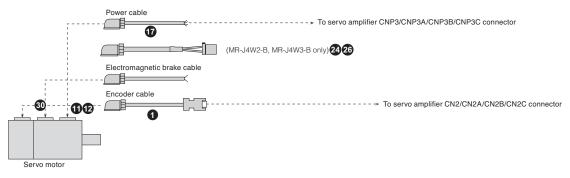
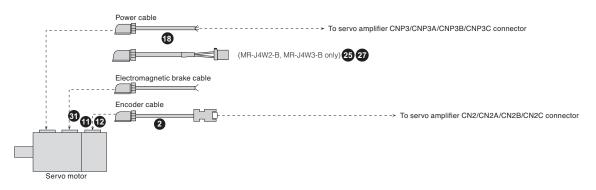
MR-J4 Servo Motor Cables and Connectors

For HG-KR/HG-MR Servo Motor Series: Encoder Cable Length 10m or Shorter

For leading the cables out in direction of load side (*1)

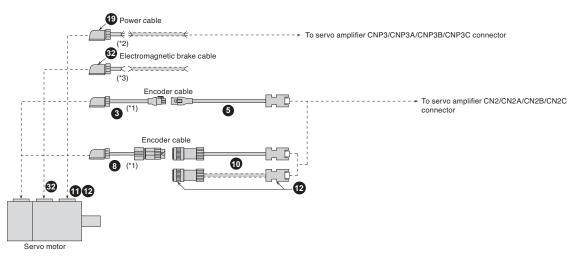


For HG-KR/HG-MR Servo Motor Series: Encoder Cable Length 10m or Shorter For leading the cables out in opposite direction of load side (*1)



Note: Cables for leading two different directions may be used for one Servo Motor.

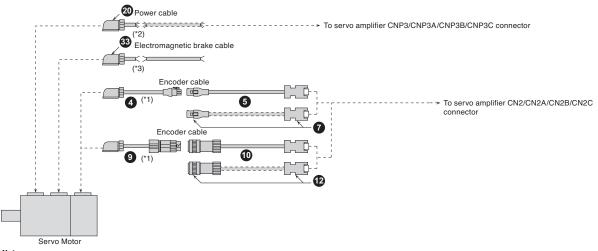
For HG-KR/HG-MR Servo Motor Series: Encoder Cable Length Over 10m For leading the cables out in direction of load side (*4)



Notes:

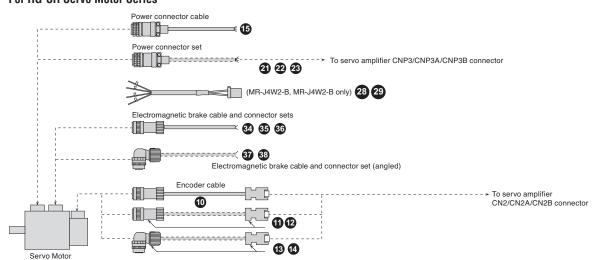
- 1. This cable does not have a long bending life. Thus, be sure to fix the cable before using.
- 2. Relay a cable using MR-PWS2CBL03M-A1-L or MR-PWS2CBL03M-A2-L. This cable does not have a long bending life. Thus, be sure to fix the cable before using.
- 3. Relay a cable using MR-BKS2CBL03M-A1-L or MR-BKS2CBL03M-A2-L. This cable does not have a long bending life. Thus, be sure to fix the cable before using.
- 4. Cables for leading two different directions may be used for one Servo Motor.
- 5. Cables drawn with dashed lines need to be fabricated by user. Refer to relevant Servo Motor Instruction Manual for fabricating the cables.

For HG-KR/HG-MR Servo Motor Series: Encoder Cable Length Over 10m For leading the cables out in opposite direction of load side (*4)

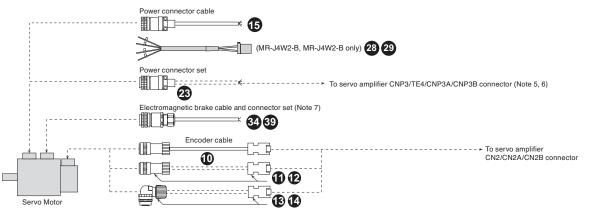


Notes:

- 1.
- This cable does not have a long bending life. Thus, be sure to fix the cable before using. Relay a cable using MR-PWS2CBL03M-A1-L or MR-PWS2CBL03M-A2-L. This cable does not have a long bending life. Thus, be sure to fix the cable before using. 2
- 3. Relay a cable using MR-BKS2CBL03M-A1-L or MR-BKS2CBL03M-A2-L. This cable does not have a long bending life. Thus, be sure to fix the cable before using.
- Cables for leading two different directions may be used for one Servo Motor. 4
- 5. Cables drawn with dashed lines need to be fabricated by user. Refer to relevant Servo Motor Instruction Manual for fabricating the cables.



For HG-RR and HG-UR Servo Motor Series

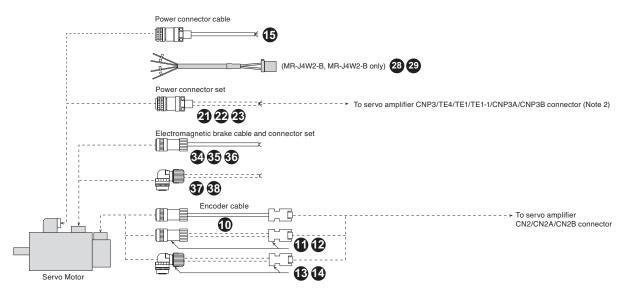


Notes:

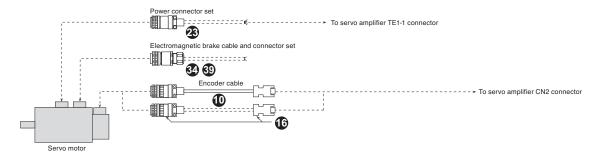
- Contact the relevant liner encoder manufacturers for connectors to connect with the head cables. 1.
- Cables drawn with dashed lines need to be fabricated by user. Refer to relevant Servo Motor Instruction Manual for fabricating the cables. 2
- 3 Connections other than mentioned are the same as those for each rotary Servo Motor. Refer to cables and connectors for relevant Servo Motors in this catalog.
- 4 Necessary encoder cables vary depending on the Servo Motor series. Refer to cables and connectors for relevant Servo Motors in this catalog.
- The connector for U, V, and W varies depending on the servo amplifier capacities. Refer to the dimensions of the relevant servo amplifier in this catalog for details. 5.
- HG-RR series is compatible only with the 1-axis servo amplifier. 6.
- An electromagnetic brake connector set is not required for HG-RR Series and 1.5 kW or smaller of HG-UR Series as the power connector has electromagnetic brake terminals. 7.

For HG-SR Servo Motor Series

For HG-JR Rotary Servo Motor 3000 r/min Series

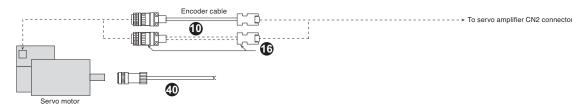


For HG-JR Rotary Servo Motor 1000 r/min Series (6 kW to 12 kW) and 1500 r/min series (7 kW to 15 kW)





For HG-JR Rotary Servo Motor 1000 r/min Series (15 kW to 37 kW) and 1500 r/min series (22 kW to 55 kW)



Notes:

1. Cables drawn with dashed lines need to be fabricated by user. Refer to relevant Servo Motor Instruction Manual for fabricating the cables.

2. The connector for U, V, and W varies depending on the servo amplifier capacities. Refer to the dimensions of the relevant Servo Amplifier in this catalog for details.

Encoder Cables and Connectors

Figure Number	Item		Model Number	Available Lengths	Stocked Lengths	Protection Level	Des	cription
1	-	Lead Out in Direction of Motor	MR-J3ENCBL_M-A1-H	2, 3, 5, 7, 8, 10	2, 3, 5, 10	IP65		
	Encoder Cable 10m or Shorter (Direct		MR-J3ENCBL M-A1-L	2, 5, 10	2, 5, 10	IP65	Encoder connector	Servo amplifier connector
	Connection Type)	Lead Out in Opposite Direction	MR-J3ENCBL M-A2-H	1, 2, 5, 5, 10	1, 2, 5, 5, 10	IP65		
2	(*2)	of Motor Shaft For HG-KR/ HG-MR	MR-J3ENCBL_M-A2-L	1, 2, 5, 10	1, 2, 5, 10	IP65		
3	Encoder Cable.	Lead Out in Direction of Motor Shaft For HG-KR/HG-MR	MR-J3JCBL03M-A1-L	3	3	IP20	Encoder connector	Junction connector
4	 (Junction Type) Use This In Combination With (5) or (7). (*2) 	Lead Out in Opposite Direction of Motor Shaft For HG-KR/ HG-MR	MR-J3JCBL03M-A2-L	3	3	IP20		
5	Encoder Cable. Use	For HG-KR/HG-MR	MR-EKCBL_M-H (*1, *3)	2, 5, 10, 15, 20, 30, 50	10, 20, 30, 50	IP20	Junction connector	Servo amplifier connector
Ð	This In Combination With (3) or (4). (*2)	(Junction Type)	MR-EKCBL_M-L (*1, *3)	2, 5, 10, 15, 20, 30	-	IP20		
7	Encoder Connector Set	For HG-KR/HG-MR (Junction Type) For Connecting Load-Side Encoder	MR-ECNM	-	S	IP20	-	
8	Exceeding 10m (Relay Type)	For HG-KR/HG-MR (Junction Type)	MR-J3JSCBL03M-A1-L (*1, *3)	3	3	IP65 (*4)	Encoder connector	Junction connector
9	Use this in combination with (10) or (11). (*2)	For HG-KR/HG-MR (Junction Type)	MR-J3JSCBL03M-A2-L (*1)	3	3	IP65 (*4)		
	Encoder Cable (*2)	nction Type, in combination	MR-J3ENSCBL_M-H (*1)	2, 5, 10, 15, 17, 20, 30, 40, 50, 60	2, 5, 10, 20, 30	IP67	Junction connector c	or Servo amplifier
	For HG-SR/HG-JR53, 73, 103, 153, 203, 353, 503, 703, 903, 534, 734, 1034, 1534, 2034, 3534, 5034, 7034, 9034/HG-RR/HG-UR		MR-J3ENSCBL_M-L (*1)	2, 5, 10, 20, 30	2, 5	IP67	encoder connector	
	For HG-SR/HG-RR/HG-UR Series and HG-JR53, 534, 73, 734, 103, 1034, 153, 1534, 203, 2034, 353, 3534, 503, 5034, 703, 7034, 903, 9034		MR-J3ENS4CBL_M-H	50, 60, 70, 80, 90, 100	-	IP67		
10	20K1, 25K1, 30K1, 37 22K1M, 30K1M, 37K1 20K14, 25K14, 30K14	r HG-JR601, 801, 12K1, 15K1, K1, 701M, 11K1M, 15K1M, M, 6014, 8014, 12K14, 15K14, , 37K14, 701M4, 11K1M4, K1M4, 37K1M4, 45K1M4,	MR-ENECBL_M-H-MTH	2, 5, 10, 15, 20, 30, 40, 50	5, 10, 20	IP67	Junction connector of encoder connector	r Servo amplifier connector
	For HG-JR701M, 701M4, 11K1M, 11K1M4, 15K1M, 15K1M4, 22K1M, 22K1M4, 30K1M, 30K1M4, 37K1M, 37K1M4, 45K1M4, 55K1M4, 601, 6014, 801, 8014, 12K1, 12K14, 15K1, 15K14, 20K1, 20K14, 25K1, 25K14, 30K1, 30K14, 37K1, 37K14		MR-ENE4CBL_M-H-MTH	50, 60, 70, 80, 90, 100	-	IP67		
11	type) For HG-KR/HG-N For HG-SR/HG-JR53, 703, 903, 534, 734, 1	: (*5) (one-touch connection IR (junction type) 73, 103, 153, 203, 353, 503, 034, 1534, 2034, 3534, 5034, i-UR (direct connection type)	MR-J3SCNS	-	S	IP67	Encoder Side	Amplifier Side
12	Encoder connector set For HG-SR/HG-JR53, 703, 903, 534, 734, 1 7034, 9034/HG-RR/HG	: (*3, *5) (screw type) 73, 103, 153, 203, 353, 503, 034, 1534, 2034, 3534, 5034, I-UR (straight type)	MR-ENCNS2	-	S	IP67		
13	type) For HG-SR/HG-J 353, 503, 703, 903,53 3534,5034, 7034, 903	: (*5) (one-touch connection R53, 73, 103,153, 203, 14, 734, 1034,1534, 2034, 4/HG-RR/HG-UR (angle type)	MR-J3SCNSA	-	S	IP67		
14	HG-SR/HG-JR53, 73, ⁻	: (*3, *5) (screw type) For 103,153, 203, 353, 503, 703, 534, 2034, 3534,5034, 7034, angle type)	MR-ENCNS2A	-	S	IP67		

Notes:

Notes:
 The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/Servo Motor. If the IP rating of the servo amplifier/Servo Motor differs from that of these connectors, overall IP rating depends on the lowest of all.
 H and -L indicate a bending life. -H indicates a long bending life, and -L indicates a standard bending life.
 This encoder cable is available in four-wire type. Parameter setting is required to use the four-wire type encoder cable. Refer to relevant Servo Amplifier Instruction Manual for details.
 The encoder cable is rated IP65 while the junction connector itself is rated IP67.
 Use MR-EKCBL_M-H and MR-ECNM to connect to an output cable for AT343A, AT543A-SC or AT545A-SC scales manufactured by Mitutoyo Corporation.

Figure Number	Item	Motor Model Number	Cable Number	Available Lengths	Stocked Lengths	Protection Level	Description
		HG-SR51(B), 52(B), 81(B), 102(B), 152(B), 524(B), 1024(B), 1524(B); HG-JR53(B), 534(B), 73(B), 734(B), 103(B), 1034(B), 153(B), 1534(B), 203(B), 2034(B), 3534(B) (*1)	MR-J3P2M	2, 3, 5, 10, 15, 20, 25, 30, 40, 50	2, 5, 10, 15, 20, 30		
		HG-SR121(B), 201(B), 202(B), 301(B), 352(B), 3524(B) HG-JR353(B), HG-SR2024(B)	MR-J3P4M	2, 5, 10, 15, 20, 25, 30, 40, 50, 100	2, 5, 10, 15, 20, 30	0,	
		HG-SR421(B), 702(B), 7024(B); HG-JR601(B), 6014(B), 701M(B), 701M4(B),703(B), 7034(B) (*1)	MR-J3P7M	2, 5, 7, 10, 15, 20, 25, 30, 50	2, 5, 10, 20, 30		
	Standard-Flex, Unshielded	HG-SR502(B), 5024(B) HG-JR503(B)	MR-J3P10M	2, 5, 10, 15, 20, 25, 30	5, 10		
	Type Cables (Straight Type	HG-JR5034(B)	MR-J3P11M	2, 5, 10, 15, 20, 25, 30, 50	5, 10	IP65	
	Connector Only)	HG-JR801(B), 8014(B), 903(B), 9034(B), 11K1M(B), 11K1M4(B), 12K1(B), 12K14(B), 15K1M(B), 15K1M4(B) (*1)	MR-J3P12M	2, 5, 10, 15, 20, 25, 30, 50	-		
		HG-RR103, 153, 203; HG-UR72, 152	MR-J3HC3SM	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 20, 30		
		HG-RR103B, 153B, 203B; HG-UR72B, 152B	MR-J3HC3SBM	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 20, 30		
		HG-RR353, 503; HG-UR352, 502	MR-J3HC5SM	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 20, 30		
		HG-RR353B, 503B; HG-UR352B, 502B	MR-J3HC5SBM	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 20, 30		
15		HG-SR51(B), 52(B), 81(B), 102(B), 152(B), 524(B), 1024(B), 1524(B); HG-JR53(B), 534(B), 73(B), 734(B), 103(B), 1034(B), 153(B), 1534(B), 203(B), 2034(B), 3534(B) (*1)	MR-J3PWS2M	2, 5, 10, 15, 17, 20, 25, 30, 40	2, 5, 10, 15, 20, 30		
		HG-SR121(B), 201(B), 202(B), 301(B), 352(B), 3524(B) HG-JR353(B), HG-SR2024(B)	MR-J3PWS4M	2, 5, 10, 15, 20, 25, 30, 40, 50	2, 5, 10, 20, 30		
		HG-SR421(B), 702(B), 7024(B); HG-JR601(B), 6014(B), 701M(B), 701M4(B),703(B), 7034(B) (*1)	MR-J3PWS7M	2, 5, 10, 15, 20, 25, 30, 40, 50	5, 10, 15, 20, 30		
	High-Flex, Shielded	HG-SR502(B), 5024(B) HG-JR503(B)	MR-J3PWS10M	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 30		
	Type Cables (Straight Type Connector	HG-JR5034(B)	MR-J3PWS11M	2, 5, 10, 15, 20, 25, 30, 50	5, 10, 20, 30	IP67	
	Only) (*2)	HG-JR801(B), 8014(B), 903(B), 9034(B), 11K1M(B), 11K1M4(B), 12K1(B), 12K14(B), 15K1M(B), 15K1M4(B) (*1)	MR-J3PWS12M	2, 5, 10, 15, 20, 25, 30	-		
		HG-RR103, 153, 203; HG-UR72, 152	MR-J3HC3S-SHM	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 20, 30		
		HG-RR103B, 153B, 203B; HG-UR72B, 152B	MR-J3HC3SB-SHM	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 15, 20, 25, 30		
		HG-RR353, 503; HG-UR352, 502	MR-J3HC5S-SHM	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 20, 30	1	
		HG-RR353B, 503B; HG-UR352B, 502B	MR-J3HC5SB-SHM	2, 5, 10, 15, 20, 25, 30	2, 5, 10, 20, 30		
16	CN2 Connector	Only	MR-J3CN2	-	S	IP67	
16	Encoder Connector Set	HG-JR601(4), 801(4), 12K1(4), 15K1(4), 20K1(4), 25K1(4), 30K1(4), 37K1(4), 701M(4), 11K1M(4), 15K1M(4), 22K1M(4), 30K1M(4), 37K1M(4), 45K1M4, 55K1M4	MR-ENECNS	-	S	IP67	Encoder Side Amplifier Side

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

Motor Power Supply Cables

Figure	Power Suppry			Available	Stocked	Protection	
Number	Item		Model Number	Lengths	Lengths	Level (*1)	Description
17		Power Supply Cable For HG-KR/ HG-MR, Lead Out In Direction Of	MR-PWS1CBL_M-A1-H (*1)	2, 3, 5, 7, 8, 10	2, 3, 5, 10	IP65	
		Motor Shaft (Non-Shielded) (*2)	MR-PWS1CBL_M-A1-L (*1)	2, 3, 5, 10	2, 5, 10	IP65	
	10m Or	Power Supply Cable for HG-MR / HG-KR Series Motor, Lead Out in Direction of Motor Shaft (Shielded)	MR-J3PS_M-A1	3, 5, 10	3, 5	IP65	
18	Shorter (Direct Connection Type	Power Supply Cable For HG-MR / HG-KR Series Motor. Lead Out In Opposite Direction of Motor Shaft (Shielded)	MR-J3PS_M-A2	3, 5, 10	3, 5, 10	IP65	
		Power Supply Cable For HG-KR/ HG- MR. Lead Out In Opposite Direction	MR-PWS1CBL_M-A2-H (*1)	1, 2, 5, 5, 10, 15	1, 2, 5, 5, 10	IP65	
		of Motor Shaft (Non-Shielded) (*2)	MR-PWS1CBL_M-A2-L (*1)	1, 2, 5, 10	2, 5, 10	IP65	
19	Exceeding 10m	Power Supply Cable For HG-KR/ HG-MR (Junction Type) Motor Lead Out In Direction Of Motor Shaft (Non-Shielded) (*2)	MR-PWS2CBL03M-A1-L	3	3	IP55	
20	(Relay Type)	Power Supply Cable For HG-KR/ HG-MR (Junction Type) Motor Lead Out In Opposite Direction Of Motor Shaft (Non-Shielded) (*2)	MR-PWS2CBL03M-A2-L	3	3	IP55	
21		2, 102, 152, 524,1024, 1524 13, 153, 203, 534, 734, 1034, 1534,	MR-PWCNS4	-	S	IP67	
22	Power Connecto HG-SR121, 201, HG-JR353, 503	r Set For 301, 202, 352, 502, 2024,3524, 5024	MR-PWCNS5	-	S	IP67	
	Power Connector Set For HG-SR421, 702, 7024/HG- JR703, 903, 601, 801, 12K1, 701M, 11K1M, 15K1M, 7034, 9034, 6014, 8014, 12K14, 701M4, 11K1M4, 15K1M4/TM-RFM240J10		MR-PWCNS3	-	S	IP67	
23	Power Connector Set For HG-UR202, 352, 502 HG-RR353, 503		MR-PWCNS2	-	S	IP67	
	Power Connecto HG-RR103, 153,	r Set For HG-UR72, 152 203	MR-PWCNS1	-	S	IP67	

Notes:

1. The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/Servo Motor. If the IP rating of the servo amplifier/Servo Motor differs

from that of these connectors, overall IP rating depends on the lowest of all. 2. -H and -L indicate a bending life. -H indicates a long bending life, and -L indicates a standard bending life.

Motor Power Cable for HG-KR/HG-MR Rotary Servo Motor Series to MR-J4W2/MR-J4W3 (Direct Connection Type)

Figure Number	Item	Model Number	Available Lengths	Stocked Lengths	Description
24	Lead Out in Direction of Motor Shaft Standard Bending Life	SC-EPWS1CBL_M-A1-L	2, 5	5	
25	Lead Out in Opposite Direction of Motor Shaft Standard Bending Life	SC-EPWS1CBL_M-A2-L	2, 5	2, 5	
26	Lead Out in Direction of Motor Shaft Long Bending Life	SC-EPWS1CBL_M-A1-H	2, 5	2, 5	
27	Lead out in Opposite Direction of Motor Shaft Long Bending Life	SC-EPWS1CBL_M-A2-H	2, 5	2, 5	

Motor Power Cable for HG-SR/HG-JR/HG-UR Rotary Servo Motor Series to MR-J4W2/MR-J4W3

Figure Number	Item	Model Number (*1)	Available Lengths	Stocked Lengths	Description
28	Standard Bending Life	SC-EPWS2CBL_M-L	2, 5, 10, 20, 30	5, 10	
29	Long Bending Life	SC-EPWS2CBL_M-H	2, 5, 10, 20, 30	5, 10	

Note 1. A separate motor-side power supply connector is required.

Motor Brake Cables for HG-KR/HG-MR Rotary Servo Motors

Figure Number	Item		Model Number	Available Lengths	Stocked Lengths	Protection Level (*1)	Description
30	Brake Cable for	Lead Out in Direction of	MR-BKS1CBL_M-A1-H (*1)	2, 5, 7, 10	2, 5, 10	IP65	
30	HG-KR/HG-MR	Motor Shaft	MR-BKS1CBL_M-A1-L (*1)	2, 5, 10	-	IP65	
	Series 10m or		MR-BKS1CBL_M-A2-H (*1)	2, 5, 10	2, 5, 10	IP65	
31	Shorter (Direct Connection Type) (*2)	Lead Out in Opposite Direction of Motor Shaft	MR-BKS1CBL_M-A2-L (*1)	2, 5, 10	-	IP65	
32	Brake Cable for HG-KR/HG-MR	Lead Out in Direction of Motor Shaft	MR-BKS2CBL03M-A1-L (*1)	3	3	IP55	
33	Series Exceeding	Lead Out in Opposite Direction of Motor Shaft	MR-BKS2CBL03M-A2-L (*1)	3	3	IP55	

Notes:

The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/Servo Motor. If the IP rating of the servo amplifier/Servo Motor differs from that of 1. these connectors, overall IP rating depends on the lowest of all. 2. -H and -L indicate a bending life. -H indicates a long bending life, and -L indicates a standard bending life.

Brake Cables for HG-SR/JR/RR/UR Servo Motor Series

Figure Number	ltem		Model Number	Available Lengths		Protection Level	Description
	Standard-Flex, Unshielded	HG-SR(4)B, HG-JR(4)B 3000 RPM	MR-J3BKM	2, 3.5, 5, 10, 15, 20, 25, 30, 40, 50	2, 5, 10, 20, 30	IP67	
24		HG-JR601(4)B, 804(4)B, 12K1(4)B, 701M(4)B, 11K1M(4)B, 15K1M(4)B HG-UR202B, 352B, 502B	MR-J3HCBKSM	2, 5, 10, 15, 20, 25, 30	5, 10, 20	IP65	
34	High-Flex, Shielded	HG-SR(4)B, HG-JR(4)B 3000 RPM	MR-J3BRKS1M	2, 5, 10, 15, 20, 25, 30, 40, 50	2, 5, 10, 15, 20, 30	IP67	
		HG-JR601(4)B, 804(4)B, 12K1(4)B, 701M(4)B, 11K1M(4)B, 15K1M(4)B HG-UR202B, 352B, 502B	MR-J3HCBKS-SHM	2, 5, 10, 15, 20, 25, 30, 50	-	IP65	

Brake Connector Set

Figure Number	Item	Model Number	Stocked Item	Protection Level (*1)	Description
35	Electromagnetic Brake Connector Set (One-Touch Connection, Straight) For HG-SR(4)B and HG-JR53(4)B, 73(4)B, 103(4)B, 153(4)B, 203(4)B, 353(4)B, 503(4)B, 703(4)B, 903(4)B	MR-BKCNS1	S	IP67	
36	Electromagnetic Brake Connector Set (Screw Connection, Straight) For HG-SR(4)B and HG-JR53(4)B, 73(4)B, 103(4)B, 153(4)B, 203(4)B, 353(4)B, 503(4)B, 703(4)B, 903(4)B	MR-BKCNS2	S	IP67	
37	Electromagnetic Brake Connector Set (One-Touch Connection, Angled) For HG-SR(4)B and HG-JR53(4)B, 73(4)B, 103(4)B, 153(4)B, 203(4)B, 353(4)B, 503(4)B, 703(4)B, 903(4)B	MR-BKCNS1A	S	IP67	
38	Electromagnetic Brake Connector Set (Screw Connection, Angled) For HG-SR(4)B and HG-JR53(4)B, 73(4)B, 103(4)B, 153(4)B, 203(4)B, 353(4)B, 503(4)B, 703(4)B, 903(4)B	MR-BKCNS2A	S	IP67	
39	Electromagnetic Brake Connector Set (Straight Type) For HG-JR601(4)B, 801(4)B, 12K1(4)B, 701M(4)B, 11K1M(4)B, 15K1M(4)B, HG-UR202B, 352B, 502B	MR-BKCN	S	IP67	

Note 1: The IP rating indicated is for the connector's protection against ingress of dust and water when coupled to a servo amplifier/servo motor. If the IP rating of the servo amplifier/servo motor differs from that of these connectors, the overall IP rating depends on the lowest of all.

Cooling Fan Power Connector Set

Figure Number	Item	Model Number	Stocked Item	Protection Level (*1)	Description
40	Cooling Fan Power Connector Set for HG-JR15K1(4), 20K1(4), 25K1(4), 30K1(4), 37K1(4), 22K1M(4), 30K1M(4), 38K1M(4), 45K1M4, 55K1M4	MR-PWCNF	S	IP67	