

Sense the power of light

ams OSRAM

Customer Success Stories In Transportation

How to boost your business with ams OSRAM Solutions

Innovation meets EV safety

Smoke detection for battery packs within EVs - IR Low Power



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Background

The customer offers high-performance lithium battery packs, motors, and power system controllers for electric vehicles. The **long-term safety** of all the products has highest priority. To ensure highest safety, the company uses **smoke detectors in combination with their lithium battery packs**, to enable customers to quickly react in case of emergencies.



Customer Challenge

- Pre-alarm for smoke development at the battery is very important
- High reliability components needed since it's for human safety
- Many suppliers only offer emitters or sensors, not both

Solution

- High performance LEDs and sensors from ams Osram
- 940nm emitter with 30° optical angle
- Sensor with big chip for strong and sensitive signal
- Sensor with AEC-Q102, highest reliability

Benefits

- ams Osram as single source supplier for emitters and sensors
- Strong signal for the sensor with low noise
- Very compact size for space saving in the design

Products



OSRAM Power TOPLED® Lens
SFH 4248



OSRAM DILSMT
BPW 34 FS

Innovation meets brake booster

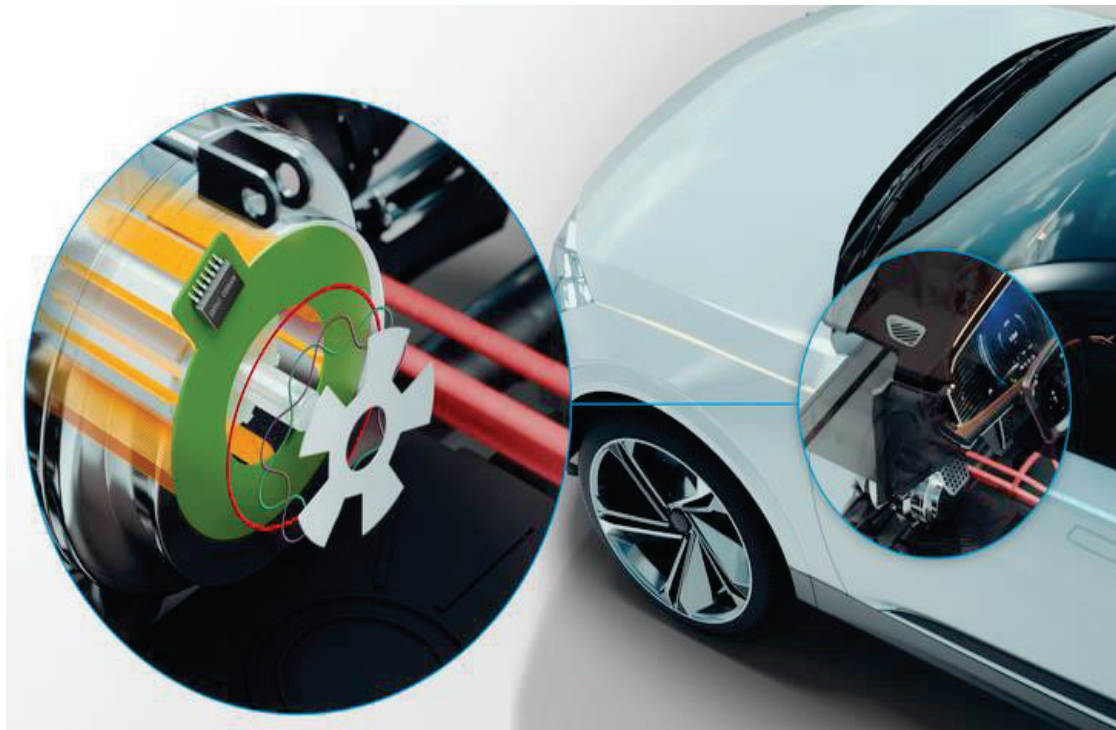
Angle position sensing in high performance electronic brake systems – Inductive Position Sensor



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Background

Numerous brake-by-wire systems on the market have included the ams OSRAM AS5715R inductive Position Sensor for many years, which ensures **safe and environmentally conscious driving**. The modules are exposed to harshest environments and need to match **stringent automotive requirements and safety standards**.



Customer Challenge

- Accuracy
- Reliability
- Replacing legacy resolver solution

Solution

- Flexible system design (on shaft, through shaft, side shaft...)
- ISO26262: ASIL C(D); AEC Q-100 Grade 0 qualified
- High system accuracy; -40°C to 160°C
- Enables high speed applications up to 480000 rpm

Benefits

- Competitive price with better quality
- Stray field immunity, outperforming ISO11452-8
- Higher accuracy
- Dual die design reduces system cost

Products



ams Inductive Position Sensor
AS5715R

Innovation meets Steering Wheel

Hands on detection – Capacitive Sensor



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Background

The customer provides diversified products portfolios, including Seat Belt Reminder, Occupant Classification System, Hands Off Detection, and much more. With **high quality sensors** included in their products, they ensure **maximized safety for drivers and passengers** in cars.



Customer Challenge

- Multizone detection is mandatory for L3 automated driving
- Many suppliers offer capacitive only, which may cause electro-magnetic environment (EMC) issues

Solution

- ams Osram's part is specifically designed to function in an environment with high magnetic disturbances
- Designed according functional safety standard

Benefits

- Immune to external field from steering wheel heating
- Multi sense pins can easily achieve multi-zone Hands on detection function

Products



ams Capacitive Sensor
AS8579

Innovation meets 2-wheeler EV

Motor encoder for E-Scooter – High Speed Position Sensor



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Background

The customer is engaged in designing, developing and manufacturing the Traction Motor and Controller for the emerging 2 & 3 – Wheelers Electric Vehicle (EV) market.



Customer Challenge

- High accuracy and performance required
- Hall effect sensors can't deliver the desired performance

Solution

- High-resolution rotary position sensor for high speed (up to 28krpm) angle measurement over a full 360-degree range
- Developed per ISO 26262 SEooC
- Immune to external stray magnetic field

Benefits

- High resolution for motor and position control
- Enables ASIL-x system safety level compliance
- Fully technical support from ams OSRAM

Products



ams High Speed Position Sensor
AS5147P

Innovation meets Air Suspension

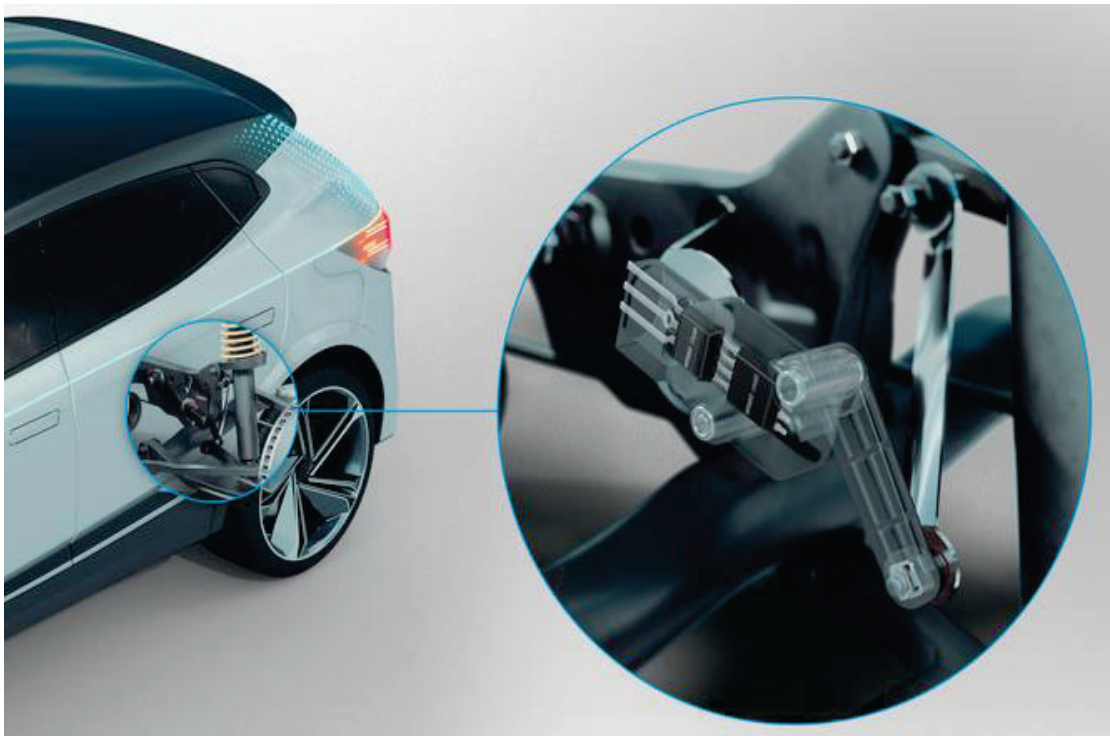
Chassis Position Measurement – High-Resolution Rotary Position Sensor



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Background

The customer is a supplier with CAE \ Test \ Algorithm engineering in automotive development, lab solution and new perceptive technology area.



Customer Challenge

- Limited design space
- Accuracy
- Higher system cost

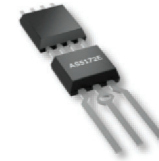
Solution

- 12-bit PSI5 output according PSI5 spec. version 1.3 and 2.1
- SIP Package
- Magnetic stray field immunity

Benefits

- System cost reduction – no PCB and additional components are needed
- AEC-Q100 Grade 1 qualified
- Resolve small angular excursion with high accuracy

Products



ams High-Resolution Position Sensor
AS5172E

Innovation meets Lighting for Transportation

Full efficiency for agricultural machinery



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Background

For over 45 years, this customer has focused on the development and production of pioneering lighting for a wide range of vehicles. They have developed a front light/daytime running light and turn indicator light for agricultural machinery/tractors that **does not require an automotive qualification**, helping farmers to transform their equipment into **smarter, more efficient** machines.



Customer Challenge

- Cost optimized lighting solution
- Withstand harsh environmental conditions
- Small size for small secondary optics for easy integration

Solution

- SYNIOS® S2222 with square package with 2mm outline for narrow clustering
- Improved corrosion robustness for unparalleled performance
- Centralized chip allows an easy integration into optical systems

Benefits

- Luminous efficiency: 189 lm/W @ 4000 K @ 100 mA
- Corrosion robustness Class: 3B (40°C / 90 % RH / 15 ppm H2S)
- Wide color range 2700K – 6500K & color versions B, T, Y, R, S,
- Long term availability of MIL industry products

Products



SYNIOS® S2222
White / Yellow

am  OSRAM