Product Focus
Steering and Stability Control Sensors
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Product Evolution Steering Sensors

- **1996**: EVO SAS
- **1998**: Differential Torque
- **2003**: GEN I/II Torque
- **2004**: GEN I SAS
- **2005**: Quadrasteer
- **2007**: Generic SAS
- **2008**: GEN III Torque
- **2009**: 8 Turn SAS
- **2010**: MR Torque and Index Sensor (Truck/Bus)
- **2011**: MR Torque only Sensor
- **2012**: MR or HE Torque Angle Sensor
- **2013**: GEN II SAS
- **2014**: Clock-spring Torque Sensor integrated “Chip-on-Lead”
- **2015**: Clock-spring-free TAS Sensor reduced package height, reduced cost, and improved performance

- **2015**: Clock-spring-free TAS Sensor reduced package height, reduced cost, and improved performance
“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 12th, 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_

“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 20th, 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

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.

Available with Index Measurement
Hall based switch and magnet provide index function.
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)