

High-Torque 2-Phase Stepper Motors

PKP Series

Standard Type with Encoder High-Resolution Type with Encoder

High-Torque 2-Phase Stepper Motors - A new encoder motor addition to the **PKP** Series. Encoder motors contribute to the improvement of equipment reliability.

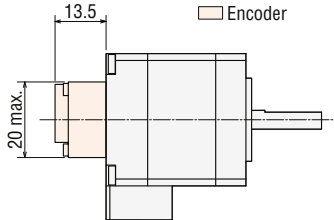


Features

● **Motor Position Information Detection is Possible**
Using an encoder motor makes it possible to monitor current position and detect positional errors. For example, normal operation of the motor can be confirmed by comparing the current position and the command position.

● **Small Encoder**
Comes with a small encoder that is suitable for compact equipment.

● Frame size of 35 mm



● **High Reliability Thanks to Line Driver Output**
Line driver output is employed for the output circuit. Anti-noise capability is excellent thanks to a differential output, making it possible to dramatically increase the wiring distance compared to voltage output.

- Main encoder specifications
 - Output circuit type: Line driver output
 - Resolution: 200 P/R (standard type), 400 P/R (high-resolution type)
 - Output signal: A-phase, B-phase, Z-phase (3ch)

Product Lineup

●: Models available
—: No models available

Type	Wiring	Frame Size			
		20 mm	35 mm	42 mm	56.4 mm
Standard Type Basic step angle: 1.8° Encoder resolution: 200 P/R	Unipolar	●	●	●	●
	Bipolar	●	●	●	●
High-Resolution Type Basic step angle: 0.9° Encoder resolution: 400 P/R	Unipolar	—	—	●	●
	Bipolar	—	—	●	●

Product Number Code

PKP 2 4 3 M D 15 A - R2F L - L

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪

①	Series	PKP: PKP Series
②	2: 2-Phase	
③	Motor Frame Size	1: 20 mm 3: 35 mm 4: 42 mm 6: 56.4 mm
④	Motor Case Length	
⑤	Motor Type	Blank: Standard type M: High-resolution type
⑥	Number of Lead Wires	D: 4 U: 5 or 6
⑦	Winding Specification	
⑧	Motor Shaft Configuration	A: Single shaft
⑨	Encoder Resolution	R2E: 200 P/R R2F: 400 P/R
⑩	Encoder Output Circuit Type	L: Line driver output*
⑪	Connection Cable	

*There are also voltage output types for the encoder output circuit. For details, please contact the nearest Oriental Motor sales office.

Product Line and Prices

Standard Type with Encoder

◇ Unipolar (5 or 6 lead wires)

Product Name
PKP213U05A-R2EL-L
PKP214U06A-R2EL-L
PKP233U12A-R2EL-L
PKP235U12A-R2EL-L
PKP243U09A-R2EL-L
PKP244U12A-R2EL-L
PKP245U12A-R2EL-L
PKP246U12A-R2EL-L
PKP264U20A-R2EL-L
PKP266U20A-R2EL-L
PKP268U20A-R2EL-L

◇ Bipolar (4 lead wires)

Product Name
PKP213D05A-R2EL-L
PKP214D06A-R2EL-L
PKP233D15A-R2EL-L
PKP235D15A-R2EL-L
PKP243D15A-R2EL-L
PKP244D15A-R2EL-L
PKP245D15A-R2EL-L
PKP246D15A-R2EL-L
PKP264D28A-R2EL-L
PKP266D28A-R2EL-L
PKP268D28A-R2EL-L

High-Resolution Type with Encoder

◇ Unipolar (6 lead wires)

Product Name
PKP243MU09A-R2FL-L
PKP244MU12A-R2FL-L
PKP264MU20A-R2FL-L
PKP266MU20A-R2FL-L
PKP268MU20A-R2FL-L

◇ Bipolar (4 lead wires)

Product Name
PKP243MD15A-R2FL-L
PKP244MD15A-R2FL-L
PKP264MD28A-R2FL-L
PKP266MD28A-R2FL-L
PKP268MD28A-R2FL-L

Products include the following.

Motor, Motor Connection Cable*, Encoder Connection Cable,
Operating Manual

*Excluding frame size of 20 mm.

Standard Type with Encoder Frame Size 20 mm (Unipolar 5 lead wires)

Specifications RoHS

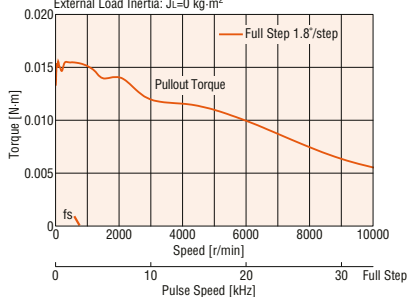
Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP213U05A-R2EL-L	0.014	1.66×10^{-7}	0.5	4.25	8.5	1.8°
PKP214U06A-R2EL-L	0.026	2.96×10^{-7}	0.6	4.2	7	

● A 0.6 m encoder connection cable is included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

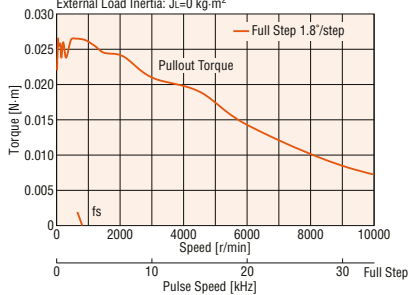
PKP213U05A-R2EL-L

Constant Current Driver Power Supply Voltage: 24 VDC
Current: 0.5 A/Phase (At 2-phase excitation)
External Load Inertia: J_L=0 kg·m²



PKP214U06A-R2EL-L

Constant Current Driver Power Supply Voltage: 24 VDC
Current: 0.6 A/Phase (At 2-phase excitation)
External Load Inertia: J_L=0 kg·m²



Note

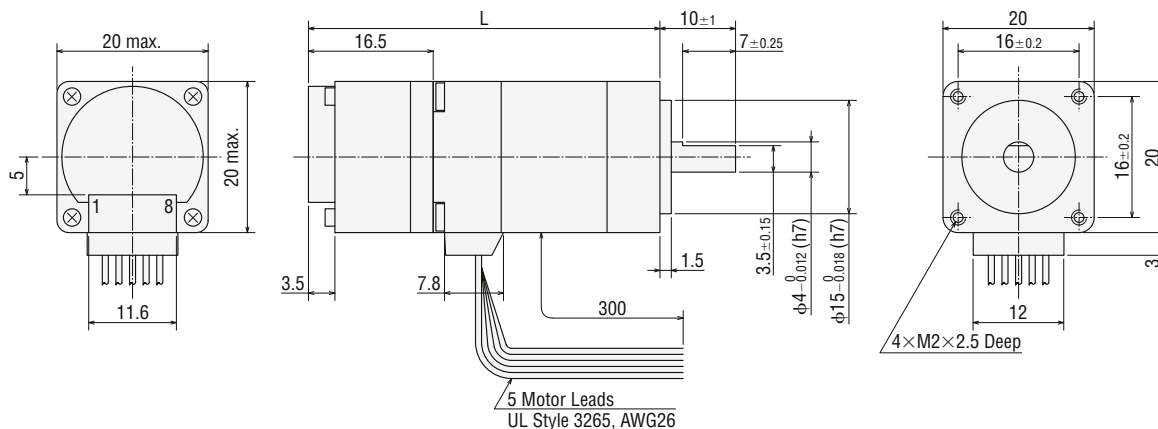
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP213U05A-R2EL-L	PKP213U05A-R2EL	46.5	0.06
PKP214U06A-R2EL-L	PKP214U06A-R2EL	56.5	0.08

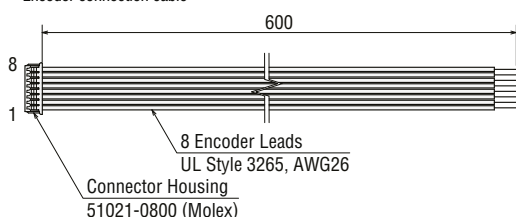
● Applicable Connector (Molex)

	Encoder
Connector Housing	51021-0800
Contact	50079-8100
Crimp Tool	57067-3000



● Included

Encoder connection cable



Standard Type with Encoder Frame Size 20 mm (Bipolar 4 lead wires)

Specifications RoHS

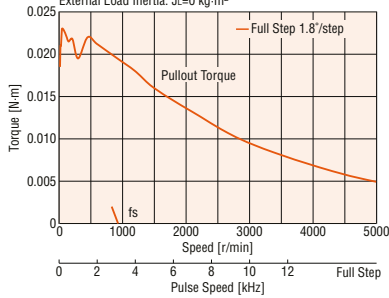
Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP213D05A-R2EL-L	0.02	1.66×10^{-7}	0.5	4.25	8.5	1.8°
PKP214D06A-R2EL-L	0.036	2.96×10^{-7}	0.6	3.9	6.5	

● A 0.6 m encoder connection cable is included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

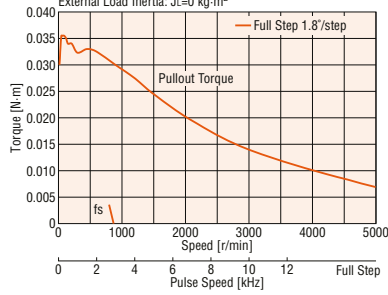
PKP213D05A-R2EL-L

Constant Current Driver Power Supply Voltage: 24 VDC
Current: 0.5 A/Phase (At 2-phase excitation)
External Load Inertia: $J_L=0$ kg·m²



PKP214D06A-R2EL-L

Constant Current Driver Power Supply Voltage: 24 VDC
Current: 0.6 A/Phase (At 2-phase excitation)
External Load Inertia: $J_L=0$ kg·m²



Note

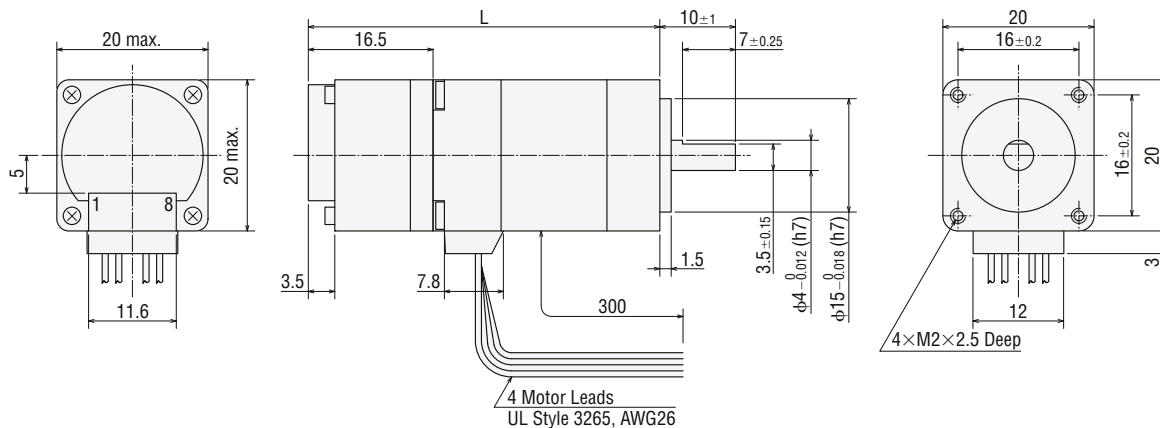
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP213D05A-R2EL-L	PKP213D05A-R2EL	46.5	0.06
PKP214D06A-R2EL-L	PKP214D06A-R2EL	56.5	0.08

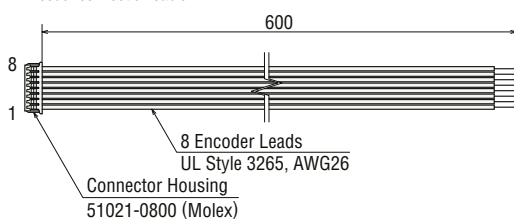
● Applicable Connector (Molex)

	Encoder
Connector Housing	51021-0800
Contact	50079-8100
Crimp Tool	57067-3000



● Included

Encoder connection cable



Standard Type with Encoder Frame Size 35 mm (Unipolar 6 lead wires)

Specifications RoHS

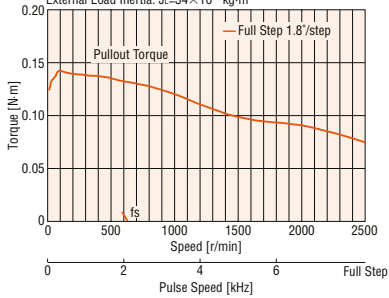
Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP233U12A-R2EL-L	0.16	24×10^{-7}	1.2	3.24	2.7	1.8°
PKP235U12A-R2EL-L	0.3	50×10^{-7}		4.08	3.4	

● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

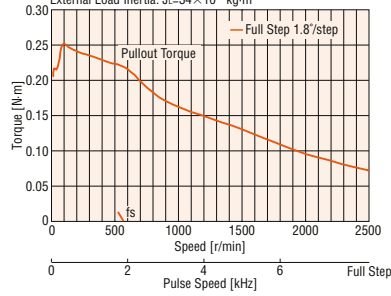
PKP233U12A-R2EL-L

Constant Current Driver Power Supply Voltage: 24 VDC
Current: 1.2 A/Phase (At 2-phase excitation)
External Load Inertia: $J_L = 34 \times 10^{-7}$ kg·m²



PKP235U12A-R2EL-L

Constant Current Driver Power Supply Voltage: 24 VDC
Current: 1.2 A/Phase (At 2-phase excitation)
External Load Inertia: $J_L = 34 \times 10^{-7}$ kg·m²



Note

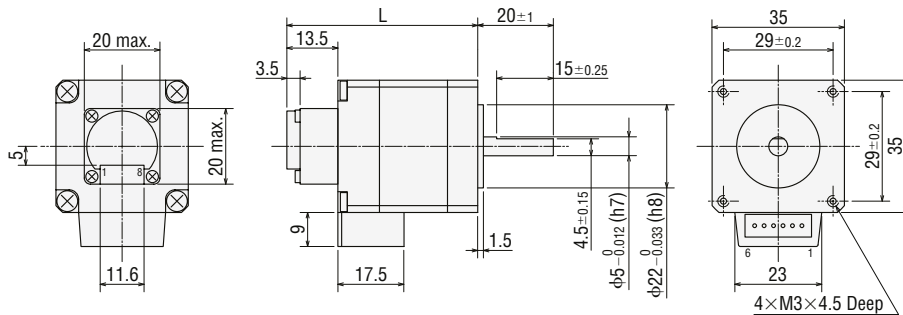
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP233U12A-R2EL-L	PKP233U12A-R2EL	50.5	0.19
PKP235U12A-R2EL-L	PKP235U12A-R2EL	65.5	0.295

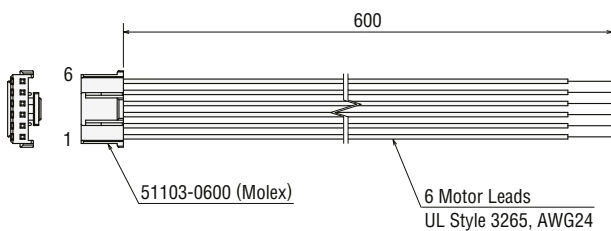
● Applicable Connector (Molex)

	Motor	Encoder
Connector Housing	51103-0600	51021-0800
Contact	50351-8100	50079-8100
Crimp Tool	57295-5000	57067-3000



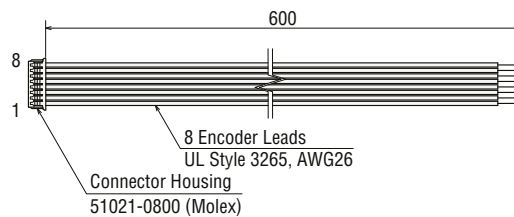
● Included

Motor connection cable
Product Name: **LC2U06B**



● Included

Encoder connection cable



Standard Type with Encoder Frame Size 35 mm (Bipolar 4 lead wires)

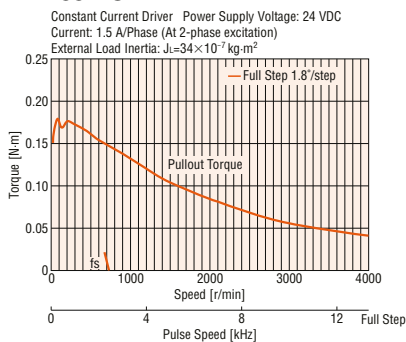
Specifications RoHS

Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP233D15A-R2EL-L	0.2	24×10^{-7}	1.5	2.43	1.62	1.8°
PKP235D15A-R2EL-L	0.37	50×10^{-7}		3.6	2.4	

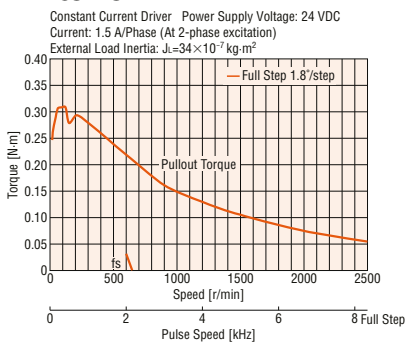
● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

PKP233D15A-R2EL-L



PKP235D15A-R2EL-L



Note

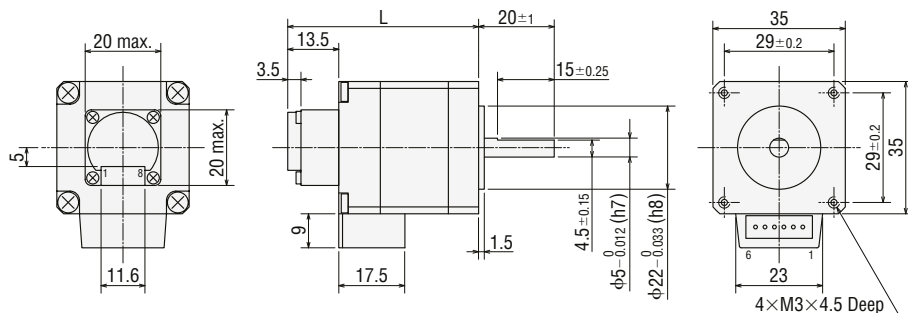
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP233D15A-R2EL-L	PKP233D15A-R2EL	50.5	0.19
PKP235D15A-R2EL-L	PKP235D15A-R2EL	65.5	0.295

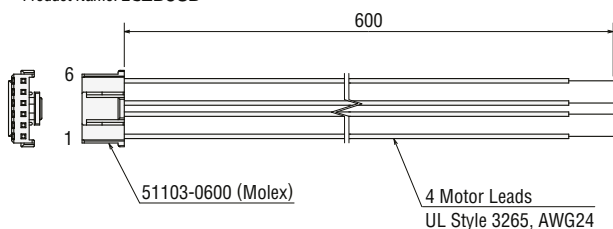
● Applicable Connector (Molex)

	Motor	Encoder
Connector Housing	51103-0600	51021-0800
Contact	50351-8100	50079-8100
Crimp Tool	57295-5000	57067-3000



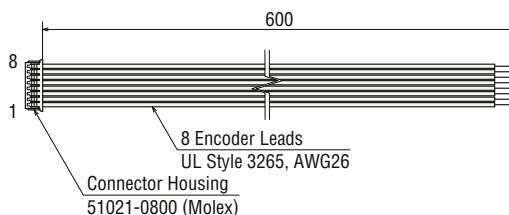
● Included

Motor connection cable
Product Name: **LC2B06B**



● Included

Encoder connection cable



Standard Type with Encoder Frame Size 42 mm (Unipolar 6 lead wires)

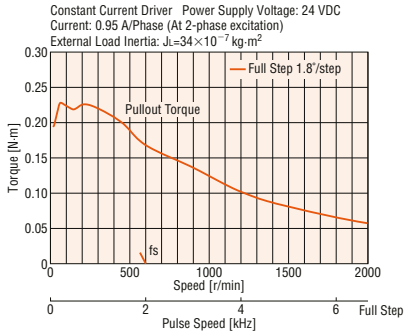
Specifications RoHS

Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP243U09A-R2EL-L	0.25	36×10^{-7}	0.95	4.47	4.7	1.8°
PKP244U12A-R2EL-L	0.39	57×10^{-7}	1.2	4.8	4	
PKP245U12A-R2EL-L	0.45	83×10^{-7}	1.2	4.56	3.8	
PKP246U12A-R2EL-L	0.75	114×10^{-7}	1.2	7.2	6	

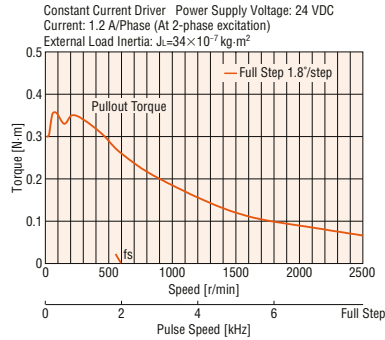
● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

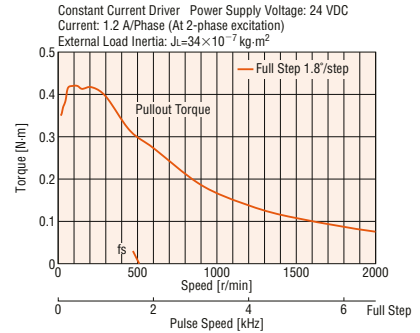
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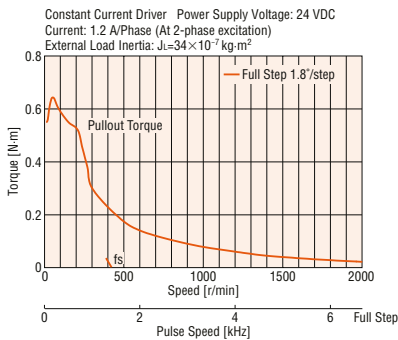
PKP244U12A-R2EL-L



PKP245U12A-R2EL-L



PKP246U12A-R2EL-L



Note

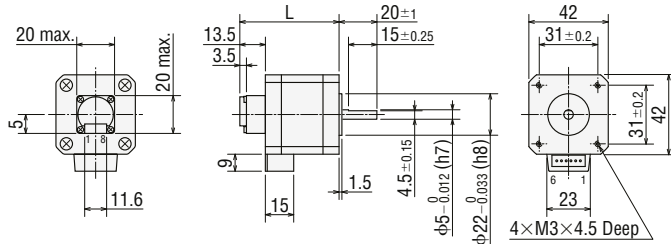
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP243U09A-R2EL-L	PKP243U09A-R2EL	46.5	0.26
PKP244U12A-R2EL-L	PKP244U12A-R2EL	52.5	0.31
PKP245U12A-R2EL-L	PKP245U12A-R2EL	60.5	0.40
PKP246U12A-R2EL-L	PKP246U12A-R2EL	72.5	0.51

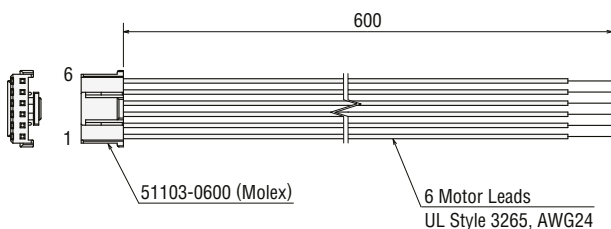
● Applicable Connector (Molex)

	Motor	Encoder
Connector Housing	51103-0600	51021-0800
Contact	50351-8100	50079-8100
Crimp Tool	57295-5000	57067-3000



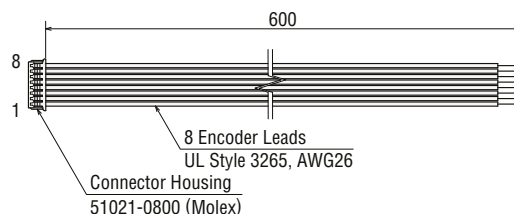
● Included

Motor connection cable
Product Name: **LC2U06B**



● Included

Encoder connection cable



Standard Type with Encoder Frame Size 42 mm (Bipolar 4 lead wires)

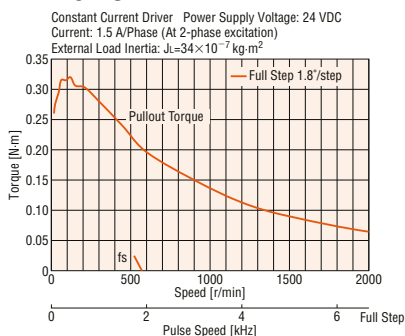
Specifications RoHS

Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP243D15A-R2EL-L	0.35	36×10^{-7}	1.5	2.85	1.9	1.8°
PKP244D15A-R2EL-L	0.48	57×10^{-7}		3.9	2.6	
PKP245D15A-R2EL-L	0.58	83×10^{-7}		3.6	2.4	
PKP246D15A-R2EL-L	0.93	114×10^{-7}		5.8	3.87	

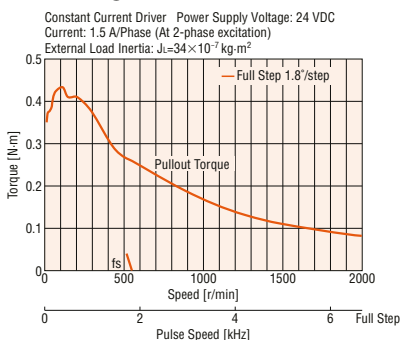
● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

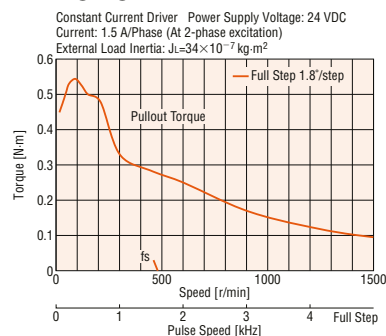
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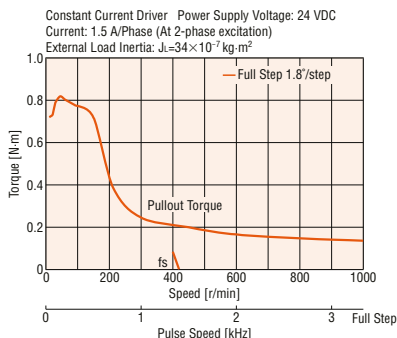
PKP244D15A-R2EL-L



PKP245D15A-R2EL-L



PKP246D15A-R2EL-L



Note

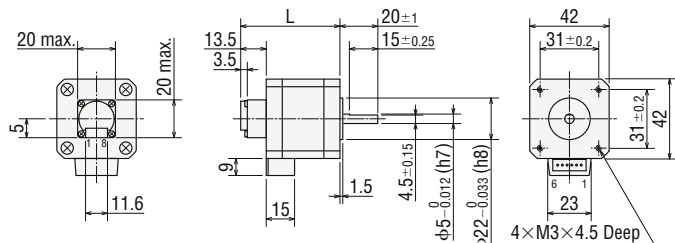
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP243D15A-R2EL-L	PKP243D15A-R2EL	46.5	0.26
PKP244D15A-R2EL-L	PKP244D15A-R2EL	52.5	0.31
PKP245D15A-R2EL-L	PKP245D15A-R2EL	60.5	0.40
PKP246D15A-R2EL-L	PKP246D15A-R2EL	72.5	0.51

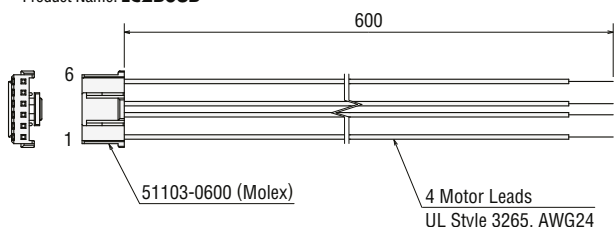
● Applicable Connector (Molex)

	Motor	Encoder
Connector Housing	51103-0600	51021-0800
Contact	50351-8100	50079-8100
Crimp Tool	57295-5000	57067-3000



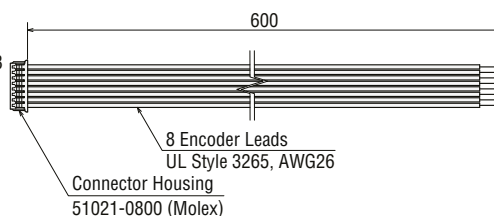
● Included

Motor connection cable
Product Name: **LC2B06B**



● Included

Encoder connection cable



Standard Type with Encoder Frame Size 56.4 mm (Unipolar 6 lead wires)

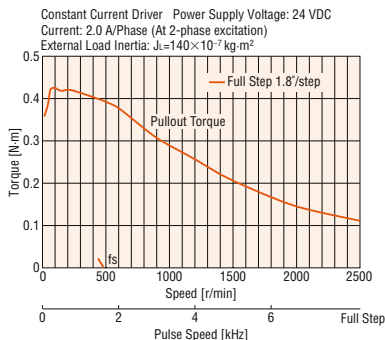
Specifications RoHS

Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP264U20A-R2EL-L	0.51	120×10^{-7}	2	2.9	1.45	1.8°
PKP266U20A-R2EL-L	1.1	290×10^{-7}	2	4	2	
PKP268U20A-R2EL-L	1.75	490×10^{-7}	2	4.9	2.45	

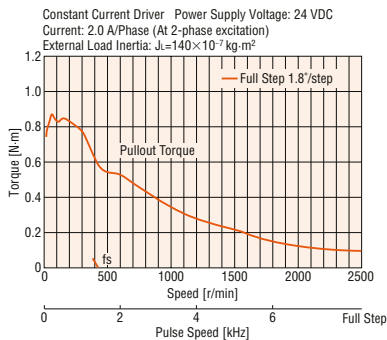
● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

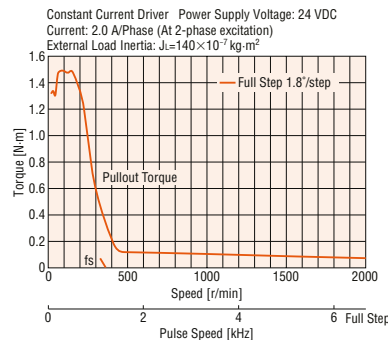
PKP264U20A-R2EL-L



PKP266U20A-R2EL-L



PKP268U20A-R2EL-L



Note

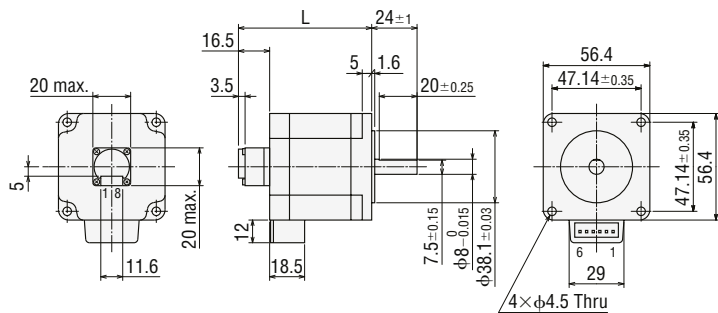
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP264U20A-R2EL-L	PKP264U20A-R2EL	55.5	0.47
PKP266U20A-R2EL-L	PKP266U20A-R2EL	70.5	0.74
PKP268U20A-R2EL-L	PKP268U20A-R2EL	92.5	1.11

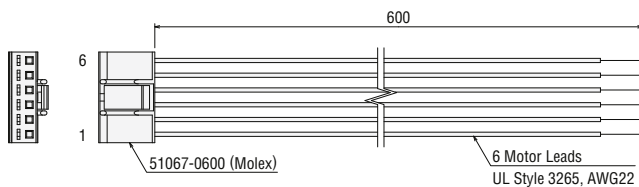
● Applicable Connector (Molex)

	Motor	Encoder
Connector Housing	51067-0600	51021-0800
Contact	50217-9101	50079-8100
Crimp Tool	57189-5000 57190-5000	57067-3000



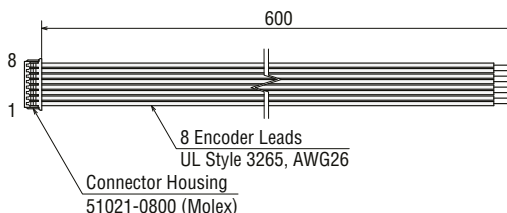
● Included

Motor connection cable
Product Name: **LC2U06C**



● Included

Encoder connection cable



Standard Type with Encoder Frame Size 56.4 mm (Bipolar 4 lead wires)

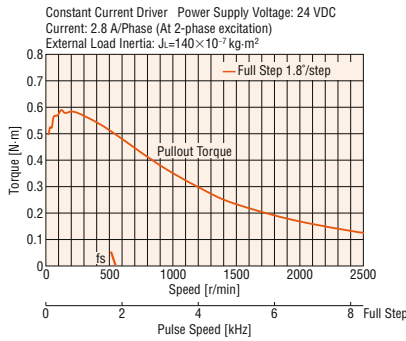
Specifications RoHS

Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP264D28A-R2EL-L	0.6	120×10^{-7}	2.8	2	0.73	1.8°
PKP266D28A-R2EL-L	1.4	290×10^{-7}		2.8	1	
PKP268D28A-R2EL-L	2.3	490×10^{-7}		3.4	1.23	

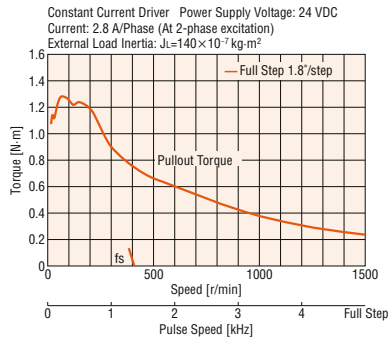
● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

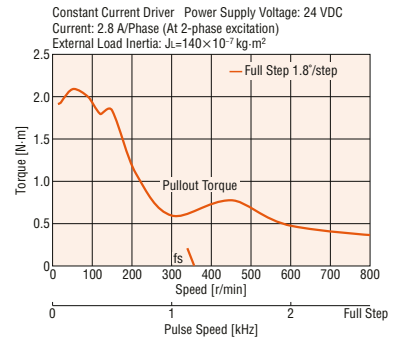
PKP264D28A-R2EL-L



PKP266D28A-R2EL-L



PKP268D28A-R2EL-L



Note

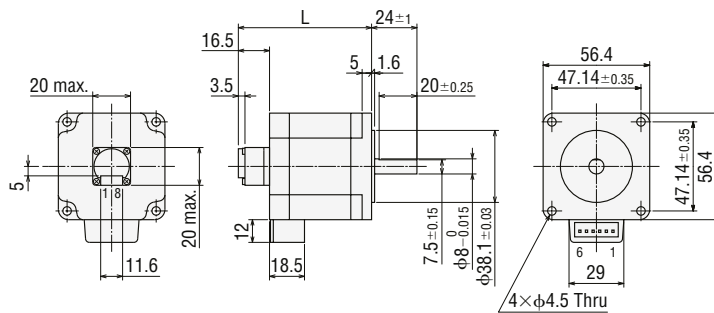
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP264D28A-R2EL-L	PKP264D28A-R2EL	55.5	0.47
PKP266D28A-R2EL-L	PKP266D28A-R2EL	70.5	0.74
PKP268D28A-R2EL-L	PKP268D28A-R2EL	92.5	1.11

● Applicable Connector (Molex)

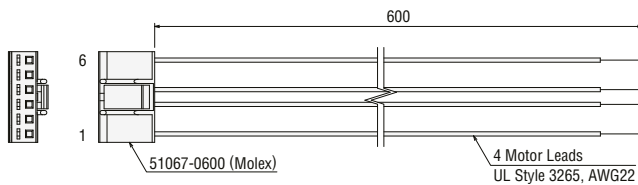
	Motor	Encoder
Connector Housing	51067-0600	51021-0800
Contact	50217-9101	50079-8100
Crimp Tool	57189-5000 57190-5000	57067-3000



● Included

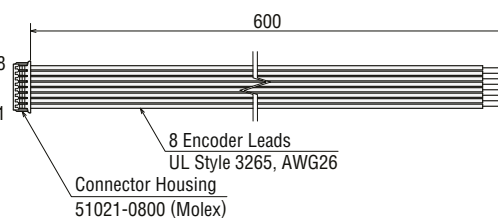
Motor connection cable

Product Name: **LC2B06C**



● Included

Encoder connection cable



High-Resolution Type with Encoder Frame Size 42 mm (Unipolar 6 lead wires)

Specifications RoHS

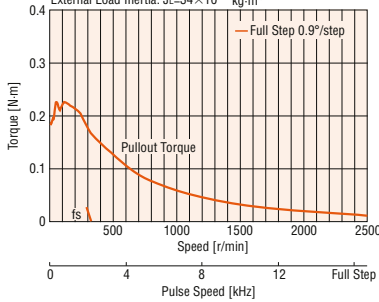
Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP243MU09A-R2FL-L	0.25	36×10^{-7}	0.95	4.47	4.7	0.9°
PKP244MU12A-R2FL-L	0.35	57×10^{-7}	1.2	4.8	4	

● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

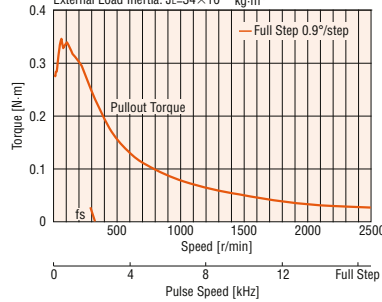
PKP243MU09A-R2FL-L

Unipolar Constant Current Driver Power Supply Voltage: 24 VDC
Current: 0.95 A/Phase (At 2-phase excitation)
External Load Inertia: $J_L = 34 \times 10^{-7}$ kg·m²



PKP244MU12A-R2FL-L

Unipolar Constant Current Driver Power Supply Voltage: 24 VDC
Current: 1.2 A/Phase (At 2-phase excitation)
External Load Inertia: $J_L = 34 \times 10^{-7}$ kg·m²



Note

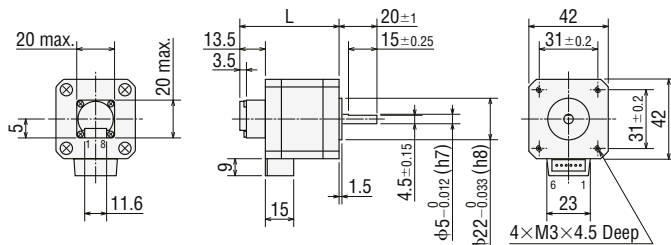
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP243MU09A-R2FL-L	PKP243MU09A-R2FL	46.5	0.26
PKP244MU12A-R2FL-L	PKP244MU12A-R2FL	52.5	0.31

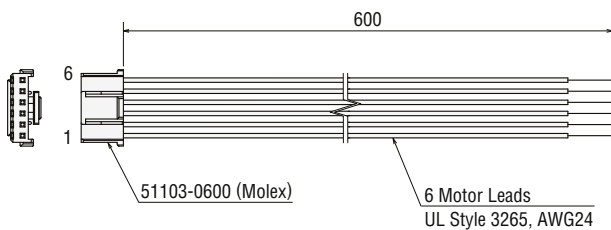
● Applicable Connector (Molex)

	Motor	Encoder
Connector Housing	51103-0600	51021-0800
Contact	50351-8100	50079-8100
Crimp Tool	57295-5000	57067-3000



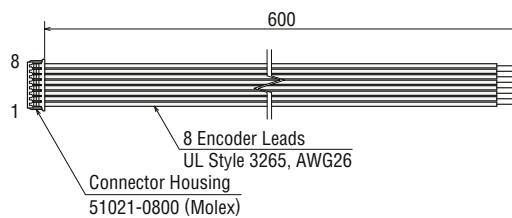
● Included

Motor connection cable
Product Name: **LC2U06B**



● Included

Encoder connection cable



High-Resolution Type with Encoder Frame Size 42 mm (Bipolar 4 lead wires)

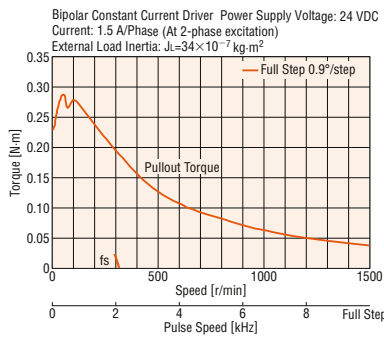
Specifications RoHS

Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP243MD15A-R2FL-L	0.30	36×10^{-7}	1.5	2.85	1.9	0.9°
PKP244MD15A-R2FL-L	0.42	57×10^{-7}		3.9	2.6	

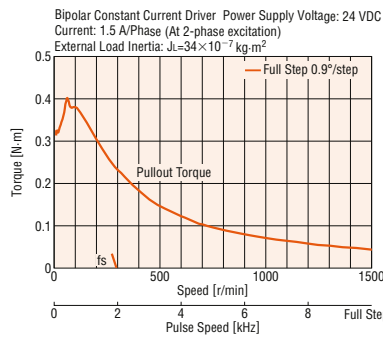
● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

PKP243MD15A-R2FL-L



PKP244MD15A-R2FL-L



Note

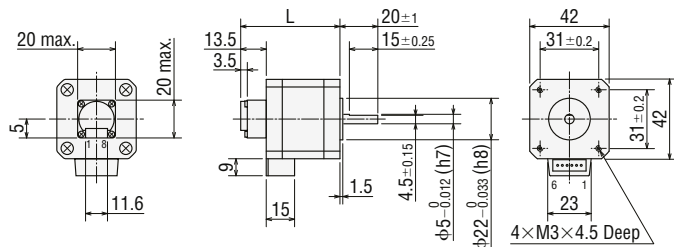
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP243MD15A-R2FL-L	PKP243MD15A-R2FL	46.5	0.26
PKP244MD15A-R2FL-L	PKP244MD15A-R2FL	52.5	0.31

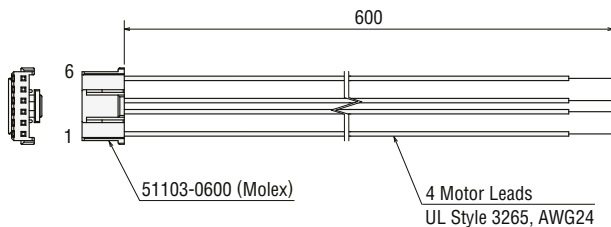
● Applicable Connector (Molex)

	Motor	Encoder
Connector Housing	51103-0600	51021-0800
Contact	50351-8100	50079-8100
Crimp Tool	57295-5000	57067-3000



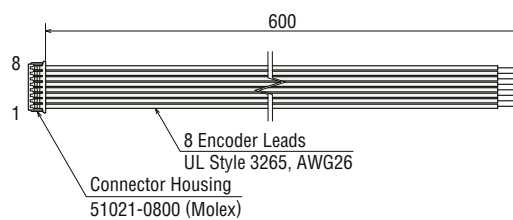
● Included

Motor connection cable
Product Name: **LC2B06B**



● Included

Encoder connection cable



High-Resolution Type with Encoder Frame Size 56.4 mm (Unipolar 6 lead wires)

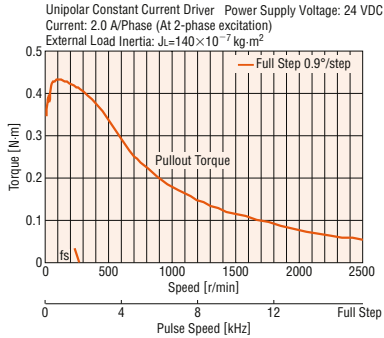
Specifications RoHS

Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP264MU20A-R2FL-L	0.51	120×10^{-7}	2	2.9	1.45	0.9°
PKP266MU20A-R2FL-L	1.1	290×10^{-7}		4	2	
PKP268MU20A-R2FL-L	1.75	490×10^{-7}		4.9	2.45	

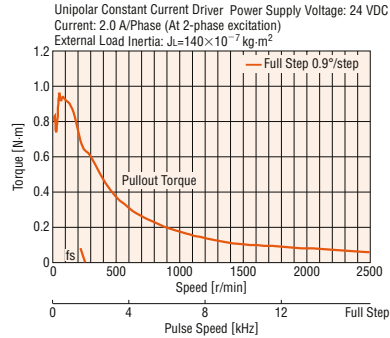
● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

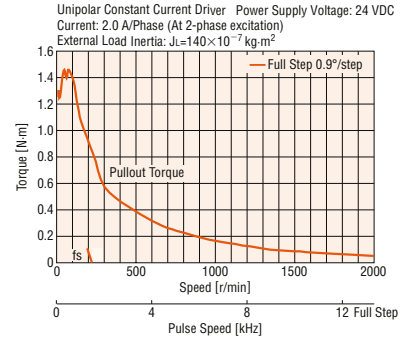
PKP264MU20A-R2FL-L



PKP266MU20A-R2FL-L



PKP268MU20A-R2FL-L



Note

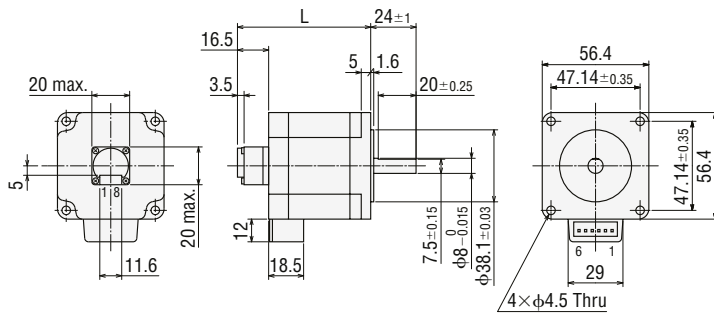
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP264MU20A-R2FL-L	PKP264MU20A-R2FL	55.5	0.47
PKP266MU20A-R2FL-L	PKP266MU20A-R2FL	70.5	0.74
PKP268MU20A-R2FL-L	PKP268MU20A-R2FL	92.5	1.11

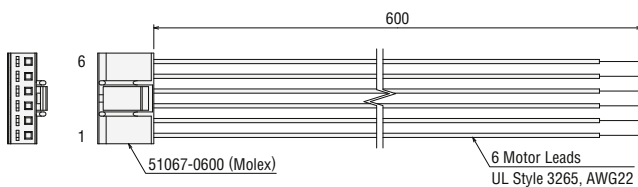
● Applicable Connector (Molex)

	Motor	Encoder
Connector Housing	51067-0600	51021-0800
Contact	50217-9101	50079-8100
Crimp Tool	57189-5000 57190-5000	57067-3000



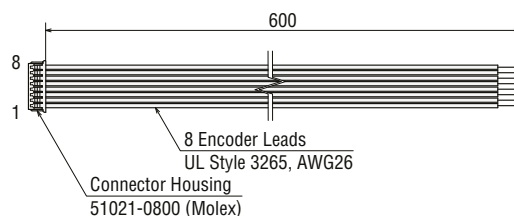
● Included

Motor connection cable
Product Name: **LC2U06C**



● Included

Encoder connection cable



High-Resolution Type with Encoder Frame Size 56.4 mm (Bipolar 4 lead wires)

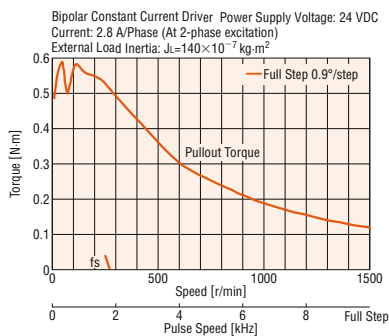
Specifications RoHS

Product Name	Max. Holding Torque N·m	Rotor Inertia Moment J: kg·m ²	Rated Current A/Phase	Voltage V	Winding Resistance Ω/Phase	Basic Step Angle
PKP264MD28A-R2FL-L	0.6	120×10^{-7}	2.8	2	0.73	0.9°
PKP266MD28A-R2FL-L	1.32	290×10^{-7}		2.8	1	
PKP268MD28A-R2FL-L	2.23	490×10^{-7}		3.4	1.23	

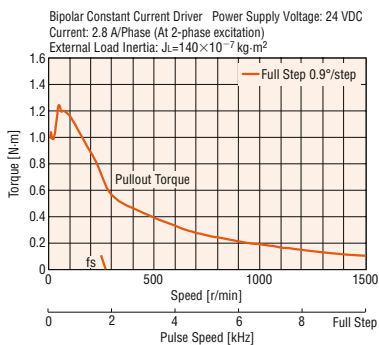
● A 0.6 m motor connection cable and 0.6 m encoder connection cable are included with these products.

Speed – Torque Characteristics fs: Max. starting frequency

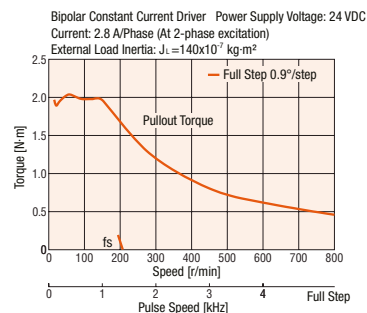
PKP264MD28A-R2FL-L



PKP266MD28A-R2FL-L



PKP268MD28A-R2FL-L



Note

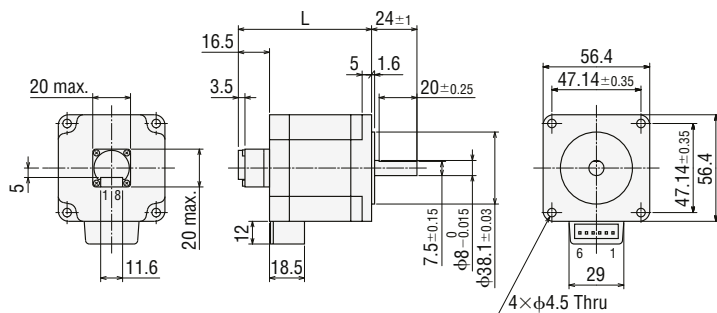
● Depending on the driving conditions, a considerable amount of heat may be generated by the motor. Please keep the motor case temperature at a maximum of 85°C to protect the encoder.

Dimensions (Unit = mm)

Product Name	Motor Product Name	L	Mass kg
PKP264MD28A-R2FL-L	PKP264MD28A-R2FL	55.5	0.47
PKP266MD28A-R2FL-L	PKP266MD28A-R2FL	70.5	0.74
PKP268MD28A-R2FL-L	PKP268MD28A-R2FL	92.5	1.11

● Applicable Connector (Molex)

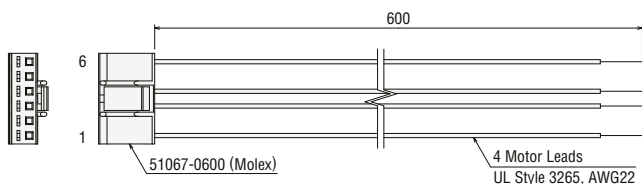
	Motor	Encoder
Connector Housing	51067-0600	51021-0800
Contact	50217-9101	50079-8100
Crimp Tool	57189-5000 57190-5000	57067-3000



● Included

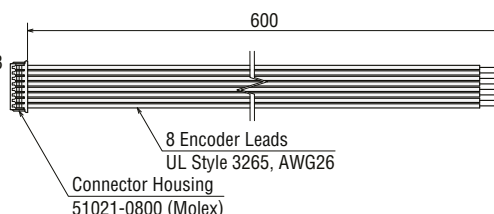
Motor connection cable

Product Name: **LC2B06C**



● Included

Encoder connection cable



General Specifications

Specifications		Motor
Heat-Resistant Class		130 (B)
Insulation Resistance		100 MΩ or higher 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 kVAC for models with a frame size of 42 mm)
Operating Environment (In operation)	Ambient Temperature	-10~+50°C (non-freezing)
	Ambient Humidity	85% max. (non-condensing)
	Atmosphere	No corrosive gases or dust. The product should not be exposed to water, oil or other liquids.
Temperature Rise		Winding temperature rise is 80°C max. (measured by the resistance change method) at the rated voltage, at standstill, and 2-phase excitation.
Stop Position Accuracy*1		±3 arc minutes (±0.05°) [±5 arc minutes (±0.083°) for PKP21 □]
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) [1 N load for PKP21 □]
Concentricity of Installing Pilot to the Shaft		0.075 T.I.R. (mm)*4
Perpendicularity of Installation Surface to the Shaft		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).

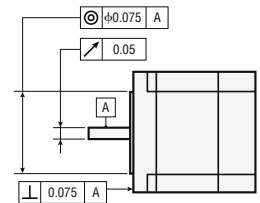
*2 Radial Play: Displacement in shaft position in the radial direction when a 5 N load is applied in the vertical direction to the tip of the motor shaft.

*3 Axial Play: Displacement in shaft position in the axial direction when a 10 N load is applied to the motor shaft in the axial direction (1 N for **PKP21**□).

*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.



Encoder Specifications

Encoder Name	R2EL	R2FL
Resolution	200 P/R	400 P/R
Output Circuit Type	Line Driver	
Output Type	Incremental	
Output Signal	A-phase, B-phase, Z-phase (3ch)	
Power Supply Voltage	5 VDC ± 10%	
Current	30 mA max.	

● There is also a voltage output type for the encoder output circuit.

For details, please contact the nearest Oriental Motor sales office.

Permissible Radial Load and Permissible Axial Load

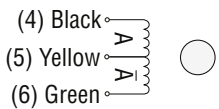
Unit = N

Type	Motor Frame Size	Product Name	Permissible Radial Load					Permissible Axial Load
			Distance from Shaft End mm					
			0	5	10	15	20	
Standard Type	20 mm	PKP213, PKP214	12	15	—	—	—	Motor Self-Weight max.
	35 mm	PKP233, PKP235	20	25	34	52	—	
	42 mm	PKP243, PKP244, PKP245, PKP246	20	25	34	52	—	
	56.4 mm	PKP264, PKP266, PKP268	61	73	90	110	160	
High-Resolution Type	42 mm	PKP243, PKP244	20	25	34	52	—	
	56.4 mm	PKP264, PKP266, PKP268	61	73	90	110	160	

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

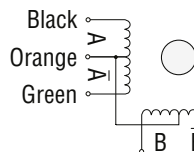
Inner Wiring Diagram for Motor

Unipolar 6 Lead Wires



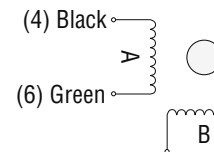
Red White Blue Color of Lead Wire
(3) (2) (1) Connector Terminal Number

Unipolar 5 Lead Wires



Red Blue Color of Lead Wire

Bipolar 4 Lead Wires



Red Blue Color of Lead Wire
(3) (1) Connector Terminal Number

Accessories (Sold separately)

There are handy accessories for installing and operating **PKP** series equipment. They have been evaluated in combination with Oriental Motor products, so they can be easily used with peace of mind.

Flexible Coupling

There are two types of coupling with high strength, high accuracy, vibration suppression, and other similar features that can be selected based on the type and application of the stepper motor.



MCV Coupling



MCS Coupling

Motor Mounting Bracket

A convenient bracket for mounting and securing a stepper motor.



For details, please visit our website or contact the Customer Information Center.

<http://www.orientalmotor.eu>



Safety Precautions

- Thoroughly read the operating manual before using a product so that it is used correctly.
- The products listed in this catalogue are for industrial use and built-in components. Do not use for any other application.

- The facilities that manufacture the products listed in this catalogue have obtained Quality Management System ISO9001 and Environmental Management System ISO14001 certification.
- The performance and specifications of the products listed in this catalogue are subject to change without notice for improvement purposes.
- The prices of all products listed in this catalogue do not include consumption tax, etc.
- For details about a product, please contact the nearest Oriental Motor sales office, the following Order Support Center, or the Customer Information Center.
- **Orientalmotor** is a registered trademark of Oriental Motor.

This product is manufactured at a plant certified with the international standards **ISO 9001** (for quality assurance) and **ISO 14001** (for systems of environmental management).

Specifications are subject to change without notice.

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Orientalmotor

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