

AZ Series Multi-Axis Driver

DC Input

EtherCAT Drive Profile-Compatible

EtherCAT



4-Axis Type



3-Axis Type

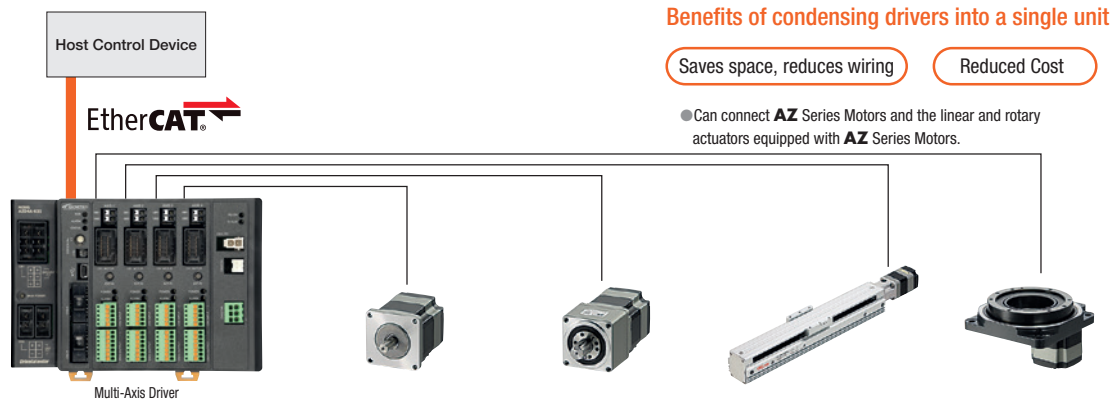


NEW 2-Axis Type

Multi-Axis Drivers can connect **AZ** Series DC input motors and the linear and rotary actuators equipped with them. Available for all products compatible with the EtherCAT drive profile-compatible.

Multi-Axis Drivers connect directly to the host network and can control up to 4 axes simultaneously

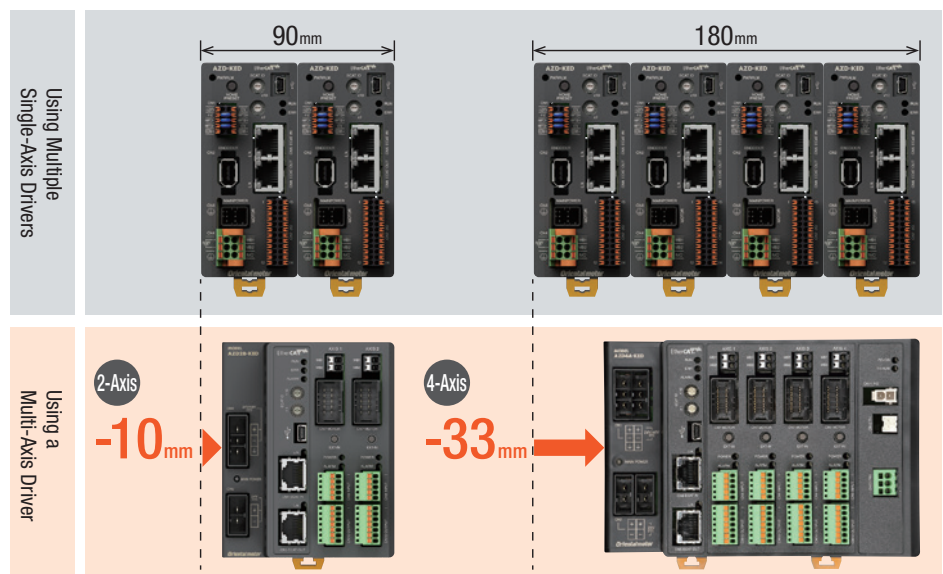
One driver can control multiple axes. Connections with the host network and the power supply are combined in a single driver, resulting in less wiring and lower costs.



● ESI files are available for EtherCAT-Compatible products. The files can be downloaded from the Oriental Motor website.

Multi-Axis Drivers (2-Axis Type, 4-Axis Type) are compact and save space by aligning Single-Axis Drivers

Multi-Axis Drivers can reduce installation space by aligning network-compatible Single-Axis Drivers.



● The above drivers compare the size of the **AZ** Series Single-Axis Drivers and Multi-Axis Drivers compatible with the EtherCAT Drive Profile.

■ Applicable Series

AZ Series Multi-Axis Driver DC Input can be used in combination with the following motors and linear & rotary actuators.

● Motors

- **αSTEP AZ** Series DC Input

● Linear & Rotary Actuators

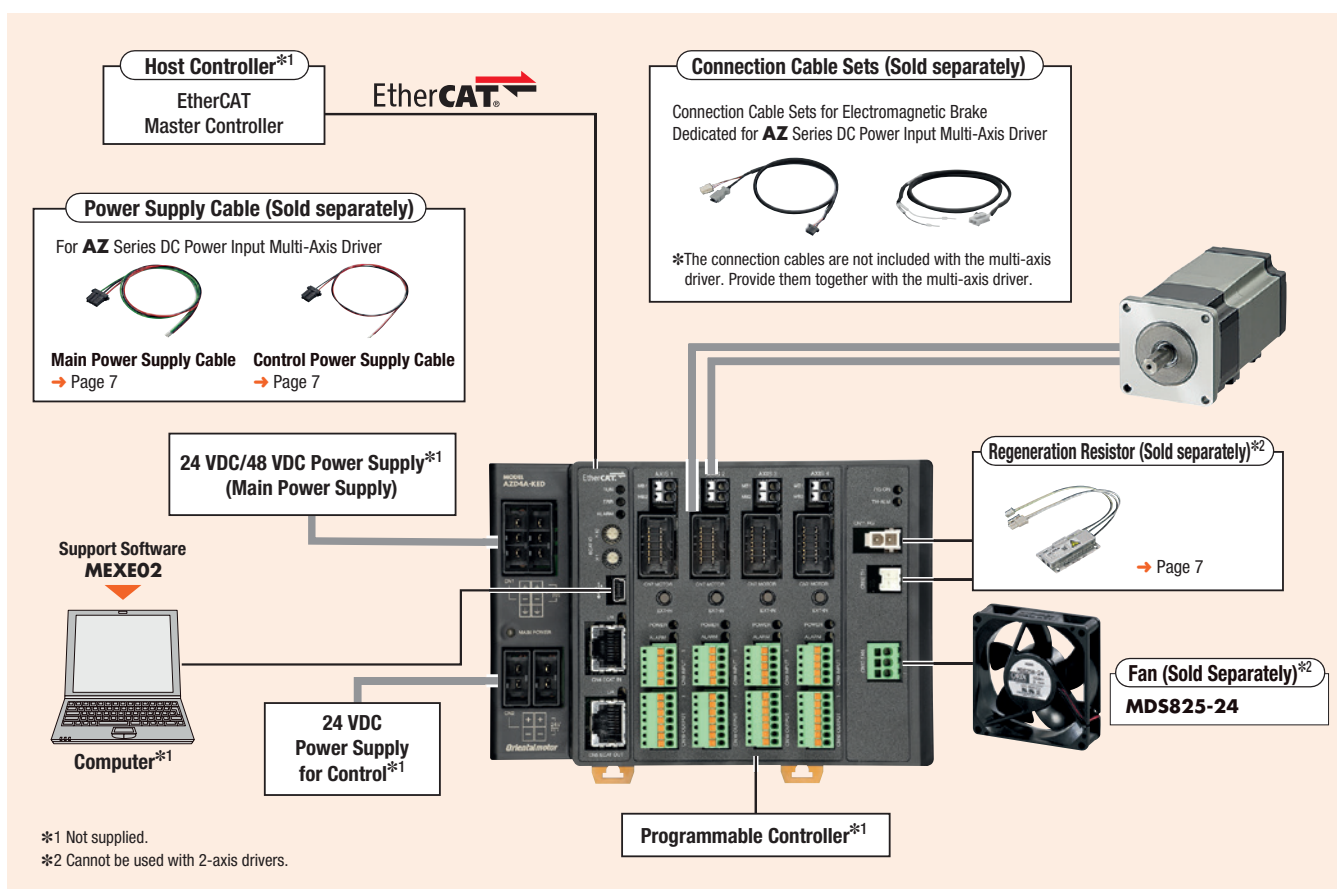
- **AZ** Series Equipped Electric Linear Slides **EAS** Series DC Input
- **AZ** Series Equipped Electric Linear Slides **EZS** Series DC Input
- **AZ** Series Equipped Electric Cylinders **EAC** Series DC Input
- **AZ** Series Equipped Compact Electric Cylinders **DR** Series / **DRS2** Series
- **AZ** Series Equipped Hollow Rotary Actuators **DGII** Series DC Input
- **AZ** Series Equipped Rack and Pinion Systems **L** Series DC Input

● Refer to the Oriental Motor website or the brochure for each series for details about the combinable motors and linear & rotary actuators.

■ System Configuration

● For EtherCAT Drive Profile Compatible

Sample system configuration when combined with **AZ** Series DC Input Standard Type with Electromagnetic Brake.



Product Number

Multi-Axis Drivers

AZD 4A - K ED

① ② ③ ④

Connection Cable Sets / Flexible Connection Cable Sets for AZ Series Multi-Axis Drivers

Connection Cable Sets for Motor

CC 050 V Z □ F A

① ② ③ ④ ⑤ ⑥ ⑧

Connection Cable Sets for Electromagnetic Brake Motor

CC 050 V Z F B A

① ② ③ ④ ⑥ ⑦ ⑧

①	Driver Type	AZD: AZ Series Driver
②	Number of Axes	2B: 2 Axes 3A: 3 Axes 4A: 4 Axes
③	Power Supply Input	K: 24 VDC/48 VDC
④	Network Type	ED: EtherCAT Drive Profile

①	CC: Cable		
②	Length	005: 0.5 m	010: 1 m
		020: 2 m	025: 2.5 m
		040: 4 m	050: 5 m
		100: 10 m	150: 15 m
③	Reference Number		
④	Applicable Model	Z: For AZ Series	
⑤	Reference Number	Blank: Frame Size 42 mm	
		[HPG Geared Type is 40 mm, 60 mm]	
		2: Frame Size 20 mm, 28 mm	
⑥	Cable Type	F: Connection Cable Set	
		R: Flexible Connection Cable Set	
⑦	Description	B: For Electromagnetic Brake Motor	
⑧	Driver Type	A: For Multi-Axis Driver	

Product Line

Multi-Axis Driver

EtherCAT Drive Profile Compatible



Product Name	Number of Axes
AZD2B-KED	2 Axes
AZD3A-KED	3 Axes
AZD4A-KED	4 Axes

AZ Series Catalog

- DC Input Motor Specifications
- DC Input Motor Characteristics
- DC Input Motor Dimensions
- Cables
 - Cables for I/O Signals
- Peripheral Equipment
 - Motor Mounting Brackets



● For details on the combinable motors and linear and rotary actuators, refer to the Oriental Motor website or the catalogs for each series.

● Connection Cable Sets / Flexible Connection Cable Sets for **AZ** Series Multi-Axis Drivers

◇ For Motor / Encoder

Applicable Products: **AZM14, AZM15, AZM24, AZM26, DGM60, DR20, DR28**

Length L [m]	Connection Cable Set	Flexible Connection Cable Set
0.5	CC005VZ2FA	CC005VZ2RA
1	CC010VZ2FA	CC010VZ2RA
1.5	CC015VZ2FA	CC015VZ2RA
2	CC020VZ2FA	CC020VZ2RA
2.5	CC025VZ2FA	CC025VZ2RA
3	CC030VZ2FA	CC030VZ2RA
4	CC040VZ2FA	CC040VZ2RA
5	CC050VZ2FA	CC050VZ2RA
7	CC070VZ2FA	CC070VZ2RA
10	CC100VZ2FA	CC100VZ2RA
15	CC150VZ2FA	CC150VZ2RA
20	CC200VZ2FA	CC200VZ2RA



Applicable Products: **AZM46, AZM48, AZM66, AZM69, DGB85, DGM85, DGB130, DGM130, DRSM40, DRSM60, LM2, LM4**

Length L [m]	Connection Cable Set	Flexible Connection Cable Set
0.5	CC005VZFZA	CC005VZRZA
1	CC010VZFZA	CC010VZRZA
1.5	CC015VZFZA	CC015VZRZA
2	CC020VZFZA	CC020VZRZA
2.5	CC025VZFZA	CC025VZRZA
3	CC030VZFZA	CC030VZRZA
4	CC040VZFZA	CC040VZRZA
5	CC050VZFZA	CC050VZRZA
7	CC070VZFZA	CC070VZRZA
10	CC100VZFZA	CC100VZRZA
15	CC150VZFZA	CC150VZRZA
20	CC200VZFZA	CC200VZRZA



◇ For Motor / Encoder / Electromagnetic Brake

Applicable Products: **AZM46, AZM48, AZM66, AZM69, DGB85, DGM85, DGB130, DGM130, DRSM40, DRSM60, LM2, LM4**

Length L [m]	Connection Cable Set	Flexible Connection Cable Set
0.5	CC005VZFBA	CC005VZRBA
1	CC010VZFBA	CC010VZRBA
1.5	CC015VZFBA	CC015VZRBA
2	CC020VZFBA	CC020VZRBA
2.5	CC025VZFBA	CC025VZRBA
3	CC030VZFBA	CC030VZRBA
4	CC040VZFBA	CC040VZRBA
5	CC050VZFBA	CC050VZRBA
7	CC070VZFBA	CC070VZRBA
10	CC100VZFBA	CC100VZRBA
15	CC150VZFBA	CC150VZRBA
20	CC200VZFBA	CC200VZRBA



Cable for Motor



Cable for Electromagnetic
Brake

Note

● Only connection cables are offered for the dedicated multi-axis driver cables. **AZ** Series extension cables cannot be used.

■ Included

● Multi-Axis Driver

Network Type, Number of Axes	Included	CN1 Connector	CN2 Connector	CN1, CN2 Contact	CN9 Connector	CN10 Connector
EtherCAT Compatible	2 Axes	1 pc.	1 pc.	5 pcs.	2 pcs.	2 pcs.
	3 Axes	2 pcs.	2 pcs.	10 pcs.	3 pcs.	3 pcs.
	4 Axes	2 pcs.	2 pcs.	10 pcs.	4 pcs.	4 pcs.

Specifications

● Power Supply Input

Main Power Supply: 24 VDC/48 VDC $\pm 10\%$ 7.0 A (7.0 A max. Use with an average of 4.0 A max.)

Control Power Supply: 24 VDC $\pm 10\%$ 1.5 A (For electromagnetic brake type, use a 24 VDC $\pm 5\%$ power supply)
 <For electromagnetic brake type [when using 20 m connection cable],
 use a 24 VDC $\pm 4\%$ power supply>

● Communication Specifications

◇ EtherCAT Specification

Transmission Rate	100 Mbps
Communication Cycle	<ul style="list-style-type: none"> Free Run Mode: 1 ms min. SM2 Event Synchronization Mode: 1 ms min. DC Mode: 0.5 ms, 1 ms, 2 ms, 3 ms, 4 ms, 5 ms, 6 ms, 7 ms, 8 ms
Node Address	0 to 255 (00h to FFh, Initial Value: 00h)
Communication Protocol	Dedicated Protocol for EtherCAT (CoE) CiA402 Drive Profile

● General Specifications

Degree of Protection	IP10
Operating Environment	Ambient Temperature: 0 to +50°C (non-freezing) Humidity: 85% or less (non-condensing) Altitude: Up to 1000 m above sea level Atmosphere: No corrosive gas or dust. The product should not be exposed to water or oil.
Storage Conditions Transportation Conditions	Ambient Temperature: -25 to +70°C (non-freezing) Humidity: 85% or less (non-condensing) Altitude: Up to 3000 m above sea level Atmosphere: No corrosive gas or dust. The product should not be exposed to water or oil.
Insulation Resistance	100 M Ω or more when 500 VDC megger is applied between the following places: · FG terminal – Power supply terminal
Dielectric Strength	Sufficient to withstand the following for 1 minute: · FG terminal - Power supply terminal 1 kVAC 50/60 Hz Leak current 10 mA or less

Note

- Disconnect the motor and driver when taking an insulation resistance measurement or performing a dielectric voltage withstand test.
 Also, do not perform these tests on the absolute sensor part of the motor.

■ Dimensions Unit: mm

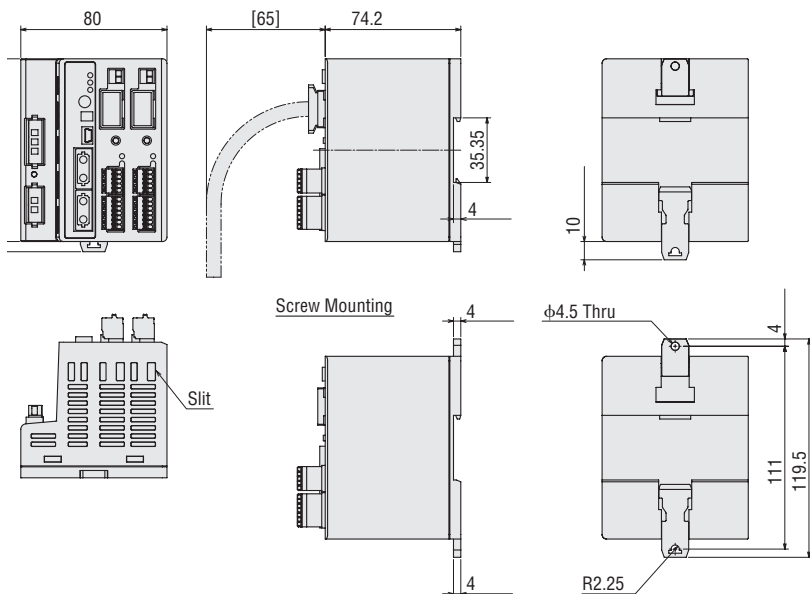
● Multi-Axis Drivers

◇ 2 Axes

Network Type Number of Axes	EtherCAT Compatible	Mass [kg]
	Product Name	
2 Axes	AZD2B-KED	0.24

● Dimensions and included items are common to all drivers in the table.

DIN Rail Mounting



● Included Items

- Main Power Connector: F32FSS-03V-KX (JST)
- Control Power Connector: F32FSS-02V-KX (JST)
- Contact for Main Power Connector & Control Power Connector: LF3F-41GF-P2.0 (JST)
- Input Signal Connector: FK-MC 0,5/ 5-ST-2,5 (Phoenix Contact)
- Output Signal Connector: FK-MC 0,5/ 7-ST-2,5 (Phoenix Contact)
- Connector Cap (SSCNET III/H-Compatible only)

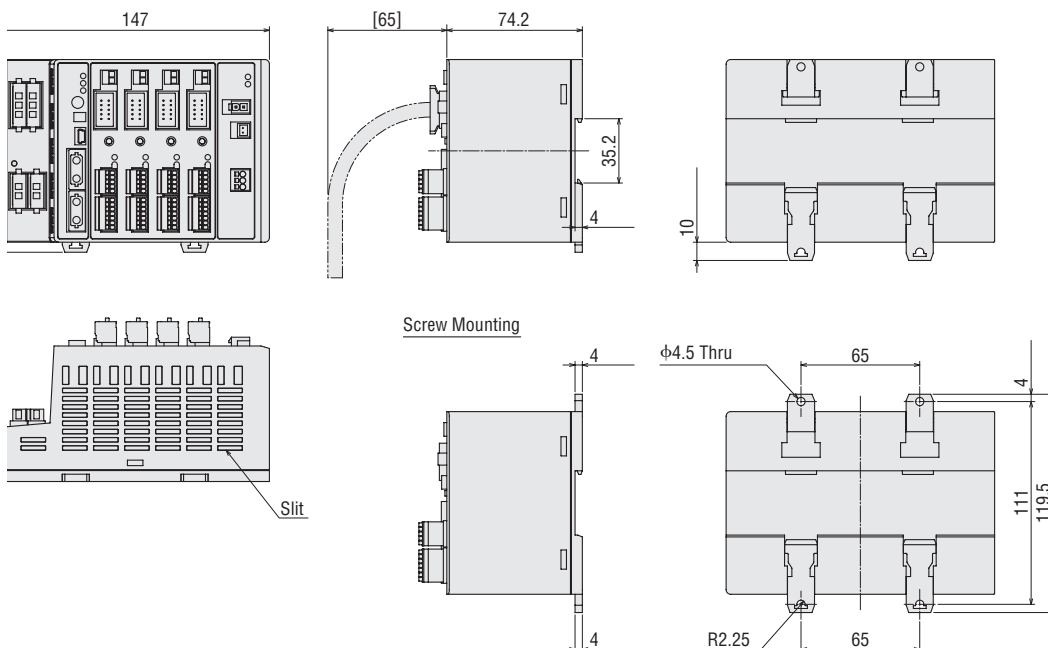
◇ 3 Axes, 4 Axes

Network Type Number of Axes	EtherCAT Compatible	Mass [kg]
	Product Name	
3 Axes	AZD3A-KED	0.42
4 Axes	AZD4A-KED	0.45

● Dimensions shows **AZD4A-KED**

● Dimensions and included items are common to all drivers in the table.

DIN Rail Mounting



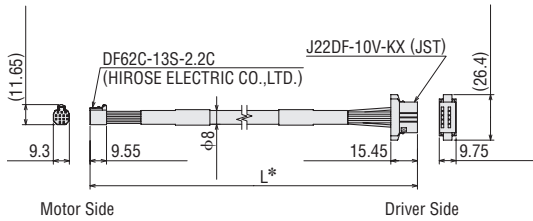
● Included Items

- Common to 2-Axis driver.

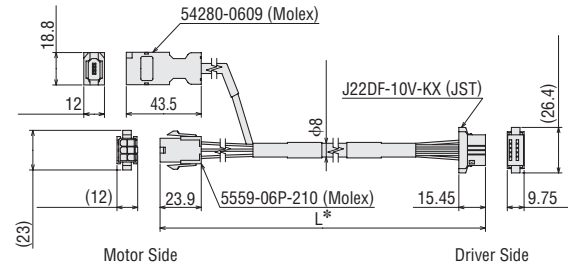
● Connection Cable Sets, Flexible Connection Cable Sets

◇ Cable for Motor

Model Name: **CC□□□VZ2FA, CC□□□VZ2RA**

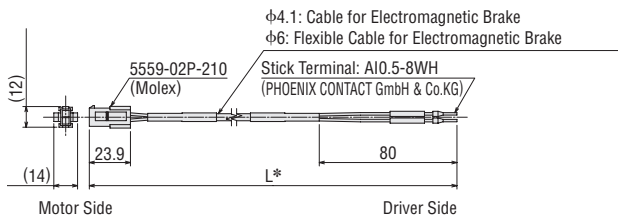


Model Name: **CC□□□VZFA, CC□□□VZRA**



◇ Cable for Electromagnetic Brake

Model Name: **CC□□□VZFBA, CC□□□VZRBA**



* The length L [m] is specified where L is located in the dimensions in "Product Line" on page 4.

● A number indicating the cable length is entered where the box □ is located within the product name.

■ Cables and Accessories

● Power Supply Cables

These are lead wires with a connector for **AZ** Series Multi-Axis Drivers. Connecting the main power supply and control power supply is easy.

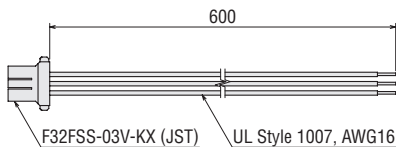
◇ Product Line

Product Name	Type
LC03D06A	For Main Power Supply
LC02D06A	For Control Power Supply

◇ Dimensions Unit: mm

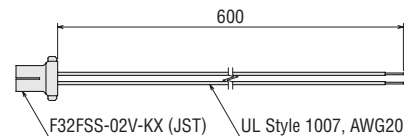
Main Power Supply Cable

LC03D06A



Control Power Supply Cable

LC02D06A



● Regeneration Resistor

During vertical drive (gravitational operation) or sudden start/stop in large inertia, an external force causes the motor to rotate and function as a power generator. When the regenerative power exceeds the driver's regenerative power absorption capacity, it may cause damage to the motor. In such a case, connect the regeneration resistor to the driver to convert regenerative power into thermal energy for dissipation. Alarms can occur easily when a 48 VDC power supply is used with a multi-axis driver, so use of a regeneration resistor is recommended.

Note

● Cannot be used with a 2-axis driver.

◇ Product Line

Product Name
RGC40

◇ Specifications

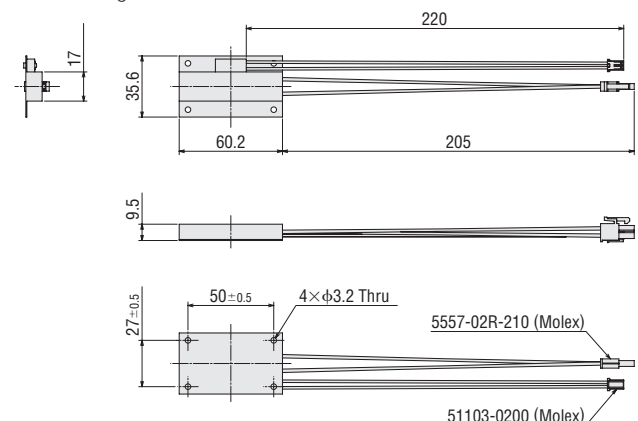
Permissible Power Consumption	Continuous Regenerative Power: 40 W* Instantaneous Regenerative Power: 400 W
Resistance Value	15 Ω
Thermostat Operating Temperature	Operation: Opens at 95±5°C Reset: Closes at 65±15°C (Normally Closed)
Thermostat Electrical Rating	250 VAC, 0.5 A (Min. Current 1.5 VDC, 1 mA)

*Install the regeneration resistor in a location that has the same heat radiation capability as the heat sink [Material: Aluminum 180×150 mm, 2 mm thick].

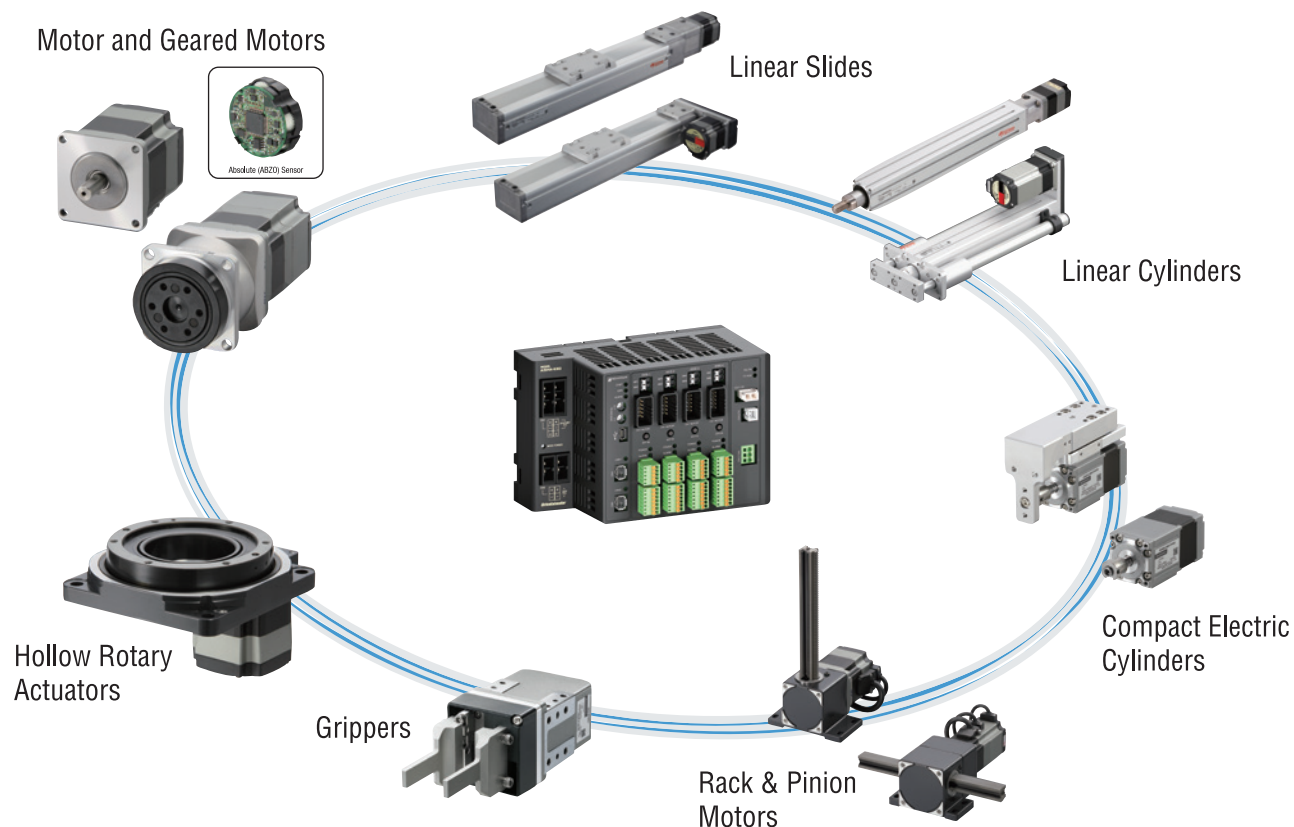


◇ Dimensions Unit: mm

Mass: 0.03 kg



αSTEP Family of Products



Orientalmotor

These products are manufactured at plants certified with the international standards **ISO 9001** (for quality assurance) and **ISO 14001** for systems of environmental management).

Specifications are subject to change without notice. This catalogue was published in March 2025.

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