of center, and a sense of the road surface and the cornering loads. It also has a nice natural feel, and Honda points to a non-contact torque sensor as one of the keys to this."

The Car Connection, Honda Accord 2013, B. Halvorson, Sep 12<sup>th</sup>, 2012

"Let's be clear. This is the best electric power steering ever installed in a production car. And as such, it sets a new standard that every other manufacturer will be chasing. The new 911 reacts to driver inputs quickly, better than the 996 and about the same as the 997".

Edmunds Online, 2012 Porsche 911 Carrera S Road Test, Nov 28th, 2011





2012 Porsche 911 Carrera

"On the road, the Cadillac ATS proved well planted and responsive. Its electric power steering delivered a solid sense of the road with just the right level of assistance."

Autocar, First Drive: Cadillac ATS, Paul A. Eisenstein, Jul 20<sup>th</sup>, 2012

## Steering Angle Sensors for Passenger Cars and Commercial Vehicles



#### **Application:**

Steering Angle Sensors provide the steering angle/steering position and the steering/angular speed for systems like ESP, AFS, AFLS and park assist. Features AMR or GMR sensing technology, true-power-on, and is a multiturn product (up to ±4 turns). ASIL compliant, utilizes CAN output (SENT in development) or raw signal output. Standalone versions are available for steering columns or CEAs (column electrical assemblies); clockspring module mounted/integrated, low profile housing for clockspring snap-on.

## **Differential Non-Contacting Angle Sensor**



#### <u>Available with Index Measurement</u>

Hall based switch and magnet provide index function



#### **Application:**

A differential non-contacting angle sensor is used as the torque sensor in electric power steering, active steering and park assist. A combo sensor steering-torque is a differential non-contacting angle sensor combined with a steering angle sensor.

## **Motor Position Sensor** (Electric Power Assisted Steering = EPAS)



#### **Application:**

Features EPAS motor position, electronic differential position, electronic integrated transfer case, electronically actuated clutch, compliant steer position feedback. The non-contacting angle sensor in the EPS motor cap has been supplied since 2006. Used in conjunction with the torque sensor to provide steering angle.

## Chassis Level Sensor for Passenger Cars and Commercial Vehicles



#### **Application:**

Dynamic headlamp level adjustment, AFLS headlamp adjustment, air suspension positional feedback, continuous electronic damping control, tilting vehicle applications for invalid access, lifting axle position detection, vehicle and trailer load ride height position; non-contacting (wear-free, MR or x-axis-hall) technology.

## New Products – Linear Sensors Linear Sensing Applications – Non-Contacting Technology

Transmission sensor for neutral gear position detection start/stop applications (digital or analog 1D/2D)

Neutral and reverse gear detection (start/stop and reverse light activation) (digital or analog)

Lever position sensor for automated transmission gearbox

Park position detection sensor for automated and semi-automated gearbox applications (digital or analog 2D) Gear position detection sensor up to 50 mm for automated and semi-automated gearbox applications (digital or analog 1D)