Motion Control Solutions for Robotics

Select Your Motor and Communication Control Systems

Network Communication

Integrated PC

PC

PLC

Commerical FA Network

Gateway

EtherCAT
SSCNET III/H
MECHATROLINK

PC/PLC

Commerical FA Network

Single Axis Driver

Single Axis Driver

Single Axis Driver

Single Axis Driver

Single Axis Driver

Multi Axis Driver

Compact Driver

EtherCAT
SSCNET III/H
MECHATROLINK

Direct I/O Pulse Input

RS-485

Modbus (RTU)

Modbus (RTU)

EtherCAT
EtherNet/IP
PROFI NET

Modbus (RTU)

Motor

| Hollow Shaft Flat Gears | Right Angle FC Gears | EZS/ EAC Linear Actuators | Harmonic/ Planetary Gears | Hollow Rotary Actuators | EH Gripper |

NEUGART
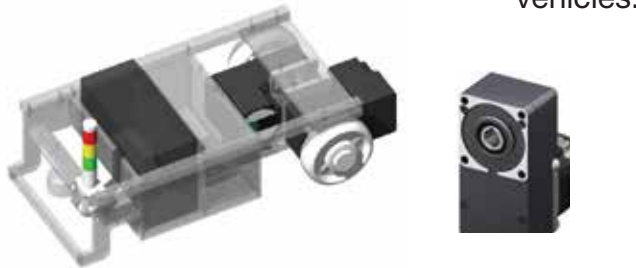
Application

AGV/ AMR

Conveyor

X-Y-Z Gantry

Changing Loads

Robot Drivers

Robot Motors

Application Examples

AGV

A DC input type motor and driver is offered for AGV/ AMR robots with speed regulation, high torque and positioning. The FR gear saves space and fits in low floor transport vehicles.
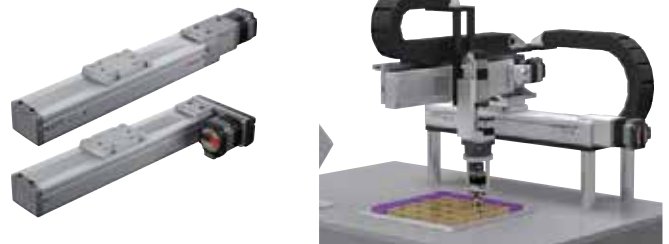
135 mm (5.31 in.)

Products list

Type	Part number
FR geared type	ARM98AK-FR10R
Stored data type	ARD-KD

Drive Wheels using FR Gear Space-Saving Layout

X-Y-Z Gantry System

Oriental Motor offer several types of electric linear actuators, slides, cylinders, rotary actuators, and grippers for a wide range of motion requirements.
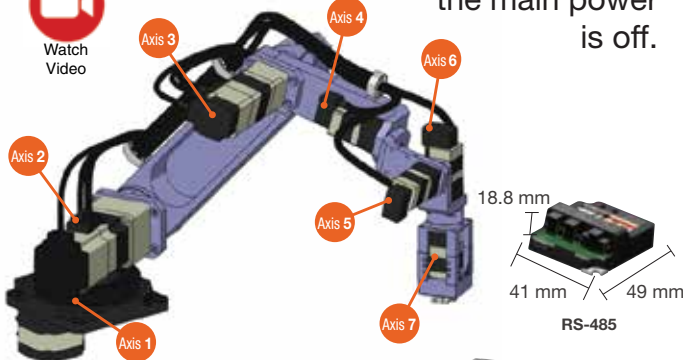
Products list

Type	Part number
Slide	EZS6-D030-AZAKD
Slide	EZS4-D025-AZAKD

Absolute Encoder, Sensorless Homing

Arm Robot

This 7-axis arm robot consists of 7 AZ Series products. The benefit of the AZ Series with its mechanical absolute sensor is the drivers can remember the positions when the main power is off.

Axis 1
Axis 2
Axis 3
Axis 4
Axis 5
Axis 6
Axis 7

18.8 mm
41 mm
49 mm
RS-485

Products list

Type	Part number
Rotary actuator	DGM130R-AZAK
Harmonic geared type	AZM46MK-HS100
Harmonic geared type	AZM46MK-HS100
Harmonic geared type	AZM24AK-HS100
Harmonic geared type	AZM24AK-HS50
Gripper	EH4-AZAKH
Compact driver	AZD-KRD

Parallel Link Robot

This 3-axis parallel link robot was created by using AZ Series motors and a 3 axis driver. It is controlled by an HMI with a directly connected motion network.

Axis 1
Axis 2
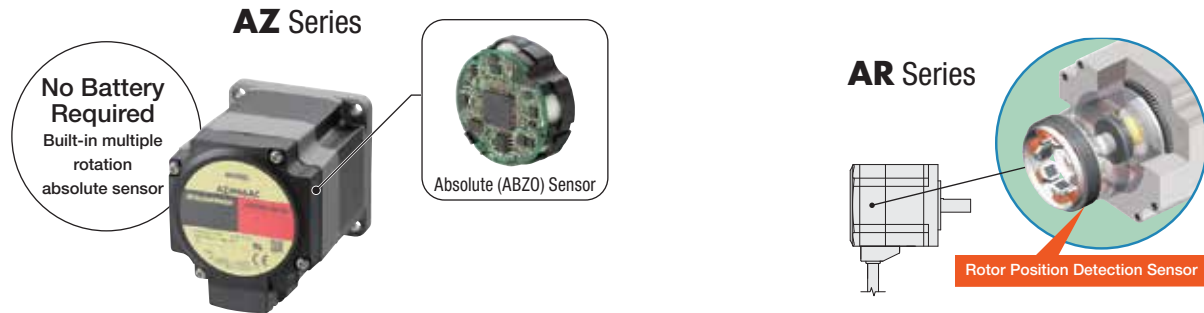Axis 3
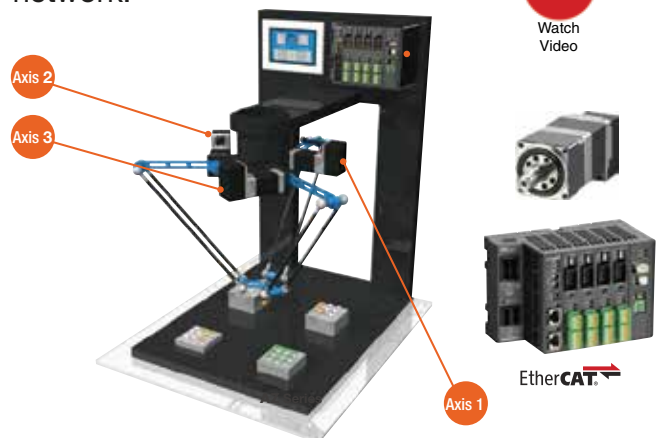
EtherCAT

Products list

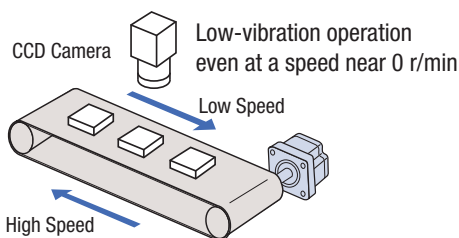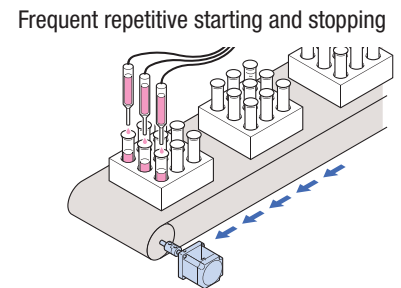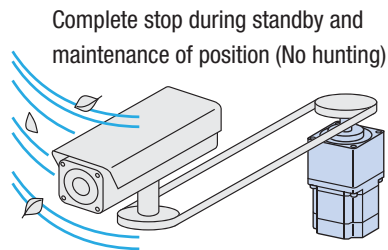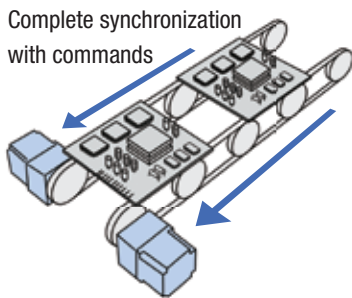| Type	Part number
Harmonic geared type	AZM24AK-HS50
Multi axis driver (EtherCAT)	AZD3A-KED

3

αSTEP Technology

αSTEP (AZ and AR Series) is a "hybrid" stepper motor-based motor & driver system that together combines the advantages of "**open loop**" set up programing with "**closed loop**" performance. In addition to high-accuracy positioning and speed control, it can perform control that restricts the motor's generated torque to a set value for push-motion operation.

There are two base motor / driver types within the αSTEP family of products. The **AZ** Series features an absolute sensor and the **AR** Series features a resolver based sensor.

AZ Series

No Battery Required
Built-in multiple rotation absolute sensor

Absolute (ABZO) Sensor

AR Series

Rotor Position Detection Sensor

Ideal Applications for αSTEP

Complete synchronization with commands

Complete stop during standby and maintenance of position (No hunting)

Frequent repetitive starting and stopping

CCD Camera
Low-vibration operation even at a speed near 0 r/min
Low Speed
High Speed

Transfer of large inertial load

Push-Motion Operation

4
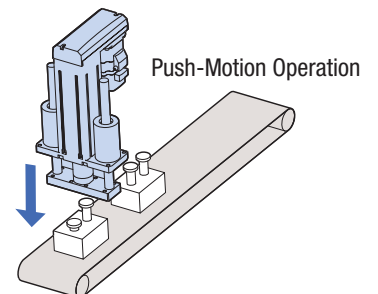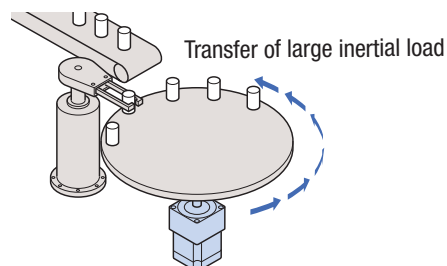
Family of Products

Drivers

Home Setting Method

The home position can be easily set by pressing a switch on the drivers surface, which is saved by the Mechanical Absolute Encoder. In addition, home setting is possible with the **MEXE02** support software or external input signal.

Home position is easy to adjust by moving the motor to a desired position manually.
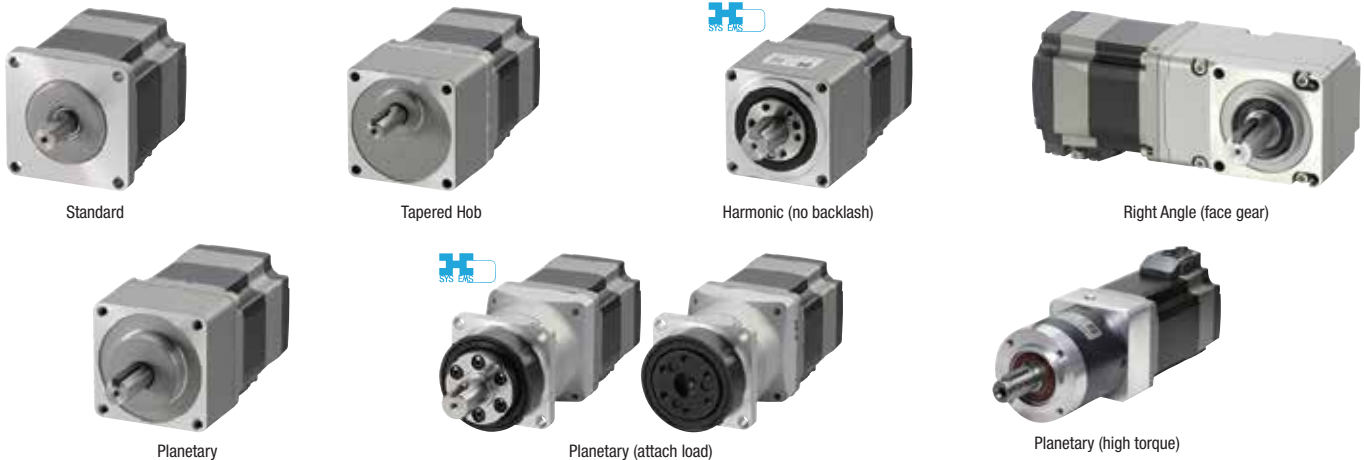
HOME PRESET Switch
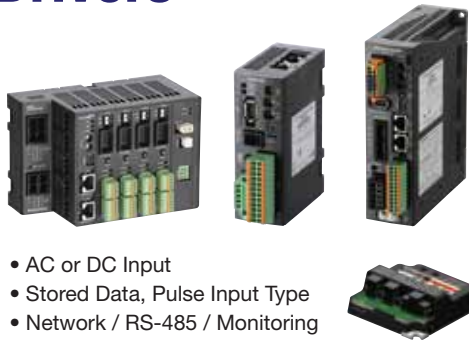
• AC or DC Input
• Stored Data, Pulse Input Type
• Network / RS-485 / Monitoring
• No Additional Sensors Required

EtherNet/IP ™   **EtherCAT.**®   **Modbus** (RTU)   **SSCNETIII/H** SERVO SYSTEM CONTROLLER NETWORK   **MECHATROLINK**   **PROFINET**

Motor/ Geared Types

Standard

Tapered Hob

Harmonic (no backlash)

Right Angle (face gear)

Planetary

Planetary (attach load)

Planetary (high torque)

Actuator Types

Linear Slides

Linear Cylinders

Rotary Actuators

Rack & Pinion

Compact Electric Cylinder

Gripper

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MECHATROLINK is a registered trademark of MECHATROLINK Members Association.
PROFINET is a trademark or a registered trademark of PROFIBUS Nutzerorganisation e.V. (PNO).

MEXE02: A Tool to Make All Data Setting Easy

● Support Software MEXE02 (Free Download)

Easy to use, even for people with no electrical design experience

Fundamental settings, such as editing operation data and parameter settings, can be performed easily from a computer.

Sequence control is possible, which allows for easy system configuration without a host sequence.
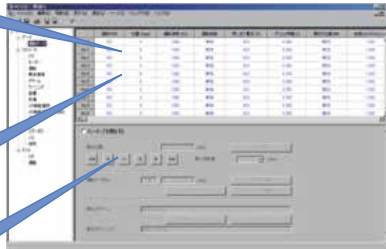
This is a function that allows the traveling amount, speed, etc. to be displayed and input in the designated units

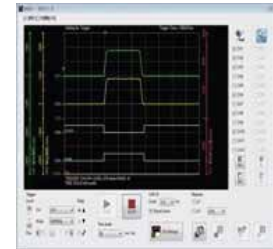Simplified program with simple sequence function

Settings can be copied and backed up

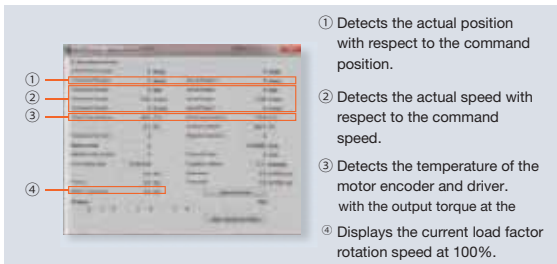Easy to understand and easy to use
Intuitive usability

Teaching can be performed from a PC

Built-in waveform monitor that can check signal input status
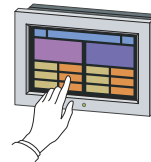
● Status Monitoring/ Preventative Maintenance

Besides operating speed, motor and driver temperature, load factor, and cumulative rotations, etc., status can also be monitored from the start of use. The desired signals can be output for these items, allowing for efficient maintenance.

① Detects the actual position with respect to the command position.

② Detects the actual speed with respect to the command speed.

③ Detects the temperature of the motor encoder and driver. with the output torque at the

④ Displays the current load factor rotation speed at 100%.

● Touch Screen (Commercially Available)

Used with stored data drivers, operating data can be directly overwritten from the touch screen, normally used for monitoring. This is useful for monitoring operation status and when settings must be changed due to set-up changes.