

Linear & Rotary Actuators

# Hollow Rotary Actuators

Overview

Electric  
Linear  
Slides

*α*STEP AZ  
EZS

Electric  
Cylinders

*α*STEP AZ  
EAC

*α*STEP AZ  
DRS2

Hollow  
Rotary  
Actuators

*α*STEP AZ  
DGII

DGII Series  
*α*STEP AZ Equipped

Page

DGII Series *α*STEP AZ Equipped ..... F-42

# Hollow Rotary Actuators DGII Series $\alpha$ STEP AZ Equipped



● For detailed information about regulations and standards, please see the Oriental Motor website.



The **DGII** Series is a line of products that combines a high rigidity hollow rotary table with a Hybrid Control System  $\alpha$ STEP AZ Series. It retains the ease of use of an  $\alpha$ STEP, while also allowing for highly accurate positioning of large inertia loads.

- Integrated Actuator and Motor Product Makes Design Easier
- Large-Diameter Hollow Output Table  
Diameter of Hollow Section is 100 mm (3.94 in.)
- An  $\alpha$ STEP Provides Excellent Performance
  - Agile Responsiveness
  - Stability at Low Speeds
  - Tuning-Free



See Full Product Details Online  
[www.orientalmotor.com](http://www.orientalmotor.com)

● Manual

● Specifications

● Dimensions

● CAD

● Characteristics

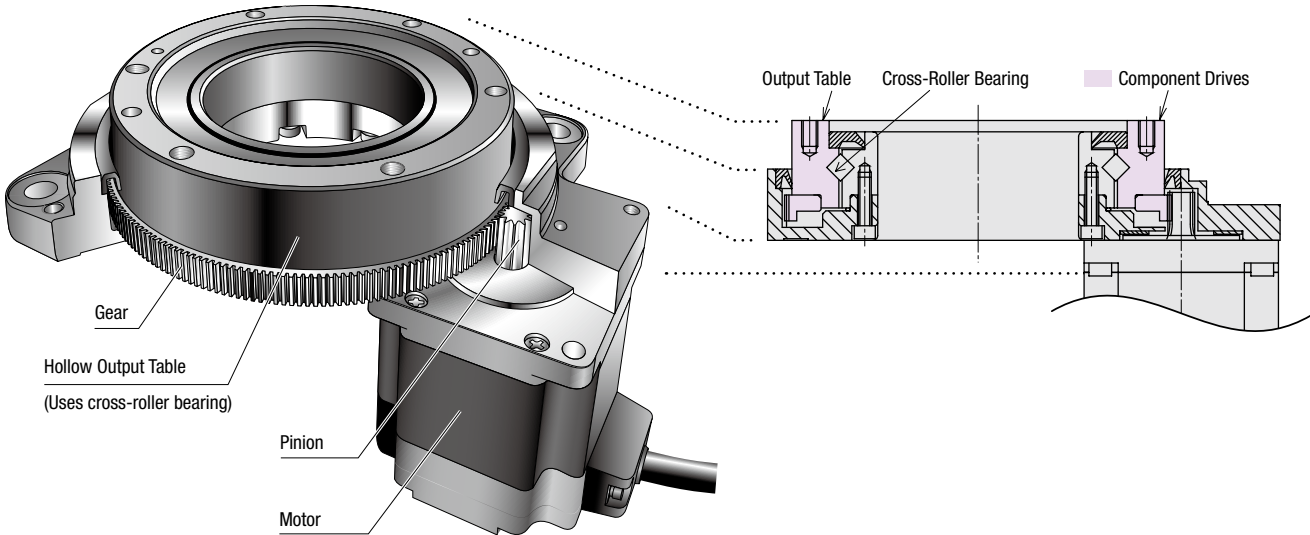
● Connection and Operation

## Features

### Integrated Products

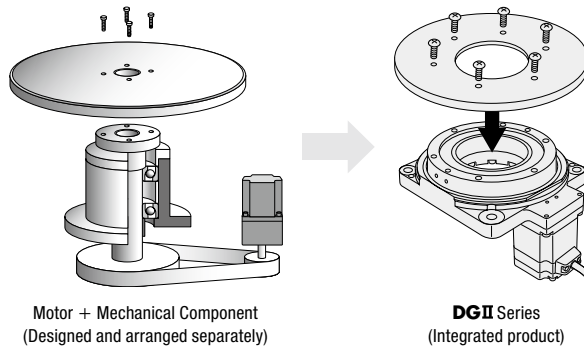
The **DGII** Series is a line of integrated product that combines a hollow rotary table with an  $\alpha$ STEP. The actuator has an internal speed reduction mechanism (gear ratio 18), which makes high power driving possible.

This product achieves both high power and high rigidity by adopting the cross-roller bearing on the hollow output table.



## Simplified Design

Tables and arms can be installed directly onto the output table. This saves the hassle and cost of designing an installation mechanism, arranging necessary mechanism parts, adjusting the belt tension, etc., when mechanical components such as a belt and pulley are used for installation.



Motor + Mechanical Component  
(Designed and arranged separately)

**DGII Series**  
(Integrated product)

## High Positioning Accuracy with Non-Backlash

- Non-Backlash
- Repetitive Positioning Accuracy  $\pm 15$  arc seconds ( $\pm 0.004^\circ$ )

**Note**

The repetitive positioning accuracy is measured at a constant temperature (normal temperature) under a constant load.

## Mounting Pedestals (Sold separately) are Available as an Accessory

Mounting pedestal accessories are available to assist with the installation of the **DGII Series**.



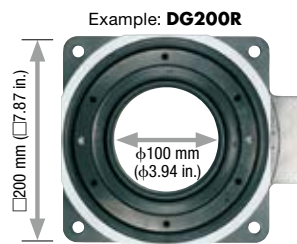
Application Example

Mounting Pedestals  
(Sold separately)

## Large-Diameter, Hollow Output Table Makes Simple Wiring and Piping Possible

The large diameter hollow hole (through-hole) helps reduce the complexity of wiring and piping, thus simplifying equipment design.

- Filling equipment with piped-in liquid



	Frame Size [mm (in.)]	Diameter of Hollow Section [mm (in.)]
<b>DG85R</b>	85 (3.35)	33 (1.3)
<b>DG130R</b>	130 (5.12)	62 (2.44)
<b>DG200R</b>	200 (7.87)	100 (3.94)

Overview

Electric  
Linear  
Slides

$\alpha$ STEP AZ  
EVS

Electric  
Cylinders

$\alpha$ STEP AZ  
EAC

$\alpha$ STEP AZ  
DRS2

Hollow  
Rotary  
Actuators

$\alpha$ STEP AZ  
DGII

## High Load and High Rigidity

The standard type uses a cross-roller bearing on the output table bearing, which allows for both high load and high rigidity.

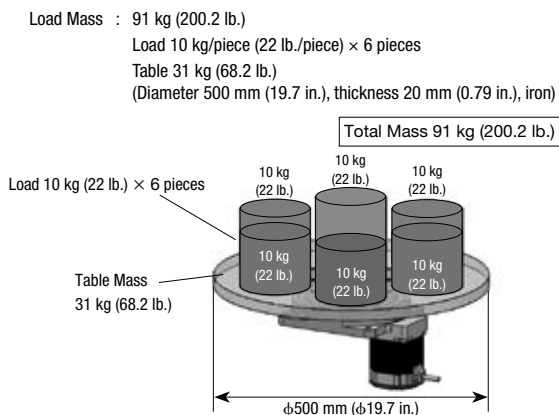
- Maximum Permissible Axial Load 4000 N (900 lb.)
- Maximum Permissible Moment 100 N·m (880 lb-in)

### <Example Operation>

Actuators Name : **DGM200R-AZAC**  
 Driver : **AZD-CD**  
 Power-Supply Input : 230 VAC  
 Overhang Distance : 160 mm (6.3 in.)  
 Installation Direction : Horizontal

#### ● High Load

e.g. When operating the actuator in a state where 6 loads are placed on the table.



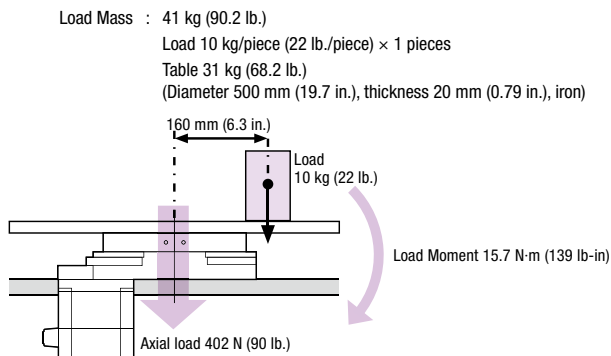
#### [Axial Load]

$[10 \text{ kg (22 lb.)} \times 6 \text{ pieces} + 31 \text{ kg (68.2 lb.)}] \times 9.807 \text{ m/s}^2 \doteq 893 \text{ N (201 lb.)}$   
 The axial load for a total mass of 91 kg (200.2 lb.) is 893 N (201 lb.).  
 The permissible axial load of the **DG200R** is 4000 N (900 lb.), so this is within the permissible value.

### High Load Driving is Possible

#### ● High Rigidity

e.g. When operating the actuator in a state where a load is placed at a distance of 160 mm (6.3 in.) from the center of the table.



#### [Load Moment]

$10 \text{ kg (22 lb.)} \times 9.807 \text{ m/s}^2 \times 0.16 \text{ m (6.3 in.)} \doteq 15.7 \text{ N-m (139 lb-in)}$   
 When a 10 kg (22 lb.) load is placed 160 mm (6.3 in.) from the center of the table, the moment is 15.7 N-m (139 lb-in).  
 The permissible moment of the **DG200R** is 100 N·m (880 lb-in), so this is within the permissible value.

#### [Axial Load]

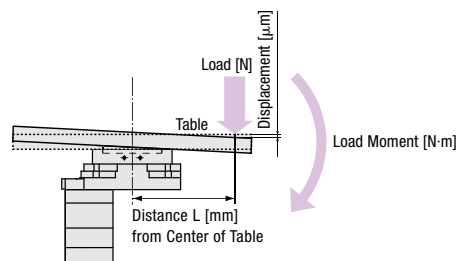
$[31 \text{ kg (68.2 lb.)} + 10 \text{ kg (22 lb.)}] \times 9.807 \text{ m/s}^2 \doteq 402 \text{ N (90 lb.)}$   
 The axial load of total mass 41 kg (90.2 lb.) is 402 N (90 lb.).

The permissible axial load of the **DG200R** is 4000 N (900 lb.), so this is within the permissible value.

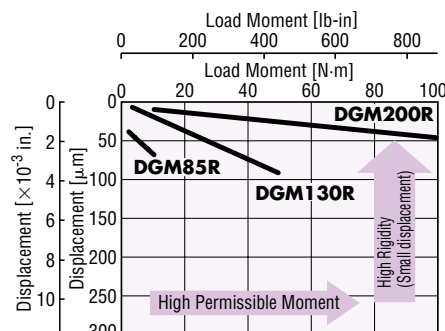
A high-rigidity rotary actuator allows a large load that is far away from the table center to be driven

### [Relationship Between Load Moment and Displacement when Distance L=200 mm (7.87 in.) from Center of Table]

The larger the frame size, the received permissible moment increases, but the displacement caused by the load moment decreases.



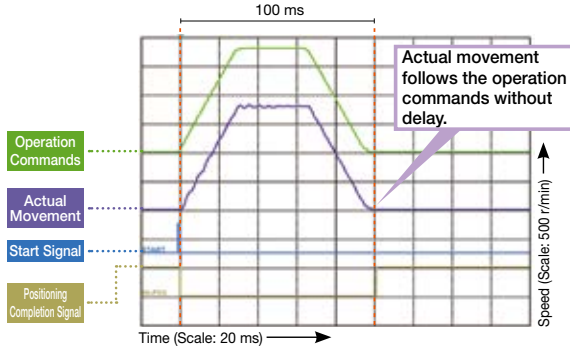
Displacement at Distance L = 200 mm (7.87 in.) from Center of Table



## High Performance and High Reliability Unique to Hybrid Control System $\alpha$ STEP

### ● Short Time Positioning with Agile Responsiveness

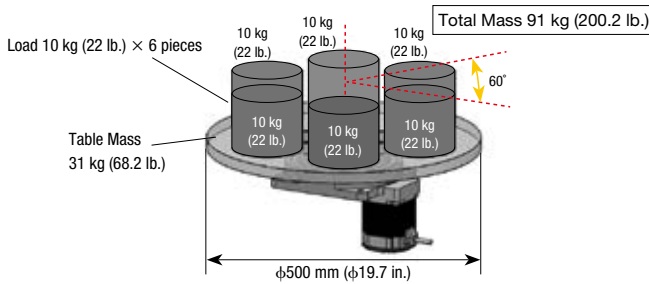
The  $\alpha$ STEP enables short distance positioning in short time. The  $\alpha$ STEP operates in synchronization with the pulse commands, and it also has superior performances in acceleration and responsiveness because of its compact size and high torque characteristics.



### [Example Operation]

- Actuators Name : **DGM200R-AZAC**
- Driver : **AZD-CD**
- Power Supply Input : 230 VAC
- Load Mass : 91 kg (200.2 lb.)  
 Load 10 kg/piece (22 lb./piece) × 6 pieces  
 Table 31 kg (68.2 lb.)  
 (Diameter 500 mm (19.7 in.), thickness 20 mm (0.79 in.), iron)
- Installation Direction : Horizontal
- Traveling Amount : 60°

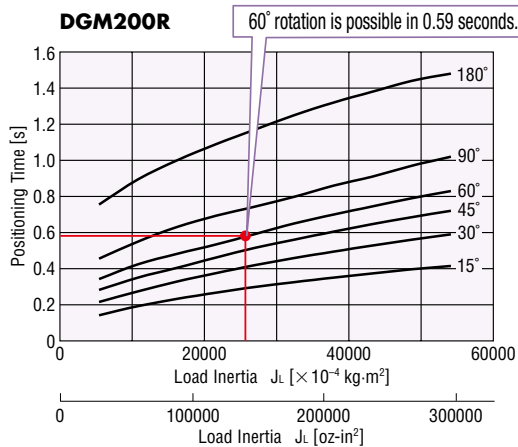
Total inertia of table and load =  $26330 \times 10^{-4} \text{ kg}\cdot\text{m}^2$  (144000 oz-in<sup>2</sup>)



### ● Quick Positioning

With the **DGM200R**, 60° rotation of a total mass of 91 kg (200.2 lb.) is possible in 0.59 seconds.

Load Inertia – Positioning Time (Reference value)



The positioning time can be inferred using catalog data.

Quick positioning is possible even with large loads.

Overview

Electric Linear Slides

$\alpha$ STEP AZ EZS

Electric Cylinders

$\alpha$ STEP AZ EAC

$\alpha$ STEP AZ DRS2

Hollow Rotary Actuators

$\alpha$ STEP AZ DGII

## αSTEP AZ Equipped Simple Home Position Setting and Return-to-Home Thanks to Absolute System

The patented Absolute Sensor, a newly developed small mechanical multi-turn sensor. Contributes to improved productivity and cost reduction.



### ● No Home Sensor Required

Because it is an absolute system, no home sensor is required.

### ◇ Reduced Cost

Sensor costs and wiring costs can be reduced, allowing for lower system costs.

### ◇ Simple Wiring

Wiring is simplified, and the degree of freedom for equipment design is increased.

### ◇ Not Affected by Sensor Malfunctions

No need to worry about sensor malfunctions, sensor damage or sensor disconnection.

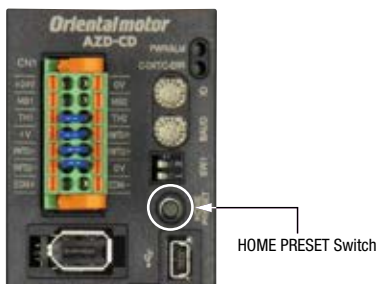
### ◇ Improved Return-to-Home Accuracy

Home position accuracy is increased because the return-to-home action is performed regardless of any variations in home sensor sensitivity.

\*If no limit sensor is installed, movements that exceed the limit values can be avoided through the use of the limits in the driver software.

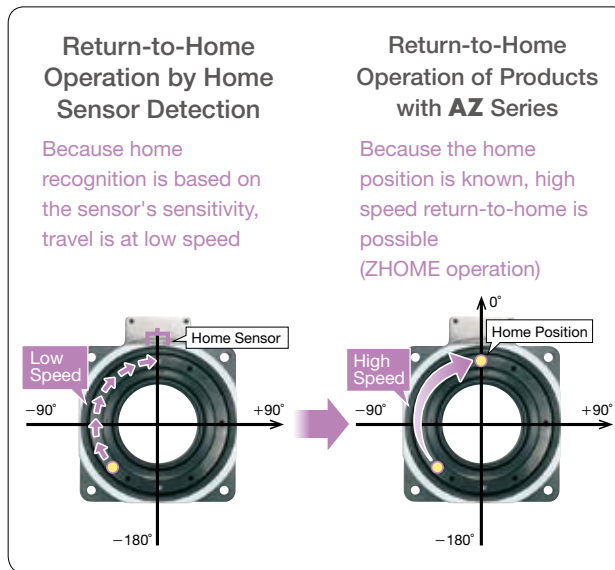
### ◇ Easy Home Position Setting

The home position can be easily set by pressing a switch on the driver's surface, which is saved by the absolute sensor. In addition, home setting is possible with the **MEXE02** Support software or by using an external input signal.



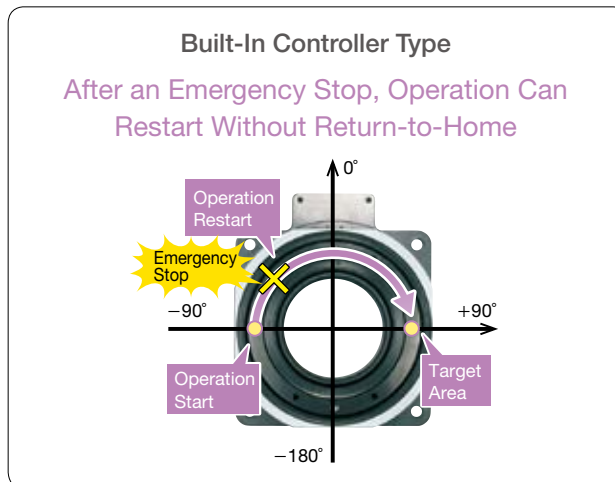
### ● High-Speed Return-to-Home Operation

Because return-to-home is possible without using a home sensor, return-to-home can be performed at high speed without taking the specifications for sensor sensitivity into account, allowing for a shortened machine cycle.



### ● Return-to-Home Not Required

Even if the power shuts down during a positioning operation, the positioning information is retained. Furthermore, for built-in controller types, positioning operations can restart without a return-to-home when recovering from an emergency stop of the production line or a blackout.



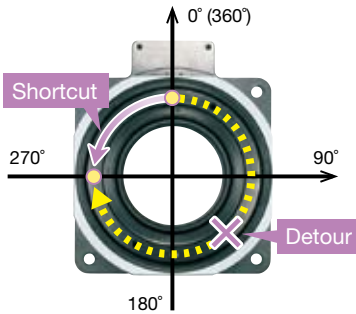
## Convenient Functions Thanks to the Use of the **AZ** Series

### ● Convenient Operation & Setting

By using models with **AZ** Series functions, coordinate management on the hollow rotary actuator output table can be carried out, and the following operations are possible.

#### ◇ Reduce takt time with short-cut operations

This is an operation method in which the actuator rotates in the direction that is the shortest distance to the target position. This can reduce the takt time of the equipment.



Example)  
When moving from the 0° position to 270° position, counterclockwise movement is automatically selected as the shortest rotation direction.

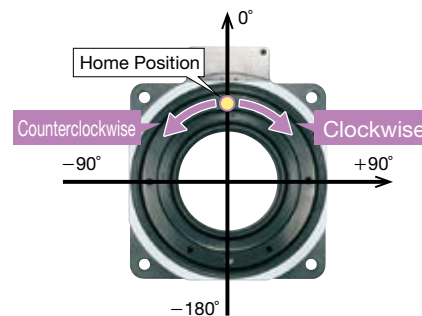
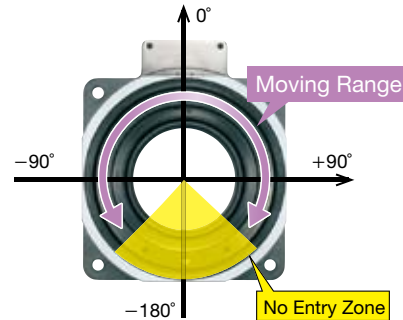
### ● Reduced Equipment Setup Time

The necessary operation parameters for the hollow rotary actuator are set at the time of shipment, which contributes to reduced equipment setup time.

- Home Position
- Resolution Setting (0.01°/step)
- Output Table Rotation Direction Setting
- Round Setting  $\pm 180^\circ$
- All initial setting values can be changed.

#### ◇ Simple control by setting no-entry zones

If there are obstructions on the equipment, it is possible to set a region on the output table that will be avoided.



Overview

Electric Linear Slides

$\alpha$ STEP AZ EZS

Electric Cylinders

$\alpha$ STEP AZ EAC

$\alpha$ STEP AZ DRS2

Hollow Rotary Actuators

$\alpha$ STEP AZ DGII

## Applications

- Applications that Require High Rigidity
- ◇ Applications in which a Moment Load is Applied (Ceiling installation)



- Applications that Require High Performance Motors
- ◇ High Positioning Accuracy (Image inspection equipment)



- ◇ Applications with Load Fluctuations (Disc manufacturing equipment)

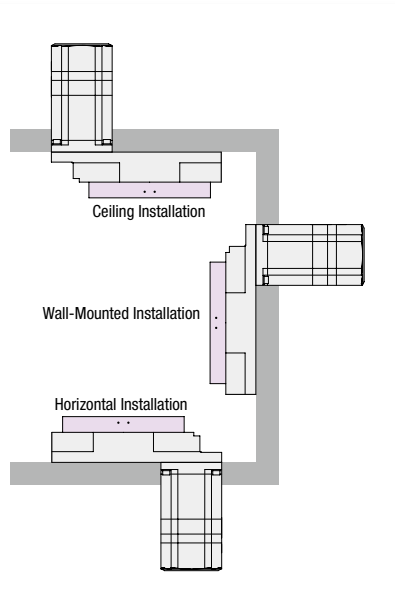


## Install in Any Direction

The **DGII** Series can not only be installed horizontally, but can also be ceiling mounted or wall mounted. More options for equipment design.

**Note**

A small amount of grease will occasionally seep out of the hollow rotary actuator. If a grease leak would cause a contamination issue near the machine, either perform routine inspections, or install protective equipment such as an oil sump.



















## Product Line

### DGII Series Hollow Rotary Actuator

Equipped with **AZ** Series Built-in Battery-Free Absolute Sensor

**AC** Single-Phase 100-115 VAC, Single-Phase/  
Three-Phase 200-230 VAC

**DC** 24/48 VDC

Actuators											Driver					
Product Name, Frame Size, Power Supply Input	Electromagnetic Brake	Diameter of Hollow Section [mm(in.)]	Permissible Torque [N·m(lb-in.)]	Permissible Moment Load [N·m(lb-in.)]				Permissible Axial Load [N(lb.)]				Lost Motion [arcmin] (degrees)	Backlash [arcmin]	Angular Transmission Accuracy [arcmin] (degrees)	Repetitive Positioning Accuracy [arcsec] (degrees)	Type
				20	40	60	80	500	1000	2000	3000					
<b>DGM85R</b> 85 mm (3.35 in.)  <b>AC</b> <b>DC</b>	Not equipped	φ33 (1.3)	4.5 (39)	10(88)	500(112)	2 (0.033°)	4 (0.067°)	±15 (±0.004°)	Built-in Controller  <b>AC</b> <b>DC</b>	Pulse Input with RS-485 Communication  <b>AC</b> <b>DC</b>	Pulse Input  <b>AC</b> <b>DC</b>	Network Compatible Multi-Axis Driver  <b>DC</b>	Overview			
	Equipped													Electric Linear Slides <b>αSTEP AZ EZS</b>		
<b>DGM130R</b> 130 mm (5.12 in.)  <b>AC</b> <b>DC</b>	Not equipped	φ62 (2.44)	12 (106)	50 (440)	2000 (450)	2 (0.033°)	3 (0.05°)	±15 (±0.004°)	Built-in Controller  <b>AC</b> <b>DC</b>	Pulse Input with RS-485 Communication  <b>AC</b> <b>DC</b>	Pulse Input  <b>AC</b> <b>DC</b>	Hollow Rotary Actuators <b>αSTEP AZ DRS2</b>				
	Equipped												Electric Cylinders <b>αSTEP AZ EAC</b>			
<b>DGM200R</b> 200 mm (7.87 in.)  <b>AC</b>	Not equipped	φ100 (3.94)	50 (440)	100 (880)	4000 (900)	2 (0.033°)	2 (0.033°)	±15 (±0.004°)	Built-in Controller  <b>AC</b> <b>DC</b>	Pulse Input with RS-485 Communication  <b>AC</b> <b>DC</b>	Pulse Input  <b>AC</b> <b>DC</b>	Network Compatible Multi-Axis Driver  <b>DC</b>	Hollow Rotary Actuators <b>αSTEP AZ DGII</b>			
	Equipped													Electric Cylinders <b>αSTEP AZ DRS2</b>		

Hollow Rotary Actuators

# DGII Series $\alpha$ STEP AZ Equipped AC Input

## Product Number

● Hollow Rotary Actuators

**DGM 130 R - AZ A C**

①      ②      ③      ④      ⑤      ⑥

①	Series Name	<b>DGM : DGII Series Actuator</b>
②	Frame Size	<b>85</b> : 85 mm (3.35 in.) <b>130</b> : 130 mm (5.12 in.) <b>200</b> : 200 mm (7.87 in.)
③	Type of Output Table Supporting Bearing	<b>R</b> : Cross-Roller Bearing
④	Motor Type	<b>AZ</b> : AZ Series
⑤	Motor Configuration	<b>A</b> : Single Shaft <b>M</b> : With Electromagnetic Brake
⑥	Motor Specification	<b>C</b> : AC Power Supply Input Specification

● Driver

**AZD - C D**

①      ②      ③

①	Driver Type	<b>AZD</b> : AZ Series Driver
②	Power Supply Input	<b>A</b> : Single-Phase 100-120 VAC <b>C</b> : Single-Phase /Three-Phase 200-240 VAC
③	Type	<b>D</b> : Built-in Controller Type <b>X</b> : Pulse Input Type with RS-485 Communication Blank : Pulse Input Type

● Connection Cable Sets/Flexible Connection Cable Sets

**CC 050 V Z F B**

①      ②      ③      ④      ⑤      ⑥

①		<b>CC</b> : Cable
②	Length	<b>010</b> : 1 m (3.3 ft.) <b>020</b> : 2 m (6.6 ft.) <b>030</b> : 3 m (9.8 ft.) <b>050</b> : 5 m (16.4 ft.) <b>070</b> : 7 m (23.0 ft.) <b>100</b> : 10 m (32.8 ft.) <b>150</b> : 15 m (49.2 ft.) <b>200</b> : 20 m (65.6 ft.)
③	Reference Number	
④	Applicable Models	<b>Z</b> : AZ Series
⑤	Cable Type	<b>F</b> : Connection Cable Sets <b>R</b> : Flexible Connection Cable Sets
⑥	Electromagnetic Brake	Blank : Without Electromagnetic Brake <b>B</b> : With Electromagnetic Brake

## Product Line

● Hollow Rotary Actuators



◇ Single Shaft

Frame Size	Product Name	List Price
85 mm (3.35 in.)	<b>DGM85R-AZAC</b>	\$1,752.00
130 mm (5.12 in.)	<b>DGM130R-AZAC</b>	\$1,978.00
200 mm (7.87 in.)	<b>DGM200R-AZAC</b>	\$2,362.00



◇ With Electromagnetic Brake

Frame Size	Product Name	List Price
85 mm (3.35 in.)	<b>DGM85R-AZMC</b>	\$1,910.00
130 mm (5.12 in.)	<b>DGM130R-AZMC</b>	\$2,181.00
200 mm (7.87 in.)	<b>DGM200R-AZMC</b>	\$2,588.00

● Driver

◇ Built-in Controller Type



Power Supply Input	Product Name	List Price
Single-Phase 100-120VAC	<b>AZD-AD</b>	\$588.00
Single-Phase/Three-Phase 200-240VAC	<b>AZD-CD</b>	\$588.00

◇ Pulse Input Type with RS-485 Communication



Power Supply Input	Product Name	List Price
Single-Phase 100-120VAC	<b>AZD-AX</b>	\$588.00
Single-Phase/Three-Phase 200-240VAC	<b>AZD-CX</b>	\$588.00

◇ Pulse Input Type



Power Supply Input	Product Name	List Price
Single-Phase 100-120VAC	<b>AZD-A</b>	\$531.00
Single-Phase/Three-Phase 200-240VAC	<b>AZD-C</b>	\$531.00

● **Connection Cable Sets/Flexible Connection Cable Sets**

Use a flexible connection cable if the cable will be bent.

◇ **For Motor/Encoder**



Product Line	Length m (ft.)	Product Name	Price
Connection Cable Sets	1 (3.3)	<b>CC010VZF</b>	\$35.00
	2 (6.6)	<b>CC020VZF</b>	\$50.00
	3 (9.8)	<b>CC030VZF</b>	\$62.00
	5 (16.4)	<b>CC050VZF</b>	\$110.00
	7 (23.0)	<b>CC070VZF</b>	\$136.00
	10 (32.8)	<b>CC100VZF</b>	\$176.00
	15 (49.2)	<b>CC150VZF</b>	\$243.00
	20 (65.6)	<b>CC200VZF</b>	\$310.00
Flexible Connection Cable Sets	1 (3.3)	<b>CC010VZR</b>	\$84.00
	2 (6.6)	<b>CC020VZR</b>	\$99.00
	3 (9.8)	<b>CC030VZR</b>	\$111.00
	5 (16.4)	<b>CC050VZR</b>	\$141.00
	7 (23.0)	<b>CC070VZR</b>	\$180.00
	10 (32.8)	<b>CC100VZR</b>	\$236.00
	15 (49.2)	<b>CC150VZR</b>	\$332.00
	20 (65.6)	<b>CC200VZR</b>	\$426.00

◇ **For Motor/Encoder/Electromagnetic Brake**



Product Line	Length m (ft.)	Product Name	Price
Connection Cable Sets	1 (3.3)	<b>CC010VZFB</b>	\$52.00
	2 (6.6)	<b>CC020VZFB</b>	\$67.00
	3 (9.8)	<b>CC030VZFB</b>	\$82.00
	5 (16.4)	<b>CC050VZFB</b>	\$135.00
	7 (23.0)	<b>CC070VZFB</b>	\$166.00
	10 (32.8)	<b>CC100VZFB</b>	\$213.00
	15 (49.2)	<b>CC150VZFB</b>	\$293.00
	20 (65.6)	<b>CC200VZFB</b>	\$372.00
Flexible Connection Cable Sets	1 (3.3)	<b>CC010VZRB</b>	\$114.00
	2 (6.6)	<b>CC020VZRB</b>	\$134.00
	3 (9.8)	<b>CC030VZRB</b>	\$151.00
	5 (16.4)	<b>CC050VZRB</b>	\$191.00
	7 (23.0)	<b>CC070VZRB</b>	\$240.00
	10 (32.8)	<b>CC100VZRB</b>	\$311.00
	15 (49.2)	<b>CC150VZRB</b>	\$432.00
	20 (65.6)	<b>CC200VZRB</b>	\$551.00

■ **Included**

● **Actuator**

Type	Included	Operating Manual
Common to All Types		1 Copy

● **Driver**

Type	Included	Connector	Operating Manual
Common to All Types		<ul style="list-style-type: none"> <li>Connector for CN4 (1 piece)</li> <li>Connector for CN1 (1 piece)</li> <li>Connector for CN5 (1 piece)</li> <li>Connector Wiring Lever (1 piece)</li> </ul>	1 Copy

● **Connection Cable Sets/Flexible Connection Cable Sets**

Type	Included	Operating Manual
Connection Cable Sets		—
Flexible Connection Cable Sets		1 Copy

Overview

Electric Linear Slides

αSTEP AZ EZS

Electric Cylinders

αSTEP AZ EAC

αSTEP AZ DRS2

Hollow Rotary Actuators

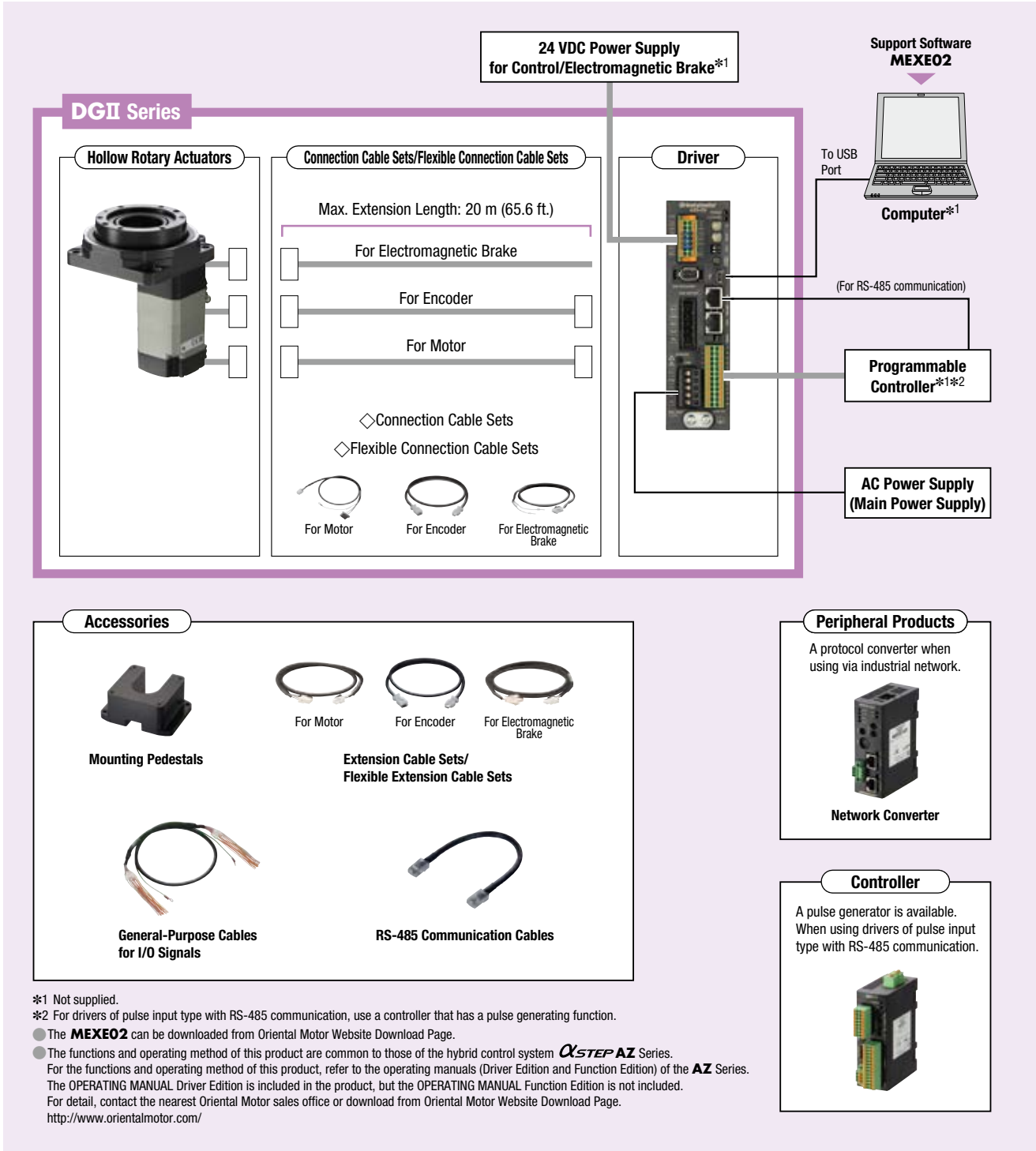
αSTEP AZ DGII

## System Configuration

### Combination of Linear & Rotary Actuator with Electromagnetic Brake, and either Built-in Controller Type Driver or Pulse Input Type Driver with RS-485 Communication

This is an example of a configuration using I/O control or RS-485 communication in a built-in controller type driver.

Hollow rotary actuators, drivers, and connection cable sets/flexible connection cable sets need to be ordered separately.



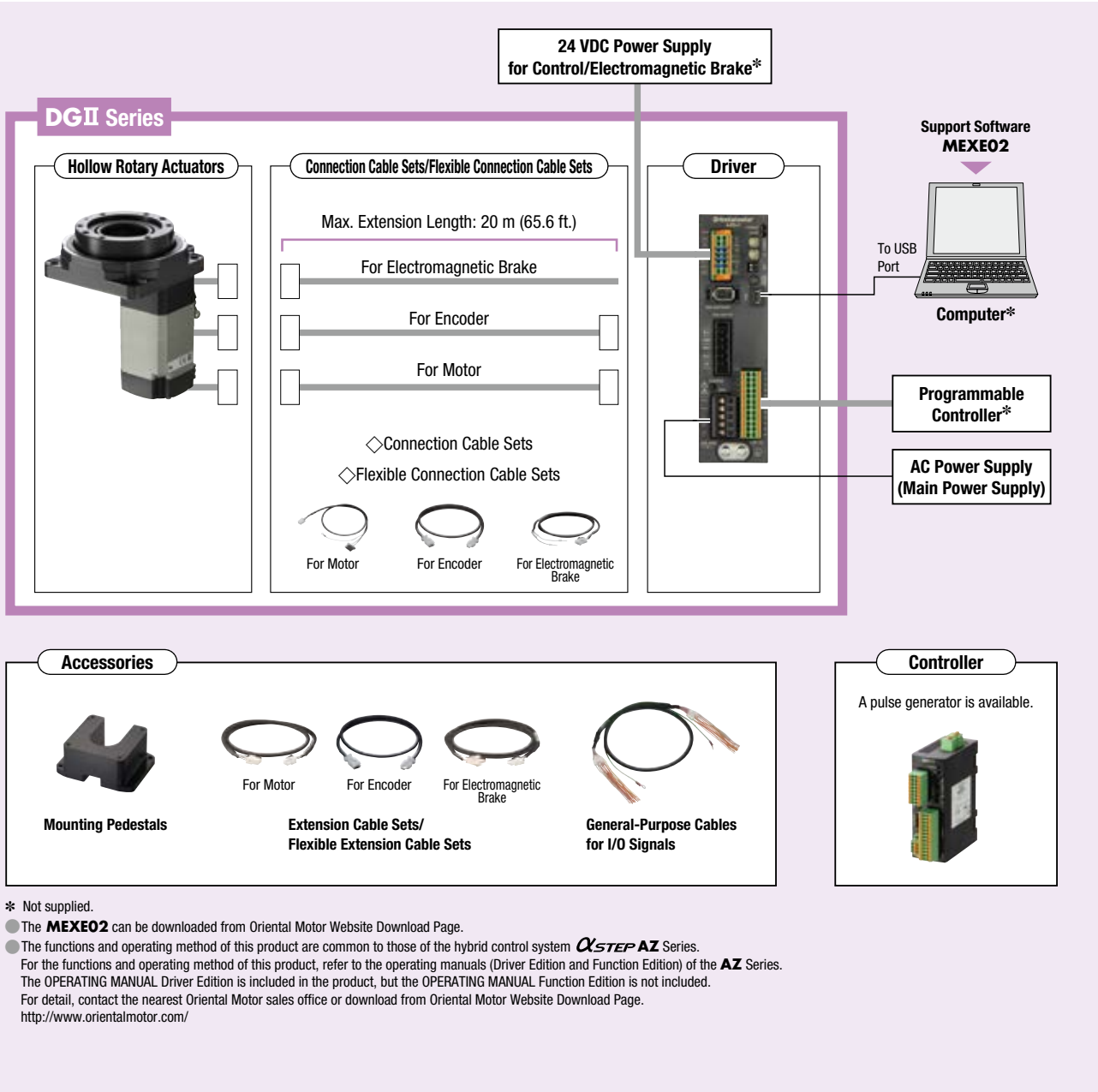
● The system configuration shown above is an example. Other combinations are available.

**Note**

● The motor cable and electromagnetic brake cable from the motor cannot be connected directly to the driver. When connecting to a driver, use a connection cable.

● **Combination of Linear & Rotary Actuator with Electromagnetic Brake and Pulse Input Type Driver**

This is an example of a single-axis system configuration using a programmable controller (with pulse oscillation function). Hollow rotary actuators, drivers, and connection cable sets/flexible connection cable sets need to be ordered separately.



\* Not supplied.  
 ● The **MEXEO2** can be downloaded from Oriental Motor Website Download Page.  
 ● The functions and operating method of this product are common to those of the hybrid control system **αSTEP AZ** Series. For the functions and operating method of this product, refer to the operating manuals (Driver Edition and Function Edition) of the **AZ** Series. The OPERATING MANUAL Driver Edition is included in the product, but the OPERATING MANUAL Function Edition is not included. For detail, contact the nearest Oriental Motor sales office or download from Oriental Motor Website Download Page. <http://www.orientalmotor.com/>

● The system configuration shown above is an example. Other combinations are available.

**Note**

● The motor cable and electromagnetic brake cable from the motor cannot be connected directly to the driver. When connecting to a driver, use a connection cable.

For details (specifications, characteristics, dimensions and more) on these products, please either refer to our website or contact technical support or your nearest Oriental Motor sales office.  
[www.orientalmotor.com](http://www.orientalmotor.com)

- Overview
- Electric Linear Slides
  - αSTEP AZ EZS
- Electric Cylinders
  - αSTEP AZ EAC
  - αSTEP AZ DRS2
- Hollow Rotary Actuators
  - αSTEP AZ DGII

## Hollow Rotary Actuators

**DGII Series**  $\alpha$ STEP AZ Equipped DC Input**Product Number**

## ● Hollow Rotary Actuators

**DGM 130 R - AZ A K**

① ② ③ ④ ⑤ ⑥

①	Series Name	<b>DGM : DGII Series Actuator</b>
②	Frame Size	<b>85</b> : 85 mm (3.35 in.) <b>130</b> : 130 mm (5.12 in.)
③	Type of Output Table Supporting Bearing	<b>R</b> : Cross-Roller Bearing
④	Motor Type	<b>AZ</b> : AZ Series
⑤	Motor Configuration	<b>A</b> : Single Shaft <b>M</b> : With Electromagnetic Brake
⑥	Motor Specification	<b>K</b> : DC Power Supply Input Specification

## ● Driver

**AZD - K D**

① ② ③

①	Driver Type	<b>AZD</b> : AZ Series Driver
②	Power Supply Input	<b>K</b> : 24/48 VDC
③	Type	<b>D</b> : Built-in Controller Type <b>X</b> : Pulse Input Type with RS-485 Communication Blank : Pulse Input Type

## ● Connection Cable Sets/Flexible Connection Cable Sets

**CC 050 V Z F B 2**

① ② ③ ④ ⑤ ⑥ ⑦

①		<b>CC</b> : Cables
②	Length	<b>010</b> : 1 m (3.3 ft.) <b>020</b> : 2 m (6.6 ft.) <b>030</b> : 3 m (9.8 ft.) <b>050</b> : 5 m (16.4 ft.) <b>070</b> : 7 m (23.0 ft.) <b>100</b> : 10 m (32.8 ft.) <b>150</b> : 15 m (49.2 ft.) <b>200</b> : 20 m (65.6 ft.)
③	Reference Number	
④	Applicable Models	<b>Z</b> : AZ Series
⑤	Cable Type	<b>F</b> : Connection Cable Sets <b>R</b> : Flexible Connection Cable Sets
⑥	Electromagnetic Brake	Blank : Without Electromagnetic Brake <b>B</b> : With Electromagnetic Brake
⑦	Cable Specifications	<b>2</b> : DC Power Supply Input

**Product Line**

## ● Hollow Rotary Actuators



## ◇ Single Shaft

Frame Size	Product Name	List Price
85 mm (3.35 in.)	<b>DGM85R-AZAK</b>	\$1,752.00
130 mm (5.12 in.)	<b>DGM130R-AZAK</b>	\$1,978.00



## ◇ With Electromagnetic Brake

Frame Size	Product Name	List Price
85 mm (3.35 in.)	<b>DGM85R-AZMK</b>	\$1,910.00
130 mm (5.12 in.)	<b>DGM130R-AZMK</b>	\$2,181.00

## ● Driver

## ◇ Built-in Controller Type



Power Supply Input	Product Name	List Price
24/48 VDC	<b>AZD-KD</b>	\$441.00

## ◇ Pulse Input Type with RS-485 Communication



Power Supply Input	Product Name	List Price
24/48 VDC	<b>AZD-KX</b>	\$441.00

## ◇ Pulse Input Type



Power Supply Input	Product Name	List Price
24/48 VDC	<b>AZD-K</b>	\$384.00

● **Connection Cable Sets/Flexible Connection Cable Sets**

Use a flexible connection cable set if the cable will be bent.

◇ **For Motor/Encoder**



Product Line	Length m (ft.)	Product Name	List Price
Connection Cable Sets	1 (3.3)	<b>CC010VZF2</b>	\$35.00
	2 (6.6)	<b>CC020VZF2</b>	\$50.00
	3 (9.8)	<b>CC030VZF2</b>	\$62.00
	5 (16.4)	<b>CC050VZF2</b>	\$110.00
	7 (23.0)	<b>CC070VZF2</b>	\$136.00
	10 (32.8)	<b>CC100VZF2</b>	\$176.00
	15 (49.2)	<b>CC150VZF2</b>	\$243.00
	20 (65.6)	<b>CC200VZF2</b>	\$310.00
Flexible Connection Cable Sets	1 (3.3)	<b>CC010VZR2</b>	\$84.00
	2 (6.6)	<b>CC020VZR2</b>	\$99.00
	3 (9.8)	<b>CC030VZR2</b>	\$111.00
	5 (16.4)	<b>CC050VZR2</b>	\$141.00
	7 (23.0)	<b>CC070VZR2</b>	\$180.00
	10 (32.8)	<b>CC100VZR2</b>	\$236.00
	15 (49.2)	<b>CC150VZR2</b>	\$332.00
	20 (65.6)	<b>CC200VZR2</b>	\$426.00

◇ **For Motor/Encoder/Electromagnetic Brake**



Product Line	Length m (ft.)	Product Name	List Price
Connection Cable Sets	1 (3.3)	<b>CC010VZFB2</b>	\$52.00
	2 (6.6)	<b>CC020VZFB2</b>	\$67.00
	3 (9.8)	<b>CC030VZFB2</b>	\$82.00
	5 (16.4)	<b>CC050VZFB2</b>	\$135.00
	7 (23.0)	<b>CC070VZFB2</b>	\$166.00
	10 (32.8)	<b>CC100VZFB2</b>	\$213.00
	15 (49.2)	<b>CC150VZFB2</b>	\$293.00
	20 (65.6)	<b>CC200VZFB2</b>	\$372.00
Flexible Connection Cable Sets	1 (3.3)	<b>CC010VZRB2</b>	\$114.00
	2 (6.6)	<b>CC020VZRB2</b>	\$134.00
	3 (9.8)	<b>CC030VZRB2</b>	\$151.00
	5 (16.4)	<b>CC050VZRB2</b>	\$191.00
	7 (23.0)	<b>CC070VZRB2</b>	\$240.00
	10 (32.8)	<b>CC100VZRB2</b>	\$311.00
	15 (49.2)	<b>CC150VZRB2</b>	\$432.00
	20 (65.6)	<b>CC200VZRB2</b>	\$551.00

■ **Included**

● **Actuator**

Type	Included	Operating Manual
Common to All Types		1 Copy

● **Driver**

Type	Included	Connector	Operating Manual
Common to All Types		Connector for CN4 (1 piece) Connector for CN1 (1 piece)	1 Copy

● **Connection Cable Sets/Flexible Connection Cable Sets**

Type	Included	Operating Manual
Connection Cable Sets		—
Flexible Connection Cable Sets		1 Copy

Overview

Electric Linear Slides

αSTEP AZ EZS

Electric Cylinders

αSTEP AZ EAC

αSTEP AZ DRS2

Hollow Rotary Actuators

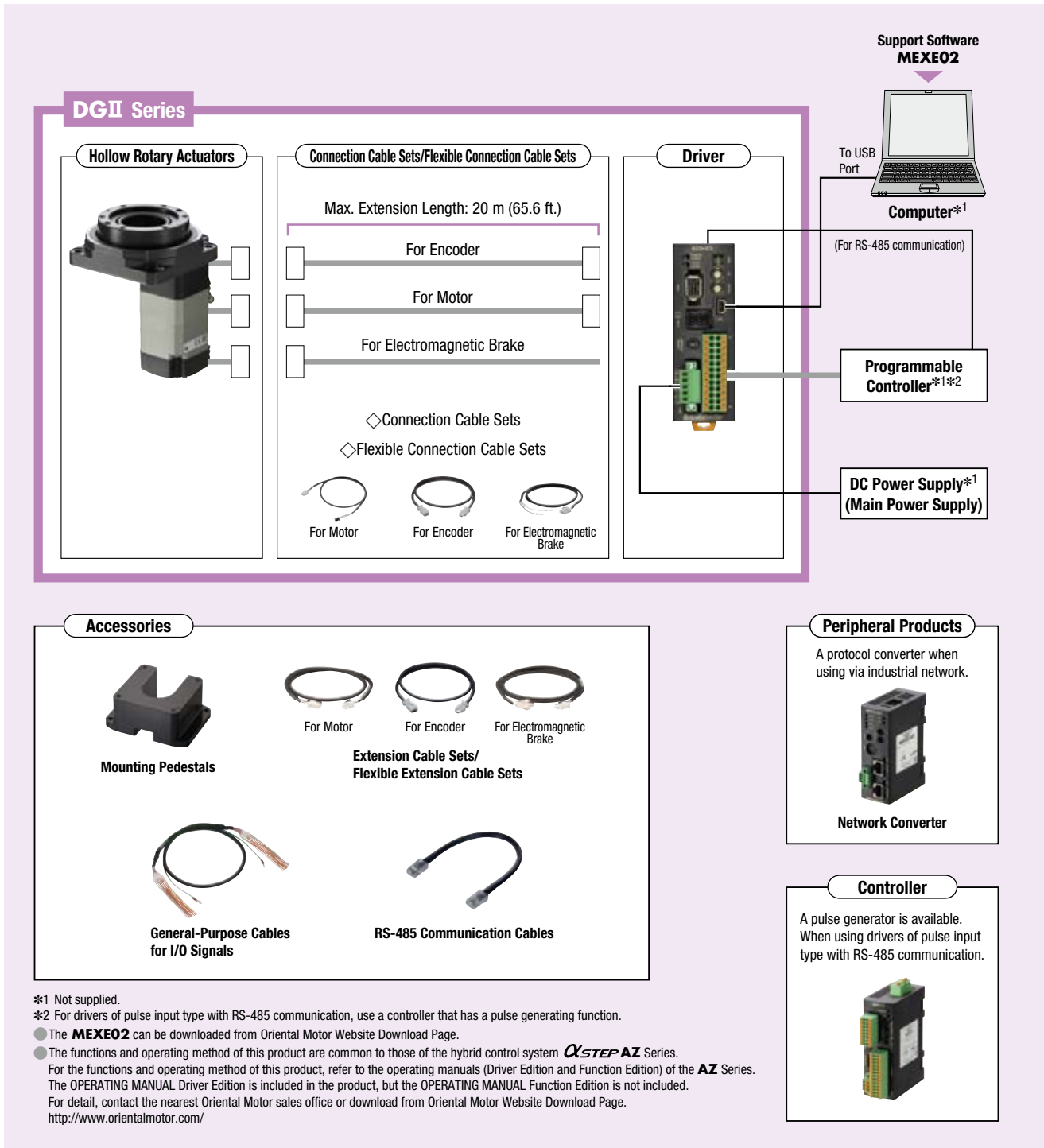
αSTEP AZ DGII

## System Configuration

### Combination of Linear & Rotary Actuator with Electromagnetic Brake, and either Built-in Controller Type Driver or Pulse Input Type Driver with RS-485 Communication

This is an example of a configuration using I/O control or RS-485 communication in a built-in controller type driver.

Hollow rotary actuators, drivers, and connection cable sets/flexible connection cable sets need to be ordered separately.



● The system configuration shown above is an example. Other combinations are available.

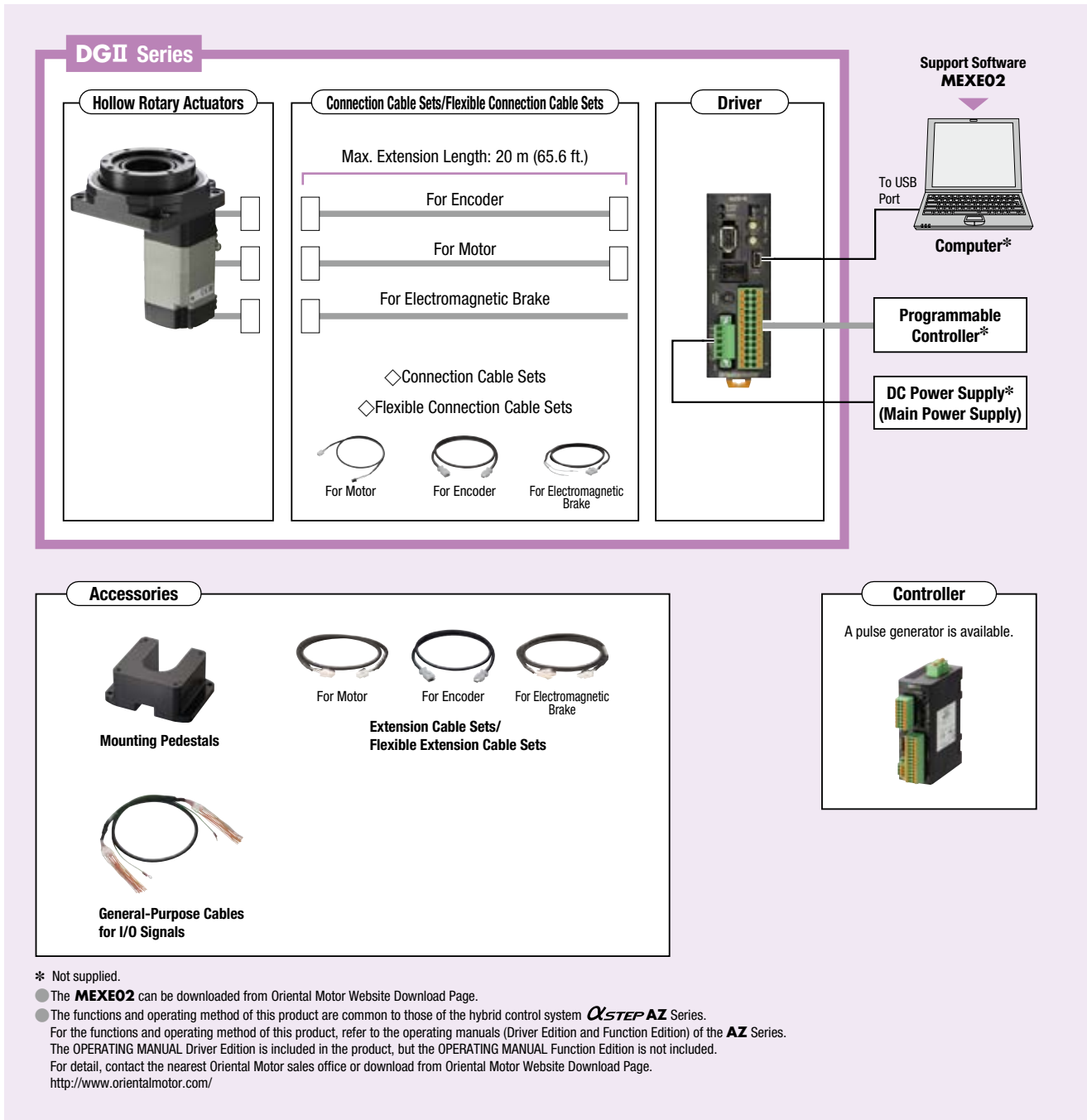
**Note**

● The motor cable and electromagnetic brake cable from the motor cannot be connected directly to the driver. When connecting to a driver, use a connection cable.



● **Combination of Linear & Rotary Actuator with an Electromagnetic Brake and Pulse Input Type Driver**

This is an example of a single-axis system configuration using a programmable controller (with pulse oscillation function). Hollow rotary actuators, drivers, and connection cable sets/flexible connection cable sets need to be ordered separately.



● The system configuration shown above is an example. Other combinations are available.

**Note**

● The motor cable and electromagnetic brake cable from the motor cannot be connected directly to the driver. When connecting to a driver, use a connection cable.

For details (specifications, characteristics, dimensions and more) on these products, please either refer to our website or contact technical support or your nearest Oriental Motor sales office.  
[www.orientalmotor.com](http://www.orientalmotor.com)

Overview

Electric Linear Slides

αSTEP AZ EZS

Electric Cylinders

αSTEP AZ EAC

αSTEP AZ DRS2

Hollow Rotary Actuators

αSTEP AZ DGII