

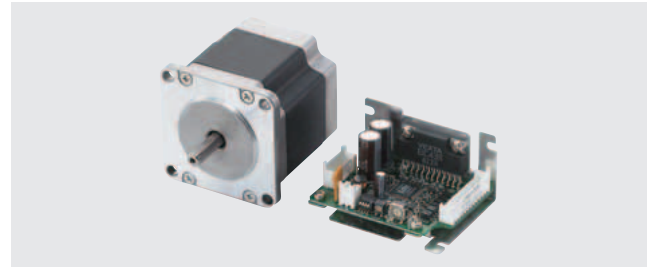
0.9°/ 1.8°/Geared 2-Phase Stepping Motor and Driver Packages CMK Series

● Connection Information ●
 Technical reference → Page G-1
 Safety standards → Page H-2

This package consists of a 2-phase stepping motor and a 24 VDC input microstep driver. It helps you reduce the size and vibration of your equipment.



● For detailed product safety standard information including standards, file number and certification body, please visit www.orientalmotor.eu.



Features

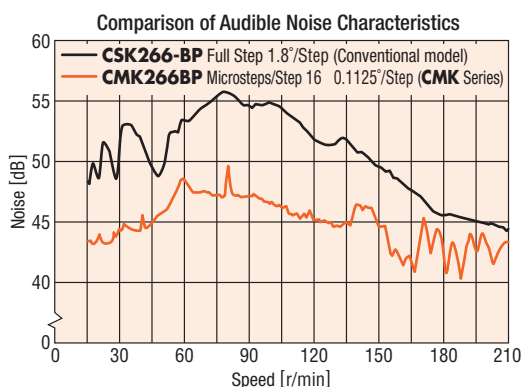
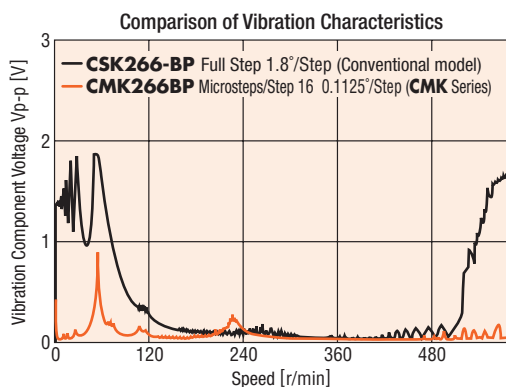
● Compact, Lightweight Microstep Driver

◇ Low Vibration and Noise Reduction Achieved by Microstep Drive

The newly designed compact DC power-supply input, board-level driver achieves microstep drive in a compact, lightweight body. The basic step angle (1.8°/step) of a 2-phase stepping motor can be enhanced to a resolution of up to 16 times (0.1125°/step) without using any speed reduction mechanism or other mechanical components. This reduces the vibration and noise of your equipment.

Microsteps/Step	Resolution	Step Angle
1	200	1.8°
2	400	0.9°
4	800	0.45°
8	1600	0.225°
16	3200	0.1125°

(For a motor with a basic step angle of 1.8°/step)

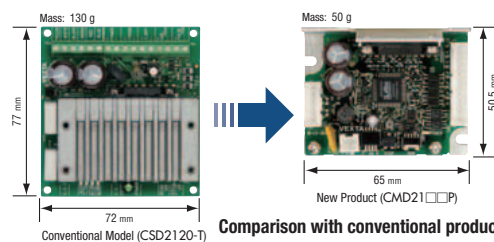
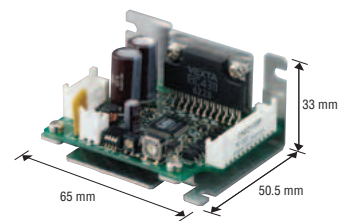


◇ Full Range of Driver Functions and Features

- Five Preset Step Angles
- Operating Current Easily Set with Digital Switch
- 1-Pulse/2-Pulse Input Mode Switching
- Power Input Indicator LED
- Connector with Lock Mechanism (By Molex)

◇ One of the Smallest Microstep Drivers in the Industry

This is one of the smallest and lightest microstep drivers in the industry. The driver is 58% lighter and has 32% less install area (based on horizontal installation) compared with our conventional model. This product contributes to the downsizing of your equipment.



Comparison with conventional product

Mass **62%** Reduction

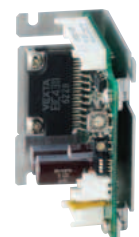
Install Area **41%** Reduction (with horizontal installation)

Volume **41%** Reduction (The conventional model includes a 5 mm spacer for installation.)

◇ Easy-to-Install Heat Radiation Plate Shape



Horizontal Installation






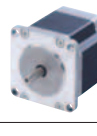


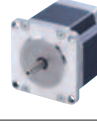








Vertical Installation

● Lineup of Motors

The motor and driver package comes in five frame sizes of 28 to 60 mm, as well as five motor types.

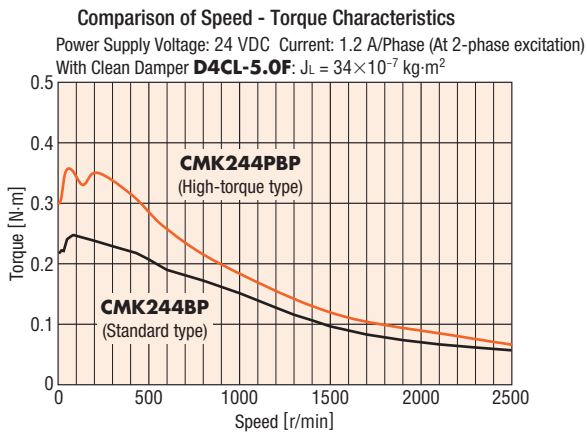
□42 mm: indicates a motor frame size of 42 mm.

Type	Features	□28 mm	□35 mm	□42 mm	□50 mm	□56.4/60 mm	Driver
High-Torque Type	A high-torque motor generates higher torque of approximately 1.5 times compared with the conventional standard type motor.						
High-Resolution Type	The basic step angle is 0.9°/step, which is half that of the standard type. This type of motor is designed to achieve ultimate position accuracy.						
Standard Type	The basic model offering an optimal balance of torque, low vibration and noise reduction.						
SH Geared Type	These geared types are effective for deceleration, increasing torque, higher resolution and taking a measure of vibration. Eight types of gear ratios are available.						
TH Geared Type	A geared motor achieving both low backlash and low cost.						

◇ High-Torque Type

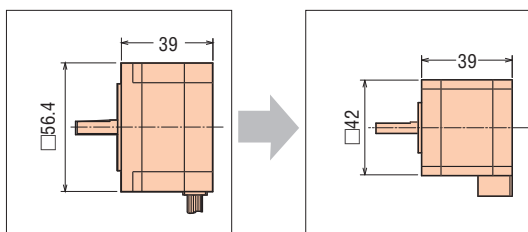
● High Torque

The high-torque type motor adopts a new technology and design. A high-torque motor generates higher torque of approximately 1.5 times compared with the conventional standard type motor.



● Downsizing

Providing torque equivalent to a motor of the next larger frame size, the high-torque type allows for a reduction in the size of your equipment.

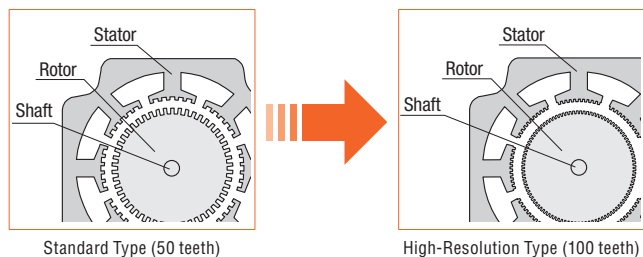


Standard Type	Type	High-Torque Type
CMK264AP	Product Name	CMK244AP
0.36 N·m	Maximum Holding Torque	0.39 N·m

Also, the easy-to-use connector coupling method lets you connect the driver to the motor with an easy action.

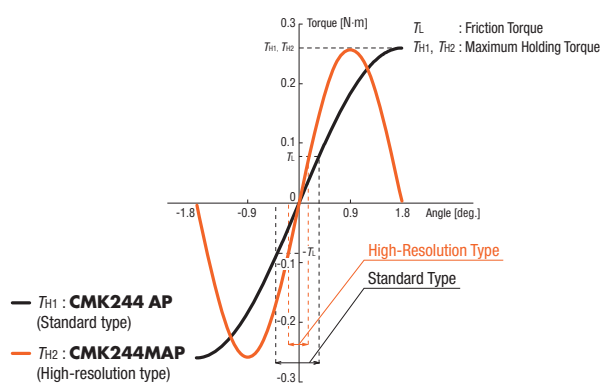
◇ High-Resolution Type

The basic step angle is 0.9°, which is half that of the standard type. 400 steps per rotation is possible. This motor achieves high resolution, improved stopping accuracy and low vibration.



The small basic step angle allows the torque to increase sharply while minimizing the negative effect of frictional load.

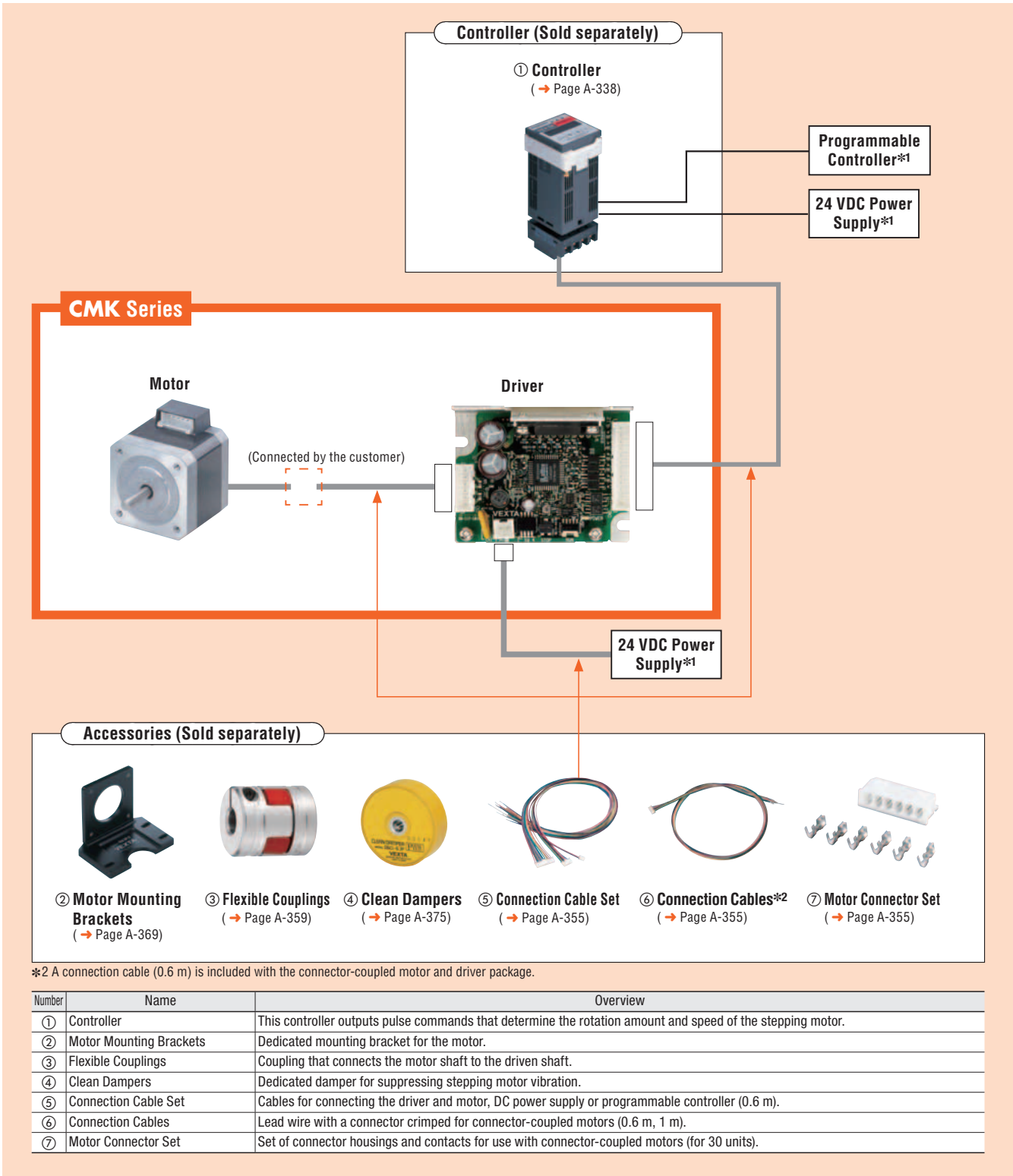
Comparison of Angle - Torque Characteristics



System Configuration

An example of a system configuration with the **SG8030JY** controller is shown below.

*1 Not supplied



System Configuration Example

CMK Series	Sold Separately				
	Controller	Motor Mounting Bracket	Flexible Coupling	Clean Damper	Connection Cable Set (0.6 m)
CMK244PBP	SG8030JY-U	PALOP	MCS140506	D4CL-5.0F	LCS01CMK2

The system configuration shown above is an example. Other combinations are available.

Product Number Code

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

CMK 2 4 6 P A P

① ② ③ ④ ⑤ ⑥ ⑦

- Geared Type

CMK 2 6 4 A P-SG 10

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Product Line

- High-Resolution Type

Product Name (Single shaft)	Product Name (Double shaft)
CMK243MAP	CMK243MBP
CMK244MAP	CMK244MBP
CMK245MAP	CMK245MBP
CMK264MAP	CMK264MBP
CMK266MAP	CMK266MBP
CMK268MAP	CMK268MBP

- High-Torque Type

Product Name (Single shaft)	Product Name (Double shaft)
CMK223PAP	CMK223PBP
CMK224PAP	CMK224PBP
CMK225PAP	CMK225PBP
CMK233PAP	CMK233PBP
CMK235PAP	CMK235PBP
CMK244PAP	CMK244PBP
CMK246PAP	CMK246PBP
CMK264PAP	CMK264PBP
CMK266PAP	CMK266PBP
CMK268PAP	CMK268PBP

- Standard Type

Product Name (Single shaft)	Product Name (Double shaft)
CMK243AP	CMK243BP
CMK244AP	CMK244BP
CMK245AP	CMK245BP
CMK256AP	CMK256BP
CMK258AP	CMK258BP
CMK264AP	CMK264BP
CMK266AP	CMK266BP
CMK268AP	CMK268BP

① Series Name	CMK: CMK Series
②	2: 2-Phase
③ Motor Frame Size	2: 28 mm 3: 35 mm 4: 42 mm 5: 50 mm 6: 56.4 mm
④ Motor Case Length	
⑤ Motor Type	P: High-Torque Type M: High-Resolution Type Blank: Standard Type
⑥ Motor Shaft Type	A: Single Shaft B: Double Shaft
⑦ Signal I/O Mode	P: Photocoupler

① Series Name	CMK: CMK Series
②	2: 2-Phase
③ Motor Frame Size	2: 28 mm 4: 42 mm 6: 60 mm
④ Motor Case Length	
⑤ Motor Shaft Type	A: Single Shaft B: Double Shaft
⑥ Signal I/O Mode	P: Photocoupler
⑦ Gear Type	SG: SH Geared Type T: TH Geared Type
⑧ Gear Ratio	

- SH Geared Type

Product Name (Single shaft)	Product Name (Double shaft)
CMK223AP-SG7.2	CMK223BP-SG7.2
CMK223AP-SG9	CMK223BP-SG9
CMK223AP-SG10	CMK223BP-SG10
CMK223AP-SG18	CMK223BP-SG18
CMK223AP-SG36	CMK223BP-SG36
CMK243AP-SG3.6	CMK243BP-SG3.6
CMK243AP-SG7.2	CMK243BP-SG7.2
CMK243AP-SG9	CMK243BP-SG9
CMK243AP-SG10	CMK243BP-SG10
CMK243AP-SG18	CMK243BP-SG18
CMK243AP-SG36	CMK243BP-SG36
CMK243AP-SG50	CMK243BP-SG50
CMK243AP-SG100	CMK243BP-SG100
CMK264AP-SG3.6	CMK264BP-SG3.6
CMK264AP-SG7.2	CMK264BP-SG7.2
CMK264AP-SG9	CMK264BP-SG9
CMK264AP-SG10	CMK264BP-SG10
CMK264AP-SG18	CMK264BP-SG18
CMK264AP-SG36	CMK264BP-SG36
CMK264AP-SG50	CMK264BP-SG50
CMK264AP-SG100	CMK264BP-SG100

- TH Geared Type

Product Name (Single shaft)	Product Name (Double shaft)
CMK243AP-T3.6	CMK243BP-T3.6
CMK243AP-T7.2	CMK243BP-T7.2
CMK243AP-T10	CMK243BP-T10
CMK243AP-T20	CMK243BP-T20
CMK243AP-T30	CMK243BP-T30
CMK264AP-T3.6	CMK264BP-T3.6
CMK264AP-T7.2	CMK264BP-T7.2
CMK264AP-T10	CMK264BP-T10
CMK264AP-T20	CMK264BP-T20
CMK264AP-T30	CMK264BP-T30

The following items are included in each product.

Motor, Driver, Driver Connector, Connection Cable*1, Mounting Screws for Motor*2, Operating Manual

*1 Only for connector-coupled motor

*2 SH geared type only

Step Angle 0.9° Frame Size 42 mm, 56.4 mm

High-Resolution Type

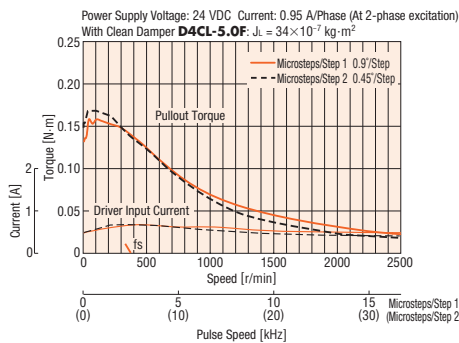
Specifications RoHS



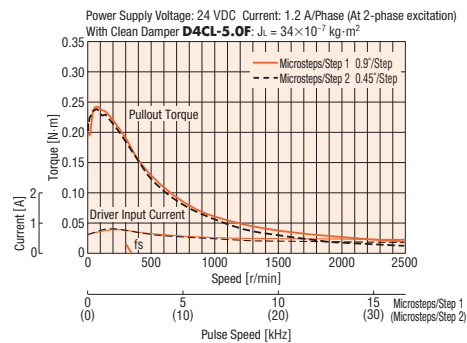
Product Name	Single Shaft	CMK243MAP	CMK244MAP	CMK245MAP	CMK264MAP	CMK266MAP	CMK268MAP
	Double Shaft	CMK243MBP	CMK244MBP	CMK245MBP	CMK264MBP	CMK266MBP	CMK268MBP
Maximum Holding Torque	N·m	0.16	0.26	0.32	0.37	0.9	1.35
Holding Torque at Motor Standstill	Power ON N·m	0.064	0.1	0.12	0.14	0.36	0.54
Rotor Inertia	J: kg·m ²	35×10 ⁻⁷	54×10 ⁻⁷	68×10 ⁻⁷	120×10 ⁻⁷	300×10 ⁻⁷	480×10 ⁻⁷
Rated Current	A/Phase	0.95	1.2		2		
Basic Step Angle		0.9°					
Power Supply Input		24 VDC±10% 1.5 A	24 VDC±10% 1.7 A		24 VDC±10% 2.9 A		
Excitation Mode		Microstep					

Speed – Torque Characteristics

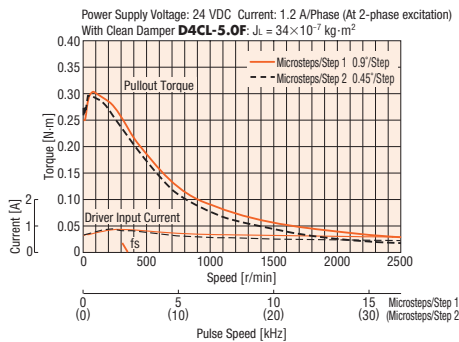
CMK243MAP/CMK243MBP



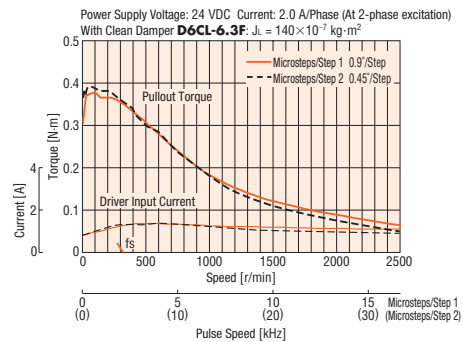
CMK244MAP/CMK244MBP



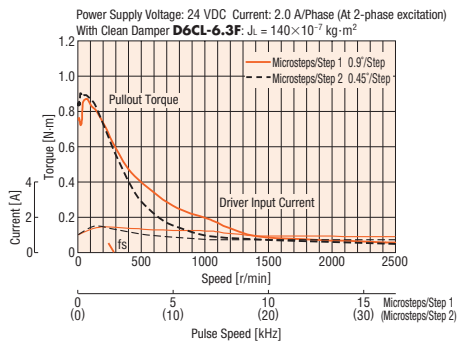
CMK245MAP/CMK245MBP



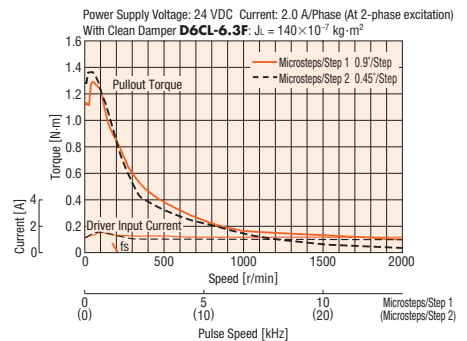
CMK264MAP/CMK264MBP



CMK266MAP/CMK266MBP



CMK268MAP/CMK268MBP



● The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.

Note

● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

Step Angle 1.8° Frame Size 28 mm High-Torque Type

Specifications RoHS

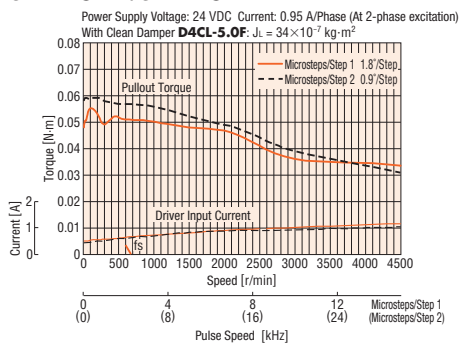


Product Name	Single Shaft	CMK223PAP	CMK224PAP	CMK225PAP
	Double Shaft	CMK223PBP	CMK224PBP	CMK225PBP
Maximum Holding Torque	N·m	0.05	0.075	0.09
Holding Torque at Motor Standstill	Power ON N·m	0.02	0.03	0.036
Rotor Inertia	J: kg·m ²	9×10 ⁻⁷	12×10 ⁻⁷	18×10 ⁻⁷
Rated Current	A/Phase	0.95		
Basic Step Angle		1.8°		
Power Supply Input		24 VDC ± 10% 1.5 A		
Excitation Mode		Microstep		

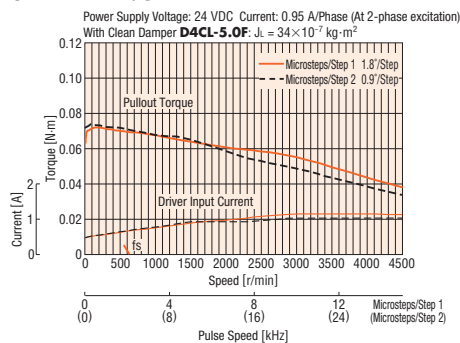
● A connection cable (0.6 m) is included with the connector-coupled motor and driver package.

Speed – Torque Characteristics

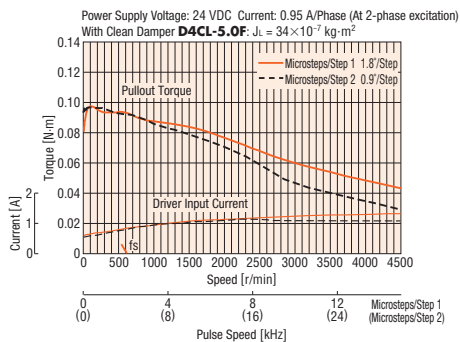
CMK223PAP/CMK223PBP



CMK224PAP/CMK224PBP



CMK225PAP/CMK225PBP



● The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.

Note

● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

Step Angle 1.8° Frame Size 35 mm, 42 mm

High-Torque Type

Specifications RoHS

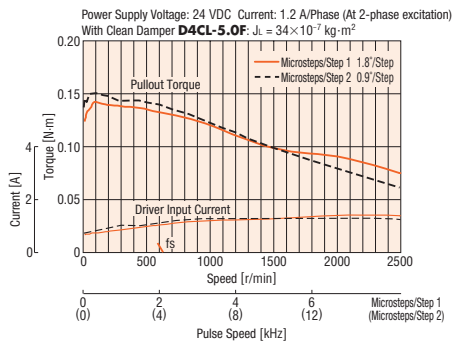


Product Name	Single Shaft	CMK233PAP	CMK235PAP	CMK244PAP	CMK246PAP
	Double Shaft	CMK233PBP	CMK235PBP	CMK244PBP	CMK246PBP
Maximum Holding Torque	N·m	0.16	0.3	0.39	0.75
Holding Torque at Motor Standstill	Power ON N·m	0.064	0.12	0.15	0.3
Rotor Inertia	J: kg·m ²	24×10 ⁻⁷	50×10 ⁻⁷	57×10 ⁻⁷	114×10 ⁻⁷
Rated Current	A/Phase	1.2			
Basic Step Angle		1.8°			
Power Supply Input		24 VDC±10% 1.7 A			
Excitation Mode		Microstep			

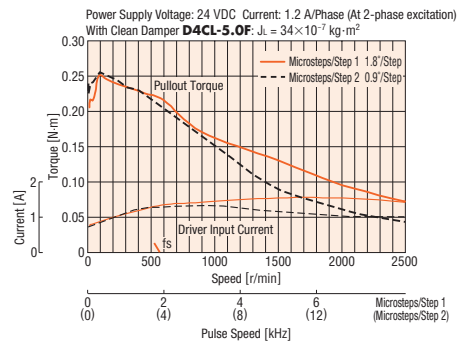
● A connection cable (0.6 m) is included with the connector-coupled motor and driver package.

Speed – Torque Characteristics

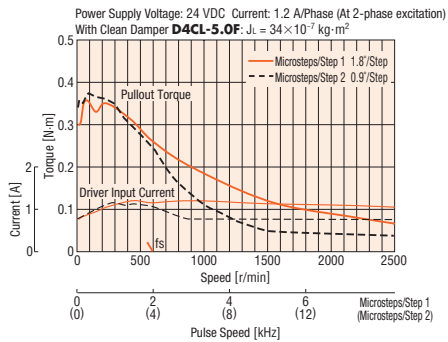
CMK233PAP/CMK233PBP



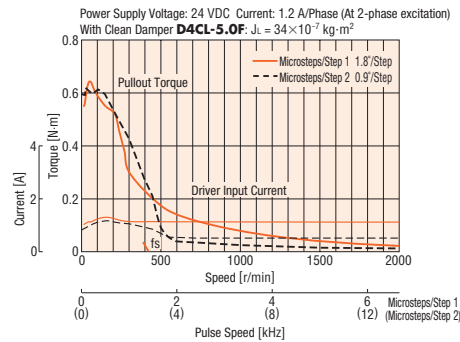
CMK235PAP/CMK235PBP



CMK244PAP/CMK244PBP



CMK246PAP/CMK246PBP



● The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.

Note

● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

Step Angle 1.8° Frame Size 56.4 mm High-Torque Type

Specifications RoHS

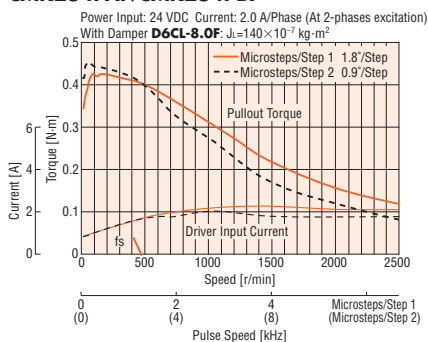


Product Name	Single Shaft	CMK264PAP	CMK266PAP	CMK268PAP
	Double Shaft	CMK264PBP	CMK266PBP	CMK268PBP
Maximum Holding Torque	N·m	0.46	0.99	1.73
Holding Torque at Motor Standstill	Power ON N·m	0.18	0.39	0.69
Rotor Inertia	J: kg·m ²	120×10 ⁻⁷	290×10 ⁻⁷	490×10 ⁻⁷
Rated Current	A/Phase	2		
Basic Step Angle		1.8°		
Power Supply Input		24 VDC±10% 2.9 A		
Excitation Mode		Microstep		

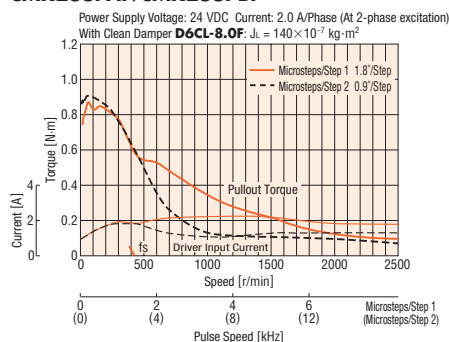
● A connection cable (0.6 m) is included with the connector-coupled motor and driver package.

Speed – Torque Characteristics

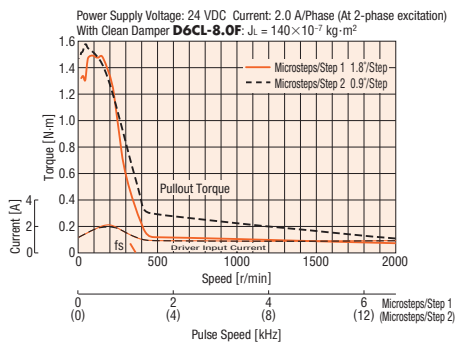
CMK264PAP/CMK264PBP



CMK266PAP/CMK266PBP



CMK268PAP/CMK268PBP



● The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.

Note

● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

Step Angle 1.8° Frame Size 42 mm, 50 mm

Standard Type

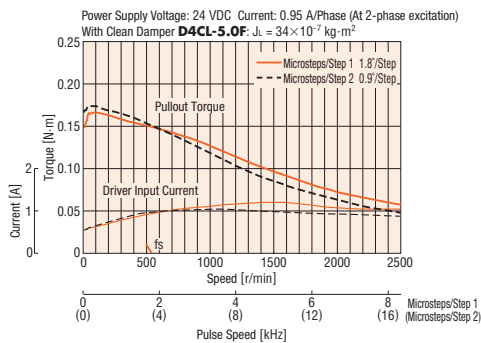
Specifications RoHS



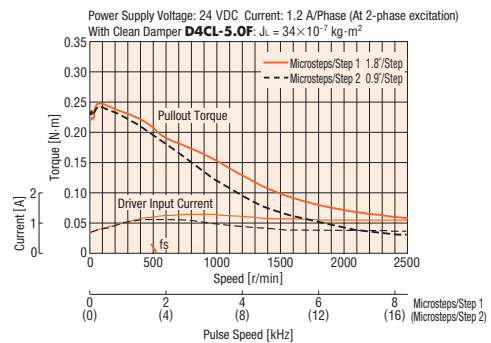
Product Name	Single Shaft	CMK243AP	CMK244AP	CMK245AP	CMK256AP	CMK258AP
	Double Shaft	CMK243BP	CMK244BP	CMK245BP	CMK256BP	CMK258BP
Maximum Holding Torque	N·m	0.16	0.26	0.32	0.56	1.2
Holding Torque at Motor Standstill	Power ON N·m	0.064	0.1	0.12	0.22	0.48
Rotor Inertia	J: kg·m ²	35×10 ⁻⁷	54×10 ⁻⁷	68×10 ⁻⁷	230×10 ⁻⁷	420×10 ⁻⁷
Rated Current	A/Phase	0.95		1.2		2
Basic Step Angle		1.8°				
Power Supply Input		24 VDC±10% 1.5 A	24 VDC±10% 1.7 A		24 VDC±10% 2.9 A	
Excitation Mode		Microstep				

Speed – Torque Characteristics

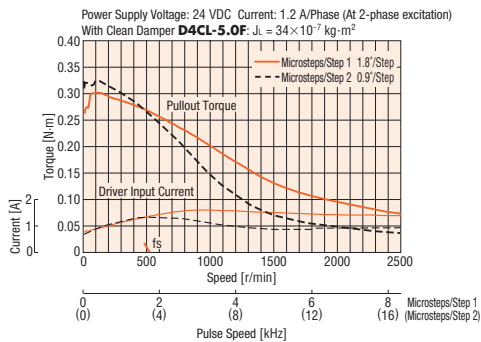
CMK243AP/CMK243BP



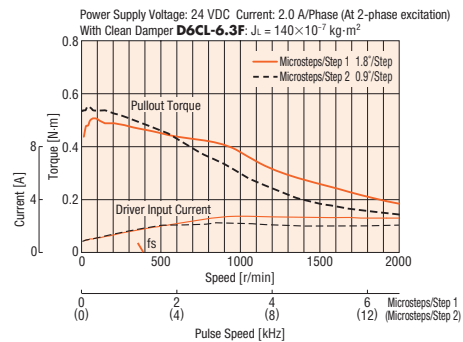
CMK244AP/CMK244BP



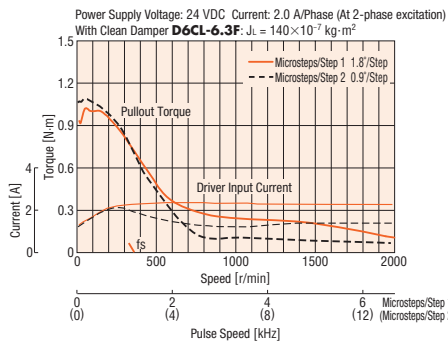
CMK245AP/CMK245BP



CMK256AP/CMK256BP



CMK258AP/CMK258BP



● The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.

Note

● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

Step Angle 1.8° Frame Size 56.4 mm

Standard Type

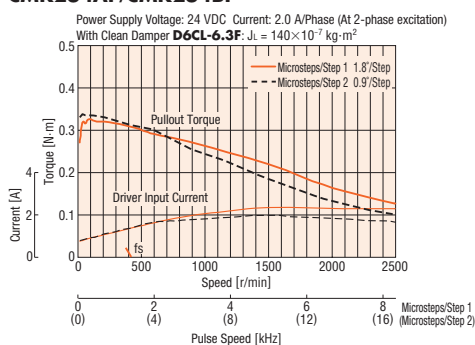
Specifications RoHS



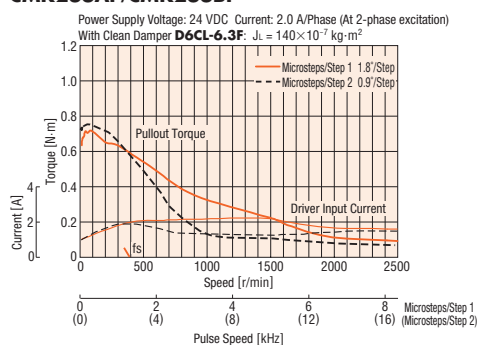
Product Name	Single Shaft	CMK264AP	CMK266AP	CMK268AP
	Double Shaft	CMK264BP	CMK266BP	CMK268BP
Maximum Holding Torque	N·m	0.36	0.82	1.35
Holding Torque at Motor Standstill	Power ON N·m	0.14	0.32	0.54
Rotor Inertia	J: kg·m ²	120×10 ⁻⁷	300×10 ⁻⁷	480×10 ⁻⁷
Rated Current	A/Phase	2		
Basic Step Angle		1.8°		
Power Supply Input		24 VDC ±10% 2.9 A		
Excitation Mode		Microstep		

Speed – Torque Characteristics

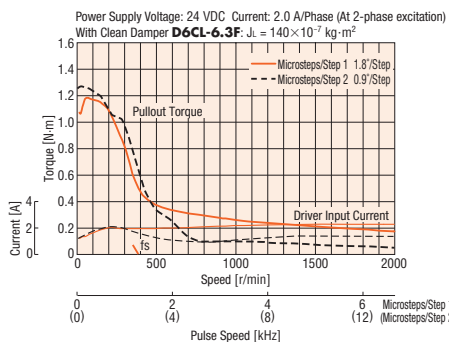
CMK264AP/CMK264BP



CMK266AP/CMK266BP



CMK268AP/CMK268BP



- The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.

Note

- Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

SH Geared Type Frame Size 28 mm

Specifications RoHS



Product Name	Single Shaft	CMK223AP-SG7.2	CMK223AP-SG9	CMK223AP-SG10	CMK223AP-SG18	CMK223AP-SG36
	Double Shaft	CMK223BP-SG7.2	CMK223BP-SG9	CMK223BP-SG10	CMK223BP-SG18	CMK223BP-SG36
Maximum Holding Torque	N·m	0.3			0.4	
Rotor Inertia	J: kg·m ²	9×10 ⁻⁷				
Rated Current	A/Phase	0.95				
Basic Step Angle		0.25°	0.2°	0.18°	0.1°	0.05°
Gear Ratio		7.2	9	10	18	36
Permissible Torque	N·m	0.3			0.4	
Holding Torque at Motor Standstill	Power ON N·m	0.2			0.39	
Permissible Speed Range	r/min	0~250	0~200	0~180	0~100	0~50
Power Supply Input		24 VDC±10% 1.5 A				
Excitation Mode		Microstep				

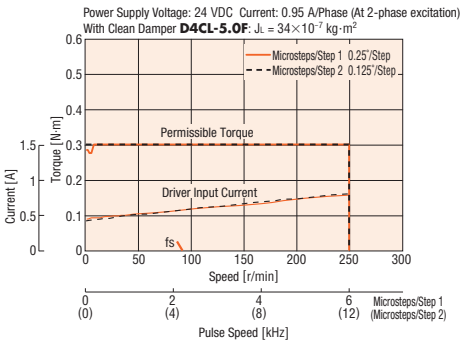
● A connection cable (0.6 m) is included with the connector-coupled motor and driver package.

Note

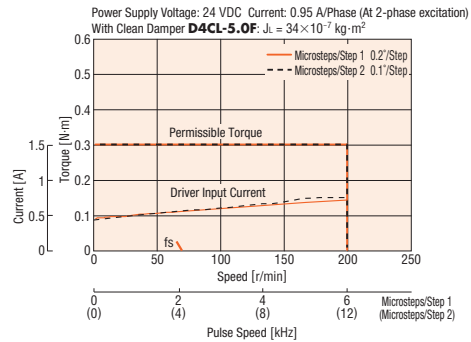
- The value of backlash is approximately 1° to 2°.
- The rotation direction of the motor and that of the output gear shaft are the same for the gear ratios 7.2 and 36. It is the opposite for the 9, 10 and 18 gear ratios.

Speed – Torque Characteristics

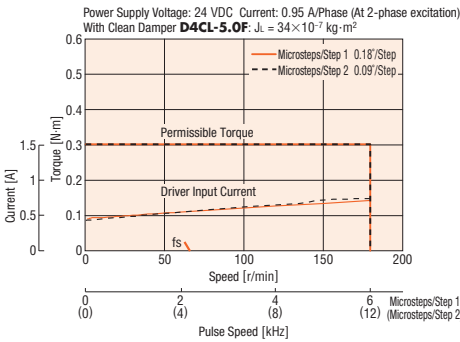
CMK223AP-SG7.2/CMK223BP-SG7.2



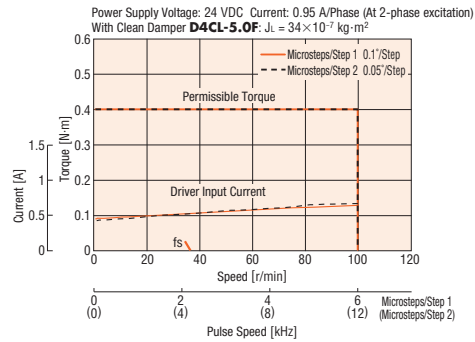
CMK223AP-SG9/CMK223BP-SG9



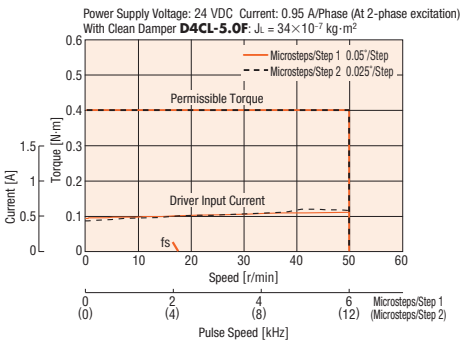
CMK223AP-SG10/CMK223BP-SG10



CMK223AP-SG18/CMK223BP-SG18



CMK223AP-SG36/CMK223BP-SG36



- The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.
- Use geared motors at or below their permissible rotation speed.

Note

● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

SH Geared Type

Frame Size 42 mm

Specifications RoHS



Product Name	Single Shaft	CMK243AP-SG3.6	CMK243AP-SG7.2	CMK243AP-SG9	CMK243AP-SG10
	Double Shaft	CMK243BP-SG3.6	CMK243BP-SG7.2	CMK243BP-SG9	CMK243BP-SG10
Maximum Holding Torque	N·m	0.2	0.4	0.5	0.56
Rotor Inertia	J: kg·m ²	35×10^{-7}			
Rated Current	A/Phase	0.95			
Basic Step Angle		0.5°	0.25°	0.2°	0.18°
Gear Ratio		3.6	7.2	9	10
Permissible Torque	N·m	0.2	0.4	0.5	0.56
Holding Torque at Motor Standstill	Power ON N·m	0.2	0.4	0.5	0.56
Permissible Speed Range	r/min	0~500	0~250	0~200	0~180
Power Supply Input		24 VDC ± 10% 1.5 A			
Excitation Mode		Microstep			

Product Name	Single Shaft	CMK243AP-SG18	CMK243AP-SG36	CMK243AP-SG50	CMK243AP-SG100
	Double Shaft	CMK243BP-SG18	CMK243BP-SG36	CMK243BP-SG50	CMK243BP-SG100
Maximum Holding Torque	N·m	0.8			
Rotor Inertia	J: kg·m ²	35×10^{-7}			
Rated Current	A/Phase	0.95			
Basic Step Angle		0.1°	0.05°	0.036°	0.018°
Gear Ratio		18	36	50	100
Permissible Torque	N·m	0.8			
Holding Torque at Motor Standstill	Power ON N·m	0.8			
Permissible Speed Range	r/min	0~100	0~50	0~36	0~18
Power Supply Input		24 VDC ± 10% 1.5 A			
Excitation Mode		Microstep			

Note

- The value of backlash is approximately 1° to 2°.
- The rotation direction of the motor and that of the output gear shaft are the same for the gear ratios 3.6, 7.2, 9, 10, 50 and 100. It is the opposite for 18 and 36 gear ratios.

Introduction

 0.36°/Geared
AR
AC Input Motor & Driver
0.72°/Geared
RK

 0.36°/Geared
AR
0.36°/0.72°/
Geared
CRK
DC Input Motor & Driver
1.8°/Geared
RHK
0.9°/1.8°/Geared
CMK

 0.36°/Geared
AR
0.36°/0.72°/
Geared
CRK
DC Input Motor & Driver
1.8°/Geared
RHK
0.9°/1.8°/Geared
CMK

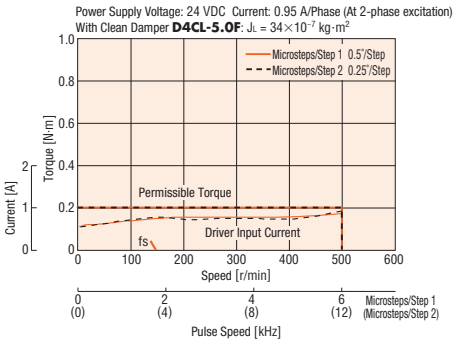
 0.36°/Geared
AR
0.36°/0.72°/
Geared
CRK
DC Input Motor & Driver
1.8°/Geared
RHK
0.9°/1.8°/Geared
CMK

 0.36°/Geared
AR
0.36°/0.72°/
Geared
CRK
DC Input Motor & Driver
1.8°/Geared
RHK
0.9°/1.8°/Geared
CMK
0.72°/Geared
PK1.8°/Geared
High-Torque
PKP
Motor Only0.9°/1.8°/Geared
PKControllers
SG80301Y

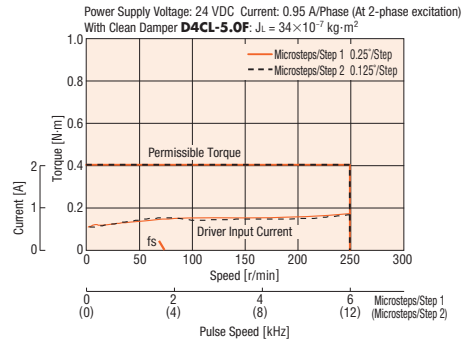
Accessories

Speed – Torque Characteristics

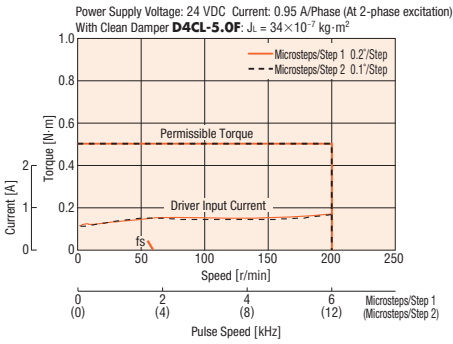
CMK243AP-SG3.6/CMK243BP-SG3.6



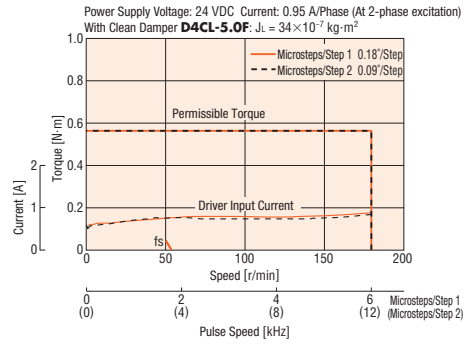
CMK243AP-SG7.2/CMK243BP-SG7.2



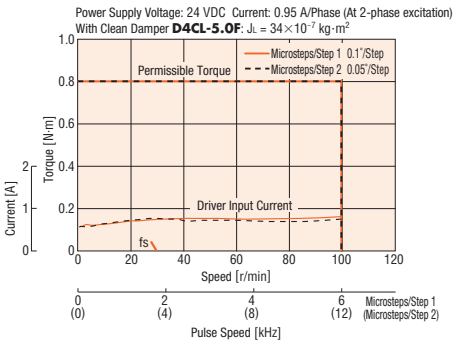
CMK243AP-SG9/CMK243BP-SG9



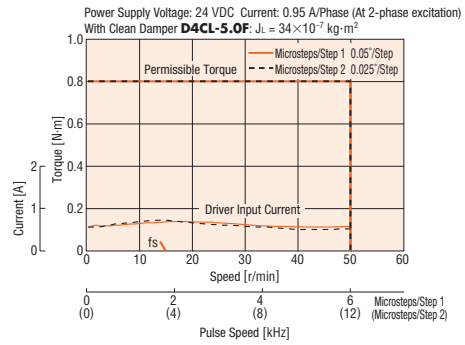
CMK243AP-SG10/CMK243BP-SG10



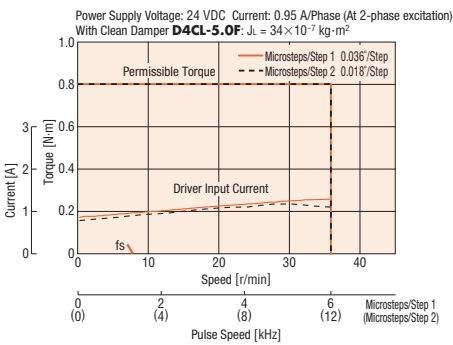
CMK243AP-SG18/CMK243BP-SG18



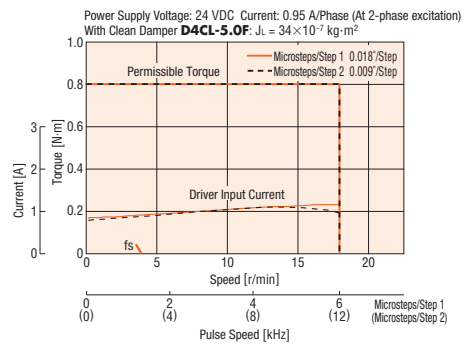
CMK243AP-SG36/CMK243BP-SG36



CMK243AP-SG50/CMK243BP-SG50



CMK243AP-SG100/CMK243BP-SG100



- The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.
- Use geared motors at or below their permissible rotation speed.

Note

- Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

SH Geared Type

Frame Size 60 mm

Specifications RoHS

CE

Product Name	Single Shaft	CMK264AP-SG3.6	CMK264AP-SG7.2	CMK264AP-SG9	CMK264AP-SG10
	Double Shaft	CMK264BP-SG3.6	CMK264BP-SG7.2	CMK264BP-SG9	CMK264BP-SG10
Maximum Holding Torque	N·m	1	2	2.5	2.7
Rotor Inertia	J: kg·m ²	120×10^{-7}			
Rated Current	A/Phase	2			
Basic Step Angle		0.5°	0.25°	0.2°	0.18°
Gear Ratio		3.6	7.2	9	10
Permissible Torque	N·m	1	2	2.5	2.7
Holding Torque at Motor Standstill	Power ON N·m	0.56	1.1	1.4	1.5
Permissible Speed Range	r/min	0~500	0~250	0~200	0~180
Power Supply Input		24 VDC±10% 2.9 A			
Excitation Mode		Microstep			

Product Name	Single Shaft	CMK264AP-SG18	CMK264AP-SG36	CMK264AP-SG50	CMK264AP-SG100
	Double Shaft	CMK264BP-SG18	CMK264BP-SG36	CMK264BP-SG50	CMK264BP-SG100
Maximum Holding Torque	N·m	3		4	
Rotor Inertia	J: kg·m ²	120×10^{-7}			
Rated Current	A/Phase	2			
Basic Step Angle		0.1°	0.05°	0.036°	0.018°
Gear Ratio		18	36	50	100
Permissible Torque	N·m	3		4	
Holding Torque at Motor Standstill	Power ON N·m	3		4	
Permissible Speed Range	r/min	0~100	0~50	0~36	0~18
Power Supply Input		24 VDC±10% 2.9 A			
Excitation Mode		Microstep			

Note

- The value of backlash is approximately 1° to 2°.
- The rotation direction of the motor and that of the output gear shaft are the same for the gear ratios 3.6, 7.2, 9, 10, 50 and 100. It is the opposite for 18 and 36 gear ratios.

Introduction

0.36°/Geared
AR
AC Input Motor & Driver

0.72°/Geared
RK

0.36°/Geared
AR
AC Input Motor & Driver

0.36°/Geared
CRK
DC Input Motor & Driver

0.36°/0.72°/Geared
CRK

1.8°/Geared
RKK

0.9°/1.8°/Geared
CMK

0.72°
PK

1.8°/Geared
High-Torque
PKP
Motor Only

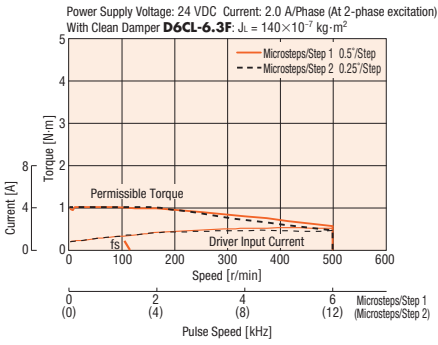
0.9°/1.8°/Geared
PK

Controllers
SG80301Y

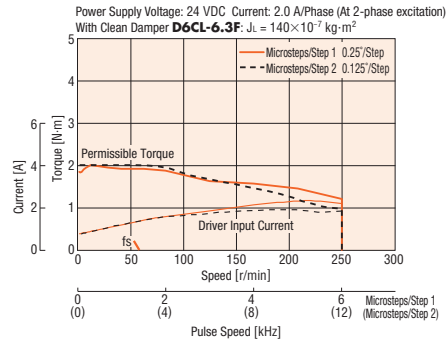
Accessories

Speed – Torque Characteristics

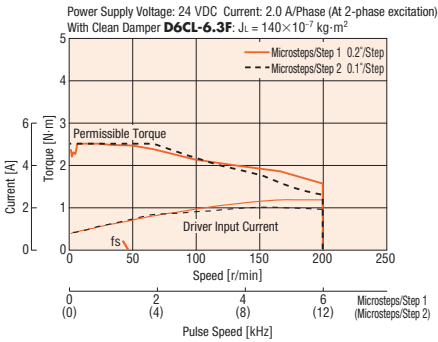
CMK264AP-SG3.6/CMK264BP-SG3.6



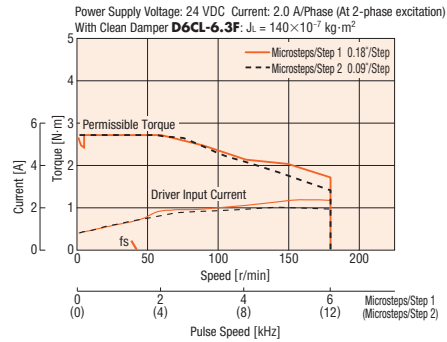
CMK264AP-SG7.2/CMK264BP-SG7.2



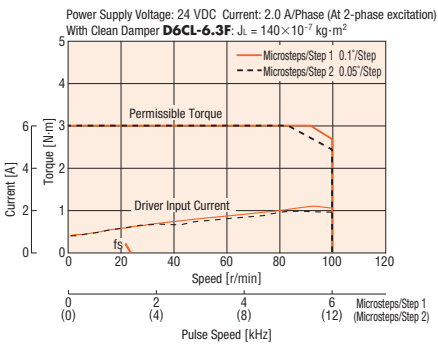
CMK264AP-SG9/CMK264BP-SG9



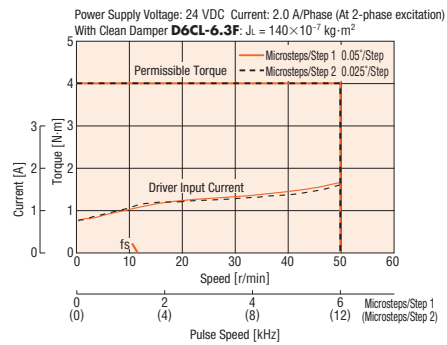
CMK264AP-SG10/CMK264BP-SG10



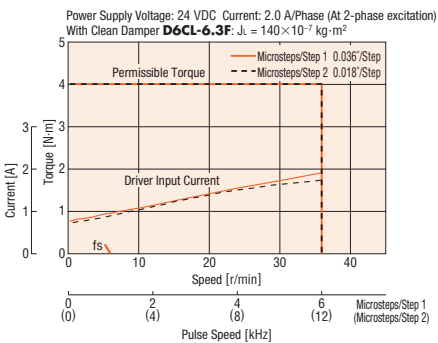
CMK264AP-SG18/CMK264BP-SG18



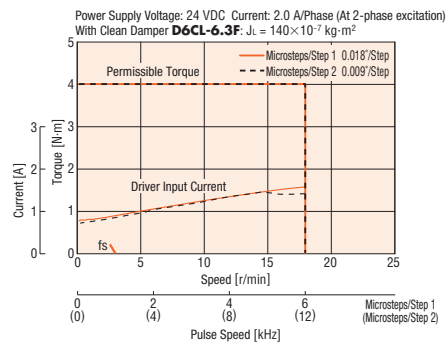
CMK264AP-SG36/CMK264BP-SG36



CMK264AP-SG50/CMK264BP-SG50



CMK264AP-SG100/CMK264BP-SG100



- The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.
- Use geared motors at or below their permissible rotation speed.

Note

- Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

TH Geared Type Frame Size 42 mm

Specifications RoHS



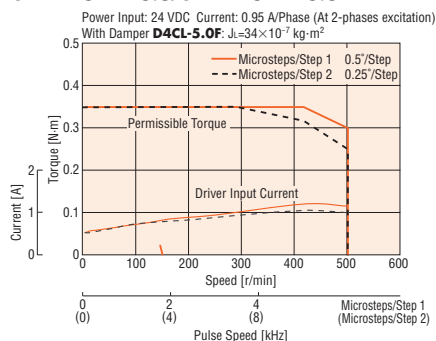
Product Name	Single Shaft	CMK243AP-T3.6	CMK243AP-T7.2	CMK243AP-T10	CMK243AP-T20	CMK243AP-T30
	Double Shaft	CMK243BP-T3.6	CMK243BP-T7.2	CMK243BP-T10	CMK243BP-T20	CMK243BP-T30
Maximum Holding Torque	N·m	0.35	0.7	1	1.5	
Rotor Inertia	J: kg·m ²	35×10^{-7}				
Rated Current	A/Phase	0.95				
Basic Step Angle		0.5°	0.25°	0.18°	0.09°	0.06°
Gear Ratio		3.6	7.2	10	20	30
Permissible Torque	N·m	0.35	0.7	1	1.5	
Holding Torque at Motor Standstill	Power ON N·m	0.23	0.45	0.63	1.4	1.5
Backlash	arc minute (degrees)	45 (0.75°)	25 (0.417°)		15 (0.25°)	
Permissible Speed Range	r/min	500	250	180	90	60
Power Source		24 VDC ± 10% 1.5A				
Excitation Mode		Microstep				

Note

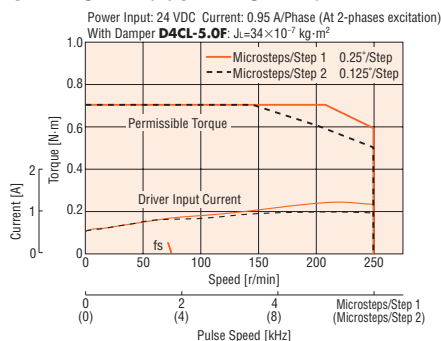
- The rotation direction of the motor and that of the gear output shaft are the same for gear ratios 3.6, 7.2, 10. It is the opposite for 20 and 30 gear ratios.

Speed – Torque Characteristics

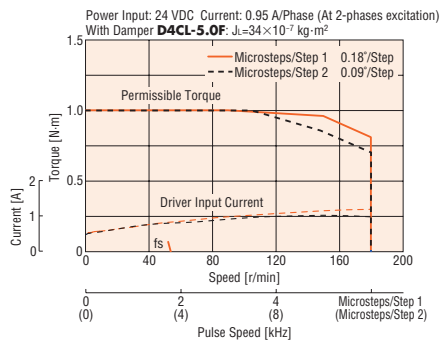
CMK243AP-T3.6/CMK243BP-T3.6



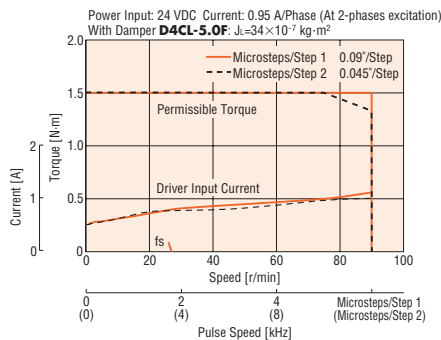
CMK243AP-T7.2/CMK243BP-T7.2



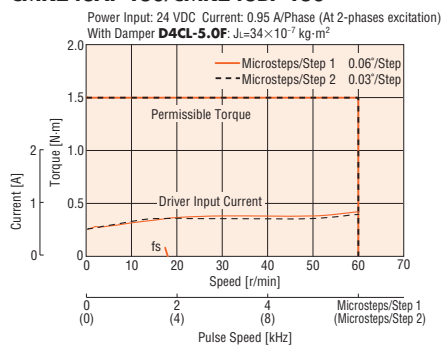
CMK243AP-T10/CMK243BP-T10



CMK243AP-T20/CMK243BP-T20



CMK243AP-T30/CMK243BP-T30



- The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.
- Use geared motors at or below their permissible rotation speed.

Note

- Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

TH Geared Type Frame Size 60 mm

Specifications RoHS



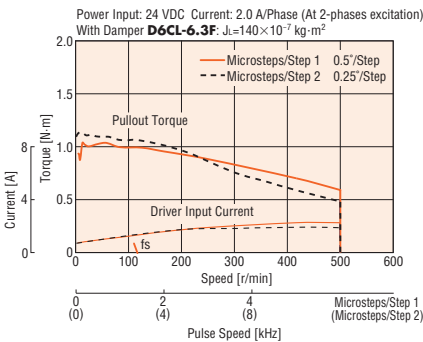
Product Name	Single Shaft	CMK264AP-T3.6	CMK264AP-T7.2	CMK264AP-T10	CMK264AP-T20	CMK264AP-T30
	Double Shaft	CMK264BP-T3.6	CMK264BP-T7.2	CMK264BP-T10	CMK264BP-T20	CMK264BP-T30
Maximum Holding Torque	N·m	1.25	2.5	3	3.5	4
Rotor Inertia	J: kg·m ²	120 × 10 ⁻⁷				
Rated Current	A/Phase	2				
Basic Step Angle		0.5°	0.25°	0.18°	0.09°	0.06°
Gear Ratio		3.6	7.2	10	20	30
Permissible Torque	N·m	1.25	2.5	3	3.5	4
Holding Torque at Motor Standstill	Power ON N·m	0.55	1.1	1.5	3.4	4
Backlash	arc minute (degrees)	35 (0.584°)		15 (0.25°)		10 (0.167°)
Permissible Speed Range	r/min	500	250	180	90	60
Power Source		24 VDC ± 10% 2.9A				
Excitation Mode		Microstep				

Note

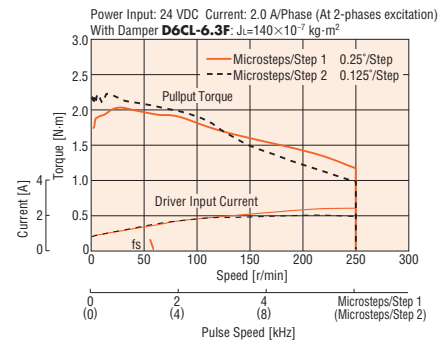
- The rotation direction of the motor and that of the gear output shaft are the same for gear ratios 3.6, 7.2, 10. It is the opposite for 20 and 30 gear ratios.

Speed – Torque Characteristics

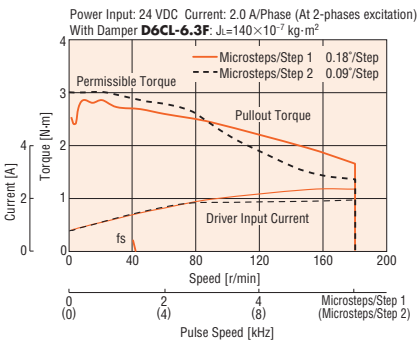
CMK264AP-T3.6/CMK264BP-T3.6



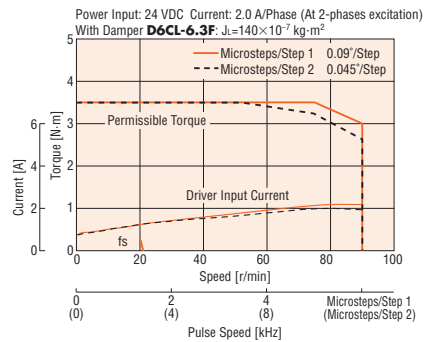
CMK264AP-T7.2/CMK264BP-T7.2



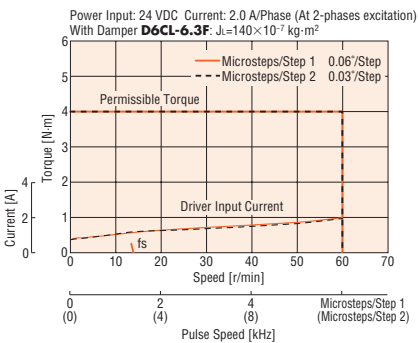
CMK264AP-T10/CMK264BP-T10



CMK264AP-T20/CMK264BP-T20



CMK264AP-T30/CMK264BP-T30



- The pulse input circuit responds up to 100 kHz with a pulse duty of 50%.
- Use geared motors at or below their permissible rotation speed.

Note

- Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Be sure to keep the motor case temperature at 100°C or less.

Driver Specifications

Input Signals	Input Mode	Photocoupler Input CW Pulse (Pulse) Signal and CCW Pulse (Rotation direction) Signal: Input Resistance 200 Ω, Input Current 5~20 mA Photocoupler "ON": +3~5.25 V Photocoupler "OFF": 0~+1 V (Voltage between terminals) All Windings Off Signal/Step Angle Select Signal/Automatic Current Cutback Release Signal: Input Resistance 3.3 kΩ, Input Current 1 mA (5 VDC)/8 mA (24 VDC) Photocoupler "ON": +4.5~26.4 V, Photocoupler "OFF": 0~+1 V (Voltage between terminals)
	Pulse Signal (CW Pulse Signal)	Operation command pulse signal (CW direction operation command pulse signal when in 2-pulse input mode) Negative logic pulse input Pulse width: 5 μs minimum; Pulse rise/fall: 2 μs maximum Pulse duty: 50% and below The motor moves one step when the pulse input is switched from ON to OFF. Maximum input pulse frequency: 100 kHz (When the pulse duty is 50%)
	Rotation Direction Signal (CCW Pulse Signal)	Rotation direction signal Photocoupler ON: CW, Photocoupler OFF: CCW CCW direction operation command pulse signal when in 2-pulse input mode Negative logic pulse input Pulse width: 5 μs minimum; Pulse rise/fall: 2 μs maximum Pulse duty: 50% and below The motor moves one step when the pulse input is switched from ON to OFF. Maximum input pulse frequency: 100 kHz (When the pulse duty is 50%)
	All Windings OFF Signal	When the signal is photocoupler "ON," the output current to the motor is cut off and the motor shaft can be rotated manually. When the signal is photocoupler "OFF," the output current is supplied to the motor.
	Step Angle Select Signal	When the signal is photocoupler "ON," the motor operates at the basic step angle regardless of the settings of the step angle setting switches. When the signal is photocoupler "OFF," the motor operates at the step angle set by the step angle setting switches.
	Automatic Current Cutback Release Signal	When the signal is photocoupler "ON," the automatic current cutback function is not activated even after the motor stops. When the signal is photocoupler "OFF," the automatic current cutback function is activated after the motor stops (after approximately 100 ms).
Output Signals	Output Mode	Photocoupler and Open Collector Output, External Use Condition: 24 VDC max., 10 mA max.
	Excitation Timing Signal	Outputs signals when the excitation sequence is at STEP "0." (Photocoupler "ON") [High-torque type, Standard type] Example: 1.8°/Step (Microsteps/Step: 1): Signal is output every 4 pulses 0.45°/Step (Microsteps/Step: 4): Signal is output every 16 pulses [High-resolution type] Example: 0.9°/Step (Microsteps/Step: 1): Signal is output every 4 pulses 0.225°/Step (Microsteps/Step: 4): Signal is output every 16 pulses [Geared type (Gear ratio 10)] Example: 0.18°/Step (Microsteps/Step: 1): Signal is output every 4 pulses 0.045°/Step (Microsteps/Step: 4): Signal is output every 16 pulses
Functions		Automatic Current Cutback, Step Angle Select, Pulse Input Mode Switch, All Windings Off, Excitation Timing
Cooling Method		Natural Cooling Method

General Specifications

Specifications		Motor	Driver
Thermal Class		130 (B)	—
Insulation Resistance		The measured value is 100 MΩ min. when a 500 VDC megger is applied between the windings and the case under normal ambient temperature and humidity.	—
Dielectric Strength		No abnormality is judged even with application of 1.0 kVAC at 50 Hz or 60 Hz between the windings and the case for 1 minute under normal ambient temperature and humidity. (0.5 kV for models with a frame size of 42 mm or less)	—
Operating Environment (In operation)	Ambient Temperature	-10~+50°C (non-freezing)	0~+40°C (non-freezing)
	Ambient Humidity	85% max. (non-condensing)	
	Atmosphere	Use in an area without corrosive gases or dust. The product should not be exposed to water, oil or other liquids.	
Temperature Rise		Winding temperature rise is 80°C max. (measured by the resistance change method) at the rated voltage, at standstill, and 2-phases energized.	—
Stop Position Accuracy*1		±3 arc minutes (±0.05°)	—
Shaft Runout		0.05 T.I.R. (mm)*4	—
Radial Play*2		0.025 mm max. of 5 N	—
Axial Play*3		0.075 mm max. of 10 N	—
Concentricity for Shaft in the Mounting Pilot		0.075 T.I.R. (mm)*4	—
Perpendicularity for Shaft of the Mounting Surface		0.075 T.I.R. (mm)*4	—

*1 This value is for full step under no load. (The value changes with the size of the load.)

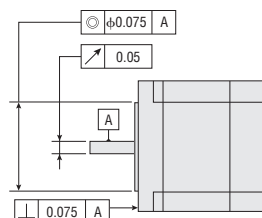
*2 Radial Play: Displacement in shaft position in the radial direction when 5 N load is applied in the vertical direction to the tip of the motor's shaft.

*3 Axial Play: Displacement in shaft position in the axial direction when a 10 N load is applied to the motor's shaft in the axial direction.

*4 T.I.R. (Total Indicator Reading): The total dial gauge reading when the measurement section is rotated one revolution centered on the reference axis center.

Note

● Do not measure insulation resistance or perform the dielectric strength test while the motor and driver are connected.



Permissible Overhung Load and Permissible Thrust Load

→ Page A-14

Dimensions (Unit = mm)

● Motors

◇ High-Torque Type

Frame Size 28 mm

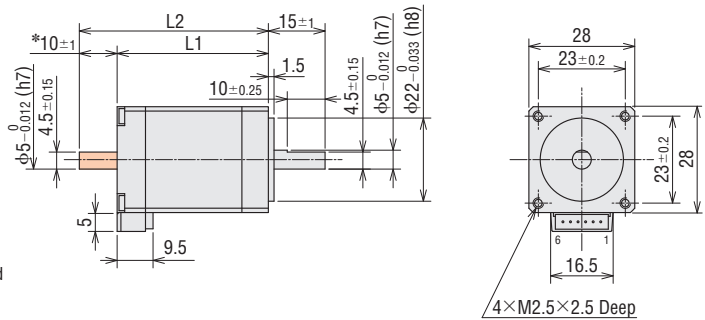
Product Name	Motor Product Name	L1	L2	Mass kg
CMK223PAP	PK223PA	32	—	0.11
CMK223PBP	PK223PB		42	
CMK224PAP	PK224PA	40	—	0.14
CMK224PBP	PK224PB		50	
CMK225PAP	PK225PA	51.5	—	0.2
CMK225PBP	PK225PB		61.5	

If you are purchasing a package, connection cable (0.6 m) is included.
UL Style 3265, AWG24 (0.2 mm²)

If you are purchasing only a motor for maintenance purposes, etc., connection cable and connector will not be supplied. Please provide separately. → Page A-355

● Applicable Connector

Connector Housing: 51065-0600 (Molex)
Contact: 50212-8100 (Molex)
Crimp Tool: 57176-5000 (Molex)



*The length of the shaft flat on the double shaft model is 10±0.25.

Frame Size 35 mm

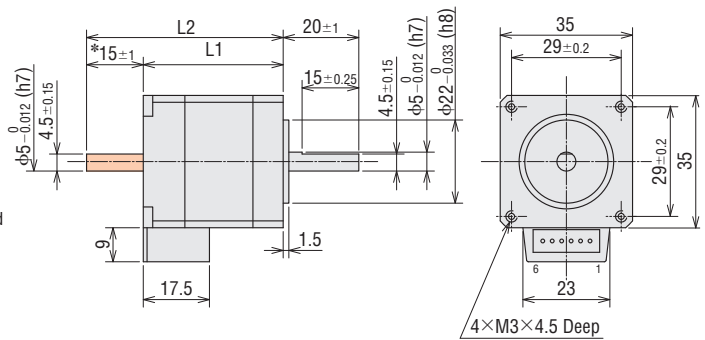
Product Name	Motor Product Name	L1	L2	Mass kg
CMK233PAP	PK233PA	37	—	0.18
CMK233PBP	PK233PB		52	
CMK235PAP	PK235PA	52	—	0.285
CMK235PBP	PK235PB		67	

If you are purchasing a package, connection cable (0.6 m) is included.
UL Style 3265, AWG24 (0.2 mm²)

If you are purchasing only a motor for maintenance purposes, etc., connection cable and connector will not be supplied. Please provide separately. → Page A-355

● Applicable Connector

Connector Housing: 51103-0600 (Molex)
Contact: 50351-8100 (Molex)
Crimp Tool: 57295-5000 (Molex)



*The length of the shaft flat on the double shaft model is 15±0.25.

Frame Size 42 mm

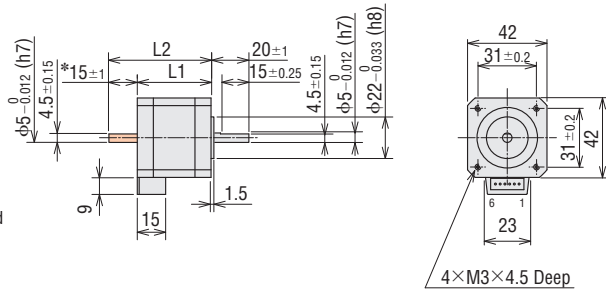
Product Name	Motor Product Name	L1	L2	Mass kg
CMK244PAP	PK244PA	39	—	0.3
CMK244PBP	PK244PB		54	
CMK246PAP	PK246PA	59	—	0.5
CMK246PBP	PK246PB		74	

If you are purchasing a package, connection cable (0.6 m) is included.
UL Style 3265, AWG24 (0.2 mm²)

If you are purchasing only a motor for maintenance purposes, etc., connection cable and connector will not be supplied. Please provide separately. → Page A-355

● Applicable Connector

Connector Housing: 51103-0600 (Molex)
Contact: 50351-8100 (Molex)
Crimp Tool: 57295-5000 (Molex)



*The length of the shaft flat on the double shaft model is 15±0.25.

Frame Size 56.4 mm

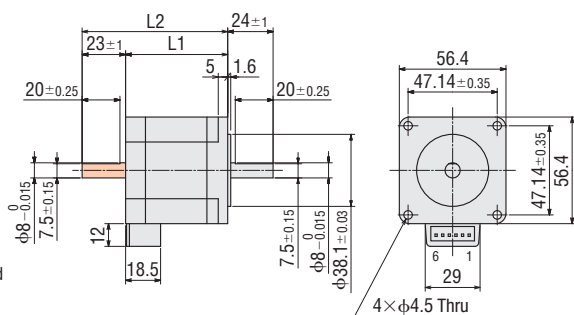
Product Name	Motor Product Name	L1	L2	Mass kg
CMK264PAP	PK264PA	39	—	0.46
CMK264PBP	PK264PB		62	
CMK266PAP	PK266PA	54	—	0.73
CMK266PBP	PK266PB		77	
CMK268PAP	PK268PA	76	—	1.1
CMK268PBP	PK268PB		99	

If you are purchasing a package, connection cable (0.6 m) is included.
UL Style 3265, AWG22 (0.3 mm²)

If you are purchasing only a motor for maintenance purposes, etc., connection cable and connector will not be supplied. Please provide separately. → Page A-355

● Applicable Connector

Connector Housing: 51067-0600 (Molex)
Contact: 50217-9101 (Molex)
Crimp Tool: 57189-5000 (Molex)
57190-5000 (Molex)



● These dimensions are for double shaft models. For single shaft models, ignore the shaded areas.

◇ High-Resolution Type/Standard Type

Frame Size 42 mm

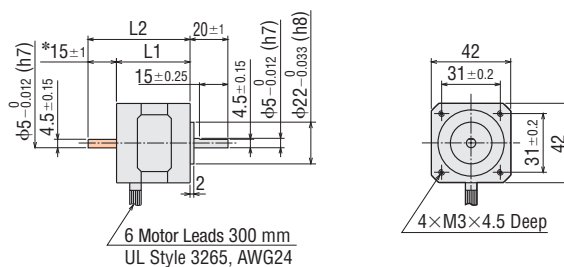
Product Name	Motor Product Name	L1	L2	Mass kg	
CMK243AP	PK243-01A	33	-	0.21	
CMK243MAP	PK243MA		-	0.24	
CMK243BP	PK243-01B		48	-	0.21
CMK243MBP	PK243MB			-	0.24
CMK244AP	PK244-01A	39	-	0.27	
CMK244MAP	PK244MA		-	0.3	
CMK244BP	PK244-01B		54	-	0.27
CMK244MBP	PK244MB			-	0.3
CMK245AP	PK245-01A	47	-	0.35	
CMK245MAP	PK245MA		-	0.37	
CMK245BP	PK245-01B		62	-	0.35
CMK245MBP	PK245MB			-	0.37

Frame Size 50 mm

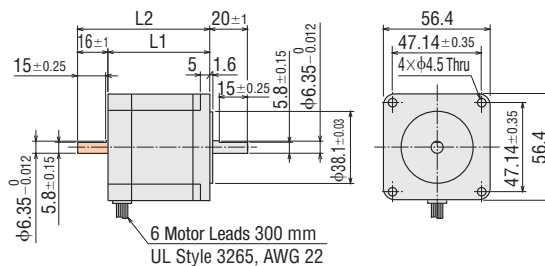
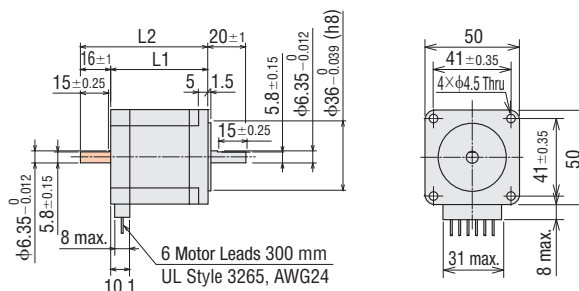
Product Name	Motor Product Name	L1	L2	Mass kg
CMK256AP	PK256-02A	51.5	-	0.53
CMK256BP	PK256-02B		67.5	
CMK258AP	PK258-02A	81	-	0.89
CMK258BP	PK258-02B		97	


Frame Size 56.4 mm

Product Name	Motor Product Name	L1	L2	Mass kg	
CMK264AP	PK264-02A	39	-	0.45	
CMK264MAP	PK264MA		-		
CMK264BP	PK264-02B		55		-
CMK264MBP	PK264MB				-
CMK266AP	PK266-02A	54	-	0.7	
CMK266MAP	PK266MA		-		
CMK266BP	PK266-02B		70		-
CMK266MBP	PK266MB				-
CMK268AP	PK268-02A	76	-	1.0	
CMK268MAP	PK268MA		-		
CMK268BP	PK268-02B		92		-
CMK268MBP	PK268MB				-



*The length of the shaft flat on the double shaft model is 15 ± 0.25 .



● These dimensions are for double shaft models. For single shaft models, ignore the  areas.

◇ SH Geared Type

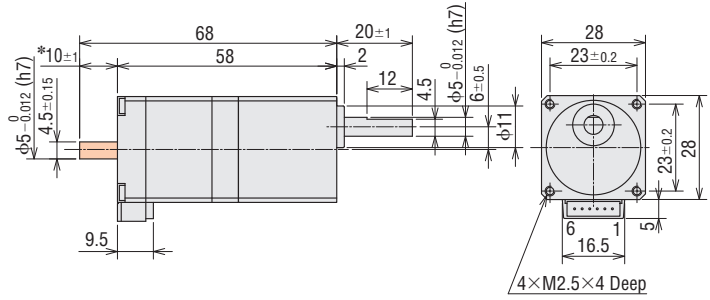
Frame Size 28 mm

Product Name	Motor Product Name	Gear Ratio	Mass kg
CMK223AP-SG□	PK223PA-SG□	7.2, 9, 10, 18, 36	0.16
CMK223BP-SG□	PK223PB-SG□		

If you are purchasing a package, connection cable (0.6 m) is included.
UL Style 3265, AWG24 (0.2 mm²)

If you are purchasing only a motor for maintenance purposes, etc., connection cable and connector will not be supplied. Please provide separately. → Page A-355

- Accessories
 - Mounting Screw: M2.5 Length 8 mm×4
- Applicable Connector
 - Connector Housing: 51065-0600 (Molex)
 - Contact: 50212-8100 (Molex)
 - Crimp Tool: 57176-5000 (Molex)

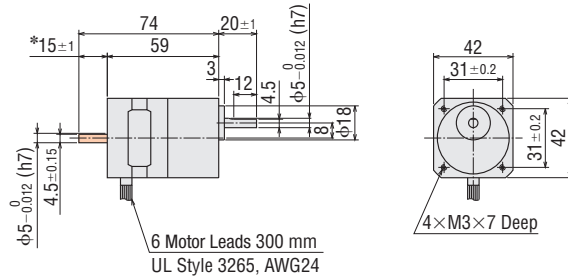


*The length of the shaft flat on the double shaft model is 10±0.25.

Frame Size 42 mm

Product Name	Motor Product Name	Gear Ratio	Mass kg
CMK243AP-SG□	PK243A1-SG□	3.6, 7.2, 9, 10, 18, 36, 50, 100	0.35
CMK243BP-SG□	PK243B1-SG□		

- Accessories
 - Mounting Screw: M3 Length 10 mm×4

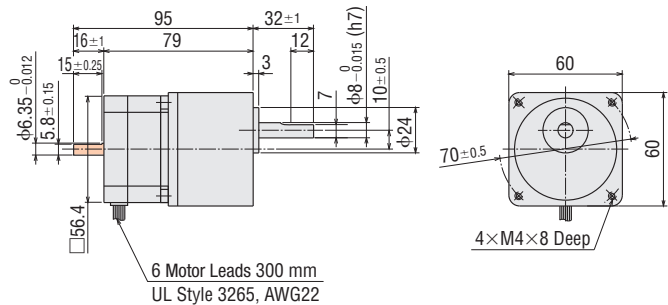


*The length of the shaft flat on the double shaft model is 15±0.25.

Frame Size 60 mm

Product Name	Motor Product Name	Gear Ratio	Mass kg
CMK264AP-SG□	PK264A2-SG□	3.6, 7.2, 9, 10, 18, 36, 50, 100	0.75
CMK264BP-SG□	PK264B2-SG□		

- Accessories
 - Mounting Screw: M4 Length 15 mm×4

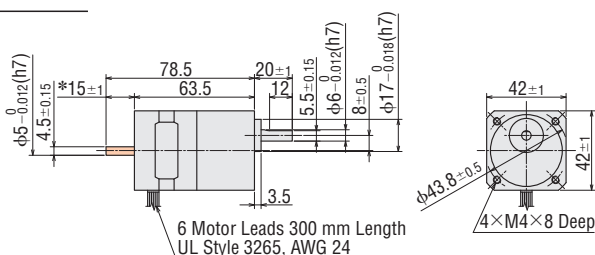


● A number indicating the gear ratio is entered where the box □ is located within the product name.
● These dimensions are for double shaft models. For single shaft models, ignore the shaded areas.

◇ TH Geared Type

Frame Size 42 mm

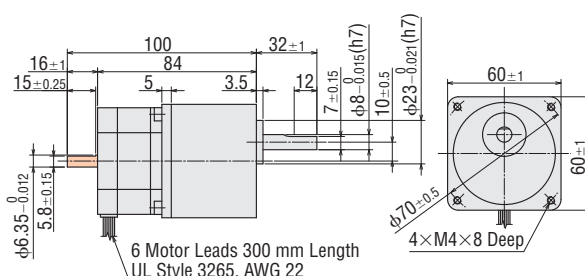
Product Name	Motor Product Name	Gear Ratio	Mass kg
CMK243AP-T□	PK243A1-T□	3.6, 7.2, 10, 20, 30	0.35
CMK243BP-T□	PK243B1-T□		



*The length of the shaft flat on the double shaft model is 15±0.25.

Frame Size 60 mm

Product Name	Motor Product Name	Gear Ratio	Mass kg
CMK264AP-T□	PK264A2-T□	3.6, 7.2, 10, 20, 30	0.85
CMK264BP-T□	PK264B2-T□		

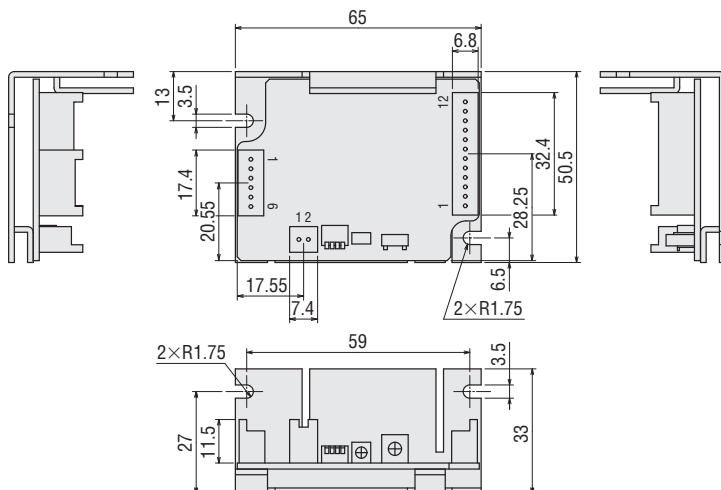


- A number indicating the gear ratio is entered where the box □ is located within the product name.
- These dimensions are for double shaft models. For single shaft models, ignore the shaded areas.

● Driver

Driver Product Name: CMD2109P
CMD2112P
CMD2120P

Mass: 0.05 kg



● Accessories

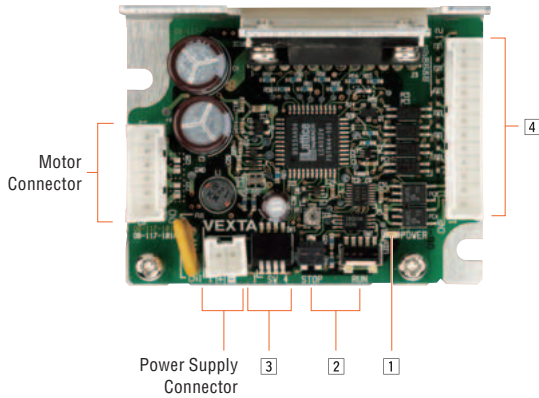
Connector Housing: 51103-0200 (Molex)
51103-1200 (Molex)
51103-0600 (Molex)
Contact : 50351-8100 (Molex)

Note

- Use the included connectors for the power supply, signal and motor. When assembling the connectors, use the hand crimp tool 57295-5000 (Molex).
- The crimp tool is not included. Please provide separately.
- Connection cable set (sold separately) crimped with connector is available as an accessory.
- Connection cable set → Page A-355

Connection and Operation

Names and Functions of Driver Parts



1 Power Input Display

Color	Function	Lighting Condition
Green	Power Supply Indication	When power is applied

2 Current Adjustment Switches

Indication	Switch Name	Function
RUN	Motor Run Current Adjustment Potentiometer	For Adjusting the Motor Running Current
STOP	Motor Stop Current Adjustment Potentiometer	For Adjusting the Motor Current at Standstill

3 Function Switches

Indication	Switch Name	Function
1	Pulse Input Mode Select Switch	Switches between 1-Pulse Input and 2-Pulse Input
2, 3, 4	Step Angle Setting Switch	Step angle can be selected from the five levels of step angle using three switches

Step Angle Setting Switches

SW-2	SW-3	SW-4	Microsteps/Step	Resolution	Step Angle
OFF	OFF	OFF	1	200	1.8°
OFF	OFF	ON	2	400	0.9°
OFF	ON	OFF	4	800	0.45°
OFF	ON	ON	8	1600	0.225°
ON	OFF	OFF	16	3200	0.1125°

Note

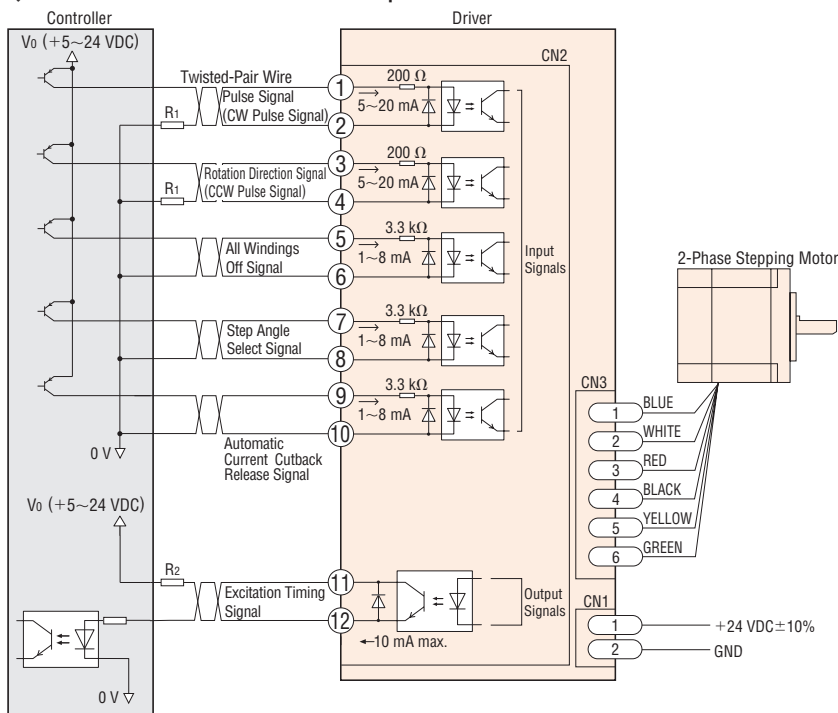
- Use of any setting other than the combinations listed in the table will automatically set the resolution to 1 and the motor will operate at the basic step angle.
- The step angle is calculated by dividing the basic step angle by the number of microsteps. The above figures are based on a basic step angle of 1.8°.
- With the high-resolution type, the basic step angle and resolution are 0.9° and 400 (microsteps/step 1), respectively.
- If you are using a geared type, the step angle divided by the gear ratio becomes the actual step angle.
- The step angle set with the step angle setting switches will become effective when the Step Angle Select (CS) input signal is OFF.
- Do not change the Step Angle Select (CS) input signal or step angle setting switches while the motor is operating. It may cause the motor to misstep and stop. Change the step angle setting switches, when the Step Angle Select input signal is OFF and the Excitation Timing output signal is ON.

4 I/O Signals

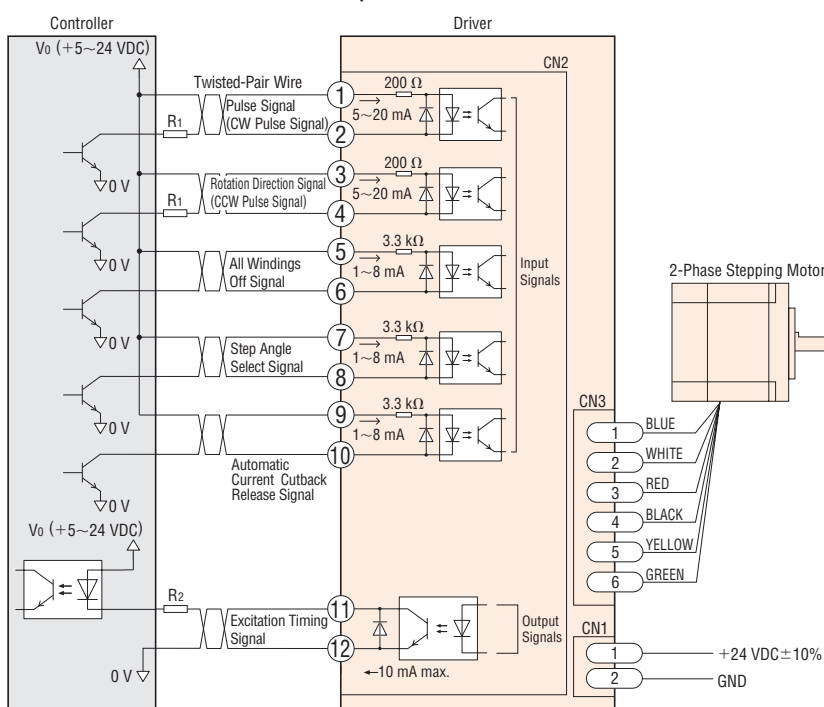
Indication	I/O	Pin No.	Signal Name	Function
CN2	Input Signal	1	Pulse signal (CW pulse signal)	Operation command pulse signal (The motor will rotate in the CW direction when in 2-pulse input mode.)
		2		
		3	Rotation direction signal (CCW pulse signal)	Rotation direction signal Photocoupler OFF: CCW, Photocoupler ON: CW (The motor will rotate in the CCW direction when in 2-pulse input mode.)
		4		
		5	All Windings OFF Signal	Cuts the output current to the motor and allows the motor shafts to be rotated by external force
		6		
		7	Step Angle Select Signal	The motor will operate at the basic step angle regardless of the settings of the step angle setting switches.
		8		
		9	Automatic Current Cutback Release Signal	This signal is used to disable the automatic current cutback function.
		10		
Output Signal		11	Excitation Timing Signal	Outputs signals when the excitation sequence is at STEP "0"
		12		

● Connection Diagram

◇ Connection to Current Source Output Circuit



◇ Connection to Current Sink Output Circuit



Notes on Wiring

◇ I/O Signal Connection

- **Input Signal**
The external resistor is not needed when the voltage is 5 VDC. If voltage exceeding 5 VDC is applied, connect an appropriate external resistor R_1 so that the current becomes 5 to 20 mA.
Example) When V_0 is 24 VDC, R_1 : 1.5 to 2.2 k Ω 0.5 W or more
- **Output Signal**
Check the specifications of all devices to be connected and if the current will exceed 10 mA, connect an external resistor R_2 .
- Use a twisted-pair wire of AWG24 to 22 (0.2 to 0.3 mm²).
- Since the maximum transmissible frequency drops as the pulse line becomes longer, keep the wiring length as short as possible (within 2 m).
Technical reference → Page G-46
- Provide a distance of 20 mm or more between the I/O signal lines and power lines (power supply lines, motor lines, etc.).

◇ Power Connection

- Use wires of AWG22 (0.3 mm²).
- Incorrect polarities of the DC power supply input will lead to driver damage. Make sure that the polarity is correct before turning power on.

◇ Extension of Motor Cable

- Use a wire of AWG22 (0.3 mm²) or thicker.

◇ General

- A separate hand crimp tool is required to crimp the included connector and lead wire. The accessory driver cable set (sold separately) comes with all lead wires already crimped.
- If noise generated by the motor cable or power supply cable causes a problem with the specific wiring or layout, shield the cable or use ferrite cores.

Motor and Driver Combinations

Product names for motor and driver combinations are shown below.

Type	Product Name	Motor Product Name	Driver Product Name				
High-Torque Type	CMK223PAP CMK223PBP CMK224PAP CMK224PBP CMK225PAP CMK225PBP	PK223PA* PK223PB* PK224PA* PK224PB* PK225PA* PK225PB*	CMD2109P				
	CMK233PAP CMK233PBP CMK235PAP CMK235PBP CMK244PAP CMK244PBP CMK246PAP CMK246PBP	PK233PA* PK233PB* PK235PA* PK235PB* PK244PA* PK244PB* PK246PA* PK246PB*		CMD2112P			
	CMK264PAP CMK264PBP CMK266PAP CMK266PBP CMK268PAP CMK268PBP	PK264PA* PK264PB* PK266PA* PK266PB* PK268PA* PK268PB*			CMD2120P		
	CMK243MAP CMK243MBP	PK243MA PK243MB				CMD2109P	
	CMK244MAP CMK244MBP CMK245MAP CMK245MBP	PK244MA PK244MB PK245MA PK245MB					CMD2112P
	CMK264MAP CMK264MBP CMK266MAP CMK266MBP CMK268MAP CMK268MBP	PK264MA PK264MB PK266MA PK266MB PK268MA PK268MB				CMD2120P	
	CMK243AP CMK243BP	PK243-01A PK243-01B	CMD2109P				
	CMK244AP CMK244BP CMK245AP CMK245BP	PK244-01A PK244-01B PK245-01A PK245-01B					
	CMK256AP CMK256BP CMK258AP CMK258BP CMK264AP CMK264BP CMK266AP CMK266BP CMK268AP CMK268BP	PK256-02A PK256-02B PK258-02A PK258-02B PK264-02A PK264-02B PK266-02A PK266-02B PK268-02A PK268-02B	CMD2120P				

Type	Product Name	Motor Product Name	Driver Product Name			
SH Geared Type	CMK223AP-SG7.2 CMK223BP-SG7.2 CMK223AP-SG9 CMK223BP-SG9 CMK223AP-SG10 CMK223BP-SG10 CMK223AP-SG18 CMK223BP-SG18 CMK223AP-SG36 CMK223BP-SG36 CMK243AP-SG3.6 CMK243BP-SG3.6 CMK243AP-SG7.2 CMK243BP-SG7.2 CMK243AP-SG9 CMK243BP-SG9 CMK243AP-SG10 CMK243BP-SG10 CMK243AP-SG18 CMK243BP-SG18 CMK243AP-SG36 CMK243BP-SG36	PK223PA-SG7.2* PK223PB-SG7.2* PK223PA-SG9* PK223PB-SG9* PK223PA-SG10* PK223PB-SG10* PK223PA-SG18* PK223PB-SG18* PK223PA-SG36* PK223PB-SG36* PK243A1-SG3.6 PK243B1-SG3.6 PK243A1-SG7.2 PK243B1-SG7.2 PK243A1-SG9 PK243B1-SG9 PK243A1-SG10 PK243B1-SG10 PK243A1-SG18 PK243B1-SG18 PK243A1-SG36 PK243B1-SG36	CMD2109P			
	CMK264AP-SG3.6 CMK264BP-SG3.6 CMK264AP-SG7.2 CMK264BP-SG7.2 CMK264AP-SG9 CMK264BP-SG9 CMK264AP-SG10 CMK264BP-SG10 CMK264AP-SG18 CMK264BP-SG18 CMK264AP-SG36 CMK264BP-SG36	PK264A2-SG3.6 PK264B2-SG3.6 PK264A2-SG7.2 PK264B2-SG7.2 PK264A2-SG9 PK264B2-SG9 PK264A2-SG10 PK264B2-SG10 PK264A2-SG18 PK264B2-SG18 PK264A2-SG36 PK264B2-SG36 PK264A2-SG50 PK264B2-SG50 PK264A2-SG100 PK264B2-SG100		CMD2120P		
	CMK243AP-T3.6 CMK243BP-T3.6 CMK243AP-T7.2 CMK243BP-T7.2 CMK243AP-T10 CMK243BP-T10 CMK243AP-T20 CMK243BP-T20 CMK243AP-T30 CMK243BP-T30	PK243A1-T3.6 PK243B1-T3.6 PK243A1-T7.2 PK243B1-T7.2 PK243A1-T10 PK243B1-T10 PK243A1-T20 PK243B1-T20 PK243A1-T30 PK243B1-T30			CMD2109P	
	CMK264AP-T3.6 CMK264BP-T3.6 CMK264AP-T7.2 CMK264BP-T7.2 CMK264AP-T10 CMK264BP-T10 CMK264AP-T20 CMK264BP-T20 CMK264AP-T30 CMK264BP-T30	PK264A2-T3.6 PK264B2-T3.6 PK264A2-T7.2 PK264B2-T7.2 PK264A2-T10 PK264B2-T10 PK264A2-T20 PK264B2-T20 PK264A2-T30 PK264B2-T30				CMD2120P

*If you are purchasing only a motor for maintenance purposes, etc., connection cable and connector will not be supplied. Please provide separately. The connection cable and motor connector set are also available as accessories.

Connection cable → Page A-355

Motor connector set → Page A-355