

# Orientalmotor

ORIENTAL MOTOR U.S.A. Corp.  
570 Alaska Avenue  
Torrance, CA 90503  
1-800-GO-VEXTA (468-3982)

## Item # PKP214D06B, 0.79 in. (20 mm) PKP Series 2-Phase Bipolar Stepper Motor



The high-torque PKP series stepper motor offers balanced performance enhanced by high torque, low vibration and low noise.

- Bipolar Winding

Web Price

**\$89.00**

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### Specifications

<b>Lead Time<sup>1</sup></b>	Available quantity to ship: 10 pieces by 4/30/26.
<b>Motor Type</b>	2-Phase
<b>Step Angle</b>	1.8 °
<b>Motor Size</b>	NEMA 8
<b>Frame Size</b>	0.79 in
<b>Motor Length</b>	1.57 in.
<b>Type</b>	Standard
<b>Holding Torque</b>	5.1 oz-in
<b>Current per Phase (A/phase)</b>	0.6
<b>Voltage (VDC)</b>	3.9
<b>Resistance (<math>\Omega</math>/phase)</b>	6.5
<b>Inductance (mH/phase)</b>	3.5



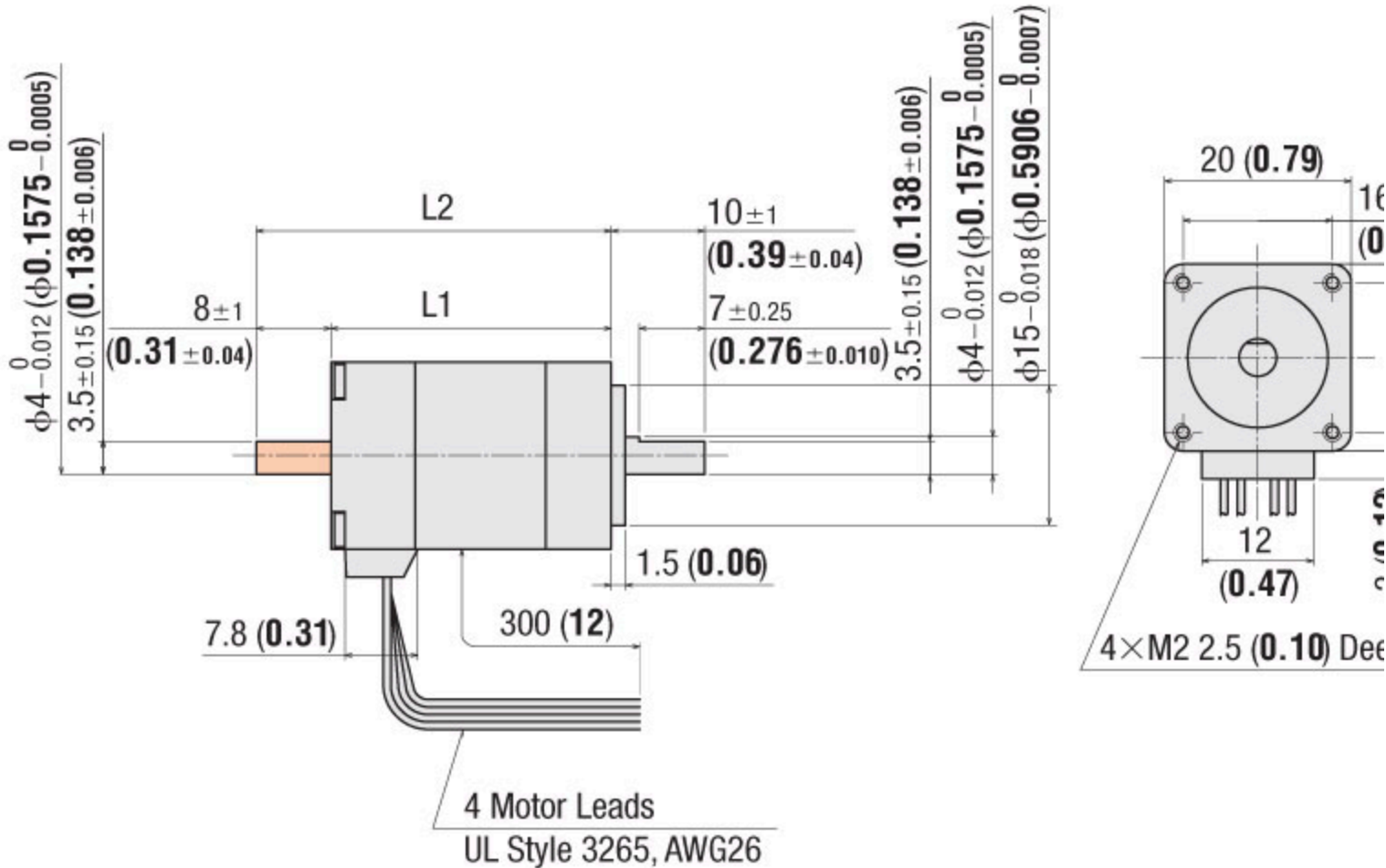
<b>Shaft/Gear Type</b>	Round Shaft with Flat (No Gearhead)
<b>Output Shaft Diameter</b>	4 mm
<b>Shaft</b>	Double
<b>Encoder</b>	Not Equipped
<b>Motor Connection Type</b>	Lead Wire
<b>Connection Type</b>	Bipolar
<b>Lead Wires</b>	4
<b>Rotor Inertia</b>	0.0159 oz-in <sup>2</sup>
<b>Shaft Runout</b>	0.05 mm (0.002 in.) T.I.R.
<b>Stop Position Accuracy</b>	±5 arc minutes (±0.083°)
<b>Radial Load</b>	0 in. from Shaft End = 2.7 lb 0.2 in. from Shaft End = 3.3 lb
<b>Axial Load</b>	0.67 lb
<b>Radial Play</b>	0.025 mm (0.001 in.) maximum of 5 N (1.12 lb.)
<b>Axial Play</b>	0.075 mm (0.003 in.) maximum of 1 N (0.225 lb.)
<b>Concentricity</b>	0.075 mm (0.003 in.) T.I.R.
<b>Perpendicularity</b>	0.075 mm (0.003 in.) T.I.R.
<b>RoHS Compliant</b>	Yes
<b>California Proposition 65</b>	<p><b>⚠ CA WARNING</b>  Cancer risk from exposure to Nickel. See <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>  Risk of reproductive harm from exposure to Di-n-hexyl phthalate (DnHP). See <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>  Risk of cancer and reproductive harm from exposure to Di(2-ethylhexyl phthalate (DEHP). See <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>  See "?" or copy/paste <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a> in your browser.</p>
<b>Insulation Class</b>	Class B [266°F (130°C)]
<b>Insulation Resistance</b>	100 MΩ or more when 500 VDC megger is applied between the windings and the case under normal ambient temperature and humidity.
<b>Dielectric Strength</b>	Sufficient to withstand 0.5 kVAC at 50 Hz or 60 Hz applied between the windings and the case for 1 minute under normal ambient temperature and humidity.

<b>Temperature Rise</b>	Temperature rise of the windings is 144°F (80°C) or less measured by the change resistance method. (at rated voltage, at standstill, 2 phases energized)
<b>Ambient Temperature Range</b>	14 ~ 122°F (-10 ~ 50°C) (non-freezing)
<b>Ambient Humidity</b>	85% or less (Non-condensing)

## Dimensions

## Dimensions Unit = mm (in.)

Model	L1	L2	Mass kg (lb.)	CAD
<b>PKP213D05A</b>	30	—	0.05	B976
<b>PKP213D05B</b>	(1.18)	38 (1.50)	(0.11)	
<b>PKP214D06A</b>	40	—	0.07	B978
<b>PKP214D06B</b>	(1.57)	48 (1.89)	(0.154)	



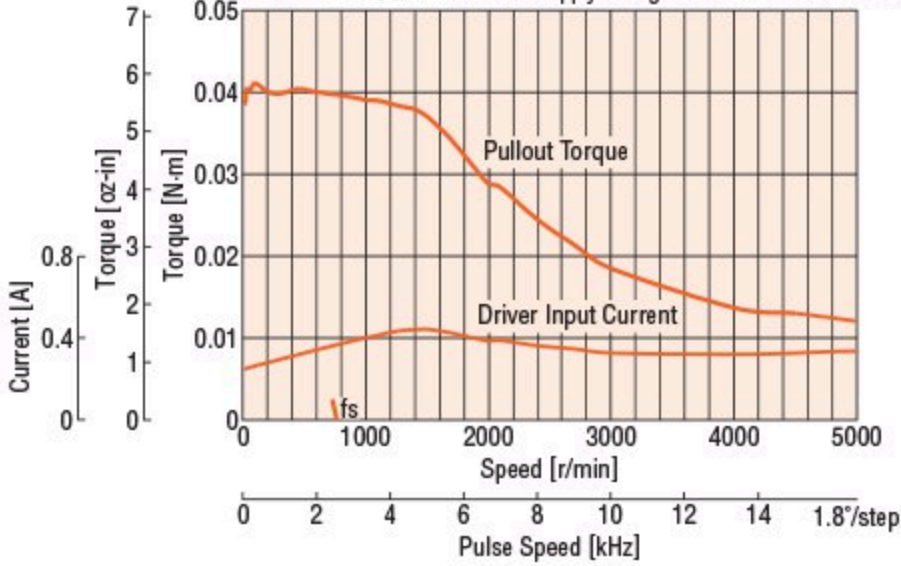
- These dimensions are for double shaft models.  
For single shaft models, ignore the  areas.
- Back shaft of double shaft models have a flat the whole length.

# Speed – Torque Characteristics (Reference va

fs: Max. Starting Frequency

## PKP214D

Driver: **CVD206BR-K** Power Supply Voltage: 24 VDC Current: 0.6 A/Phase



Product Number

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## How to identify the product model

### ■ Standard type, high-resolution type, high-torque type

#### ● 2-Phase

PKP2 □ □ □ **D** □ □ □ □ □ **-R** □ □ **-L**  
 1 2 4 5 6 7 8 9 10 11 12

#### ● 5-Phase

PKP5 □ □ □ □ **N** □ □ □ □ □ **-R** □ □ **-L**  
 1 2 3 4 5 6 7 8 9 10 11 12

1	Motor frame size	<b>0</b> : 13 mm (0.51 in.) <b>3</b> : 35 mm (1.38 in.) <b>6</b> : 56.4 mm (2.22 in.)*	<b>1</b> : 20 mm (0.79 in.) <b>4</b> : 42 mm (1.65 in.) <b>9</b> : 85 mm (3.35 in.)	<b>2</b> : 28 mm (1.10 in.) <b>5</b> : 50 mm (1.97 in.)
2	Motor case length			
3	Motor classification (PKP56 only)	Blank: Motor frame size 56.4 mm (2.22 in.) <b>F</b> : Motor frame size 60 mm (2.36 in.)		
4	Motor type	Blank: Standard type <b>M</b> : High-resolution type <b>P</b> : High-torque type		
5	Number of lead wires	<b>D</b> : 4 pieces <b>U</b> : 5 pieces or 6 pieces <b>N</b> : 5 pieces		
6	Motor winding specifications	Representative example <b>05</b> : Rated current 0.5 A/phase <b>24</b> : Rated current 2.4 A/phase		
7	Shape	<b>A</b> : Single shaft <b>B</b> : Double shaft <b>M</b> : With electromagnetic brake		
8	Output shaft diameter	<b>A</b> : Inch size Blank: Millimeter size		
9	Motor identification	Refer to "4-4 Motor model type" on p.11 for the motor model type. <ul style="list-style-type: none"> <li>● 2-Phase           <ul style="list-style-type: none"> <li><b>2</b>: Model A, Model B [frame side 28 mm (1.10 in.)], Model D</li> <li>Blank: Model B [frame size 35 mm (1.38 in.), 42 mm (1.65 in.), 56.4 mm (2.22 in.)], Model C</li> </ul> </li> <li>● 5-Phase           <ul style="list-style-type: none"> <li><b>2</b>: Model A</li> <li>Blank: Model B</li> <li><b>W</b>: Model C</li> </ul> </li> </ul>		
10	Encoder resolution	<b>R3E, R2E</b> : 200 P/R <b>R3F, R2F</b> : 400 P/R <b>R3G, R2G</b> : 500 P/R <b>R3J</b> : 1,000 P/R		
11	Encoder output circuit type	<b>L</b> : Line driver output Blank: Voltage output		
12	Connection cable	<b>-L</b> : With a connection cable Blank: Without connection cable		

\* For the model name PKP56□F, the motor frame size is 60 mm (2.36 in.).

### ■ Geared type

#### ● 2-Phase

PKP2 □ □ **D** □ □ □ □ □ **-SG** □ **-R** □ □ **-L**

1 2 3 4 5 6 8 9 10 11 12

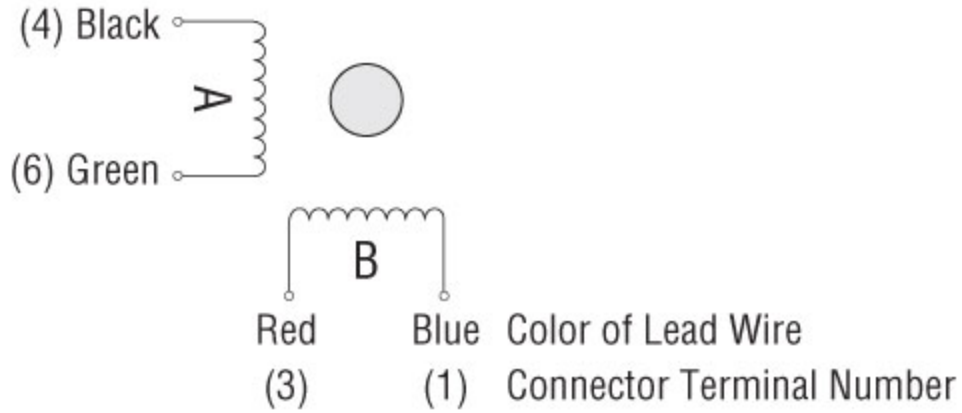
## ● 5-Phase

PKP5 □ □ N □ □ A 2 - TS □  
 1 2 3 4 5 7 8 9

1	Motor frame size	<b>0:</b> 13 mm (0.51 in.) <b>2:</b> 28 mm (1.10 in.) <b>4:</b> 42 mm (1.65 in.) <b>6:</b> 60 mm (2.36 in.)
2	Motor case length	
3	Number of lead wires	<b>D:</b> 4 pieces <b>N:</b> 5 pieces <b>U:</b> 5 pieces or 6 pieces
4	Motor winding specifications	Representative example <b>15:</b> Rated current 1.5 A/phase <b>28:</b> Rated current 2.8 A/phase
5	Shape	<b>A:</b> Single shaft <b>B:</b> Double shaft
6	Motor identification	Refer to "4-4 Motor model type" on p.11 for the motor model type. <b>2:</b> Model A, Model D Blank: Model B
7	Reference number	
8	Gearhead type	<b>CS:</b> CS geared <b>SG:</b> SH geared <b>TS:</b> TS geared <b>H:</b> Harmonic geared
9	Gear ratio	
10	Encoder resolution	<b>R3E, R2E:</b> 200 P/R <b>R3F, R2F:</b> 400 P/R <b>R3G, R2G:</b> 500 P/R <b>R3J:</b> 1,000 P/R
11	Encoder output circuit type	<b>L:</b> Line driver output Blank: Voltage output
12	Connection cable	<b>-L:</b> With connection cable Blank: Without connection cable

# Inner Wiring Diagram for Motor

## ● Bipolar 4 Lead Wires



<sup>1</sup> Quoted Ship Date for orders placed before 12:00 pm PST. Quantities may affect Shipping Date.

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