Brushless Motor and Driver Package

BMU Series

<Additional Information>
● Technical reference ➜ Page H-1
● Regulations & Standards ➜ Page I-2

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

- Watertight and dust-resistant performance IP66.
- A motor and driver package designed for simplicity, performance and affordability. Simply turn the dial and press to set the speed.
- Easy wiring – just connect the motor and driver and flip the switch.
- Features a new, smaller, high power, high efficiency brushless motor.
- The highest standard in speed control at an affordable price.

Features

Easy Speed Control

Using the dial and digital speed indicator, controlling the **BMU** Series brushless motor speed is simple and user-friendly.

Turn the dial and set to the desired speed.

Turning the dial slowly changes the speed by 1 r/min.

Pushing the dial sets the speed.

The dial operation can be locked.

Easy Wiring, Easy Set-Up

Get started quickly and easily. Connecting the motor is simple using the included cables with connectors.

The motor and driver can be easily connected.

The power and I/O connectors feature a screwless connector.

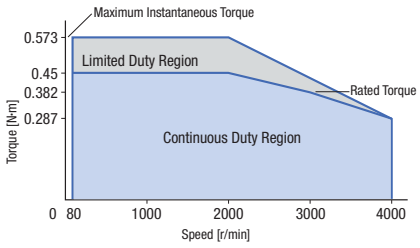
The motor can be started immediately with only one switch.

The motor's rotation direction can be switched with ease.

Maximum Speed 4000 r/min, Speed Ratio 1:50 (2.5 times higher than conventional products)

The **BMU** Series offers the highest standard in speed control with a maximum speed of 4000 r/min and a speed ratio of 1:50 (80～4000 r/min). Speed regulation has also been greatly improved from ±0.5% to ±0.2%.

• **BMU** Series 120 W



User-friendly Features and Expanded Functions at an Affordable Price

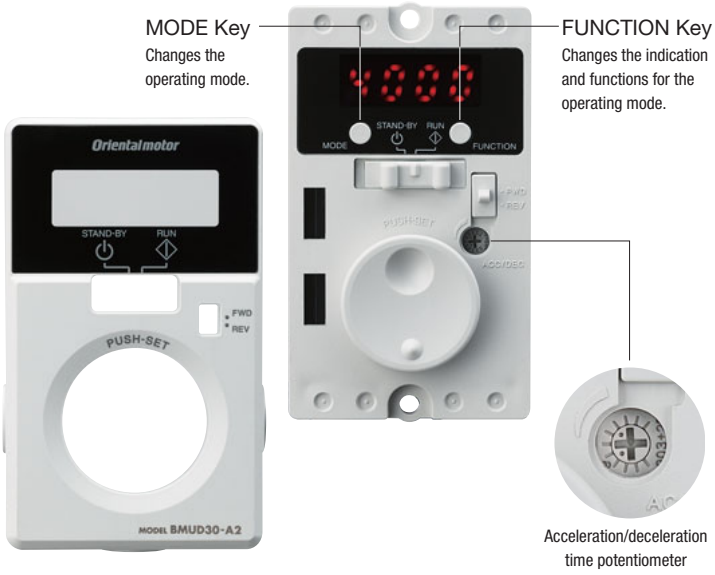
The list price for the **BMU** Series, 60 mm, 30 W motor with a 1:5 ratio offers more value and performance than ever before.

BMU Series
- Output power: 30 W
- Gearhead gear ratio: 5
- Permissible torque: 0.45 N·m
- Speed range: 16～800 r/min

€329.00*

*Total price of motor, driver and connection cable (1 m).

Expanded Functions can be Set on the Driver



◇Typical Functions that can be Set while the Front Panel is Opened:

- Motor start/stop*
- Adjusting the operating speed*
- Setting the operating speed*
- Switching the rotation direction*
- Changing the indication
- Indicating the operating speed when the speed reduction/speed increasing ratio is set
- Setting the acceleration/deceleration time
- Dial operation lock
- Speed setting for the 4-speed operation
- Speed limits setting
- Validating the external operating signals
- External input/output signal allocation
- Setting the overload alarm detection time (except during axial lock)
- Load holding function for output shaft

*Setting is possible even if the front panel is attached.

Speed Display

Displays the motor speed in increments of 1 r/min. To display the conveyor transportation speed in m/s, calculate the conveyor gear ratio and set the "Gear Ratio" parameter. The conveyor transportation speed can be checked directly.

Load Factor can be Indicated

With the rated torque of the motor at 100%, the load factor can be expressed as a percentage (40~200%). The load condition during start-up, as well as the load condition due to the aging deterioration of the equipment, can be confirmed.

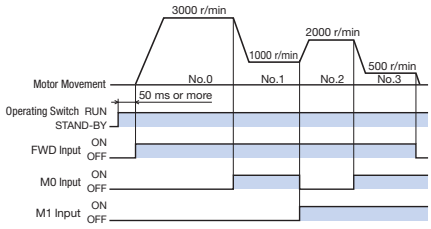
Indication at a load factor of 50%

Protective Functions

Equipped with various protective functions such as the overload protective function and the overvoltage protective function. When any protective function is activated, alarm code is displayed on the display and also the alarm signal is output.

4-Speed Operation

4-speed operation is possible by setting the data to operating data No.0, No.1, No.2, or No.3, and switching the input of the M0 and M1 terminals.



- When operating in 4-speed settings, the rotation direction of the motor cannot be changed by external input signals. (Only for 30 W, 60 W and 120 W)

Acceleration/Deceleration Time Setting

The setting of the acceleration time and deceleration time can be adjusted with the acceleration/deceleration time potentiometer and also can be done for the digital setting.

●Setting Range
0.0~15.0 seconds
(Initial value: 0.5 seconds)

When the digital setting is performed, the acceleration and deceleration time can be set independently, which enables to finely adjust the shock absorption for the load at start/stop or set the time freely according to the takt time.

Output Shaft Holding when Stopped

The load can be electrically held when the motor is at standstill.
(Holding force up to 50% of rated torque)

Note

- If the power supply to the driver is turned OFF, the holding force dissipates. This cannot be used to prevent a fall during a power outage.

Other Functions

●Lock Dial Operations

This prevents the undesired changes in the speed and the changes or deletion of data with the operation of the dial.

●"Disable the Front Panel Operation" is Possible

When operating by an external signal, the switching operation on the front panel can be set to "Disable".

Connector Type Features

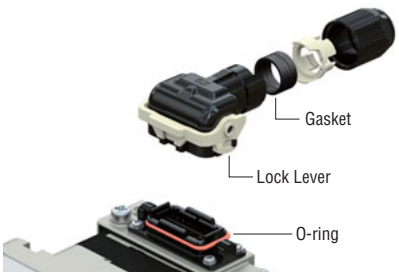
The connector is newly developed only for the small motor. It enabled the direct connection between motors and drivers. Also the IP66 degree of protection* is achieved by the motor structure and improved watertight and dust-resistant performance.

*Motor only

New Type Connector

The internal gasket and O-ring improved the watertight performance. The connection is easy due to the lock lever that does not need to tighten screws.

●Connector Structure

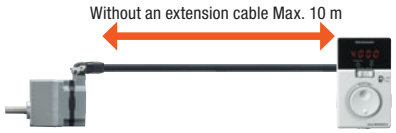


●Installation Method

Insert the connector | Turn down the lock lever | Connection complete

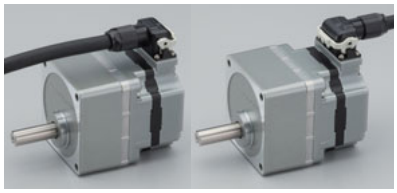
Direct Connection with Motors and Drivers

Up to 10 m connection without an extension cable is possible. No extension cable is required. Wiring process can be reduced by using one cable, instead of power lines, signal lines, and ground wires.



Cable Outlet Direction Can be Selected

Two direction types of the motor cable outlet can be selected based on the equipment.
(For the round shaft type, the opposite side of the output shaft only.)



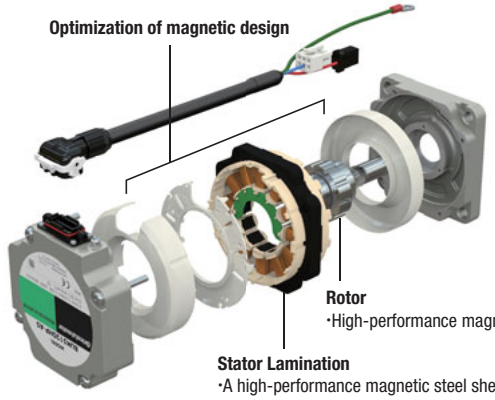
Cable drawn by the outlet shaft side | Cable drawn in the opposite side of the output shaft

Stainless Steel Shaft Is Included as Standard

Uses a shaft made of SUS303 type, which especially excels in rust prevention and corrosion resistance. Also, uses a parallel key and installation screws made of stainless steel.

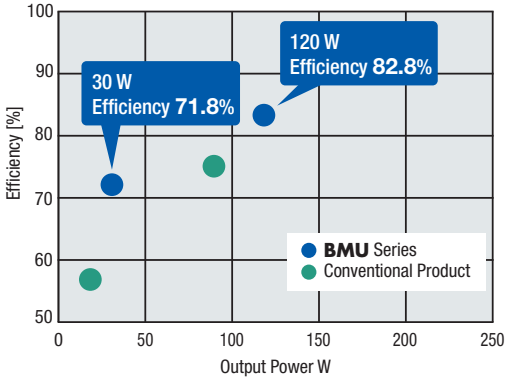
Compact, High Power, and High Efficiency with a New Brushless Motor

Optimal magnetic design and high-performance materials allow for a stator lamination thickness of only 11.2 mm. This thinness achieves highly efficient power.
Compared with a conventional brushless motor of the same output power, the stator plate thickness is reduced by half (for motors with a frame size of 90 mm).
Moreover, by using high-performance materials while reducing the amount of material used, costs have been reduced significantly.



Substantial Improvement in the Efficiency of the Motor and Driver Package

●A maximum of 15% efficiency improvement of the package

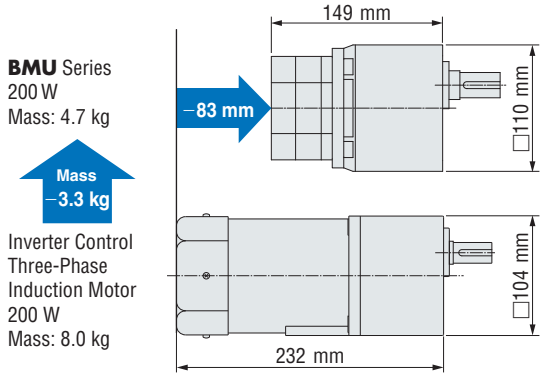


Contributes to Downsizing and Energy Savings

The high-power new brushless motor is also lighter and slimmer. For example, compared with the three-phase induction motor of output power 200 W:

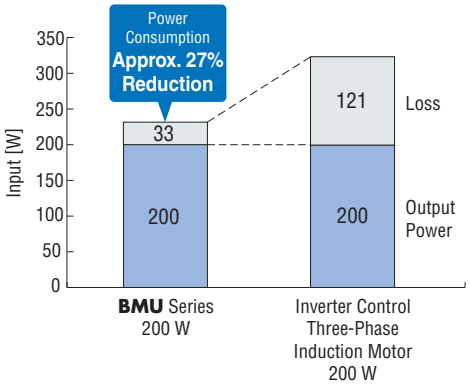
◇Downsizing

Brushless motors have slim and lightweight body but provide high power due to permanent magnets being used in the rotor. Using brushless motors can contribute to downsizing of equipment.



◇Energy Savings

Brushless motors, which incorporate permanent magnets in the rotor, generate little secondary loss from the rotor. This allows for power consumption to be reduced greatly. This contributes to energy savings with the equipment.



●At rated output 50 Hz (Representative value)

Product Line

For **BMU** Series, motors, drivers, and connection cables need to be ordered separately.
Select suitable products according to the specifications or installation conditions.

Motor	Output Power	Frame Size	Gear Ratio (Combination Type)	Driver	Power Supply Voltage	Connection Cable
 Combination Type  Round Shaft Type*	30 W	Combination Type 60 mm Round Shaft Type 60 mm	5, 10, 15, 20, 30, 50, 100, 200		Single-Phase 200 - 240 VAC Three-Phase 200 - 240 VAC	Cable drawn by the output shaft side  0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 7, 10 m Cable drawn in the opposite side of the output shaft  0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 7, 10 m
	60 W	Combination Type 80 mm Round Shaft Type 60 mm	5, 10, 15, 20, 30, 50, 100, 200			
	120 W	Combination Type 90 mm Round Shaft Type	5, 10, 15, 20, 30, 50, 100, 200			
	200 W	Combination Type 110 mm Round Shaft Type 90 mm	5, 10, 15, 20, 30, 50, 100, 200			
	300 W	Combination Type 110 mm Round Shaft Type 90 mm	5, 10, 15, 20, 30, 50, 100			

*The connection cable for combining with the round shaft type is the cable drawn in the opposite side of the output shaft only.