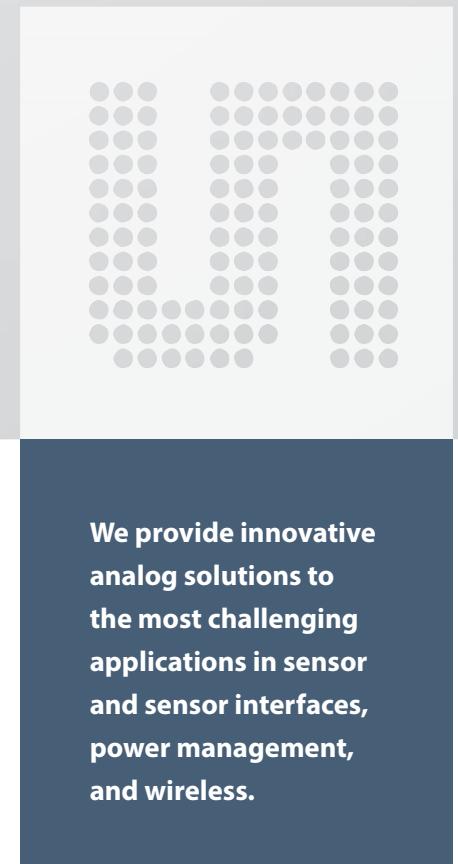
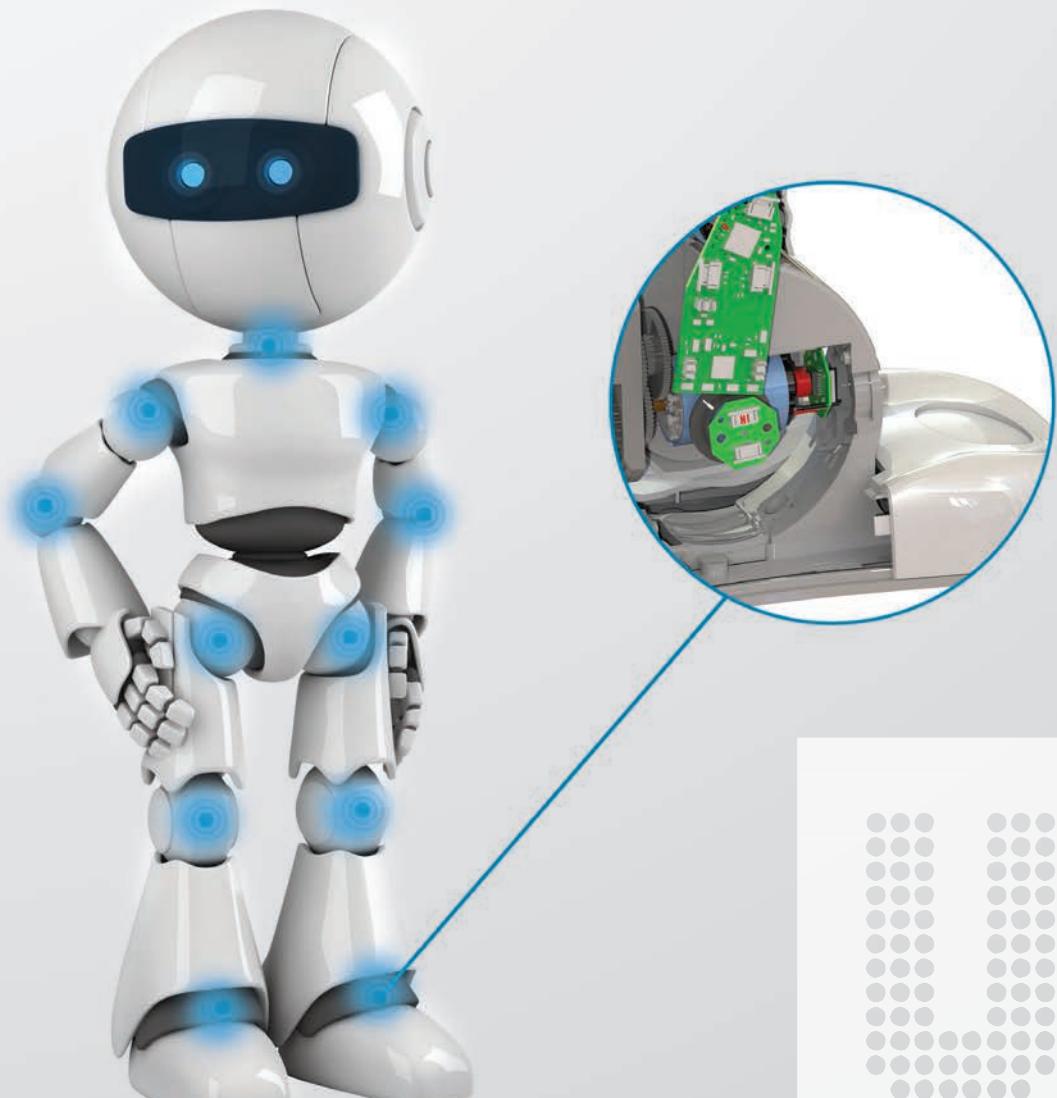


Contactless Magnetic Position Sensing in Robotics

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	Application Benefits
<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - 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⁾			
Interface	AS5055A	AS5600	AS5047D / AS5047P
I ² C		•	
SPI	•		•
PWM		•	•
Encoder			•
UVW			•
Analog		•	

⁽¹⁾Arm works with one Magnetic Position Sensor

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

Position Sensor Selection			
AS5600			
AS5047D / AS5047P			
AS5055A			

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