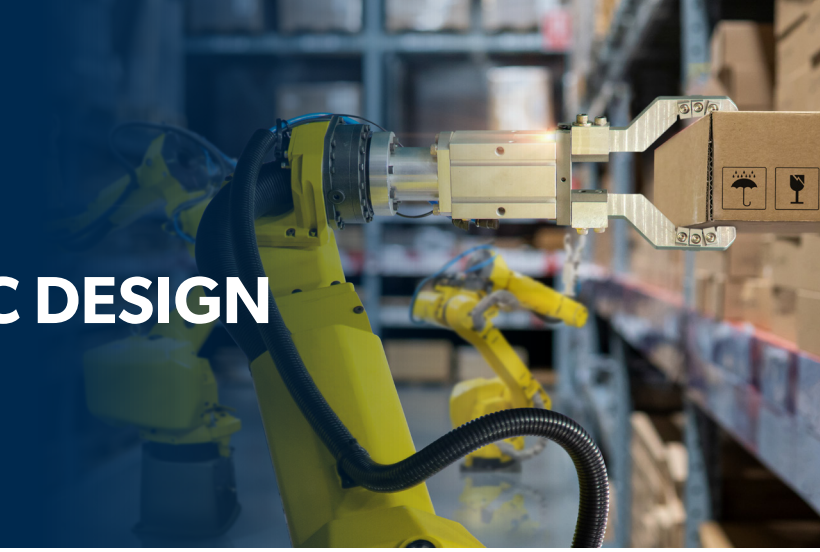
INNOVATION WITH PURPOSE

ALLEGRO microsystems



ENHANCING ROBOTIC DESIGN

High precision, maximum efficiency, and increased reliability

Industrial robotics has transformed the way we live and operate. From assembling and distributing company products more efficiently to creating a safe environment for medical and military practices, robotics play a vital role in our everyday lives. With the continuously evolving robotic market and formation of new applications, there is a need for higher levels of system accuracy and reliability.

The key component to many robotic systems is motion control. Many of the motors used in robotic applications require solutions that can support high speed and precision, maximize motor efficiency, and simplify design all while maintaining long-term performance.

Allegro's broad selection of sensor and power ICs help design high performance and resilient systems by creating more accurate and high bandwidth control of position, torque, and speed. These highly integrated solutions simplify motor design while achieving smoother and more efficient motor control. Leveraging its expertise in the automotive market, Allegro's offerings have built-in protections, on-chip diagnostics, and redundant options to support industrial safety standards for a more robust and reliable system.

What you can achieve with Allegro solutions

Speed and Precision

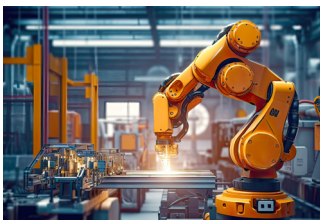
Design high performance systems with accurate and high bandwidth control of position, torque, and speed.

Safety and Reliability

Achieve industrial functional safety standards for a more robust and reliable system.

Simplification and Efficiency

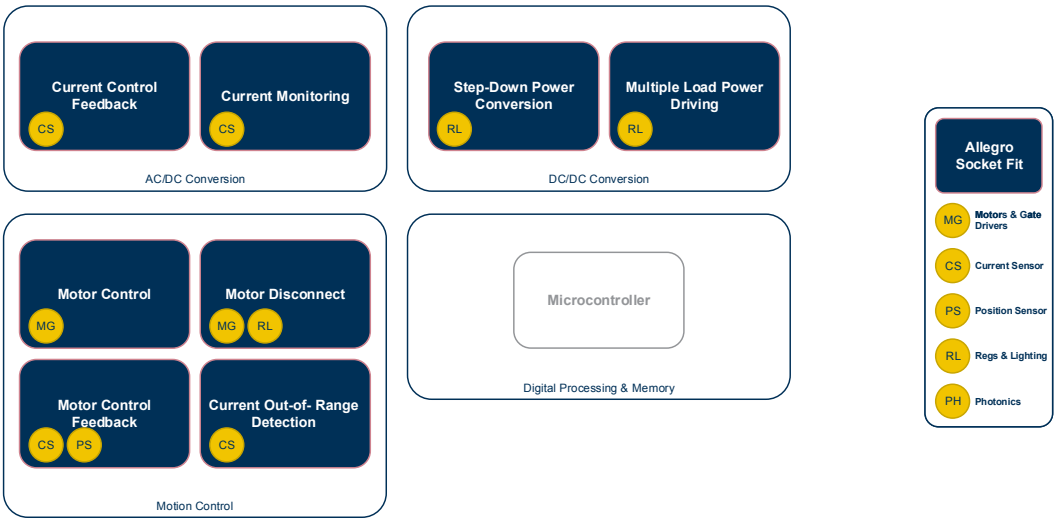
Streamline system design and deliver more efficient motor control with highly integrated solutions.



1. **Battery Management**
2. **Motor Control & Feedback**
3. **Bumper Detection**
4. **Lifting**
5. **Illumination**

Market-Leading Portfolios That Sense, Regulate, and Drive

Simple Block Diagram



Features and Benefits

Subsystem	Component	Allegro Part
AC/DC Conversion	Current Control Feedback	ACS71240, ACS37010
	Current Monitoring	ACS71240
DC/DC Conversion	Step-Down Power Conversion	A4447, A4490/1 A8498
	Multiple Load Power Driving	A81407, ARG82800/1, ARG81403
Motion Control	Current Out-of-Range Detection	ACS712140, ACS730
	Motor Control Feedback (current)	ACS71240, ACS37010
BLDC Motor	Motor Control	A89306, AMT49406, AMT49413
	Motor Disconnect	A6861, A81407, ARG82800/1/1-1
	Motor Control Feedback (commutation)	APS12202, APS12215, A1220
	Motor Control Feedback (angle)	AAS33001, A33230
Brushed DC Motor	Motor Control	AMT49701, A89500/5/6, A3908
	Motor Control Feedback (speed/direction)	APS12625/6
Stepper Motor	Motor Control	AMT49700
	Motor Control Feedback (proximity)	APS11202
	Motor Control Feedback (angle)	A1333
Servo Motor	Motor Control Feedback (rotary encoder)	A1335/9, ALS31300
	Motor Control Feedback (linear encoder)	A31315, ALS31300

Explore products and design resources