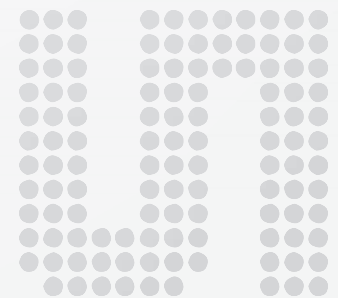
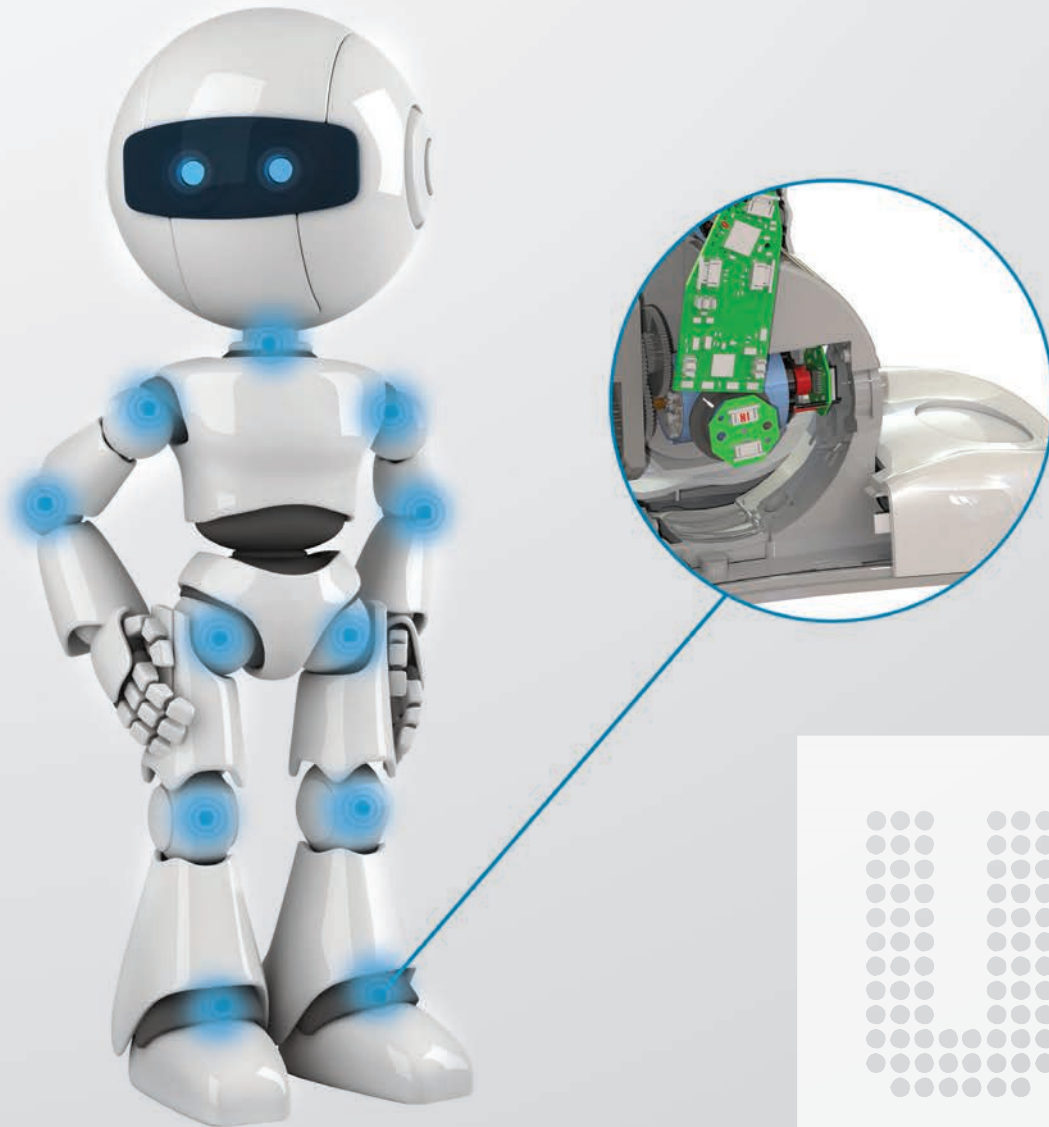


Product Document

Contactless Magnetic Position Sensing in Robotics

www.ams.com/Magnetic-Position-Sensors



Contactless high resolution angle sensing for robotic joint systems

- Best-in-class magnetic strayfield immunity
- Low power consumption
- Small-size solution
- Easily programmable absolute angle output

We provide innovative analog solutions to the most challenging applications in sensor and sensor interfaces, power management, and wireless.

General Description

Magnetic Position Sensors from ams are ideal for high accuracy angle feedback in robotic applications. With a rich position sensor portfolio, ams is able to offer high accuracy position sensors for use in applications with high speed and almost latency-free Dynamic Angle Error Compensation (DAEC™) position feedback requirements. The robust differential signal processing helps suppress the influence of any homogeneous external stray magnetic field. Device configuration and zero-position can be programmed over a digital standard interface (no programmer needed).

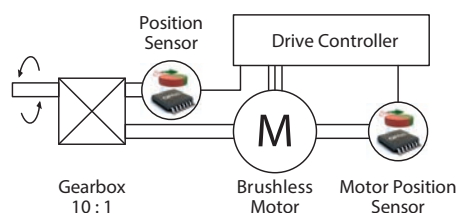
Position Sensor Features

- Contactless angle measurement
- Immune to external stray magnetic fields
- Digital and analog output interfaces
- Ultra low latency feedback (DAEC™)
- Automatic low power modes
- Programmable zero position
- Wide magnetic input range

Application Benefits

- Immune to stray magnetic fields for improved performance
- Lower system costs since external shielding is not required
- Ultra-low intrinsic propagation delay (1.9µs) and noise for better accuracy
- Supports very high speed rotational shaft applications (up to 28k rpm)
- Immune to harsh industrial environments
- Provides both absolute and incremental angle measurements
- Requires minimal power consumption

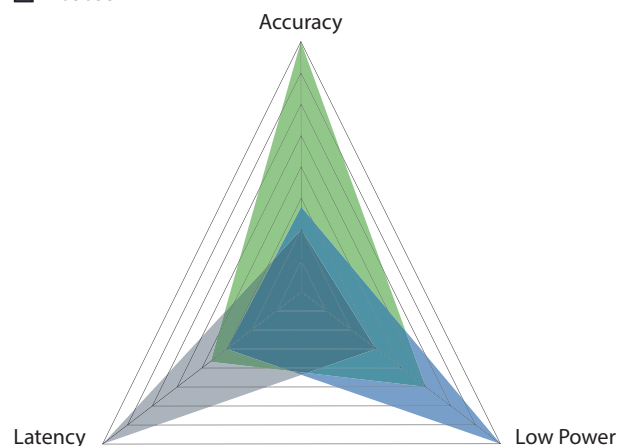
Application Example: Leg⁽¹⁾



⁽¹⁾Arm works with one Magnetic Position Sensor

Position Sensor Selection

- AS5600
- AS5047D / AS5047P
- AS5055A



Interface	AS5055A	AS5600	AS5047D / AS5047P
I ² C		•	
SPI	•		•
PWM		•	•
Encoder			•
UVW			•
Analog		•	

Position Sensor IC	Low Latency	High Accuracy	Low Supply Current
AS5600	++	+++	+
AS5047D / AS5047P	+++	++	+
AS5055A	+	+	+++

Datasheets

www.ams.com/AS5600
www.ams.com/AS5047D
www.ams.com/AS5047P

www.ams.com/AS5055A

www.ams.com
products@ams.com
 © 06/2015 by ams
 Subject to change without notice

Headquarters
ams AG
Tobelbader Strasse 30, 8141 Unterpremstaetten, Austria
Phone +43 3136 500-0

Sales Offices Worldwide
sales-europe@ams.com
sales-asia@ams.com
sales-americas@ams.com