

Brushless Motors

# BXII Series

**BXII Series**

Overview

AC Input  
**BMU**

AC Input  
**BLE2**

AC Input  
**BXII**

DC Input  
**BLH**

DC Input  
**BLV**

# Brushless Motor and Driver BXII Series



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



- These brushless motors can easily be used for a wide range of applications, with characteristics similar to those offered by servo motors.
- In addition to speed control, they are equipped with position control and torque limiting functions.
- Highly accurate speed control and positioning can be easily achieved without tuning.



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

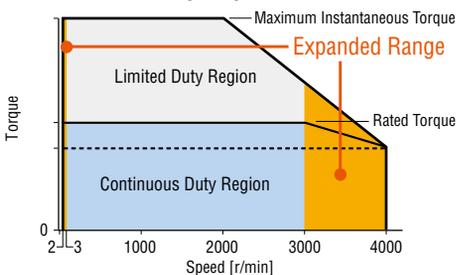
- Manual
- Specifications
- Dimensions
- CAD
- Characteristics
- Connection and Operation

## Features

### Speed Control

- **Contributes to Improved Takt Time with the Highest Level of Speed Control**

Max. speed of 4000 r/min  
Speed ratio of 2000:1 (Double the ratio of conventional products)  
The **BXII** Series achieves 2~4000 r/min (with digital setting)\*. The speed range has been greatly expanded.  
\*30~4000 r/min with analog setting.

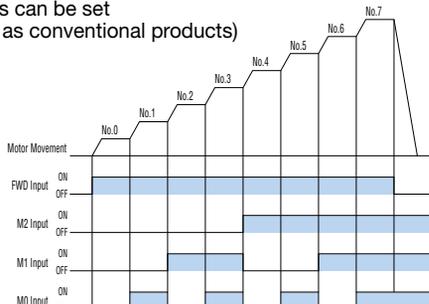


- **Smooth Operation with Minimum Impact from the External Environment**

Speed regulation:  $\pm 0.05\%$  (load/voltage/temperature)

- **Speed Selection Tailored to Load and Takt Time is Possible**

Up to 16 speeds can be set  
(Twice as many as conventional products)



- **Easy Speed Control During Vertical Operation**

An electromagnetic brake type motor enables stable speed control even during vertical operation (gravitational operation). The electromagnetic brake is automatically controlled to turn ON/OFF according to the operation command signal to the driver. When the power is turned OFF, such as during a blackout, the motor stops instantaneously to hold the load in place.

● Since regenerated energy is produced during vertical operation, a regeneration unit, sold separately, is required.  
Regeneration units → Website

### Position Control

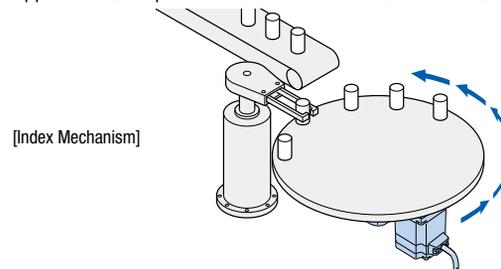
- **Built-in Positioning Function**

Positioning operations are possible with the driver on its own. A control module is not required.

- **Continuous Rotation in the Same Direction is Possible**

The command position and multiple rotation data can be returned to 0 when the command operation exceeds the round setting range parameter. Since the multiple rotation data is returned to 0, continuous rotation in the same direction is possible.

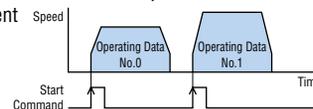
Application Example of Continuous Rotation in the Same Direction



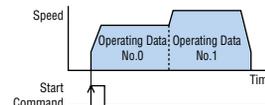
- **Various Positioning Operations are Possible**

- Up to 16 points of operating data can be set (10 points more than conventional products)
- 3 types of operation function: independent operation, linked operation, and linked operation 2

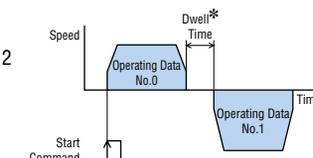
**Independent Operation**



**Linked Operation**



**Linked Operation 2**

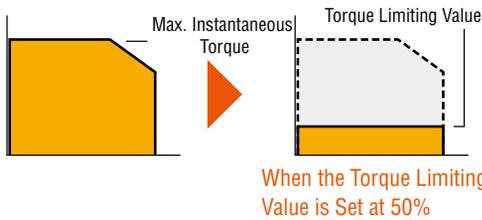


\* Dwell time is the wait time until the next positioning operation starts.

## Torque Limiting

### What is the Torque Limiting Function?

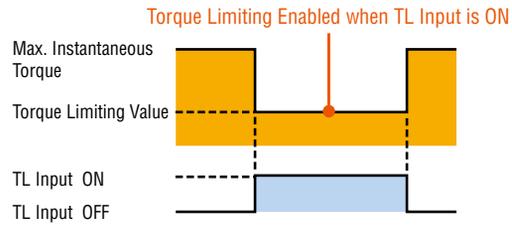
The setting range of the motor's max. instantaneous torque can be limited to 0~250% in 1% increments. In addition to suppressing motor torque for safety purposes, this can be utilized for a variety of applications based on the usage conditions.



### Improved Torque Limiting Accuracy

**BXII** ±Approx. 10% (with respect to rated torque)

- Torque limiting can be switched ON/OFF with an external signal (TL input)



## User Friendly

### Data Setting is Easy

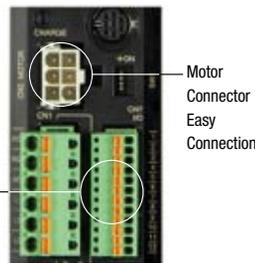
Digital setting and operation can be done with the driver's control panel. Speed, load factor, current position, operation number, etc. can be displayed. Remote settings are also possible when a control module (**OPX-2A**), sold separately, is used.



The Display when the Load Factor is 50%

### Easy Wiring

- The new I/O connector does not require a screw, which also eliminates the need for soldering or a special crimping tool.
- The motor connector and encoder connector can be connected easily.

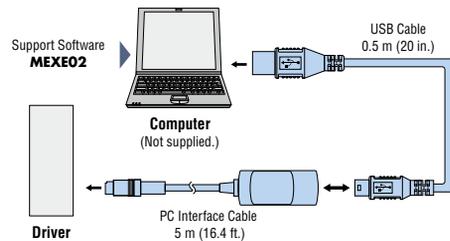


Just insert a lead wire while pressing down the orange button with a screwdriver or a pointed object.

### Easy Data Editing and Monitoring

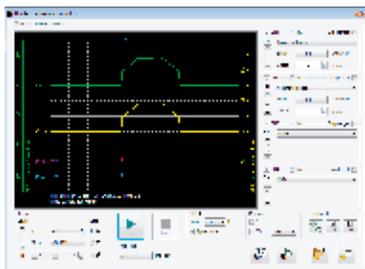
The Support software (**MEXE02**) can be downloaded for free from the Oriental Motor website. It is also available as a CD-ROM. It is compatible with Windows 7, 8, 10, Vista, and XP. Besides data editing, I/O and operating speed waveform monitoring are also possible.

- The Support software can be downloaded from <http://www.orientalmotor.com/>



\*To connect to a computer, a dedicated device driver must be installed.

### Waveform Monitoring



### Effective Utilization of Installation Space

Optimized arrangement of internal parts has made the drivers compact and slim. Multiple drivers can now be installed in contact with each other, reducing the amount of installation space or increasing the number of axes within the same equipment space.

### Compact Slim Body Driver

Installation Area  
**6400 mm<sup>2</sup>**  
(9.9 in<sup>2</sup>)

Volume Comparison  
with Conventional Product

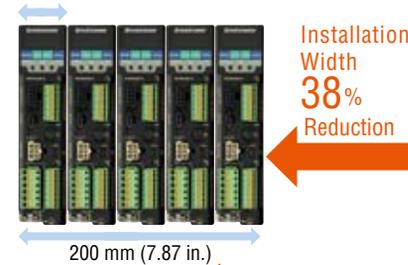
Approx. **5%** Reduction



### Multiple Units can be Installed in Contact with Each Other

#### BXII Series Driver

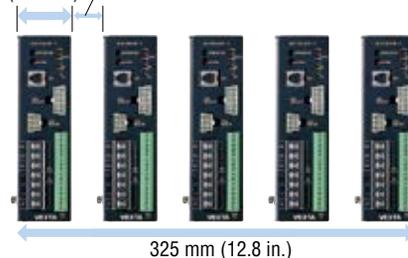
40 mm  
(1.57 in.)



#### Conventional Product

#### BX Series Driver

45 mm 25 mm (0.98 in.)  
(1.77 in.)



## Reliability

### ●Peace of Mind even if a Problem Occurs

Quick response to a problem is possible thanks to the alarm (protective function) and warning that is output prior to an alarm.

Display Examples	Alarm	Warning
· Overflow	10	10
· Overvoltage	22	22
· Overload	30	30



Alarm Code  
10 display



Warning Code  
10 display

### ●Sink/Source Logic can be Selected

It is possible to switch between sink/source logic according to the external controller by changing the wiring .

## Value Priced

### ●Motor + Gear + Driver + Cables + Software = Value

#### BXII Series

60 W (1/12 HP) motor  
Combination type with a  
parallel shaft gearhead  
Gear ratio 30

**\$976.00**

BXII Series



Digital Setting is Possible with Just the Driver. Greatly Increased Functionality.

Connection Cable (Sold separately)



Cable for Motor

Cable for Encoder  
3 m (9.8 ft.)

## Product Line

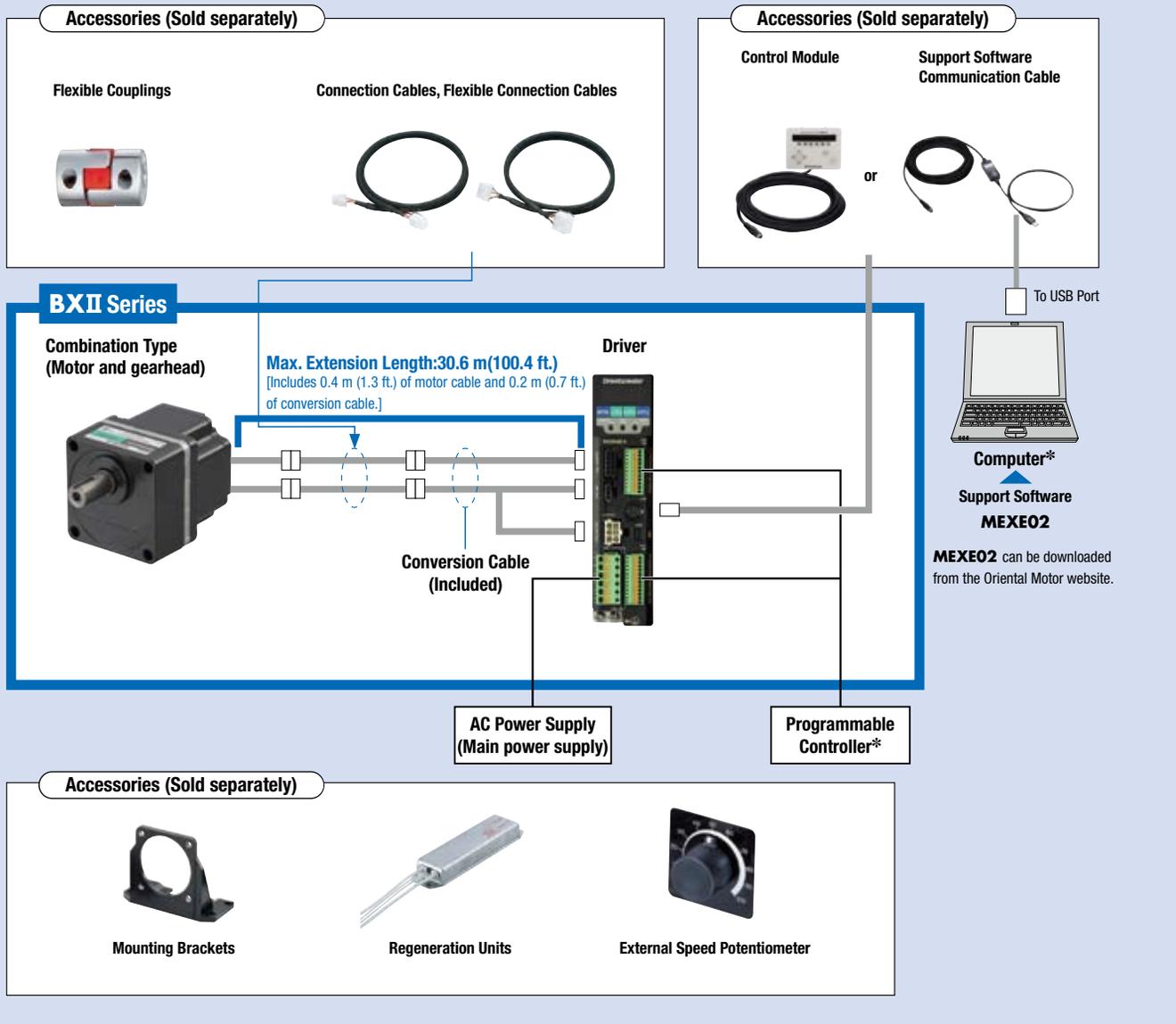
Conform to the voltage specifications of many countries around the world.

Motor and Driver					Connection Cable
Motor Type	Frame Size	Output Power	Driver	Power Supply Voltage	
 Combination Type (Parallel shaft gear)   Combination Type (Hollow shaft flat gear)   Round Shaft Type  ● Electromagnetic brake types are available for all types.	60 mm (2.36 in.)	30 W 1/25 HP		Single-phase 100-120 VAC Single-phase 200-240 VAC Three-phase 200-240 VAC	 Cable for Motor
	80 mm (3.15 in.)	60 W 1/12 HP			
	90 mm (3.54 in.)	120 W 1/6 HP			
	104 mm (4.09 in.)	200 W 1/4 HP			 Cable for Encoder
400 W 1/2 HP		Single-phase 200-240 VAC Three-phase 200-240 VAC	1 m~30 m (3.3 ft.~98.4 ft.)		

●Can be extended to a maximum of 30.6 m (100.4 ft.) with an accessory cable.

## System Configuration

\*Not supplied



Overview

AC Input  
BMU

AC Input  
BLE2

AC Input  
BXII

DC Input  
BLH

DC Input  
BLV

**MEXE02** can be downloaded from the Oriental Motor website.

## Product Number

# BXS 6 200 A M - 10 S

①    ②    ③    ④    ⑤    ⑥    ⑦

①	Series Name	<b>BXS: BXII Series</b>
②	Motor Frame Size	<b>2:</b> 60 mm (2.36 in.) <b>4:</b> 80 mm (3.15 in.) <b>5:</b> 90 mm (3.54 in.) <b>6:</b> 104 mm (4.09 in.) (110 mm (4.33 in.) for gearhead)
③	Output Power (W)	<b>30:</b> 30 W (1/25 HP) <b>60:</b> 60 W (1/12 HP) <b>120:</b> 120 W (1/6 HP) <b>200:</b> 200 W (1/4 HP) <b>400:</b> 400 W (1/2 HP)
④	Power Supply Voltage	<b>A:</b> Single-Phase 100-120 VAC <b>C:</b> Single-Phase, Three-Phase 200-240 VAC
⑤	Electromagnetic Brake Type	<b>M:</b> Electromagnetic Brake Type    Blank: Standard Type
⑥	Gear Ratio and Shaft Configuration	Number: Gear ratio for combination types <b>A:</b> Round Shaft Type
⑦	Gearhead Type (Combination type only)	<b>S:</b> Parallel Shaft Gearhead <b>FR:</b> Hollow Shaft Flat Gearhead

**Product Line**

**Combination Type** The combination type comes with a motor and gearhead pre-assembled.  
 The combination of motors and gearheads can be changed, and they are also available separately.  
 In addition, the gearhead can be removed and the assembly position can be changed in 90° increments.

● **Standard Type**

◇ **Combination Type, Parallel Shaft Gearhead**

● **Single-Phase 100-120 VAC**

Output Power	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	<b>BXS230A-□S</b>	<b>5, 10, 15, 20</b>	\$819.00
		<b>30, 50, 100</b>	\$828.00
		<b>200</b>	\$837.00
60 W (1/12 HP)	<b>BXS460A-□S</b>	<b>5, 10, 15, 20</b>	\$868.00
		<b>30, 50, 100</b>	\$876.00
		<b>200</b>	\$886.00
120 W (1/6 HP)	<b>BXS5120A-□S</b>	<b>5, 10, 15, 20</b>	\$909.00
		<b>30, 50, 100</b>	\$920.00
		<b>200</b>	\$930.00
200 W (1/4 HP)	<b>BXS6200A-□S</b>	<b>5, 10, 15, 20</b>	\$928.00
		<b>30, 50</b>	\$938.00
		<b>100, 200</b>	\$954.00

● **Single-Phase, Three-Phase 200-240 VAC**

Output Power	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	<b>BXS230C-□S</b>	<b>5, 10, 15, 20</b>	\$844.00
		<b>30, 50, 100</b>	\$853.00
		<b>200</b>	\$862.00
60 W (1/12 HP)	<b>BXS460C-□S</b>	<b>5, 10, 15, 20</b>	\$893.00
		<b>30, 50, 100</b>	\$901.00
		<b>200</b>	\$911.00
120 W (1/6 HP)	<b>BXS5120C-□S</b>	<b>5, 10, 15, 20</b>	\$929.00
		<b>30, 50, 100</b>	\$940.00
		<b>200</b>	\$950.00
200 W (1/4 HP)	<b>BXS6200C-□S</b>	<b>5, 10, 15, 20</b>	\$948.00
		<b>30, 50</b>	\$958.00
		<b>100, 200</b>	\$974.00
400 W (1/2 HP)	<b>BXS6400C-□S</b>	<b>5, 10, 15, 20</b>	\$1,100.00
		<b>30, 50</b>	\$1,110.00
		<b>100, 200</b>	\$1,126.00

◇ **Combination Type, Hollow Shaft Flat Gearhead**

● **Single-Phase 100-120 VAC**

Output Power	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	<b>BXS230A-□FR</b>	<b>5, 10, 15, 20</b>	\$877.00
		<b>30, 50, 100</b>	\$889.00
		<b>200</b>	\$901.00
60 W (1/12 HP)	<b>BXS460A-□FR</b>	<b>5, 10, 15, 20</b>	\$960.00
		<b>30, 50, 100</b>	\$972.00
		<b>200</b>	\$984.00
120 W (1/6 HP)	<b>BXS5120A-□FR</b>	<b>5, 10, 15, 20</b>	\$1,007.00
		<b>30, 50, 100</b>	\$1,018.00
		<b>200</b>	\$1,030.00
200 W (1/4 HP)	<b>BXS6200A-□FR</b>	<b>10, 15, 20</b>	\$1,011.00
		<b>30, 50, 100</b>	\$1,022.00

● **Single-Phase, Three-Phase 200-240 VAC**

Output Power	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	<b>BXS230C-□FR</b>	<b>5, 10, 15, 20</b>	\$902.00
		<b>30, 50, 100</b>	\$914.00
		<b>200</b>	\$926.00
60 W (1/12 HP)	<b>BXS460C-□FR</b>	<b>5, 10, 15, 20</b>	\$985.00
		<b>30, 50, 100</b>	\$997.00
		<b>200</b>	\$1,009.00
120 W (1/6 HP)	<b>BXS5120C-□FR</b>	<b>5, 10, 15, 20</b>	\$1,027.00
		<b>30, 50, 100</b>	\$1,038.00
		<b>200</b>	\$1,050.00
200 W (1/4 HP)	<b>BXS6200C-□FR</b>	<b>10, 15, 20</b>	\$1,031.00
		<b>30, 50, 100</b>	\$1,042.00
		<b>5, 10, 15, 20</b>	\$1,183.00
400 W (1/2 HP)	<b>BXS6400C-□FR</b>	<b>30, 50, 100</b>	\$1,194.00

◇ **Round Shaft Type**

● **Single-Phase 100-120 VAC**

Output Power	Product Name	List Price
30 W (1/25 HP)	<b>BXS230A-A</b>	\$693.00
60 W (1/12 HP)	<b>BXS460A-A</b>	\$727.00
120 W (1/6 HP)	<b>BXS5120A-A</b>	\$739.00
200 W (1/4 HP)	<b>BXS6200A-A</b>	\$730.00

● **Single-Phase, Three-Phase 200-240 VAC**

Output Power	Product Name	List Price
30 W (1/25 HP)	<b>BXS230C-A</b>	\$718.00
60 W (1/12 HP)	<b>BXS460C-A</b>	\$752.00
120 W (1/6 HP)	<b>BXS5120C-A</b>	\$759.00
200 W (1/4 HP)	<b>BXS6200C-A</b>	\$750.00
400 W (1/2 HP)	<b>BXS6400C-A</b>	\$902.00

The following items are included with each product.

- Combination Type with a Parallel Shaft Gearhead  
 Motor, Gearhead, Driver, Conversion Cable, CN1 Connector, CN5 Connector, CN7 Connector, Mounting Brackets for Driver (screws included), Installation Screws, Parallel Key, Operating Manual
- Combination Type with a Hollow Shaft Flat Gearhead  
 Motor, Gearhead, Driver, Conversion Cable, CN1 Connector, CN5 Connector, CN7 Connector, Mounting Brackets for Driver (screws included), Installation Screws, Parallel Key, Safety Cover (screws included), Operating Manual
- Round Shaft Type  
 Motor, Driver, Conversion Cable, CN1 Connector, CN5 Connector, CN7 Connector, Mounting Brackets for Driver (screws included), Operating Manual

● A number indicating the gear ratio is entered where the box □ is located within the product name.

● With Electromagnetic Brake

◇ Combination Type, Parallel Shaft Gearhead

● Single-Phase 100-120 VAC

Output Power	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	<b>BXS230AM-□S</b>	<b>5, 10, 15, 20</b>	\$998.00
		<b>30, 50, 100</b>	\$1,007.00
		<b>200</b>	\$1,016.00
60 W (1/12 HP)	<b>BXS460AM-□S</b>	<b>5, 10, 15, 20</b>	\$1,047.00
		<b>30, 50, 100</b>	\$1,055.00
		<b>200</b>	\$1,065.00
120 W (1/6 HP)	<b>BXS5120AM-□S</b>	<b>5, 10, 15, 20</b>	\$1,136.00
		<b>30, 50, 100</b>	\$1,147.00
		<b>200</b>	\$1,157.00
200 W (1/4 HP)	<b>BXS6200AM-□S</b>	<b>5, 10, 15, 20</b>	\$1,131.00
		<b>30, 50</b>	\$1,141.00
		<b>100, 200</b>	\$1,157.00

◇ Combination Type, Hollow Shaft Flat Gearhead

● Single-Phase 100-120 VAC

Output Power	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	<b>BXS230AM-□FR</b>	<b>5, 10, 15, 20</b>	\$1,056.00
		<b>30, 50, 100</b>	\$1,068.00
		<b>200</b>	\$1,080.00
60 W (1/12 HP)	<b>BXS460AM-□FR</b>	<b>5, 10, 15, 20</b>	\$1,139.00
		<b>30, 50, 100</b>	\$1,151.00
		<b>200</b>	\$1,163.00
120 W (1/6 HP)	<b>BXS5120AM-□FR</b>	<b>5, 10, 15, 20</b>	\$1,234.00
		<b>30, 50, 100</b>	\$1,245.00
		<b>200</b>	\$1,257.00
200 W (1/4 HP)	<b>BXS6200AM-□FR</b>	<b>10, 15, 20</b>	\$1,214.00
		<b>30, 50, 100</b>	\$1,225.00

◇ Round Shaft Type

● Single-Phase 100-120 VAC

Output Power	Product Name	List Price
30 W (1/25 HP)	<b>BXS230AM-A</b>	\$872.00
60 W (1/12 HP)	<b>BXS460AM-A</b>	\$906.00
120 W (1/6 HP)	<b>BXS5120AM-A</b>	\$966.00
200 W (1/4 HP)	<b>BXS6200AM-A</b>	\$933.00

● Single-Phase, Three-Phase 200-240 VAC

Output Power	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	<b>BXS230CM-□S</b>	<b>5, 10, 15, 20</b>	\$1,023.00
		<b>30, 50, 100</b>	\$1,032.00
		<b>200</b>	\$1,041.00
60 W (1/12 HP)	<b>BXS460CM-□S</b>	<b>5, 10, 15, 20</b>	\$1,072.00
		<b>30, 50, 100</b>	\$1,080.00
		<b>200</b>	\$1,090.00
120 W (1/6 HP)	<b>BXS5120CM-□S</b>	<b>5, 10, 15, 20</b>	\$1,156.00
		<b>30, 50, 100</b>	\$1,167.00
		<b>200</b>	\$1,177.00
200 W (1/4 HP)	<b>BXS6200CM-□S</b>	<b>5, 10, 15, 20</b>	\$1,151.00
		<b>30, 50</b>	\$1,161.00
		<b>100, 200</b>	\$1,177.00
400 W (1/2 HP)	<b>BXS6400CM-□S</b>	<b>5, 10, 15, 20</b>	\$1,303.00
		<b>30, 50</b>	\$1,313.00
		<b>100, 200</b>	\$1,329.00

● Single-Phase, Three-Phase 200-240 VAC

Output Power	Product Name	Gear Ratio	List Price
30 W (1/25 HP)	<b>BXS230CM-□FR</b>	<b>5, 10, 15, 20</b>	\$1,081.00
		<b>30, 50, 100</b>	\$1,093.00
		<b>200</b>	\$1,105.00
60 W (1/12 HP)	<b>BXS460CM-□FR</b>	<b>5, 10, 15, 20</b>	\$1,164.00
		<b>30, 50, 100</b>	\$1,176.00
		<b>200</b>	\$1,188.00
120 W (1/6 HP)	<b>BXS5120CM-□FR</b>	<b>5, 10, 15, 20</b>	\$1,254.00
		<b>30, 50, 100</b>	\$1,265.00
		<b>200</b>	\$1,277.00
200 W (1/4 HP)	<b>BXS6200CM-□FR</b>	<b>10, 15, 20</b>	\$1,234.00
		<b>30, 50, 100</b>	\$1,245.00
400 W (1/2 HP)	<b>BXS6400CM-□FR</b>	<b>5, 10, 15, 20</b>	\$1,386.00
		<b>30, 50, 100</b>	\$1,397.00

● Single-Phase, Three-Phase 200-240 VAC

Output Power	Product Name	List Price
30 W (1/25 HP)	<b>BXS230CM-A</b>	\$897.00
60 W (1/12 HP)	<b>BXS460CM-A</b>	\$931.00
120 W (1/6 HP)	<b>BXS5120CM-A</b>	\$986.00
200 W (1/4 HP)	<b>BXS6200CM-A</b>	\$953.00
400 W (1/2 HP)	<b>BXS6400CM-A</b>	\$1,105.00

The following items are included with each product.

- Combination Type with a Parallel Shaft Gearhead  
Motor, Gearhead, Driver, Conversion Cable, CN1 Connector, CN5 Connector, CN7 Connector, Mounting Brackets for Driver (screws included), Installation Screws, Parallel Key, Operating Manual
- Combination Type with a Hollow Shaft Flat Gearhead  
Motor, Gearhead, Driver, Conversion Cable, CN1 Connector, CN5 Connector, CN7 Connector, Mounting Brackets for Driver (screws included), Installation Screws, Parallel Key, Safety Cover (screws included), Operating Manual
- Round Shaft Type  
Motor, Gearhead, Driver, Conversion Cable, CN1 Connector, CN5 Connector, CN7 Connector, Mounting Brackets for Driver (screws included), Operating Manual

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)

● A number indicating the gear ratio is entered where the box □ is located within the product name.

