

## Speed Control Motors

# Accessories

Overview,  
Product  
Series

FLEX  
Compatible  
Products

Brushless  
Motors

AC Input  
**BLE**

AC Input  
**AXU**

AC Input  
**BX**

DC Input  
**BLH**

AC Speed  
Control  
Motors

**US**

**MSC-1**

Accessories

Accessories

Installation

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# Overview of Accessories

Accessories necessary for installing products and performing operation are available.

## Motor and Gearhead Mounting Brackets → Page A-219



These are high strength type mounting brackets for motors and gearheads.

## Flexible Couplings → Page A-222



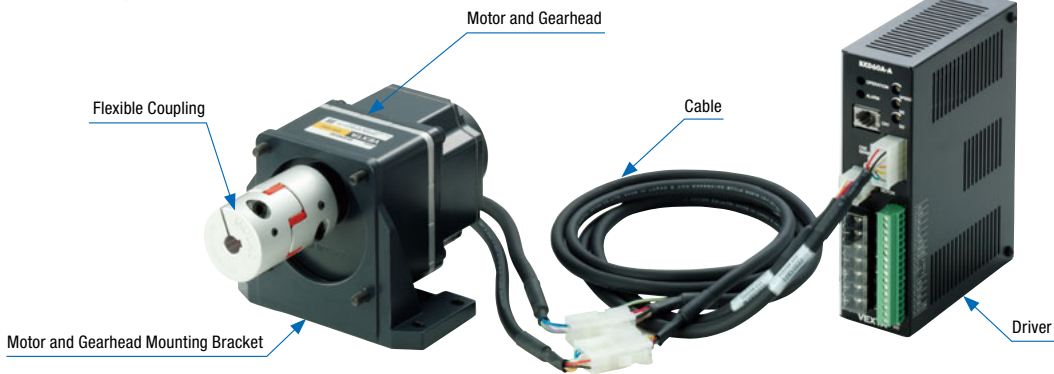
A clamp type coupling for connecting the motor/gearhead shaft with the driven shaft. Machined holes corresponding to shaft diameter sizes make it possible to provide various hole diameter sizes as standard specifications.

## Cables → Page B-147










Various cables that are useful for connecting motors and drivers are available.

● Installation Example



In addition, convenient accessories are available.

<p><b>Motor Speed Indicator</b> → Page B-154</p> 	<p><b>Control Modules</b> → Page B-156</p> 	<p><b>Control Modules</b> → Page B-156</p> 	<p><b>Data Setting Software Communication Cable</b> → Page B-157</p> 
<p><b>External Speed Potentiometer</b> → Page B-158</p> 	<p><b>Regeneration Units</b> → Page B-158</p> 	<p><b>DIN Rail Installation Plate</b> → Page B-159</p> 	

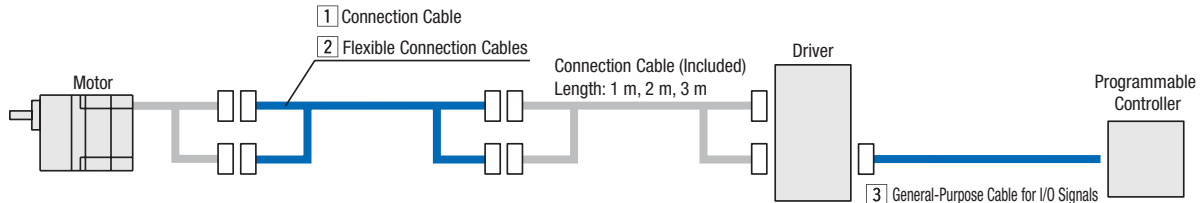
## Cables

### Cables for BLE Series

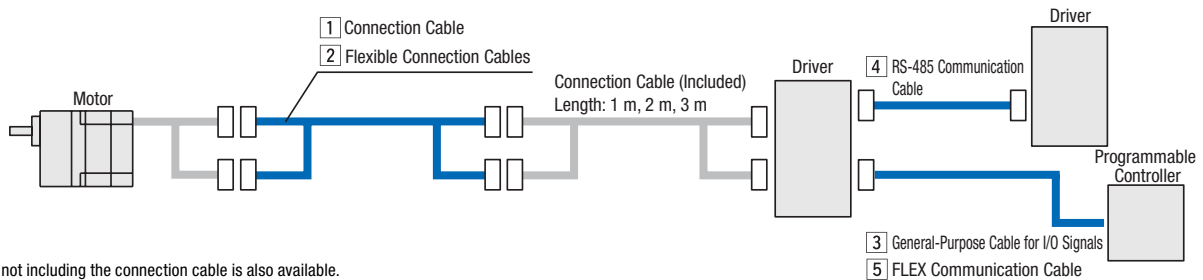
The **BLE** Series comes with a 1 m, 2 m or 3 m long connection cable for the connection between the motor and driver.  
 If the wiring distance between the motor and driver is 3 m or more, use connection cables. The maximum length of the cable extension is 20 m (using included connection cable). (Maximum of 3 cables)  
 Use the flexible connection cable in applications where the cable is bent and flexed.

#### Configuration of Cable System

##### For Standard Type



##### For RS-485 Communication Type



● A type not including the connection cable is also available.

### 1 Connection Cables (RoHS)

#### Product Line

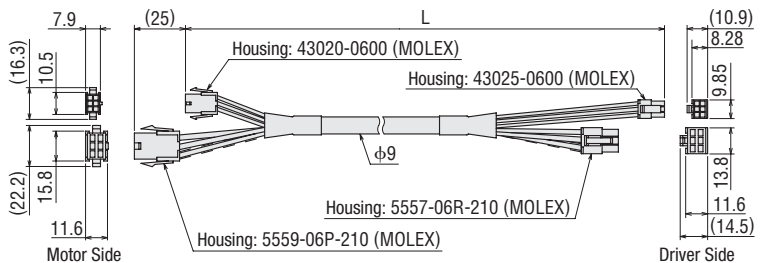
##### For Standard Motor (CC\_BLE)



Product Name	Length L (m)
<b>CC01BLE</b>	1
<b>CC02BLE</b>	2
<b>CC03BLE</b>	3
<b>CC05BLE</b>	5
<b>CC07BLE</b>	7
<b>CC10BLE</b>	10
<b>CC15BLE</b>	15
<b>CC20BLE</b>	20

#### Dimensions (Unit mm)

##### For Standard Motor

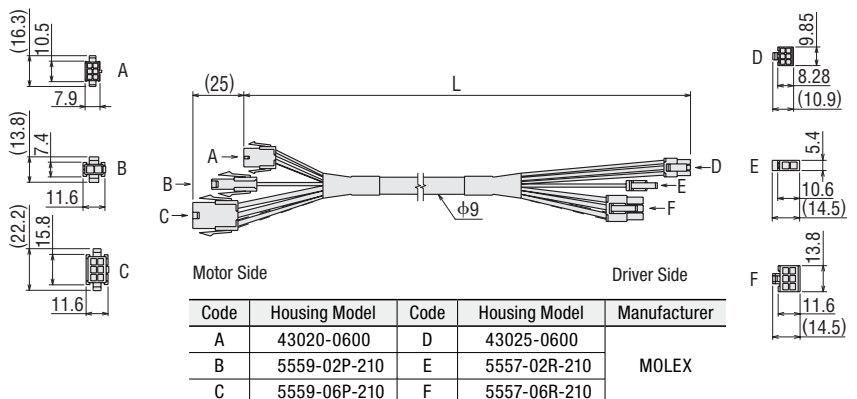


##### For With Electromagnetic Brake Motor (CC\_BLEM)



Product Name	Length L (m)
<b>CC01BLEM</b>	1
<b>CC02BLEM</b>	2
<b>CC03BLEM</b>	3
<b>CC05BLEM</b>	5
<b>CC07BLEM</b>	7
<b>CC10BLEM</b>	10
<b>CC15BLEM</b>	15
<b>CC20BLEM</b>	20

##### For With Electromagnetic Brake Motor



#### Note

● It is possible to connect the included cable and the connection cable for extension.  
 The overall length of the extension cables and the included cables should not exceed 20 m (maximum of 3 cables).

2 Flexible Connection Cables (RoHS)

Cables

● Product Line

◇ For Standard Motor (CC\_BLER)

◇ For With Electromagnetic Brake Motor (CC\_BLEMR)



Speed Indicator

Control Modules

Product Name	Length L (m)
CC01BLER	1
CC02BLER	2
CC03BLER	3
CC05BLER	5
CC07BLER	7
CC10BLER	10
CC15BLER	15
CC20BLER	20

Product Name	Length L (m)
CC01BLEMR	1
CC02BLEMR	2
CC03BLEMR	3
CC05BLEMR	5
CC07BLEMR	7
CC10BLEMR	10
CC15BLEMR	15
CC20BLEMR	20

Data Setting Software

External Speed Potentiometer

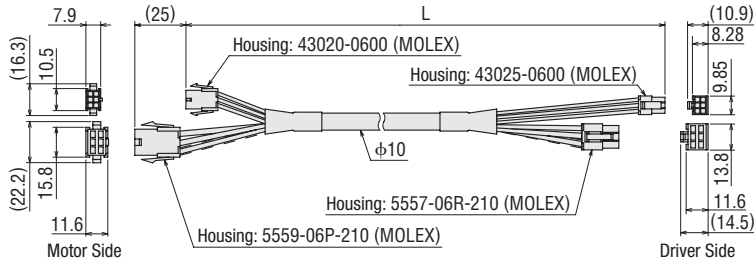
Note

● It is possible to connect the included cable and the flexible connection cable for extension.  
The overall length of the extension cables and the included cables should not exceed 20 m (maximum of 3 cables).

Regeneration Units

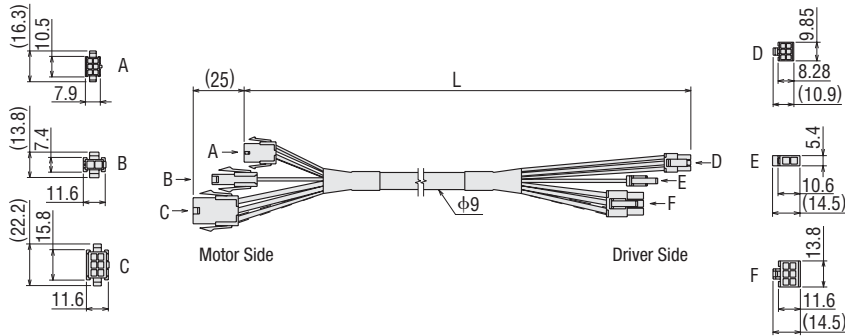
● Dimensions (Unit mm)

◇ For Standard Motor



Couplings

◇ For With Electromagnetic Brake Motor



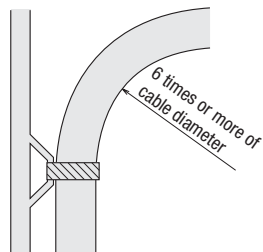
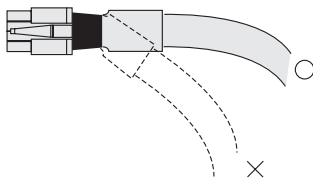
Code	Housing Model	Manufacturer
A	43020-0600	MOLEX
B	5559-02P-210	
C	5559-06P-210	
D	43025-0600	
E	5557-02R-210	
F	5557-06R-210	

● Notes on Use of Flexible Cables

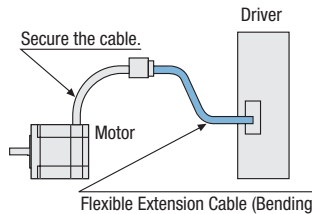
① Do not allow the cable to bend at the cable connector.

② For the bending radius, use at 6 times or more of the cable diameter.

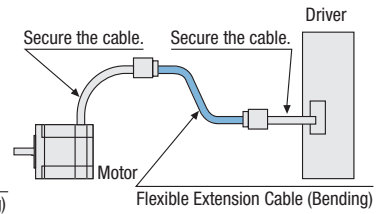
③ The cable from the motor and the included cable are not for bending. If the motor cable is to be bent, please use the flexible cable.



● Flexible Connection Cable



● Flexible Extension Cable



### 3 General-Purpose Cables for I/O Signals RoHS

This cable is a general-purpose, multi-core cable that is convenient for connection between programmable controllers.

● Product Details → Page B-153

### 4 RS-485 Communication Cable RoHS

This cable is used to link drivers in multi-axis operation of the RS-485 communication type.

It also connects the network converter to the driver.

#### ● Product Line

Product Name
<b>CC002-RS4</b>

### 5 FLEX Communication Cables RoHS

This cable is convenient for connecting to other equipment when controlling FLEX-compatible products by Modbus through RS-485.

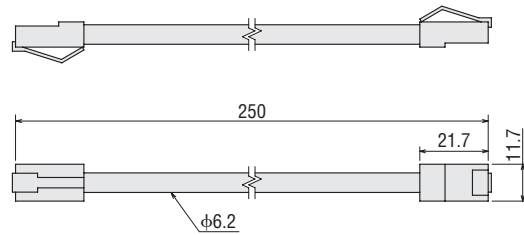
The general-purpose type is available. Unbundled wires with crimp terminals at one end of the cable are suitable to connect to various equipment such as PLC panel.

#### ● Product Line

Product Name	Length L (m)
<b>CC02FLT</b>	2
<b>CC05FLT</b>	5



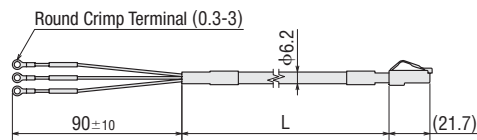
#### ● Dimensions (Unit mm)



General-Purpose Type

#### ● Dimensions (Unit mm)

##### ◇ General-Purpose Type



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DC Input  
**BLH**

AC Speed  
Control  
Motors

**US**

**MSC-1**

Accessories

Installation

## Connection Cables for AXU Series (RoHS)

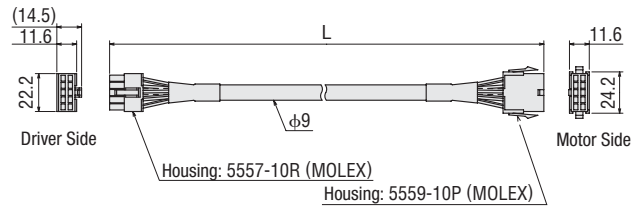
These cables are used to connect the motor and the driver. The maximum length of the cable extension is 10 m.

### Product Line



Product Name	Length L (m)
<b>CC01AXU</b>	1
<b>CC02AXU</b>	2
<b>CC03AXU</b>	3
<b>CC05AXU</b>	5
<b>CC10AXU</b>	10

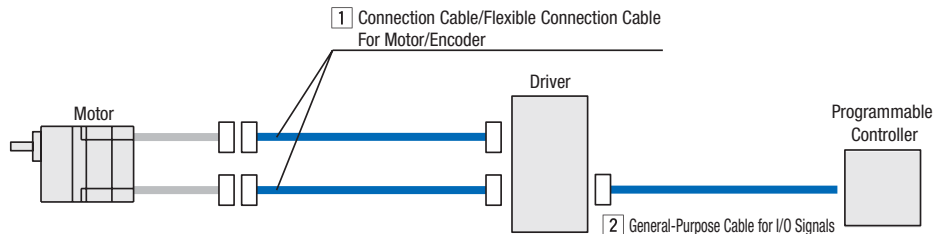
### Dimensions (Unit mm)



## Cables for BX Series (RoHS)

These cables are used to connect the motor and the driver. The maximum length of the cable extension is 20 m. Use the flexible connection cable in applications where the cable is bent and flexed. All connection cables and flexible connection cables come as a set of motor and encoder cables.

### Cable System Configuration

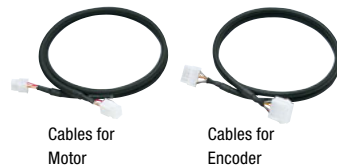
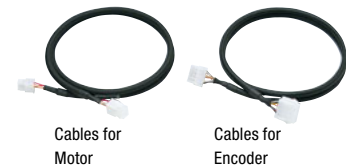


## 1 Connection Cables Flexible Connection Cables

### Product Line

#### Connection Cables (CC\_SBF)

#### Flexible Connection Cables (CC\_SBR)



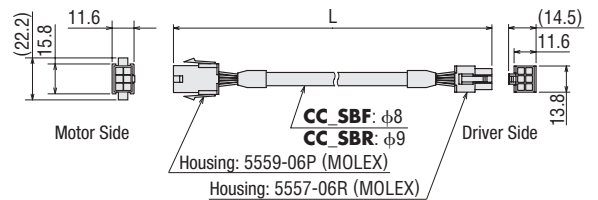
Product Name	Length L (m)
<b>CC01SBF</b>	1
<b>CC02SBF</b>	2
<b>CC03SBF</b>	3
<b>CC05SBF</b>	5
<b>CC07SBF</b>	7
<b>CC10SBF</b>	10
<b>CC15SBF</b>	15
<b>CC20SBF</b>	20

Product Name	Length L (m)
<b>CC01SBR</b>	1
<b>CC02SBR</b>	2
<b>CC03SBR</b>	3
<b>CC05SBR</b>	5
<b>CC07SBR</b>	7
<b>CC10SBR</b>	10
<b>CC15SBR</b>	15
<b>CC20SBR</b>	20

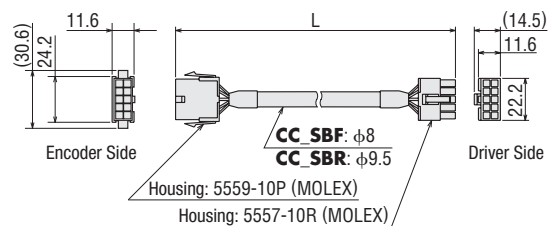
Notes on Use of Flexible Cables  
→ Page B-148

### Dimensions (Unit mm)

#### Cables for Motor



#### Cables for Encoder



## 2 General-Purpose Cables for I/O Signals

This cable is a general-purpose, multi-core cable that is convenient for connection between programmable controllers.

Product Details → Page B-153



## Connection Cables for BLH Series RoHS

These cables are used to connect the motor and driver. The maximum length of the cable extension is 2 m. Use the flexible connection cable in applications where the cable is bent and flexed.

### 1 Connection Cables

#### Product Line



Applicable Product	Product Name
BLH015 BLH230 BLH450	CC02BLH
BLH5100	CC02AXH2

### 2 Flexible Connection Cables

#### Product Line

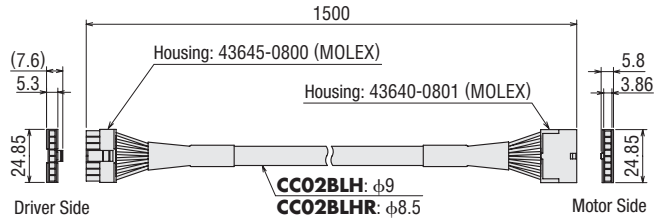


Applicable Product	Product Name
BLH015 BLH230 BLH450	CC02BLHR
BLH5100	CC02BLH2R

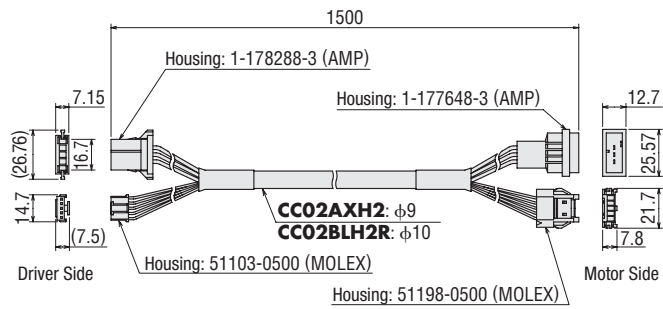
Note on use of flexible extension cables → Page B-148

#### Dimensions (Unit mm)

##### BLH015/BLH230/BLH450



##### BLH5100



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AC Input  
BLE

AC Input  
AXU

AC Input  
BX

DC Input  
BLH

AC Speed  
Control  
Motors

US

MSC-1

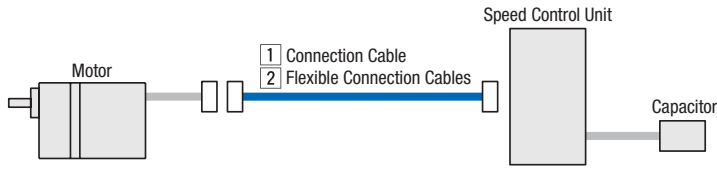
Accessories

Installation

## Connection Cables for US Series (RoHS)

This connection cable connects the **US Series** motor to the speed control unit. Two types are available for different motor output powers. The maximum length of the cable extension is 4 m. Use the flexible connection cable in applications where the cable is bent and flexed.

### Cable System Configuration



### 1 Connection Cables

#### Product Line

◇ **US206, US315, US425, US540** Types



Product Name	Length L (m)
<b>CC01SU05</b>	1
<b>CC02SU05</b>	2
<b>CC03SU05</b>	3
<b>CC04SU05</b>	4

◇ **US560, US590** Types



Product Name	Length L (m)
<b>CC01SU07</b>	1
<b>CC02SU07</b>	2
<b>CC03SU07</b>	3
<b>CC04SU07</b>	4

### 2 Flexible Connection Cables

#### Product Line

◇ **US206, US315, US425, US540** Types



Product Name	Length L (m)
<b>CC01SU05R</b>	1
<b>CC02SU05R</b>	2
<b>CC03SU05R</b>	3
<b>CC04SU05R</b>	4

◇ **US560, US590** Types

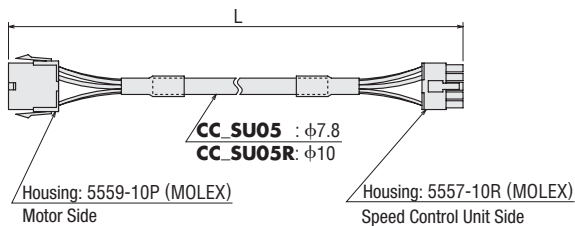


Product Name	Length L (m)
<b>CC01SU07R</b>	1
<b>CC02SU07R</b>	2
<b>CC03SU07R</b>	3
<b>CC04SU07R</b>	4

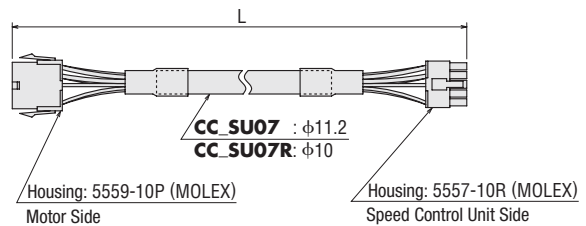
● Notes on use of flexible extension cables → Page B-148

#### Dimensions (Unit mm)

◇ **US206, US315, US425, US540** Types



◇ **US560, US590** Types





## General-Purpose Cables for I/O Signals RoHS

Overview,  
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AC Input  
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AC Input  
**AXU**

AC Input  
**BX**

DC Input  
**BLH**

AC Speed  
Control  
Motors

**US**

**MSC-1**

Accessories

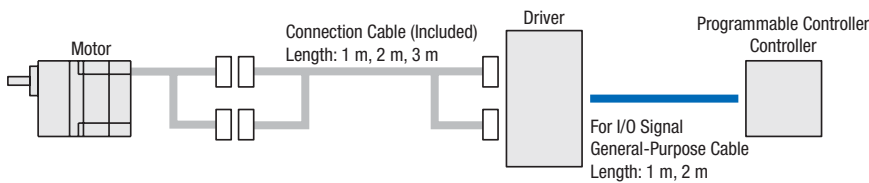
Installation

This cable is a general-purpose, multi-core cable that is convenient for connecting various controllers and drivers to programmable controllers.

- Both ends are semi-stripped and lead wires are unbundled. This cable is available for various products.
- Shielded cables are used. Both ends of the cable are with ground wires for easily grounding the shield.
- Tubes marked with the wire number are inserted at both ends of lead wires. Classification of wires is easy.
- Cable Cores: 12-Core, 16-Core, AWG24
- Cable Length: 1 m, 2 m



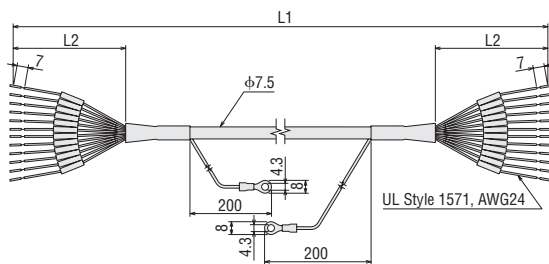
### System Configuration Example for Cables (BLE Series)



### Product Line

Product Name	Main Applicable Series	Length (mm)		Lead Wire Number of Conductors	AWG	
		L1	L2			
<b>CC12D1B-1</b>	<b>MSC-1</b> , Others	1000	70	12-core	24	
<b>CC12D2B-1</b>		2000				
<b>CC16D1B-1</b>	<b>BLE</b> Series	1000	90			16-core
<b>CC16D2B-1</b>	<b>BX</b> Series	2000				

### Dimensions (Unit mm)



# Motor Speed Indicator

Cables

Speed Indicator

Control Modules

Data Setting Software

External Speed Potentiometer

Regeneration Units

DIN Rail Installation Plate

Mounting Brackets

Couplings

To display or check the speed of the speed control motor, connect the speed indicator.

Connection examples to applicable products → Page B-155

## Digital Indication Type (RoHS)



This product is a digital speed indicator that directly displays the speed at the output shaft of the motor or gearhead.

This product is not a standard certified product.

### Product Line

Product Name	Applicable Product
<b>SDM496</b>	Speed Control Motors
	<b>BLE</b> Series <b>AXU</b> Series <b>BLH</b> Series <b>US</b> Series <b>MSC-1</b>

The following items are included with the product.  
 Motor Speed Indicator, Adapter for Flush Installation, Round Shape Socket, Unit Seal, Operating Manual

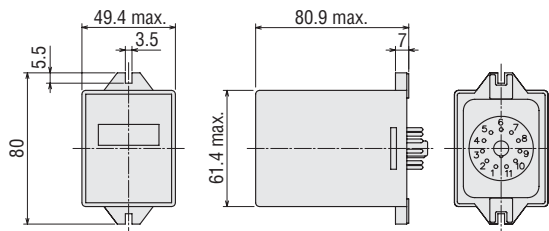
### Specifications

Power Supply Voltage (VAC)	Single-Phase 100~240
Permissible Voltage Range	-15~+10%
Rated Frequency (Hz)	50/60
Rated Input Current (A)	0.1
Indication	4-digit
Gear Ratio Settings	96 types
Operating Ambient Temperature	0~+40°C

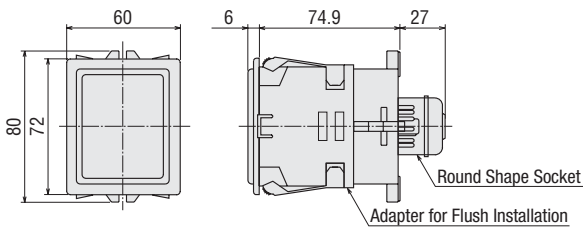
### Dimensions (Unit mm)

Mass: 200 g

CAD A100

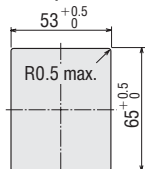


### Dimensions with Adapter Attached (Unit mm)



### Installation Hole Dimensions

(Installation plate thickness 1 to 3.2 mm)



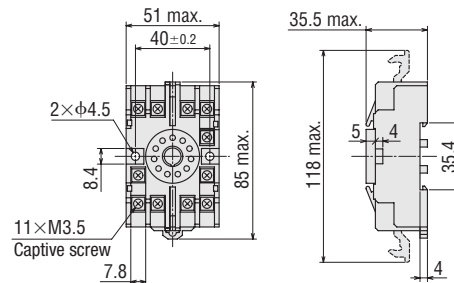
### Surface Installation Socket for Installing DIN Rail (RoHS)

Use this flush installation socket when installing the motor speed indicator onto a DIN rail.

Product Name: **EP11PF**

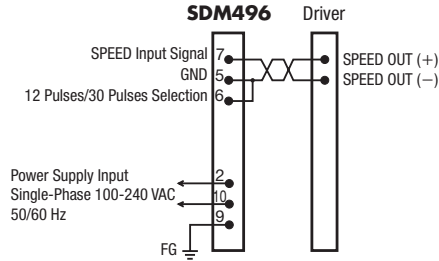
### Dimensions (Unit mm)

Mass: 75 g

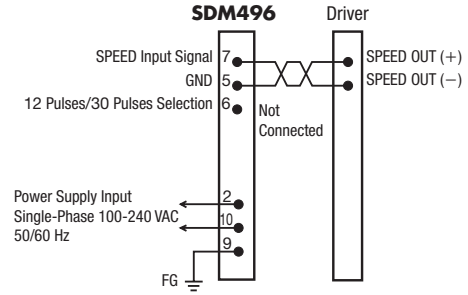


## ● Connection Example

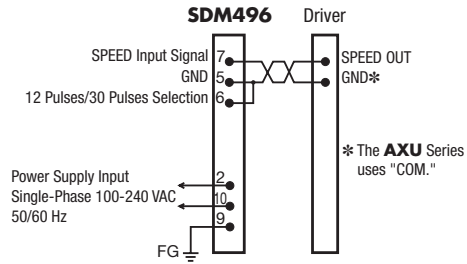
### ◇ BLE Series (30 pulses/rotation)



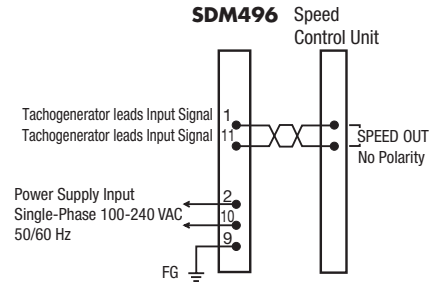
### ◇ BLE Series – FBLII Compatibility Mode (12 pulses/rotation)



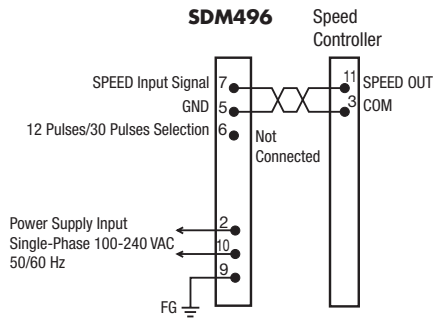
### ◇ AXU Series, BLH Series (30 pulses/rotation)



### ◇ US Series



### ◇ MSC-1



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# Control Modules

Cables

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Couplings

## OPX-2A (RoHS)

### Features

This enables you to perform operations such as setting the driver's internal parameters and setting or changing the data. It can also be used for operations such as speed and I/O monitoring, and teaching.

- Settings and monitoring contents vary depending on the applicable product.



(Enlarged view)

### Product Line

Product Name	Applicable Product
<b>OPX-2A</b>	<b>BLE Series</b>

### Specifications

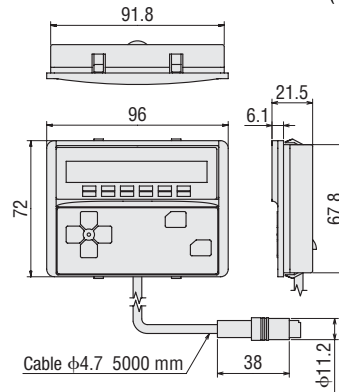
Indication	LED
Cable Length	5 m
Operating Ambient Temperature	0 to +40°C (Non-freezing)

### Dimensions (Unit mm)

#### ◇ Control Module

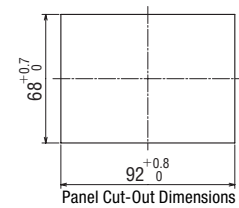
Mass: 0.25 kg

CAD B453



#### ◇ Installation Hole Dimensions

(Installation plate thickness 1 to 3 mm)



## OPX-1A (RoHS)

### Features

- This module can be used as a monitor for speed or alarm code.
- The speed can be set digitally.
- Some characteristics such as speed control range have been improved.
- Some functions such as positioning operation and torque limiting can be extended.

### Product Line

Product Name	Applicable Product
<b>OPX-1A</b>	<b>BX Series</b>

- Communication cable (2 m included)

### Specifications

Indication	LED
Cable Length	2 m
Operating Ambient Temperature	0~+50°C (non-freezing)

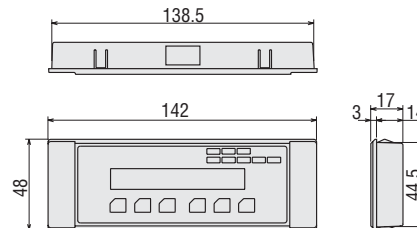


### Dimensions (Unit mm)

#### ◇ Control Module

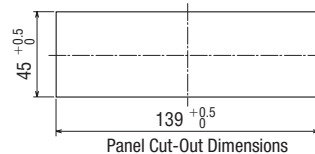
Mass: 0.07 kg

CAD C142



#### ◇ Installation Hole Dimensions

(Installation plate thickness 1 to 3 mm)



## Data Setting Software Communication Cable

### CC05IF-USB (RoHS)

This communication cable is required for connecting to the computer on which Data Setting Software **MEXE02** is installed. The 5 m PC interface cable and 0.5 m USB cable are included.



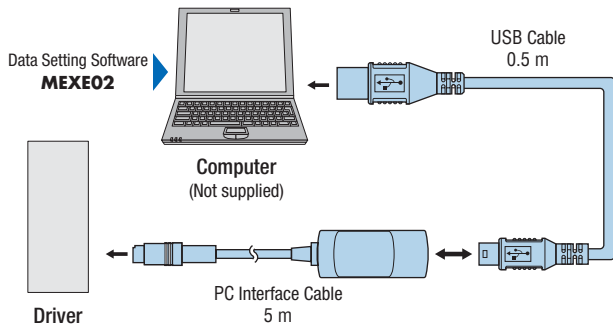
#### Product Line

Product Name
<b>CC05IF-USB</b>

#### Applicable Product

Speed Control Motors	<b>BLE Series</b>
----------------------	-------------------

#### Computer and Driver Connection



#### Note

To connect to a computer, you must install a dedicated device driver.

#### Data Setting Software MEXE02

With this software, the waveform monitoring of teaching, I/O and operation speed as well as the setting and editing of operating data and various parameters can be performed from the computer.

Data Setting Software can be downloaded from our website.

CD-ROMs are also available.

Visit our website, or contact the nearest Oriental Motor sales office.

#### Note

Setting contents vary depending on the applicable product. Check the Oriental Motor website.

#### Operating Environment

##### Operating System (OS)

For the following operating systems, be sure to apply Rollup1 that is provided by Microsoft. Check "Add or remove programs" to see if Rollup1 is installed.

Microsoft Windows 2000 Professional Service Pack 4

For the following operating systems, only the 32 bit (x86) editions and 64 bit (x64) editions are supported.

- Microsoft Windows XP Home Edition Service Pack 3
- Microsoft Windows XP Professional Service Pack 2
- Microsoft Windows XP Professional Service Pack 3\*
- Microsoft Windows Vista Home Basic Service Pack 2
- Microsoft Windows Vista Home Premium Service Pack 2
- Microsoft Windows Vista Business Service Pack 2
- Microsoft Windows Vista Ultimate Service Pack 2
- Microsoft Windows Vista Enterprise Service Pack 2
- Microsoft Windows 7 Starter Service Pack 1
- Microsoft Windows 7 Home Premium Service Pack 1
- Microsoft Windows 7 Professional Service Pack 1
- Microsoft Windows 7 Ultimate Service Pack 1
- Microsoft Windows 7 Enterprise Service Pack 1

\*32 bit (x86) edition only

##### PC

Recommended CPU*1	Intel Core Processor 2 GHz or Faster (OS must be supported)
Display	Video adapter and monitor with a minimum resolution of XGA (1024×768)
Recommended Memory*1	32 bit (x86) edition: 1 GB or more 64 bit (x64) edition: 2 GB or more
Hard Disk*2	Free disk space of at least 30 MB
USB Port	One USB1.1 port
Disk Device	CD-ROM drive (for installation)

\*1 The system requirements for the OS must be met.

\*2 **MEXE02** requires Microsoft .NET Framework 2.0 Service Pack 2. If it is not installed, it will be installed automatically. An additional 500 MB of free space may be required.

● Windows and Windows Vista are registered trademarks of Microsoft Corporation in the United States and other countries.

● For the latest information of operating environment, check the Oriental Motor website.

#### Note

● Depending on your system environment, the required memory and hard disk may vary.

Overview,  
Product  
Series

FLEX  
Compatible  
Products

Brushless  
Motors

AC Input  
**BLE**

AC Input  
**AXU**

AC Input  
**BX**

DC Input  
**BLH**

AC Speed  
Control  
Motors

**US**

**MSC-1**

Accessories

Installation

# External Speed Potentiometer RoHS

Cables

Speed Indicator

Control Modules

Data Setting Software

External Speed Potentiometer

Regeneration Units

DIN Rail Installation Plate

Mounting Brackets

Couplings

This potentiometer is used for setting the torque motor and power controller packages and the speed control motor.



## Product Line

Product Name	Applicable Product
<b>PAVR-20KZ</b>	<b>BLE</b> Series*1
	<b>BX</b> Series*1
	<b>BLH</b> Series*2
	<b>MSC-1</b> *2

(20 kΩ, 1/4 W and with a linear resistance vs. angle curve)

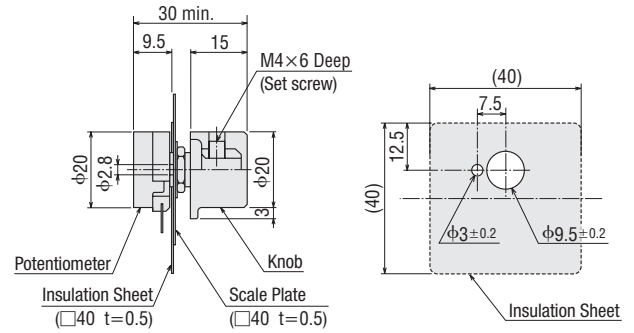
### Note

- \*1 One external speed potentiometer set (**PAVR-20KZ**) is included. Use when setting the speed in multiple stages.
- \*2 The external speed potentiometer (**PAVR-20KZ**) is not included. Use when setting with the external speed potentiometer.

## Dimensions (Unit mm)

Mass: 20 g

CAD A714



Recommended installation plate thickness is 4.5 mm or less

# Regeneration Units RoHS

During vertical drive (gravitational operation), or sudden acceleration and stop with large inertia, external forces causes the motor to rotate and function as a power generator. If the regenerative power produced at that time exceeds the driver's regenerative power absorption capacity, failure may result. In such cases, the regeneration unit is connected to the driver to release the regenerative power as heat energy.



## Product Line

Product Name	Applicable Product
<b>EPRC-400P</b>	<b>BLE</b> Series, <b>BX230</b> , <b>BX460</b> , <b>BX5120</b>
<b>RGB100</b>	<b>BX6200</b> , <b>BX6400</b>

## Specifications

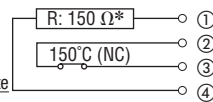
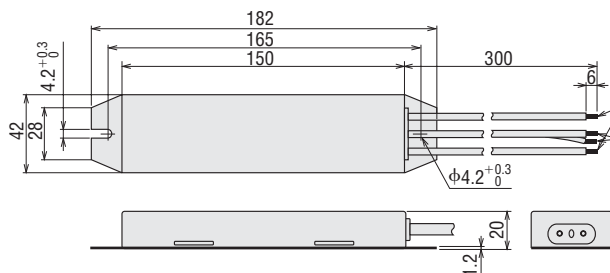
Product Name	<b>EPRC-400P</b>	<b>RGB100</b>
Continuous Regenerative Power	100 W	100 W
Resistance Value	400 Ω	150 Ω
Thermal Protector Operating Temperature	Open: 150±7°C Close: 145±12°C (Normally closed)	Open: 150±7°C Close: 145±12°C (Normally closed)
Thermal Protector Rated Electricity	120 VAC 4 A 30 VDC 4 A (Minimum current 5 mA)	120 VAC 4 A 30 VDC 4 A (Minimum current 5 mA)

- Attach the regeneration unit to a location that has the same heat radiation capability as an aluminum heat radiation plate that is 350×350 mm and 3 mm thick.

## Dimensions (Unit mm)

Mass: 250 g

CAD C194



\* The **EPRC-400P** is 400 Ω.

- ①-④: AWG18×2  
For regeneration current  
Connect to RG Terminal.
- ②-③: AWG22×2  
**BLE** Series, **BX** Series: Connect to thermal protector for signal.

## DIN Rail Installation Plate RoHS

### ■ PADP03

This DIN Rail installation plate is for drivers.

- Made of resin and lightweight
- The plate allows easy installation and detachment to and from the DIN rail.

#### ● Product Line

Material: Resin

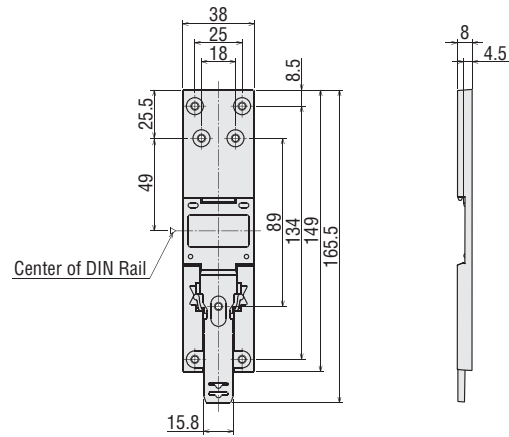
Product Name	Applicable Product
<b>PADP03</b>	<b>BLE</b> Series <b>BX</b> Series

#### ● Dimensions (Unit mm)

Mass: 30 g

CAD A1020

● Installation Screws: Four M3 8 mm screws included



Overview,  
Product  
Series

FLEX  
Compatible  
Products

Brushless  
Motors

AC Input  
**BLE**

AC Input  
**AXU**

AC Input  
**BX**

DC Input  
**BLH**

AC Speed  
Control  
Motors

**US**

**MSC-1**

Accessories

Installation

# Motor and Gearhead Mounting Brackets RoHS

Cables

Speed Indicator

Control Modules

Data Setting Software

External Speed Potentiometer

Regeneration Units

DIN Rail Installation Plate

Mounting Brackets

Couplings

These dedicated mounting brackets are for mounting motors and gearheads. High-strength types, which can be used with high power motors and gearheads. These installation brackets come with tapped holes. To install the motor and gearhead, simply fasten with the screws provided with the gearhead. To install the motor alone, installation screws must be purchased separately.



## Product Line

Material: Aluminum Alloy Surface Treatment: Painting

### ◇ Speed Control Motors

● Select the pinion shaft type based on the gearhead to be attached.

Product Name	Applicable Product			
	AC Speed Control Motors		Brushless Motors	
	Gearhead	Round Shaft Type	Combination Type	Round Shaft Type
<b>SOL0B</b>	—	—	<b>BLH015-□</b>	—
<b>SOL0M3</b>	—	—	—	<b>BLH015-A</b>
<b>SOL2M4</b>	<b>2GN□KF</b>	<b>US206, 2IK6RA, 2RK6RA</b>	<b>BLE23□S</b> <b>BX230-□S</b> <b>BLH230-□</b>	<b>BLE23A</b> <b>AXU210-A</b> <b>BX230-A</b> <b>BLH230-A</b>
<b>SOL3M5</b>	<b>3GN□KF</b>	<b>US315, 3IK15RA, 3RK15RA</b>	—	—
<b>SOL4M5</b>	<b>4GN□KF</b>	<b>US425, 4IK25RA, 4RK25RA</b>	—	—
<b>SOL4M6</b>	—	—	<b>BLE46□S</b> <b>BX460-□S</b> <b>BLH450-□</b>	<b>BLE46A</b> <b>AXU425-A</b> <b>BX460-A</b> <b>BLH450-A</b>
<b>SOL5M6</b>	<b>5GN□KF</b> <b>5GU□KB</b>	<b>US540, US560, US590</b> <b>5IK40RA, 5RK40RA</b>	—	—
<b>SOL5M8</b>	<b>5GU□KBH</b>	—	<b>BLE512□S</b> <b>BX5120-□S</b> <b>BLH5100-□</b>	<b>BLE512A</b> <b>AXU540-A</b> <b>AXU590-A</b> <b>BX5120-A</b> <b>BLH5100-A</b>
<b>SOL6M8</b>	—	—	<b>BX6200-□S</b> <b>BX6400-□S</b>	<b>BX6200-A</b> <b>BX6400-A</b>

● A number indicating the gear ratio is specified in the box □ in the product name.

● The names of the applicable products are described with text by which the series name can be identified.

**Note**

Not available for the following products.

● **5GU□K**

● Right-Angle Gearhead (**RH** Type, **RA** Type)

● Hollow Shaft Flat Gearhead (**GFS2G□FR**, **GFS4G□FR**, **GFS5G□FR**)

## Dimensions → Page A-220



## Flexible Couplings RoHS

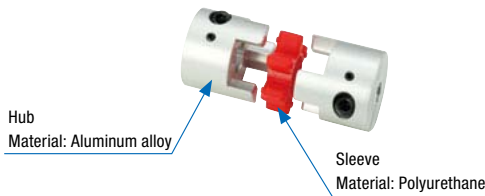
These are clamp type couplings for connecting the motor and gearhead shaft with the driven shaft. Once the motor and gearhead is determined, the coupling can be selected.



## MCL Couplings

### Features

- Can be used with high torque.
- Large Permissible Value for Eccentricity.
- The structure features a separated hub and sleeve, so workability during installation is improved.



### Product Number Code

# MCL 40 12 15

①      ②      ③      ④      ⑤

①	Flexible Coupling
②	Outer Diameter Dimension of Coupling <b>20</b> : φ20 mm to <b>65</b> : φ65 mm
③	Inner Diameter d1 (Smaller inner diameter) <b>05</b> : φ5 mm to <b>25</b> : φ25 mm
④	For the <b>MCL518</b> type only, some of them include a <b>K</b> depending on the key slot width.
⑤	Inner Diameter d2 (Larger inner diameter) <b>05</b> : φ5 mm to <b>25</b> : φ25 mm

### Product Line

Product Name
<b>MCL20</b> <input type="checkbox"/>
<b>MCL30</b> <input type="checkbox"/>
<b>MCL40</b> <input type="checkbox"/>
<b>MCL55</b> <input type="checkbox"/>
<b>MCL65</b> <input type="checkbox"/>

- A number indicating the coupling inner diameter is entered where the box  is located within the product name.

### Coupling Selection Table

- Brushless Motors
- ◇ Geared Type, Combination Type

○: Uniform load    ●: Compatible with uniform and shock load

Applicable Product		Coupling Type	Shaft Diameter mm		Applicable Driven Shaft Diameter mm										
Uniform Load	Shock Load				05	06	08	10	12	14	15	16	18	20	22
			φ5	φ6	φ8	φ10	φ12	φ14	φ15	φ16	φ18	φ20	φ22	φ25	
<b>BLH015</b>	<b>BLH015</b>	<b>MCL20</b>	<b>06</b>	φ6	●	●	●								
<b>BLE23</b> <b>BX230, BLH230</b>	<b>BLE23</b> <b>BX230, BLH230</b>	<b>MCL30</b>	<b>10</b>	φ10			●	●	●						
<b>BLE46</b> <b>BX460, BLH450</b>	—	<b>MCL40</b>	<b>15</b>	φ15				○	○	○	○				
—	<b>BLE46</b> <b>BX460, BLH450</b>	<b>MCL55</b>	<b>15</b>	φ15						●	●	●	●	●	
<b>BLE512</b> <b>BX5120, BLH5100</b>	<b>BLE512</b> <b>BX5120, BLH5100</b>		<b>18</b>	φ18							●	●	●	●	●
<b>BX6200, BX6400</b>	<b>BX6200, BX6400</b>	<b>MCL65</b>	<b>22</b>	φ22									●	●	

- The load classification in this table is a guideline. Check the specifications values of each coupling for details.
- The names of the applicable products are described with text by which the series name and the output power can be identified.

### ◇ Round Shaft Type

Select a coupling with the same inner diameter size as the motor shaft diameter. For the **BX** Series round shaft type, refer to **MCS** couplings.

Overview,  
Product  
Series

FLEX  
Compatible  
Products

Brushless  
Motors

AC Input  
**BLE**

AC Input  
**AXU**

AC Input  
**BX**

DC Input  
**BLH**

AC Speed  
Control  
Motors

**US**

**MSC-1**

Accessories

Installation

## ● Brushless Motors, AC Speed Control Motors

### ◇ Gearhead

○: Uniform load ●: Compatible with uniform and shock load

Speed Indicator	Applicable Product		Coupling Type	Shaft Diameter mm	Applicable Driven Shaft Diameter mm													
	Uniform Load	Shock Load			05	06	08	10	12	14	15	16	18	20	25			
					φ5	φ6	φ8	φ10	φ12	φ14	φ15	φ16	φ18	φ20	φ25			
Speed Indicator	<b>2GN□KF</b>	–	<b>MCL20</b>	<b>08</b>	φ8	○	○	○										
	–	<b>2GN□KF</b>		<b>08</b>	φ8			●	●	●								
Control Modules	<b>3GN□KF</b> <b>4GN□KF, 4GN□RA</b>	<b>3GN□KF</b>	<b>MCL30</b>	<b>10</b>	φ10			●	●	●								
	<b>5GN□KF, 5GN□RA</b>	–		<b>12</b>	φ12			○	○	○								
	–	<b>4GN□KF, 4GN□RA</b> <b>5GN□KF, 5GN□RA</b>		<b>10</b>	φ10				●	●	●	●	●					
Data Setting Software	–	<b>5GN□KF, 5GN□RA</b>	<b>MCL40</b>	<b>12</b>	φ12			●	●	●	●	●						
	<b>5GU□KB, 5GU□K</b> <b>5GU□RA</b>	–		<b>15</b>	φ15				○	○	○	○	○					
External Speed Potentiometer	–	<b>5GU□KB, 5GU□K</b> <b>5GU□RA</b>	<b>MCL55</b>	<b>15</b>	φ15								●	●	●	●	●	
	<b>5GU□KBH</b>	<b>5GU□KBH</b>	<b>MCL5518K</b>	<b>18</b>	φ18									●	●	●	●	

- The load classification in this table is a guideline. Check the specifications values of each coupling for details.
- The **MCL5518K** type is a dedicated type for **5GU□KBH**.
- A number indicating the gear ratio is specified in the box □ in the product name.
- The names of the applicable products are described with text by which the series name and the output power can be identified.

### ◇ Round Shaft Type

Select a coupling with the same inner diameter size as the motor shaft diameter.

**Specifications** → Page A-224

**Dimensions** → Page A-224