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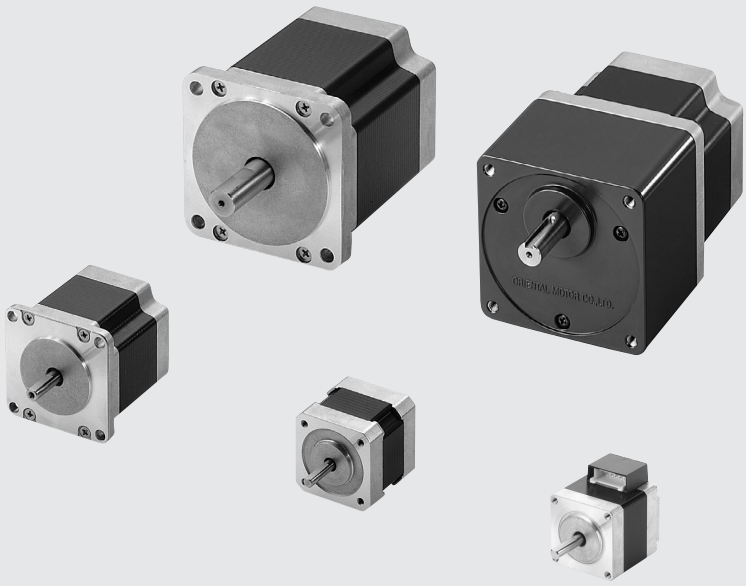
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2-Phase Stepping Motors

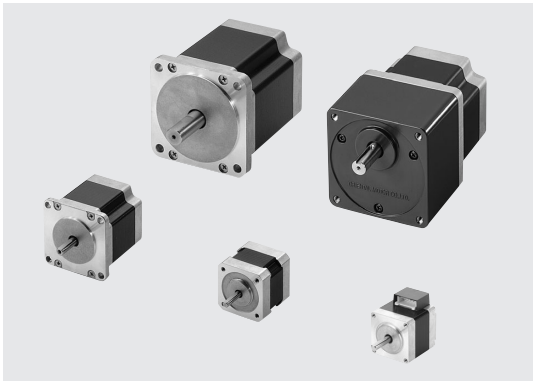
Additional Information

Technical Reference ····· F-1
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2-Phase Stepping Motors

Six frame sizes are available in a range from 1.10 in. (28 mm) to 3.35 in. (85 mm). In addition to the standard type, we offer standard **P** type (high torque), **PV** Series (high inertia capability), high-resolution type and **SH** geared type. The motor windings also come in various specifications.



Wide Variety

Series/Type \ Size	Motor Frame Size: in. (mm)					
	□1.10 in. (□28 mm)	□1.38 in. (□35 mm)	□1.65 in. (□42 mm)	□2.22 in. (□56.4 mm) *1	□2.65 in. (□60 mm)	□3.35 in. (□85 mm) *2
PK Series — Standard Type	—	—	 Page C-202	with Encoder page→ C-233  Page C-214	—	 Page C-227
PK Series — Standard **P** Type (High Torque)	 Page C-196	 Page C-200	 Page C-204	—	—	—
PK Series — High Resolution Type	—	—	 Page C-208	with Encoder page→ C-239  Page C-218	—	—
PK Series — **SH** Geared Type	 Page C-198	—	 Page C-212	*1  Page C-222	—	*2  Page C-231
PV Series (High Inertia Capability)	—	—	—	—	 Page C-224	—

*1 Gearhead frame size is 2.65 in. sq. (60 mm sq.)
*2 Gearhead frame size is 3.54 in. sq. (90 mm sq.)

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Accessories (Sold Separately)

Motor Mounting Brackets
Page → C-295



Mounting brackets cannot be used with **SH** geared types.

Clean Dampers
Page → C-293

Effective at suppressing motor vibration and improving performance.



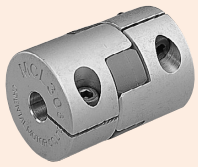
Flexible Couplings
Page → C-288

MC Motor Couplings



Flexible Couplings
Page → C-290

MCL Gearmotor Couplings

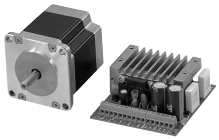


2-Phase Stepping Motor and Driver Packages

To achieve maximum performance, motors with dedicated drivers are available.



AC Input
UMK Series
→Page C-149



DC Input
CSK Series
→Page C-161

2-Phase Stepping Motor Driver with Built-in Indexer **UI2120G**

Combines a high performance stepping motor driver with microprocessor intelligence and an integrated pulse generator.



→Page C-241

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PK Series

Standard Type

The standard **PK** Series 2-phase stepping motor offers balanced performance enhanced by high torque, low vibration and low noise. Optimal motor size and winding specification can be selected from a wide range of motor variations.

With Encoder

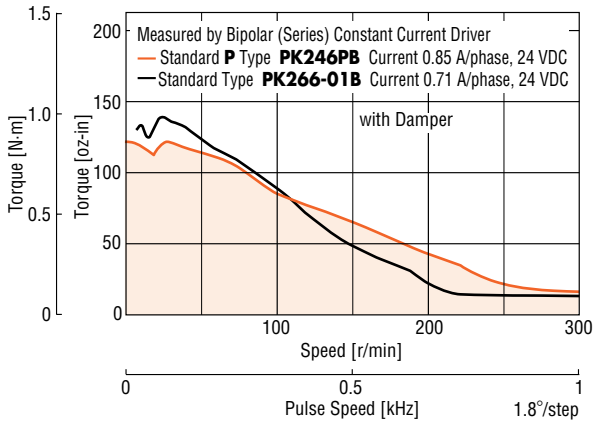
The **PK** Series 2-phase stepping motor with encoder offers high torque and precise feedback capability.

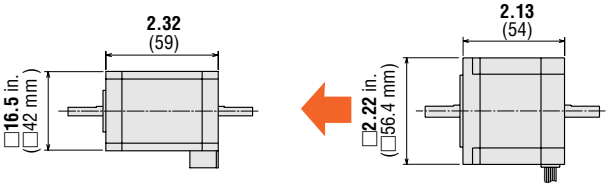
- Encoder Feedback Type: Incremental
- Two feedback resolutions: 200 and 400 pulses/rev.
- Provides closed loop system capability

Standard P Type (High Torque)

This motor type combines high torque and a compact size. Three frame sizes, 1.10 in. (28 mm), 1.38 in. (35 mm) and 1.65 in. (42 mm), are available. Each specification provides torque equivalent to a motor of the next larger frame size, supporting high-torque operation even in the high-speed range.

For example, Standard **P** type **PK246PB** [motor frame size 1.65 in. (42 mm)] has the same holding torque as the standard type **PK266-01B** [motor frame size 2.22 in. (56.4 mm)]. This means a smaller size motor will maintain the same torque. This allows for downsized and lightweight equipment.

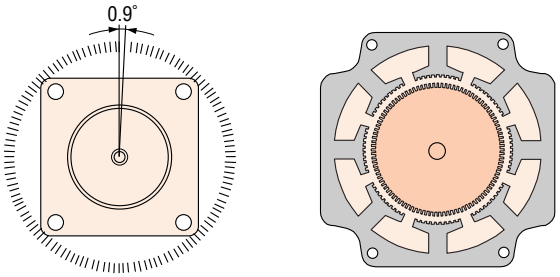


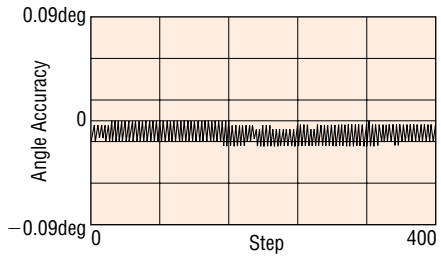


Standard **P** Type	**Type**	Standard Type
PK246PB	**Model**	**PK266-01B**
132 oz-in	**Holding Torque**	166 oz-in
(0.93 N·m)		(1.17 N·m)
0.77 oz-in^2	**Rotor Inertia**	1.64 oz-in^2
(114×10^{-7} kg·m^2)		(300×10^{-7} kg·m^2)

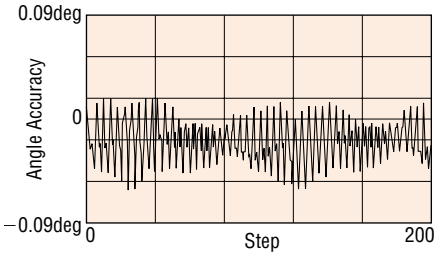
High Resolution Type

These 2-phase, high resolution stepping motors have half the step angle of standard stepping motors. The high resolution type increases motor resolution from 200 steps/revolution to 400 steps/revolution. Smaller step-angles can be achieved by half-step driving or microstep driving. Such options, however, do not improve accuracy. Other than having twice as many rotor teeth as standard stepping motors, all other structures are exactly the same as the standard motors.

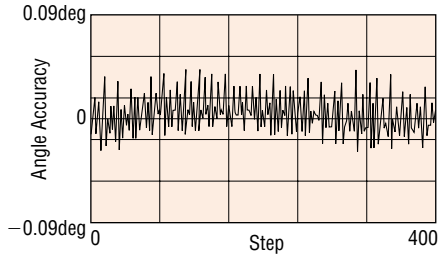




(1) High Resolution Type (0.9°/Step)



(2) Standard Type (1.8°/Step)



(3) Standard Type (0.9°/Step)

Angle Accuracy

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SH Geared Type

Incorporating **SH** gears with high permissible torque, these models offer the full benefit of the speed reducing capability of geared motors, delivering high resolution, high torque and smooth low-speed rotation. With performance like this, the **SH** Geared type can easily satisfy the requirements of various kinds of low-speed positioning applications.

● Smooth Rotation at Low Speeds

Stepping motors at low speed produce a relatively high amount of vibration. Use of a gearhead allows for an increase in the speed of the motor which results in a smoother motion while maintaining the low output speed required by the application.

● Six Gear Ratios

SH geared motors are available with six different gear ratios: 3.6:1, 7.2:1, 9:1, 10:1, 18:1, 36:1. The low ratios of these gearheads can greatly facilitate speed control of the 2-phase stepping motors.

✻ **PK223-SG** type is not available in a gear ratio of 3.6:1.

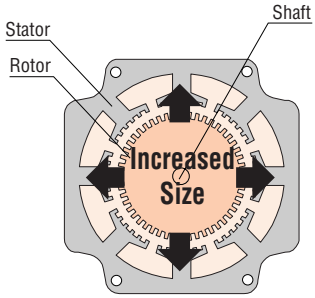
● Ideal for High Inertia Drive

The stepping motor itself can drive an inertia of 10 times the rotor inertia. The geared type can reduce the load inertia by the square of the gear ratio. Therefore, the geared type is suitable for driving larger inertial loads.

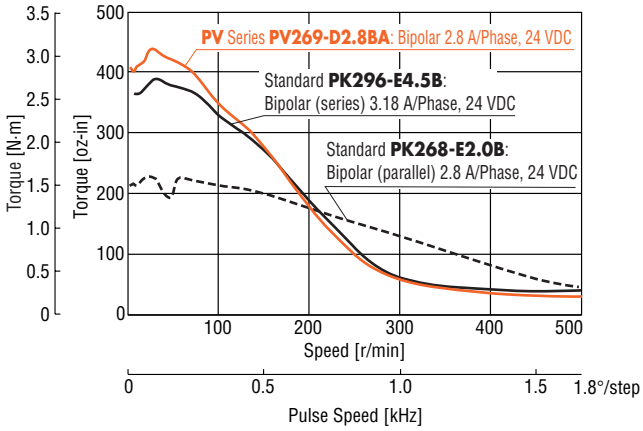
PV Series

High Inertia Capability

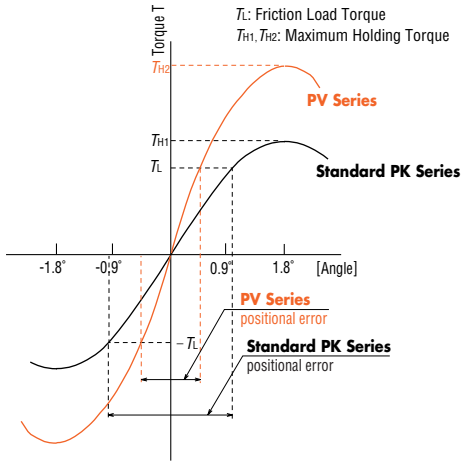
The **PV** Series provides, on average, 1.5 times higher torque than a standard stepping motor. By utilizing a larger rotor diameter, larger magnets can be used to significantly increase the output torque.



Motor structure
(Cross section perpendicular to shaft)



Angle–Torque Characteristics



All equipment has a friction load, and the motor stops when the motor output torque and friction load torque are balanced. As shown in the characteristics above, the larger the output torque per step angle, the less the motor is influenced by the friction load, so positioning accuracy is improved. Stop positioning displacement by external force does not occur as often.

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Product Number Code

PK Series

Standard Type, High Resolution Type

PK 2 4 3 □ - 0 1 B A

- **PK**: PK Series
- **2**: 2-Phase
- **4**: Motor Frame Size — **4**: 1.65 in. sq. (42 mm sq.), **6**: 2.22 in. sq. (56.4 mm sq.), **9**: 3.35 in. sq. (85 mm sq.)
- **3**: Motor Case Length
- **□**: Step Angle — Blank: 1.8° (Standard), **M**: 0.9° (High Resolution)
- **0**: Legacy Number
- **1**: Winding Specification
- **B**: Shaft Type — **A**: Single Shaft, **B**: Double Shaft
- **A**: U.S.A. Version

Standard Type, High Resolution Type with Encoder

PK 2 6 6 □ - 0 1 A R11

- **PK**: PK Series
- **2**: 2-Phase
- **6**: Motor Frame Size — **6**: 1.65 in. sq. (42 mm sq.)
- **6**: Motor Case Length
- **□**: Step Angle — Blank: 1.8° (Standard), **M**: 0.9° (High Resolution)
- **0**: Legacy Number
- **1**: Winding Specification
- **A**: Shaft Type — **A**: Single Shaft
- **R11**: Encoder Resolution — **R11**: 200 P/R, **R12**: 400 P/R

Standard P Type (High Torque)

PK 2 3 3 P A

- **PK**: PK Series
- **2**: 2-Phase
- **3**: Motor Frame Size — **2**: 1.10 in. sq. (28 mm sq.), **3**: 1.38 in. sq. (35 mm sq.), **4**: 1.65 in. sq. (42 mm sq.)
- **3**: Motor Case Length
- **P**: Standard **P** Type
- **A**: Shaft Type — **A**: Single Shaft, **B**: Double Shaft

SH Geared Type

PK 2 2 3 P A - SG 10

- **PK**: PK Series
- **2**: 2-Phase
- **2**: Motor Frame Size — **2**: 1.10 in. sq. (28 mm sq.)
- **3**: Motor Case Length
- **P**: Motor Type
- **A**: Shaft Type — **A**: Single Shaft, **B**: Double Shaft
- **SG**: **SH** Gear Type
- **10**: Gear Ratio

PV Series (High Inertia Capability)

PV 2 6 6 - 0 2 B A

- **PV**: **PV** Series
- **2**: 2-Phase
- **6**: Motor Frame Size 2.36 in. sq. (60 mm sq.)
- **6**: Motor Case Length
- **0**: Legacy Number — **0**: 6 Leads, **D**: 4 Leads
- **2**: Winding Specification
- **B**: Shaft Type — **A**: Single Shaft, **B**: Double Shaft
- **A**: U.S.A. Version

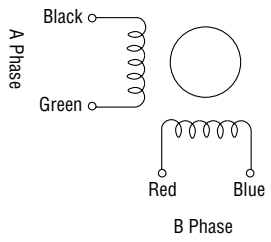
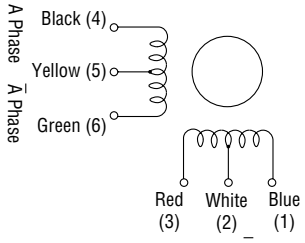
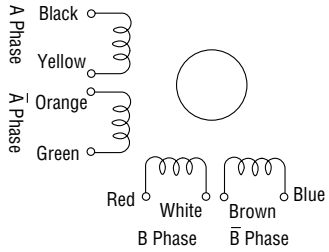
PK 2 6 4 A 1 A - SG 10

- **PK**: PK Series
- **2**: 2-Phase
- **6**: Motor Frame Size — **4**: 1.65 in. sq. (42 mm sq.), **6**: 2.36 in. sq. (60 mm sq.), **9**: 3.54 in. sq. (90 mm sq.)
- **4**: Motor Case Length
- **A**: Shaft Type — **A**: Single Shaft, **B**: Double Shaft
- **1**: Winding Specification
- **A**: U.S.A. Version
- **SG**: **SH** Geared Type
- **10**: Gear Ratio

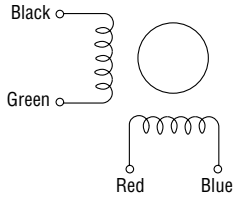
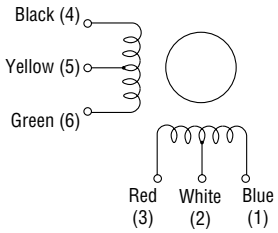
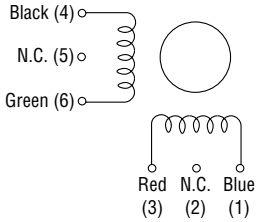
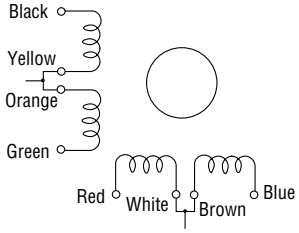
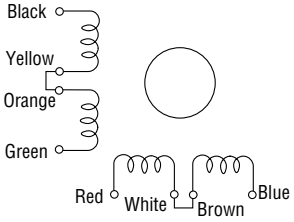
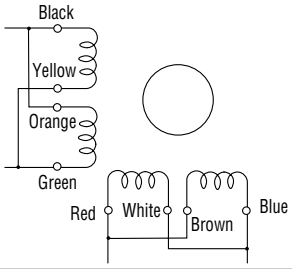
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Connection Diagrams

Motor Wiring Diagrams

4 Lead Motor	6 Lead Motor	8 Lead Motor
		

Wire Connection Diagrams

4 Lead Bipolar Connection	6 Lead Unipolar Connection	6 Lead Bipolar (Series) Connection
		
8 Lead Unipolar Connection	**8 Lead Bipolar (Series) Connection**	**8 Lead Bipolar (Parallel) Connection**
		

- The numbers inside the parentheses indicate the connector pin No. of the standard **P** type motor.
- N.C.: No Connection

Notes on the Speed–Torque Characteristics Diagrams

The speed-torque characteristics featured in this catalog are as measured with a constant-current driver or a constant-voltage driver. The actual characteristics will vary depending on the driver used. Please use these diagrams only for reference purposes when selecting a motor. You should also conduct a thorough evaluation with the actual driver to be used.

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Product Specifications

Motor Frame Size: □1.10 in. (□28 mm) PK22□

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
Standard **P** Type (High Torque)	**PK223PA**	1.8°	Bipolar (Series)	9.2	0.065	0.67	3.8	5.6	4	0.049	9×10^{-7}	C-196
	PK223PB		Unipolar	7.1	0.05	0.95	2.66	2.8	1			
	PK224PA	1.8°	Bipolar (Series)	13.7	0.097	0.67	4.6	6.8	4.8	0.066	12×10^{-7}	
	PK224PB		Unipolar	10.6	0.075	0.95	3.2	3.4	1.2			
	PK225PA	1.8°	Bipolar (Series)	15.6	0.11	0.67	6.2	9.2	5.6	0.098	18×10^{-7}	
	PK225PB		Unipolar	12.7	0.09	0.95	4.4	4.6	1.4			
SH Geared Type	**PK223PA-SG7.2**	0.25°	Bipolar (Series)	42	0.3	0.67	3.8	5.6	4	0.049	9×10^{-7}	C-198
	PK223PB-SG7.2		Unipolar			0.95	2.66	2.8	1			
	PK223PA-SG9	0.2°	Bipolar (Series)	42	0.3	0.67	3.8	5.6	4			
	PK223PB-SG9		Unipolar			0.95	2.66	2.8	1			
	PK223PA-SG10	0.18°	Bipolar (Series)	42	0.3	0.67	3.8	5.6	4			
	PK223PB-SG10		Unipolar			0.95	2.66	2.8	1			
	PK223PA-SG18	0.1°	Bipolar (Series)	56	0.4	0.67	3.8	5.6	4			
	PK223PB-SG18		Unipolar			0.95	2.66	2.8	1			
	PK223PA-SG36	0.05°	Bipolar (Series)	56	0.4	0.67	3.8	5.6	4			
	PK223PB-SG36		Unipolar			0.95	2.66	2.8	1			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

Motor Frame Size: □1.38 in. (□35 mm) PK23□

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
Standard **P** Type (High Torque)	**PK233PA**	1.8°	Bipolar (Series)	28	0.2	0.85	4.6	5.4	5.6	0.131	24×10^{-7}	C-200
	PK233PB		Unipolar	22	0.16	1.2	3.24	2.7	1.4			
	PK235PA	1.8°	Bipolar (Series)	52	0.37	0.85	5.8	6.8	8	0.27	50×10^{-7}	
	PK235PB		Unipolar	42	0.3	1.2	4.08	3.4	2			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

Motor Frame Size: □1.65 in. (□42 mm) PK24□

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
Standard Type	**PK243-01AA**	1.8°	Bipolar (Series)	28	0.2	0.67	5.6	8.4	10	0.191	35×10^{-7}	C-204
	PK243-01BA		Unipolar	22	0.16	0.95	4	4.2	2.5			
	PK243-02AA		Bipolar (Series)	28	0.2	0.28	13	48	60			
	PK243-02BA		Unipolar	22	0.16	0.4	9.6	24	15			
	PK243-03AA		Bipolar (Series)	28	0.2	0.22	17	77	84			
	PK243-03BA		Unipolar	22	0.16	0.31	12	38.5	21			
	PK244-01AA		Bipolar (Series)	46	0.33	0.85	5.6	6.6	12.8	0.3	54×10^{-7}	
	PK244-01BA		Unipolar	36	0.26	1.2	4	3.3	3.2			
	PK244-02AA		Bipolar (Series)	46	0.33	0.57	8.6	15	26.8			
	PK244-02BA		Unipolar	36	0.26	0.8	6	7.5	6.7			
	PK244-03AA		Bipolar (Series)	46	0.33	0.28	17	60	120			
	PK244-03BA		Unipolar	36	0.26	0.4	12	30	30			
	PK244-04AA		Bipolar (Series)	46	0.33	0.14	34	240	428			
	PK244-04BA		Unipolar	36	0.26	0.2	24	120	107			
	PK245-01AA		Bipolar (Series)	61	0.43	0.85	5.6	6.6	11.2	0.37	68×10^{-7}	
	PK245-01BA		Unipolar	45	0.32	1.2	4	3.3	2.6			
	PK245-02AA		Bipolar (Series)	61	0.43	0.57	8.6	15	28.4			
	PK245-02BA		Unipolar	45	0.32	0.8	6	7.5	7.1			
	PK245-03AA		Bipolar (Series)	61	0.43	0.28	17	60	100			
	PK245-03BA		Unipolar	45	0.32	0.4	12	30	25			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

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Motor Frame Size: □1.65 in. (□42 mm) PK24□

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
Standard **P** Type (High Torque)	**PK244PA**	1.8°	Bipolar (Series)	68	0.48	0.85	6.8	8	15.6	0.31	57×10^{-7}	C-202
	PK244PB		Unipolar	55	0.39	1.2	4.8	4	3.9			
	PK246PA		Bipolar (Series)	132	0.93	0.85	10	12	26	0.62	114×10^{-7}	
	PK246PB		Unipolar	106	0.75	1.2	7.2	6	6.5			
High Resolution Type	**PK243M-01AA**	0.9°	Bipolar (Series)	28	0.2	0.67	5.6	8.4	15.2	0.191	35×10^{-7}	C-208
	PK243M-01BA		Unipolar	22	0.16	0.95	4	4.2	3.8			
	PK243M-02AA		Bipolar (Series)	28	0.2	0.42	8.4	20	38.8			
	PK243M-02BA		Unipolar	22	0.16	0.6	6	10	9.7			
	PK243M-03AA		Bipolar (Series)	28	0.2	0.22	17	77	136			
	PK243M-03BA		Unipolar	22	0.16	0.31	12	38.5	34			
	PK244M-01AA		Bipolar (Series)	44	0.31	0.85	5.6	6.6	17.2	0.3	54×10^{-7}	
	PK244M-01BA		Unipolar	36	0.26	1.2	4	3.3	4.3			
	PK244M-02AA		Bipolar (Series)	44	0.31	0.57	8.6	15	38.8			
	PK244M-02BA		Unipolar	36	0.26	0.8	6	7.5	9.7			
	PK244M-03AA		Bipolar (Series)	44	0.31	0.28	17	60	152			
	PK244M-03BA		Unipolar	36	0.26	0.4	12	30	38			
	PK245M-01AA		Bipolar (Series)	53	0.38	0.85	5.6	6.6	15.6	0.37	68×10^{-7}	
	PK245M-01BA		Unipolar	45	0.32	1.2	4	3.3	3.9			
	PK245M-02AA		Bipolar (Series)	53	0.38	0.57	8.6	15	39.6			
	PK245M-02BA		Unipolar	45	0.32	0.8	6	7.5	9.9			
	PK245M-03AA		Bipolar (Series)	53	0.38	0.28	17	60	128			
	PK245M-03BA		Unipolar	45	0.32	0.4	12	30	32			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

Motor Frame Size: □1.65 in. (□42 mm) PK243

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque lb-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
SH Geared Type	**PK243A1A-SG3.6**	0.5°	Bipolar (Series)	1.77	0.2	0.67	5.6	8.4	10	0.191	35×10^{-7}	C-212
	PK243B1A-SG3.6		Unipolar			0.95	4.0	4.2	2.5			
	PK243A1A-SG7.2	0.25°	Bipolar (Series)	3.5	0.4	0.67	5.6	8.4	10			
	PK243B1A-SG7.2		Unipolar			0.95	4.0	4.2	2.5			
	PK243A1A-SG9	0.2°	Bipolar (Series)	4.4	0.5	0.67	5.6	8.4	10			
	PK243B1A-SG9		Unipolar			0.95	4.0	4.2	2.5			
	PK243A1A-SG10	0.18°	Bipolar (Series)	4.9	0.56	0.67	5.6	8.4	10			
	PK243B1A-SG10		Unipolar			0.95	4.0	4.2	2.5			
	PK243A1A-SG18	0.1°	Bipolar (Series)	7.0	0.8	0.67	5.6	8.4	10			
	PK243B1A-SG18		Unipolar			0.95	4.0	4.2	2.5			
	PK243A1A-SG36	0.05°	Bipolar (Series)	7.0	0.8	0.67	5.6	8.4	10			
	PK243B1A-SG36		Unipolar			0.95	4.0	4.2	2.5			
	PK243A2A-SG3.6	0.5°	Bipolar (Series)	1.77	0.2	0.28	13	48	60	0.191	35×10^{-7}	
	PK243B2A-SG3.6		Unipolar			0.4	9.6	24	15			
	PK243A2A-SG7.2	0.25°	Bipolar (Series)	3.5	0.4	0.28	13	48	60			
	PK243B2A-SG7.2		Unipolar			0.4	9.6	24	15			
	PK243A2A-SG9	0.2°	Bipolar (Series)	4.4	0.5	0.28	13	48	60			
	PK243B2A-SG9		Unipolar			0.4	9.6	24	15			
	PK243A2A-SG10	0.18°	Bipolar (Series)	4.9	0.56	0.28	13	48	60			
	PK243B2A-SG10		Unipolar			0.4	9.6	24	15			
	PK243A2A-SG18	0.1°	Bipolar (Series)	7.0	0.8	0.28	13	48	60			
	PK243B2A-SG18		Unipolar			0.4	9.6	24	15			
	PK243A2A-SG36	0.05°	Bipolar (Series)	7.0	0.8	0.28	13	48	60			
	PK243B2A-SG36		Unipolar			0.4	9.6	24	15			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

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Motor Frame Size: □2.22 in. (□56.4 mm) PK26□

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
Standard Type	**PK264-01A**	1.8°	Bipolar (Series)	68	0.48	0.71	8.1	11.4	21.6	0.66	120×10^{-7}	C-214
	PK264-01B		Unipolar	55	0.39	1	5.7	5.7	5.4			
	PK264-02A		Bipolar (Series)	68	0.48	1.4	3.9	2.8	5.6			
	PK264-02B		Unipolar	55	0.39	2	2.8	1.4	1.4			
	PK264-03A		Bipolar (Series)	68	0.48	2.1	2.6	1.26	2.4			
	PK264-03B		Unipolar	55	0.39	3	1.9	0.63	0.6			
	PK264-E2.0A		Bipolar (Parallel)	68	0.48	2.8	1.96	0.7	1.4			
	PK264-E2.0B		Bipolar (Series)	68	0.48	1.4	3.9	2.8	5.6			
			Unipolar	55	0.39	2	2.8	1.4	1.4			
	PK266-01A		Bipolar (Series)	166	1.17	0.71	11	14.8	40	1.64	300×10^{-7}	
	PK266-01B		Unipolar	127	0.9	1	7.4	7.4	10			
	PK266-02A		Bipolar (Series)	166	1.17	1.4	5	3.6	10			
	PK266-02B		Unipolar	127	0.9	2	3.6	1.8	2.5			
	PK266-03A		Bipolar (Series)	166	1.17	2.1	3.2	1.5	4.4			
	PK266-03B		Unipolar	127	0.9	3	2.3	0.75	1.1			
	PK266-E2.0A		Bipolar (Parallel)	166	1.17	2.8	2.52	0.9	2.5			
	PK266-E2.0B		Bipolar (Series)	166	1.17	1.4	5	3.6	10			
			Unipolar	127	0.9	2	3.6	1.8	2.5			
	PK268-01A		Bipolar (Series)	248	1.75	0.71	12	17.2	56	2.6	480×10^{-7}	
	PK268-01B		Unipolar	191	1.35	1	8.6	8.6	14			
	PK268-02A		Bipolar (Series)	248	1.75	1.4	6.3	4.5	14.4			
	PK268-02B		Unipolar	191	1.35	2	4.5	2.25	3.6			
	PK268-03A		Bipolar (Series)	248	1.75	2.1	4.2	2	6.4			
	PK268-03B		Unipolar	191	1.35	3	3	1	1.6			
	PK268-E2.0A		Bipolar (Parallel)	240	1.75	2.8	3.16	1.13	3.6			
	PK268-E2.0B		Bipolar (Series)	240	1.75	1.4	6.3	4.5	14.4			
			Unipolar	191	1.35	2	4.5	2.25	3.6			
Standard Type with Encoder	**PK264-01AR11**	1.8°	Bipolar (Series)	68	0.48	0.71	8.1	11.4	21.6	0.66	120×10^{-7}	C-233
	PK264-01AR12		Unipolar	55	0.39	1	5.7	5.7	5.4			
	PK264-02AR11		Bipolar (Series)	68	0.48	1.4	3.9	2.8	5.6			
	PK264-02AR12		Unipolar	55	0.39	2	2.8	1.4	1.4			
	PK264-03AR11		Bipolar (Series)	68	0.48	2.1	2.6	1.26	2.4			
	PK264-03AR12		Unipolar	55	0.39	3	1.9	0.63	0.6			
	PK264-E2.0AR11		Bipolar (Parallel)	68	0.48	2.8	1.96	0.7	1.4			
	PK264-E2.0AR12		Bipolar (Series)	68	0.48	1.4	3.9	2.8	5.6			
			Unipolar	55	0.39	2	2.8	1.4	1.4			
	PK266-01AR11		Bipolar (Series)	166	1.17	0.71	11	14.8	40	1.64	300×10^{-7}	
	PK266-01AR12		Unipolar	127	0.9	1	7.4	7.4	10			
	PK266-02AR11		Bipolar (Series)	166	1.17	1.4	5	3.6	10			
	PK266-02AR12		Unipolar	127	0.9	2	3.6	1.8	2.5			
	PK266-03AR11		Bipolar (Series)	166	1.17	2.1	3.2	1.5	4.4			
	PK266-03AR12		Unipolar	127	0.9	3	2.3	0.75	1.1			
	PK266-E2.0AR11		Bipolar (Parallel)	166	1.17	2.8	2.52	0.9	2.5			
	PK266-E2.0AR12		Bipolar (Series)	166	1.17	1.4	5	3.6	10			
			Unipolar	127	0.9	2	3.6	1.8	2.5			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

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Motor Frame Size: □2.22 in. (□56.4 mm) PK26□

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
High Resolution Type	**PK264M-01A**	0.9°	Bipolar (Series)	68	0.48	0.71	8.1	11.4	26	0.66	120×10⁻⁷	C-218
	PK264M-01B		Unipolar	55	0.39	1	5.7	5.7	6.5			
	PK264M-02A		Bipolar (Series)	68	0.48	1.4	3.9	2.8	6.8			
	PK264M-02B		Unipolar	55	0.39	2	2.8	1.4	1.7			
	PK264M-03A		Bipolar (Series)	68	0.48	2.1	2.6	1.26	3			
	PK264M-03B		Unipolar	55	0.39	3	1.9	0.63	0.75			
	PK264M-E2.0A		Bipolar (Parallel)	68	0.48	2.8	1.96	0.7	1.7			
	PK264M-E2.0B		Bipolar (Series)	68	0.48	1.4	3.9	2.8	6.8			
			Unipolar	55	0.39	2	2.8	1.4	1.7			
	PK266M-01A		Bipolar (Series)	166	1.17	0.71	11	14.8	50.8	1.64	300×10⁻⁷	
	PK266M-01B		Unipolar	127	0.9	1	7.4	7.4	12.7			
	PK266M-02A		Bipolar (Series)	166	1.17	1.4	5	3.6	12.8			
	PK266M-02B		Unipolar	127	0.9	2	3.6	1.8	3.2			
	PK266M-03A		Bipolar (Series)	166	1.17	2.1	3.2	1.5	5.8			
	PK266M-03B		Unipolar	127	0.9	3	2.3	0.75	1.45			
	PK266M-E2.0A		Bipolar (Parallel)	166	1.17	2.8	2.52	0.9	3.2			
	PK266M-E2.0B		Bipolar (Series)	166	1.17	1.4	5	3.6	12.8			
			Unipolar	127	0.9	2	3.6	1.8	3.2			
	PK268M-01A		Bipolar (Series)	248	1.75	0.71	12	17.2	77.6	2.6	480×10⁻⁷	
	PK268M-01B		Unipolar	191	1.35	1	8.6	8.6	19.4			
	PK268M-02A		Bipolar (Series)	248	1.75	1.4	6.3	4.5	19.2			
	PK268M-02B		Unipolar	191	1.35	2	4.5	2.25	4.8			
	PK268M-03A		Bipolar (Series)	248	1.75	2.1	4.2	2	8.4			
	PK268M-03B		Unipolar	191	1.35	3	3	1	2.1			
	PK268M-E2.0A		Bipolar (Parallel)	240	1.75	2.8	3.16	1.13	4.8			
	PK268M-E2.0B		Bipolar (Series)	240	1.75	1.4	6.3	4.5	19.2			
			Unipolar	191	1.35	2	4.5	2.25	4.8			
High Resolution Type with Encoder	**PK264M-01AR11**	0.9°	Bipolar (Series)	68	0.48	0.71	8.1	11.4	26	0.66	120×10⁻⁷	C-236
	PK264M-01AR12		Unipolar	55	0.39	1	5.7	5.7	6.5			
	PK264M-02AR11		Bipolar (Series)	68	0.48	1.4	3.9	2.8	6.8			
	PK264M-02AR12		Unipolar	55	0.39	2	2.8	1.4	1.7			
	PK264M-03AR11		Bipolar (Series)	68	0.48	2.1	2.6	1.26	3			
	PK264M-03AR12		Unipolar	55	0.39	3	1.9	0.63	0.75			
	PK264M-E2.0AR11		Bipolar (Parallel)	68	0.48	2.8	1.96	0.7	1.7			
	PK264M-E2.0AR12		Bipolar (Series)	68	0.48	1.4	3.9	2.8	6.8			
			Unipolar	55	0.39	2	2.8	1.4	1.7			
	PK266M-01AR11		Bipolar (Series)	166	1.17	0.71	11	14.8	50.8	1.64	300×10⁻⁷	
	PK266M-01AR12		Unipolar	127	0.9	1	7.4	7.4	12.7			
	PK266M-02AR11		Bipolar (Series)	166	1.17	1.4	5	3.6	12.8			
	PK266M-02AR12		Unipolar	127	0.9	2	3.6	1.8	3.2			
	PK266M-03AR11		Bipolar (Series)	166	1.17	2.1	3.2	1.5	5.8			
	PK266M-03AR12		Unipolar	127	0.9	3	2.3	0.75	1.45			
	PK266M-E2.0AR11		Bipolar (Parallel)	166	1.17	2.8	2.52	0.9	3.2			
	PK266M-E2.0AR12		Bipolar (Series)	166	1.17	1.4	5	3.6	12.8			
			Unipolar	127	0.9	2	3.6	1.8	3.2			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

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Motor Frame Size: □2.22 in. (□56.4 mm) PK264

Frame Size of **SH** Geared Type is □2.36 in. (□60 mm)

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque lb-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
SH Geared Type	**PK264A1A-SG3.6**	0.5°	Bipolar (Series)	8.8	1	0.71	8.1	11.4	21.6	0.66	120×10⁻⁷	C-222
	PK264B1A-SG3.6		Unipolar			1	5.7	5.7	5.4			
	PK264A1A-SG7.2	0.25°	Bipolar (Series)	17.7	2	0.71	8.1	11.4	21.6			
	PK264B1A-SG7.2		Unipolar			1	5.7	5.7	5.4			
	PK264A1A-SG9	0.2°	Bipolar (Series)	22	2.5	0.71	8.1	11.4	21.6			
	PK264B1A-SG9		Unipolar			1	5.7	5.7	5.4			
	PK264A1A-SG10	0.18°	Bipolar (Series)	23	2.7	0.71	8.1	11.4	21.6			
	PK264B1A-SG10		Unipolar			1	5.7	5.7	5.4			
	PK264A1A-SG18	0.1°	Bipolar (Series)	26	3	0.71	8.1	11.4	21.6			
	PK264B1A-SG18		Unipolar			1	5.7	5.7	5.4			
	PK264A1A-SG36	0.05°	Bipolar (Series)	35	4	0.71	8.1	11.4	21.6			
	PK264B1A-SG36		Unipolar			1	5.7	5.7	5.4			
	PK264A2A-SG3.6	0.5°	Bipolar (Series)	8.8	1	1.4	3.9	2.8	5.6	0.66	120×10⁻⁷	
	PK264B2A-SG3.6		Unipolar			2	2.8	1.4	1.4			
	PK264A2A-SG7.2	0.25°	Bipolar (Series)	17.7	2	1.4	3.9	2.8	5.6			
	PK264B2A-SG7.2		Unipolar			2	2.8	1.4	1.4			
	PK264A2A-SG9	0.2°	Bipolar (Series)	22	2.5	1.4	3.9	2.8	5.6			
	PK264B2A-SG9		Unipolar			2	2.8	1.4	1.4			
	PK264A2A-SG10	0.18°	Bipolar (Series)	23	2.7	1.4	3.9	2.8	5.6			
	PK264B2A-SG10		Unipolar			2	2.8	1.4	1.4			
	PK264A2A-SG18	0.1°	Bipolar (Series)	26	3	1.4	3.9	2.8	5.6			
	PK264B2A-SG18		Unipolar			2	2.8	1.4	1.4			
	PK264A2A-SG36	0.05°	Bipolar (Series)	35	4	1.4	3.9	2.8	5.6			
	PK264B2A-SG36		Unipolar			2	2.8	1.4	1.4			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

Motor Frame Size: □2.36 in. (□60 mm) PV26□

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
PV Series (High Inertia Capability)	**PV264-02AA**	1.8°	Bipolar (Series)	150	1.06	1.4	4.1	2.92	7.2	1.53	280×10⁻⁷	C-224
	PV264-02BA		Unipolar	106	0.75	2	2.9	1.46	1.8			
	PV264-D2.8AA		Bipolar	150	1.06	2.8	2.1	0.73	1.8			
	PV264-D2.8BA											
	PV266-02AA		Bipolar (Series)	240	1.75	1.4	5.6	4	12.2	2.5	450×10⁻⁷	
	PV266-02BA		Unipolar	191	1.35	2	4	2	3.05			
	PV266-D2.8AA		Bipolar	240	1.75	2.8	2.8	1	3.05			
	PV266-D2.8BA											
	PV267-02AA		Bipolar (Series)	310	2.2	1.4	6.7	4.8	14.2	3.1	570×10⁻⁷	
	PV267-02BA		Unipolar	240	1.7	2	4.8	2.4	3.54			
	PV267-D2.8AA		Bipolar	310	2.2	2.8	3.4	1.2	3.54			
	PV267-D2.8BA											
	PV269-02AA		Bipolar (Series)	440	3.1	1.4	8.3	5.96	22.8	4.9	900×10⁻⁷	
	PV269-02BA		Unipolar	310	2.2	2	6	2.98	5.7			
	PV269-D2.8AA		Bipolar	440	3.1	2.8	4.2	1.49	5.7			
	PV269-D2.8BA											

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

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Motor Frame Size: □3.35 in. (□85 mm) PK29□

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
Standard Type	**PK296-01AA**	1.8°	Bipolar (Series)	440	3.1	1.4	6.2	4.4	30.8	7.7	1400×10⁻⁷	C-277
	PK296-01BA		Unipolar	310	2.2	2	4.4	2.2	7.7			
	PK296-02AA		Bipolar (Series)	440	3.1	2.1	4.2	2	14			
	PK296-02BA		Unipolar	310	2.2	3	3	1	3.5			
	PK296-03AA		Bipolar (Series)	440	3.1	3.18	2.8	0.96	6			
	PK296-03BA		Unipolar	310	2.2	4.5	2	0.48	1.5			
	PK296-F4.5A		Bipolar (Parallel)	440	3.1	6.3	1.4	0.24	1.5			
	PK296-F4.5B		Bipolar (Series)	440	3.1	3.18	2.8	0.96	6			
			Unipolar	310	2.2	4.5	2	0.48	1.5			
	PK299-01AA		Bipolar (Series)	880	6.2	1.4	9	6.4	56	14.8	2700×10⁻⁷	
	PK299-01BA		Unipolar	620	4.4	2	6.4	3.2	14			
	PK299-02AA		Bipolar (Series)	880	6.2	2.1	6	3	24			
	PK299-02BA		Unipolar	620	4.4	3	4.2	1.5	6			
	PK299-03AA		Bipolar (Series)	880	6.2	3.18	3.9	1.32	10			
	PK299-03BA		Unipolar	620	4.4	4.5	2.8	0.66	2.5			
	PK299-F4.5A		Bipolar (Parallel)	880	6.2	6.3	1.9	0.33	2.5			
	PK299-F4.5B		Bipolar (Series)	880	6.2	3.18	3.9	1.32	10			
			Unipolar	620	4.4	4.5	2.8	0.66	2.5			
	PK2913-01AA		Bipolar (Series)	1320	9.3	1.4	10	7.6	76.8	22	4000×10⁻⁷	
	PK2913-01BA		Unipolar	930	6.6	2	7.6	3.8	19.2			
	PK2913-02AA		Bipolar (Series)	1320	9.3	2.8	5.3	1.94	16.8			
	PK2913-02BA		Unipolar	930	6.6	4	3.8	0.97	4.2			
	PK2913-F4.0A		Bipolar (Parallel)	1320	9.3	5.6	2.6	0.49	4.2			
	PK2913-F4.0B		Bipolar (Series)	1320	9.3	2.8	5.3	1.94	16.8			
			Unipolar	930	6.6	4	3.8	0.97	4.2			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

Motor Frame Size: □3.35 in. (□85 mm) PK296 Frame Size of **SH** Geared Type is □3.54 in. (□90 mm)

Type	Model Single Shaft / Double Shaft	Basic Step Angle	Connection Type	Holding Torque lb-in	Holding Torque N·m	Current per Phase A/phase	Voltage VDC	Resistance Ω/phase	Inductance mH/phase	Rotor Inertia oz-in²	Rotor Inertia kg·m²	Page
SH Geared Type	**PK296A1A-SG3.6**	0.5°	Bipolar (Series)	22	2.5	1	4.4	4.4	30.8	7.7	1400×10⁻⁷	C-231
	PK296B1A-SG3.6		Unipolar			1.5	3.3	2.2	7.7			
	PK296A1A-SG7.2	0.25°	Bipolar (Series)	44	5	1	4.4	4.4	30.8			
	PK296B1A-SG7.2		Unipolar			1.5	3.3	2.2	7.7			
	PK296A1A-SG9	0.2°	Bipolar (Series)	55	6.3	1	4.4	4.4	30.8			
	PK296B1A-SG9		Unipolar			1.5	3.3	2.2	7.7			
	PK296A1A-SG10	0.18°	Bipolar (Series)	61	7	1	4.4	4.4	30.8			
	PK296B1A-SG10		Unipolar			1.5	3.3	2.2	7.7			
	PK296A1A-SG18	0.1°	Bipolar (Series)	79	9	1	4.4	4.4	30.8			
	PK296B1A-SG18		Unipolar			1.5	3.3	2.2	7.7			
	PK296A1A-SG36	0.05°	Bipolar (Series)	106	12	1	4.4	4.4	30.8			
	PK296B1A-SG36		Unipolar			1.5	3.3	2.2	7.7			
	PK296A2A-SG3.6	0.5°	Bipolar (Series)	22	2.5	2.1	2	0.96	6			
	PK296B2A-SG3.6		Unipolar			3	1.4	0.48	1.5			
	PK296A2A-SG7.2	0.25°	Bipolar (Series)	44	5	2.1	2	0.96	6			
	PK296B2A-SG7.2		Unipolar			3	1.4	0.48	1.5			
	PK296A2A-SG9	0.2°	Bipolar (Series)	55	6.3	2.1	2	0.96	6			
	PK296B2A-SG9		Unipolar			3	1.4	0.48	1.5			
	PK296A2A-SG10	0.18°	Bipolar (Series)	61	7	2.1	2	0.96	6			
	PK296B2A-SG10		Unipolar			3	1.4	0.48	1.5			
	PK296A2A-SG18	0.1°	Bipolar (Series)	79	9	2.1	2	0.96	6			
	PK296B2A-SG18		Unipolar			3	1.4	0.48	1.5			
	PK296A2A-SG36	0.05°	Bipolar (Series)	106	12	2.1	2	0.96	6			
	PK296B2A-SG36		Unipolar			3	1.4	0.48	1.5			

● The value given for holding torque is the value when operated with rated voltage and 2-phase excitation.

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□ 1.10 in. (□ 28 mm)

Step Angle 1.8°

PK Series Standard P Type (High Torque)

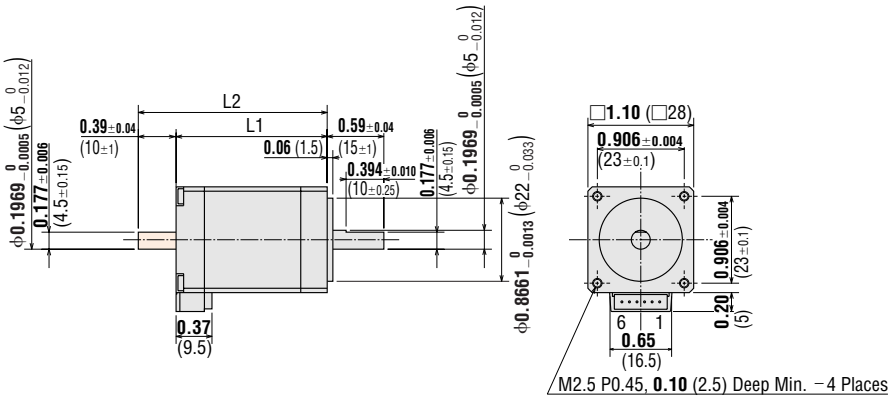


Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in^2	 kg·m^2	Lead Wires (Pins)
PK223PA	Bipolar (Series)	9.2	0.065	0.67	3.8	5.6	4	0.049	9×10^{-7}	6
PK223PB	Unipolar	7.1	0.05	0.95	2.66	2.8	1			
PK224PA	Bipolar (Series)	13.7	0.097	0.67	4.6	6.8	4.8	0.066	12×10^{-7}	6
PK224PB	Unipolar	10.6	0.075	0.95	3.2	3.4	1.2			
PK225PA	Bipolar (Series)	15.6	0.11	0.67	6.2	9.2	5.6	0.098	18×10^{-7}	6
PK225PB	Unipolar	12.7	0.09	0.95	4.4	4.6	1.4			

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Motor Wiring Diagrams→Page C-189

Dimensions Scale 1/2, Unit = **inch** (mm)



✻ The length of machining on double shaft model is 0.394±0.010 (10±0.25).
● These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK223PA	1.26 (32)	—	0.24 (0.11)	B326
PK223PB		1.65 (42)		
PK224PA	1.57 (40)	—	0.31 (0.14)	B327
PK224PB		1.97 (50)		
PK225PA	2.03 (51.5)	—	0.44 (0.2)	B328
PK225PB		2.42 (61.5)		

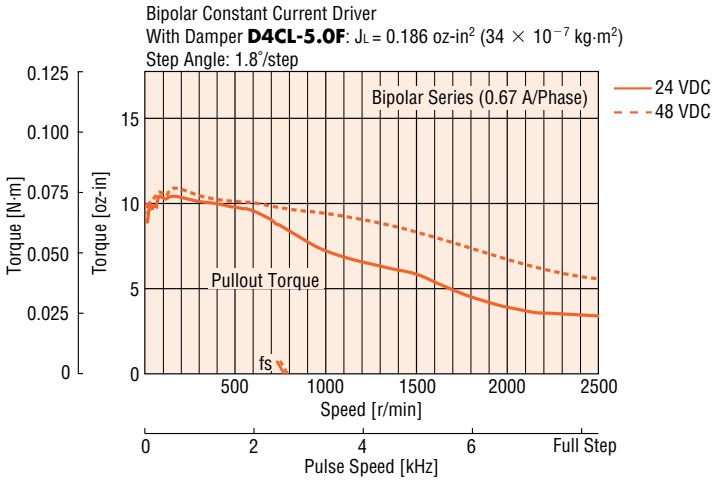
Applicable Connector
The following housing and contacts must be purchased separately.
Housing: 51065-0600 (MOLEX)
Contact: 50212-8100 (MOLEX)
Connector Assembly Tool: 57176-5000 (MOLEX)

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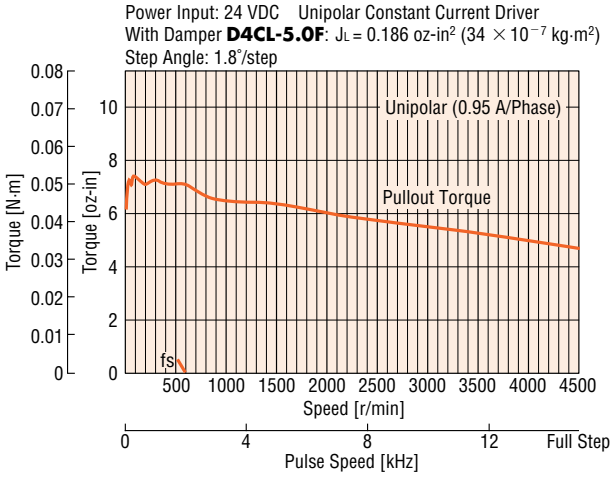
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

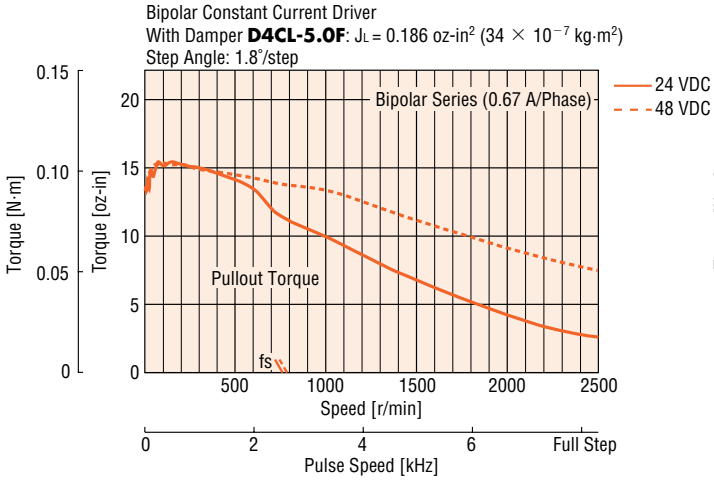
● **PK223PB** Bipolar (Series)



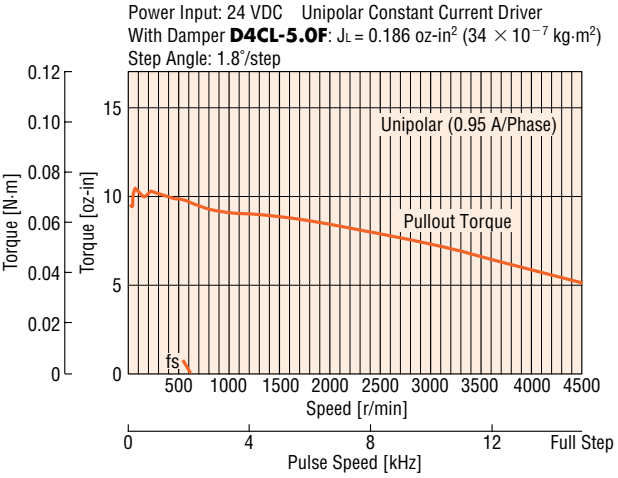
● **PK223PB** Unipolar



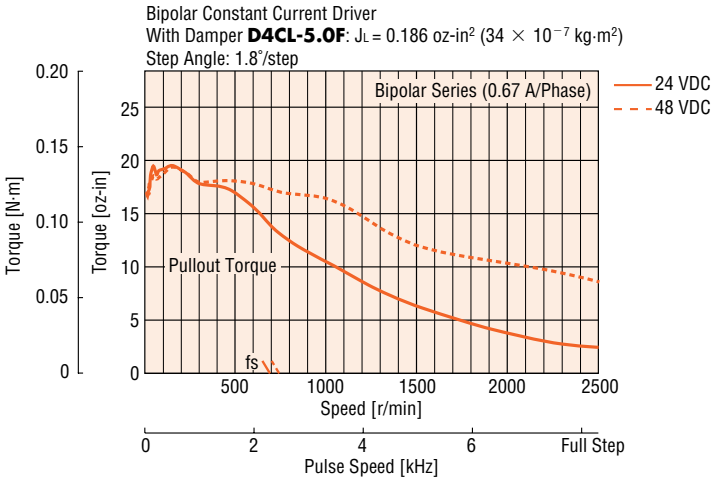
● **PK224PB** Bipolar (Series)



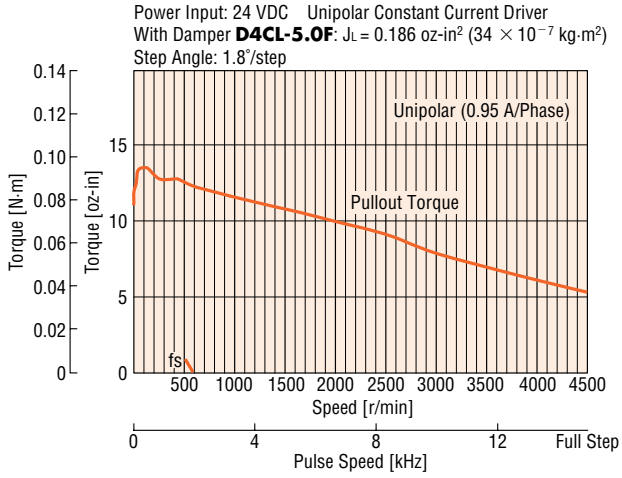
● **PK224PB** Unipolar



● **PK225PB** Bipolar (Series)



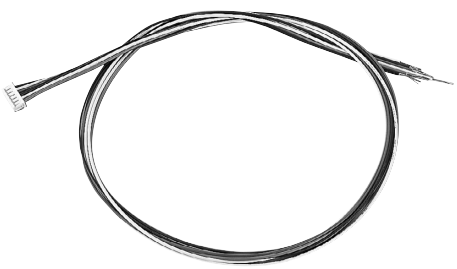
● **PK225PB** Unipolar



Motor Cables (Sold separately)

These cables make it easy to connect the Standard **P** type motor. The crimped connectors eliminate the need for assembly. There are two cable lengths to choose from.

Model	Cable Length feet	(m)	Number of Leads	Lead Specifications UL Style No.	AWG No.
LC2U06A	2	(0.6)	6 Leads	3265	24
LC2U10A	3.3	(1)			

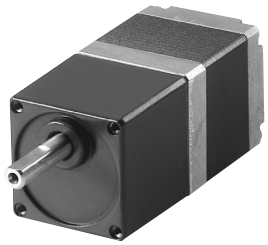


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□ 1.10 in. (□ 28 mm)

PK Series SH Geared Type



Specifications

Motor Specifications

Model Single Shaft Double Shaft	Connection Type	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires (Pins)
PK223PA-SG□	Bipolar (Series)	0.67	3.8	5.6	4	0.049	9×10^{-7}	6
PK223PB-SG□	Unipolar	0.95	2.66	2.8	1			

How to Read Specifications→Page C-9
Motor Wiring Diagrams→Page C-189

- Enter the gear ratio in the box (□) within the model number.

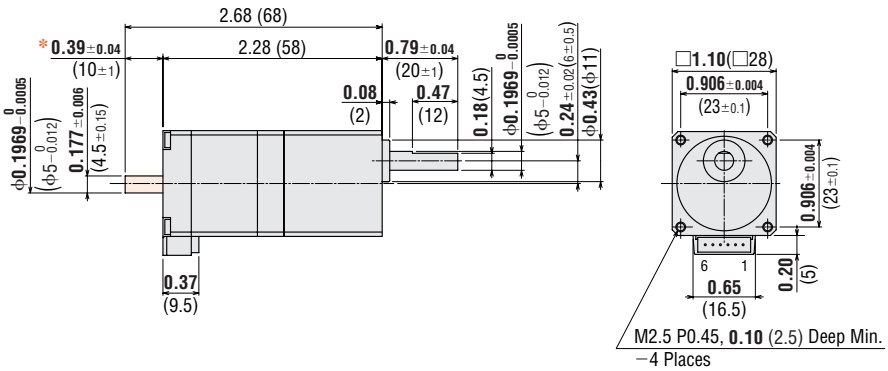
Gearmotor Specifications

Model Single Shaft Double Shaft	Gear Ratio	Holding Torque* oz-in	N·m	Step Angle	Permissible Speed r/min
PK223PA-SG7.2 **PK223PB-SG7.2**	7.2:1	42	0.3	0.25°	250
PK223PA-SG9 **PK223PB-SG9**	9:1	42	0.3	0.2°	200
PK223PA-SG10 **PK223PB-SG10**	10:1	42	0.3	0.18°	180
PK223PA-SG18 **PK223PB-SG18**	18:1	56	0.4	0.1°	100
PK223PA-SG36 **PK223PB-SG36**	36:1	56	0.4	0.05°	50

✻ Holding torque is the same regardless of the connection type, due to the permissible torque limit of the gearhead.

Dimensions

Scale 1/2, Unit = **inch** (mm)



✻ The length of machining on double shaft model is 0.394±0.010 (10±0.25).

Mounting Screws (included)
M2.5 P0.45 0.31 in. (8 mm) length: 4 pieces

- These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

Applicable Connector
The following housing and contacts must be purchased separately.
Housing: 51065-0600 (MOLEX)
Contact: 50212-8100 (MOLEX)
Connector Assembly Tool: 57176-5000 (MOLEX)

Model	Weight lb. (kg)	DXF
PK223PA-SG□	0.35 (0.16)	B335
PK223PB-SG□		

- Enter the gear ratio in the box (□) within the model number.

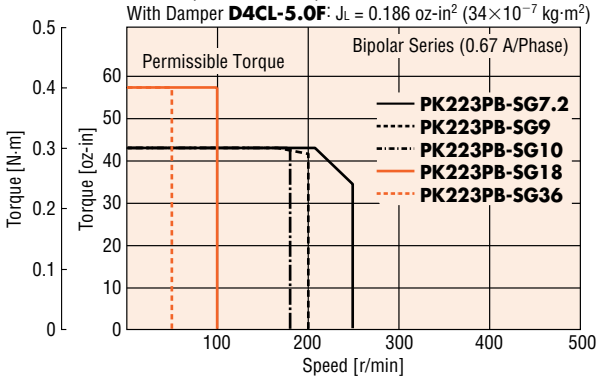
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Speed–Torque Characteristics

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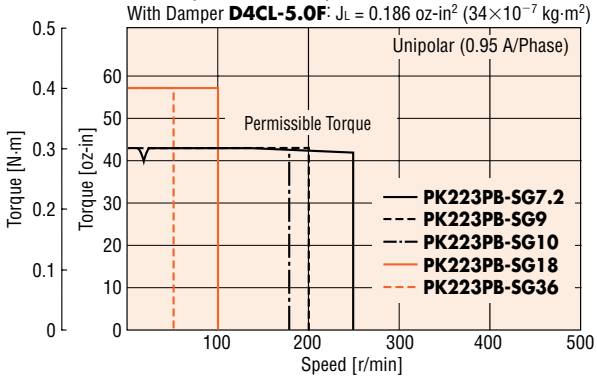
● **PK223PB-SG**□ Bipolar (Series) 24 VDC

Power Input: 24 VDC Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)



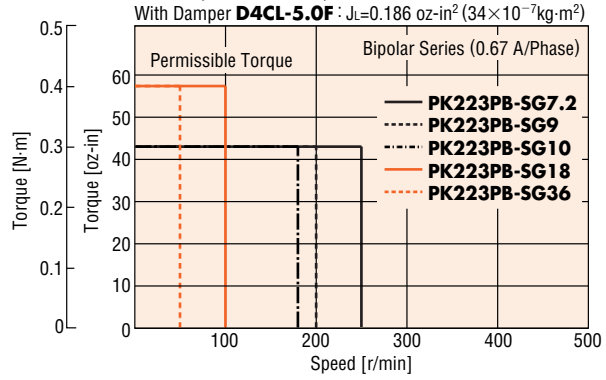
● **PK223PB-SG**□ Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)



● **PK223PB-SG**□ Bipolar (Series) 48 VDC

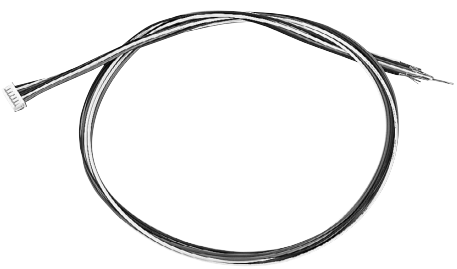
Power Input: 48 VDC Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L=0.186 oz-in^2 (34×10^{-7}kg·m^2)



Motor Cables (Sold separately)

These cables make it easy to connect the standard **P** type motor. The crimped connectors eliminate the need for assembly. There are two cable lengths to choose from.

Model	Cable Length feet	(m)	Number of Leads	Lead Specifications UL Style No.	AWG No.
LC2U06A	2	(0.6)	6 Leads	3265	24
LC2U10A	3.3	(1)			



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□1.38 in. (□35 mm)

Step Angle 1.8°

PK Series Standard P Type (High Torque)

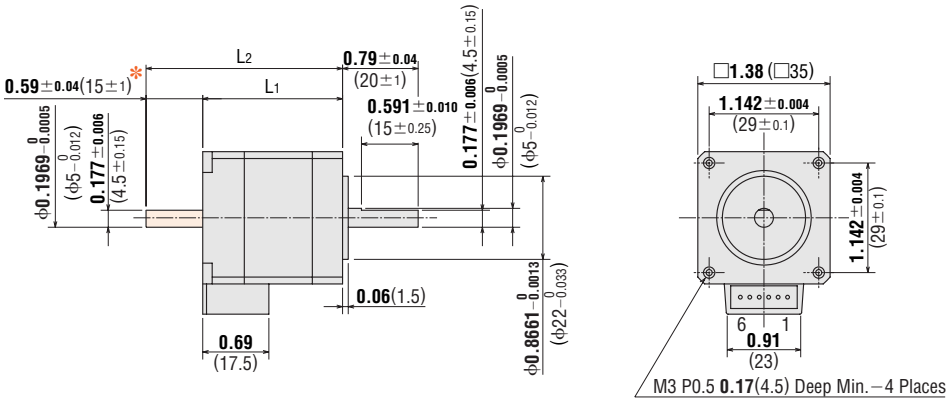


Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires (Pins)
PK233PA	Bipolar (Series)	28	0.2	0.85	4.6	5.4	5.6	0.131	24×10^{-7}	6
PK233PB	Unipolar	22	0.16	1.2	3.24	2.7	1.4			
PK235PA	Bipolar (Series)	52	0.37	0.85	5.8	6.8	8	0.27	50×10^{-7}	6
PK235PB	Unipolar	42	0.3	1.2	4.08	3.4	2			

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Motor Wiring Diagrams→Page C-189

Dimensions Scale 1/2, Unit = **inch** (mm)



* The length of machining on double shaft model is 0.591±0.010 (15±0.25).
● These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK233PA	1.46 (37)	—	0.4 (0.18)	B329
PK233PB		2.05 (52)		
PK235PA	2.05 (52)	—	0.63 (0.285)	B330
PK235PB		2.64 (67)		

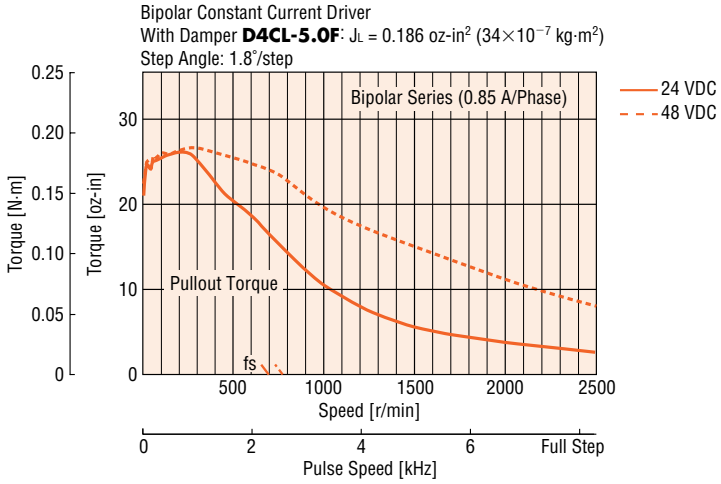
Applicable Connector
The following housing and contacts must be purchased separately.
Housing: 51103-0600 (MOLEX, Positive Lock Type) or
51102-0600 (MOLEX, Friction Lock Type)
Contact: 50351-8100 (MOLEX)
Connector Assembly Tool: 57295-5000 (MOLEX)

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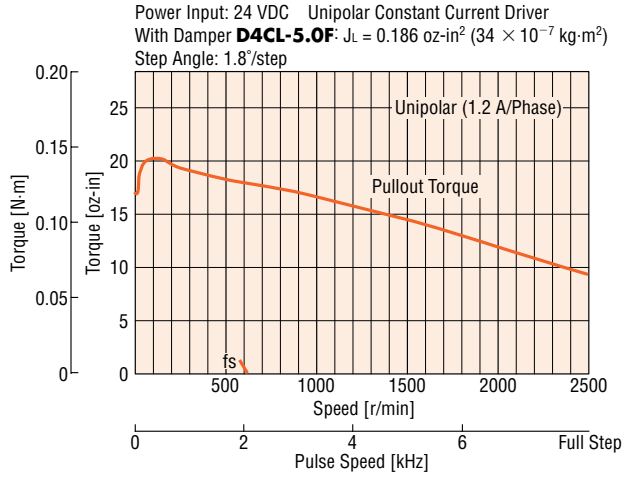
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

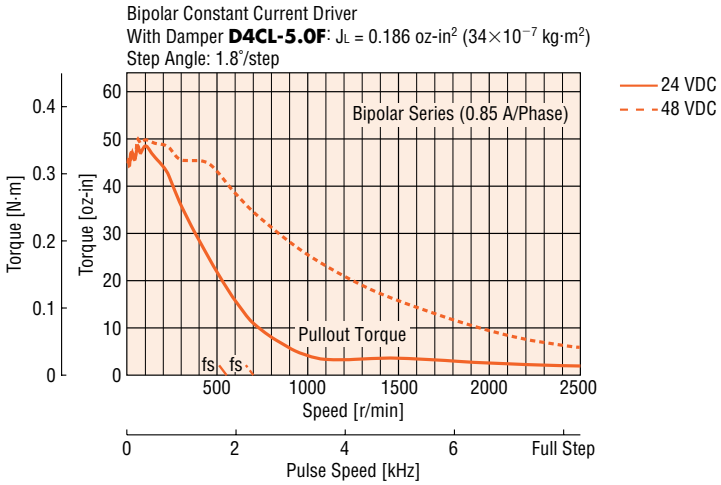
● **PK233PB** Bipolar (Series)



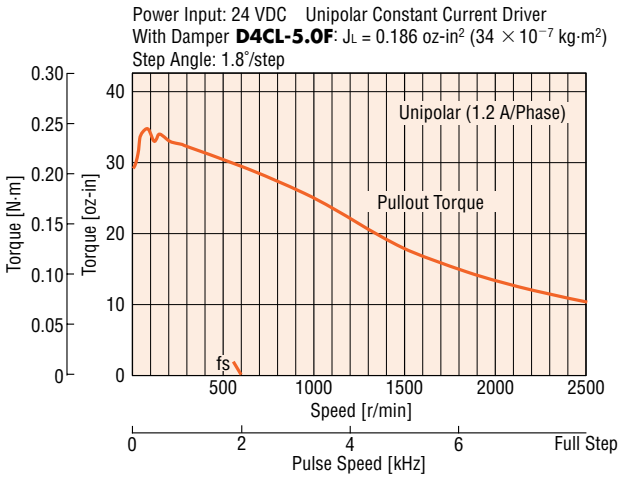
● **PK233PB** Unipolar



● **PK235PB** Bipolar (Series)



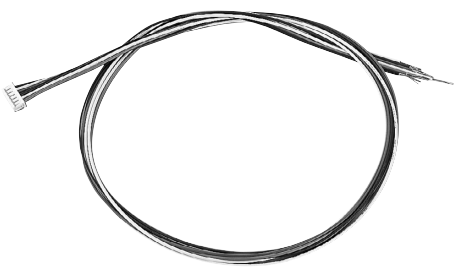
● **PK235PB** Unipolar



Motor Cables (Sold separately)

These cables make it easy to connect the Standard **P** type motor. The crimped connectors eliminate the need for assembly. There are two cable lengths to choose from.

Model	Cable Length feet	(m)	Number of Leads	Lead Specifications UL Style No.	AWG No.
LC2U06B	2	(0.6)	6 Leads	3265	24
LC2U10B	3.3	(1)			



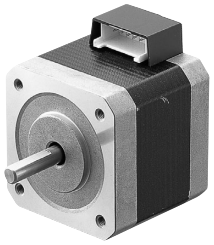
Connection Diagrams C-189 | General Specifications C-240

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□1.65 in. (□42 mm)

Step Angle 1.8°

PK Series Standard P Type (High Torque)

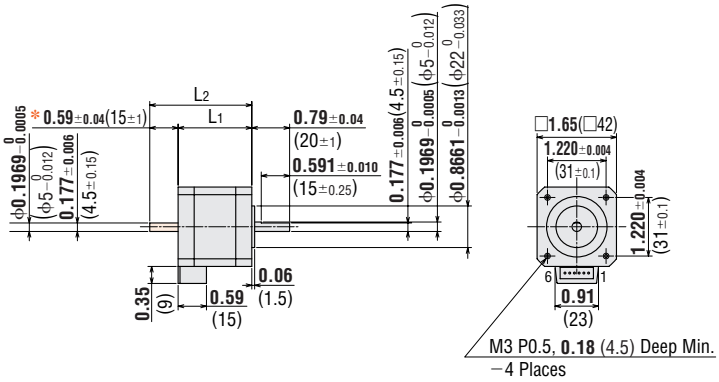


Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in^2	 kg·m^2	Lead Wires (Pins)
PK244PA	Bipolar (Series)	68	0.48	0.85	6.8	8	15.6	0.31	57×10^{-7}	6
PK244PB	Unipolar	55	0.39	1.2	4.8	4	3.9			
PK246PA	Bipolar (Series)	132	0.93	0.85	10	12	26	0.62	114×10^{-7}	6
PK246PB	Unipolar	106	0.75	1.2	7.2	6	6.5			

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Motor Wiring Diagrams→Page C-189

Dimensions Scale 1/4, Unit = **inch** (mm)



✻ The length of machining on double shaft model is 0.591±0.010 (15±0.25).
● These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK244PA	1.54 (39)	—	0.66 (0.3)	B331
PK244PB		2.13 (54)		
PK246PA	2.32 (59)	—	1.1 (0.5)	B332
PK246PB		2.91 (74)		

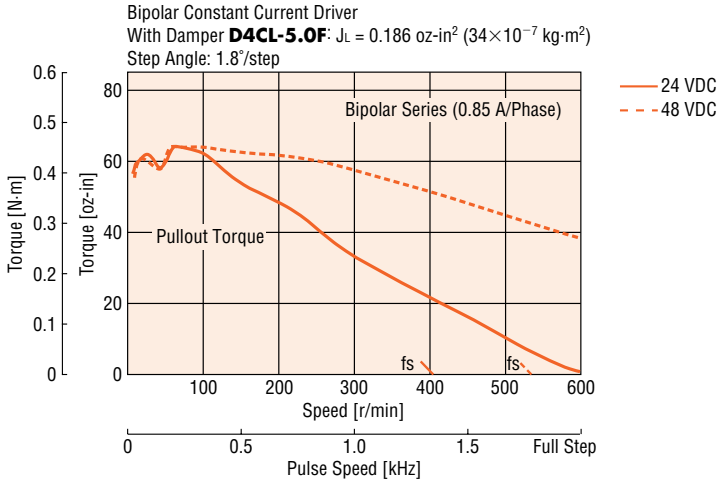
Applicable Connector
The following housing and contacts must be purchased separately.
Housing: 51103-0600 (MOLEX, Positive Lock Type) or
51102-0600 (MOLEX, Friction Lock Type)
Contact: 50351-8100 (MOLEX)
Connector Assembly Tool: 57295-5000 (MOLEX)

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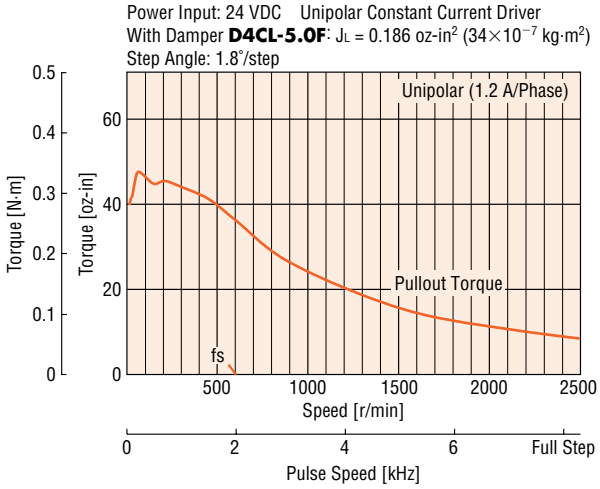
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

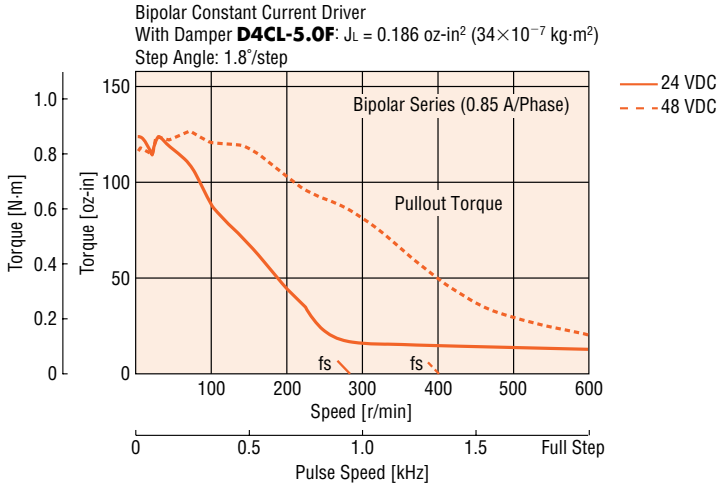
● **PK244PB** Bipolar (Series)



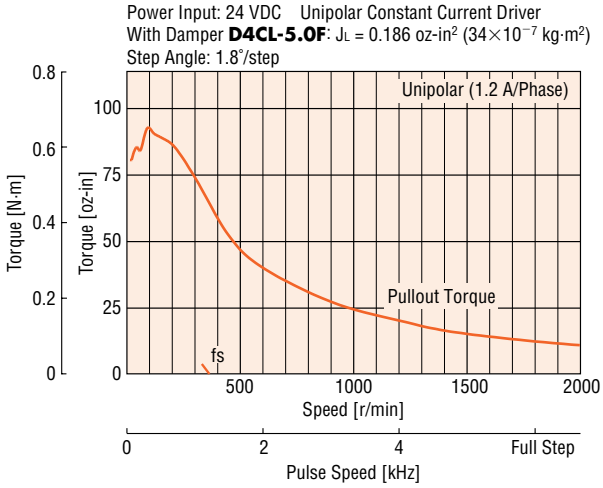
● **PK244PB** Unipolar



● **PK246PB** Bipolar (Series)



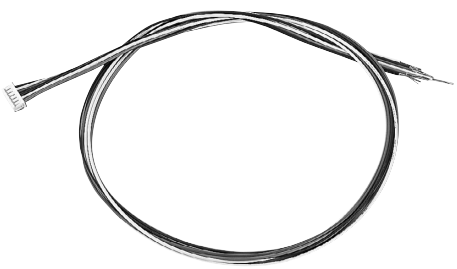
● **PK246PB** Unipolar



Motor Cables (Sold separately)

These cables make it easy to connect the Standard **P** type motor. The crimped connectors eliminate the need for assembly. There are two cable lengths to choose from.

Model	Cable Length feet	(m)	Number of Leads	Lead Specifications UL Style No.	AWG No.
LC2U06B	2	(0.6)	6 Leads	3265	24
LC2U10B	3.3	(1)			



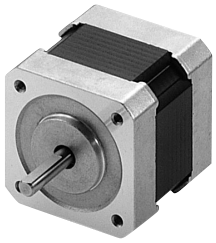
Connection Diagrams C-189 General Specifications C-240

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□1.65 in. (□42 mm)

Step Angle 1.8°

PK Series Standard Type



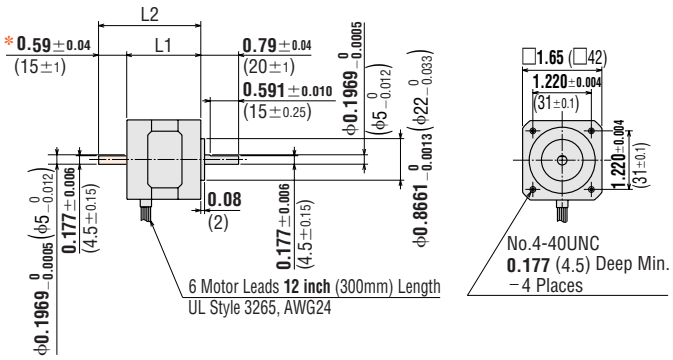
Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires	Corresponding AC/DC-Input Motor & Driver Package
PK243-01AA	Bipolar (Series)	28	0.2	0.67	5.6	8.4	10	0.191	35×10^{-7}	6	**UMK243□A/ CSK243-□TA**
PK243-01BA	Unipolar	22	0.16	0.95	4	4.2	2.5				
PK243-02AA	Bipolar (Series)	28	0.2	0.28	13	48	60	0.191	35×10^{-7}	6	—
PK243-02BA	Unipolar	22	0.16	0.4	9.6	24	15				
PK243-03AA	Bipolar (Series)	28	0.2	0.22	17	77	84	0.191	35×10^{-7}	6	—
PK243-03BA	Unipolar	22	0.16	0.31	12	38.5	21				
PK244-01AA	Bipolar (Series)	46	0.33	0.85	5.6	6.6	12.8	0.3	54×10^{-7}	6	**UMK244□A/ CSK244-□TA**
PK244-01BA	Unipolar	36	0.26	1.2	4	3.3	3.2				
PK244-02AA	Bipolar (Series)	46	0.33	0.57	8.6	15	26.8	0.3	54×10^{-7}	6	—
PK244-02BA	Unipolar	36	0.26	0.8	6	7.5	6.7				
PK244-03AA	Bipolar (Series)	46	0.33	0.28	17	60	120	0.3	54×10^{-7}	6	—
PK244-03BA	Unipolar	36	0.26	0.4	12	30	30				
PK244-04AA	Bipolar (Series)	46	0.33	0.14	34	240	428	0.3	54×10^{-7}	6	—
PK244-04BA	Unipolar	36	0.26	0.2	24	120	107				
PK245-01AA	Bipolar (Series)	61	0.43	0.85	5.6	6.6	11.2	0.37	68×10^{-7}	6	**UMK245□A/ CSK245-□TA**
PK245-01BA	Unipolar	45	0.32	1.2	4	3.3	2.8				
PK245-02AA	Bipolar (Series)	61	0.43	0.57	8.6	15	28.4	0.37	68×10^{-7}	6	—
PK245-02BA	Unipolar	45	0.32	0.8	6	7.5	7.1				
PK245-03AA	Bipolar (Series)	61	0.43	0.28	17	60	100	0.37	68×10^{-7}	6	—
PK245-03BA	Unipolar	45	0.32	0.4	12	30	25				

How to Read Specifications→Page C-9
Motor Wiring Diagrams→Page C-189

Dimensions

Scale 1/4, Unit = **inch** (mm)



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK243-0□AA	1.30 (33)	—	0.46 (0.21)	B081U
PK243-0□BA		1.89 (48)		
PK244-0□AA	1.54 (39)	—	0.59 (0.27)	B082U
PK244-0□BA		2.13 (54)		
PK245-0□AA	1.85 (47)	—	0.77 (0.35)	B083U
PK245-0□BA		2.44 (62)		

- Enter the winding specification in the box (□) within the model number.

✻ The length of machining on double shaft model is 0.591±0.010 (15±0.25).
- These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

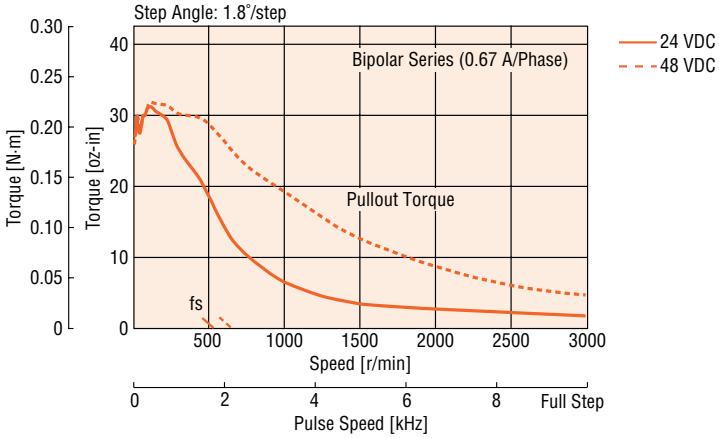
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

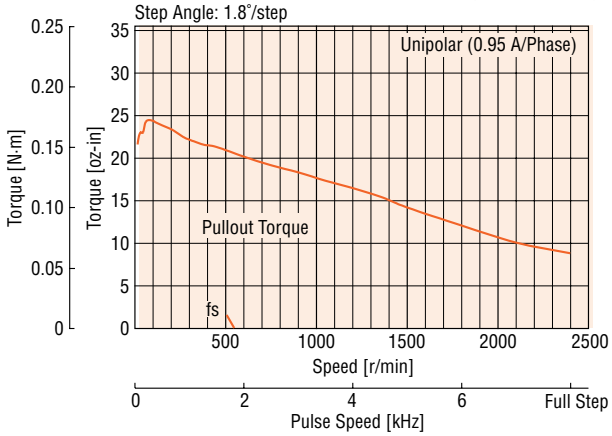
PK243-01BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in² (34×10⁻⁷ kg·m²)
Step Angle: 1.8°/step



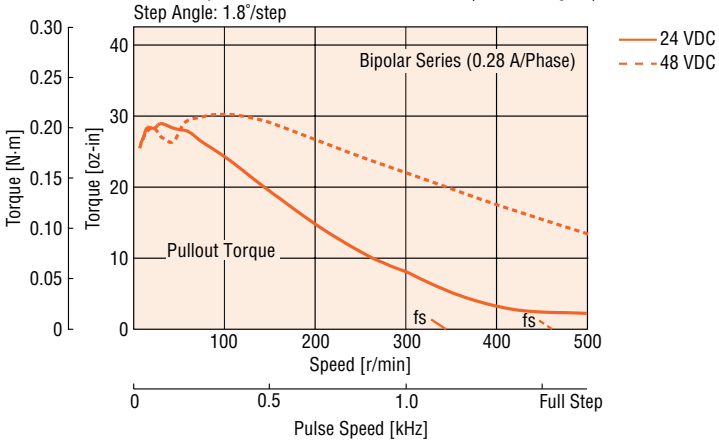
PK243-01BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in² (34×10⁻⁷ kg·m²)
Step Angle: 1.8°/step



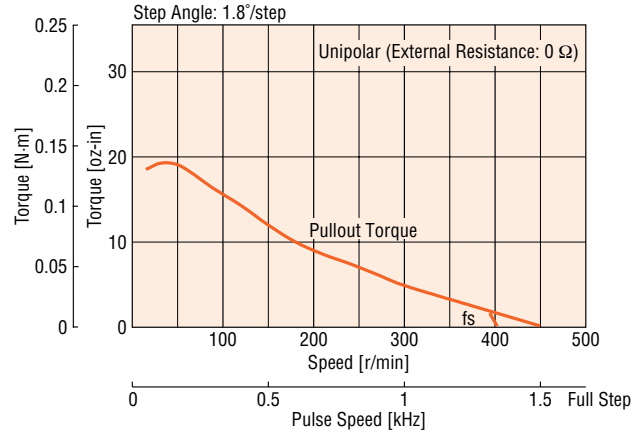
PK243-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in² (34×10⁻⁷ kg·m²)
Step Angle: 1.8°/step



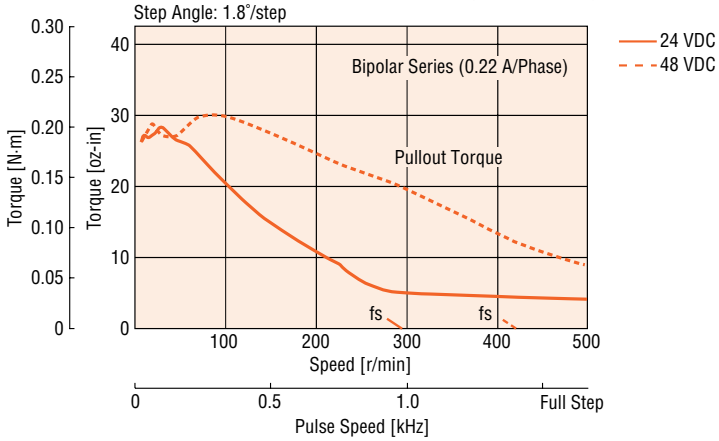
PK243-02BA Unipolar

Power Input: 11.5 VDC Unipolar Constant Voltage Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in² (34 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



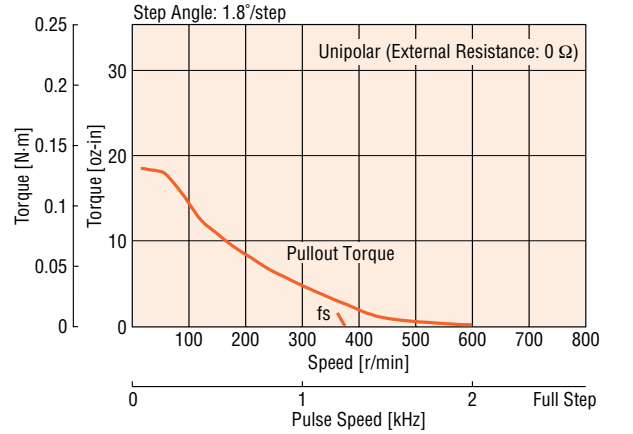
PK243-03BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in² (34×10⁻⁷ kg·m²)
Step Angle: 1.8°/step



PK243-03BA Unipolar

Power Input: 13.6 VDC Unipolar Constant Voltage Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in² (34 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



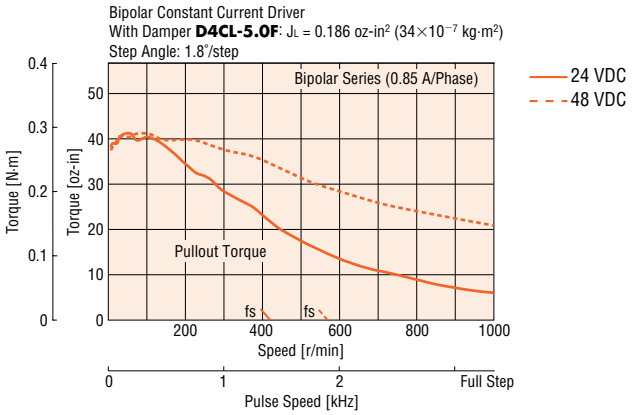
Connection Diagrams C-189
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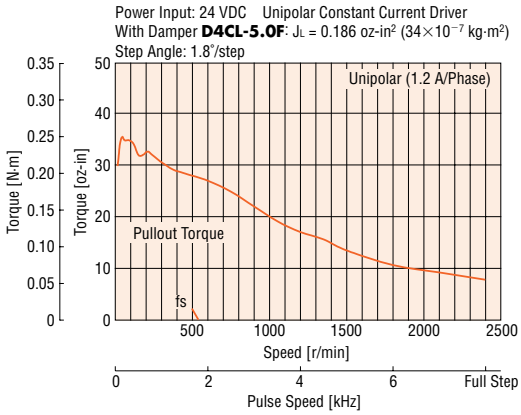
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

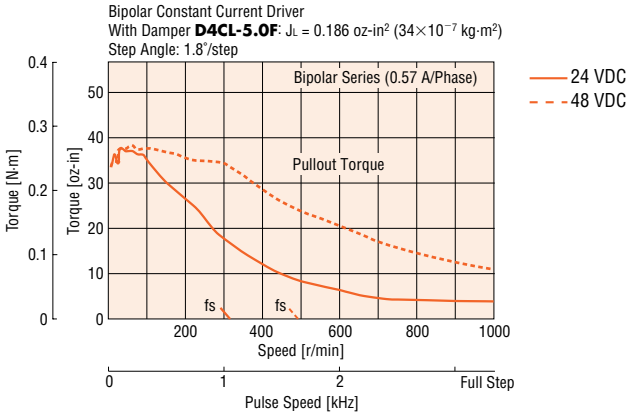
● PK244-01BA Bipolar (Series)



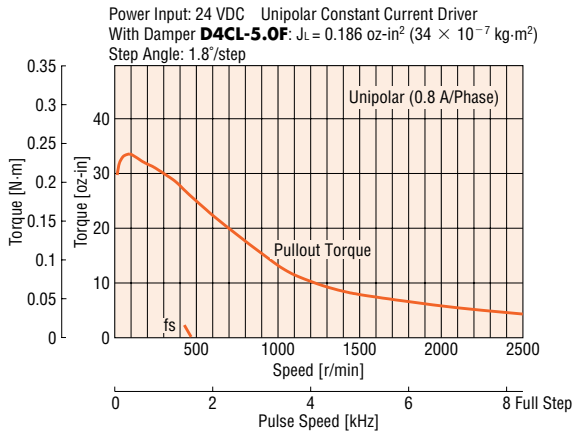
● PK244-01BA Unipolar



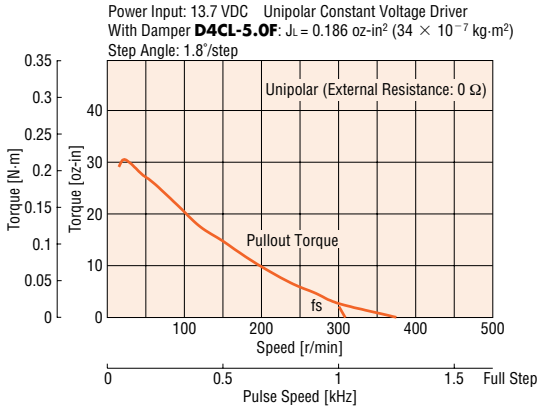
● PK244-02BA Bipolar (Series)



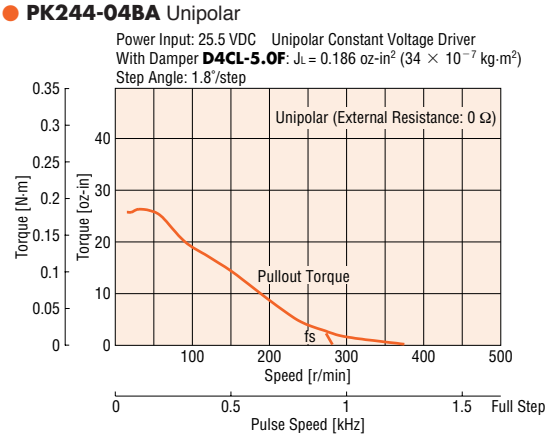
● PK244-02BA Unipolar



● PK244-03BA Unipolar



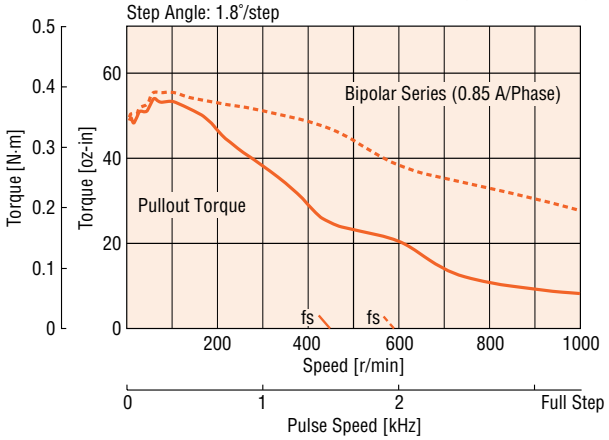
● PK244-04BA Unipolar



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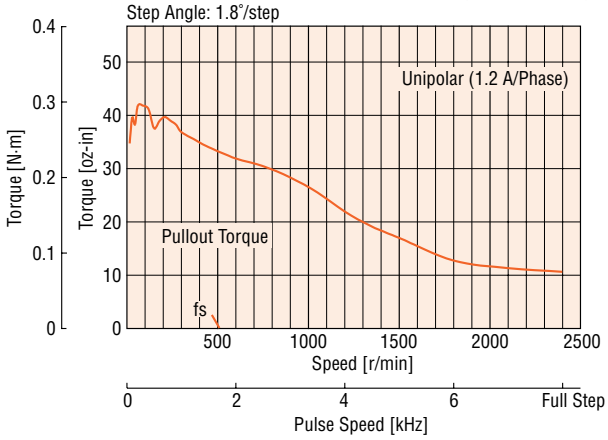
● PK245-01BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 1.8°/step



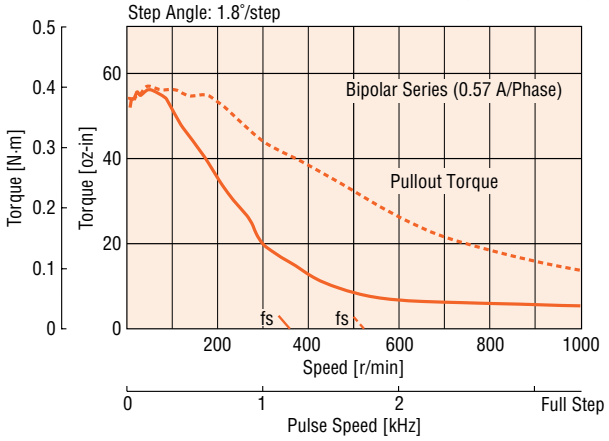
● PK245-01BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 1.8°/step



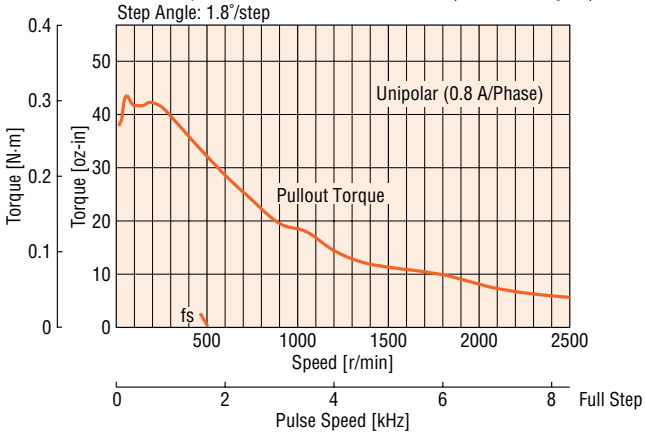
● PK245-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 1.8°/step



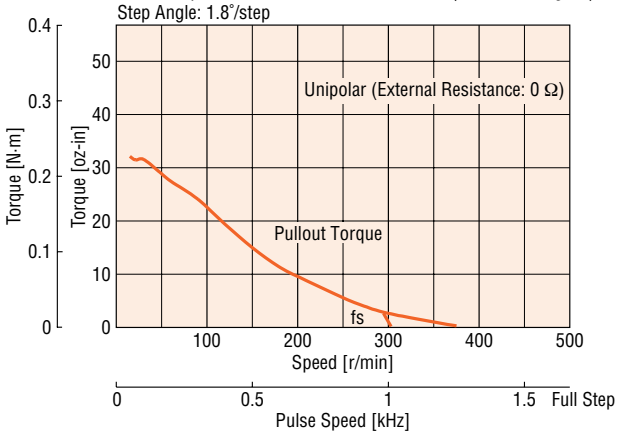
● PK245-02BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34 × 10^{-7} kg·m^2)
Step Angle: 1.8°/step



● PK245-03BA Unipolar

Power Input: 13.7 VDC Unipolar Constant Voltage Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34 × 10^{-7} kg·m^2)
Step Angle: 1.8°/step



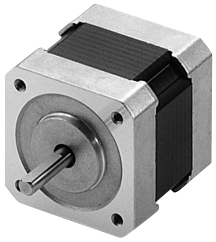
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□ 1.65 in. (□ 42 mm)

Step Angle 0.9°

PK Series High Resolution Type



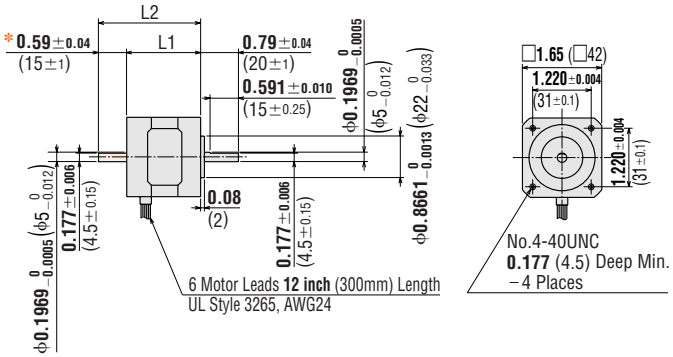
Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in^2	 kg·m^2	Lead Wires	Corresponding AC/DC-Input Motor & Driver Package
PK243M-01AA	Bipolar (Series)	28	0.2	0.67	5.6	8.4	15.2	0.191	35×10^{-7}	6	**UMK243M□A/ CSK243M-□TA**
PK243M-01BA	Unipolar	22	0.16	0.95	4	4.2	3.8				
PK243M-02AA	Bipolar (Series)	28	0.2	0.42	8.4	20	38.8	0.191	35×10^{-7}	6	—
PK243M-02BA	Unipolar	22	0.16	0.6	6	10	9.7				
PK243M-03AA	Bipolar (Series)	28	0.2	0.22	17	77	136	0.191	35×10^{-7}	6	—
PK243M-03BA	Unipolar	22	0.16	0.31	12	38.5	34				
PK244M-01AA	Bipolar (Series)	44	0.31	0.85	5.6	6.6	17.2	0.3	54×10^{-7}	6	**UMK244M□A/ CSK244M-□TA**
PK244M-01BA	Unipolar	36	0.26	1.2	4	3.3	4.3				
PK244M-02AA	Bipolar (Series)	44	0.31	0.57	8.6	15	38.8	0.3	54×10^{-7}	6	—
PK244M-02BA	Unipolar	36	0.26	0.8	6	7.5	9.7				
PK244M-03AA	Bipolar (Series)	44	0.31	0.28	17	60	152	0.3	54×10^{-7}	6	—
PK244M-03BA	Unipolar	36	0.26	0.4	12	30	38				
PK245M-01AA	Bipolar (Series)	53	0.38	0.85	5.6	6.6	15.6	0.37	68×10^{-7}	6	**UMK245M□A/ CSK245M-□TA**
PK245M-01BA	Unipolar	45	0.32	1.2	4	3.3	3.9				
PK245M-02AA	Bipolar (Series)	53	0.38	0.57	8.6	15	39.6	0.37	68×10^{-7}	6	—
PK245M-02BA	Unipolar	45	0.32	0.8	6	7.5	9.9				
PK245M-03AA	Bipolar (Series)	53	0.38	0.28	17	60	128	0.37	68×10^{-7}	6	—
PK245M-03BA	Unipolar	45	0.32	0.4	12	30	32				

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Motor Wiring Diagrams→Page C-189

Dimensions

Scale 1/4, Unit = **inch** (mm)



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK243M-0□AA	1.30 (33)	—	0.53 (0.24)	B081U
PK243M-0□BA		1.89 (48)		
PK244M-0□AA	1.54 (39)	—	0.66 (0.3)	B082U
PK244M-0□BA		2.13 (54)		
PK245M-0□AA	1.85 (47)	—	0.81 (0.37)	B083U
PK245M-0□BA		2.44 (62)		

● Enter the winding specification in the box (□) within the model number.

✻ The length of machining on double shaft model is 0.591±0.010 (15±0.25).
● These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

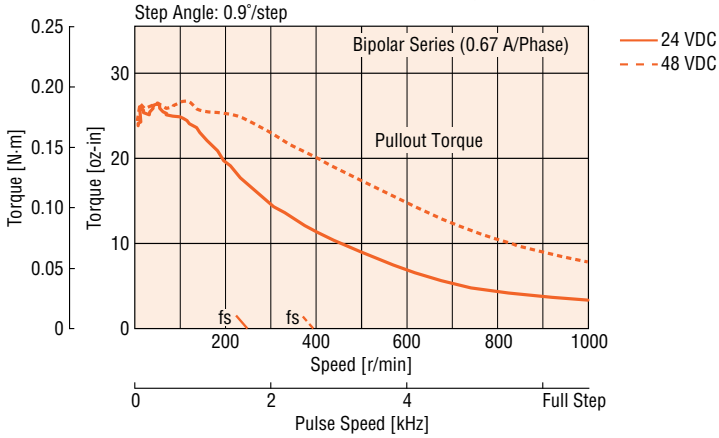
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

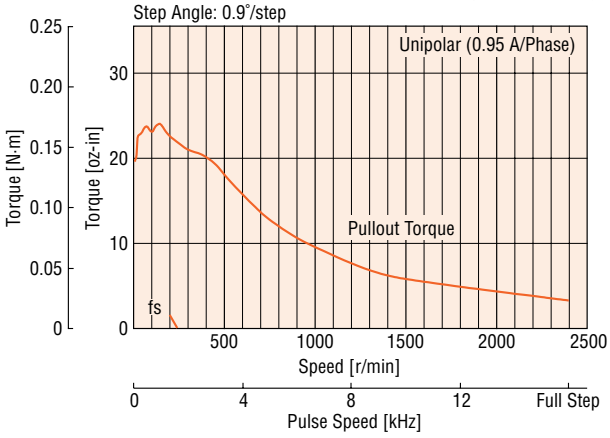
PK243M-01BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 0.9°/step



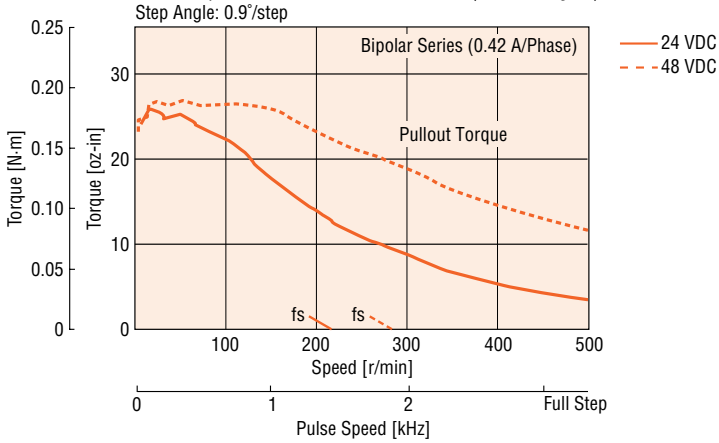
PK243M-01BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 0.9°/step



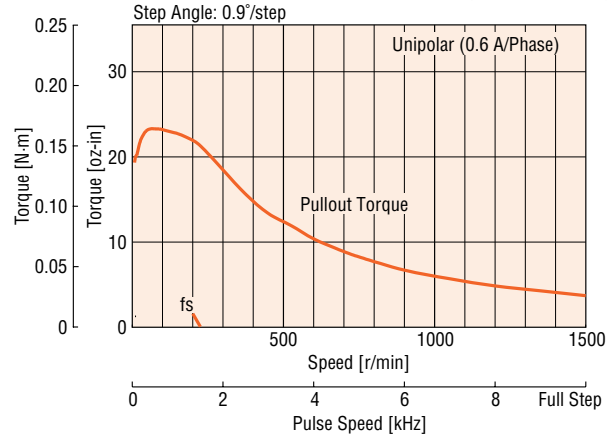
PK243M-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 0.9°/step



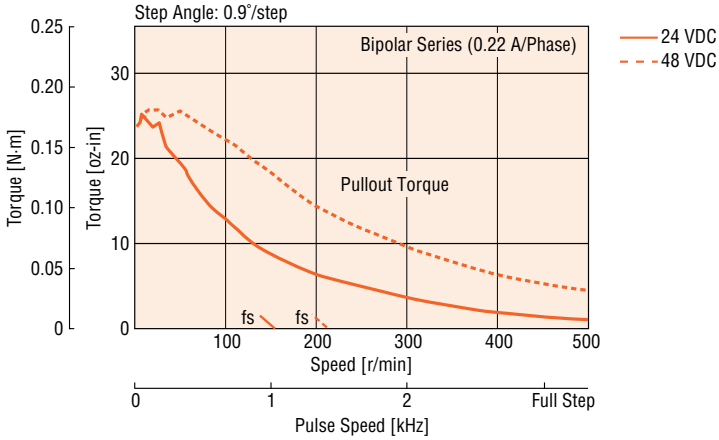
PK243M-02BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34 × 10^{-7} kg·m^2)
Step Angle: 0.9°/step



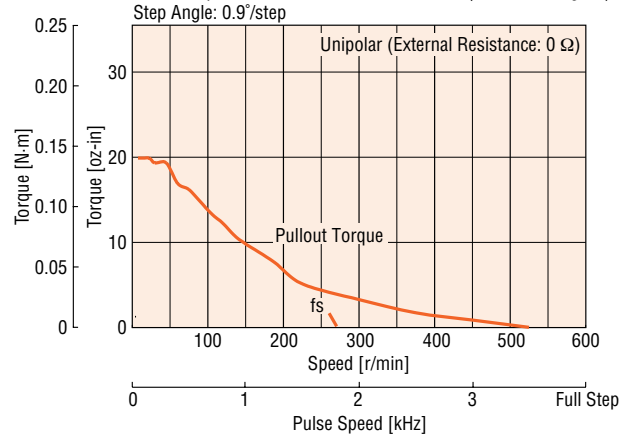
PK243M-03BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 0.9°/step



PK243M-03BA Unipolar

Power Input: 13.5 VDC Unipolar Constant Voltage Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34 × 10^{-7} kg·m^2)
Step Angle: 0.9°/step



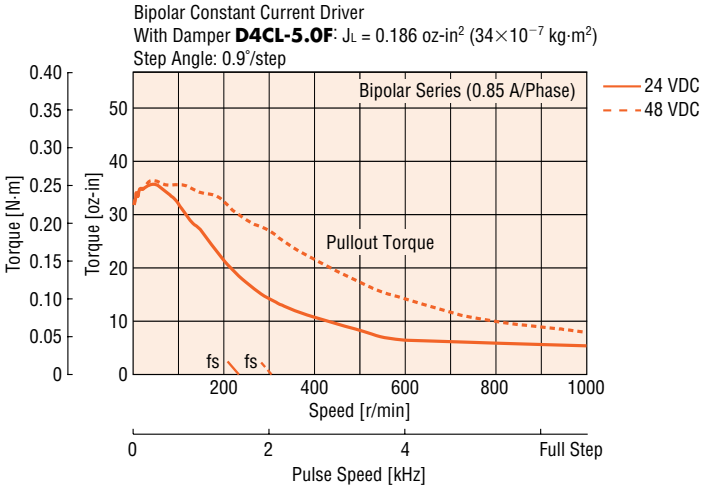
Connection Diagrams C-189
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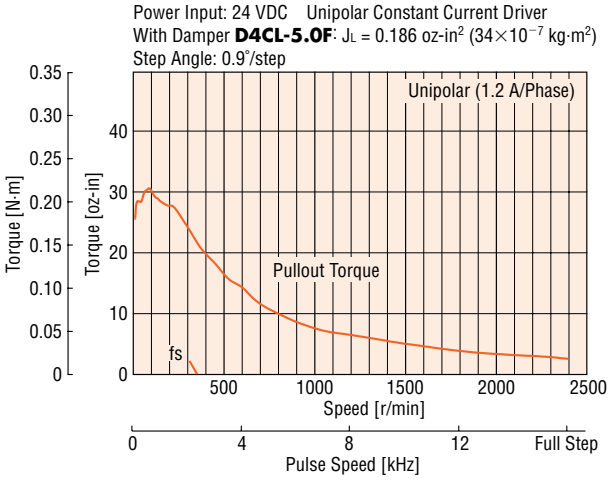
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

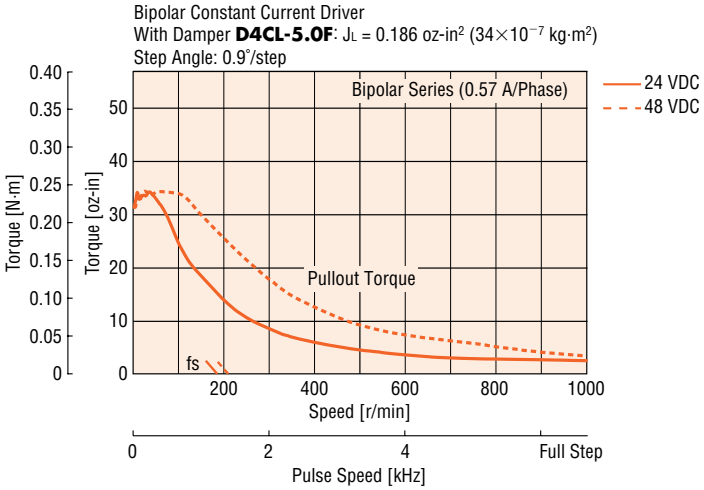
PK244M-01BA Bipolar (Series)



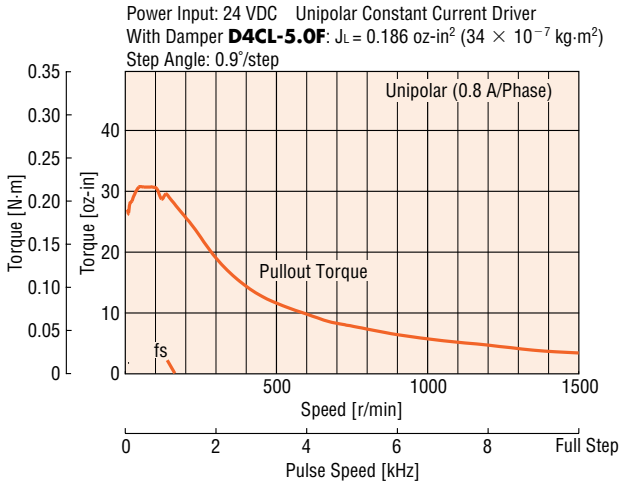
PK244M-01BA Unipolar



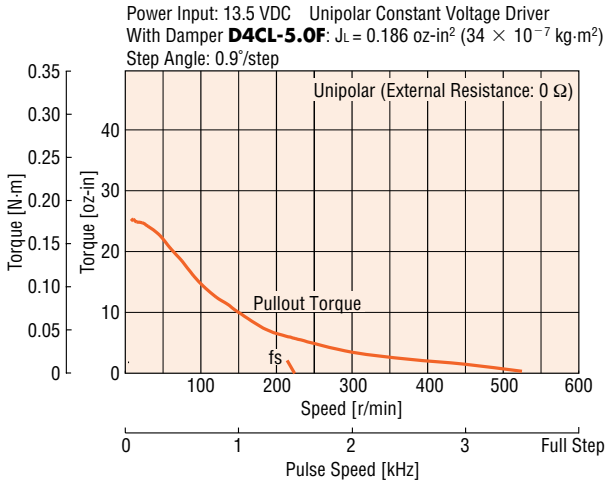
PK244M-02BA Bipolar (Series)



PK244M-02BA Unipolar



PK244M-03BA Unipolar

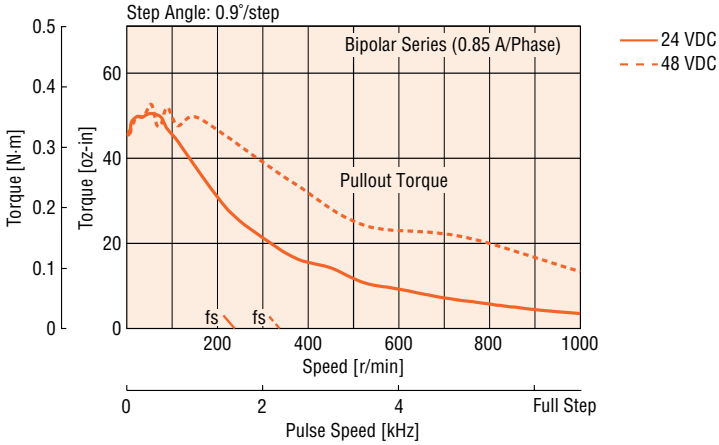


Features C-184 Accessories C-185

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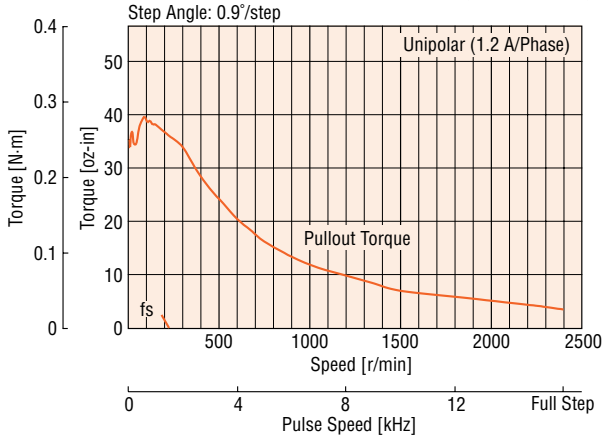
● **PK245M-01BA** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 0.9°/step



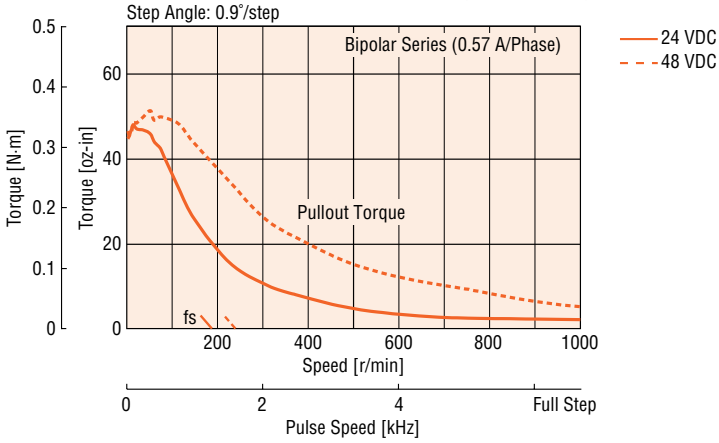
● **PK245M-01BA** Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 0.9°/step



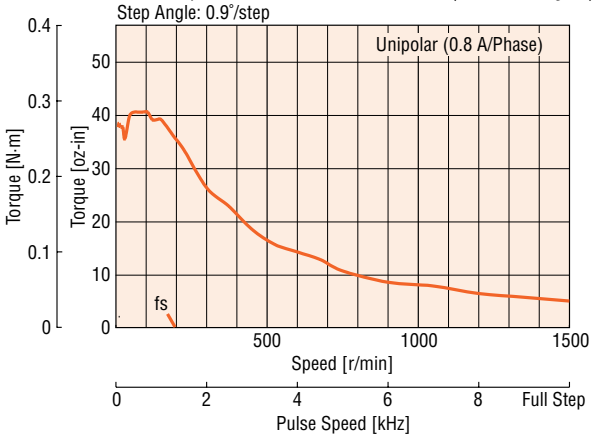
● **PK245M-02BA** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)
Step Angle: 0.9°/step



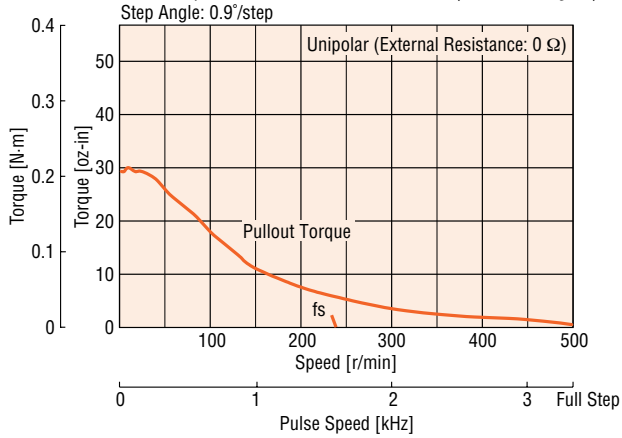
● **PK245M-02BA** Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34 × 10^{-7} kg·m^2)
Step Angle: 0.9°/step



● **PK245M-03BA** Unipolar

Power Input: 13.5 VDC Unipolar Constant Voltage Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34 × 10^{-7} kg·m^2)
Step Angle: 0.9°/step



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□1.65 in. (□42 mm)

PK Series SH Geared Type



Specifications

Motor Specifications

Model Single Shaft Double Shaft	Connection Type	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires	Corresponding DC-Input Motor & Driver Package
PK243A1A-SG□	Bipolar (Series)	0.67	5.6	8.4	10	0.191	35×10^{-7}	6	**CSK243□TA-SG□**
PK243B1A-SG□	Unipolar	0.95	4.0	4.2	2.5				
PK243A2A-SG□	Bipolar (Series)	0.28	13	48	60	0.191	35×10^{-7}	6	—
PK243B2A-SG□	Unipolar	0.4	9.6	24	15				

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Motor Wiring Diagrams→Page C-189
● Enter the gear ratio in the box (□) within the model number.

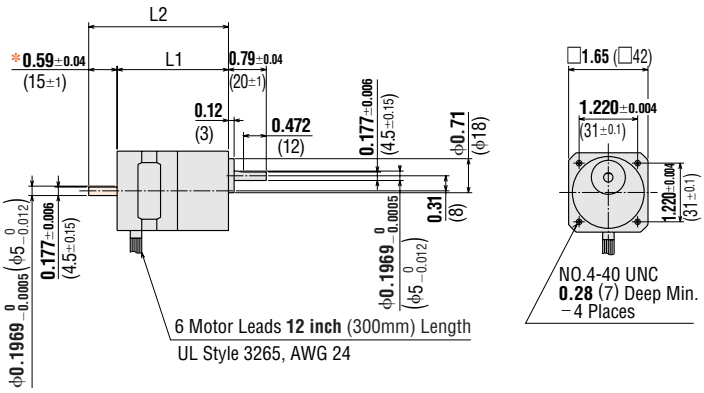
Gearmotor Specifications

Model Single Shaft Double Shaft	Gear Ratio	Holding Torque* lb-in	 N·m	Step Angle	Permissible Speed r/min
PK243A1A-SG3.6, PK243A2A-SG3.6 **PK243B1A-SG3.6, PK243B2A-SG3.6**	3.6:1	1.77	0.2	0.5°	500
PK243A1A-SG7.2, PK243A2A-SG7.2 **PK243B1A-SG7.2, PK243B2A-SG7.2**	7.2:1	3.5	0.4	0.25°	250
PK243A1A-SG9, PK243A2A-SG9 **PK243B1A-SG9, PK243B2A-SG9**	9:1	4.4	0.5	0.2°	200
PK243A1A-SG10, PK243A2A-SG10 **PK243B1A-SG10, PK243B2A-SG10**	10:1	4.9	0.56	0.18°	180
PK243A1A-SG18, PK243A2A-SG18 **PK243B1A-SG18, PK243B2A-SG18**	18:1	7.0	0.8	0.1°	100
PK243A1A-SG36, PK243A2A-SG36 **PK243B1A-SG36, PK243B2A-SG36**	36:1	7.0	0.8	0.05°	50

* Holding torque is the same regardless of the connection type, due to the permissible torque limit of the gearhead.

Dimensions

Scale 1/4, Unit = **inch** (mm)



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK243A□A-SG□	2.32 (59)	—	0.77 (0.35)	B091U
PK243B□A-SG□		2.91 (74)		

● Enter the winding specification in the box (□) within the model number.
● Enter the gear ratio in the box (□) within the model number.

Mounting Screws (included)
No.4-40 UNC 0.39 in. (10 mm)

* The length of machining on double shaft model is 0.591±0.010 (15±0.25).
● These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

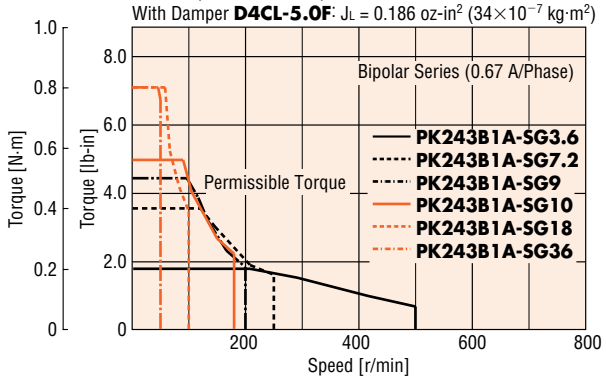
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

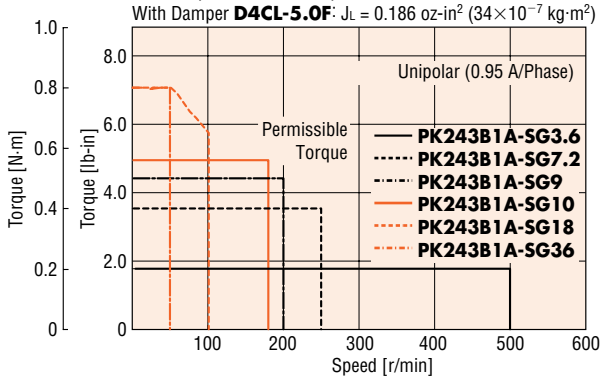
PK243B1A-SG□ Bipolar (Series) 24 VDC

Power Input: 24 VDC Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)



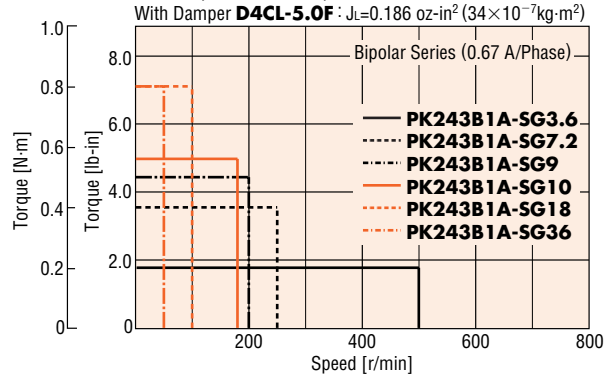
PK243B1A-SG□ Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)



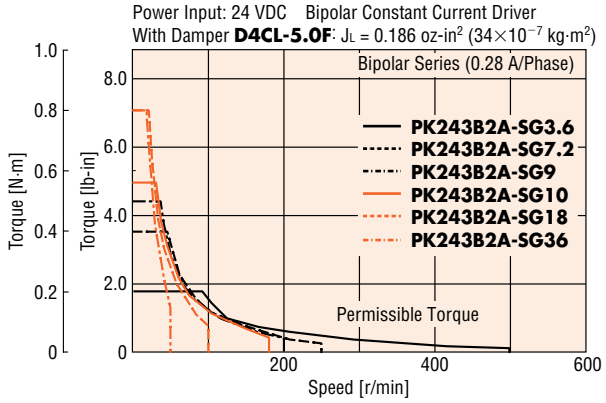
PK243B1A-SG□ Bipolar (Series) 48 VDC

Power Input: 48 VDC Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L=0.186 oz-in^2 (34×10^{-7}kg·m^2)



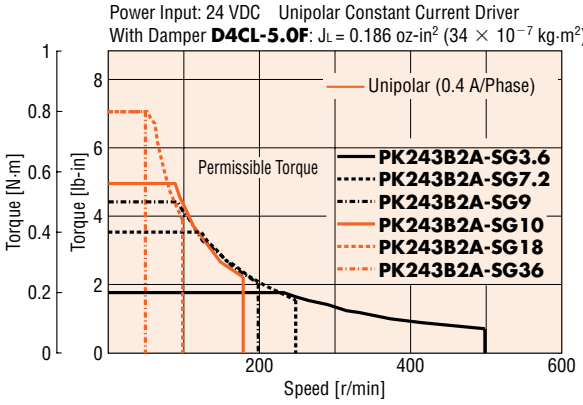
PK243B2A-SG□ Bipolar (Series) 24 VDC

Power Input: 24 VDC Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)



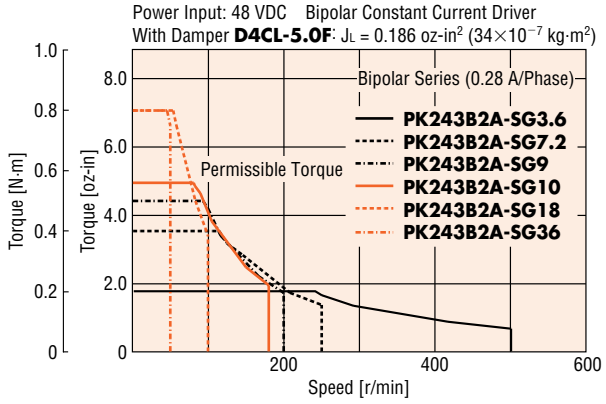
PK243B2A-SG□ Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34 × 10^{-7} kg·m^2)



PK243B2A-SG□ Bipolar (Series) 48 VDC

Power Input: 48 VDC Bipolar Constant Current Driver
With Damper **D4CL-5.0F**: J_L = 0.186 oz-in^2 (34×10^{-7} kg·m^2)

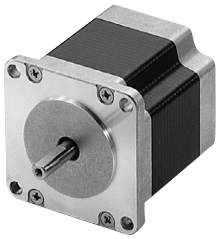


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□2.22 in. (□56.4 mm)

Step Angle 1.8°

PK Series Standard Type



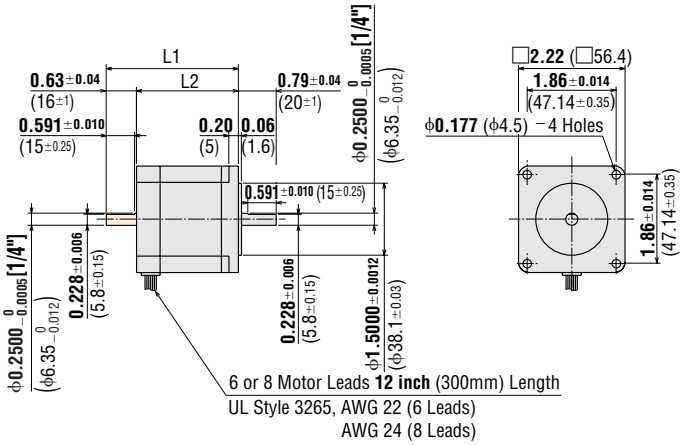
Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires	Corresponding AC/DC-Input Motor & Driver Package
PK264-01A	Bipolar (Series)	68	0.48	0.71	8.1	11.4	21.6	0.66	120×10⁻⁷	6	—
PK264-01B	Unipolar	55	0.39	1	5.7	5.7	5.4				
PK264-02A	Bipolar (Series)	68	0.48	1.4	3.9	2.8	5.6	0.66	120×10⁻⁷	6	**UMK264□A/ CSK264-□TA**
PK264-02B	Unipolar	55	0.39	2	2.8	1.4	1.4				
PK264-03A	Bipolar (Series)	68	0.48	2.1	2.6	1.26	2.4	0.66	120×10⁻⁷	6	—
PK264-03B	Unipolar	55	0.39	3	1.9	0.63	0.6				
PK264-E2.0A PK264-E2.0B	Bipolar (Parallel)	68	0.48	2.8	1.96	0.7	1.4	0.66	120×10⁻⁷	8	—
	Bipolar (Series)	68	0.48	1.4	3.9	2.8	5.6				
	Unipolar	55	0.39	2	2.8	1.4	1.4				
PK266-01A	Bipolar (Series)	166	1.17	0.71	11	14.8	40	1.64	300×10⁻⁷	6	—
PK266-01B	Unipolar	127	0.9	1	7.4	7.4	10				
PK266-02A	Bipolar (Series)	166	1.17	1.4	5	3.6	10	1.64	300×10⁻⁷	6	**UMK266□A/ CSK266-□TA**
PK266-02B	Unipolar	127	0.9	2	3.6	1.8	2.5				
PK266-03A	Bipolar (Series)	166	1.17	2.1	3.2	1.5	4.4	1.64	300×10⁻⁷	6	—
PK266-03B	Unipolar	127	0.9	3	2.3	0.75	1.1				
PK266-E2.0A PK266-E2.0B	Bipolar (Parallel)	166	1.17	2.8	2.52	0.9	2.5	1.64	300×10⁻⁷	8	—
	Bipolar (Series)	166	1.17	1.4	5	3.6	10				
	Unipolar	127	0.9	2	3.6	1.8	2.5				
PK268-01A	Bipolar (Series)	240	1.75	0.71	12	17.2	56	2.6	480×10⁻⁷	6	—
PK268-01B	Unipolar	191	1.35	1	8.6	8.6	14				
PK268-02A	Bipolar (Series)	240	1.75	1.4	6.3	4.5	14.4	2.6	480×10⁻⁷	6	**UMK268□A/ CSK268-□TA**
PK268-02B	Unipolar	191	1.35	2	4.5	2.25	3.6				
PK268-03A	Bipolar (Series)	240	1.75	2.1	4.2	2	6.4	2.6	480×10⁻⁷	6	—
PK268-03B	Unipolar	191	1.35	3	3	1	1.6				
PK268-E2.0A PK268-E2.0B	Bipolar (Parallel)	240	1.75	2.8	3.16	1.13	3.6	2.6	480×10⁻⁷	8	—
	Bipolar (Series)	240	1.75	1.4	6.3	4.5	14.4				
	Unipolar	191	1.35	2	4.5	2.25	3.6				

How to Read Specifications→Page C-9
Motor Wiring Diagrams→Page C-189

Dimensions

Scale 1/4, Unit = **inch** (mm)



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK264-0□A PK264-E2.0A	1.54 (39)	—	0.99 (0.45)	B084
PK264-0□B PK264-E2.0B		2.17 (55)		
PK266-0□A PK266-E2.0A	2.13 (54)	—	1.5 (0.7)	B085
PK266-0□B PK266-E2.0B		2.76 (70)		
PK268-0□A PK268-E2.0A	2.99 (76)	—	2.2 (1)	B086
PK268-0□B PK268-E2.0B		3.62 (92)		

- These dimensions are for double shaft models. For single shaft models, ignore the shaded area.
- Enter the winding specification in the box (□) within the model number.

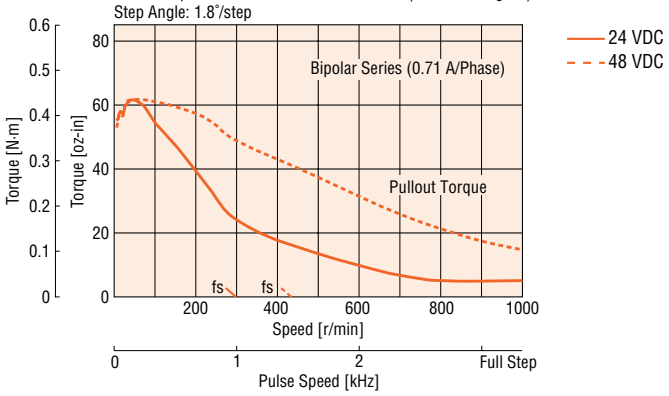
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

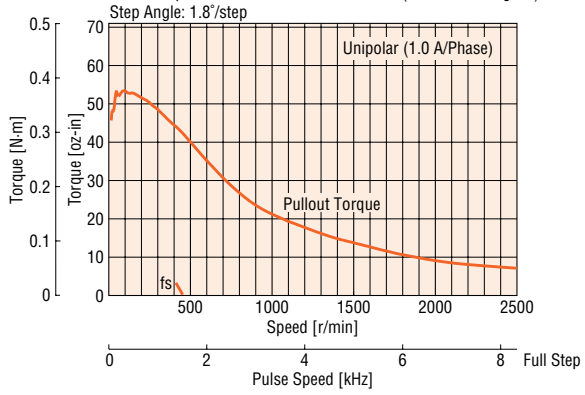
PK264-01B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle: 1.8°/step



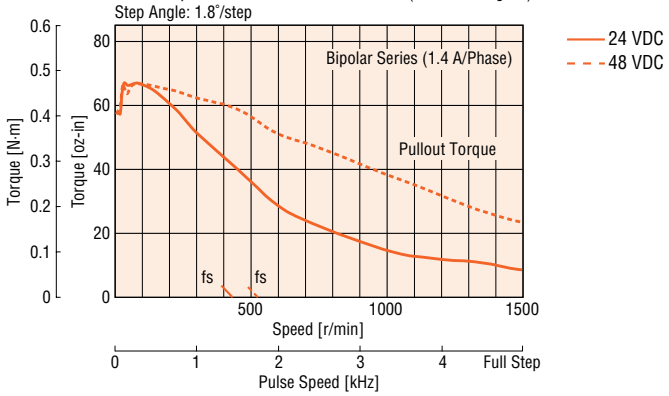
PK264-01B Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



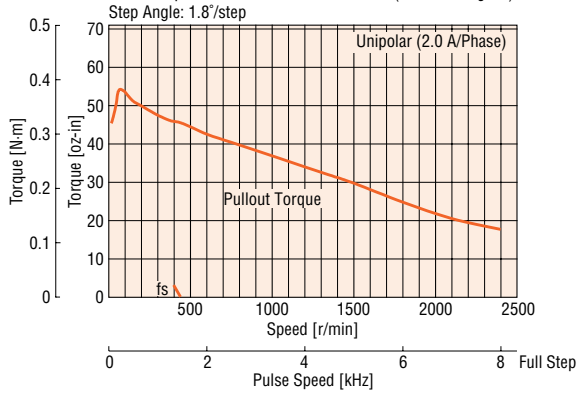
PK264-02B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle: 1.8°/step



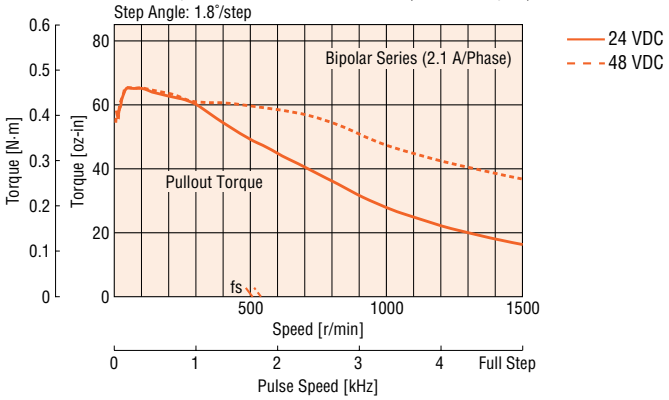
PK264-02B Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L=0.77 oz-in² (140×10⁻⁷kg·m²)
Step Angle: 1.8°/step



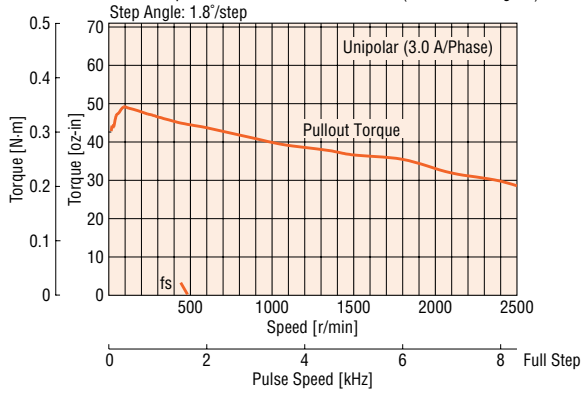
PK264-03B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle: 1.8°/step



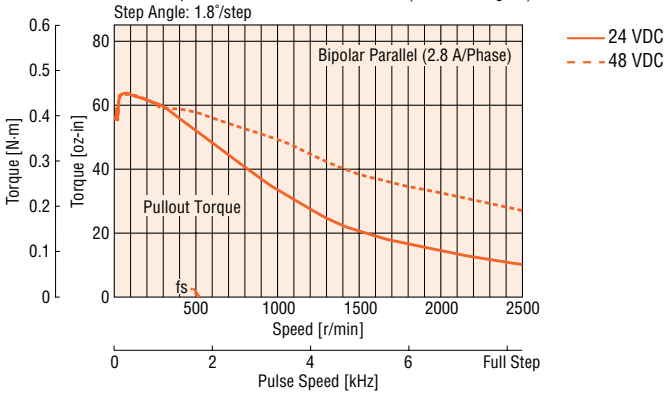
PK264-03B Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



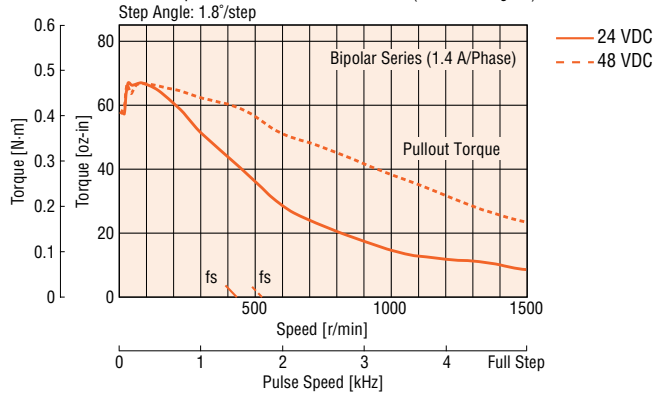
PK264-E2.0B Bipolar (Parallel)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle: 1.8°/step



PK264-E2.0B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle: 1.8°/step

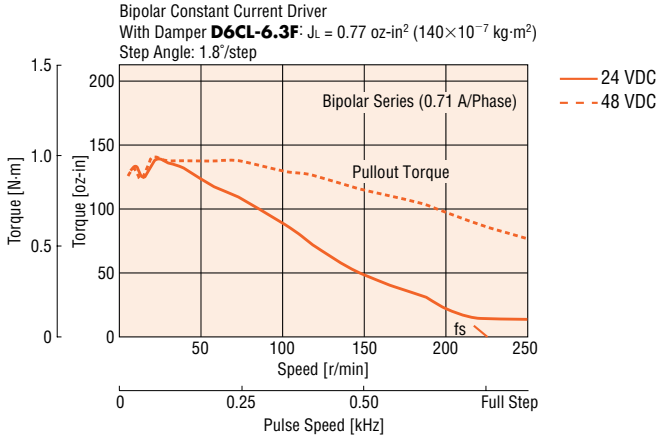


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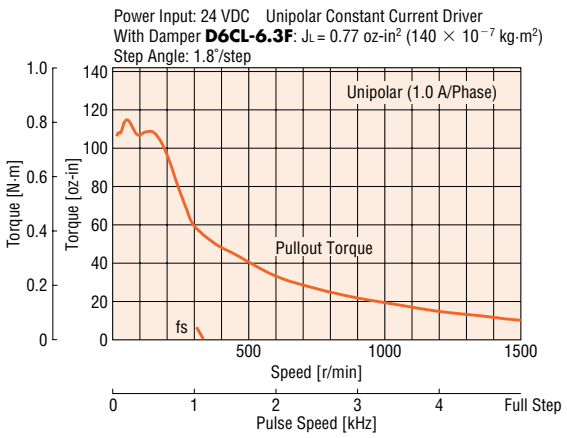
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

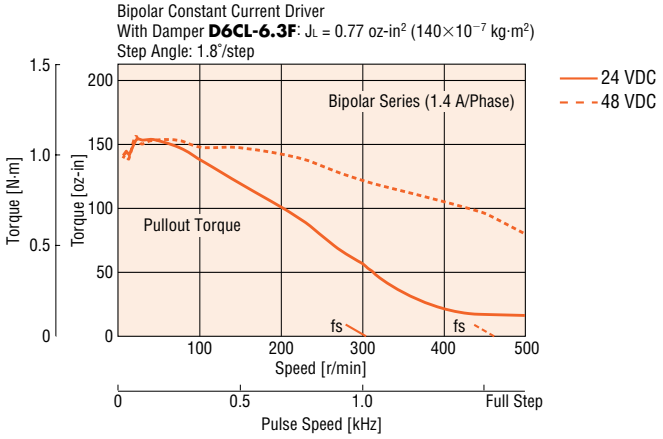
PK266-01B Bipolar (Series)



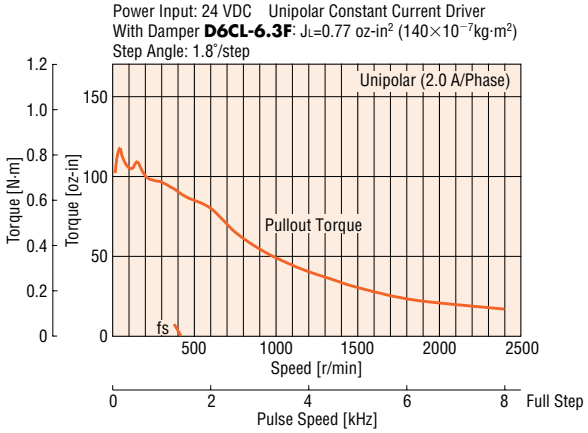
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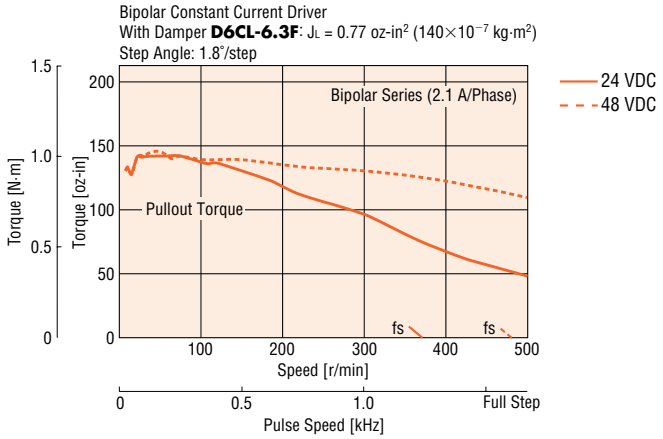
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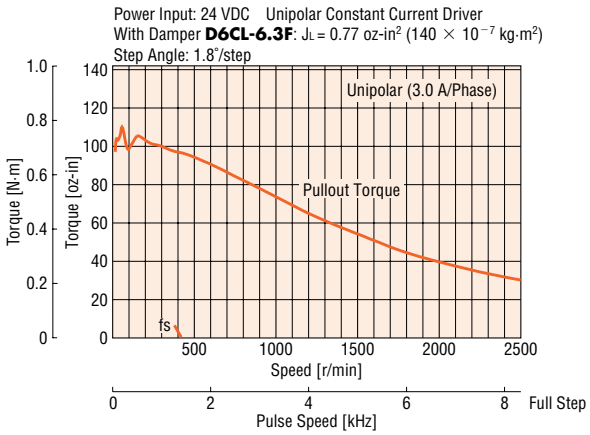
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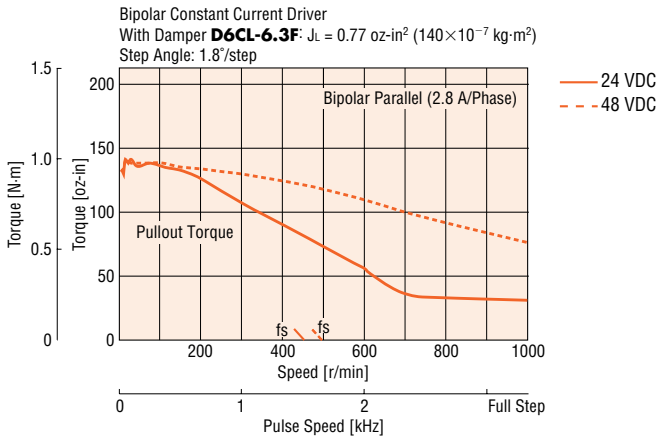
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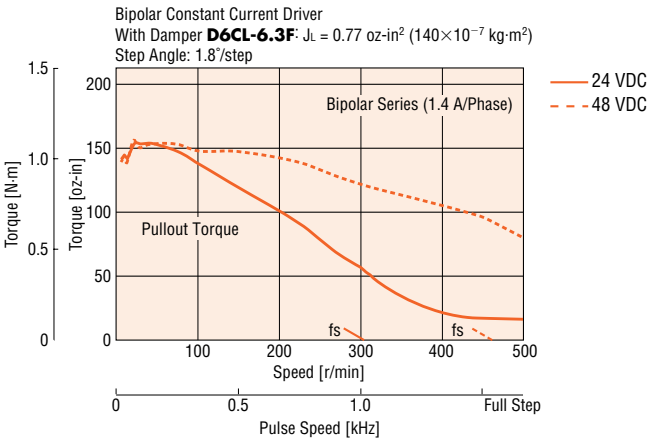
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PK266-E2.0B Bipolar (Parallel)

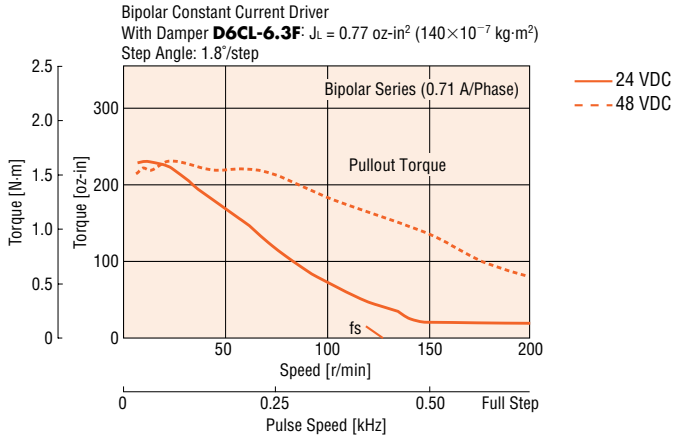


PK266-E2.0B Bipolar (Series)

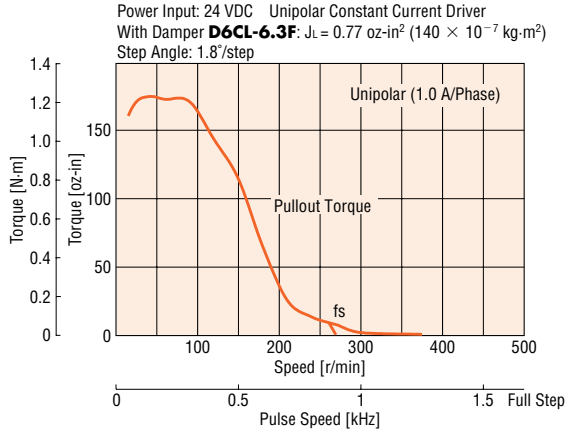


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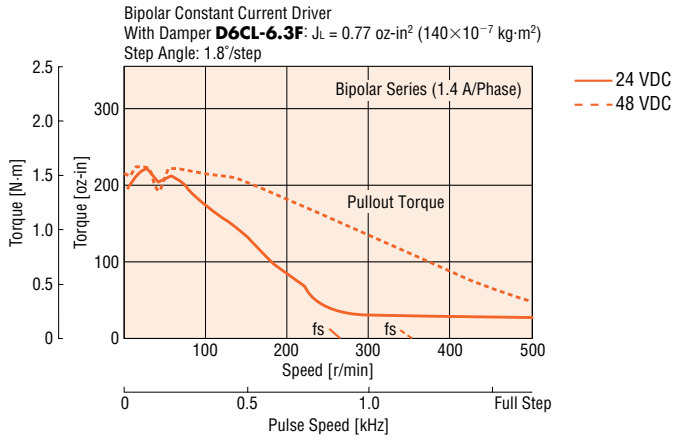
PK268-01B Bipolar (Series)



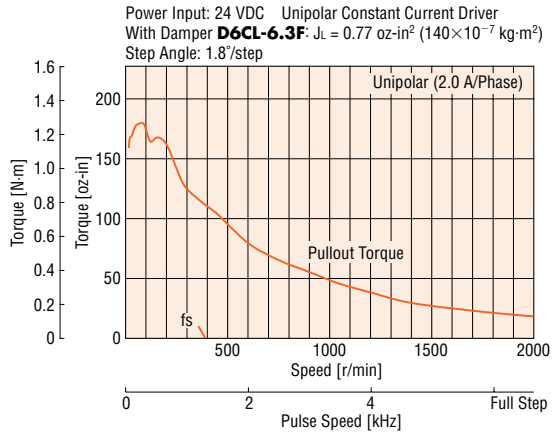
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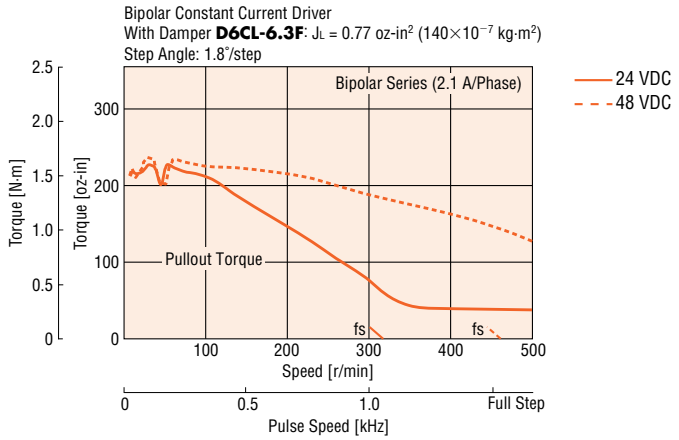
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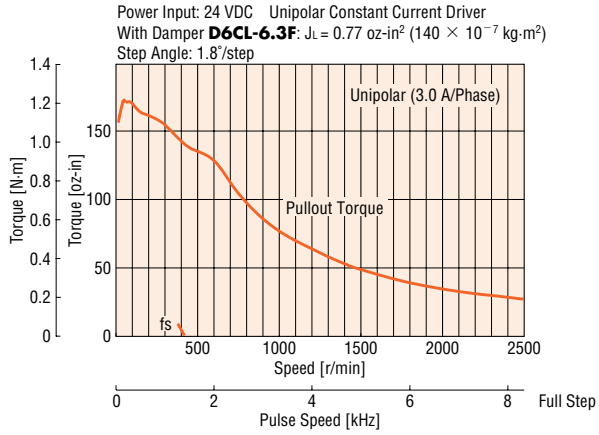
PK268-02B Unipolar



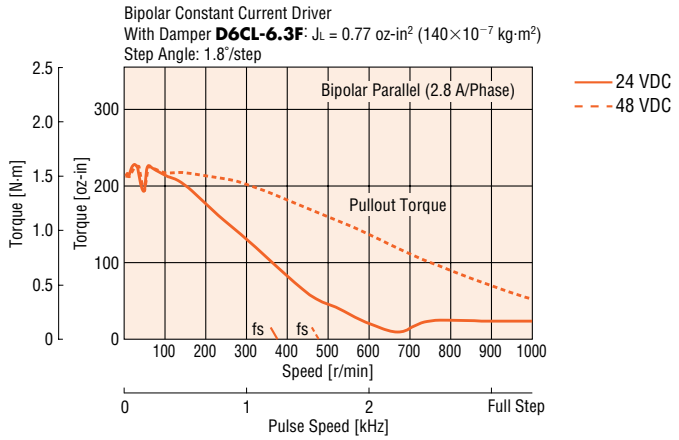
PK268-03B Bipolar (Series)



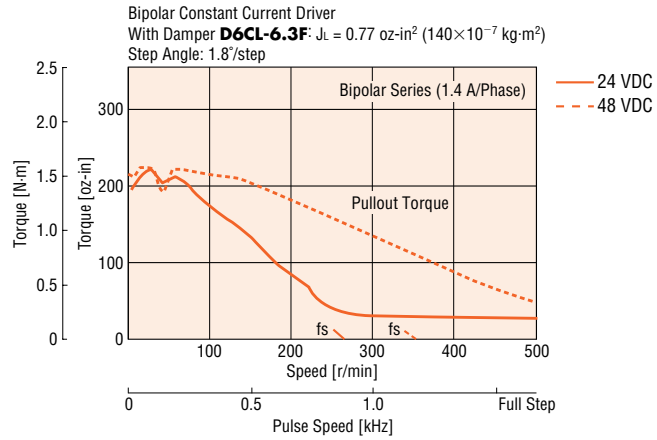
PK268-03B Unipolar



PK268-E2.0B Bipolar (Parallel)



PK268-E2.0B Bipolar (Series)



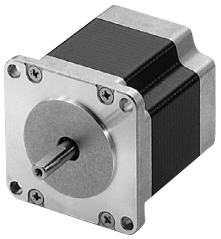
Connection Diagrams C-189
General Specifications C-240

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□2.22 in. (□56.4 mm)

Step Angle 0.9°

PK Series High Resolution Type



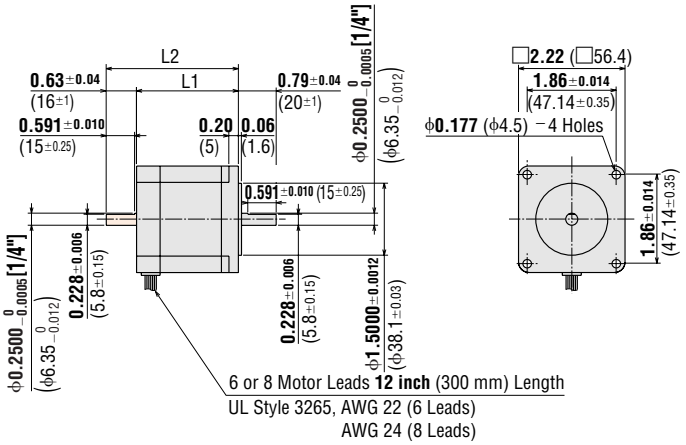
Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires	Corresponding AC/DC-Input Motor & Driver Package
PK264M-01A	Bipolar (Series)	68	0.48	0.71	8.1	11.4	26	0.66	120×10⁻⁷	6	—
PK264M-01B	Unipolar	55	0.39	1	5.7	5.7	6.5				
PK264M-02A	Bipolar (Series)	68	0.48	1.4	3.9	2.8	6.8	0.66	120×10⁻⁷	6	**UMK264M□A/ CSK264M-□TA**
PK264M-02B	Unipolar	55	0.39	2	2.8	1.4	1.7				
PK264M-03A	Bipolar (Series)	68	0.48	2.1	2.6	1.26	3	0.66	120×10⁻⁷	6	—
PK264M-03B	Unipolar	55	0.39	3	1.9	0.63	0.75				
PK264M-E2.0A PK264M-E2.0B	Bipolar (Parallel)	68	0.48	2.8	1.96	0.7	1.7	0.66	120×10⁻⁷	8	—
	Bipolar (Series)	68	0.48	1.4	3.9	2.8	6.8				
	Unipolar	55	0.39	2	2.8	1.4	1.7				
PK266M-01A	Bipolar (Series)	166	1.17	0.71	11	14.8	50.8	1.64	300×10⁻⁷	6	—
PK266M-01B	Unipolar	127	0.9	1	7.4	7.4	12.7				
PK266M-02A	Bipolar (Series)	166	1.17	1.4	5	3.6	12.8	1.64	300×10⁻⁷	6	**UMK266M□A/ CSK266M-□TA**
PK266M-02B	Unipolar	127	0.9	2	3.6	1.8	3.2				
PK266M-03A	Bipolar (Series)	166	1.17	2.1	3.2	1.5	5.8	1.64	300×10⁻⁷	6	—
PK266M-03B	Unipolar	127	0.9	3	2.3	0.75	1.45				
PK266M-E2.0A PK266M-E2.0B	Bipolar (Parallel)	166	1.17	2.8	2.52	0.9	3.2	1.64	300×10⁻⁷	8	—
	Bipolar (Series)	166	1.17	1.4	5	3.6	12.8				
	Unipolar	127	0.9	2	3.6	1.8	3.2				
PK268M-01A	Bipolar (Series)	240	1.75	0.71	12	17.2	77.6	2.6	480×10⁻⁷	6	—
PK268M-01B	Unipolar	191	1.35	1	8.6	8.6	19.4				
PK268M-02A	Bipolar (Series)	240	1.75	1.4	6.3	4.5	19.2	2.6	480×10⁻⁷	6	**UMK268M□A/ CSK268M-□TA**
PK268M-02B	Unipolar	191	1.35	2	4.5	2.25	4.8				
PK268M-03A	Bipolar (Series)	240	1.75	2.1	4.2	2	8.4	2.6	480×10⁻⁷	6	—
PK268M-03B	Unipolar	191	1.35	3	3	1	2.1				
PK268M-E2.0A PK268M-E2.0B	Bipolar (Parallel)	240	1.75	2.8	3.16	1.13	4.8	2.6	480×10⁻⁷	8	—
	Bipolar (Series)	240	1.75	1.4	6.3	4.5	19.2				
	Unipolar	191	1.35	2	4.5	2.25	4.8				

How to Read Specifications→Page C-9
Motor Wiring Diagrams→Page C-189

Dimensions

Scale 1/4, Unit = **inch** (mm)



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK264M-0□A PK264M-E2.0A	1.54 (39)	—	0.99 (0.45)	B084
PK264M-0□B PK264M-E2.0B		2.17 (55)		
PK266M-0□A PK266M-E2.0A	2.13 (54)	—	1.54 (0.7)	B085
PK266M-0□B PK266M-E2.0B		2.76 (70)		
PK268M-0□A PK268M-E2.0A	2.99 (76)	—	2.2 (1)	B086
PK268M-0□B PK268M-E2.0B		3.62 (92)		

- These dimensions are for double shaft models. For single shaft models, ignore the shaded area.
- Enter the winding specification in the box (□) within the model number.

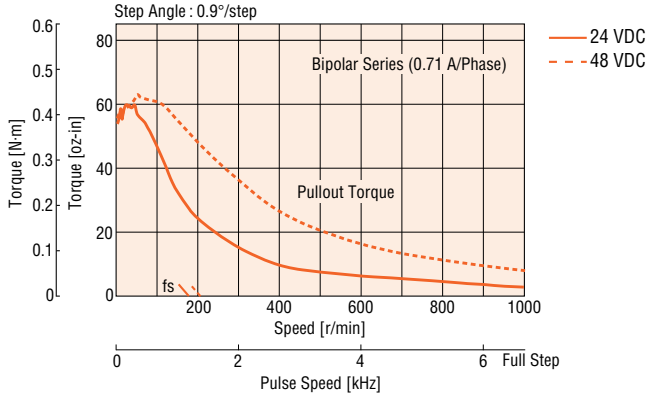
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

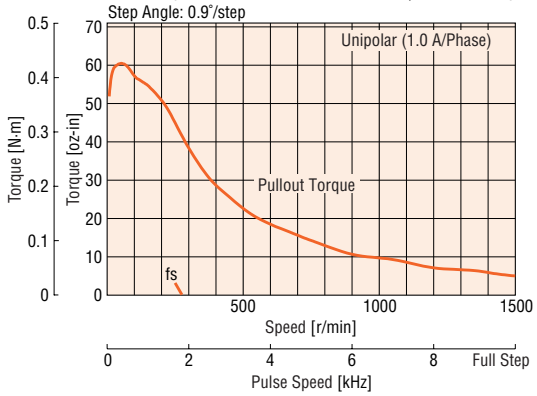
PK264M-01B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



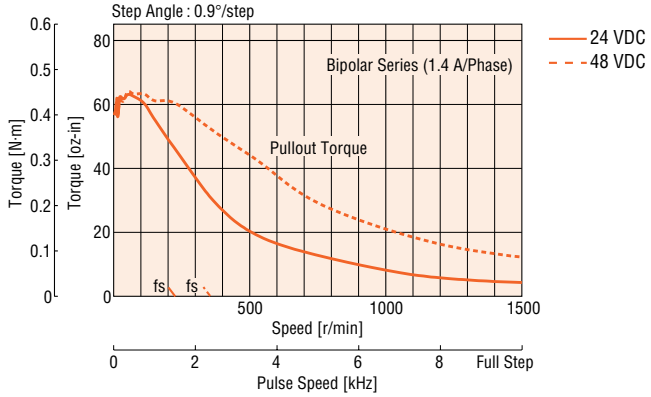
PK264M-01B Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 0.9°/step



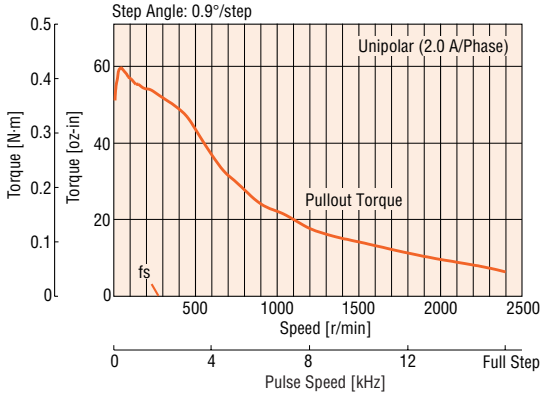
PK264M-02B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



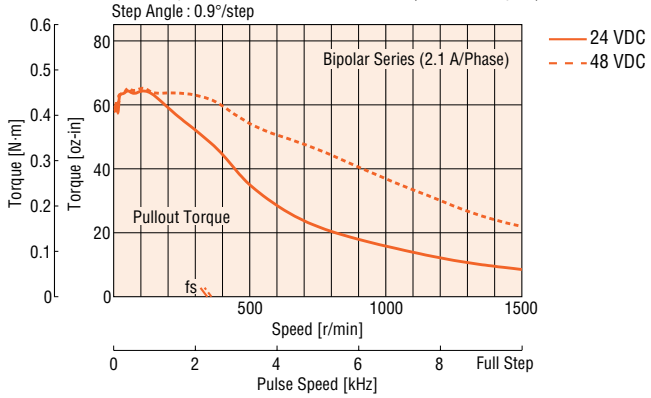
PK264M-02B Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle: 0.9°/step



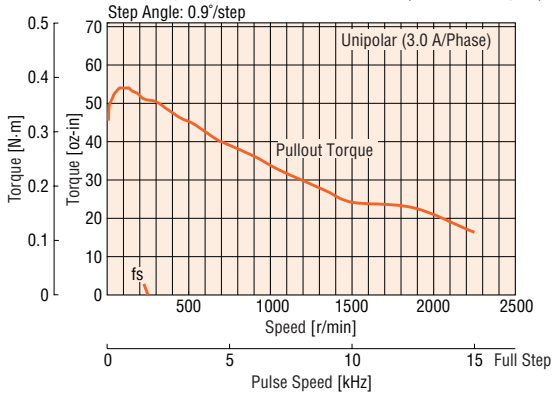
PK264M-03B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



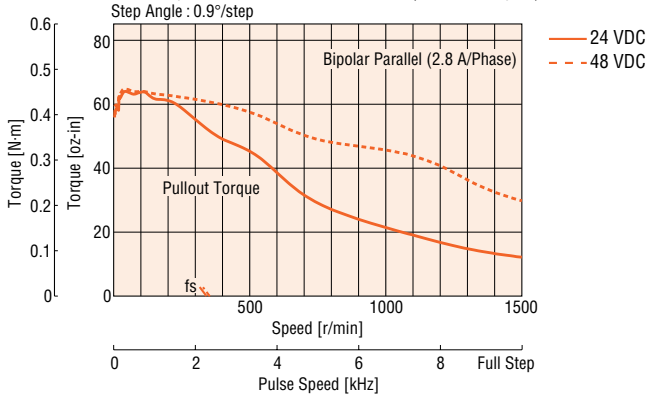
PK264M-03B Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 0.9°/step



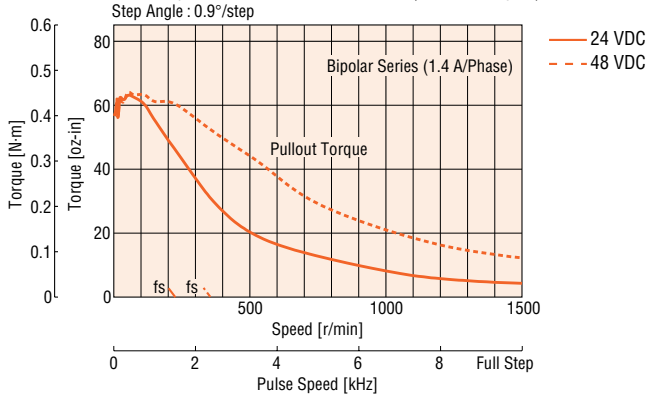
PK264M-E2.0B Bipolar (Parallel)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



PK264M-E2.0B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



Connection Diagrams C-189
General Specifications C-240

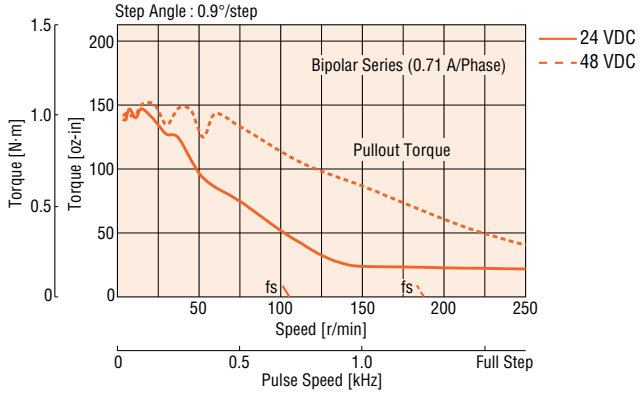
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

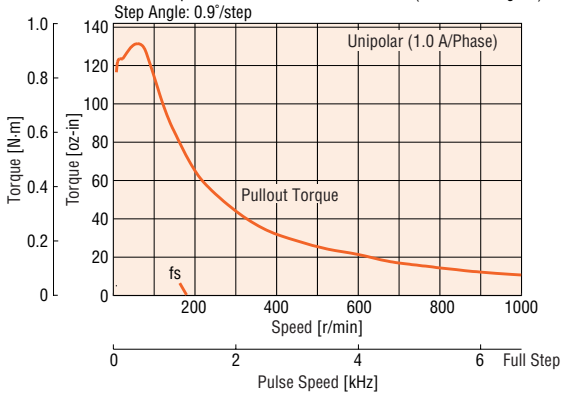
PK266M-01B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



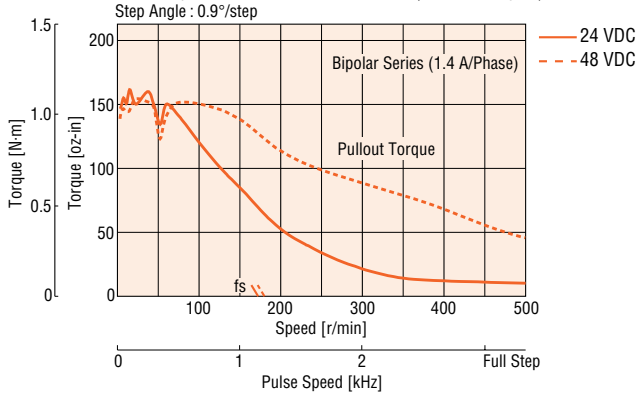
PK266M-01B Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle: 0.9°/step



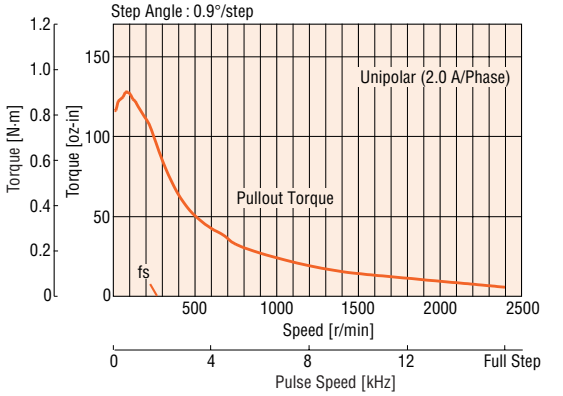
PK266M-02B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



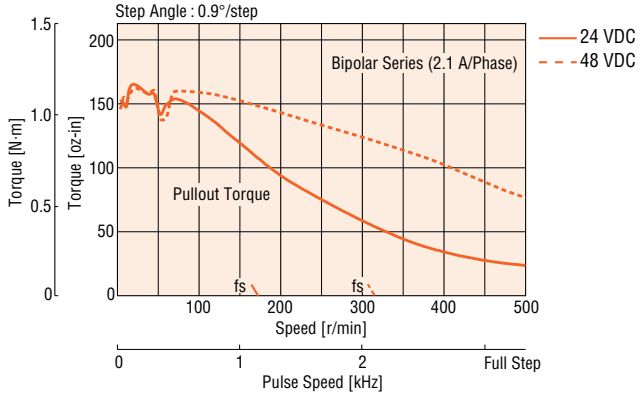
PK266M-02B Unipolar

Power Input : 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



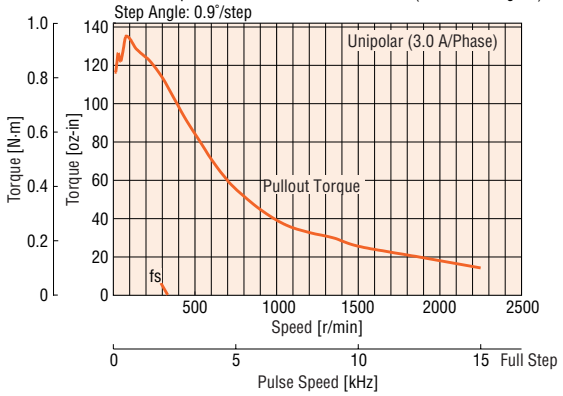
PK266M-03B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



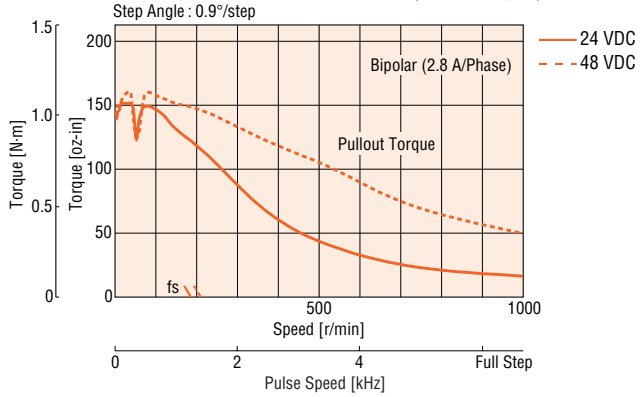
PK266M-03B Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle: 0.9°/step



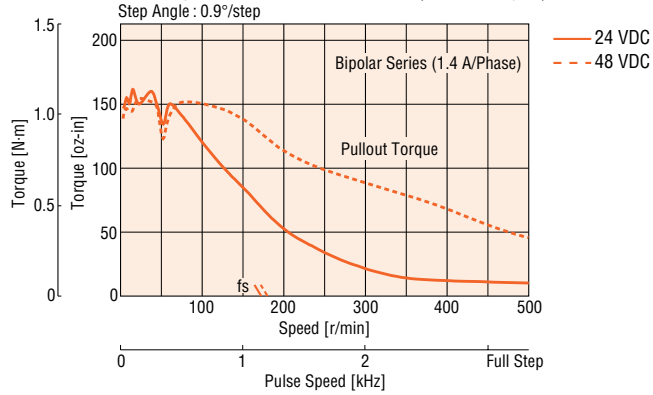
PK266M-E2.0B Bipolar (Parallel)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



PK266M-E2.0B Bipolar (Series)

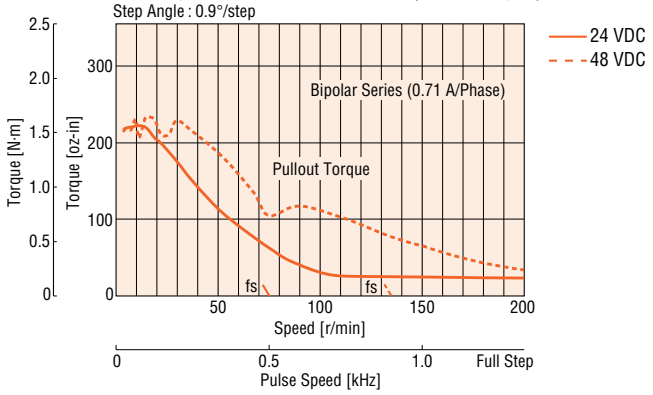
Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)
Step Angle : 0.9°/step



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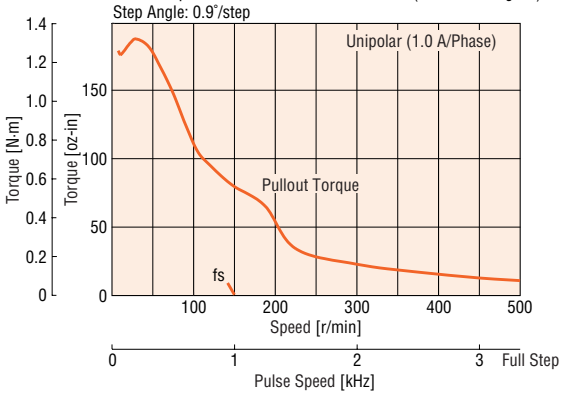
● **PK268M-01B** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in^2 (140×10^{-7} kg·m^2)
Step Angle : 0.9°/step



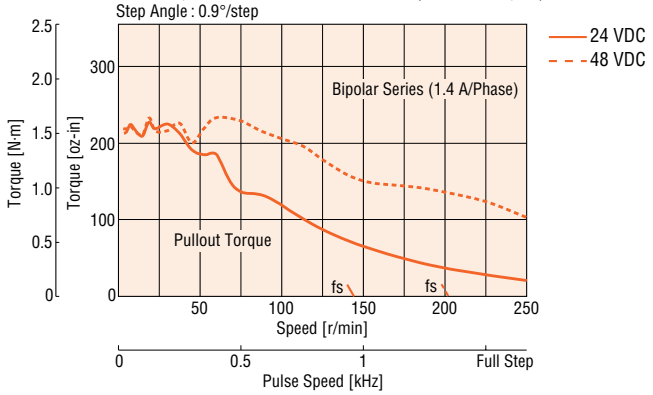
● **PK268M-01B** Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in^2 (140×10^{-7} kg·m^2)
Step Angle: 0.9°/step



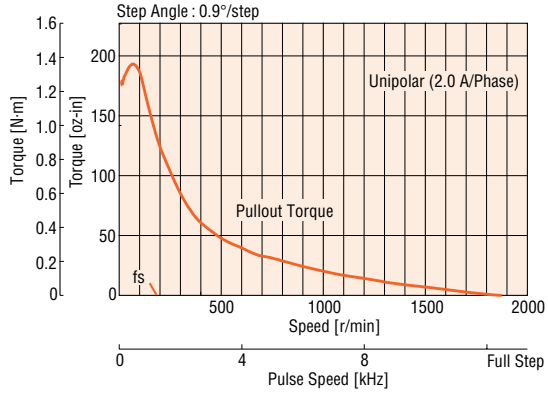
● **PK268M-02B** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in^2 (140×10^{-7} kg·m^2)
Step Angle : 0.9°/step



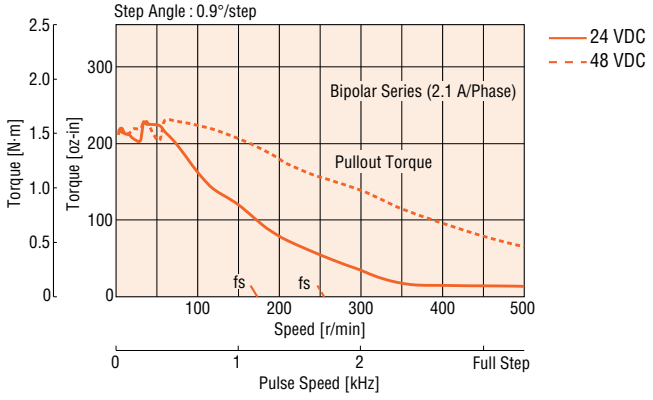
● **PK268M-02B** Unipolar

Power Input : 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in^2 (140×10^{-7} kg·m^2)
Step Angle : 0.9°/step



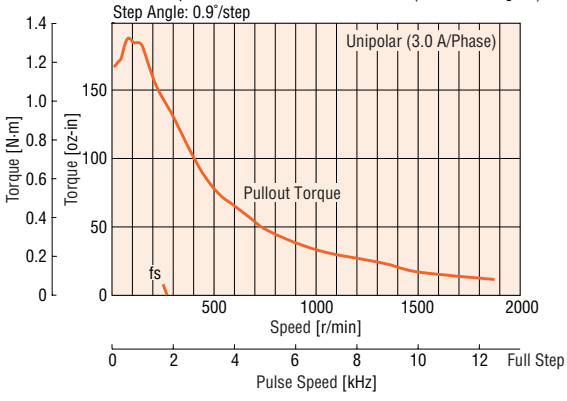
● **PK268M-03B** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in^2 (140×10^{-7} kg·m^2)
Step Angle : 0.9°/step



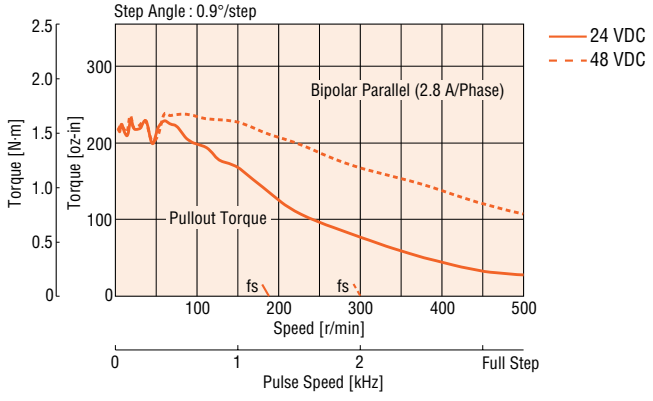
● **PK268M-03B** Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in^2 (140×10^{-7} kg·m^2)
Step Angle: 0.9°/step



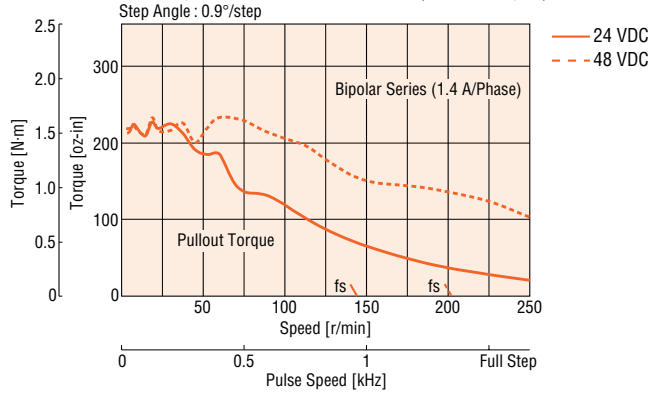
● **PK268M-E2.0B** Bipolar (Parallel)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in^2 (140×10^{-7} kg·m^2)
Step Angle : 0.9°/step



● **PK268M-E2.0B** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in^2 (140×10^{-7} kg·m^2)
Step Angle : 0.9°/step



Connection Diagrams C-189
General Specifications C-240

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□ 2.36 in. (□ 60 mm)

PK Series SH Geared Type



Specifications

Motor Specifications

Model Single Shaft Double Shaft	Connection Type	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires	Corresponding DC-Input Motor & Driver Package
PK264A1A-SG□	Bipolar (Series)	0.71	8.1	11.4	21.6	0.66	120×10⁻⁷	6	—
PK264B1A-SG□	Unipolar	1	5.7	5.7	5.4				
PK264A2A-SG□	Bipolar (Series)	1.4	3.9	2.8	5.6	0.66	120×10⁻⁷	6	**CSK264□TA-SG□**
PK264B2A-SG□	Unipolar	2	2.8	1.4	1.4				

How to Read Specifications→Page C-9
Motor Wiring Diagrams→Page C-189
● Enter the gear ratio in the box (□) within the model number.

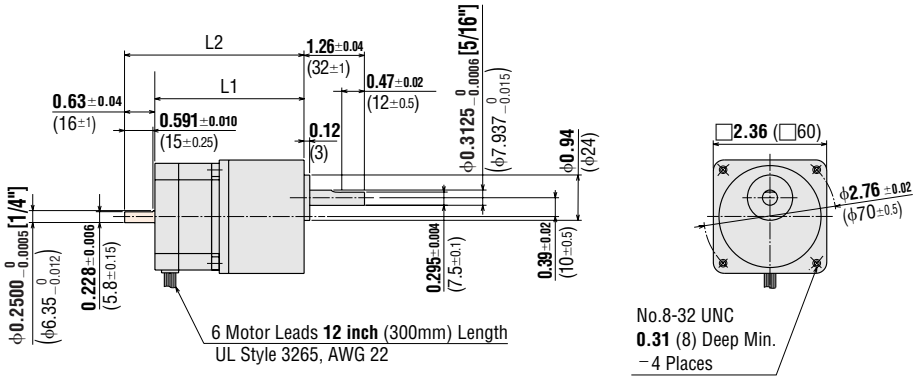
Gearmotor Specifications

Model Single Shaft Double Shaft	Gear Ratio	Holding Torque* lb-in	Holding Torque* N·m	Step Angle	Permissible Speed r/min
PK264A1A-SG3.6, PK264A2A-SG3.6 **PK264B1A-SG3.6, PK264B2A-SG3.6**	3.6:1	8.8	1	0.5°	500
PK264A1A-SG7.2, PK264A2A-SG7.2 **PK264B1A-SG7.2, PK264B2A-SG7.2**	7.2:1	17.7	2	0.25°	250
PK264A1A-SG9, PK264A2A-SG9 **PK264B1A-SG9, PK264B2A-SG9**	9:1	22	2.5	0.2°	200
PK264A1A-SG10, PK264A2A-SG10 **PK264B1A-SG10, PK264B2A-SG10**	10:1	23	2.7	0.18°	180
PK264A1A-SG18, PK264A2A-SG18 **PK264B1A-SG18, PK264B2A-SG18**	18:1	26	3	0.1°	100
PK264A1A-SG36, PK264A2A-SG36 **PK264B1A-SG36, PK264B2A-SG36**	36:1	35	4	0.05°	50

* Holding torque is the same regardless of the connection type, due to the permissible torque limit of the gearhead.

Dimensions

Scale 1/4, Unit = **inch** (mm)



Mounting Screws (included)
No.8-32 UNC 0.59 in. (15 mm) length, 4 pieces

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

Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK264A□A-SG□	3.11 (79)	—	1.7 (0.75)	B092U
PK264B□A-SG□		3.74 (95)		

● Enter the winding specification in the box (□) within the model number.
● Enter the gear ratio in the box (□) within the model number.

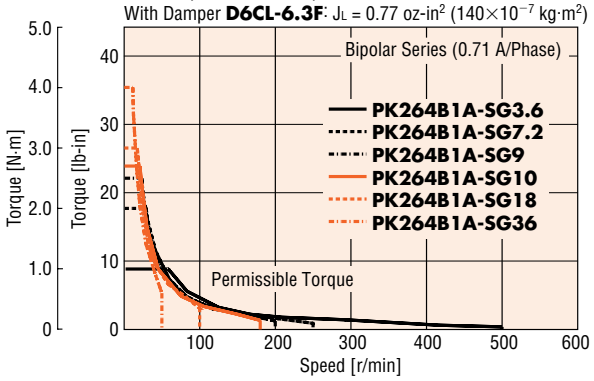
Features C-184 Accessories C-185
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

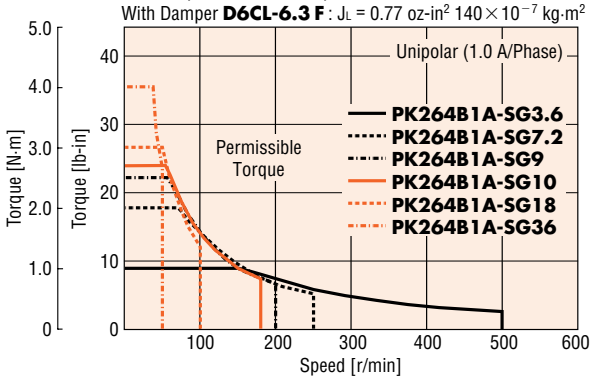
PK264B1A-SG Bipolar (Series) 24 VDC

Power Input: 24 VDC Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)



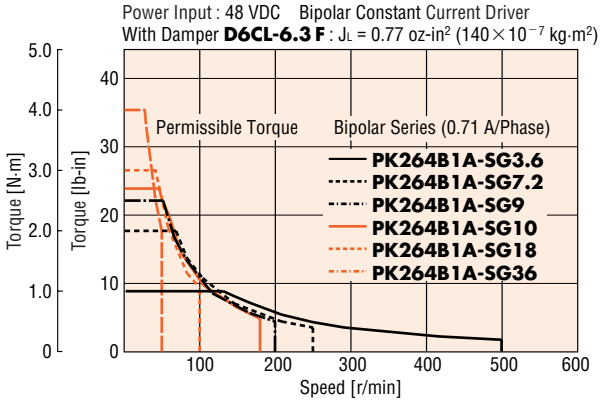
PK264B1A-SG Unipolar

Power Input : 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² 140×10⁻⁷ kg·m²



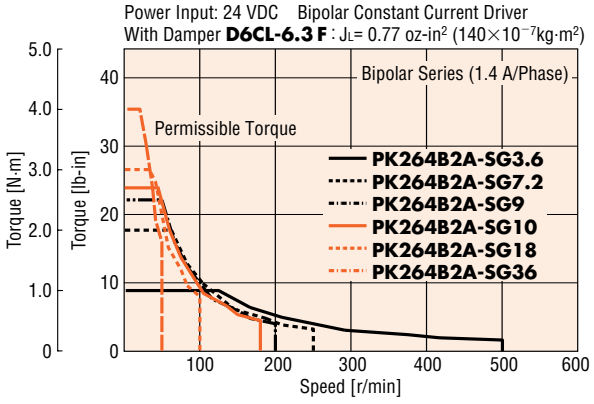
PK264B1A-SG Bipolar (Series) 48 VDC

Power Input : 48 VDC Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)



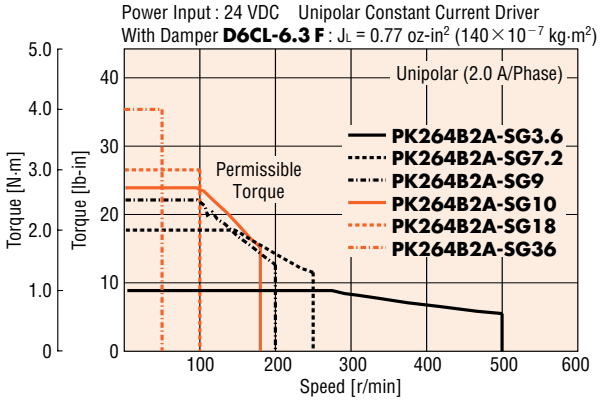
PK264B2A-SG Bipolar (Series) 24 VDC

Power Input: 24 VDC Bipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L= 0.77 oz-in² (140×10⁻⁷kg·m²)



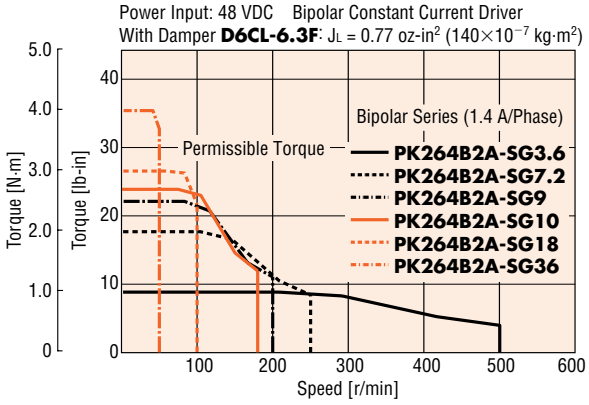
PK264B2A-SG Unipolar

Power Input : 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3 F** : J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)



PK264B2A-SG Bipolar (Series) 48 VDC

Power Input: 48 VDC Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140×10⁻⁷ kg·m²)



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□ 2.36 in. (□ 60 mm)

Step Angle 1.8°

PV Series (High Inertia Capability)



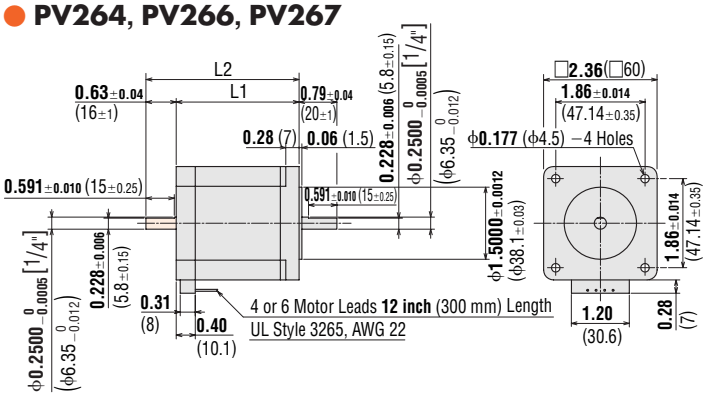
Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires
PV264-D2.8AA **PV264-D2.8BA**	Bipolar	150	1.06	2.8	2.1	0.73	1.8	1.53	280×10⁻⁷	4
PV264-02AA	Bipolar (Series)	150	1.06	1.4	4.1	2.92	7.2	1.53	280×10⁻⁷	6
PV264-02BA	Unipolar	106	0.75	2	2.9	1.46	1.8			
PV266-D2.8AA **PV266-D2.8BA**	Bipolar	240	1.75	2.8	2.8	1	3.05	2.5	450×10⁻⁷	4
PV266-02AA	Bipolar (Series)	240	1.75	1.4	5.6	4	12.2	2.5	450×10⁻⁷	6
PV266-02BA	Unipolar	191	1.35	2	4	2	3.05			
PV267-D2.8AA **PV267-D2.8BA**	Bipolar	310	2.2	2.8	3.4	1.2	3.54	3.1	570×10⁻⁷	4
PV267-02AA	Bipolar (Series)	310	2.2	1.4	6.7	4.8	14.2	3.1	570×10⁻⁷	6
PV267-02BA	Unipolar	240	1.7	2	4.8	2.4	3.54			
PV269-D2.8AA **PV269-D2.8BA**	Bipolar	440	3.1	2.8	4.2	1.49	5.7	4.9	900×10⁻⁷	4
PV269-02AA	Bipolar (Series)	440	3.1	1.4	8.3	5.96	22.8	4.9	900×10⁻⁷	6
PV269-02BA	Unipolar	310	2.2	2	6	2.98	5.7			

How to Read Specifications→Page C-9
Motor Wiring Diagrams→Page C-189

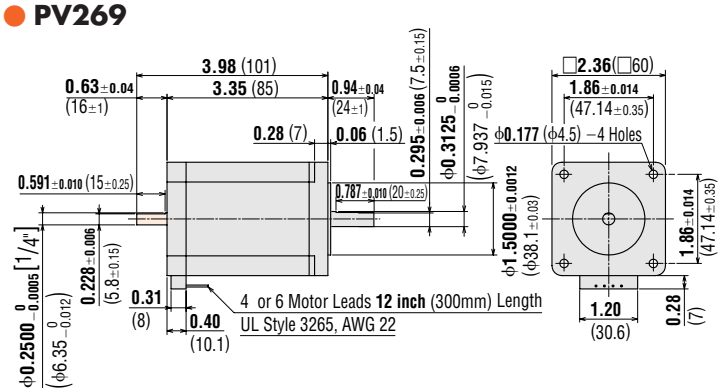
Dimensions Scale 1/4, Unit = **inch** (mm)

● PV264, PV266, PV267



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PV264-D2.8AA **PV264-02AA**	1.71 (43.5)	—	1.3 (0.6)	B279U
PV264-D2.8BA **PV264-02BA**		2.34 (59.5)		
PV266-D2.8AA **PV266-02AA**	2.13 (54)	—	1.8 (0.83)	B232U
PV266-D2.8BA **PV266-02BA**		2.76 (70)		
PV267-D2.8AA **PV267-02AA**	2.56 (65)	—	2.2 (1.02)	B813U
PV267-D2.8BA **PV267-02BA**		3.19 (81)		

● PV269



Model	Weight lb. (kg)	DXF
PV269-D2.8AA **PV269-02AA**	3.1 (1.43)	B814U
PV269-D2.8BA **PV269-02BA**		

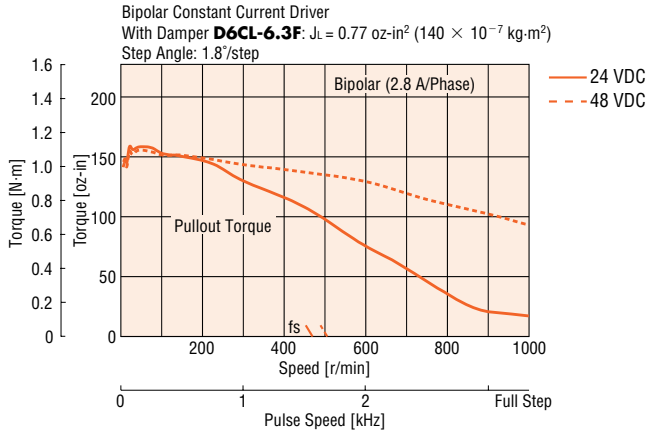
● These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

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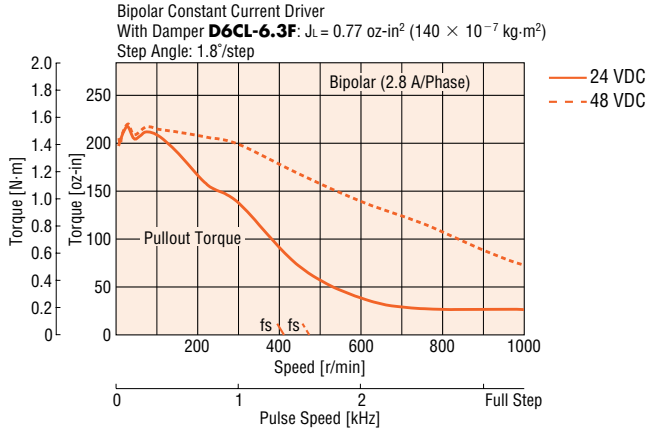
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

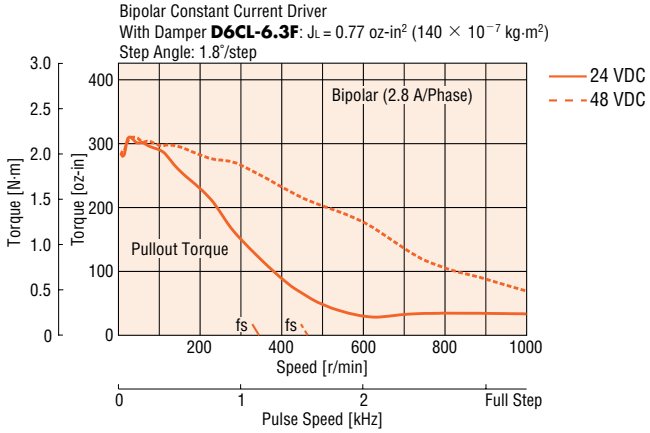
PV264-D2.8BA Bipolar



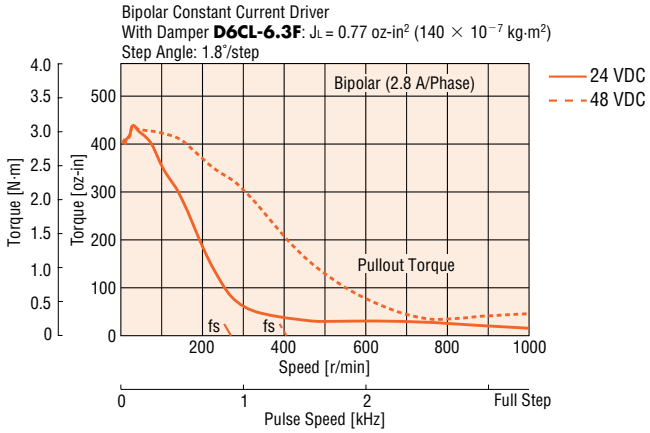
PV266-D2.8BA Bipolar



PV267-D2.8BA Bipolar



PV269-D2.8BA Bipolar

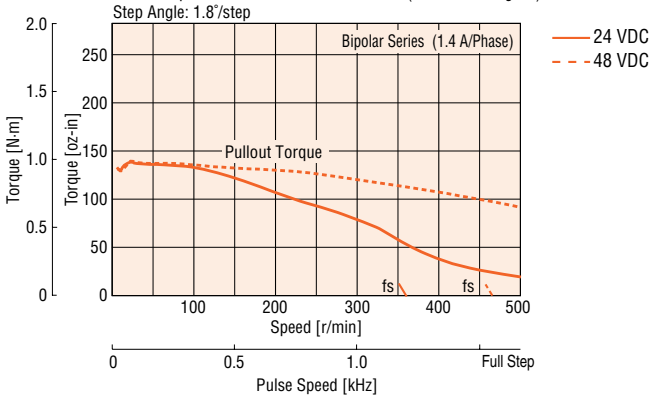


Connection Diagrams C-189
General Specifications C-240

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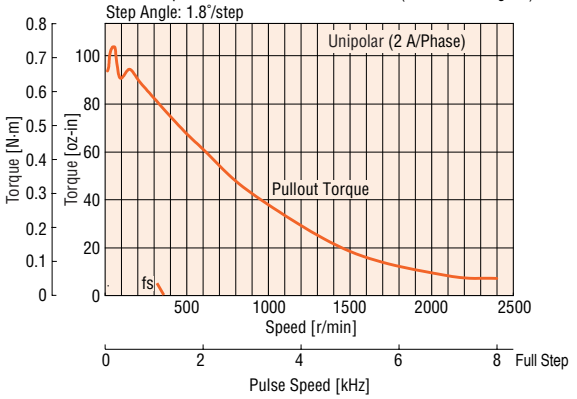
● PV264-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



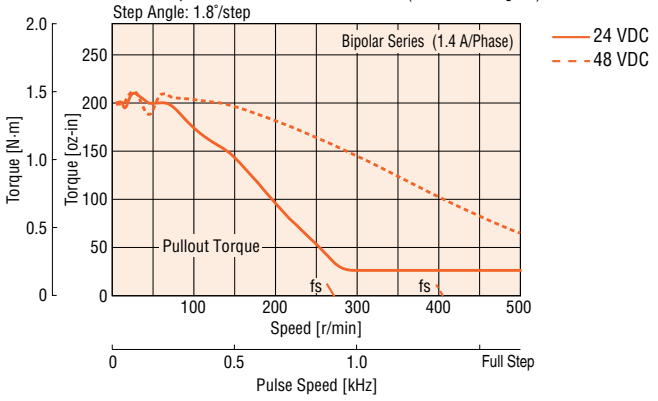
● PV264-02BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



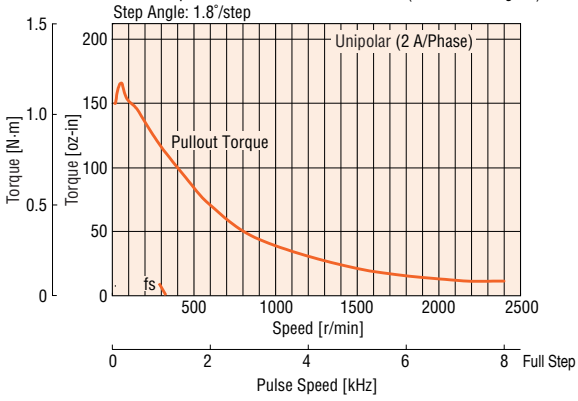
● PV266-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



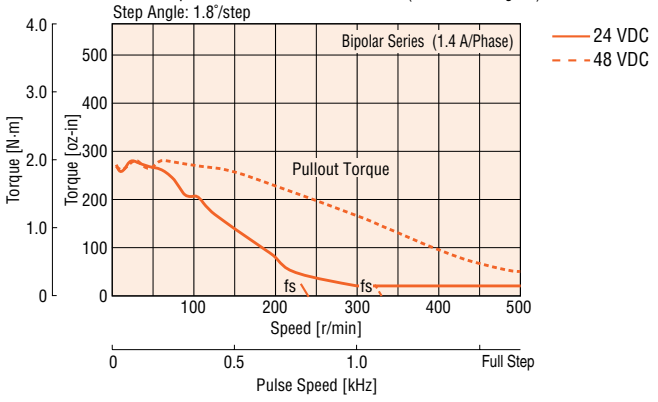
● PV266-02BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



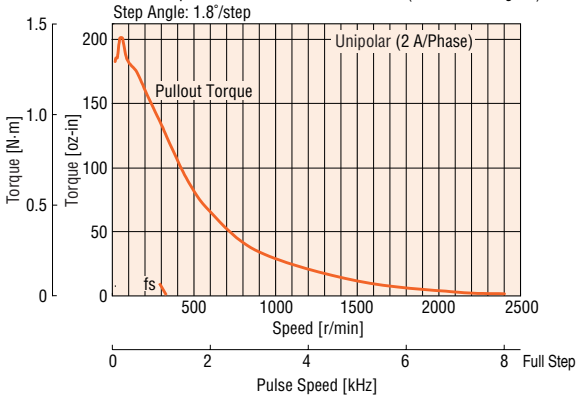
● PV267-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



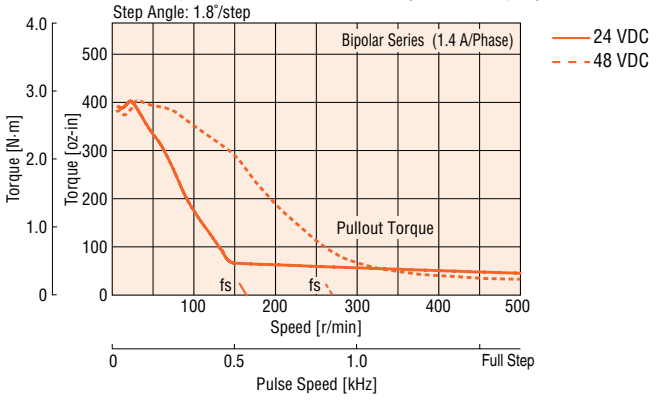
● PV267-02BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



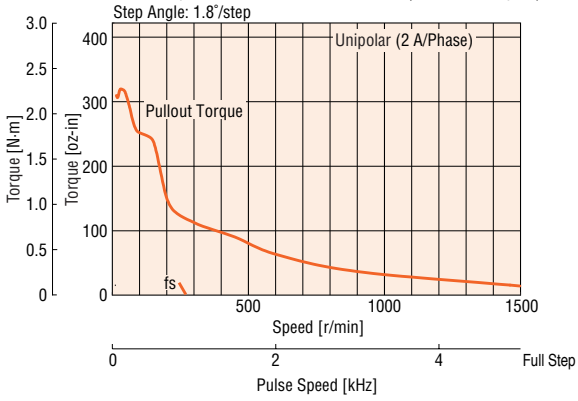
● PV269-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



● PV269-02BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D6CL-6.3F**: J_L = 0.77 oz-in² (140 × 10⁻⁷ kg·m²)
Step Angle: 1.8°/step



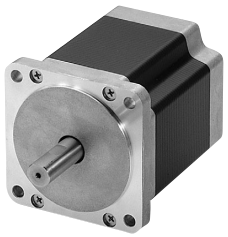
Features C-184 Accessories C-185

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□ 3.35 in. (□ 85 mm)

Step Angle 1.8°

PK Series Standard Type

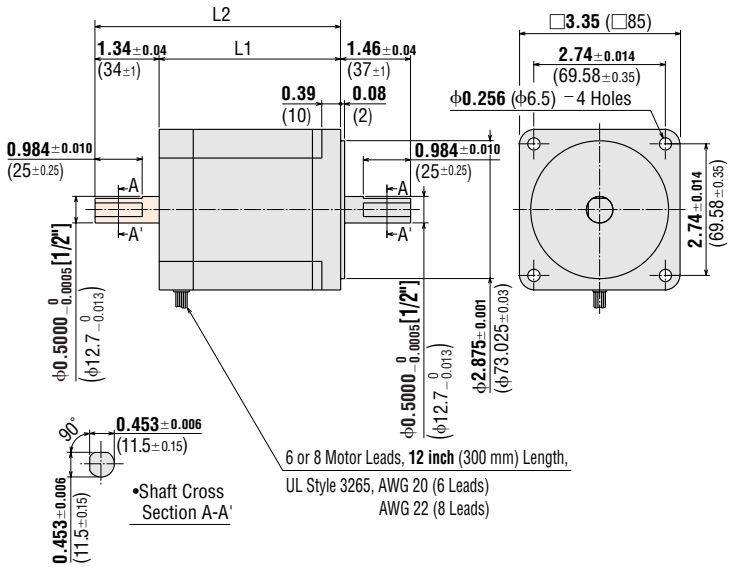


Specifications

Model Single Shaft Double Shaft	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires	Corresponding AC-Input Motor & Driver Package
PK296-01AA	Bipolar (Series)	440	3.1	1.4	6.2	4.4	30.8	7.7	1400×10^{-7}	6	—
PK296-01BA	Unipolar	310	2.2	2	4.4	2.2	7.7				
PK296-02AA	Bipolar (Series)	440	3.1	2.1	4.2	2	14	7.7	1400×10^{-7}	6	—
PK296-02BA	Unipolar	310	2.2	3	3	1	3.5				
PK296-03AA	Bipolar (Series)	440	3.1	3.18	2.8	0.96	6	7.7	1400×10^{-7}	6	**UMK296□A/ UMK296AAT**
PK296-03BA	Unipolar	310	2.2	4.5	2	0.48	1.5				
PK296-F4.5A PK296-F4.5B	Bipolar (Parallel)	440	3.1	6.3	1.4	0.24	1.5	7.7	1400×10^{-7}	8	—
	Bipolar (Series)	440	3.1	3.18	2.8	0.96	6				
	Unipolar	310	2.2	4.5	2	0.48	1.5				
PK299-01AA	Bipolar (Series)	880	6.2	1.4	9	6.4	56	14.8	2700×10^{-7}	6	—
PK299-01BA	Unipolar	620	4.4	2	6.4	3.2	14				
PK299-02AA	Bipolar (Series)	880	6.2	2.1	6	3	24	14.8	2700×10^{-7}	6	—
PK299-02BA	Unipolar	620	4.4	3	4.2	1.5	6				
PK299-03AA	Bipolar (Series)	880	6.2	3.18	3.9	1.32	10	14.8	2700×10^{-7}	6	**UMK299□A/ UMK299AAT**
PK299-03BA	Unipolar	620	4.4	4.5	2.8	0.66	2.5				
PK299-F4.5A PK296-F4.5B	Bipolar (Parallel)	880	6.2	6.3	1.9	0.33	2.5	14.8	2700×10^{-7}	8	—
	Bipolar (Series)	880	6.2	3.18	3.9	1.32	10				
	Unipolar	620	4.4	4.5	2.8	0.66	2.5				
PK2913-01AA	Bipolar (Series)	1320	9.3	1.4	10	7.6	76.8	22	4000×10^{-7}	6	—
PK2913-01BA	Unipolar	930	6.6	2	7.6	3.8	19.2				
PK2913-02AA	Bipolar (Series)	1320	9.3	2.8	5.3	1.94	16.8	22	4000×10^{-7}	6	**UMK2913□A/ UMK2913AAT**
PK2913-02BA	Unipolar	930	6.6	4	3.8	0.97	4.2				
PK2913-F4.0A PK2913-F4.0B	Bipolar (Parallel)	1320	9.3	5.6	2.6	0.49	4.2	22	4000×10^{-7}	8	—
	Bipolar (Series)	1320	9.3	2.8	5.3	1.94	16.8				
	Unipolar	930	6.6	4	3.8	0.97	4.2				

How to Read Specifications→Page C-9
Motor Wiring Diagrams→Page C-189

Dimensions Scale 1/4, Unit = **inch** (mm)



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK296-0□AA PK296-F4.5A	2.60 (66)	—	3.7 (1.7)	B122U
PK296-0□BA PK296-F4.5B		3.94 (100)		
PK299-0□AA PK299-F4.5A	3.78 (96)	—	6.2 (2.8)	B123U
PK299-0□BA PK299-F4.5B		5.12 (130)		
PK2913-0□AA PK2913-F4.0A	4.96 (126)	—	8.4 (3.8)	B124U
PK2913-0□BA PK2913-F4.0B		6.30 (160)		

- Enter the winding specification in the box (□) within the model name.

- These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

Connection Diagrams C-189 | General Specifications C-240

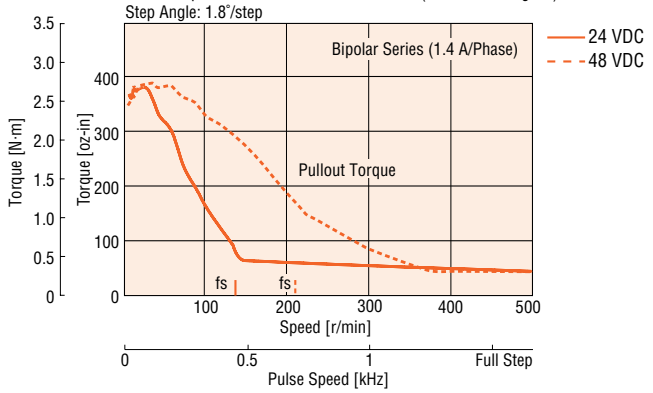
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics →Page C-10

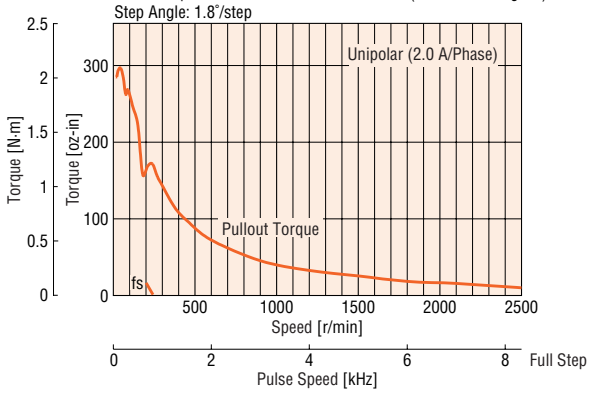
PK296-01BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



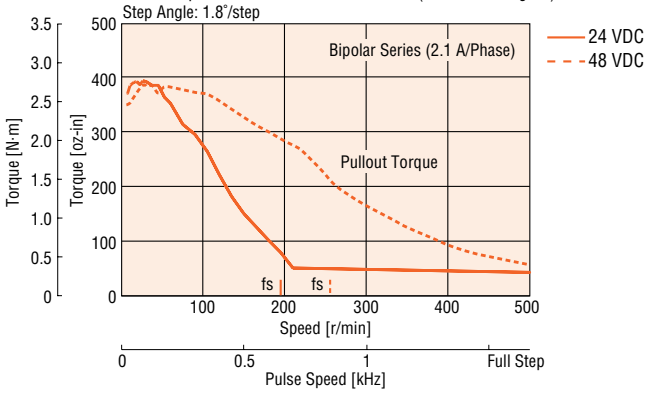
PK296-01BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



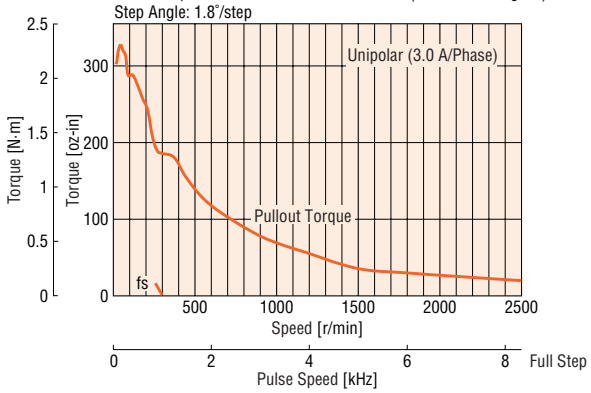
PK296-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



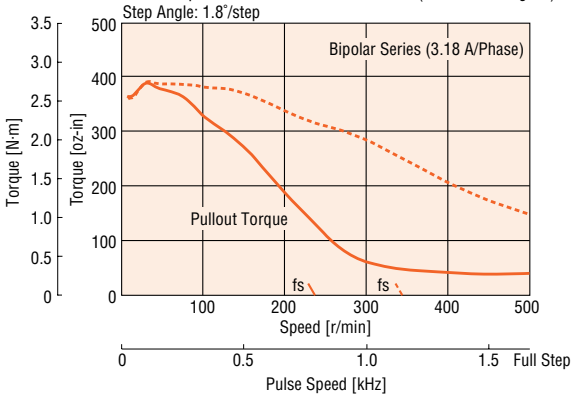
PK296-02BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



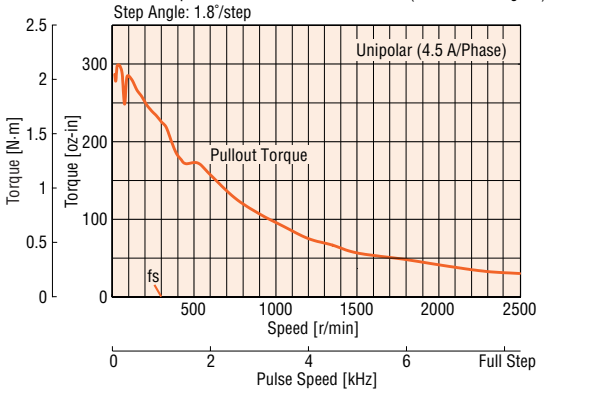
PK296-03BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



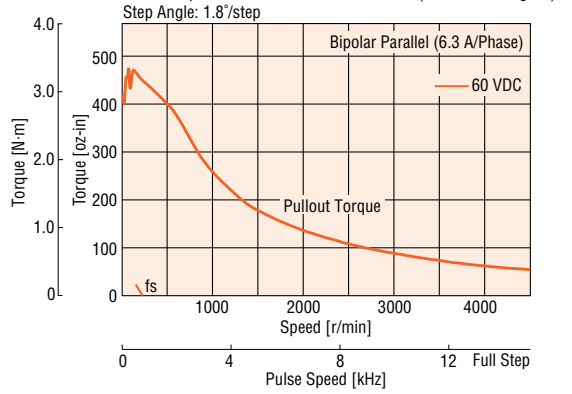
PK296-03BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



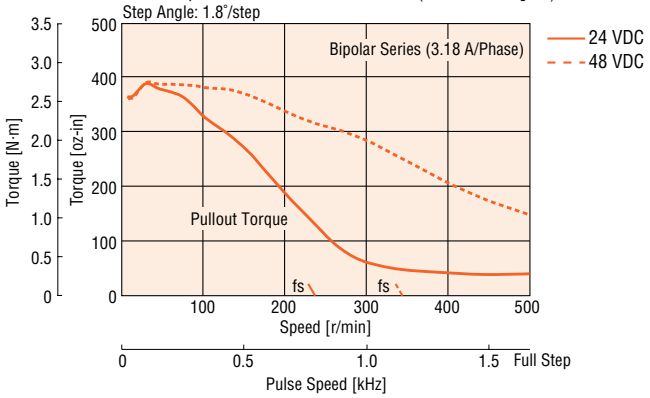
PK296-F4.5B Bipolar (Parallel)

Power Input: 60 VDC Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



PK296-F4.5B Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step

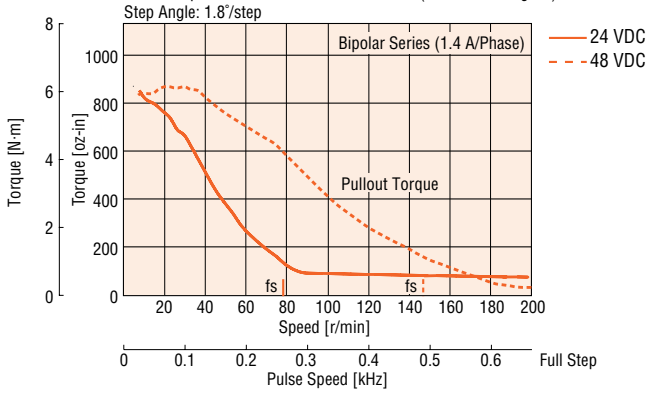


Features C-184 Accessories C-185

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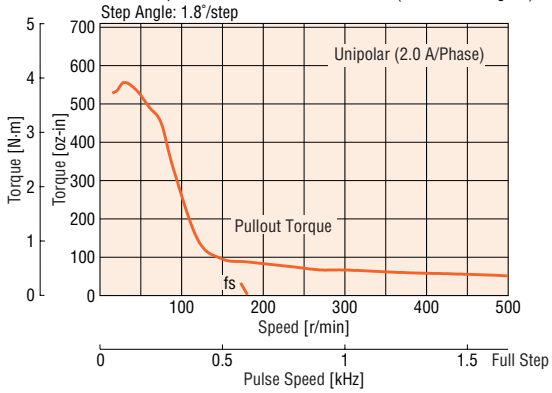
PK299-01BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



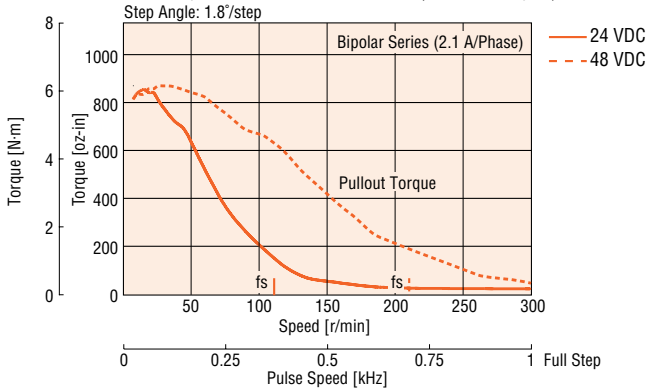
PK299-01BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



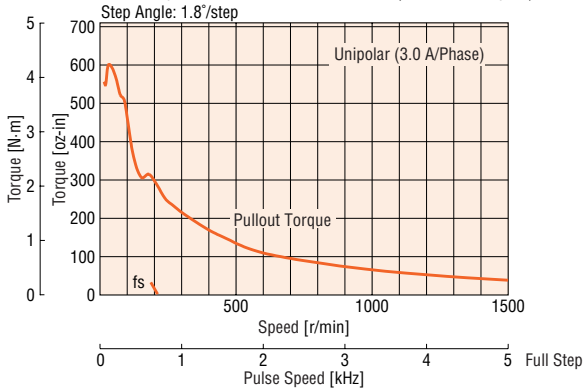
PK299-02BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



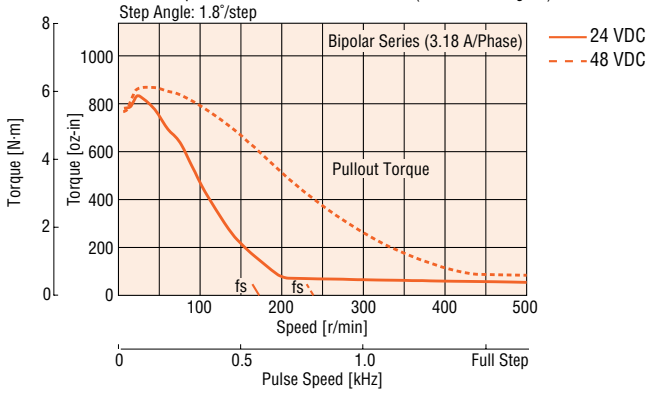
PK299-02BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



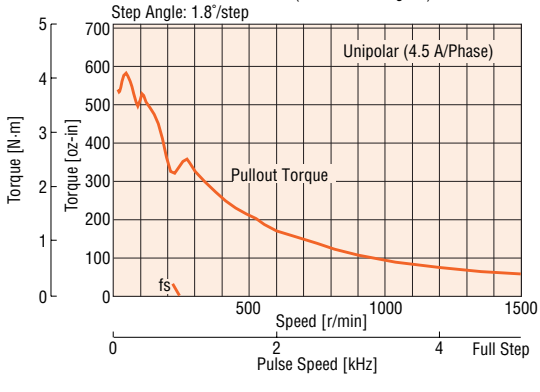
PK299-03BA Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



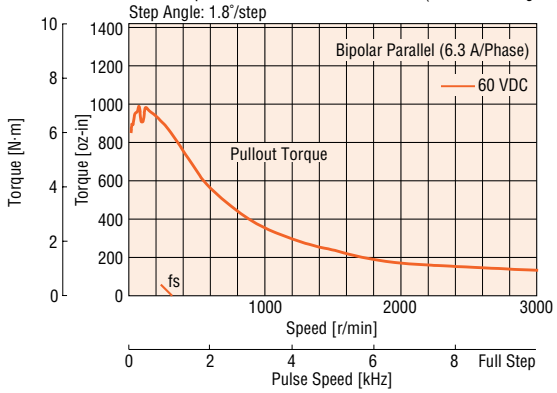
PK299-03BA Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
Load Inertia: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



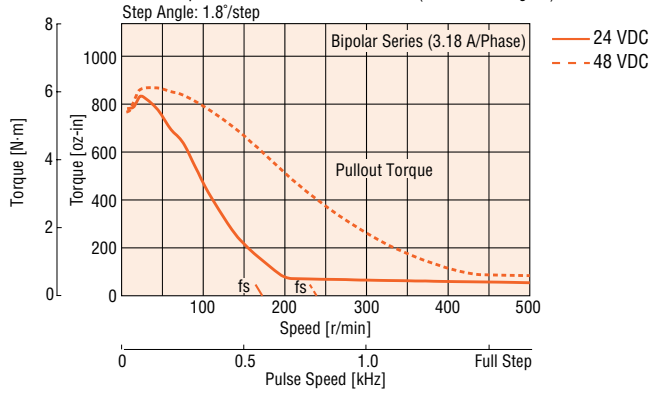
PK299-F4.5B Bipolar (Parallel)

Power Input: 60 VDC Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



PK299-F4.5B Bipolar (Series)

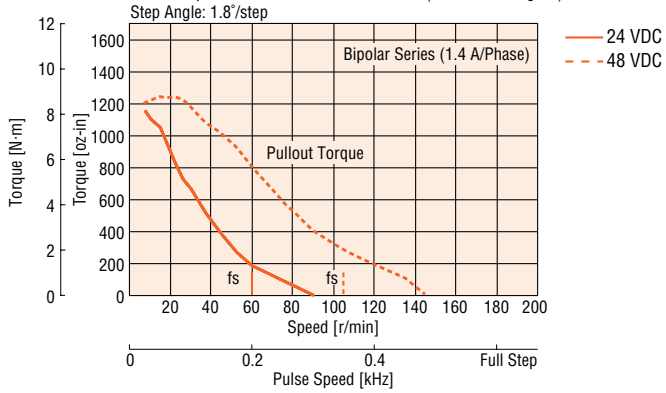
Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)
Step Angle: 1.8°/step



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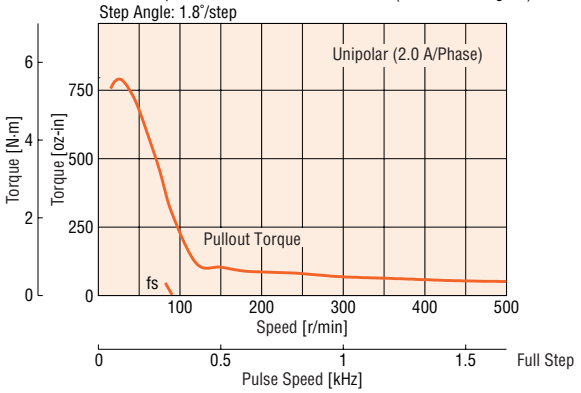
● **PK2913-01BA** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in^2 (870 × 10^{-7} kg·m^2)
Step Angle: 1.8°/step



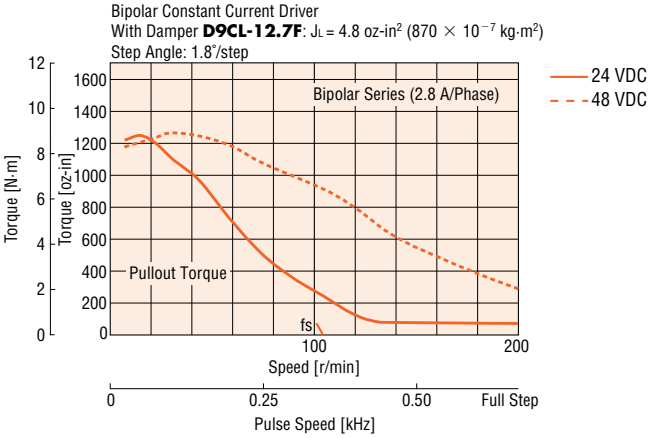
● **PK2913-01BA** Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in^2 (870 × 10^{-7} kg·m^2)
Step Angle: 1.8°/step



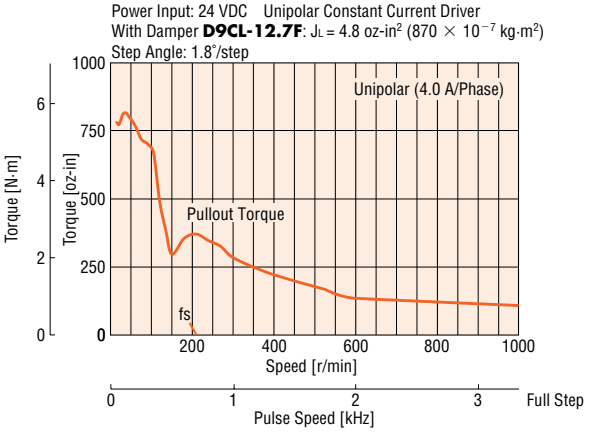
● **PK2913-02BA** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in^2 (870 × 10^{-7} kg·m^2)
Step Angle: 1.8°/step



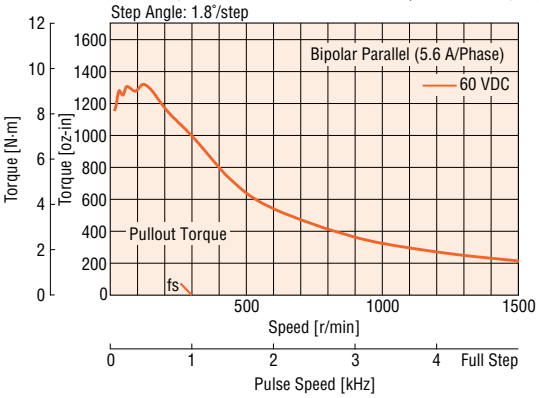
● **PK2913-02BA** Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in^2 (870 × 10^{-7} kg·m^2)
Step Angle: 1.8°/step



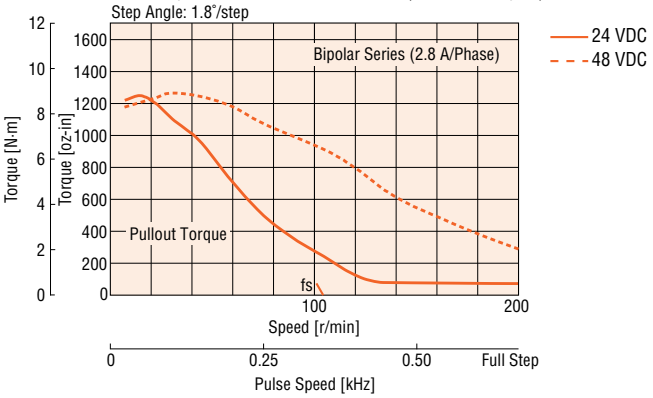
● **PK2913-F4.0B** Bipolar (Parallel)

Power Input: 60 VDC Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in^2 (870 × 10^{-7} kg·m^2)
Step Angle: 1.8°/step



● **PK2913-F4.0B** Bipolar (Series)

Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in^2 (870 × 10^{-7} kg·m^2)
Step Angle: 1.8°/step



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□ 3.54 in. (□ 90 mm)

PK Series SH Geared Type



Specifications

Motor Specifications

Model Single Shaft Double Shaft	Connection Type	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires
PK296A1A-SG□	Bipolar (Series)	1	4.4	4.4	30.8	7.7	1400×10⁻⁷	6
PK296B1A-SG□	Unipolar	1.5	3.3	2.2	7.7			
PK296A2A-SG□	Bipolar (Series)	2.1	2	0.96	6	7.7	1400×10⁻⁷	6
PK296B2A-SG□	Unipolar	3	1.4	0.48	1.5			

How to Read Specifications→Page C-9
Motor Wiring Diagrams→Page C-189
- Enter the gear ratio in the box (□) within the model name.

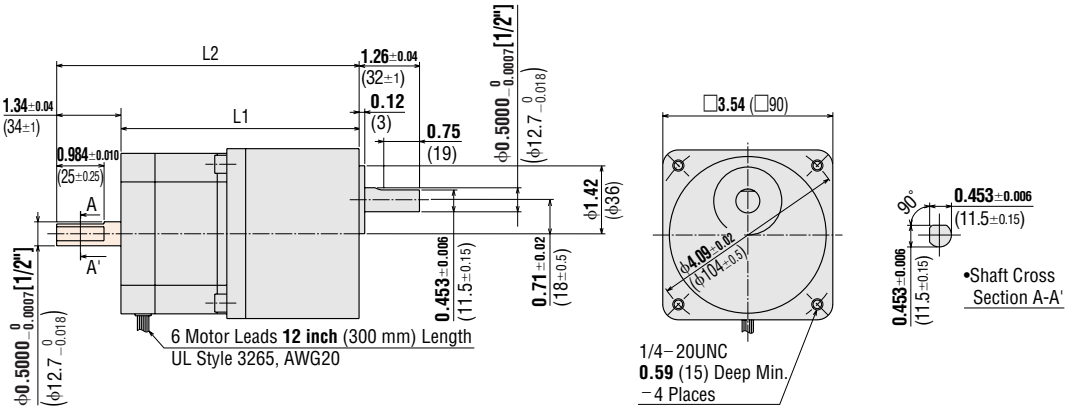
Gearmotor Specifications

Model Single Shaft Double Shaft	Gear Ratio	Holding Torque* lb-in	 N·m	Step Angle	Permissible Speed r/min
PK296A1A-SG3.6, PK296A2A-SG3.6 **PK296B1A-SG3.6, PK296B2A-SG3.6**	3.6:1	22	2.5	0.5°	500
PK296A1A-SG7.2, PK296A2A-SG7.2 **PK296B1A-SG7.2, PK296B2A-SG7.2**	7.2:1	44	5	0.25°	250
PK296A1A-SG9, PK296A2A-SG9 **PK296B1A-SG9, PK296B2A-SG9**	9:1	55	6.3	0.2°	200
PK296A1A-SG10, PK296A2A-SG10 **PK296B1A-SG10, PK296B2A-SG10**	10:1	61	7	0.18°	180
PK296A1A-SG18, PK296A2A-SG18 **PK296B1A-SG18, PK296B2A-SG18**	18:1	79	9	0.1°	100
PK296A1A-SG36, PK296A2A-SG36 **PK296B1A-SG36, PK296B2A-SG36**	36:1	106	12	0.05°	50

* Holding torque is the same regardless of the connection type, due to the permissible torque limit of the gearhead.

Dimensions

Scale 1/4, Unit = **inch** (mm)



- Screws (included)
  1/4 -20 UNC, 0.75 inch (19 mm) length, 4 pieces
- These dimensions are for double shaft models. For single shaft models, ignore the shaded area.

Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK296A□A-SG□	4.96 (126)	—	6.2 (2.8)	B242U
PK296B□A-SG□		6.3 (160)		

- Enter the winding specification in the box (□) within the model number.
- Enter the gear ratio in the box (□) within the model number.

Connection Diagrams C-189 | General Specifications C-240

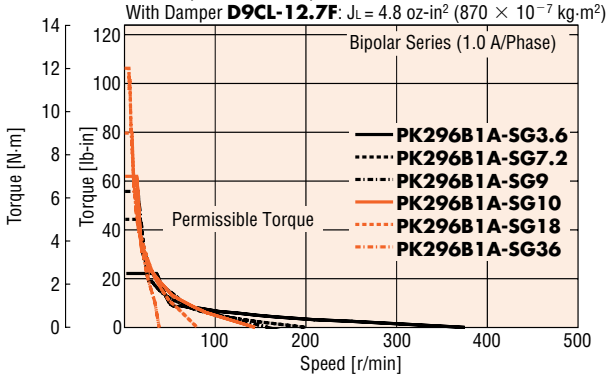
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Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

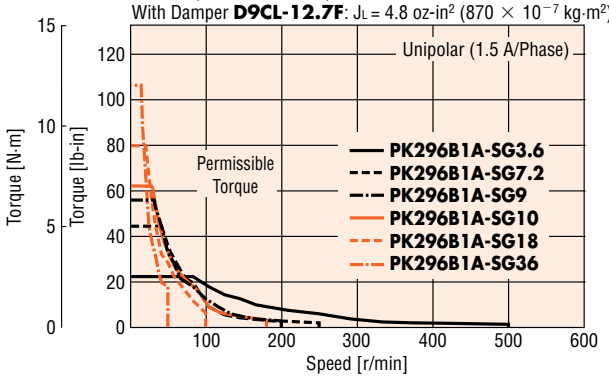
● PK296B1A-SG□ Bipolar (Series) 24 VDC

Power Input: 24 VDC Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)



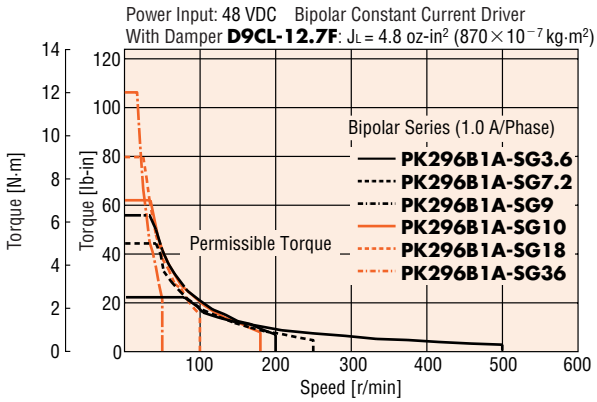
● PK296B1A-SG□ Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)



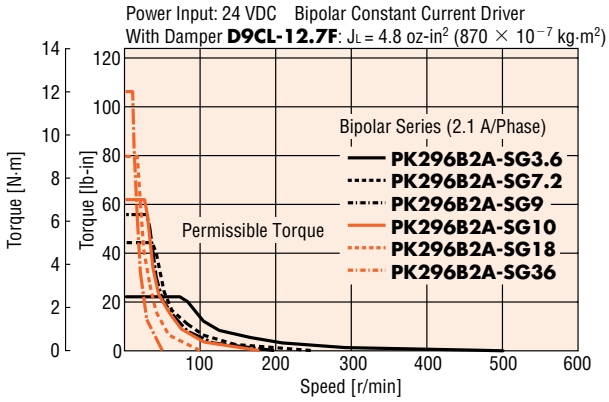
● PK296A1B-SG□ Bipolar (Series) 48 VDC

Power Input: 48 VDC Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870×10^{-7} kg·m²)



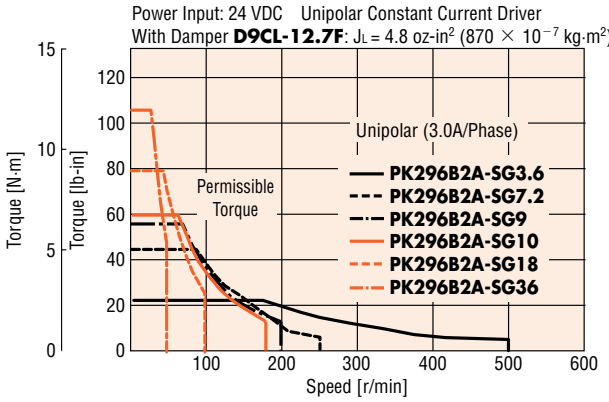
● PK296B2A-SG□ Bipolar (Series) 24 VDC

Power Input: 24 VDC Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)



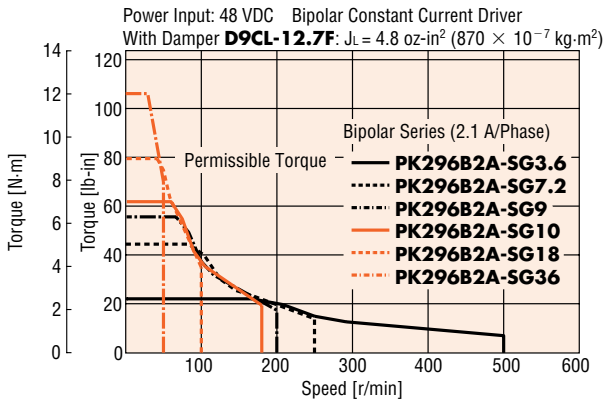
● PK296B2A-SG□ Unipolar

Power Input: 24 VDC Unipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)



● PK296B2A-SG□ Bipolar (Series) 48 VDC

Power Input: 48 VDC Bipolar Constant Current Driver
With Damper **D9CL-12.7F**: J_L = 4.8 oz-in² (870 × 10^{-7} kg·m²)

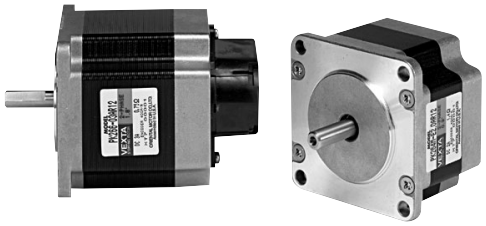


Features C-184 Accessories C-185

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□ 2.22 in. (□ 56.4 mm)

PK Series Standard Type with Encoder

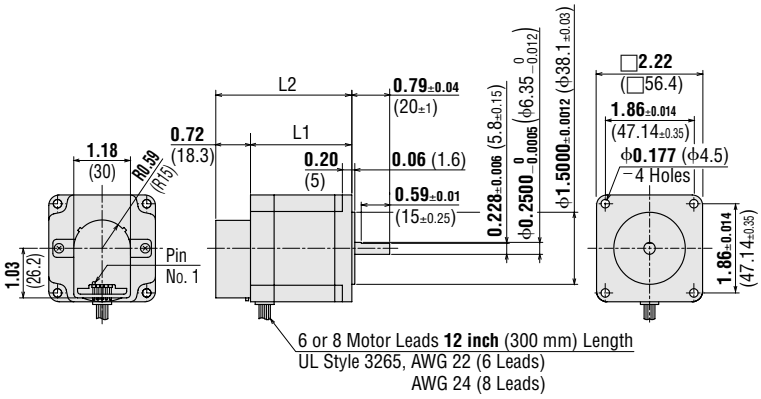


Specifications

Model Single Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in^2	 kg·m^2	Lead Wires
PK264-01AR11	1.8 °	Bipolar (Series)	68	0.48	0.71	8.1	11.4	21.6	0.66	120×10^{-7}	6
PK264-01AR12		Unipolar	55	0.39	1	5.7	5.7	5.4			
PK264-02AR11	1.8 °	Bipolar (Series)	68	0.48	1.4	3.9	2.8	5.6	0.66	120×10^{-7}	6
PK264-02AR12		Unipolar	55	0.39	2	2.8	1.4	1.4			
PK264-03AR11	1.8 °	Bipolar (Series)	68	0.48	2.1	2.6	1.26	2.4	0.66	120×10^{-7}	6
PK264-03AR12		Unipolar	55	0.39	3	1.9	0.63	0.6			
PK264-E2.0AR11	1.8 °	Bipolar (Parallel)	68	0.48	2.8	1.96	0.7	1.4	0.66	120×10^{-7}	8
PK264-E2.0AR12		Bipolar (Series)	68	0.48	1.4	3.9	2.8	5.6			
		Unipolar	55	0.39	2	2.8	1.4	1.4			
PK266-01AR11	1.8 °	Bipolar (Series)	166	1.17	0.71	11	14.8	40	1.64	300×10^{-7}	6
PK266-01AR12		Unipolar	127	0.9	1	7.4	7.4	10			
PK266-02AR11	1.8 °	Bipolar (Series)	166	1.17	1.4	5	3.6	10	1.64	300×10^{-7}	6
PK266-02AR12		Unipolar	127	0.9	2	3.6	1.8	2.5			
PK266-03AR11	1.8 °	Bipolar (Series)	166	1.17	2.1	3.2	1.5	4.4	1.64	300×10^{-7}	6
PK266-03AR12		Unipolar	127	0.9	3	2.3	0.75	1.1			
PK266-E2.0AR11	1.8 °	Bipolar (Parallel)	166	1.17	2.8	2.52	0.9	2.5	1.64	300×10^{-7}	8
PK266-E2.0AR12		Bipolar (Series)	166	1.17	1.4	5	3.6	10			
		Unipolar	127	0.9	2	3.6	1.8	2.5			

How to Read Specifications →Page C-9
Motor Wiring Diagrams →Page C-189

Dimensions Scale 1/4, Unit = **inch** (mm)



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK264-0□AR11 **PK264-0□AR12**	1.54 (39)	2.26 (57.3)	1.03 (0.47)	B808U
PK264-E2.0AR11 **PK264-E2.0AR12**				
PK266-0□AR11 **PK266-0□AR12**	2.13 (54)	2.85 (72.3)	1.58 (0.72)	B809U
PK266-E2.0AR11 **PK266-E2.0AR12**				

● Enter the winding specification in the box (□) within the model number.

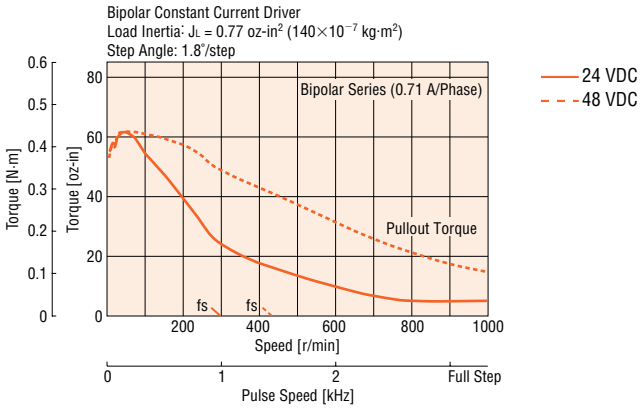
Encoder Specifications → Page C-239

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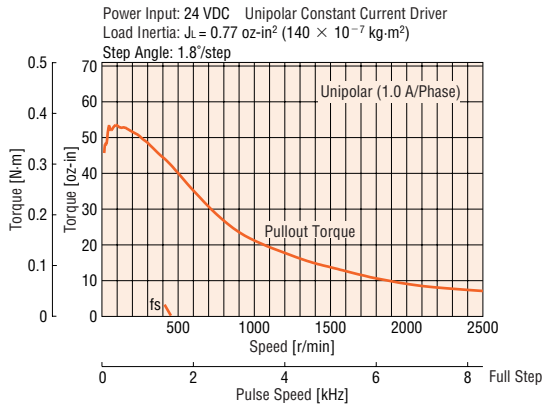
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics →Page C-10

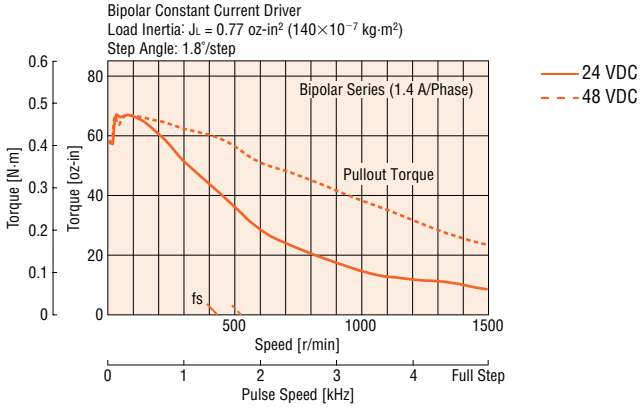
● PK264-01AR11
PK264-01AR12 Bipolar (Series)



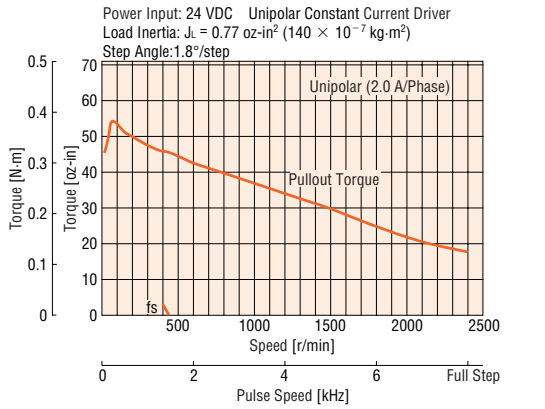
● PK264-01AR11
PK264-01AR12 Unipolar



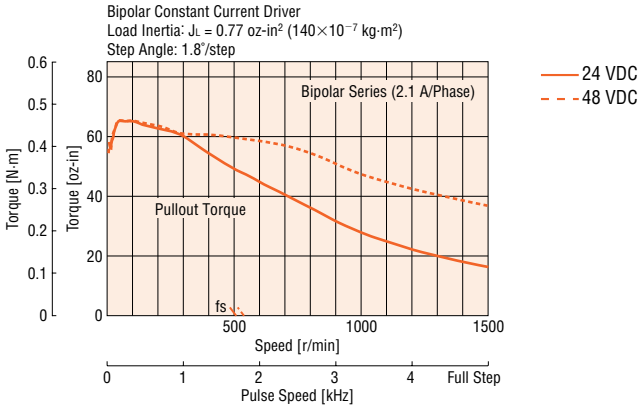
● PK264-02AR11
PK264-02AR12 Bipolar (Series)



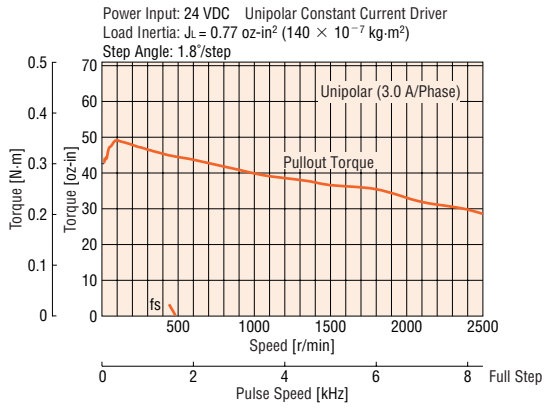
● PK264-02AR11
PK264-02AR12 Unipolar



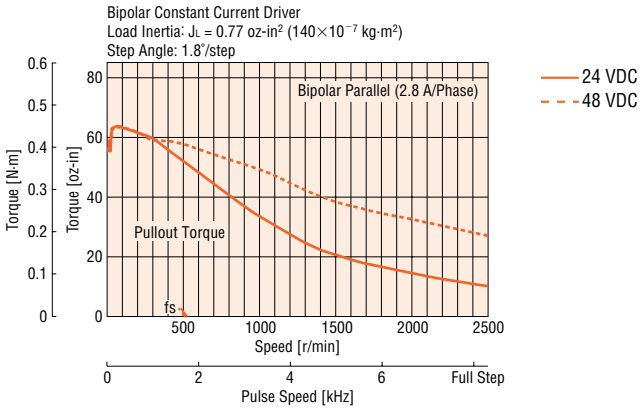
● PK264-03AR11
PK264-03AR12 Bipolar (Series)



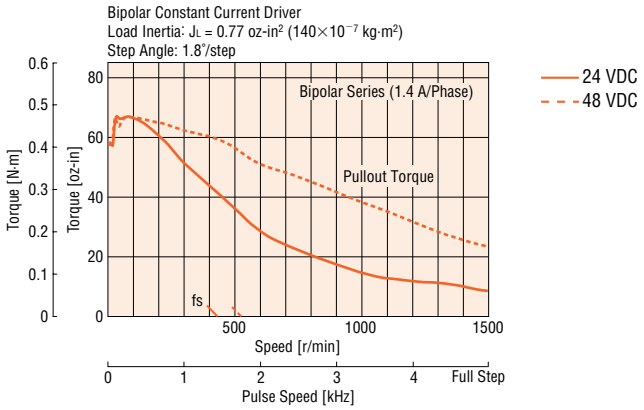
● PK264-03AR11
PK264-03AR12 Unipolar



● PK264-E2.0AR11
PK264-E2.0AR12 Bipolar (Parallel)

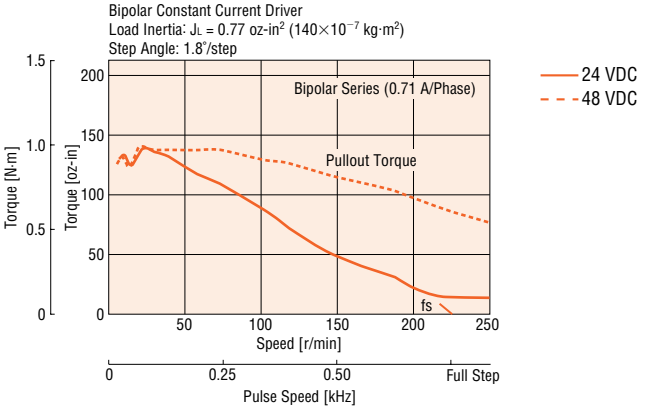


● PK264-E2.0AR11
PK264-E2.0AR12 Bipolar (Series)

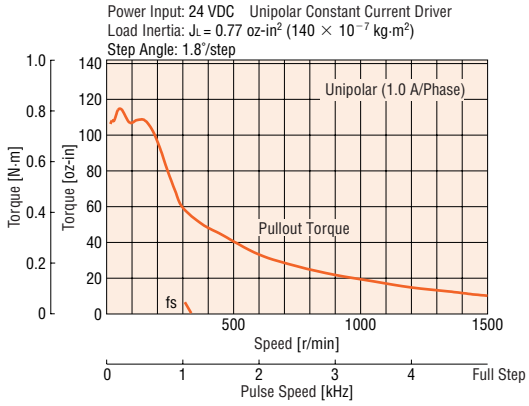


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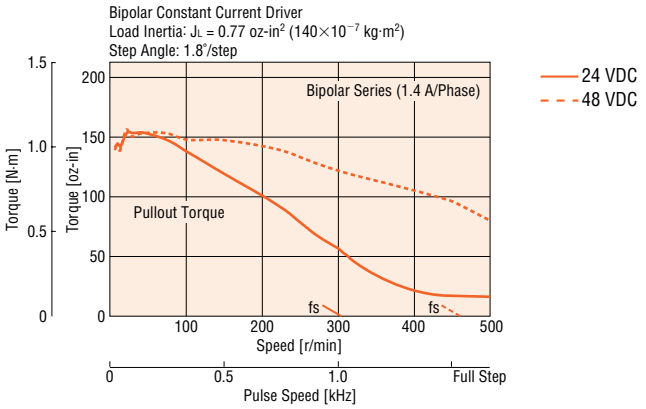
PK266-01AR11
PK266-01AR12 Bipolar (Series)



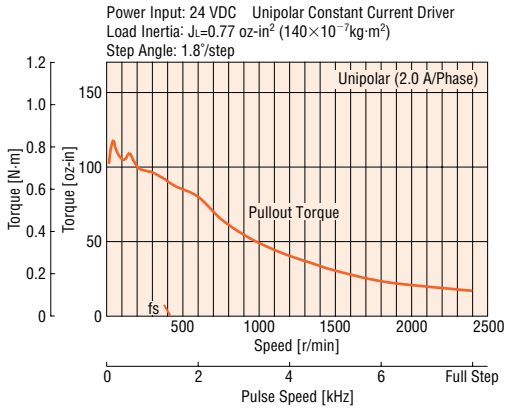
PK266-01AR11
PK266-01AR12 Unipolar



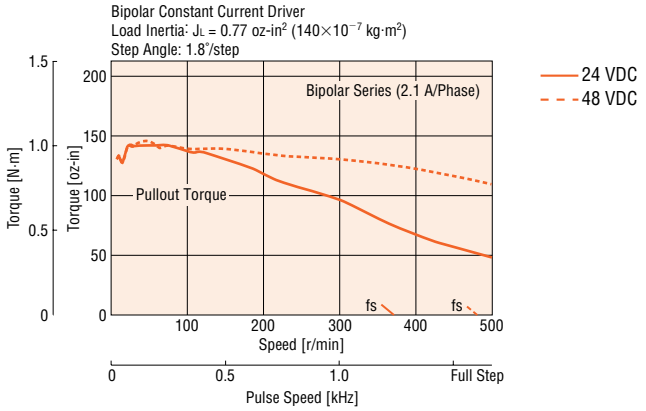
PK266-02AR11
PK266-02AR12 Bipolar (Series)



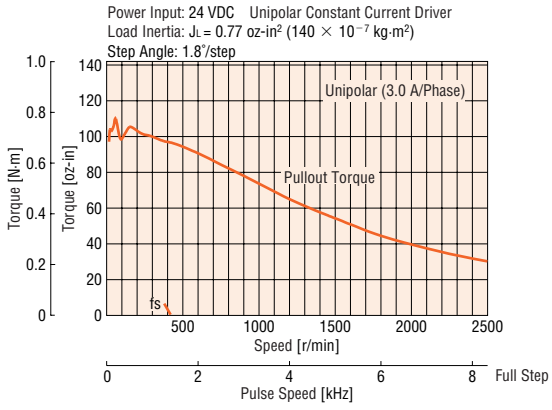
PK266-02AR11
PK266-02AR12 Unipolar



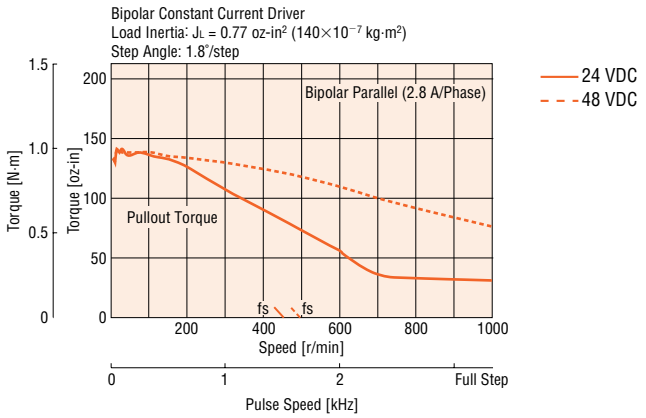
PK266-03AR11
PK266-03AR12 Bipolar (Series)



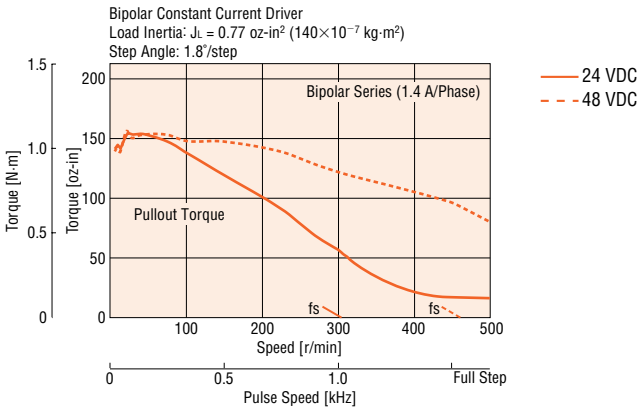
PK266-03AR11
PK266-03AR12 Unipolar



PK266-E2.0AR11
PK266-E2.0AR12 Bipolar (Parallel)



PK266-E2.0AR11
PK266-E2.0AR12 Bipolar (Series)

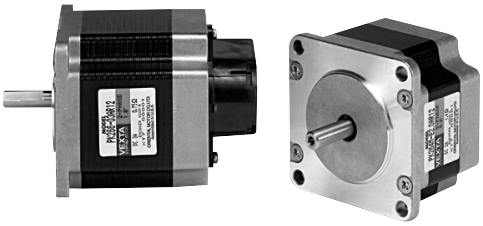


Connection Diagrams C-189
General Specifications C-240

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□ 2.22 in. (□ 56.4 mm)

PK Series High Resolution Type with Encoder

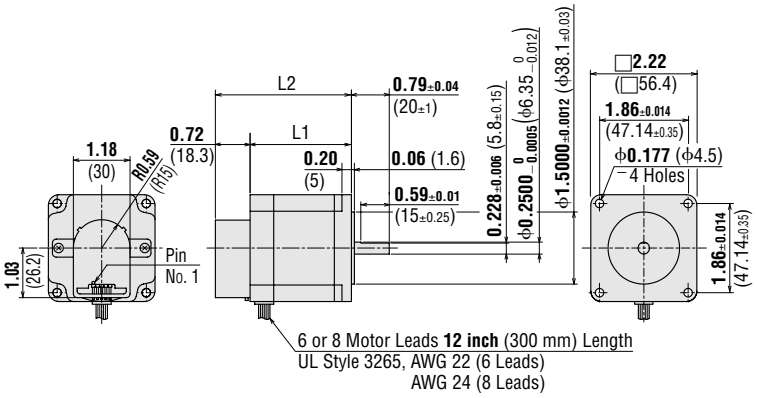


Specifications

Model Single Shaft	Basic Step Angle	Connection Type	Holding Torque oz-in	 N·m	Current per Phase A/phase	Voltage VDC	Resistance per Phase Ω/phase	Inductance mH/phase	Rotor Inertia J oz-in²	 kg·m²	Lead Wires
PK264M-01AR11	0.9 °	Bipolar (Series)	68	0.48	0.71	8.1	11.4	26	0.66	120×10^{-7}	6
PK264M-01AR12		Unipolar	55	0.39	1	5.7	5.7	6.5			
PK264M-02AR11	0.9 °	Bipolar (Series)	68	0.48	1.4	3.9	2.8	6.8	0.66	120×10^{-7}	6
PK264M-02AR12		Unipolar	55	0.39	2	2.8	1.4	1.7			
PK264M-03AR11	0.9 °	Bipolar (Series)	68	0.48	2.1	2.6	1.26	3	0.66	120×10^{-7}	6
PK264M-03AR12		Unipolar	55	0.39	3	1.9	0.63	0.75			
PK264M-E2.0AR11	0.9 °	Bipolar (Parallel)	68	0.48	2.8	1.96	0.7	1.7	0.66	120×10^{-7}	8
PK264M-E2.0AR12		Bipolar (Series)	68	0.48	1.4	3.9	2.8	6.8			
		Unipolar	55	0.39	2	2.8	1.4	1.7			
PK266M-01AR11	0.9 °	Bipolar (Series)	166	1.17	0.71	11	14.8	50.8	1.64	300×10^{-7}	6
PK266M-01AR12		Unipolar	127	0.9	1	7.4	7.4	12.7			
PK266M-02AR11	0.9 °	Bipolar (Series)	166	1.17	1.4	5	3.6	12.8	1.64	300×10^{-7}	6
PK266M-02AR12		Unipolar	127	0.9	2	3.6	1.8	3.2			
PK266M-03AR11	0.9 °	Bipolar (Series)	166	1.17	2.1	3.2	1.5	5.8	1.64	300×10^{-7}	6
PK266M-03AR12		Unipolar	127	0.9	3	2.3	0.75	1.45			
PK266M-E2.0AR11	0.9 °	Bipolar (Parallel)	166	1.17	2.8	2.52	0.9	3.2	1.64	300×10^{-7}	8
PK266M-E2.0AR12		Bipolar (Series)	166	1.17	1.4	5	3.6	12.8			
		Unipolar	127	0.9	2	3.6	1.8	3.2			

How to Read Specifications → Page C-9
Motor Wiring Diagrams → Page C-189

Dimensions Scale 1/4, Unit = **inch** (mm)



Model	L1 inch (mm)	L2 inch (mm)	Weight lb. (kg)	DXF
PK264M-0□AR11 **PK264M-0□AR12**	1.54 (39)	2.26 (57.3)	1.03 (0.47)	B808U
PK264M-E2.0AR11 **PK264M-E2.0AR12**				
PK266M-0□AR11 **PK266M-0□AR12**	2.13 (54)	2.85 (72.3)	1.58 (0.72)	B809U
PK266M-E2.0AR11 **PK266M-E2.0AR12**				

● Enter the winding specification in the box (□) within the model number.

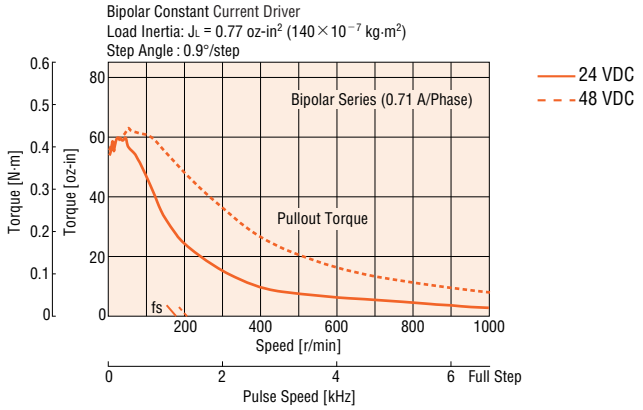
Encoder Specifications → Page C-239

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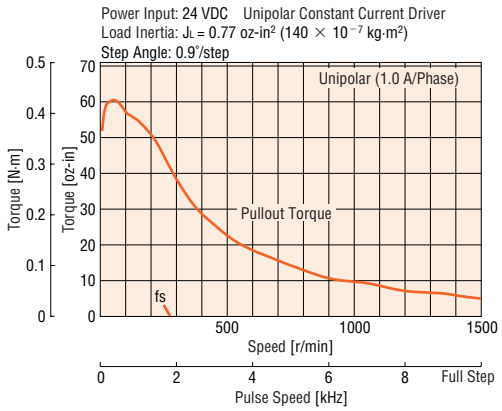
Speed–Torque Characteristics

How to Read Speed-Torque Characteristics→Page C-10

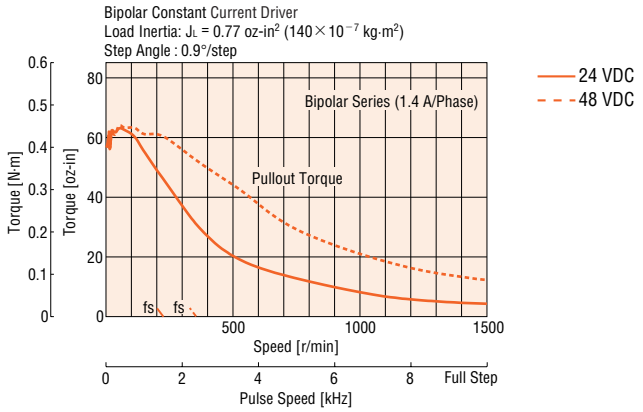
PK264M-01AR11
PK264M-01AR12 Bipolar (Series)



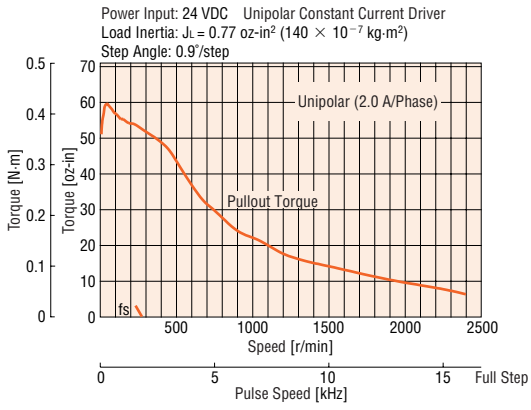
PK264M-01AR11
PK264M-01AR12 Unipolar



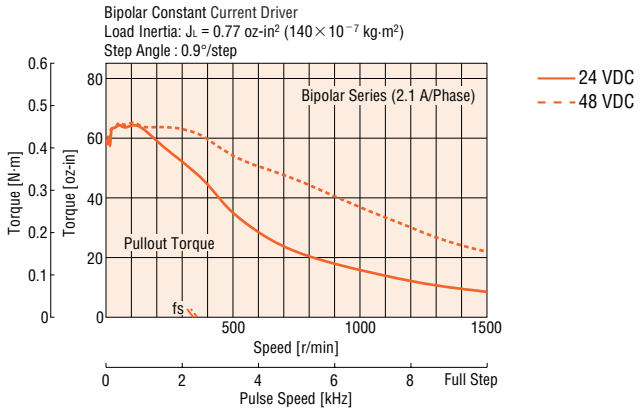
PK264M-02AR11
PK264M-02AR12 Bipolar (Series)



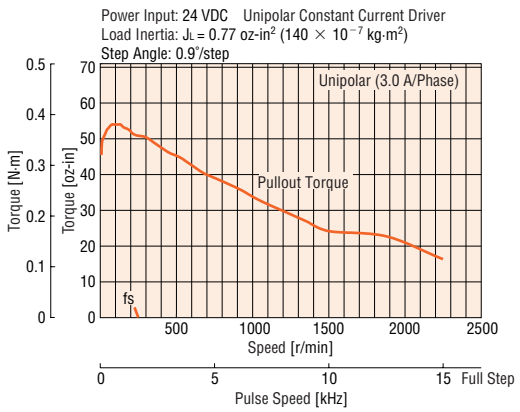
PK264M-02AR11
PK264M-02AR12 Unipolar



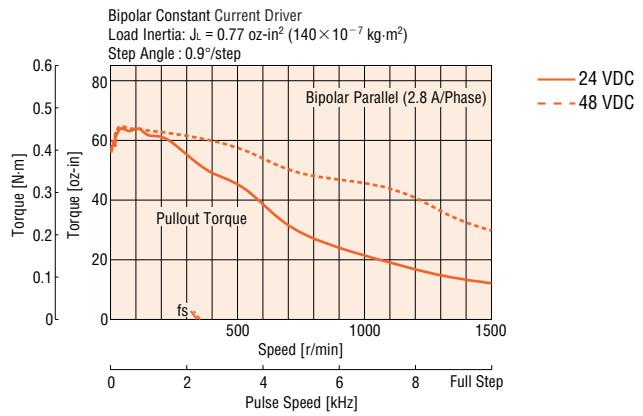
PK264M-03AR11
PK264M-03AR12 Bipolar (Series)



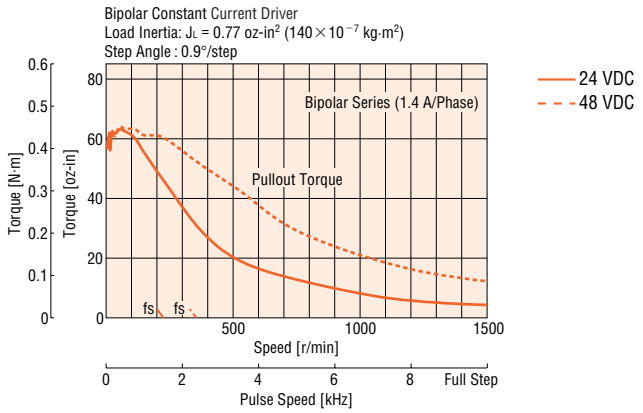
PK264M-03AR11
PK264M-03AR12 Unipolar



PK264M-E2.0AR11
PK264M-E2.0AR12 Bipolar (Parallel)

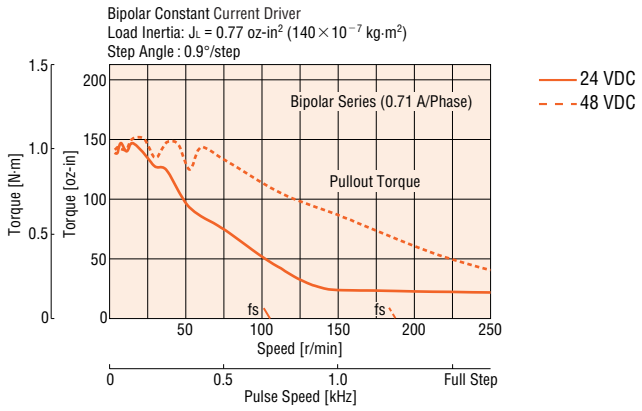


PK264M-E2.0AR11
PK264M-E2.0AR12 Bipolar (Series)

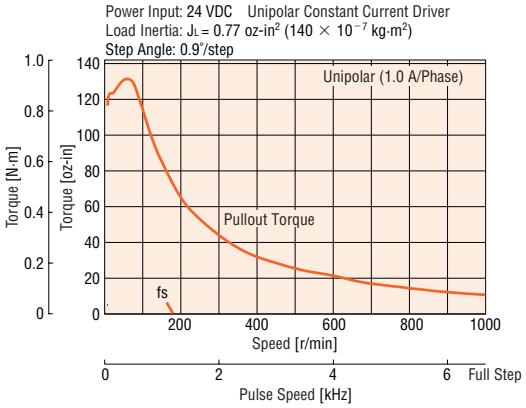


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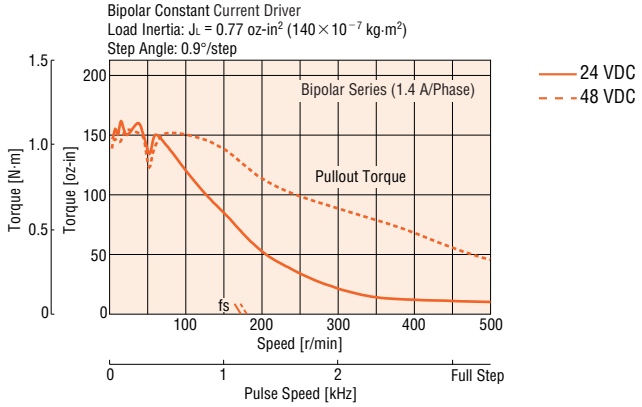
● PK266M-01AR11
PK266M-01AR12 Bipolar (Series)



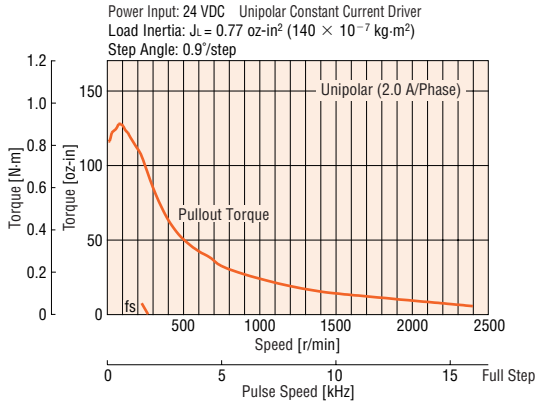
● PK266M-01AR11
PK266M-01AR12 Unipolar



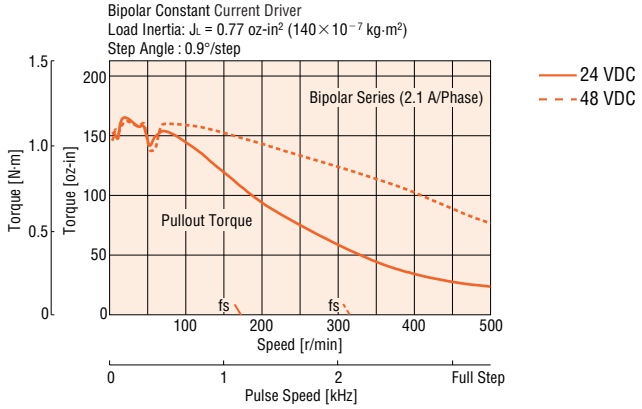
● PK266M-02AR11
PK266M-02AR12 Bipolar (Series)



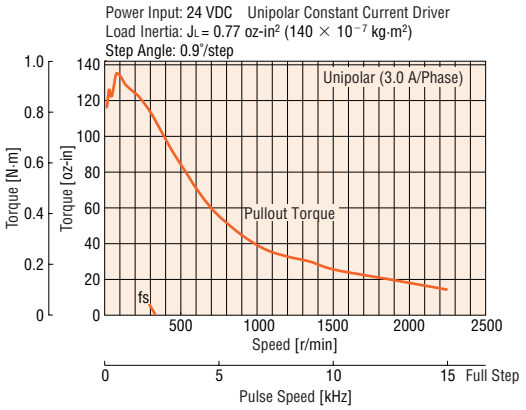
● PK266M-02AR11
PK266M-02AR12 Unipolar



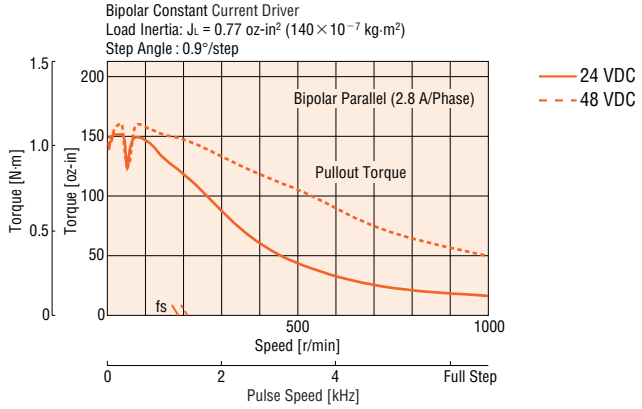
● PK266M-03AR11
PK266M-03AR12 Bipolar (Series)



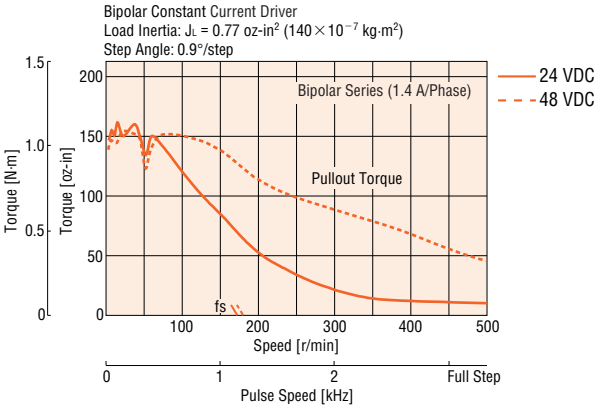
● PK266M-03AR11
PK266M-03AR12 Unipolar



● PK266M-E2.0AR11
PK266M-E2.0AR12 Bipolar (Parallel)



● PK266M-E2.0AR11
PK266M-E2.0AR12 Bipolar (Series)



Features C-184 Accessories C-185

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Encoder Specifications

Note:
- Use the motor within the encoder specifications.
  HEDS-5600 series encoders by Agilent Technologies, Inc. are used.

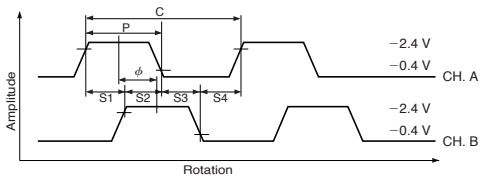
Recommended Operating Ranges

Item	Symbol	Min	TYP.	MAX.	Note
Supplied Voltage	Vcc	4.5 V	5.0 V	5.5 V	Ripple<100 mVp-p
Load Capacity	Cl	—	—	100 pF	2.7 Ω, pull-up
Response Frequency	f	—	—	100 kHz	Rotating speed (r/min)×(N/60)

N=Encoder Resolution

Note:
- The encoder specifications are designed to guarantee operation based on a response frequency of 100 kHz. However, the encoder can be operated at a minimum response frequency of 100 kHz.

Output Waveform



Encoder Characteristics

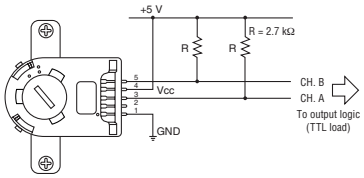
Unless otherwise specified, the following characteristics assume that the encoder is installed within the allowable ranges of error and operated under the recommended operating conditions. Each characteristic value indicates the worst value within one rotation of the code wheel.

Item	Symbol	TYP.*	Max.
Pulse-width error	ΔP	7°e	45°e
Logic-width error	ΔS	5°e	45°e
Phase error	Δϕ	2°e	20°e
Position error	Δθ	10 arc min.	40 arc min.
Cycle error	ΔC	3°e	5.5°e

* TYP values are based on Vcc = 5.0 V and TA = 77°F (25°C).

Encoder Electrical Interface

We recommend that the CH.A and CH.B outputs be pulled up with a resistance of 2.7 kΩ (±10%) in order to shorten the rise time of the output pulse. Install the pull-up resistor near the encoder [within 6.6 feet (1m)].



Pull-up of Encoder Output

Applicable Connectors

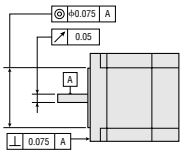
Manufacturer	Model Numbers
AMP®	103686-4
	640442-5
DUPONT®	65039-032 (housing)
	4825X-000 (contact)
Agilent Technologies®	HEDS-8902 (for 2 channels: 4 lead wires)
MOLEX®	2695 series (housing)
	2759 series (contact)

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General Specifications

Item	Specifications
Shaft Runout	0.002 inch (0.05 mm) T.I.R at top of output shaft *1
Perpendicularity	0.003 inch (0.075 mm) T.I.R *1
Concentrictly	0.003 inch (0.075 mm) T.I.R *1
Shaft Radial Play *2	0.001 inch (0.025 mm) max. of 1.12 lb. (5 N)
Shaft Axial Play *3	0.003 inch (0.075 mm) max. of 2.2 lb. (10 N)
Step Accuracy *4	**PK** Series: ±3 arc min. (±0.05°) **PV** Series: ±2 arc min. (±0.034°)
Insulation Resistance	100 MΩ minimum under normal temperature and humidity, when measured by a 500 VDC megger between the motor coils and the motor casing.
Dielectric Strength *5	Sufficient to withstand 1.0 kV, 60 Hz applied between the motor coils and casing for one minute, under normal ambient temperature and humidity.
Insulation Class	Class B [266°F (130°C)]
Temperature Rise	Temperature rise of the coil measured by the Change Resistance Method is 144°F (80°F) or less. (at standstill, two phases energized)
Ambient Temperature Range	14°F (−10°C)~122°F (+50°C)

*1 T.I.R. (Total Indicator Reading): Refers to the total dial gauge reading when the measurement section is rotated one revolution centered on the reference axis center.
*2 Radial Play: Refers to the displacement in shaft position in the radial direction, when a 1.12 lb. (5 N) load is applied in the radial direction to the motor shaft tip.
*3 Axial Play: Refers to the displacement in shaft position in the axial direction, when a 2.2 lb. (10 N) load is applied to the motor shaft in the axial direction.
*4 This value is for full step with no load. (The value changes with size of load.)
*5 For motors with a frame size of 1.65 inch sq. (42 mm sq.) or less, 60 Hz, 0.5 kV for 1 minute.



Permissible Overhung Load and Permissible Thrust Load

Unit = Upper values: lb./Lower values: N

Type	Model	Overhung Load Distance from Shaft End [inch (mm)] 0	0.2 (5)	0.39 (10)	0.59 (15)	0.79 (20)	Thrust Load
PK Series Standard **P** Type (High Torque)	**PK223P** **PK224P** **PK225P**	5.6 25	7.6 34	11.7 52	—	—	The permissible thrust load [lb. (N)] shall be no greater than the motor mass.
	PK233P, PK235P	4.5 20	5.6 25	7.6 34	11.7 52	—	
	PK244P, PK246P	4.5 20	5.6 25	7.6 34	11.7 52	—	
PK Series Standard Type	**PK243** **PK244** **PK245**	4.5 20	5.6 25	7.6 34	11.7 52	—	
	PK264 **PK264-AR11** **PK264-AR12** **PK266** **PK266-AR11** **PK266-AR12** **PK268**	12.1 54	15 67	20 89	29 130	—	
	PK296 **PK299** **PK2913**	58 260	65 290	76 340	87 390	108 480	
PV Series	**PV264, PV266** **PV267, PV269**	11.2 50	13.5 60	16.8 75	22 100	33 150	
PK Series High Resolution Type	**PK243M** **PK244M** **PK245M**	4.5 20	5.6 25	7.6 34	11.7 52	—	
	PK264M **PK264M-AR11** **PK264M-AR12** **PK266M** **PK266M-AR11** **PK266M-AR12** **PK268M**	12.1 54	15 67	20 89	29 130	—	
PK Series **SH** Geared Type	**PK223-SG□**	3.3 15	3.8 17	4.5 20	5.1 23	—	2.2 10
	PK243-SG□	2.2 10	3.3 15	4.5 20	6.7 30	—	3.3 15
	PK264-SG3.6 **PK264-SG7.2** **PK264-SG9** **PK264-SG10**	6.7 30	9 40	11.2 50	13.5 60	15.7 70	6.7 30
	PK264-SG18 **PK264-SG36** **PK264-SG50** **PK264-SG100**	18 80	22 100	27 120	31 140	36 160	
	PK296-SG□	49 220	56 250	67 300	78 350	90 400	22 100

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