MR-J4 Servo Motors and Amplifiers Overview

The MR-J4 provides the highest power, performance, and flexibility in the Mitsubishi Electric lineup and is available from 50W-55KW. Additional features include advanced one-touch auto tuning and advanced vibration suppression control II functions. The MR-J4 motors have the same flange sizes and use the same power encoder and brake cables as the MR-J3 for easy migration from the previous generation of servo amplifiers. The MR-J4 is easily setup and sized with M-Size sizing software and MR-Configurator2 configuration software.

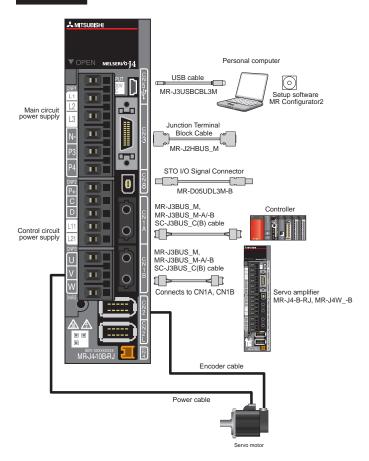
X = Compatible **MR-J4 Amplifiers** - = Not compatible

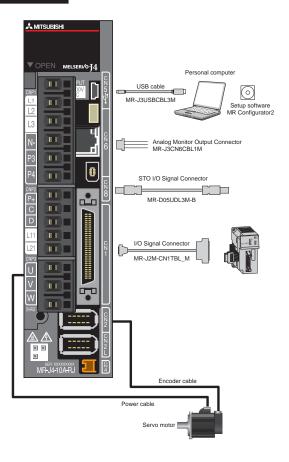
				_	Inte	rface							Con	trol N	lode				patil	ole M	otor	Serie	s						
Туре (*6)	Number of Control Axes	Power Supply	Rated Output (kW) (*1, *4)	SSCNET III / H	CC-Link IE Field	Pulse Train	Analog Voltage	RS-422 Multi-Drop	EtherCAT®	EtherNet/IP TM	PROFINET®	Position	Speed	Torque	Positioning Function	Fully Closed Loop Control (*2)	HG-KR	HG-MR	HG-SR	HG-JR	HG-RR	HG-UR	HG-AK	LM-H3 (*5)	LM-F (*5)	LM-K2 (*5)	LM-U2 (*5)	TM-RFM
rface			1-Phase 100VAC	0.1, 0.2, 0.4	-	Х	-	-	-	-	-	-	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	Х	-	Х	Х	Х	Х	Х
CC-Link IE Field Interface	MR-J4-GF-RJ	1 axis	3-Phase 200VAC	0.1, 0.2, 0.4, 0.6, 0.75, 1, 2, 3.5, 5, 7, 11, 15, 22	-	Х	-	-	-	-	-	-	Х	Х	Х	х	х	Х	Х	Х	Х	х	Х	-	Х	Х	х	Х	Х
CC-Link			3-Phase 400VAC	0.6, 1, 2, 3.5, 5, 7, 11, 15, 22	-	Х	-	-	-	-	-	-	Х	Х	Х	Х	Х	-	-	Х	Х	-	-	-	-	Х	-	-	-
			1-Phase 100VAC	0.1, 0.2, 0.4	Х	-	-	-	-	-	-	-	х	х	Х	-	Х	Х	х	-	-	-	-	-	Х	-	х	Х	Х
ace	MR-J4-B(-RJ)	1 axis	3-Phase 200VAC	0.1, 0.2, 0.4, 0.6, 0.75, 1, 2, 3.5, 5, 7, 11, 15, 22, 30, 37	Х	-	-	-	-	-	-	-	Х	Х	Х	-	х	Х	Х	Х	Х	Х	Х	-	Х	Х	Х	Х	Х
SSCNET III/H Interface			3-Phase 400VAC	0.6, 1, 2, 3.5, 5, 7, 11, 15, 22, 30, 37, 45, 55	х	-	-	-	-	-	-	-	х	х	х	-	Х	-	-	х	х	-	-	-	-	х	-	-	-
SSCNET	MR-J4W2-B	2 axes	3-Phase 200VAC	0.2, 0.4, 0.75, 1	Х	-	-	-	-	-	-	-	Х	Х	Х	-	х	Х	Х	Х	Х	-	Х	-	Х	-	Х	Х	Х
	MR-J4W3-B	3 axes	3-Phase 200VAC	0.2, 0.4	Х	-	-	-	-	-	-	-	Х	х	Х	-	-	Х	х	-	-	-	-	-	Х	-	Х	Х	Х
	MR-J4W2- 0303B6	2 axes	24VDC/ 48VDC	10W, 20W, 30W	Х	-	-	-	-	-	-	-	х	Х	Х	-	-	-	-	-	-	-	-	Х	-	-	-	-	-
	000000		1-Phase 100VAC	0.1, 0.2, 0.4	-	-	Х	Х	Х	-	-	-	х	Х	Х	X (*3)	Х	Х	Х	-	-	-	-	-	Х	-	Х	Х	Х
se Interface	MR-J4-A(-RJ)	1 axis	3-Phase 200VAC	0.1, 0.2, 0.4, 0.6, 0.75, 1, 2, 3.5, 5, 7, 11, 15, 22, 30, 37	-	-	х	х	х	-	-	-	Х	х	х	X (*3)	х	х	х	х	Х	х	Х	-	х	х	х	Х	х
General Purpose Interface			3-Phase 400VAC	0.6, 1, 2, 3.5, 5, 7, 11, 15, 22, 30, 37, 45, 55	-	-	Х	Х	Х	-	-	-	Х	х	Х	X (*3)	х	-	-	Х	Х	-	-	-	-	х	-	-	-
	MR-J4-03A6-RJ	1 axis	24VDC/ 48VDC	10W, 20W, 30W	-	-	Х	Х	-	-	-	-	Х	Х	Х	Х	-	-	-	-	-	-	-	Х	-	-	-	-	-
Multi-Network Interface		1	3-Phase 200VAC	0.1, 0.2, 0.4, 0.6, 0.75, 1, 2, 3.5, 5, 7, 11, 15, 22	-	-	-	-	-	Х	Х	Х	Х	Х	Х	Х	х	Х	Х	Х	Х	Х	Х	-	Х	Х	Х	Х	Х
Vetworl	MR-J4-TM	1 axis	1-Phase 100VAC	0.1, 0.2, 0.4	-	-	-	-	-	Х	Х	Х	Х	Х	Х	Χ	Х	Χ	Х	-	-	-	-	-	-	-	-	-	-
Multi-			3-Phase 400VAC	0.6, 1, 2, 3.5, 5, 7, 11, 15, 22	-	-	-	-	-	Х	Х	Х	Х	Х	Х	Х	х	Х	х	Х	Х	Х	Х	-	-	х	-	-	-

- The listed are the rated output of the servo amplifier. For the compatible Servo Motor capacities, refer to MR-J4 Brochure for more details.
- MR-J4-B/A servo amplifier is compatible with two-wire type serial linear encoder. For four-wire type serial and pulse train interface (A/B/Z-phase differential output type) linear encoders, use MR-J4-B-RJ/A-RJ servo amplifier.
 Positioning function is available only with MR-J4-A-RJ.
- 30 kW or lager is drive unit. One unit of converter unit is required for each drive unit.
- MR-J4-B/A servo amplifier is compatible with two-wire type and four-wire type serial linear encoders. For pulse train interface (A/B/Z-phase differential output type) linear encoder, use MR-J4-B-RJ/A-RJ servo amplifier. Some functions are available only with the servo amplifier with specific versions. Refer to relevant Servo Amplifier Instruction Manual for detail.

MR-J4-B-RJ

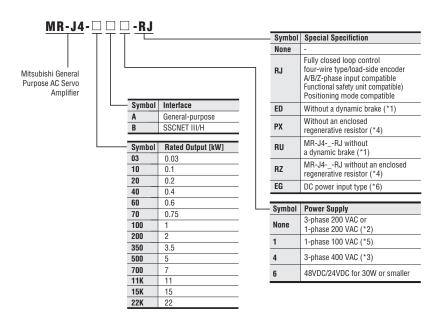
MR-J4-A-RJ





1-Axis Servo Amplifier Selection

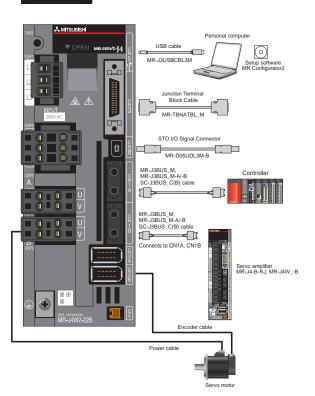
(Example Part No. = MR-J4-10B-ED)



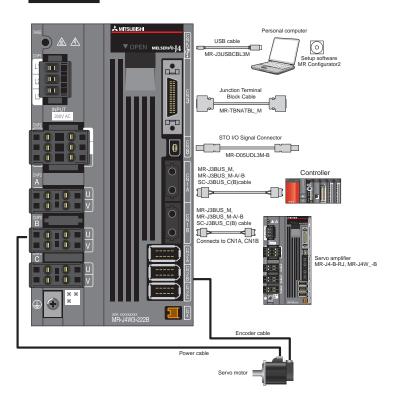
400 VAC

- 1. Dynamic brake which is built in 7 kW or smaller servo amplifiers is removed. When using the servo amplifier without a dynamic brake, the Servo Motor does not stop immediately at alarm occurrence or power failure. Take measures to ensure safety on the entire system. When the following Servo Motors are used, an electronic dynamic brake may operate at alarm occurrence. HG-KR053, HG-KR13, HG-KR23, HG-KR43, HG-MR053, HG-MR13, HG-MR23, HG-MR43, HG-SR51, and HG-SR52 Disable the electronic dynamic brake by setting the following parameter to "_ _ _ 2." For MR-J4-B/MR-J4-B-RJ/MR-J4-B-RJ010: [Pr. PF06] For MR-J4W_-B: Disable the electronic dynamic brake for all axes with [P PF06] For MR-J4-A/MR-J4-A-RJ: [Pr. PF09] In addition, when [Pr. PA04] is set to "2 _ _ _ " (initial value), the Servo Motor may be decelerated to a stop forcibly at alarm occurrence. The forced stop deceleration function will be disabled by setting [Pr. PA04] to "0 _ _ _."
 Servo amplifiers of 0.75 kW or smaller are available for 1-phase 200 VAC.
- Servo amplifiers of 0.6 kW, and 1 kW or larger are available for 3-phase
- Available in 11 kW to 22 kW servo amplifier. A regenerative resistor
- (standard accessory) is not enclosed. Servo amplifiers of 0.4 kW or smaller are available.
- Contact your local sales office for the DC power input type servo amplifier.

MR-J4W2-B

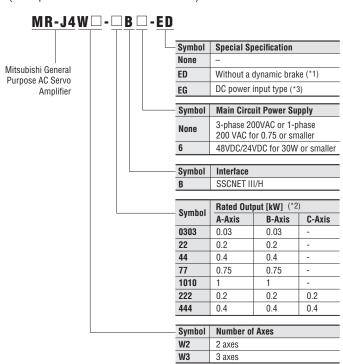


MR-J4W3-B



Multi-Axis Servo Amplifier Selection

(Example Part No. = MR-J4W2-22B-ED)

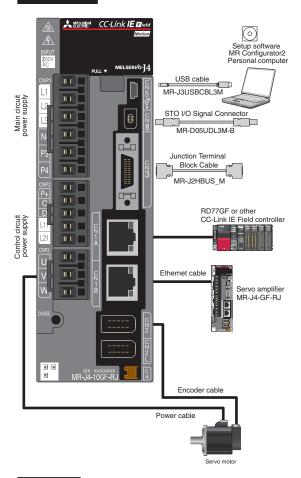


Notes:

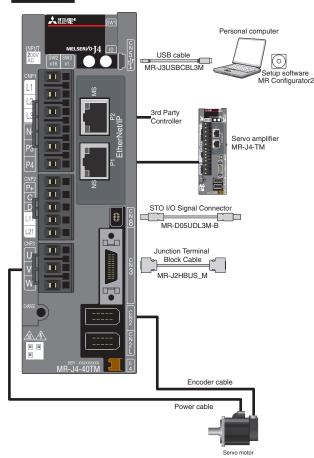
- Dynamic brake which is built in 7 kW or smaller servo amplifiers is removed. When using the servo amplifier without a dynamic brake, the Servo Motor does not stop immediately at alarm occurrence or power failure. Take measures to ensure safety on the entire system. When the following Servo Motors are used, an electronic dynamic brake may operate at alarm occurrence. HG-KR053, HG-KR13, HG-KR24, HG-KR43, HG-MR053, HG-MR13, HG-MR23, HG-MR43, HG-SR51, and HG-SR52 Disable the electronic dynamic brake by setting the following parameter to "___2." For MR-J4-B/MR-J4-B-RJ/MR-J4-B-RJ010: [Pr. PF06] For MR-J4W_-B: Disable the electronic dynamic brake for all axes with [Pr. PF06] For MR-J4-A/MR-J4-A-RJ. [Pr. PF09] In addition, when [Pr. PA04] is set to "2 _ _ _ " (initial value), the Servo Motor may be decelerated to a stop forcibly at alarm occurrence. The forced stop deceleration function will be disabled by setting [Pr. PA04] to "0 _ _ _.*

 A-axis, B-axis, and C-axis indicate names of axes of the multi-axis servo amplifier. The C-axis
- is available for the 3-axis servo amplifier.
- Contact your local sales office for the DC power input type servo amplifier.

MR-J4-GF-RJ



MR-J4-TM



1-Axis Servo Amplifier Selection

(Example Part No. = MR-J4-60GF-RJ)

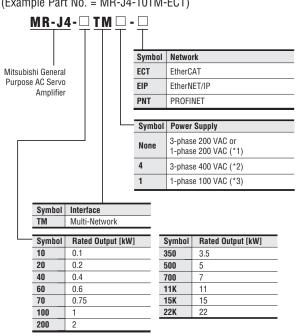
			Symbol	Special Spe	ecification				
			None	Standard or	ıtside US				
 shi General e AC Servo Amplifier			RJ	Load-side e Touch prob	oput compatible ncoder compatible e function compatible (MR-D30)				
			ED	MR-J4GF	without a dynamic brake (*1)				
			RU	MR-J4GF	-RJ without a dynamic brake (*1)				
			ЕВ		with a special coating n (3C2) (*2)				
			KS	RJ function	s with conformal coating (*2)				
			Symbol	Power Supp	nlv				
			None	3-phase or	1-phase 200 VAC to 240 VAC 3 VDC to 340 VAC) (*3)				
			1	1-phase 100 VAC					
			4	3-phase 380) VAC to 480 VAC (*4)				
Symbol		rface							
	UU-	Link IE Fie	10	_					
ur									
Symbol	Rat	ed Output	[kW]	Symbol	Rated Output [kW]				
	Rat 0.1	ed Output	[kW]	Symbol 350	Rated Output [kW]				
Symbol		ed Output	[kW]						
Symbol 10	0.1	ed Output	[kW]	350	3.5				
Symbol 10 20	0.1	ed Output	[kW]	350 500	3.5				
Symbol 10 20 40	0.1 0.2 0.4		[kW]	350 500 700	3.5 5 7 11 15				
Symbol 10 20 40 60	0.1 0.2 0.4 0.6		[kW]	350 500 700 11K	3.5 5 7 11				

Notes:

- 1. Dynamic brake which is built in the servo amplifiers is removed. When using the servo amplifier without a dynamic brake, the servo motor does not stop immediately at alarm occurrence or power failure. Take measures to ensure safety on the entire system. Refer to
- "MR-J4_GF_(-RJ) Servo Amplifier Instruction Manual (Motion Mode)" for details. The special coating (JIS C60721-3-3/IEC 60721-3-3 classification 3C2) is applied to the circuit board of the servo amplifier. Refer to "MR-J4-GF_(-RJ) Servo Amplifier Instruction Manual (Motion Mode" for details.
- When the servo amplifier is connected to CC-Link IE Field Network Basic, an MR-D30 functional safety unit is not supported. Servo amplifiers of 0.75 kW or smaller are available for 1-phase 200 VAC.
- Dynamic brake which is built in the servo amplifiers is removed. When using the servo amplifier without a dynamic brake, the servo motor does not stop immediately at alarm occurrence or power failure. Take measures to ensure safety on the entire system. Refer to "MR-J4-_GF_(-RJ) Servo Amplifier Instruction Manual (Motion Mode)"for details. Servo amplifiers of 0.6 kW, and 1 kW or larger are available for 3-phase 400 VAC.

1-Axis Servo Amplifier Selection

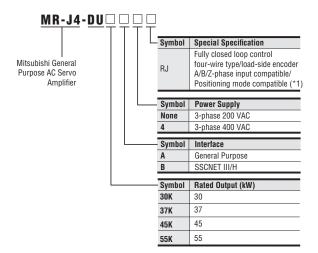
(Example Part No. = MR-J4-10TM-ECT)



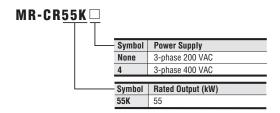
Notes

- Servo amplifiers of 0.75 kW or smaller are available for 1-phase 200 VAC.
- Servo amplifiers of 0.6 kW, and 1 kW or larger are available for 3-phase 400 VAC.
- Servo amplifiers of 0.4 kW or smaller are available.

Drive Unit Model Designation (*2)



Converter Unit Model Designation (*2)



Notes:

- Positioning mode is available with MR-J4-DU_A_-RJ drive unit.
 One unit of converter unit is required for each drive unit.

MR-J4-GF/MR-J4-GF-RJ (CC-Link IE Field Network Interface) Specifications (200V)

Sarva Amplific	er Model MR-J4(-RJ)	10GF	20GF	40GF	60GF	70GF	100GF	200GF	350GF	500GF	700GF	11KGF	15KGF	22KGF
	si Mouel Min-34(-n3)				1					1	1	1 -	1	
Stocked Item	Dated Waltern	S	S	S	S	S	S	S	S	S	S	S	S	S
Output	Rated Voltage	3-phase		0.0	100	I = 0	0.0	11.0	17.0	100.0	107.0	1000	T07.0	1400.0
·	Rated Current (A) Voltage/Frequency AC Input (*1)	3-phase 50 Hz/60		2.8 e 200 VAC	3.2 to 240 V	5.8 AC,	3-phase 1-phase to 240 V Hz/60 Hz	200 VAC AC, 50	3-phase	28.0 200 VAC	37.0 to 240 VA	68.0 .C, 50 Hz/6	87.0 60 Hz	126.0
Main Circuit	Voltage/Frequency DC Input (*1, *38)	283 VDC	to 340 VI	DC			112/00 112	2 (30)						
Power	Rated Current (A) (*25)	0.9	1.5	2.6	3.2 (*8)	3.8	5.0	10.5	16.0	21.7	28.9	46.0	64.0	95.0
Supply	Permissible Volt. Fluctuation AC Input	3-phase	or 1-phas	e 170 VAC			3-phase 1-phase to 264 V	170 VAC	3-phase	170 VAC		.C		
	Permissible Volt. Fluctuation DC Input	241 VDC	to 374 VI	DC (*38)				(00)						
	Permissible Frequency Fluctuation	±5% ma	ximum			_			_					
	Voltage/Frequency AC Input	1-phase	200 VAC t	o 240 VA	C, 50 Hz/6	0 Hz								
	Voltage/Frequency DC Input	283 VDC	to 340 VI	DC (*38)										
Control	Rated Current (A)	0.2								0.3				
Circuit Power	Permissible Volt. Fluctuation AC Input	1-phase	170 VAC t	o 264 VA	C									
Supply	Permissible Volt. Fluctuation DC Input		to 374 VI											
	Permissible Frequency Fluctuation	±5% ma		. , 50)										
	Power Consumption (W)	30								45				
Interface Powe	. , ,		+ 10% (ro	auired cur	rent cana	city. U 3 A	(including	ı CN8 con	nector sig	1				
Control Method				<u> </u>		ol method		, 5140 0011	outur aly	,u.o//				
	Built-in Regenerative Resistor (*2, *3) (W)	-	10	10	10	20	20	100	100	130	170	-	T-	-
Permissible Regenerative Power	External Regenerative Resistor (Standard Accessory) [W] (Note 2, 3, 15, 16)	-	-	-	-	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)
Dynamic Brake		Built-in (*4)	1		1	1				1	External	option (*	13)
	Id Communication Cycle (*10)			0 me 10	me	-	-		-			LXtorna	option (10)
Communication		0.5 ms, 1.0 ms, 2.0 ms, 4.0 ms												
		USB: Connect a personal computer (MR Configurator2 compatible)												
Encoder Output		Compatible (A/B/Z-phase pulse)												
Analog Monito		2 channels Point table method												
Positioning Mo											-			
Fully Closed	MR-J4-GF			municatio										
	MR-J4-GF-RJ	Iwo-wire	/four-wire	type com	imunicatio	n method								
Load-Side Encoder	MR-J4-GF	Mitsubis	hi Electric	high-spee	ed serial c	ommunica	ition							
Interface	MR-J4-GF-RJ	Mitsubis	hi Electric	high-spee	ed serial c	ommunica	tion, A/B/Z	Z-phase d	ifferential	input sign	nal			
Servo Function	18	drive rec	order fund		hine diagn								h drive fur n, super tra	
Protective Fund	ctions	encoder	error prote	ection, reg	enerative	error prote	ection, und	dervoltage	protection	n, instanta	neous pov	wer failure	overheat pr protection alt protection	n,
Safety Function	n	STO (IEC	EN 6180	0-5-2)										
	Standards Certified by CB (*34)	EN ISO 1	3849-1 C	ategory 3	PL e, IEC	61508 SII	3, EN 62	061 SIL C	L 3, EN 6	1800-5-2				
	Response Performance	8 ms or	less (STO	input OFF	- energy	shut-off)								
	Test Pulse Input (STO) (*7)	Test puls	e interval:	1 Hz to 2	5 Hz, test	pulse off	time: 1 ms	s maximui	m					
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	MTTFd ≥	100 year	s (314a)		•								
	Diagnostic Coverage (DC)	DC = Me	dium, 97.	6 (%)										
	Probability of Dangerous Failure Per Hour (PFH)	PHF = 6.	4 x 10 ⁻⁹ [1	/h]										
Compliance to	Global Standards	Refer to	"Conformi	tv with GI	obal Stand	dards and	Regulation	ns" in the	MR-J4 Se	rvo Manua	al			
Structure (IP R		_		en (IP20)		1	oling, ope					en (IP20)	(*5)	
Close	3-Phase Power Input	Possible		(- = 5)			3, -10	,,		Not pos		\/	/	
Mounting	1-Phase Power Input	Possible	· ,				Not poss	sible	1-	1 1401 hos	0.010			
	Ambient Temperature		. ,	-freezina\	etorage.	-20°C to 4	55°C (non-		1					
	·							neezing)				-		
	Ambient Humidity	<u> </u>				(non-cond				4				
				ciluliupt).	no corros	ii esn avia	ntiammahl	lin 2sn a	mist or du	ust				
Environment	Ambience	_	<u>` </u>	- ,		oivo guo, ii	mammabi	o gas, on						
Environment	Altitude	2000 m	or less ab	ove sea le	vel (*37)			0 903, 011						
Environment		2000 m	or less ab	ove sea le	vel (*37)	of X, Y an		2.1	2.3	4.0	6.2	13.4	13.4	18.2

MR-J4-GF1/MR-J4-GF1-RJ (CC-Link IE Field Network Interface Specifications (100 V) (*41)

Servo Amplific	er Model MR-J4(-RJ)	10GF1 20GF1 40GF1								
Stocked Item		S	S	S						
	Rated Voltage	3-phase 170 VAC	1-	15						
Output	Rated Current (A)	1.1	1.5	2.8						
	Voltage/Frequency (*1)	1-phase 100 V AC to 120 V AC, 50 Hz/60		1-17						
Main Circuit	Rated Current (A)	3.0	5.0	9.0						
Power Supply	Permissible Volt. Fluctuation	1-phase 85 V AC to 132 VAC	0.0	3.0						
ouppiy	Permissible Frequency Fluctuation	±5% maximum								
	Voltage/Frequency	1-phase 100 VAC to 120 VAC, 50 Hz/60 H								
0	Rated Current (A)	0.4	IZ							
Control Circuit Power	Permissible Volt. Fluctuation	1-phase 85 VAC to 132 VAC								
Supply	Permissible Frequency Fluctuation	±5% maximum								
	Power Consumption (W)	30								
Interface Powe			/: 0.3 A (including CN8 connector signals))						
Control Metho		Sine-wave PWM control/current control		1						
Permissible										
Regenerative Power	Built-in Regenerative Resistor (*2, *3) (W)	-	10	10						
Dynamic Brak	e	Built-in (*4)		•						
CC-Link IE Fie	ld Communication Cycle (*10)	0.5 ms, 1.0 ms, 2.0 ms, 4.0 ms								
Communicatio	n Function	USB: Connect a personal computer (MR	Configurator2 compatible)							
Encoder Outpu	it Pulse	Compatible (A/B/Z-phase pulse)								
Analog Monito	or	2 channels								
Positioning Mo	ode	Point table method, indexer method								
Fully Closed	MR-J4-GF	Two-wire type communication method								
Loop Control	MR-J4-GF-RJ	Two-wire/four-wire type communication	method							
Load-Side	MR-J4-GF	Mitsubishi Electric high-speed serial com	nmunication							
Encoder Interface	MR-J4-GF-RJ	* '	munication, A/B/Z-phase differential input							
Servo Function	ns	function, drive recorder function, machine	ed vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive n, drive recorder function, machine diagnosis function (including failure prediction), power monitoring function, scale rement function, super trace control, lost motion compensation							
Protective Fun	actions	protection, encoder error protection, rege	Itage shut-off, overload shut-off (electronic enerative error protection, undervoltage pro- ccessive protection, magnetic pole detection	tection, instantaneous power failure						
Safety Functio	ın .	STO (IEC/EN 61800-5-2)								
	Standards Certified by CB (*34)	EN ISO 13849-1 Category 3 PL e, IEC 61	508 SIL 3, EN 62061 SIL CL 3, EN 61800-	-5-2						
	Response Performance	8 ms or less (STO input OFF – energy sh	,							
	Test Pulse Input (STO) (*7)	Test pulse interval: 1 Hz to 25 Hz, test pu	llse off time: 1 ms maximum							
Safety 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)	PHF = 6.4 x 10 ⁻⁹ [1/h]								
Compliance to	Global Standards	Refer to "Conformity with Global Standards and Regulations" in the MR-J4 Servo Manual								
Structure (IP F	Rating)	Natural cooling, open (IP20)								
Close Mounting	3-Phase Power Input	Possible (*6)								
	Ambient Temperature	0 °C to 55 °C (non-freezing), storage: -20	0°C to 65°C (non-freezing)							
	Ambient Humidity	Operation/storage: 5% RH to 90% RH (non-condensing)								
Environment	Ambience	Indoors (no direct sunlight); no corrosive	e gas, inflammable gas, oil mist or dust							
	Altitude	2000 m or less above sea level (*37)								
	Vibration Resistance	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)								
Weight (kg)		1.0	1.0	1.0						

MR-J4-GF4/MR-J4-GF4-RJ (CC-Link IE Field Network Interface) Specifications (400V)

Servo Amplifi	er Model MR-J4(-RJ)	60GF4	100GF4	200GF4	350GF4	500GF4	700GF4	11KGF4	15KGF4	22KGF4			
Stocked Item		S	S	S	S	S	S	S	S	S			
t	Rated Voltage	3-phase 323	VAC	•	•								
Output	Rated Current (A)	1.5	2.8	5.4	8.6	14.0	17.0	32.0	41.0	63.0			
	Voltage/Frequency (*1)	3-phase 380	VAC to 480 V	/AC, 50 Hz/60	Hz			•	·				
Nain Circuit	Rated Current (A)	1.4	2.5	5.1	7.9	10.8	14.4	23.1	31.8	47.6			
Power Supply	Permissible Voltage Fluctuation	3-phase 323	VAC to 528 V	/AC		•							
uhhià	Permissible Frequency Fluctuation	±5% maximu	ım										
	Voltage/Frequency			/AC, 50 Hz/60	Hz				ı				
ontrol	Rated Current (A)	0.1			0.2								
ircuit Power	Permissible Voltage Fluctuation		VAC to 528 V	/AC	14				i				
Supply Input	Permissible Frequency Fluctuation	±5% maximu											
	Power Consumption (W)	30			45					-			
nterface Pow			% (required o	rurrent canaci	ty: 0.3 A (inclu	ding CN8 cont	nector signals	1)					
ontrol Metho		_	_ ` .	urrent control	, ,	uning ONO COM	icctor signais,	<u>''</u>					
Ontrol motilo	Built-in Regenerative Resistor			1	1	1		1					
Permissible Regenerative	(*2, *3) (W)	15	15	100	100	130 (*18)	170 (*18)	-	-	-			
ower	External Regenerative Resistor (Standard Accessory) [W] (Note 2, 3, 12, 13)	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)			
ynamic Brak		Built-in (*4)	,	,		•	,	External o	ption (*13)				
-	Id Communication Cycle (*10)	` '	ms, 2.0 ms, 4	.0 ms				,	. , ,				
ommunicatio	• \ /				Configurator2	compatible)							
ncoder Outpu			A/B/Z-phase i		. oomigarator	· companion							
nalog Monito		2 channels	7 4 2/2 pilado	pu.00)									
ositioning M		Point table method											
ully Closed	MR-J4-GF4	Two-wire type communication method											
oop Control	MR-J4-GF4-RJ				method								
oad-Side		Two-wire/four-wire type communication method Mitsubishi Electric high-speed serial communication											
ncoder	MR-J4-GF4	Mitsubishi Electric high-speed serial communication Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal											
nterface	MR-J4-GF4-RJ	Mitsubishi E	lectric high-sp	peed serial co	mmunication, A	A/B/Z-phase di	fferential inpu	t signal					
Servo Functio	ns	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, scale measurement function, super trace control, lost motion compensation											
Protective Fur	ctions	protection, e	ncoder error p	protection, reg	enerative error	protection, un	idervoltage pro	otection, inst	ervo motor ove antaneous pow linear servo c	er failure			
Safety Functio	n	STO (IEC/EN	61800-5-2)										
	Standards Certified by CB (*34)				1508 SIL 3, EN	1 62061 SIL C	L 3, EN 61800	-5-2					
	Response Performance		<u> </u>	FF – energy s									
	Test Pulse Input (STO) (*7)	Test pulse in	terval: 1 Hz to	25 Hz, test p	ulse off time: '	1 ms maximun	n						
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	MTTFd ≥ 100	years (314a))									
	Diagnostic Coverage (DC)	DC = Mediur	n, 97.6 (%)										
	Probability of Dangerous Failure Per Hour (PFH)	PHF = 6.4 x	10 ⁻⁹ [1/h]										
compliance to	Global Standards	Refer to "Conformity with Global Standards and Regulations" in the MR-J4 Servo Manual											
Structure (IP I	Rating)	Natural cooli (IP20)	ng, open	Force coolir (IP20)	ng, open	Force coolin	g, open (IP20) (*5)					
Close Mountir	lg	Not Possible											
	Ambient Temperature	0 °C to 55 °C	C (non-freezin	g), storage: -2	20 °C to 65 °C	(non-freezing)							
	Ambient Humidity	Operation/sto	orage: 90%RH	H maximum (r	on-condensin	g)			i .				
invironment	Ambience				e gas, inflamn	-,	nist or dust	,					
	Altitude	,	ss above sea	*-									
						,		_					
	Vibration Resistance	5.9 m/s ² at 1	0 Hz to 55 Hz	z (directions o	f X, Y and Z ax	(es)							

MR-J4-B(1)/MR-J4-B(1)-RJ (SSCNET III/H Interface) Specifications (200V/100V)

Servo Amplifie	er Model MR-J4(-RJ)	10B	20B	40B	60B	70B	100B	200B	350B	500B	700B	11KB	15KB	22KB	10B1	20B1	40B1
Stocked Item		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
	Rated Voltage	3-phase		10	1.0			1 -	1 -	1 -	1 -		1 -	1 -			1-
Output	Rated Current (A)	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
	Voltage/Frequency (*1)		or 1-phas	e 200 VA(240 VAC			107.0	120.0	1-pha	se 100 ') V AC,	V AC
Main Circuit Power	Rated Current (A) (*15)	0.9	1.5	2.6	3.2 (*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
Supply	Permissible Voltage Fluctuation	3-phase	or 1-phas	e 170 VA0	C to 264	VAC	3-phas	se 170 \	VAC to	264 VAC	;				1-pha 132 V	se 85 V AC	AC to
	Permissible Frequency Fluctuation	±5% max	ximum														
	Voltage/Frequency	ļ .	200 VAC t	to 240 VA	C, 50/60) Hz		-							120V	se 100 \ AC, 50H	
Control	Rated Current (A)	0.2								0.3					0.4		
Circuit Power Supply	Permissible Voltage Fluctuation	<u> </u>		to 264 VA	C										1-pha 132 V	se 85 V AC	AC to
	Permissible Frequency Fluctuation	±5% max	ximum												,		
	Power Consumption (W)	30								45					30		
Interface Powe				quired cur				cluding	CN8 c	onnecto	r signals	s))					
Control Metho	, \ ,	Sine-wav	e PWM c	ontrol/cur	rent cor	itrol me	ethod			1				ı		1	
Tolerable Regenerative	Built-in Regenerative Resistor (*2, *3) (W)	-	10	10	10	20	20	100	100	130	170	-	-	-	-	10	10
Power	External Regenerative Resistor (W) (Standard Accessory) (*2, 3, 11, 12)	_	-	-	-	-	-	-	-	-	-	500 (800)		, ,	-	-	<u> -</u>
Dynamic Brak	,	Built-in (Extern	al option	(*13)	Built-i	n (*4)	
	Command Communication Cycle (*10)	_		ns, 0.888													
Communicatio		_		ersonal co		(MR Co	onfigura	tor2 co	mpatib	le)							
Encoder Outpu		· ·		-phase pu	lse)												
Analog Monito	<u> </u>	2 channe															
Servo Function	n	drive rec	order fund	n suppress ction, tigh (*14), sc 6)	tening &	press	-fit cont	rol, ma	chine d	iagnosis	functio	n, powe	er monito	oring fund	ction, m	aster-sl	lave
Fully Closed	MR-J4-B(1)	Two-wire	type com	nmunicatio	on meth	od (*9))										
Loop Control	MR-J4-B(1)-RJ	Two-wire	/four-wire	type com	nmunica	tion me	ethod										
Load-Side Encoder	MR-J4-B(1)	Mitsubis	hi high-sp	eed serial	commu	ınicatio	n										
Interface	MR-J4-B(1)-RJ	Mitsubis	hi high-sp	eed serial	commi	ınicatio	n, A/B/2	Z-phase	differe	ntial inp	ut signa	ı					
Protective Fun	ctions	encoder	error prote	off, regene ection, reg on, error e	jenerati\	/e error	protect	ion, un	dervolta	age prote	ection, i	nstantar	neous po	wer failui	re prote	ction,	ection,
Safety Functio	n (*10)	STO (IEC	EN 6180	0-5-2)													
	Standards Certified by CB	EN ISO 1	3849-1 C	ategory 3	PL d, E	N 6150	8 SIL 2	, EN 62	.061 SII	CL 2, E	N 6180	0-5-2 S	IL 2				
	Response Performance	8 ms or	less (STO	input OFF	- energ	y shut	off)						·-				
	Test Pulse Input (STO) (*7)	Test puls	e frequen	cy: 1 Hz to	25 Hz;	Test p	ulse off	time: 1	ms ma	aximum							
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	100 year	s or longe	er													
	Diagnostic Coverage (DC)	Medium	(90% to 9	99%)													
	Probability of Dangerous Failure Per Hour (PFH)	1.68 x 10	O ⁻¹⁰ [1/h]														
Compliance to	Standards	CE: EN 61800-5-1, EN 61800-3, EN ISO 13849-1 Category 3 PL d/EN 61508 SIL 2/ EN 62061 SIL CL 2/EN 61800- RoHS compliant; UL: UL508C)-5-2 SI	L 2;							
Structure (IP F	Rating)	Natural o	ooling, op	oen (IP20)		Force	cooling	ı, open	(IP20)	Force (cooling,	open (I	P20) (*5)		al coolin (IP20)	ıg,
Close Mountin	g	Possible	(*6)							Not po	ssible				Possil	ole (*6)	
	Ambient Temperature	0 °C to 5	55 °C (non	-freezing)	, storag	e: -20 °	°C to 65	°C (no	n-freez	ing)							
	Ambient Humidity	90%RH	maximum	(non-con	densing), stora	ige: 90%	6RH m	aximum	non-c	ondensi	ng)					
Environment	Ambience	Indoors	(no direct	sunlight);	no cori	osive g	as, infla	ammab	le gas,	oil mist	or dust						
	Altitude	1000 m	or less ab	ove sea le	vel												
	Vibration Resistance		at 10 Hz t	to 55 Hz (direction			Z axes)	_								
		0.8	0.8	1.0	1.0	1.4	1.4	2.1	2.3	4.0	6.2	13.4	13.4	18.2	0.8	0.8	1.0

MR-J4-DU_B/MR-J4-DU_B-RJ (SSCNET III/H Interface) Specifications (200V)

	` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` ` `	III/H Interface) Specifications (200V) Du37KB								
Model Number M	R-J4(-RJ)	DU30KB	DU37KB							
Stocked Item		-								
Compatible Conv	erter Unit Model	MR-CR55K (*17)								
Output	Rated Voltage	3-phase 170 VAC								
output	Rated Current (A)	174	204							
Main Circuit Pow	er Supply Input	Main circuit power is supplied from the converter unit to the d	rive unit (*17)							
	Voltage/Frequency	1-phase 200 VAC to 240 VAC, 50 Hz/60 Hz								
	Rated Current (A)	0.3								
Control Circuit Power Supply	Permissible Voltage Fluctuation	1-phase 170 VAC to 264 VAC								
Input	Permissible Frequency Fluctuation	±5% maximum								
	Power Consumption (W)	45								
Interface Power S	Supply	24 VDC ± 10% (required current capacity: 0.3 A (including CN	8 connector signals))							
Control Method		Sine-wave PWM control/current control method								
Dynamic Brake		External option (*13)								
SSCNET III/H Con	nmand Communication Cycle	0.222 ms, 0.444 ms, 0.888 ms (*10)								
Communication F	unction	USB: Connect a personal computer (MR Configurator2 compat	ible)							
Encoder Output P	ulse	Compatible (A/B/Z-phase pulse)								
Analog Monitor		2 channels								
Fully Closed	MR-J4-DU_B	Two-wire type communication method								
Loop Control	MR-J4-DU_B-RJ	Two-wire/four-wire type communication method								
Servo Function		Advanced vibration suppression control II, adaptive filter II, rol drive recorder function, tightening & press-fit control, machine operation function, scale measurement function, J3 compatibil	e diagnosis function, power monitoring function, master-slave							
Load-Side	MR-J4-DU_B	Mitsubishi high-speed serial communication								
Encoder Interface	MR-J4-DU_B-RJ	Mitsubishi high-speed serial communication, A/B/Z-phase diffe								
Protective Functi	ons	protection, instantaneous power failure protection, overspeed pr	vo Motor overheat protection, encoder error protection, undervoltage otection, error excessive protection							
Functional Safety		STO (IEC/EN 61800-5-2)								
	Standards Certified by CB	EN ISO 13849-1 Category 3 PL d, IEC 61508 SIL 2, EN 62061	SIL CL 2, EN 61800-5-2 SIL 2							
	Response Performance	8 ms or less (STO input OFF – energy shut-off)								
	Test Pulse Input (STO) (*7)	Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms ma	ximum							
Safety	Mean Time to Dangerous Failure (MTTFd)	100 years or longer								
	Diagnostic Coverage (DC)	Medium (90% to 99%)								
	Probability of Dangerous Failure Per Hour (PFH)	1.68 x 10 ⁻¹⁰ [1/h]								
Compliance To St		Refer to "Conformity with Global Standards and Regulations" ir	n the User's Manual							
Structure (IP Rati	ng)	Force cooling, open (IP20) (*5)								
Close Mounting		Not possible								
	Ambient Temperature	Operation: 0°C to 55°C (non-freezing), storage: -20°C to 65°C	(non-freezing)							
	Ambient Humidity	Operation/storage: 90%RH maximum (non-condensing)								
Environment	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas	s, oil mist or dust							
	Altitude	1000 m or less above sea level								
	Vibration Resistance	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)	Hz to 55 Hz (directions of X, Y and Z axes)							
Weight (kg)		21								
		·								

MR-J4_TM (Multi-Networks Interface) Specifications (200V/100V)

Stocked Item	r Model MR-J	4-	10TM	20TM	40TM	60TM	70TM	100TM	200TM	350TM	500TM		11KTM	15KTM	22KTM	10TM1	20TM1	40TM
NOUNCU ILEIII	Dated Valter		S	S e 170 VA0	S	S	S	S	S	S	S	S	S	S	S	S	S	S
	Rated Voltag		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
Output	Output Frequ			an 590 H		0.2	0.0	10.0	11.0	17.0	20.0	07.0	00.0	107.0	120.0	11.1	1.0	2.0
		ency Accuracy	±0.01%		_													
	Voltage/ Frequency	At AC Input	3-phase 50 Hz/6	e or 1-ph	ase 200	VAC to 2	40 VAC,	3-phase 1-phase 200 VAC VAC, 50 Hz (*7)	to 240	3-phase	200 VAC	C to 240 \	/AC, 50 F	Iz/60 Hz		1-phase 120 VAC	100 VAC C, 50Hz/6	to 0Hz
		At DC Input	283 VD	C to 340	VDC (*3											-		
Main Circuit	Rated Curren	it (*25) (A)	0.9	1.5	2.6	3.2 (*31)	3.8	5.0 3-phase	10.5	16.0	21.7	28.9	46.0	64.0	95.0	3.0	5.0	9.0
Power Supply Input	Permissible Voltage Fluctuation	At AC Input	3-phase	e or 1-ph	ase 170	VAC to 2	64 VAC	1-phase		3-phase	170 VAC	C to 264 \	/AC			1-phase 132 VA(85 VAC	to
		At DC Input	241 VD	C to 374	VDC (*3	32)										-		
	Permissible Fluctuation	Frequency	Within :	±5%														
		Capacity (kVA)	Refer to	User's I	/lanual													
	Inrush Curre			User's I	/lanual													
	Voltage/	At AC Input	1-phase	200 VA	to 240	VAC, 50	Hz/60 Hz		-								100 VAC , 50Hz/60	
	Frequency	At DC Input	283 VD	C to 340	VDC (*3	32)										-	, 50112/00	71 12
	Rated Curren		0.2		- (0	,			-		0.3							
Control Circuit	Permissible	At AC Input	1-phase	170 VA	to 264	VAC											85 VAC	to 1
Power Supply nput	Voltage Fluctuation	At DC Input	ļ .	C to 374												32 VAC		
pur	Permissible				ADO (3	· <u>-</u>)											-0	
	Fluctuation		Within :	±5%														
	Power Consu	. , ,	30								45					30		
	Inrush Curre	nt (A)		User's I	/lanual													
Interface	Voltage		24 VDC															
Power Supply	Current Capa	city (A)	0.3 (inc	luding CI	18 conne	ector sig	nals) (*30	0)										
Control Method	i		Sine-wa	ave PWM	control,	current	control m	ethod										
Dynamic Brake)		Built-in										External	(*13, *35	5)	Built-in		
Fully Closed Lo	oop Control		Compat	tible												Two-wir	e type nication r	nathad
Load-Side Enc	oder Interface		Mitsubi	shi hiah-	speed se	rial com	municatio	on .								Commu	illoation i	ilctilou
Communication	n Function							r others (MR Conf	figurator2	2-compat	ible)						
Encoder Outpu	t Pulses			tible (A/B					`									
Analog Monito	r		Two cha															
Protective Fun			protecti	on, reger	erative e	error prot	ection, u	ndervoltad	ge protec	tion, inst	off (elect antaneou I error pr	s nower f	mal), ser ailure pro	vo motor otection, o	overheat p verspeed p	protection protection	, encodei i, error ex	error cessive
Safety Function			1		etic pole		ii protect	1011, 4114 1	illeal Sel									
Safety Function	Standards Ce (*34)	ertified by CB	STO (IE	C/EN 618	etic pole 300-5-2)			08 SIL 3,			3, and EN	l 61800-5	5-2 SIL 3			61508 8	13849-1 y 3 PL d, SIL 2, EN 2, EN 618	62061
Safety Function Safety Performance	Standards Ce (*34)		STO (IE EN ISO 8 ms or	13849-1 Less (ST	etic pole 300-5-2) category	y 3 PL e, off – ene	IEC 6150	08 SIL 3,	EN 6206	1 SIL CL:	3, and EN	1 61800-5	5-2 SIL 3			Categor 61508 S SIL CL 2	y 3 PL d, SIL 2, EN	62061
Safety	Standards Ce (*34) Response Pe Test Pulse In Mean Time to	rformance put (STO) (*7) o Dangerous	STO (IE EN ISO 8 ms or Test pul	13849-1 Less (ST	category O input	y 3 PL e, off – ene	IEC 6150	08 SIL 3,	EN 6206	1 SIL CL:	3, and EN	l 61800-5	5-2 SIL 3			Categor 61508 S SIL CL 2	y 3 PL d, SIL 2, EN	62061
Safety	Standards Ce (*34) Response Pe Test Pulse In Mean Time to Failure (MTT	rformance put (STO) (*7) o Dangerous Fd)	STO (IE EN ISO 8 ms or Test pul 100 year	13849-1 Less (ST les intervars or lon	etic pole 300-5-2) category 0 input al: 1 Hz	y 3 PL e, off – ene	IEC 6150	08 SIL 3,	EN 6206	1 SIL CL:	3, and EN	1 61800-5	5-2 SIL 3			Categor 61508 S SIL CL 2	y 3 PL d, SIL 2, EN	62061
Safety	Standards Ce (*34) Response Pe Test Pulse In Mean Time to	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous	EN ISO 8 ms or Test pul 100 yea Medium	C/EN 618 13849-1 Less (ST lse interv	etic pole 300-5-2) category 0 input al: 1 Hz	y 3 PL e, off – ene	IEC 6150	08 SIL 3,	EN 6206	1 SIL CL:	3, and EN	1 61800-5	5-2 SIL 3			Categor 61508 S SIL CL 2 SIL 2	y 3 PL d, SIL 2, EN	62061
Safety Performance	Standards Ce (*34) Response Pe Test Pulse In Mean Time tr Failure (MTT Diagnostic C Probability of Failure Per H	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous	EN ISO 8 ms or Test pul 100 yea Medium 6.40 x 1	13849-1 r less (ST lse interv ars or lon n (90% to	etic pole 800-5-2) category O input al: 1 Hz ger	y 3 PL e, off – ene to 25 Hz	IEC 6150 rgy shut Test pul:	08 SIL 3,	EN 6206 e: Up to	1 SIL CL				508C		Categor 61508 S SIL CL 2 SIL 2	y 3 PL d, SilL 2, EN 2, EN 618 0-10 [1/h] 61800-5- 3, EN ISO ory 3 PL Sil Sil Sil Sil Sil Sil Sil Sil Sil Sil	62061 600-5-2 1, EN 1, EN 62061 00-5-2
Safety Performance Compliance to	Standards Ce (*34) Response Pe Test Pulse In Mean Time to Failure (MTT Diagnostic C Probability o Failure Per H	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous	STO (IE EN ISO 8 ms or Test pul 100 yea Medium 6.40 x 1	13849-1 r less (ST lse interv ars or lon n (90% to	etic pole 800-5-2) category O input al: 1 Hz ger 99%)	y 3 PL e, off – ene to 25 Hz	rgy shut Test pul:	08 SIL 3, off) se off tim	EN 6206 e: Up to	1 SIL CL:	61800-5		1061; UL			Categor 61508 S SIL CL 2 SIL 2 1.68 x 1 CE: EN 6 61800-5 1 Catego 61508 S SIL CL 2; B UL: UL: SIL 2; B UL: UL: SIL 2; B	y 3 PL d, SIL 2, EN 2, EN 618 0-10 [1/h 61800-5- 3, EN ISO 507 y 3 PL SIL 2/ EN 618 60HS con 608C cooling,	62061 :00-5-2
Safety Performance Compliance to Structure (IP R	Standards Ce (*34) Response Pe Test Pulse In Mean Time tr Failure (MTT Diagnostic Co Probability of Failure Per H	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous	8 ms or Test pul 100 yea Medium 6.40 x 1	13849-1 r less (ST lse intervents or lon (90% to 10-9 [1/h]) cooling,	etic pole 800-5-2) category O input al: 1 Hz ger 99%)	y 3 PL e, off – ene to 25 Hz	rgy shut Test pul:	08 SIL 3, off) se off tim	EN 6206 e: Up to	1 SIL CL:	61800-5	-2, EN 62	1061; UL			1.68 x 1 CE: EN 661800-5 1 Categor 61508 SIL CL 2 SIL 2	y 3 PL d, SIL 2, EN 2, EN 618 0-10 [1/h 61800-5- 3, EN ISO 507 y 3 PL SIL 2/ EN 618 60HS con 608C cooling,	62061 300-5-2 1, EN 13849 d/EN 62061 00-5-2
Safety Performance Compliance to Structure (IP R	Standards Ce (*34) Response Pe Test Pulse In Mean Time tr Failure (MTT Diagnostic C Probability o Failure Per H	put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH)	STO (IE EN ISO 8 ms or Test pul 100 yea Medium 6.40 x 1 CE: LVD Natural Possible Possible	13849-1 r less (ST lse intervers or lon (190% to 100° [1/h]) c EN 618 cooling, e	etic pole 800-5-2) category O input al: 1 Hz ger 99%)	y 3 PL e, off – ene to 25 Hz	rgy shut Test pul: 61800-3	08 SIL 3, off) se off tim , MD: EN pooling, op	EN 6206 e: Up to ISO 138 pen (IP20	1 SIL CL: 1 ms 49-1, EN	61800-5	-2, EN 62	1061; UL			Categor 61508 S SIL CL 2 SIL 2 1.68 x 1 CE: EN 6 61800-5 1 Catego 61508 S SIL CL 2; B UL: UL: SIL 2; B UL: UL: SIL 2; B	y 3 PL d, SIL 2, EN 2, EN 618 0-10 [1/h 61800-5- 3, EN ISO 507 y 3 PL SIL 2/ EN 618 60HS con 608C cooling,	62061 300-5-2 1, EN 13849 d/EN 62061 00-5-2
Safety Performance Compliance to Structure (IP R	Standards Ce (*34) Response Pe Test Pulse In Mean Time tr Failure (MTT Diagnostic C Probability o Failure Per H Standards ating) 3-Phase Pow Ambient Tem	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input er Supply Input	STO (IE EN ISO 8 ms or Test pul 100 yea Medium 6.40 x 1 CE: LVD Natural Possible Possible 0 °C to	13849-1 r less (ST lse intervers or lon (190% to 100° [1/h]) c EN 618 cooling, e e 6 55 °C (n	etic pole 800-5-2) category O input al: 1 Hz ger 99%) 00-5-1, open (IP	y 3 PL e, off – ene to 25 Hz	rgy shut Test pul: 61800-3 Force c	O8 SIL 3, off) se off tim , MD: EN pooling, op	EN 6206 e: Up to ISO 138 pen (IP20 sible °C (non-f	1 SIL CL: 1 ms 49-1, EN	61800-5 Force co	-2, EN 62 poling, op sible	1061; UL			Categor 61508 S SIL CL 2 SIL 2 1.68 x 1 CE: EN 6 61800-5 1 Catego 61508 S SIL CL 2; B UL: UL: SIL 2; B UL: UL: SIL 2; B	y 3 PL d, SIL 2, EN 2, EN 618 0-10 [1/h 61800-5- 3, EN ISO 507 y 3 PL SIL 2/ EN 618 60HS con 608C cooling,	62061 300-5-2 1, EN 13849 d/EN 62061 00-5-2
Safety Performance Compliance to Structure (IP R	Standards Ce (*34) Response Pe Test Pulse In Mean Time tr Failure (MTT Diagnostic C: Probability o Failure Per H Standards ating) 3-Phase Pow 1-Phase Pow Ambient Tem Ambient Hun	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input er Supply Input	STO (IE EN ISO 8 ms or Test pul 100 yea Medium 6.40 x 1 CE: LVD Natural Possible Possible 0 °C to 90%RH	13849-1 r less (ST lse intervers or lon 190% to 100-9 [1/h] ccooling, eee 55 °C (n maximu)	etic pole 800-5-2) category O input al: 1 Hz ger 999%) 00-5-1, open (IP	y 3 PL e, off – ene to 25 Hz	rgy shut Test pul: 61800-3 Force c age: -20 ng), stori	off) se off tim , MD: EN pooling, op Not pos °C to 65 °age: 90%	EN 6206 e: Up to ISO 138 pen (IP20 sible °C (non-f	1 SIL CL: 1 ms 49-1, EN	61800-5 Force co	-2, EN 62 poling, op sible using)	1061; UL			Categor 61508 S SIL CL 2 SIL 2 1.68 x 1 CE: EN 6 61800-5 1 Catego 61508 S SIL CL 2; B UL: UL: SIL 2; B UL: UL: SIL 2; B	y 3 PL d, SIL 2, EN 2, EN 618 0-10 [1/h 61800-5- 3, EN ISO 507 y 3 PL SIL 2/ EN 618 60HS con 608C cooling,	62061 300-5-2 1, EN 13849 d/EN 62061 00-5-2
Safety Performance Compliance to Structure (IP R Close Mounting (*6)	Standards Ce (*34) Response Pe Test Pulse In Mean Time tr Failure (MTT Diagnostic C Probability o Failure Per H Standards ating) 3-Phase Pow Ambient Tem	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input er Supply Input	STO (IE EN ISO 8 ms or Test pul 100 yea Medium 6.40 x 1 CE: LVD Natural Possible Possible 0 °C to 90%RH	13849-1 r less (ST lse intervers or lon 190% to 100-9 [1/h] ccooling, eee 55 °C (n maximu)	etic pole 800-5-2) category O input al: 1 Hz ger 999%) 00-5-1, open (IP	y 3 PL e, off – ene to 25 Hz	rgy shut Test pul: 61800-3 Force c age: -20 ng), stori	O8 SIL 3, off) se off tim , MD: EN pooling, op	EN 6206 e: Up to ISO 138 pen (IP20 sible °C (non-f	1 SIL CL: 1 ms 49-1, EN	61800-5 Force co	-2, EN 62 poling, op sible using)	1061; UL			1.68 x 1 1.68 x 1 CE: EN (61800-5) 1 Categorian (1801-5) 1 Cut (y 3 PL d, SIL 2, EN 2, EN 618 0-10 [1/h 611800-5-8, EN ISO 0, EN I	62061 1000-5-2 11, EN 13849 0/EN 062061 100-5-2
Safety	Standards Ce (*34) Response Pe Test Pulse In Mean Time tr Failure (MTT Diagnostic C: Probability o Failure Per H Standards ating) 3-Phase Pow 1-Phase Pow Ambient Tem Ambient Hun	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input er Supply Input	EN ISO 8 ms or Test pul 100 yea Medium 6.40 x 1 CE: LVD Natural Possible Possible 0 °C to 90%RH Indoors	13849-1 r less (ST lse intervers or lon 190% to 100-9 [1/h] ccooling, eee 55 °C (n maximu)	etic pole 800-5-2) category 0 input al: 1 Hz ger 0 99%) 00-5-1, open (IP	y 3 PL e, off – ene to 25 Hz EMC: EN 220) ing), stor condensi ht); no c	rgy shut Test pul: 61800-3 Force c age: -20 ng), stororrosive	off) se off tim , MD: EN pooling, op Not pos °C to 65 °age: 90%	EN 6206 e: Up to ISO 138 pen (IP20 sible °C (non-f	1 SIL CL: 1 ms 49-1, EN	61800-5 Force co	-2, EN 62 poling, op sible using)	1061; UL			1.68 x 1 1.68 x 1 CE: EN (61800-5) 1 Categorian (1801-5) 1 Cut (y 3 PL d, SIL 2, EN 2, EN 618 0-10 [1/h 61800-5-8, EN 1SO 07Y 3 PL SIL 2/ EN 08C cooling, 220) or less a	62061 1000-5-2 1, EN 13849 0/EN 0/EN 1000-5-2 1010-5-2
Safety Performance Compliance to Structure (IP R Close Mounting (*6)	Standards Ce (*34) Response Pe Test Pulse In Mean Time trailure (MTT Diagnostic C Probability of Failure Per H Standards ating) 3-Phase Pow 1-Phase Pow Ambient Tem Ambience	erformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input er Supply Input iperature indity	STO (IE EN ISO 8 ms or Test pul 100 yea Medium 6.40 x 1 CE: LVD Natural Possible 0 °C to 90%RH Indoors 2000 m	cC/EN 618 13849-1 r less (ST lse intervalues or long 100% to	etic pole 800-5-2) category O input al: 1 Hz ger 99%) 00-5-1, open (IP	y 3 PL e, off – ene to 25 Hz EMC: EN 220) ing), stor condensi ht); no c a level (*	rgy shut Test pul: 61800-3 Force c age: -20 ng), stororrosive (33)	off) se off tim , MD: EN pooling, op Not pos °C to 65 °age: 90%	e: Up to ISO 138 Den (IP20) sible °C (non-f RH maximmable g	1 SIL CL: 1 ms 49-1, EN	61800-5 Force co	-2, EN 62 poling, op sible using)	1061; UL			1.68 x 1 CE: EN (61800-5 1 Categorian (1800-5 1 Ca	y 3 PL d, SIL 2, EN 2, EN 618 0-10 [1/h 61800-5-8, EN 1SO 07Y 3 PL SIL 2/ EN 08C cooling, 220) or less a	62061 1000-5-2 11, EN 13849 0/EN 62061 00-5-2 ppliant;

MR-J4-B4-RJ (SSCNET III/H Interface) Specifications (400V)

Servo Amplific	er Model MR-J4(-RJ)	60B4	100B4	200B4	350B4	500B4	700B4	11KB4	15KB4	22KB4			
Stocked Item		S	S	S	S	S	S	S	S	S			
	Rated Voltage	3-phase 323	VAC	-\		'							
Output	Rated Current (A)	1.5	2.8	5.4	8.6	14.0	17.0	32.0	41.0	63.0			
	Voltage/Frequency (*1)	3-phase 380	VAC to 480 V	AC, 50 Hz/60 H	lz	•		•	•				
Main Circuit	Rated Current (A)	1.4	2.5	5.1	7.9	10.8	14.4	23.1	31.8	47.6			
Power Supply	Permissible Voltage Fluctuation	3-phase 232	VAC to 528 V	AC				1	ļ				
опррту	Permissible Frequency Fluctuation	±5% maximu				1							
	Voltage/Frequency	1-phase 380		AC 50/60 Hz									
	Rated Current (A)	0.1		110, 00, 00 112	0.2								
Control	Permissible Voltage Fluctuation	1-phase 323	VΔC to 528 V	ΔC.	10	-							
Circuit Power Supply		<u>'</u>											
	Permissible Frequency Fluctuation	±5% maximu	· · · · · · · · · · · · · · · · · · ·		1								
	Power Consumption (W)	30			45								
Interface Pow	er Supply	24 VDC ±10%	6 (required cu	irrent capacity:	0.3 A (includir	ig CN8 connec	ctor signals))						
Control Metho	d (*11)	Sine-wave PV	VM control/cu	ırrent control r	nethod								
	Built-in Regenerative Resistor	15	15	100	100	130 (*11)	170 (*11)	_	_	_			
Tolerable Regenerative Power	(*2, *3) (W) External Regenerative Resistor (W) (Standard Accessory) (*2, *3, *11, *12)	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)			
Dynamic Brak	·	Built-in (*4)						External o	ntion (*13)				
-	Command Communication Cycle (*10)	0.222 ms, 0.4	144 ms. 0.888	3 ms				External o	otion (10)				
Communicatio					Configurator2 o	ompatible)							
Encoder Outpu					J	,							
Analog Monito		Compatible (A/B/Z-phase pulse) 2 channels											
Fully Closed	MR-J4-B4	Two-wire type	e communicat	tion method									
Loop Control	MR-J4-B4-RJ			mmunication r	nethod								
Load-Side	MR-J4-B4			al communicat									
Encoder Interface	MR-J4-B4-RJ		-		ion, A/B/Z-phas	se differential i	nput signal						
Servo Function	1	Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function drive recorder function, tightening & press-fit control, machine diagnosis function, power monitoring function, master-slave operation function (*14), scale measurement function (*14), J3 compatibility mode, super trace control (*16), lost motion compensation (*16)											
Protective Fun	ctions	protection, er protection, ov protection	rcoder error p rerspeed prote	rotection, rege	Itage shut-off, enerative error paracessive protec	protection, und	dervoltage prof	tection, insta	ntaneous powe	r failure			
Safety Functio	1	STO (IEC/EN											
	Standards Certified by CE				508 SIL 2, EN 6	2061 SIL CL 2	2, EN 61800-5	-2 SIL 2					
	Response Performance		<u> </u>	FF - energy shu		1							
Safety	Test Pulse Input (STO) (*7) Mean Time to Dangerous	iest puise ire	quency. 1 nz	IO 20 HZ, TEST	pulse off time:	I IIIS IIIaXIIIIU	111						
Performance	Failure (MTTFd)	100 years or											
	Diagnostic Coverage (DC)	Medium (90%	% to 99%)										
	Probability of Dangerous Failure Per Hour (PFH)	1.68 × 10 ⁻¹⁰ [1/h]										
Compliance to	, ,	CE: EN 61800-5-1, EN 61800-3, EN ISO 13849-1 Category 3 PL d/EN 61508 SIL 2/ EN 62061 SIL CL 2/EN 61800-5-2 SIL 2 RoHS compliant; UL: UL508C											
Structure (IP F	Rating)	Natural coolir (IP20)	ng, open	Force cooling	g, open (IP20)	Force coolin	g, open (IP20)	(*5)					
Close Mountin	ř	Not Possible				Not possible							
	Ambient Temperature				C to 65°C (non								
	Ambient Humidity				orage: 90% RH)					
Environment	Ambience	,		,,	gas, inflamma	bie gas, oil mi	st or dust						
	Altitude	1000 m or less above sea level 5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y and Z axes)											
	Vibration Resistance	j o.y iii/s- at 11	J MZ LU DO MZ	(unechous of	∧, r and ∠ axes)							

MR-J4-_TM (Multi-Network Interface) Specifications (400V)

Servo Amplific	er Model MR-J4-	60TM4	100TM4	200TM4	350TM4	500TM4	700TM4	11KTM4	15KTM4	22KTM4			
Stocked Item		S	S	S	S	S	S	S	S	S			
	Rated Voltage	3-phase 323	VAC										
0	Rated Current (A)	1.5	2.8	5.4	8.6	14.0	17.0	32.0	41.0	63.0			
Output	Output Frequency	Less than 59	90 Hz										
	Output Frequency Accuracy	±0.01%											
	Voltage/Frequency	3-phase 380	V AC to 480	V AC, 50 Hz/6	0 Hz	i.							
	Rated Current (A)	1.4	2.5	5.1	7.9	10.8	14.4	23.1	31.8	47.6			
Main Circuit	Permissible Voltage Fluctuation	3-phase 323	VAC to 528	VAC									
Power Supply Input	Permissible Frequency Fluctuation	Within ±5%											
ouppry mput	Power Supply Capacity (kVA)	Refer to Use	r's Manual										
	Inrush Current (A)	Refer to Use	r's Manual										
	Voltage/Frequency	1-phase 380	VAC to 480	VAC, 50 Hz/60	Hz	i.							
	Rated Current (A)	0.1			0.2	1			,				
Control	Permissible Voltage Fluctuation	1-phase 323	VAC to 528	VAC									
Circuit Power Supply Input	Permissible Frequency Fluctuation	Within ±5%			-		-		-				
Supply Illput	Power Consumption (W)	30			45		1		-				
	Inrush Current (A)	Refer to Use	r's Manual										
Interface	Voltage	24 VDC ± 10)%										
Power Supply	Current Capacity (A)	0.3 (includir	ig CN8 conne	ctor signals) (*30)								
Control Metho	d	Sine-wave F	WM control,	current contro	l method								
Dynamic Brak	e	Built-in						External (*	13, *35)				
Fully Closed L	oop Control	Compatible						'					
	oder Interface	Mitsubishi h	igh-speed se	rial communica	ation								
Communicatio	n Function			sonal compute		R Configurato	2-compatible)						
Encoder Outpu	it Pulses	Compatible (A/B/Z-phase pulse)											
Analog Monito	or	Two channe	ls			1							
Protective Fun	ctions	encoder erro	or protection,	regenerative er	ror protection,	undervoltage	protection, ins	thermal), Ser tantaneous po n, and linear se	wer failure pro	tection,			
Safety Functio	n	STO (IEC/EN	I 61800-5-2)										
	Standards Certified by CB (*34)	EN ISO 1384	19-1 category	3 PL e, IEC 6	1508 SIL 3, EN	62061 SIL C	_3, and EN 618	300-5-2 SIL 3					
	Response Performance	8 ms or less	(STO input o	off — energy s	hut off)								
	Test Pulse Input (STO)			o 25 Hz; Test p		Up to 1 ms							
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	100 years o	rlonger										
	Diagnostic Coverage (DC)	Medium (90	% to 99%)										
	Probability of Dangerous Failure Per Hour (PFH)	6.40 x 10 ⁻⁹ [1/h]										
Compliance to	. ,	CE: LVD: EN	61800-5-1, E	MC: EN 61800)-3, MD: EN IS	O 13849-1, EI	N 61800-5-2, E	N 62061; UL 5	508C				
Structure (IP F	Rating)	Natural cool (IP20)	ing, open	Force coolii	ng, open (IP20	Force cooli	ng, open (IP20	0) (*5)					
Close Mountin	lg	Not Possible)										
	Ambient Temperature	0 °C to 55 °	C (non-freezir	ng), storage: -2	20 °C to 65 °C	(non-freezing							
	Ambient Humidity	90%RH max	kimum (non-c	ondensing), st	orage: 90%RF	l maximum (n	on-condensing	<u>j)</u>					
Environment	Ambience	Indoors (no	direct sunligh	nt); no corrosiv	e gas, inflamn	nable gas, oil	nist or dust						
	Altitude	2000 m or less above sea level (*33)											
	Vibration Resistance	5.9 m/s ² at	10 Hz to 55 H	z (directions o	f X, Y and Z ax	(es)							
		1.7		2.1	3.6	4.3	6.5	13.4		18.2			

MR-J4-DU_B4/MR-J4-DU_B4-RJ (SSCNET III/H Interface) Specifications (400V)

Model Number N	/IR-J4(-RJ)	DU30KB4	DU37KB4	DU45KB4	DU55KB4
Stocked Item		-	-	-	-
Compatible Conv	verter Unit Model	MR-CR55K4 (*17)	'	<u>'</u>	'
	Rated Voltage	3-phase 323 VAC			
Output	Rated Current (A)	87	102	131	143
Main Circuit Pov	ver Supply Input	Main circuit power is supplied	I from the converter unit to the	drive unit (*17)	,
	Voltage/Frequency	1-phase 380 VAC to 480 VAC,	50 Hz/60 Hz	,	
	Rated Current (A)	0.2			
Control Circuit Power Supply	Permissible Voltage Fluctuation	1-phase 323 VAC to 528 VAC			
Input	Permissible Frequency Fluctuation	±5% maximum			
	Power Consumption (W)	45			
Interface Power	Supply	24 V DC ± 10% (required curr	rent capacity: 0.3 A (including C	N8 connector signals))	
Control Method		Sine-wave PWM control/curre	ent control method		
Dynamic Brake		External option (*13)			
SSCNET III/H Co (*10)	mmand Communication Cycle	0.222 ms, 0.444 ms, 0.888 m	is .		
Communication	Function	USB: Connect a personal com	puter (MR Configurator2 compa	ntible)	
Encoder Output I	Pulse	Compatible (A/B/Z-phase puls	e)		
Analog Monitor		2 channels			
Fully Closed	MR-J4-DU_B4	Two-wire type communication	n method		
Loop Control	MR-J4-DU_B4-RJ	Two-wire/four-wire type comm	nunication method		
Servo Function		recorder function, tightening a		nosis function, power moni	-touch tuning, tough drive function, drive toring function, master-slave operation otion compensation
Load-Side Encoder	MR-J4-DU_B4	Mitsubishi Electric high-speed	serial communication		·
Interface	MR-J4-DU_B4-RJ	Mitsubishi Electric high-speed	I serial communication, A/B/Z-p	hase differential input signal	
Protective Funct	ions		shut-off (electronic thermal), Se er failure protection, overspeed p		n, encoder error protection, undervoltage otection
Functional Safet	у	STO (IEC/EN 61800-5-2)			
	Standards Certified by CB	EN ISO 13849-1 Category 3 P	L d, IEC 61508 SIL 2, EN 62061	SIL CL 2, EN 61800-5-2 SI	L 2
	Response Performance	8 ms or less (STO input OFF -	- energy shut-off)		
	Test Pulse Input (STO) (*7)	Test pulse interval: 1 Hz to 25	Hz, test pulse off time: 1 ms m	aximum	
Safety	Mean Time to Dangerous Failure (MTTFd)	100 years or longer			
	Diagnostic Coverage (DC)	Medium (90% to 99%)			
	Probability of Dangerous Failure Per Hour (PFH)	1.68 x 10 ⁻¹⁰ [1/h]			
Compliance To S	Standards	Refer to "Conformity with Glol	bal Standards and Regulations"	n the User's Manual	
Structure (IP Rat	ting)	Force cooling, open (IP20) (*	5)		
Close Mounting		Not possible			
	Ambient Temperature	Operation: 0°C to 55°C (non-f	reezing), storage: -20°C to 65°C	(non-freezing)	
	Ambient Humidity	Operation/storage: 90%RH ma	aximum (non-condensing)		
Environment	Ambience	Indoors (no direct sunlight); r	no corrosive gas, inflammable ga	as, oil mist or dust	
	Altitude	1000 m or less above sea leve	el		
	Vibration Resistance	5.9 m/s ² at 10 Hz to 55 Hz (di	rections of X, Y and Z axes)		
Weight (kg)		16		19	

MR-CR Converter Unit Specifications (200V/400V)

Converter Unit Mo	odel	MR-CR55K	MR-CR55K4						
Stocked Item		-	-						
Outnut	Rated Voltage	270 VDC to 324 VDC	513 VDC to 648 VDC						
Output	Rated Current (A)	215.9	113.8						
	Voltage/Frequency (*1)	3-phase 200 VAC to 240 VAC, 50 Hz/60 Hz	3-phase 380 VAC to 480 VAC, 50 Hz/60 Hz						
Main Circuit	Rated Current (A)	191.3	100.7						
Power Supply	Permissible Voltage Fluctuation	3-phase 170 VAC to 264 VAC	3-phase 323 VAC to 528 VAC						
	Permissible Frequency Fluctuation	±5% maximum							
	Voltage/Frequency	1-phase 200 VAC to 240 VAC, 50 Hz/60 Hz	1-phase 380 VAC to 480 VAC, 50 Hz/60 Hz						
0	Rated Current (A)	0.3	0.2						
Control Circuit Power Supply	Permissible Voltage Fluctuation	1-phase 170 VAC to 264 VAC	1-phase 323 VAC to 528 VAC						
	Permissible Frequency Fluctuation	±5% maximum							
	Power Consumption (W)	45							
Interface Power S	upply	24 VDC ± 10% (required current capacity: 0.15 A)							
Rated Output (kW		55							
Regenerative Pov	ver (When Regenerative Option is Used)	1300 W (one unit of MR-RB139) 3900 W (three units of MR-RB137)	1300 W (one unit of MR-RB137-4) 3900 W (three units of MR-RB13V-4)						
Protective Function	nns	Regenerative overvoltage shut-off, overload shut-off (electroprotection, instantaneous power failure protection	onic thermal), regenerative error protection, undervoltage						
Compliance to St	andards	Refer to "Conformity with Global Standards and Regulations	" in User's Guide						
Structure		Force cooling, open (IP20) (*2)							
	Ambient Temperature	Operation: 0°C to 55°C (non-freezing), storage: -20°C to 65°	°C (non-freezing)						
	Ambient Humidity	Operation/storage: 90%RH maximum (non-condensing)							
Environment	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust							
	Altitude	1000 m or less above sea level							
	Vibration Resistance	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)							
Weight (kg)		22							

- Notes:

 1. Rated output and speed of a rotary Servo Motor are applicable when the servo amplifier, combined with the rotary Servo Motor, is operated within the specified power supply voltage and frequency.

 2. Terminal blocks are excluded.

MR-J4W2-B (2-Axis, SSCNET III/H Interface) Specifications (200V)

Servo Amplifie	er Model MR-J4W2-		22B	44B	77B	1010B			
Stocked Item			S	S	S	S			
	Rated Voltage		3-phase 170 VAC	1-	1-	1-			
Output	Rated Current (Eac	ch Axis) (A)	1.5	2.8	5.8	6.0			
	Voltage/Frequency	(*1)	3-phase or 1-phase 200 VAC to 240 VAC, 50/60 Hz 3-phase 200 VAC to 240 VAC to						
Main Circuit	Rated Current (A)	(*25)	2.9	5.2	7.5	9.8			
Power Supply	Permissible Voltac	` '	3-phase or 1-phase 170 VAC to	0 264 VAC		3-phase 170 VAC to 264 VAC			
	Permissible Frequ	ency Fluctuation	±5% maximum						
	Voltage/Frequency		1-phase 200 VAC to 240 VAC.	50/60 Hz					
0	Rated Current (A)	·	0.4						
Control Circuit Power	Permissible Voltac	ne Fluctuation	1-phase 170 VAC to 264 VAC						
Supply	Permissible Frequ		±5% maximum						
	Power Consumption		55						
Interface Powe	· · ·	JII (W)		nt capacity: 0.35 A (including CN	9 connector cianale))				
Control Metho			Sine-wave PWM control/currer	· · · · · · · · · · · · · · · · · · ·	o connector signals))				
Control Metho	Reusable Regener	ration Engrav (I)	Sille-wave Fyvivi Collitol/Cullet		T				
	(W) (*19) Moment of Inertia		17	21	44				
Capacitor Regeneration	to Permissible Cha (× 10 ⁻⁴ kg•m²) (*20	arging Amount	3.45	4.26	8.92				
	Mass Equivalent to Permissible	LM-H3	3.8	4.7	9.8				
	Charging Amount (kg) (*21)	LM-U2	8.5	10.5	22.0				
	enerative Power of t Resistor (*2, *3) (W		20	20 100					
Dynamic Brake	9		Built-in (*4)						
SSCNET III/H (Command Communi	cation Cycle (*10)	0.222 ms, 0.444 ms, 0.888 ms						
Communicatio	n Function		USB: Connect a personal computer (MR Configurator2 compatible)						
Encoder Outpu	t Pulse		Compatible (A/B-phase pulse)						
Analog Monito	r		None						
Fully Closed L	oop Control (*24)		Available (*9)						
Load-Side Enc	oder Interface (*22))	Mitsubishi high-speed serial communication						
Protective Fun	ctions		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						
Servo Function	1		Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function, drive recorder function, tightening & press-fit control, machine diagnosis function, power monitoring function, scale measurement function (*14), J3 compatibility mode						
Safety Functio	n		STO (IEC/EN 61800-5-2) (*23)						
,	Standards Certifie	d by CR	EN ISO 13849-1 Category 3 PL d, EN 61508 SIL 2, EN 62061 SIL CL 2, EN 61800-5-2 SIL 2						
	Response Perform								
	•		8 ms or less (STO input OFF — energy shut-off) Test pulse frequency: 1 Hz to 25 Hz; Test pulse off time: 1 ms maximum						
Safety	Test Pulse Input (S Mean Time to Dan		100 years or longer						
Performance	Failure (MTTFd) Average Diagnosti (DCavg)	c Coverage	Medium (90% to 99%)						
	Probability of Dang Per Hour (PFH)	gerous Failure	1.68 × 10 ⁻¹⁰ [1/h]						
Compliance to	` '		CE: EN 61800-5-1, EN 61800-3, EN ISO 13849-1 Category 3 PL d/EN 61508 SIL 2/ EN 62061 SIL CL 2/EN 61800-5-2 SIL 2; RoHS compliant; UL: UL508C						
Structure (IP R	lating)		Natural cooling, open (IP20) Force cooling, open (IP20)						
•									
Close Mounting			Possible 0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)						
	Ambient Temperat Ambient Humidity	uio		nsing), storage: 90%RH maxim					
Environment	Ambience		,	o corrosive gas, inflammable ga					
	Altitude		1000 m or less above sea level		s, on mist of dust				
	Vibration Resistan	ICO.	5.9 m/s ² at 10 Hz to 55 Hz (dir						
Woight (I)	VINIALION DESISTAN	100	,	1	20	2.0			
Weight (kg)			1.5	1.5	2.0	2.0			

MR-J4W2-0303B6 (2-Axis, SSCNET III/H Interface) Specifications

Servo Amplifie	r Model	MR-J4W2-0303B6				
Stocked Item		\$				
	Rated Voltage	3-phase 13 VAC				
Output	Rated Current (Each Axis) (A)	2.4				
	Voltage (*1)	48 V DC/24 VDC (*39)				
Main Circuit	Rated Current (A)	For 48 VDC: 2.4 A; For 24 VDC: 4.8 A				
Power Supply	Permissible Voltage Fluctuation	For 48 VDC: 40.8 VDC to 55.2 VDC; For 24 VDC: 21.6 VDC to 26.4 VDC				
	Voltage	24 VDC				
Control	Rated Current (A)	0.5				
Circuit Power Supply	Permissible Voltage Fluctuation	21.6 VDC to 26.4 VDC				
	Power Consumption (W)	10				
Interface Powe	r Supply	24 VDC ± 10% (required current capacity: 0.25 A)				
Control Method	1	Sine-wave PWM control/current control method				
0	Reusable Regeneration Energy (J) (W) (*19)	0.9				
Capacitor Regeneration	Moment of Inertia (J) Equivalent to Permissible Charging Amount (× 10 ⁻⁴ kg•m²) (*20)	0.18				
Permissible Re Regenerative F	egenerative Power of the Built-in Resistor (W)	1.3				
Dynamic Brake	1	Built-in (*4, *40)				
SSCNET III/H C	ommand Communication Cycle (*10)	0.222 ms, 0.444 ms, 0.888 ms				
Communication	n Function	USB: Connect a personal computer (MR Configurator2 compatible)				
Encoder Output	t Pulse	Compatible (A/B-phase pulse)				
Analog Monito	r	2 channels				
Fully Closed Lo	pop Control	Not compatible				
Protective Fund	ctions	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				
Servo Function		Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, vibration tough drive function, drive recorder function, tightening & press-fit control, machine diagnosis function, power monitoring function, J3 compatibility mode				
Compliance to	Standards	Refer to "Conformity with Global Standards and Regulations" in the Instruction Manual				
Structure (IP R	ating)	Natural cooling, open (IP20)				
Close Mounting	9	Possible (*6)				
	Ambient Temperature	Operation: 0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)				
	Ambient Humidity	Operation/storage: 90 %RH maximum (non-condensing)				
Environment	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust				
	Altitude	1000 m or less above sea level				
	Vibration Resistance	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)				
Weight (kg)		0.3				
3 (3)						

MR-J4W3-B (3-Axis, SSCNET III/H Interface) Specifications (200V)

Servo Amplific	er Model MR-J4W3-		222B	444B				
Stocked Item			S	S				
	Rated Voltage		3-phase 170 VAC					
Output	Rated Current (A)		1.5	2.8				
	Voltage/Frequency	/ (*1)	-phase or 1-phase 200 VAC to 240 VAC, 50/60 Hz					
Main Circuit	Rated Current (A)	(*25)	4.3	7.8				
Power Supply	Permissible Voltag	ge Fluctuation	3-phase or 1-phase 170 VAC to 264 VAC					
	Permissible Frequ	ency Fluctuation	±5% maximum					
	Voltage/Frequency	, , , , , , , , , , , , , , , , , , ,	1-phase 200 VAC to 240 VAC, 50/60 Hz					
Control	Rated Current (A)		0.4					
Circuit Power	Permissible Voltag	ge Fluctuation	1-phase 170 VAC to 264 VAC					
Supply	Permissible Frequ	ency Fluctuation	±5% maximum					
	Power Consumption		55					
Interface Power	er Supply		24 VDC ±10% (required current capacity: 0.45 A (including Cl	N8 connector signals))				
	Reusable Regener	rative Energy (J)						
	(*19)		21	30				
Capacitor	Moment of inertia to Permissible Cha (× 10 ⁻⁴ kg•m²) (*20	arging Amount	4.26	6.08				
Regeneration	Mass Equivalent to Permissible	LM-H3	4.7	6.7				
	Charging Amount (kg) (*21)	LM-U2	10.5	15.0				
	enerative Power of t Resistor (*2, *3) (W		30					
Control Method			Sine-wave PWM control/current control method					
Dynamic Brake			Built-in (*4)					
	Command Communi	ication Cycle (*10)	0.222 ms (*26), 0.444 ms, 0.888 ms					
Communicatio			USB: Connect a personal computer (MR Configurator2 compatible)					
Encoder Outpu			Not compatible					
Analog Monito			None					
Fully Closed L	oop Control		Not compatible Overcurrent shut-off, regenerative overvoltage shut-off, overload shut-off (electronic thermal), Servo Motor overheat					
Protective Fun	octions		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					
Servo Function	n		Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function, drive recorder function, tightening & press-fit control, machine diagnosis function, power monitoring function, J3 compatibility mode					
Safety Function	n		STO (IEC/EN 61800-5-2) (*23)					
	Standards Certifie	d by CB	EN ISO 13849-1 Category 3 PL d, EN 61508 SIL 2, EN 62061 SIL CL 2, EN 61800-5-2 SIL 2					
	Response Perform	nance	8 ms or less (STO input OFF – energy shut-off)					
	Test Pulse Input (S	STO) (*7)	Test pulse frequency: 1 Hz to 25 Hz; Test pulse off time: 1 ms maximum					
Safety Performance	Mean Time to Dan (MTTFd)	igerous Failure	100 years or longer					
	Diagnostic Covera	0 (0,	Medium (90% to 99%)					
	Probability of Dan Failure Per Hour (1.68 × 10 ⁻¹⁰ [1/h]					
Compliance to Standards			LVD: EN 61800-5-1; EMC: EN 61800-3; MD: EN ISO 13849-1, EN 61800-5-2, EN 62061					
,	Structure (IP Rating)		Forced cooling, open (IP20)					
Close Mounting			Possible					
	Ambient Temperat	ture	0°C to 55°C (non-freezing), storage: -20°C to 65°C (non-freezing)					
	The second secon		90%RH maximum (non-condensing), storage: 90%RH maximum (non-condensing)					
	Ambient Humidity		90% Km maximum (non-condensing), storage. 90% Km maxim	uni (non conuchang)				
Environment			Indoors (no direct sunlight); no corrosive gas, inflammable ga					
	Ambient Humidity							
	Ambient Humidity Ambience		Indoors (no direct sunlight); no corrosive gas, inflammable ga					

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

Servo Amplific	er Model MR-J4RJ	10A	20A	40A	60A	70A	100A	200A	350A	500A	700A	11KA	15KA	22KA	10A1	20A1	40A1
Stocked Item		S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Output	Rated Voltage	3-phas	e 170 V	AC													
Output	Rated Current (A)	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
	Voltage/Frequency (*1)		e or 1-p .C, 50/60		OVAC to		3-phas	e 200 V	AC to 24	10 VAC,	50/60 Hz	<u>z</u>			1-phase 100 VAC to 120 VAC, 50 Hz/60 Hz		
Main Circuit Power	Rated Current (A) (*14)	0.9	(*8)									9.0					
Supply	Permissible Voltage Fluctuation	3-phas 264 VA	e or 1-p ،C	hase 17	0 VAC to)	3-phas	e 170 V	AC to 26	64 VAC					1-phas 132 VA	e 85 VA \C	ιC to
	Permissible Frequency Fluctuation	±5% m	naximum	1													
	Voltage/Frequency	1-phas	e 200 V	AC to 24	O VAC,	50/60 H	Z									e 100 V C, 50 H	/AC to Iz/60 Hz
Control	Rated Current (A)	0.2								0.3					0.4		
Circuit Power Supply	Permissible Voltage Fluctuation	1-phas	e 170 V	AC to 26	4 VAC										1-phas 132 VA	e 85 VA C	C to
	Permissible Frequency Fluctuation Power Consumption (W)	±5% m	naximum	1						45					30		
Interface Pow	er Supply			<u> </u>					ing CN8	connect	or signa	l))					
Control Metho	i	Sine-w	ave PW	M contro	ol/currer	nt contro	metho	d							1	1	_
Tolerable Regenerative	Built-in Regenerative Resistor (*2, *3) (W)	-	10	10	10	20	20	100	100	130	170	-	-	-	-	10	10
Power	External Regenerative Resistor (Standard Accessory) (*2, 3, 11, 12)	-	-	-	-	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)	-	-	-
Dynamic Brak		Built-in									100		al option		Built-ir		
Communicatio							K Config	jurator2	compat	ıble); RS	-422: 1	: n comi	municatio	on (up to	32 axes	3) (*28)	
Analog Monito		2 chan	tible (A/	B/Z-pna	se puise	9)											
Protective Fun		Overcu	rrent sh er error p	orotectic	n, reger	nerative	error pro	tection,	underv	oltage pr	otection	, instant	ermal), S aneous p near serv	ower fai	lure prof	tection,	,
	Maximum Input Pulse Frequency Positioning Feedback Pulse	4 Mpps (when using differential receiver), 200 kpps (when using open-collector)															
Position Control	Command Pulse Multiplying Factor Positioning Complete Width Setting	Encoder resolution: 22 bits Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000															
Mode	Error Excessive	0 pulse to ±65535 pulses (command pulse unit) ±3 rotations															
	Torque Limit			ters or e	xternal a	analog ir	nput (0 \	/DC to +	10 VDC	/maximu	m torqu	e)					
	Speed Control Range	Set by parameters or external analog input (0 VDC to +10 VDC/maximum torque) Analog speed command 1:2000, internal speed command 1:5000															
Speed	Analog Speed Command Input	0 VDC	to ±10 \	/DC/rate	d speed	(Speed	at 10 V	is chang	jeable w	ith [Pr. F	PC12])						
Control Mode	Speed Fluctuation Rate									fluctuation en using			ommand				
	Torque Limit									/maximu							
Torque	Analog Torque Command Input					rque (in											
Control Mode	·							/DC to ±	10 VDC	C/rated s	peed)						
Fully Closed	MR-J4-A(1)					method	<u> </u>										
Loop Control	MR-J4-A(1)-RJ					unicatio		d									
Load-Side Encoder	MR-J4-A(1)	Mitsub	ishi high	n-speed	serial co	ommunio	cation							,			
Interface	MR-J4-A(1)-RJ									rential ir							
Servo Function	n	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 (*15)															
Functional Sat		<u> </u>	EC/EN 6				4500 -		0000:	NII 61 1	EN: C:	00 = -	211 2				
	Standards Certified by CB	_							62061 5	SIL CL 2,	EN 618	00-5-2	SIL 2				
	Response Performance					- energy											
Cofotu	Test Pulse Input (STO) (*7)	Test pu	ılse freq	uency: 1	Hz to 2	25 Hz; Te	st pulse	off time	: 1 ms r	maximur	n						
Safety Performance	Mean Time to Dangerous Failure (MTTFd)		ars or lo														
	Diagnostic Coverage (DCavg)	Mediur	n (90%	to 99%)													
	Probability of Dangerous Failure Per Hour (PFH)		10 ⁻¹⁰ [1/														
Compliance to	Standards		-61800 compliar			B, EN ISO	13849	-1 Categ	ory 3 PI	L d/EN 6	1508 SII	L 2/ EN	62061 SI	L CL 2/E	N 61800)-5-2 SI	L 2;
Structure (IP F	Rating)	Natura	l cooling	, open (IP20)	Force	cooling,	open (IF	P20)	Force of	cooling,	open (IF	P20) (*5)		Natura (IP20)	cooling	g, open
Close Mountin	lg	Possible (*6) Not possible Possible (*6)															
	Ambient Temperature					orage: -2											
	Ambient Humidity	_								num (noi							
Environment	Ambience	_			- /-		ive gas,	inflamm	able gas	s, oil mis	t or dus	t					
	Altitude		n or less				-4.1/ .1/		\								
	WINTSTIAN MARIETANCA	15.9 m/s	s ² at 10	HZ 10 55	HZ (dir	ections	or X, Y a	na z axe	tS)								
Weight (kg)	Vibration Resistance	0.8	0.8	1.0	1.0	1.4	1.4	2.1	2.3	4.0	6.2	13.4	13.4	18.2	0.8	0.8	1.0

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

Compatible Converter Unit Model MP-CR55K (*29)	Drive Unit Mod	del MR-J4(-RJ)	DU30KA	DU37KA						
Compatible Converter Unit Model MR-CRSK (*29) Min Grout Pass 710 VAC 204		_, ,	-	-						
Name Center Developer Company Project Projec	Compatible Co	nverter Unit Model	MR-CR55K (*29)							
Main Circuit Power Permissibile Vottage Fueucus (1) Control Cont	Outnut	Rated Voltage	3-phase 170 VAC							
Voltage/Frequency 1-phase 200 VAC to 240 VAC 50/60 Hz 3 4 4 4 4 4 4 4 4 4	Output	Rated Current (A)	174	204						
Control Power Permisshie Voltage Fluctuation 1-phase 170 VAC to 264 VAC			Main circuit power is supplied from the converter unit to the drive	e unit (*29)						
Supply Input Premissible Frequency Fluentation 1-phase 170 VAC to 264 VAC Supply Input Premissible Frequency Fluentation 24 VXDC of 10% (required current capacity: 0.5 A (including CNB connector signal))			1							
Supply Permissible Frequency Fluctuation 5% maximum		. ,								
Power Consumption (W)	_ }		'							
Interface Power Supply	Supply Input									
Control Method Sine-wave PVM control/current control method		,								
Dynamic Brake External option (*13)			, , , , ,	connector signal))						
Commanication USB: Connect a personal computer (MR Configurator/2 compatible), RS-422: 1: n communication (up to 32 axes)										
Ranalog Monitor 2 channels Overcurrent shut-off, overload shut-off (electronic thermal), Servo Motor overheat protection, encoder error protection, undervoltage protection, instantaneous power failure protection, overspeed protection, error excessive protection			1 ()	hla): DC 422: 1 : n communication (up to 22 avec)						
Protective Functions				ble), NS-422. 1 . II communication (up to 32 axes)						
Protective Functions Maximum Input Pulse Frequency Positioning Feedback Pulse Affips (when using differential receiver), 200 kpps (when using open-collector)	<u>.</u>									
Position Maximum Input Pulse Frequency A Mpps (when using differential receiver), 200 kpps (when using open-collector) Positioning Peedback Pulse Encoder resolution: 22 bits Encoder resolution: 24 bits Encoder resolution: 25 bits Encoder resolution: 24 bits En				vo Motor overheat protection, encoder error protection						
Maximum Input Pulse Frequency	Protective Fun	ctions								
Positioning Feedback Pulse Encoder resolution: 22 bits Command Pulse Multiplying Factor Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000		Maximum Input Pulse Frequency								
Command Pulse Multiplying Factor Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000	ŀ		7	,						
Positioning Complete Width Setting 2 pulse to ±85535 pulses (command pulse unit)		Command Pulse Multiplying Factor								
Error Excessive 1.3 rotations Torque Limit Set by parameters or external analog input (0 VDC to +10 VDC/maximum torque)	Control Mode	Positioning Complete Width Setting								
Speed Control Range										
Analog Speed Command Input Speed Fluctuation Rate ±0.01% maximum (load fluctuation 9% to 100%), 0% (power fluctuation: ±10%)		Torque Limit	Set by parameters or external analog input (0 VDC to +10 VDC/	maximum torque)						
Control Mode Speed Fluctuation Rate	Onesid	Speed Control Range	Analog speed command 1:2000, internal speed command 1:5000							
Control Mode Speed Fluctuation Rate		Analog Speed Command Input								
Torque Limit Set by parameters or external analog input (0 VDC to +10 VDC/maximum torque) Torque Analog Torque Command Input O VDC to ±8 VDC/maximum torque (input impedance: 10 kΩ to 12 kΩ) Speed Limit Set by parameters or external analog input (0 VDC to ± 10 VDC/rated speed) Positioning Mode Positioning Mode Point table method, program method, indexer (turret) meth Fully Closed MB-J4-DU_A Two-wire type communication method (*9) Load-Side Encoder Interface MR-J4-DU_A-RJ Mitsubishi Electric high-speed serial communication Encoder Interface MR-J4-DU_A-RJ Mitsubishi Electric high-speed serial communication 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, lost motion compense States Functional Safety STO (IEC/EN 61800-5-2) Safety Performance 8 ms or less (STO input OFF — energy shut-off) Test Pulse Input (STO) (*7) Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DCavy) Medium (90% to 99%) Probability of Dangerous Failure (MTTFd) Diagnostic Coverage (DCavy) Medium (90% to 99%) Probability of Dangerous Failure (MTTFd) Compliance to Standards Refer to "Conformity with Global Standards and Regulations" in the User's Manual Structure (IP Rating) Force cooling, open (IP20) (*5) Close Munting Ambient Temperature 0°C to 55°C (non-freezing), storage: -20°C to 65°C (non-freezing) Ambient Temperature 0°C to 55°C (non-freezing), storage: 90% RH maximum (non-condensing) Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing)	a' l	Cood Electrotion Data	±0.01% maximum (load fluctuation 0% to 100%), 0% (power fluctuation: ±10%)							
Torque Control Mode Speed Limit Set by parameters or external analog input (0 VDC to ± 10 VDC/rated speed)	Control mode	Speed Fluctuation hate								
Positioning Mode		Torque Limit	Set by parameters or external analog input (0 VDC to +10 VDC/maximum torque)							
Point table method, program method, indexer (turret) meth										
Fully Closed Loop Control Condition		•								
Loop Control Load-Side Encoder Interface MR-J4-DU_A Mitsubishi Electric high-speed serial communication MR-J4-DU_A Mitsubishi Electric high-speed serial communication MR-J4-DU_A-RJ Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal										
Load-Side Encoder Interface MR-J4-DU_A Mitsubishi Electric high-speed serial communication	*		,							
MR-J4-DU_A-RJ Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal	-									
MR-J4-DU_A-RJ Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal		MR-J4-DU_A	<u> </u>							
Standards Certified by CB EN ISO 13849-1 Category 3 PL d, EN 61508 SIL 2, EN 62061 SIL CL 2, EN 61800-5-2 SIL 2		MR-J4-DU_A-RJ								
Functional Safety STO (IEC/EN 61800-5-2) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTFd) Diagnostic Coverage (DCavg) Probability of Dangerous Failure Per Hour (PFH) Compliance to Standards Refer to "Conformity with Global Standards and Regulations" in the User's Manual Structure (IP Rating) Close Mounting Not possible Ambient Temperature Ambient Temperature Ambience Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust Altitude Vibration Resistance STO (IEC/EN 61800-5-2) EN ISO (1800-5-2) En Ideors (1900-6-10 in the User of time: 1 ms maximum Mean Time to Dangerous Failure (MTFd) 100 years or longer 100	Servo Function	1	Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function,							
Safety Performance Safety Performance Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DCavg) Probability of Dangerous Failure (PFH) Compliance to Standards Structure (IP Rating) Close Mounting Ambient Temperature Ambient Humidity Ambience Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust Altitude Vibration Resistance Visa ms or less (STO input OFF — energy shut-off) Test Pulse Input (STO) (*7) Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum Mean Time to Dangerous Failure (MTTFd) 100 years or longer 100 years				intorning runiction, super trace control, lost motion compensation						
Response Performance 8 ms or less (STO input OFF — energy shut-off) Test Pulse Input (STO) (*7) Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DCavg) Medium (90% to 99%) Probability of Dangerous Failure Per Hour (PFH) Compliance to Standards Refer to "Conformity with Global Standards and Regulations" in the User's Manual Structure (IP Rating) Force cooling, open (IP20) (*5) Close Mounting Not possible Ambient Temperature 0°C to 55°C (non-freezing), storage: -20°C to 65°C (non-freezing) Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Environment Ambience Indoors (no direct sunlight); no corrosive 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)	runcuonai Sat			II CL 2 EN 61800-5-2 SIL 2						
Test Pulse Input (STO) (*7) Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum Mean Time to Dangerous Failure (MTTFd) 100 years or longer				IL OL 2, LIV 01000-0-2 OIL 2						
Safety Performance Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DCavg) Probability of Dangerous Failure Per Hour (PFH) Compliance to Standards Refer to "Conformity with Global Standards and Regulations" in the User's Manual Structure (IP Rating) Force cooling, open (IP20) (*5) Close Mounting Not possible Ambient Temperature O°C to 55°C (non-freezing), storage: -20°C to 65°C (non-freezing) Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Environment Ambience Indoors (no direct sunlight); no corrosive 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)			, , ,	imum						
Performance Diagnostic Coverage (DCavg) Medium (90% to 99%)	Safety		, ,	illiuiii						
Diagnostic Coverage (DCavg) Probability of Dangerous Failure Per Hour (PFH) Compliance to Standards Refer to "Conformity with Global Standards and Regulations" in the User's Manual Structure (IP Rating) Force cooling, open (IP20) (*5) Close Mounting Not possible Ambient Temperature O°C to 55°C (non-freezing), storage: -20°C to 65°C (non-freezing) Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Environment Ambience Indoors (no direct sunlight); no corrosive 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)			100 years or longer							
Probability of Dangerous Failure Per Hour (PFH) Compliance to Standards Refer to "Conformity with Global Standards and Regulations" in the User's Manual Structure (IP Rating) Force cooling, open (IP20) (*5) Close Mounting Not possible Ambient Temperature O°C to 55°C (non-freezing), storage: -20°C to 65°C (non-freezing) Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Environment Ambience Indoors (no direct sunlight); no corrosive 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)		,	Medium (90% to 99%)							
Per Hour (PFH) 1.66 × 10 [1/11]		0 (0)	,							
Structure (IP Rating) Force cooling, open (IP20) (*5)		Per Hour (PFH)								
Ambient Temperature										
Ambient Temperature 0°C to 55°C (non-freezing), storage: -20°C to 65°C (non-freezing) Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Environment Ambience Indoors (no direct sunlight); no corrosive 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)	•	- ,	- · · · · · · · · · · · · · · · · · · ·							
Ambient Humidity 90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Environment Ambience Indoors (no direct sunlight); no corrosive 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)			- F							
Ambience Indoors (no direct sunlight); no corrosive 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)		·								
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)		•								
Vibration Resistance5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y and Z axes)	Environment		1 0 1							
Majorita (Iva)		Vibration Resistance								
weight (kg) 21	Weight (kg)		21							

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

Servo Amplific	er Model MR-J4(-RJ)	60A4	100A4	200A4	350A4	500A4	700A4	11KA4	15KA4	22KA4		
Stocked Item		S	S	S	S	S	S	-	-	-		
Output	Rated Voltage	3-phase 323	VAC									
output	Rated Current (A)	1.5	2.8	5.4	8.6	14.0	17.0	32.0	41.0	63.0		
	Voltage/Frequency (*1)	3-phase 380\	3-phase 380VAC to 480VAC, 50/60 Hz									
Main Circuit Power	Rated Current (A)	1.4	2.5	5.1	7.9	10.8	14.4	23.1	31.8	47.6		
ower Supply	Permissible Voltage Fluctuation	3-phase 323	VAC to 528 \	/AC				-				
Juppiy	Permissible Frequency Fluctuation	±5% maximu	im									
	Voltage/Frequency	1-phase 380	VAC to 480 V	/AC, 50/60 Hz								
Control	Rated Current (A)	0.1			0.2							
Circuit Power	Permissible Voltage Fluctuation	1-phase 323	VAC to 528 V	/AC								
Supply	Permissible Frequency Fluctuation	±5% maximu	ım									
	Power Consumption (W)	30			45							
Interface Pow	er Supply	24 VDC ±10%	6 (required c	urrent capacity	: 0.5 A (includ	ing CN8 conne	ector signal))					
Control Metho	d	Sine-wave P\	VM control/c	urrent control i	method							
Tolerable Regenerative	Built-in Regenerative Resistor (*2, *3) (W)	15	15	100	100	130 (*18)	170 (*18)	-	-	-		
Power	External Regenerative Resistor (W) (Standard Accessory) (*2, 3, 11, 12)	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)		
Dynamic Brak		Built-in (*4)		•	*	•			otion (*13)	/		
Communicatio	n Function	USB: Connec		computer (MR	Configurator2	compatible); F	RS-422: 1 : n (communicatio	n (up to 32 ax	es)		
ncoder Outpu	ıt Pulse	Compatible (A/B/Z-phase (oulse)								
Analog Monito	or	2 channels										
Protective Fun	ictions	protection, er	ncoder error (nerative overvo protection, rego tection, error e	enerative erro	protection, ur	ndervoltage pr	otection, insta	intaneous pow	er failure		
	Maximum Input Pulse Frequency			rential receiver	, 200 kpps (w	hen using ope	n-collector)					
	Positioning Feedback Pulse	Encoder reso	lution: 22 bit	S								
Position	Command Pulse Multiplying Factor	Electronic ge	Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000									
Control Mode	Positioning Complete Width Setting	0 pulse to ±6	0 pulse to ±65535 pulses (command pulse unit)									
-	Error Excessive	±3 rotations										
	Torque Limit	Set by param	Set by parameters or external analog input (0 VDC to +10 VDC/maximum torque)									
	Speed Control Range	Analog speed command 1:2000, internal speed command 1:5000										
	Analog Speed Command Input						: PC121)					
Speed Control Mode		0 VDC to ±10 VDC/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 Limit			rnal analog inp								
Torque	Analog Torque Command Input	0 VDC to ±8	VDC/maximu	m torque (inpu	t impedance:	10 kΩ to 12 kΩ	2)					
				rnal analog inp								
Fully Closed	MR-J4-A4	Two-wire typ										
Loop Control	MR-J4-A4-RJ	Two-wire/fou	r-wire type co	ommunication	method							
Load-Side	MR-J4-A4	Mitsubishi high-speed serial communication										
Encoder Interface	MR-J4-A4-RJ			ial communicat		ase differential	input signal					
Servo Function		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 (*16), lost motion compensation (*16)										
Safety Functio	n	STO (IEC/EN										
runotto	Standards Certified by CB			3 PL d, EN 61	508 SIL 2 FN	62061 SII CI	2. EN 61800-	5-2 SIL 2				
	Response Performance			FF — energy s			_, 51000					
	Test Pulse Input (STO) (*7)			to 25 Hz; Test		· 1 me mavim	ıım					
Safety Performance	Mean Time to Dangerous Failure	100 years or		. 10 20 112, 1881	Paise Oil tillit	, i iiiə iiiaxiiii	uiii					
onomialite	(MTTFd) Diagnostic Coverage (DCavg)	Medium (90%			_							
	Probability of Dangerous Failure Per Hour (PFH)	1.68 × 10 ⁻¹⁰ [
Compliance to	,	CE: EN 61800-5-1, EN 61800-3, EN ISO 13849-1 Category 3 PL d/EN 61508 SIL 2/ EN 62061 SIL CL 2/EN 61800-5-2 SIL 2;										
Structure (IP F		RoHS compli			n onen (IDoo	Force coolin	ng Open (IDan	1) (*5)				
•		Natural cooling, open (IP20) Force cooling, open (IP20) Force cooling, open (IP20) (*5) Not Possible										
Close Mountin	ř		(non franzisa	\ otorogo: 000	C to 6E°C /	n fronzina\						
	Ambient Temperature), storage: -20°			on oordens!-	·a\				
	Ambient Humidity			condensing), st				9)				
Environment	Ambience			t); no corrosive	gas, ıntlamm	able gas, oil m	nst or dust					
	Altitude	1000 m or le			V V 17	1						
	Wile and the Desire to	n u m/c2 at 1	u Hz to 55 Hz	(directions of	x . Y and \angle ax	es)						
	Vibration Resistance	1.7	1.7	2.1	3.6	4.3	6.5	13.4	13.4	18.2		

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

Model Number M	R-J4(-RJ)	DU30KA4	DU37KA4	DU45KA4	DU55KA4					
Stocked Item		-	-	-	-					
Compatible Conv	erter Unit Model	MR-CR55K4 (*29)								
	Rated Voltage	3-phase 323 VAC								
Output	Rated Current (A)	87	102	131	143					
Main Circuit Pow	er Supply Input	Main circuit power is su	ipplied from the converter unit	to the drive unit (*29)	'					
	Voltage/Frequency	1-phase 380 VAC to 480	• • • • • • • • • • • • • • • • • • • •	,						
	Rated Current (A)	0.2								
Control Circuit Power Supply	Permissible Voltage Fluctuation	1-phase 323 VAC to 528	8 VAC							
Input	Permissible Frequency Fluctuation	±5% maximum								
	Power Consumption (W)	45								
Interface Power S	Supply	24 VDC ± 10% (require	d current capacity: 0.5 A (include	ling CN8 connector signals))						
Control Method		Sine-wave PWM contro	l/current control method							
Dynamic Brake		External option (*13)								
Communication F	unction	USB: Connect a persona	al computer (MR Configurator2	compatible)						
Encoder Output P	ulse	Compatible (A/B/Z-phas	e pulse)							
Analog Monitor		2 channels								
	Maximum Input Pulse Frequency	4 Mpulses/s (when usin	ng differential receiver), 200 kpu	ilses/s (when using open collector)						
	Positioning Feedback Pulse	Encoder resolution: 22	bits							
Position Control Mode	Command Pulse Multiplying Factor	Electronic gear A/B mul	tiple, A: 1 to 16777215, B: 1 to	16777215, 1/10 < A/B < 4000						
modo	Positioning Complete Width Setting	0 pulse to ±65535 pulses (command pulse unit)								
	Error Excessive	±3 rotations								
	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	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 VDC to +10 V DC/maximum torque)								
Torque Control Mode	Analog Torque Command Input	0 VDC to ± 8 V DC/maximum torque (input impedance: 10 k Ω to 12 k Ω)								
	Speed Limit	Set by parameters or external analog input (0 V DC to ± 10 V DC/rated speed)								
Fully Closed	MR-J4-DU_A4	Two-wire type communication method								
Loop Control	MR-J4-DU_A4-RJ	Two-wire/four-wire type communication method								
Servo Function		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, lost motion compensation								
Load-Side	MR-J4-DU_A4	Mitsubishi Electric high-speed serial communication								
Encoder Interface	MR-J4-DU_A4-RJ	Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal								
Protective Functional Safety		Overcurrent shut-off, overload shut-off (electronic thermal), Servo Motor overheat protection, encoder error protection, undervoltage protection, instantaneous power failure protection, overspeed protection, error excessive protection STO (IEC/EN 61800-5-2)								
. anonomar Salety	Standards Certified by CB	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	,	62061 SIL CL 2, EN 61800-5-2 SIL	2					
	Response Performance	8 ms or less (STO input	* 	02001 OIL OL 2, LIN 01000-0-2 OIL						
	Test Pulse Input (STO) (*7)		t to 25 Hz, test pulse off time: 1	ms maximum						
Safety	Mean Time to Dangerous Failure (MTTFd)	100 years or longer	to 25 Hz, test pulse on time. I	IIIS IIIAXIIIIUIII						
	Diagnostic Coverage (DC)	Medium (90% to 99%)								
	Probability of Dangerous Failure Per Hour (PFH)	1.68 x 10 ⁻¹⁰ [1/h]								
Compliance To St	andards	Refer to "Conformity wit	th Global Standards and Regula	tions" in the User's Manual						
Structure (IP Rati	ng)	Force cooling, open (IP20) (*5)								
Close Mounting		Not possible								
	Ambient Temperature		(non-freezing), storage: -20°C	o 65°C (non-freezing)						
	Ambient Humidity	Operation/storage: 90%RH maximum (non-condensing)								
Environment	Ambience	, ,	ght); no corrosive gas, inflamm	7						
	Altitude	1000 m or less above s	· /·							
	Vibration Resistance	_	Hz (directions of X, Y and Z ax	es)						
Weight (kg)		16	1,	19						
g (ng)				1.0						

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

Servo Amplific	er Model	MR-J4-03A6-RJ					
Stocked Item		S					
	Rated Voltage	3-phase 13 VAC					
Output	Rated Current (Each Axis) (A)	2.4					
Main Circuit	Voltage (*1)	48 VDC/24 VDC (*39)					
Power	Rated Current (A)	For 48 VDC: 1.2 A; For 24 VDC: 2.4 A					
Supply Input	Permissible Voltage Fluctuation	For 48 VDC: 40.8 VDC to 55.2 VDC; For 24 VDC: 21.6 VDC to 26.4 VDC					
	Voltage	24 VDC					
Control	Rated Current (A)	0.2					
Circuit Power	Permissible Voltage Fluctuation	21.6 VDC to 26.4 VDC					
Supply Input	Power Consumption (W)	5.0					
Interface Power	. , ,	24 VDC ± 10% (required current capacity: 0.3 A)					
Control Metho		Sine-wave PWM control/current control method					
	egenerative Power of the Built-in						
Regenerative		0.7					
Dynamic Brak		Built-in (*4, *40)					
Communicatio	n Function	USB: Connect a personal computer (MR Configurator2 compatible); RS-422: 1 : n communication (up to 32 axes)					
Encoder Outpu	it Pulse	Compatible (A/B/Z-phase pulse)					
Analog Monito	ır	2 channels					
	Maximum Input Pulse Frequency	4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)					
	Positioning Feedback Pulse	Encoder resolution: 18 bits					
Position Control	Command Pulse Multiplying Factor	Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000					
Mode	Positioning Complete Width Setting	0 pulse to ±65535 pulses (command pulse unit)					
	Error Excessive	±3 rotations					
	Torque Limit	Set by parameters or external analog input (0 VDC to +10 VDC / maximum torque)					
	Speed Control Range	Analog speed command 1:2000, internal speed command 1:5000					
Speed	Analog Speed Command Input	0 VDC to ±10 VDC / rated speed (Speed at 10 V is changeable with [Pr. PC12])					
Control 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 VDC to +10 VDC / maximum torque)					
Torque	Analog Torque Command Input	0 VDC to ± 8 VDC / maximum torque (input impedance: 10 k Ω to 12 k Ω)					
Control Mode	Speed Limit	Set by parameters or external analog input (0 VDC to ± 10 VDC / rated speed)					
Positioning M	ode	Point table method, program method, indexer (turret) method					
Fully Closed L	oop Control	Not compatible					
Protective Fun	ctions	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					
Servo Function	n	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					
Compliance to	Standards	Refer to "Conformity with Global Standards and Regulations" in the Instruction Manual					
Structure (IP F	Rating)	Natural cooling, open (IP20)					
Close Mountin	g	Possible (*6)					
	nting (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: 90% RH maximum (non-condensing)					
Environment	Ambience	Indoors (no direct sunlight); no corrosive 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)					
Weight (kg)		0.2					
		·					

Amplifier Notes:

- 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, combined with the Servo Motor, 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.
- Refer to "Regenerative Option" in this guide for the tolerable regenerative power [W] when regenerative option is used.
- When using the built-in dynamic brake, refer to "MR-J4-_B_(-RJ) Servo Amplifier Instruction Manual", MR-J4-_GF_(RJ) Servo Amplifier Instruction Manual (Motion Mode) or MR-J4W2-B MR-J4W3-B MR-J4W2-0303B6 Servo Amplifier Instruction Manual for the permissible load to motor inertia ratio and the permissible load to mass ratio and details.
- 6. When the servo amplifiers are closely mounted, keep the ambient temperature within 0 °C to 45 °C, or use them with 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.
- Fully closed loop control is compatible with the servo amplifiers with software version A3 or later. 9
- 10. The command communication cycle depends on the controller specifications and the number of axes connected.
- 11. The value in brackets is applicable when cooling fans (2 units of 92 mm x 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 "1-Axis Servo Amplifier Model Designation" in this catalog for details.
- 13. Use an optional external dynamic brake 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 function is available with the servo amplifiers with software version A8 or later.
- 15. This value is applicable for 750 W or smaller servo amplifiers in 200 V class when a 3-phase power supply is used.
- **16.** This function is available with the servo amplifiers with software version B4 or later.
- **17.** One unit of converter.
- 18. 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 exceed the rated speed or the recommended ratio.
- 19. Reusable regenerative energy is equivalent to the energy generated under the following conditions. For rotary Servo Motor: the energy that is generated when the machine, whose moment of inertia is equivalent to the permissible charging amount, decelerates from the rated speed to a stop. For linear Servo Motor: the energy that is generated when the machine, whose mass is equivalent to the permissible charging amount, decelerates from the maximum speed to a stop. For direct drive motor: the energy that is generated when the machine, whose moment of inertia is equivalent to the permissible charging amount, decelerates from the rated speed to a stop.
- 20. This value is the moment of inertia when the rotary Servo Motor decelerates from the rated speed to a stop. When two axes are simultaneously decelerated, the permissible charging amount is equivalent to the total moments of inertia of the two axes. Otherwise, the permissible charging amount is equivalent to the moment of inertia of each axis. The value also applies to the direct drive motor.
- 21. This value is the mass when the linear Servo Motor decelerates from maximum speed to a stop. Mass of primary side (coil) is included. When two axes are simultaneously decelerated, the permissible charging amount is equivalent to the total masses of the two axes. Otherwise, the permissible charging amount is equivalent to the mass of each axis.
- **22.** Not compatible with pulse train interface (A/B/Z-phase differential output type).
- 23. STO is common for all axes.
- 24. The load-side encoder and the Servo Motor encoder are compatible only with two-wire type communication method.
- **25.** This value is applicable when a 3-phase power supply is used.
- 26. Servo amplifier with software version A3 or later is compatible with the command communication cycle of 0.222 ms. However, note that the following functions are not available when 0.222 ms is used: auto tuning (real time, one-touch, and vibration suppression control), adaptive filter II, vibration tough drive, and power monitoring.
- 27. The value is applicable for the MR-J4-_B-RJ010 servo amplifier only.
- 28. RS-422 communication is compatible with the servo amplifiers with software version A3 or later.
- 29. One unit of converter unit is required for each drive unit. Refer to the Users's Manual for the specifications of the converter unit.
- 30. 0.3 A is the value applicable when all I/O signals are used. The current capacity can be decreased by reducing the number of I/O points.
- 31. When using 1-phase 200 V AC to 240 V AC power supply, operate the servo amplifier at 75% or smaller effective load ratio.
- 32. For the connection example of the power circuit when a DC input is used, refer to the User's Manual.
- 33. Follow the restrictions in the User's Manual when using the servo amplifiers at altitude exceeding 1000 m and up to 2000 m over sea level.
- 34. The safety level depends on the setting value of [Pr. PF18 STO diagnosis error detection time] and whether STO input diagnosis by TOFB output is performed or not. For details, refer to the Function column of [Pr. PF18] in the User's Manual.
- 35. The external dynamic brake cannot be used for compliance with SEMI-F47 standard. Do not assign DB (Dynamic brake interlock) in [Pr. PD07] to [Pr. PD09]. Failure to do so will cause the servo amplifier to become servo-off when an instantaneous power failure occurs.
- **36.** Use the servo amplifier with 75% or less of the effective load ratio when a 1-phase 200 VAC to 240 VAC power supply is used.
- 37. Refer to relevant 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.
- 38. MR-J4-_GF-RJ servo amplifiers are available for DC power input. For a connection example of power circuit with DC input, refer to relevant Servo Amplifier Instruction Manual
- **39.** Initial value is 48 VDC. For 24 VDC, set [Pr. PC05] to "_ 1 _ _." Servo motor characteristics vary depending whether the voltage is 48 VDC or 24 VDC. Refer to "HG-AK Series (Ultra-compact Size, Ultra-small Capacity) Specifications" and "HG-AK Series Torque Characteristics" in the User's Manual.
- 40. 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-J4W2-_B MR-J4W3-_B MR-J4W2-0303B6 Servo Amplifier Instruction Manual" for details.
- 41. These models also support CC-Link IE Field Network Basic. To use this network, switch the network setting with the slide switches. Refer to "MR-J4-_GF_ (-RJ) Servo Amplifier Instruction Manual (CC-Link IE Field Network Basic)" for CC-Link IE Field Network Basic.