

ORIENTAL MOTOR □ 本东 □ 马达及驱动选型 RK Series

RoHS-Compliant

5-Phase Stepping Motor and Driver Package RK Series

viii Standard Type viii TH Geared Type

viii PL Geared Type viii PN Geared Type

viii Harmonic Geared Type



RoHS-Compliant

5-Phase Stepping Motor and Driver Package



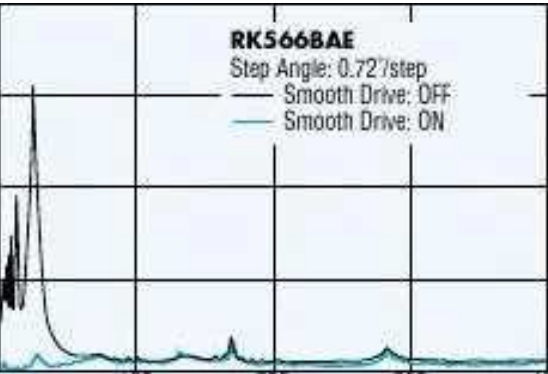
RK Series



The RK Series incorporates new functions and state-of-the-art technologies to achieve the ultimate use of a control motor. The series

offers various types including the standard type, electromagnetic brake type, IP65 rated motor type, and four geared types. Three frame sizes of 42 mm, 60 mm and 85 (90) mm are available. The wide range of motor variations and affordable prices make the RK Series a perfect solution for your various applications.

VIFeatures



v b

z Smooth Drive Function

The smooth drive function ensures low-vibration and low-noise operation at low speeds by internally executing microstepping within the driver, working independently of the input

pulse frequency of your controller.

Vibration Component Voltage V_{p-p} [V]

Speed [r/min]

The smooth drive function of the RK Series improves the settling performance.

Speed [r/min]

Speed [r/min]



n]

Conventional Model RK (Smooth Drive: ON)

100 ms/div

100 ms/div

Step Angle: 0.72°/step

Step Angle: 0.72°/step

x Microstep Drive System

The motor's basic step angle is divided by a maximum of 1/250 without the use of a reduction mechanism or other mechanical elements. 16 resolution levels are available to set the desired resolution. This enables fine positioning and the further

without the need for changing from a microstep pulse frequency to a full step pulse frequency. The RK Series can also be used in full-step operation.

c 100-115 VAC, 200-230 VAC Power Source Variation The RK Series can be use

d with most common power supplies availabl

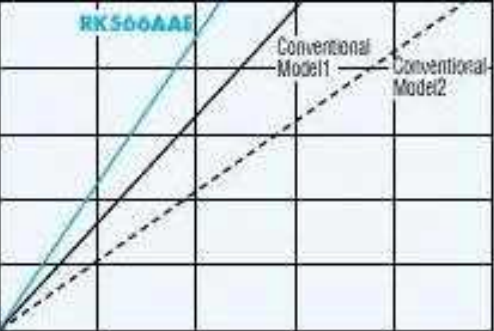
e around the world.

They also comply with the international standards, ensuring safe operation.

v Improved Angle Accuracy

Angle accuracy may decrease during use of microstep drivers, due to the effect of current control. However, the drivers used in the RK Series are designed to ensure that the motor operates at maximum accuracy.

Angle Error



r or [deg]

0.0720.036-0.072-0.036Power Supply Voltage: 100-115 VAC b Improved Response

The RK Series, with its high starting frequency, shortens the machine cycle without affecting acceleration

/deceleration rates. This produces a significant savings in time for an operation in which the same cycle is repeated thousands of times each day.

Rise Time [ms]

Speed [r/min]

3

Features Line-up

System Configuration

Product Line

Specifications and Characteristics Dimensions

Connection and Operation List of Motor and Driver Combinations

Accessories

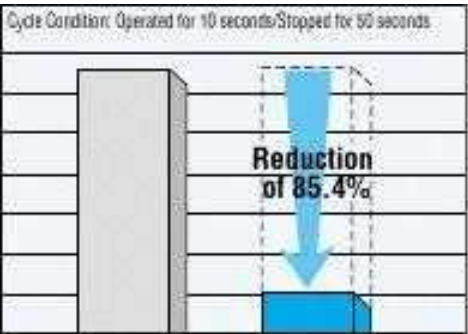
Before Using a Stepping Motor

Controllers

viii Environmentally Friendly Energy-Saving Mode In the energy-saving mode, the supply of current to the motor is stopped and the load is held only with the electromagnetic brake while the motor remains at a standstill. Stopping the supply of current to the motor extends the motor life by limiting the consumption of energy.

(Available only with electromagnetic brake type)

Power Consumption [kW]



Automatic Current-Cutback Mode

in Energy-Saving Mode

Comparison of Annual Power Consumption at Safety Standards

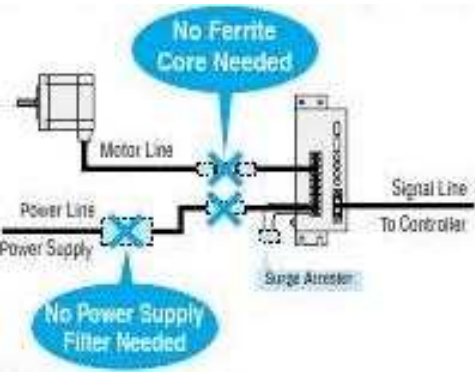
viii Safe Operation in Major Countries around the World Compliance with

The RK Series complies with the UL/CSA and EN

standards. (With the RK54 XI type, only the driver conforms to the CSA standard.) The CE marking certifies compliance with the EMC Directive and Low-Voltage Directive.

Additionally, the RK Series conforms to the EMC Directive only through its use of surge arrester. The RK Series

doesn't require an external ferrite core or filter in the motor line or power line.





viii Protective Earth Terminal

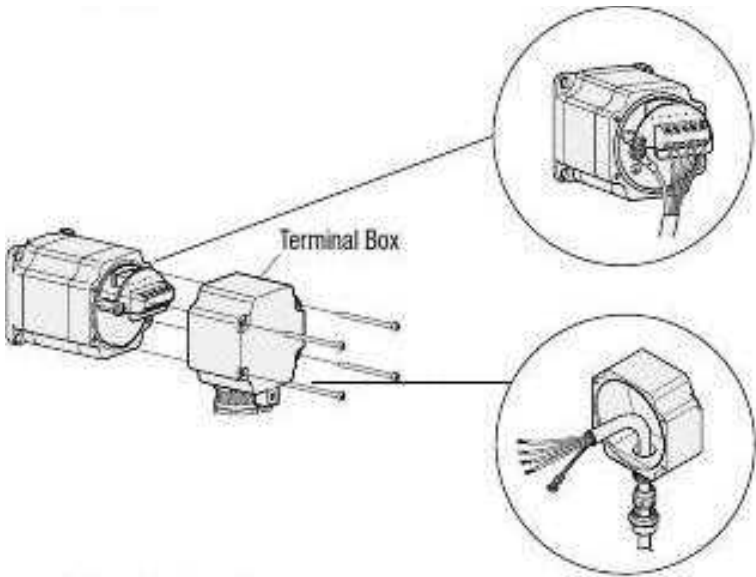
(Excluding motors with a frame size of 42 mm)

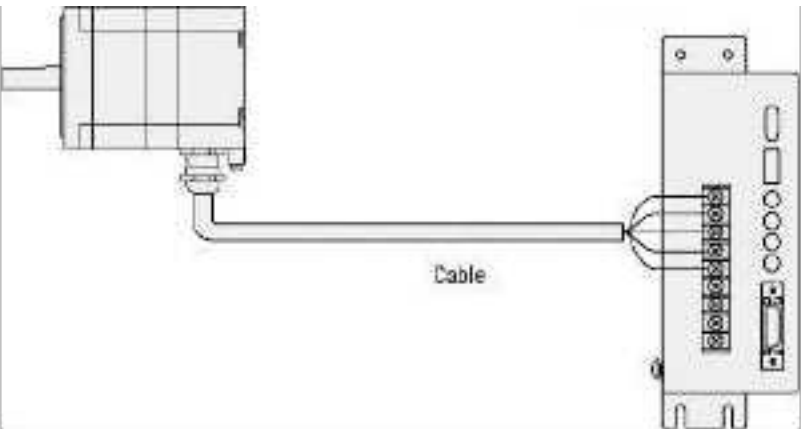
The life of a motor is affected by its bearing. The RK Series achieves approx. twice the life of a conventional motor by adopting a modified bearing. (Available only with the standard type and standard electromagnetic-brake type with a frame size of 60 or 85 mm.)

viii New IP65 Rated Motor Conforming to the IP65 Standard for Ingress Protection against Dust and Water

Terminal-Block Connection Design

The motor can be wired directly from its terminal block.





No Motor/Driver Relay

Since the motor cable can be connected directly with the driver terminals, there is no need for wire connection or

RoHS (Restriction of Hazardous Substances) Directive:
Directive on restriction of the use of certain hazardous substances in electrical and electronic equipment (2002/95/EC). The RoHS Directive prohibits the use of six chemical substances in electrical and electronic products sold in the E.U. member countries on or after July 1, 2006. The six controlled substances are: lead, hexavalent chromium, cadmium, mercury and two specific brominated flame-retardants (PBB and PBDE).

soldering on a relay terminal block.

Driver

RoHS-Compliant

The RK Series conforms to the RoHS Directive that prohibits the use of six chemical substances including lead and cadmium.

Wide Variety

The RK Series offers a range of motor frame sizes depending on the motor type and power supply voltage specification, as shown below.

	Power Supply Voltage	Standard Type, Standard Type with Electromagnetic Brake	Standard Type IP65 Rated Motor	TH Geared Type	PL Geared Type	PN Geared Type	Harmonic Geared Type
	Single-Phase 100-115 VAC	☐ 42 ☐ 60 ☐ 85	☐ 60 ☐ 85	☐ 42 ☐ 60 ☐ 90	☐ 42 ☐ 60 ☐ 90	☐ 42 ☐ 60 ☐ 90	☐ 42 ☐ 60 ☐ 90
	Single-Phase 200-230 VAC	☐ 60 ☐ 85	☐ 60 ☐ 85	☐ 60 ☐ 90	☐ 60 ☐ 90	☐ 60 ☐ 90	☐ 60 ☐ 90

☐





viii Standard Type/Standard Type IP65 Rated Motor

Easy-to-use standard types offer balanced performance. The IP65 rated motor conforms to the IP65 standard for ingress protection



against dust and water.

viii Standard Type with Electromagnetic Brake

A motor combines with power off activated type electromagnetic brake.



TH Geared Type (Low backlash)

A low-cost geared motor offers low backlash.



viii PL Geared Type (Low backlash)

A geared motor offers low backlash, high strength and wide gear ratios.

viii PN



Geared Type (Non-backlash)

A high-accuracy geared motor achieves a backlash of 3 arc minutes or less. It also provides high strength and wide gear ratios.



Harmonic Geared Type



(Non-backlash)

A high-accuracy, backlash-free geared motor adopts a newly developed harmonic gear. It ensures high strength in a compact body.

4

5

Features

Line-up

System Configuration

Product Line

Specifications and Characteristics

Dimensions

Connection and Operation List of Motor and Driver Combinations

Accessories Before Using a Stepping Motor Controllers

TH (Parallel Shaft)

PL (Harmonic Drive)

VISystem Configuration

An example of a system configuration with the SG8030 Series controller.

Mounting Brackets (Accessories)Connector-Terminal Block

Driver

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

6

7

Features Line-up

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Accessories

Before Using a Stepping Motor Controllers

VIProduct Number Code

q

w e r t y u i

o !0

RK 5 6 6 B A E - N 5

Series RK :RK Series 5: 5-Phase

Motor Frame Size 4: 42 mm

6: 60 mm 9: 85 mm (90 mm sq. for Geared Type)

Motor Case Length

Motor Shaft Type A : Single Shaft B : Double Shaft

Electromagnetic Brake Blank : Without Electromagnetic Brake M : With Electromagnetic Brake Power Supply Voltage A : Single-Phase 100-115 VAC C : Single-Phase 200-230 VAC Motor Classi? c ation Type

Blank : Standard Type T :TH Geared Type

P :PL Geared Type N :PN Geared Type H : Harmonic Geared Type

Gear Ratio

VIProduct Line

Power Supply Voltage	Model (Single Shaft)	Model (Double Shaft)
Single-Phase 100-115 VAC	RK543AA	RK543BA
	RK544AA	RK544BA
	RK545AA	RK545BA
	RK564AAE 	RK564BAE 
	RK566AAE 	RK566BAE 
	RK569AAE 	RK569BAE 
	RK596AAE 	RK596BAE 
	RK599AAE 	RK599BAE 
Single-Phase 200-230 VAC	RK5913AAE 	RK5913BAE 
	RK564ACE 	RK564BCE 
	RK566ACE 	RK566BCE 
	RK569ACE 	RK569BCE 
	RK596ACE 	RK596BCE 
	RK599ACE 	RK599BCE 
	RK5913ACE 	RK5913BCE 

Power Supply Voltage	Model
Single-Phase 100-115 VAC	RK564AAT
	RK566AAT
	RK569AAT
	RK596AAT
	RK599AAT
	RK5913AAT
Single-Phase 200-230 VAC	RK564ACT
	RK566ACT
	RK569ACT
	RK596ACT
	RK599ACT
	RK5913ACT

Power Supply Voltage	Model
Single-Phase 100-115 VAC	RK543AMA
	RK544AMA
	RK545AMA
	RK564AMAE 
	RK566AMAE 
	RK569AMAE 
	RK596AMAE 
	RK599AMAE 
Single-Phase 200-230 VAC	RK5913AMAE 
	RK564AMCE 
	RK566AMCE 
	RK569AMCE 
	RK596AMCE 
	RK599AMCE 
	RK5913AMCE 

Power Supply Voltage	Model (Single Shaft)	Model (Double Shaft)
Single-Phase 100-115 VAC	RK543AA-T3.6	RK543BA-T3.6
	RK543AA-T7.2	RK543BA-T7.2
	RK543AA-T10	RK543BA-T10
	RK543AA-T20	RK543BA-T20
	RK543AA-T30	RK543BA-T30
	RK564AAE-T3.6 	RK564BAE-T3.6 
	RK564AAE-T7.2 	RK564BAE-T7.2 
	RK564AAE-T10 	RK564BAE-T10 
	RK564AAE-T20 	RK564BAE-T20 
	RK564AAE-T30 	RK564BAE-T30 
	RK596AAE-T3.6 	RK596BAE-T3.6 
	RK596AAE-T7.2 	RK596BAE-T7.2 
	RK596AAE-T10 	RK596BAE-T10 
	RK596AAE-T20 	RK596BAE-T20 
	RK596AAE-T30 	RK596BAE-T30 
Single-Phase 200-230 VAC	RK564ACE-T3.6 	RK564BCE-T3.6 
	RK564ACE-T7.2 	RK564BCE-T7.2 
	RK564ACE-T10 	RK564BCE-T10 
	RK564ACE-T20 	RK564BCE-T20 
	RK564ACE-T30 	RK564BCE-T30 
	RK596ACE-T3.6 	RK596BCE-T3.6 
	RK596ACE-T7.2 	RK596BCE-T7.2 
	RK596ACE-T10 	RK596BCE-T10 
	RK596ACE-T20 	RK596BCE-T20 
	RK596ACE-T30 	RK596BCE-T30 

Power Supply Voltage	Model (Single Shaft)	Model (Double Shaft)
Single-Phase 100-115 VAC	RK545AA-P5	RK545BA-P5
	RK545AA-P7.2	RK545BA-P7.2
	RK545AA-P10	RK545BA-P10
	RK543AA-P25	RK543BA-P25
	RK543AA-P36	RK543BA-P36
	RK543AA-P50	RK543BA-P50
	RK566AAE-P5 	RK566BAE-P5 
	RK566AAE-P7.2 	RK566BAE-P7.2 
	RK566AAE-P10 	RK566BAE-P10 
	RK564AAE-P25 	RK564BAE-P25 
	RK564AAE-P36 	RK564BAE-P36 
	RK564AAE-P50 	RK564BAE-P50 
	RK599AAE-P5 	RK599BAE-P5 
	RK599AAE-P7.2 	RK599BAE-P7.2 
	RK599AAE-P10 	RK599BAE-P10 
	RK596AAE-P25 	RK596BAE-P25 
	RK596AAE-P36 	RK596BAE-P36 
	RK596AAE-P50 	RK596BAE-P50 
Single-Phase 200-230 VAC	RK566ACE-P5 	RK566BCE-P5 
	RK566ACE-P7.2 	RK566BCE-P7.2 
	RK566ACE-P10 	RK566BCE-P10 
	RK564ACE-P25 	RK564BCE-P25 
	RK564ACE-P36 	RK564BCE-P36 
	RK564ACE-P50 	RK564BCE-P50 
	RK599ACE-P5 	RK599BCE-P5 
	RK599ACE-P7.2 	RK599BCE-P7.2 
	RK599ACE-P10 	RK599BCE-P10 
	RK596ACE-P25 	RK596BCE-P25 
	RK596ACE-P36 	RK596BCE-P36 
	RK596ACE-P50 	RK596BCE-P50 

Power Supply Voltage	Model (Single Shaft)	Model (Double Shaft)
Single-Phase 100-115 VAC	RK544AA-N5	RK544BA-N5
	RK544AA-N7.2	RK544BA-N7.2
	RK544AA-N10	RK544BA-N10
	RK566AAE-N5 	RK566BAE-N5 
	RK566AAE-N7.2 	RK566BAE-N7.2 
	RK566AAE-N10 	RK566BAE-N10 
	RK564AAE-N25 	RK564BAE-N25 
	RK564AAE-N36 	RK564BAE-N36 
	RK564AAE-N50 	RK564BAE-N50 
	RK599AAE-N5 	RK599BAE-N5 
	RK599AAE-N7.2 	RK599BAE-N7.2 
	RK599AAE-N10 	RK599BAE-N10 
	RK596AAE-N25 	RK596BAE-N25 
Single-Phase 200-230 VAC	RK596AAE-N36 	RK596BAE-N36 
	RK596AAE-N50 	RK596BAE-N50 
	RK566ACE-N5 	RK566BCE-N5 
	RK566ACE-N7.2 	RK566BCE-N7.2 
	RK566ACE-N10 	RK566BCE-N10 
	RK564ACE-N25 	RK564BCE-N25 
	RK564ACE-N36 	RK564BCE-N36 
	RK564ACE-N50 	RK564BCE-N50 
	RK599ACE-N5 	RK599BCE-N5 
	RK599ACE-N7.2 	RK599BCE-N7.2 
	RK599ACE-N10 	RK599BCE-N10 
	RK596ACE-N25 	RK596BCE-N25 
	RK596ACE-N36 	RK596BCE-N36 
	RK596ACE-N50 	RK596BCE-N50 

Power Supply Voltage	Model (Single Shaft)	Model (Double Shaft)
Single-Phase 100-115 VAC	RK543AA-H50	RK543BA-H50
	RK543AA-H100	RK543BA-H100
	RK564AAE-H50 	RK564BAE-H50 
	RK564AAE-H100 	RK564BAE-H100 
	RK596AAE-H50 	RK596BAE-H50 
Single-Phase 200-230 VAC	RK596AAE-H100 	RK596BAE-H100 
	RK564ACE-H50 	RK564BCE-H50 
	RK564ACE-H100 	RK564BCE-H100 
	RK596ACE-H50 	RK596BCE-H50 
	RK596ACE-H100 	RK596BCE-H100 

Dimensions

Connection and Operation List of Motor and Driver Combinations

Accessories

Before Using a Stepping Motor Controllers

Standard Type Motor Frame Size 42 mm

Specifications



viii With the RK54 XI type, only the driver conforms to the CSA standard.

RK543AA RK544AA RK545AA RK543BA RK544BA RK545BA

How to Read Specifications Table ?See the following descriptions.

Sixteen resolutions are available, where n=1, 2, 2.5, 4, 5, 8, 10, 20, 25, 40, 50, 80, 100, 125, 200 and 250.

VI Speed – Torque Characteristics fs: Maximum Starting Frequency

RK543AA/RK543BA

Pulse Speed [kHz]

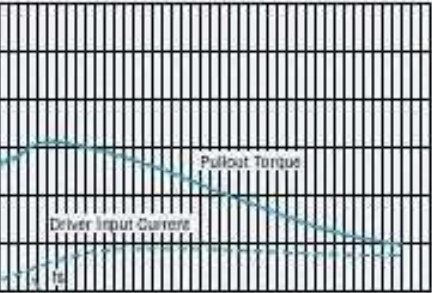
(0)

(300)

(200)

(100)

(Resolution 10)



Speed [r/min]T o r q u e [N ?m]

C u r r e n t [A]

132Current: 0.75 A/Phase Step Angle: 0.72°/step 2

RK544AA/RK544BA

Pulse Speed [kHz]

0 (0)

30 (300)

20 (200)

10 (100)

Resolution 1(Resolution 10)



Current[A]

132Current: 0.75 A/Phase Step Angle: 0.72°/step 2

RK545AA/RK545BA

Pulse Speed [kHz]

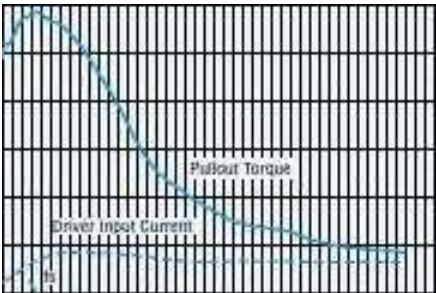
0 (0)

30 (300)

20 (200)

10 (100)

Resolution 1(Resolution 10)



Speed [r/min]T o r q u e [N ?m]

Current[A]

Maximum Holding Torque:	The holding torque (5-Phase: 5-Phase Excitation) is the maximum holding power (torque) the stepping motor has when power (rated current) is being supplied but the motor is not rotating (with consideration given to the permissible strength of the gear when applicable). At motor standstill, the driver's "Automatic Current Cutback" function reduces the maximum holding torque by approximately 50%.
Permissible Torque:	The permissible torque represents the torque value limited by the mechanical strength of the gear when operated at a constant speed. For the types excluding PN and harmonic geared type, the total torque including acceleration/deceleration torque should not exceed this value.
Maximum Torque:	This is the maximum torque that can be used instantaneously (for a short time). During acceleration/deceleration, the motor can be operated up to this value. (PN geared, harmonic geared type only)
Angle Error:	Difference between the theoretical angle of rotation of the output shaft as calculated from the input pulses, and the actual angle of rotation. (PN geared type only)

132Current: 0.75 A/Phase Step Angle: 0.72°/step 2

The pulse input circuit responds to approximately 200 kHz with a pulse duty of 50%.Notes:

viii Pay attention to heat dissipation from motor as there will be a considerable amount of heat under certain conditions.Be sure to keep the temperature of the motor case under 100°C.(Under 75°C is required to comply with UL or CSA standards.)

viii When using the motor with the dedicated driver, the driver’s automatic current cutback function at motor standstill reduces maximum holding torque by approximately 50%.

VIHow to Read Specifications Table

Please read the following information before examining the specifications on pages 9 to 23.

10

Standard Type Motor Frame Size 60 mm, 85 mm



Model	Single-Phase 100-115 VAC	Single Shaft	RK564AAE	RK566AAE	RK569AAE	RK596AAE	RK599AAE	RK5913AAE
		Double Shaft	RK564BAE	RK566BAE	RK569BAE	RK596BAE	RK599BAE	RK5913BAE
	Single-Phase 200-230 VAC	Single Shaft	RK564ACE	RK566ACE	RK569ACE	RK596ACE	RK599ACE	RK5913ACE
		Double Shaft	RK564BCE	RK566BCE	RK569BCE	RK596BCE	RK599BCE	RK5913BCE
Maximum Holding Torque		N·m	0.42	0.83	1.66	2.1	4.1	6.3
Rotor Inertia		J: kg·m ²	175×10 ⁻⁷	280×10 ⁻⁷	560×10 ⁻⁷	1400×10 ⁻⁷	2700×10 ⁻⁷	4000×10 ⁻⁷
Rated Current		A/Phase	1.4					
Basic Step Angle			0.72°					
Power Source			Single-Phase 100-115 VAC±15% 50/60 Hz 4.5 A Single-Phase 200-230 VAC ±10% 50/60 Hz 3.5 A					
Excitation Mode			Microstep Basic Angle/m° (1/step)					
Mass	Motor	kg	0.6	0.8	1.3	1.7	2.8	3.8
	Driver	kg	0.85					
Dimension No.	Motor		[2]			[3]		
	Driver		[2]					

Sixteen resolutions are available, where n=1, 2, 2.5, 4, 5, 8, 10, 20, 25, 40, 50, 80, 100, 125, 200 and 250.

Speed – Torque Characteristics fs: Maximum Starting Frequency

RK564 XIAE RK564 XICE

Pulse Speed [kHz]

0 (0)

10 (100)

20



(200)

30

(300) Speed [r/min]T o r q u e [N ?m]

Resolution 1(Resolution 10)

C u r r e n t [A]

462Current: 1.4 A/Phase Step Angle: 0.72°/step 2

RK566 XIAE RK566 XICE

Pulse Speed [kHz]



(0)

10 (100)

20 (200)

30

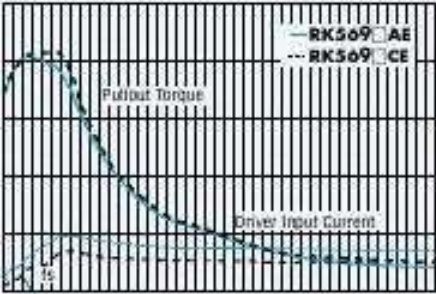
(300) Speed [r/min]T o r q u e [N ?m]

Current[A]

48

Current: 1.4 A/Phase Step Angle: 0.72°/step 2

RK569 AE RK569 XI



CE

Pulse Speed [kHz]

0 (0)

10 (100)

20 (200)

30

(300) Speed [r/min]T o r q u e [N ?m]

Resolution 1(Resolution 10)

Current[A]

48

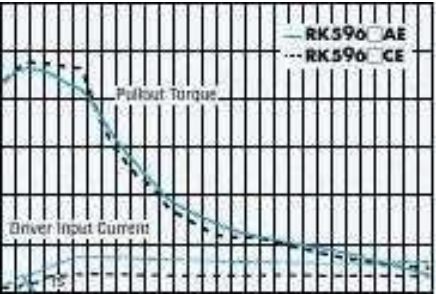
Current: 1.4 A/Phase Step Angle: 0.72°/step 2

viii Enter A (Single shaft) or B (Double shaft) in the box (XI) within the model name. viii The pulse input circuit responds to approximately 200 kHz with a pulse duty of 50%.Notes:

viii Pay attention to heat dissipation from motor as there will be a considerable amount of heat under certain conditions.Be sure to keep the temperature of the motor case under 100°C.(Under 75°C is required to comply with UL or CSA standards.)

viii When using the motor with the dedicated driver, the driver’s automatic current cutback function at motor standstill reduces maximum holding torque by approximately 50%.

RK596 XI AE RK596



XICE

Pulse Speed [kHz]

(0)

(100)

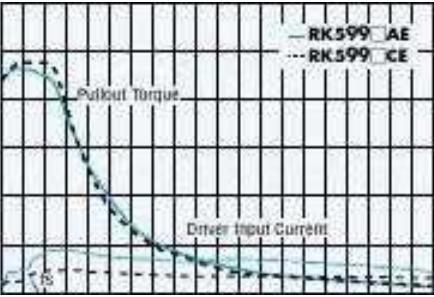
(200) Speed [r/min](Resolution 10)

T o r q u e [N ?m]

C u r r e n t [A]

510Current: 1.4 A/Phase Step Angle: 0.72°/step 2

RK599 XIAE RK599 XICE



Pulse Speed [kHz]

Speed [r/min](Resolution 10)

(0)

(50)

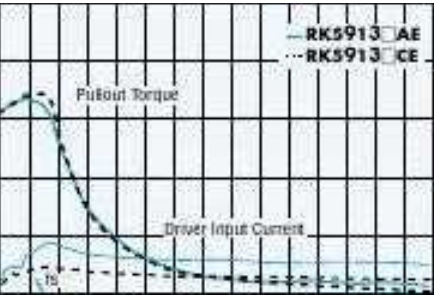
(100)

T o r q u e [N ?m]

C u r r e n t [A]

48Current: 1.4 A/Phase Step Angle: 0.72°/step 2

RK5913 XIAE



RK5913 XICE

Pulse Speed [kHz]

(0)

(50)

(100) Speed [r/min]

(Resolution 10)

T o r q u e [N ?m]

C u r r e n t [A]

48Current: 1.4 A/Phase Step Angle: 0.72°/step 2

11

Features

Line-up

System Configuration

Product Line

Specifications and Characteristics

Dimensions

Connection and Operation List of Motor and Driver Combinations

Accessories

Before Using a Stepping Motor Controllers

Standard Type IP65 Rated Motor Motor Frame Size 60 mm, 85 mm

Specifications



Model	Single-Phase 100-115 VAC	RK564AAT	RK566AAT	RK569AAT	RK596AAT	RK599AAT	RK5913AAT
	Single-Phase 200-230 VAC	RK564ACT	RK566ACT	RK569ACT	RK596ACT	RK599ACT	RK5913ACT
Maximum Holding Torque	N·m	0.42	0.83	1.66	2.1	4.1	6.3
Rotor Inertia	J: kg·m ²	175×10 ⁻⁷	280×10 ⁻⁷	560×10 ⁻⁷	1400×10 ⁻⁷	2700×10 ⁻⁷	4000×10 ⁻⁷
Rated Current	A/Phase	1.4					
Basic Step Angle		0.72°					
Power Source		Single-Phase 100-115 VAC ±15% 50/60 Hz 4.5 A Single-Phase 200-230 VAC $\pm 10\%$ 50/60 Hz 3.5 A					
Excitation Mode		Microstep Basic Angle/n ⁽¹⁾ (°/step)					
Insulation Class		Motor: IP65 ⁽²⁾ Driver: IP10					
Mass	Motor kg	0.8	1.1	1.6	2.2	3.3	4.4
	Driver kg	0.85					
Dimension No.	Motor	4			5		
	Driver	22					

How to Read Specifications Table ?Page 9

1Sixteen resolutions are available, where n=1, 2, 2.5, 4, 5, 8, 10, 20, 25, 40, 50, 80, 100, 125, 200 and 250.2Excluding the gap between the shaft and the flange

Speed – Torque Characteristics fs: Maximum Starting Frequency

RK564AAT/RK564ACT

Pulse Speed [kHz]

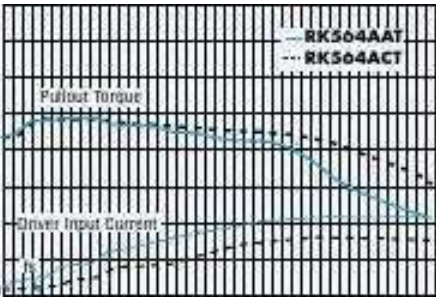
0 (0)

10 (100)

20 (200)

30

(300)



Speed [r/min]T o r q u e [N ?m]

Resolution 1(Resolution 10)

C u r r e n t [A]

462Current: 1.4 A/Phase Step Angle: 0.72°/step 2

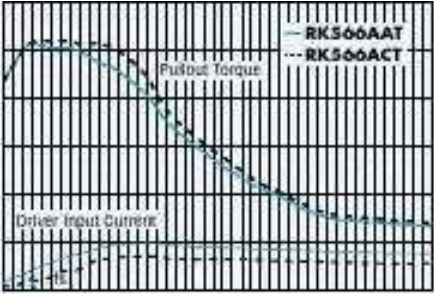
RK566AAT/RK566ACT

Pulse Speed [kHz]

0 (0)

10 (100)

20 (200)



(300) Speed [r/min]T o r q u e [N ?m]

Resolution 1(Resolution 10)

C u r r e n t [A]

48

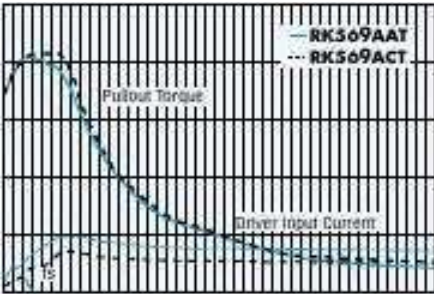
Current: 1.4 A/Phase Step Angle: 0.72?/step 2

RK569AAT/RK569ACT

Pulse Speed [kHz]

0 (0)

10 (100)



20 (200)

30

(300) Speed [r/min]T o r q u e [N ?m]

Resolution 1(Resolution 10)

C u r r e n t [A]

48

Current: 1.4 A/Phase Step Angle: 0.72?/step 2

viii The pulse input circuit responds to approximately 200 kHz with a pulse duty of 50%.Notes:

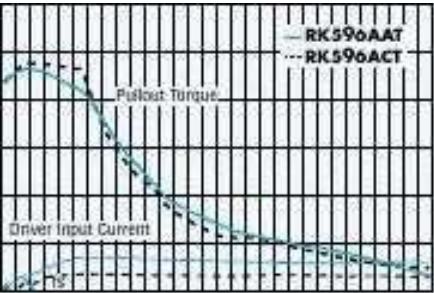
viii Pay attention to heat dissipation from motor as there will be a considerable amount of heat under certain conditions.Be sure to keep the temperature of the motor case under 100°C.(Under 75°C is required to comply with UL or CSA standards.)

viii When using the motor with the dedicated driver, the driver’s automatic current cutback function at motor standstill reduces maximum holding torque by approximately 50%.

RK596AAT/RK596ACT

Pulse Speed [kHz]

0 (0)



10 (100)

20(200) Speed [r/min]Resolution 1(Resolution 10)

T o r q u e [N ?m]

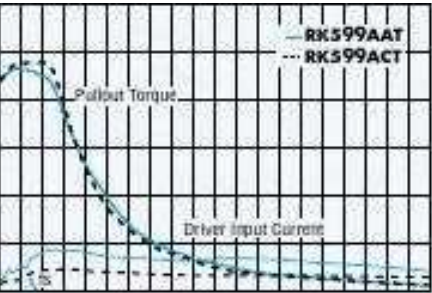
C u r r e n t [A]

510Current: 1.4 A/Phase Step Angle: 0.72°/step

2

RK599AAT/RK599ACT

Pulse Speed [kHz]



Speed [r/min]Resolution 1(Resolution 10)

0 (0)

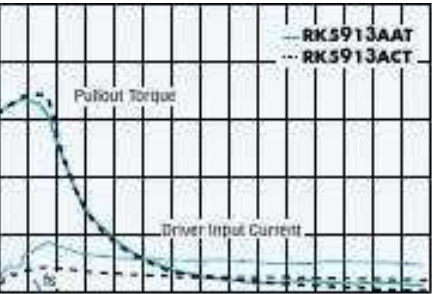
5 (50)

10 (100)

T o r q u e [N ?m]

C u r r e n t [A]

48Current: 1.4 A/Phase Step Angle: 0.72°/step 2



RK5913AAT/RK5913ACT

Pulse Speed [kHz]

0 (0)

5 (50)

10

(100) Speed [r/min]

Resolution 1(Resolution 10)

T o r q u e [N ?m]

C u r r e n t [A]

48Current: 1.4 A/Phase Step Angle: 0.72°/step 2

12

Standard Type with Electromagnetic Brake Motor Frame Size 42 mm

VSPECIFICATIONS



viii With the RK54 XI

Model	Single-Phase 100-115 VAC	Single Shaft	RK543AMA	RK544AMA	RK545AMA
Maximum Holding Torque		N·m	0.13	0.18	0.24
Rotor Inertia		J: kg·m ²	50×10 ⁻⁷	69×10 ⁻⁷	83×10 ⁻⁷
Rated Current		A/Phase	0.75		
Basic Step Angle			0.72°		
Power Source			Single-Phase 100-115 VAC±15% 50/60 Hz 1 A		
Excitation Mode			Microstep Basic Angle/n° (/step)		
Electromagnetic Brake	Type		Active when power is off		
	Power Source Input		24 VDC		
	Power Supply Input	A	0.08		
	Static Friction Torque	N·m	0.22		
	Brake Time	ms	20		
	Brake Release Time	ms	30		
	Time Rating		Continuous		
Mass	Motor	kg	0.37	0.42	0.52
	Driver	kg	0.4		
Dimension No.	Motor		6		
	Driver		21		

type, only the driver conforms to the CSA standard.

How to Read Specifications Table ?Page 9

Sixteen resolutions are available, where n=1, 2, 2.5, 4, 5, 8, 10, 20, 25, 40, 50, 80, 100, 125, 200 and 250.

VSpeed – Torque Characteristics fs: Maximum Starting Frequency

RK543AMA

Pulse Speed [kHz]

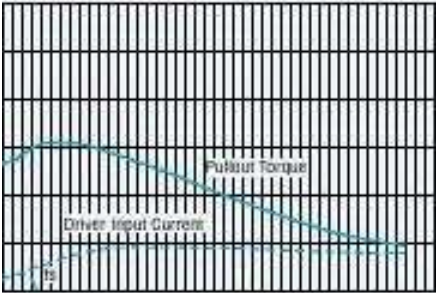
0 (0)

30 (300)

20 (200)

10 (100)

Resolution 1(Resolution 10)



Speed [r/min]T o r q u e [N ?m]

C u r r e n t [A]

132Current: 0.75 A/Phase Step Angle: 0.72°/step 2RK544AMA

Pulse Speed [kHz]

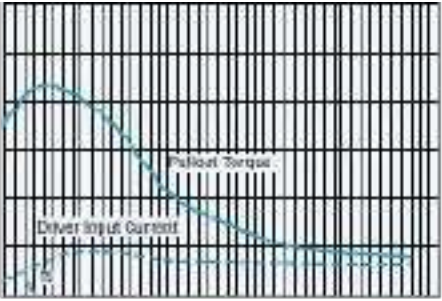
0 (0)

30 (300)

20 (200)

10 (100)

Resolution 1(Resolution 10)



Speed [r/min]T o r q u e [N ?m]

C u r r e n t [A]

13

2Current: 0.75 A/Phase Step Angle: 0.72°/step 2

RK545AMA

Pulse Speed [kHz]

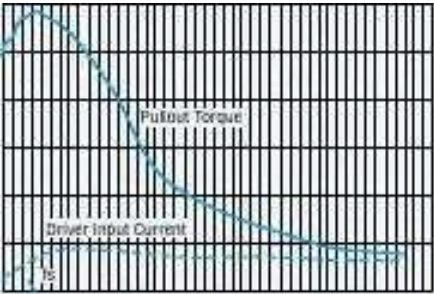
0 (0)

30 (300)

20 (200)

10 (100)

Resolution 1



(Resolution 10)

Speed [r/min]T o r q u e [N ?m]

C u r r e n t [A]

132Current: 0.75 A/Phase Step Angle: 0.72°/step 2

viii The pulse input circuit responds to approximately 200 kHz with a pulse duty of 50%.Notes:

viii Pay attention to heat dissipation from motor as there will be a considerable amount of heat under certain conditions.Be sure to keep the temperature of the motor case under 100°C.(Under 75°C is required to comply with UL or CSA standards.)

viii When using the motor with the dedicated driver, the driver’s automatic current cutback function at motor standstill reduces maximum holding torque by approximately 50%.

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Features

Line-up

System Configuration Product Line

Specifications and Characteristics

Dimensions

Connection and Operation List of Motor and Driver Combinations

Accessories

Before Using a Stepping Motor Controllers

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/355220324224011104>