

5-Phase Stepping Motor and Driver Specifications

(○ : General specifications, ◎ : High-torque specifications)

		Motor			Driver			
Type		Model	Torque (kgf • cm)	A/phase (A)	KR-5MC	KR-55MC	MD5-MF14 (KR-515M)	KR-505G
24 Square	Shaft type	02K-S523(W)	0.18	0.75	○	○	◎	
		04K-S525(W)	0.28	0.75	○	○	◎	
42 Square	Shaft type	A1K-S543(W)-□	1.3	0.75	○	○	◎	
		A2K-S544(W)-□	1.8	0.75	○	○	◎	
		A3K-S545(W)-□	2.4	0.75	○	○	◎	
	Geared built-in type	A10K-S545(W)-G5	10	0.75	○	○	◎	
		A15K-S545(W)-G7.2	15	0.75	○	○	◎	
		A15K-S545(W)-G10	15	0.75	○	○	◎	
	Hollow shaft type	AH1K-S543	1.3	0.75	○	○	◎	
		AH2K-S544	1.8	0.75	○	○	◎	
		AH3K-S545	2.4	0.75	○	○	◎	
60 Square	Shaft type / Shaft type + Brake built-in type	A4K-S564(W)-□B	4.2	0.75	○	○	◎	
		A4K-M564(W)-□B	4.2	1.4	○	○	◎	
		A8K-S566(W)-□B	8.3	0.75	○	○	◎	
		A8K-M566(W)-□B	8.3	1.4	○	○	◎	
		A16K-M569(W)-□B	16.6	1.4	○	○	◎	
		A16K-G569(W)-□B	16.6	2.8				◎
	Hollow shaft type	AH4K-S564(W)	4.2	0.75	○	○	◎	
		AH4K-M564(W)	4.2	1.4	○	○	◎	
		AH8K-S566(W)	8.3	0.75	○	○	◎	
		AH8K-M566(W)	8.3	1.4	○	○	◎	
		AH16K-M569(W)	16.6	1.4	○	○	◎	
		AH16K-G569(W)	16.6	2.8				◎
	Geared built-in type/ Geared + Brake built-in type	A35K-M566(W)-G□B5	35	1.4	○	○	◎	
		A40K-M566(W)-G□B7.2	40	1.4	○	○	◎	
		A50K-M566(W)-G□B10	50	1.4	○	○	◎	
	Rotary actuator / Rotary actuator + Brake built-in type	A35K-M566(W)-R□B5	35	1.4	○	○	◎	
		A40K-M566(W)-R□B7.2	40	1.4	○	○	◎	
		A50K-M566(W)-R□B10	50	1.4	○	○	◎	
85 Square	Shaft type / Shaft type + Brake built-in type	A21K-M596(W)-□B	21	1.4	○	○	◎	
		A21K-G596(W)-□B	21	2.8				◎
		A41K-M599(W)-□B	41	1.4	○	○	◎	
		A41K-G599(W)-□B	41	2.8				◎
		A63K-M5913(W)-□B	63	1.4	○	○	◎	
		A63K-G5913(W)-□B	63	2.8				◎
	Hollow shaft type	AH21K-M596(W)	21	1.4	○	○	◎	
		AH21K-G596(W)	21	2.8				◎
		AH41K-M599(W)	41	1.4	○	○	◎	
		AH41K-G599(W)	41	2.8				◎
		AH63K-M5913(W)	63	1.4	○	○	◎	
		AH63K-G5913(W)	63	2.8				◎
	Geared built-in type/ Geared + Brake built-in type	A140K-M599(W)-G□B5	140	1.4	○	○	◎	
		A140K-G599(W)-G□B5	140	2.8				◎
		A200K-M599(W)-G□B7.2	200	1.4	○	○	◎	
		A200K-G599(W)-G□B7.2	200	2.8				◎
		A200K-M599(W)-G□B10	200	1.4	○	○	◎	
		A200K-G599(W)-G□B10	200	2.8				◎

※ () stands for dual shaft of motor. The brake built-in type provides single shaft only.

※ The motor has a big difference in torque by the characteristics of the driver.

Please refer to the graph in this catalogue that shows the characteristics of motors and drivers.

For KR-5MC and KR-55MC, the high-speed region torque characteristics are better at 40VDC than at 24VDC.

In addition, MD5-MF14, KR-505G have further improved torque characteristics in the high-speed area.

※ 85 square stepping motor has further improved high speed characteristics of 1.4 [A/phase] adjusting the phase current at that of KR-505G.

5-Phase Stepping Motor Driver

Small light, high speed and high torque 5-phase stepping motor driver

■ Features

- Bipolar constant current pentagon drive type.
- Includes automatic current-down circuit and self-testing function.
- Available low-speed revolution and super-precision control with a microstep drive.

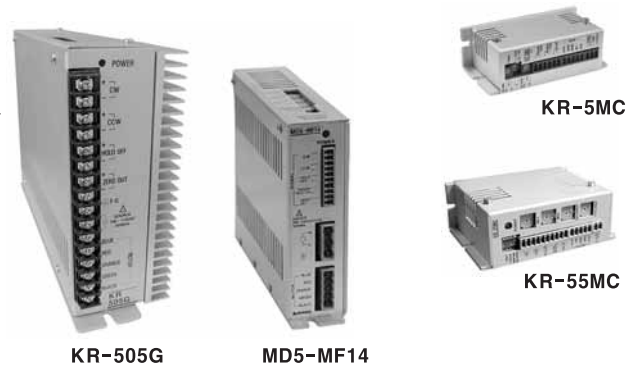
(KR-55MC, MD5-MF14)

[Max. resolution is 80 divisions and in case of basic step of 0.72 °stepping motor, it is available to control as accurate as down to 0.009 °per 1 pulse.

It needs 40,000 pulse for 1 revolution of motor.]

Photo coupler input insulation method to minimize the effects from external noise.

⚠ Please read "Caution for your safety" in operation manual before using.



KR-505G

MD5-MF14

KR-5MC

KR-55MC



(Except for KR-505G)

■ Ordering information

KR - 55 MC

MC	1.4A/Phase
G	2.8A/Phase
5	77×45×32mm
55	105×74×38mm
505	215×150×62mm
KR	Series

※KR-515M is changed as MD5-MF14.

MD 5 - M F 14

14	1.4A/Phase
F	100-240VAC
M	Micro Step
5	5 phase
MD	Motor Driver

■ Specifications

※A blacked (■) item is upgraded function.

Model	KR-5MC	KR-55MC	MD5-MF14	KR-505G
Power supply (※1)	20-35VDC 3A		100-240VAC 50/60Hz 330VA	100-115VAC 50/60Hz 650VA
Drive current	1.4A / Phase			2.8A / Phase
Drive method	Bipolar constant current pentagon drive			
Rotating angle	Micro step : 0.72 ° ~ 0.036 ° /1Step (1, 2, 10, 20 division)	Micro step : 0.009 ° ~ 0.72 ° / 1Step (1, 2, 4, 5, 8, 10, 16, 20, 40, 80 division)		Full Step : 0.72 ° / 1Step Half Step : 0.36 ° / 1Step
Pulse width	Min. 5μs	Min. 0.5μs		Min. 5μs
Pulse interval	Min. 5μs	Min. 0.5μs		Min. 5μs
Rising/Falling time	Max. 1μs			
Pulse input frequency	280kpps	500kpps		50kpps
Pulse input voltage	High : 4-8VDC, Low : 0-0.5VDC			
Input resistance	390Ω (CW, CCW, HOLD OFF)	300Ω (CW, CCW) 390Ω (HOLD OFF, DIVISION SELECTION)	300Ω (CW, CCW) 390Ω (HOLD OFF, DIVISION SELECTION, CURRENT DOWN) 10Ω (ZERO OUT)	390Ω (CW, CCW, HOLD OFF) 10Ω (ZERO OUT)
Ambient temperature	0 ~ 40℃ (at non-dew status)			
Approval	CE	CE	CE	—
Unit weight	Approx. 120g	Approx. 240g	Approx. 750g	Approx. 1.7kg

(※1) When using over 30VDC, it should be mounted at ventilative place due to increasing heat.

- (A) Counter
- (B) Timer
- (C) Temp. controller
- (D) Power controller
- (E) Panel meter
- (F) Tacho/Speed/Pulse meter
- (G) Display unit
- (H) Sensor controller
- (I) Switching power supply
- (J) Proximity sensor
- (K) Photo electric sensor
- (L) Pressure sensor
- (M) Rotary encoder
- (N) Stepping motor & Driver & Controller
- (O) Graphic panel
- (P) Production stoppage models & replacement