

MR-E Super Servomotors and Amplifiers

[Jump to: Servo Standard Amplifier Specifications](#)

[Jump to: Servomotor Selection](#)

[Jump to: MR-E HF-KE Super 3000 Series Servomotor Specifications](#)

[Jump to: MR-E HF-SE Super 2000 r/min Series Servomotor Specifications](#)

[Jump to: MR-E Super Cables and Connectors](#)

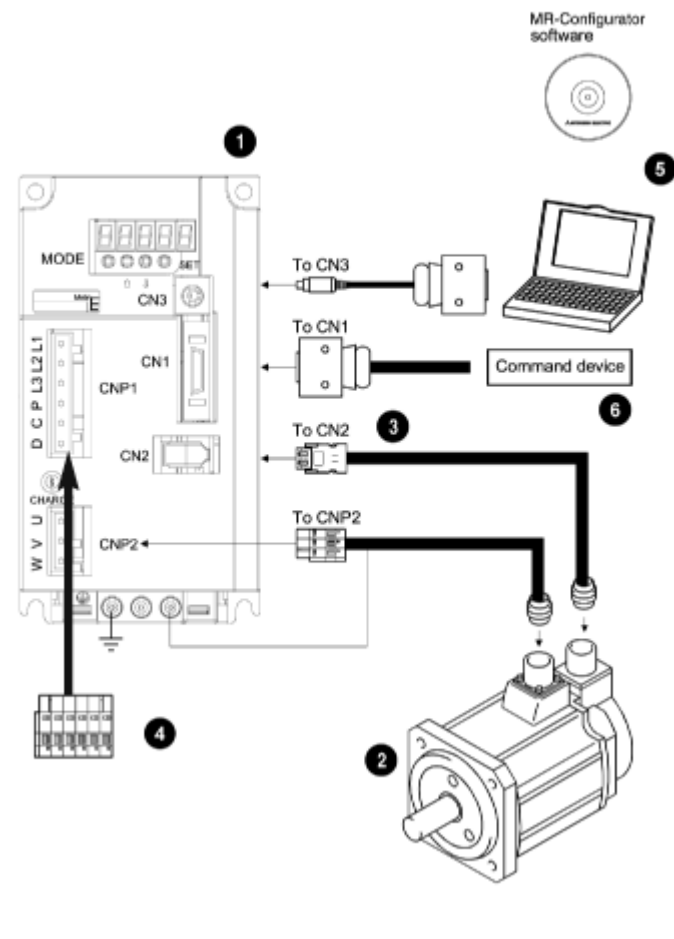
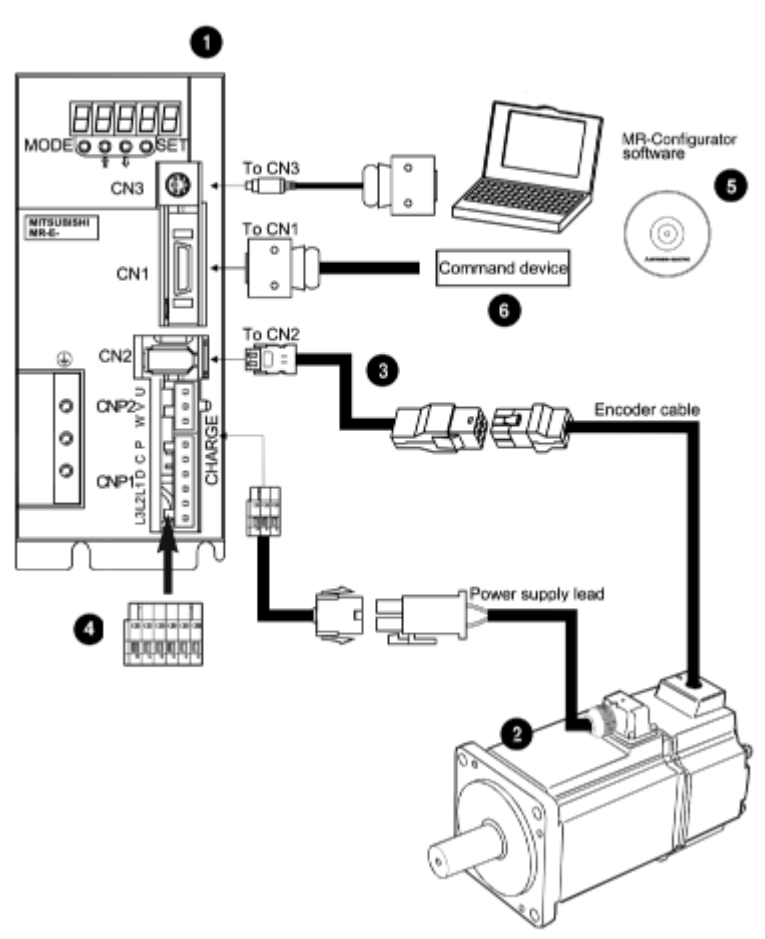
[Jump to: Software and Manuals](#)

[Jump to: Optional Accessories](#)

High performance and compact, the MR-E Super is an excellent choice for applications up to 2kW. The MR-E Super is available in pulse-train position or analog speed/torque models. The amplifier features Mitsubishi Electric's legendary auto-tuning and vibration suppression functions, a 400 Hz analog frequency response, and accepts pulse commands up to 500 kHz. The motors are low to medium inertia up to 4500 rpm and are equipped with a 131,072 pulse per revolution encoder. Set-up and diagnosis is made easy with the MR-Configurator Windows® based software.

100W to 1kW

2kW

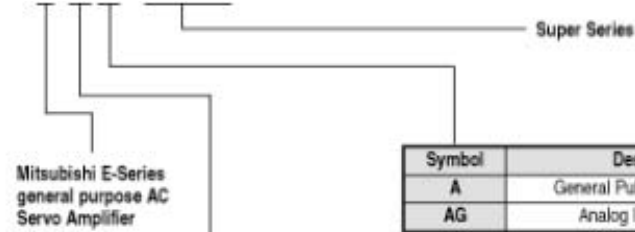


FOR AN OPERATIONAL SYSTEM, SELECT:	
1. Amplifier	4. Connector (Power)
2. Motor	5. Software and Manuals
3. Cables	6. Optional Accessories

*Order optional accessories as needed.

Amplifier Selection

MR-E-□□-KH003



Conforms to the following standards: EN, UL, cUL.

Symbol	Compatible Motor	
	HF-KE□ W1-S100	HF-SE□ JW1-S100
10	13	—
20	23	—
40	43	—
70	73	52
100	—	102
200	—	152, 202

Stocked Amplifiers

Model Number
MR-E-10A-KH003
MR-E-10AG-KH003
MR-E-20A-KH003
MR-E-20AG-KH003
MR-E-40A-KH003
MR-E-40AG-KH003
MR-E-70A-KH003
MR-E-70AG-KH003
MR-E-100A-KH003
MR-E-100AG-KH003
MR-E-200A-KH003
MR-E-200AG-KH003

Servo Standard Amplifier Specifications

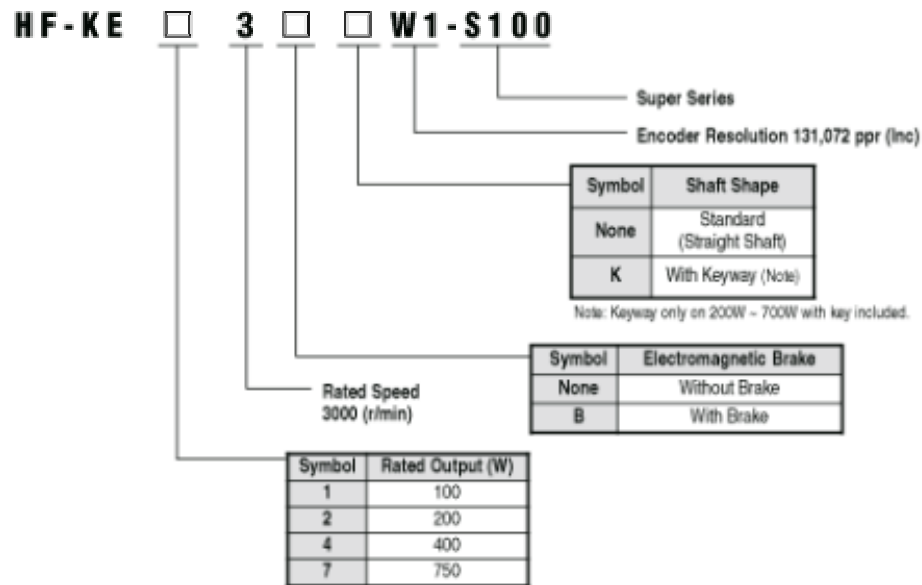
Servo Amplifier		MR-E-10A-KH003	MR-E-20A-KH003	MR-E-40A-KH003	MR-E-70A-KH003	MR-E-100A-KH003	MR-E-200A-KH003
Servo Amplifier with Analog Input Interface		MR-E-10AG-KH003	MR-E-20AG-KH003	MR-E-40AG-KH003	MR-E-70AG-KH003	MR-E-100AG-KH003	MR-E-200AG-KH003
Power Supply	Voltage / Frequency	3-phase 200 to 230VAC, 50/60Hz or 1-phase 230VAC, 50/60Hz				3-phase 200 to 230VAC, 50/60Hz	
	Permissible Voltage Fluctuation	3-phase 200 to 230VAC: 170 to 253VAC 1-phase 230 VAC: 207 to 253VAC				3-phase 170 to 253VAC	
	Permissible Frequency Fluctuation	Within ±5%					
System		Sine-wave PWM control, current control system					
Dynamic Brake		Built-in					
Protective Functions		Overcurrent shut-off, regenerative overvoltage shut-off, overload shut-off (electronic thermal relay), encoder error protection, regenerative brake error protection, undervoltage, instantaneous power failure protection, overspeed protection, excessive error protection					
A Type Amps	Position Control Mode	Max. Input Pulse Frequency 1 Mpps (for differential receiver), 200kpps (for open collector)					

		Command Pulse Multiplying Factor	Electronic gear A:1 to 65535 B:1 to 65535, $1/50 < A/B < 50$	
		In-Position Range Setting	0 to ± 16384 pulse (command pulse unit)	
		Error Excessive	± 2.5 revolutions	
		Torque Limit	Set by parameter setting	
	Internal Speed Control Mode	Speed Control Range	Internal speed command 1: 5000	
		Speed Fluctuation Ratio	$\pm 0.01\%$ or less (load fluctuation 0 to 100%); 0% or less (power fluctuation $\pm 10\%$)	
		Torque Limit	Set by parameter setting	
AG Type Amps	Speed Control Mode	Speed Control Range	Analog speed command 1: 2000, internal speed command 1: 5000	
		Analog Speed Command Input	0 to $\pm 10\text{VDC}$ / Rated speed	
		Speed Fluctuation Ratio	$\pm 0.01\%$ or less (load fluctuation 0 to 100%); 0% or less (power fluctuation $\pm 10\%$) $\pm 0.2\%$ max. (ambient temperature $25 \pm 10^\circ\text{C}$) for external speed setting only	
		Torque Limit	Set by parameter setting or external analog input (0 to $+10\text{VDC}$ / maximum torque)	
	Torque Control Mode	Analog Torque Command Input	0 to $\pm 8\text{VDC}$ / Maximum torque (input impedance 10 to 12kW)	
		Speed Limit	Set by parameter setting or external analog input (0 to ± 10 / Rated speed)	
Structure		Self-cooled, open (IP00)		Force-cooling, open (IP00)

Environment	Ambient Temperature	Operation °C (°F)	0 to +55 (non-freezing) (32 to +131 (non-freezing))				
		Storage °C (°F)	-20 to +65 (non-freezing) (-4 to +149 (non-freezing))				
	Ambient Humidity	Operation	90%RH or less (non-condensing)				
		Storage					
	Ambient	Indoors (no direct sunlight) Free from corrosive gas, flammable gas, oil mist, dust and dirt					
	Altitude	Max. 1000m (3280 ft) above sea level					
	Vibration	5.9 [m/s ²] or less; 19.4 [ft/s ²] or less					
Weight kg (lb)		0.7 (1.5)	0.7 (1.5)	1.1 (2.4)	1.7 (3.7)	1.7 (3.7)	2.0 (4.4)

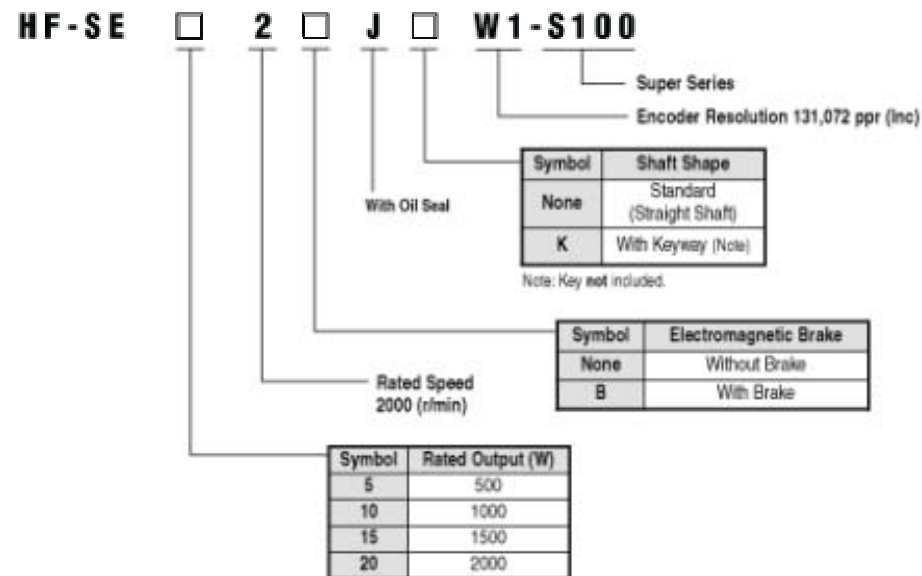
Servomotor Selection

Servomotor Selection



Stacked Motors

Model Number
HF-KE13W1-S100
HF-KE13BW1-S100
HF-KE23KW1-S100
HF-KE23BKW1-S100
HF-KE43KW1-S100
HF-KE43BKW1-S100
HF-KE73KW1-S100
HF-KE73BKW1-S100



Stacked Motors

Model Number
HF-SE52JKW1-S100
HF-SE52BJKW1-S100
HF-SE102JKW1-S100
HF-SE102BJKW1-S100
HF-SE152JKW1-S100
HF-SE152BJKW1-S100
HF-SE202JKW1-S100
HF-SE202BJKW1-S100

	Motor Series	Rated Speed (Max. r/min)	Rated Output Capacity (kW)	Servomotor Brake (B)	EN	UL • cUL	Protective Rating	Features	Application Examples
Small Capacity	HF-KE Super Series	3000 (4500)	4 Types 0.1, 0.2, 0.4, 0.75	Yes	Yes	Yes	IP55 Excluding the shaft-through portion and connector	Stable control from low speeds to high speeds allows compliance with a variety of applications.	Belt Drive Robots Mounters Sewing Machines X-Y Tables Food Processing Machines
Medium Capacity	HF-SE Super Series	2000 (3000)	4 Types 0.5, 1.0, 1.5, 2.0	Yes	Yes	Yes	IP55 Excluding the shaft-through portion		Conveyor Machines Robots X-Y Tables

MR-E HF-KE Super 3000 Series Servomotor Specifications

Servomotor Model		HF-KE13W1-S100	HF-KE23W1-S100	HF-KE43W1-S100	HF-KE73W1-S100	
Servomotor Model with Brake		HF-KE13BW1-S100	HF-KE23BW1-S100	HF-KE43BW1-S100	HF-KE73BW1-S100	
Servo Amplifier Model		MR-E-10A-KH003	MR-E-20A-KH003	MR-E-40A-KH003	MR-E-70A-KH003	
Servo Amplifier Model with Analog Input Interface		MR-E-10AG-KH003	MR-E-20AG-KH003	MR-E-40AG-KH003	MR-E-70AG-KH003	
Servomotor	Power Facility Capacity (kVA)		0.3	0.5	0.9	1.3
	Continuous Running Duty (*1)	Rated Output (W)	100	200	400	750
		Rated Torque (N·m [oz·in])	0.32 (45.3)	0.64 (90.6)	1.3 (184)	2.4 (340)
	Maximum Torque (N·m [oz·in])		0.95 (135)	1.9 (269)	3.8 (538)	7.2 (1020)
	Rated Speed (r/min)		3000			
	Maximum Speed (r/min)		4500			
	Permissible Instantaneous Speed (r/min)		5175			
	Power Rate at Continuous Rated Torque (kW/s)		11.5	16.9	38.6	39.9
	Rated Current (A)		0.8	1.4	2.7	5.2
	Maximum Current (A)		2.4	4.2	8.1	15.6
	Regenerative Breaking Frequency (Times/ Min)	With No Options	(*3)	(*3)	249	140
		MR-RB032 (30W)	(*3)	(*3)	747	210
		MR-RB12 (100W)	—	(*3)	2490	700
		MR-RB32 (300W)	—	—	—	2100
	Moment of Inertia J (x10-4kg·m ²) [J (oz·in ²)]	Standard	0.088 (0.481)	0.24 (1.31)	0.42 (2.30)	1.43 (7.82)
With Electromagnetic Brake		0.090 (0.492)	0.31 (1.69)	0.50 (2.73)	1.63 (8.91)	
Recommended Load/Motor Inertia Moment Rate		15 times the servo motor's inertia moment maximum (*2)				
Speed/Position Detector		Incremental encoder (resolution per servo motor rotation: 131,072 p/rev)				

Attachments		—			
Structure		Totally enclosed non ventilated (protection level: IP55) (*4)			
Environment (*5)	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)			
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)			
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust			
	Elevation/Vibration (*6)	1000m or less above sea level; X: 49m/s ² Y: 49m/s ²			
Mass kg (lb)	Standard	0.56 (1.3)	0.94 (2.1)	1.5 (3.3)	2.9 (6.4)
	With Electromagnetic Brake	0.86 (1.9)	1.6 (3.6)	2.1 (4.7)	3.9 (8.6)

Notes:

1. The rated output and rated speed of the servo motor assume that the rated power supply voltage and frequency are as indicated in Section 1.3 of the MR-E instruction manual.
2. If the load inertia moment ratio exceeds the indicated value, please consult MEAU.
3. When the effective torque is within the rated torque range, there are no restrictions on the regenerative brake duty. Note that the recommended load inertia moment ratio is 15 times or less.
4. Except for the shaft-through portion.
5. In the environment where the servo motor is exposed to oil mist, oil and/or water, the servo motor of the standard specifications may not be usable. Contact MEAU.
6. The vibration direction is shown on the diagram below. The numeric value indicates the maximum value of the component (commonly the bracket is in the opposite direction of the motor shaft). When the servo motor stops, fretting is likely to occur at the bearing. Therefore, suppress the vibration to about half of the permissible value.

MR-E HF-SE Super 2000 r/min Series Servomotor Specifications

Servomotor Model		HF-SE52JW1-S100	HF-SE102JW1-S100	HF-SE152JW1-S100	HF-SE202JW1-S100	
Servomotor Model with Brake		HF-SE52BJW1-S100	HF-SE102BJW1-S100	HF-SE152BJW1-S100	HF-SE202BJW1-S100	
Servo Amplifier Model		MR-E-70A-KH003	MR-E-100A-KH003	MR-E-200A-KH003		
Servo Amplifier Model with Analog Input Interface		MR-E-70AG-KH003	MR-E-100AG-KH003	MR-E-200AG-KH003		
Servomotor	Power Facility Capacity (kVA)		1.0	1.7	2.5	3.5
	Continuous Running Duty (*1)	Rated Output (kW)	0.5	1.0	1.5	2.0
		Rated Torque (N·m [oz·in])	2.39 (338)	4.77 (675)	7.16 (1010)	9.55 (1350)
	Maximum Torque (N·m [oz·in])		7.16 (1010)	14.3 (2020)	21.5 (3040)	28.6 (4050)
	Rated Speed (r/min)		2000			
	Maximum Speed (r/min)		3000			
	Permissible Instantaneous Speed (r/min)		3450			
	Power Rate at Continuous Rated Torque (kW/s)		9.34	19.2	28.8	23.8
	Rated Current (A)		2.9	5.3	8.0	10
	Maximum Current (A)		8.7	15.9	24	30
	Regenerative Braking Frequency (Times/Min) (*3, 4)	With No Options	120	62	152	71
		MR-RB032 (30W)	180	93	—	—
		MR-RB12 (100W)	600	310	—	—
		MR-RB30 (300W)	—	—	456	213
		MR-RB32 (300W)	1800	930	—	—
MR-RB50 (500W)		—	—	760	355	
Moment of Inertia J (x10 ⁻⁴ kg·m ²) [J (oz·in ²)]	Standard	6.1 (33.4)	11.9 (65.1)	17.8 (97.3)	38.3 (209)	
	With Electromagnetic Brake	8.3 (45.4)	14.0 (76.5)	20.0 (109)	47.9 (262)	

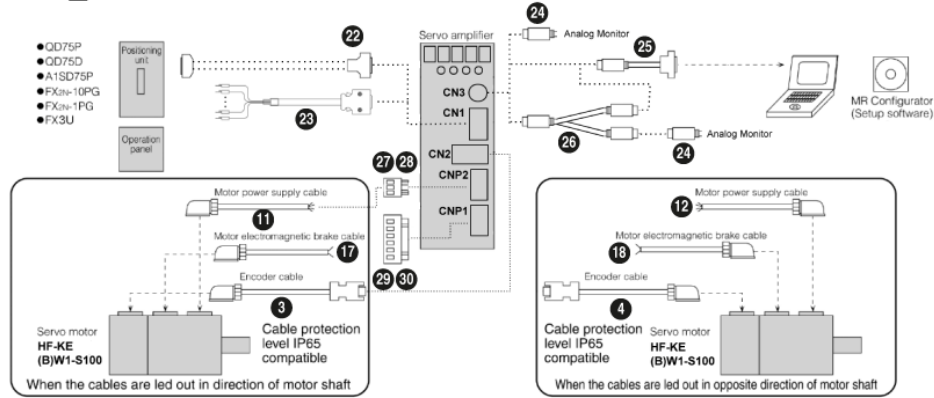
Recommended Load/Motor Inertia Moment Ratio		15 times the servo motor's inertia moment maximum (*2)			
Speed/Position Detector		Incremental encoder (resolution per servo motor: 131,072 p/rev)			
Attachments		—			
Structure		Totally enclosed non ventilated (protection level: IP55)			
Environment (*3)	Ambient Temperature	0 to 40°C (32 to 104°F) (non-freezing), storage: -15 to 70°C (5 to 158°F) (non-freezing)			
	Ambient Humidity	80% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)			
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust			
	Elevation	1000m or less above sea level			
	Vibration (*4)	X, Y : 24.5m/s ²			X : 24.5m/s ² Y : 49m/s ²
Mass (kg [lb])	Standard	4.8 (11)	6.5 (15)	8.3 (19)	12 (27)
	With Electromagnetic Brake	6.7 (15)	8.5 (19)	11 (25)	18 (40)

Notes:

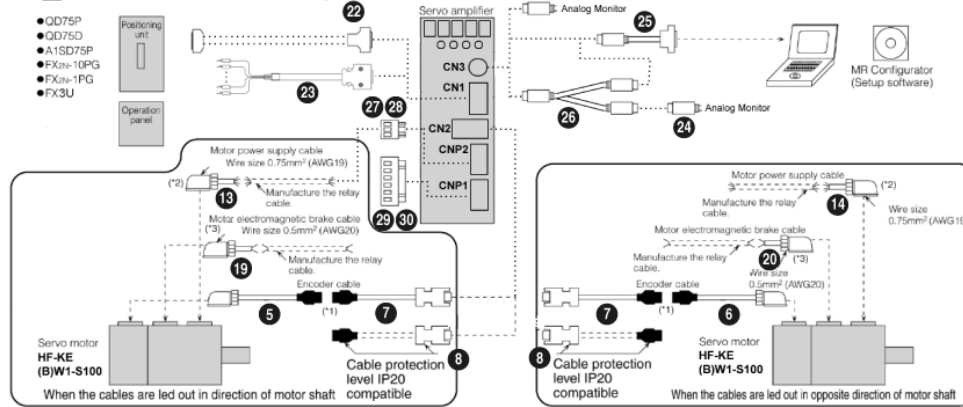
1. The rated output and rated speed of the servo motor assume that the rated power supply voltage and frequency are as indicated in Section 1.3 of the MR-E Manual.
2. If the load inertia moment ratio exceeds the indicated value, please consult MEAU.
3. In the environment where the servo motor is exposed to oil mist, oil and/or water, the servo motor of the standard specifications may not be useable. Contact MEAU.

MR-E Super Cables and Connectors

HF-KE □ W1-S100 Series: Encoder cable length 10m or shorter

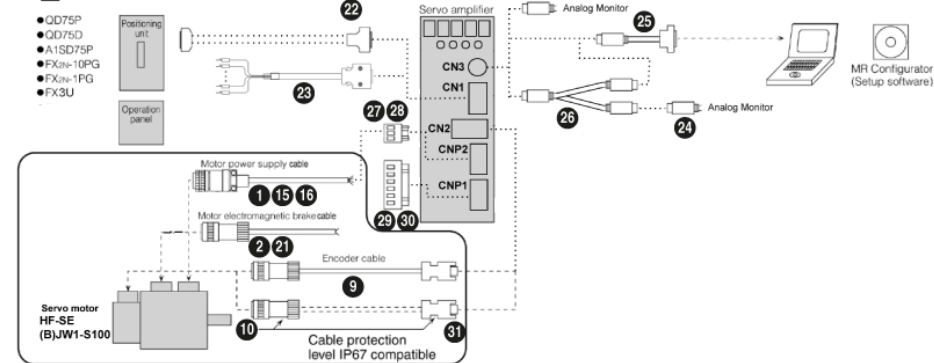


HF-KE □ W1-S100 Series: Encoder cable length over 10m



Notes: 1. This cable does not have a long bending life, please be sure to secure the cable before using.
 2. If the length exceeds 10m, use the needed length extension cable (customer supplied) in junction with the MR-PWS2CBL03M-A1-L-A2-L. This cable does not have a long bending life, please be sure to secure the cable before using.
 3. If the length exceeds 10m, use the needed length extension cable (customer supplied) in junction with the MR-BKS2CBL03M-A1-L-A2-L. This cable does not have a long bending life, please be sure to secure the cable before using.

HF-SE □ JW1-S100 Series



MR-E Super Cables and Connectors (refer to chart above)

Item				Cable Number (_ = cable length 2, 5, 10, 15, 20, 25, 30 meter)	Stocked Lengths	Protection Level
Power Cables HF-SE_(B)JW1-S100	1	Standard-Flex, Unshielded Type Cables (Straight Type Connector Only)	HF-SE52(B)JW1-S100 (*1)	MR-J3P1-_M (*2)	2M, 5M, 10M, 20M, 30M	IP65
			HF-SE102(B)JW1-S100 (*1)	MR-J3P2-_M (*2)		
			HF-SE152(B)JW1-S100 (*1)	MR-J3P3-_M (*2)		
			HF-SE202(B)JW1-S100 (*1)	MR-J3P4-_M (*2)		
	High-Flex, Shielded Type Cables (Straight type connector only)	HF-SE52(B)JW1-S100 (*1)	MR-J3PWS1-_M (*2)	—	IP67	
		HF-SE102(B)JW1-S100 (*1)	MR-J3PWS2-_M (*2)			
		HF-SE152(B)JW1-S100 (*1)	MR-J3PWS3-_M (*2)			
		HF-SE202(B)JW1-S100 (*1)	MR-J3PWS4-_M (*2)			
Brake Cables HF-SE_BJW1-S100	2	Standard-Flex, Unshielded Type Cables		MR-J3BK-_M	2M, 5M, 10M, 20M, 30M	IP65
		High-Flex, Shielded Type Cables		MR-J3BRKS1-_M	—	IP65
Encoder Cable for CN2 Connector HF-KE_(B)W1-S100	3	10m or Shorter (Direct Connection Type)	Lead Out In Direction Of Motor Shaft	MR-J3ENCBL_M-A1-H (_ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65
				MR-J3ENCBL_M-A1-L (_ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65
	Lead Out In Opposite Direction Of Motor Shaft		MR-J3ENCBL_M-A2-H (_ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65	
			MR-J3ENCBL_M-A2-L (_ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65	
	5	Exceeding 10m (Relay Type)	Lead Out In Direction Of Motor Shaft	MR-J3JCBL03M-A1-L (Cable length 0.3m) (*3)	S	IP20
	6		Lead Out In Opposite Direction	MR-J3JCBL03M-A2-L (Cable length 0.3m) (*3)	S	IP20

			Of Motor Shaft			
	7		Amplifier-Side Cable	MR-EKCBL_M-H (_ = cable length 20, 30, 40, 50m) (*3)	20, 30	IP20
				MR-EKCBL_M-L (_ = cable length 20, 30m) (*3)	-	IP20
	8		Junction Connector, Amplifier-Side Connector (*2)	MR-ECNM	S	IP20
Encoder Cable for CN2 Connector HF-SE_(B)W1-S100	9	Encoder Cable		MR-J3ENSCBL_M-H (_ = cable length 2, 5, 10, 20, 30, 40, 50m) (*3)	2, 5, 10, 20, 30	IP67
				MR-J3ENSCBL_M-L (_ = cable length 2, 5, 10, 20, 30m) (*3)	-	IP67
	10	Encoder Connector Set		MR-J3SCNS	S	IP67
Motor Power Supply Cables For CNP2 HF-KE_(B)W1-S100	11	10m Or Shorter (Direct Connection Type)	Lead Out In Direction Of Motor Shaft	MR-PWS1CBL_M-A1-H (_ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65
				MR-PWS1CBL_M-A1-L (_ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65
	12		Lead Out In Opposite Direction Of Motor Shaft	MR-PWS1CBL_M-A2-H (_ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65
				MR-PWS1CBL_M-A2-L (_ = cable length 2, 5, 10m) (*3)	2, 5, 10	IP65
	13	Exceeding 10m (Relay Type)	Lead Out In Direction Of Motor Shaft	MR-PWS2CBL03M-A1-L (Cable length 0.3m) (*3)	S	IP55
	14		Lead Out In Opposite Direction Of Motor Shaft	MR-PWS2CBL03M-A2-L (Cable length 0.3m) (*3)	S	IP55

Notes: 1. Must order separate brake cable for these motors.

2. Must order separate power connector 27 or 28 to connect to the power cable.

3. -H and -L indicate bending life. -H indicates a long bending life and -L indicates a standard bending life.

MR-E Super Cables and Connectors (refer to chart above)

Item			Model	Stocked Lengths	Protection Level	
Power Supply Connectors	15	Motors: HF-SE52(B)JW1-S100 HF-SE102(B)JW1-S100 HF-SE152(B)JW1-S100 See 1 For The Power Cable	MR-PWCNS4 (Straight type only)	S	IP67	
	16	Motor: HF-SE202(B)JW1-S100 See 1 For The Power Cable	MR-PWCNS5 (Straight type only)	S	IP67	
Motor Brake Cables For HF-KE_BW1-S100	17	10m Or Shorter (Direct Connection Type)	Lead Out In Direction Of Motor Shaft	MR-BKS1CBLnM-A1-H (n = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65
				MR-BKS1CBLnM-A1-L (n = cable length 2, 5, 10m) (*1)	—	IP65
	18		Lead Out In Opposite Direction Of Motor Shaft	MR-BKS1CBLnM-A2-H (n = cable length 2, 5, 10m) (*1)	2, 5, 10	IP65
				MR-BKS1CBLnM-A2-L (n = cable length 2, 5, 10m) (*1)	—	IP65
	19	Exceeding 10m (Relay Type)	Motor Lead Out In Direction Of Motor Shaft	MR-BKS2CBL03M-A1-L (Cable length 0.3m) (*1)	S	IP55
	20		Lead Out In Opposite Direction Of Motor Shaft	MR-BKS2CBL03M-A2-L (Cable length 0.3m) (*1)	S	IP55
Brake Connector Set For HF-SE_BJW1-S100	21	Brake Connector See 2 For The Brake Cable	MR-BKCNS1 (Straight type only)	S	IP67	
Connector for CN1 on Amp	22	CN1 Connector (26 Pin)	MR-ECN1	S	—	
Pigtail Cable for CN1 on Amp	23	CN1 Pigtail Cable (26 Pin)	MR-ECN1CBL-3M	S	—	
Connector and Cable Options For CN3 Connector on Amp	24	Analog Monitor RS-232C Connector	MR-ENC3	S	—	
	25	Communication Cable	SC-Q	S	—	
	26	Analog Monitor RS-232C Branch Cable	MR-E3CBL15-P	S	—	
CNP2 Power to Motor Connector	27	MR-E10 to 100A/AG-KH003	MR-ECNP2-B	S	—	
	28	MR-E200A/AG-KH003 Amp Only	MR-ECNP2-B1	S	—	

CNP1 Amp Power Input Connector	29	MR-E10 to 100A/AG-KH003 Amps	MR-ECNP1-B	S	—
	30	MR-E200A/AG-KH003 Amp Only	MR-ECNP1-B1	S	—
CN2 Connector	31	CN2 Connector Only	MR-J3CN2	S	—

Note:

1. -H and -L indicate bending life. -H indicates a long bending life and -L indicates a standard bending life.

Software and Manuals

MR-Configurator Setup Software

This Windows®-based software package is used to setup, program and test the amplifier. Initial setup and programming is easy and quick with the user-friendly software, which has extensive help functions and drop-downs. MR-Configurator also has many diagnostic functions such as a machine simulator to aid in mechanical design, a machine analyzer to find resonant frequencies of the load and set notch filters, an alarm monitor with history data, and the ability to assign and monitor I/O.

Features:

Can be set up using a personal computer. Works on Windows 95/98/NT/ME/2000 Professional, XP Professional*.

Provides numerous monitor functions. Provides graph display function that enables display of servomotor status upon input signal triggers such as command pulses, droop pulses, and r/min.

Allows servomotors to be tested easily from a personal computer.

Windows is a registered trademark of the Microsoft Corporation.

Description	Model Number	Stk Item
Windows Communication Software	MR-Configurator	S
Communications Cable	SC-Q	S

Manuals

Hardware Description	Model Number	Stk Item
MR-E-A/AG-KH003 Instruction Manual	Not available at time of print	—
EMC Guidelines (Servo) Manual	IB(NA)67310	—

Note: Many of these manuals are available for free download from our website, www.meau.com

Optional Accessories

Filters

Description	Model Type	Model Number	Stocked Item
Line Noise Filter	All MR-E Models	FR-BSF01	S
230V RF Filter	All MR-E Models	FR-BIF	S
EMC Filter	MR-E-10 to 70	SF1252	S
EMC Filter	MR-E-100	MF-3F480-010.230	—
EMC Filter	MR-E-200	MF-3F480-025.230	—

Regenerative Brake Options

Servo Amplifier	Model Number – Regenerative Power [W]					
	Built-In Regen. Resistor	MR-RB032 [40ohm]	MR-RB12 [40ohm]	MR-RB32 [40ohm]	MR-RB30 [40ohm]	MR-RB50 [40ohm] (Note)
Stocked Item	N/A	S	S	S	S	S
MR-E-10	—	30	—	—	—	—
MR-E-20	—	30	100	—	—	—
MR-E-40	10	30	100	—	—	—
MR-E-70	20	30	100	300	—	—
MR-E-100	20	30	100	300	—	—
MR-E-200	100	—	—	—	300	500

Note: Always install a cooling fan when using MR-RB50.

AC Power Improving Reactor Options

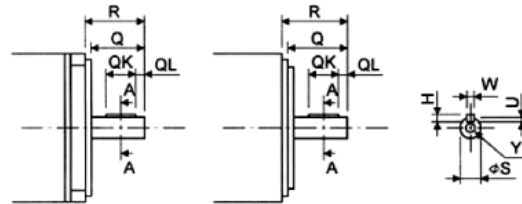
Model Type	Model Number	Stocked Item
MR-E-10 and 20	MRL-00402	S
MR-E-40	MRL-00402	S
MR-E-70	MRL-00802	S
MR-E-100	MRL-01202	S
MR-E-200	MRL-01802	S

MR-E Super Shaft Detail

Servo Motor Model	Shaft Shape		
	With Key	D Cut	L Cut
HF-SE52 - 202	✓ (*2)	—	✓ (*3)
HF-KE13	—	✓	✓ (*3)
HF-KE23 - 73	✓ (*1)	—	✓ (*3)

- Notes:
1. With a key.
 2. Without a key.
 3. This is a standard. For shape refer to manual.

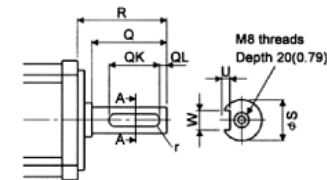
With Key



Servo Motor Model	Variable Dimensions								
	S	R	Q	W	QK	QL	U	H	Y
HF-KE23K • 43K	14h6 (0.554)	30 (1.18)	27 (1.06)	5 (0.20)	20 (0.79)	3 (0.12)	3 (0.12)	5 (0.20)	M4 Depth 15 (0.59)
HF-KE73K	19h6 (0.7480)	40 (1.57)	37 (1.46)	6 (0.24)	25 (0.98)	5 (0.20)	3.5 (0.14)	6 (0.24)	M5 Depth 20 (0.79)

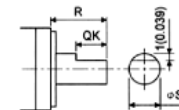
Servo Motor Model	Variable Dimensions								Key Dimension	Model Number
	S	R	Q	W	QK	QL	U	r		
HF-SE25K - 152K	24h6 (0.94)	55 (2.17)	50 (1.97)	8 _{0.008} (0.31)	36 (1.42)	5 (0.20)	4 ^{+0.2} ₀ (0.16)	4 (0.16)	8 x 7 x 28	MTR KEY 8-7-28
HF-SE202K	35 (1.38)	79 (3.11)	75 (2.95)	10 _{0.138} (0.39)	55 (2.17)	5 (0.20)	5 ^{+0.2} (0.20)	5 (0.20)	10 x 8 x 45	MTR KEY 10-8-45

Without Key



Servo Motor Model	Variable Dimensions		
	R	QK	S
HF-KE13D	25 (0.98)	20.5 (0.81)	8h (0.32)

D-Cut



Unit of Measure: mm (in)