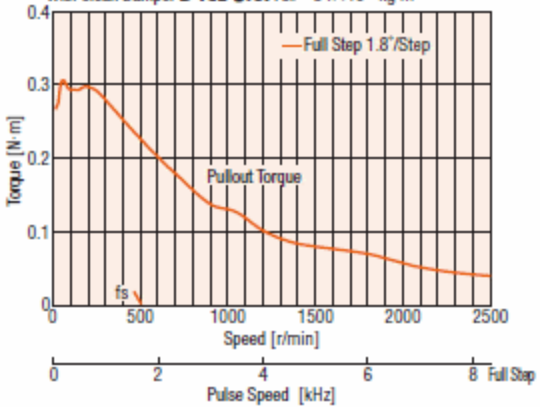
Speed – Torque Characteristics

PK245-02A/PK245-02B

Constant Current Driver Power Supply Voltage: 24 VDC
Current: 0.8 A/Phase (At 2-phase excitation)
With Clean Damper **D4CL-5.0F**: $J_L = 34 \times 10^{-7}$ kg·m²



Notes

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

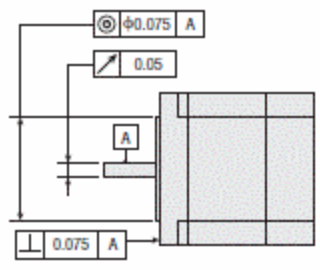
General Specifications

Specifications		Motor
Insulation Class		Class B (130°C) [Standard Type with Terminal Box: These Motors are recognized as Class A (105°C) under UL and CSA Standards.]
Insulation Resistance		The measured value is 100 MΩ min. when a 500 VDC megger is applied between the windings and the case under normal ambient temperature and humidity.
Dielectric Strength		No abnormality is judged even with application of 1.0 kVAC at 50 Hz or 60 Hz between the windings and the case for 1 minute under normal ambient temperature and humidity. (0.5 kV for models with a frame size of 42 mm or smaller, 1.5 kV for models with a standard type with terminal box and for **PK29□D**)
Operating Environment (In operation)	Ambient Temperature	−10～+50°C (non-freezing)
	Ambient Humidity	85% max. (non-condensing)
	Atmosphere	Use in an area without corrosive gases or dust. The product should not be directly exposed to water, oil or other liquids. (Standard Type with Terminal Box: No corrosive gases and no direct exposure to oil)
Temperature Rise		・Unipolar Temperature rise of windings is 80°C max. measured by the resistance change method (at rated voltage, at standstill, 2-phase excitation). ・Bipolar Temperature rise of windings is 80°C max. measured by the resistance change method (at rated current, at standstill, 2-phase excitation). [The following motors are with aluminum heat radiation plates. **PK22□PD**, **PK23□PD**, **PK24□D** : 115×115×5 mm **PK24□PD** : 175×175×5 mm **PK26□D** : 250×250×10 mm] ✻**PK26□JD** is the same as the unipolar specification.
Stop Position Accuracy✻1		±3 arc minutes (±0.05°) [**PK26□J**, **PK26□JD**: ±2 arc minutes (±0.034°)]
Shaft Runout		0.05 T. I. R. (mm)✻4
Radial Play✻2		0.025 mm max. (Load 5 N)
Axial Play✻3		0.075 mm max. (Load 10 N)
Concentricity		0.075 T. I. R. (mm)✻4
Perpendicularity		0.075 T. I. R. (mm)✻4

✻1 This value is for full step under no load. (The value changes with the size of the load).
✻2 Radial Play: Displacement in shaft position in the radial direction when 5 N load is applied in the vertical direction to the tip of the motor's shaft.
✻3 Axial Play: Displacement in shaft position in the axial direction when a 10 N load is applied to the motor's shaft in the axial direction.
✻4 T. I. R. (Total Indicator Reading): The total dial gauge reading when the measurement section is rotated one revolution centered on the reference axis center.

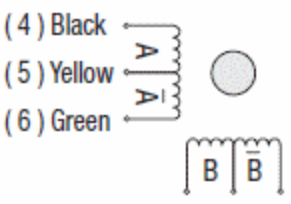
Note

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

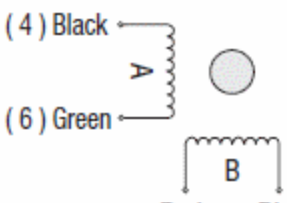


Inner Wiring Diagrams for Motor

Unipolar 6 Lead Wires

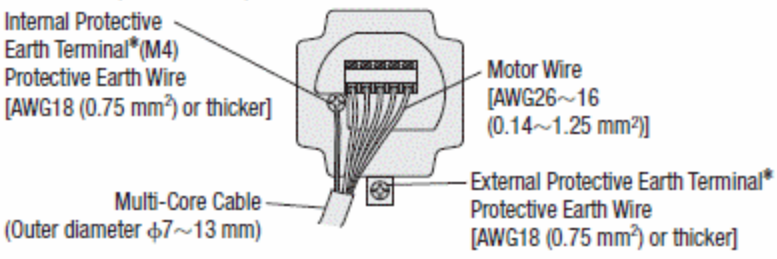


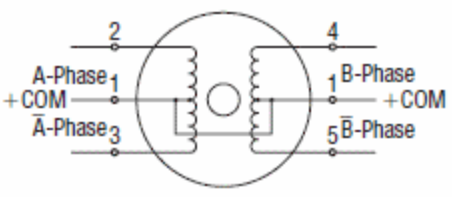
Bipolar 4 Lead Wires



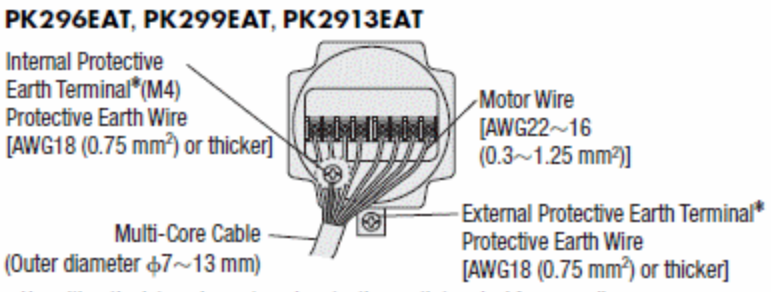
Standard Type with Terminal Box

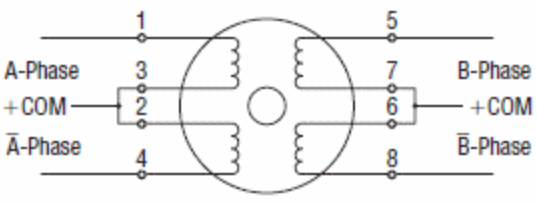
PK264AT, PK266AT, PK268AT





PK296EAT, PK299EAT, PK2913EAT





✻Use either the internal or external protective earth terminal for grounding.

Permissible Overhung Load and Permissible Thrust Load

Unit = N

Type	Product Name	Gear Ratio	Permissible Overhung Load Distance from Shaft End mm 0	5	10	15	20	Permissible Thrust Load
High-Torque, High-Efficiency Type	**PKE243□, PKE243D□** **PKE244□, PKE244D□** **PKE245□, PKE245D□**		20	25	34	52	–	
High-Torque Type	**PK223P□, PK223PD□** **PK224P□, PK224PD□** **PK225P□, PK225PD□**		25	34	52	–	–	
	PK233P□, PK233PD□ **PK235P□, PK235PD□**		20	25	34	52	–	
	PK244P□, PK244PD□ **PK246P□, PK246PD□**		20	25	34	52	–	
	PK264P□, PK264PD□ **PK266P□, PK266PD□** **PK268P□, PK268PD□**		61	73	90	110	160	
	PK264J□, PK264JD□ **PK266J□, PK266JD□** **PK267J□, PK267JD□** **PK269J□, PK269JD□**		50	60	75	100	150	
Standard Type Standard Type with Terminal Box	**PK243-0■□, PK243D□** **PK244-0■□, PK244D□** **PK245-0■□, PK245D□**	–	20	25	34	52	–	Motor Self-Weight max.
	PK256-02□ **PK258-02□**		54	67	89	130	–	
	PK264-0■□ **PK266-0■□** **PK268-0■□** **PK264D14□** **PK266D14□** **PK268D14□** **PK264D28□** **PK266D28□** **PK268D28□** **PK264D□** **PK266D□** **PK268D□** **PK264AT** **PK266AT** **PK268AT**		54	67	89	130	–	
	PK296-0■□, PK296D□ **PK299-0■□, PK299D□** **PK2913-0■□, PK2913D□** **PK296EAT** **PK299EAT** **PK2913EAT**		260	290	340	390	480	
High-Resolution Type	**PK243M-0■□** **PK244M-0■□** **PK245M-0■□**		20	25	34	52	–	
	PK264M-0■□ **PK266M-0■□** **PK268M-0■□**		54	67	89	130	–	
SH Geared Type	**PK223P□-SG■**	**7.2, 9, 10, 18, 36**	15	17	20	23	–	10
	PK243□1-SG■	**3.6, 7.2, 9, 10, 18, 36, 50, 100**	10	15	20	30	–	15
	PK243□2-SG■	**3.6, 7.2, 9, 10, 18, 36**						
	PK264□1-SG■ **PK264□2-SG■**	**3.6, 7.2, 9, 10**	30	40	50	60	70	30
	PK264□1-SG■	**18, 36**	80	100	120	140	160	
	PK264□2-SG■	**18, 36, 50, 100**						
	PK296□1-SG■ **PK296□2-SG■**	**3.6, 7.2, 9, 10, 18, 36**	220	250	300	350	400	100

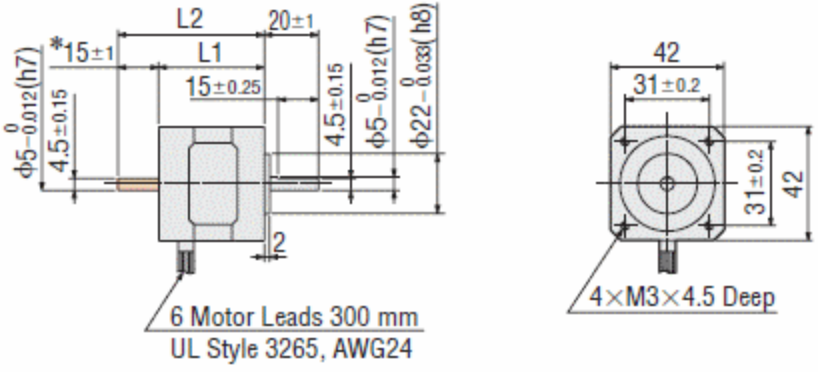
A or **B** indicating motor shaft type is entered where the box □ is located within the product name.
A number indicating the gear ratio is entered where the box ■ is located within the product name
1, **2**, **3**, or **4** indicating motor specification is entered where the box ■ is located within the product name.

Dimensions (Unit = mm)

□42 mm (Unipolar)

Product Name	L1	L2	Mass kg	CAD
PK243-0□A	33	–	0.21	B081
PK243-0□B		48		
PK244-0□A	39	–	0.27	B082
PK244-0□B		54		
PK245-0□A	47	–	0.35	B083
PK245-0□B		62		

● A number indicating the motor specification is entered where the box □ is located within the product name.



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