

Stepping Motors

Accessories

	Page
Cables	C-296
Flexible Couplings	C-302
Clean Dampers	C-310
Motor Mounting Brackets	C-312
DIN Rail Mounting Plate	C-317
Accessories for EMP Series Controller	C-318

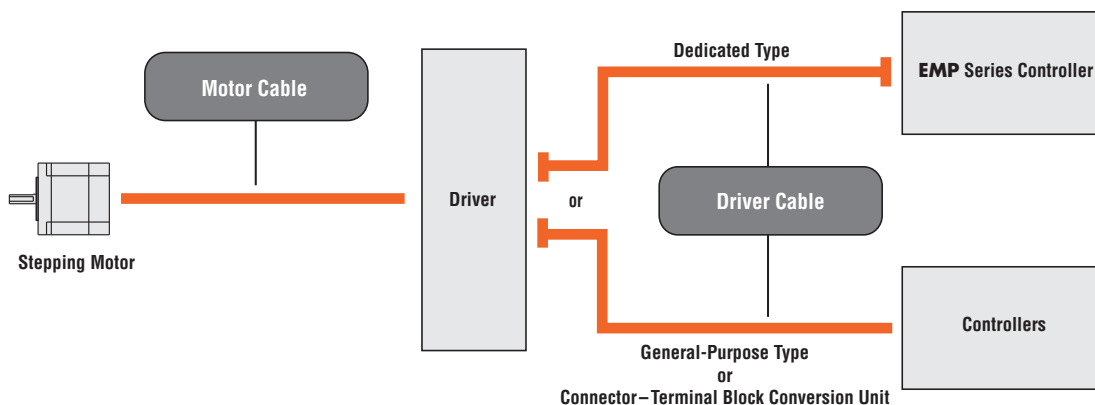
Accessories

Introduction
<i>QSTEP</i> AS AC Input
<i>QSTEP</i> ASC DC Input
5-Phase Microstep RK AC Input
2-Phase Full/Half UMK AC Input
5-Phase Microstep CRK
2-Phase Microstep RBR DC Input
2-Phase Microstep CMK
2-Phase PK/PV Without Encoder
2-Phase PK With Encoder
EMP400 Controllers
SG8030J
Accessories
Installation

Cables

Cables provide a convenient connection between a motor, driver and controller.

Type of Cables



Motor Cables

These cables are available to extend the distance between the motor and the driver for the **αSTEP** and **RK** Series, or connect a high-torque type motor to a driver.

Cable Name	Page	Applicable Product
Extension Cables Extension Cables for Electromagnetic Brake Motor	C-297 [1]	αSTEP
Flexible Extension Cables Flexible Extension Cables for Electromagnetic Brake Motor	C-297 [2]	
Motor Cables for Industrial Connector Type Motor Flexible Motor Cables for Industrial Connector Type Motor	C-298 [3]	
Extension Cables	C-298 [4]	RK Series
Motor Cable	C-298 [5]	RK Series 2-Phase PK Series
Motor Lead Wire/Connector Assembly*	C-299 [6]	CRK Series CMK Series 2-Phase PK Series

* Only for connector-coupled motors

Driver Cables

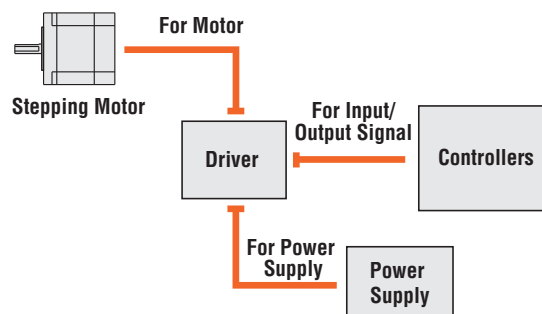
Use these cables to connect the driver of the **αSTEP** or **RK** Series to a controller. Choose the dedicated type for easy connection with the **EMP** Series controller, general-purpose type to be combined with a connector appropriate for the specific controller used, or the connector – terminal block conversion unit that permits connection between the driver and host controller using a terminal block.

Cable Name	Page	Applicable Product
Driver Cables EMP Series Dedicated Type	C-300 [1]	αSTEP RK Series
Driver Cables General-Purpose Type	C-300 [2]	αSTEP RK Series
Connector – Terminal Block Conversion Unit	C-301 [3]	αSTEP RK Series

A lead wire set is available for connection between DC input driver and motor, controller, and power supply. Since the driver side of the cable has a crimped connector, set up is simple.

Cable Name	Page	Applicable Product
Driver Lead Wire Set	C-301 [4]	CRK Series CMK Series

The driver lead wire set includes three lead wire/connector assemblies (for motor, input/output signal and power supply).



The **αSTEP AS** Series built-in controller package can be set or edit the parameters or motion programs via a PC. Use this communication cable to connect the driver to a PC.

Cable Name	Page	Applicable Product
Communication Cable	C-301 [5]	αSTEP AS Series Built-in Controller Package

Motor Cables

1 Extension Cables (RoHS) Extension Cables for Electromagnetic Brake Motor (RoHS) (For α STEP)



These cables are used to connect α STEP motors and drivers.

Product Line

Extension Cables

Model	Length: L m (ft.)
CC01AIP	1 (3.3)
CC02AIP	2 (6.6)
CC03AIP	3 (9.8)
CC05AIP	5 (16.4)
CC07AIP	7 (23)
CC10AIP	10 (32.8)
CC15AIP	15 (49.2)
CC20AIP	20 (65.6)

Extension Cables for Electromagnetic Brake Motor

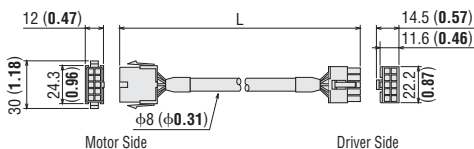
Model	Length: L m (ft.)
CC01AIPM	1 (3.3)
CC02AIPM	2 (6.6)
CC03AIPM	3 (9.8)
CC05AIPM	5 (16.4)
CC07AIPM	7 (23)
CC10AIPM	10 (32.8)
CC15AIPM	15 (49.2)
CC20AIPM	20 (65.6)

Notes:

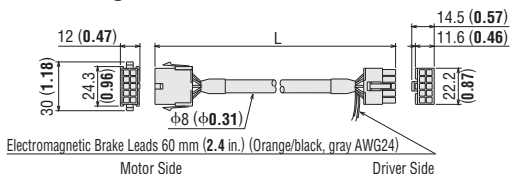
- Electromagnetic brake models must use an extension cable for an electromagnetic brake motor. But for electromagnetic brake motor with motor frame size $\square 42$ mm ($\square 1.65$ in.), use an extension cable for standard motor.
- ASC Series cannot use extension cable of 15 m (49.2 ft.) and 20 m (65.6 ft.).

Dimensions Unit = mm (in.)

For Standard Motor



For Electromagnetic Brake Motor



2 Flexible Extension Cables (RoHS) Flexible Extension Cables for Electromagnetic Brake Motor (RoHS) (For α STEP)



These flexible extension cables are used between α STEP motors and drivers. We recommend this cable when the motor is installed on a moving assembly and the cable is bent and flexed.

Product Line

Flexible Extension Cables

Model	Length: L m (ft.)
CC01SAR	1 (3.3)
CC02SAR	2 (6.6)
CC03SAR	3 (9.8)
CC05SAR	5 (16.4)
CC07SAR	7 (23)
CC10SAR	10 (32.8)

Flexible Extension Cables for Electromagnetic Brake Motor

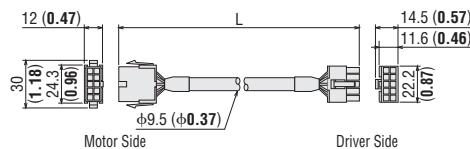
Model	Length: L m (ft.)
CC01SARM2	1 (3.3)
CC02SARM2	2 (6.6)
CC03SARM2	3 (9.8)
CC05SARM2	5 (16.4)
CC07SARM2	7 (23)
CC10SARM2	10 (32.8)

Note:

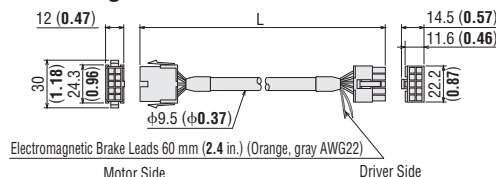
- For electromagnetic brake motor with motor frame size $\square 42$ mm ($\square 1.65$ in.), use a flexible extension cable for standard motor.

Dimensions Unit = mm (in.)

For Standard Motor



For Electromagnetic Brake Motor



Notes on Use of a Flexible Extension Cable

- Do not allow the cable to bend at the cable connector.
- Keep the bending radius to 60 mm (2.36 in.) or more.
- The motor cable is not a flexible cable. If the motor cable is to be bent, bend it at the flexible extension cable.

3 Motor Cables for Industrial Connector Type Motor (RoHS) Flexible Motor Cables for Industrial Connector Type Motor (RoHS) (For α STEP)



These motor cables must be used for connection between the α STEP AS Series industrial connector type motor and the driver. Any industrial connector type motor cannot be driven without these cables.

One end of the cable connects to the metal connector on the motor, while the other end connects to the driver.

Use a flexible motor cable if the motor is installed on a moving part and its cable will be flexed.

Product Line

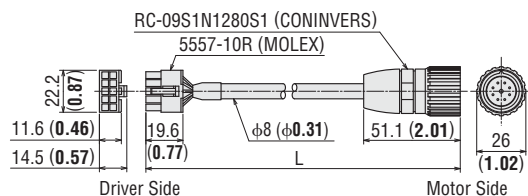
- Motor Cables for Industrial Connector Type Motor
- Flexible Motor Cables for Industrial Connector Type Motor

Model	Length: L m (ft.)
CC01AST	1 (3.3)
CC02AST	2 (6.6)
CC03AST	3 (9.8)
CC05AST	5 (16.4)
CC07AST	7 (23)
CC10AST	10 (32.8)
CC15AST	15 (49.2)
CC20AST	20 (65.6)

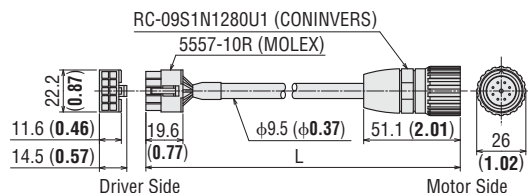
Model	Length: L m (ft.)
CC01SAR2	1 (3.3)
CC02SAR2	2 (6.6)
CC03SAR2	3 (9.8)
CC05SAR2	5 (16.4)
CC07SAR2	7 (23)
CC10SAR2	10 (32.8)

Dimensions Unit = mm (in.)

- Motor Cables for Industrial Connector Type Motor



- Flexible Motor Cables for Industrial Connector Type Motor



4 Extension Cables (RoHS) (For RK Series)



These extension cables are used between RK Series motors and dedicated drivers. They come in three lengths: 5 m (16.4 ft.), 10 m (32.8 ft.) and 20 m (65.6 ft.).

Product Line

Model	Length m (ft.)	Conductors
CC05PK5	5 (16.4)	5
CC10PK5	10 (32.8)	
CC20PK5	20 (65.6)	

- Conductor configuration: 5
- Conductor size: AWG22
- Finished outer diameter: ϕ 7.2 mm (ϕ 0.28 in.)
- Cable rating: 105°C (221°F)
- Outer casing: Oil-resistant, heat-resistant, non-migrating vinyl

Note:

- These extension cables are only for the RK Series. Do not use them on other stepping motor and driver packages (such as CRK Series or CMK Series).

5 Motor Cable (RoHS) (For Terminal Box Type Motor of RK Series, RBK Series and 2-Phase PK Series)

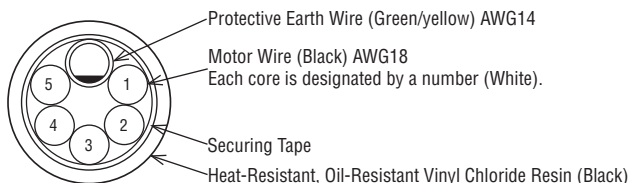


A cable for connection between the terminal box type motor and driver (with protective earth wire)

Product Line

Model	Length m (ft.)	Conductors
CC03PKT	3 (9.8)	6

- Conductor configuration: 6
- Conductor size: Motor wire AWG18, protective earth wire AWG14
- Finished outer diameter: ϕ 12 mm (ϕ 0.47 in.)
- Cable rating: 105°C (221°F) 600 V
- Outer casing: Heat-resistant, oil-resistant vinyl chloride resin
- Applicable standards: UL 758 (AWM) VW-1, UL Style 2586



6 Motor Lead Wire/Connector Assembly RoHS



These lead wires with connector assemblies are available for use with the appropriate connector-coupled motors. [A motor lead wire/connector assembly of 0.6 m (2 ft.) is included with the connector-coupled motor and driver packages.]

Product Line

Model	Applicable Product	Applicable Motor	Length m (ft.)
LC5N06A	CRK513P <input type="checkbox"/> P CRK513P <input type="checkbox"/> P-H <input type="checkbox"/>	PK513P <input type="checkbox"/> PK513P <input type="checkbox"/> -H <input type="checkbox"/> S	0.6 (2)
	CRK52 <input type="checkbox"/> PM <input type="checkbox"/> P CRK523P <input type="checkbox"/> P-T <input type="checkbox"/> CRK523P <input type="checkbox"/> P-N <input type="checkbox"/>	PK52 <input type="checkbox"/> PM <input type="checkbox"/> PK523P <input type="checkbox"/> -T <input type="checkbox"/> PK523P <input type="checkbox"/> -N <input type="checkbox"/>	
LC5N10A			1 (3.3)
LC5N06B	CRK54 <input type="checkbox"/> P <input type="checkbox"/> P	PK54 <input type="checkbox"/> PM <input type="checkbox"/>	0.6 (2)
LC5N10B	CRK54 <input type="checkbox"/> PM <input type="checkbox"/> P	PK54 <input type="checkbox"/> PM <input type="checkbox"/>	1 (3.3)
LC5N06C	CRK56 <input type="checkbox"/> PM <input type="checkbox"/> P	PK56 <input type="checkbox"/> PM <input type="checkbox"/>	0.6 (2)
LC5N10C			1 (3.3)
LC2U06A	CMK22 <input type="checkbox"/> P <input type="checkbox"/> P	PK22 <input type="checkbox"/> P <input type="checkbox"/>	0.6 (2)
LC2U10A	CMK223 <input type="checkbox"/> P-SG <input type="checkbox"/>	PK223P <input type="checkbox"/> -SG <input type="checkbox"/>	1 (3.3)
LC2U06B	CMK23 <input type="checkbox"/> P <input type="checkbox"/> P	PK23 <input type="checkbox"/> P <input type="checkbox"/>	0.6 (2)
LC2U10B	CMK24 <input type="checkbox"/> P <input type="checkbox"/> P	PK24 <input type="checkbox"/> P <input type="checkbox"/>	1 (3.3)

- Enter the motor case length in the box (□) within the model name.
- Enter **A** (single shaft) or **B** (double shaft) in the box (□) within the model name.
- Enter the gear ratio in the box (■) within the model name.

Introduction

AC Input
OSTEP
ASDC Input
OSTEP
ASG5-Phase
Microstep
RK
AC Input2-Phase
Full/Half
UMK5-Phase
Microstep
CRK2-Phase
Microstep
RBK
DC Input2-Phase
Microstep
CMK2-Phase
PK/PV
Without Encoder2-Phase
PK
With EncoderEMP400
Controllers

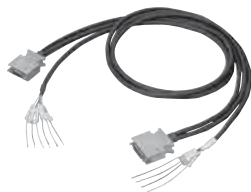
SG8030J

Accessories

Installation

Driver Cables

1 EMP Series Dedicated Type (RoHS)



One end of the cable is a half-pitch connector that snaps into the driver for the ***α*STEP** and **RK** Series. The other end of the cable is equipped with the connector for the **EMP400** Series controller.

Note:

- Note that as the length of the pulse signal line increases, the maximum transmission frequency decreases.
Technical reference → Page F-54

Product Line

For *α*STEP

Model	Applicable Product	Length: L m (ft.)
CC01EMP4	AS Series Pulse Input Package	1 (3.3)
CC02EMP4	ASC Series	2 (6.6)

Note:

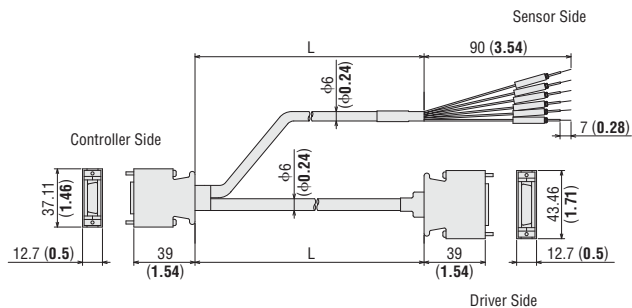
- The alarm clear signal, all windings off signal and resolution select signal of the **AS** and **ASC** Series cannot be used with the **EMP400** Series controller.

For RK Series

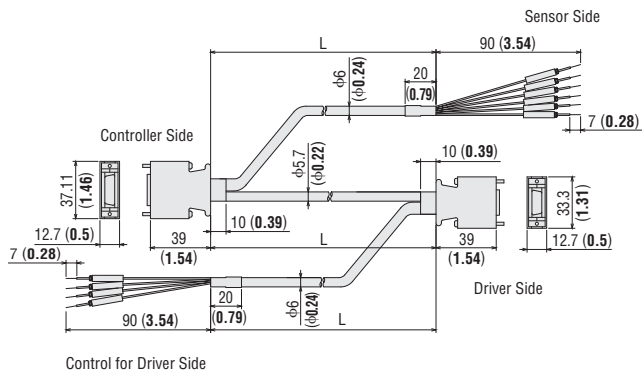
Model	Length: L m (ft.)
CC01EMP5	1 (3.3)
CC02EMP5	2 (6.6)

Dimensions Unit = mm (in.)

For *α*STEP



For RK Series



2 General-Purpose Type (RoHS)



This shielded cable has a half pitch connector at one end for connecting to the ***α*STEP** and **RK** Series driver.

Notes:

- Note that as the length of the pulse signal line increases, the maximum transmission frequency decreases.
Technical reference → Page F-54
- Install a connector that matches the controller you are using to the other end of the cable.

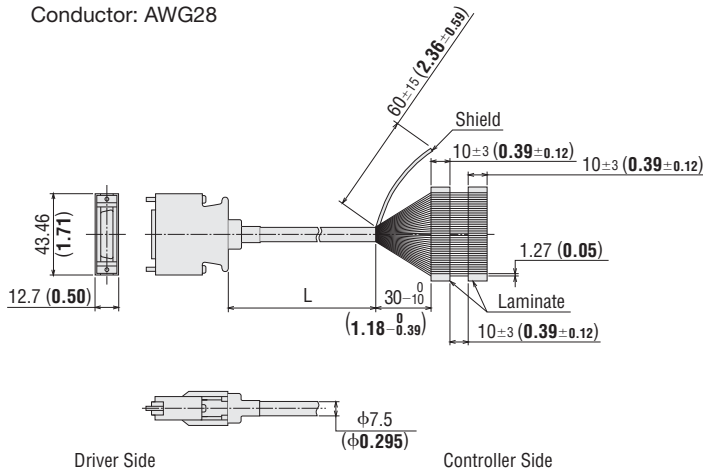
Product Line

Model	Applicable Connector	Length: L m (ft.)
CC36D1-1	AS Series Pulse Input Package CN4 (36 pins)	1 (3.3)
CC36D2-1	AS Series Built-In Controller Package CN4 (36 pins) ASC Series CN3 (36 pins)	2 (6.6)
CC20D1-1	AS Series Built-In Controller Package CN5 (20 pins)	1 (3.3)
CC20D2-1	RK Series CN1 (20 pins)	2 (6.6)

Dimensions Unit = mm (in.)

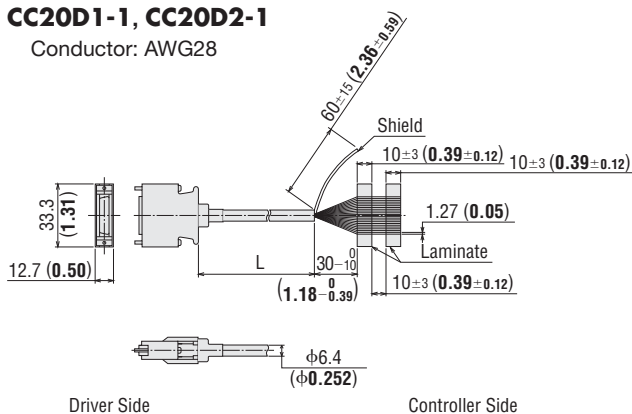
CC36D1-1, CC36D2-1

Conductor: AWG28



CC20D1-1, CC20D2-1

Conductor: AWG28



3 Connector – Terminal Block Conversion Unit (RoHS)

A conversion unit that connects a driver to a host controller using a terminal block.

- With a signal name plate for easy, one-glance identification of driver signal names.
- DIN rail mountable
- Cable length: 1 m (3.3 ft.)



CC20T1

CC36T1

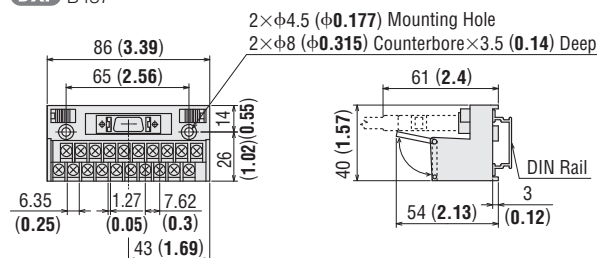
Product Line

Model	Applicable Connector	Length m (ft.)
CC20T1	AS Series Built-In Controller Package CN5 (20 pins)	1 (3.3)
	RK Series CN1 (20 pins)	
CC36T1	AS Series Pulse Input Package CN4 (36 pins)	1 (3.3)
	AS Series Built-In Controller Package CN4 (36 pins)	
	ASC Series CN3 (36 pins)	

Dimensions Unit = mm (in.)

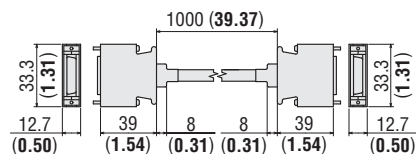
CC20T1

DXF B437



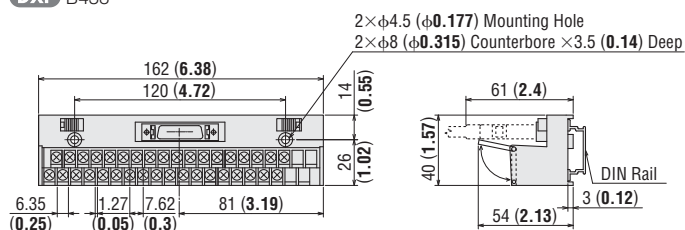
Terminal Block Pin Configuration

11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10



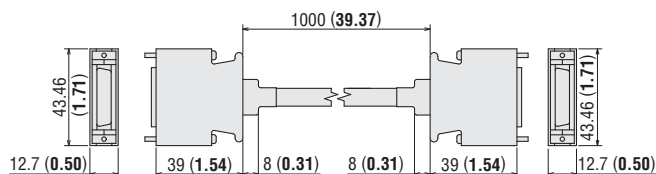
CC36T1

DXF B438



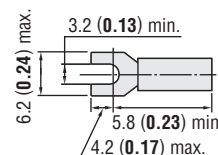
Terminal Block Pin Configuration

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



● Recommended Crimp Terminals

- Terminal screw size: M3
- Tightening torque: 1.2 N·m (170 oz-in)
- Applicable minimum lead wire: AWG22
- Round terminals are not available.



4 Driver Lead Wire Set (RoHS)



As an accessory for DC input drivers, lead wires with a connector are available. These lead wires allow for easy connection of the motor, power supply and input/output signals without crimping. The driver lead wire set includes three lead wire/connector assemblies (for motor, power supply and input/output signals).

Product Line

Model	Applicable Model	Applicable Driver	Length m (ft.)
LCS04SD5	CRK Series	CRD5103P	0.6 (2)
		CRD5107P	
		CRD5114P	
LCS01CMK2	CMK Series	CMD2109-P	0.6 (2)
		CMD2112-P	
		CMD2120-P	

5 Communication Cable FCO4W5 (RoHS)



A 5 m (16.4 ft.) cable with a D-sub 9 connector one end for the RS-232C communications between the PC and the AS Series built-in controller type driver.

Introduction

AC Input

DC Input

5-Phase Microstep

AC Input

2-Phase Full/Half

5-Phase Microstep

DC Input

2-Phase Microstep

Without Encoder

With Encoder

Controllers

Accessories

Installation

Flexible Couplings

Flexible couplings for your application are available. Once you have decided on a drive motor, you can select the recommended coupling easily.



■ Features of MCS Couplings

This three-piece coupling adopts an aluminum alloy hub and a resin spider. The simple construction ensures that the high torque generated by a geared motor can be transmitted reliably. The proper elasticity of the spider suppresses motor vibration.

Technical reference → Page F-54

- High strength (usable for geared motor) has been realized.
- A spider (material: polyurethane) controls the vibration generated by the motor.
- No backlash.



MCS Couplings RoHS

Product Number Code

MCS 30 08 12

① ② ③ ④



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

Coupling Selection Table

● *αSTEP*

Model		Gear Ratio	Motor Shaft Diameter mm (in.)	Type	Driven Shaft Diameter mm (in.)														
AS	ASC				$\phi 4$ ($\phi 0.1575$)	$\phi 5$ ($\phi 0.1969$)	$\phi 6$ ($\phi 0.2362$)	$\phi 6.35$ ($\phi 0.2500$)	$\phi 8$ ($\phi 0.3150$)	$\phi 10$ ($\phi 0.3937$)	$\phi 12$ ($\phi 0.4724$)	$\phi 14$ ($\phi 0.5512$)	$\phi 15$ ($\phi 0.5906$)	$\phi 16$ ($\phi 0.6299$)	$\phi 18$ ($\phi 0.7087$)	$\phi 20$ ($\phi 0.7874$)	$\phi 25$ ($\phi 0.9843$)		
AS46□A AS46□AP	ASC34AK ASC36AK ASC46□K	-	$\phi 5$ ($\phi 0.1969$)	MCS14	●	●	●												
-	ASC34AK-T	7.2, 10, 20, 30																	
AS46□A-T AS46□AP-T	ASC46□K-T	3.6, 7.2, 10	$\phi 6$ ($\phi 0.2362$)	MCS20		●	●	●	●	●									
-	ASC34AK-N	5, 7.2, 10																	
AS46□A-T AS46□AP-T	ASC46□K-T	20, 30	$\phi 6$ ($\phi 0.2362$)	MCS30			●	●	●	●									
AS66□E AS66AT AS66□EP AS66ATP AS69□E AS69AT AS69□EP AS69ATP	ASC66□K	-	$\phi 8$ ($\phi 0.3150$)					●	●	●	●								
AS66□E-T AS66□EP-T	ASC66□K-T	3.6, 7.2																	
-	ASC34AK-H	50, 100																	
AS46□A-N AS46□AP-N	ASC46□K-N	7.2, 10	$\phi 10$ ($\phi 0.3937$)					●	●	●	●								
AS98□E AS98AT AS98□EP AS98ATP AS911A□E AS911A□T AS911A□EP AS911A□TP	-	-	$\phi 14$ ($\phi 0.5512$)							●	●	●		●					
AS66□E-T AS66□EP-T	ASC66□K-T	10, 20, 30	$\phi 8$ ($\phi 0.3150$)		MCS40					●	●	●		●					
AS46□A2-H AS46□AP2-H	ASC46□K-H	50, 100	$\phi 10$ ($\phi 0.3937$)							●	●	●		●					
AS66□E-N AS66□EP-N	ASC66□K-N	5, 7.2	$\phi 12$ ($\phi 0.4724$)							●	●	●		●					
AS98□E-T AS98□EP-T	-	3.6, 7.2, 10, 20, 30			MCS55									●	●	●	●		
AS66□E-N AS66□EP-N	ASC66□K-N	10, 25, 36, 50	$\phi 12$ ($\phi 0.4724$)											●	●	●	●		
AS66□E-H AS66□EP-H	ASC66□K-H	50, 100																	
AS98□E-N AS98□EP-N	-	5, 7.2, 10, 25, 36, 50	$\phi 18$ ($\phi 0.7087$)	MCS65											●	●	●		
AS98□E-H AS98□EP-H	-	50, 100																	

● Enter **A** (standard) or **M** (electromagnetic brake) in the box (□) within the model name.

Enter the power supply voltage (**A**, **C** or **S**) in the box (□) within the model name.

Enter the gear ratio in the box (■) within the model name.

Introduction

AC Input

DC Input

AC Input

Full/Half U/MK

Microstep CMK

DC Input

Microstep CMK

Without Encoder

With Encoder

Controllers

Controllers

Accessories

Accessories

Installation

Installation

● 5-Phase Packages

Model		Gear Ratio	Motor Shaft Diameter mm (in.)	Type	Driven Shaft Diameter mm (in.)												
RK	CRK				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)	φ25 (φ0.9843)
-	CRK513P□P	-	φ4 (φ0.1575)	MCS14	●	●	●										
-	CRK513P□P-H■	50, 100															
RK543□A RK544□A RK545□A	CRK523PM□P CRK524PM□P CRK525PM□P CRK544PM□P CRK546PM□P CRK523P□P CRK525P□P CRK544P□P CRK546P□P CRK543□P CRK544□P CRK545□P	-	φ5 (φ0.1969)		●	●	●										
-	CRK523P□P-T■	7.2, 10, 20, 30															
RK543□A-T3.6	CRK543□P-T3.6	3.6	φ6 (φ0.2362)		●	●	●										
RK543□A-T■	CRK543□P-T■	7.2, 10	φ6 (φ0.2362)	MCS20		●	●	●	●								
RK564□□E RK566□□E RK564A□T RK566A□T	CRK564□P CRK566□P	-	φ8 (φ0.3150)			●	●	●	●								
-	CRK523P□P-N■	5, 7.2, 10															
RK544□A-N■	CRK544□P-N■	5, 7.2	φ10 (φ0.3937)				●	●	●	●							
RK543□A-T■	CRK543□P-T■	20, 30	φ6 (φ0.2362)	MCS30			●	●	●								
RK569□□E RK569A□T	CRK564PM□P CRK566PM□P CRK569□P	-	φ8 (φ0.3150)				●	●	●	●							
RK564□□E-T■	CRK564□P-T■	3.6, 7.2															
-	CRK569PM□P	-	φ10 (φ0.3937)				●	●	●	●	●						
RK544□A-N10 RK596□□E RK596A□T	CRK544□P-N10	10	φ14 (φ0.5512)						●	●	●		●				
RK564□□E-T■	CRK564□P-T■	10, 20, 30	φ8 (φ0.3150)	MCS40				●	●	●		●					
RK543□A-H■	CRK543□P-H■	50, 100	φ10 (φ0.3937)						●	●	●		●				
RK566□□E-N■	CRK566□P-N■	5, 7.2	φ12 (φ0.4724)					●	●	●		●					
RK596□□E-T■	-	3.6, 7.2, 10, 20, 30	φ12 (φ0.4724)	MCS55													
RK564□□E-N■	CRK564□P-N■	25, 36, 50								●	●	●	●				
RK566□□E-N10	CRK566□P-N10	10															
RK564□□E-H■	CRK564□P-H■	50, 100															
RK599□□E RK5913□□E RK599A□T RK5913A□T	-	-	φ14 (φ0.5512)						●	●	●	●					
RK599□□E-N5	-	5	φ18 (φ0.7087)							●	●	●	●				
RK596□□E-N■	-	25, 36, 50	φ18 (φ0.7087)	MCS65								●	●	●	●		
RK599□□E-N■		7.2, 10												●	●	●	●
RK596□□E-H■		50, 100															

● Enter **A** (single shaft) or **B** (double shaft) in the box (□) within the model name.

Enter the power supply voltage (**A** or **C**) in the box (□) within the model name.

Enter the gear ratio in the box (■) within the model name.

● 2-Phase Packages, 2-Phase Stepping Motors

Model			2-Phase Stepping Motors PK	Gear Ratio	Motor Shaft Diameter mm (in.)	Type	Driven Shaft Diameter mm (in.)										
UMK	RBK	CMK					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)	
UMK243□A UMK244□A UMK245□A	-	CMK22□P□P CMK23□P□P CMK244P□P CMK24□□PA CMK24□M□PA	PK22□P□ PK23□P□ PK244P□ PK24□-01□A PK24□-02□A PK24□-03□A PK244-04□A PK24□M-01□A PK24□M-02□A PK24□M-03□A	-													
-	-	CMK223□P-SG■	PK223P□-SG■	7.2, 9, 10, 18, 36	φ5 (φ0.1969)	MCS14	●	●	●								
-	-	CMK243□PA-SG■	PK243□1A-SG■	3.6, 7.2, 9, 10, 18, 36, 50, 100													
-	-	-	PK243□2A-SG■	3.6, 7.2, 9, 10, 18, 36													
-	-	-	-	3, 3.6, 7.5, 9, 15, 18, 30, 36, 50, 60, 100, 120													
-	-	CMK246P□P	PK246P□	-	φ5 (φ0.1969)			●	●	●	●						
UMK264□A UMK266□A	RBK264□ RBK264T RBK266□ RBK266T	CMK256□P CMK264□P CMK266□P CMK264M□P CMK266M□P	PK256-02□ PK264-01□ PK264-02□ PK264-03□ PK266-01□ PK266-02□ PK266-03□ PK264DAT PK266DAT PK264M-01□ PK264M-02□ PK264M-03□ PK266M-01□ PK266M-02□ PK266M-03□	-	φ6.35 (φ0.2500)	MCS20		●	●	●	●	●					
-	-	CMK264□PA-SG■	PK264□1A-SG■ PK264□2A-SG■	3.6, 7.2	φ8 (φ0.3150)			●	●	●	●	●					
UMK268□A	RBK268□ RBK268T	CMK258□P CMK268□P CMK268M□P	PK258-02□ PK268-01□ PK268-02□ PK268-03□ PK268DAT PK268M-01□ PK268M-02□ PK268M-03□	-	φ6.35 (φ0.2500)	MCS30			●	●	●	●					
-	-	CMK264□PA-SG■	PK264□2A-SG■	9, 10, 18, 36	φ8 (φ0.3150)				●	●	●	●					
-	-	-	PK264□1-SG■	9, 10, 18, 36													
-	RBK296T	-	PK296-01□A PK296-02□A PK296-03□A PK296EAT	-	φ14 (φ0.5512)						●	●	●				●
-	-	-	PK296□1A-SG■ PK296□2A-SG■	3.6, 7.2, 9	φ12 (φ0.4724)	MCS40				●	●	●		●			
-	-	-	PK296□1A-SG■ PK296□2A-SG■	10, 18, 36	φ12 (φ0.4724)						●	●	●				
-	RBK299T RBK2913T	-	PK29□-01□A PK29□-02□A PK29□-03□A PK299EAT PK2913EAT	-	φ14 (φ0.5512)	MCS55							●	●	●		●

● Enter **A** (single shaft) or **B** (double shaft) in the box (□) within the model name.

Enter the motor case length in the box (■) within the model name.

Enter the gear ratio in the box (■) within the model name.

Introduction

QSTEP
AS
AC InputQSTEP
ASC
DC Input5-Phase
Microstep
RK
AC Input2-Phase
Full/Half
UMK5-Phase
Microstep
CMK2-Phase
Microstep
RBK
DC Input2-Phase
Microstep
CMK2-Phase
PK/PV
Without Encoder2-Phase
PK
With EncoderEMP400
Controllers

SG8030J

Accessories

Installation

● Brushless Motors

Model	Motor Shaft Diameter mm (in.)	Type	Driven Shaft Diameter mm (in.)							
			φ5 (φ0.1969)	φ6 (φ0.2362)	φ6.35 (φ0.2500)	φ8 (φ0.3150)	φ10 (φ0.3937)	φ12 (φ0.4724)	φ14 (φ0.5512)	φ16 (φ0.6299)
BX230	φ8 (φ0.3150)	MCS20	●	●	●	●	●			
BX460	φ10 (φ0.3937)		●	●	●	●	●			
BX5120	φ12 (φ0.4724)		●			●	●	●	●	
BX6200 BX6400	φ14 (φ0.5512)	MCS30					●	●	●	●

● Low-Speed Synchronous Motors

Model	Motor Shaft Diameter mm (in.)	Type	Driven Shaft Diameter mm (in.)								
			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)	φ16 (φ0.6299)
SMK014K-A SMK014MA-A	φ5 (φ0.1969)	MCS14	●	●	●						
SMK237A-A	φ6.35 (φ0.2500)	MCS20		●	●	●	●	●			
SMK5100A-AA SMK5160A-AA	φ14 (φ0.5512)	MCS30						●	●	●	●

■ Specifications

Model	Dimensions				Key Slot Tolerance b/t mm (in.)	Normal Torque N-m (lb-in)	Mass g (oz.)	Inertia kg-m ² (oz-in ²)	Static Torsion Spring Constant N-m/rad (lb-in/rad)	Permissible Eccentricity mm (in.)	Permissible Declination deg	Permissible End Play mm (in.)
	Outer Diameter	Length	Shaft Hole Diameter d1	Shaft Hole Diameter d2								
	mm (in.)	mm (in.)	mm (in.)	mm (in.)								
MCS140405	14 (0.55)	22 (0.87)	4 ^{+0.012} ₀ (0.1575 ^{+0.0005})	5 ^{+0.012} ₀ (0.1969 ^{+0.0005})	—	2.0 (17.7)	6.7 (0.23)	0.184×10 ⁻⁶ (0.01)	22.9 (200)	0.06 (0.0024)	0.9	+0.6 0 (+0.024 0)
MCS140505			5 ^{+0.012} ₀ (0.1969 ^{+0.0005})	5 ^{+0.012} ₀ (0.1969 ^{+0.0005})								
MCS140506			5 ^{+0.012} ₀ (0.1969 ^{+0.0005})	6 ^{+0.012} ₀ (0.2362 ^{+0.0005})								
MCS200506	20 (0.79)	30 (1.18)	5 ^{+0.012} ₀ (0.1969 ^{+0.0005})	6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	—	5.0 (44)	19.8 (0.69)	1.059×10 ⁻⁶ (0.06)	51.6 (450)	0.08 (0.0031)	0.9	+0.8 0 (+0.031 0)
MCS200606			6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	6 ^{+0.012} ₀ (0.2362 ^{+0.0005})								
MCS2006F04			6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	6.35 ^{+0.015} ₀ (0.2500 ^{+0.0006})								
MCS200608			6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	8 ^{+0.015} ₀ (0.3150 ^{+0.0006})								
MCS200610			6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	10 ^{+0.015} ₀ (0.3937 ^{+0.0006})								
MCS300606	30 (1.18)	35 (1.38)	6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	—	12.5 (110)	44.6 (1.57)	6.057×10 ⁻⁶ (0.33)	171.9 (1520)	0.09 (0.0035)	0.9	+1.0 0 (+0.039 0)
MCS3006F04			6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	6.35 ^{+0.015} ₀ (0.2500 ^{+0.0006})								
MCS300608			6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	8 ^{+0.015} ₀ (0.3150 ^{+0.0006})								
MCS300610			6 ^{+0.012} ₀ (0.2362 ^{+0.0005})	10 ^{+0.015} ₀ (0.3937 ^{+0.0006})								
MCS30F04F04			6.35 ^{+0.015} ₀ (0.2500 ^{+0.0006})	6.35 ^{+0.015} ₀ (0.2500 ^{+0.0006})								
MCS30F0408			6.35 ^{+0.015} ₀ (0.2500 ^{+0.0006})	8 ^{+0.015} ₀ (0.3150 ^{+0.0006})								
MCS30F0410			6.35 ^{+0.015} ₀ (0.2500 ^{+0.0006})	10 ^{+0.015} ₀ (0.3937 ^{+0.0006})								
MCS300808			8 ^{+0.015} ₀ (0.3150 ^{+0.0006})	8 ^{+0.015} ₀ (0.3150 ^{+0.0006})								
MCS300810			8 ^{+0.015} ₀ (0.3150 ^{+0.0006})	10 ^{+0.015} ₀ (0.3937 ^{+0.0006})								
MCS300812			8 ^{+0.015} ₀ (0.3150 ^{+0.0006})	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})								
MCS301012			10 ^{+0.015} ₀ (0.3937 ^{+0.0006})	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})								
MCS301014			10 ^{+0.015} ₀ (0.3937 ^{+0.0006})	14 ^{+0.018} ₀ (0.5512 ^{+0.0007})								

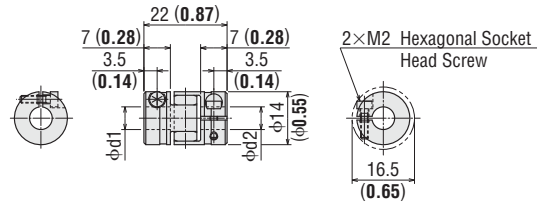
Model	Dimensions				Key Slot Tolerance b/t	Normal Torque	Mass	Inertia	Static Torsion Spring Constant	Permissible Eccentricity	Permissible Declination	Permissible End Play
	Outer Diameter	Length	Shaft Hole Diameter d1	Shaft Hole Diameter d2								
MCS301212	30 (1.18)	35 (1.38)	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})	—	12.5 (110)	44.6 (1.57)	6.057×10 ⁻⁶ (0.33)	171.9 (1520)	0.09 (0.0035)	0.9	+1.0 0 (+0.039 0)
MCS301214			12 ^{+0.018} ₀ (0.4724 ^{+0.0007})	14 ^{+0.018} ₀ (0.5512 ^{+0.0007})								
MCS301414			14 ^{+0.018} ₀ (0.5512 ^{+0.0007})	14 ^{+0.018} ₀ (0.5512 ^{+0.0007})								
MCS301416			14 ^{+0.018} ₀ (0.5512 ^{+0.0007})	16 ^{+0.018} ₀ (0.6299 ^{+0.0007})								
MCS400808	40 (1.57)	66 (2.60)	8 ^{+0.015} ₀ (0.3150 ^{+0.0006})	8 ^{+0.015} ₀ (0.3150 ^{+0.0006})	φ8 (φ0.3150) b: 2±0.0125 (0.0787±0.0005) t: 1 ^{+0.1} ₀ (0.039 ^{+0.0039})	17.0 (150)	139 (4.9)	42.29×10 ⁻⁶ (2.3)	859.5 (7600)	0.06 (0.0024)	0.9	+1.2 0 (+0.047 0)
MCS400810			8 ^{+0.015} ₀ (0.3150 ^{+0.0006})	10 ^{+0.015} ₀ (0.3937 ^{+0.0006})								
MCS400812			8 ^{+0.015} ₀ (0.3150 ^{+0.0006})	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})								
MCS400815			8 ^{+0.015} ₀ (0.3150 ^{+0.0006})	15 ^{+0.018} ₀ (0.5906 ^{+0.0007})								
MCS401010			10 ^{+0.015} ₀ (0.3937 ^{+0.0006})	10 ^{+0.015} ₀ (0.3937 ^{+0.0006})								
MCS401012			10 ^{+0.015} ₀ (0.3937 ^{+0.0006})	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})								
MCS401015			10 ^{+0.015} ₀ (0.3937 ^{+0.0006})	15 ^{+0.018} ₀ (0.5906 ^{+0.0007})								
MCS401212			12 ^{+0.018} ₀ (0.4724 ^{+0.0007})	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})								
MCS401215			12 ^{+0.018} ₀ (0.4724 ^{+0.0007})	15 ^{+0.018} ₀ (0.5906 ^{+0.0007})								
MCS551212			55 (2.17)	78 (3.07)								
MCS551214	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})	14 ^{+0.018} ₀ (0.5512 ^{+0.0007})										
MCS551215	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})	15 ^{+0.018} ₀ (0.5906 ^{+0.0007})										
MCS551216	12 ^{+0.018} ₀ (0.4724 ^{+0.0007})	16 ^{+0.018} ₀ (0.6299 ^{+0.0007})										
MCS551414	14 ^{+0.018} ₀ (0.5512 ^{+0.0007})	14 ^{+0.018} ₀ (0.5512 ^{+0.0007})										
MCS551415	14 ^{+0.018} ₀ (0.5512 ^{+0.0007})	15 ^{+0.018} ₀ (0.5906 ^{+0.0007})										
MCS551416	14 ^{+0.018} ₀ (0.5512 ^{+0.0007})	16 ^{+0.018} ₀ (0.6299 ^{+0.0007})										
MCS551518	15 ^{+0.018} ₀ (0.5906 ^{+0.0007})	18 ^{+0.018} ₀ (0.7087 ^{+0.0007})										
MCS551618	16 ^{+0.018} ₀ (0.6299 ^{+0.0007})	18 ^{+0.018} ₀ (0.7087 ^{+0.0007})										
MCS551818	18 ^{+0.018} ₀ (0.7087 ^{+0.0007})	18 ^{+0.018} ₀ (0.7087 ^{+0.0007})										
MCS551820	18 ^{+0.018} ₀ (0.7087 ^{+0.0007})	20 ^{+0.021} ₀ (0.7874 ^{+0.0008})										
MCS651618	65 (2.56)	90 (3.54)	16 ^{+0.018} ₀ (0.6299 ^{+0.0007})	18 ^{+0.018} ₀ (0.7087 ^{+0.0007})	φ25 (φ0.9843) b: 8±0.018 (0.3150±0.0007) t: 3.3 ^{+0.2} ₀ (0.130 ^{+0.0079})	160 (1410)	535 (18.9)	417.1×10 ⁻⁶ (22.8)	3438 (30000)	0.11 (0.0043)	0.9	+1.5 0 (+0.059 0)
MCS651818			18 ^{+0.018} ₀ (0.7087 ^{+0.0007})	18 ^{+0.018} ₀ (0.7087 ^{+0.0007})								
MCS651820			18 ^{+0.018} ₀ (0.7087 ^{+0.0007})	20 ^{+0.021} ₀ (0.7874 ^{+0.0008})								
MCS651825			18 ^{+0.018} ₀ (0.7087 ^{+0.0007})	25 ^{+0.021} ₀ (0.9843 ^{+0.0008})								

- Introduction
- AC Input *Q5STEP AS*
- DC Input *Q5STEP ASG*
- 5-Phase Microstep *RK*
- AC Input *Full/Half UMK*
- 2-Phase Microstep *CMK*
- DC Input *2-Phase Microstep RBK*
- 2-Phase Microstep *CMK*
- Without Encoder *2-Phase PK/PV*
- With Encoder *2-Phase PK*
- EMP400
- 5G8030J
- Accessories
- Installation

Dimensions Unit = mm (in.)

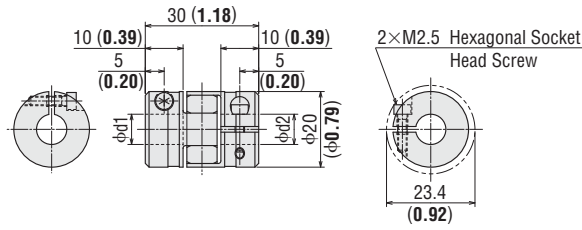
MCS14

Mass: 6.7 g (0.23 oz.)



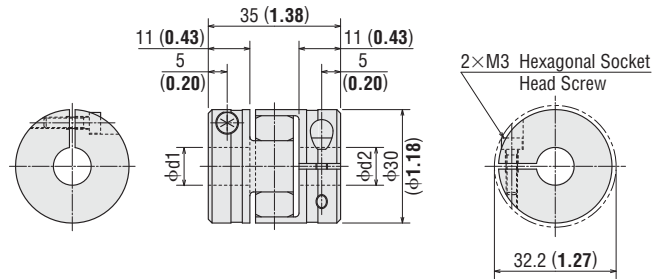
MCS20

Mass: 19.8 g (0.69 oz.)



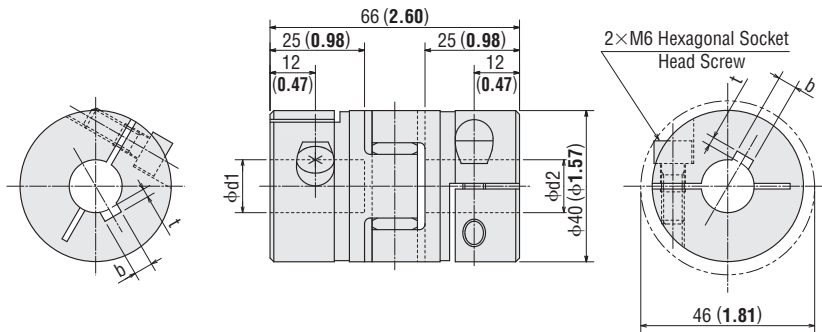
MCS30

Mass: 44.6 g (1.57 oz.)



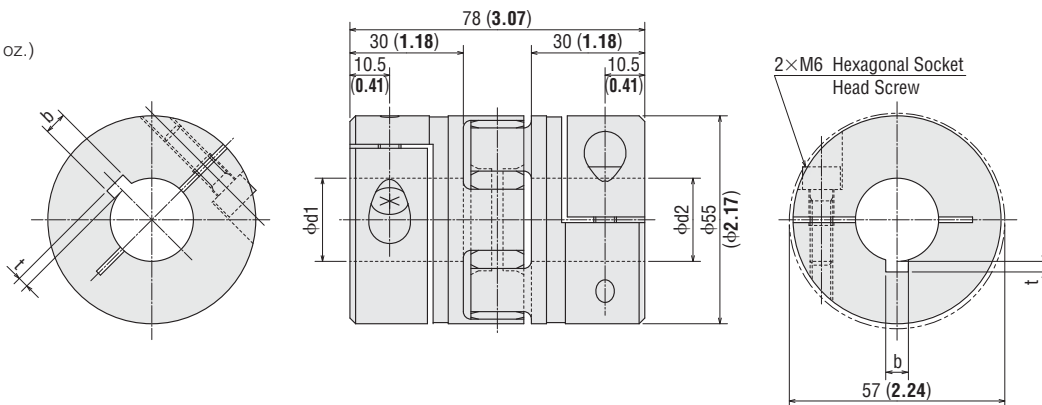
MCS40

Mass: 139 g (4.9 oz.)

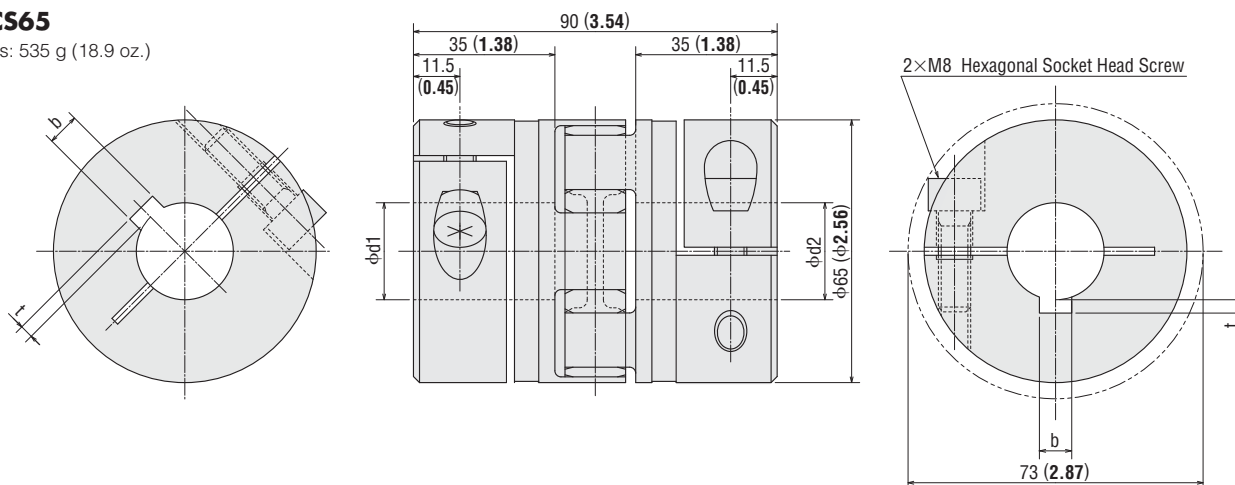


MCS55

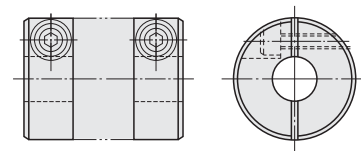
Mass: 282 g (10 oz.)

**MCS65**

Mass: 535 g (18.9 oz.)

**Mounting to a Shaft****● Clamp Type**

Clamp couplings use the tightening force of the screw to compress the shaft hole diameter and thereby fasten the coupling to the shaft. This does not damage the shaft and is easy to mount and remove.



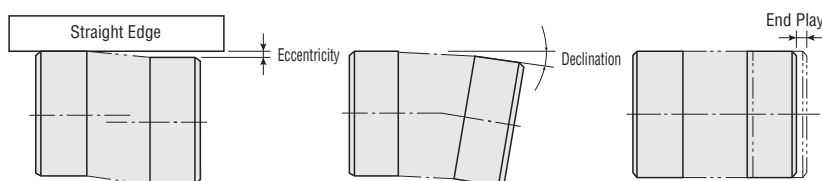
The following table shows the screw tightening torque. We recommend using a torque wrench to fasten the coupling.

Type	MCS14	MCS20	MCS30	MCS40	MCS55	MCS65
Tightening Torque N·m (oz·in)	0.37 (52)	0.76 (107)	1.34 (190)	10.5 (1490)	10.5 (1490)	25.0 (3550)

Alignment Adjustment

Flexible couplings tolerate misalignment of the axis center and transfer rotational angle and torque, but produce vibration when the permissible value for misalignment is exceeded. This can dramatically shorten the coupling's service life. This requires alignment adjustment.

Misalignment of the axis center includes eccentricity (parallel error of both centers), declination (angular error of both centers) and end play (shaft movement in the axial direction). To keep misalignment within the permissible value, always check and adjust the alignment. To increase the service life of the coupling, we recommend keeping misalignment below 1/3 of the permissible value.

**Notes:**

- When misalignment exceeds the permissible value or excessive torque is applied, the coupling's shape will deform, and service life is shortened.
- When the coupling emits a metallic sound during operation, stop operation immediately and ensure there is no misalignment, axis interference or loose screws.
- When load changes are large, apply an adhesive to the coupling set screw to prevent it from loosening.

Introduction

QSTEP
AS
AC InputQSTEP
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DC Input5-Phase
Microstep
RK
AC Input2-Phase
Full/Half
UMK5-Phase
Microstep
CRK2-Phase
Microstep
RBK
DC Input2-Phase
Microstep
CMK2-Phase
PK/PV
Without Encoder2-Phase
PK
With EncoderEMP400
Controllers

SG8030J

Accessories

Installation

Clean Dampers RoHS

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

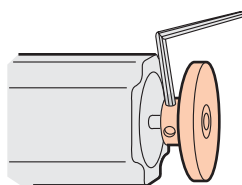
Features

- 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 cleanness is needed.
- High reliability
- It 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.

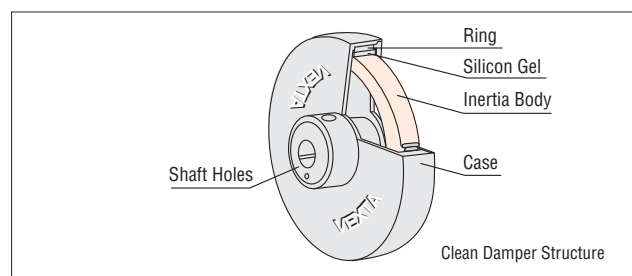
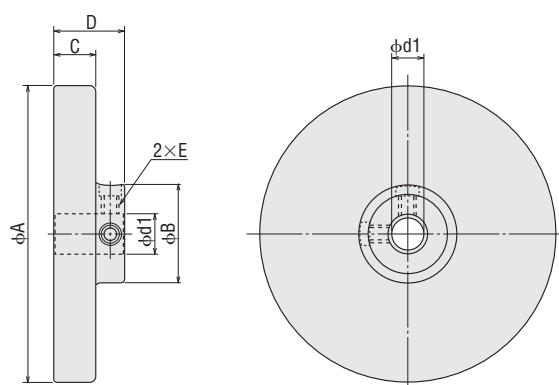
Product Line

Model
D4CL-5.0F
D6CL-6.3F
D6CL-8.0F
D9CL-12.7F
D9CL-14F

Installation of the Clean Damper



Dimensions Unit = mm (in.)



Point the mounting screws of the clean damper toward the motor case, fasten to the shaft and tighten the damper's mounting screws (two places) with a hexagonal wrench to secure it to the shaft.

Model	D4CL-5.0F	D6CL-6.3F	D6CL-8.0F	D9CL-12.7F	D9CL-14F
Tightening Torque N·m (oz·in)	0.4 (56)	1.5 (210)			

Notes:

- There are mounting screws with hexagonal holes in two damper locations, so tighten them both before running the motor.
- The damper rotates at the same speed as the motor shaft, so do not touch it while the motor is running.

Model	φd1	φA	φB	C	D	E
D4CL-5.0F	$\phi 5^{+0.018}_0$ ($\phi 0.1969^{+0.0007}_0$)	$\phi 36 \pm 0.5$ ($\phi 1.42 \pm 0.02$)	$\phi 13 \pm 0.5$ ($\phi 0.51 \pm 0.02$)	9 ± 0.3 (0.354 ± 0.012)	15 ± 0.5 (0.591 ± 0.02)	M3
D6CL-6.3F	$\phi 6.35^{+0.022}_0$ ($\phi 0.2500^{+0.0009}_0$)	$\phi 44.5 \pm 0.5$ ($\phi 1.75 \pm 0.02$)	$\phi 20 \pm 0.5$ ($\phi 0.79 \pm 0.02$)	15 ± 0.3 (0.591 ± 0.012)	22 ± 0.5 (0.87 ± 0.02)	M4
D6CL-8.0F	$\phi 8^{+0.022}_0$ ($\phi 0.3150^{+0.0009}_0$)	$\phi 44.5 \pm 0.5$ ($\phi 1.75 \pm 0.02$)	$\phi 20 \pm 0.5$ ($\phi 0.79 \pm 0.02$)	15 ± 0.3 (0.591 ± 0.012)	22 ± 0.5 (0.87 ± 0.02)	M4
D9CL-12.7F	$\phi 12.7^{+0.027}_0$ ($\phi 0.500^{+0.0011}_0$)	$\phi 79.5 \pm 0.5$ ($\phi 3.13 \pm 0.02$)	$\phi 26 \pm 0.5$ ($\phi 1.02 \pm 0.02$)	11 ± 0.3 (0.433 ± 0.012)	19 ± 0.5 (0.75 ± 0.02)	M4
D9CL-14F	$\phi 14^{+0.027}_0$ ($\phi 0.5512^{+0.0011}_0$)	$\phi 79.5 \pm 0.5$ ($\phi 3.13 \pm 0.02$)	$\phi 26 \pm 0.5$ ($\phi 1.02 \pm 0.02$)	11 ± 0.3 (0.433 ± 0.012)	19 ± 0.5 (0.75 ± 0.02)	M4

Clean Damper Selection Table

Model	Inertia kg·m ² (oz·in ²)	Mass g (lb.)	Applicable Product		
			RK Series	CRK Series	2-Phase Stepping Motors
D4CL-5.0F	34×10^{-7} (0.186)	24 (0.053)	RK54□BA RK543BA-T ■ RK544BA-N ■ RK543BA-H ■	CRK52□PBP CRK52□PMBP CRK523PBP-T ■ CRK523PBP-N ■ CRK54□BP CRK54□PBP CRK54□PMBP CRK543BP-T ■ CRK544BP-N ■ CRK543BP-H ■	UMK24□BA CMK22□PBP CMK23□PBP CMK223BP-SG ■ CMK243BPA-SG ■ CMK24□PBP CMK24□BP CMK24□MBP PK22□PB PK23□PB PK223PB-SG ■ PK243B1A-SG ■ PK243B2A-SG ■ PK24□PB PK24□-01BA PK24□-02BA PK24□-03BA PK244-04BA PK24□M-01BA PK24□M-02BA PK24□M-03BA
D6CL-6.3F	140×10^{-7} (0.77)	62 (0.14)	-	-	UMK26□BA RBK26□B CMK25□-BP CMK26□-BP CSK26□MBP CSK264BPA-SG ■ PK25□-02B PK26□-01B PK26□-02B PK26□-03B PK26□-E2.0B PK26□M-01B PK26□M-02B PK26□M-03B PK26□M-E2.0B PK264B1A-SG ■ PK264B2A-SG ■ PV26□-02BA PV26□-02.8BA
D6CL-8.0F	140×10^{-7} (0.77)	61 (0.13)	RK56□B□E RK564B□E-T ■ RK56□B□E-N ■ RK564B□E-H ■	CRK56□BP CRK56□PMBP CRK564BP-T ■ CRK56□BP-N ■ CRK564BP-H ■	-
D9CL-12.7F	870×10^{-7} (4.8)	105 (0.23)	-	-	RBK29□BA PK29□-01BA PK29□-02BA PK29□-03BA PK29□-F4.5B PK296B1A-SG ■ PK296B2A-SG ■
D9CL-14F	870×10^{-7} (4.8)	105 (0.23)	RK59□B□E RK596B□E-T ■ RK59□B□E-N ■ RK596B□E-H ■	-	-

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

● Enter the motor case length in the box (□) within the model name.

Enter the power supply voltage (A or C) in the box (□) within the model name.

Enter the gear ratio in the box (■) within the model name.

Motor Mounting Brackets RoHS

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



Product Line

Standard Type, High-Torque Type, High-Resolution Type

Material: Aluminum alloy

Model	Applicable Product						
	<i>α</i> STEP	RK Series	CRK Series	UMK Series RBK Series	CMK Series	2-Phase Stepping Motors	Low-Speed Synchronous Motors SMK Series
PAFOP	AS46□A AS46□AP ASC46□K	RK54□□A	CRK54□□P CRK54□P□P CRK54□PM□P	-	CMK24□P□P	PK24□P□	SMK014A-A
PALOPA	AS46□A AS46□AP ASC46□K	RK54□□A	CRK54□□P CRK54□P□P CRK54□PM□P	UMK24□□A	CMK24□M□PA CMK24□□PA	PK24□-01(02/03)□A PK244-04□A PK24□M-01(02/03)□A	SMK014A-A SMK014MA-A
PAL2P-5A	AS66□□E AS66A□T AS66□□EP ASC66□K AS69□□E AS69A□T AS69□□EP	RK56□□□E RK56□A□T	CRK56□□P CRK56□PM□P	-	-	-	-
PAL2P-2	-	-	-	UMK26□□A RBK26□□ RBK26□T	CMK26□M□P CMK26□□P	PK26□-01(02/03)□ PK26□M-01(02/03)□ PK26□BAT PV26□-02□A PV26□-D2.8□A	SMK237A-A
PAL4P-5A	AS98□□E AS98A□T AS98□□EP AS911A□E AS911A□T AS911A□EP	RK59□□□E RK59□A□T	-	-	-	-	-
PAL4P-2	-	-	-	RBK29□□A RBK29□T	-	PK29□-01(02/03)□A PK29□EAT PK29□-F4.0□	SMK5100A-AA SMK5160A-AA

- Enter **A** (single shaft), **B** (double shaft) or **M** (electromagnetic brake) in the box (□) within the model name.
Enter the power supply voltage (**A**, **C** or **S**) in the box (□) within the model name.
Enter the motor case length in the box (□) within the model name.
- 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 stepping motors. (Except for **PALOPA**)

Note:

- They cannot be used with geared stepping motors.

Geared Type

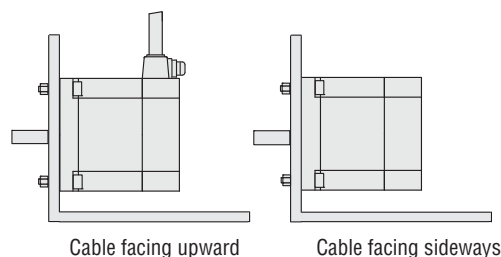
Material: Aluminum alloy

Model	Applicable Product				
	<i>α</i> STEP	RK Series	CRK Series	CMK Series	2-Phase Stepping Motors
SOLOA-A	-	-	-	CMK243□PA-SG■	PK243□1A-SG■ PK243□2A-SG■
SOLOB-A	AS43□A-T■ AS46□AP-T■ ASC46□K-T■	RK543□A-T■	CRK543□P-T■	-	-
SOL2A-A	AS66□□E-T■ AS66□□EP-T■ ASC66□K-T■	RK564□□E-T■	CRK564□P-T■	CMK264□PA-SG■	PK264□1A-SG■ PK264□2A-SG■
SOL5B-A	AS98□□E-T■ AS98□□EP-T■	RK596□□E-T■	-	-	PK296□1A-SG■ PK296□2A-SG■

- Enter **A** (single shaft), **B** (double shaft) or **M** (electromagnetic brake) in the box (□) within the model name.
Enter the power supply voltage (**A**, **C** or **S**) in the box (□) within the model name.
Enter the motor case length in the box (□) within the model name.
- When mounting, use the screws included with the geared motor. (Except for *α*STEP)

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.

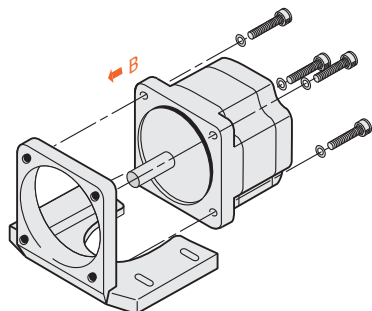


Cable facing upward

Cable facing sideways

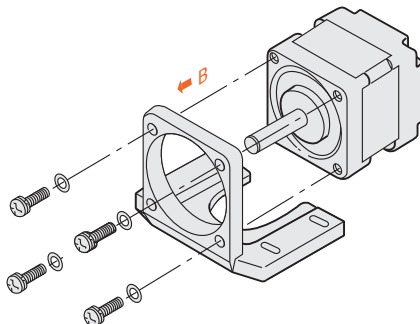
Mounting the Motor

1 PAL2P-5A, PAL2P-2, PAL4P-5A, PAL4P-2



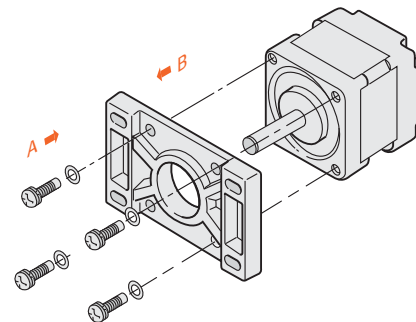
- Use the screws provided to secure the motor to the mounting bracket.
- Attach the motor from the direction shown by the arrow (B).

2 PAL0PA, SOLOA-A, SOLOB-A, SOL2A-A, SOL5B-A



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

3 PAFOP



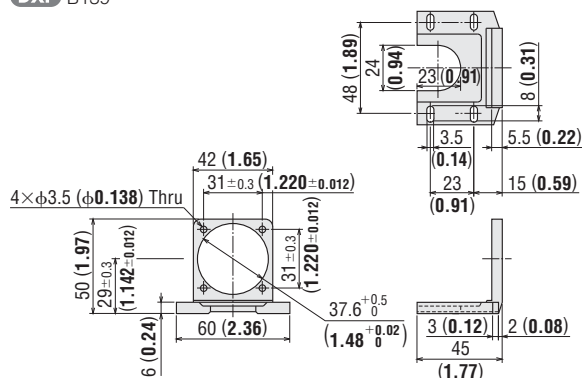
- Use the screws provided to secure the motor to the mounting bracket.
- Attach motor from the direction shown by either arrow (A) or arrow (B).

Dimensions Unit = mm (in.)

PAL0PA

Mass: 35 g (1.24 oz.)

DXF B139

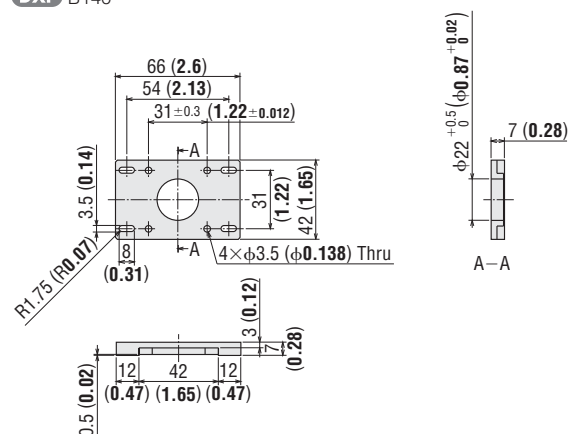


- Screws (Included)
M3P0.5 Length 10 mm (0.39 in.) ... 4 pieces

PAFOP

Mass: 30 g (1.06 oz.)

DXF B140

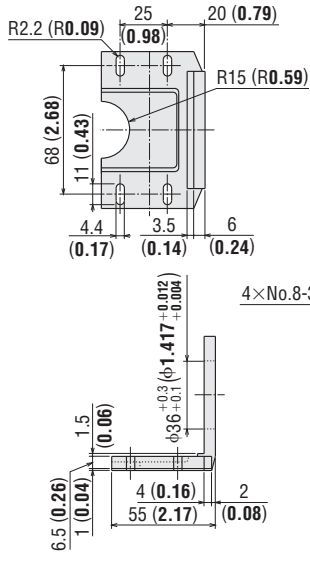


- Screws (Included)
M3P0.5 Length 7 mm (0.28 in.) ... 4 pieces

PAL2P-5A

Mass: 110 g (3.9 oz.)

DXF B143



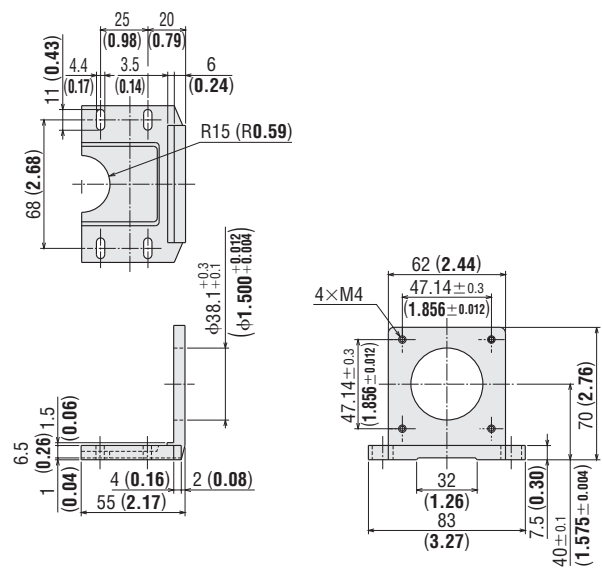
● Screws (Included)

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

PAL2P-2

Mass: 110 g (3.9 oz.)

DXF B144



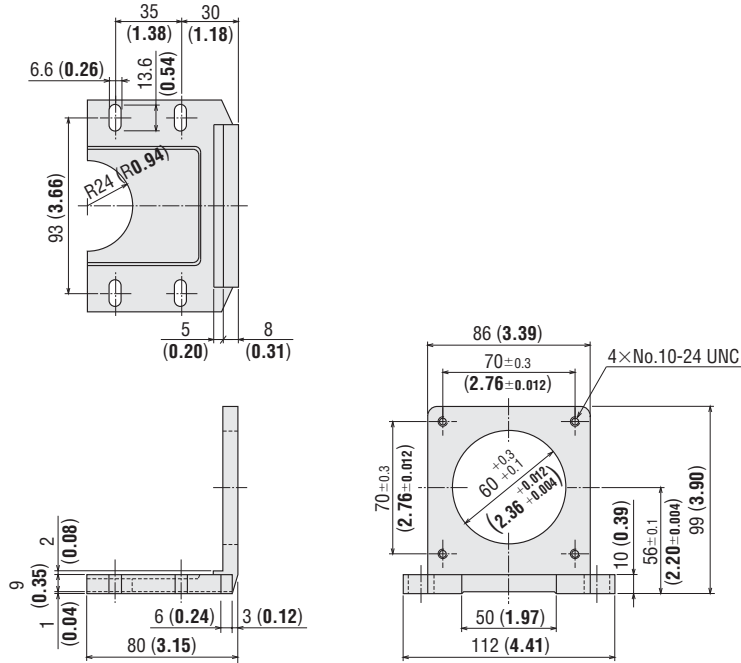
● Screws (Included)

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

PAL4P-5A

Mass: 250 g (8.8 oz.)

DXF B145



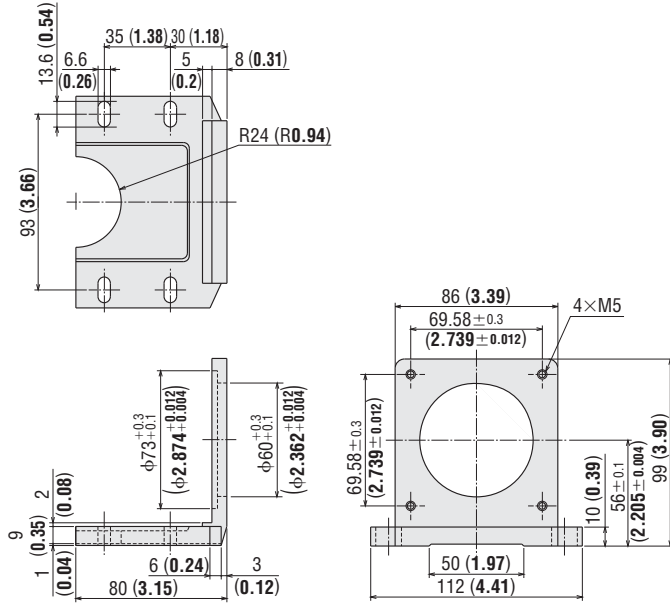
● Screws (Included)

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

PAL4P-2

Mass: 250 g (8.8 oz.)

DXF B146

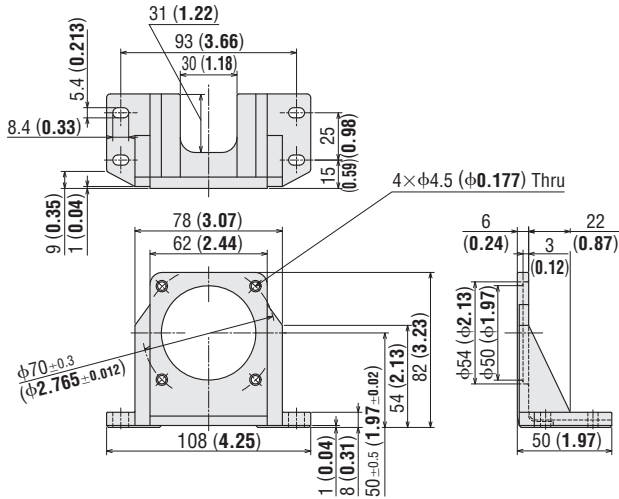


● Screws (Included)
M5P0.8 Length 16 mm (0.63 in.) ... 4 pieces

SOL2A-A

Mass: 120 g (4.2 oz.)

DXF B268



SOLOA-A

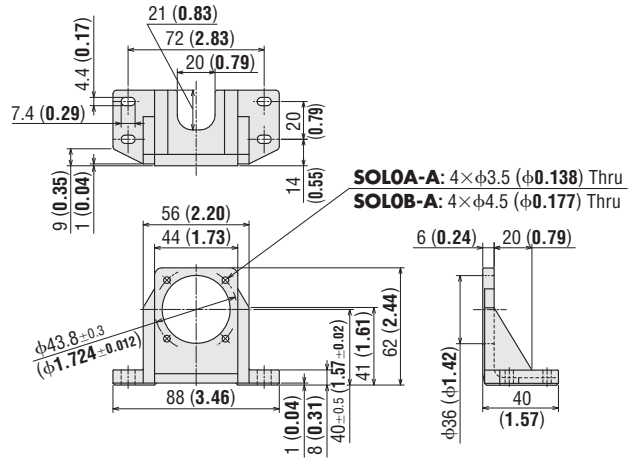
Mass: 85 g (3 oz.)

DXF B266

SOLOB-A

Mass: 85 g (3 oz.)

DXF B267



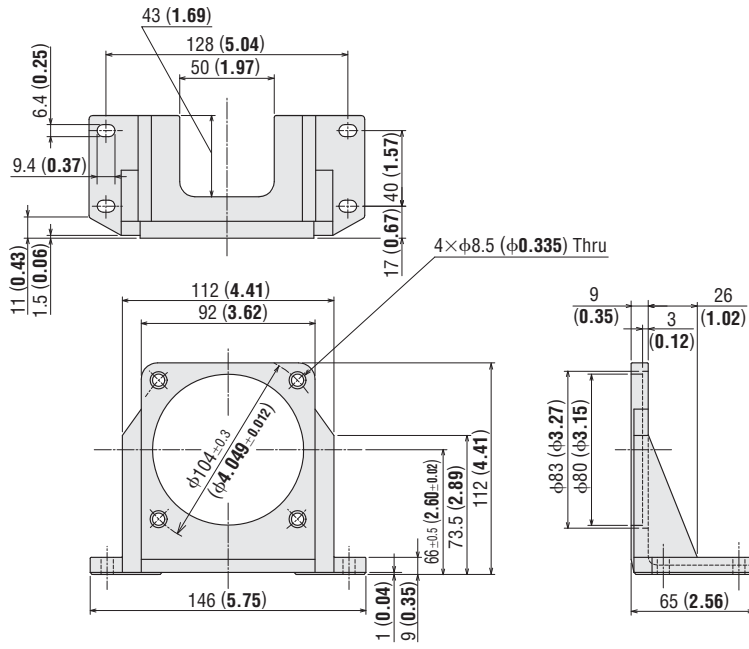
SOLOA-A: 4x $\phi 3.5$ ($\phi 0.138$) Thru
SOLOB-A: 4x $\phi 4.5$ ($\phi 0.177$) Thru

Introduction	
AC Input	QSTEP AS
DC Input	QSTEP ASC
AC Input	5-Phase Microstep RK
AC Input	2-Phase Full/Half UMK
DC Input	5-Phase Microstep CMK
DC Input	2-Phase Microstep RBK
Without Encoder	2-Phase Microstep CMK
With Encoder	2-Phase PK/PV
With Encoder	2-Phase PK
Controllers	EMP400
Controllers	SG8030J
Accessories	
Installation	

SOL5B-A

Mass: 270 g (9.5 oz.)

DXF B271



DIN Rail Mounting Plate RoHS

This mounting plate is convenient for installing the drivers of **αSTEP AS** Series and **RBK** Series on DIN rails with ease.

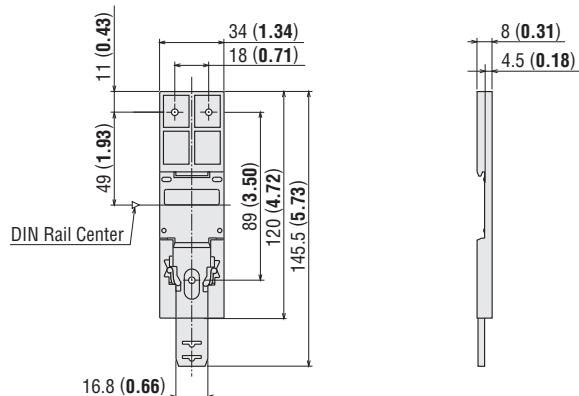
Product Line

Model	Applicable Product
PADP01	AS Series Driver RBK Series Driver

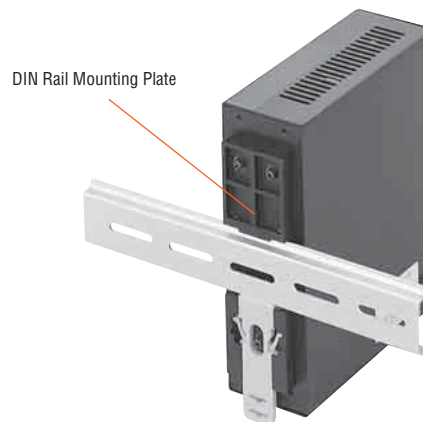
Dimensions Unit = mm (in.)

PADP01

Mass: 20 g (0.71 oz.)



- Screws (Included)
M3P0.5 Length 8 mm (0.31 in.) ... 3 pieces



Introduction

AC Input

DC Input

5-Phase
Microstep
RK
AC Input2-Phase
Full/Half
UMK5-Phase
Microstep
CRK2-Phase
Microstep
RBK
DC Input2-Phase
Microstep
CMK2-Phase
PK/PV
Without Encoder2-Phase
PK
With Encoder

EMP400

Controllers

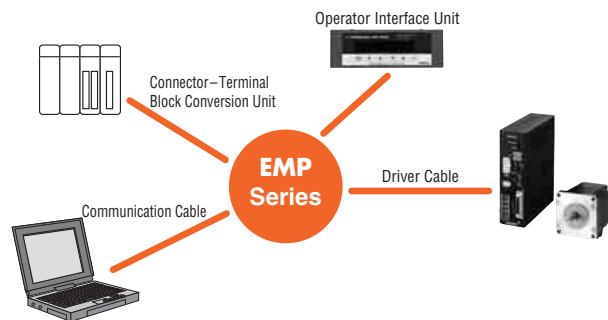
SG8030J

Accessories

Installation

Accessories for EMP Series Controller

We have a range of optional cables that achieve one-touch connection between the **EMP400** Series and peripherals, as well as an operator interface unit used for teaching operation.

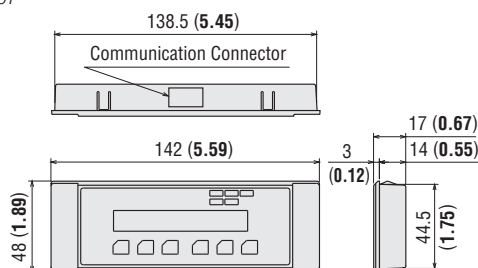


Operator Interface Unit OP300 (RoHS)

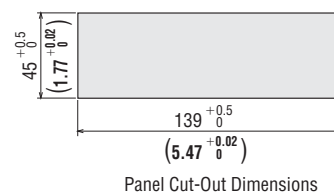
Set the travel amount via teaching or monitor the current position. The unit comes with a 2 m (6.6 ft.) cable for connection with the **EMP400** Series.

● **Dimensions** Unit = mm (in.)

DXF B297



◇ **Panel Cut-Out**



Communication Cable FC04W5 (RoHS)

A 5 m (16.4 ft.) cable with a D-sub 9 connector one end for the RS-232C communications between the PC and the **EMP400** Series controller.



Connector – Terminal Block Conversion Unit CC50T1 (RoHS)

The **EMP400** Series and programmable controller can be connected via a terminal block. Cable Length: 1 m (3.3 ft.)

● **Dimensions** Unit = mm (in.)

DXF B439

