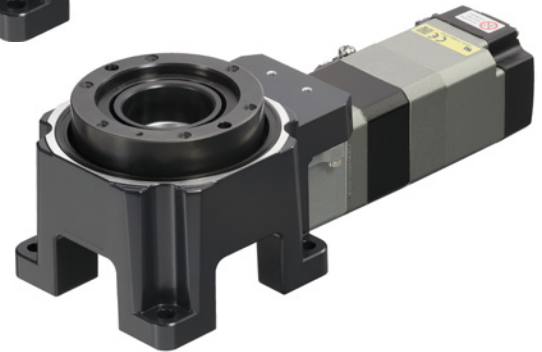
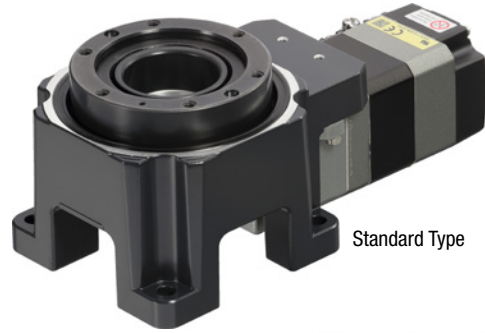


## Hollow Shaft Rotary Actuators

# DGI Series

With horizontally mounted motor  
Frame Size 85 mm

The **DGI** Series has been extended by actuators with 85 mm frame size where the motor is mounted horizontally.



### Features

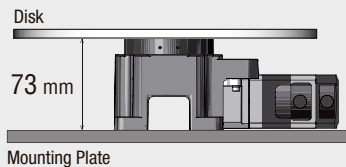
#### Flexible Use Depending on Space Requirements

(Example for Standard Type with 85 mm frame size)

##### NEW Type

- Less mounting height due to an integrated pedestal.
- Possible to use the space under the mounting plate effectively.

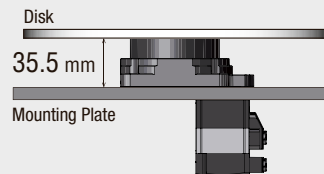
##### ▶ Horizontally Mounted Motor



##### Existing Type

- Possible to minimize the height from the mounting plate.

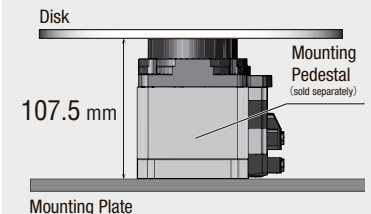
##### ▶ Vertically Mounted Motor



##### Existing Type

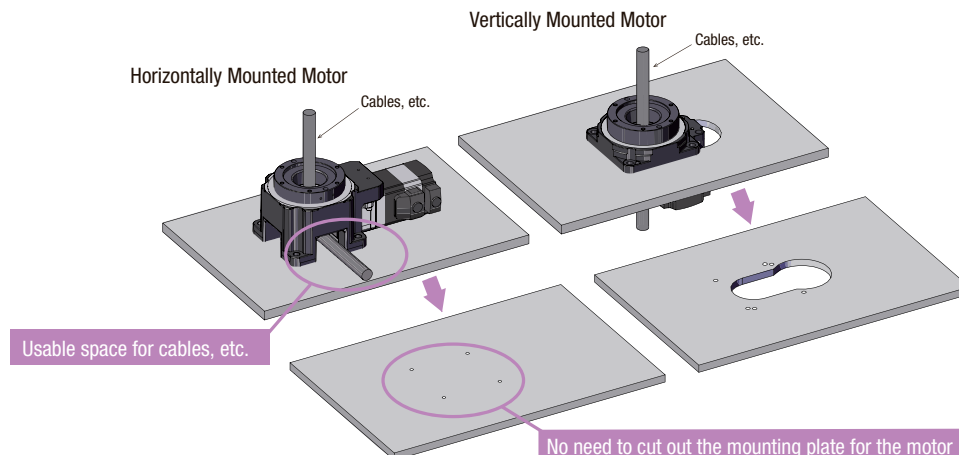
- Possible to use the space under the mounting plate effectively.

##### ▶ Vertically Mounted Motor



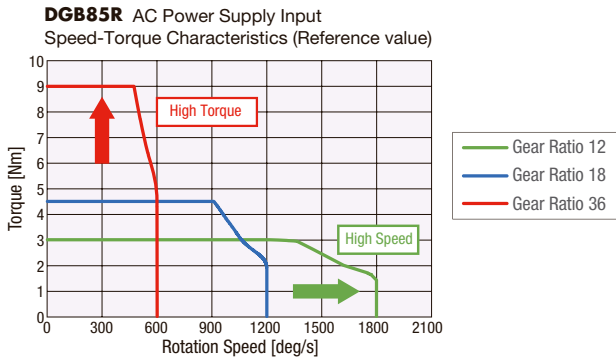
### Simplified Installation

- Mounting holes are not required for the motor, so the mounting plate can be simplified.
- An additional mounting pedestal is not required, so mounting is improved.
- Cables and piping can be routed through the legs of the mounting pedestal.



## Different Gear Ratios Available

For the new types the gear ratios 12, 18 and 36 are available. This makes the selection regarding speed and torque more flexible.



## Product Code

# DGB 85 R 12 - AZ A C R

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

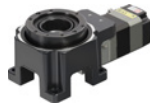
①	Series Name	<b>DGB: DGII</b> Series
②	Frame Size	<b>85</b> : 85 mm
③	Table Support	<b>R</b> : Cross-Roller Bearing
④	Gear Ratio	
⑤	Motor Type	<b>AZ: AZ</b> Series
⑥	Configuration	<b>A</b> : Standard <b>M</b> : With Electromagnetic Brake
⑦	Motor Specification	<b>C</b> : Single-Phase 200-240 VAC <b>K</b> : 24 VDC/48 VDC
⑧	Cable Direction	<b>R</b> : Right <b>L</b> : Left

## Product Line

### Actuators

#### Standard

Frame Size [mm]	Product Name	List Price
85	<b>DGB85R12-AZA</b> □ <b>R</b>	1,515.00 €
	<b>DGB85R12-AZA</b> □ <b>L</b>	
	<b>DGB85R18-AZA</b> □ <b>R</b>	
	<b>DGB85R18-AZA</b> □ <b>L</b>	
	<b>DGB85R36-AZA</b> □ <b>R</b>	
	<b>DGB85R36-AZA</b> □ <b>L</b>	



#### With Electromagnetic Brake

Frame Size [mm]	Product Name	List Price
85	<b>DGB85R12-AZMCR</b>	1,640.00 €
	<b>DGB85R12-AZMCL</b>	
	<b>DGB85R18-AZMCR</b>	
	<b>DGB85R18-AZMCL</b>	
	<b>DGB85R36-AZMCR</b>	
	<b>DGB85R36-AZMCL</b>	



For the power supply input a **C** (Single-Phase 200-240 VAC) or a **K** (24 VDC/48 VDC) is indicated where the box □ is located in the product name.

### Drivers

#### Built-in Controller Type

Power Supply	Product Name	List Price
Single-Phase 200-240 VAC	<b>AZD-CD</b>	480.00 €
24 VDC/48 VDC	<b>AZD-KD</b>	360.00 €



#### Pulse Input Type with RS-485 Communication

Power Supply	Product Name	List Price
Single-Phase 200-240 VAC	<b>AZD-CX</b>	480.00 €
24 VDC/48 VDC	<b>AZD-KX</b>	360.00 €



#### Pulse Input Type

Power Supply	Product Name	List Price
Single-Phase 200-240 VAC	<b>AZD-C</b>	430.00 €
24 VDC/48 VDC	<b>AZD-K</b>	310.00 €



#### EtherNet/IP™ Type

Power Supply	Product Name	List Price
Single-Phase 200-240 VAC	<b>AZD-CEP</b>	520.00 €



● For the connection cables please refer to the website [www.orientalmotor.eu](http://www.orientalmotor.eu).

# Specifications



## AC Input

Frame Size		85 mm		
Product Name	Standard	<b>DGB85R12-AZAC</b> <input type="checkbox"/>	<b>DGB85R18-AZAC</b> <input type="checkbox"/>	<b>DGB85R36-AZAC</b> <input type="checkbox"/>
	With Electromagnetic Brake	<b>DGB85R12-AZMC</b> <input type="checkbox"/>	<b>DGB85R18-AZMC</b> <input type="checkbox"/>	<b>DGB85R36-AZMC</b> <input type="checkbox"/>
Driver Product Name	Built-in Controller	<b>AZD-CD</b>		
	Pulse Input Type with RS-485 Communication	<b>AZD-CX</b>		
	Pulse Input Type	<b>AZD-C</b>		
	EtherNet/IP Type	<b>AZD-CEP</b>		
Built-In Motor	AZM46			
Table Support	Cross-Roller Bearing			
Inertia	J: kg·m <sup>2</sup>	$11200 \times 10^{-7}$ [ $13500 \times 10^{-7}$ ]*1	$21100 \times 10^{-7}$ [ $26300 \times 10^{-7}$ ]*1	$74500 \times 10^{-7}$ [ $95300 \times 10^{-7}$ ]*1
Gear Ratio		12	18	36
Minimum Traveling Amount of the Output Table	deg/STEP	0.01		
Permissible Torque	Nm	3	4.5	9
Holding Torque at Motor Standstill	Power ON	Nm	1.8	2.7
	Electromagnetic Brake	Nm	1.8	2.7
Max. Speed	deg/seconds	1800 (300 r/min)	1200 (200 r/min)	600 (100 r/min)
Repetitive Positioning Accuracy	arc second	$\pm 30 (\pm 0.008^\circ)$ *2		
Backlash	arc minute	6 (0.1°)		
Angular Transmission Accuracy	arc minute	6 (0.1°)		
Permissible Axial Load	N	500		
Permissible Moment	Nm	10		
Runout of Output Table Surface	mm	0.015		
Runout of Output Table Inner (Outer) Diameter	mm	0.015		
Parallelism of Output Table	mm	0.030		
Degree of Protection		IP40 (IP20 for motor connector)		
Power-Supply Input	Voltage and Frequency	Single-Phase 200-240 VAC -15~+6% 50/60 Hz		
	Input Current	A	1.7	
Control Power-Supply		24 VDC $\pm 5\%$ *3 0.25 A [0.33 A]*1		

● Either **R** (right) or **L** (left) is entered for the cable withdrawing direction in  in the product name.

\*1 The brackets [ ] indicate the specifications for the electromagnetic brake type.

\*2 For gear ratio 18 the accuracy might be lower when the operating range of the output table exceeds one rotation.

\*3 Changes to 24 VDC  $\pm 4\%$  if the electromagnetic brake type has been extended with the 20 m accessory cable.

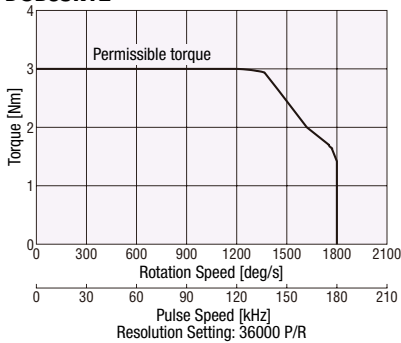
### Note

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

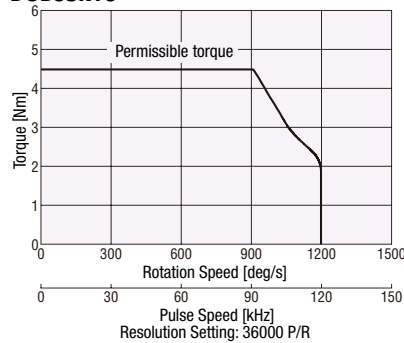
● It is not possible to disassemble the motor part.

## Speed - Torque Characteristics (Reference Value)

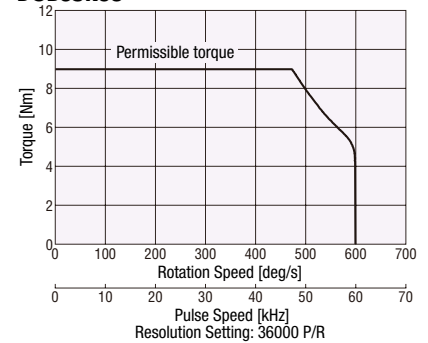
**DGB85R12**



**DGB85R18**



**DGB85R36**



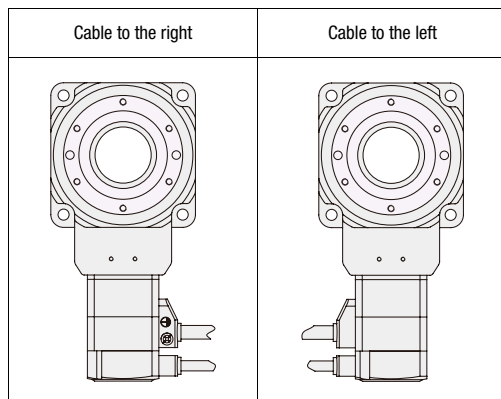
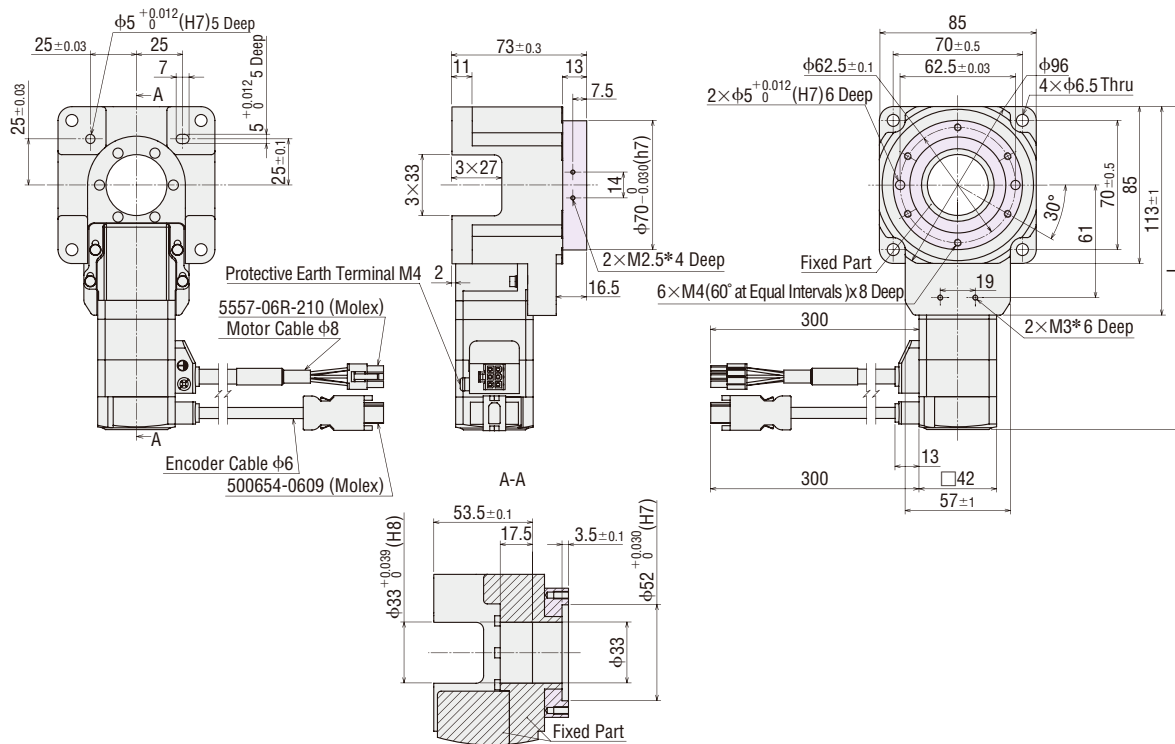
### Note

● Data for the speed – torque characteristics is based on Oriental Motor's internal measurement conditions. If the conditions are changed, the characteristics may also change as a result.

● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 80°C to protect the ABZO sensor. (When conforming to the UL Standards, the temperature of the motor case must be kept at 75°C or less, since the motor is recognized as heat-resistant class A.)

◆ Standard Type Frame Size 85 mm

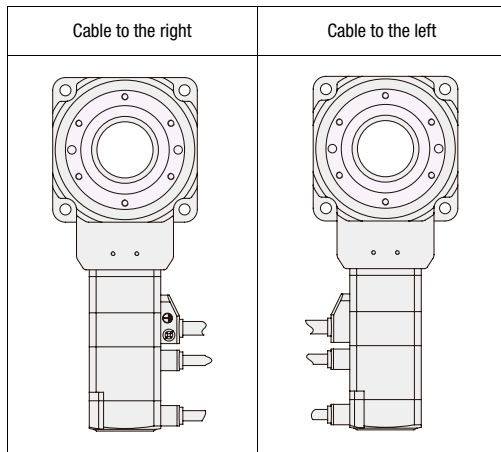
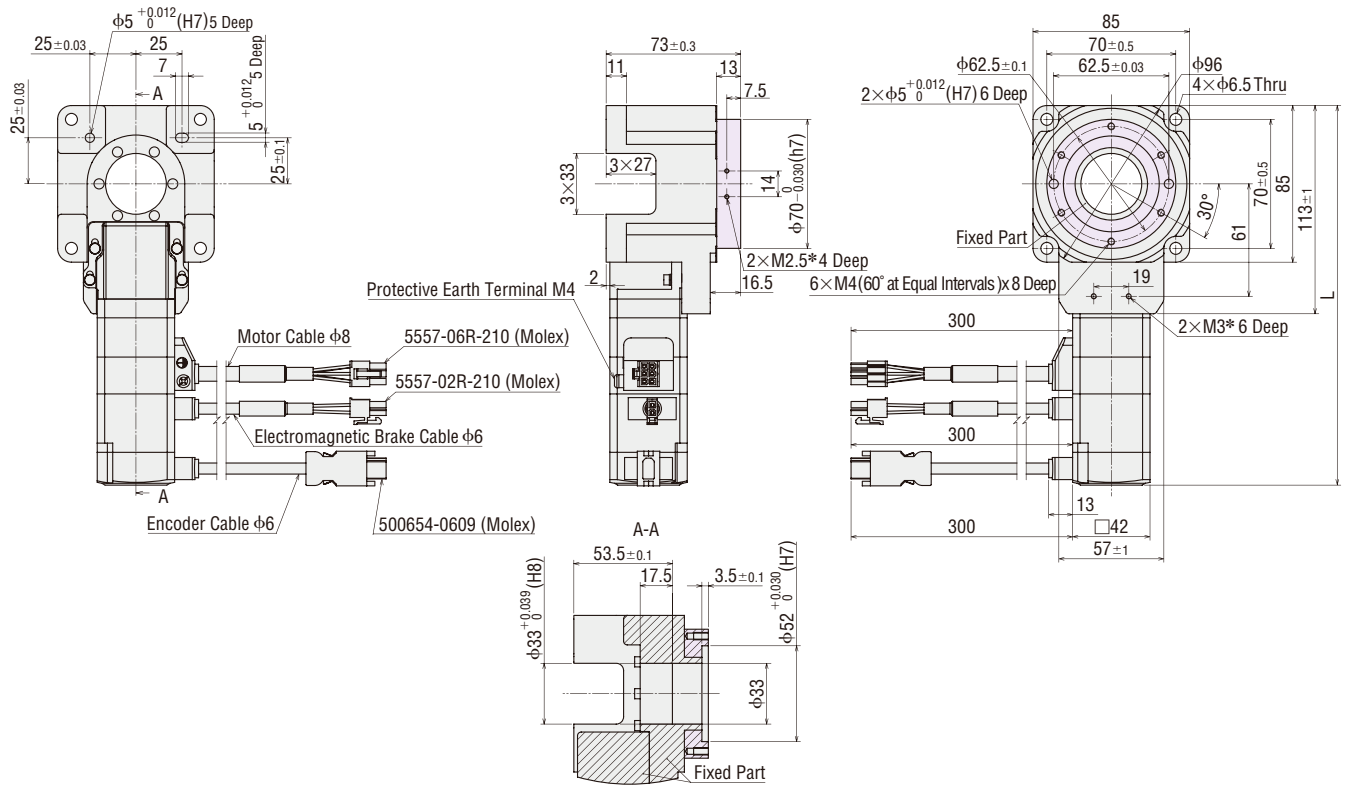
Cable Withdrawing Direction	Product Name	L	Mass [kg]
Cable to the right	<b>DGB85R12-AZACR</b>	182	1.5
Cable to the left	<b>DGB85R12-AZACL</b>		
Cable to the right	<b>DGB85R18-AZACR</b>	178	
Cable to the left	<b>DGB85R18-AZACL</b>		
Cable to the right	<b>DGB85R36-AZACR</b>	175	
Cable to the left	<b>DGB85R36-AZACL</b>		



● The shaded areas are rotating parts.  
 \*The home sensor set cannot be used.

◇ With Electromagnetic Brake Frame Size 85 mm

Cable Withdrawing Direction	Product Name	L	Mass [kg]
Cable to the right	<b>DGB85R12-AZMCR</b>	213	1.7
Cable to the left	<b>DGB85R12-AZMCL</b>		
Cable to the right	<b>DGB85R18-AZMCR</b>	209	
Cable to the left	<b>DGB85R18-AZMCL</b>		
Cable to the right	<b>DGB85R36-AZMCR</b>	206	
Cable to the left	<b>DGB85R36-AZMCL</b>		



● The shaded areas are rotating parts.  
 \*The home sensor set cannot be used.

# Specifications

## DC Input

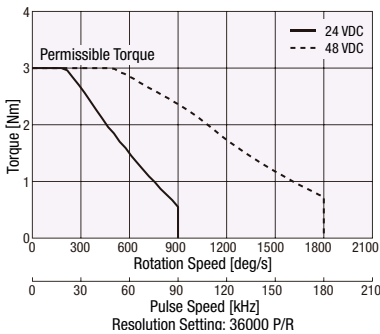


Frame Size		85 mm		
Product Name	Single Shaft	<b>DGB85R12-AZAK</b> □	<b>DGB85R18-AZAK</b> □	<b>DGB85R36-AZAK</b> □
Driver Product Name	Built-in Controller Type	<b>AZD-KD</b>		
	Pulse Input Type with RS-485 Communication	<b>AZD-KX</b>		
	Pulse Input Type	<b>AZD-K</b>		
Built-in Motor	AZM46			
Table Support	Cross-Roller Bearing			
Inertia	J: kg·m <sup>2</sup>	11200 × 10 <sup>-7</sup>	21100 × 10 <sup>-7</sup>	74500 × 10 <sup>-7</sup>
Gear Ratio		12	18	36
Minimum Traveling Amount of the Output Table	deg/STEP	0.01		
Permissible Torque	Nm	3	4.5	9
Holding Torque at Motor Standstill	Nm	1.8	2.7	5.4
Max. Speed	deg/seconds	1800 (300 r/min)	1200 (200 r/min)	600 (100 r/min)
Repetitive Positioning Accuracy	arc second	±30 (±0.008°) *2		
Backlash	arc minute	6 (0.1°)		
Angular Transmission Accuracy	arc minute	6 (0.1°)		
Permissible Axial Load	N	500		
Permissible Moment	Nm	10		
Runout of Output Table Surface	mm	0.015		
Runout of Output Table Inner (Outer) Diameter	mm	0.015		
Parallelism of Output Table	mm	0.030		
Degree of Protection		IP40 (IP20 for motor connector)		
Power-Supply Input	Voltage	24 VDC ± 5% / 48 VDC ± 5%		
	Input Current	A	1.72	

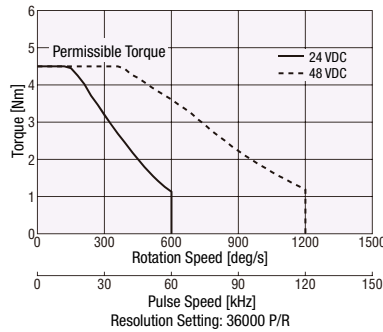
- Either **R** (right) or **L** (left) is entered for the cable withdrawing direction in □ in the product name.
  - The repetitive positioning accuracy is measured at a constant temperature (normal temperature) under a constant load.
  - It is not possible to disassemble the motor part.
- \*1 Only for the Actuator.  
 \*2 For gear ratio 18 the accuracy might be lower when the operating range of the output table exceeds one rotation.

## Speed - Torque Characteristics (Reference Value)

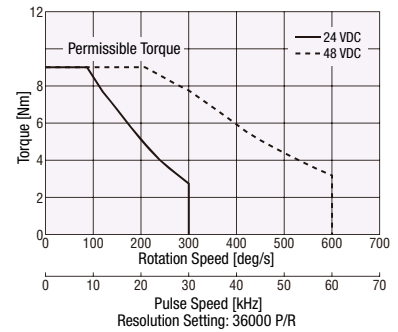
**DGB85R12**



**DGB85R18**



**DGB85R36**

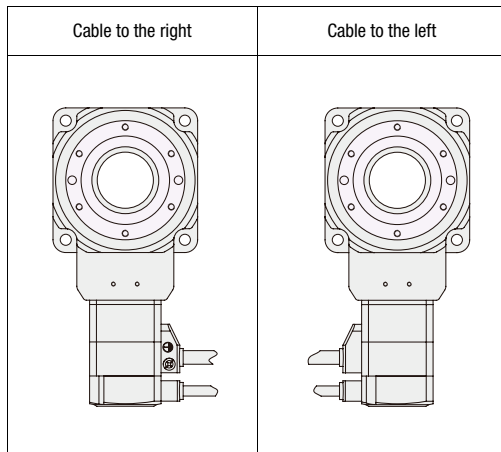
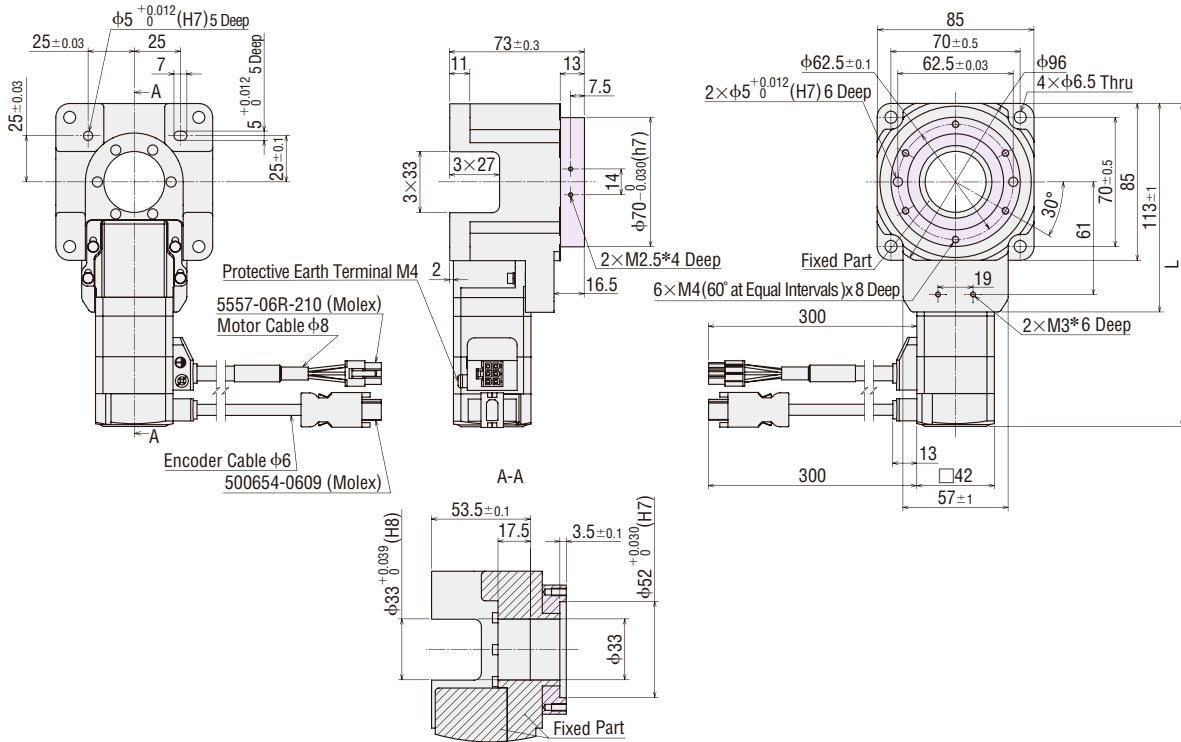


**Note**

- Data for the speed – torque characteristics is based on Oriental Motor's internal measurement conditions. If the conditions are changed, the characteristics may also change as a result.
- Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 80°C to protect the ABZO sensor. (When conforming to the UL Standards, the temperature of the motor case must be kept at 75°C or less, since the motor is recognized as heat-resistant class A.)

◆ Standard Type Frame Size 85 mm

Cable Withdrawing Direction	Product Name	L	Mass [kg]
Cable to the right	<b>DGB85R12-AZAKR</b>	182	1.5
Cable to the left	<b>DGB85R12-AZAKL</b>		
Cable to the right	<b>DGB85R18-AZAKR</b>	178	
Cable to the left	<b>DGB85R18-AZAKL</b>		
Cable to the right	<b>DGB85R36-AZAKR</b>	175	
Cable to the left	<b>DGB85R36-AZAKL</b>		



● The shaded areas are rotating parts.  
 \*The home sensor set cannot be used.

Please see the separate catalog for the **DGII** Series product line-up.  
 To select a product, refer to the separate catalog, or see our website.

# AZ Multi-Axis-Driver

DC Power supply

Supports EtherCAT Drive Profiles

The multi-axis driver corresponds to the EtherCAT communication drive profile CiA402. Two, three or four **AZ** motors with DC power supply, as well as actuators equipped with them, can be connected. This includes the new **DGB85** types.

EtherCAT®



## Types

Product Name	Number of axes	List Price
<b>AZD2A-KED</b>	2	733.00 €
<b>AZD3A-KED</b>	3	971.00 €
<b>AZD4A-KED</b>	4	1,173.00 €

EtherCAT® is registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.  
EtherNet/IP™ is a trademark of ODVA (Open DeviceNet Vendor Association).

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. Published in February 2020

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\* Free Call Europe

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For more information please contact: