

# Accurate Position Sensor with Analog Output for Motor Control

[ams.com/AS5116](https://ams.com/AS5116)

## **AS5116 – Accurate Position Sensor for Motor Control with Analog Output**

- Immune to external magnetic stray fields, overachieves ISO 11452-8
- Conforms to the ISO26262 functional safety standard
- Lower overall system costs and less space required

**Sensing  
is life.**

## General Description

The AS5116 is a contactless magnetic position sensor for accurate angular measurement over a full mechanical turn of 360°. Based on the Hall sensor technology, this device has a robust architecture that measures the orthogonal component of the flux density (Bz), over a full-turn rotation. To measure the angle, only a simple two-pole magnet rotating over the

center of the package is required. The magnet can be placed above or below the device. The absolute angle measurement provides an instant indication of the magnet's angular position. The angle information is provided by means of buffered differential sine and cosine voltages. The AS5116 operates at a supply voltage of 5V or 3.3V.

### Features

- Contactless angle measurement
- Low output noise
- Low inherent INL
- Magnetic stray field immunity overachieves ISO 11452-8
- Developed according to ISO26262
- Fully differential buffered sine and cosine output signals
- AEC-Q100, grade 0

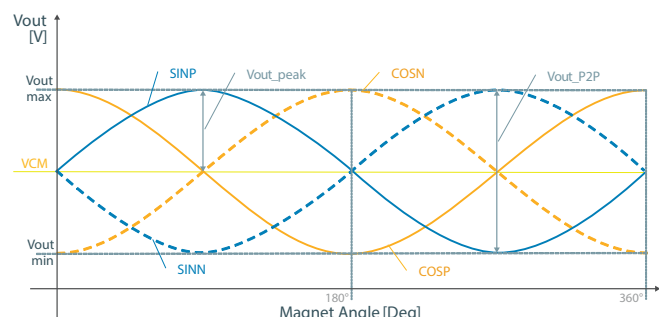
### Benefits

- Highest reliability and durability
- Accurate angle measurement
- Low system costs – no shielding required
- Enabler for safety critical applications
- High precision analog output
- Small form factor
- Fully Automotive-qualified

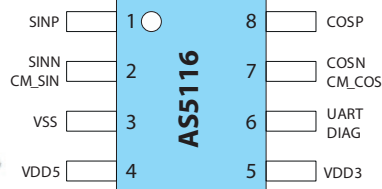
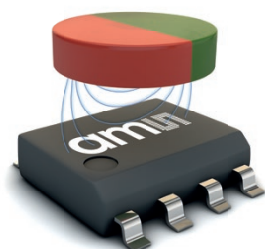
### Applications

- Rotor angle sensing in the field of automotive applications
- Electric power steering systems
- Electric pumps
- Actuators in transmission systems
  - Starter/Generator systems
  - Other 360° angle measurement solutions

## Analog Interface



## Package & Pinout



## Block Diagram

