

Brushless Motor and Driver Package

BLE2 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.

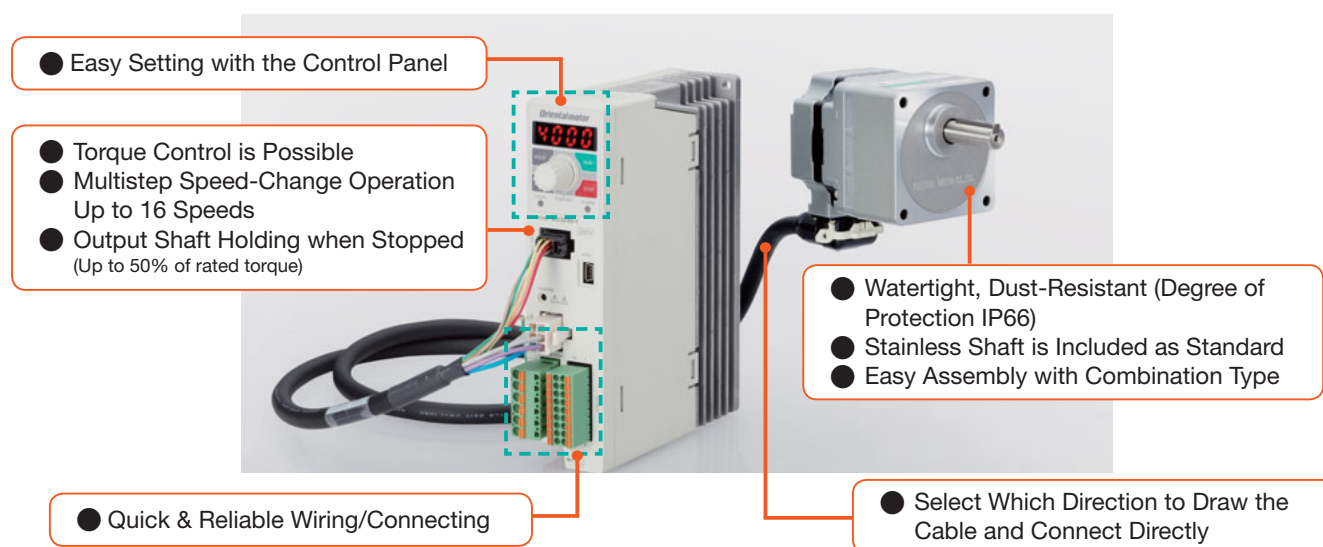


- A motor and driver package designed for simplicity, performance and affordability.
- Digital setting and operation with the driver.
- Speed can be set via a PC or external signals.
- Degree of Protection: IP66 Watertight, Dust-Resistant
- Direct connection between motors and drivers (up to 20 m).
- Features a smaller, high power, high efficiency brushless motor.
- The highest standard in speed control at an affordable price.

Features

Overview of BLE2 Series

The new motor structure is smaller than previous models and enables high power and high efficiency. The driver equipped with the digital indication panel can easily set the speed. The **BLE2** Series embodies "customer usability".



Easy Setting with the Control Panel

The control panel is equipped to the front surface. The operating data and parameters can be set by using the operation keys or the dial while checking the digital indication.



- Speed Control Range: 80~4000 r/min
- Speed Regulation: $\pm 0.2\%$
*Digital Setting

*The control panel cannot be removed from the driver.

Quick & Reliable Wiring/Connecting

Quick and reliable wiring is possible thanks to the spring type connectors.



Watertight and Dust-Resistant (Degree of Protection: IP66)

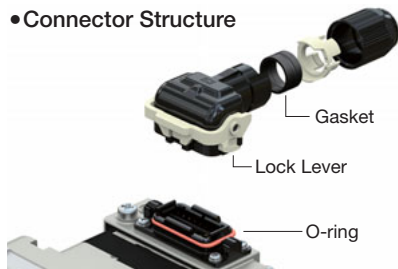
The connector is newly developed only for the small motor. It enabled the direct connection between motors and drivers. Also the IP66 degree of protection* is achieved by the motor structure and improved watertight and dust-resistant performance.

*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



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.



Select Which Direction to Draw the Cable and Connect Directly

Two types of the connection cables are available, depending on which direction the cable will be drawn. No extension cable is required, since a single connection cable can connect directly between drivers and motors at a distance of up to 20 m.

Cable Outlet Direction Can be Selected

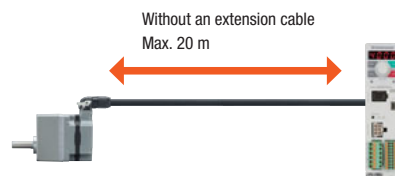
Two direction types of the motor cable outlet can be selected based on the equipment.
(For the round shaft type, the opposite side of the output shaft only.)



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

Direct Connection with Motors and Drivers

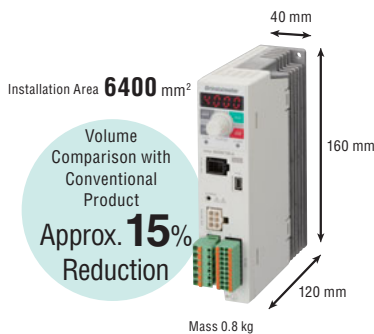
Up to 20 m connection without an extension cable is possible. No extension cable is required. Wiring process can be reduced by using one cable, instead of power lines, signal lines, and ground wires.



Effective Utilization of Installation Space

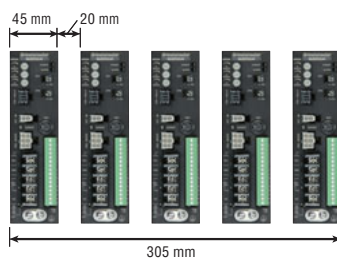
Optimized arrangement of internal parts has made the drivers compact and slim. Multiple drivers can now be installed in contact with each other, reducing the amount of installation space or increasing the number of axes within the same equipment space.

● Compact Slim Body Driver

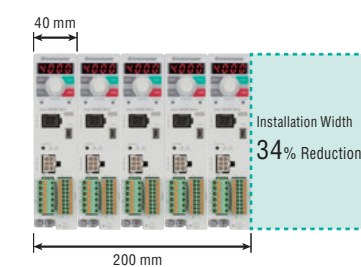


● Multiple Units can be Installed in Contact with Each Other

Conventional Product **BLE** Series Driver



BLE2 Series Driver



Conditions for of Side-By-Side Installation
 · Ambient Temperature: 0 to 40°C
 · Install the driver to a heat sink (material: aluminum, 350×350 mm, 2 mm thick).

Overview, Product Series

Brushless Motors

AC Input **BMU**

AC Input **BLE2**

AC Input **BXII**

DC Input **BLH**

AC Speed Control Motors

DSC

US2

Accessories

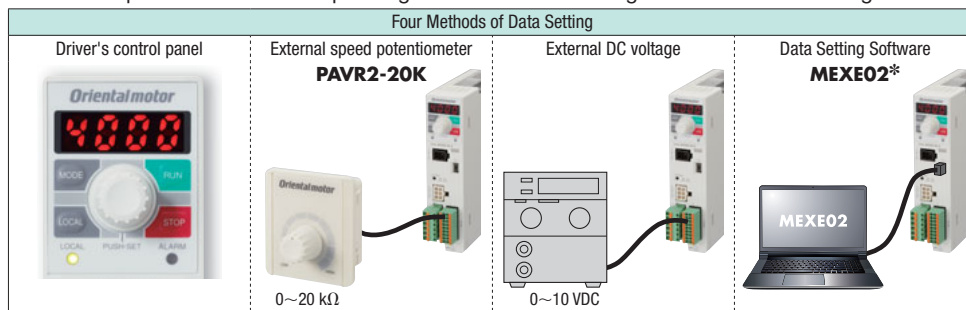
Installation

Supporting Customers with Enhanced Functions

The motors are equipped with four methods of data setting and various functions that correspond with your purpose of use. Using data setting software allows you to check the equipment start-up and operating status. Functions are provided in accordance with the customers' usage conditions.

Operating Method

- Local Operation: shows the operating method on the driver's control panel. This can be used for test runs.
- Remote Operation: shows the operating method via external signals and the data setting software **MEXE02**.



*When using the data setting software **MEXE02**, the driver can be connected to your computer using a commercially available USB cable.

Setting Details

Functions are provided in accordance with the customers' usage conditions.

Setting	Application and Purpose	Setting Value	Setting Method			
			Control Panel	External Speed Potentiometer PAVR2-20K	External DC Voltage	Data Setting Software MEXE02
Speed	Operation at the desired speed is available.	80~4000 r/min	●	●	●	●
Torque limiting	In addition to suppressing the max. output torque of a motor for safety purposes, the max. output torque can be limited according to the load.	0~300%	●	●	●	●
Acceleration/Deceleration Time	Acceleration time and deceleration time can be set to prevent excessive shock when starting and stopping.	0~15.0 second	●	—	—	●
Multistep speed-change operation	Operation at 2 speeds or more is available.	Up to 16 speeds	●	—	—	●
Parallel-motor operation	Multiple motors can be operated at the same speed.	20 motors max. (when a potentiometer is used)	—	●	●	—

Useful Functions

This section introduces the main functions available when using the driver's control panel and the data setting software **MEXE02**.

Application and Purpose	Function	Content
Check the motor generated torque.	Load factor indication	With the rated torque of the motor at 100%, display the load factor. (Indication range: 0~300%)
Display the conveyor transportation speed and the speed reduced by the gearhead.	Gear Ratio	Note When the gear ratio is set, the converted rotation speed can be displayed.
Operate the motor within the specified speed control range.	Speed upper and lower limit	Specify the upper and lower speed limit.
Change the speed while the motor is rotating.	Speed Teaching	In monitoring mode, change the rotation speed while the motor is rotating.
Simply hold the load when the motor is stopped.	Simple Holding Torque	An electrical holding torque can be generated when the motor is stopped. (Holding force up to 50% of rated torque) Because the holding force dissipates if the power to the driver is turned OFF, this cannot be used to prevent the load falling while stopped.
Alleviate shock when starting and stopping.	Shock Alleviation Filter	This function offers slow acceleration and stopping, so that the load being transported during starting and stopping does not move.
Check problem details.	Alarm	This function enables you to identify and quickly respond to problems, including an overload, a disconnection or an operation error.
Use for operation verification and regular maintenance.	Information	The signal is output before an alarm is generated. Inputting appropriate parameters for each type of information also helps equipment maintenance.
Protect the specified data.	Editing lock	Prohibit the editing/deletion of data and parameters with the driver's control panel and local operations.

Useful Functions of Data Setting Software MEXE02



Data Setting Software **MEXE02**

The data setting software can be downloaded from the website. Oriental Motor can also provide a CD-ROM (free).

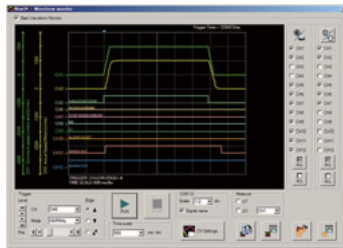
Monitoring Function

This software is equipped with various monitoring functions for checking the operating status of the motor. Using the functions in accordance with the situation reduces the time necessary for equipment start-up and adjustment, and facilitates effective maintenance.

● Waveform Monitoring

On startup

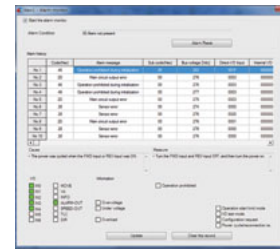
The operating status of the motor and output signals can be monitored like an oscilloscope. This can be used for equipment start-up and adjustment.



● Alarm Monitoring

For operation For maintenance

When an abnormality occurs, the details of the abnormality, the operating status at the time of the occurrence, and the solution can be checked. Because the solution can be checked, it is possible to respond to abnormalities quickly.



Test Function

This function enables you to operate a motor alone or check the connection to the host system. Using this function when starting up the equipment can reduce the overall startup time.

● Capable of Adjusting the Speed During Test Operation (Speed Teaching)

On startup

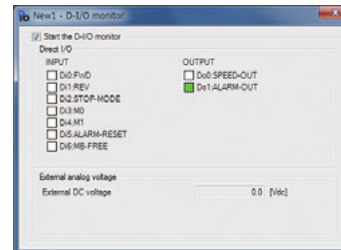
The speed data can be changed during test operation before connecting to the host system. Because the changed speed data is set and saved, this reduces the startup time.



● I/O Monitoring






On startup For operation

A direct I/O Signal test can be performed. Input signals and external DC voltage can be monitored, and output signals can be forced to output. This function is useful for checking the connection to the host system.



Product Line

For **BLE2** 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	30 W	Combination Type Round Shaft Type 60 mm	5, 10, 15, 20, 30, 50, 100, 200		Single-Phase 200-240 V Three-Phase 200-240 V	Cable drawn by the output shaft side  0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 7, 10, 15, 20 m
	60 W	Combination Type Round Shaft Type 80 mm 60 mm	5, 10, 15, 20, 30, 50, 100, 200			
 Round Shaft Type*	120 W	Combination Type Round Shaft Type 90 mm	5, 10, 15, 20, 30, 50, 100, 200			Cable drawn in the opposite side of the output shaft  0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 7, 10, 15, 20 m
	200 W	Combination Type Round Shaft Type 110 mm 90 mm	5, 10, 15, 20, 30, 50, 100, 200			

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

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