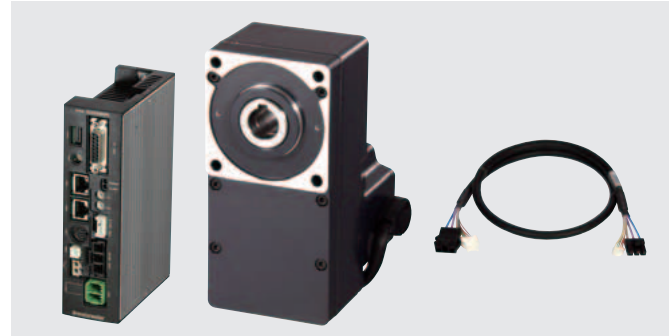


Brushless Motors BLV Series

For details on this product please refer to our website, contact technical support or your nearest Oriental Motor sales office.
www.orientalmotor.com

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.



Features

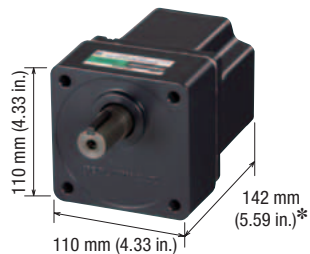
DC Power Supply Input, High Power Output Options of 200 W (1/4 HP) to 400 W (1/2 HP), Compact Motor

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).

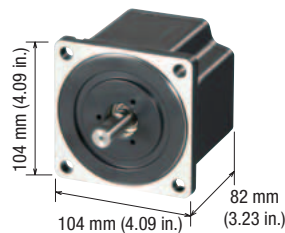
An extensive variety of motors lets you select the model that best suits your specific application.

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	●	●

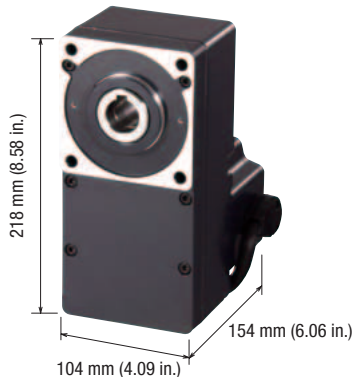
Three Types Available (Shown below are standard type models):



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.

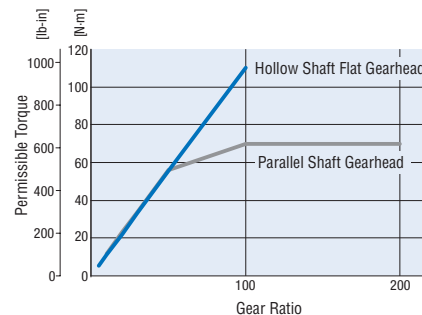
Combination Motor Output	Gear Ratio	Rated Life
200 W (1/4 HP), 400 W (1/2 HP)	5* , 10, 15, 20, 30, 50, 100	5000 hrs.

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



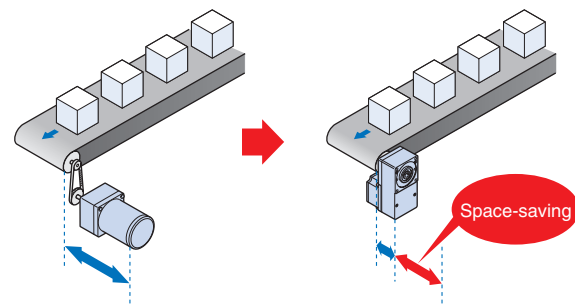
Permissible Torque without Saturation

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 	<p>Various Display Functions:</p> <ul style="list-style-type: none"> Operating speed (setting of gear ratio and speed increasing ratio), conveyor transportation speed, load factor, alarm code, warning code, I/O monitor 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

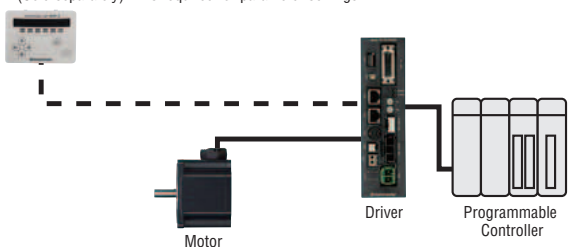
● Selectable Dual Control Method

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.



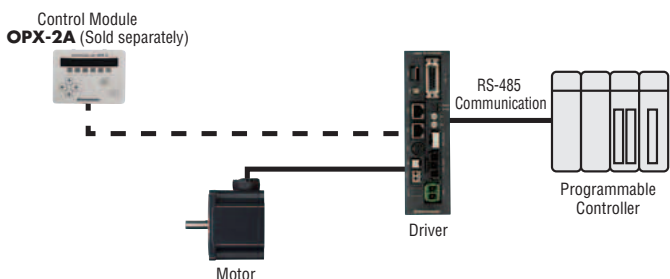
● Control Method for Data Settings and Operation Commands

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.



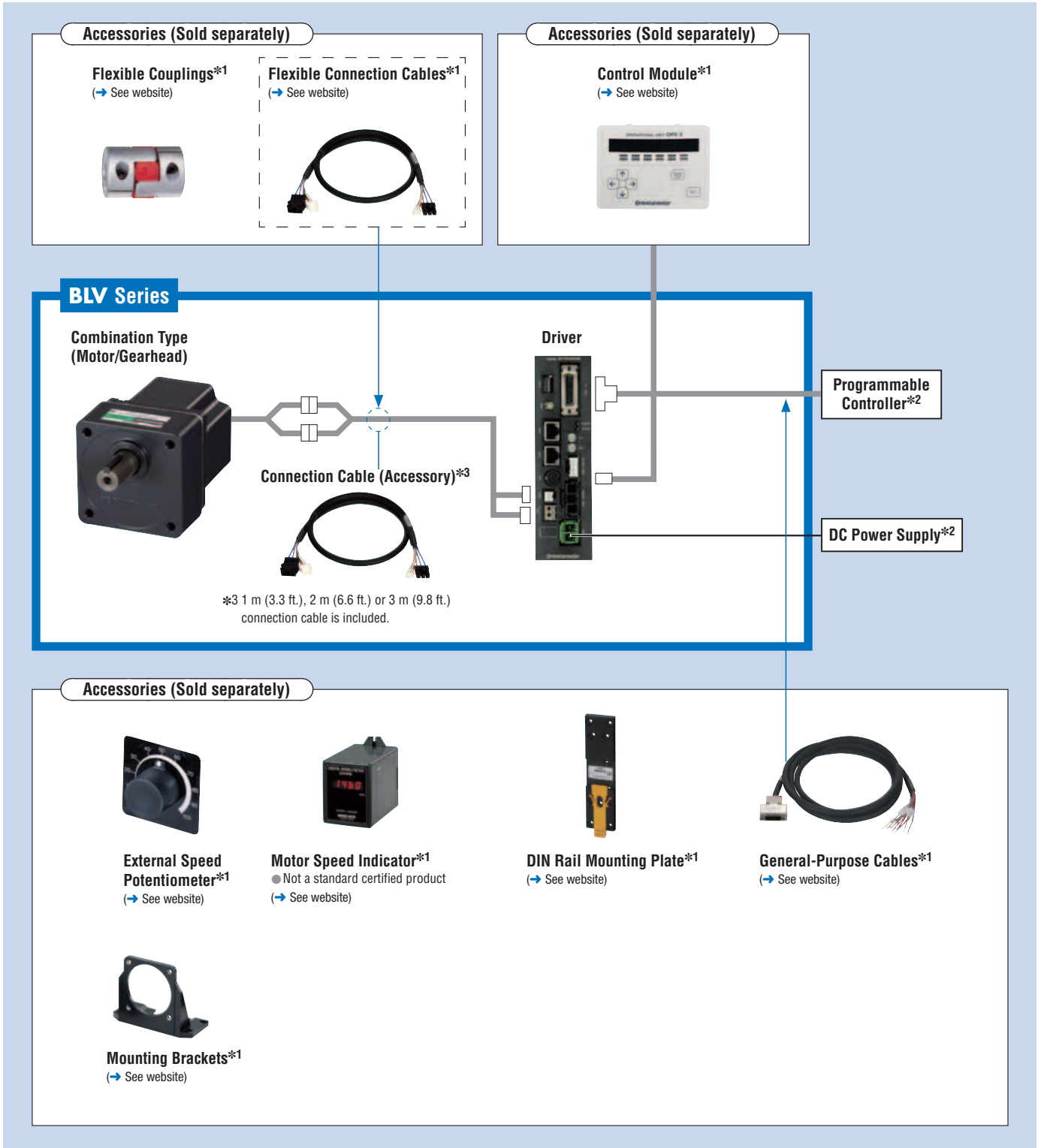
● Control Method for Data Settings and Operation Commands

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.

System Configuration

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



● Example of System Configuration

BLV Series Combination Type - Parallel Shaft BLV620K30S-3	+	Sold Separately			
		External Speed Potentiometer	DIN Rail Mounting Plate	Mounting Brackets	Flexible Coupling
		PAVR-20KZ	PADPO3	SOL6M8	MCL652022

● The system configuration shown above is an example of the standard type. Other combinations are available.

*1 For accessory details on these products please either refer to our website, contact technical support or your nearest Oriental Motor sales office. www.orientalmotor.com

*2 Not supplied

Product Number Code

BLV 6 20 K M 200 S - 1

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

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
⑧	Cable Length (Included)	1: 1 m (3.3 ft.) 2: 2 m (6.6 ft.) 3: 3 m (9.8 ft.)

Product Line

Combination Type The combination type comes with the motor and its dedicated gearhead pre-assembled which simplifies installation in equipment. Motors and gearheads are also available separately to facilitate changes or repairs.

Standard Type

◇ Combination Type – Parallel Shaft Gearhead

Output Power	Power Supply Voltage	Model	Gear Ratio
200 W (1/4 HP)	24 VDC	BLV620K □ S -◇	5, 10, 15, 20, 30, 50, 100, 200
400 W (1/2 HP)	48 VDC	BLV640N □ S -◇	5, 10, 15, 20, 30, 50, 100, 200

The following items are included in each product.
Motor, Driver, Gearhead, Connection Cable*, Power Connector, Mounting Screws, Parallel Key, Operating Manual
* A cable of 1 m (3.3 ft.), 2 m (6.6 ft.) or 3 m (9.8 ft.) long is included.

◇ Round Shaft Type

Output Power	Power Supply Voltage	Model
200 W (1/4 HP)	24 VDC	BLV620KA -◇
400 W (1/2 HP)	48 VDC	BLV640NA -◇

The following items are included in each product.
Motor, Driver, Connection Cable*, Power Connector, Operating Manual
* A cable of 1 m (3.3 ft.), 2 m (6.6 ft.) or 3 m (9.8 ft.) long is included.

With Electromagnetic Brake Type

◇ Combination Type – Parallel Shaft Gearhead

Output Power	Power Supply Voltage	Model	Gear Ratio
200 W (1/4 HP)	24 VDC	BLV620KM □ S -◇	5, 10, 15, 20, 30, 50, 100, 200
400 W (1/2 HP)	48 VDC	BLV640NM □ S -◇	5, 10, 15, 20, 30, 50, 100, 200

The following items are included in each product.
Motor, Driver, Gearhead, Connection Cable*, Power Connector, Mounting Screws, Parallel Key, Operating Manual
* A cable of 1 m (3.3 ft.), 2 m (6.6 ft.) or 3 m (9.8 ft.) long is included.

◇ Round Shaft Type

Output Power	Power Supply Voltage	Model
200 W (1/4 HP)	24 VDC	BLV620KMA -◇
400 W (1/2 HP)	48 VDC	BLV640NMA -◇

The following items are included in each product.
Motor, Driver, Connection Cable*, Power Connector, Operating Manual
* A cable of 1 m (3.3 ft.), 2 m (6.6 ft.) or 3 m (9.8 ft.) long is included.

For details (specifications, characteristics, dimensions and others) on these products please refer either to our website, contact technical support or your nearest Oriental Motor sales office.
www.orientalmotor.com

◇ Combination Type – Hollow Shaft Flat Gearhead

Output Power	Power Supply Voltage	Model	Gear Ratio
200 W (1/4 HP)	24 VDC	BLV620K □ F -◇	10, 15, 20, 30, 50, 100
400 W (1/2 HP)	48 VDC	BLV640N □ F -◇	5, 10, 15, 20, 30, 50, 100

The following items are included in each product.
Motor, Driver, Gearhead, Connection Cable*, Power Connector, Mounting Screws, Parallel Key, Safety Cover (with screws), Operating Manual
* A cable of 1 m (3.3 ft.), 2 m (6.6 ft.) or 3 m (9.8 ft.) long is included.

◇ Combination Type – Hollow Shaft Flat Gearhead

Output Power	Power Supply Voltage	Model	Gear Ratio
200 W (1/4 HP)	24 VDC	BLV620KM □ F -◇	10, 15, 20, 30, 50, 100
400 W (1/2 HP)	48 VDC	BLV640NM □ F -◇	5, 10, 15, 20, 30, 50, 100

The following items are included in each product.
Motor, Driver, Gearhead, Connection Cable*, Power Connector, Mounting Screws, Parallel Key, Safety Cover (with screws), Operating Manual
* A cable of 1 m (3.3 ft.), 2 m (6.6 ft.) or 3 m (9.8 ft.) long is included.

● Enter the gear ratio in the box (□) within the model name.
Enter the length of the connection cable (included) as **1** [1 m (3.3 ft.)], **2** [2 m (6.6 ft.)] or **3** [3 m (9.8 ft.)] in the diamond (◇) within the model name.

