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.

MR-J4 Amplifiers

X = Compatible - = Not compatible

				ŝ	Inte	rface							Con	trol N	lode			Con	npatik	ole M	otor \$	Serie	s						
Type (*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	x	х	х	x	x	-	х	x	х	х	x
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	-	x	-	-	-	-	-	-	x	x	x	x	x	x	x	x	x	x	x	-	x	x	x	x	x
CC-Link			3-Phase 400VAC	0.6, 1, 2, 3.5, 5, 7, 11, 15, 22	-	х	-	-	-	-	-	-	х	х	х	х	x	-	-	х	х	-	-	-	-	х	-	-	-
			1-Phase 100VAC		х	-	-	-	-	-	-	-	х	х	x	-	x	х	x	-	-	-	-	-	х	-	х	х	x
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	-	-	-	-	-	-	-	x	х	x	-	x	x	x	x	x	x	x	-	x	x	x	х	x
SSCNET III/H Interface			3-Phase 400VAC	0.6, 1, 2, 3.5, 5, 7, 11, 15, 22, 30, 37, 45, 55	x	-	-	-	-	-	-	-	x	х	x	-	x	-	-	x	x	-	-	-	-	x	-	-	-
SSCNET	MR-J4W2-B	2 axes	3-Phase 200VAC	0.2, 0.4, 0.75, 1	х	-	-	-	-	-	-	-	x	х	x	-	x	х	x	х	х	-	x	-	х	-	x	х	x
	MR-J4W3-B	3 axes	3-Phase 200VAC	0.2, 0.4	х	-	-	-	-	-	-	-	x	х	x	-	-	x	x	-	-	-	-	-	x	-	x	х	x
	MR-J4W2- 0303B6	2 axes	24VDC/ 48VDC	10W, 20W, 30W	х	-	-	-	-	-	-	-	х	Х	х	-	-	-	-	-	-	-	-	х	-	-	-	-	-
			1-Phase 100VAC	0.1, 0.2, 0.4	-	-	х	х	х	-	-	-	х	Х	х	X (*3)	х	х	х	-	-	-	-	-	х	-	х	х	х
ise 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	-	-	x	x	x	-	-	-	x	x	x	X (*3)	x	x	x	x	x	x	x	-	x	x	x	x	x
General Purpose Interface			3-Phase 400VAC	0.6, 1, 2, 3.5, 5, 7, 11, 15, 22, 30, 37, 45, 55	-	-	x	x	х	-	-	-	x	х	x	X (*3)	x	-	-	x	x	-	-	-	-	x	-	-	-
	MR-J4-03A6-RJ	1 axis	24VDC/ 48VDC	10W, 20W, 30W	-	-	x	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	-	-	-	-	-	x	x	x	x	x	x	x	x	x	x	x	x	x	x	-	x	x	x	x	x
Vetwor	MR-J4-TM	axis	1-Phase 100VAC	0.1, 0.2, 0.4	-	-	-	-	-	х	Х	Х	Х	Х	Х	Х	х	Х	х	-	-	-	-	-	-	-	-	-	-
Multi-F			3-Phase 400VAC	0.6, 1, 2, 3.5, 5, 7, 11, 15, 22	-	-	-	-	-	x	х	x	x	х	х	х	x	х	x	x	х	x	x	-	-	x	-	-	-

Notes:

The listed are the rated output of the servo amplifier. For the compatible Servo Motor capacities, refer to MR-J4 Brochure for more details. 1.

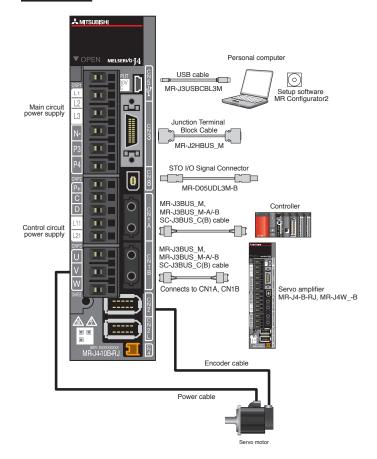
MR-J4-B/A servo amplifier is compatible with two-wire type serial linear encoder. For four-wire type serial and pulse train interface (A/B/Z-phase differential output type) linear encoders, use MR-J4-B-RJ/A-RJ 2.

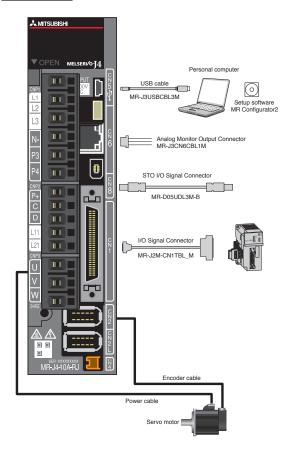
servo amplifier. Positioning function is available only with MR-J4-A-RJ. 3.

30 kW or lager is drive unit. One unit of converter unit is required for each drive unit. 4.

MR-J4-B/A serve 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 serve amplifier. Some functions are available only with the serve amplifier with specific versions. Refer to relevant Serve Amplifier Instruction Manual for detail. 5. 6.

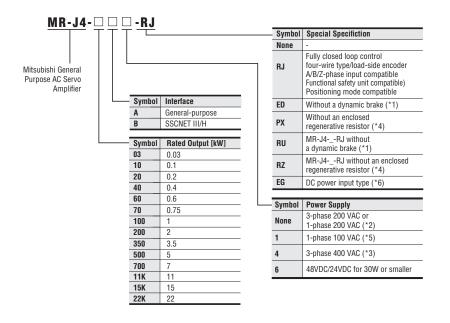
MR-J4-B-RJ





1-Axis Servo Amplifier Selection

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

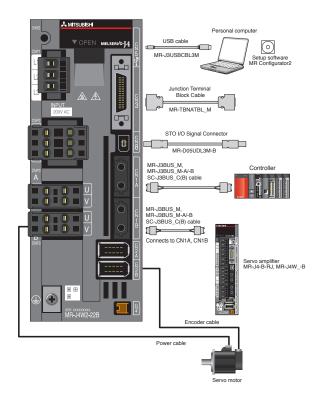


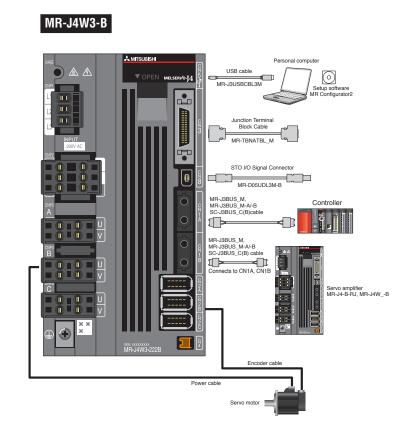
Notes:

- 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-MR23, HG-MR3, 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-10 isable the electronic dynamic brake for all axes with [Pr. PF06] For MR-J4W_MR-J4-B-RJ/MR-J4-B-RJ/MR-J4-B-RJ010: [Pr. PF06] For MR-J4W_MR-J4-B-RJ/MR-J4-B-RJ/MR-J4-B-RJ010: [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 "____".
- 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.
- 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.
- 6. Contact your local sales office for the DC power input type servo amplifier.

MR-J4-A-RJ

MR-J4W2-B





Multi-Axis Servo Amplifier Selection (Example Part No. = MR-J4W2-22B-ED)

	- Symbol	Special S	pecification				
	None	-					
eral	ED	Without a	dynamic bra	ke (*1)			
	EG	DC power	input type (*	3)			
C Servo mplifier							
	Symbol	Main Circ	uit Power Su	ipply			
	None		00VAC or 1- or 0.75 or sr				
	6	48VDC/24VDC for 30W or smaller					
	Symbol	Interface					
	B	SSCNET I	II/H				
	<u> </u>	B SSUNET III/H					
	Quert al	Rated Out	put [kW] (*:	2)			
	Symbol	A-Axis	B-Axis	C-Axis			
	0303	0.03	0.03	-			
	22	0.2	0.2	-			
	44	0.4	0.4	-			
	77	0.75	0.75	-			
	1010	1	1	-			
	222	0.2	0.2	0.2			
	444	0.4	0.4	0.4			
	Symbol	Number o	f Axes				
	W2	2 axes					
	W3	3 axes					

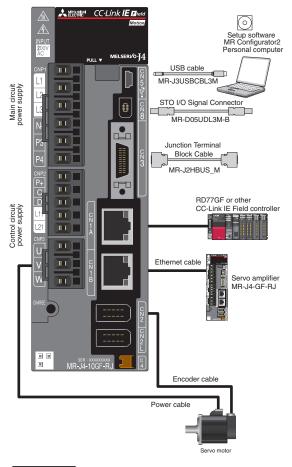
Notes:

1. Dynamic brake which is built in 7 kW or smaller servo amplifiers is removed. When using the Synamic brack mithout 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. Holdwing Servo motors are used, an electronic dynamic brake may operate at airam 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-J4-MW-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 certian [Pr. B404] to "0. disabled by setting [Pr. PA04] to "0 _ _ _." 2. A-axis, B-axis, and C-axis indicate names of axes of the multi-axis servo amplifier. The C-axis

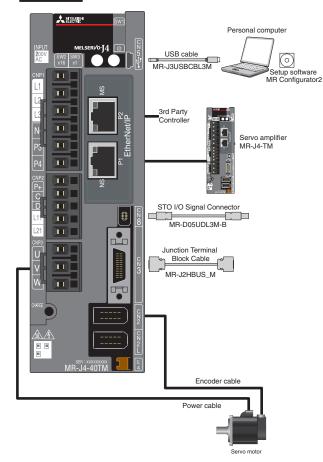
is available for the 3-axis servo amplifier.

3. 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 ou	utside US	
itsubishi General urpose AC Servo Amplifier			RJ	Load-side e Touch prob	nput 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)	
			EB		_ with a special coating n (3C2) (*2)	
			KS	RJ function	is with conformal coating (*2)	
			Symbol	Power Supp	אנ	
			None		1-phase 200 VAC to 240 VAC 3 VDC to 340 VAC) (*3)	
			1	1-phase 100	O VAC	
			4	3-phase 380	0 VAC to 480 VAC (*4)	
Symbol	Inte	rface				
GF	_	Link IE Fie	eld			
Symbol	Rat	ed Output	t [kW]	Symbol	Rated Output [kW]	
10	0.1			350	3.5	
20	0.2			500	5	
40	0.4			700	7	
60	0.6			11K	11	
70	0.7	5		15K	15	
100	1			22K	22	
	2					

rvo arm occurrence or power failure. Take measures to ensure safety on the entire system. Refer to "MR-U4_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

- 2. 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 3. 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

Μ

P

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

			Symbol	Netwo	rk
I hi General			ECT	EtherC	AT
AC Servo			EIP	EtherN	ET/IP
Amplifier			PNT	PROFI	NET
			Symbol	Power	Supply
			None		e 200 VAC or e 200 VAC (*1)
			4	3-phas	e 400 VAC (*2)
			1	1-phas	e 100 VAC (*3)
	Interface		_		
Symbol TM	Multi-Net	work			
			/]	Symbol	Rated Output [kW]
ТМ	Multi-Net			Symbol 350	Rated Output [kW]
TM Symbol	Multi-Net				
TM Symbol 10	Multi-Net Rated Ou 0.1			350	3.5
TM Symbol 10 20	Multi-Net Rated Ou 0.1 0.2			350 500	3.5 5
TM Symbol 10 20 40	Multi-Net Rated Or 0.1 0.2 0.4			350 500 700	3.5 5 7
TM Symbol 10 20 40 60	Multi-Net Rated O 0.1 0.2 0.4 0.6			350 500 700 11K	3.5 5 7 11

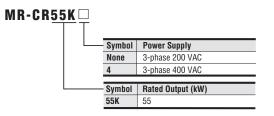
2. Servo amplifiers of 0.6 kW, and 1 kW or larger are available for 3-phase 400 VAC.

3. Servo amplifiers of 0.4 kW or smaller are available.

Drive Unit Model Designation (*2)

Symbol	Special Specification
RJ	Fully closed loop control four-wire type/load-side encoder A/B/Z-phase input compatible/ Positioning mode compatible (*1)
Symbol	Dowor Supply
	Power Supply
	3-phase 200 VAC
4	3-phase 400 VAC
- Symbol	Interface
A	General Purpose
В	SSCNET III/H
 - Symbol	Rated Output (kW)
30K	30
30K 37K	30 37
	Symbol RJ Symbol None 4 Symbol A B Symbol

Converter Unit Model Designation (*2)



- Notes:

 1. Positioning mode is available with MR-J4-DU_A_-RJ drive unit.

 2. 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)

Servo Amplifie	er Model MR-J4(-RJ)	10GF	20GF	40GF	60GF	70GF	100GF	200GF	350GF	500GF	700GF	11KGF	15KGF	22KGI
Stocked Item		S	S	S	S	S	S	S	S	S	S	S	S	S
	Rated Voltage		170 VAC	10	10		10	10	10	10	10	10	10	
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	2.0	0.2	0.0	3-phase	-	17.0	20.0	07.0	100.0	07.0	120.0
	Voltage/Frequency AC Input (*1)	3-phase 50 Hz/60	or 1-phas) Hz	e 200 VA	C to 240 \	/AC,		200 VAC /AC, 50	3-phase	200 VAC	to 240 VA	IC, 50 Hz/0	60 Hz	
Main Circuit	Voltage/Frequency DC Input (*1, *38)		to 340 V											
Power Supply	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
ouppiy	Permissible Volt. Fluctuation AC Input	3-phase	or 1-phas	e 170 VA	C to 264 \	/AC		or 170 VAC /AC (*36)	3-phase	170 VAC	to 264 VA	C		
	Permissible Volt. Fluctuation DC Input	-	to 374 V	DC (*38)										
	Permissible Frequency Fluctuation	±5% ma	ximum						_					
	Voltage/Frequency AC Input	1-phase	200 VAC	to 240 VA	C, 50 Hz/	60 Hz								
	Voltage/Frequency DC Input	283 VDC	; to 340 V	DC (*38)										
Control	Rated Current (A)	0.2								0.3				
Circuit Power	Permissible Volt. Fluctuation AC Input	1-phase	170 VAC	to 264 VA	С									
Supply	Permissible Volt. Fluctuation DC Input	241 VDC	to 374 V	DC (*38)										
	Permissible Frequency Fluctuation	±5% ma		. /										
	Power Consumption (W)	30								45				
Interface Powe	,		± 10% (re	quired cu	rrent cana	acity: 0.3	A (includin	g CN8 con	nector sin	-				
Control Metho			ve PWM c		·					,				
	Built-in Regenerative Resistor	-	10	10	10	20	20	100	100	130	170	-	-	-
Permissible Regenerative Power	(*2, *3) (W) External Regenerative Resistor (Standard Accessory) [W]	-	-	-	-	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300
	(Note 2, 3, 15, 16)											. ,	<u> </u>	,
Dynamic Brake		Built-in (· /									Externa	option (*	13)
	Id Communication Cycle (*10)		1.0 ms, 2											
Communicatio	on Function	USB: Co	nnect a pe	ersonal co	mputer (I	MR Config	urator2 co	mpatible)	_					
Encoder Outpu	it Pulse	Compati	ble (A/B/Z	-phase pl	ilse)									
Analog Monito	r	2 channe	els											
Positioning Mo	ode	Point tat	ole metho	t										
Fully Closed	MR-J4-GF	Two-wire	e type con	nmunicati	on metho	d								
Loop Control	MR-J4-GF-RJ	Two-wire	e/four-wire	e type cor	nmunicati	on metho	d							
Load-Side	MR-J4-GF	Mitsubis	hi Electric	high-spe	ed serial (communic	ation							
Encoder Interface	MR-J4-GF-RJ	Mitsuhis	hi Electric	high-sne	ed serial (communic	ation, A/B/	7-nhase d	ifferential	innut siar	nal			
Servo Function		Advance drive rec	d vibratio	n suppres	sion contr hine diag	ol II, adap	tive filter II tion, powe	, robust fi	lter, auto t	tuning, one	e-touch tu			
Protective Fun	ictions	Overcurr encoder	ent shut-o error prot	off, regene ection, re	rative ove generative	error pro	hut-off, ov tection, un 1, magnetic	dervoltage	protectio	n, instanta	neous por	wer failure	protection	۱,
Safety Functio	n		C/EN 6180					,		. ,				
	Standards Certified by CB (*34)	· · ·		,	PL e, IEC	61508 S	IL 3, EN 62	2061 SIL C	L 3, EN 6	1800-5-2				-
	Response Performance		less (STO	• •										
	Test Pulse Input (STO) (*7)						f time: 1 m	s maximu	m					
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	<u> </u>	100 year											
	Diagnostic Coverage (DC)	DC = Me	dium, 97.	6 (%)										
	Probability of Dangerous Failure Per Hour (PFH)		4 x 10 ⁻⁹ [-										
Compliance to	Global Standards	Refer to	"Conform	ity with G	lobal Stan	dards and	l Regulatio	ns" in the	MR-J4 Se	rvo Manu	al			
	Rating)	Natural o	cooling, o	oen (IP20)	Force c	ooling, ope	en (IP20)		Force co	oling, op	en (IP20)	(*5)	
Structure (IP F	3-Phase Power Input	Possible	(*6)							Not pos	sible			
	J-r nase r ower niput	Possible	(*6)				Not pos	sible	-	· ·				
Structure (IP F Close Mounting	1-Phase Power Input	1 0221010	. ,	frooting	. storage	: -20°C to	65°C (non							
Close	1-Phase Power Input	-	55 °C (nor	I-ITEEZIIIU		0	(
Close	1-Phase Power Input Ambient Temperature	0 °C to 5			-	(non-cor	(densina)							
Close Mounting	1-Phase Power Input Ambient Temperature Ambient Humidity	0 °C to 5 Operatio	n/storage	90%RH	maximum	<u>`</u>		le nas oil	mist or du	ust				
Close	1-Phase Power Input Ambient Temperature Ambient Humidity Ambience	0 °C to 5 Operatio Indoors	n/storage (no direct	90%RH sunlight)	maximum ; no corro	sive gas,	idensing) inflammab	le gas, oil	mist or du	ust				
Close Mounting	1-Phase Power Input Ambient Temperature Ambient Humidity Ambience Altitude	0 °C to 5 Operatio Indoors 2000 m	n/storage (no direct or less ab	90%RH sunlight) ove sea le	maximum ; no corro evel (*37)	sive gas,	inflammab		mist or dı	ust				
Close Mounting	1-Phase Power Input Ambient Temperature Ambient Humidity Ambience	0 °C to 5 Operatio Indoors 2000 m	n/storage (no direct or less ab	90%RH sunlight) ove sea le	maximum ; no corro evel (*37)	sive gas,			mist or du	ust 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		
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 Hz		l
Main Circuit		3.0			
Power	Rated Current (A)		5.0		9.0
Supply	Permissible Volt. Fluctuation	1-phase 85 V AC to 132 VAC			
	Permissible Frequency Fluctuation	±5% maximum			
	Voltage/Frequency	1-phase 100 VAC to 120 VAC, 5	00 HZ/60 HZ		
Control	Rated Current (A)	0.4			
Circuit Power Supply	Permissible Volt. Fluctuation	1-phase 85 VAC to 132 VAC			
ouppiy	Permissible Frequency Fluctuation	±5% maximum			
Interfere Dem	Power Consumption (W)	30			<u></u>
Interface Powe		24 VDC ± 10% (required currer		CN8 connector signals))
Control Metho		Sine-wave PWM control/curren	t control method		1
Permissible Regenerative Power	Built-in Regenerative Resistor (*2, *3) (W)	-	10		10
Dynamic Brak	e	Built-in (*4)			1
CC-Link IE Fie	Id Communication Cycle (*10)	0.5 ms, 1.0 ms, 2.0 ms, 4.0 ms	3		
Communicatio	n Function	USB: Connect a personal comp	uter (MR Configurator2 cor	npatible)	
Encoder Outpu	it Pulse	Compatible (A/B/Z-phase pulse)		
Analog Monito)r	2 channels			
Positioning M	ode	Point table method, indexer me	thod		
Fully Closed	MR-J4-GF	Two-wire type communication	method		
Loop Control	MR-J4-GF-RJ	Two-wire/four-wire type comm	unication method		
Load-Side	MR-J4-GF	Mitsubishi Electric high-speed	serial communication		
Encoder Interface	MR-J4-GF-RJ	Mitsubishi Electric high-speed	serial communication, A/B/2	Z-phase differential input	signal
Servo Functio	ns	Advanced vibration suppression function, drive recorder function measurement function, super tr	n, machine diagnosis functio	on (including failure pred	, one-touch tuning, tough drive iction), power monitoring function, scale
Protective Fun	ictions	protection, encoder error protection	tion, regenerative error pro	tection, undervoltage pro	: thermal), servo motor overheat tection, instantaneous power failure n protection, linear servo control fault
Safety Functio	n	STO (IEC/EN 61800-5-2)			
	Standards Certified by CB (*34)	EN ISO 13849-1 Category 3 PL		061 SIL CL 3, EN 61800-	-5-2
	Response Performance	8 ms or less (STO input OFF -	, ,		
	Test Pulse Input (STO) (*7)	Test pulse interval: 1 Hz to 25 H	lz, test pulse 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]			
· ·	Global Standards	Refer to "Conformity with Globa	al Standards and Regulation	s" in the MR-J4 Servo N	lanual
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), st	· · · ·	freezing)	
	Ambient Humidity	Operation/storage: 5% RH to 9			
Environment	Ambience	Indoors (no direct sunlight); no	0 /	e gas, oil mist or dust	
	Altitude	2000 m or less above sea level	<u> </u>		
	Vibration Resistance	5.9 m/s ² at 10 Hz to 55 Hz (dire			1
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	22KGF
Stocked Item		S	S	S	S	S	S	S	S	S
	Rated Voltage	3-phase 323	VAC							
)utput	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 \	AC, 50 Hz/60	Hz					
Aain Circuit	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						
uhhià	Permissible Frequency Fluctuation	±5% maxim	um							
	Voltage/Frequency	1-phase 380	VAC to 480 \	/AC, 50 Hz/60	Hz					
ontrol	Rated Current (A)	0.1			0.2					
ircuit Power	Permissible Voltage Fluctuation		VAC to 528 \	/AC	-					
Supply Input	Permissible Frequency Fluctuation	±5% maxim								
	Power Consumption (W)	30			45					
nterface Pow)% (required (current capaci	tv: 0.3 A (inclu	iding CN8 conr	ector signals))		
ontrol Metho				urrent control				/		
Permissible	Built-in Regenerative Resistor (*2, *3) (W)	15	15	100	100	130 (*18)	170 (*18)	-	-	-
Regenerative Power	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		,	, ,		Configurator	2 compatible)				
ncoder Outpu			(A/B/Z-phase			,				
nalog Monito		2 channels	(<u>,,,,,</u> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,							
Positioning M		Point table r	nethod							
ully Closed	MR-J4-GF4		pe communica	tion method						
oop Control	MR-J4-GF4-RJ			ommunication	method					
.oad-Side	MR-J4-GF4			peed serial co						
ncoder										
nterface	MR-J4-GF4-RJ	Mitsubishi E	lectric high-sp	peed serial co	nmunication,	A/B/Z-phase di	fferential input	t signal		
Servo Functio	ns	drive record		achine diagno					tuning, tough on tent function, states to the tent function, states to the tent function of tent fu	
Protective Fur	ictions	protection, e	ncoder error j	protection, reg	enerative erro	protection, un	dervoltage 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)	EN ISO 1384	19-1 Category	3 PL e, IEC 6	1508 SIL 3, EI	V 62061 SIL CI	3, EN 61800	-5-2		
	Response Performance	8 ms or less	(STO input O	IFF – energy s	hut-off)					
	Test Pulse Input (STO) (*7)	Test pulse in	iterval: 1 Hz to	o 25 Hz, test p	ulse off time:	1 ms maximun	1			
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	MTTFd ≥ 10	0 years (314a)						
	Diagnostic Coverage (DC)	DC = Mediu	m, 97.6 (%)							
	Probability of Dangerous Failure Per Hour (PFH)	PHF = 6.4 x	10 ⁻⁹ [1/h]							
Compliance to	Global Standards	Refer to "Co	nformity with	Global Standa	rds and Regul	ations" in the N	/IR-J4 Servo N	/lanual		
Structure (IP F	Rating)	Natural cool (IP20)	ing, open	Force coolir (IP20)	ıg, open	Force coolin	g, open (IP20) (*5)		
Close Mountin	lg	Not Possible)							
	Ambient Temperature			g), storage: -2	20 °C to 65 °C	(non-freezing)				
	Ambient Humidity			-	ion-condensin					
Environment	Ambience					9) nable gas, oil r	nist or dust			
	Altitude		ess above sea		guo, initiani					
	Vibration Resistance				f X, Y and Z a	(es)				
	VIDIATION RESISTANCE									

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

	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		17	-	-		-	-		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 VAC						240 VAC			01.0	120.0	1-phas	se 100 V V AC,	V AC
Main Circuit Power Supply	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 VAC	to 264	VAC	3-phas	e 170 \	/AC to :	264 VAC	;				1-phas 132 V/	se 85 V. AC	AC to
	Permissible Frequency Fluctuation	±5% max	kimum														
	Voltage/Frequency		200 VAC t	:o 240 VAC	C, 50/60) Hz										se 100 \ AC, 50H	
Control	Rated Current (A)	0.2								0.3					0.4		
Circuit Power Supply	Permissible Voltage Fluctuation			o 264 VAC	;										1-phas 132 V/	se 85 V. AC	AC to
	Permissible Frequency Fluctuation	±5% max	kimum														
	Power Consumption (W)	30								45					30		
Interface Powe				uired curr				cluding	CN8 co	onnector	r signals	5))					
Control Metho	· · ·	Sine-wav	e PWM c	ontrol/curr	ent con	ntrol me	ethod						· · · · · ·		1		1
Tolerable Regenerative	Built-in Regenerative Resistor (*2, *3) (W)	-	10	10	10	20	20	100	100	130	170	-	-	-	-	10	10
Power Dunomia Drok	External Regenerative Resistor (W) (Standard Accessory) (*2, 3, 11, 12)	-	-	-	-	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)	-	-	-
Dynamic Brak		Built-in (ns, 0.888 r	20							Extern	al option	(13)	Built-i	n (*4)	
Communicatio	Command Communication Cycle (*10)		,	,			nfigura	tor? oo	mnatibl	0)							
Encoder Outpu				rsonal cor -phase pul			inigura		працы	e)				-			
Analog Monito		2 channe		-pilase pul	50)												
Servo Function	1	drive reco operation compens	order fund function ation (*10	,	ening 8 de mea	k press sureme	-fit cont nt funct	rol, ma	chine d	iagnosis	functio	n, powe	er monito	ring fund	ction, m	naster-sl	ave
Fully Closed	MR-J4-B(1)	drive reco operation compens Two-wire	order fund function ation (*10 type com	ction, tight (*14), sca 3) imunicatio	ening 8 de mea: n meth	k press- sureme od (*9)	-fit cont nt funct	rol, ma	chine d	iagnosis	functio	n, powe	er monito	ring fund	ction, m	naster-sl	ave
Fully Closed Loop Control	MR-J4-B(1) MR-J4-B(1)-RJ	drive reco operation compens Two-wire Two-wire	order fund I function ation (*10 type com /four-wire	ction, tight (*14), sca 5) municatio type com	ening & Ile mea: n meth munica	k press sureme od (*9) tion me	-fit cont nt funct	rol, ma	chine d	iagnosis	functio	n, powe	er monito	ring fund	ction, m	naster-sl	ave
Fully Closed	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)	drive reco operation compens Two-wire Two-wire Mitsubisl	order fund i function ation (*10 type com /four-wire ni high-sp	ction, tight (*14), sca 5) municatio type com eed serial	ening & Ile meas n meth munica commu	d press sureme od (*9) tion me unicatio	-fit cont nt funct ethod n	rol, ma ion (*1	chine d 4), J3 d	iagnosis compatil	functio bility mo	n, powe ode, sup	er monito	ring fund	ction, m	naster-sl	ave
Fully Closed Loop Control Load-Side	MR-J4-B(1) MR-J4-B(1)-RJ	drive reco operation compens Two-wire Two-wire Mitsubish Mitsubish	order function ation (*10 type com /four-wire ni high-sp	ction, tight (*14), sca 5) municatio type com eed serial eed serial	ening & ale meas n meth munica commu	d press- sureme od (*9) tion me unicatio unicatio	-fit cont nt funct ethod n n, A/B/Z	rol, ma ion (*1 Z-phase	chine d 4), J3 d differe	iagnosis compatil	tinctio bility mo ut signa	n, powe ode, sup	er monito er trace	ring fund control (tion, m *16), lo	iaster-sl ist moti	ave
Fully Closed Loop Control Load-Side Encoder	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1) MR-J4-B(1)-RJ	drive reco operation compens Two-wire Two-wire Mitsubish Mitsubish Overcurre encoder o overspee	order function ation (*10 type com /four-wire ni high-sp ni high-sp ent shut-o error prote d protectio	ction, tight (*14), sca 5) mmunicatio type com eed serial eed serial ff, regener ection, reg on, error e	ening & ale measure n meth munica commu commu ative ov enerativ	k press sureme od (*9) tion me unicatio unicatio vervolta ve error	-fit cont nt funct ethod n n, A/B/Z ge shut- protect	rol, ma ion (*1 -off, ove ion, une	chine d 4), J3 c differe erload s dervolta	iagnosis compatil ntial inp shut-off ige prote	tunctio bility mo ut signa (electror ection, ir	n, powe de, sup	er monito er trace mal), Ser leous pov	ring fund control (vo Motor wer failur	tion, m *16), lo overhe e prote	eat protection,	ave
Fully Closed Loop Control Load-Side Encoder Interface	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1) MR-J4-B(1)-RJ ctions n (*10)	drive reco operation compens Two-wire Two-wire Mitsubish Mitsubish Overcurre encoder o overspee STO (IEC	order function ation (*10 type com /four-wire ni high-sp ni high-sp ent shut-o error prote d protectii /EN 6180	ction, tight (*14), sca b) municatio type com eed serial eed serial ff, regener ection, reg on, error e 0-5-2)	ening 8 ale meas n meth munica commu commu ative ov enerativ xcessiv	d press- sureme od (*9) tion me unicatio unicatio vervolta ve error e prote	-fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m	rol, ma ion (*1 -off, ove ion, une agnetic	chine d 4), J3 (differe erload s dervolta pole d	iagnosis compatit ntial inp shut-off ge prote etection	ut signa (electror protection, ir	n, powe de, sup I nic therr nstantan on, line	er monito er trace mal), Ser leous por ar servo	ring fund control (vo Motor wer failur	tion, m *16), lo overhe e prote	eat protection,	ave
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1) MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB	drive reci operation compens Two-wire Two-wire Mitsubist Mitsubist Overcurre encoder e overspee STO (IEC EN ISO 1	order function ation (*14 type com /four-wire ni high-sp ni high-sp ent shut-o error prote d protectii /EN 6180 3849-1 C	tion, tight (*14), sca 5) municatio ed serial eed serial ff, regener ection, reg on, error e 0-5-2) ategory 3	ening 8 ale measure n meth munica commu commu ative ov enerativ xcessiv	d (*9) sureme od (*9) ition me inicatio inicatio inicatio vervolta /e error e prote	-fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2,	rol, ma ion (*1 -off, ove ion, une agnetic	chine d 4), J3 (differe erload s dervolta pole d	iagnosis compatit ntial inp shut-off ge prote etection	ut signa (electror protection, ir	n, powe de, sup I nic therr nstantan on, line	er monito er trace mal), Ser leous por ar servo	ring fund control (vo Motor wer failur	tion, m *16), lo overhe e prote	eat protection,	ave
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1) MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance	drive rect operation compens Two-wire Two-wire Mitsubisl Mitsubisl Overcurre encoder o overspee STO (IEC EN ISO 1 8 ms or 1	order function i function ation (*1(type com /four-wire ni high-sp ni high-sp ent shut-o error proto d protectii /EN 6180 3849-1 C ess (STO	tion, tight (*14), sca 6) Immunicatio et type com eed serial eed serial ff, regener ection, reg on, error e 0-5-2) ategory 3 input OFF	ening 8 ale measure n meth munica commu co	d press- sureme od (*9) tion me unicatio unicatio vervolta ve error e prote N 6150 ny shut-	fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off)	rol, ma ion (*1 Z-phase -off, ove ion, und agnetic EN 62	chine d 4), J3 c differe erload s dervolta pole do	ntial inp shut-off ge prote etection	ut signa (electror protection, ir	n, powe de, sup I nic therr nstantan on, line	er monito er trace mal), Ser leous po ar servo	ring fund control (vo Motor wer failur	tion, m *16), lo overhe e prote	eat protection,	ave
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7)	drive rect operation compens Two-wire Two-wire Mitsubisl Mitsubisl Overcurre encoder o overspee STO (IEC EN ISO 1 8 ms or 1	order function i function ation (*1(type com /four-wire ni high-sp ni high-sp ent shut-o error proto d protectii /EN 6180 3849-1 C ess (STO	tion, tight (*14), sca 5) municatio ed serial eed serial ff, regener ection, reg on, error e 0-5-2) ategory 3	ening 8 ale measure n meth munica commu co	d press- sureme od (*9) tion me unicatio unicatio vervolta ve error e prote N 6150 ny shut-	fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off)	rol, ma ion (*1 Z-phase -off, ove ion, und agnetic EN 62	chine d 4), J3 c differe erload s dervolta pole do	ntial inp shut-off ge prote etection	ut signa (electror protection, ir	n, powe de, sup I nic therr nstantan on, line	er monito er trace mal), Ser leous po ar servo	ring fund control (vo Motor wer failur	tion, m *16), lo overhe e prote	eat protection,	ave
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1) MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd)	drive rect operation compens Two-wire Mitsubisl Mitsubisl Overcurre encoder o overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years	order fund function ation (*10 type com /four-wire hi high-sp hi high-sp ent shut-o error proto d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe	stion, tight (*14), sca b) municatio type com eed serial eed serial eed serial ff, regener sction, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to	ening 8 ale measure n meth munica commu co	d press- sureme od (*9) tion me unicatio unicatio vervolta ve error e prote N 6150 ny shut-	fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off)	rol, ma ion (*1 Z-phase -off, ove ion, und agnetic EN 62	chine d 4), J3 c differe erload s dervolta pole do	ntial inp shut-off ge prote etection	ut signa (electror protection, ir	n, powe de, sup I nic therr nstantan on, line	er monito er trace mal), Ser leous po ar servo	ring fund control (vo Motor wer failur	tion, m *16), lo overhe e prote	eat protection,	ave
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC)	drive rect operation compens Two-wire Two-wire Mitsubisl Overcurre encoder of overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years	order fund function ation (*10 type com /four-wire hi high-sp hi high-sp hi high-sp ent shut-o error prote d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to S	stion, tight (*14), sca b) municatio type com eed serial eed serial eed serial ff, regener sction, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to	ening 8 ale measure n meth munica commu co	d press- sureme od (*9) tion me unicatio unicatio vervolta ve error e prote N 6150 ny shut-	fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off)	rol, ma ion (*1 Z-phase -off, ove ion, und agnetic EN 62	chine d 4), J3 c differe erload s dervolta pole do	ntial inp shut-off ge prote etection	ut signa (electror protection, ir	n, powe de, sup I nic therr nstantan on, line	er monito er trace mal), Ser leous po ar servo	ring fund control (vo Motor wer failur	tion, m *16), lo overhe e prote	eat protection,	ave
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous	drive rect operation compens Two-wire Mitsubisl Mitsubisl Overcurre encoder o overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years	order fund function ation (*10 type com /four-wire hi high-sp hi high-sp hi high-sp ent shut-o error prote d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to S	stion, tight (*14), sca b) municatio type com eed serial eed serial eed serial ff, regener sction, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to	ening 8 ale measure n meth munica commu co	d press- sureme od (*9) tion me unicatio unicatio vervolta ve error e prote N 6150 ny shut-	fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off)	rol, ma ion (*1 Z-phase -off, ove ion, und agnetic EN 62	chine d 4), J3 c differe erload s dervolta pole do	ntial inp shut-off ge prote etection	ut signa (electror protection, ir	n, powe de, sup I nic therr nstantan on, line	er monito er trace mal), Ser leous po ar servo	ring fund control (vo Motor wer failur	tion, m *16), lo overhe e prote	eat protection,	ave
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1) MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH)	drive rect operation compens Two-wire Mitsubisl Mitsubisl Overcurre encoder o overspee STO (IEC EN ISO 1 8 ms or 1 Test puls 100 years Medium 1.68 x 10 CE: EN 6	order fund function ation (*10 type com /four-wire ni high-sp ni high-sp ni high-sp ni high-sp ent shut-o error prot d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to §) ¹⁰ [1/h] 1800-5-1,	stion, tight (*14), sca b) municatio type com eed serial eed serial eed serial ff, regener sction, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to	ening & ening	k press- sureme od (*9) unicatio unicatio unicatio vervolta e error e prote N 6150 y shut- Test p	-fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off) ulse off	rol, ma ion (*1 	differe erload s dervolta pole d ms ma	iagnosis compatil ntial inp shut-off ge prote etection . CL 2, E	ut signa (electror ection, ir protecti	n, powe de, sup l nic therr nstantar on, linea 0-5-2 S	mal), Ser eous po ar servo o	ring func control (vo Motor wer failur control fa	vition, m *16), lo overhe e prote ault prot	eat protection,	ection,
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety Performance	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) Standards	drive rect operation compens Two-wire Mitsubisl Mitsubisl Overcurre encoder d overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years Medium 1.68 x 10 CE: EN 6 RoHS co	order fund function ation (*10 type com /four-wire hi high-sp hi high-sp ent shut-o error prote d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to § p ⁻¹⁰ [1/h] 1800-5-1, mpliant; L	tion, tight (*14), sca b) municatio ed serial eed serial eed serial eed serial ff, regener ection, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to r 19%) EN 61800	ening & ening	k press sureme od (*9) unicatio micatio vervolta ve error e prote N 6150 N 6150 N 6150 Subtraction subtraction vigotalisticatio vigotalisticatio vig	-fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off) ulse off	rol, mai ion (*1 '-phase -off, ovr- off, ovr- on, unn agnetic EN 62 time: 1	chine d 4), J3 d differe erload s dervoltat pole dr 061 SIL ms ma	iagnosis compatil ntial inp shut-off ge prote etection . CL 2, E ximum	t functio bility mo ut signa (electror ection, ir protection N 6180	n, powe de, sup l lic therristantar 0-5-2 S 2/ EN 6	mal), Ser eous po ar servo o	ring func control (vo Motor wer failur control fa	tion, m *16), lo overhe e prote uult prot uult prot	aaster-sist motion at protection, cection, cection 	L 2;
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety Performance	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)-RJ mr-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) Standards Reting)	drive rect operation compens Two-wire Mitsubisl Mitsubisl Overcurre encoder d overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years Medium 1.68 x 10 CE: EN 6 RoHS co	order fund function ation (*10 type com /four-wire ni high-sp ni high-sp ni high-sp ent shut-o error prot d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to S (90% to S) (90% to S) (90% to S) (90% to S) (90% to S)	tion, tight (*14), sca b) municatio type com eed serial eed serial eed serial eed serial ff, regener action, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to r 19%) EN 61800 JL: UL508/	ening & ening	k press sureme od (*9) unicatio micatio vervolta ve error e prote N 6150 N 6150 N 6150 Subtraction subtraction vigotalisticatio vigotalisticatio vig	-fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off) ulse off 849-1 C	rol, mai ion (*1 '-phase -off, ovr- off, ovr- on, unn agnetic EN 62 time: 1	chine d 4), J3 d differe erload s dervoltat pole dr 061 SIL ms ma	iagnosis compatil ntial inp shut-off ge prote etection . CL 2, E ximum	t functio pility mo ut signa (electror sction, ir protectio EN 6180	n, powe de, sup l lic therristantar 0-5-2 S 2/ EN 6	mal), Ser reous por ar servo o IL 2 2061 SIL	ring func control (vo Motor wer failur control fa	tion, m *16), lo overhe e protectuult prot uult prot d 61800 Natura open (aaster-sist motion at protection, cection, cection 	L 2;
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety Performance Compliance to Structure (IP F	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)-RJ mr-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) Standards Reting)	drive rect operation compens Two-wire Mitsubisl Mitsubisl Overcurre encoder e overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years Medium 1.68 x 10 CE: EN 6 RoHS co Natural c	order fund function ation (*10 type com /four-wire ni high-sp ni high-sp ni high-sp ni high-sp ent shut-o error prote d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to S (90% to S) (10] [1/h] 1800-5-1, mpliant; L ooling, op	tion, tight (*14), sca b) municatio type com eed serial eed serial eed serial eed serial ff, regener action, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to r 19%) EN 61800 JL: UL508/	ening & ening	k press- sureme od (*9) tion me unicatio unicatio vervolta ve error e prote e prote e prote substance vervor vy shut- Test p ISO 13	-fit cont nt funct ethod n n, A/B/Z ge shut protect ction, m 8 SIL 2, off) ulse off 849-1 C cooling	rol, mai ion (*1 -phase -off, ovvion, unu ion, i	chine d (4), J3 d differe erload s dervolta gerv	iagnosis compatil ntial inp shut-off ge prote etection . CL 2, E eximum	t functio pility mo ut signa (electror sction, ir protectio EN 6180	n, powe de, sup l lic therristantar 0-5-2 S 2/ EN 6	mal), Ser reous por ar servo o IL 2 2061 SIL	ring func control (vo Motor wer failur control fa	tion, m *16), lo overhe e protectuult prot uult prot d 61800 Natura open (aaster-si st motii hat prote ction, lection 	L 2;
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety Performance Compliance to Structure (IP F	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (ST0) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) Standards Rating) g	drive rect operation compens Two-wire Mitsubisl Mitsubisl Overcurre encoder of overspee STO (IEC EN ISO 1 8 ms or 1 Test puls 100 years Medium 1.68 x 10 CE: EN 6 RoHS co Natural c Possible 0 °C to 5	order fund function ation (*10 type com /four-wire ni high-sp ni high-sp ni high-sp ent shut-o error prot d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to § (*1) 1800-5-1, mpliant; L ooling, op (*6) 5 °C (non	stion, tight (*14), sca 5) municatio etype com eed serial eed serial eed serial ff, regener ection, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to vr 19%) EN 61800 JL: UL5080 pen (IP20)	ening & ening	k press- sureme od (*9) tion me unicatio unicatio vervolta ve error e prote e prote e prote sure transformed vy shut- Test p ISO 13 ISO 13	-fit cont nt funct ethod n n, A/B/Z ge shut- protect ction, m 8 SIL 2, off) ulse off 849-1 C cooling C to 65	rol, mai ion (*1 -phase -off, ovv ion, unv ion,	chine d differe erload s Jervolta Jervolta Mo G 61 SIL ms ma ms ma (IP20)	iagnosis compatil ntial inp shut-off ge prote etection . CL 2, E xximum d/EN 615 Force c Not po ng)	t functio pility mo ut signa (electror ection, ir protectio EN 6180 508 SIL cooling, ssible	n, powe de, sup l nic therr stantar on, linea 0-5-2 S 2/ EN 6 open (1	mal), Ser reous por ar servo o IL 2 2061 SIL	ring func control (vo Motor wer failur control fa	tion, m *16), lo overhe e protectuult prot uult prot d 61800 Natura open (aaster-si st motii hat prote ction, lection 	L 2;
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety Performance Compliance to Structure (IP F	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1) MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) Standards Rating) g Ambient Temperature	drive rect operation compens Two-wire Mitsubisl Mitsubisl Overcurre encoder e overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years Medium 1.68 x 10 CE: EN 6 RoHS co Natural c Possible 0 °C to 5 90%RH r	order fund function ation (*10 type com /four-wire ni high-sp ni high-sp ni high-sp ent shut-o error proto d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to S (90% to S (90% to S)) (1/h] 1800-5-1, mpliant; L cooling, op (*6) 5 °C (non naximum	stion, tight (*14), sca 5) municatio event serial eed serial eed serial eed serial ff, regener ection, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to vr 19%) EN 61800 JL: UL5080 ven (IP20) -freezing),	ening & ening	k press-sureme od (*9) tion me inicatio vervolta ve error e prote e prote N 6150 y shut- Test p ISO 13 Force e: -20 °	-fit cont nt funct ethod n n, A/B/Z ge shut protect ction, m 8 SIL 2, off) ulse off 849-1 C cooling C to 65 ge: 90%	rol, mai ion (*1 -phase -off, ovvion, unun ion, unun ion	differe erload s Jervolta 061 SIL ms ma 7 3 PL c (IP20) n-freezi	iagnosis compatil ntial inp shut-off ge prote etection . CL 2, E . CL 2, E	t functio pility mo ut signa (electror sction, ir protectio EN 6180 508 SIL cooling, ssible	n, powe de, sup l nic therr stantar on, linea 0-5-2 S 2/ EN 6 open (1	mal), Ser reous por ar servo o IL 2 2061 SIL	ring func control (vo Motor wer failur control fa	tion, m *16), lo overhe e protectuult prot uult prot d 61800 Natura open (aaster-si st motii hat prote ction, lection 	L 2;
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety Performance Compliance to Structure (IP F Close Mountin	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1) MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) Standards Rating) g Ambient Temperature Ambient Humidity	drive rect operation compens Two-wire Mitsubisl Overcurre encoder e overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years Medium 1.68 x 10 CE: EN 6 RoHS co Natural c Possible 0 °C to 5 90%RH r Indoors (order fund function ation (*10 type com /four-wire ni high-sp ni high-sp ni high-sp ent shut-o error prot d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to S (10 [1/h]) 1800-5-1, mpliant; L ooling, op (*6) 5 °C (non naximum no direct	stion, tight (*14), sca 5) municatio etype com eed serial eed serial eed serial ff, regener ection, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to er 199%) EN 61800 JL: UL5080 ben (IP20) -freezing), (non-cond	ening & ening	k press-sureme od (*9) tion me inicatio vervolta ve error e prote e prote N 6150 y shut- Test p ISO 13 Force e: -20 °	-fit cont nt funct ethod n n, A/B/Z ge shut protect ction, m 8 SIL 2, off) ulse off 849-1 C cooling C to 65 ge: 90%	rol, mai ion (*1 -phase -off, ovvion, unun ion, unun ion	differe erload s Jervolta 061 SIL ms ma 7 3 PL c (IP20) n-freezi	iagnosis compatil ntial inp shut-off ge prote etection . CL 2, E . CL 2, E	t functio pility mo ut signa (electror sction, ir protectio EN 6180 508 SIL cooling, ssible	n, powe de, sup l nic therr stantar on, linea 0-5-2 S 2/ EN 6 open (1	mal), Ser reous por ar servo o IL 2 2061 SIL	ring func control (vo Motor wer failur control fa	tion, m *16), lo overhe e protectuult prot uult prot d 61800 Natura open (aaster-si st motii hat prote ction, lection 	L 2;
Fully Closed Loop Control Load-Side Encoder Interface Protective Fun Safety Functio Safety Performance Compliance to Structure (IP F Close Mountin	MR-J4-B(1) MR-J4-B(1)-RJ MR-J4-B(1)-RJ ctions n (*10) Standards Certified by CB Response Performance Test Pulse Input (STO) (*7) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) Standards Rating) g Ambient Temperature Ambient Humidity	drive rect operation compens Two-wire Mitsubisl Overcurre encoder e overspee STO (IEC EN ISO 1 8 ms or I Test puls 100 years 100 years Nedium 1.68 x 10 CE: EN 6 RoHS co Natural c Possible 0 °C to 5 90%RH r Indoors (1000 m c	order fund function ation (*10 type com /four-wire ni high-sp ni high-sp ni high-sp ent shut-o error proto d protectii /EN 6180 3849-1 C ess (STO e frequen s or longe (90% to S (90% to S (90% to S) (*6) 5 °C (non naximum no direct or less abb	stion, tight (*14), sca 5) municatio event serial eed serial eed serial eed serial ff, regener ection, reg on, error e 0-5-2) ategory 3 input OFF cy: 1 Hz to vr 19%) EN 61800 JL: UL5080 ven (IP20) -freezing), (non-cond sunlight);	ening & ening	k press-sureme od (*9) tion me inicatio vervolta ve error e prote e prote vervolta ve error substance vervolta ve error substance substa	-fit cont nt funct ethod n n, A/B/Z ge shut protect ction, m 8 SIL 2, off) ulse off 849-1 C cooling C to 65 ge: 90% jas, infla	rol, mai ion (*1 -phase -off, ovvion, unun ion, ununun ion, ununun ion, ununun ion, ununun ion, unununun ion, unununun ion, ununununununununununununununununununu	differe erload s Jervolta 061 SIL ms ma 7 3 PL c (IP20) n-freezi	iagnosis compatil ntial inp shut-off ge prote etection . CL 2, E . CL 2, E	t functio pility mo ut signa (electror sction, ir protectio EN 6180 508 SIL cooling, ssible	n, powe de, sup l nic therr stantar on, linea 0-5-2 S 2/ EN 6 open (1	mal), Ser reous por ar servo o IL 2 2061 SIL	ring func control (vo Motor wer failur control fa	tion, m *16), lo overhe e protectuult prot uult prot d 61800 Natura open (aaster-si st motii hat prote ction, lection 	L 2;

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

Model Number N		I III/H Interface) Specifications (200V) DU30KB DU30KB
Stocked Item		
	verter Unit Model	MR-CR55K (*17)
	Rated Voltage	3-phase 170 VAC
Output	Rated Current (A)	174 204
Main Circuit Pow	()	Main circuit power is supplied from the converter unit to the drive 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	Supply	24 VDC ± 10% (required current capacity: 0.3 A (including CN8 connector signals))
Control Method		Sine-wave PWM control/current control method
Dynamic Brake		External option (*13)
SSCNET III/H Cor	mmand Communication Cycle	0.222 ms, 0.444 ms, 0.888 ms (*10)
Communication	Function	USB: Connect a personal computer (MR Configurator2 compatible)
Encoder Output F	Pulse	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, 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, scale measurement function, J3 compatibility mode, super trace control, lost motion compensation
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 differential input signal
Protective Functi	ions	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
Functional Safety	y	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 maximum
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 Global Standards and Regulations" in 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-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)
		21

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

	r Model MR-J	4-	10TM	20TM	40TM	60TM	70TM	100TM	200TM		500TM	700TM	11KTM	15KTM	22KTM	10TM1	20TM1	
Stocked Item	Datad Valtar		S 2 phone	S 8 170 VA	S	S	S	S	S	S	S	S	S	S	S	S	S	S
	Rated Voltag Rated Curren		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
Dutput				1.5 an 590 H	1	3.Z	5.8	0.0	11.0	17.0	28.0	37.0	08.0	87.0	126.0	1.1	1.5	2.8
	Output Frequ	ency ency Accuracy	±0.01%		12													
	Voltage/ Frequency	At AC Input		e or 1-pł	nase 200	VAC to 2	240 VAC,	3-phase 1-phase 200 VA0 VAC, 50 Hz (*7)	e C to 240	3-phase	200 VAC	to 240 י	VAC, 50 H	1z/60 Hz			e 100 VA(C, 50Hz/6	
		At DC Input	283 VD	C to 340) VDC (*3	32)		1								-		
Main Circuit	Rated Curren	it (*25) (A)	0.9	1.5	2.6	3.2 (*31)	3.8	5.0	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-pl	nase 170	VAC to 2	264 VAC	3-phase 1-phase VAC to 2 (*32)		3-phase	170 VAC	; to 264 \	VAC			1-phase 132 VA	e 85 VAC C	to
		At DC Input	241 VD	C to 374	VDC (*3	32)										-		
	Permissible Fluctuation	Frequency	Within :	±5%														
		/ Capacity (kVA)	Refer to	n Hear's	Manual													
	Inrush Currei	nt (A)	Refer to	o User's	Manual										_	1 nhaci	e 100 VAC	2 to
	Voltage/	At AC Input	1-phase	e 200 VA	C to 240	VAC, 50	Hz/60 Hz	2									c, 50Hz/60	
	Frequency	At DC Input	-	C to 340	VDC (*3	32)										-		
	Rated Curren	it (A)	0.2								0.3					<u> </u>	05.1.1.1	
Control Circuit	Permissible	At AC Input	1-phase	e 170 VA	C to 264	VAC										1-phase 32 VAC	e 85 VAC	to 1
Power Supply nput	Voltage Fluctuation	At DC Input	241 VD	C to 374	VDC (*3	32)							-			-		
	Permissible		Within			_/												
	Fluctuation			±J /0														
	Power Consu	,	30								45					30		
	Inrush Currei	nt (A)		D User's	Manual													
nterface	Voltage		24 VDC	5 ±10%			_	_										
ower Supply	Current Capa	city (A)	0.3 (inc	cluding C	N8 conn	ector sig	nals) (*3	D)										
Control Method	 I		Sine-wa	ave PWN	I control,	current	control n	nethod										
Dynamic Brake			Built-in										External	(*13, *3	5)	Built-in		
Fully Closed Lo	oop Control		Compat	tible												Two-wir		
Load-Side Enco	-		· ·		-sneed se	rial com	municatio	n								commu	inication i	netno
Communication							mputer o		MB Cont	figurator	-compati	ihle)						
Encoder Output					3/Z-phase					ingulatori	oompaa	510)						
Analog Monito			Two cha		n _ pridot	puloo)												
Protective Fund			protecti	ion, rege	nerative e	error pro	e overvolt tection, u on protect	ndervolta	ge protec	tion, inst	antaneou	s power f	rmal), ser failure pro	rvo motor otection, c	overheat overspeed	protectior protectior	1, encode n, error e:	r error xcessi
	ı			C/EN 61	800-5-2)													
Safety Functior			1510 (IE															
Safety Function	Standards Ce (*34)	ertified by CB		13849-1	l categor		, IEC 615	08 SIL 3,	EN 6206	1 SIL CL	3, and EN	61800-{	5-2 SIL 3			61508 8	13849-1 ry 3 PL d, SIL 2, EN 2, EN 618	62061
	Standards Ce		EN ISO 8 ms oi	r less (S	TO input	y 3 PL e off – ene	ergy shut	off)			3, and EN	61800-{	5-2 SIL 3			Categor 61508 S SIL CL	ry 3 PL d, SIL 2, EN	6206
Safety	Standards Ce (*34) Response Pe Test Pulse In	rformance put (STO) (*7)	EN ISO 8 ms oi	r less (S	TO input	y 3 PL e off – ene		off)			3, and EN	61800-{	5-2 SIL 3			Categor 61508 S SIL CL	ry 3 PL d, SIL 2, EN	6206
Safety	Standards Ce (*34) Response Pe Test Pulse In Mean Time to	rformance put (STO) (*7) o Dangerous	EN ISO 8 ms oi Test pu	r less (S	TO input val: 1 Hz	y 3 PL e off – ene	ergy shut	off)			3, and EN	61800-{ 	5-2 SIL 3			Categor 61508 S SIL CL	ry 3 PL d, SIL 2, EN	6206
Safety	Standards Ce (*34) Response Pe Test Pulse In Mean Time to Failure (MTT	rformance put (STO) (*7) o Dangerous Fd)	EN ISO 8 ms or Test pu 100 yea	r less (S Ise intern ars or loi	TO input val: 1 Hz nger	y 3 PL e off – ene	ergy shut	off)			3, and EN	61800-{ 	5-2 SIL 3			Categor 61508 S SIL CL	ry 3 PL d, SIL 2, EN	6206
Safety	Standards Ce (*34) Response Pe Test Pulse In Mean Time t Failure (MTT Diagnostic C	rformance put (STO) (*7) o Dangerous Fd) overage (DC)	EN ISO 8 ms oi Test pu 100 yea Medium	r less (S Ise intern ars or loi n (90% t	TO input val: 1 Hz nger to 99%)	y 3 PL e off – ene	ergy shut	off)			3, and EN	61800-{ 	5-2 SIL 3			Categor 61508 S SIL CL SIL 2	ry 3 PL d, SIL 2, EN 2, EN 618	6206 ⁻ 800-5-
Safety	Standards Ce (*34) Response Pe Test Pulse In Mean Time to Failure (MTT	rformance put (STO) (*7) o Dangerous Fd) overage (DC)	EN ISO 8 ms oi Test pu 100 yea Medium	r less (S Ise intern ars or loi	TO input val: 1 Hz nger to 99%)	y 3 PL e off – ene	ergy shut	off)			3, and EN	61800-{ 	5-2 SIL 3			Categor 61508 S SIL CL SIL 2	ry 3 PL d, SIL 2, EN 2, EN 618 10 ⁻¹⁰ [1/h	6206 800-5-
Safety Functior Safety Performance Compliance to	Standards Ce (*34) Test Pulse In Mean Time t Failure (MTT Diagnostic C Probability o Failure Per H	rformance put (STO) (*7) o Dangerous Fd) overage (DC)	EN ISO 8 ms of Test pu 100 yea Medium 6.40 x ⁻	r less (S lse intern ars or lou n (90% t 10 ⁻⁹ [1/h	TO input val: 1 Hz nger o 99%)]	y 3 PL e off – ene to 25 Hz	ergy shut ; Test pul	off) se off tim	e: Up to	1 ms			5-2 SIL 3	508C		Categor 61508 S SIL CL : SIL 2 1.68 x 1 CE: EN 61800-3 1 Categ 61508 S SIL CL :	ry 3 PL d, SIL 2, EN 2, EN 618 	6206 800-5- -1, EN) 1384 d/EN 6206 300-5-2
Safety Performance Compliance to	Standards Ce (*34) Response Pe Test Pulse In Mean Time t Failure (MTT Diagnostic C Probability o Failure Per H Standards	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH)	EN ISO 8 ms of Test pu 100 yea Medium 6.40 x ⁻¹ CE: LVE	r less (S lse internars or loo n (90% t 10 ⁻⁹ [1/h D: EN 61 cooling,	TO input val: 1 Hz nger o 99%)]	y 3 PL e off – ene to 25 Hz EMC: EN	rgy shut ; Test pul	off) se off tim	e: Up to	1 ms 49-1, EN	61800-5 Force cc	-2, EN 62 pooling, op				Categor 61508 5 SIL CL SIL 2 1.68 × 1 CE: EN 61800-7 1 Categ 61508 5 SIL CL SIL 2 SIL CL SIL 2	ry 3 PL d, SIL 2, EN 2, EN 618 10 ⁻¹⁰ [1/h 61800-5- 3, EN ISO 10ry 3 PL SIL 2/ EN 2/EN 618 RoHS con 508C cooling,	6206 800-5- -1, EN) 1384 d/EN 6206 300-5-2
Safety Performance Compliance to Structure (IP R Close	Standards Ce (*34) Response Pe Test Pulse In Mean Time t Failure (MTT Diagnostic C Probability o Failure Per H Standards ating) 3-Phase Pow	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input	EN ISO 8 ms of Test pu 100 yea Mediun 6.40 x ⁻¹ CE: LVE Natural Possibl	r less (S lse inter ars or loi n (90% t 10 ⁻⁹ [1/h D: EN 61 cooling, e	TO input val: 1 Hz nger o 99%)] 800-5-1,	y 3 PL e off – ene to 25 Hz EMC: EN	rgy shut ; Test pul	off) se off tim	ISO 138-	1 ms 49-1, EN	61800-5	-2, EN 62 pooling, op	2061; UL			Categor 61508 5 SIL CL SIL 2 1.68 × 1 CE: EN 61800-1 1 Categ 61508 5 SIL CL SIL 2; F UL: UL2 Natural	ry 3 PL d, SIL 2, EN 2, EN 618 10 ⁻¹⁰ [1/h 61800-5- 3, EN ISO 10ry 3 PL SIL 2/ EN 2/EN 618 RoHS con 508C cooling,	6206 800-5- -1, EN) 1384 d/EN 6206 300-5-3
Safety Performance Compliance to Structure (IP R	Standards Ce (*34) Response Pe Test Pulse In Mean Time ti Failure (MTT Diagnostic C Probability o Failure Per H Standards ating) 3-Phase Pow 1-Phase Pow	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input	EN ISO 8 ms of Test pu 100 yea Medium 6.40 x ⁻¹ CE: LVE Natural Possibl Possibl	r less (S lse inter ars or loo n (90% t 10 ⁻⁹ [1/h C: EN 61 cooling, e e	TO input val: 1 Hz nger o 99%)] 800-5-1, open (IF	y 3 PL e off – end to 25 Hz EMC: EN 220)	rgy shut ; Test pul I 61800-3	off) se off tim	ISO 138- Doen (IP20	1 ms 49-1, EN))	61800-5 Force cc	-2, EN 62 pooling, op	2061; UL			Categor 61508 5 SIL CL SIL 2 1.68 × 1 CE: EN 61800-1 1 Categ 61508 5 SIL CL SIL 2; F UL: UL2 Natural	ry 3 PL d, SIL 2, EN 2, EN 618 10 ⁻¹⁰ [1/h 61800-5- 3, EN ISO 10ry 3 PL SIL 2/ EN 2/EN 618 RoHS con 508C cooling,	6206 800-5 -1, EN 0 1384 d/EN 6206 800-5-
Safety Performance Compliance to Structure (IP R Close	Standards Ce (*34) Response Pe Test Pulse In Mean Time ti Failure (MTT Diagnostic C Probability o Failure Per H Standards ating) 3-Phase Pow 1-Phase Pow Ambient Tem	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input perature	EN ISO 8 ms of Test pu 100 yea Mediun 6.40 x ⁻¹ CE: LVE Natural Possibl 0 °C to	r less (S Ise internars or loo n (90% t 10 ⁻⁹ [1/h D: EN 61 cooling, e e 55 °C (r	TO input val: 1 Hz nger o 99%)] 800-5-1, open (IF	y 3 PL e off – ene to 25 Hz EMC: EN 220)	I 61800-3 Force c	off) se off tim , MD: EN cooling, op Not pos °C to 65	ISO 138- Den (IP20 sible °C (non-f	1 ms 49-1, EN)) [-	61800-5 Force co Not pos	-2, EN 62 poling, op sible	2061; UL			Categor 61508 5 SIL CL SIL 2 1.68 × 1 CE: EN 61800-1 1 Categ 61508 5 SIL CL SIL 2; F UL: UL2 Natural	ry 3 PL d, SIL 2, EN 2, EN 618 10 ⁻¹⁰ [1/h 61800-5- 3, EN ISO 10ry 3 PL SIL 2/ EN 2/EN 618 RoHS con 508C cooling,	6206 800-5 -1, EN 0 1384 d/EN 6206 800-5-
Safety Performance Compliance to Structure (IP R Close	Standards Ce (*34) Response Pe Test Pulse In Mean Time t 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 perature	EN ISO 8 ms of Test pu 100 yea Mediun 6.40 x ⁻¹ CE: LVE Natural Possibl 0 °C to 90%RH	r less (S Ise internars or loo n (90% t 10 ⁻⁹ [1/h D: EN 61 cooling, e e 55 °C (r I maximu	TO input val: 1 Hz nger o 99%)] 800-5-1, open (IF non-freez um (non-	y 3 PL e off – ene to 25 Hz EMC: EN 220)	I 61800-3 Force c rage: -20 ing), stor	off) se off tim , MD: EN ooling, op Not pos °C to 65 age: 90%	ISO 138- Den (IP20 sible °C (non-f RH maxin	1 ms 49-1, EN)) [- rreezing) mum (no	61800-5- Force cc Not pos	-2, EN 62 poling, op sible tsing)	2061; UL			Categor 61508 5 SIL CL SIL 2 1.68 × 1 CE: EN 61800-1 1 Categ 61508 5 SIL CL SIL 2; F UL: UL2 Natural	ry 3 PL d, SIL 2, EN 2, EN 618 10 ⁻¹⁰ [1/h 61800-5- 3, EN ISO 10ry 3 PL SIL 2/ EN 2/EN 618 RoHS con 508C cooling,	6206 800-5 -1, EN 0 1384 d/EN 6206 800-5-
Safety Performance Compliance to Structure (IP R Close	Standards Ce (*34) Response Pe Test Pulse In Mean Time ti Failure (MTT Diagnostic C Probability o Failure Per H Standards ating) 3-Phase Pow 1-Phase Pow Ambient Tem	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input perature	EN ISO 8 ms of Test pu 100 yea Mediun 6.40 x ⁻¹ CE: LVE Natural Possibl 0 °C to 90%RH	r less (S Ise internars or loo n (90% t 10 ⁻⁹ [1/h D: EN 61 cooling, e e 55 °C (r I maximu	TO input val: 1 Hz nger o 99%)] 800-5-1, open (IF non-freez um (non-	y 3 PL e off – ene to 25 Hz EMC: EN 220)	I 61800-3 Force c	off) se off tim , MD: EN ooling, op Not pos °C to 65 age: 90%	ISO 138- Den (IP20 sible °C (non-f RH maxin	1 ms 49-1, EN)) [- rreezing) mum (no	61800-5- Force cc Not pos	-2, EN 62 poling, op sible tsing)	2061; UL			Categor 61508 5 SIL CL : SIL 2 1.68 × 1 CE: EN 61800-3 1 Categ 61508 5 SIL CL : SIL 2: FU UL: ULS Natural open (II -	ry 3 PL d, SIL 2, EN 2, EN 618 2, EN 618 10 ⁻¹⁰ [1/h 61800-5- 3, EN ISO 10'7 3 PL SIL 2/ EN 2/EN 618 RoHS con 508C cooling, P20)	i] i] i] i] i] i] i] i] i] i]
Safety Performance Compliance to Structure (IP R Close Vounting (*6)	Standards Ce (*34) Response Pe Test Pulse In Mean Time t 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 perature	EN ISO 8 ms or Test pu 100 yea Medium 6.40 x ⁻ CE: LVE Natural Possibl Possibl 0 °C to 90%RH Indoors	r less (S lse inter ars or lon n (90% t 10 ⁻⁹ [1/h D: EN 61 cooling, e e 55 °C (r t maximus s (no dire	TO input val: 1 Hz nger o 99%)] 800-5-1, open (IF non-freez um (non-	y 3 PL e off – ene to 25 Hz EMC: EN 220) ing), sto condens ht); no c	I 61800-3 Force c rage: -20 ing), stor	off) se off tim , MD: EN ooling, op Not pos °C to 65 age: 90%	ISO 138- Den (IP20 sible °C (non-f RH maxin	1 ms 49-1, EN)) [- rreezing) mum (no	61800-5- Force cc Not pos	-2, EN 62 poling, op sible tsing)	2061; UL			Categor 61508 5 SIL CL : SIL 2 1.68 × 1 CE: EN 61800-3 1 Categ 61508 5 SIL CL : SIL 2: FU UL: ULS Natural open (II -	ry 3 PL d, SIL 2, EN 2, EN 618 2, EN 618 10 ⁻¹⁰ [1/h 61800-5- 3, EN ISO 000-73 3 PL SIL 2/ EN SIL 2/ EN SIL 2/ EN SIL 2/ EN Cooling, P20) 100 less a	i] i] i] i] i] i] i] i] i] i]
Safety Performance Compliance to Structure (IP R Close Vounting (*6)	Standards Ce (*34) Response Pe Test Pulse In Mean Time t Failure (MTT Diagnostic C Probability o Failure Per H Standards 3-Phase Pow 1-Phase Pow Ambient Tem Ambience	rformance put (STO) (*7) o Dangerous Fd) overage (DC) f Dangerous lour (PFH) er Supply Input perature nidity	EN ISO 8 ms or Test pu 100 yea Medium 6.40 x ⁻¹ CE: LVC Natural Possibl O °C to 90%RH Indoors 2000 m	r less (S lse inter ars or lon n (90% t 10 ⁻⁹ [1/h 2: EN 61 2: EN	TO input val: 1 Hz nger o 99%)] 800-5-1, open (IF ono-freez um (non- ect sunlig above se	y 3 PL e off – ene to 25 Hz EMC: EN 220) ing), sto condens ht); no c a level (I 61800-3 Force c rage: -20 ing), stor	off) se off tim , MD: EN ooling, op Not pos °C to 65 age: 90% gas, inflat	e: Up to ISO 138- Den (IP20 Sible °C (non-f RH maxim mmable g	1 ms 49-1, EN)) [- rreezing) mum (no	61800-5- Force cc Not pos	-2, EN 62 poling, op sible tsing)	2061; UL			Categor 61508 5 SIL CL SIL CL SIL 2 1.68 x 1 CE: EN 61800-3 1 Categ 61508 5 SIL CL SIL 2: F UL: UL5 Natural open (II -	ry 3 PL d, SIL 2, EN 2, EN 618 2, EN 618 10 ⁻¹⁰ [1/h 61800-5- 3, EN ISO 000-73 3 PL SIL 2/ EN SIL 2/ EN SIL 2/ EN SIL 2/ EN Cooling, P20) 100 less a	1] 1, EN 1384 d/EN 6206 00-5- nplian

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

Servo Amplifi	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		
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	VAC to 480 V	/AC, 50 Hz/60	Hz							
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 \	/AC								
ouppiy	Permissible Frequency Fluctuation	±5% maxim										
	Voltage/Frequency		-	/AC, 50/60 Hz								
	Rated Current (A)	0.1		740, 30/00 112	0.2							
Control		-	VAC to 528 V	/AC	0.2							
Circuit Power Supply		· ·		AC								
ouppiy	Permissible Frequency Fluctuation	±5% maxim	um									
	Power Consumption (W)	30			45							
Interface Pow	er Supply	24 VDC ±10	% (required c	urrent capacit	y: 0.3 A (includ	ling CN8 conne	ctor signals))					
Control Metho	od (*11)	Sine-wave P	WM control/c	urrent control	method							
Tolerable	Built-in Regenerative Resistor (*2, *3) (W)	15	15	100	100	130 (*11)	170 (*11)	-	-	-		
Regenerative Power	External Regenerative Resistor (W) (Standard Accessory) (*2, *3, *11, *12)	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300		
Dynamic Brak	.e	Built-in (*4)	1					External o	ption (*13)	I		
SSCNET III/H	Command Communication Cycle (*10)		.444 ms, 0.88	8 ms								
Communicatio	on Function	USB: Conne	ct a personal	computer (MF	Configurator2	compatible)						
Encoder Outpu	ut Pulse	Compatible	A/B/Z-phase	pulse)		. ,						
Analog Monito		2 channels										
Fully Closed	MR-J4-B4		e communica	ation method								
Loop Control	MR-J4-B4-RJ			ommunication	method							
Load-Side	MR-J4-B4			ial communica								
Encoder Interface	MR-J4-B4-RJ					ase differential	input cignal					
Servo Functio	n	Advanced vi drive record operation fu compensatio	bration suppr er function, ti nction (*14), on (*16)	ession control ghtening & pre scale measure	II, adaptive filt ess-fit control, ement function	er II, robust filt machine diagno (*14), J3 comp , overload shut	er, auto tuning osis function, j patibility mode	power monito , super trace	oring function, control (*16),	master-sla lost motio		
Protective Fun	nctions	protection, e	ncoder error	protection, reg	generative erro	r protection, un ection, magnetic	dervoltage pro	otection, insta	ntaneous powe	er failure		
Safety Functio	on (*13)	STO (IEC/EN	l 61800-5-2)									
	Standards Certified by CE					62061 SIL CL	2, EN 61800-5	5-2 SIL 2				
	Response Performance)FF - energy sl								
	Test Pulse Input (STO) (*7)	Test pulse fr	equency: 1 H	z to 25 Hz; Tes	st pulse off tim	e: 1 ms maximi	um					
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	100 years or										
	Diagnostic Coverage (DC)	Medium (90	% to 99%)									
	Probability of Dangerous Failure Per Hour (PFH)	1.68 × 10 ⁻¹⁰										
Compliance to	o Standards	RoHS comp	liant; UL: UL5		13849-1 Cate	gory 3 PL d/EN	61508 SIL 2/	EN 62061 SII	_ CL 2/EN 6180	00-5-2 SII		
Structure (IP F		Natural cool (IP20)		Force cooli	ng, open (IP20	,	ıg, open (IP20) (*5)				
Close Mountin	Ť	Not Possible	÷			Not possible	e					
	Ambient Temperature				0°C to 65°C (no	•,						
	Ambient Humidity	90% RH ma				H maximum (n])				
F aultan		Indec	dina at a contract.									
Environment	Ambience	Indoors (no		,. ,.	/e gas, inflamn	nable gas, oil m	ist or dust					
Environment		1000 m or le	ess above sea	level	f X, Y and Z ax	•	ist or dust					

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

Dia dia 111	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 32	3 VAC	1		1		1	1				
	Rated Current (A)	1.5	2.8	5.4	8.6	14.0	17.0	32.0	41.0	63.0			
Dutput	Output Frequency	Less than 5	90 Hz		1	1							
	Output Frequency Accuracy	±0.01%	±0.01%										
	Voltage/Frequency		3-phase 380 V AC to 480 V AC, 50 Hz/60 Hz										
	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 32	3 VAC to 528		1.12	1	1	1-011	10.00	1			
Power	Permissible Frequency Fluctuation	Within ±5%											
Supply Input	Power Supply Capacity (kVA)	Refer to Us											
	Inrush Current (A)	Refer to Us											
	Voltage/Frequency		-	VAC, 50 Hz/60	Н7								
	Rated Current (A)	0.1	U VAC 10 400	VAC, 30 HZ/00	0.2								
Control		0	3 VAC to 528	VAC	0.2								
Circuit Power	Permissible Voltage Fluctuation Permissible Frequency Fluctuation	Within ±5%		VAU									
Supply Input					45								
	Power Consumption (W)	30	ania Manuel		40								
	Inrush Current (A)		er's Manual										
nterface Power	Voltage	24 VDC ± 1	0%										
Supply	Current Capacity (A)	,	0	ctor signals) (,	_							
Control Metho	bd	Sine-wave	Sine-wave PWM control, current control method										
Dynamic Brak	e	Built-in											
Fully Closed I	Loop Control	Compatible	Compatible										
Load-Side En	coder Interface	Mitsubishi high-speed serial communication											
Communicatio	on Function	USB: connection to a personal computer or others (MR Configurator2-compatible)											
Encoder Outp	ut Pulses	Compatible (A/B/Z-phase pulse)											
Analog Monit	or	Two channels											
		Overcurrent shut-off, regenerative overvoltage shut-off, overload shut-off (electronic thermal), Servo Motor overheat protectio encoder error protection, regenerative error protection, undervoltage protection, instantaneous power failure protection, overspeed protection, error excessive protection, magnetic pole detection protection, and linear servo control error protection											
Protective Fu	nctions	encoder err		regenerative e	rror protection,	undervoltage	protection, ins	tantaneous por	wer failure pro	tection,			
		encoder err overspeed p		regenerative e	rror protection,	undervoltage	protection, ins	tantaneous por	wer failure pro	tection,			
		encoder err overspeed p STO (IEC/E	protection, err N 61800-5-2)	regenerative e or excessive pr	rror protection,	undervoltage etic pole detec	protection, ins tion protection	tantaneous por n, and linear se	wer failure pro	tection,			
	2n	encoder err overspeed p STO (IEC/E EN ISO 138	protection, err N 61800-5-2) 49-1 category	regenerative e or excessive pr	rror protection, rotection, magne 1508 SIL 3, EN	undervoltage etic pole detec	protection, ins tion protection	tantaneous por n, and linear se	wer failure pro	tection,			
Protective Fu Safety Functio	on Standards Certified by CB (*34)	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les	orotection, err N 61800-5-2) 49-1 category s (STO input	regenerative e or excessive pr v 3 PL e, IEC 6 off — energy s	rror protection, rotection, magne 1508 SIL 3, EN	undervoltage etic pole detec 62061 SIL CL	protection, ins tion protection	tantaneous por n, and linear se	wer failure pro	tection,			
Safety Functio	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les	orotection, err N 61800-5-2) 49-1 category s (STO input nterval: 1 Hz 1	regenerative e or excessive pr v 3 PL e, IEC 6 off — energy s	rror protection, rotection, magne 1508 SIL 3, EN shut off)	undervoltage etic pole detec 62061 SIL CL	protection, ins tion protection	tantaneous por n, and linear se	wer failure pro	tection,			
Safety Functio	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd)	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years o	protection, err N 61800-5-2) 49-1 category s (STO input nterval: 1 Hz t or longer	regenerative e or excessive pr v 3 PL e, IEC 6 off — energy s	rror protection, rotection, magne 1508 SIL 3, EN shut off)	undervoltage etic pole detec 62061 SIL CL	protection, ins tion protection	tantaneous por n, and linear se	wer failure pro	tection,			
Safety Functio	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i	protection, err N 61800-5-2) 49-1 category s (STO input nterval: 1 Hz 1 nr longer 0% to 99%)	regenerative e or excessive pr v 3 PL e, IEC 6 off — energy s	rror protection, rotection, magne 1508 SIL 3, EN shut off)	undervoltage etic pole detec 62061 SIL CL	protection, ins tion protection	tantaneous por n, and linear se	wer failure pro	tection,			
Safety Function Safety Performance	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH)	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years o Medium (90 6.40 x 10 ⁻⁹	orotection, err N 61800-5-2) 49-1 category s (STO input of nterval: 1 Hz t nr longer 0% to 99%) [1/h]	regenerative e or excessive pr / 3 PL e, IEC 6 off — energy s o 25 Hz; Test	rror protection, rotection, magne 1508 SIL 3, EN shut off)	undervoltage stic pole detec 62061 SIL CL Jp to 1 ms	protection, ins tion protection .3, and EN 618	tantaneous po n, and linear se 300-5-2 SIL 3	wer failure pro' rvo control err	tection,			
Safety Function Safety Performance Compliance to	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) to Standards	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years o Medium (90 6.40 x 10 ⁻⁹	orotection, err N 61800-5-2) 49-1 category s (STO input nterval: 1 Hz f rr longer 0% to 99%) [1/h] I 61800-5-1,	regenerative e or excessive pr 7 3 PL e, IEC 6 off — energy s o 25 Hz; Test p EMC: EN 61800	rror protection, rotection, magno 1508 SIL 3, EN shut off) pulse off time: L	Undervoltage tic pole detection 62061 SIL CL Jp to 1 ms	protection, ins tion protection .3, and EN 618	tantaneous po n, and linear se 300-5-2 SIL 3 300-5-2 SIL 3	wer failure pro' rvo control err	tection,			
Safety Function Safety Performance Compliance to Structure (IP 1	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) to Standards Rating)	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years o Medium (90 6.40 x 10 ⁻⁹ CE: LVD: EN Natural coo	orotection, err N 61800-5-2) 49-1 category s (STO input of nterval: 1 Hz t rr longer 0% to 99%) [1/h] I 61800-5-1, 1 ling, open	regenerative e or excessive pr 7 3 PL e, IEC 6 off — energy s o 25 Hz; Test p EMC: EN 61800	rror protection, rotection, magno 1508 SIL 3, EN shut off) pulse off time: L 0-3, MD: EN ISC	Undervoltage tic pole detection 62061 SIL CL Jp to 1 ms	protection, ins tion protection 3, and EN 618	tantaneous po n, and linear se 300-5-2 SIL 3 300-5-2 SIL 3	wer failure pro' rvo control err	tection,			
Safety Function Safety Performance Compliance to Structure (IP 1	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) to Standards Rating)	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years of Medium (91 6.40 x 10 ⁻⁹ CE: LVD: EN Natural coo (IP20) Not Possibl	orotection, err N 61800-5-2) 49-1 category s (STO input of nterval: 1 Hz t rr longer 0% to 99%) [1/h] I 61800-5-1, 1 ling, open e	regenerative e or excessive pr / 3 PL e, IEC 6 off — energy s o 25 Hz; Test r EMC: EN 61800 Force cooli	rror protection, rotection, magne 1508 SIL 3, EN shut off) pulse off time: L 0-3, MD: EN IS(ng, open (IP20)	Undervoltage titic pole detection 62061 SIL CL Jp to 1 ms 0 13849-1, EN Force coolin	protection, ins tion protection .3, and EN 618 	tantaneous po n, and linear se 300-5-2 SIL 3 300-5-2 SIL 3	wer failure pro' rvo control err	tection,			
Safety Function Safety Performance Compliance to Structure (IP 1	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) o Standards Rating) ng Ambient Temperature	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years of Medium (90 6.40 x 10 ⁻⁹ CE: LVD: EN Natural coo (IP20) Not Possibil 0 °C to 55	orotection, err N 61800-5-2) 49-1 category s (STO input of nterval: 1 Hz t rr longer 0% to 99%) [1/h] I 61800-5-1, 1 ling, open e 2C (non-freezi	regenerative e or excessive pr / 3 PL e, IEC 6 off — energy s o 25 Hz; Test r EMC: EN 61800 Force cooli ng), storage: -:	rror protection, rotection, magne 1508 SIL 3, EN shut off) pulse off time: L 0-3, MD: EN IS(ng, open (IP20) 20 °C to 65 °C (Undervoltage tic pole detection 62061 SIL CL Jp to 1 ms 0 13849-1, EN Force coolin (non-freezing)	I 61800-5-2, E	tantaneous po n, and linear se 300-5-2 SIL 3 300-5-2 SIL 3 50 62061; UL 5 30 (*5)	wer failure pro' rvo control err	tection,			
Safety Function Safety Performance Compliance to Structure (IP 1 Close Mountin	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) o Standards Rating) ng Ambient Temperature Ambient Humidity	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years of Medium (90 6.40 x 10 ⁹ CE: LVD: EN Natural coo (IP20) Not Possibil 0 °C to 55 90%RH ma	orotection, err N 61800-5-2) 49-1 category s (STO input of nterval: 1 Hz t r longer 0% to 99%) [1/h] I 61800-5-1, 1 ling, open e 2C (non-freezi ximum (non-freezi	regenerative e or excessive pr / 3 PL e, IEC 6 off — energy s o 25 Hz; Test r EMC: EN 61800 Force cooli ng), storage: -: condensing), s	rror protection, rotection, magne 1508 SIL 3, EN shut off) pulse off time: L 0-3, MD: EN IS(ng, open (IP20) 20 °C to 65 °C (torage: 90%RH	A constraint of the second sec	I 61800-5-2, E ng, open (IP2C	tantaneous po n, and linear se 300-5-2 SIL 3 300-5-2 SIL 3 50 62061; UL 5 30 (*5)	wer failure pro' rvo control err	tection,			
	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) to Standards Rating) Ag Ambient Temperature Ambient Humidity Ambience	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years of Medium (90 6.40 x 10° CE: LVD: EN Natural coo (IP20) Not Possibil 0 °C to 55° 90%RH ma Indoors (no	votection, err N 61800-5-2) 49-1 category s (STO input of nterval: 1 Hz t rr longer 0% to 99%) [1/h] J 61800-5-1, I ling, open e 2C (non-freezi ximum (non-freezi o direct sunlig	regenerative e or excessive pr (3 PL e, IEC 6 off — energy s o 25 Hz; Test (EMC: EN 6180) Force cooli ng), storage: -1 condensing), s th); no corrosit	rror protection, rotection, magne 1508 SIL 3, EN shut off) pulse off time: L 0-3, MD: EN IS(ng, open (IP20) 20 °C to 65 °C (A constraint of the second sec	I 61800-5-2, E ng, open (IP2C	tantaneous po n, and linear se 300-5-2 SIL 3 300-5-2 SIL 3 50 62061; UL 5 30 (*5)	wer failure pro' rvo control err	tection,			
Safety Function Safety Performance Compliance to Structure (IP 1 Close Mountin	on Standards Certified by CB (*34) Response Performance Test Pulse Input (STO) Mean Time to Dangerous Failure (MTTFd) Diagnostic Coverage (DC) Probability of Dangerous Failure Per Hour (PFH) o Standards Rating) ng Ambient Temperature Ambient Humidity	encoder err overspeed p STO (IEC/E EN ISO 138 8 ms or les Test pulse i 100 years of 6.40 x 10° CE: LVD: Ef Natural coo (IP20) Not Possibil 0 °C to 55 ° 90%RH ma Indoors (no 2000 m or	orotection, err N 61800-5-2) 49-1 category s (STO input of nterval: 1 Hz t r longer 0% to 99%) [1/h] I 61800-5-1, 1 ling, open e C (non-freezi ximum (non-freezi of direct sunlig less above sea	regenerative e or excessive pr 7 3 PL e, IEC 6 off — energy s o 25 Hz; Test p EMC: EN 61800 Force cooli ng), storage: -1 condensing), s ht); no corrosin a level (*33)	rror protection, rotection, magne 1508 SIL 3, EN shut off) pulse off time: L 0-3, MD: EN IS(ng, open (IP20) 20 °C to 65 °C (torage: 90%RH	Undervoltage tic pole detection 62061 SIL CL Jp to 1 ms 0 13849-1, EN Force coolin mon-freezing) maximum (no able gas, oil r	I 61800-5-2, E ng, open (IP2C	tantaneous po n, and linear se 300-5-2 SIL 3 300-5-2 SIL 3 50 62061; UL 5 30 (*5)	wer failure pro' rvo control err	tection,			

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

Model Number I	MR-J4(-RJ)	DU30KB4	DU37KB4	DU45KB4	DU55KB4				
Stocked Item		-	-	-	-				
Compatible Con	verter Unit Model	MR-CR55K4 (*17)			1				
	Rated Voltage	3-phase 323 VAC							
Output	Rated Current (A)	87	102	131	143				
Main Circuit Pov	wer Supply Input	Main circuit power is su	pplied from the converter uni	t 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	3 VAC						
Input	Permissible Frequency Fluctuation	±5% maximum							
	Power Consumption (W)	45							
Interface Power	Supply	24 V DC ± 10% (require	d current capacity: 0.3 A (inc	uding CN8 connector signals))					
Control Method		Sine-wave PWM control	l/current control method						
Dynamic Brake		External option (*13)							
SSCNET III/H Co (*10)	mmand Communication Cycle	0.222 ms, 0.444 ms, 0.4	888 ms						
Communication	Function	USB: Connect a persona	al computer (MR Configurator	2 compatible)					
Encoder Output	Pulse	Compatible (A/B/Z-phase pulse)							
Analog Monitor		2 channels							
Fully Closed	MR-J4-DU_B4	Two-wire type commun	ication method						
Loop Control	MR-J4-DU_B4-RJ	Two-wire/four-wire type	communication method						
Servo Function		recorder function, tighte	ning & press-fit control, mac		ne-touch tuning, tough drive function, driv nitoring function, master-slave operation motion compensation				
Load-Side Encoder	MR-J4-DU_B4	Mitsubishi Electric high-	speed serial communication						
Interface	MR-J4-DU_B4-RJ	Mitsubishi Electric high-	speed serial communication,	A/B/Z-phase differential input sign					
Protective Funct	lions	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							
Functional Safet	ty	STO (IEC/EN 61800-5-2)						
	Standards Certified by CB	EN ISO 13849-1 Catego	ry 3 PL d, IEC 61508 SIL 2, E	N 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 maximum					
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 wit	h Global Standards and Regu	lations" in the User's Manual					
Structure (IP Ra	ting)	Force cooling, open (IP2	20) (*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-condensir	ig)					
Environment	Ambience	Indoors (no direct sunli	ght); no corrosive gas, inflam	nable gas, oil mist or dust					
	Altitude	1000 m or less above s	ea level						
	Vibration Resistance	5.9 m/s ² at 10 Hz to 55	Hz (directions of X, Y and Z a	xes)					
Weight (kg)		16		19					

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

Converter Unit M	odel	MR-CR55K	MR-CR55K4				
Stocked Item		-	-				
Outout	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				
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				
ower ouppry	Permissible Frequency Fluctuation	±5% maximum					
	Power Consumption (W)	45					
nterface Power	Supply	24 VDC ± 10% (required current capacity: 0.15 A)					
Rated Output (kV	V)	55					
Regenerative Po	wer (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 Functi	ons	Regenerative overvoltage shut-off, overload shut-off (electronic thermal), regenerative error protection, undervoltage protection, instantaneous power failure protection					
Compliance to St	tandards	Refer to "Conformity with Global Standards and Regu	lations" 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-condensi	ng)				
Environment	Ambience	Indoors (no direct sunlight); no corrosive gas, inflam	mable 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 a	xes)				
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			I				
Dutput	Rated Current (Eac	h Axis) (A)	1.5 2.8 5.8 6.0							
	Voltage/Frequency	,,,,	3-phase or 1-phase 200 V	AC to 240 VAC. 50/60 Hz	I	3-phase 200 VAC to 240 VA				
Main Circuit Rated Current (A) (*25)			2.9	50/60 HZ						
Power Supply	Permissible Voltag	,	3-phase or 1-phase 170 V		1.5					
				AU 10 204 VAU		3-phase 170 VAC to 264 VA				
	Permissible Freque		±5% maximum	(1.0. E0/00.1)						
	Voltage/Frequency		1-phase 200 VAC to 240 \	/AC, 50/60 Hz						
Control	Rated Current (A)		0.4							
Circuit Power Supply	Permissible Voltag		1-phase 170 VAC to 264 \	/AC						
սրիւչ	Permissible Freque	-	±5% maximum							
	Power Consumptio	n (W)	55							
Interface Powe			· · ·		cluding CN8 connector signals))				
Control Metho	d		Sine-wave PWM control/c	urrent control method						
	Reusable Regenera (W) (*19)	ation Energy (J)	17	21	44					
Capacitor Regeneration	Moment of Inertia to Permissible Cha (× 10 ⁻⁴ kg•m²) (*20	rging Amount	3.45	4.26	8.92					
	Mass Equivalent to Permissible	LM-H3	3.8	4.7	9.8					
		LM-K2 LM-U2	8.5	10.5	22.0					
Tolerable Regenerative Power of the Built-in Regenerative Resistor (*2, *3) (W)			20 100							
Dynamic Brake	e		Built-in (*4)							
SSCNET III/H (Command Communic	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 protecti 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 Functior	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 Certified	l 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 Performa	ance	8 ms or less (STO input C							
	Test Pulse Input (S	TO) (*7)	Test pulse frequency: 1 Hz	z to 25 Hz; Test pulse off t	ime: 1 ms maximum					
Safety Performance	Mean Time to Dan Failure (MTTFd)	gerous	100 years or longer							
, enormanoo	Average Diagnostic (DCavg)	c Coverage	Medium (90% to 99%)							
	Probability of Dang Per Hour (PFH)	jerous Failure	1.68 × 10 ⁻¹⁰ [1/h]							
Compliance to	· · · ·		CE: EN 61800-5-1, EN 618 RoHS compliant; UL: UL5		ategory 3 PL d/EN 61508 SIL 2/	/ EN 62061 SIL CL 2/EN 61800-5-2 SIL 2;				
Structure (IP R	Rating)		Natural cooling, open (IP2	20) Force cooling, open	(IP20)					
Close Mountin			Possible							
	Ambient Temperati	ure	0 °C to 55 °C (non-freezin	na) storage: -20 °C to 65	°C (non-freezing)					
	Ambient Humidity		· · · · · · · · · · · · · · · · · · ·	0//	RH maximum (non-condensing) 				
Environment	Ambience		· · · · ·		mmable gas, oil mist or dust	ð <i>l</i>				
					minable gas, on mist of udst					
	Altitude		1000 m or less above sea							
	Vibration Resistant	Ce	5.9 m/s ² at 10 Hz to 55 Hz	z (directions of X, Y and Z 1.5	axes) 2.0	2.0				
Weight (kg)			1.5							

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

Servo Amplifie	r Model	MR-J4W2-0303B6					
Stocked Item		S					
Output	Rated Voltage	3-phase 13 VAC					
Output	Rated Current (Each Axis) (A)	2.4					
	Voltage (*1)	48 V DC/24 VDC (*39)					
Main Circuit Power Supply	Rated Current (A)	For 48 VDC: 2.4 A; For 24 VDC: 4.8 A					
rower ouppry	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					
Capacitor	Reusable Regeneration Energy (J) (W) (*19)	0.9					
Regeneration	Moment of Inertia (J) Equivalent to Permissible Charging Amount (× 10 ⁻⁴ kg•m ²) (*20)	0.18					
Permissible Re Regenerative F	egenerative Power of the Built-in Resistor (W)	1.3					
Dynamic Brake	•	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	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	ı	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 Mountin		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)					
Vibration Resistance Weight (kg)		0.3					

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

Servo Amplifie	er Model MR-J4W3-		222B	444B				
Stocked Item			S	S				
otookou hom	Rated Voltage		3-phase 170 VAC					
Output	Rated Current (A)		1.5	2.8				
	Voltage/Frequency	r (*1)	3-phase or 1-phase 200 VAC to 240 VAC, 50/60 Hz					
Main Circuit	Rated Current (A)	<u> </u>	4.3 7.8					
Power Supply		. ,	3-phase or 1-phase 170 VAC to 264 VAC					
	Permissible Frequ	<i>,</i>	±5% maximum					
	Voltage/Frequency		1-phase 200 VAC to 240 VAC, 50/60 Hz					
Control	Rated Current (A)	·	0.4					
Circuit Power	Permissible Voltag	e Fluctuation	1-phase 170 VAC to 264 VAC					
Supply	Permissible Frequ	<u></u>	±5% maximum					
	Power Consumptio		55					
Interface Powe		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	24 VDC ±10% (required current capacity: 0.45 A (including CN	8 connector signals))				
Interface Fowe	Reusable Regener	ative Energy (1)						
	(*19)	alive Lileigy (J)	21	30				
Capacitor Regeneration	Moment of inertia to Permissible Cha (× 10 ⁻⁴ kg•m ²) (*2	arging Amount	4.26	6.08				
riegeneration	Mass Equivalent to Permissible	LM-H3	4.7	6.7				
	Charging Amount (kg) (*21)	LM-K2 LM-U2	10.5	15.0				
	enerative Power of Resistor (*2, *3) (V		30					
Control Metho	d		Sine-wave PWM control/current control method					
Dynamic Brake	e		Built-in (*4)					
SSCNET III/H (Command Communi	cation Cycle (*10)	0.222 ms (*26), 0.444 ms, 0.888 ms					
Communicatio	n Function		USB: Connect a personal computer (MR Configurator2 compatible)					
Encoder Outpu	it Pulse		Not compatible					
Analog Monito			None					
Fully Closed L	oop Control		Not compatible					
Protective Fun	octions		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	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 Functio	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	ance	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)	, , ,	100 years or longer					
	Diagnostic Covera	ge (DCavg)	Medium (90% to 99%)					
	Probability of Dan Failure Per Hour (1.68 × 10 ¹⁰ [1/h]					
Compliance to			LVD: EN 61800-5-1; EMC: EN 61800-3; MD: EN ISO 13849-1,	EN 61800-5-2, EN 62061				
Structure (IP F	•/		Forced cooling, open (IP20)					
Close Mountin	g		Possible					
	Ambient Temperat	ure	0°C to 55°C (non-freezing), storage: -20°C to 65°C (non-freezi	ng)				
	Ambient Humidity		90%RH maximum (non-condensing), storage: 90%RH maximu	um (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 Resistan	C6	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)					
Weight (kg)	- infation fiesistan		1.9	1.9				
worgin (kg)			1.0	1.0				

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

Servo Amplifi	er Model MR-J4RJ	10A	20A	40A	60A	70A	100A	200A	350A	500A	700A	11KA	15KA	22KA	10A1	20A1	40A1	
Stocked Item	1	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	
Output	Rated Voltage Rated Current (A)	3-phas 1.1	e 170 V. 1.5	AC 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	
	, , , , , , , , , , , , , , , , , , ,		e or 1-p		-	0.0							07.0	120.0		1.5 se 100 V		
Main Oinenik	Voltage/Frequency (*1)		C, 50/60		,		3-phas	e 200 V	AC to 24	10 VAC, 1	50/60 Hz T	2	1	1	120 V/	AC, 50 H	Iz/60 H	
Main Circuit Power	Rated Current (A) (*14)	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	264 VA	3-phase or 1-phase 170 VAC to 3-phase 170 VAC to 264 VAC 1-phase 85 132 VAC 264 VAC 132 VAC 132 VAC											C to				
	Permissible Frequency Fluctuation	±5% m	aximum	1											4.1	100.1		
	Voltage/Frequency	1-phas	e 200 V	AC to 24	0 VAC,	50/60 Ha	Z									se 100 V AC, 50 H		
Control	Rated Current (A)	0.2					_			0.3					0.4			
Circuit Power Supply	Permissible Voltage Fluctuation	1-phas	e 170 V	AC to 26	64 VAC										1-phas 132 V/	se 85 VA AC	IC to	
	Permissible Frequency Fluctuation		aximum	1						1.15								
Interface Deve	Power Consumption (W)	30	1.100/	(+		/in alud	ing ONO	45		1))			30			
Interface Pow Control Metho				<u>```</u>		nt capaci			ing CN8	connect	or signa	1))						
	Built-in Regenerative Resistor	OILC W			1	1		1	100	100	470		1			40	10	
Tolerable Regenerative	(*2, *3) (W) External Regenerative Resistor	-	10	10	10	20	20	100	100	130	170	- 500	- 850	- 850	-	10	10	
Power	(Standard Accessory) (*2, 3, 11, 12)	-	-	-	-	-	-	-	-	-	-	(800)	(1300)		-	-	-	
Dynamic Brak	e	Built-in	(*4)									Extern	al option	(*13)	Built-ir	i (*4)		
Communicatio							R Config	urator2	compati	ible); RS	-422: 1	: n comi	municatio	on (up to	32 axes	s) (*28)		
Encoder Outpu		<u> </u>		'B/Z-pha	se pulse	e)								0				
Analog Monito	or	2 chan						abut off		ماسطم ام	ff (alact		ermal), S	an in Mai			testion	
Protective Fur	nctions	encode	r error j	protectio	n, reger	nerative	error pro	otection,	undervo	oltage pr	otection	, instant	aneous p near serv	ower fai	lure pro	tection,		
	Maximum Input Pulse Frequency	· ·		· · · · ·				, v				· · · · ·		0 001110		01001101		
	Positioning Feedback Pulse	<u> </u>	4 Mpps (when using differential receiver), 200 kpps (when using open-collector) Encoder resolution: 22 bits															
Position	Command Pulse Multiplying Factor	Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000																
Viode F	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 of	commar	d 1:200	0, intern	al speed	comma	and 1:50	00								
Speed Control	Analog Speed Command Input								geable w (power f			()						
Mode	Speed Fluctuation Rate Torque Limit				-	-			only whe	-			ommand	nmand				
Torque	Analog Torque Command Input					<u> </u>			10 kΩ to			e)						
Control Mode									: 10 VDC		peed)							
Fully Closed	MR-J4-A(1)					method					,							
Loop Control	MR-J4-A(1)-RJ	Two-wi	re/four-	wire typ	e comm	unicatio	n metho	d										
Load-Side	MR-J4-A(1)	Mitsub	ishi higl	n-speed	serial co	ommunio	cation											
Encoder Interface	MR-J4-A(1)-RJ	Mitsub	ishi hial	n-speed	serial co	ommunio	ation. A	/B/Z-pha	ase diffe	rential in	put siar	al						
Servo Functio		Advanc drive re	ed vibra	ation su function	pressio	n contro	I II, ada	otive filte	er II, rob	ust filter	; auto tu	ining, or	ne-touch trace con					
Functional Sat	fety		EC/EN 6		2)													
	Standards Certified by CB	EN ISO	13849-	1 Categ	ory 3 PL	. d, EN 6	1508 SI	L 2, EN	62061 S	SIL CL 2,	EN 618	00-5-2 \$	SIL 2					
	Response Performance	8 ms o	r less (S	GTO inpu	it OFF —	– energy	shut-of	f)										
	Test Pulse Input (STO) (*7)	Test pu	lse freq	uency: 1	Hz to 2	5 Hz; Te	st pulse	off time	e: 1 ms r	naximun	n							
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	100 ye	ars or lo	onger														
	Diagnostic Coverage (DCavg)	Mediur	n (90%	to 99%														
	Probability of Dangerous Failure Per Hour (PFH)	1.68 ×	10 ⁻¹⁰ [1/	/h]												-		
Compliance to						B, EN ISC) 13849	-1 Categ	jory 3 Pl	_ d/EN 6	1508 SI	L 2/ EN	62061 SI	L CL 2/E	N 6180	0-5-2 SI	L 2;	
Structure (IP F			compliar			Force	cooling,	open (IF	P20)	Force	coolina	open (IF	P20) (*5)			l coolin	g, open	
				.,											(IP20)	lo (*C)		
Close Mountir	1g Ambient Temperature	Possib		onefroot	ing) of	1200 O	0°C to 6	5°C /no	n-freezir	Not po	SSIDIG				PUSSID	le (*6)		
	Ambient Temperature										1-conde	nsina)						
	ransion: mainfulty																	
Environment	Ambience	90% RH maximum (non-condensing), storage: 90% RH maximum (non-condensing) Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust																
Environment	Ambience Altitude		<u>`</u>		sea level		vo guo,	manni	iable yas	, 011 11115	t or uus	L						
Environment		1000 n	n or less	above	sea level					, on mis		L						

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

Drive Unit Mo	del MR-J4(-RJ)	DU30KA DU37KA				
Stocked Item						
	onverter Unit Model	MR-CR55K (*29)				
	Rated Voltage	3-phase 170 VAC				
Output	Rated Current (A)	174 204				
Main Circuit P	ower Supply Input	Main circuit power is supplied from the converter unit to the drive unit (*29)				
	Voltage/Frequency	1-phase 200 VAC to 240 VAC, 50/60 Hz				
Control	Rated Current (A)					
		1-phase 170 VAC to 264 VAC				
	Permissible Frequency Fluctuation	±5% maximum				
	Power Consumption (W)	45				
Interface Powe		24 VDC ±10% (required current capacity: 0.5 A (including CN8 connector signal))				
Control Metho		Sine-wave PWM control/current control method				
Dynamic Brak		External option (*13)				
Communicatio		USB: Connect a personal computer (MR Configurator2 compatible); RS-422: 1 : n communication (up to 32 axes)				
Encoder Outpu		Compatible (A/B/Z-phase pulse)				
Analog Monito		2 channels				
Protective Fun		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				
	Maximum Input Pulse Frequency	4 Mpps (when using differential receiver), 200 kpps (when using open-collector)				
	Positioning Feedback Pulse	Encoder resolution: 22 bits				
Position	Command Pulse Multiplying Factor	Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000				
Control Mode		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				
	Analog Speed Command Input	0 VDC to ±10 VDC/rated speed (Speed at 10 V is changeable with [Pr. PC12])				
Speed		±0.01% maximum (load fluctuation 0% to 100%), 0% (power fluctuation: ±10%)				
Control Mode	Speed Fluctuation Rate Torque Limit	Set by parameters or external analog input (0 VDC to +10 VDC/maximum torque)				
-						
Torque Control Mode	Analog Torque Command Input	0 VDC to ±8 VDC/maximum torque (input impedance: 10 k Ω to 12 k Ω)				
		Set by parameters or external analog input (0 VDC to ± 10 VDC/rated speed)				
Positioning Mo	MR-J4-DU A	Point table method, program method, indexer (turret) meth Two-wire type communication method (*9)				
	MR-J4-DU_A					
Load-Side	_	Two-wire/four-wire type communication method				
Encoder	MR-J4-DU_A	Mitsubishi Electric high-speed serial communication				
Interface	MR-J4-DU_A-RJ	Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function,				
Servo Function		drive recorder function, machine diagnosis function, power monitoring function, super trace control, lost motion compensation				
Functional Sat		STO (IEC/EN 61800-5-2)				
	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				
	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				
Safety Performance	Mean Time to Dangerous Failure (MTTFd)	100 years or longer				
	Diagnostic Coverage (DCavg)	Medium (90% to 99%)				
	Probability of Dangerous Failure Per Hour (PFH)	1.68 × 10 ⁻¹⁰ [1/h]				
Compliance to	Standards	Refer to "Conformity with Global Standards and Regulations" in the User's Manual				
Structure (IP F	Rating)	Force cooling, open (IP20) (*5)				
Close Mountin		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				
		5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)				
	Vibration Resistance	().9 II/S ² at to fiz to 55 fiz (ultections of A, Y and Z axes)				

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

Servo Amplifi	er Model MR-J4(-RJ)	60A4	100A4	200A4	350A4	500A4	700A4	11KA4	15KA4	22KA4	
Stocked Item		S	S	S	S	S	S	-	-	-	
Dutput	Rated Voltage	3-phase 323	1								
aiput	Rated Current (A)	1.5	2.8	5.4	8.6	14.0	17.0	32.0	41.0	63.0	
lain Circuit	Voltage/Frequency (*1)	3-phase 380	VAC to 480VAC	, 50/60 Hz							
Aain Circuit Yower	Rated Current (A)	1.4 2.5 5.1 7.9 10.8 14.4 23.1 31.8								47.6	
Supply	Permissible Voltage Fluctuation	3-phase 323 VAC to 528 VAC									
	Permissible Frequency Fluctuation	±5% maximum									
	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	um								
	Power Consumption (W)	30			45						
nterface Pow	er Supply	24 VDC ±109	% (required cu	rrent capacity:	0.5 A (includ	ing CN8 conne	ctor signal))				
Control Metho	od	Sine-wave P	WM control/cu	irrent control n	nethod						
Folerable	Built-in Regenerative Resistor	15	15	100	100	130 (*18)	170 (*18)	-	_	-	
Regenerative	(*2, *3) (W)	10	10	100	100	100 (10)	170(10)		050	050	
Power	External Regenerative Resistor (W) (Standard Accessory) (*2, 3, 11, 12)	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)	
Dynamic Brak		Built-in (*4)	1	1	1	1	1		ption (*13)	1(1300)	
Communicatio			ct a personal c	omputer (MP (onfigurator	compatible).	S-199.1 · n n			(AC)	
ncoder Outpi			A/B/Z-phase p		Johnyulatol2	compatible); F	10 ⁻⁴ 22. I . II (ommunicatio	in (up to 32 ax		
			wo/z-pnase p	uise)							
Analog Monito	UI	2 channels	abut off		Hana ale de la M		off /alt '	a the sum 1)	amia Matan	wheat	
Protective Fur	nctions	protection, e	shut-off, reger incoder error p iverspeed prote	rotection, rege	nerative error	protection, un	dervoltage pro	otection, insta	antaneous pow	er failure	
	Maximum Input Pulse Frequency	4 Mpps (whe	en using differ	ential receiver)	, 200 kpps (w	hen using ope	n-collector)				
	Positioning Feedback Pulse		olution: 22 bits	,	, FF- (3 1					
osition	Command Pulse Multiplying Factor				7215 B· 1 to	16777215 1/1	0 < A/B < 400	0			
control Mode		Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000 0 pulse to ±65535 pulses (command pulse unit)									
	Error Excessive	U pulse to ±65535 pulses (command pulse unit) ±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	$\pm 0.01\%$ maximum (load fluctuation 0% to 100%), 0% (power fluctuation: $\pm 10\%$) $\pm 0.2\%$ maximum (ambient temperature: 25°C \pm 10°C) only when using analog speed command									
	Torque Limit	Set by param	neters or exter	nal analog inpu	it (0 VDC to +	10 VDC/maxin	num torque)				
Torque	Analog Torque Command Input	0 VDC to ±8	VDC/maximum	n torque (input	t impedance:	10 kΩ to 12 kΩ)				
ontrol Mode	Speed Limit	Set by param	neters or exter	nal analog inpu	It (0 VDC to ±	10 VDC/rated	speed)				
ully Closed	MR-J4-A4	Two-wire typ	e communicat	ion method							
.oop Control	MR-J4-A4-RJ	Two-wire/fou	ir-wire type co	mmunication r	nethod						
Load-Side	MR-J4-A4		igh-speed seria								
Encoder							lance to t				
nterface	MR-J4-A4-RJ		igh-speed seria								
Servo Functio	n		bration suppre er function, ma on (*16)								
Safety Functio	on	STO (IEC/EN									
	Standards Certified by CB	EN ISO 1384	9-1 Category	3 PL d, EN 615	08 SIL 2, EN	62061 SIL CL	2, EN 61800-5	5-2 SIL 2			
	Response Performance		(STO input OF	,	,						
	Test Pulse Input (STO) (*7)		equency: 1 Hz		,	1 ms maxim	ım				
Safety Performance	Mean Time to Dangerous Failure	100 years or		10 LU 112, 163L			aill				
chormance	(MTTFd)	-									
	Diagnostic Coverage (DCavg)	Medium (90°	70 IU 99%)								
	Probability of Dangerous Failure Per Hour (PFH)	1.68 × 10 ⁻¹⁰									
Compliance to	o Standards		0-5-1, EN 618 liant; UL: UL50		3849-1 Categ	ory 3 PL d/EN	61508 SIL 2/	EN 62061 SI	L CL 2/EN 618	00-5-2 SIL	
Structure (IP I	Rating)	Natural coolir	ng, open (IP20)	Force cooling	g, open (IP20)	Force coolin	g, open (IP20) (*5)			
Close Mountir		Not Possible				1					
insuntil	Ambient Temperature		(non-freezing)	storage: -20°	C to 65°C (no	n-freezina)					
	Ambient Humidity		ximum (non-co				on-condensin	u)			
	Ambience							9/			
Environment	AIIIDIGII66				yaə, iilidiilli	αυιό γαδ, υπ Π					
Environment	Altitude	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust 1000 m or less above sea level									
Environment	Altitude Vibration Resistance				V V and 7 ave	20)					
Environment Weight (kg)	Altitude Vibration Resistance		0 Hz to 55 Hz		X, Y and Z axe 3.6	es) 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 Conve	erter Unit Model	MR-CR55K4 (*29)	I	I	i			
	Rated Voltage	3-phase 323 VAC						
Dutput	Rated Current (A)	87	102	131	143			
Main Circuit Powe	. ,	Main circuit power is sur	plied from the converter unit to	the drive unit (*29)	I			
	Voltage/Frequency	1-phase 380 VAC to 480						
	Rated Current (A)	0.2						
Control Circuit	Permissible Voltage	0.2						
Power Supply	Fluctuation	1-phase 323 VAC to 528	VAC					
	Permissible Frequency Fluctuation	±5% maximum						
	Power Consumption (W)	45						
nterface Power S	upply	· · ·	current capacity: 0.5 A (includin	g CN8 connector signals))				
Control Method		Sine-wave PWM control/	current control method					
Dynamic Brake		External option (*13)						
Communication F	unction	USB: Connect a personal	computer (MR Configurator2 co	mpatible)				
Encoder Output P	ulse	Compatible (A/B/Z-phase	pulse)	·				
Analog Monitor		2 channels						
	Maximum Input Pulse Frequency	4 Mpulses/s (when using	g differential receiver), 200 kpulse	es/s (when using open collector)			
	Positioning Feedback Pulse	Encoder resolution: 22 b	its					
Position Control	Command Pulse Multiplying Factor	Electronic gear A/B multi	ple, A: 1 to 16777215, B: 1 to 16	777215, 1/10 < A/B < 4000				
Mode	Positioning Complete Width Setting	0 pulse to ±65535 pulses	s (command pulse unit)					
	Error Excessive	±3 rotations						
	Torque Limit	Set by parameters or ext	ernal analog input (0 V DC to +1) V DC/maximum torque)				
	Speed Control Range		1:2000, internal speed command	. ,				
Canad Control	Analog Speed Command		d speed (Speed at 10 V is change					
Speed 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		ernal analog input (0 VDC to +10		Similard			
Forque Control	Analog Torque Command		0 VDC to ±8 V DC/maximum torque (input impedance: 10 k Ω to 12 k Ω)					
Mode	Speed Limit	Set by parameters or ext	ernal analog input (0 V DC to \pm 1	0 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-s	speed serial communication		·			
Encoder Interface	MR-J4-DU_A4-RJ		speed serial communication, A/B/	Z-phase differential input signal	l			
Protective Function	ons		rload shut-off (electronic thermal) instantaneous power failure prote					
Functional Safety		STO (IEC/EN 61800-5-2)	· _ · _ · _ · _ ·		•			
	Standards Certified by CB		y 3 PL d, IEC 61508 SIL 2, EN 62	2061 SIL CL 2 EN 61800-5-2 SI	2			
	Response Performance	8 ms or less (STO input						
	Test Pulse Input (STO) (*7)		to 25 Hz, test pulse off time: 1 m	s maximum				
Safety	Mean Time to Dangerous	100 years or longer	נט בס רוב, נפגו אמוגע טוו נווווע. ד ווו	ə maximum				
	Failure (MTTFd) 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 with	n Global Standards and Regulatio	ns" in the User's Manual				
Structure (IP Rati	ng)	Force cooling, open (IP2						
Close Mounting		Not possible	<u></u>					
	Ambient Temperature		non-freezing), storage: -20°C to (55°C (non-freezing)				
		· · · ·						
Environment	Ambient Humidity		<pre>{H maximum (non-condensing) ht): no corrective gas, inflammab</pre>	la gao ail mist ar dust				
Environment	Ambience	· · ·	ht); no corrosive gas, inflammab	ie gas, on mist of udst				
	Altitude	1000 m or less above se						
	Vibration Resistance		Iz (directions of X, Y and Z axes)	1				
Weight (kg)		16		19				

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

Servo Amplifi	er Model	MR-J4-03A6-RJ					
Stocked Item		S					
	Rated Voltage	3-phase 13 VAC					
Dutput	Rated Current (Each Axis) (A)	2.4					
Aain 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 nput	Permissible Voltage Fluctuation	For 48 VDC: 40.8 VDC to 55.2 VDC; For 24 VDC: 21.6 VDC to 26.4 VDC					
iiput	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					
nterface Pow		24 VDC ± 10% (required current capacity: 0.3 A)					
Control Metho		Sine-wave PWM control/current control method					
Regenerative		0.7					
Dynamic Brak	· · · · · · · · · · · · · · · · · · ·	Built-in (*4, *40)					
Communicatio		USB: Connect a personal computer (MR Configurator2 compatible); RS-422: 1 : n communication (up to 32 axes)					
Encoder Outpu		Compatible (A/B/Z-phase pulse)					
Analog Monito	or	2 channels					
	Maximum Input Pulse Frequency	4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)					
Desition	Positioning Feedback Pulse	Encoder resolution: 18 bits					
osition	Command Pulse Multiplying Factor	Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000					
Node	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 Node	Speed Fluctuation Rate	$\pm 0.01\%$ maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: $\pm 10\%$) $\pm 0.2\%$ maximum (ambient temperature: 25°C \pm 10°C) only when using analog speed command					
	Torque 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 $\Omega)$					
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 Fur	nctions	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 Functio	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 I	Rating)	Natural cooling, open (IP20)					
Close Mountir	19	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					
	1						
	Vibration Resistance	5.9 m/s ² at 10 Hz to 55 Hz (directions of X, Y and Z axes)					

Amplifier Notes:

- 1. Rated output and speed of a rotary Servo Motor and a direct drive motor; and continuous thrust and maximum speed of a linear Servo Motor are applicable when the servo amplifier, 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.
- 3. Refer to "Regenerative Option" in this guide for the tolerable regenerative power [W] when regenerative option is used.
- 4. 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.
- 5. Terminal blocks are excluded.
- 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.
- 9. Fully closed loop control is compatible with the servo amplifiers with software version A3 or later.
- **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 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.