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

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
**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 Example: Leg

![Application Example: Leg](image)

**(1)**Arm works with one Magnetic Position Sensor

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<tr>
<th>Interface</th>
<th>AS5055A</th>
<th>AS5600</th>
<th>AS5047D / AS5047P</th>
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### Position Sensor Selection

- 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

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### Datasheets