

AUTOMOTIVE SENSORS

TE sensors have become an integral part of many modern vehicle architectures, or nervous systems. Our sensor technologies for passenger cars provide data for control, adaptation, and response of vehicle functions and features that make vehicles safer, greener and more connected.









BRAKE SENSORS



Brake Cylinder Position Sensor

Industry	Passenger car
Application	Regenerative braking
Functions	Measuring piston position of brake master cylinder
Technology	Active PLCD (Moving magnet)
Features	 Non-contact travel measurement through cylinder wall Optional redundancy



Brake Light Sensor

Passenger car

Pedal box

Measuring brake pedal position

Hall switch (Magnet integrated in sensor)

 Easy adjustment to brake pedal
 High switching point accuracy
 No wear and tear

• Two and three wire interface available



Brake Light Sensor (Self-Adjusting Features)

Passenger car

Pedal box

Measuring brake pedal position

Hall switch (Magnet integrated in sensor)

- Easy adjustment to brake pedal (Selfadjusting features)
- High switching point accuracy
- Redundancy



Wheel Speed Sensor (Option 1)

- Truck / Passenger car
- Anti-lock brake system
 - Wheel speed detection

Hall (Magnet integrated in sensor)

- Long life time and high reliability
- Compact size and comparative price
- Flexible design depending
- on customer requirements • Non-contact hall sensor
- Rapid response time
- Tone wheel detection

Wheel Speed Sensor (Option 2)

- Truck / Passenger car
- Anti-lock brake system
- Wheel speed detection

Hall (Magnet integrated in sensor)

- Long life time and
- high reliability
- Compact size and comparative price
- Flexible design depending
- on customer requirements
- Non-contact hall sensor
- Rapid response time
- Tone wheel detection



CHASSIS SENSORS

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	Hall Switch Cable Assemblies	Seat Track Position Sensor (Option 1)	FIS/Z-FIS Front Impact Sensor	P-SIS Side Impact Sensor	Weight Sensor	MEAS H2TG / H2TD Series	MEAS Ni1000ST
Industry	Passenger car	Passenger car	Passenger car	Passenger car	Passenger car	Passenger car	Passenger car
Application	Convertible roof systems	Dual staged airbag	Front impact detection	Side impact detection	Passenger detection	Anti-fogging and HVACR	Engine oil and transmission oil temperature
Functions	Digital position detection	Measuring seat track position	Measuring acceleration data for front impact detection	Measuring the quick increase of pressure within cavities of passenger car door to determine the airbag deployment	Measuring seat weight to classify passenger for airbag deployment	Dewpoint and windshield temperature measurement	Thermal compensation, thermal management
Technology	Hall switch (Magnet integrated in sensor)	Hall switch (Magnet integrated in sensor)	MEMS	MEMS	Strain gage technology	Humidity sensor	Temperature sensor
Features	• Variety of cable assembly with integrated hall switches	 Triggered by seat track (= no moving magnet) Current interface Small geometry Diagnostics ability due to two-wire interface 	 Small package and robust design PS15-A data transmission mode 	 Small package and robust design PAS4 data transmission mode 	 High resolution of weight Very small package (Integration to seat track) Sensor array with ECU for in system calibration Mechanical overload protection Very robust design 	 Electronics fully protected with potting material Analog or digital (LIN) output Cost effective solution 	 Harsh environment compatible Very small dimensions Very short response time Good linearity High temperature coefficient Low power consumption

CLUTCH SENSORS





Clutch Position Sensor (Option 1) Passenger car

Cruise control, engine management, interlock, electrical park brake Measuring piston position of clutch master cylinder

Hall (Moving magnet)

 Non-contact measurement through cylinder wall • Up to three switching points or travel

measurement up to 40 mm



Clutch Position Sensor (Option 3)

Passenger car Automated Manual

Transmission (AMT)

Measuring piston position of concentric slave cylinder inside the gearbox

Passive PLCD (Moving magnet)

• Non-contact travel measurement

• Signal processing in transmission controller

- Robust design (Temperatures up to 160°C)



Clutch Position Sensor (Option 4)

Passenger car Automated Manual Transmission (AMT)

Measuring piston position of concentric slave cylinder

Passive PLCD (Moving magnet)

- Non-contact travel measurement Short term peak
- (Temperatures up to 150°C)

Clutch Position

Sensor (Option 5)

Passenger car

Automated Manual Transmission (AMT)

Measuring piston position of concentric slave cylinder inside the gearbox

Passive PLCD (Moving magnet)

- Non-contact travel measurement
- Robust design (Temperatures
- up to 160°C)
- Signal processing in transmission controller

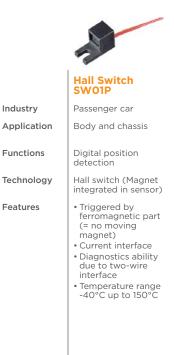
AUTOMOTIVE SENSORS

PLATFORM SENSORS

Industry

Functions

Features





Hall Sensor

Truck / Passenger car

Engine, transmission.

clutch, chassis, brake

Hall (Moving magnet)

Measuring travel

• Non-contact

measurement

up to 40 mm

to vibration

Temperature

up to 150°C

interface

• Supply 5 V

• Analog or PWM

Small geometry

(Optional 12 V)

• 4-way MCON

Optional redundancy

connector interface

Highly insensitive

position

T40MC2

Passenger car Transmission chassis, engine

Measuring travel or angle position

Active PLCD (Moving magnet)

- Angle up to 120° • Highly insensitive to vibration
- Temperature
- up to 150°C Redundancy possible
- Analog or PWM interface
- Supply 5 V (Optional 12 V)
- 4-way MQS
- connector sealed
- Wide range of magnet design



PLCD-25M

clutch, steering, engine

Passenger car

Transmission brake

Measuring travel or angle position

Active PLCD (Moving magnet)

Measuring range

- 15-28 mm • Highly insensitive
- to vibration Temperature
- up to 150°C Redundancy possible
- Analog or PWM interface
 - Supply 5 V
 - (Optional 12 V)
 - 4-way MQS sealed • Wide range of
 - magnet design



PLCD-50M

Passenger car

Transmission, brake

Measuring travel

or angle position

(Moving magnet)

• Angle up to 120°

Highly insensitive

Redundancy possible

to vibration

• Temperature

up to 150°C

interface

Analog or PWM

• Supply 5 V (Optional 12 V)

• Wide range of

magnet design

connector sealed

• 4-way MQS

Active PLCD

clutch, steering, engine

Speed Sensor

Passenger car

Transmission

Measuring gear speed

- Hall (With integrated magnet)
- Triggered by ferromagnetic gear wheel
- Current interface with direction detection
- Sealed connector interface
 - Diagnostics ability due to two-wire interface
 - IP6K9
 - Temperature range -40°C up to 150°C

TRANSMISSION SENSORS

