

Stepper Motors

# Accessories

Overview, Product Series

AC Input Motor & Driver

0.36°/Geared  
*Q<sub>STEP</sub>*  
**AR**

0.36°/Geared  
*Q<sub>STEP</sub>*  
Absolute  
**AZ**

0.72°/Geared  
**RKII**

DC Input Motor & Driver

0.36°/Geared  
*Q<sub>STEP</sub>*  
**AR**

0.36°/Geared  
*Q<sub>STEP</sub>*  
Absolute  
**AZ**

0.72°/0.36°  
/Geared  
**CRK**

1.8°/Geared  
**RBK**

1.8°/0.9°  
/Geared  
**CMK**

0.72°  
All-in-One  
**PKA**

Motor Only

1.8°/0.9°  
**PKP/PK**

Geared  
**PKP**

0.72°/0.36°  
**PKP**

Accessories

Accessories

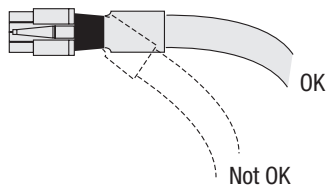
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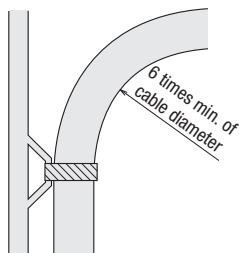
# Cables

## Notes on the Use of a Flexible Cable

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

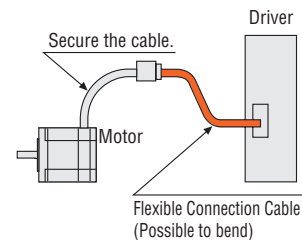


② For the bending radius, use at six times or more of the cable diameter.

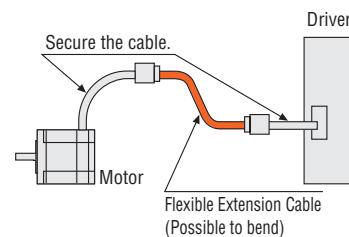


③ Connection cables are not flexible. If regularly bending of the cable is required, use the flexible cable only (sold separately).

### Flexible Connection Cable



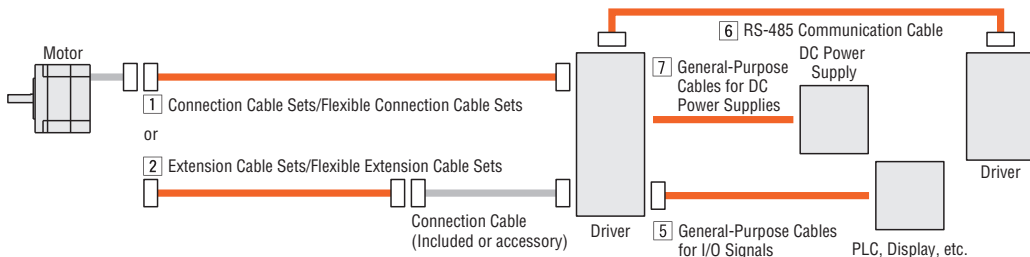
### Flexible Extension Cable



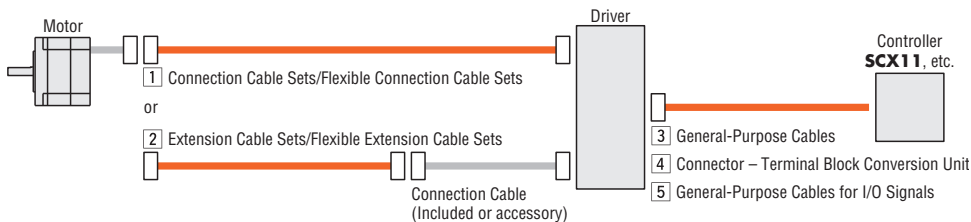
## Cables for AR Series AC Power Supply Input

### Cable System Configuration

#### Built-in Controller Type



#### Pulse Input Type



## 1 Connection Cable Sets

### Flexible Connection Cable Sets

These cables are used to connect the motor and the driver. Use the flexible connection cable in applications where the cable is bent and flexed repeatedly.

For electromagnetic brake motors, a cable for the motor and another cable for the electromagnetic brake come as a set.

#### ● Product Line

#### ◇ Connection Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VAF</b>	1 (3.3)	\$61.00
<b>CC020VAF</b>	2 (6.6)	\$74.00
<b>CC030VAF</b>	3 (9.8)	\$88.00
<b>CC050VAF</b>	5 (16.4)	\$114.00
<b>CC070VAF</b>	7 (23.0)	\$140.00
<b>CC100VAF</b>	10 (32.8)	\$180.00
<b>CC150VAF</b>	15 (49.2)	\$246.00
<b>CC200VAF</b>	20 (65.6)	\$312.00
<b>CC300VAF</b>	30 (98.4)	\$444.00

#### ◇ Flexible Connection Cable Sets

##### ● For Standard Motor

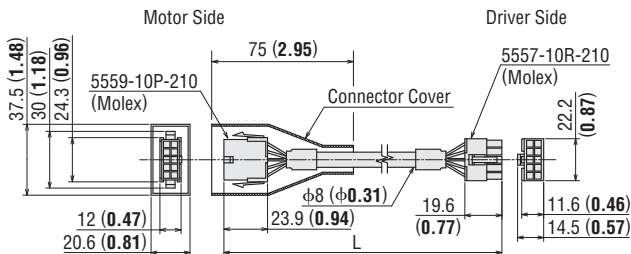


Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VAR</b>	1 (3.3)	\$100.00
<b>CC020VAR</b>	2 (6.6)	\$136.00
<b>CC030VAR</b>	3 (9.8)	\$172.00
<b>CC050VAR</b>	5 (16.4)	\$244.00
<b>CC070VAR</b>	7 (23.0)	\$316.00
<b>CC100VAR</b>	10 (32.8)	\$424.00
<b>CC150VAR</b>	15 (49.2)	\$604.00
<b>CC200VAR</b>	20 (65.6)	\$784.00
<b>CC300VAR</b>	30 (98.4)	\$1,144.00

#### ● Dimensions Unit = mm (in.)

#### ◇ Cable for Motor



##### ● For Electromagnetic Brake Motor



Cable for Motor

Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VAFB</b>	1 (3.3)	\$80.00
<b>CC020VAFB</b>	2 (6.6)	\$96.00
<b>CC030VAFB</b>	3 (9.8)	\$112.00
<b>CC050VAFB</b>	5 (16.4)	\$143.00
<b>CC070VAFB</b>	7 (23.0)	\$174.00
<b>CC100VAFB</b>	10 (32.8)	\$221.00
<b>CC150VAFB</b>	15 (49.2)	\$299.00
<b>CC200VAFB</b>	20 (65.6)	\$377.00
<b>CC300VAFB</b>	30 (98.4)	\$533.00

##### ● For Electromagnetic Brake Motor

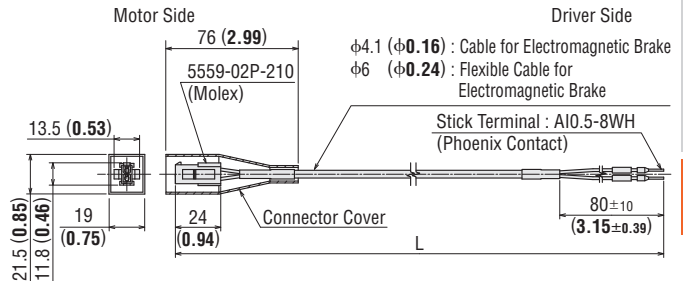


Cable for Motor

Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VARB</b>	1 (3.3)	\$122.00
<b>CC020VARB</b>	2 (6.6)	\$164.00
<b>CC030VARB</b>	3 (9.8)	\$206.00
<b>CC050VARB</b>	5 (16.4)	\$290.00
<b>CC070VARB</b>	7 (23.0)	\$374.00
<b>CC100VARB</b>	10 (32.8)	\$500.00
<b>CC150VARB</b>	15 (49.2)	\$710.00
<b>CC200VARB</b>	20 (65.6)	\$920.00
<b>CC300VARB</b>	30 (98.4)	\$1,340.00

#### ◇ Cable for Electromagnetic Brake



Overview, Product Series

AC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/Geared RKII

DC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/0.36°/Geared CRK

1.8°/Geared RBK

1.8°/0.9°/Geared CMK

0.72° All-in-One PKA

Motor Only

1.8°/0.9° PKP/PK

Geared PKP

0.72°/0.36° PKP

Accessories

## 2 Extension Cable Sets

### Flexible Extension Cable Sets

These cables can be used to extend the connection cable included with the product. When using an extension, keep the overall cable length at 30 m (98.4 ft.) or less.

Use the flexible connection cable in applications where the cable is bent and flexed repeatedly.

For electromagnetic brake motors, a cable for the motor and another cable for the electromagnetic brake come as a set.

● Product Line

◇ Extension Cable Sets

● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VAFT</b>	1 (3.3)	\$67.00
<b>CC020VAFT</b>	2 (6.6)	\$80.00
<b>CC030VAFT</b>	3 (9.8)	\$94.00
<b>CC050VAFT</b>	5 (16.4)	\$120.00
<b>CC070VAFT</b>	7 (23.0)	\$146.00
<b>CC100VAFT</b>	10 (32.8)	\$186.00
<b>CC150VAFT</b>	15 (49.2)	\$252.00
<b>CC200VAFT</b>	20 (65.6)	\$318.00

◇ Flexible Extension Cable Sets

● For Standard Motor

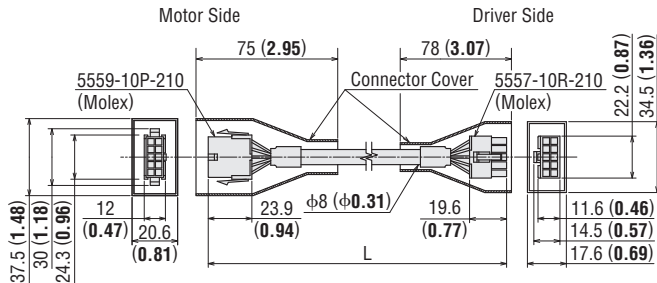


Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VART</b>	1 (3.3)	\$106.00
<b>CC020VART</b>	2 (6.6)	\$142.00
<b>CC030VART</b>	3 (9.8)	\$178.00
<b>CC050VART</b>	5 (16.4)	\$250.00
<b>CC070VART</b>	7 (23.0)	\$322.00
<b>CC100VART</b>	10 (32.8)	\$430.00
<b>CC150VART</b>	15 (49.2)	\$610.00
<b>CC200VART</b>	20 (65.6)	\$790.00

● Dimensions Unit = mm (in.)

◇ Cable for Motor



Note

- Keep the total cable length below 30 m (98.4 ft.) when connecting a cable included in the **AR** Series and an extension cable.
- Notes on the Use of a Flexible Cable → Page A-270

● For Electromagnetic Brake Motor



Cable for Motor

Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VAFBT</b>	1 (3.3)	\$91.00
<b>CC020VAFBT</b>	2 (6.6)	\$107.00
<b>CC030VAFBT</b>	3 (9.8)	\$122.00
<b>CC050VAFBT</b>	5 (16.4)	\$154.00
<b>CC070VAFBT</b>	7 (23.0)	\$185.00
<b>CC100VAFBT</b>	10 (32.8)	\$232.00
<b>CC150VAFBT</b>	15 (49.2)	\$310.00
<b>CC200VAFBT</b>	20 (65.6)	\$388.00

● For Electromagnetic Brake Motor

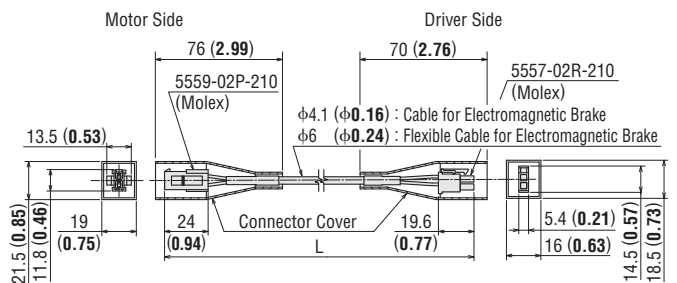


Cable for Motor

Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VARBT</b>	1 (3.3)	\$133.00
<b>CC020VARBT</b>	2 (6.6)	\$175.00
<b>CC030VARBT</b>	3 (9.8)	\$217.00
<b>CC050VARBT</b>	5 (16.4)	\$301.00
<b>CC070VARBT</b>	7 (23.0)	\$385.00
<b>CC100VARBT</b>	10 (32.8)	\$511.00
<b>CC150VARBT</b>	15 (49.2)	\$721.00
<b>CC200VARBT</b>	20 (65.6)	\$931.00

◇ Cable for Electromagnetic Brake



### 3 General-Purpose Cables

These shielded cables have a half-pitch connector at one end of the cable for easy connection to the driver.

At the other end, the laminated lead wires are arranged in the 1.27 mm (0.05 in.) pitch, which are convenient for crimp connectors. Both ends of the cable are equipped with ground wires for easy grounding.

2 types are available: the straight type and right angle type.

**Note**

- Note that as the length of the pulse line between the driver and controller increases, the maximum transmission frequency decreases.
- Install a connector that matches the connection type of the controller you are using to the other end of the cable.

**Product Line**

◇ **Straight Type**

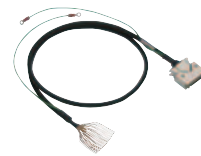
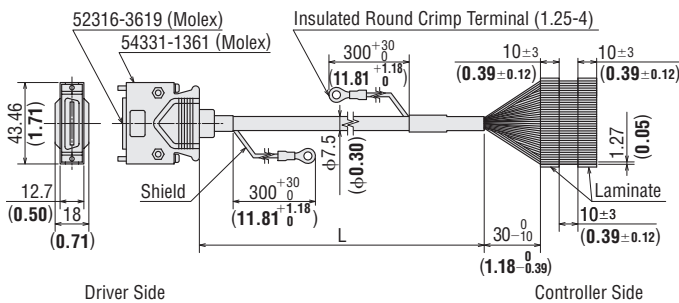
Product Name	Applicable Drivers	Length L m (ft.)	List Price
<b>CC36D1E</b>	For Pulse Input Type CN5 (36 pins)	1 (3.3)	\$112.00
<b>CC36D2E</b>		2 (6.6)	\$120.00

**Dimensions Unit = mm (in.)**

◇ **Straight Type**

**CC36D1E, CC36D2E**

Conductor: AWG28



Straight Type



Right Angle Type

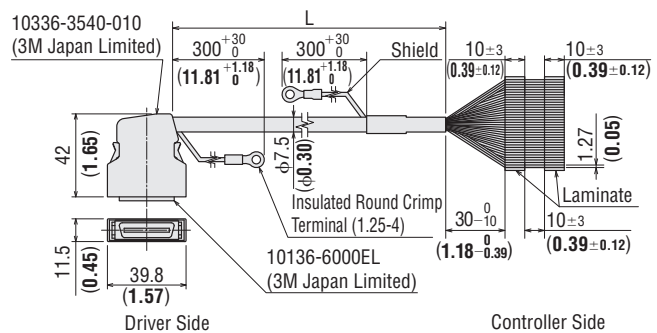
◇ **Right Angle Type**

Product Name	Applicable Drivers	Length L m (ft.)	List Price
<b>CC36D1AE</b>	For Pulse Input Type CN5 (36 pins)	1 (3.3)	\$112.00
<b>CC36D2AE</b>		2 (6.6)	\$120.00

◇ **Right Angle Type**

**CC36D1AE, CC36D2AE**

Conductor: AWG28



### 4 Connector – Terminal Block Conversion Unit

These are conversion units that can connect a driver to a programmable controller or a sensor using a terminal block.

- A shielded cable is used. Easy grounding with ground wires at both ends of the cable.
- Includes a signal name plate for easy, one-glance identification of driver signal names.
- DIN rail installable
- Applicable terminal: Fork terminal
- Cable length: 1 m (3.3 ft.)

**Product Line**

Product Line	Product Name	Applicable Drivers	Length L m (ft.)	List Price
36 Poles	<b>CC36T10E</b>	For Pulse Input Type CN5 (36 pins)	1 (3.3)	\$284.00



Overview, Product Series

AC Input Motor & Driver

0.36°/Geared  
**Q<sub>STEP</sub> AR**

0.36°/Geared  
**Q<sub>STEP</sub> Absolute AZ**

0.72°/Geared  
**RKII**

DC Input Motor & Driver

0.36°/Geared  
**Q<sub>STEP</sub> AR**

0.36°/Geared  
**Q<sub>STEP</sub> Absolute AZ**

0.72°/0.36°/Geared  
**CRK**

1.8°/Geared  
**RBK**

1.8°/0.9°/Geared  
**CMK**

0.72°  
**All-in-One PKA**

Motor Only

1.8°/0.9°  
**PKP/PK**

Geared  
**PKP**

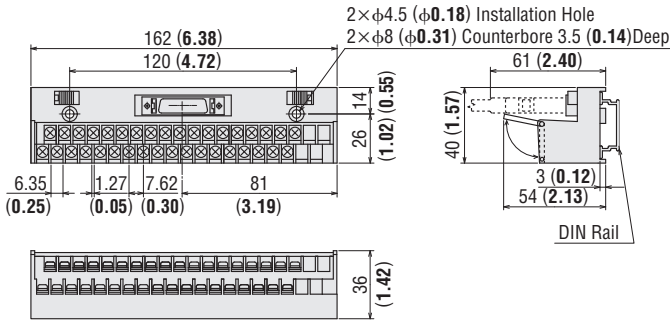
0.72°/0.36°  
**PKP**

Accessories

● Dimensions Unit = mm (in.)

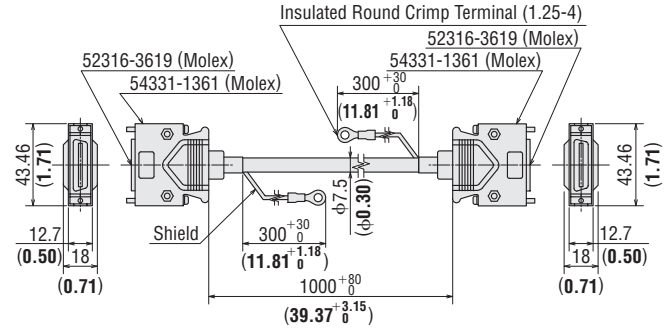
**CC36T10E**

2D CAD B991



Terminal Block Pin No.

19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18



**5 General-Purpose Cables for I/O Signals**

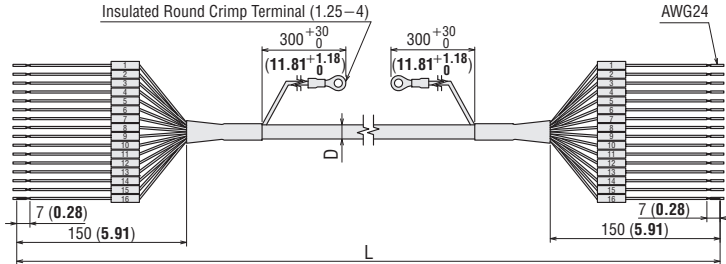
A purpose cable for connecting the driver and programmable controller.

● Product Line

Product Name	Length L m (ft.)	Number of Lead Wire Cores	Outer Diameter D mm (in.)	AWG	List Price
CC06D010B-1	1 (3.3)	6	φ5.4 (0.21)	24	\$19.00
CC06D020B-1	2 (6.6)				\$23.00
CC10D010B-1	1 (3.3)	10	φ6.7 (0.26)		\$21.00
CC10D020B-1	2 (6.6)				\$26.00
CC12D010B-1	1 (3.3)	12	φ7.5 (0.30)		\$24.00
CC12D020B-1	2 (6.6)				\$30.00
CC16D010B-1	1 (3.3)	16	φ7.5 (0.30)		\$25.00
CC16D020B-1	2 (6.6)				\$31.00



● Dimensions Unit = mm (in.)



● Illustration depicts 16 core wires.

## 6 RS-485 Communication Cable

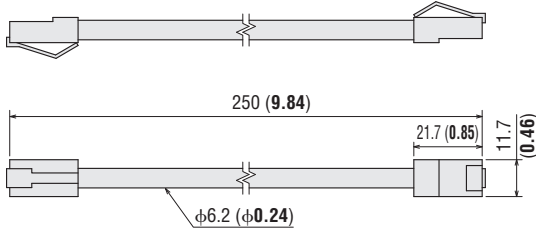
This cable is used to link drivers in multi-axis operations. It also connects the network converter to the driver.

### Product Line

Product Name	Length m (ft.)	Applicable Product	List Price
<b>CC002-R54</b>	0.25 (0.82)	Built-in Controller Type	\$35.00



### Dimensions Unit = mm (in.)



## 7 General-Purpose Cables for DC Power Supplies

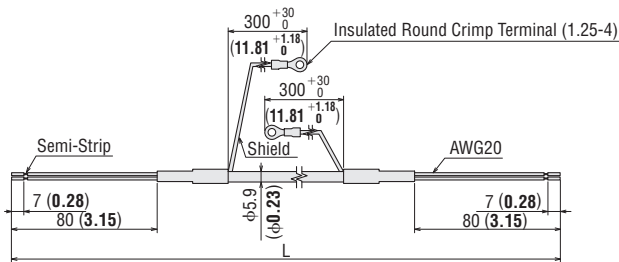
This cable is used to link drivers and DC power supplies.

### Product Line

Product Name	Length L m (ft.)	List Price
<b>CC02D010-3</b>	1 (3.3)	\$12.00
<b>CC02D020-3</b>	2 (6.6)	\$15.00
<b>CC02D050-3</b>	5 (16.4)	\$23.00



### Dimensions Unit = mm (in.)



Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/Geared  
RKII

DC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/0.36°  
/Geared  
CRK

1.8°/Geared  
RBK

1.8°/0.9°  
/Geared  
CMK

0.72°  
All-in-One  
PKA

Motor Only

1.8°/0.9°  
PKP/PK

Geared  
PKP

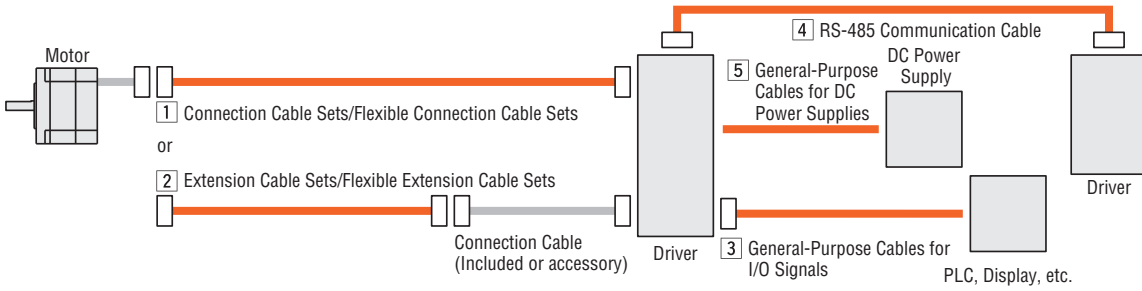
0.72°/0.36°  
PKP

Accessories

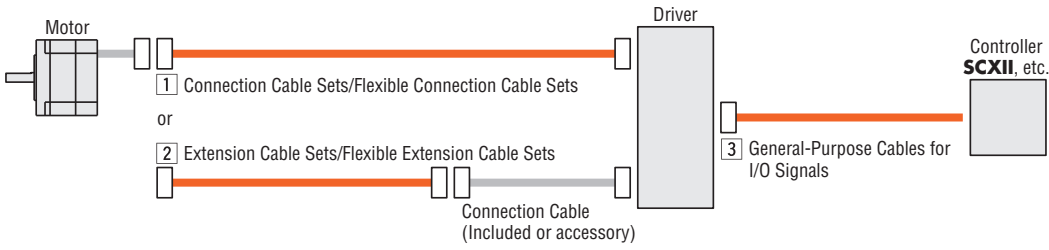
### Cables for RKII Series

#### Cable System Configuration

##### ◇ Built-in Controller Type



##### ◇ Pulse Input Type



#### Note

- The electromagnetic brake cable and the encoder cable from the motor cannot be connected directly to the driver. For the connection to the driver, use the included connection cable or accessory (sold separately).



## 1 Connection Cable Sets, Flexible Connection Cable Sets

These cables are used to connect the motor and the driver. Use the flexible connection cable in applications where the cable is bent and flexed repeatedly.

For the standard motor, cables come as a set of motor and encoder cables. For the electromagnetic brake motor, cables come as a set of motor, encoder and electromagnetic brake cables.

### Product Line

#### Connection Cable Sets

##### For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VPF</b>	1 (3.3)	\$34.00
<b>CC020VPF</b>	2 (6.6)	\$39.00
<b>CC030VPF</b>	3 (9.8)	\$44.00
<b>CC050VPF</b>	5 (16.4)	\$53.00
<b>CC070VPF</b>	7 (23.0)	\$71.00
<b>CC100VPF</b>	10 (32.8)	\$97.00
<b>CC150VPF</b>	15 (49.2)	\$142.00
<b>CC200VPF</b>	20 (65.6)	\$186.00

##### For Electromagnetic Brake Motor



Cable for Motor



Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VPFB</b>	1 (3.3)	\$51.00
<b>CC020VPFB</b>	2 (6.6)	\$58.00
<b>CC030VPFB</b>	3 (9.8)	\$66.00
<b>CC050VPFB</b>	5 (16.4)	\$81.00
<b>CC070VPFB</b>	7 (23.0)	\$104.00
<b>CC100VPFB</b>	10 (32.8)	\$138.00
<b>CC150VPFB</b>	15 (49.2)	\$197.00
<b>CC200VPFB</b>	20 (65.6)	\$255.00

##### For Encoder Motor



Cable for Motor



Cable for Encoder

Product Name	Length L m (ft.)	List Price
<b>CC010VPFE</b>	1 (3.3)	\$78.00
<b>CC020VPFE</b>	2 (6.6)	\$88.00
<b>CC030VPFE</b>	3 (9.8)	\$100.00
<b>CC050VPFE</b>	5 (16.4)	\$121.00
<b>CC070VPFE</b>	7 (23.0)	\$149.00
<b>CC100VPFE</b>	10 (32.8)	\$193.00
<b>CC150VPFE</b>	15 (49.2)	\$267.00
<b>CC200VPFE</b>	20 (65.6)	\$340.00

#### Flexible Connection Cable Sets

##### For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VPR</b>	1 (3.3)	\$45.00
<b>CC020VPR</b>	2 (6.6)	\$52.00
<b>CC030VPR</b>	3 (9.8)	\$58.00
<b>CC050VPR</b>	5 (16.4)	\$70.00
<b>CC070VPR</b>	7 (23.0)	\$93.00
<b>CC100VPR</b>	10 (32.8)	\$127.00
<b>CC150VPR</b>	15 (49.2)	\$186.00
<b>CC200VPR</b>	20 (65.6)	\$242.00

##### For Electromagnetic Brake Motor



Cable for Motor



Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VPRB</b>	1 (3.3)	\$77.00
<b>CC020VPRB</b>	2 (6.6)	\$90.00
<b>CC030VPRB</b>	3 (9.8)	\$101.00
<b>CC050VPRB</b>	5 (16.4)	\$125.00
<b>CC070VPRB</b>	7 (23.0)	\$159.00
<b>CC100VPRB</b>	10 (32.8)	\$210.00
<b>CC150VPRB</b>	15 (49.2)	\$296.00
<b>CC200VPRB</b>	20 (65.6)	\$379.00

##### For Encoder Motor



Cable for Motor

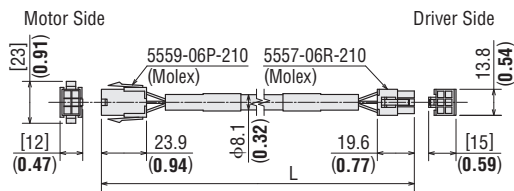


Cable for Encoder

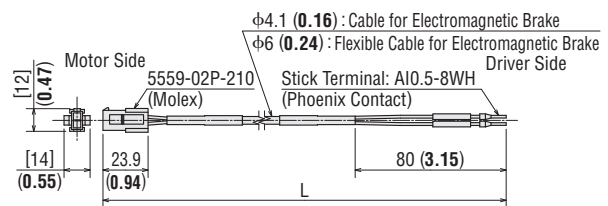
Product Name	Length L m (ft.)	List Price
<b>CC010VPRE</b>	1 (3.3)	\$92.00
<b>CC020VPRE</b>	2 (6.6)	\$109.00
<b>CC030VPRE</b>	3 (9.8)	\$122.00
<b>CC050VPRE</b>	5 (16.4)	\$155.00
<b>CC070VPRE</b>	7 (23.0)	\$197.00
<b>CC100VPRE</b>	10 (32.8)	\$259.00
<b>CC150VPRE</b>	15 (49.2)	\$364.00
<b>CC200VPRE</b>	20 (65.6)	\$467.00

### Dimensions Unit = mm (in.)

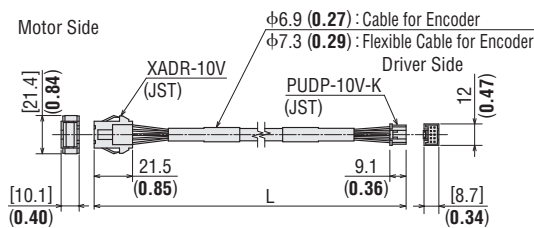
#### Cable for Motor



#### Cable for Electromagnetic Brake



#### Cable for Encoder



Overview, Product Series

AC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/Geared RKII

DC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/0.36°/Geared CRK

1.8°/Geared RBK

1.8°/0.9°/Geared CMK

0.72° All-in-One PKA

Motor Only

1.8°/0.9° PKP/PK

Geared PKP

0.72°/0.36° PKP

Accessories

## 2 Extension Cable Sets, Flexible Extension Cable Sets

These cables can be used to extend the connection cable included with the product. When using an extension, keep the overall cable length at 20 m (65.6 ft.) or less.

Use the flexible connection cable in applications where the cable is bent and flexed repeatedly.

For the electromagnetic brake type motor, cables come as a set of motor and electromagnetic brake cables. For the encoder type motor, cables come as a set of motor and encoder cables.

### ● Product Line

#### ◇ Extension Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VPF</b>	1 (3.3)	\$34.00
<b>CC020VPF</b>	2 (6.6)	\$39.00
<b>CC030VPF</b>	3 (9.8)	\$44.00
<b>CC050VPF</b>	5 (16.4)	\$53.00
<b>CC070VPF</b>	7 (23.0)	\$71.00
<b>CC100VPF</b>	10 (32.8)	\$97.00
<b>CC150VPF</b>	15 (49.2)	\$142.00

##### ● For Electromagnetic Brake Motor



Cable for Motor



Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VPFBT</b>	1 (3.3)	\$53.00
<b>CC020VPFBT</b>	2 (6.6)	\$61.00
<b>CC030VPFBT</b>	3 (9.8)	\$69.00
<b>CC050VPFBT</b>	5 (16.4)	\$84.00
<b>CC070VPFBT</b>	7 (23.0)	\$107.00
<b>CC100VPFBT</b>	10 (32.8)	\$141.00
<b>CC150VPFBT</b>	15 (49.2)	\$200.00

##### ● For Encoder Motor



Cable for Motor



Cable for Encoder

Product Name	Length L m (ft.)	List Price
<b>CC010VPFET</b>	1 (3.3)	\$78.00
<b>CC020VPFET</b>	2 (6.6)	\$88.00
<b>CC030VPFET</b>	3 (9.8)	\$100.00
<b>CC050VPFET</b>	5 (16.4)	\$121.00
<b>CC070VPFET</b>	7 (23.0)	\$149.00
<b>CC100VPFET</b>	10 (32.8)	\$193.00
<b>CC150VPFET</b>	15 (49.2)	\$267.00

#### ◇ Flexible Extension Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VPR</b>	1 (3.3)	\$45.00
<b>CC020VPR</b>	2 (6.6)	\$52.00
<b>CC030VPR</b>	3 (9.8)	\$58.00
<b>CC050VPR</b>	5 (16.4)	\$70.00
<b>CC070VPR</b>	7 (23.0)	\$93.00
<b>CC100VPR</b>	10 (32.8)	\$127.00
<b>CC150VPR</b>	15 (49.2)	\$186.00

##### ● For Electromagnetic Brake Motor



Cable for Motor



Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VPRBT</b>	1 (3.3)	\$80.00
<b>CC020VPRBT</b>	2 (6.6)	\$93.00
<b>CC030VPRBT</b>	3 (9.8)	\$104.00
<b>CC050VPRBT</b>	5 (16.4)	\$127.00
<b>CC070VPRBT</b>	7 (23.0)	\$162.00
<b>CC100VPRBT</b>	10 (32.8)	\$212.00
<b>CC150VPRBT</b>	15 (49.2)	\$299.00

##### ● For Encoder Motor



Cable for Motor

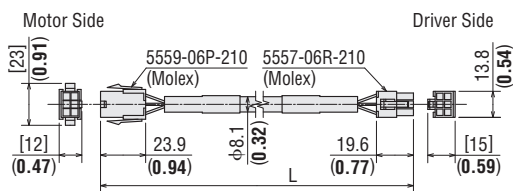


Cable for Encoder

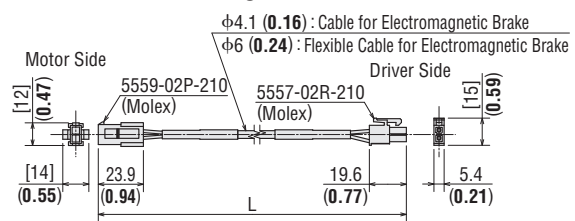
Product Name	Length L m (ft.)	List Price
<b>CC010VPRET</b>	1 (3.3)	\$92.00
<b>CC020VPRET</b>	2 (6.6)	\$109.00
<b>CC030VPRET</b>	3 (9.8)	\$122.00
<b>CC050VPRET</b>	5 (16.4)	\$155.00
<b>CC070VPRET</b>	7 (23.0)	\$197.00
<b>CC100VPRET</b>	10 (32.8)	\$259.00
<b>CC150VPRET</b>	15 (49.2)	\$364.00

### ● Dimensions Unit = mm (in.)

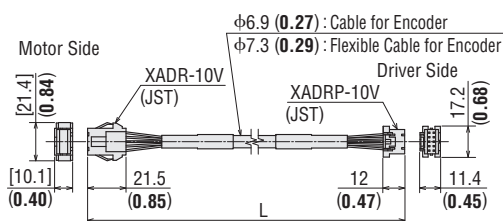
#### ◇ Cable for Motor



#### ◇ Cable for Electromagnetic Brake



#### ◇ Cable for Encoder



#### Note

● When using an extension cable set or a flexible extension cable set to connect with an included cable, keep the overall cable length at 20 m (65.6 ft.) or less.

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

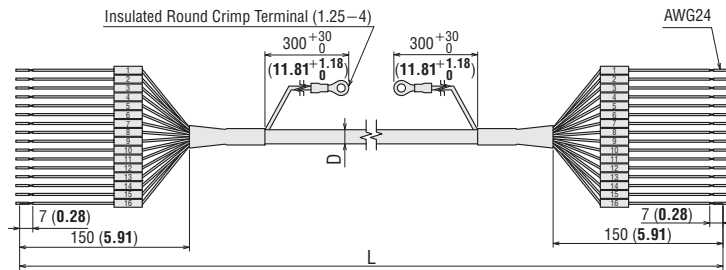
A purpose cable for connecting the driver and programmable controller.

● **Product Line**

Product Name	Length L m (ft.)	Number of Lead Wire Cores	Outer Diameter D mm (in.)	AWG	List Price
CC06D010B-1	1 (3.3)	6	φ5.4 (0.21)	24	\$19.00
CC06D020B-1	2 (6.6)				\$23.00
CC10D010B-1	1 (3.3)	10	φ6.7 (0.26)		\$21.00
CC10D020B-1	2 (6.6)				\$26.00
CC12D010B-1	1 (3.3)	12	φ7.5 (0.30)		\$24.00
CC12D020B-1	2 (6.6)				\$30.00
CC16D010B-1	1 (3.3)	16	φ7.5 (0.30)		\$25.00
CC16D020B-1	2 (6.6)				\$31.00



● **Dimensions** Unit = mm (in.)



● Illustration depicts 16 core wires.

### 4 RS-485 Communication Cable

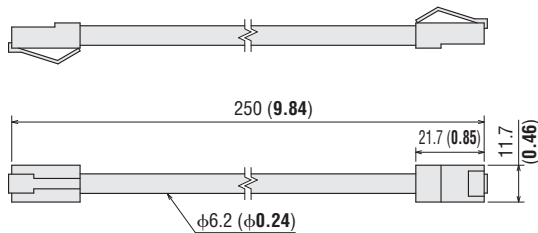
This cable is used to link drivers in multi-axis operations. It also connects the network converter to the driver.

● **Product Line**

Product Name	Length m (ft.)	Applicable Product	List Price
CC002-R54	0.25 (0.82)	Built-in Controller Type	\$35.00



● **Dimensions** Unit = mm (in.)



### 5 General-Purpose Cables for DC Power Supplies

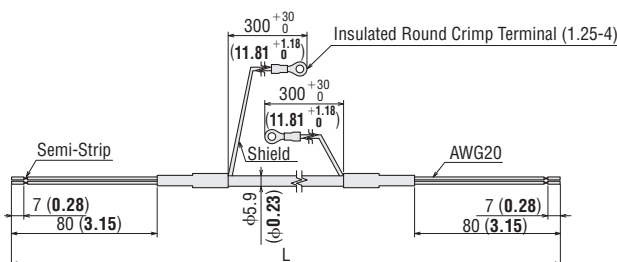
This cable is used to link drivers and DC power supplies.

● **Product Line**

Product Name	Length L m (ft.)	List Price
CC02D010-3	1 (3.3)	\$12.00
CC02D020-3	2 (6.6)	\$15.00
CC02D050-3	5 (16.4)	\$23.00



● **Dimensions** Unit = mm (in.)



Overview, Product Series

AC Input Motor & Driver

0.36°/Geared  
Q<sub>STEP</sub>  
AR

0.36°/Geared  
Q<sub>STEP</sub>  
Absolute  
AZ

0.72°/Geared  
RKII

DC Input Motor & Driver

0.36°/Geared  
Q<sub>STEP</sub>  
AR

0.36°/Geared  
Q<sub>STEP</sub>  
Absolute  
AZ

0.72°/0.36°  
/Geared  
CRK

1.8°/Geared  
RBK

1.8°/0.9°  
/Geared  
CMK

0.72°  
All-in-One  
PKA

Motor Only

1.8°/0.9°  
PKP/PK

Geared  
PKP

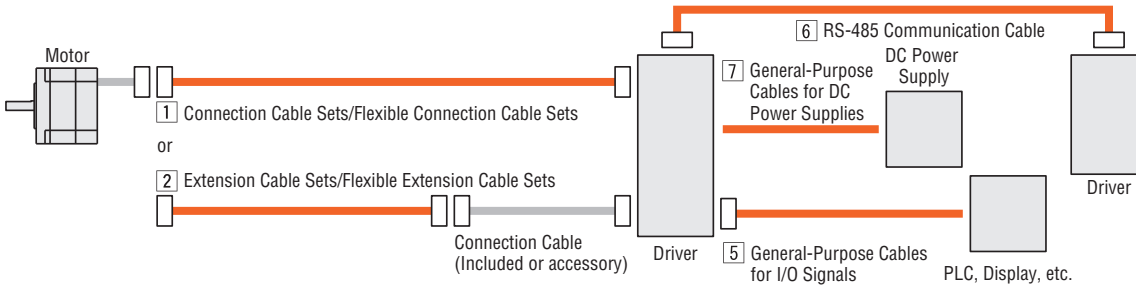
0.72°/0.36°  
PKP

Accessories

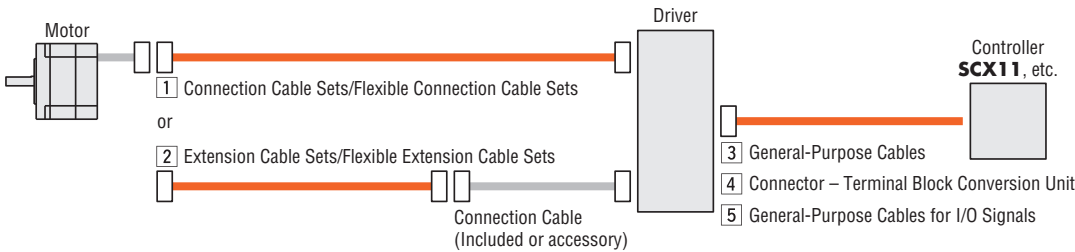
## Cables for AR Series DC Power Supply Input

### Cable System Configuration

#### ◇ Built-in Controller Type



#### ◇ Pulse Input Type



## 1 Connection Cable Sets

### Flexible Connection Cable Sets

These cables are used to connect the motor and the driver. Use the flexible connection cable in applications where the cable is bent and flexed repeatedly.

For electromagnetic brake motors, a cable for the motor and another cable for the electromagnetic brake come as a set.

### ● Product Line

[For AR24 and AR26]

#### ◇ Connection Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VA2F2</b>	1 (3.3)	\$61.00
<b>CC020VA2F2</b>	2 (6.6)	\$74.00
<b>CC030VA2F2</b>	3 (9.8)	\$88.00
<b>CC050VA2F2</b>	5 (16.4)	\$114.00
<b>CC070VA2F2</b>	7 (23.0)	\$140.00
<b>CC100VA2F2</b>	10 (32.8)	\$180.00
<b>CC150VA2F2</b>	15 (49.2)	\$246.00
<b>CC200VA2F2</b>	20 (65.6)	\$312.00
<b>CC300VA2F2</b>	30 (98.4)	\$444.00

#### ◇ Flexible Connection Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VA2R2</b>	1 (3.3)	\$100.00
<b>CC020VA2R2</b>	2 (6.6)	\$136.00
<b>CC030VA2R2</b>	3 (9.8)	\$172.00
<b>CC050VA2R2</b>	5 (16.4)	\$244.00
<b>CC070VA2R2</b>	7 (23.0)	\$316.00
<b>CC100VA2R2</b>	10 (32.8)	\$424.00
<b>CC150VA2R2</b>	15 (49.2)	\$604.00
<b>CC200VA2R2</b>	20 (65.6)	\$784.00
<b>CC300VA2R2</b>	30 (98.4)	\$1,144.00

[For **AR46, AR66, AR69, AR98**]

◇ Connection Cable Sets

• For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VAF2</b>	1 (3.3)	\$61.00
<b>CC020VAF2</b>	2 (6.6)	\$74.00
<b>CC030VAF2</b>	3 (9.8)	\$88.00
<b>CC050VAF2</b>	5 (16.4)	\$114.00
<b>CC070VAF2</b>	7 (23.0)	\$140.00
<b>CC100VAF2</b>	10 (32.8)	\$180.00
<b>CC150VAF2</b>	15 (49.2)	\$246.00
<b>CC200VAF2</b>	20 (65.6)	\$312.00
<b>CC300VAF2</b>	30 (98.4)	\$444.00

◇ Flexible Connection Cable Sets

• For Standard Motor

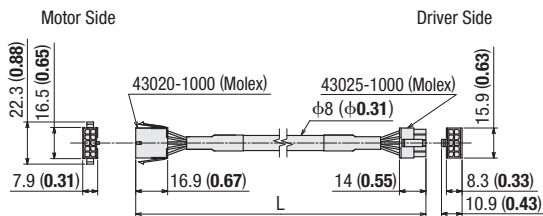


Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VAR2</b>	1 (3.3)	\$100.00
<b>CC020VAR2</b>	2 (6.6)	\$136.00
<b>CC030VAR2</b>	3 (9.8)	\$172.00
<b>CC050VAR2</b>	5 (16.4)	\$244.00
<b>CC070VAR2</b>	7 (23.0)	\$316.00
<b>CC100VAR2</b>	10 (32.8)	\$424.00
<b>CC150VAR2</b>	15 (49.2)	\$604.00
<b>CC200VAR2</b>	20 (65.6)	\$784.00
<b>CC300VAR2</b>	30 (98.4)	\$1,144.00

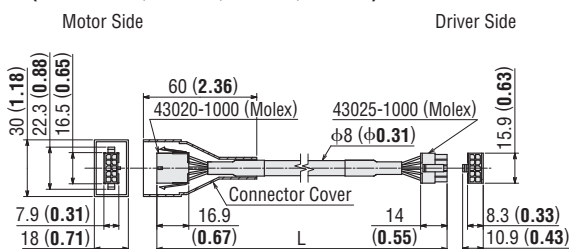
● Dimensions Unit = mm (in.)

◇ Cable for Motor (For **AR24, AR26**)



◇ Cable for Motor

(For **AR46, AR66, AR69, AR98**)



• For Electromagnetic Brake Motor



Cable for Motor



Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VAFB2</b>	1 (3.3)	\$80.00
<b>CC020VAFB2</b>	2 (6.6)	\$96.00
<b>CC030VAFB2</b>	3 (9.8)	\$112.00
<b>CC050VAFB2</b>	5 (16.4)	\$143.00
<b>CC070VAFB2</b>	7 (23.0)	\$174.00
<b>CC100VAFB2</b>	10 (32.8)	\$221.00
<b>CC150VAFB2</b>	15 (49.2)	\$299.00
<b>CC200VAFB2</b>	20 (65.6)	\$377.00
<b>CC300VAFB2</b>	30 (98.4)	\$533.00

• For Electromagnetic Brake Motor



Cable for Motor

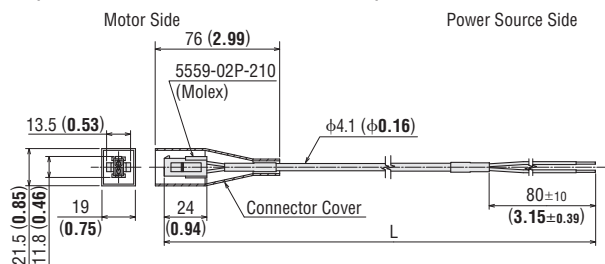


Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VARB2</b>	1 (3.3)	\$122.00
<b>CC020VARB2</b>	2 (6.6)	\$164.00
<b>CC030VARB2</b>	3 (9.8)	\$206.00
<b>CC050VARB2</b>	5 (16.4)	\$290.00
<b>CC070VARB2</b>	7 (23.0)	\$374.00
<b>CC100VARB2</b>	10 (32.8)	\$500.00
<b>CC150VARB2</b>	15 (49.2)	\$710.00
<b>CC200VARB2</b>	20 (65.6)	\$920.00
<b>CC300VARB2</b>	30 (98.4)	\$1,340.00

◇ Cable for Electromagnetic Brake

(For **AR46, AR66, AR69, AR98**)



Overview, Product Series

AC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/Geared RKII

DC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/0.36°/Geared CRK

1.8°/Geared RBK

1.8°/0.9°/Geared CMK

0.72° All-in-One PKA

Motor Only

1.8°/0.9° PKP/PK

Geared PKP

0.72°/0.36° PKP

Accessories

## 2 Extension Cable Set

### Flexible Extension Cable Set

These cables can be used to extend the connection cable included with the product. When using an extension, keep the overall cable length at 30 m (98.4 ft.) or less.

Use the flexible connection cable in applications where the cable is bent and flexed repeatedly.

For electromagnetic brake type motors, a cable for the motor and another cable for the electromagnetic brake come as a set.

#### ● Product Line

[For **AR24** and **AR26**]

#### ◇ Connection Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VA2F2</b>	1 (3.3)	\$61.00
<b>CC020VA2F2</b>	2 (6.6)	\$74.00
<b>CC030VA2F2</b>	3 (9.8)	\$88.00
<b>CC050VA2F2</b>	5 (16.4)	\$114.00
<b>CC070VA2F2</b>	7 (23.0)	\$140.00
<b>CC100VA2F2</b>	10 (32.8)	\$180.00
<b>CC150VA2F2</b>	15 (49.2)	\$246.00
<b>CC200VA2F2</b>	20 (65.6)	\$312.00

#### ◇ Flexible Connection Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VA2R2</b>	1 (3.3)	\$100.00
<b>CC020VA2R2</b>	2 (6.6)	\$136.00
<b>CC030VA2R2</b>	3 (9.8)	\$172.00
<b>CC050VA2R2</b>	5 (16.4)	\$244.00
<b>CC070VA2R2</b>	7 (23.0)	\$316.00
<b>CC100VA2R2</b>	10 (32.8)	\$424.00
<b>CC150VA2R2</b>	15 (49.2)	\$604.00
<b>CC200VA2R2</b>	20 (65.6)	\$784.00

[For **AR46**, **AR66**, **AR69**, **AR98**]

#### ◇ Extension Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VAF2</b>	1 (3.3)	\$67.00
<b>CC020VAF2</b>	2 (6.6)	\$80.00
<b>CC030VAF2</b>	3 (9.8)	\$94.00
<b>CC050VAF2</b>	5 (16.4)	\$120.00
<b>CC070VAF2</b>	7 (23.0)	\$146.00
<b>CC100VAF2</b>	10 (32.8)	\$186.00
<b>CC150VAF2</b>	15 (49.2)	\$252.00
<b>CC200VAF2</b>	20 (65.6)	\$318.00

##### ● For Electromagnetic Brake Motor



Cable for Motor



Cable for Electromagnetic Brake

Product Name	Length L m (ft.)	List Price
<b>CC010VAFB2</b>	1 (3.3)	\$91.00
<b>CC020VAFB2</b>	2 (6.6)	\$107.00
<b>CC030VAFB2</b>	3 (9.8)	\$122.00
<b>CC050VAFB2</b>	5 (16.4)	\$154.00
<b>CC070VAFB2</b>	7 (23.0)	\$185.00
<b>CC100VAFB2</b>	10 (32.8)	\$232.00
<b>CC150VAFB2</b>	15 (49.2)	\$310.00
<b>CC200VAFB2</b>	20 (65.6)	\$388.00

#### ◇ Flexible Extension Cable Sets

##### ● For Standard Motor



Cable for Motor

Product Name	Length L m (ft.)	List Price
<b>CC010VAR2</b>	1 (3.3)	\$106.00
<b>CC020VAR2</b>	2 (6.6)	\$142.00
<b>CC030VAR2</b>	3 (9.8)	\$178.00
<b>CC050VAR2</b>	5 (16.4)	\$250.00
<b>CC070VAR2</b>	7 (23.0)	\$322.00
<b>CC100VAR2</b>	10 (32.8)	\$430.00
<b>CC150VAR2</b>	15 (49.2)	\$610.00
<b>CC200VAR2</b>	20 (65.6)	\$790.00

##### ● For Electromagnetic Brake Motor



Cable for Motor

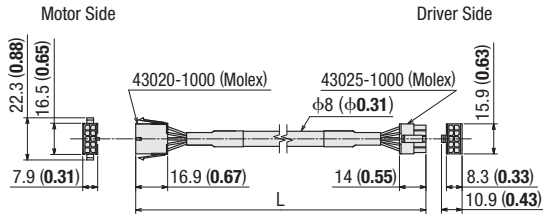


Cable for Electromagnetic Brake

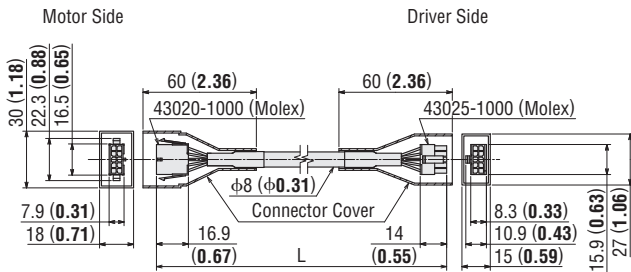
Product Name	Length L m (ft.)	List Price
<b>CC010VARB2</b>	1 (3.3)	\$133.00
<b>CC020VARB2</b>	2 (6.6)	\$175.00
<b>CC030VARB2</b>	3 (9.8)	\$217.00
<b>CC050VARB2</b>	5 (16.4)	\$301.00
<b>CC070VARB2</b>	7 (23.0)	\$385.00
<b>CC100VARB2</b>	10 (32.8)	\$511.00
<b>CC150VARB2</b>	15 (49.2)	\$721.00
<b>CC200VARB2</b>	20 (65.6)	\$931.00

● **Dimensions** Unit = mm (in.)

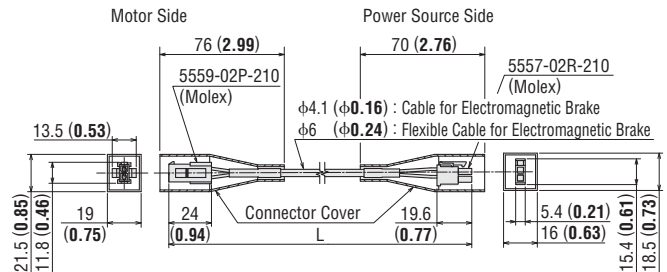
◇ **Cable for Motor**  
(For **AR24, AR26**)



◇ **Cable for Motor**  
(For **AR46, AR66, AR69, AR98**)



◇ **Cable for Electromagnetic Brake**  
(For **AR46, AR66, AR69, AR98**)



**Note**

- Keep the total cable length below 30 m (98.4 ft.) when connecting a cable included in the **AR** Series and an extension cable or a flexible extension cable.
- Notes on the Use of a Flexible Cable → Page A-270

### 3 General-Purpose Cables

These shielded cables have a half-pitch connector at one end of the cable for easy connection to the driver.

At the other end, the laminated lead wires are arranged in the 1.27 mm (0.05 in.) pitch, which are convenient for crimp connectors. Both ends of the cable are equipped with ground wires for easy grounding.

2 types are available: the straight type and right angle type.

**Note**

- Note that as the length of the pulse line between the driver and controller increases, the maximum transmission frequency decreases.
- Install a connector that matches the connection type of the controller you are using to the other end of the cable.



● **Product Line**

◇ **Straight Type**

Product Name	Applicable Drivers	Length L m (ft.)	List Price
<b>CC36D1E</b>	For Pulse Input Type CN5 (36 pins)	1 (3.3)	\$112.00
<b>CC36D2E</b>		2 (6.6)	\$120.00

◇ **Right Angle Type**

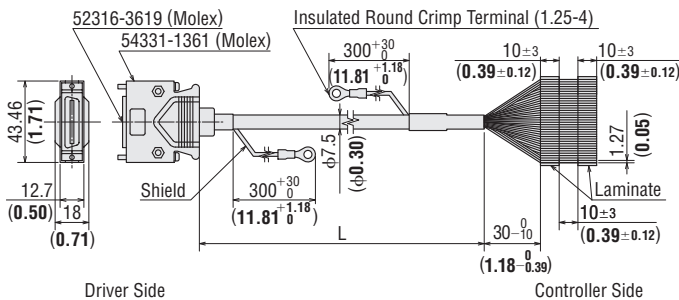
Product Name	Applicable Drivers	Length L m (ft.)	List Price
<b>CC36D1AE</b>	For Pulse Input Type CN5 (36 pins)	1 (3.3)	\$112.00
<b>CC36D2AE</b>		2 (6.6)	\$120.00

● **Dimensions** Unit = mm (in.)

◇ **Straight Type**

**CC36D1E, CC36D2E**

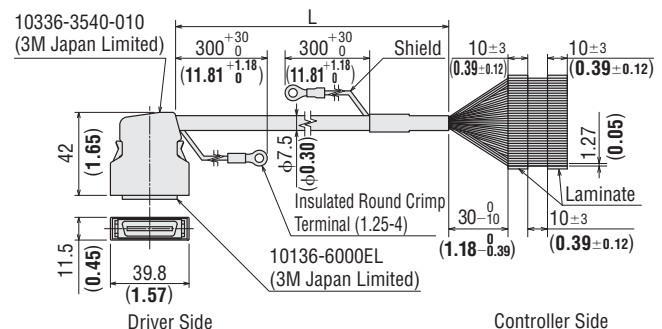
Conductor: AWG28



◇ **Right Angle Type**

**CC36D1AE, CC36D2AE**

Conductor: AWG28



### 4 Connector – Terminal Block Conversion Unit

These are conversion units that can connect a driver to a programmable controller or a sensor using a terminal block.

- A shielded cable is used. Easy grounding with ground wires at both ends of the cable.
- Includes a signal name plate for easy, one-glance identification of driver signal names.
- DIN rail installable
- Applicable terminal: Fork terminal
- Cable length: 1 m (3.3 ft.)



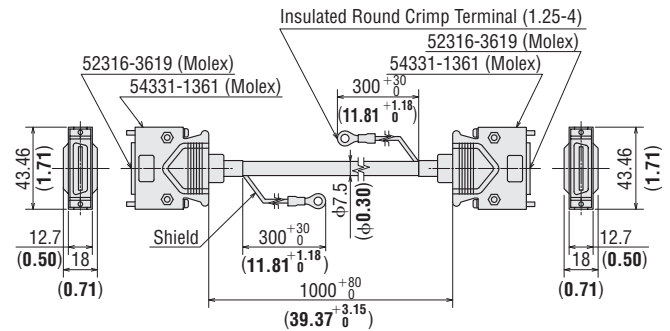
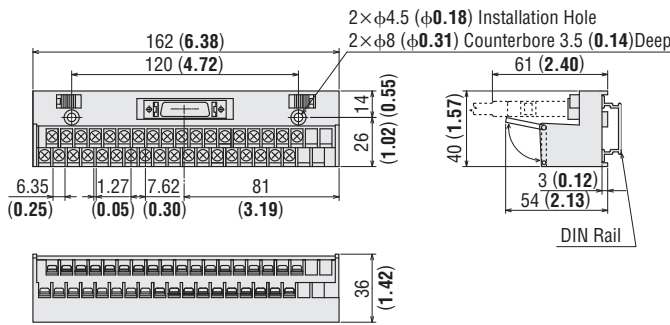
● Product Line

Product Line	Product Name	Applicable Drivers	Length L m (ft.)	List Price
36 Poles	<b>CC36T10E</b>	For Pulse Input Type CN5 (36 pins)	1 (3.3)	\$284.00

● Dimensions Unit = mm (in.)

**CC36T10E**

2D CAD B991



Terminal Block Pin No.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36

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

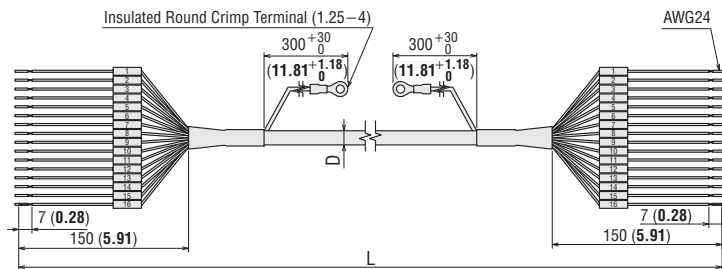
A purpose cable for connecting the driver and programmable controller.

● Product Line

Product Name	Length L m (ft.)	Number of Lead Wire Cores	Outer Diameter D mm (in.)	AWG	List Price
<b>CC06D010B-1</b>	1 (3.3)	6	φ5.4 (0.21)	24	\$19.00
<b>CC06D020B-1</b>	2 (6.6)				\$23.00
<b>CC10D010B-1</b>	1 (3.3)	10	φ6.7 (0.26)		\$21.00
<b>CC10D020B-1</b>	2 (6.6)				\$26.00
<b>CC12D010B-1</b>	1 (3.3)	12	φ7.5 (0.30)		\$24.00
<b>CC12D020B-1</b>	2 (6.6)				\$30.00
<b>CC16D010B-1</b>	1 (3.3)	16	φ7.5 (0.30)	\$25.00	
<b>CC16D020B-1</b>	2 (6.6)			\$31.00	



● Dimensions Unit = mm (in.)



● Illustration depicts 16 core wires.



## 6 RS-485 Communication Cable

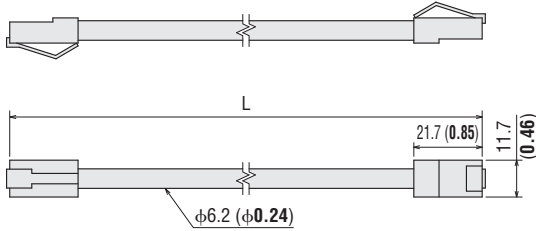
This cable is used to link drivers in multi-axis operations. It also connects the network converter to the driver.

### Product Line

Product Name	Length L m (ft.)	Applicable Product	List Price
<b>CC001-R54</b>	0.1 (0.3)	Built-in Controller Type	\$29.00
<b>CC002-R54</b>	0.25 (0.82)		\$35.00



### Dimensions Unit = mm (in.)



## 7 General-Purpose Cables for DC Power Supplies

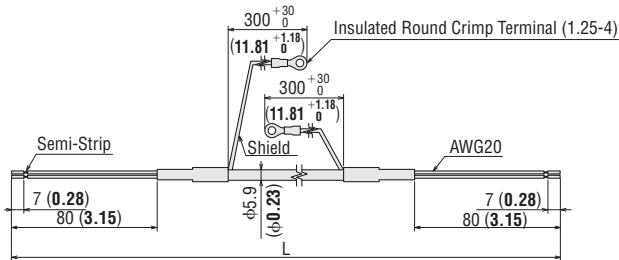
This cable is used to link drivers and DC power supplies.

### Product Line

Product Name	Length L m (ft.)	List Price
<b>CC02D010-3</b>	1 (3.3)	\$12.00
<b>CC02D020-3</b>	2 (6.6)	\$15.00
<b>CC02D050-3</b>	5 (16.4)	\$23.00



### Dimensions Unit = mm (in.)



Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/Geared  
RKII

DC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/0.36°  
/Geared  
CRK

1.8°/Geared  
RBK

1.8°/0.9°  
/Geared  
CMK

0.72°  
All-in-One  
PKA

Motor Only

1.8°/0.9°  
PKP/PK

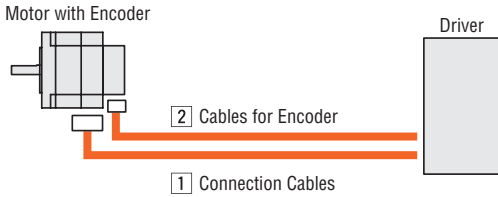
Geared  
PKP

0.72°/0.36°  
PKP

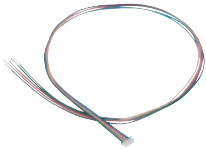
Accessories

## Cables for 1.8°/0.9° Stepper Motors

### Cable System Configuration



### 1 Connection Cables



Lead wire type connection cables with a connector crimped, convenient for connector-coupled motors, are available. They eliminate the need for assembling the lead wire and connector. A 0.6 m (2 ft.) connection cable is included with a connector-coupled motor.

### 2 Cables for Encoder

#### Product Line

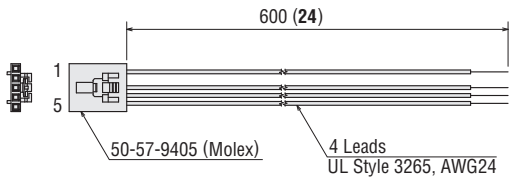
Product Name	Applicable Motor	Length m (ft.)	AWG	List Price
<b>LCR04060A</b>	PKP23□/PKP24□/PKP26□/PK29□ with TTL Type, 2-channel Encoder	0.6 (2)	24	\$5.00
<b>LCR05060A</b>	PKP23□/PKP24□/PKP26□/PK29□ with TTL Type, 3-channel Encoder			\$5.00

● The applicable motor products are listed such that the motor can be determined.

#### Dimensions Unit = mm (in.)

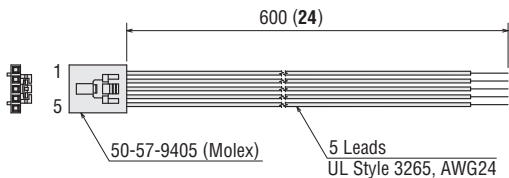
##### ◇ 2-Channel Encoder Cable

###### LCR04060A



##### ◇ 3-Channel Encoder Cable

###### LCR05060A



#### Product Line

Product Name	Applicable Motor	Length m (ft.)	Conductor AWG	List Price
<b>LC2B06A</b>	PKP223D, PKP224D, PKP225D	0.6 (2)	24	\$5.00
<b>LC2B06B</b>	PKP233D, PKP235D PKP243D, PKP244D PKP245D, PKP246D	0.6 (2)		\$5.00
<b>LC2B06C</b>	PKP264D, PKP266D, PKP268D	0.6 (2)	22	\$5.00

● The applicable motor products are listed such that the motor can be determined.



# Flexible Couplings

## MCS Couplings

### Features

- No backlash.
- High strength (usable for geared motor) is now available.
- A spider (material: polyurethane) controls the vibration generated by the motor.



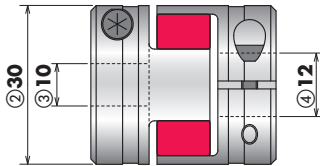
### Product Number

**MCS 30 10 12**

- ①      ②      ③      ④

①	MCS Coupling
②	Outer Diameter of Coupling
③	Inner Diameter d1 (Smaller inner diameter) [F04 represents $\phi 6.35$ mm ( $\phi 0.25$ in.)]
④	Inner Diameter d2 (Larger inner diameter) [F04 represents $\phi 6.35$ mm ( $\phi 0.25$ in.)]

- For inner diameter d1, the smaller of the motor shaft diameter or the driven shaft diameter is entered.
- For inner diameter d2, the larger of the motor shaft diameter or the driven shaft diameter is entered.



### Product Line

Product Name	List Price
MCS14□	\$46.00
MCS20□	\$50.00
MCS30□	\$71.00
MCS40□	\$104.00
MCS55□	\$134.00
MCS65□	\$204.00

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

### Selecting a Coupling

The following examples explain the procedures in selecting a coupling by driven shaft diameter and motor and driver package name. Selections in the coupling selection table refer to the torque and shaft diameter. Check the presence or absence of the key slot in the dimensions.

Example: Product Name: **AR46AC-N10-3** Driven Shaft Diameter:  $\phi 12$  mm ( $\phi 0.4724$  in.)

1. The coupling type that matches **AR46AC-N10-3** from the coupling selection table is **MCS30**.
2. The inner diameter of the coupling according to the motor shaft will be **10** [ $\phi 10$  mm ( $\phi 0.3937$  in.)], and will be **12** [ $\phi 12$  mm ( $\phi 0.4724$  in.)] according to the driven shaft diameter.
3. In the coupling product name, smaller inner diameters come before larger ones, thus the coupling product name will be **MCS301012**.

- When the inner diameter is  $\phi 6.35$  mm ( $\phi 0.2500$  in.), the number is **F04**. For example, when the coupling type is **MCS30**, the motor shaft diameter is **08** [ $\phi 8$  mm ( $\phi 0.3150$  in.)], and the driven shaft diameter is **F04** [ $\phi 6.35$  mm ( $\phi 0.2500$  in.)], the coupling product name will be **MCS30F0408**.

### Coupling Selection Table

#### Brushless Motors

Applicable Product	Coupling Type	Motor Shaft Diameter mm (in.)		Driven Shaft Diameter mm (in.)										
				5	6	F04	8	10	12	14	15	16		
				$\phi 5$ ( $\phi 0.1969$ )	$\phi 6$ ( $\phi 0.2362$ )	$\phi 6.35$ ( $\phi 0.2500$ )	$\phi 8$ ( $\phi 0.3150$ )	$\phi 10$ ( $\phi 0.3937$ )	$\phi 12$ ( $\phi 0.4724$ )	$\phi 14$ ( $\phi 0.5512$ )	$\phi 15$ ( $\phi 0.5906$ )	$\phi 16$ ( $\phi 0.6299$ )		
<b>BXS230</b>	<b>MCS20</b>	<b>8</b>	$\phi 8$ ( $\phi 0.3150$ )	●	●	●	●	●						
<b>BXS460</b>	<b>MCS20</b>	<b>10</b>	$\phi 10$ ( $\phi 0.3937$ )	●	●	●	●	●						
<b>BXS5120</b>	<b>MCS30</b>	<b>12</b>	$\phi 12$ ( $\phi 0.4724$ )		●		●	●	●	●				
<b>BXS6200, BXS6400</b>	<b>MCS30</b>	<b>14</b>	$\phi 14$ ( $\phi 0.5512$ )		●		●	●	●	●	●	●	●	●

- The applicable motor products are listed such that the model can be determined.

Overview, Product Series

AC Input Motor & Driver

0.36°/Geared **Q<sub>STEP</sub> AR**

0.36°/Geared **Q<sub>STEP</sub> Absolute AZ**

0.72°/Geared **RKII**

DC Input Motor & Driver

0.36°/Geared **Q<sub>STEP</sub> AR**

0.36°/Geared **Q<sub>STEP</sub> Absolute AZ**

0.72°/0.36°/Geared **CRK**

1.8°/Geared **RBK**

1.8°/0.9°/Geared **CMK**

0.72° All-in-One **PKA**

Motor Only

1.8°/0.9° **PKP/PK**

Geared **PKP**

0.72°/0.36° **PKP**

Accessories

● AR Series

Applicable Product				Coupling Type	Motor Shaft Diameter mm ( in. )	Driven Shaft Diameter mm ( in. )															
Type	Motor Frame Size	Product Name	Gear Ratio			Motor Shaft Diameter mm ( in. )	04	05	06	F04	08	10	12	14	15	16	18	20	22	24	25
							φ4 (φ0.1575)	φ5 (φ0.1969)	φ6 (φ0.2362)	φ6.35 (φ0.2500)	φ8 (φ0.3150)	φ10 (φ0.3937)	φ12 (φ0.4724)	φ14 (φ0.5512)	φ15 (φ0.5906)	φ16 (φ0.6299)	φ18 (φ0.7087)	φ20 (φ0.7874)	φ22 (φ0.8661)	φ24 (φ0.9445)	φ25 (φ0.9843)
Standard Type	28 mm (1.10 in.)	<b>AR24</b> <b>AR26</b>	—	MCS14 05	φ5 (φ0.1969)	●	●	●													
	42 mm (1.65 in.)	<b>AR46</b>	—	MCS14 06	φ6 (φ0.2362)	●	●	●													
	60 mm (2.36 in.)	<b>AR66</b> <b>AR69</b>	—	MCS30 10	φ10 (φ0.3937)			●	●	●	●	●	●	●	●						
	85 mm (3.35 in.)	<b>AR98</b> <b>AR911</b>	—	MCS30 14	φ14 (φ0.5512)			●	●	●	●	●	●	●							
TH Geared Type	28 mm (1.10 in.)	<b>AR24-T</b> □	7.2, 10, 20, 30	MCS14 05	φ5 (φ0.1969)	●	●	●													
	42 mm (1.65 in.)	<b>AR46-T</b> □	3.6	MCS14 06	φ6 (φ0.2362)	●	●	●													
			7.2, 10	MCS20 06	φ6 (φ0.2362)		●	●	●	●	●										
			20, 30	MCS30 06	φ6 (φ0.2362)			●	●	●	●	●	●								
	60 mm (2.36 in.)	<b>AR66-T</b> □	3.6, 7.2, 10	MCS30 08	φ8 (φ0.3150)			●	●	●	●	●	●	●							
			20, 30	MCS40 08	φ8 (φ0.3150)				●	●	●	●	●	●	●	●	●				
90 mm (3.54 in.)	<b>AR98-T</b> □	3.6, 7.2, 10, 20, 30	MCS55 12	φ12 (φ0.4724)						●	●	●	●	●	●	●	●	●			
PS Geared Type	28 mm (1.10 in.)	<b>AR24-PS</b> □	5, 7.2, 10	MCS20 08	φ8 (φ0.3150)		●	●	●	●											
	42 mm (1.65 in.)	<b>AR46-PS</b> □	5	MCS20 10	φ10 (φ0.3937)		●	●	●	●											
			7.2, 10, 25, 36, 50	MCS30 10	φ10 (φ0.3937)			●	●	●	●	●	●								
	60 mm (2.36 in.)	<b>AR66-PS</b> □	5, 7.2	MCS40 12	φ12 (φ0.4724)				●	●	●	●	●	●	●	●	●				
			10, 25, 36, 50	MCS55 12	φ12 (φ0.4724)						●	●	●	●	●	●	●	●	●	●	
	90 mm (3.54 in.)	<b>AR98-PS</b> □	5, 7.2	MCS55 18	φ18 (φ0.7087)						●	●	●	●	●	●	●	●	●	●	
10, 25, 36, 50			MCS65 18	φ18 (φ0.7087)									●	●	●	●	●	●	●	●	
PN Geared Type	28 mm (1.10 in.)	<b>AR24-N</b> □	5, 7.2, 10	MCS20 08	φ8 (φ0.3150)		●	●	●	●											
	42 mm (1.65 in.)	<b>AR46-N</b> □	5	MCS20 10	φ10 (φ0.3937)		●	●	●	●											
			7.2, 10	MCS30 10	φ10 (φ0.3937)			●	●	●	●	●	●								
	60 mm (2.36 in.)	<b>AR66-N</b> □	5, 7.2	MCS40 12	φ12 (φ0.4724)				●	●	●	●	●	●	●	●	●				
			10, 25, 36, 50	MCS55 12	φ12 (φ0.4724)						●	●	●	●	●	●	●	●	●	●	
	90 mm (3.54 in.)	<b>AR98-N</b> □	5, 7.2	MCS55 18	φ18 (φ0.7087)						●	●	●	●	●	●	●	●	●	●	
10, 25, 36, 50			MCS65 18	φ18 (φ0.7087)									●	●	●	●	●	●	●	●	
Harmonic Geared Type	30 mm (1.18 in.)	<b>AR24-H</b> □	50, 100	MCS30 08	φ8 (φ0.3150)			●	●	●	●	●	●	●							
	42 mm (1.65 in.)	<b>AR46-H</b> □	50, 100	MCS40 10	φ10 (φ0.3937)				●	●	●	●	●	●	●	●					
	60 mm (2.36 in.)	<b>AR66-H</b> □	50, 100	MCS55 12	φ12 (φ0.4724)						●	●	●	●	●	●	●	●	●		
	90 mm (3.54 in.)	<b>AR98-H</b> □	50, 100	MCS65 18	φ18 (φ0.7087)									●	●	●	●	●	●	●	

● A number indicating the gear ratio is entered where the box □ is located within the product name.  
 ● The applicable motor products are listed such that the model can be determined.

● **RKII Series**

Type	Applicable Product			Coupling Type	Motor Shaft Diameter mm ( in. )	Driven Shaft Diameter mm ( in. )															
	Motor Frame Size	Product Name	Gear Ratio			04	05	06	F04	08	10	12	14	15	16	18	20	22	24	25	
																					φ4 (φ0.1575)
Standard Type	42 mm (1.65 in.)	RKS543 RKS544 RKS545	—	MCS14	06	φ6 (φ0.2362)	●	●	●												
		60 mm (2.36 in.)	RKS564 RKS566	—	MCS20	10	φ10 (φ0.3937)		●	●	●	●	●								
	RKS569		—	MCS30	10	φ10 (φ0.3937)			●	●	●	●	●	●							
	85 mm (3.35 in.)	RKS596	—	MCS30	14	φ14 (φ0.5512)			●	●	●	●	●	●							
		RKS599 RKS5913	—	MCS55	14	φ14 (φ0.5512)				●	●	●	●	●	●	●	●	●	●	●	
	TS Geared Type	42 mm (1.65 in.)	RKS543-TS□	3.6	MCS14	06	φ6 (φ0.2362)	●	●	●											
7.2, 10				MCS20	06	φ6 (φ0.2362)		●	●	●	●	●									
20, 30				MCS30	06	φ6 (φ0.2362)			●	●	●	●	●	●	●						
60 mm (2.36 in.)		RKS564-TS□	3.6, 7.2	MCS30	10	φ10 (φ0.3937)			●	●	●	●	●	●							
			10, 20, 30	MCS40	10	φ10 (φ0.3937)				●	●	●	●	●	●	●	●	●	●		
90 mm (3.54 in.)		RKS596-TS□	3.6, 7.2, 10	MCS55	18	φ18 (φ0.7087)					●	●	●	●	●	●	●	●	●		
			20, 30	MCS65	18	φ18 (φ0.7087)							●	●	●	●	●	●	●	●	
PS Geared Type		42 mm (1.65 in.)	RKS545-PS□	5	MCS20	10	φ10 (φ0.3937)		●	●	●	●	●								
				7.2, 10	MCS30	10	φ10 (φ0.3937)			●	●	●	●	●	●						
		60 mm (2.36 in.)	RKS566-PS□	25, 36, 50	MCS40	10	φ10 (φ0.3937)					●	●	●	●	●	●	●	●	●	
				5, 7.2	MCS40	12	φ12 (φ0.4724)						●	●	●	●	●	●	●	●	●
	10			MCS55	12	φ12 (φ0.4724)							●	●	●	●	●	●	●	●	
	90 mm (3.54 in.)	RKS564-PS□	25, 36, 50	MCS55	12	φ12 (φ0.4724)						●	●	●	●	●	●	●	●	●	
5			MCS55	18	φ18 (φ0.7087)							●	●	●	●	●	●	●	●		
90 mm (3.54 in.)	RKS599-PS□	7.2, 10	MCS65	18	φ18 (φ0.7087)								●	●	●	●	●	●	●		
		25, 36, 50	MCS65	18	φ18 (φ0.7087)									●	●	●	●	●	●	●	
Harmonic Geared Type	42 mm (1.65 in.)	RKS543-HS□		MCS40	10	φ10 (φ0.3937)			●	●	●	●	●	●	●	●					
	60 mm (2.36 in.)	RKS564-HS□	50, 100	MCS55	15	φ15 (φ0.5906)					●	●	●								
	90 mm (3.54 in.)	RKS596-HS□		MCS65	22	φ22 (φ0.8661)								●	●						

- A number indicating the gear ratio is entered where the box □ is located within the product name.
- The applicable motor products are listed such that the model can be determined.

Overview, Product Series

AC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/Geared RKII

DC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/0.36°/Geared CRK

1.8°/Geared RBK

1.8°/0.9°/Geared CMK

0.72° All-in-One PKA

Motor Only

1.8°/0.9° PKP/PK

Geared PKP

0.72°/0.36° PKP

Accessories

● Motor Only PKP Series

Applicable Product				Coupling Type	Motor Shaft Diameter mm (in.)	Driven Shaft Diameter mm (in.)															
Type	Motor Frame Size	Product Name	Gear Ratio			Motor Shaft Diameter mm (in.)	04	05	06	F04	08	10	12	14	15	16	18	20	22	24	25
							φ4 (φ0.1575)	φ5 (φ0.1969)	φ6 (φ0.2362)	φ6.35 (φ0.2500)	φ8 (φ0.3150)	φ10 (φ0.3937)	φ12 (φ0.4724)	φ14 (φ0.5512)	φ15 (φ0.5906)	φ16 (φ0.6299)	φ18 (φ0.7087)	φ20 (φ0.7874)	φ22 (φ0.8661)	φ24 (φ0.9445)	φ25 (φ0.9843)
High Resolution Type	42 mm (1.65 in.)	PKP243 PKP244	—	MCS14	05	φ5 (φ0.1969)	●	●	●												
	56.4 mm (2.22 in.)	PKP264	—	MCS20				●	●	●											
		PKP266 PKP268	—	MCS30	F04	φ6.35 (φ0.2500)			●	●	●										
Standard Type	20 mm (0.79 in.)	PKP213 PKP214	—	MCS14	04	φ4 (φ0.1575)	●	●	●												
	28 mm (1.10 in.)	PKP223 PKP224 PKP225	—	MCS14	05	φ5 (φ0.1969)	●	●	●												
	35 mm (1.38 in.)	PKP233 PKP235	—	MCS14	05	φ5 (φ0.1969)	●	●	●												
	42 mm (1.65 in.)	PKP243 PKP244	—	MCS14	05	φ5 (φ0.1969)	●	●	●												
		PKP245 PKP246	—	MCS20	05	φ5 (φ0.1969)		●	●	●	●	●									
	56.4 mm (2.22 in.)	PKP264	—	MCS20	F04	φ6.35 (φ0.2500)		●	●	●	●	●									
		PKP266 PKP268	—	MCS30	F04	φ6.35 (φ0.2500)			●	●	●	●									
SH Geared Type	28 mm (1.10 in.)	PKP223-SG□	7.2, 9, 10, 18, 36	MCS14	05	φ5 (φ0.1969)	●	●	●												
	42 mm (1.65 in.)	PKP243-SG□	3.6, 7.2	MCS14	05	φ5 (φ0.1969)	●	●	●												
			9, 10, 18, 36, 50, 100	MCS20	05	φ5 (φ0.1969)		●	●	●	●	●									
	60 mm (2.36 in.)	PKP264-SG□	3.6, 7.2, 9, 10	MCS30	08	φ8 (φ0.3150)			●	●	●	●	●	●	●						
		18, 36, 50, 100	MCS40	08	φ8 (φ0.3150)				●	●	●	●	●	●	●	●					

- A number indicating the gear ratio is entered where the box □ is located within the product name.
- The applicable motor products are listed such that the model can be determined.

## Specifications

Product Name	Dimensions				Key Slot Tolerance b/t	Normal Torque*	Mass	Inertia	Static Torsion Spring Constant	Permissible Eccentricity	Permissible Declination	Permissible End Play
	Outer Diameter	Length	Shaft Hole Diameter d1	Shaft Hole Diameter d2								
	mm (in.)	mm (in.)	mm (in.)	mm (in.)	mm (in.)	N-m (lb-in)	g (oz.)	kg·m <sup>2</sup> (oz·in <sup>2</sup> )	N·m/rad (lb·in/rad)	mm (in.)	deg	mm (in.)
<b>MCS140404</b>	14 (0.55)	22 (0.87)	$4^{+0.012}_0$	$4^{+0.012}_0$	-	2.0 (17.7) [0.5 (4.4)]	6.7 (0.23)	$0.184 \times 10^{-6}$ (0.01)	22.9 (200)	0.06 (0.0024)	0.9	$+0.6_0$ ( $+0.024_0$ )
<b>MCS140405</b>			$4^{+0.012}_0$	$5^{+0.012}_0$								
<b>MCS140406</b>			$4^{+0.012}_0$	$6^{+0.012}_0$								
<b>MCS140505</b>			$5^{+0.012}_0$	$5^{+0.012}_0$								
<b>MCS140506</b>			$5^{+0.012}_0$	$6^{+0.012}_0$								
<b>MCS140606</b>			$6^{+0.012}_0$	$6^{+0.012}_0$								
<b>MCS200505</b>	20 (0.79)	30 (1.18)	$5^{+0.012}_0$	$5^{+0.012}_0$	-	5.0 (44) [1.2 (10.6)]	19.8 (0.69)	$1.059 \times 10^{-6}$ (0.06)	51.6 (450)	0.08 (0.0031)	0.9	$+0.8_0$ ( $+0.031_0$ )
<b>MCS200506</b>			$5^{+0.012}_0$	$6^{+0.012}_0$								
<b>MCS2005F04</b>			$5^{+0.012}_0$	$6.35^{+0.015}_0$								
<b>MCS200508</b>			$5^{+0.012}_0$	$8^{+0.015}_0$								
<b>MCS200510</b>			$5^{+0.012}_0$	$10^{+0.015}_0$								
<b>MCS200606</b>			$6^{+0.012}_0$	$6^{+0.012}_0$								
<b>MCS2006F04</b>			$6^{+0.012}_0$	$6.35^{+0.015}_0$								
<b>MCS200608</b>			$6^{+0.012}_0$	$8^{+0.015}_0$								
<b>MCS200610</b>			$6^{+0.012}_0$	$10^{+0.015}_0$								
<b>MCS20F04F04</b>			$6.35^{+0.015}_0$	$6.35^{+0.015}_0$								
<b>MCS20F0408</b>			$6.35^{+0.015}_0$	$8^{+0.015}_0$								
<b>MCS20F0410</b>			$6.35^{+0.015}_0$	$10^{+0.015}_0$								
<b>MCS200808</b>			$8^{+0.015}_0$	$8^{+0.015}_0$								
<b>MCS200810</b>			$8^{+0.015}_0$	$10^{+0.015}_0$								
<b>MCS201010</b>	$10^{+0.015}_0$	$10^{+0.015}_0$										
<b>MCS300606</b>	30 (1.18)	35 (1.38)	$6^{+0.012}_0$	$6^{+0.012}_0$	-	12.5 (110) [3.0 (26)]	44.6 (1.57)	$6.057 \times 10^{-6}$ (0.33)	171.9 (1520)	0.09 (0.0035)	0.9	$+1.0_0$ ( $+0.039_0$ )
<b>MCS3006F04</b>			$6^{+0.012}_0$	$6.35^{+0.015}_0$								
<b>MCS300608</b>			$6^{+0.012}_0$	$8^{+0.015}_0$								
<b>MCS300610</b>			$6^{+0.012}_0$	$10^{+0.015}_0$								
<b>MCS300612</b>			$6^{+0.012}_0$	$12^{+0.018}_0$								
<b>MCS300614</b>			$6^{+0.012}_0$	$14^{+0.018}_0$								
<b>MCS300615</b>			$6^{+0.012}_0$	$15^{+0.018}_0$								
<b>MCS300616</b>			$6^{+0.012}_0$	$16^{+0.018}_0$								
<b>MCS30F04F04</b>			$6.35^{+0.015}_0$	$6.35^{+0.015}_0$								
<b>MCS30F0408</b>			$6.35^{+0.015}_0$	$8^{+0.015}_0$								
<b>MCS30F0410</b>			$6.35^{+0.015}_0$	$10^{+0.015}_0$								

\*The normal torque indicated in [ ] is an assumed value at a safety factor (4.2 times) according to the load.

Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>STEP</sub>**  
**AR**

0.36°/Geared  
**Q<sub>STEP</sub>**  
Absolute  
**AZ**

0.72°/Geared  
**RKII**

DC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>STEP</sub>**  
**AR**

0.36°/Geared  
**Q<sub>STEP</sub>**  
Absolute  
**AZ**

0.72°/0.36°  
/Geared  
**CRK**

1.8°/Geared  
**RBK**

1.8°/0.9°  
/Geared  
**CMK**

0.72°  
All-in-One  
**PKA**

Motor Only

1.8°/0.9°  
**PKP/PK**

Geared  
**PKP**

0.72°/0.36°  
**PKP**

Accessories

Product Name	Dimensions				Key Slot Tolerance b/t	Normal Torque*	Mass	Inertia	Static Torsion Spring Constant	Permissible Eccentricity	Permissible Declination	Permissible End Play
	Outer Diameter	Length	Shaft Hole Diameter d1	Shaft Hole Diameter d2								
MCS300808	30 (1.18)	35 (1.38)	8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	-	12.5 (110) [3.0 (26)]	44.6 (1.57)	6.057×10 <sup>-6</sup> (0.33)	171.9 (1520)	0.09 (0.0035)	0.9	+1.0 0 (+0.039 0)
MCS300810			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )								
MCS300812			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> <sub>0</sub> )								
MCS300814			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )								
MCS300815			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> <sub>0</sub> )								
MCS300816			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301010			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )								
MCS301012			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301014			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301015			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301016			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301212			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> <sub>0</sub> )	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301214			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> <sub>0</sub> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301414			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301415			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )	15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> <sub>0</sub> )								
MCS301416			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> <sub>0</sub> )								
MCS400808	40 (1.57)	66 (2.60)	8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	φ8 (φ0.3150) b: 2±0.0125 (0.0787±0.0005) t: 1 <sup>+0.1</sup> <sub>0</sub> (0.039 <sup>+0.0039</sup> <sub>0</sub> )	17.0 (150) [4.0 (35)]	139 (4.9)	42.29×10 <sup>-6</sup> (2.3)	859.5 (7600)	0.06 (0.0024)	0.9	+1.2 0 (+0.047 0)
MCS400810			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )								
MCS400812			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> <sub>0</sub> )								
MCS400814			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )								
MCS400815			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> <sub>0</sub> )								
MCS400816			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> <sub>0</sub> )								
MCS400818			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> <sub>0</sub> )								
MCS400820			8 <sup>+0.015</sup> <sub>0</sub> (0.3150 <sup>+0.0006</sup> <sub>0</sub> )	20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> <sub>0</sub> )								
MCS401010			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )								
MCS401012			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> <sub>0</sub> )								
MCS401014			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> <sub>0</sub> )								
MCS401015			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> <sub>0</sub> )								
MCS401016			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> <sub>0</sub> )								
MCS401018			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> <sub>0</sub> )								
MCS401020			10 <sup>+0.015</sup> <sub>0</sub> (0.3937 <sup>+0.0006</sup> <sub>0</sub> )	20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> <sub>0</sub> )								

\*The normal torque indicated in [ ] is an assumed value at a safety factor (4.2 times) according to the load.



Product Name	Dimensions					Normal Torque*	Mass	Inertia	Static Torsion Spring Constant	Permissible Eccentricity	Permissible Declination	Permissible End Play
	Outer Diameter	Length	Shaft Hole Diameter d1	Shaft Hole Diameter d2	Key Slot Tolerance b/t							
	mm (in.)	mm (in.)	mm (in.)	mm (in.)	mm (in.)							
<b>MCS401212</b>	40 (1.57)	66 (2.60)	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )		17.0 (150) [4.0 (35)]	139 (4.9)	42.29×10 <sup>-6</sup> (2.3)	859.5 (7600)	0.06 (0.0024)	0.9	+1.2 0 (+0.047) 0
<b>MCS401214</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )								
<b>MCS401215</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> )								
<b>MCS401216</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> )								
<b>MCS401218</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )								
<b>MCS401220</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> )								
<b>MCS551212</b>	55 (2.17)	78 (3.07)	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	φ12 (φ0.4724) b: 4±0.015 (0.0787±0.0006) t: 1.8 <sup>+0.1</sup> <sub>0</sub> (0.071 <sup>+0.0039</sup> )	60.0 (530) [14.3 (126)]	282 (10)	109.1×10 <sup>-6</sup> (6)	2063 (18200)	0.1 (0.0039)	0.9	+1.4 0 (+0.055) 0
<b>MCS551214</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )								
<b>MCS551215</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> )								
<b>MCS551216</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> )								
<b>MCS551218</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )								
<b>MCS551220</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> )								
<b>MCS551222</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	22 <sup>+0.021</sup> <sub>0</sub> (0.8661 <sup>+0.0008</sup> )								
<b>MCS551224</b>			12 <sup>+0.018</sup> <sub>0</sub> (0.4724 <sup>+0.0007</sup> )	24 <sup>+0.021</sup> <sub>0</sub> (0.9449 <sup>+0.0008</sup> )								
<b>MCS551414</b>			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )	14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )								
<b>MCS551415</b>			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )	15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> )								
<b>MCS551416</b>			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> )								
<b>MCS551418</b>			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )								
<b>MCS551420</b>			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )	20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> )								
<b>MCS551422</b>			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )	22 <sup>+0.021</sup> <sub>0</sub> (0.8661 <sup>+0.0008</sup> )								
<b>MCS551424</b>			14 <sup>+0.018</sup> <sub>0</sub> (0.5512 <sup>+0.0007</sup> )	24 <sup>+0.021</sup> <sub>0</sub> (0.9449 <sup>+0.0008</sup> )								
<b>MCS551518</b>			15 <sup>+0.018</sup> <sub>0</sub> (0.5906 <sup>+0.0007</sup> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )								
<b>MCS551618</b>			16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )								
<b>MCS551818</b>			18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )								
<b>MCS551820</b>			18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )	20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> )								
<b>MCS551822</b>			18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )	22 <sup>+0.021</sup> <sub>0</sub> (0.8661 <sup>+0.0008</sup> )								
<b>MCS551824</b>	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )	24 <sup>+0.021</sup> <sub>0</sub> (0.9449 <sup>+0.0008</sup> )										
<b>MCS651618</b>	65 (2.56)	90 (3.54)	16 <sup>+0.018</sup> <sub>0</sub> (0.6299 <sup>+0.0007</sup> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )		160.0 (1410) [38.1 (330)]	535 (18.9)	417.1×10 <sup>-6</sup> (22.8)	3438 (30000)	0.11 (0.0043)	0.9	+1.5 0 (+0.059) 0
<b>MCS651818</b>			18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )								
<b>MCS651820</b>			18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )	20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> )								
<b>MCS651822</b>			18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )	22 <sup>+0.021</sup> <sub>0</sub> (0.8661 <sup>+0.0008</sup> )								
<b>MCS651824</b>			18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> )	24 <sup>+0.021</sup> <sub>0</sub> (0.9449 <sup>+0.0008</sup> )								

\*The normal torque indicated in [ ] is an assumed value at a safety factor (4.2 times) according to the load.

Overview, Product Series

AC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/Geared RKII

DC Input Motor & Driver

0.36°/Geared *Q*STEP AR

0.36°/Geared *Q*STEP Absolute AZ

0.72°/0.36°/Geared CRK

1.8°/Geared RBK

1.8°/0.9°/Geared CMK

0.72° All-in-One PKA

Motor Only

1.8°/0.9° PKP/PK

Geared PKP

0.72°/0.36° PKP

Accessories

Product Name	Dimensions					Normal Torque*	Mass	Inertia	Static Torsion Spring Constant	Permissible Eccentricity	Permissible Declination	Permissible End Play
	Outer Diameter	Length	Shaft Hole Diameter d1	Shaft Hole Diameter d2	Key Slot Tolerance b/t							
	mm (in.)	mm (in.)	mm (in.)	mm (in.)	mm (in.)	N·m (lb·in)	g (oz.)	kg·m <sup>2</sup> (oz·in <sup>2</sup> )	N·m/rad (lb·in/rad)	mm (in.)	deg	mm (in.)
<b>MCS651825</b>	65 (2.56)	90 (3.54)	18 <sup>+0.018</sup> <sub>0</sub> (0.7087 <sup>+0.0007</sup> <sub>0</sub> )	25 <sup>+0.021</sup> <sub>0</sub> (0.9843 <sup>+0.0008</sup> <sub>0</sub> )	(See page A-293)	160.0 (1410) [38.1 (330)]	535 (18.9)	417.1×10 <sup>-6</sup> (22.8)	3438 (30000)	0.11 (0.0043)	0.9	+1.5 0 (+0.059 0)
<b>MCS652020</b>			20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> <sub>0</sub> )	20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> <sub>0</sub> )								
<b>MCS652022</b>			20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> <sub>0</sub> )	22 <sup>+0.021</sup> <sub>0</sub> (0.8661 <sup>+0.0008</sup> <sub>0</sub> )								
<b>MCS652024</b>			20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> <sub>0</sub> )	24 <sup>+0.021</sup> <sub>0</sub> (0.9449 <sup>+0.0008</sup> <sub>0</sub> )								
<b>MCS652025</b>			20 <sup>+0.021</sup> <sub>0</sub> (0.7874 <sup>+0.0008</sup> <sub>0</sub> )	25 <sup>+0.021</sup> <sub>0</sub> (0.9843 <sup>+0.0008</sup> <sub>0</sub> )								

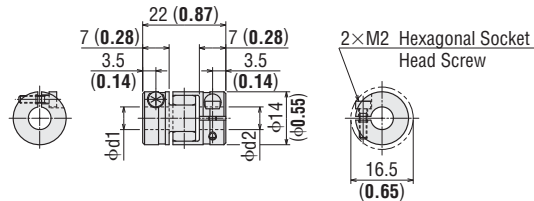
\*The normal torque indicated in [ ] is an assumed value at a safety factor (4.2 times) according to the load.

**Dimensions** Unit = mm (in.)

**MCS14**

Mass: 6.7 g (0.23 oz.)

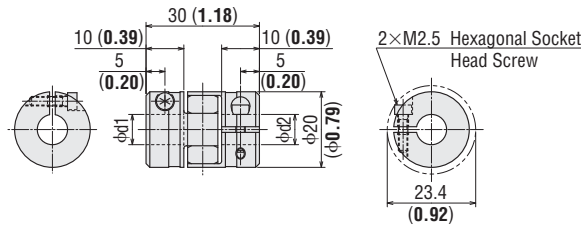
2D CAD B493 3D CAD



**MCS20**

Mass: 19.8 g (0.69 oz.)

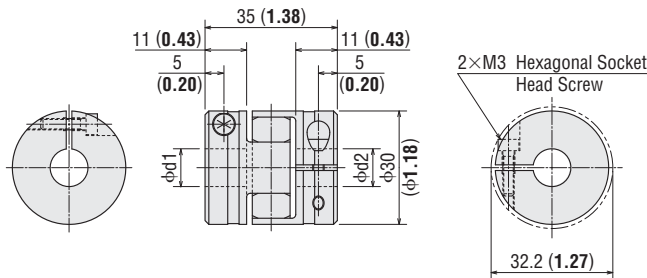
2D CAD B494 3D CAD



**MCS30**

Mass: 44.6 g (1.57 oz.)

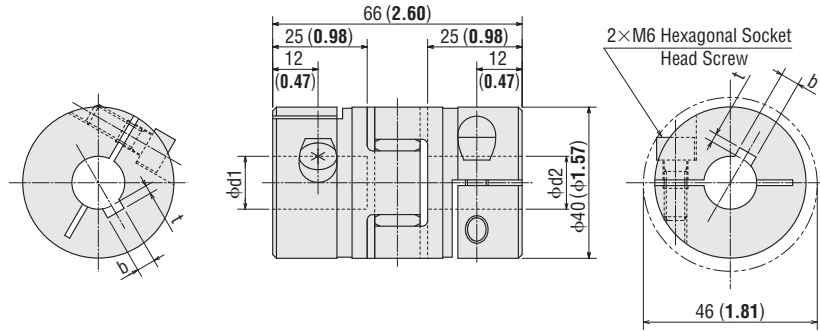
2D CAD B495 3D CAD



## MCS40

Mass: 139 g (4.9 oz.)

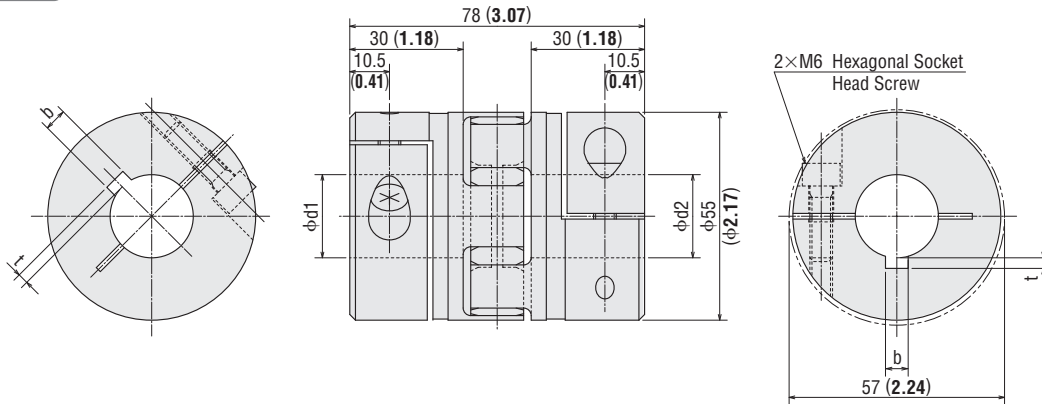
2D CAD B496 3D CAD



## MCS55

Mass: 282 g (10 oz.)

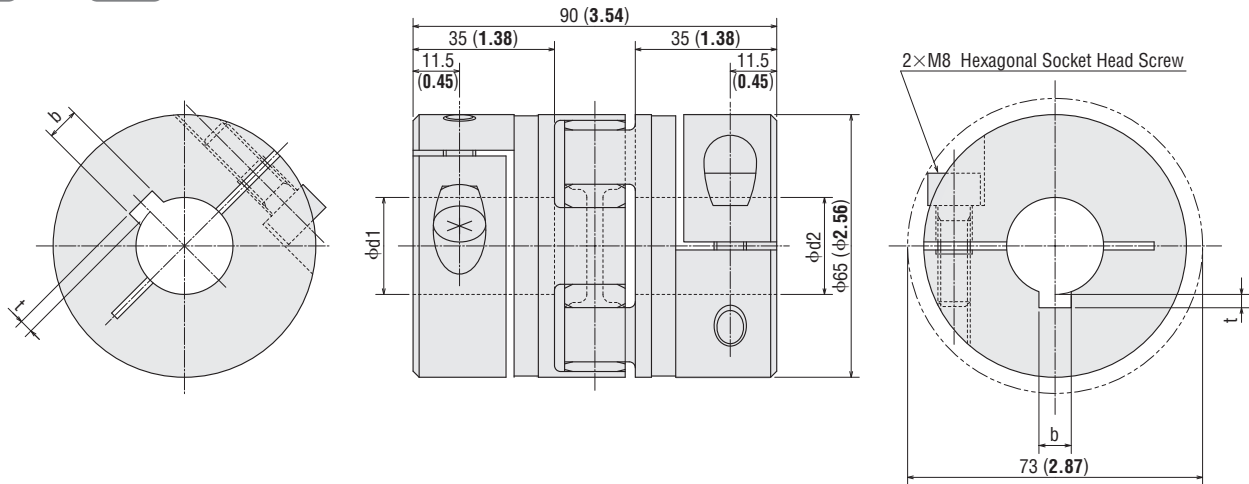
2D CAD B497 3D CAD



## MCS65

Mass: 535 g (18.9 oz.)

2D CAD B498 3D CAD



Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/Geared  
RKII

DC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/0.36°  
/Geared  
CRK

1.8°/Geared  
RBK

1.8°/0.9°  
/Geared  
CMK

0.72°  
All-in-One  
PKA

Motor Only

1.8°/0.9°  
PKP/PK

Geared  
PKP

0.72°/0.36°  
PKP

Accessories

# Motor Mounting Brackets

Mounting brackets are convenient for installation and securing a stepper motor and geared stepper motor.



## Product Line

### Standard Type, High-Torque Type

Material: Aluminum alloy

Product Name	List Price	Applicable Product		
		<i>α</i> STEP AR Series (AC and DC Input)	RKII Series	Motor Only PKP Series, PK Series
<b>PAFOP</b>	\$13.00	<b>AR46</b>	<b>RKS543</b> <b>RKS544</b> <b>RKS545</b>	<b>PKP243</b> <b>PKP244</b> <b>PKP245</b> <b>PKP246</b>
<b>PALOP</b>	\$13.00			
<b>PAL2P-5A</b>	\$17.00	<b>AR66</b> <b>AR69</b>	<b>RKS564</b> <b>RKS566</b> <b>RKS569</b>	—
<b>PAL2P-2</b>	\$17.00	—	—	<b>PKP264</b> <b>PKP266</b> <b>PKP268</b>
<b>PAL4P-5A</b>	\$19.00	<b>AR98</b> <b>AR911</b>	<b>RKS596</b> <b>RKS599</b> <b>RKS5913</b>	—
<b>PAL4P-2</b>	\$19.00	—	—	<b>PK296</b> <b>PK299</b> <b>PK2913</b>

- The applicable motor products are listed such that the model can be determined.
- The mounting bracket base is built with holes large enough to allow for alignment adjustments in the horizontal direction.
- These mounting brackets can be perfectly fitted to the pilot of the stepper motors. (Except for **PALOP**)
- These mounting brackets can also be used with a motor with an encoder.

**Note**

- They cannot be used with geared stepper motors.

### Geared Type

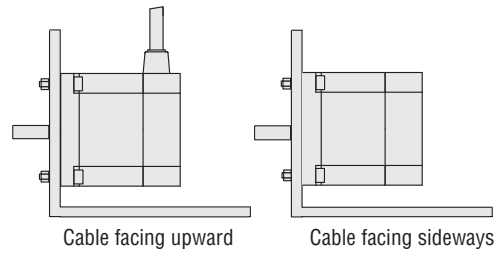
Material: Aluminum alloy

Product Name	List Price	Applicable Product		
		<i>α</i> STEP AR Series (AC and DC Input)	RKII Series	Motor Only PKP Series, PK Series
<b>SOL0A-A</b>	\$23.00	—	—	<b>PKP243-SG</b> □
<b>SOL0B-A</b>	\$23.00	<b>AR46-T</b> □	<b>RKS543-TS</b> □	—
<b>SOL2A-A</b>	\$27.00	<b>AR66-T</b> □	—	<b>PKP264-SG</b> □
<b>SOL2M4</b>	\$27.00	—	<b>RKS564-TS</b> □	—
<b>SOL5B-A</b>	\$34.00	<b>AR98-T</b> □	—	—
<b>SOL5M8</b>	\$34.00	—	<b>RKS596-TS</b> □	—
<b>PLA60G</b>	\$190.00	<b>AR66-PS</b> □ <b>AR66-N</b> □	<b>RKS564-PS</b> □ <b>RKS566-PS</b> □	—
<b>PLA60H</b>	\$190.00	<b>AR66-H</b> □	<b>RKS564-H</b> □	—
<b>PLA90G</b>	\$226.00	<b>AR98-PS</b> □ <b>AR98-N</b> □	<b>RKS596-PS</b> □ <b>RKS599-PS</b> □	—
<b>PLA90H</b>	\$226.00	<b>AR98-H</b> □	<b>RKS596-H</b> □	—

- A number indicating the gear ratio is entered where the box □ is located.
- These mounting brackets can also be used with a motor with an encoder.

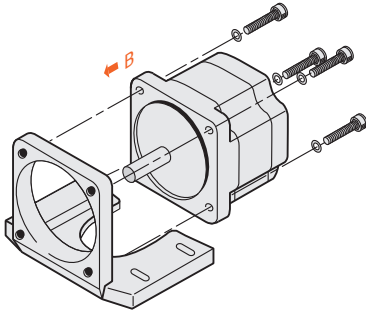
## Motor Installation Direction

The motor cable comes out at right angles to the motor. Orient the motor so that the cable faces either upward or sideways.



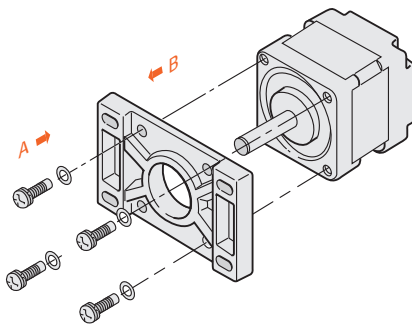
## Mounting the Motor

### 1 PAL2P-5A, PAL2P-2, PAL4P-5A, PAL4P-2, SOL2M4, SOL5M8



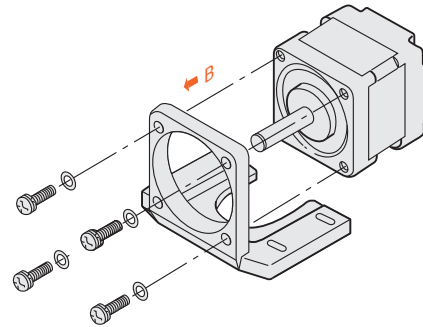
- ① Use the screws provided to secure the motor to the mounting bracket.
- ② Attach the motor from the direction shown by the arrow (B).

### 3 PAFOP



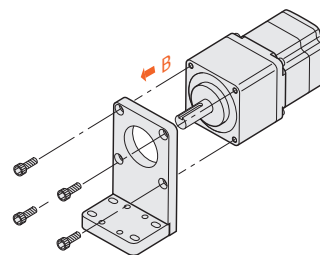
- ① Use the screws provided to secure the motor to the mounting bracket.
- ② Attach motor from the direction shown by either arrow (A) or arrow (B).

### 2 PAL0P, SOL0A-A, SOL0B-A, SOL2A-A, SOL5B-A



- ① Use the screws provided to secure the motor to the mounting bracket.  
(No screws are supplied for **SOL0A-A**, **SOL0B-A**, **SOL2A-A** and **SOL5B-A**. Provide appropriate screws separately.)
- ② Attach the motor from the direction shown by the arrow (B).

### 4 PLA60G, PLA60H, PLA90G, PLA90H\*



- ① Use the screws provided to secure the motor to the mounting bracket.
- ② Attach the motor from the direction shown by the arrow (B).  
\*For **PLA90H**, the screws must be attached from the direction shown by the arrow (B).

Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>5</sub>STEP**  
**AR**

0.36°/Geared  
**Q<sub>5</sub>STEP**  
Absolute  
**AZ**

0.72°/Geared  
**RKII**

DC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>5</sub>STEP**  
**AR**

0.36°/Geared  
**Q<sub>5</sub>STEP**  
Absolute  
**AZ**

0.72°/0.36°  
/Geared  
**CRK**

1.8°/Geared  
**RBK**

1.8°/0.9°  
/Geared  
**CMK**

0.72°  
All-in-One  
**PKA**

Motor Only

1.8°/0.9°  
**PKP/PK**

Geared  
**PKP**

0.72°/0.36°  
**PKP**

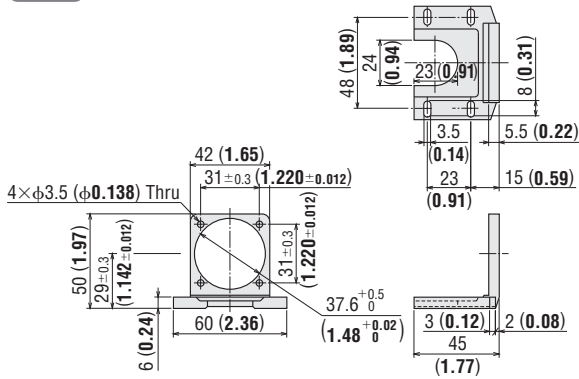
Accessories

**Dimensions** Unit = mm (in.)

**PALOP**

Mass: 35 g (1.24 oz.)

2D CAD B139

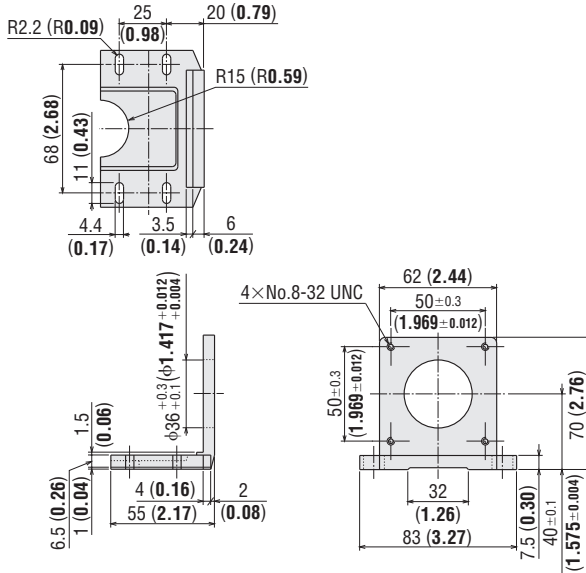


- Screws (Included)  
M3P0.5 Length 10 mm (0.39 in.) ... 4 pieces

**PAL2P-5A**

Mass: 110 g (3.9 oz.)

2D CAD B143

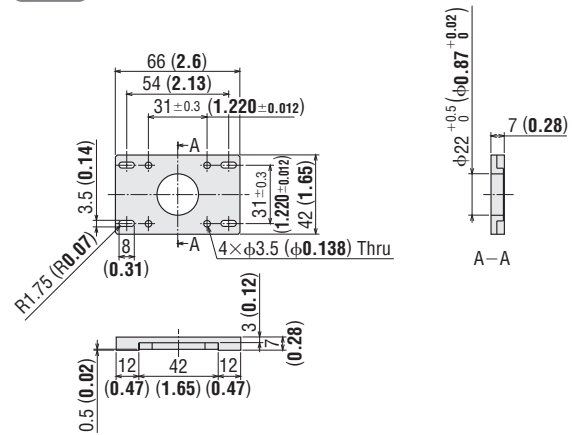


- Screws (Included)  
No.8-32 UNC Length 12.7 mm (0.5 in.) ... 4 pieces

**PAFOP**

Mass: 30 g (1.06 oz.)

2D CAD B140

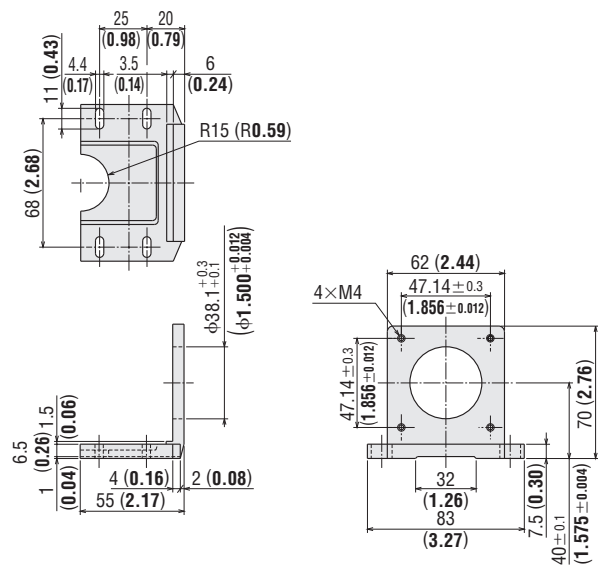


- Screws (Included)  
M3P0.5 Length 7 mm (0.28 in.) ... 4 pieces

**PAL2P-2**

Mass: 110 g (3.9 oz.)

2D CAD B144

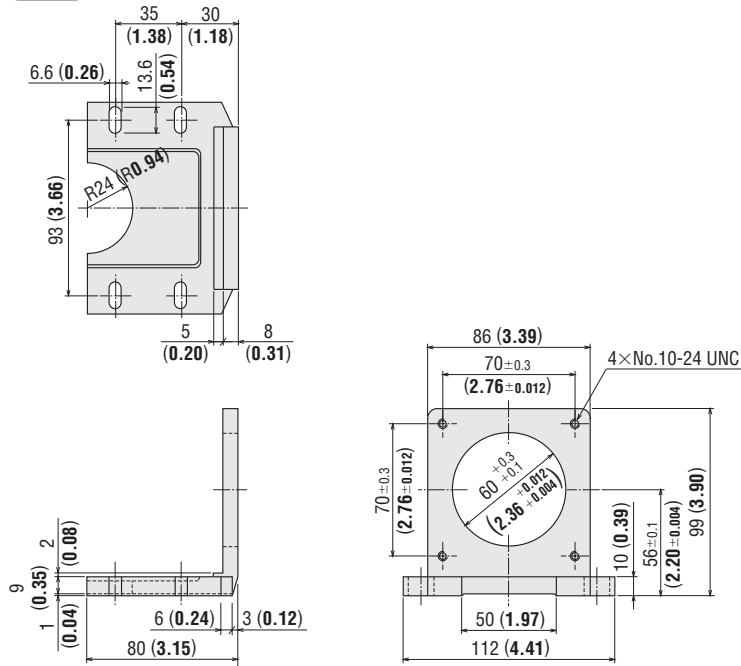


- Screws (Included)  
M4P0.7 Length 12 mm (0.47 in.) ... 4 pieces

## PAL4P-5A

Mass: 250 g (8.8 oz.)

2D CAD B145

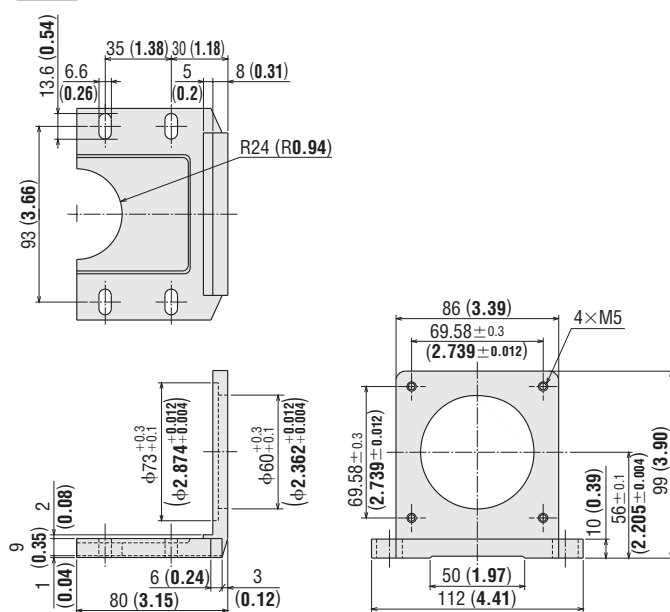


- Screws (Included)  
No.10-24 UNC Length 15.875 mm (0.625 in.) ... 4 pieces

## PAL4P-2

Mass: 250 g (8.8 oz.)

2D CAD B146



- Screws (Included)  
M5P0.8 Length 16 mm (0.63 in.) ... 4 pieces

## SOLOA-A

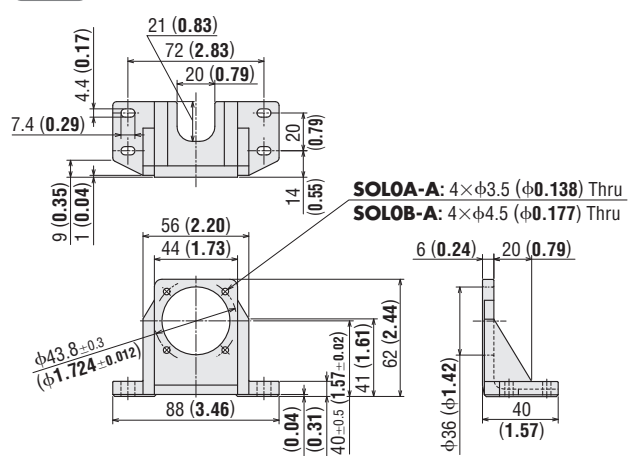
Mass: 85 g (3 oz.)

2D CAD B266

## SOLOB-A

Mass: 85 g (3 oz.)

2D CAD B267



SOLOA-A: 4×φ3.5 (φ0.138) Thru  
SOLOB-A: 4×φ4.5 (φ0.177) Thru

Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/Geared  
RKII

DC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/0.36°  
/Geared  
CRK

1.8°/Geared  
RBK

1.8°/0.9°  
/Geared  
CMK

0.72°  
All-in-One  
PKA

Motor Only

1.8°/0.9°  
PKP/PK

Geared  
PKP

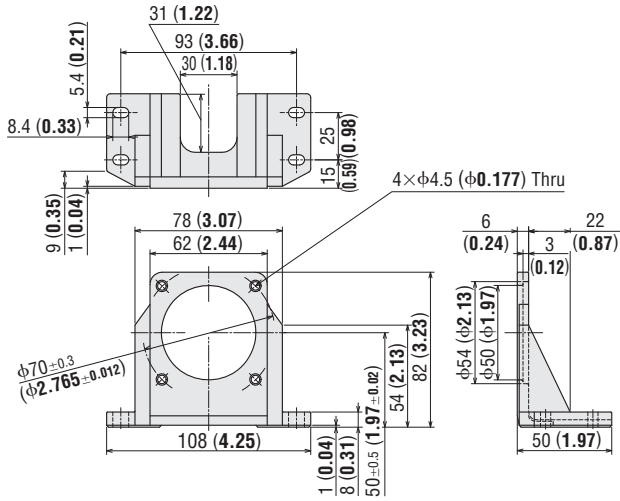
0.72°/0.36°  
PKP

Accessories

**SOL2A-A**

Mass: 120 g (4.2 oz.)

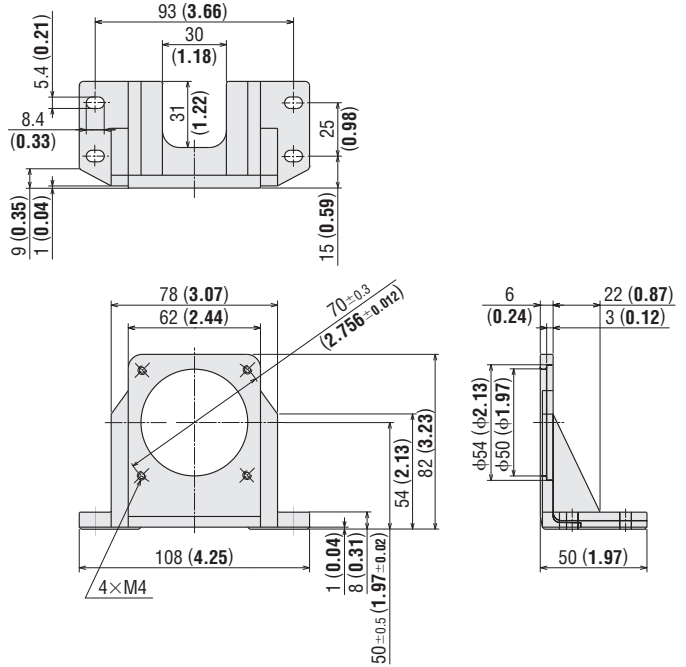
2D CAD B268



**SOL2M4**

Mass: 135 g (4.8 oz.)

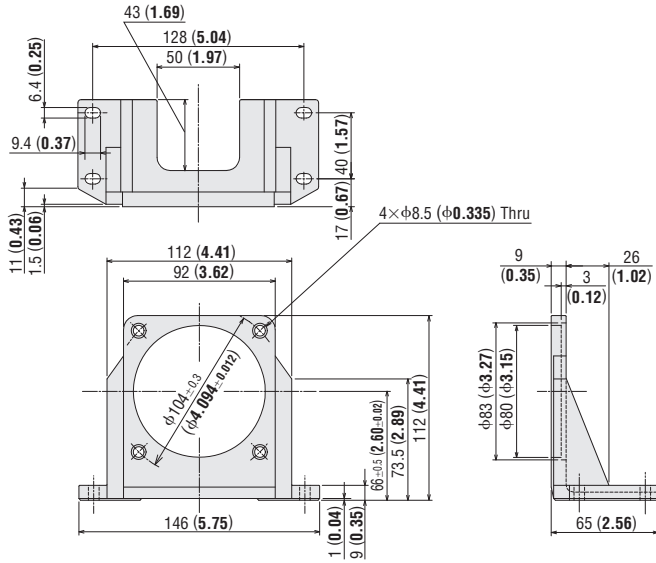
2D CAD A321



**SOL5B-A**

Mass: 270 g (9.5 oz.)

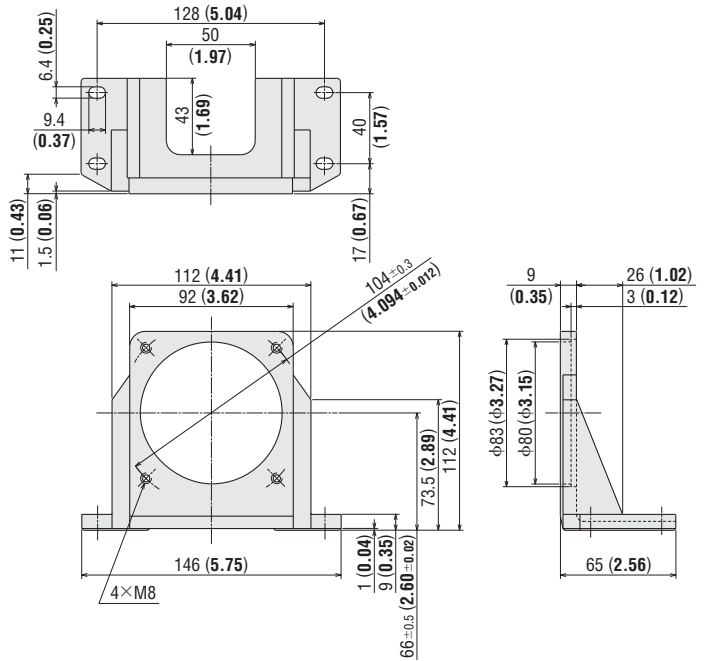
2D CAD B271



**SOL5M8**

Mass: 270 g (9.5 oz.)

2D CAD A239

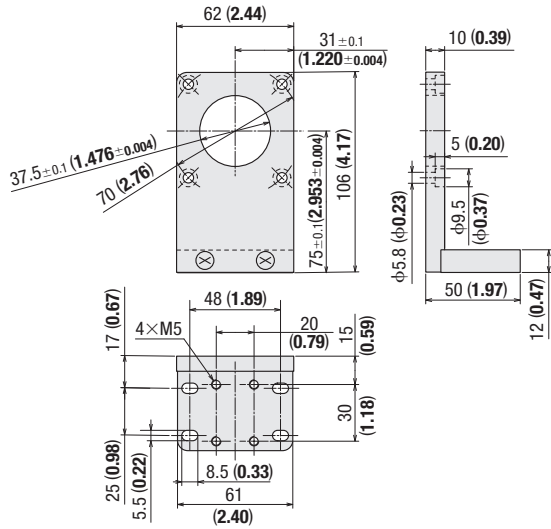




## PLA60G

Mass: 0.7 kg (1.54 lb.)

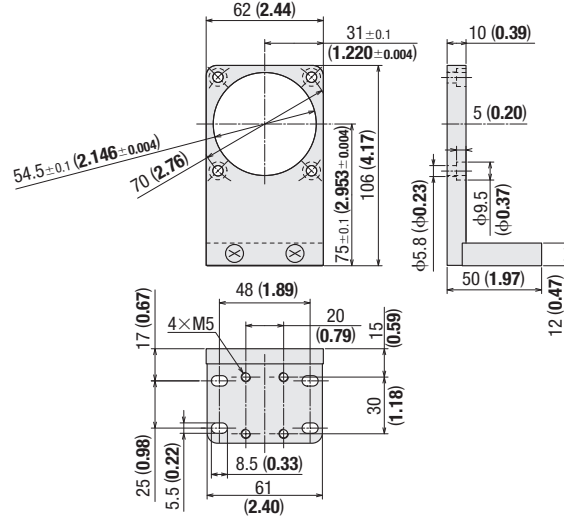
2D CAD B634



## PLA60H

Mass: 0.7 kg (1.54 lb.)

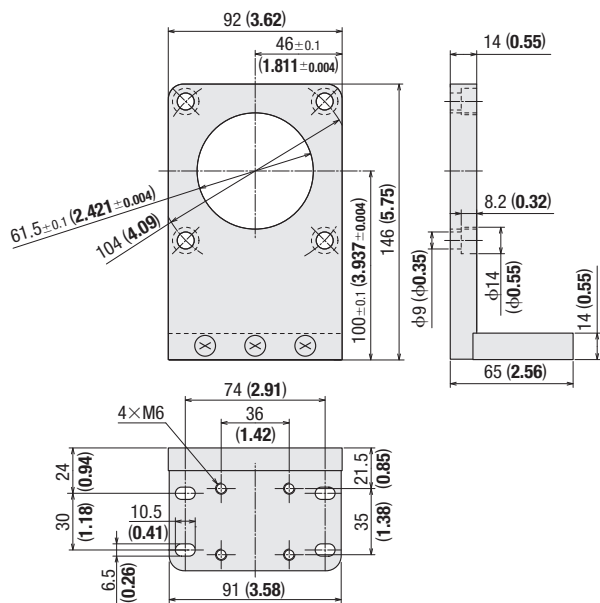
2D CAD B635



## PLA90G

Mass: 1.6 kg (3.5 lb.)

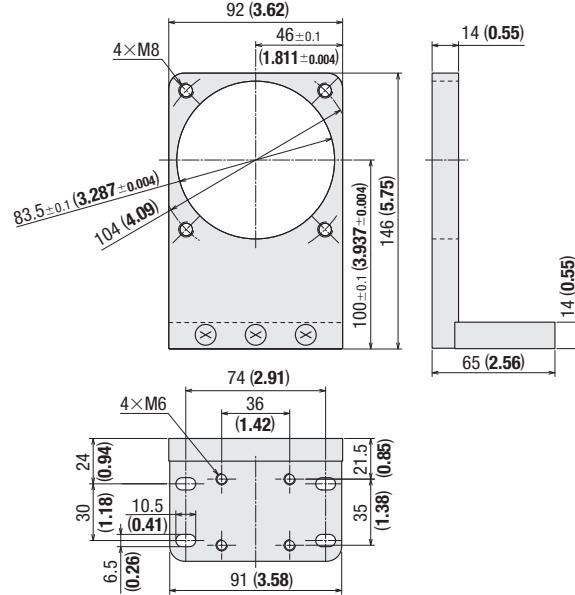
2D CAD B637



## PLA90H

Mass: 1.6 kg (3.5 lb.)

2D CAD B638



Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/Geared  
RKII

DC Input  
Motor &  
Driver

0.36°/Geared  
*Q*STEP  
AR

0.36°/Geared  
*Q*STEP  
Absolute  
AZ

0.72°/0.36°  
/Geared  
CRK

1.8°/Geared  
RBK

1.8°/0.9°  
/Geared  
CMK

0.72°  
All-in-One  
PKA

Motor Only

1.8°/0.9°  
PKP/PK

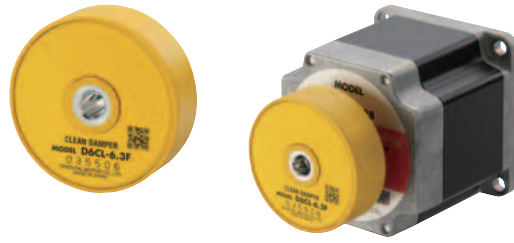
Geared  
PKP

0.72°/0.36°  
PKP

Accessories

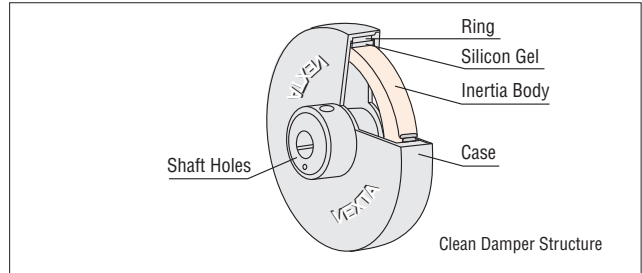
# Clean Dampers

Mechanical dampers suppress stepper motor vibration and improve high-speed performance. An inertia body and silicon gel are hermetically sealed in a plastic case.



## Features

- Excellent vibration absorption  
The doughnut-shaped internal inertia body and silicon gel absorb vibration. This feature enables a stable damping effect.
- Since there is no frictional dust as in conventional magnetic dampers, it can be used in environments where higher degrees of cleanliness is needed.
- High reliability.
- Holds up well in harsh environments and changes little with age because the silicon gel and plastic case used are heat resistant.
- Machine part is sealed hermetically in a plastic case. This ensures safety and doesn't generate noise.
- This clean damper is an accessory for double shaft types. It can be used with various geared motors of double shaft type.



## Product Line

Product Name	List Price
<b>D4CL-5.0F</b>	\$42.00
<b>D6CL-6.3F</b>	\$42.00
<b>D6CL-8.0F</b>	\$42.00
<b>D9CL-12.7F</b>	\$53.00
<b>D9CL-14F</b>	\$53.00

## Specifications

Product Name	Inertia kg·m <sup>2</sup> (oz·in <sup>2</sup> )	Mass g (oz.)
<b>D4CL-5.0F</b>	34×10 <sup>-7</sup> (0.186)	24 (0.85)
<b>D6CL-6.3F</b>	140×10 <sup>-7</sup> (0.77)	62 (2.2)
<b>D6CL-8.0F</b>	140×10 <sup>-7</sup> (0.77)	61 (2.2)
<b>D9CL-12.7F</b>	870×10 <sup>-7</sup> (4.8)	110 (3.9)
<b>D9CL-14F</b>	870×10 <sup>-7</sup> (4.8)	105 (3.7)

Ambient Temperature: -20~+80°C (-4~+176°F)

## Clean Damper Selection Table

● Accessory for double shaft motors only

Product Name	Applicable Product		
	<i>α</i> STEP	0.72° Stepper Motor and Driver Packages	1.8°/0.9° Stepper Motors
<b>D4CL-5.0F</b>	<b>AR46</b>	<b>RKS543 RKS544 RKS545</b>	<b>PKP223 PKP224 PKP225 PKP233 PKP235 PKP243 PKP244 PKP245 PKP246</b>
<b>D6CL-6.3F</b>	—	—	<b>PKP264 PKP266 PKP268</b>
<b>D6CL-8.0F</b>	<b>AR66 AR69 AR98 AR911</b>	<b>RKS564 RKS566 RKS569</b>	—
<b>D9CL-12.7F</b>	—	—	<b>PK296 PK299 PK2913</b>
<b>D9CL-14F</b>	—	<b>RKS596 RKS599 RKS5913</b>	—

● The applicable motor products are listed such that the model can be determined.

# Control Module

## OPX-2A

### 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.

### Product Line

Product Name	List Price	Applicable Product
<b>OPX-2A</b>	\$300.00	<b>AR</b> Series <b>RKII</b> Series Built-in Controller Type <b>BXII</b> Series <b>BLE</b> Series

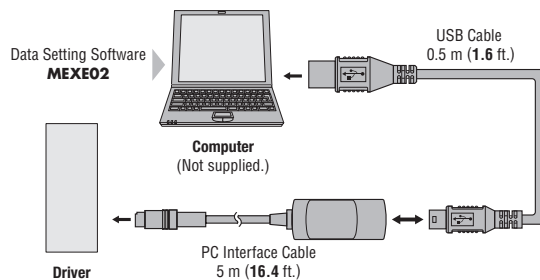
## CC05IF-USB

This communication cable is required for connecting to the computer on which the data setting software **MEXE02** is installed. A 5 m (16.4 ft.) PC interface cable and 0.5 m (1.6 ft.) USB cable are included.

### Product Line

Product Name	List Price	Applicable Product
<b>CC05IF-USB</b>	\$120.00	<b>AR</b> Series <b>RKII</b> Series Built-in Controller Type <b>BXII</b> Series <b>BLE</b> Series

### Computer and Driver Connection



### Data Setting Software MEXE02

In addition to setting and editing the operating data and various parameters with a computer, you can perform teaching and monitor I/O and operating speed waveform with Data Setting Software. The data setting software can be downloaded from the website.

Please contact us for details.

[www.orientalmotor.com](http://www.orientalmotor.com).

#### Note

- The setting contents vary depending on the applicable product. For details, please see the Oriental Motor website.



### Specifications

Indication	LED
Cable Length	5 m (16.4 ft.)
Operating Ambient Temperature	0 to +40°C (+32 to +104°F) (non-freezing)



### Operating Environment

#### ◇ Operating System (OS)

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

- Microsoft Windows XP Service Pack 3\*
- Microsoft Windows Vista Service Pack 2
- Microsoft Windows 7 Service Pack 1
- Microsoft Windows 8
- Microsoft Windows 8.1

\*The 64-bit (x64) version runs with Service Pack 2.

#### ◇ Computer

Recommended CPU*1	Intel Core processor 2 GHz or faster (OS must be supported)
Display	High resolution video adapter and monitor with a minimum resolution of XGA (1024×768)
Recommended Memory*1	32-bit (x86) version: 1 GB or more 64-bit (x64) version: 2 GB or more
Hard Disk*2	At least 60 MB of free disk space
USB Port	One USB1.1 port
Disk Device	CD-ROM Drive (Used for installation)

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

\*2 **MEXE02** requires Microsoft .NET Framework 4 Client Profile. It will be automatically installed if it is not already installed, so 1.5 GB of free space for the 64-bit (x64) version and 600 MB of free space for the 32-bit (x86) version may be required.

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

● Intel and Core are registered trademarks or trademarks of Intel Corporation in the United States and other countries.

● For the latest information on operating environment, refer to the Oriental Motor website.

#### Note

- The required memory and hard disk space may vary depending on the system environment.

Overview,  
Product  
Series

AC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>5</sub>STEP**  
**AR**

0.36°/Geared  
**Q<sub>5</sub>STEP**  
Absolute  
**AZ**

0.72°/Geared  
**RKII**

DC Input  
Motor &  
Driver

0.36°/Geared  
**Q<sub>5</sub>STEP**  
**AR**

0.36°/Geared  
**Q<sub>5</sub>STEP**  
Absolute  
**AZ**

0.72°/0.36°  
/Geared  
**CRK**

1.8°/Geared  
**RBK**

1.8°/0.9°  
/Geared  
**CMK**

0.72°  
All-in-One  
**PKA**

Motor Only

1.8°/0.9°  
**PKP/PK**

Geared  
**PKP**

0.72°/0.36°  
**PKP**

Accessories

# Battery

This battery is for constructing an absolute system on the **AR** Series stepper motor and driver packages. Position information can be stored during power blackouts or if the driver's power supply is switched OFF.

● Product Line

Product Name	List Price	Applicable Product
<b>BAT01B</b>	\$128.00	<b>AR</b> Series Built-in Controller Type



# Regeneration Unit

During vertical drive (gravitational operation) or sudden start/stop in high inertia, an external force causes the motor to rotate and function as a power generator. When the regenerative power exceeds the driver's regenerative power absorption capacity, it may cause damage to the motor. In such a case, the regeneration unit is connected to the driver to convert regenerative energy into thermal energy for dissipation.



● Product Line

Product Name	List Price	Applicable Product
<b>RGB100</b>	\$59.00	<b>AR</b> Series AC Power Supply Input

● Specifications

Continuous Regenerative Power	50
Resistance Value	150 Ω
Thermostat Operating Temperature	Operation: 150 ± 7°C (302 ± 13°F) Reset: 145 ± 12°C (293 ± 22°F) (Normally closed)
Thermostat Electrical Rating	120 VAC 4 A 30 VDC 4 A (Min. current 5 mA)

● Install the regeneration unit in a place that has the same heat radiation capability as the heat sink (material: aluminum 350×350 mm (13.8×13.8 in.), 3 mm (0.12 in.) thick).



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

[www.orientalmotor.com/catalog](http://www.orientalmotor.com/catalog)