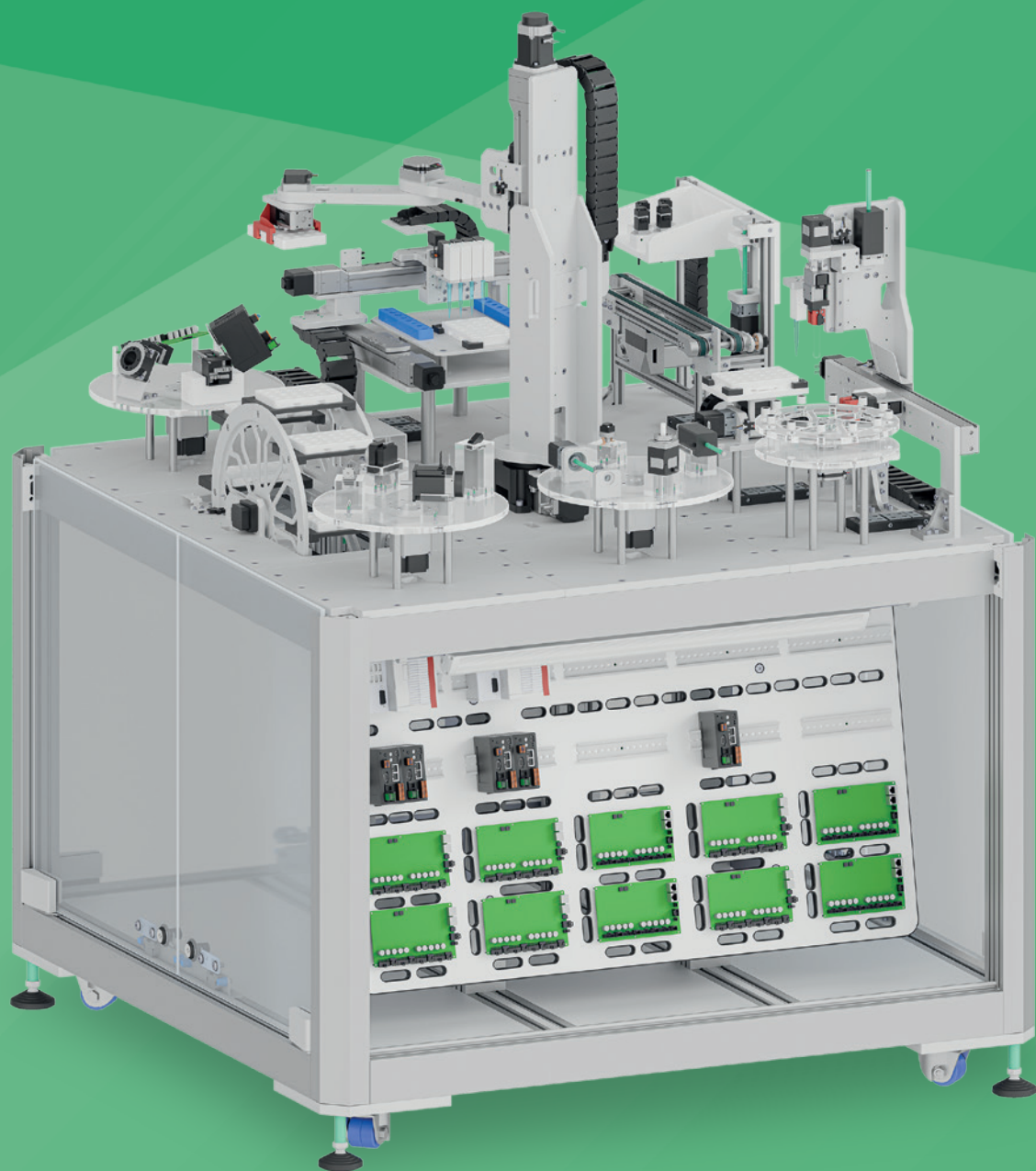


Your Partner for
Medical Motion Equipment!

**Applications and Motion Solutions for your
Automation Process in Medical Technology**



The World of Stepper Motors for Your Requirements.

Ideas and Suggestions for an Optimal Production Process

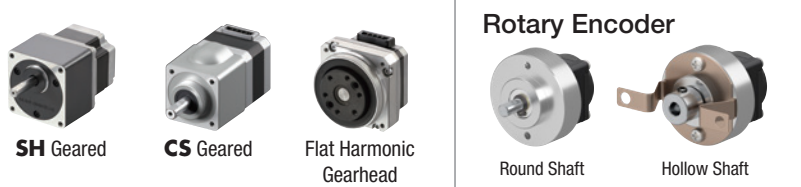
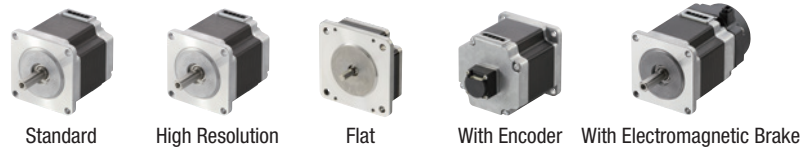
The challenges in medical technology are as diverse as they are demanding. To meet these challenges, Oriental Motor provides a powerful portfolio of stepper motors and driver solutions. These components are ideal for implementing precise, reliable motion control in a wide variety of medical applications.

Under the guiding theme of 'Sample Handling', discover how intelligent motion solutions can support key processes such as SCARA-based sample transfer, de-capping of vials, pipetting, and more.

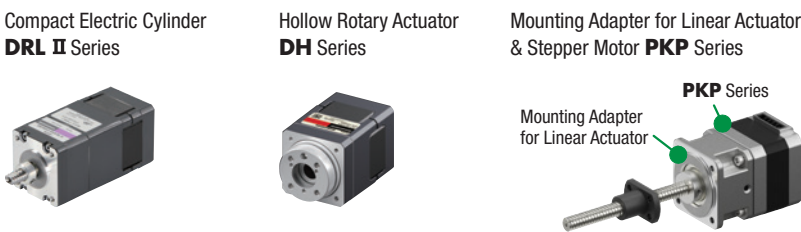
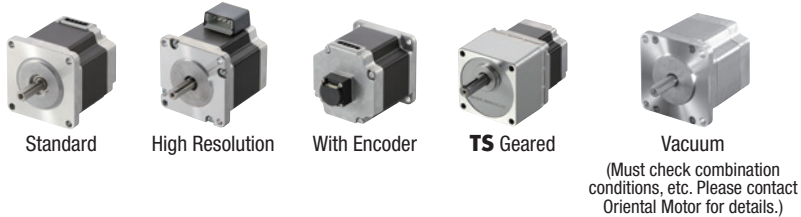
At the heart of the system is the new **CVD Series** multi-axis driver with EtherCAT communication. This central control unit enables seamless operation of a wide selection of 2-phase and 5-phase stepper motors and complementary peripherals—each showcased in the following examples.

Many Combinations of Motors, Actuators, and Rotary Encoders are Possible

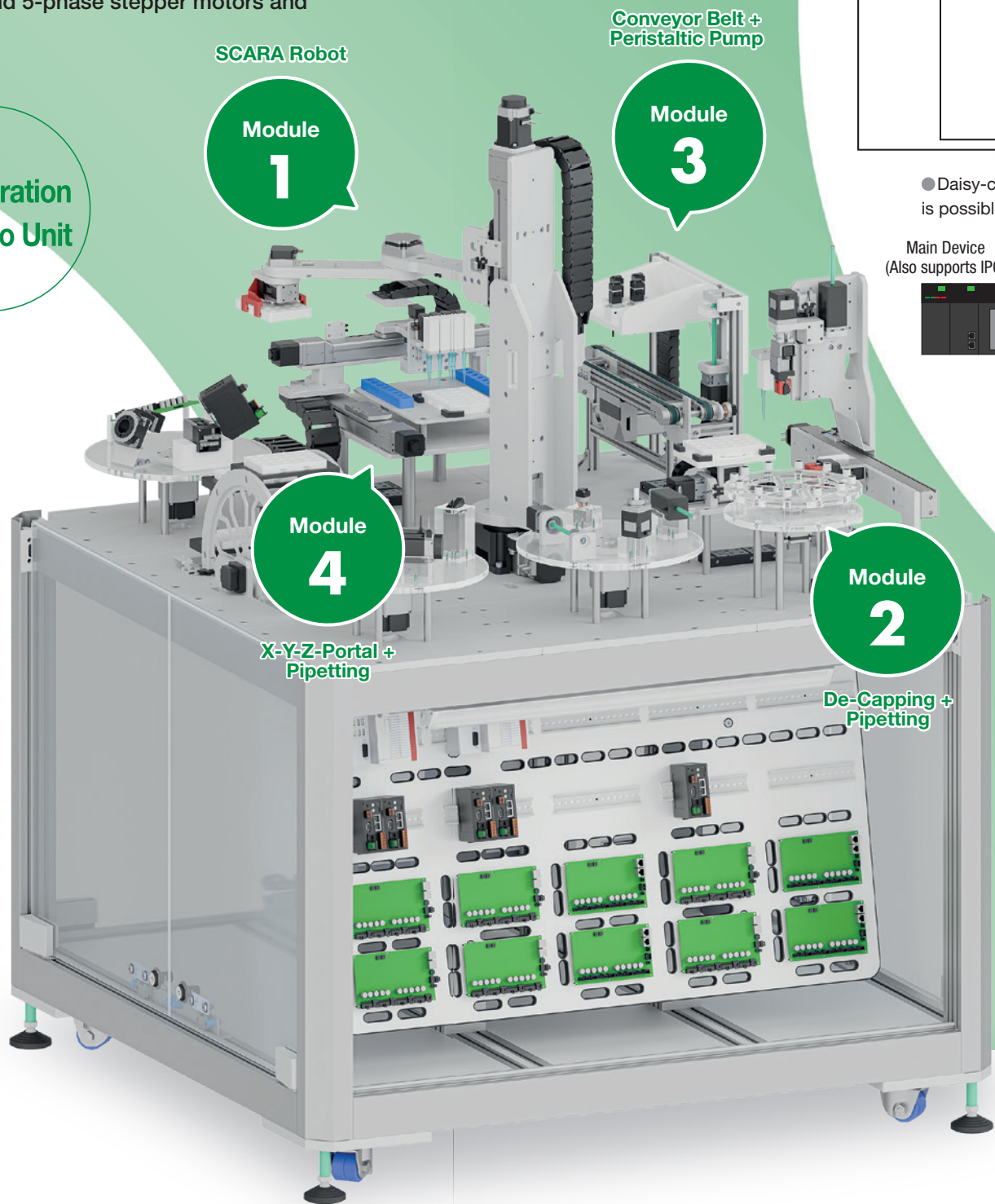
2-Phase Stepper Motor PKP Series Bipolar 4 Lead Wires



5-Phase Stepper Motors PKP/PK Series

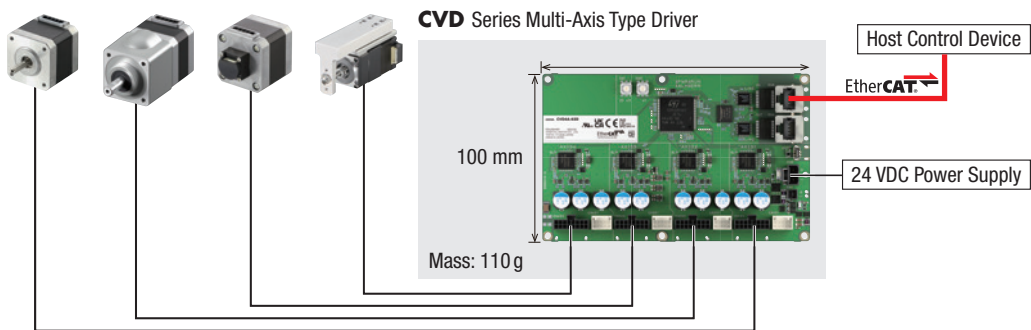


Configuration of Demo Unit

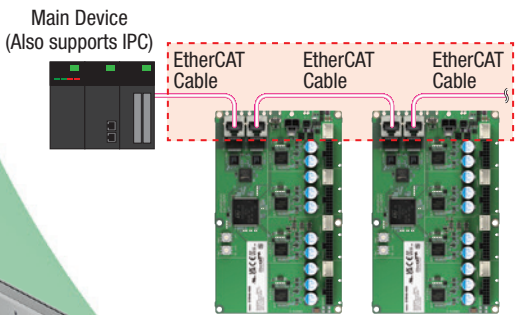


EtherCAT Compatible/4-Axis Control Reduces Wiring and Saves Space

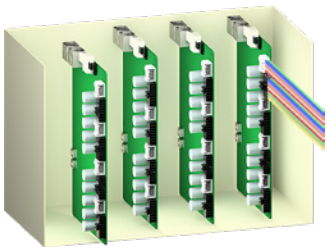
- I/O signals are consolidated into a single EtherCAT communication cable. Wiring for communication, power supply, etc. for 4-axis are integrated into a single driver
- Reduces work hours for wiring and decreases problems from mis-wiring
- Integrated management of device information including motor information by using an EtherCAT master



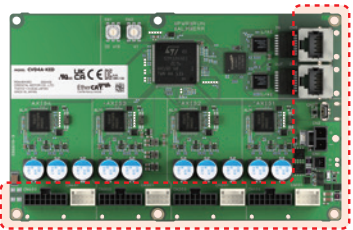
- Daisy-chain connection of multi-axis drivers is possible



- The right-angle connector direction type can be installed with several units placed side by side, eliminating crowded wiring and saving space.



- Driver connector positions are concentrated on two sides. This simplifies wire bundling.



Unlock the full experience.



Z-Axis + SCARA Robot + End-Effector

Two-link structure of the SCARA robot with 2-Phase stepping motor and Harmonic gearhead.

PKP Series Geared Motor
Axis 1: PKP262FD15AW-H50
Axis 2: PKP242D15A2-H50

Gripping of the sample tray for transportation.

Electric Gripper
EH Series
EH4-AZAKH

Power-off activated electromagnetic brake type stepping motor, that holds the load in position, after shut down of the power supply.

PKP Series
PKP268D28M2

Large hollow bore diameter can be used for robot cable wiring. High strength and rigidity to withstand large moment loads.

Hollow Rotary Actuator
DG Series
DGB130R36-AZAKL

De-Capping + Pipetting

Stepping motor with integrated spindle to lower the de-capping arm. Also, to perform the pipetting process into the sample tray.

Compact Electric Cylinder
DRLII Series
Pipetting: DRLM28-06B1P-K
Z-Axis: DRLM42-10B2P-K

Hollow shaft actuator to turn the gripper for the de-capping process.

Hollow Shaft Actuator
DH Series
DHM42PAK

Holding the sample vial and gripping the cap.

Electric Gripper
EH Series
EH3-AZAK
EH4-AZAKH

Harmonic gearhead allowing direct mounting of the load, e.g. rotary table for sample vials.

PKP Series Geared Motor
PKP242D15A2-H50

High torque stepping motor with encoder, for precise positioning.

PKP Series
PKP245D23A2-R3FL

Sample tray transportation with high lead for quick, yet precise movement.

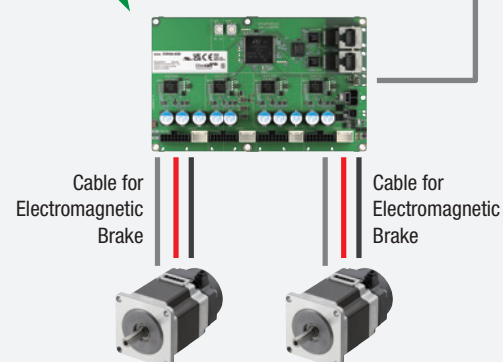
LA Attachment
LA4212C20
Motor: PKP244D15A2-R3FL

Automatic Control of Electromagnetic Brake and Power Supply

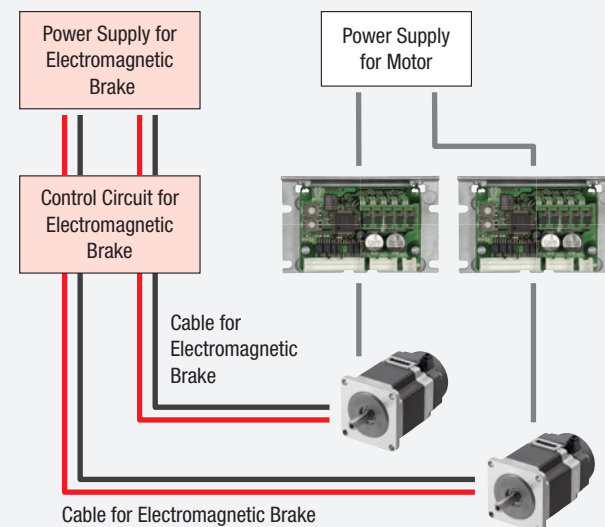
- No electromagnetic brake control circuit is needed, which reduces program creation time
- Reduced wiring work time

● CVD Series Multi-Axis Type

Control Power Supply/
Control Circuit for
Electromagnetic Brake
Not Required

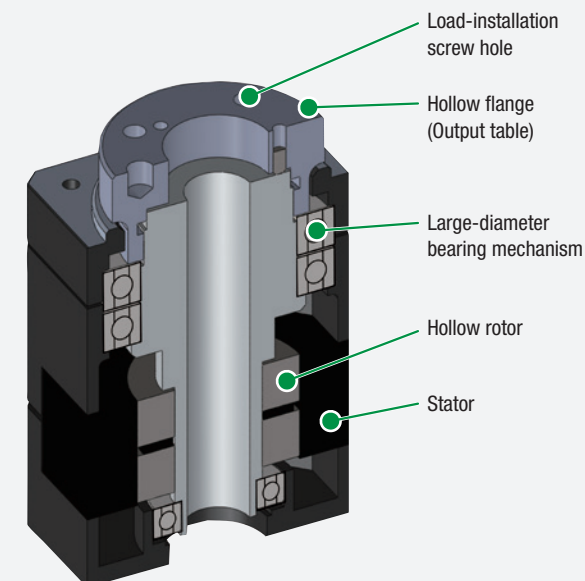


● Conventional Product

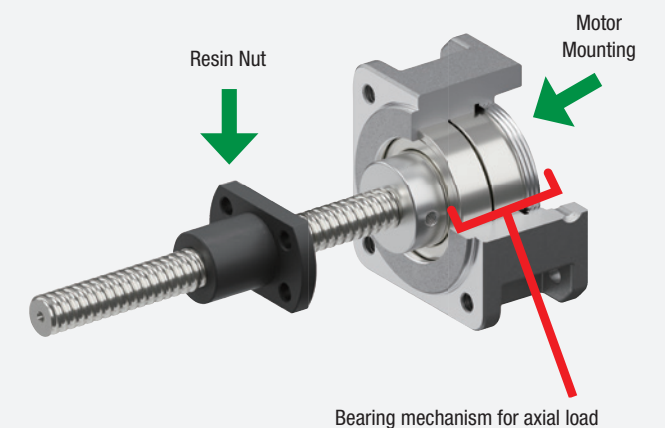


Advantages for Equipment Design

● DH Series Structure



● LA Attachment Structure



Module 3

Conveyor Belt + Peristaltic Pump

Stepping motor with high resolution encoder for precise dosing at a peristaltic pump.

PKP Series
PKP523MN03A-R3JL

Linear attachment with a stepping motor with encoder for Z-axis movement. Self-Locking force, no electromagnetic brake needed.

LA Attachment
LA422C10
Motor: PKP244D15A2-R3FL

Conveyor belt drive with a stepping motor and spur gearhead with centred shaft.

PKP Geared Motor
PKP243D15A2-CS10

Measuring speed or actual position of the application.

Rotary Encoder
RE30HJ4000L

Module 4

X-Y-Z-Portal + Pipetting

X- and Y-axis drive system attached to a linear ball screw axis KSF Series from THK.

PKP Series
X-Axis: PKP245D23A2-R3FL
Y-Axis: PKP244D15A2-R3FL

Using 4 times a compact electric cylinder to perform synchronous pipetting process.

Compact Electric Cylinder
DRLII Series
DRLM20-02B1P-K

Swivel arm with a hollow rotary actuator to position the pipetting actuators.

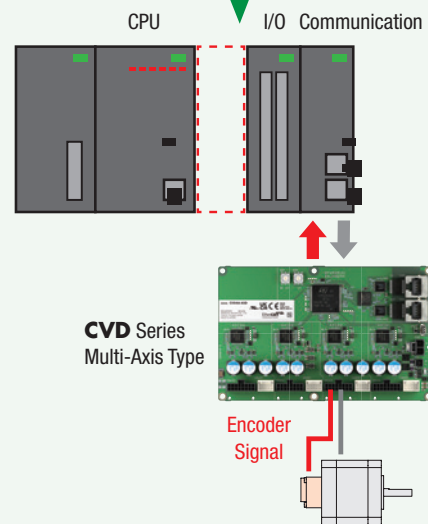
Hollow Rotary Actuator
DG Series
DGM60-AZAK

THK & Orientalmotor

THK offers standardised mounting options for stepper motors from Oriental Motor.

Importing Encoder Information

High-Speed Counter
Not Required



Compatible with both motors with encoders and rotary encoders.

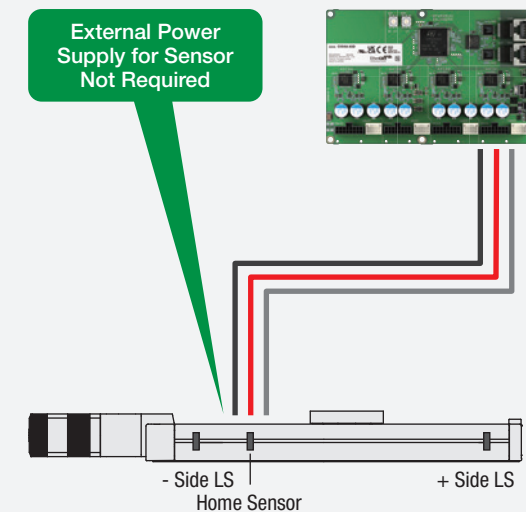
The driver is equipped with a function to import encoder information, thus position deviation can be detected within the driver without passing through the upper system.

PKP Series with Encoder	Rotary Encoder
Resolution 2-Phase and 5-Phase Motors: 100 P/R up to 4.000 P/R	Resolution 100 P/R up to 4.000 P/R

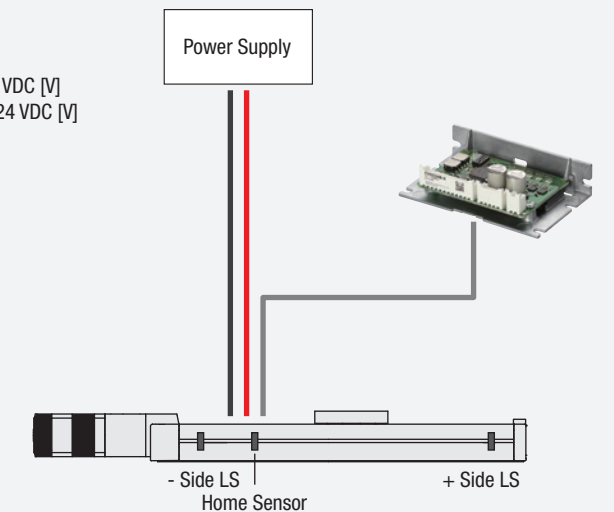
Can Provide Power to Sensors

- Power supply for the sensor can be provided by the driver.
- This eliminates the need for an external power supply for the sensor, contributing to wiring savings.

CVD Series Multi-Axis Type



Conventional Product

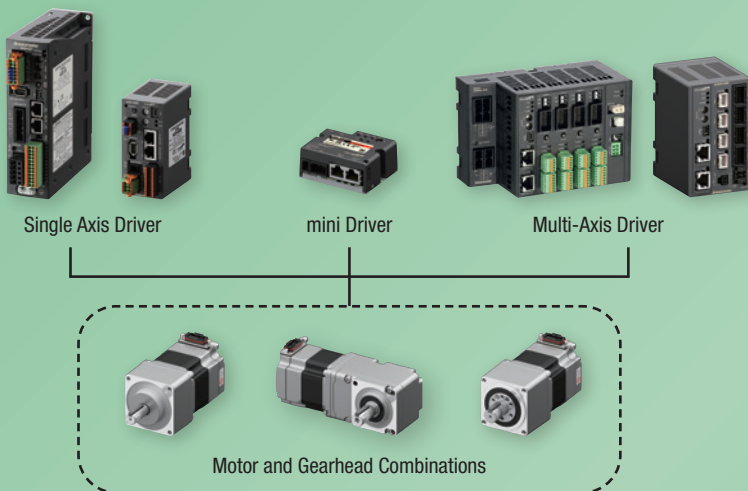


High-Performance Motors and Actuators for Advanced Applications

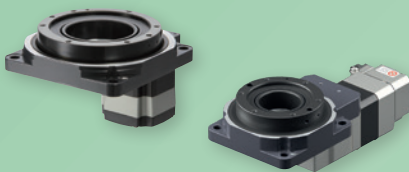
The **AZ** Series offers a unified approach to motion control with its range of motors and linear or rotary actuators, all equipped with a battery-free absolute encoder.

Its versatile drivers are available in multiple formats and sizes, including models that support BUS communication for seamless integration into complex systems. By using a standardized motor across all actuators, the **AZ** Series reduces wiring complexity, simplifies control architecture, and minimizes maintenance. This results in faster setup times and lower engineering workload—critical advantages in demanding medical and automation environments.

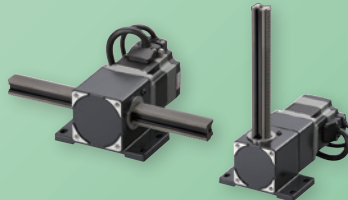
α STEP AZ Family



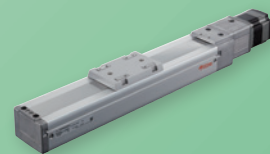
DGII Series
Rotary Tables with Hollow Shaft



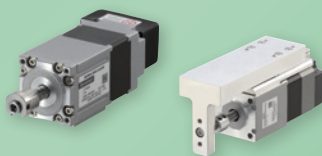
L Series
Rack and Pinion



EZS Series
Linear Axes with Ball Screw



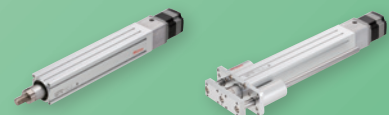
DR / DRS2 Series
Stepper Motor with Integrated Ball Screw



EH Series
Electric Gripper



EAC Series
Electric Cylinder with Ball Screw



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