

Brushless Motors

BLV Series

Overview

AC Input
BMU

AC Input
BLE2

AC Input
BXII

DC Input
BLH

BLV Series

DC Input
BLV

Brushless Motors and Driver

BLV Series



Introducing the new high power, DC input **BLV** Series brushless motor and driver with output options of 200 W (1/4 HP) to 400 W (1/2 HP). Communication control through I/O or RS-485 is available to support a wide variety of applications.



See Full Product Details Online
www.orientalmotor.com

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

Features

● DC Power Supply Input, High Power Output Options of 200 W (1/4 HP) to 400 W (1/2 HP), Compact Motor

The **BLV** Series are compact, DC input brushless motors and drivers with output options of 200 W (1/4 HP) to 400 W (1/2 HP).

An extensive variety of motors lets you select the model that best suits your specific application.

Output Power	200 W (1/4 HP)	400 W (1/2 HP)
Frame Size	□104 mm (□4.09 in.)	□104 mm (□4.09 in.)
Power Supply Voltage	24 VDC	48 VDC
Motor Type	Standard Type	●
	Electromagnetic Brake Type	●

Three Types Available (Shown below are standard type models):



Combination Type – Parallel Shaft Gearhead



Round Shaft Type



Combination Type – Hollow Shaft Flat Gearhead

*For gear ratios 5 to 20.

● Features of the Hollow Shaft Flat Gearhead

□104 mm (□4.09 in.), space-saving, hollow shaft flat gearhead has been added to the lineup.

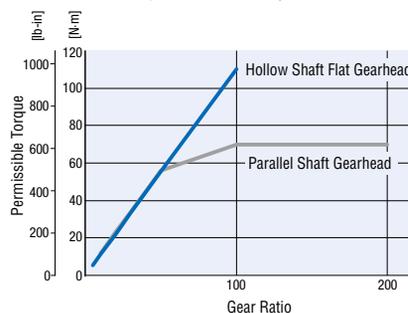
Combination Motor Output	Gear Ratio	Rated Life
200 W (1/4 HP), 400 W (1/2 HP)	5* , 10, 15, 20, 30, 50, 100	5000 hrs.

*Only compatible with the 400 W (1/2 HP) type.



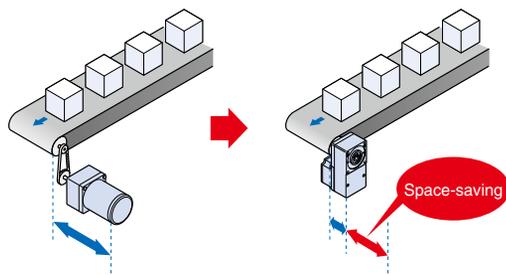
◇ Permissible Torque without Saturation

The hollow shaft flat gearhead enables permissible torque without saturation so the motor torque can be fully utilized.



◇ Space-saving

The output shaft can be coupled directly to a driven shaft without using a coupling, which allows you to reduce the size and installation space of your equipment.



[For Three-Phase Motor and Parallel Shaft Gearhead]

[For Brushless Motor and Hollow Shaft Flat Gearhead]

● Comes in an Electromagnetic Brake Type

The electromagnetic brake type is suitable for position holding during standstill or gravitational operation. Note that vertical drive (gravitational operation) requires motors of a specific power supply.

Drive System		Standard Type	Electromagnetic Brake Type
Horizontal Drive	Switching Power Supply	● *	● *
	Battery	●	●
Vertical Drive (Gravitational Operation)	Switching Power Supply	—	—
	Battery	—	●

*Power supply limits depend on use. Please contact the nearest Oriental Motor sales office for details.

● Extended Functions

Functions can be extended and settings shown on a digital display by using a separately sold control module (**OPX-2A**). It can also be used in RS-485 communication mode.



Control Module **OPX-2A**

● Equipped with Functions to Facilitate Battery Drive

- Capable of driving even if the battery voltage is low
- A warning output notifies when the battery voltage is low

Item	Standard Model	Extended Function
Specifications	<ul style="list-style-type: none"> Speed Control Range: 100~4000 r/min (speed range 40:1) Speed Regulation: ±0.5% 	<ul style="list-style-type: none"> Speed Control Range: 80~4000 r/min (speed range 50:1) Speed Regulation: ±0.2%
Function	<ul style="list-style-type: none"> Speed setting (internal speed potentiometer, external analog setting) Acceleration time, deceleration time Torque limiting 	Various Display Functions: Operating speed (setting of gear ratio and speed increasing ratio), conveyor transportation speed, load factor, alarm code, warning code, I/O monitor <ul style="list-style-type: none"> Operating data digital settings (speed, torque limiting, acceleration time, deceleration time can be set up to 8 points) I/O signal allocation, test operation Data copy

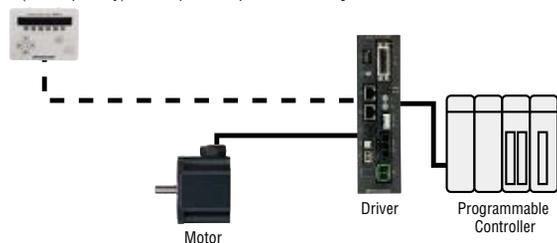
● Selectable Dual Control Method

Control from a programmable controller can be I/O control or RS-485 communication control.

◇ I/O Control System

Operation can be executed easily with I/O control.

Control Module **OPX-2A** (Sold separately) ● A control module (**OPX-2A**; accessory sold separately) is required for parameter settings.



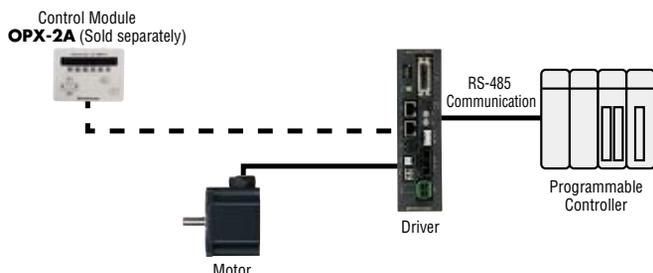
● Control Method for Data Settings and Operation Commands

Operating Data and Parameter Settings		Operation Commands (FWD, REV, etc.)
Operating Data	Driver potentiometer, Control module (OPX-2A)	I/O
Parameters	Control module (OPX-2A)	

◇ RS-485 Communication System

RS-485 communication lets you set operating data and parameters and enter operation commands. A single programmable controller connects up to 31 drivers and provides multi-axis synchronous starting.

The protocol of the RS-485 communication system supports Modbus RTU, allowing it to easily connect with programmable controllers, touch panels and other devices.



● Control Method for Data Settings and Operation Commands

Operation Data and Parameter Setting	Operation Commands (FWD, REV, etc.)
RS-485 communication, Control module (OPX-2A)	RS-485 communication, I/O

- FWD input, REV input and other operation commands can also be controlled from I/O.
- The test operation function is available with the control module (**OPX-2A**).
- The internal potentiometers for Speed, Acceleration/Deceleration and Torque Limiting are still active even when using either the control module (**OPX-2A**) or RS-485 communication.

Overview

AC Input BMU

AC Input BLE2

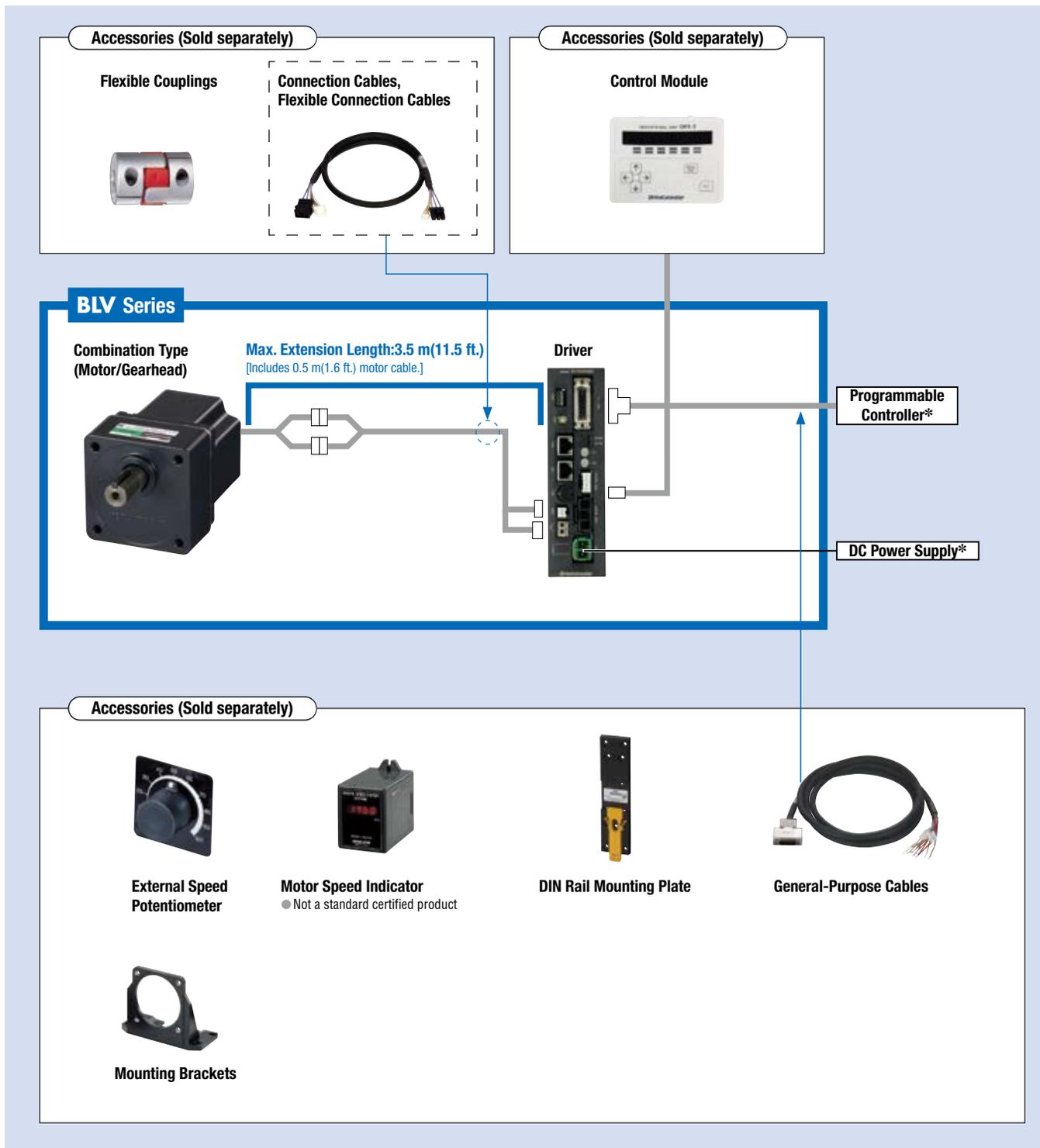
AC Input BXII

DC Input BLH

DC Input BLV

System Configuration

An example of a single-axis system configuration using I/O control is shown below.



* Not supplied

Product Number

BLV 6 20 K M 200 S

① ② ③ ④ ⑤ ⑥ ⑦

①	Series	BLV: BLV Series
②	Motor Frame Size	6: 104 mm (4.09 in.) [Gearhead Frame Size: 110 mm (4.33 in.)]
③	Output Power (W)	20: 200 W (1/4 HP) 40: 400 W (1/2 HP)
④	Power Supply Voltage	K: 24 VDC N: 48 VDC
⑤	M: Electromagnetic Brake Type	Blank: Standard Type
⑥	Gear Ratio/Shaft Type	Number: Parallel shaft gearhead type Gear ratio from 5 to 200 Hollow shaft flat gearhead Gear ratio from 5 to 100
		A: Round Shaft Type
⑦	Gearhead Type (Combination type only)	S: Parallel Shaft Gearhead
		F: Hollow Shaft Flat Gearhead

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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

Output Power	Power Supply Voltage	Product Name	Gear Ratio	List Price
200 W (1/4 HP)	24 VDC	BLV620K□S	5, 10, 15, 20	\$948.00
			30, 50	\$960.00
			100, 200	\$978.00
400 W (1/2 HP)	48 VDC	BLV640N□S	5, 10, 15, 20	\$1,080.00
			30, 50	\$1,092.00
			100, 200	\$1,110.00

The following items are included in each product.
Motor, Driver, Gearhead, Power Connector, Mounting Screws, Parallel Key, Operating Manual

◇ Round Shaft Type

Output Power	Power Supply Voltage	Product Name	List Price
200 W (1/4 HP)	24 VDC	BLV620KA	\$715.00
400 W (1/2 HP)	48 VDC	BLV640NA	\$847.00

The following items are included in each product.
Motor, Driver, Power Connector, Operating Manual

With Electromagnetic Brake Type

◇ Combination Type – Parallel Shaft Gearhead

Output Power	Power Supply Voltage	Product Name	Gear Ratio	List Price
200 W (1/4 HP)	24 VDC	BLV620KM□S	5, 10, 15, 20	\$1,138.00
			30, 50	\$1,150.00
			100, 200	\$1,168.00
400 W (1/2 HP)	48 VDC	BLV640NM□S	5, 10, 15, 20	\$1,270.00
			30, 50	\$1,282.00
			100, 200	\$1,300.00

The following items are included in each product.
Motor, Driver, Gearhead, Power Connector, Mounting Screws, Parallel Key, Operating Manual

◇ Round Shaft Type

Output Power	Power Supply Voltage	Product Name	List Price
200 W (1/4 HP)	24 VDC	BLV620KMA	\$905.00
400 W (1/2 HP)	48 VDC	BLV640NMA	\$1,037.00

The following items are included in each product.
Motor, Driver, Power Connector, Operating Manual

◇ Combination Type – Hollow Shaft Flat Gearhead

Output Power	Power Supply Voltage	Product Name	Gear Ratio	List Price
200 W (1/4 HP)	24 VDC	BLV620K□F	10, 15, 20	\$1,046.00
			30, 50, 100	\$1,058.00
400 W (1/2 HP)	48 VDC	BLV640N□F	5, 10, 15, 20	\$1,178.00
			30, 50, 100	\$1,190.00

The following items are included in each product.
Motor, Driver, Gearhead, Power Connector, Mounting Screws, Parallel Key, Safety Cover (with screws), Operating Manual

◇ Combination Type – Hollow Shaft Flat Gearhead

Output Power	Power Supply Voltage	Product Name	Gear Ratio	List Price
200 W (1/4 HP)	24 VDC	BLV620KM□F	10, 15, 20	\$1,236.00
			30, 50, 100	\$1,248.00
400 W (1/2 HP)	48 VDC	BLV640NM□F	5, 10, 15, 20	\$1,368.00
			30, 50, 100	\$1,380.00

The following items are included in each product.
Motor, Driver, Gearhead, Power Connector, Mounting Screws, Parallel Key, Safety Cover (with screws), 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

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