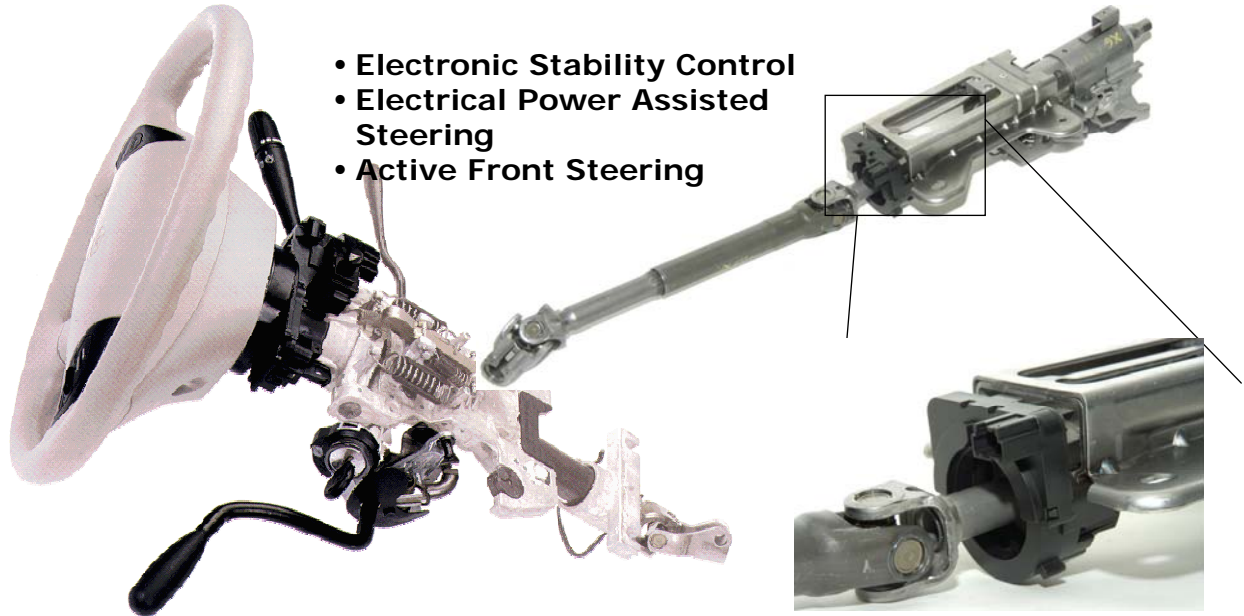




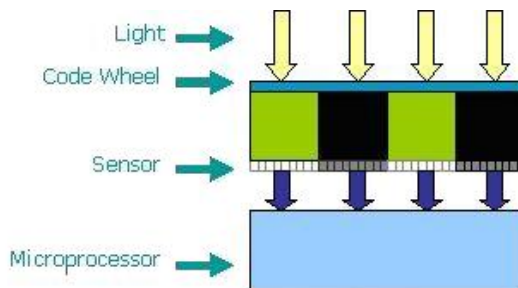
STEERING ANGLE SENSOR For Automotive Applications



- **Electronic Stability Control**
- **Electrical Power Assisted Steering**
- **Active Front Steering**

Features and Functional description

Methode's novel Steering Angle Sensor (SAS) measures steering wheel angle and velocity through the entire range of the steering wheel. By merging Optical and magnetic principles with underlying advanced software Methode has developed an intelligent mechatronic device which can determine the angular position of the steering column shaft immediately upon "wake-up".



Product Highlights

Non-Contact Technology

- High Resolution Measurement
- $\pm 1080^\circ$ Measurement Capability
- Small & Flexible Package Size
- Low Torque and Noise



Performance Specification

Sensor Ratings

Storage Temperature Range	40 to 125 °C
Operating Temperature Range	-40 to 85 °C
Response time.....	< 10 ms
Rotational Speed	2500 °/s (333 RPM)

Angle Sensor Sensitivity

Resolution.....	0.10 ° *
Accuracy.....	± 1.5° *

Standard Signal Outputs

CAN, LIN or PWM

Mechanical

Turning Torque.....	Less than 80 mN*m
Number of Turns.....	± 3
Runout.....	Less than 1.00 mm
Axial Deviation.....	Less than 0.75 mm
Acoustic Noise.....	< 30 dBA

Environmental

Operating Temperature.....	-40 to + 85° C
Operating Humidity.....	0 to 95% RH
Dust.....	SAE J1211
Salt Fog.....	SAE J1211
Mixed Flow Gas.....	SAE J1211
Thermal Shock.....	SAE J1211

EMC

Ignition Line Transients (ISO 7637)

Load Dump.....	SAE J1113
Double Battery.....	+24 V
Dips, Drops, Ramps.....	SAE J1113
Dropouts.....	SAE J1113

RFI

Radiated Emissions.....	SAE J1113
Conducted Emissions.....	SAE J1113
Radiated Immunity.....	SAE J1113
Conducted Immunity.....	SAE J1113

ESD

Connector Pin Discharge.....	+/- 15 kV
Occupant Contact Area	+/- 12 kV