## **Oriental motor**



## **EZS** Series Motorized Linear Slide

# **Dual Axes Mounting Bracket**

## **INSTALLATION MANUAL**

Thank you for purchasing an Oriental Motor product.

This Operating Manual describes product handling procedures and safety precautions.

- Please read it thoroughly to ensure safe operation.
- Always keep the manual where it is readily available.

#### Table of contents

1	Saf	ety precautions	2
2	Ung	packing and check	3
		Unpacking the dual axes mounting	
		bracket	3
	2.2	Checking the model name	
	2.3	Checking the compatible slides	4
3	Inst	allation	5
	3.1	Installation steps	5
		Installing bracket A	
		Installing bracket B	
	3.4	Installing brackets A and B together	8
	3.5	Installing the cable holder (optional)	g
	3.6	When using the sensor set	11

## 1 Safety precautions

The precautions described below are intended to prevent danger or injury to the user and other personnel through safe, correct use of the product. Use the product only after carefully reading and fully understanding these instructions.

<u> </u>	Handling the product without observing the instructions that accompany a "Caution" symbol may result in injury or property damage.
Note	The items under this heading contain important handling instructions that the user should observe to ensure safe use of the product.



- When installing the dual axes mounting bracket, do so after affixing the slide to the first axis. Failure to do so may result in injury.
- Before mounting a load to the slide of the second axis, affix the slide to the dual axes mounting bracket. Failure to do so may cause the load to fall, resulting in injury.
- When transporting the slide, be sure the load is affixed. Failure to do so may cause injury or equipment damage.

## 2 Unpacking and check

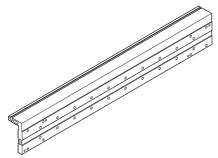
This chapter explains the items you must check when unpacking the dual axes mounting bracket.

### 2.1 Unpacking the dual axes mounting bracket

- 1. Remove the dual axes mounting bracket from the shipping carton and remove all packing materials from around the product.
- Check all items in the carton against the packing list.
   Report any missing or damaged items to the branch or sales office from which you purchased the product. Report problems to Oriental Motor as soon as possible after your receipt of the product.

#### ■ Packing list

• Dual axes mounting bracket





Bracket A (The hole positions differ between the X-Y and X-Z brackets.)

Bracket B

- Hexagonal socket-head screw

M3 × 5 mm (0.2 in.)		2 pcs.
M5 × 35 mm (1.38 in.)		2 pcs.
M5 × 25 mm (0.98 in.)		2 pcs.
M5 × 18 mm (0.71 in.)		4 pcs.
M5 × 12 mm (0.47 in.)*	50 mm (1.97 in.) stroke	4 pcs.
	100 mm (3.94 in.) stroke	6 pcs.
	150 mm (5.91 in.) stroke	6 pcs.
	200 mm (7.87 in.) stroke	8 pcs.
	250 mm (9.84 in.) stroke	8 pcs.
	300 mm (11.81 in.) stroke	10 pcs.

- \* The quantity varies, depending on the stroke. ("2.2 Checking the model name" p.4)
- Positioning pin

Ø3-10 mm (0.39 in.)	2 pcs.
Ø4-15 mm (0.59 in.)	2 pcs.

#### • Cable holder (optional)

• Cable holder	c.
----------------	----

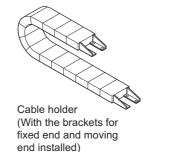
- Brackets for fixed end ......1 pc.
- Brackets for moving end ......1 pc.
- Bracket C......1 pc.
- Hexagonal socket-head screw

M5 × 15 mm (0.59 in.)	2 pcs.
M6 × 8 mm (0.31 in.)	4 pcs.

- Conical spring washer ......2 pcs.
- Square nut M5 ......2 pcs.

#### • Flexible cable set (optional)

- Motor cable ......1 pc.





Bracket C

## 2.2 Checking the model name

The model names for the dual axes mounting bracket and other option are shown below.

#### Dual axes mounting bracket

	Stroke	Model name
X-Y bracket Y-axis 50 mm (1.97 in.)		PAB-EZ64Y05
	Y-axis 100 mm (3.94 in.)	PAB-EZ64Y10
	Y-axis 150 mm (5.91 in.)	PAB-EZ64Y15
	Y-axis 200 mm (7.87 in.)	PAB-EZ64Y20
	Y-axis 250 mm (9.84 in.)	PAB-EZ64Y25
	Y-axis 300 mm (11.81 in.)	PAB-EZ64Y30
X-Z bracket	Z-axis 50 mm (1.97 in.)	PAB-EZ64Z05
	Z-axis 100 mm (3.94 in.)	PAB-EZ64Z10
	Z-axis 150 mm (5.91 in.)	PAB-EZ64Z15
	Z-axis 200 mm (7.87 in.)	PAB-EZ64Z20
Z-axis 250 mm (9.84 in.)		PAB-EZ64Z25
	Z-axis 300 mm (11.81 in.)	PAB-EZ64Z30

#### • Cable holder (optional)

Stroke	Model name
X-axis 100 mm (3.94 in.)	PACH65-13
X-axis 150 mm (5.91 in.)	PACH65-14
X-axis 200 mm (7.87 in.)	PACH65-15
X-axis 250 mm (9.84 in.)	PACH65-17
X-axis 300 mm (11.81 in.)	PACH65-18
X-axis 400 mm (15.75 in.)	PACH65-21
X-axis 500 mm (19.69 in.)	PACH65-24

#### Flexible cable set (optional)

Length	Model name
2 m (6.6 ft.)	CC02EZ1R
5 m (16.4 ft.)	CC05EZ1R
10 m (32.8 ft.)	CC10EZ1R

### 2.3 Checking the compatible slides

The dual axes mounting bracket is used exclusively for mounting the following **EZS** series motorized slides.

	Motorized slides	Stroke
First axis (X)	EZS6 type	100 to 500 mm (3.94 to 19.69 in.) [all strokes]
Second axis (Y, Z)	EZS4 type	50 to 300 mm (1.97 to 11.81 in.)

## Installation

This chapter explains how to install the dual axes mounting bracket.

- Lay the cables so that they do not interfere with slide operation. Also, do not allow the range of operation to include areas where the cables may contact the load. Failure to do so may damage the cables and cause a malfunction.
  - Affix the cables so that the load will not apply any force to the connectors, but do not install the connectors inside the cable holder. Such an occurrence may cause the cables to break, resulting in a malfunction.
  - When installing the dual axes mounting bracket and load, securely tighten the screws to the specified torque.

#### 3.1 Installation steps

Install the dual axes mounting bracket in the following steps. Install correctly by following the instructions in

- The installation steps are identical for the X-Y and X-Z brackets.
- Do not install the X-Y bracket in the X-Z direction or the X-Z bracket in the X-Y direction. See, "2.2 Checking the model name" (p.4) for information on the installation direction and stroke.
- 1. Install bracket A onto the motorized slide (EZS4 type) of the second axis. ..............p.6
- 3. Install brackets A and B together. ..... p.8
- 4. Install the cable holder (optional)......p.9

### 3.2 Installing bracket A

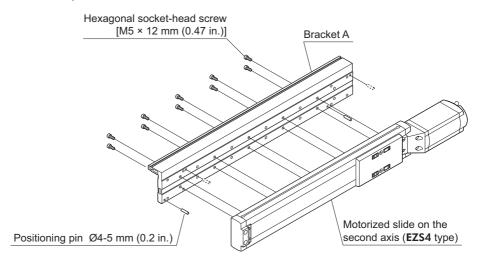
- 1. Insert two positioning pins [Ø4-15 mm (0.59 in.)] into bracket A.

  The insertion positions of the positioning pins vary, depending on the orientation of the motorized slide on the second axis.
- 2. Affix the motorized slide on the second axis (**EZS4** type) to bracket A using the supplied hexagonal socket head screws [M5 × 12 mm (0.47 in.)].

  Tighten the hexagonal socket head screws to a torque of 5 N·m (44.3 lb-in).

  The quantity of hexagonal socket head screws [M5 × 12 mm (0.47 in.)] varies depending on the

The quantity of hexagonal socket head screws  $[M5 \times 12 \text{ mm } (0.47 \text{ in.})]$  varies, depending on the stroke. Align the mounting reference surface of the motorized slide on the second axis using the positioning pins. This helps maintain positional repeatability when the slide is removed and reinstalled for maintenance, etc.



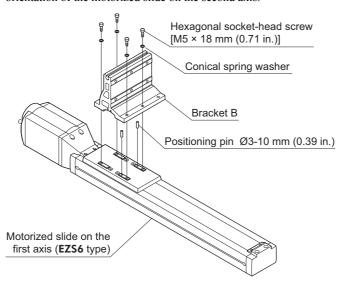
### 3.3 Installing bracket B

- 1. Insert two positioning pins [Ø3-10 mm (0.39 in.)] into the table of the motorized slide (EZS6 type) on the first axis.
- 2. Affix bracket B to the table of the motorized slide on the first axis using the supplied four hexagonal socket head screws [M5 × 18 mm (0.71 in.)] and four flat spring washers. Tighten the hexagonal socket head screws to a torque of 5 N·m (44.3 lb-in).

  Align bracket B with the positioning pins. This helps maintain positional repeatability when the significant repeatability when the significant

Align bracket B with the positioning pins. This helps maintain positional repeatability when the slide is removed and reinstalled for maintenance, etc.

The positions of the holes in which the bracket B positioning pins are inserted vary, depending on the orientation of the motorized slide on the second axis.



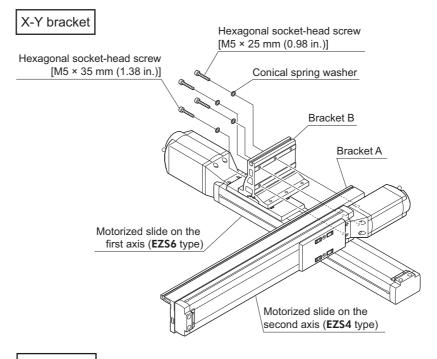
### 3.4 Installing brackets A and B together

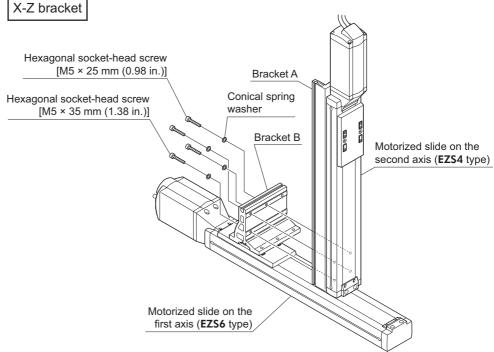
1. Install bracket A to bracket B and affix it using the supplied two hexagonal socket head screws [M5 × 25 mm (0.98 in.)] with two flat spring washers and two hexagonal socket head screws [M5 × 35 mm (1.38 in.)] with two flat spring washers.

Tighten the hexagonal socket head screws to a torque of 5 N·m (44.3 lb-in).

Affix the two locations at the bottom using the longer hexagonal socket head screws [M5  $\times$  35 mm (1.38 in.)].

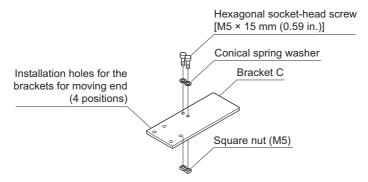
The installation positions of hexagonal socket head screws on brackets A and B vary, depending on the orientation of the motorized slide on the second axis.





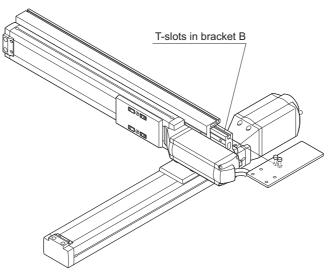
## 3.5 Installing the cable holder (optional)

1. Loosely install the supplied two hexagonal socket head screws [M5 × 15 mm (0.59 in.)] and two flat spring washers (M5) to bracket C.



2. Insert the square nuts that are loosely installed to bracket C into the T-slots in bracket B, and tighten the nuts.

Tighten the hexagonal socket head screws to a torque of 5 N·m (44.3 lb-in).

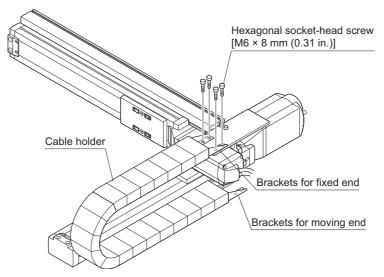


 Install the supplied brackets for the fixed end and the moving end onto the cable holder. Be sure to guide a set of two flexible cables (optional, encoder cable and motor cable) through the holder.

See the instruction manual for the cable holder (optional) for details on the installation of mounting brackets for the cable holder and the storage of cables.

**4.** Affix the cable holder's bracket for the moving end to bracket C using the supplied four hexagonal socket head screws [M6 × 8 mm (0.31 in.)].

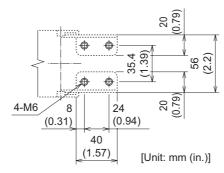
Tighten the hexagonal socket head screws to a torque of 5 N·m (44.3 lb-in).



Install the cable holder's bracket for the fixed end to a metal plate using four hexagonal socket head screws.

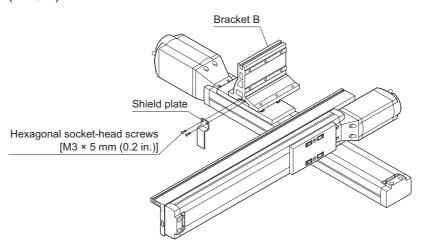
The screws for affixing the bracket for the fixed end are not supplied. The customer should prepare screws with a size of at least M6  $\times$  8 mm (0.31 in.).

Affix the bracket for the fixed end to a rigid metal plate having a thickness of 5 mm (0.2 in.) or more. See the figure below for the dimensions of the mounting plate.



## 3.6 When using the sensor set

1. Affix the shield plate to bracket B using the supplied four hexagonal socket head screws [M3 × 5 mm (0.2 in.)]. Tighten the hexagonal socket head screws to a torque of 0.8 N·m (7.1 lb-in).



- Unauthorized reproduction or copying of all or part of this manual is prohibited. If a new copy is required to replace an original manual that has been damaged or lost, please contact your nearest Oriental Motor branch or sales office.
- Oriental Motor shall not be liable whatsoever for any problems relating to industrial property rights arising from use of any information, circuit, equipment or device provided or referenced in this manual.
- Characteristics, specifications and dimensions are subject to change without notice.
- While we make every effort to offer accurate information in the manual, we welcome your input. Should you find unclear descriptions, errors or omissions, please contact the nearest office.
- Oriental motor and SEZIMO are registered trademarks or trademarks of Oriental Motor Co., Ltd., in Japan and other countries. Other product names and company names mentioned in this manual may be registered trademarks or trademarks of their respective companies and are hereby acknowledged. The third-party products mentioned in this manual are recommended products, and references to their names shall not be construed as any form of performance guarantee. Oriental Motor is not liable whatsoever for the performance of these third-party products.

© Copyright ORIENTAL MOTOR CO., LTD. 2007

• Please contact your nearest Oriental Motor office for further information.

ORIENTAL MOTOR U.S.A. CORP. Technical Support Tel:(800)468-3982 8:30 A.M. to 5:00 P.M., P.S.T. (M-F) 7:30~A.M. to 5:00~P.M.,~C.S.T. (M-F) E-mail: techsupport@orientalmotor.com www.orientalmotor.com

Headquarters and Düsseldorf Office Tel:0211-5206700 Fax:0211-52067099 Munich Office Tel:089-3 18 12 25-00 Fax:089-3 18 12 25-25 Hamburg Office Tel:040-76910443 Fax:040-76910445 ORIENTAL MOTOR (UK) LTD. Tel:01256-347090 Fax:01256-347099 ORIENTAL MOTOR (FRANCE) SARL Tel:01 47 86 97 50 Fax:01 47 82 45 16 ORIENTAL MOTOR ITALIA s.r.l. Tel:02-93906346 Fax:02-93906348

ORIENTAL MOTOR (EUROPA) GmbH

Tel:(02)8228-0707 Fax:(02)8228-0708 SINGAPORE ORIENTAL MOTOR PTE LTD Tel:(6745)7344 Fax:(6745)9405 ORIENTAL MOTOR (MALAYSIA) SDN. BHD. Tel:(03)22875778 Fax:(03)22875528 ORIENTAL MOTOR (THAILAND) CO.,LTD. Tel:66-2-254-6113 Fax:66-2-254-6114 INA ORIENTAL MOTOR CO.,LTD. **KOREA** Tel:(032)822-2042~3 Fax:(032)819-8745 ORIENTAL MOTOR CO.,LTD. Headquarters Tokyo, Japan

TAIWAN ORIENTAL MOTOR CO.,LTD.

Fax:(03)3835-1890 Tel:(03)3835-0684