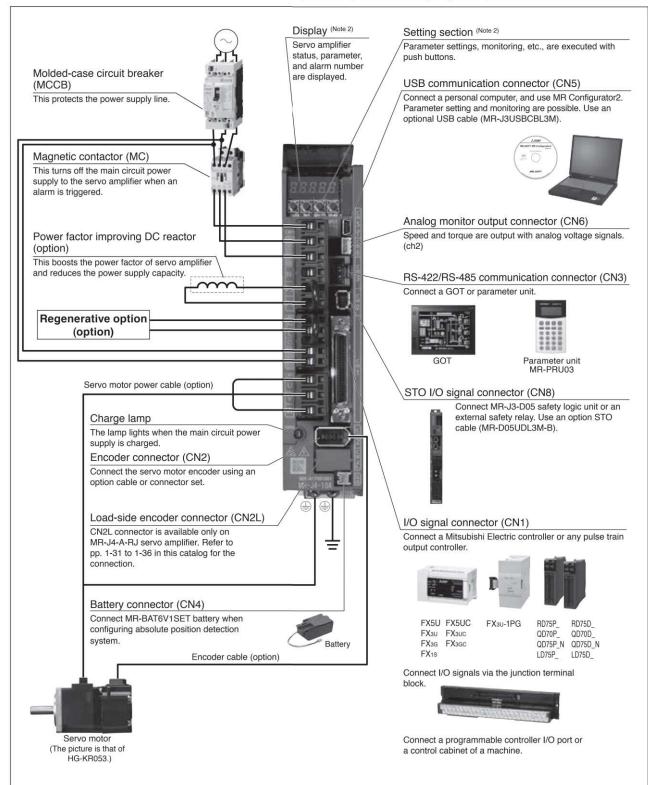
MR-J4-A/MR-J4-A-RJ Connections with Peripheral Equipment (Note 1)

A A-RJ

Peripheral equipment is connected to MR-J4-A/MR-J4-A-RJ as described below. Connectors, cables, options, and other necessary equipment are available so that users can set up the servo amplifier easily and start using it right away.



Notes: 1. The connection with the peripheral equipment is an example for MR-J4-350A/MR-J4-350A-RJ or smaller servo amplifiers. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for the actual connections.

This picture shows when the display cover is open.

MR-J4-A(1)/MR-J4-A(1)-RJ (General-Purpose Interface) Specifications (200 V/100 V)

	Rated vo		MR-J4(-RJ) e	,0/1	20A	13/1	60A	, 5/1	100A	200A 3-pha	se 170						10A1		.5,1
Output	Rated cu	rren	t [/	1 1.1	1.5	2.8	3.2	5.8	6.0	11.0	17.0	28.0	37.0	68.0	87.0	126.0	1.1	1.5	2.8
Main	Voltage/ frequency		AC input	3	0 V A		-phas 40 V / Hz		3-phase o 200 V 240 V 50 Hz/	AC to ' AC, 60 Hz	3-pł		200 V / 50 Hz		240 V	AC,	to	se 100 120 V Hz/60	AC,
circuit	DC input (Note 19)	283 V DC to 340 V DC								-	,					
power supply	Rated current (Note 14) [A			0.9	1.5	2.6	3.2 (Note 8)	3.8	5.0	10.5	16.0	21.7	28.9	46.0	64.0	95.0	3.0	5.0	9.0
input	voltage				170	e or 1 0 V A 64 V A		e	170 V 264 V A	3-phase or 1-phase 170 V AC to 264 V AC (Note 16) 241 V DC to 374 V DC				AC	1-phase 85 V AC to 132 V AC				
	D : 31	-	DC input (Note 1						241 V L	1797.000									
	Voltage/ frequency	,	AC input				1-	phase	e 200 V AC	to 240 V A	S) Hz				to	1-phase 100 V AC to 120 V AC, 50 Hz/60 Hz	
Control			DC input (Note 1							C to 340	V DC								
circuit	Rated cu	T	t [/]				0.	2					0.3				0.4	
supply	Permissit voltage		AC input					1	-phase 170	EN MORE BUILD OF THE	A LETT AND ADDRESS	AC						ase 85 132 V	
	fluctuatio	n	DC input (Note 1)					241 V D	C to 374	V DC							-	
	Permissible	frec	quency fluctuatio	1						±5%	maxi	mum							
	Power co	nsu	mption [W]				3	0					45				30	
Interface p	ower supp	oly			2	24 V E	OC ± 1	0% (required cu	rrent capa	city: 0	.5 A (i	ncludi	ng CN	l8 con	nector	signa	ls))	
Control me	thod								Sine-wave	PWM cor	ntrol/cu	urrent	contro	ol meth	nod				
Permissible	Built-in regene	erative	resistor (Note 2, 3) [V] -	10	10	10	20	20	100	100	130	170	2	2	12	2	10	10
regenerative power	External rege (standard acc	nerat cesso	ry) (Note 2, 3, 11, 12) [V] -	-	-	-	-	-	2	-	.=.	-	500 (800)	850 (1300)	850 (1300)	H	-	-
Dynamic b	rake (Note 4)								Built-in						rnal o (Note 13)			Built-ir	1
Communica	ation	USI	В		Connect a personal computer (MR Configurator2 compatible)														
function		RS-	-422/RS-485		1:n communication (up to 32 axes) (Note 10)														
Encoder or	tput pulse	Э			Compatible (A/B/Z-phase pulse)														
Analog mo	nitor				2 channels														
	Maximum i	input	t pulse frequenc	у	4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)														
	Positionir	ng fe	edback pulse	6	Encoder resolution: 22 bits														
Position	Command p	oulse	multiplying facto	6	Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000														
control mode	In-positio	n ra	nge setting						0 pulse to	±65535 pt	ulses (comm	and p	ulse u	nit)				
mode	Error exc	essi	ive							±3	rotatio	ons	-						
	Torque lir	nit			Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)														
	Speed co	0000	ol range						speed comr									I.	
Speed			command inpu	t		0 V I						SVOGENIE COLL						.)	
control	Speed flu				0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].) ±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed command														
	Torque lir	nit							rs or extern	W 10 1	QJ 800 H		0.000	ricola Value II	100 Table 100 Ta	-	•	10 KW	
Torque			command inpu	t				-7.5	8 V DC/ma							731		,	
	Speed lin	•	communication impre			2711077	332		ters or exte				Carried States	27. 27. 2				1	
MD 14 A(4)						001	Бу ра	ramo	toro or oxto		t availa		00 10	_ 10	• 00,	ratoa	ороса		
Positioning mode (Note 17) MR-J4-A(1)-RJ							Po	int table me	1202001		100000000000000000000000000000000000000	d ind	ever n	nethod	I				
Fully closed loop MR-J4-A(1) (Note 9)			-						vire type c					1011100					
control	a loop	0000000	-J4-A(1)-RJ						55 720				00 00	-	nod				
	naadar				Two-wire/four-wire type communication Mitsubishi Flectric high-speed social communication					- 55	7.850								
Load-side interface	encoder				Mitsubishi Electric high-speed serial communication														
Interface MR-J4-A(1)-RJ Servo functions					Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function, drive recorder function, machine diagnosis function, power monitoring function, super trace control (Note 15), lost motion compensation function (Note 15)														
Protective functions				100000000000000000000000000000000000000	o mo	tor oven, ins	erhea tantar	t prote	egenerative ection, enco power failu oole detection	oder error ire protect	protection, ov	tion, r	egene ed pro	rative otectio	error on, erro	proted or exc	ction, u essive	ndervo	oltage

Servo Amplifiers

Rotary Servo Motors

MR-J4-A(1)/MR-J4-A(1)-RJ (General-Purpose Interface) Specifications (200 V/100 V) Servo amplifier model MR-J4-_(-RJ) 10A 20A 40A 60A 70A 100A 200A 350A 500A 700A 11KA 15KA 22KA 10A1 20A1 40A1 Functional safety STO (IEC/EN 61800-5-2) Standards certified by CB EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, EN 62061 SIL CL 3, EN 61800-5-2 (Note 20) 8 ms or less (STO input OFF → energy shut-off) Response performance Test pulse input (STO) (Note 7) Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum Safety Mean time to dangerous performance MTTFd ≥ 100 [years] (314a) failure (MTTFd) Diagnostic coverage (DC) DC = Medium, 97.6 [%] Probability of dangerous $PFH = 6.4 \times 10^{-9} [1/h]$

Structure ((IP rating)	Natural cooling, open (IP20)	Force cooling, open (IF	P20)	Force cooling, open (IP20)	Natural cooling, open (IP20)			
Close	3-phase power input	Po	ssible (Note 6)		Not possible	-			
mounting	1-phase power input	Possible (Note 6)	Not possible			Possible (Note 6)			
	Ambient temperature	Operation:	0 °C to 55 °C (non-freez	ing), s	torage: -20 °C to 65 °C (non-fr	eezing)			
	Ambient humidity		Operation/storage: 5 %F	RH to 9	90 %RH (non-condensing)				
Environment	Ambience	Indoors (n	o direct sunlight); no corr	osive	ive gas, inflammable gas, oil mist or dust				
	Altitude	2000 m or less above sea level (Note 18)							
	Vibration resistance	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y, and Z axes)							

Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.

2.3 | 4.0 | 6.2 | 13.4 | 13.4 | 18.2 | 0.8 | 0.8

Notes: 1. Rated output and speed of a rotary servo motor and a direct drive motor; and continuous thrust and maximum speed of a linear servo motor are applicable when the servo amplifier is operated within the specified power supply voltage and frequency.

2.1

- 2. Select the most suitable regenerative option for your system with our capacity selection software.
- 3. Refer to "Regenerative Option" in this catalog for the permissible regenerative power [W] when a regenerative option is used.

[kg] 0.8 | 0.8 | 1.0 | 1.0 | 1.4

- 4. When using the dynamic brake, refer to "MR-J4-A_(-RJ) MR-J4-O3A6(-RJ) Servo Amplifier Instruction Manual" for the permissible load to motor inertia ratio and the permissible load to mass ratio.
- 5. Terminal blocks are excluded.

Mass

Failure per Hour (PFH)

Compliance with global standards

- 6. When the servo amplifiers are closely mounted, keep the ambient temperature within 0 °C to 45 °C, or use the servo amplifiers at 75% or less of the effective load ratio.
- 7. The test pulse is a signal for the external circuit to perform self-diagnosis by turning off the signals to the servo amplifier instantaneously at regular intervals
- 8. The rated current is 2.9 A when the servo amplifier is used with UL or CSA compliant servo motor.
- 9. Fully closed loop control is supported by the servo amplifiers with software version A5 or later. 10. RS-422/RS-485 communication function is supported by the servo amplifiers with software version A3 or later.
- 11. The value in brackets is applicable when cooling fans (two units of 92 mm × 92 mm, minimum air flow: 1.0 m³/min) are installed, and then [Pr. PA02] is changed.
- 12. Servo amplifiers without an enclosed regenerative resistor are also available. Refer to "Model Designation for 1-Axis Servo Amplifier" in this catalog for details.
- 13. Use an external dynamic brake (option) with the servo amplifier. Without the external dynamic brake, a servo motor does not stop immediately at emergency stop and falls in free-run status, causing an accident such as machine collision, etc. Take measures to ensure safety on the entire system when not using the dynamic brake.
- 14. This value is applicable when a 3-phase power supply is used.
- 15. This function is supported by the servo amplifiers with software version B4 or later.
- 16. When a 1-phase 200 V AC to 240 V AC power supply is used, use the servo amplifiers at 75% or less of the effective load ratio. 17. Positioning mode is supported by MR-J4-A-RJ servo amplifier with software version B3 or later.
- 18. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for the restrictions when using the servo amplifiers at altitude exceeding 1000 m and up to 2000 m above sea level.
- DC power input is supported by MR-J4-_A-RJ with software version C2 or later and MR-J4-_A-EG. For a connection example of power supply circuit with DC input, refer to "MR-J4-_A(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual".
- 20. The safety level depends on the setting value of [Pr. PF18 STO diagnosis error detection time] and whether or not STO input diagnosis is performed by TOFB output. Refer to "MR-J4-A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.

MR-J4-DU_A/MR-J4-DU_A-RJ (General-Purpose Interface) Specifications (200 V)

Drive	unit model	MR-J4(-RJ)	DU30KA	DU37KA						
Compatib	ole converte	r unit model	MR-CR55	5K (Note 4)						
	Rated vol	tage	3-phase 1	70 V AC						
Output	Rated cur	rent [A]	174	204						
Main circuit power supply input			Main circuit power is supplied from the resistance r	regeneration converter unit to the drive unit. (Note 4)						
Voltage/frequency			1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz							
Control	Rated cur	rent [A]	0.3							
circuit power	Permissib fluctuation	ole voltage	1-phase 170 V A	C to 264 V AC						
supply nput	Permissib fluctuation	ole frequency n	±5% max	±5% maximum						
	Power co	nsumption [W]	45							
nterface	power supp	oly	24 V DC ± 10% (required current capacity:	0.5 A (including CN8 connector signals))						
Control m	nethod		Sine-wave PWM control/	current control method						
Dynamic	brake (Note 9)		External op	tion (Note 3)						
Commun	ication	USB	Connect a personal computer (N	MR Configurator2 compatible)						
function		RS-422/RS-485	1:n communication (u	up to 32 axes) (Note 5)						
Encoder	output pulse)	Compatible (A/B/	Z-phase pulse)						
Analog m	nonitor		2 chan	nels						
	Maximum input pulse frequency		4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)							
	Positionin	g feedback pulse	Encoder resolu	ution: 22 bits						
Position control	Command pulse multiplying factor		Electronic gear A/B multiple, A: 1 to 167772	215, B: 1 to 16777215, 1/10 < A/B < 4000						
mode	In-position	n range setting	0 pulse to ±65535 pulses	(command pulse unit)						
	Error exce	or excessive ±3 rotations								
	Torque lin	nit	Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)							
	Speed co	ntrol range	Analog speed command 1:2000, internal speed command 1:5000							
Speed	Analog sp	og speed command 0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)								
control mode	Speed flu	Speed fluctuation rate ±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed con								
	Torque lin	nit	Set by parameters or external analog input	t (0 V DC to +10 V DC/maximum torque)						
Torque control	Analog to input	rque command	0 V DC to ±8 V DC/maximum torque	(input impedance: 10 k Ω to 12 k Ω)						
mode	Speed lim	nit	Set by parameters or external analog inp	out (0 V DC to ± 10 V DC/rated speed)						
Positionir	ng mode	MR-J4-DU_A	Not ava	ilable						
Note 6)		MR-J4-DU_A-RJ	Point table method, program	n method, indexer method						
ully clos	sed loop	MR-J4-DU_A	Two-wire type comm	nunication method						
control		MR-J4-DU_A-RJ	Two-wire/four-wire type of	communication method						
_oad-side	e encoder	MR-J4-DU_A	Mitsubishi Electric high-spe	eed serial communication						
nterface		MR-J4-DU_A-RJ	Mitsubishi Electric high-speed serial commun	ication, A/B/Z-phase differential input signal						
Servo functions			Advanced vibration suppression control II, adaptive tough drive function, drive recorder function, machin super trace control, lost motion.	filter II, robust filter, auto tuning, one-touch tuning ne diagnosis function, power monitoring function						
Protective functions			Overcurrent shut-off, overload shut-off (electronic the error protection, undervoltage protection, instantaneous error excessiv	ous power failure protection, overspeed protection						

A A-RJ

MR-J4-DU_A/MR-J4-DU_A-RJ (General-Purpose Interface) Specifications (200 V)

Drive (unit model MR-J4(-RJ)	DU30KA	DU37KA					
Functional	safety	STO (IEC/EN	N 61800-5-2)					
	Standards certified by CB (Note 8)	EN ISO 13849-1 Category 3 PL e, IEC 6150	08 SIL 3, EN 62061 SIL CL 3, EN 61800-5-2					
	Response performance	8 ms or less (STO input OFF → energy shut-off)						
Safety	Test pulse input (STO) (Note 2)	Test pulse interval: 1 Hz to 25 Hz,	test pulse off time: 1 ms maximum					
performance	Mean time to dangerous failure (MTTFd)	MTTFd≥100	MTTFd ≥ 100 [years] (314a)					
	Diagnostic coverage (DC)	DC = Medium, 97.6 [%]						
	Probability of dangerous Failure per Hour (PFH)	PFH = 6.4	× 10 ⁻⁹ [1/h]					
Complianc	e with global standards	Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.						
Structure (IP rating)	Force cooling, open (IP20) (Note 1)						
	Ambient temperature	Operation: 0 °C to 55 °C (non-freezing),	, storage: -20 °C to 65 °C (non-freezing)					
	Ambient humidity	Operation/storage: 5 %RH to	o 90 %RH (non-condensing)					
Environment	Ambience	Indoors (no direct sunlight); no corrosiv	e gas, inflammable gas, oil mist or dust					
	Altitude	2000 m or less above sea level (Note 7)						
	Vibration resistance	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)						
Mass	[kg]	21	21					

Notes: 1. Terminal blocks are excluded.

- 2. The test pulse is a signal for the external circuit to perform self-diagnosis by turning off the signals to the drive unit instantaneously at regular intervals.
- 3. Use an external dynamic brake (option) with the drive unit. Without the external dynamic brake, a servo motor does not stop immediately at emergency stop and falls in free-run status, causing an accident such as machine collision, etc. Take measures to ensure safety on the entire system when not using the dynamic brake.
- 4. Refer to "MR-CR Resistance Regeneration Converter Unit Specifications (200 V/400 V)" on p. 1-53 in this catalog for the specifications of the resistance regeneration converter unit.
- 5. RS-485 communication function is supported by the drive units manufactured in January 2015 or later. Refer to "MR-CV_MR-CR55K_MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for checking procedure of manufacture data.
- Instruction Manual" for checking procedure of manufacture data.

 6. Positioning mode is supported by MR-J4-DU_A-RJ drive unit with software version B3 or later.
- 7. Refer to "MR-CV_MR-CR55K_MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for the restrictions when using the servo amplifiers at altitude exceeding 1000 m and up to 2000 m above sea level.
- 8. The safety level depends on the setting value of [Pr. PF18 STO diagnosis error detection time] and whether or not STO input diagnosis is performed by TOFB output. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.
- 9. When using the dynamic brake, refer to "MR-CR55K_ MR-CR55K_ MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for the permissible load to motor inertia ratio.

MR-J4-A4/MR-J4-A4-RJ (General-Purpose Interface) Specifications (400 V)

0	U.C1	LMD II (DI)	0044	10011	00044	05044	E0044	70044	441/14	451/44	001/44		
Servo ai	1	el MR-J4(-RJ)	60A4	100A4	200A4	350A4	500A4 hase 323 V	700A4	11KA4	15KA4	22KA4		
Output	Rated volta		1.5	2.0	5.4	8.6	14.0	17.0	32.0	41.0	63.0		
		ent [A quency (Note 1)	(j 1.5	2.8	-	200700-00000		AC, 50 Hz/6		41.0	03.0		
Main			1 14	0.5	1 200 0	7.9	0.0000000000000000000000000000000000000	14.4	23.1	21.0	47.6		
circuit	Rated curr	-	1.4	2.5	5.1	7.9	10.8	14.4	23.1	31.8	47.0		
power supply	Permissible			3-phase 323 V AC to 528 V AC									
input	fluctuation	e frequency		±5% maximum									
	Voltage/fre			1-phase 380 V AC to 480 V AC, 50 Hz/60 Hz									
Control	Rated curr		3]	0.1 0.2									
circuit	Permissible	e voltage				1-phase	323 V AC to	528 V AC					
power supply	fluctuation	e frequency					- 60						
input	fluctuation	e nequency				±	5% maximu	m					
	Power con	sumption [W	ŋ	30				4	5				
Interface	power supply	у	2	4 V DC ± 1	0% (require	d current ca	apacity: 0.5	A (including	CN8 conne	ctor signals))		
Control m	ethod				Sine-v	vave PWM	control/curre	ent control m	ethod				
Permissible	Built-in reg resistor (Not		15	15	100	100	130 (Note 10)	170 (Note 10)	.	-	-		
regenerative power	External re resistor (st accessory)	andard [W	n -	8)	-	-	-	-	500 (800)	850 (1300)	850 (1300)		
Dvnamic	brake (Note 4)				Bui	lt-in			External option (Note 9)				
Communi	7 720	USB		Connect a personal computer (MR Configurator2 compatible)									
function	oution,	RS-422/RS-48	5	1:n communication (up to 32 axes) (Note 12)									
Encoder o	output pulse		-	Compatible (A/B/Z-phase pulse)									
Analog m				2 channels									
	Maximum	input pulse	4 Maulace/a (when using differential receiver) 200 km llace/a (when using one == !!= -t==)										
	frequency		4 IVI	4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)									
	Positioning	feedback pulse	Encoder resolution: 22 bits										
Position control	Command factor	pulse multiplying	Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000							00			
mode	In-position	range setting	0 pulse to ±65535 pulses (command pulse unit)										
	Error exces	ssive		±3 rotations									
	Torque lim	it		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)									
	Speed con	trol range		Analog speed command 1:2000, internal speed command 1:5000									
Speed	Analog spe	eed command		0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)									
control mode	Speed fluc	tuation rate	±0.2% r	±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed command									
	Torque lim			Set by para	meters or ex	ternal anal	og input (0 \	DC to +10	V DC/maxi	mum torque	9)		
Torque control	Analog tord	que command		0 V D(C to ±8 V DC	C/maximum	torque (inpu	ıt impedance	e: 10 kΩ to	12 kΩ)			
mode	Speed limi	t		Set by pa	rameters or	external an	alog input (0	V DC to ±	10 V DC/ra	ted speed)			
Positionin	g mode	MR-J4-A4					Not available	Э					
(Note 13)		MR-J4-A4-RJ			Point tab	le method, ¡	orogram me	thod, indexe	r method				
Fully close	ed loop	MR-J4-A4			Т	wo-wire typ	e communic	ation metho	d				
control		MR-J4-A4-RJ			Two-w	/ire/four-wir	e type comn	nunication m	ethod				
Load-side	encoder	MR-J4-A4			Mitsubis	hi Electric h	igh-speed s	erial commu	ınication				
interface		MR-J4-A4-RJ	Mits	ubishi Elec	tric high-spe	ed serial c	ommunicatio	n, A/B/Z-ph	ase differen	ntial input si	gnal		
Servo fun	ctions		tough driv	Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function, drive recorder function, machine diagnosis function, power monitoring function, super trace control (Note 11), lost motion compensation function (Note 11)									
Protective	functions		servo mot	Overcurrent shut-off, regenerative overvoltage shut-off, overload shut-off (electronic thermal), servo motor overheat protection, encoder error protection, regenerative error protection, undervoltage protection, instantaneous power failure protection, overspeed protection, error excessive protection, magnetic pole detection protection, linear servo control fault protection									

Δ Δ-R.I

Servo Amplifiers

Rotary Servo Motors

Linear Servo Motors

MR-J4-A4/MR-J4-A4-RJ (General-Purpose Interface) Specifications (400 V)

Servo am	nplifier model MR-J4(-RJ)	60A4	100A4	200A4	350A4	500A4	700A4	11KA4	15KA4	22KA4		
Functional	safety	STO (IEC/EN 61800-5-2)										
	Standards certified by CB (Note 15)	EN	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, EN 62061 SIL CL 3, EN 61800-5-2									
	Response performance			8 ms c	r less (STO	input OFF	→ energy sl	hut-off)				
Safety	Test pulse input (STO) (Note 6)		Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum									
performance	Mean time to dangerous failure (MTTFd)	MTTFd ≥ 100 [years] (314a)										
	Diagnostic coverage (DC)	DC = Medium, 97.6 [%]										
	Probability of dangerous Failure per Hour (PFH)											
Complianc	e with global standards	Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.										
Structure (IP rating)	Natural cod (IP2			rce cooling, open (IP20) (Note 5)							
Close mou	nting	Not possible										
	Ambient temperature	Operation: 0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)										
	Ambient humidity			Operation/	storage: 5 %	6RH to 90 %	6RH (non-c	ondensing)				
Environment	Ambience		Indoors (r	o direct sur	nlight); no co	rrosive gas	, inflammab	le gas, oil m	nist or dust			
	Altitude	2000 m or less above sea level (Note 14)										
	Vibration resistance	5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y and Z axes)										
Mass	[kg]	1.7	1.7	2.1	3.6	4.3	6.5	13.4	13.4	18.2		

Notes: 1. Rated output and speed of a rotary servo motor, and continuous thrust and maximum speed of a linear servo motor are applicable when the servo amplifier is operated within the specified power supply voltage and frequency.

- 2. Select the most suitable regenerative option for your system with our capacity selection software.
- 3. Refer to "Regenerative Option" in this catalog for the permissible regenerative power [W] when a regenerative option is used.
- 4. When using the dynamic brake, refer to "MR-J4-A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for the permissible load to motor inertia ratio and the permissible load to mass ratio.
- 5. Terminal blocks are excluded.
- 6. The test pulse is a signal for the external circuit to perform self-diagnosis by turning off the signals to the servo amplifier instantaneously at regular intervals.
- 7. The value in brackets is applicable when cooling tans (two units of 92 mm x 92 mm, minimum air flow: 1.0 m³/min) are installed, and then [Pr. PA02] is changed. 8. Servo amplifiers without an enclosed regenerative resistor are also available. Refer to "Model Designation for 1-Axis Servo Amplifier" in this catalog for details.
- 6. Get a driphilles without at a reliciose tegel relative resistor are also available. Here to whole besignation or 1-Aris serve Ariphiller in into activity of orders.
 9. Use an external dynamic brake, a serve Ariphiller in into activity of orders.
 9. Use an external dynamic brake (option) with the serve amplifier. Without the external dynamic brake, a serve Ariphiller in into activity of orders.
- in free-run status, causing an accident such as machine collision, etc. Take measures to ensure safety on the entire system when not using the dynamic brake.

 10. The servo amplifier built-in regenerative resistor is compatible with the maximum torque deceleration when the servo motor is used within the rated speed and the recommended load to motor inertia ratio. Contact your local sales office if the operating motor speed or the load to motor inertia ratio exceeds the rated speed or the
- recommended ratio.

 11. This function is supported by the servo amplifiers with software version B4 or later.
- 12. RS-485 communication function is supported by the servo amplifiers manufactured in November 2014 or later. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for checking procedure of manufacture data.
- 13. Positioning mode is supported by MR-J4-A4-RJ servo amplifier with software version B3 or later.
- 14. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for the restrictions when using the servo amplifiers at altitude exceeding 1000 m and up to 2000 m above sea level.
- 15. The safety level depends on the setting value of [Pr. PF18 STO diagnosis error detection time] and whether or not STO input diagnosis is performed by TOFB output. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.

MR-J4-DU_A4/MR-J4-DU_A4-RJ (General-Purpose Interface) Specifications (400 V)

Drive	unit mode	el MR-J4(-RJ)	DU30KA4	DU37KA4	DU45KA4	DU55KA4				
Compatib	ole convert	er unit model	MR-CR55K4 (Note 4)							
0.44	Rated vo	oltage		3-phase	323 V AC	29				
Output	Rated cu	ırrent [A]	87	102	131	143				
Main circuit power supply input			Main circuit power is	supplied from the resistance	e regeneration converter	unit to the drive unit. (Note 4)				
Voltage/frequency			1-phase 380 V AC to 480 V AC, 50 Hz/60 Hz							
Control	Rated cu	ırrent [A]	0.2							
circuit power	Permissi fluctuation	ble voltage on	1-phase 323 V AC to 528 V AC							
supply input	Permissi fluctuation	ble frequency on	±5% maximum							
	Power co	onsumption [W]		9	45					
Interface	power sup	ply	24 V DC ± 10	% (required current capacit	y: 0.5 A (including CN8 co	onnector signals))				
Control m	nethod			Sine-wave PWM contro	ol/current control method					
Dynamic	brake (Note 9)		External	option (Note 3)					
Commun	ication	USB	Co	nnect a personal computer	(MR Configurator2 comp	atible)				
function		RS-422/RS-485		1:n communication	(up to 32 axes) (Note 5)					
Encoder	output puls	se .		Compatible (A/	B/Z-phase pulse)					
Analog m				2 ch	annels					
	Maximum input pulse frequency		4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)							
	Positioni	ng feedback pulse		Encoder res	olution: 22 bits					
Position control	Commar	nd pulse multiplying	Electronic gea	ar A/B multiple, A: 1 to 1677	7215, B: 1 to 16777215,	1/10 < A/B < 4000				
mode	In-position	on range setting	0 pulse to ±65535 pulses (command pulse unit)							
	Error exc	cessive	±3 rotations							
	Torque li	mit	Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)							
	Speed c	ontrol range	Analog speed command 1:2000, internal speed command 1:5000							
Speed control	Analog s input	speed command	0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)							
mode	Speed fl	uctuation rate	$\pm 0.01\%$ maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: $\pm 10\%$) $\pm 0.2\%$ maximum (ambient temperature: 25 °C \pm 10 °C) only when using analog speed command							
	Torque li	mit	Set by param	Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)						
Torque control	Analog to	orque command	0 V DC	to ±8 V DC/maximum torqu	ie (input impedance: 10 k	Ω to 12 kΩ)				
mode	Speed lii	mit	Set by para	ameters or external analog	input (0 V DC to ± 10 V D	C/rated speed)				
Positionir	na mode	MR-J4-DU_A4		Not a	vailable					
(Note 6)	3	MR-J4-DU_A4-RJ		Point table method, progra	am method, indexer meth	od				
Fully clos	ed loop	MR-J4-DU_A4		Two-wire type con	nmunication method					
control		MR-J4-DU_A4-RJ		Two-wire/four-wire type	e communication method					
Load-side	e encoder	MR-J4-DU_A4		Mitsubishi Electric high-s	peed serial communication	on				
interface		MR-J4-DU_A4-RJ	Mitsubishi Electr	ric high-speed serial commu	unication, A/B/Z-phase dif	ferential input signal				
Servo functions			Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tun tough drive function, drive recorder function, machine diagnosis function, power monitoring function super trace control, lost motion compensation function							
Protective functions			to an anti-page of transfell a country follows but make a media tragger a	verload shut-off (electronic roltage protection, instantar error excess		500 100 100 TO THE PROPERTY OF				

MR-J4-DU_A4/MR-J4-DU_A4-RJ (General-Purpose Interface) Specifications (400 V)

Drive t	unit model MR-J4(-RJ)	DU30KA4	DU30KA4 DU37KA4 DU45KA4 DU55KA							
Functional	safety	STO (IEC/EN 61800-5-2)								
	Standards certified by CB (Note 8)	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, EN 62061 SIL CL 3, EN 61800-5-2								
	Response performance		8 ms or less (STO input OFF → energy shut-off)							
Safety	Test pulse input (STO) (Note 2)	Test pul	se interval: 1 Hz to 25 Hz, to	est pulse off time: 1 ms m	naximum					
performance	Mean time to dangerous failure (MTTFd)	<u> </u>	MTTFd ≥ 100 [years] (314a)						
	Diagnostic coverage (DC)	DC = Medium, 97.6 [%]								
	Probability of dangerous Failure per Hour (PFH)	$PFH = 6.4 \times 10^{-9} [1/h]$								
Complianc	e with global standards	Refer to "Compli	Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.							
Structure (IP rating)		Force cooling, op	nen (IP20) (Note 1)						
	Ambient temperature	Operation: 0	°C to 55 °C (non-freezing),	storage: -20 °C to 65 °C	(non-freezing)					
	Ambient humidity	0	peration/storage: 5 %RH to	90 %RH (non-condensing	ng)					
Environment	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Altitude	2000 m or less above sea level (Note 7)								
	Vibration resistance	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)								
Mass	[kg]	16	16	21	21					

Notes: 1. Terminal blocks are excluded.

- 2. The test pulse is a signal for the external circuit to perform self-diagnosis by turning off the signals to the drive unit instantaneously at regular intervals
- 3. Use an external dynamic brake (option) with the drive unit. Without the external dynamic brake, a servo motor does not stop immediately at emergency stop and falls in free-run status, causing an accident such as machine collision, etc. Take measures to ensure safety on the entire system when not using the dynamic brake.
- 4. Refer to "MR-CR Resistance Regeneration Converter Unit Specifications (200 V/400 V)" on p. 1-53 in this catalog for the specifications of the resistance regeneration
- 5. RS-485 communication function is supported by the drive units manufactured in January 2015 or later. Refer to "MR-CV_MR-CR55K_MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ)
- Instruction Manual" for checking procedure of manufacture data.

 6. Positioning mode is supported by MR-J4-DU_A4-RJ drive unit with software version B3 or later.
- 7. Refer to "MR-CN55K_ MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for the restrictions when using the servo amplifiers at altitude exceeding 1000 m and up to 2000 m above sea level.
- 8. The safety level depends on the setting value of [Pr. PF18 STO diagnosis error detection time] and whether or not STO input diagnosis is performed by TOFB output. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.
- 9. When using the dynamic brake, refer to "MR-CV_MR-CR55K_MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for the permissible load to motor inertia ratio.

MR-J4-03A6/MR-J4-03A6-RJ (General-Purpose Interface) Specifications

5	Servo amplifier model		MR-J4-03A6	MR-J4-03A6-RJ							
Output	Rated voltage		3-phase	13 V AC							
Output	Rated current	[A]	2.	4							
Main	Voltage (Note 1)		48 V DC/24	V DC (Note 2)							
circuit	Rated current	[A]	For 48 V [
power	7	[, ,]	F01 24 V L	above a forest set the second and th							
supply input	Permissible voltage		For 48 V DC: 40.8 V								
	fluctuation Voltage		For 24 V DC: 21.6 V	EURAS POR EUROPE HOROCOPOUR DE PROPOSIT							
Control		ΓΛ1	24 V DC								
circuit power	Rated current Permissible voltage	[A]	0.2								
supply	fluctuation		21.6 V DC to	26.4 V DC							
input	Power consumption	[W]	5.	0							
Interface	power supply	[1	24 V DC ± 10% (required	. The state of the							
Control m			Sine-wave PWM control	AC 2-500 COS -							
	le regenerative power										
	t-in regenerative resistor	[W]	0.	7							
Dynamic	brake (Note 4)		Built-in	(Note 3)							
Communi	ication USB		Connect a personal computer (MR Configurator2 compatible)							
function	RS-422		1:n communicatio	n (up to 32 axes)							
Encoder of	output pulse		Compatible (A/B	/Z-phase pulse)							
Analog m	onitor		2 char	nnels							
	Maximum input pulse		4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)							
	frequency Positioning feedback pu	lse.	, ,	Encoder resolution: 18 bits							
Position	Command pulse multipl										
control mode	factor		Electronic gear A/B multiple, A: 1 to 16777								
	In-position range setting		0 pulse to ±65535 pulses								
	Error excessive		±3 rota	998A (Y019498							
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)								
		Speed control range Analog speed command 1:2000, internal speed command 1:5000									
Speed control	Analog speed command input	1	0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)								
mode	Speed fluctuation rate		±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed command								
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)								
Torque	Analog torque command	d	0 V DC to ±8 V DC/maximum torque (input impedance: 10 kΩ to 12 kΩ)								
control	input										
mode	Speed limit		Set by parameters or external analog in								
Positionin	ng mode		Not available	Point table method, program method, indexer method							
Fully clos	ed loop control		Not com	patible							
Servo fun	nctions		Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, vibration tough drive function, drive recorder function, machine diagnosis function, power monitoring function								
			Overcurrent shut-off, regenerative overvoltage shu								
Protective	e functions		motor overheat protection, encoder error protect								
			protection, instantaneous power failure protection,	and out to the transfer out to fire with out to provide a single collision of the setting and							
Compliance with global standards			Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.								
Structure (IP rating)			Natural cooling, open (IP20)								
Close mounting			Possible (Note 5)								
DIN rail mounting (35 mm wide)			Possible								
	Ambient temperature		Operation: 0 °C to 55 °C (non-freezing),	storage: -20 °C to 65 °C (non-freezing)							
	Ambient humidity		Operation/storage: 5 %RH to	Section Control of the Control of th							
Environmer	nt Ambience		Indoors (no direct sunlight); no corrosive	e gas, inflammable gas, oil mist or dust							
	Altitude		1000 m or less above sea level								
	Vibration resistance		5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y and Z axes)								
Mass		[kg]									

Notes: 1. Rated output and speed of a rotary servo motor are applicable when the servo amplifier is operated within the specified power supply voltage.

2. Initial value is 48 V DC. For 24 V DC, set [Pr. PC27] to "__1_". Servo motor characteristics vary depending on whether the voltage is 48 V DC or 24 V DC. Refer to "HG-AK Series (Ultra-Compact Size, Ultra-Small Capacity) Specifications" and "HG-AK Series Torque Characteristics" in this catalog.

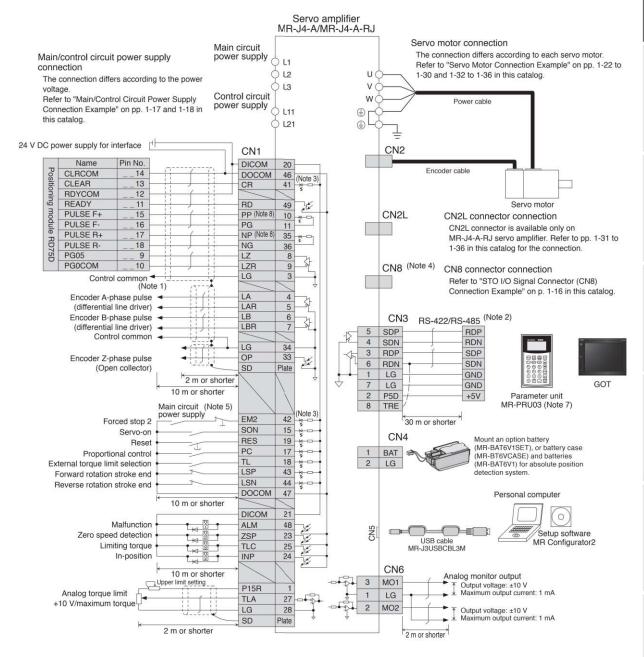
^{3.} The dynamic brake is electronic. The electronic dynamic brake does not operate when the control circuit power is off. It may not operate depending on alarms and warnings. Refer to "MR-J4-_A_(-RJ) MR-J4-O3A6(-RJ) Servo Amplifier Instruction Manual" for details.

4. When using the dynamic brake, refer to "MR-J4-_A_(-RJ) MR-J4-O3A6(-RJ) Servo Amplifier Instruction Manual" for the permissible load to motor inertia ratio.

5. When the servo amplifiers are closely mounted, keep the ambient temperature within 0 °C to 45 °C.

MR-J4-A/MR-J4-A-RJ Standard Wiring Diagram Example: Position Control Operation $^{(Note\ 6)}$

Connecting to RD75D



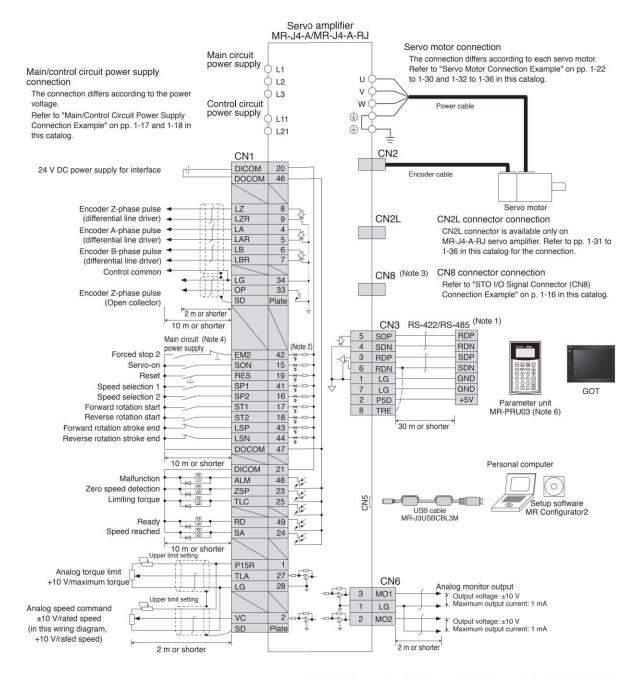
Notes: 1. This connection is not necessary for RD75D Positioning module. Note that the connection between LG and control common terminal is recommended for some Positioning modules to improve noise tolerance.

- 2. It is also possible to connect a personal computer to CN3 connector with an RS-422/RS-232C conversion cable. However, USB (CN5 connector) and RS-422/RS-485 (CN3 connector) communication functions are mutually exclusive. Do not use them at the same time. Refer to "Products on the Market for Servo Amplifiers" in this catalog for the RS-422/RS-232C conversion cable.
- 3. This is for sink wiring. Source wiring is also possible.
- 4. Be sure to attach a short-circuit connector supplied with the servo amplifier when the STO function is not used.
- 5. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.
- 6. This standard wiring diagram is common for 200 V AC, 100 V AC and 400 V AC type servo amplifiers.
- 7. When using MR-PRU03 parameter unit, use a commercial LAN cable (EIA568 compliant), and keep the wire length to a maximum of 10 m.
- 8. Pulse train input is available with sink input and source input of open-collector type. When using the source input, use PP2 and NP2 terminals. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.



MR-J4-A/MR-J4-A-RJ Standard Wiring Diagram Example: Speed Control Operation (Note 5)

A A-RJ



Notes: 1. It is also possible to connect a personal computer to CN3 connector with an RS-422/RS-232C conversion cable. However, USB (CN5 connector) and RS-422/RS-485 (CN3 connector) communication functions are mutually exclusive. Do not use them at the same time. Refer to "Products on the Market for Servo Amplifiers" in this catalog for the RS-422/RS-232C conversion cable.

- 2. This is for sink wiring. Source wiring is also possible.
- 3. Be sure to attach a short-circuit connector supplied with the servo amplifier when the STO function is not used.
- 4. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.
- 5. This standard wiring diagram is common for 200 V AC, 100 V AC and 400 V AC type servo amplifiers.
- 6. When using MR-PRU03 parameter unit, use a commercial LAN cable (EIA568 compliant), and keep the wire length to a maximum of 10 m.



MR-J4-A/MR-J4-A-RJ Standard Wiring Diagram Example: Torque Control Operation (Note 5)

Servo amplifier MR-J4-A/MR-J4-A-RJ Servo motor connection The connection differs according to each servo motor. Refer to "Servo Motor Connection Example" on pp. 1-22 to

Encoder cable

1-30 and 1-32 to 1-36 in this catalog.

Power cable

U

W

⊕ г

(1)

Main/control circuit power supply connection The connection differs according to the power

voltage

Refer to "Main/Control Circuit Power Supply Connection Example" on pp. 1-17 and 1-18 in this catalog

Forced stop 2

Speed selection 1

Speed selection 2

Forward rotation selection

Reverse rotation selection

Servo-on

Malfunction

Ready

Upper limit setting

Upper limit setting

Limiting speed

Zero speed detection

CN₂ CN₁ DICOM 20 24 V DC power supply for interface DOCOM 46 Encoder Z-phase pulse 8

Main circuit

power supply

Control circuit

power supply

L2

L3

L11

(Note 2)

*

1 16

1

1

42

15

19

18

17

47

21

28

SON

RES

SP1

SP2

RS1

RS₂

DOCOM

DICOM

P15R

TC

LG

VLA

O L21

(differential line driver) LZR 9 Encoder A-phase pulse LA 3 (differential line driver) LAR 5 Encoder B-phase pulse LB 6 (differential line driver) LBR 7 Control common LG 34 Encoder Z-phase pulse OP 33 (Open collector) SD Plate 2 m or shorter 10 m or shorter Main circuit (Note 4)

10 m or shorter

Servo motor CN2L CN2L connector connection CN2L connector is available only on MR-J4-A-RJ servo amplifier. Refer to pp. 1-31 to 1-36 in this catalog for the connection

CN8 (Note 3) CN8 connector connection Refer to "STO I/O Signal Connector (CN8) Connection Example" on p. 1-16 in this catalog.

CN3 RS-422/RS-485 (Note 1) SDP RDP 4 RDN SDN SDP 3 RDP 6 SDN RDN GND 1 LG 7 LG GND 2 P₅D +5V Parameter unit 8 TRE MR-PRU03 (Note 6) 30 m or shorter

Analog monitor output

Output voltage: ±10 V Maximum output current: 1 mA

ALM 48 NIX. Personal computer ZSP 23 ALE **VLC** 25 N. K RD 49 CN5 N. Setup software MR Configurator2 USB cable MR-J3USBCBL3M 10 m or shorter

CN6

LG

3 MO1

Analog torque command ±8 V/maximum torque (in this wiring diagram, +8 V/max. torque)

Analog speed limit ±10 V/rated speed (in this wiring diagram, +10 V/rated speed)

2 MO2 Output voltage: ±10 V Maximum output current: 1 mA SD Plate 2 m or shorter 2 m or shorter

Notes; 1. It is also possible to connect a personal computer to CN3 connector with an RS-422/RS-232C conversion cable. However, USB (CN5 connector) and RS-422/RS-485 (CN3 connector) communication functions are mutually exclusive. Do not use them at the same time. Refer to "Products on the Market for Servo Amplifiers" in this catalog for the RS-422/RS-232C conversion cable.

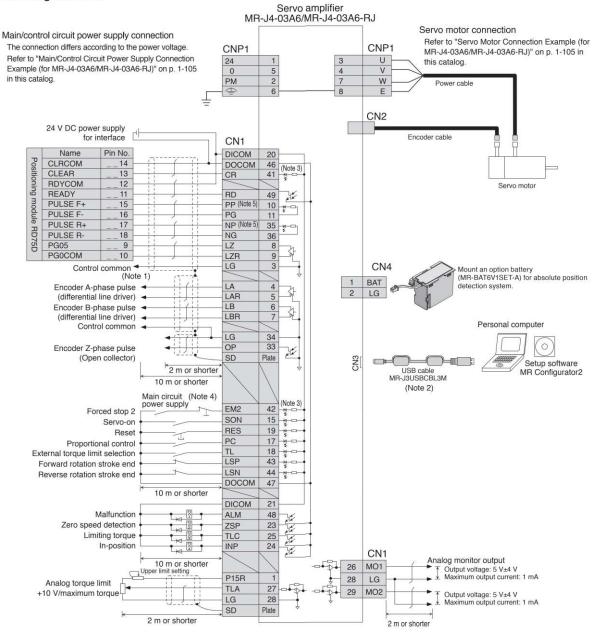
- 2. This is for sink wiring. Source wiring is also possible.
- 3. Be sure to attach a short-circuit connector supplied with the servo amplifier when the STO function is not used.
- 4. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.
- 5. This standard wiring diagram is common for 200 V AC, 100 V AC and 400 V AC type servo amplifiers
- 6. When using MR-PRU03 parameter unit, use a commercial LAN cable (EIA568 compliant), and keep the wire length to a maximum of 10 m.



MR-J4-03A6/MR-J4-03A6-RJ Standard Wiring Diagram Example: Position Control Operation

A A-RJ

Connecting to RD75D



- Notes: 1. This connection is not necessary for RD75D Positioning module. Note that the connection between LG and control common terminal is recommended for some Positioning modules to improve noise tolerance.
 - 2. USB and RS-422 communication functions are mutually exclusive. Do not use them at the same time.
 - 3. This is for sink wiring. Source wiring is also possible.
 - 4. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.
 - 4. To prevent an interpretate restart or the server animal server is turned on.

 5. Pulse train input is available with sink input and source input of open-collector type. When using the source input, use PP2 and NP2 terminals. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.



A A-RJ

Servo Amplifiers

Rotary Servo Motors

Linear Servo Motors

Direct Drive Motors

Options/Peripheral Equipment

LVS/Wires

Product List

Notes: 1. USB and RS-422 communication functions are mutually exclusive. Do not use them at the same time.

2 m or shorter

MR-J4-03A6/MR-J4-03A6-RJ Standard Wiring Diagram Example:

2. This is for sink wiring. Source wiring is also possible

^{3.} To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.

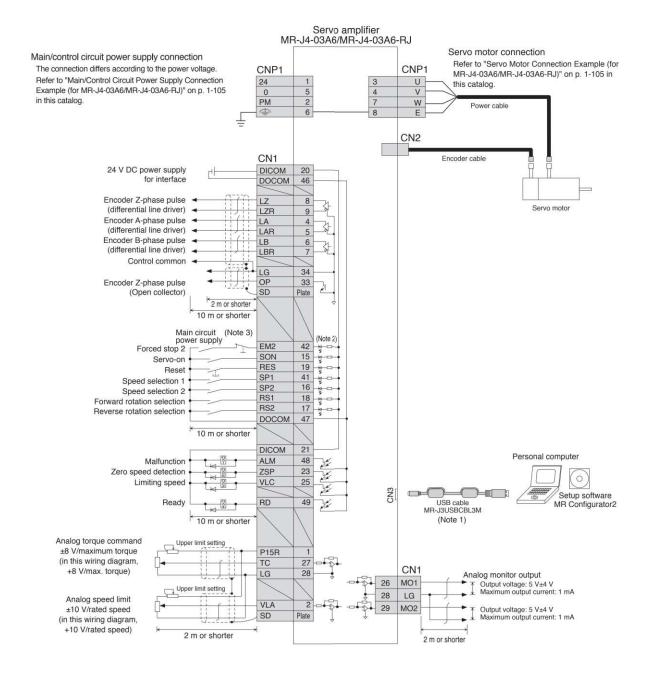


Be sure to read through Instruction Manual for the actual wiring and use. Use the equipment after you have a full knowledge of the equipment, safety information and instructions.

2 m or shorter

MR-J4-03A6/MR-J4-03A6-RJ Standard Wiring Diagram Example: Torque Control Operation

A A-RJ



Notes: 1. USB and RS-422 communication functions are mutually exclusive. Do not use them at the same time.

- 2. This is for sink wiring. Source wiring is also possible
- 3. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.



MR-J4-03A6/MR-J4-03A6-RJ RS-422 Serial Communication Connection Example

A A-RJ

Servo amplifier MR-J4-03A6/MR-J4-03A6-RJ Controller CN1 (Note 1) 13 14 SDP RDA (Note 2) RDB SDN SDA 39 RDP SDB 40 RDN 31 TRE 28 LG Plate SD (Note 3) 30 m or shorter (Note 4)

Notes: 1. Twist the wires from SDP and SDN together, and RDP and PDN together.

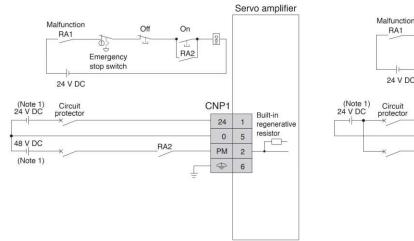
- 2. Refer to the controller manual to connect a termination resistor. If a termination resister is not specified, terminate with a 150 Ω resistor.
- 3. It is recommended that the cable be shielded.
- 4. The cable length must be 30 m or shorter in a low-noise environment. When connecting multiple axes, also keep the overall length within 30 m.
- 5. Connect TRE and RDN for the servo amplifier of the final axis.

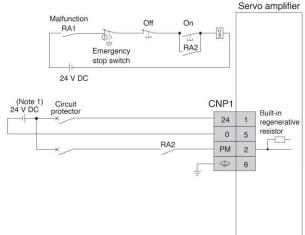


Main/Control Circuit Power Supply Connection Example (for MR-J4-03A6/MR-J4-03A6-RJ) A-RJ

•For 48 V DC

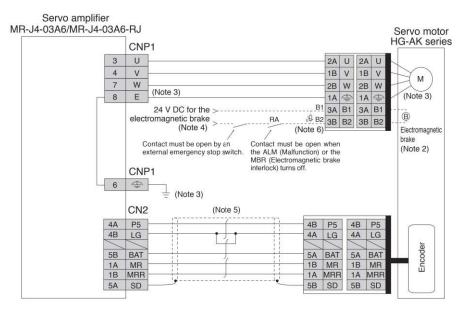
For 24 V DC





Servo Motor Connection Example (for MR-J4-03A6/MR-J4-03A6-RJ)

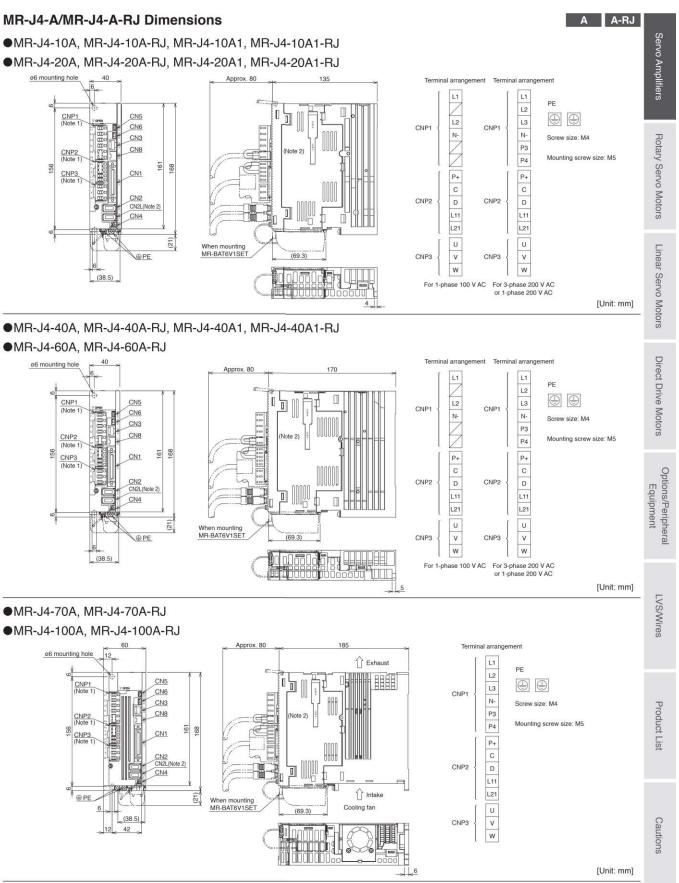
A A-RJ



Notes: 1. Use 48 V DC and 24 V DC power supplies with reinforced insulation.

- 2. This is for the servo motor with electromagnetic brake. The electromagnetic brake terminals (B1, B2) do not have polarity.
- 3. Noiseless grounding (🚖) terminal is connected to E terminal in the servo amplifier. Connect the noiseless (🚖) terminal of CNP1 and the grounding terminal of the
- 4. Do not use the 24 V DC interface power supply for the electromagnetic brake. Provide a dedicated power supply to the electromagnetic brake
- 5. Encoder cable is available as an option. Refer to "Servo Motor Instruction Manual (Vol. 3)" when fabricating the cables.
- 6. Be sure to install a surge absorber between B1 and B2.





Notes: 1. CNP1, CNP2 and CNP3 connectors are supplied with the servo amplifer.

^{2.} CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in November 2014 or later.

Servo Amplifiers

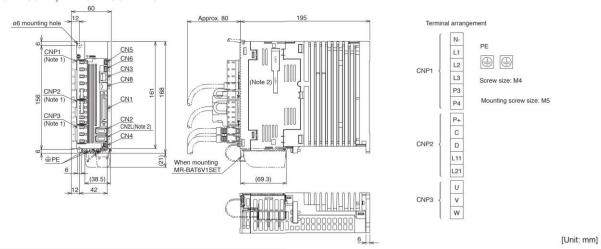
MR-J4-A/MR-J4-A-RJ Dimensions

A A-RJ

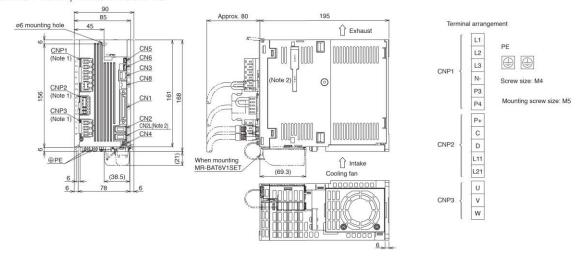
[Unit: mm]

[Unit: mm]

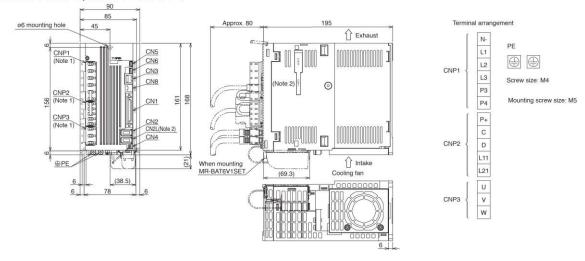
- ●MR-J4-60A4, MR-J4-60A4-RJ
- •MR-J4-100A4, MR-J4-100A4-RJ



●MR-J4-200A, MR-J4-200A-RJ

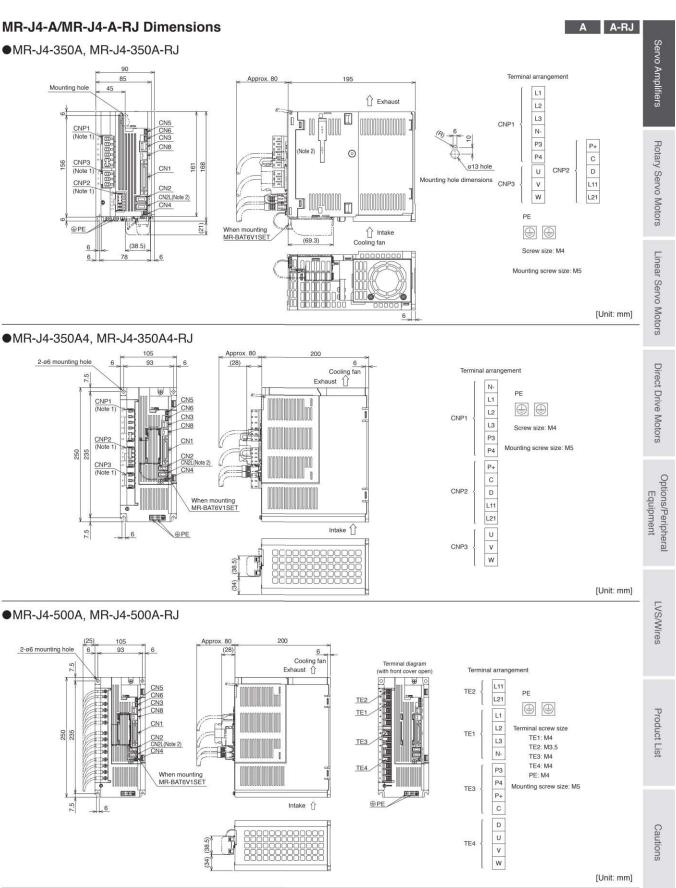


•MR-J4-200A4, MR-J4-200A4-RJ



Notes: 1. CNP1, CNP2 and CNP3 connectors are supplied with the servo amplifier.

2. CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in 1-107 November 2014 or later.



Notes: 1. CNP1, CNP2 and CNP3 connectors are supplied with the servo amplifer.

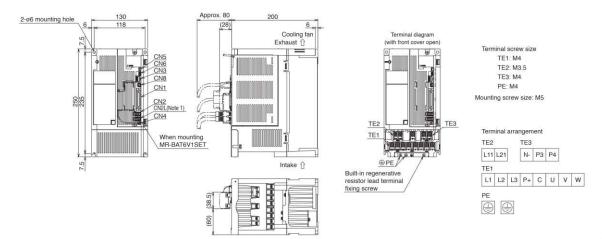
2. CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in November 2014 or later

Servo Amplifiers

MR-J4-A/MR-J4-A-RJ Dimensions

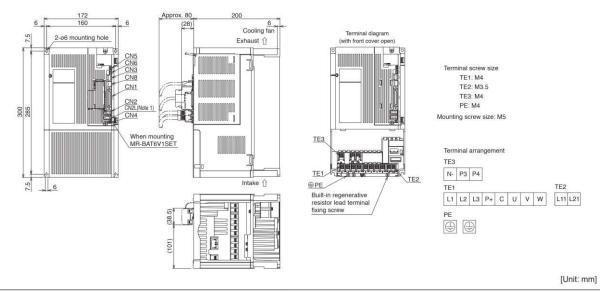
A A-RJ

•MR-J4-500A4, MR-J4-500A4-RJ



[Unit: mm]

●MR-J4-700A, MR-J4-700A-RJ, MR-J4-700A4, MR-J4-700A4-RJ



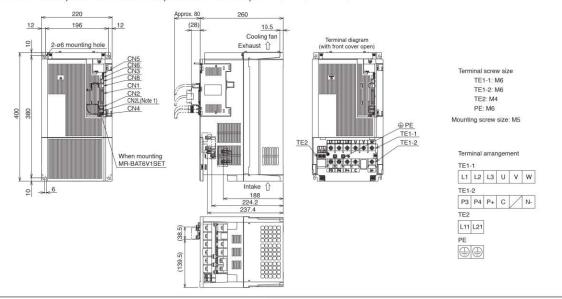
Notes: 1. CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in November 2014 or later.

[Unit: mm]

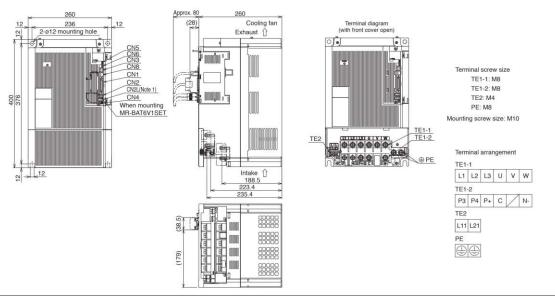
[Unit: mm]

MR-J4-A/MR-J4-A-RJ Dimensions

- ●MR-J4-11KA, MR-J4-11KA-RJ, MR-J4-11KA4, MR-J4-11KA4-RJ
- ●MR-J4-15KA, MR-J4-15KA-RJ, MR-J4-15KA4, MR-J4-15KA4-RJ



●MR-J4-22KA, MR-J4-22KA-RJ, MR-J4-22KA4, MR-J4-22KA4-RJ

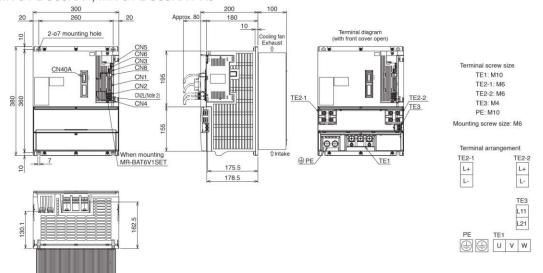


Notes: 1. CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in November 2014 or later.

MR-J4-DU_A/MR-J4-DU_A-RJ Dimensions (Note 1)

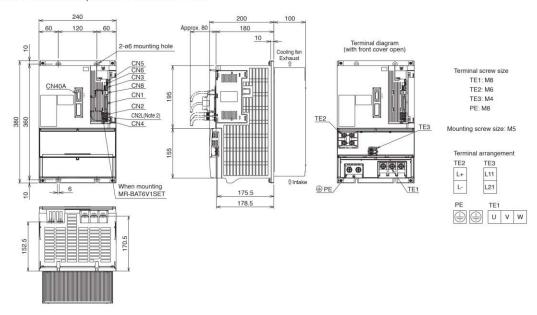
A A-RJ

- •MR-J4-DU30KA, MR-J4-DU30KA-RJ
- •MR-J4-DU37KA, MR-J4-DU37KA-RJ
- •MR-J4-DU45KA4, MR-J4-DU45KA4-RJ
- ●MR-J4-DU55KA4, MR-J4-DU55KA4-RJ



[Unit: mm]

- •MR-J4-DU30KA4, MR-J4-DU30KA4-RJ
- •MR-J4-DU37KA4, MR-J4-DU37KA4-RJ

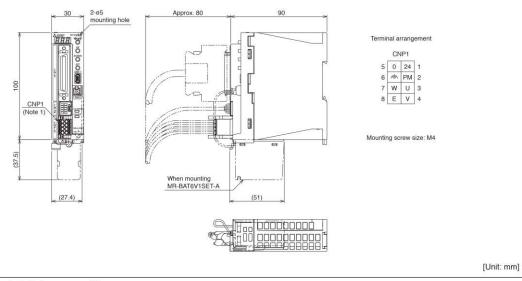


[Unit: mm]

Notes: 1. For the panel cut dimensions, refer to "Panel Cut Dimensions for Resistance Regeneration Converter Unit and Drive Unit" in this catalog.

2. CN2L, CN7, and CN9 connectors are not available for MR-J4-DU_A_ drive unit. CN9 connector is available for use with MR-J4-DU_A_-RJ drive unit manufactured in January 2015 or later.

MR-J4-03A6/MR-J4-03A6-RJ Dimensions



Notes: 1. CNP1 connector is supplied with the servo amplifier.