

Stepper Motors

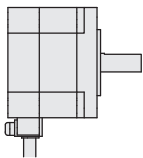


Oriental Motor offers a wide range of high torque stepper motors in frame sizes from 0.79 in. (20 mm) up to 3.54 in. (90 mm). Geared types, encoders, brake options and various motor windings are offered.

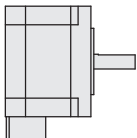
For improved performance, full time microstepping drivers with Smooth Drive are available, reducing noise and vibration and controlling heat output.

Stepper Motor Types

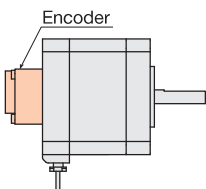
● Standard



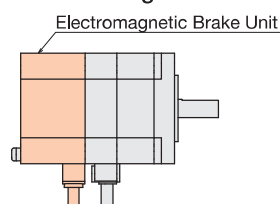
● High-Resolution Type



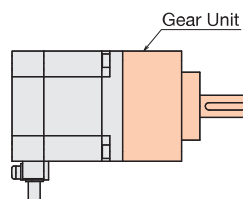
● Encoder Type



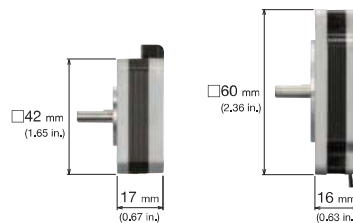
● Electromagnetic Brake Type



● Geared Type

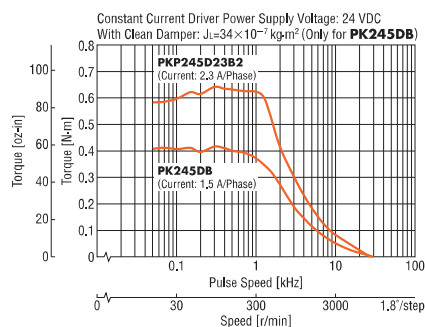


● Flat Type

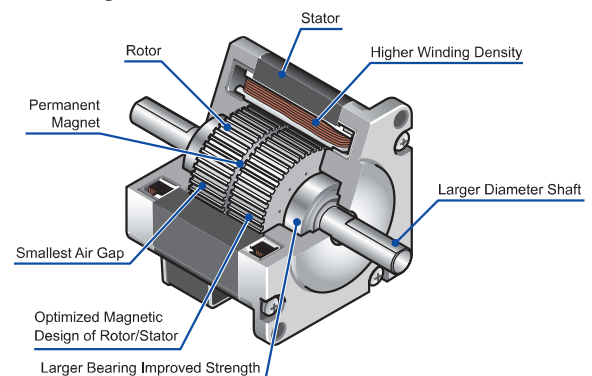


PKP Stepper Motor Features

● Increased Torque: New PKP to PK





















● New Design: Run Cooler or Downsize



PKP Series

● Bipolar (4 lead wires) and unipolar (5 or 6 lead wires) wiring types are available.

2-Phase	Motor Type	Motor Frame Size	Additional Function		
			Standard	With Encoder	With Electromagnetic Brake
Standard Type (Basic Step Angle: 1.8°/step) High Strength  Flat-Connector Type  Connector Type  With Encoder  With Electromagnetic Brake Standard		□ 20 mm	●	●	—
		□ 28 mm	●	●	●
		□ 35 mm	●	●	●
		□ 42 mm	●	●	●
		□ 56.4 mm	●	●	●
		□ 60 mm*1	●	—	—
		□ 85 mm	●	—	—
High-Resolution Type (Basic Step Angle: 0.9°/step) High Strength  Flat Connector Type  Connector Type  With Encoder  With Electromagnetic Brake Standard		□ 28 mm	●	●	—
		□ 42 mm	●	●	●
		□ 56.4 mm	●	●	●
Flat Type (Basic Step Angle: 0.018° to 1.8°/step)  Standard  With Harmonic Gears		□ 42 mm	●	—	—
		□ 60 mm	●	—	—
		□ 51 mm	With Harmonic Gears		
		□ 61 mm	With Harmonic Gears		
SH Geared Type (Basic Step Angle: 0.05° to 0.5°/step)  Standard  With Encoder		□ 28 mm	●	NEW	—
		□ 42 mm	●	●	—
		□ 60 mm	●	●	—
		□ 90 mm*1	●	—	—
CS Geared Type (Basic Step Angle: 0.09 to 0.36°/step)  Standard		□ 28 mm	●	—	—
		□ 42 mm	●	—	—
		□ 60 mm	●	—	—
5-Phase	Motor Type	Motor Frame Size	Additional Function		
			Standard	With Encoder	With Electromagnetic Brake
Standard Type (Basic Step Angle: 0.72°/step) High Strength  Flat-Connector Type  Connector Type  With Encoder Standard		□ 20 mm*1	●	●	—
		□ 28 mm	●	NEW	—
		□ 42 mm	●	●	—
		□ 56.4 mm	●	●	—
		□ 60 mm	●	●	—
		□ 85 mm*1	●	—	—
High-Resolution Type (Basic Step Angle: 0.36°/step)  Standard		□ 28 mm	●	NEW	—
		□ 42 mm	●	NEW	—
		□ 60 mm	●	NEW	—
TS Geared Type (Basic Step Angle: 0.024 to 0.2°/step)  Standard		□ 42 mm	●	—	—
		□ 60 mm	●	—	—

●: 2 types are available—the "Flat Connector Type" and the "Connector Type".

*1 This is the conventional PK Series.

CVD Driver


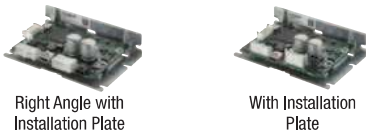

2-Phase

5-Phase

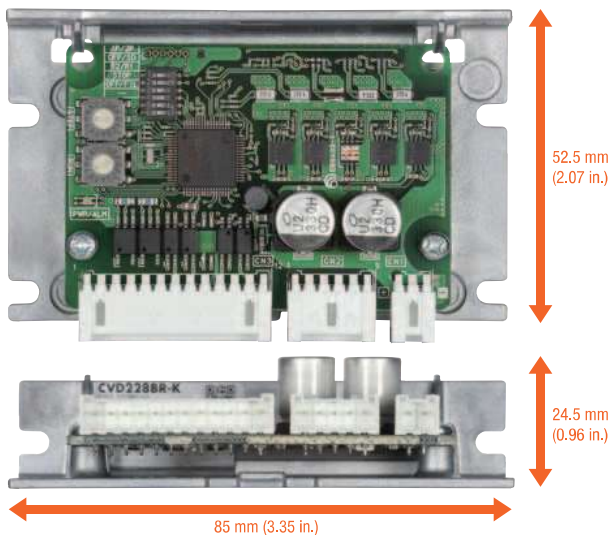
Driver for Stepper Motors

Compact

Low Vibration

<p>Bipolar Driver for 2-Phase Stepper Motors Driver for 5-Phase Stepper Motors CVD Series—Pulse Input Type</p>	 <p>Right Angle with Installation Plate With Installation Plate Without Installation Plate</p>
<p>Bipolar Driver for 2-Phase Stepper Motors Driver for 5-Phase Stepper Motors CVD Series RS-485 Communication Type</p>	 <p>Right Angle with Installation Plate With Installation Plate</p>
<p>Bipolar Driver for 2-Phase/5-Phase Stepper Motors CVD Series S Type Driver for 5-Phase Stepper Motors CVD Series SC Type</p>	<p>● CVD Series S Type</p>  <p>· SPI Communication-Compatible · Pulse Input-Compatible</p>

● Industry's Top, Compact, High Performance Driver

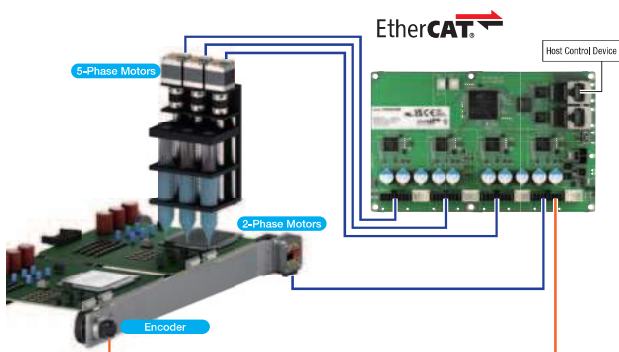


Mass 20 g (0.71 oz) to 70 g (2.47 oz)

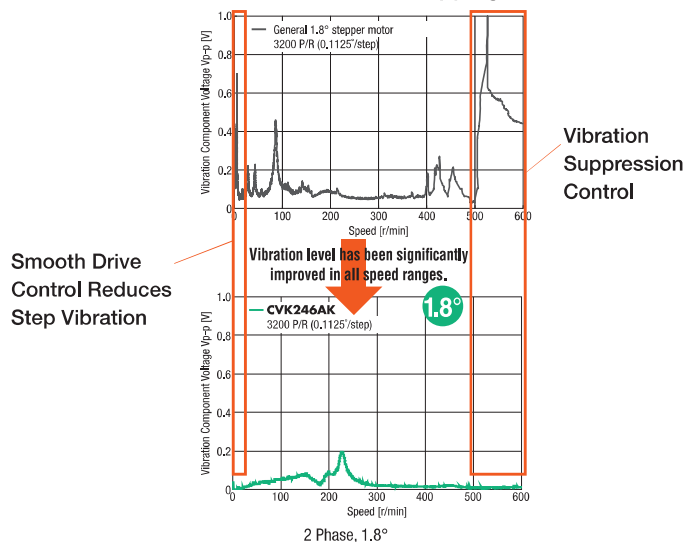
(Differs according to the driver type.)

● CVD Series Multi-Axis Type EtherCAT Compatible

This compact, lightweight 4-axis control driver reduces wiring and saves valuable space.

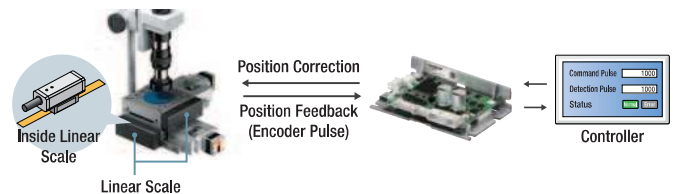


● Low Vibration with Full-Time Microstepping



● CVD Series Fully Closed-Loop Control Type

This driver enables precise positioning when combined with high resolution rotary and linear encoders.



Rotary Encoder and Stepper Motor Linear Attachments

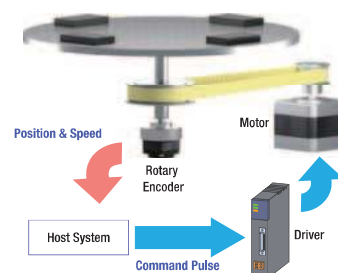
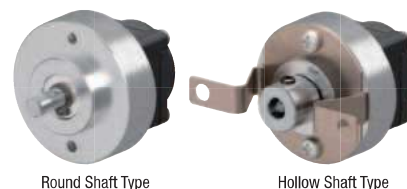
Rotary Encoder

The rotary encoder is a small, thin, lightweight, high-resolution incremental encoder.

- Outer Diameter $\phi 30$ mm
- Voltage Output, Line Driver Output

Output Shaft Type	Resolution (P/R)	Output Circuit Type
Round Shaft Type	1000	Line Driver
		Voltage
	2000	Line Driver
		Voltage
Hollow Shaft Type	1000	Line Driver
		Voltage
	2000	Line Driver
		Voltage

● Connection cables must be ordered individually.

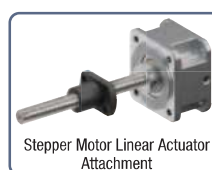


- Application Example
In a belt-and-pulley mechanism, it is possible to detect the difference in rotation between the motor and mechanism due to belt deflection or breakage.

Linear Actuator Attachment

Stepper motor linear actuator attachment is a linear motion mechanism with a lead screw and resin nut.

- Thrust Force 100 N
- Self-Locking Force 100 N
- Capable of Load Holding

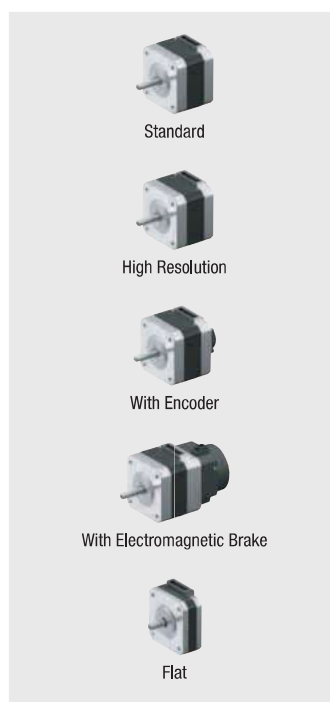


Mounting Adapter for
Linear Actuator □42 mm

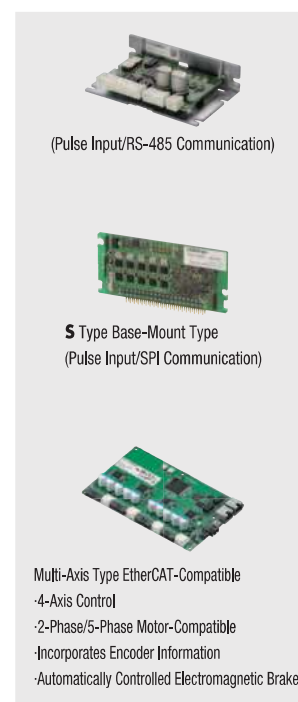


Stroke: 50 to 300 mm

2-Phase/5-Phase Stepper Motors
PKP Series □42 mm



CVD Series Driver



Multi-Axis Type EtherCAT-Compatible
-4-Axis Control
-2-Phase/5-Phase Motor-Compatible
-Incorporates Encoder Information
-Automatically Controlled Electromagnetic Brake