



# Applied Motion Products

Motion Control Solutions for Factory Automation



CONNECTED • CUSTOMIZED • CLOSED-LOOP

# SERVO PRODUCTS

## High accuracy and fast frequency response

- Velocity loop bandwidth of up to 3.5kHz for faster command execution and reduced system settling times.
- Low cogging torque motor design and high resolution 26-bit absolute encoders.
- Advanced positioning error compensation algorithm for accurate position control.
- Stable, precise and repeatable control in high-performance applications such as semiconductor manufacturing, machine tool, and high speed precision manufacturing.



## Auto-tune and advanced tuning functions

- Auto-tuning algorithm automatically detects the load inertia ratio, optimizes gain settings, and adjusts vibration suppression parameters.
- Reduces system tuning time, enhances system responsiveness, and boosts overall equipment productivity.
- Advanced tuning and filtering function tools include disturbance compensation, as well as resonance and vibration suppression, and performance and precision enhancement.



## Safety and Connectivity

- Integrated advanced safety features, including STO (SIL3), dynamic braking, E-stop, and more.
- Supports a comprehensive range of industry-standard communication protocols, such as EtherCAT, EtherNET/IP, CANopen, Modbus and PROFINET.

## Integrated Servo Motors

- High-torque servo motors and drives combined in a **compact, all-in-one** integrated servo solution.
- Available in 40mm, 60mm, and 80mm frame sizes, with an output **range from 100W to 750W** continuous and 300% peak power capability.
- Various configurations available that support STO, holding brake, IP65 protection, M12 connectors, and dual-port communications.
- **Compatibility** with industrial networking protocols like EtherNet/IP, EtherCAT, CANopen, Modbus and PROFINET.



## Low voltage Servo systems

- **Optimized** for battery management and regulated low-voltage DC power systems.
- Motor output of **up to 1.5kW**.
- **High current capabilities** of up to 40A per axis, with 300% peak for heavy load applications such as AGVs and AMRs.
- **Single and Dual Axis drive** designs available.
- **Enhanced features** including dual encoder support, STO (Safe Torque Off), active regen management, and holding brake functionality.



## High voltage Servo systems

### Servo Drives

- Rated power output **up to 7kW**.
- **Industry leading 3.5kHz** velocity loop bandwidth decreases system settling time.
- Compatibility with leading **industrial networking protocols**, including EtherNet/IP, EtherCAT, CANopen, PROFINET, and Modbus.



### Servo Motors

- Advanced **10-pole design** for high power density and performance.
- **Multiple absolute encoder options**: multi-turn and single-turn, tailored to various application requirements.
- Motor output power range up to **7kW with frame sizes up to 180mm**.
- **Integrated holding brakes**, ideal for vertical axes and power-off position holding.
- **Comprehensive range of planetary gearheads** for optimal speed and torque output, offering ratios from 3:1 to 100:1 and backlash as low as 3 arcminutes.



# StepSERVO PRODUCTS



## Environmentally Friendly - Quieter and more energy efficient

- Quieter operation and lower power consumption compared to open-loop stepper systems.
- Ideal solution for noise-sensitive applications where conventional stepper motors are too loud.
- Enhance overall system efficiency and reduce energy consumption by drawing only the necessary current to move the load.

## Higher throughput - Faster and more accurate

- Deliver **up to 50% more torque** than conventional stepper motors due to their peak torque capability.
- Extra torque enables faster acceleration.
- High-resolution absolute multi-turn encoders enable closed-loop control and enhanced overall system precision.



## TruCount Multi-Turn Absolute Encoder Technology

- Hassle-free positioning of rotary and linear axes.
- TruCount encoders are multi-turn, absolute encoders that don't require battery or external power to track encoder position while the motor is powered off.
- Reduce downtime by eliminating the need for homing sequences after power cycles and emergency stops.

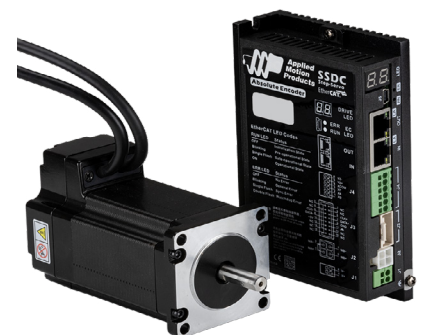
## StepSERVO Closed-Loop Integrated Motors

- Frame sizes range from **NEMA 08 to NEMA 34**.
- Up to **7 N-m** of continuous torque.
- **IP65 options** with M12 industrial connectors.
- **Multiple control and communication options** including EtherNet/IP, EtherCAT, CANopen, and Modbus.
- Intuitive and user-friendly software for configuration, programming and tuning.



## StepSERVO Motors and Drives

- All the benefits of [StepSERVO Integrated Motors](#) in separate motor and drive components.
- Ideal for applications where panel-mount drives are preferred.
- **Dual and 4 axis drive** models also available.





# STEPPER PRODUCTS

## Stepper Drives

- **Low and High voltage stepper drives** with the best-in-class torque and speed control performance.
- Built-in **anti-resonance and torque ripple filtering** functions for smooth operation.
- Support for **multiple control options and communication protocols** permits integration with a variety of machine designs!



## Stepper Motors

- A wide variety of frame sizes from **NEMA 08 to NEMA 34**.
- **AW Series** IP65 rated step motors for wet and dusty environments including machining centers and splash zone applications.
- **Customization options** for flats, keyways, thru-holes on the shaft, lead screws, hollow shafts, encoder holes, shielded cables and special connectors.



## Integrated Steppers

- **Motor, drive and control all-in-one.** Integrated steppers combine our high performance drives with our robust motor offering into a single package.
- **NEMA 17 to NEMA 24** frame sizes offered. Options with **Flex I/O and optical encoders** available.
- **Reduced** system wiring and less panel space required.
- **IP65 rated** options for use in wet and dusty environments.



## Planetary Gearheads

- Efficient and reliable planetary gearheads for servo and stepper motors utilize helical gears to provide high performance at an attractive price.
- Precision engineered and manufactured, our [PE gearheads](#) facilitate above average weight-to-torque ratios and high dynamics found in performance applications.
- A low friction bearing design and optimized lubrication result in low heat generation, ensuring reliable continuous duty operation without sacrificing performance.



## Custom Drive and Motor Solutions

- **Tailor capabilities** with customized products can bridge the gap between what standard products allow you to do and what you really want to do.
- **Optimize performance** with custom firmware and software solutions tailored to your specific requirements and communication needs.
- **Optimize fit** with custom hardware, connector and interface options to work with your specific mechanical and wiring needs.
- **Partner with us!** Applied Motion Products can provide the right solution and scale production to meet your needs.



## Applications We Serve

Packaging



Warehouse Automation



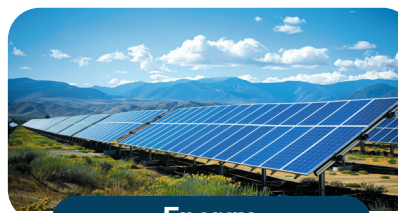
AGV & AMR



Semiconductor



Energy



Life Sciences



# Worldwide Office Locations

## Global Support

In 2014, Applied Motion Products formed a joint venture with Moons' Shanghai, a leader in motion control and intelligent lighting. With office locations around the world, this joint venture partnership enables Applied Motion Products to provide customers with supply chain reliability and vertical integration through a greater range of resources and manufacturing capabilities.

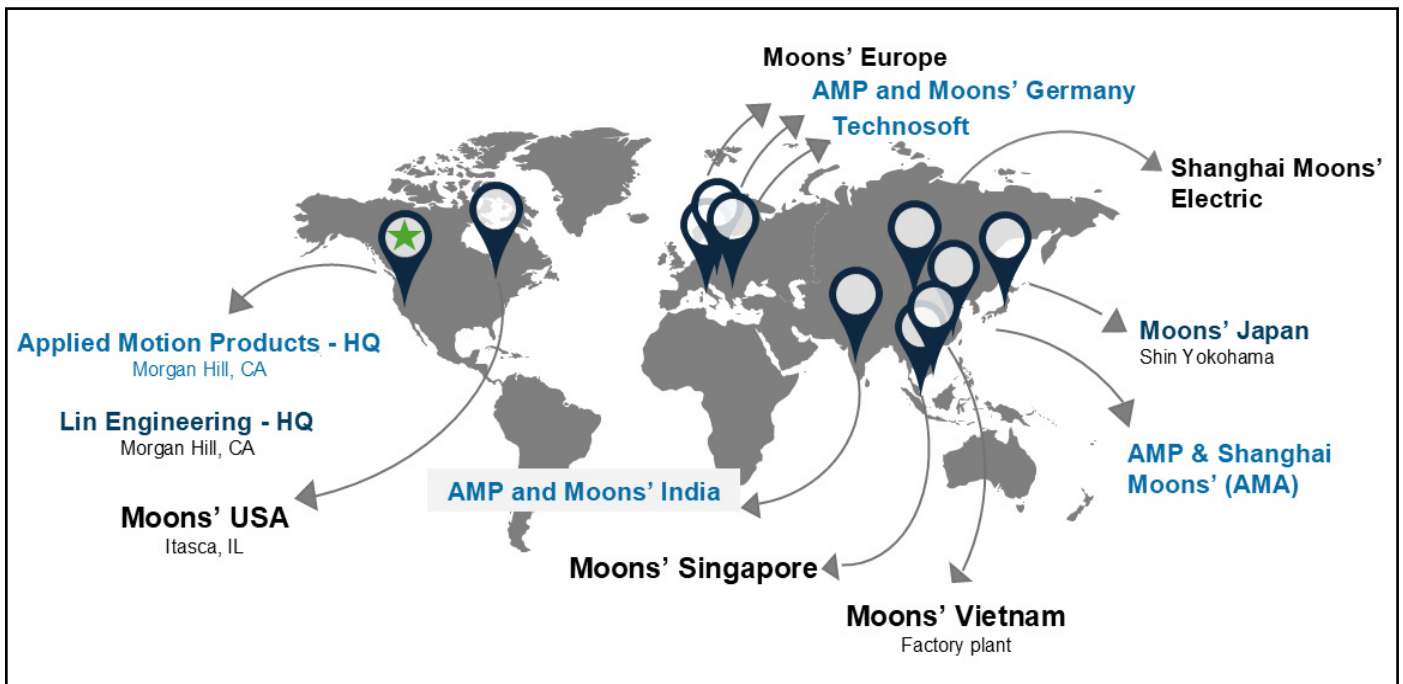
Together Moons' and Applied Motion Products focus on developing cutting-edge technologies with research and development centers with more than 200 patents for inventions, utility models, appearances, and software copyrights.



**Applied Motion Products HQ**



**Shanghai Moons' HQ**



# WHY CHOOSE APPLIED MOTION PRODUCTS?

**Connected.** We provide communication options for EtherNet/IP, EtherCAT, Modbus, PROFINET and CANopen networks, as well as the easy-to-use SCL protocol for open networks over Ethernet, RS-485 and RS-232 connections.



**Safety.** We prioritize personnel and equipment safety. We offer models designed with Safety Torque Off (SIL3), dynamic braking functionality, E-stop functions, and communication watchdog capabilities. This suite of features is meant to help designers create safe and reliable systems.

**Customized.** If you're looking for motor, drive or integrated motor solutions tailored to your specific design requirements, we have the product lines, manufacturing capabilities and experience to realize your customized designs.

**Closed-Loop.** Our StepSERVO closed-loop stepper technology greatly improves upon traditional step motor performance by providing more torque, faster acceleration, higher system accuracy, better efficiency and quieter operation.

**Quality.** Our strict adherence to our ISO9001, ISO14001, and ISO13485 procedures and experience with design requirements of various industries ensure we build products to your original design and the highest standards.

**In Stock.** Our warehouse in California is filled with motors and drives to meet your production needs. Same day shipments and quick turnaround on prototypes mean your machine life cycle will be well-supported from beginning to end.

**Experience.** Our technical support and sales staff have the expertise resulting from years of experience in the motion control and factory automation industries. This experience is just a phone call away.



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