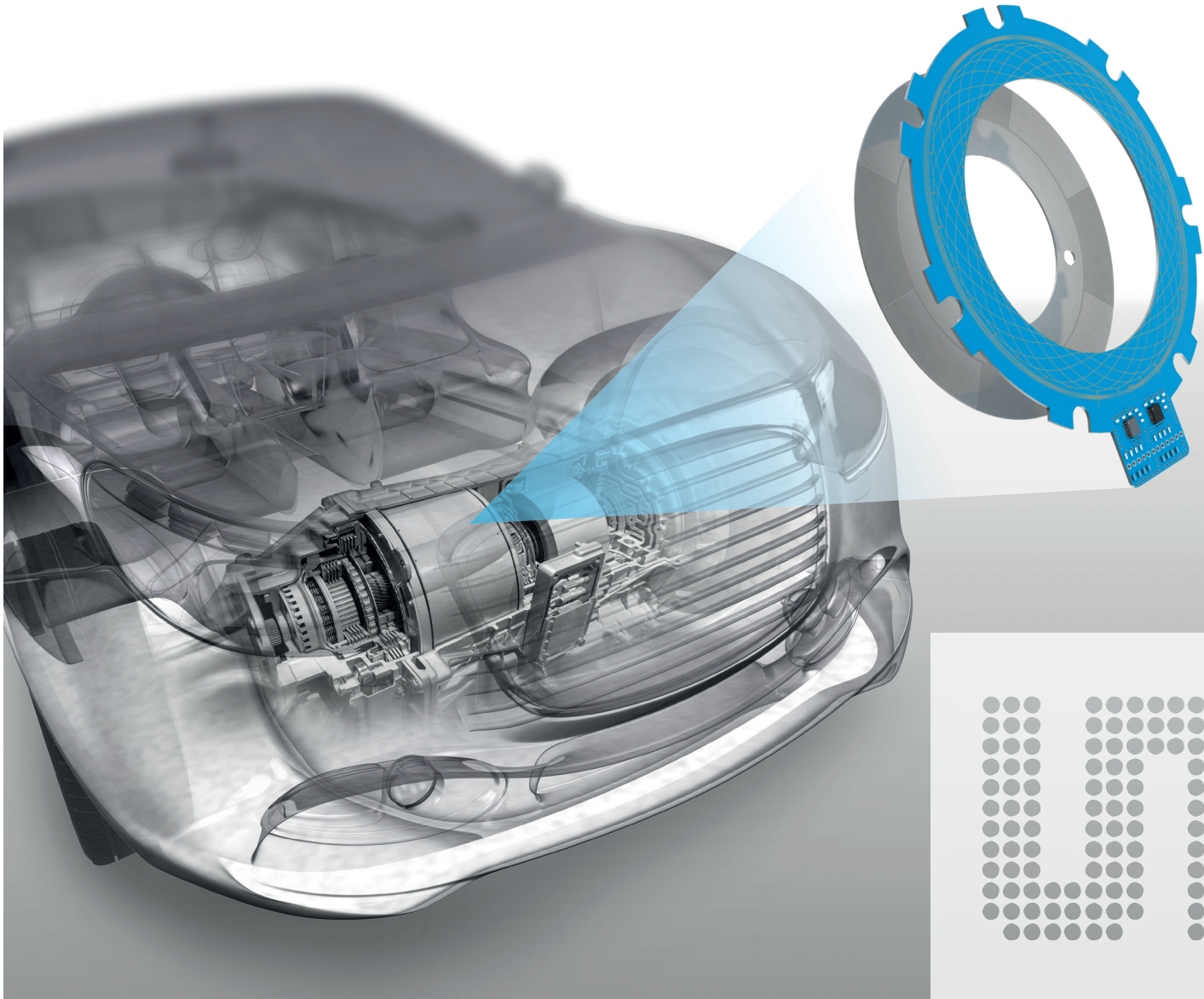


Product Document

Precise Position Sensing with Inductive Technology

www.ams.com



Inductive Position Sensing for Automotive Applications

- High speed measurement
- Sensing motors with high pole-pair counts without losing resolution
- Flexible system configuration
- Robustness against unwanted magnetic stray fields

**Sensing
is life.**

General Description

Based on inductive sensor technology, ams' new position sensor measures the coupling between a TX (transmission) and two RX (receive) coils via a moveable target. The coils are executed as printed circuit coils thereby reducing the cost of the overall system. The target is a simple punched metal part.

With the correct layout of coils and target the IC outputs differential sin/cos signals which are proportional to the angular position of the rotor and can be used for motor commutation. The product is defined as SEooC (Safety Element out of Context) according to ISO26262.

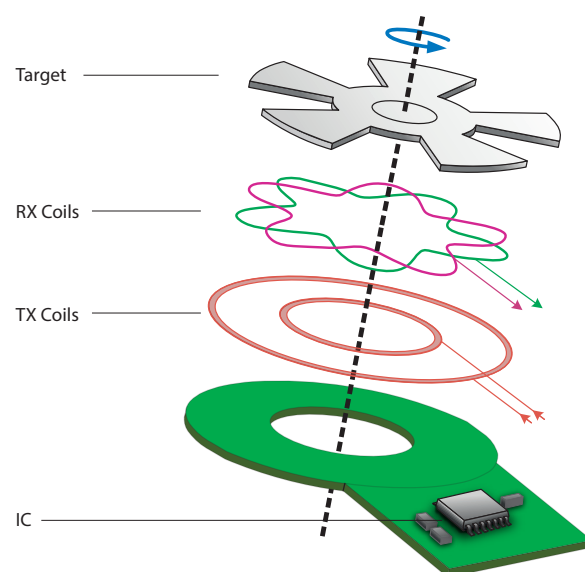
Features

- Can be used in environments where lateral space is at a premium
- Can sense motors with high pole-pair counts without losing resolution
- Reduces torque ripple and increases efficiency of motor control
- Easy replacement of existing AMR/GMR sensors
- Enabler for safety critical applications
- Suitable for automotive applications

Benefits

- Adaptable coil/sensor layout
- High angular accuracy
- Low propagation delay
- Functional safety, diagnostics
- AEC-Q100 qualified

Technology

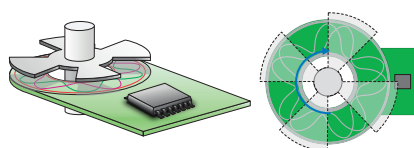


Application Cases

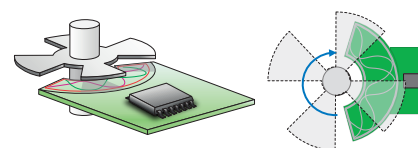
Ideal for automotive electric motor applications like

- EPS motor drive
- HVAC pumps
- Window lift

Flexible Application Design



Hollow Shaft Position Sensing



Side Shaft Position Sensing

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