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Analog Devices' Magnetic Angle Sensor Technology Delivers Industry's Highest Performance for Precision DC Motor Controls

ADI's ADA4571 sensor directly measures the shaft position in brushless DC motors, reducing noise and optimizing motor smoothness and torque in automotive and industrial applications.

NORWOOD, Mass.--(BUSINESS WIRE)-- Analog Devices, Inc. (NASDAQ: ADI) introduced today the industry's highest precision, highest speed [magnetic angle sensor](#). The high-resolution ADA4571 sensor is four times more accurate (0.5° max), 60 percent faster and uses 40 percent less power than competing angle sensors.

The ADA4571 directly [measures motor position to reduce noise, optimize smoothness and torque performance](#), and help designers of brushless DC (BLDC) motors meet tighter environmental, noise and energy requirements. The new sensor is automotive qualified and integrates a custom mixed-signal signal conditioning IC and sensing element based on [Anisotropic Magneto-Resistive \(AMR\) technology](#). The new sensor enables direct, non-contact and wear-free angle measurement in a range of motor applications, including automotive systems such as electric power-assisted steering, braking, active suspension and stability control.

- Order samples, evaluation boards or download data sheets: <http://www.analog.com/ADA4571>
- For reference designs and technical content: Get questions answered by ADI engineers on EngineerZone™, ADI's online technical support community: <https://ez.analog.com/welcome>
- For automotive applications using the ADA4571: <http://automotive.analog.com/en/segment/am.html>

The integrated AMR and precision signal conditioning technology allows the ADA4571 to operate independently of magnet drifts due to lifetime, thermal influences or mechanical stress, which enables high-accuracy readouts in harsh environments.

High accuracy position feedback information enables more effective commutation of the motor and better control of torque and speed performance especially in low RPM applications. The new sensor also enables high-speed motor operation up to 50,000 RPM while the direct angle measurement principle reduces the effects of vibration and noise that can degrade motor performance. Better torque control improves motor efficiency, lowers emissions and heat and extends operating life. Additionally, the low phase delay (2μs) enables fast closed loop control and improves responsiveness in high-dynamic applications such as industrial servo motors, robotics and electric power steering.

The ADA4571 runs on a 2.7- to 5.5-V supply, consumes just 6.5 mA of power, and includes a low-power sleep mode that expands application usage to remotely powered systems. Additionally, the sensor does not get damaged under high magnetic field conditions and has negligible hysteresis; while the low temperature and lifetime drift performance reduces or eliminates the need for calibration. The sensor also supports advanced diagnostics for use in high availability and safety critical applications.

ADA4571 Magnetic Angle Sensor Key Features

- Low angular error: 0.5° max
- High speed: 50,000 RPM with a 2μs phase delay
- Low noise: 500 uVrms
- Low power: 6.5 mA
- -40°C to 150°C operation

Pricing and Availability

Product	Availability	Price Each Per 10K	Packaging
ADA4571	NOW	\$1.98	8-lead SO

About Analog Devices

Innovation, performance, and excellence are the cultural pillars on which Analog Devices has built one of the longest standing, highest growth companies within the technology sector. Acknowledged industry-wide as the world leader in data conversion and signal conditioning technology, Analog Devices serves over 60,000 customers, representing virtually all types of electronic equipment. Celebrating over 40 years as a leading global manufacturer of high-performance integrated circuits used in analog and digital signal processing applications, Analog Devices is headquartered in Norwood, Massachusetts, with design and manufacturing facilities throughout the world. Analog Devices' is included in the S&P 500 Index.

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