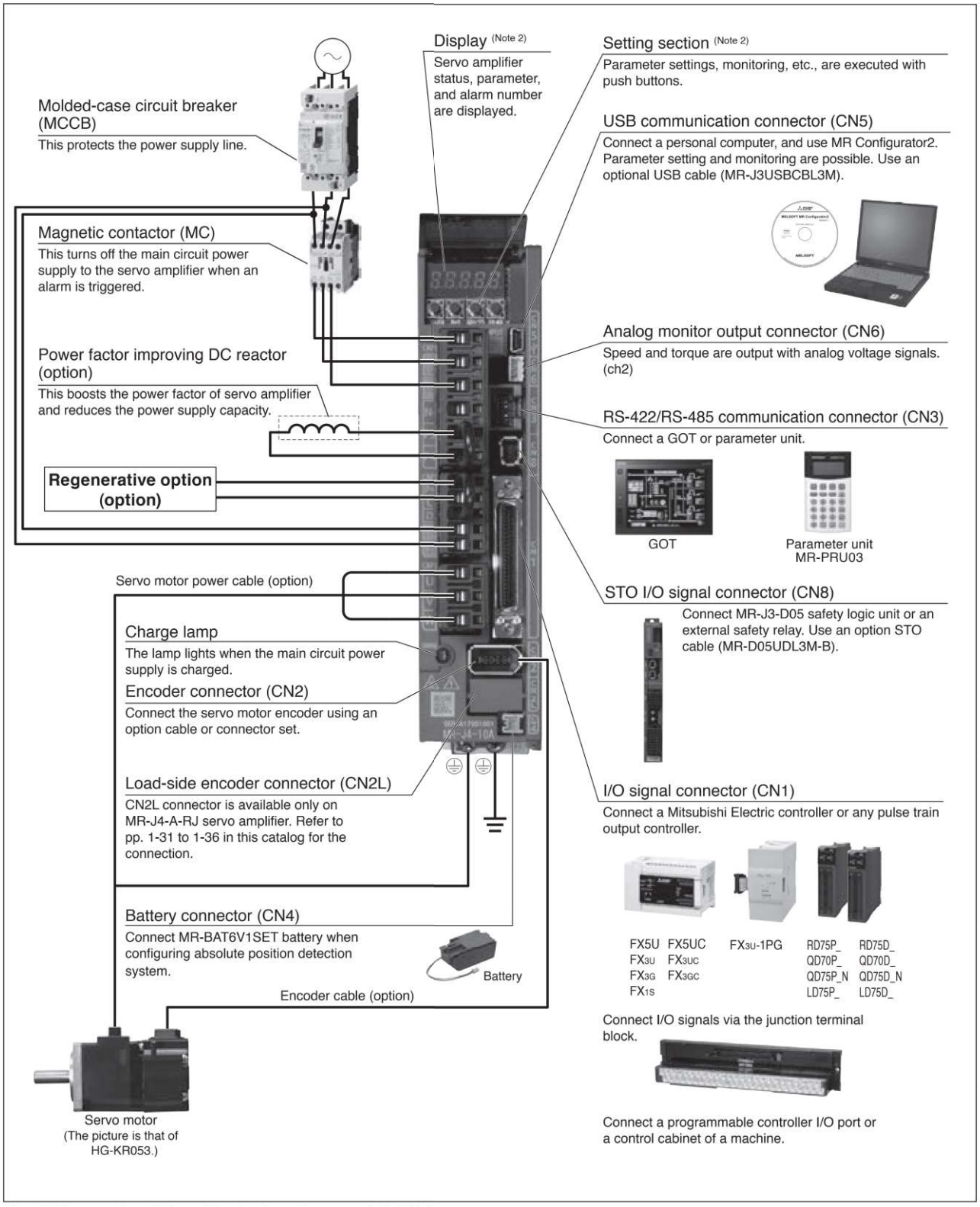
MR-J4-A/MR-J4-A-RJ Connections with Peripheral Equipment (Note 1)

A A-RJ

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



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

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

Servo amplifier model MR-J4-_(-RJ)			10A	20A	40A	60A	70A	100A	200A	350A	500A	700A	11KA	15KA	22KA	10A1	20A1	40A1
Output	Rated voltage		3-phase 170 V AC															
	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
Main circuit power supply input	Voltage/ frequency (Note 1)	AC input	3-phase or 1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz					3-phase or 1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz (Note 16)		3-phase 200 V AC to 240 V AC, 50 Hz/60 Hz						1-phase 100 V AC to 120 V AC, 50 Hz/60 Hz		
		DC input (Note 19)	283 V DC to 340 V DC													-		
	Rated current (Note 14)	[A]	0.9	1.5	2.6	3.2 (Note 8)	3.8	5.0	10.5	16.0	21.7	28.9	46.0	64.0	95.0	3.0	5.0	9.0
	Permissible voltage fluctuation	AC input	3-phase or 1-phase 170 V AC to 264 V AC					3-phase or 1-phase 170 V AC to 264 V AC (Note 16)		3-phase 170 V AC to 264 V AC						1-phase 85 V AC to 132 V AC		
		DC input (Note 19)	241 V DC to 374 V DC													-		
	Permissible frequency fluctuation		±5% maximum															
Control circuit power supply input	Voltage/ frequency	AC input	1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz													1-phase 100 V AC to 120 V AC, 50 Hz/60 Hz		
		DC input (Note 19)	283 V DC to 340 V DC													-		
	Rated current	[A]	0.2							0.3						0.4		
	Permissible voltage fluctuation	AC input	1-phase 170 V AC to 264 V AC													1-phase 85 V AC to 132 V AC		
		DC input (Note 19)	241 V DC to 374 V DC													-		
	Permissible frequency fluctuation		±5% maximum															
	Power consumption	[W]	30							45						30		
Interface power supply			24 V DC ± 10% (required current capacity: 0.5 A (including CN8 connector signals))															
Control method			Sine-wave PWM control/current control method															
Permissible regenerative power	Built-in regenerative resistor (Note 2, 3)	[W]	-	10	10	10	20	20	100	100	130	170	-	-	-	-	10	10
	External regenerative resistor (standard accessory) (Note 2, 3, 11, 12)	[W]	-	-	-	-	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)	-	-	-
Dynamic brake (Note 4)			Built-in										External option (Note 13)			Built-in		
Communication function	USB		Connect a personal computer (MR Configurator2 compatible)															
	RS-422/RS-485		1:n communication (up to 32 axes) (Note 10)															
Encoder output pulse			Compatible (A/B/Z-phase pulse)															
Analog monitor			2 channels															
Position control mode	Maximum input pulse frequency		4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)															
	Positioning feedback pulse		Encoder resolution: 22 bits															
	Command pulse multiplying factor		Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000															
	In-position range setting		0 pulse to ±65535 pulses (command pulse unit)															
	Error excessive		±3 rotations															
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)															
Speed control mode	Speed control range		Analog speed command 1:2000, internal speed command 1:5000															
	Analog speed command input		0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)															
	Speed fluctuation rate		±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed command															
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)															
Torque control mode	Analog torque command input		0 V DC to ±8 V DC/maximum torque (input impedance: 10 kΩ to 12 kΩ)															
	Speed limit		Set by parameters or external analog input (0 V DC to ± 10 V DC/rated speed)															
Positioning mode (Note 17)	MR-J4-A(1)		Not available															
	MR-J4-A(1)-RJ		Point table method, program method, indexer method															
Fully closed loop control	MR-J4-A(1) (Note 9)		Two-wire type communication method															
	MR-J4-A(1)-RJ		Two-wire/four-wire type communication method															
Load-side encoder interface	MR-J4-A(1)		Mitsubishi Electric high-speed serial communication															
	MR-J4-A(1)-RJ		Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal															
Servo functions			Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function, drive recorder function, machine diagnosis function, power monitoring function, super trace control (Note 15), lost motion compensation function (Note 15)															
Protective functions			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															

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

A A-RJ

Servo amplifier model MR-J4-_(-RJ)		10A	20A	40A	60A	70A	100A	200A	350A	500A	700A	11KA	15KA	22KA	10A1	20A1	40A1
Functional safety		STO (IEC/EN 61800-5-2)															
Safety performance	Standards certified by CB (Note 20)	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, EN 62061 SIL CL 3, EN 61800-5-2															
	Response performance	8 ms or less (STO input OFF → energy shut-off)															
	Test pulse input (STO) (Note 7)	Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum															
	Mean time to dangerous failure (MTTFd)	MTTFd ≥ 100 [years] (314a)															
	Diagnostic coverage (DC)	DC = Medium, 97.6 [%]															
	Probability of dangerous Failure per Hour (PFH)	PFH = 6.4×10^{-9} [1/h]															
Compliance with global standards		Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.															
Structure (IP rating)		Natural cooling, open (IP20)				Force cooling, open (IP20)				Force cooling, open (IP20) (Note 5)					Natural cooling, open (IP20)		
Close mounting	3-phase power input	Possible (Note 6)								Not possible					-		
	1-phase power input	Possible (Note 6)				Not possible			-						Possible (Note 6)		
Environment	Ambient temperature	Operation: 0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)															
	Ambient humidity	Operation/storage: 5 %RH to 90 %RH (non-condensing)															
	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust															
	Altitude	2000 m or less above sea level (Note 18)															
	Vibration resistance	5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y, and Z axes)															
Mass	[kg]	0.8	0.8	1.0	1.0	1.4	1.4	2.1	2.3	4.0	6.2	13.4	13.4	18.2	0.8	0.8	1.0

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

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

A A-RJ

Drive unit model MR-J4-_(-RJ)			DU30KA	DU37KA
Compatible converter unit model			MR-CR55K (Note 4)	
Output	Rated voltage		3-phase 170 V AC	
	Rated current	[A]	174	204
Main circuit power supply input			Main circuit power is supplied from the resistance regeneration converter unit to the drive unit. (Note 4)	
Control circuit power supply input	Voltage/frequency		1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz	
	Rated current	[A]	0.3	
	Permissible voltage fluctuation		1-phase 170 V AC to 264 V AC	
	Permissible frequency fluctuation		±5% maximum	
	Power consumption	[W]	45	
Interface power supply			24 V DC ± 10% (required current capacity: 0.5 A (including CN8 connector signals))	
Control method			Sine-wave PWM control/current control method	
Dynamic brake (Note 9)			External option (Note 3)	
Communication function	USB		Connect a personal computer (MR Configurator2 compatible)	
	RS-422/RS-485		1:n communication (up to 32 axes) (Note 5)	
Encoder output pulse			Compatible (A/B/Z-phase pulse)	
Analog monitor			2 channels	
Position control mode	Maximum input pulse frequency		4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)	
	Positioning feedback pulse		Encoder resolution: 22 bits	
	Command pulse multiplying factor		Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000	
	In-position range setting		0 pulse to ±65535 pulses (command pulse unit)	
	Error excessive		±3 rotations	
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)	
Speed control mode	Speed control range		Analog speed command 1:2000, internal speed command 1:5000	
	Analog speed command input		0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)	
	Speed fluctuation rate		±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed command	
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)	
Torque control mode	Analog torque command input		0 V DC to ±8 V DC/maximum torque (input impedance: 10 kΩ to 12 kΩ)	
	Speed limit		Set by parameters or external analog input (0 V DC to ± 10 V DC/rated speed)	
Positioning mode (Note 6)		MR-J4-DU_A	Not available	
		MR-J4-DU_A-RJ	Point table method, program method, indexer method	
Fully closed loop control		MR-J4-DU_A	Two-wire type communication method	
		MR-J4-DU_A-RJ	Two-wire/four-wire type communication method	
Load-side encoder interface		MR-J4-DU_A	Mitsubishi Electric high-speed serial communication	
		MR-J4-DU_A-RJ	Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal	
Servo functions			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 function	
Protective functions			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	

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

A A-RJ

Drive unit model MR-J4-_(-RJ)		DU30KA	DU37KA
Functional safety		STO (IEC/EN 61800-5-2)	
Safety performance	Standards certified by CB (Note 8)	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, EN 62061 SIL CL 3, EN 61800-5-2	
	Response performance	8 ms or less (STO input OFF → energy shut-off)	
	Test pulse input (STO) (Note 2)	Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum	
	Mean time to dangerous failure (MTTFd)	MTTFd ≥ 100 [years] (314a)	
	Diagnostic coverage (DC)	DC = Medium, 97.6 [%]	
	Probability of dangerous Failure per Hour (PFH)	PFH = 6.4×10^{-9} [1/h]	
Compliance with global standards		Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.	
Structure (IP rating)		Force cooling, open (IP20) (Note 1)	
Environment	Ambient temperature	Operation: 0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)	
	Ambient humidity	Operation/storage: 5 %RH to 90 %RH (non-condensing)	
	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust	
	Altitude	2000 m or less above sea level (Note 7)	
	Vibration resistance	5.9 m/s^2 at 10 Hz to 55 Hz (directions of X, Y and Z axes)	
Mass [kg]		21	21

Notes: 1. Terminal blocks are excluded.
2. The test pulse is a signal for the external circuit to perform self-diagnosis by turning off the signals to the drive unit instantaneously at regular intervals.
3. Use an external dynamic brake (option) with the drive unit. Without the external dynamic brake, a servo motor does not stop immediately at emergency stop and falls in free-run status, causing an accident such as machine collision, etc. Take measures to ensure safety on the entire system when not using the dynamic brake.
4. Refer to "MR-CR Resistance Regeneration Converter Unit Specifications (200 V/400 V)" on p. 1-53 in this catalog for the specifications of the resistance regeneration converter unit.
5. RS-485 communication function is supported by the drive units manufactured in January 2015 or later. Refer to "MR-CV_ MR-CR55K_ MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for checking procedure of manufacture data.
6. Positioning mode is supported by MR-J4-DU_A-RJ drive unit with software version B3 or later.
7. Refer to "MR-CV_ MR-CR55K_ MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for the restrictions when using the servo amplifiers at altitude exceeding 1000 m and up to 2000 m above sea level.
8. The safety level depends on the setting value of [Pr. PF18 STO diagnosis error detection time] and whether or not STO input diagnosis is performed by TOFB output. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.
9. When using the dynamic brake, refer to "MR-CV_ MR-CR55K_ MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for the permissible load to motor inertia ratio.

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

A A-RJ

Servo amplifier model MR-J4-_(-RJ)			60A4	100A4	200A4	350A4	500A4	700A4	11KA4	15KA4	22KA4
Output	Rated voltage		3-phase 323 V AC								
	Rated current	[A]	1.5	2.8	5.4	8.6	14.0	17.0	32.0	41.0	63.0
Main circuit power supply input	Voltage/frequency (Note 1)		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
	Permissible voltage fluctuation		3-phase 323 V AC to 528 V AC								
	Permissible frequency fluctuation		±5% maximum								
Control circuit power supply input	Voltage/frequency		1-phase 380 V AC to 480 V AC, 50 Hz/60 Hz								
	Rated current	[A]	0.1			0.2					
	Permissible voltage fluctuation		1-phase 323 V AC to 528 V AC								
	Permissible frequency fluctuation		±5% maximum								
	Power consumption	[W]	30			45					
Interface power supply			24 V DC ± 10% (required current capacity: 0.5 A (including CN8 connector signals))								
Control method			Sine-wave PWM control/current control method								
Permissible regenerative power	Built-in regenerative resistor (Note 2, 3)	[W]	15	15	100	100	130 (Note 10)	170 (Note 10)	-	-	-
	External regenerative resistor (standard accessory) (Note 2, 3, 7, 8)	[W]	-	-	-	-	-	-	500 (800)	850 (1300)	850 (1300)
Dynamic brake (Note 4)			Built-in						External option (Note 9)		
Communication function	USB		Connect a personal computer (MR Configurator2 compatible)								
	RS-422/RS-485		1:n communication (up to 32 axes) (Note 12)								
Encoder output pulse			Compatible (A/B/Z-phase pulse)								
Analog monitor			2 channels								
Position control mode	Maximum input pulse frequency		4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)								
	Positioning feedback pulse		Encoder resolution: 22 bits								
	Command pulse multiplying factor		Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000								
	In-position range setting		0 pulse to ±65535 pulses (command pulse unit)								
	Error excessive		±3 rotations								
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)								
Speed control mode	Speed control range		Analog speed command 1:2000, internal speed command 1:5000								
	Analog speed command input		0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)								
	Speed fluctuation rate		±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed command								
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)								
Torque control mode	Analog torque command input		0 V DC to ±8 V DC/maximum torque (input impedance: 10 kΩ to 12 kΩ)								
	Speed limit		Set by parameters or external analog input (0 V DC to ± 10 V DC/rated speed)								
Positioning mode (Note 13)		MR-J4-A4	Not available								
		MR-J4-A4-RJ	Point table method, program method, indexer method								
Fully closed loop control		MR-J4-A4	Two-wire type communication method								
		MR-J4-A4-RJ	Two-wire/four-wire type communication method								
Load-side encoder interface		MR-J4-A4	Mitsubishi Electric high-speed serial communication								
		MR-J4-A4-RJ	Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal								
Servo functions			Advanced vibration suppression control II, adaptive filter II, robust filter, auto tuning, one-touch tuning, tough drive function, drive recorder function, machine diagnosis function, power monitoring function, super trace control (Note 11), lost motion compensation function (Note 11)								
Protective functions			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								

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

A A-RJ

Servo amplifier model MR-J4-_(-RJ)		60A4	100A4	200A4	350A4	500A4	700A4	11KA4	15KA4	22KA4
Functional safety		STO (IEC/EN 61800-5-2)								
Safety performance	Standards certified by CB (Note 15)	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, EN 62061 SIL CL 3, EN 61800-5-2								
	Response performance	8 ms or less (STO input OFF → energy shut-off)								
	Test pulse input (STO) (Note 6)	Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum								
	Mean time to dangerous failure (MTTFd)	MTTFd ≥ 100 [years] (314a)								
	Diagnostic coverage (DC)	DC = Medium, 97.6 [%]								
	Probability of dangerous Failure per Hour (PFH)	PFH = 6.4×10^{-9} [1/h]								
Compliance with global standards		Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.								
Structure (IP rating)		Natural cooling, open (IP20)		Force cooling, open (IP20)		Force cooling, open (IP20) (Note 5)				
Close mounting		Not possible								
Environment	Ambient temperature	Operation: 0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)								
	Ambient humidity	Operation/storage: 5 %RH to 90 %RH (non-condensing)								
	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Altitude	2000 m or less above sea level (Note 14)								
	Vibration resistance	5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y and Z axes)								
Mass [kg]		1.7	1.7	2.1	3.6	4.3	6.5	13.4	13.4	18.2

Notes: 1. Rated output and speed of a rotary servo motor, and continuous thrust and maximum speed of a linear servo motor are applicable when the servo amplifier is operated within the specified power supply voltage and frequency.
2. Select the most suitable regenerative option for your system with our capacity selection software.
3. Refer to "Regenerative Option" in this catalog for the permissible regenerative power [W] when a regenerative option is used.
4. When using the dynamic brake, refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for the permissible load to motor inertia ratio and the permissible load to mass ratio.
5. Terminal blocks are excluded.
6. The test pulse is a signal for the external circuit to perform self-diagnosis by turning off the signals to the servo amplifier instantaneously at regular intervals.
7. The value in brackets is applicable when cooling fans (two units of 92 mm × 92 mm, minimum air flow: 1.0 m³/min) are installed, and then [Pr. PA02] is changed.
8. Servo amplifiers without an enclosed regenerative resistor are also available. Refer to "Model Designation for 1-Axis Servo Amplifier" in this catalog for details.
9. Use an external dynamic brake (option) with the servo amplifier. Without the external dynamic brake, a servo motor does not stop immediately at emergency stop and falls in free-run status, causing an accident such as machine collision, etc. Take measures to ensure safety on the entire system when not using the dynamic brake.
10. The servo amplifier built-in regenerative resistor is compatible with the maximum torque deceleration when the servo motor is used within the rated speed and the recommended load to motor inertia ratio. Contact your local sales office if the operating motor speed or the load to motor inertia ratio exceeds the rated speed or the recommended ratio.
11. This function is supported by the servo amplifiers with software version B4 or later.
12. RS-485 communication function is supported by the servo amplifiers manufactured in November 2014 or later. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for checking procedure of manufacture data.
13. Positioning mode is supported by MR-J4-A4-RJ servo amplifier with software version B3 or later.
14. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for the restrictions when using the servo amplifiers at altitude exceeding 1000 m and up to 2000 m above sea level.
15. The safety level depends on the setting value of [Pr. PF18 STO diagnosis error detection time] and whether or not STO input diagnosis is performed by TOFB output. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.

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

Drive unit model MR-J4-_(-RJ)			DU30KA4	DU37KA4	DU45KA4	DU55KA4
Compatible converter unit model			MR-CR55K4 (Note 4)			
Output	Rated voltage		3-phase 323 V AC			
	Rated current	[A]	87	102	131	143
Main circuit power supply input			Main circuit power is supplied from the resistance regeneration converter unit to the drive unit. (Note 4)			
Control circuit power supply input	Voltage/frequency		1-phase 380 V AC to 480 V AC, 50 Hz/60 Hz			
	Rated current	[A]	0.2			
	Permissible voltage fluctuation		1-phase 323 V AC to 528 V AC			
	Permissible frequency fluctuation		±5% maximum			
	Power consumption	[W]	45			
Interface power supply			24 V DC ± 10% (required current capacity: 0.5 A (including CN8 connector signals))			
Control method			Sine-wave PWM control/current control method			
Dynamic brake (Note 9)			External option (Note 3)			
Communication function	USB		Connect a personal computer (MR Configurator2 compatible)			
	RS-422/RS-485		1:n communication (up to 32 axes) (Note 5)			
Encoder output pulse			Compatible (A/B/Z-phase pulse)			
Analog monitor			2 channels			
Position control mode	Maximum input pulse frequency		4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)			
	Positioning feedback pulse		Encoder resolution: 22 bits			
	Command pulse multiplying factor		Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000			
	In-position range setting		0 pulse to ±65535 pulses (command pulse unit)			
	Error excessive		±3 rotations			
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)			
Speed control mode	Speed control range		Analog speed command 1:2000, internal speed command 1:5000			
	Analog speed command input		0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)			
	Speed fluctuation rate		±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed command			
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)			
Torque control mode	Analog torque command input		0 V DC to ±8 V DC/maximum torque (input impedance: 10 kΩ to 12 kΩ)			
	Speed limit		Set by parameters or external analog input (0 V DC to ± 10 V DC/rated speed)			
Positioning mode (Note 6)		MR-J4-DU_A4	Not available			
		MR-J4-DU_A4-RJ	Point table method, program method, indexer method			
Fully closed loop control		MR-J4-DU_A4	Two-wire type communication method			
		MR-J4-DU_A4-RJ	Two-wire/four-wire type communication method			
Load-side encoder interface		MR-J4-DU_A4	Mitsubishi Electric high-speed serial communication			
		MR-J4-DU_A4-RJ	Mitsubishi Electric high-speed serial communication, A/B/Z-phase differential input signal			
Servo functions			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 function			
Protective functions			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,			

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

A A-RJ

Drive unit model MR-J4-_(-RJ)		DU30KA4	DU37KA4	DU45KA4	DU55KA4
Functional safety		STO (IEC/EN 61800-5-2)			
Safety performance	Standards certified by CB (Note 8)	EN ISO 13849-1 Category 3 PL e, IEC 61508 SIL 3, EN 62061 SIL CL 3, EN 61800-5-2			
	Response performance	8 ms or less (STO input OFF → energy shut-off)			
	Test pulse input (STO) (Note 2)	Test pulse interval: 1 Hz to 25 Hz, test pulse off time: 1 ms maximum			
	Mean time to dangerous failure (MTTFd)	MTTFd ≥ 100 [years] (314a)			
	Diagnostic coverage (DC)	DC = Medium, 97.6 [%]			
	Probability of dangerous Failure per Hour (PFH)	PFH = 6.4×10^{-9} [1/h]			
Compliance with global standards		Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.			
Structure (IP rating)		Force cooling, open (IP20) (Note 1)			
Environment	Ambient temperature	Operation: 0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)			
	Ambient humidity	Operation/storage: 5 %RH to 90 %RH (non-condensing)			
	Ambience	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust			
	Altitude	2000 m or less above sea level (Note 7)			
	Vibration resistance	5.9 m/s^2 at 10 Hz to 55 Hz (directions of X, Y and Z axes)			
Mass [kg]		16	16	21	21

Notes: 1. Terminal blocks are excluded.
2. The test pulse is a signal for the external circuit to perform self-diagnosis by turning off the signals to the drive unit instantaneously at regular intervals.
3. Use an external dynamic brake (option) with the drive unit. Without the external dynamic brake, a servo motor does not stop immediately at emergency stop and falls in free-run status, causing an accident such as machine collision, etc. Take measures to ensure safety on the entire system when not using the dynamic brake.
4. Refer to "MR-CR Resistance Regeneration Converter Unit Specifications (200 V/400 V)" on p. 1-53 in this catalog for the specifications of the resistance regeneration converter unit.
5. RS-485 communication function is supported by the drive units manufactured in January 2015 or later. Refer to "MR-CV_ MR-CR55K_ MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for checking procedure of manufacture data.
6. Positioning mode is supported by MR-J4-DU_A4-RJ drive unit with software version B3 or later.
7. Refer to "MR-CV_ MR-CR55K_ MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for the restrictions when using the servo amplifiers at altitude exceeding 1000 m and up to 2000 m above sea level.
8. The safety level depends on the setting value of [Pr. PF18 STO diagnosis error detection time] and whether or not STO input diagnosis is performed by TOFB output. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.
9. When using the dynamic brake, refer to "MR-CV_ MR-CR55K_ MR-J4-DU_B_(-RJ) MR-J4-DU_A_(-RJ) Instruction Manual" for the permissible load to motor inertia ratio.

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

A A-RJ

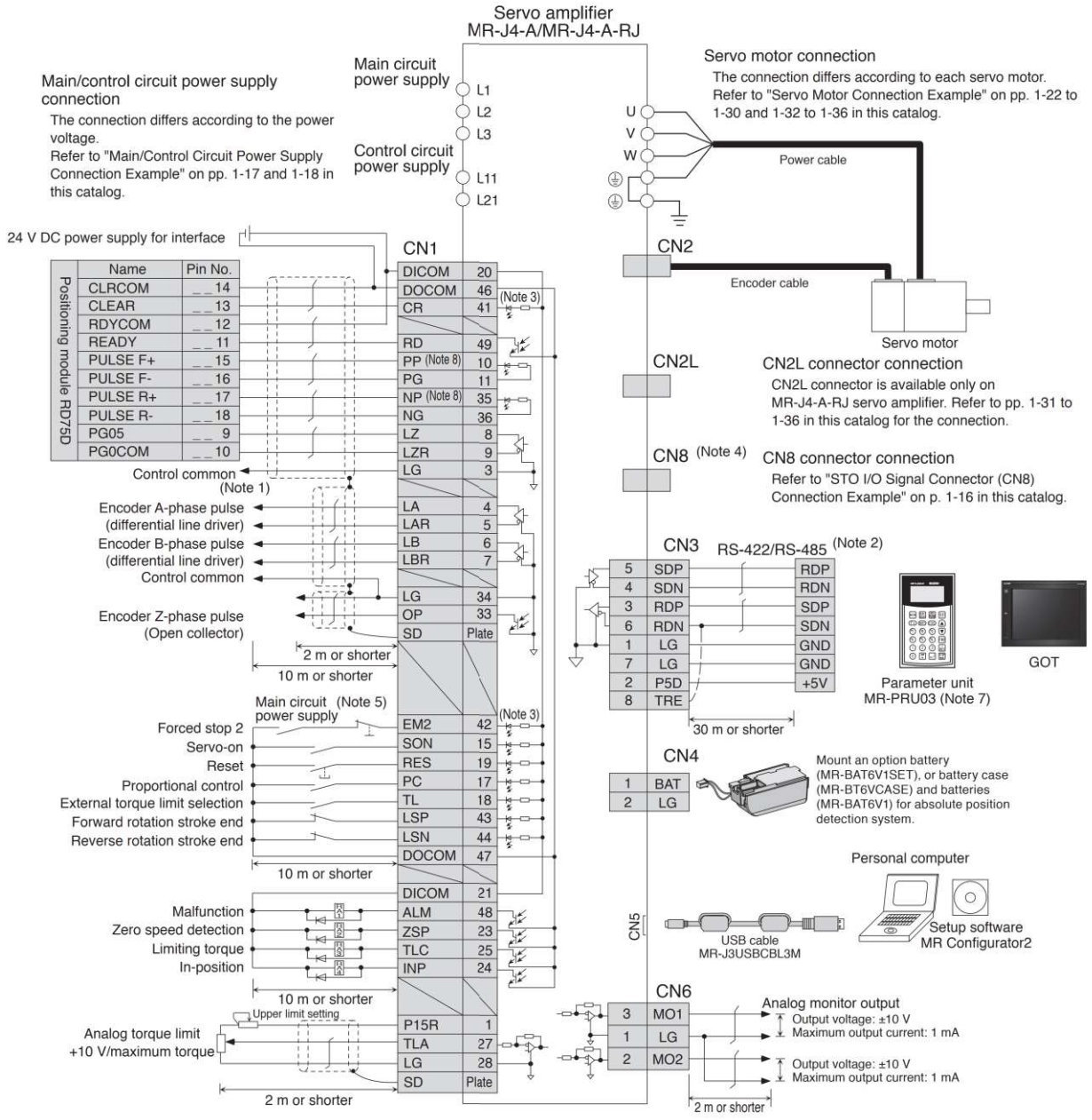
Servo amplifier model			MR-J4-03A6	MR-J4-03A6-RJ
Output	Rated voltage		3-phase 13 V AC	
	Rated current	[A]	2.4	
Main circuit power supply input	Voltage (Note 1)		48 V DC/24 V DC (Note 2)	
	Rated current	[A]	For 48 V DC: 1.2 A For 24 V DC: 2.4 A	
	Permissible voltage fluctuation		For 48 V DC: 40.8 V DC to 55.2 V DC For 24 V DC: 21.6 V DC to 26.4 V DC	
Control circuit power supply input	Voltage		24 V DC	
	Rated current	[A]	0.2	
	Permissible voltage fluctuation		21.6 V DC to 26.4 V DC	
	Power consumption	[W]	5.0	
Interface power supply			24 V DC ± 10% (required current capacity: 0.3 A)	
Control method			Sine-wave PWM control/current control method	
Permissible regenerative power of the built-in regenerative resistor		[W]	0.7	
Dynamic brake (Note 4)			Built-in (Note 3)	
Communication function	USB		Connect a personal computer (MR Configurator2 compatible)	
	RS-422		1:n communication (up to 32 axes)	
Encoder output pulse			Compatible (A/B/Z-phase pulse)	
Analog monitor			2 channels	
Position control mode	Maximum input pulse frequency		4 Mpulses/s (when using differential receiver), 200 kpulses/s (when using open collector)	
	Positioning feedback pulse		Encoder resolution: 18 bits	
	Command pulse multiplying factor		Electronic gear A/B multiple, A: 1 to 16777215, B: 1 to 16777215, 1/10 < A/B < 4000	
	In-position range setting		0 pulse to ±65535 pulses (command pulse unit)	
	Error excessive		±3 rotations	
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)	
Speed control mode	Speed control range		Analog speed command 1:2000, internal speed command 1:5000	
	Analog speed command input		0 V DC to ±10 V DC/rated speed (Speed at 10 V is changeable with [Pr. PC12].)	
	Speed fluctuation rate		±0.01% maximum (load fluctuation: 0% to 100%), 0% (power fluctuation: ±10%) ±0.2% maximum (ambient temperature: 25 °C ± 10 °C) only when using analog speed command	
	Torque limit		Set by parameters or external analog input (0 V DC to +10 V DC/maximum torque)	
Torque control mode	Analog torque command input		0 V DC to ±8 V DC/maximum torque (input impedance: 10 kΩ to 12 kΩ)	
	Speed limit		Set by parameters or external analog input (0 V DC to ± 10 V DC/rated speed)	
Positioning mode			Not available	Point table method, program method, indexer method
Fully closed loop control			Not compatible	
Servo functions			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	
Protective functions			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	
Compliance with global standards			Refer to "Compliance with Global Standards and Regulations" on p. 55 in this catalog.	
Structure (IP rating)			Natural cooling, open (IP20)	
Close mounting			Possible (Note 5)	
DIN rail mounting (35 mm wide)			Possible	
Environment	Ambient temperature		Operation: 0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)	
	Ambient humidity		Operation/storage: 5 %RH to 90 %RH (non-condensing)	
	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)	
Mass		[kg]	0.2	

Notes: 1. Rated output and speed of a rotary servo motor are applicable when the servo amplifier is operated within the specified power supply voltage.
2. Initial value is 48 V DC. For 24 V DC, set [Pr. PC27] to "_ _1 _." Servo motor characteristics vary depending on whether the voltage is 48 V DC or 24 V DC. Refer to "HG-AK Series (Ultra-Compact Size, Ultra-Small Capacity) Specifications" and "HG-AK Series Torque Characteristics" in this catalog.
3. The dynamic brake is electronic. The electronic dynamic brake does not operate when the control circuit power is off. It may not operate depending on alarms and warnings. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.
4. When using the dynamic brake, refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for the permissible load to motor inertia ratio.
5. When the servo amplifiers are closely mounted, keep the ambient temperature within 0 °C to 45 °C.

MR-J4-A/MR-J4-A-RJ Standard Wiring Diagram Example: Position Control Operation (Note 6)

A A-RJ

Connecting to RD75D

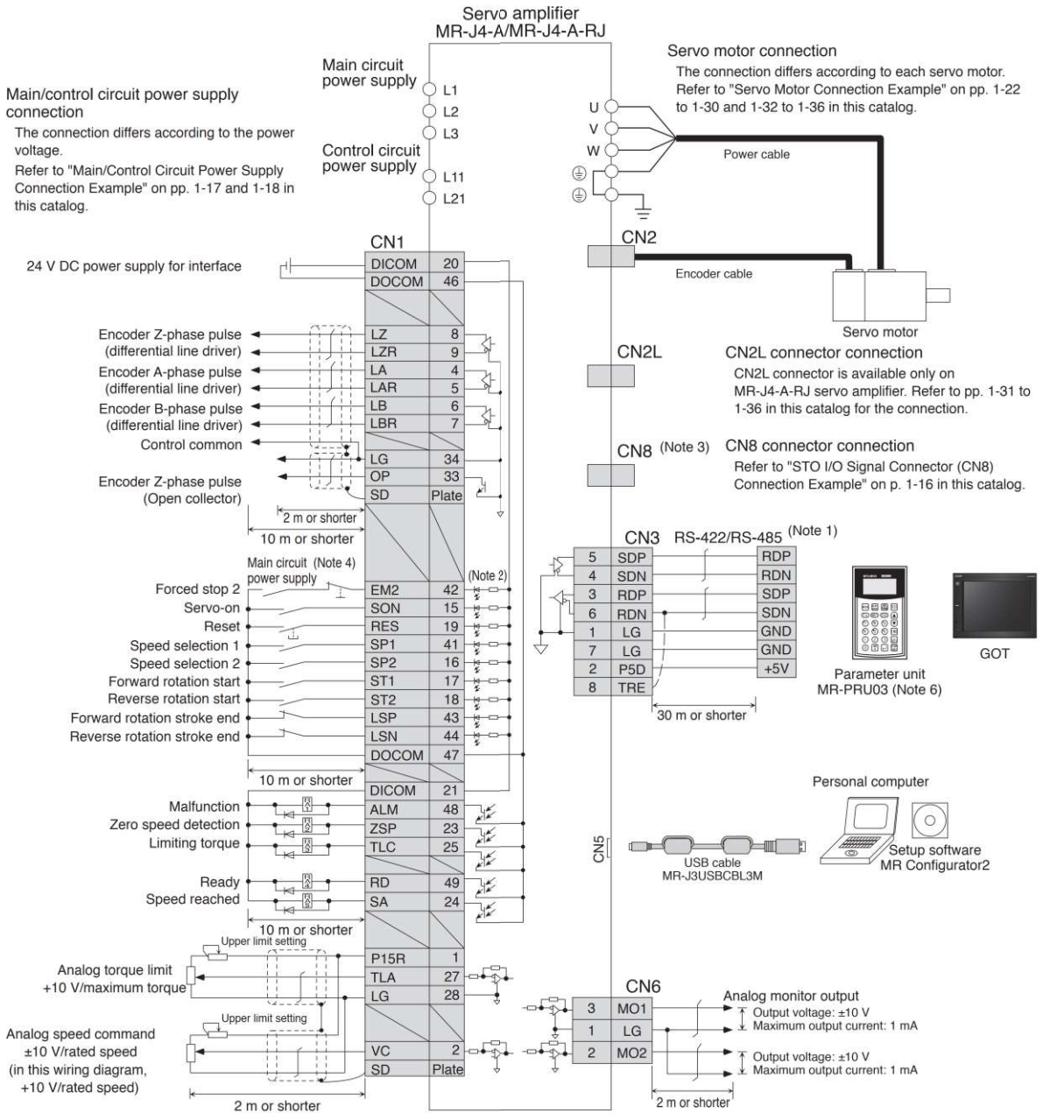


Notes: 1. This connection is not necessary for RD75D Positioning module. Note that the connection between LG and control common terminal is recommended for some Positioning modules to improve noise tolerance.
2. It is also possible to connect a personal computer to CN3 connector with an RS-422/RS-232C conversion cable. However, USB (CN5 connector) and RS-422/RS-485 (CN3 connector) communication functions are mutually exclusive. Do not use them at the same time. Refer to "Products on the Market for Servo Amplifiers" in this catalog for the RS-422/RS-232C conversion cable.
3. This is for sink wiring. Source wiring is also possible.
4. Be sure to attach a short-circuit connector supplied with the servo amplifier when the STO function is not used.
5. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.
6. This standard wiring diagram is common for 200 V AC, 100 V AC and 400 V AC type servo amplifiers.
7. When using MR-PRU03 parameter unit, use a commercial LAN cable (EIA568 compliant), and keep the wire length to a maximum of 10 m.
8. Pulse train input is available with sink input and source input of open-collector type. When using the source input, use PP2 and NP2 terminals. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.

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

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

A A-RJ

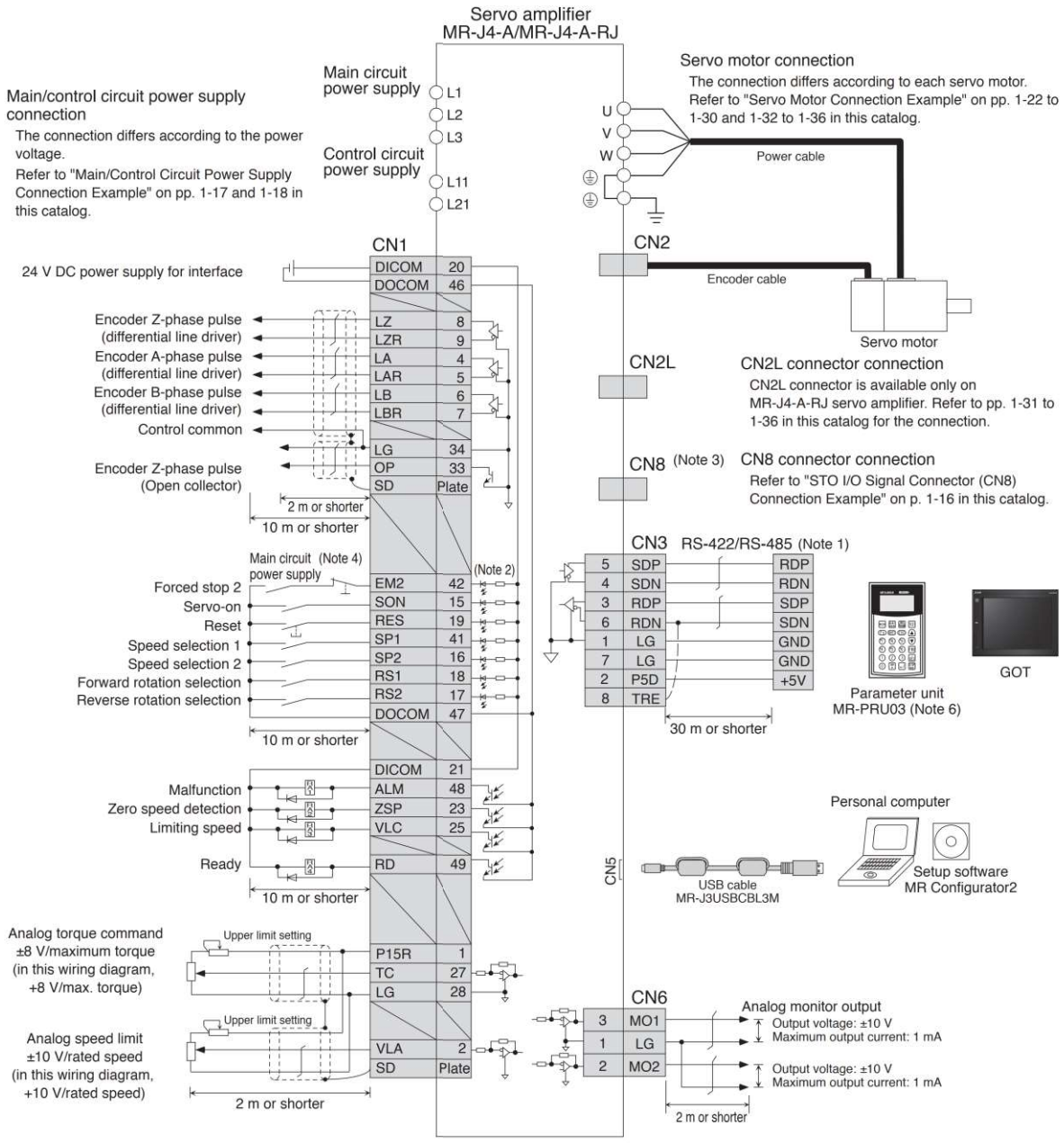


Notes: 1. It is also possible to connect a personal computer to CN3 connector with an RS-422/RS-232C conversion cable. However, USB (CN5 connector) and RS-422/RS-485 (CN3 connector) communication functions are mutually exclusive. Do not use them at the same time. Refer to "Products on the Market for Servo Amplifiers" in this catalog for the RS-422/RS-232C conversion cable.
2. This is for sink wiring. Source wiring is also possible.
3. Be sure to attach a short-circuit connector supplied with the servo amplifier when the STO function is not used.
4. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.
5. This standard wiring diagram is common for 200 V AC, 100 V AC and 400 V AC type servo amplifiers.
6. When using MR-PRU03 parameter unit, use a commercial LAN cable (EIA568 compliant), and keep the wire length to a maximum of 10 m.

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

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

A A-RJ



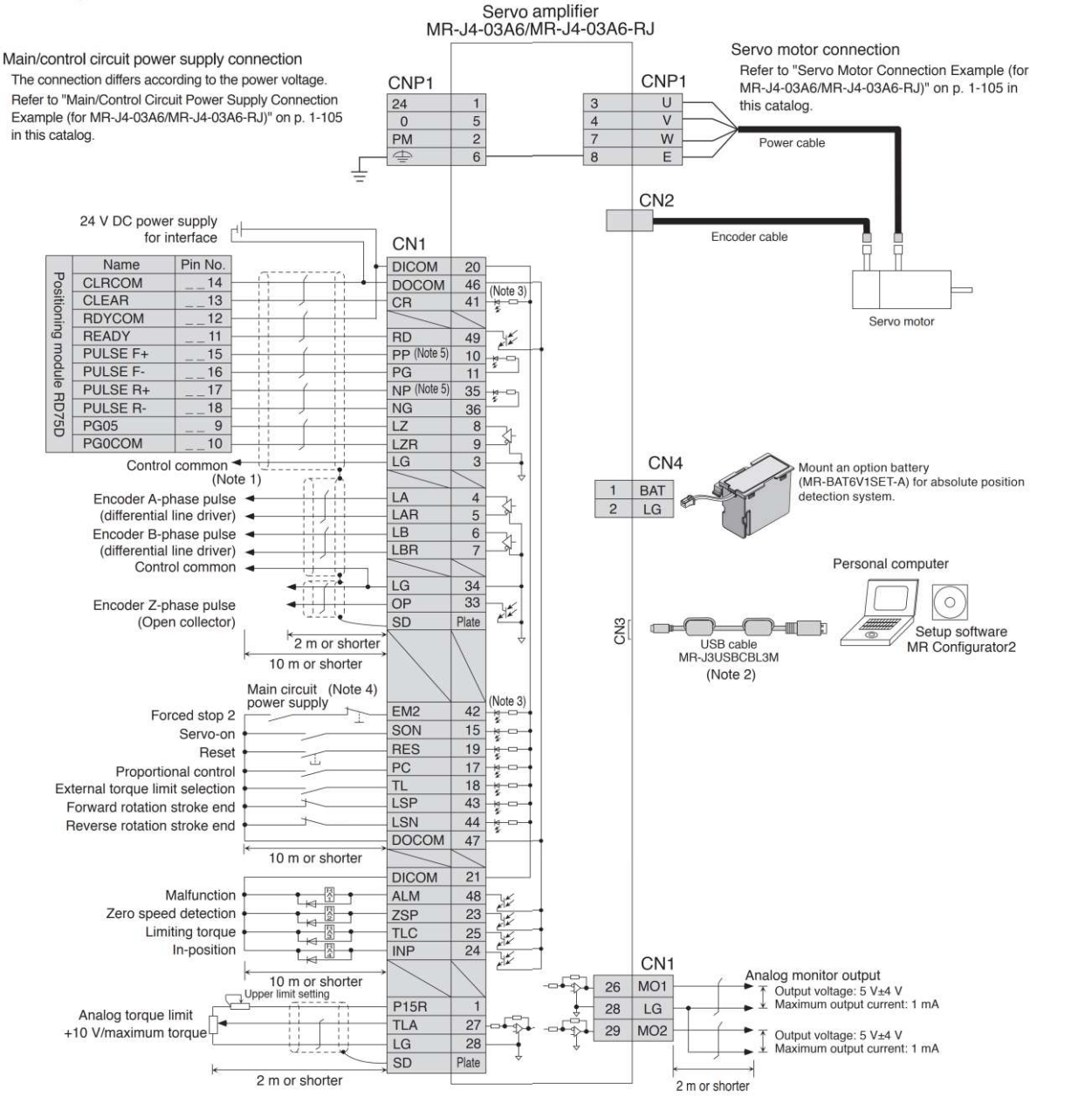
Notes: 1. It is also possible to connect a personal computer to CN3 connector with an RS-422/RS-232C conversion cable. However, USB (CN5 connector) and RS-422/RS-485 (CN3 connector) communication functions are mutually exclusive. Do not use them at the same time. Refer to "Products on the Market for Servo Amplifiers" in this catalog for the RS-422/RS-232C conversion cable.
2. This is for sink wiring. Source wiring is also possible.
3. Be sure to attach a short-circuit connector supplied with the servo amplifier when the STO function is not used.
4. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.
5. This standard wiring diagram is common for 200 V AC, 100 V AC and 400 V AC type servo amplifiers.
6. When using MR-PRU03 parameter unit, use a commercial LAN cable (EIA568 compliant), and keep the wire length to a maximum of 10 m.

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

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

A A-RJ

Connecting to RD75D

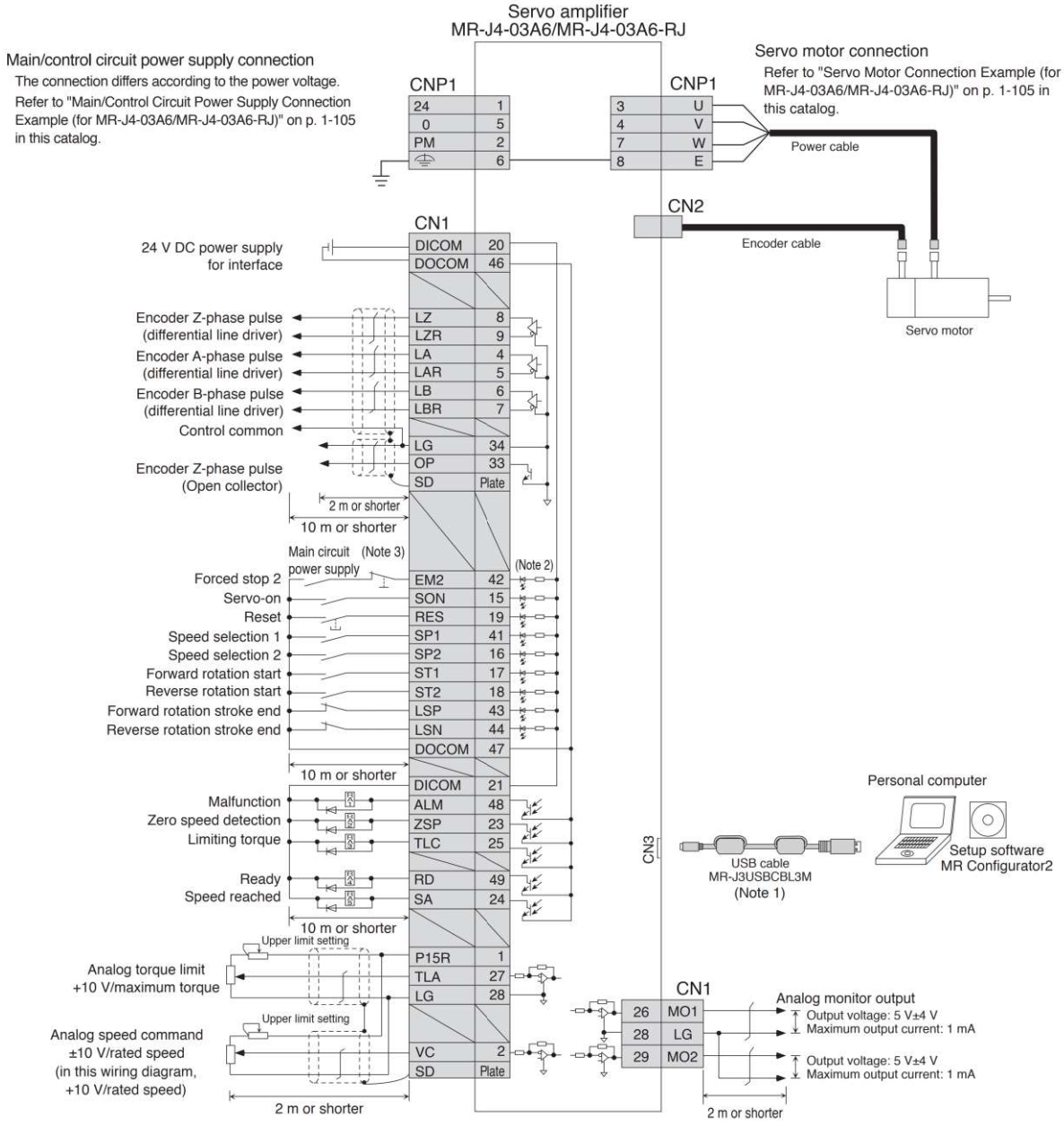


Notes: 1. This connection is not necessary for RD75D Positioning module. Note that the connection between LG and control common terminal is recommended for some Positioning modules to improve noise tolerance.
2. USB and RS-422 communication functions are mutually exclusive. Do not use them at the same time.
3. This is for sink wiring. Source wiring is also possible.
4. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.
5. Pulse train input is available with sink input and source input of open-collector type. When using the source input, use PP2 and NP2 terminals. Refer to "MR-J4-_A_(-RJ) MR-J4-03A6(-RJ) Servo Amplifier Instruction Manual" for details.

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

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

A A-RJ

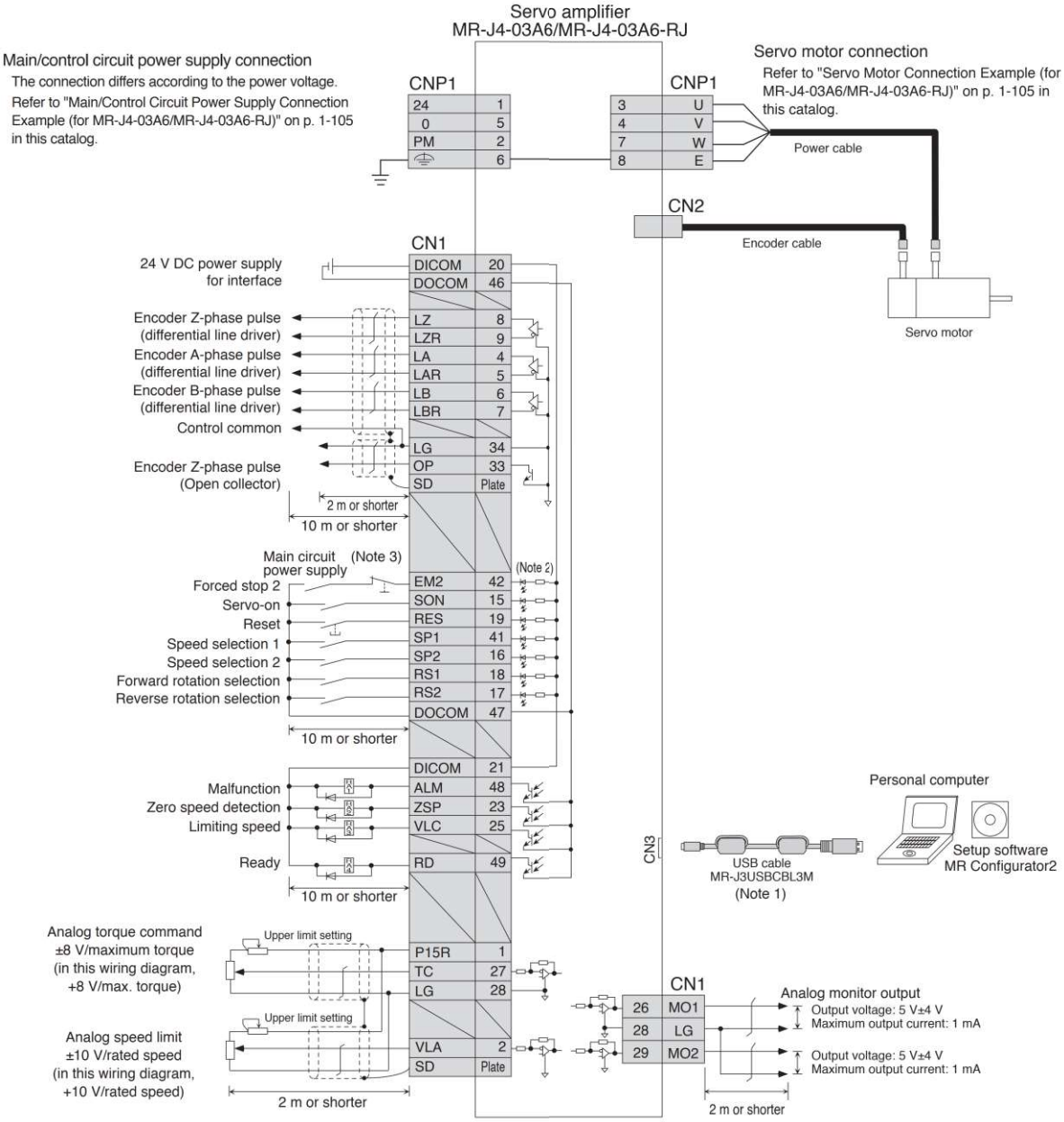


Notes: 1. USB and RS-422 communication functions are mutually exclusive. Do not use them at the same time.
2. This is for sink wiring. Source wiring is also possible.
3. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.

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

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

A A-RJ

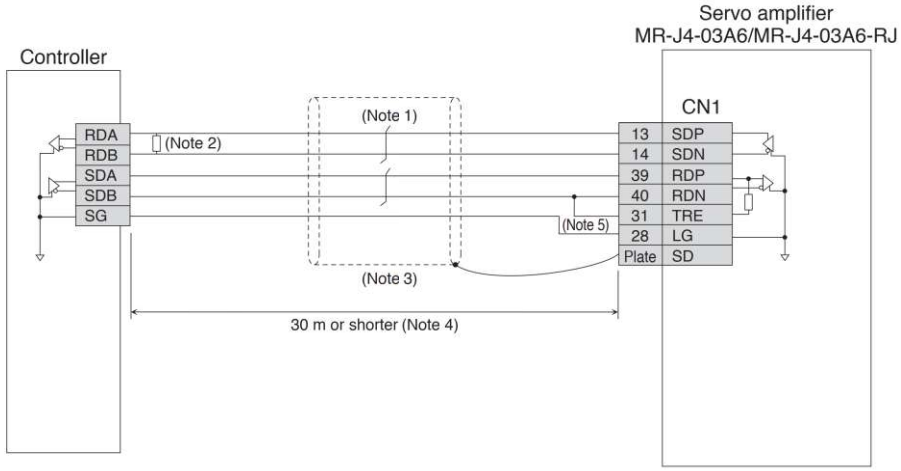


Notes: 1. USB and RS-422 communication functions are mutually exclusive. Do not use them at the same time.
2. This is for sink wiring. Source wiring is also possible.
3. To prevent an unexpected restart of the servo amplifier, create a circuit to turn off EM2 (Forced stop 2) when the main circuit power is turned off.

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

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

A A-RJ

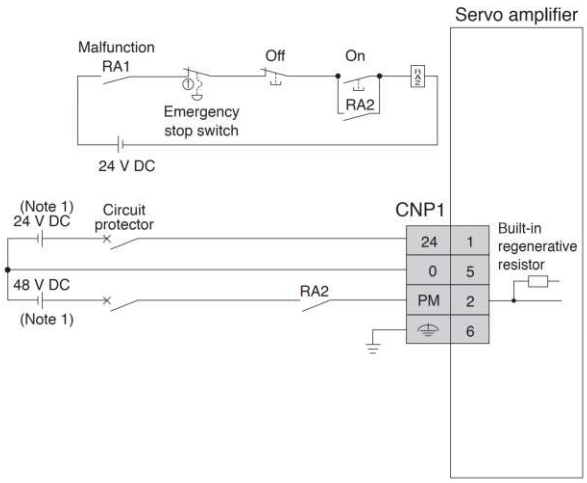


Notes: 1. Twist the wires from SDP and SDN together, and RDP and PDN together.
2. Refer to the controller manual to connect a termination resistor. If a termination resister is not specified, terminate with a 150 Ω resistor.
3. It is recommended that the cable be shielded.
4. The cable length must be 30 m or shorter in a low-noise environment. When connecting multiple axes, also keep the overall length within 30 m.
5. Connect TRE and RDN for the servo amplifier of the final axis.

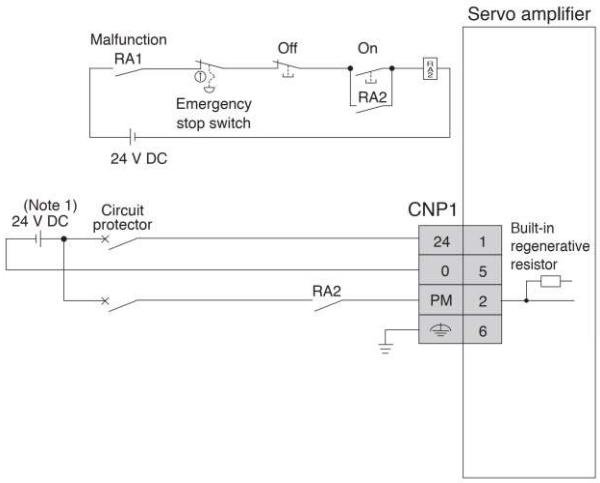
⚠ Be sure to read through Instruction Manual for the actual wiring and use. Use the equipment after you have a full knowledge of the equipment, safety information and instructions.

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

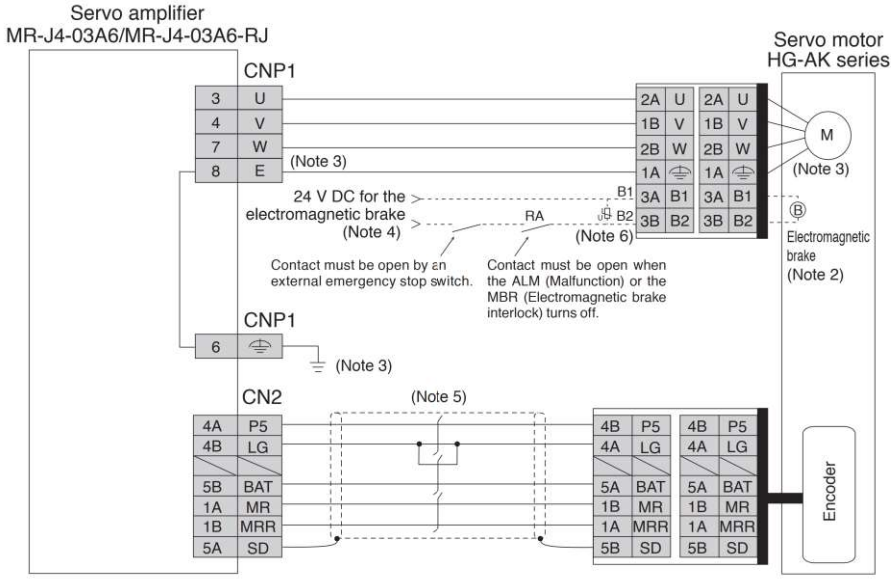
●For 48 V DC



●For 24 V DC



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



Notes: 1. Use 48 V DC and 24 V DC power supplies with reinforced insulation.
2. This is for the servo motor with electromagnetic brake. The electromagnetic brake terminals (B1, B2) do not have polarity.
3. Noiseless grounding (⏚) terminal is connected to E terminal in the servo amplifier. Connect the noiseless (⏚) terminal of CNP1 and the grounding terminal of the cabinet.
4. Do not use the 24 V DC interface power supply for the electromagnetic brake. Provide a dedicated power supply to the electromagnetic brake.
5. Encoder cable is available as an option. Refer to "Servo Motor Instruction Manual (Vol. 3)" when fabricating the cables.
6. Be sure to install a surge absorber between B1 and B2.

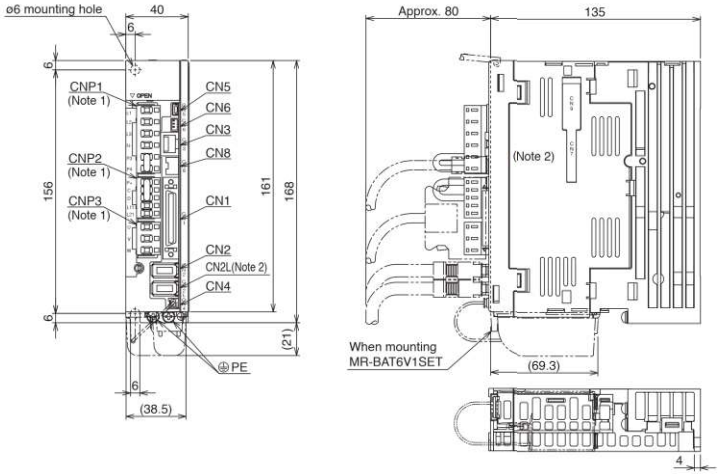
⚠ Be sure to read through Instruction Manual for the actual wiring and use. Use the equipment after you have a full knowledge of the equipment, safety information and instructions.

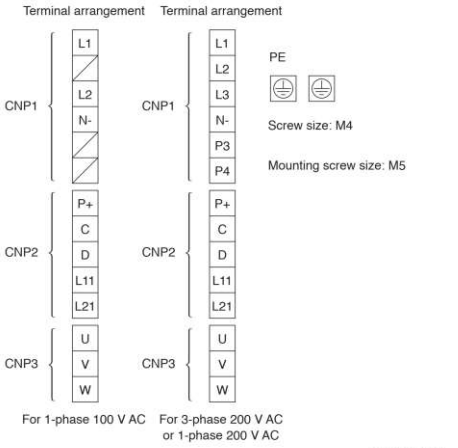
MR-J4-A/MR-J4-A-RJ Dimensions

A A-RJ

●MR-J4-10A, MR-J4-10A-RJ, MR-J4-10A1, MR-J4-10A1-RJ

●MR-J4-20A, MR-J4-20A-RJ, MR-J4-20A1, MR-J4-20A1-RJ

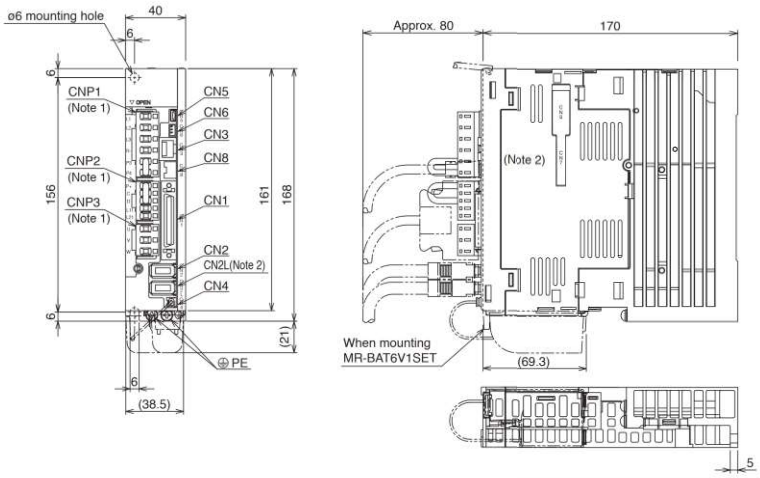


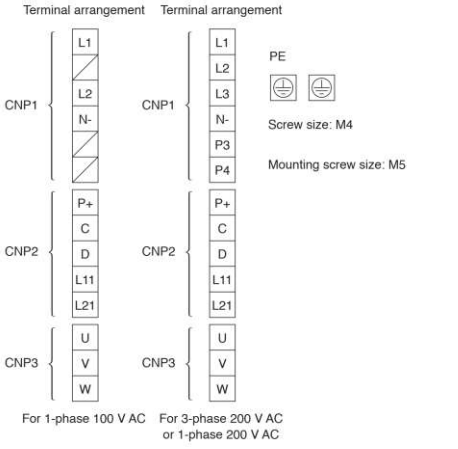


[Unit: mm]

●MR-J4-40A, MR-J4-40A-RJ, MR-J4-40A1, MR-J4-40A1-RJ

●MR-J4-60A, MR-J4-60A-RJ

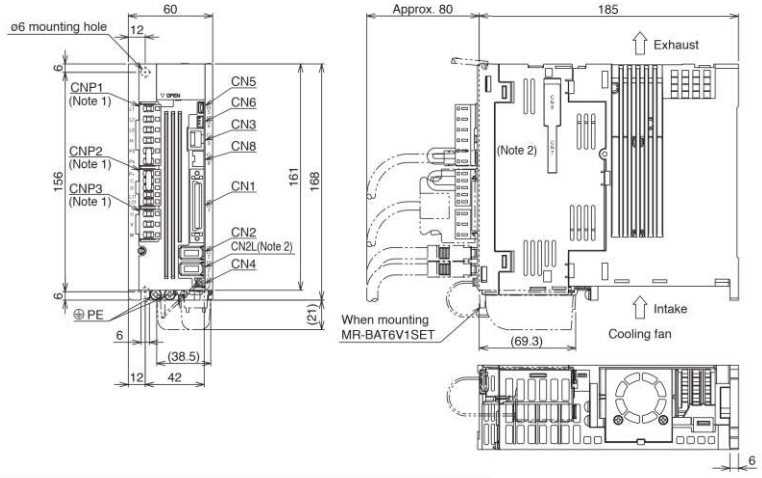


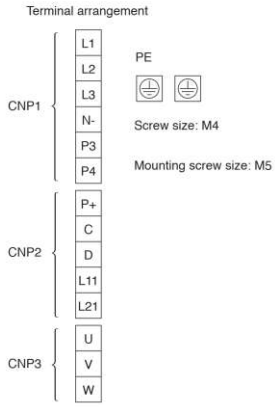


[Unit: mm]

●MR-J4-70A, MR-J4-70A-RJ

●MR-J4-100A, MR-J4-100A-RJ





[Unit: mm]

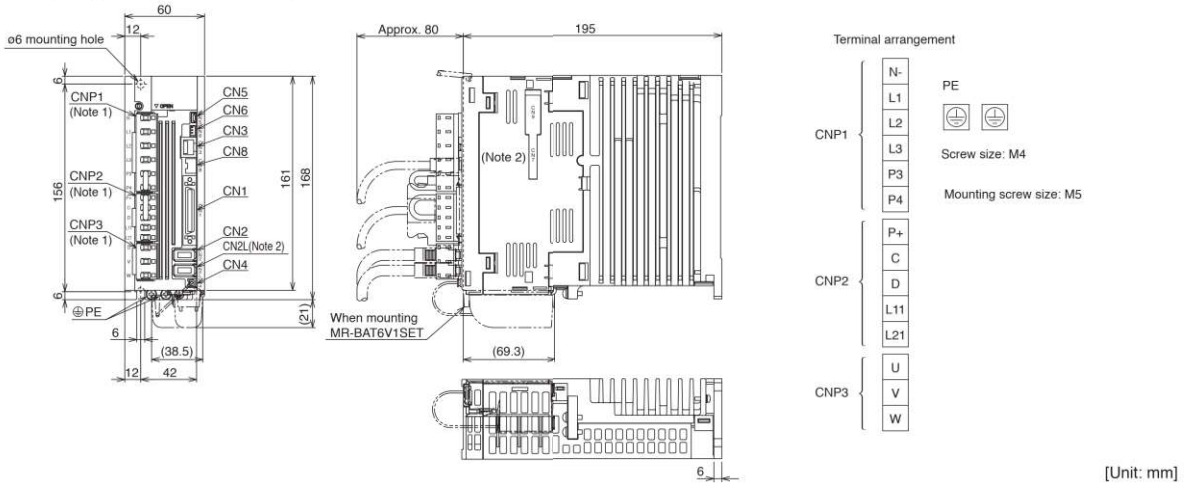
Notes: 1. CNP1, CNP2 and CNP3 connectors are supplied with the servo amplifier.
2. CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in November 2014 or later.

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

A A-RJ

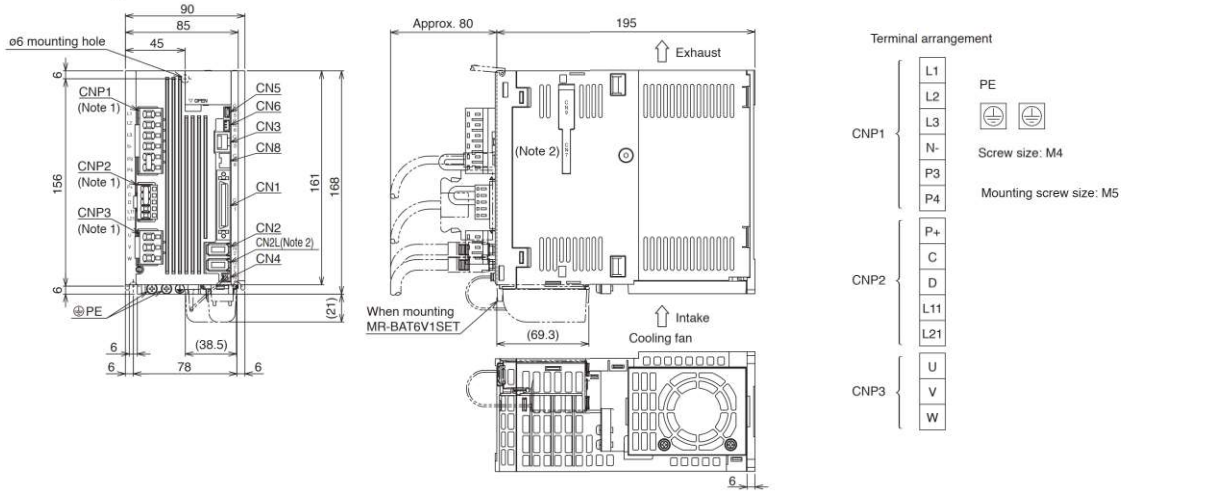
●MR-J4-60A4, MR-J4-60A4-RJ

●MR-J4-100A4, MR-J4-100A4-RJ



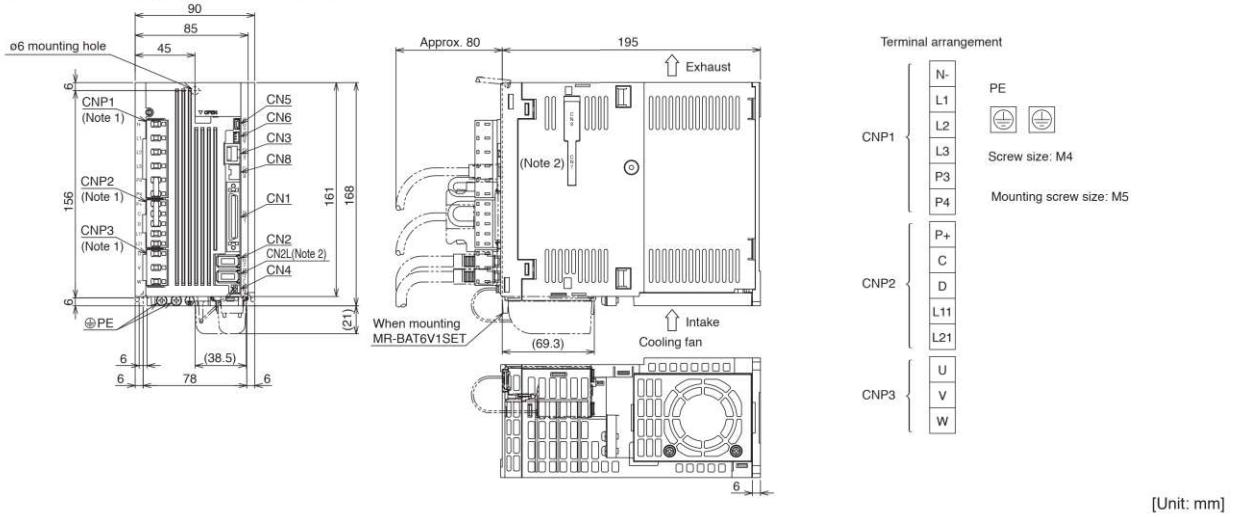
[Unit: mm]

●MR-J4-200A, MR-J4-200A-RJ



[Unit: mm]

●MR-J4-200A4, MR-J4-200A4-RJ



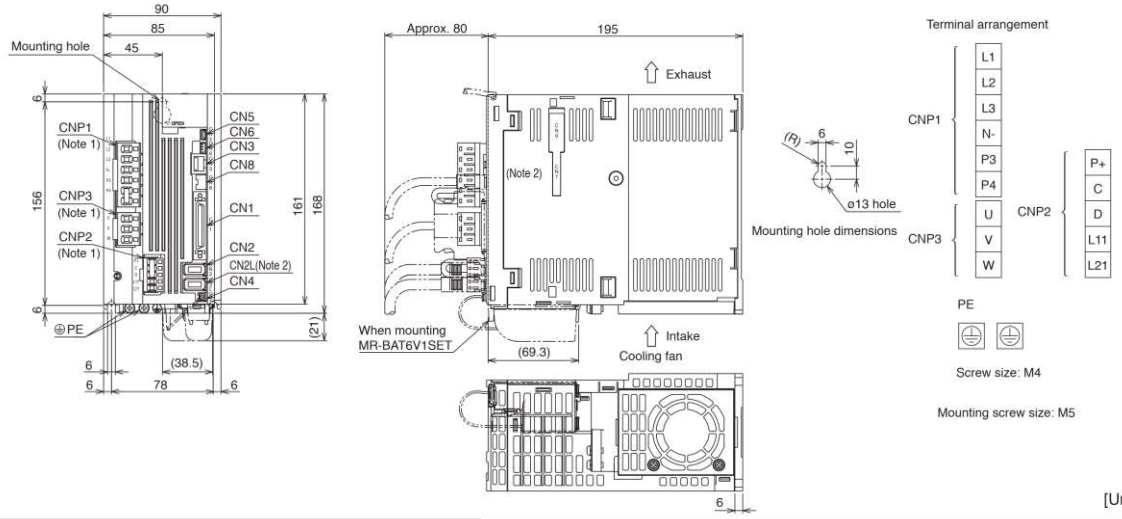
[Unit: mm]

Notes: 1. CNP1, CNP2 and CNP3 connectors are supplied with the servo amplifier.
2. CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in November 2014 or later.

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

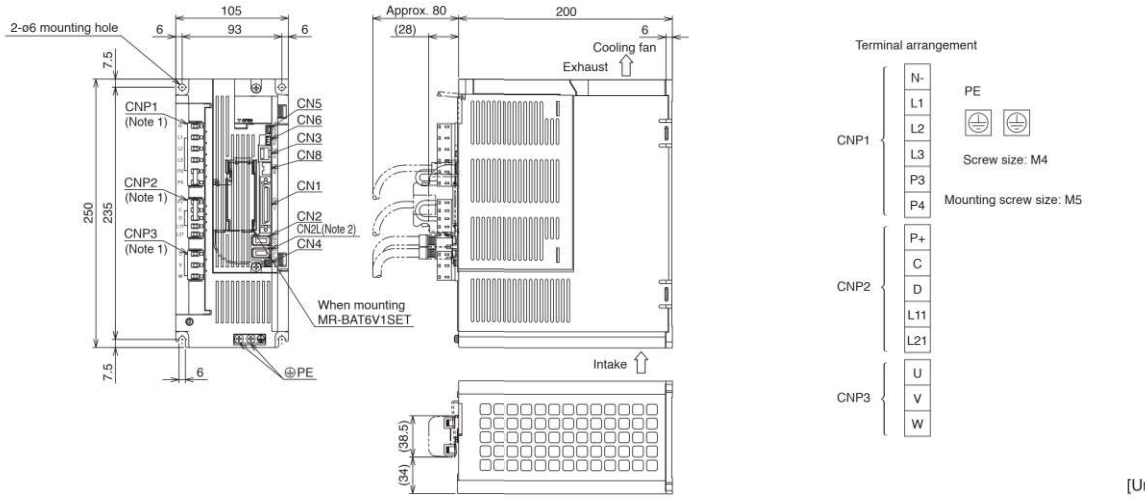
A A-RJ

●MR-J4-350A, MR-J4-350A-RJ



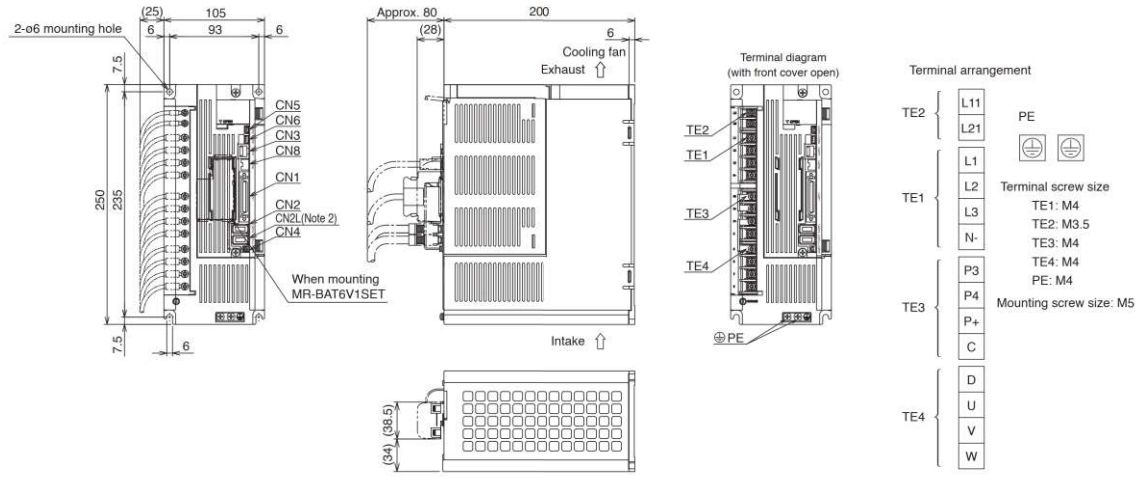
[Unit: mm]

●MR-J4-350A4, MR-J4-350A4-RJ



[Unit: mm]

●MR-J4-500A, MR-J4-500A-RJ



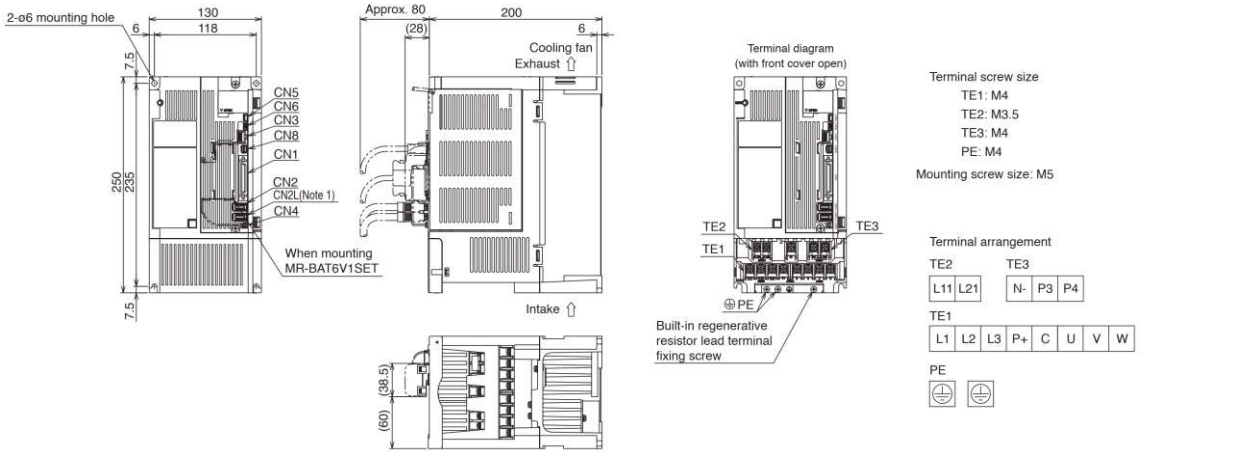
[Unit: mm]

Notes: 1. CNP1, CNP2 and CNP3 connectors are supplied with the servo amplifier.
2. CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in November 2014 or later.

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

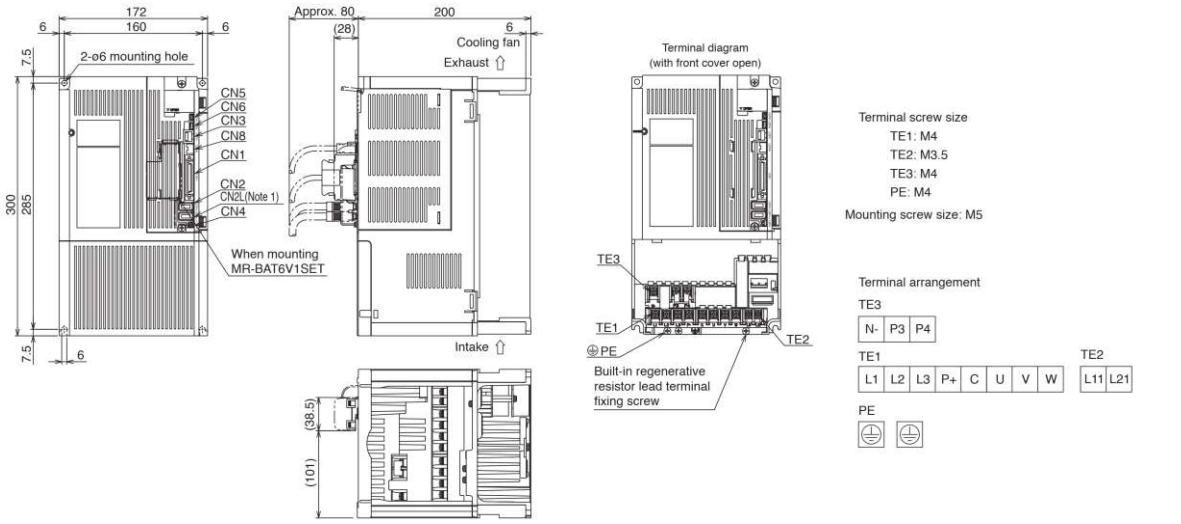
A A-RJ

●MR-J4-500A4, MR-J4-500A4-RJ



[Unit: mm]

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



[Unit: mm]

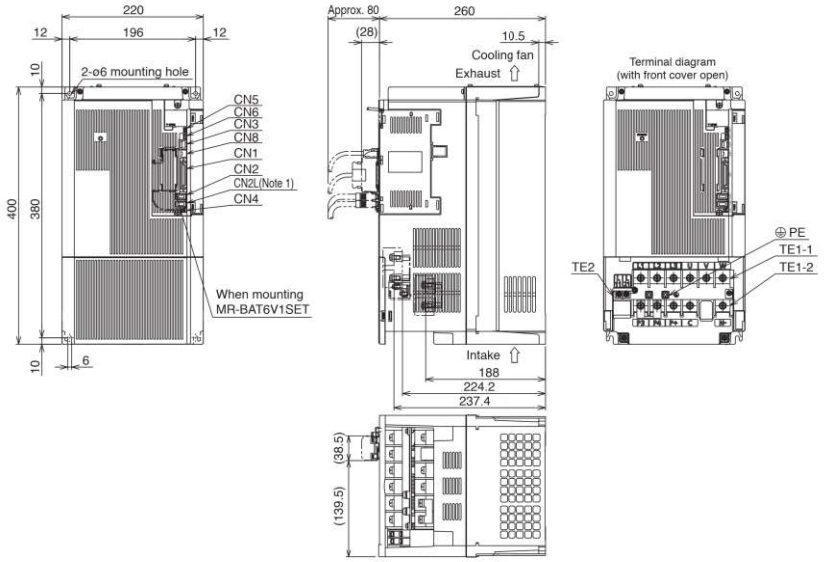
Notes: 1. CN2L, CN7, and CN9 connectors are not available for MR-J4-A servo amplifier. CN9 connector is available for use with MR-J4-A-RJ servo amplifiers manufactured in November 2014 or later.

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

A A-RJ

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

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



Terminal screw size
TE1-1: M6
TE1-2: M6
TE2: M4
PE: M6

Mounting screw size: M5

Terminal arrangement

TE1-1

L1	L2	L3	U	V	W

TE1-2

P3	P4	P+	C		N-

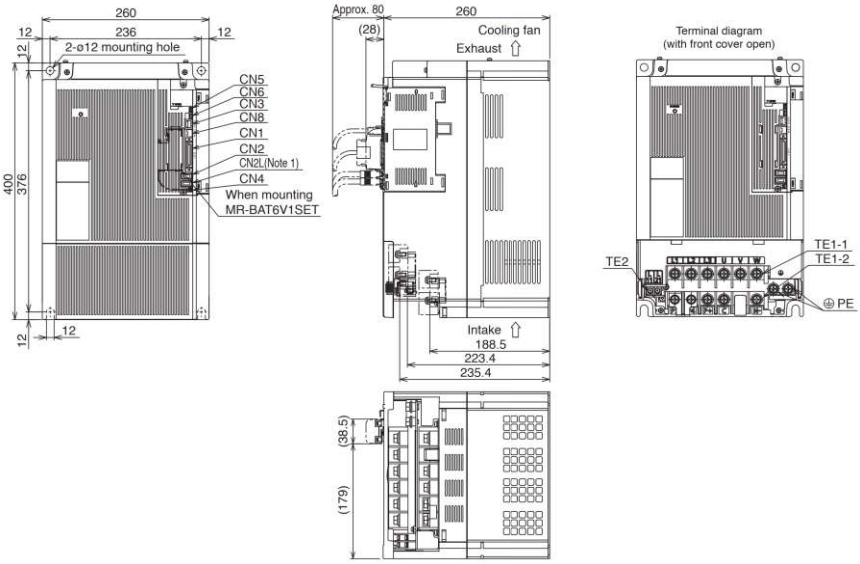
TE2

L11	L21

PE

[Unit: mm]

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



Terminal screw size
TE1-1: M8
TE1-2: M8
TE2: M4
PE: M8

Mounting screw size: M10

Terminal arrangement

TE1-1

L1	L2	L3	U	V	W

TE1-2

P3	P4	P+	C		N-

TE2

L11	L21

PE

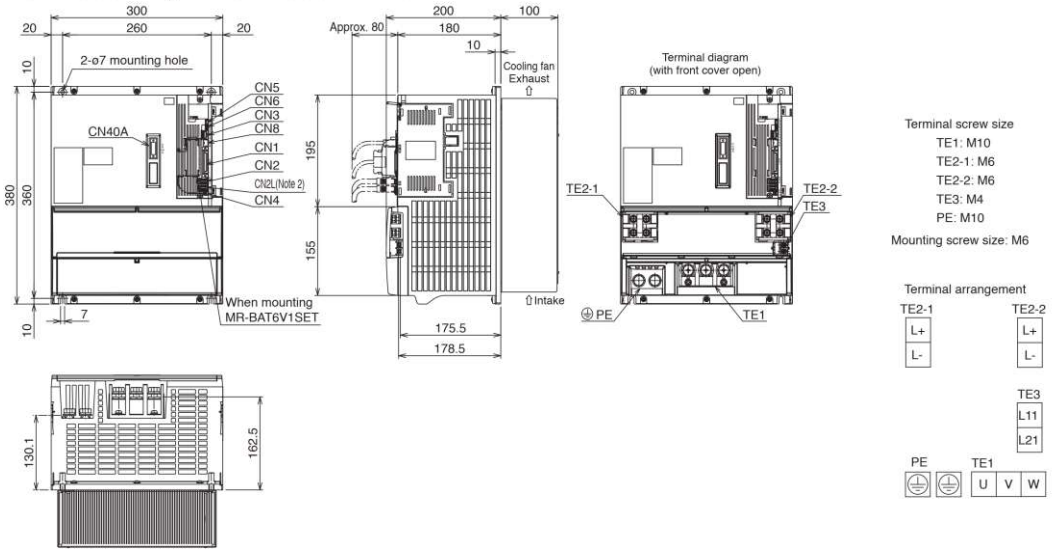
[Unit: mm]

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

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

A A-RJ

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



Terminal screw size
TE1: M10
TE2-1: M6
TE2-2: M6
TE3: M4
PE: M10

Mounting screw size: M6

Terminal arrangement

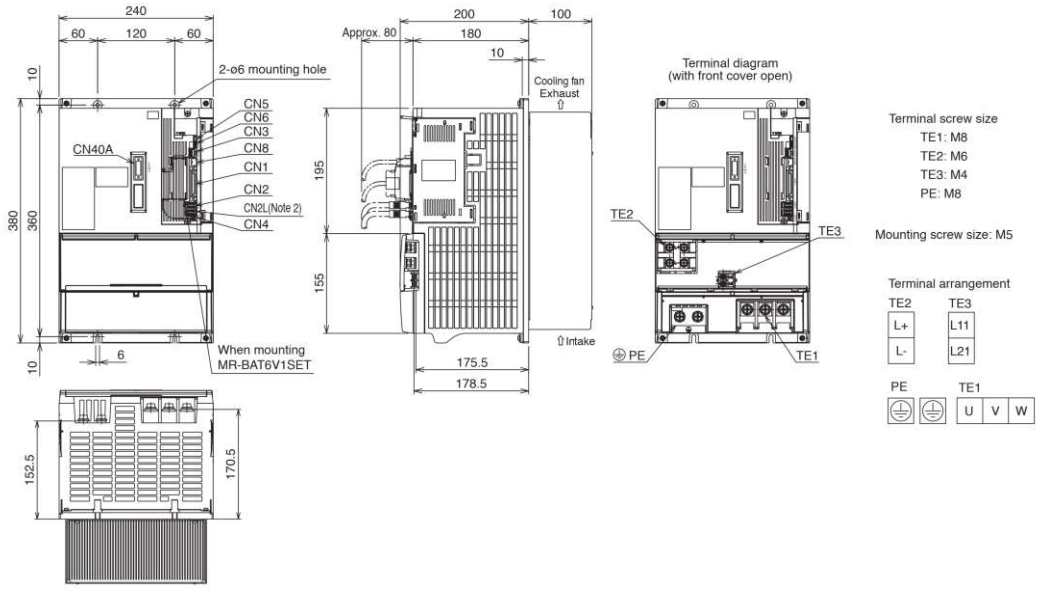
TE2-1	TE2-2
L+	L+
L-	L-

TE3
L11
L21

PE		TE1		
⏚	⏚	U	V	W

[Unit: mm]

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



Terminal screw size
TE1: M8
TE2: M6
TE3: M4
PE: M8

Mounting screw size: M5

Terminal arrangement

TE2	TE3
L+	L11
L-	L21

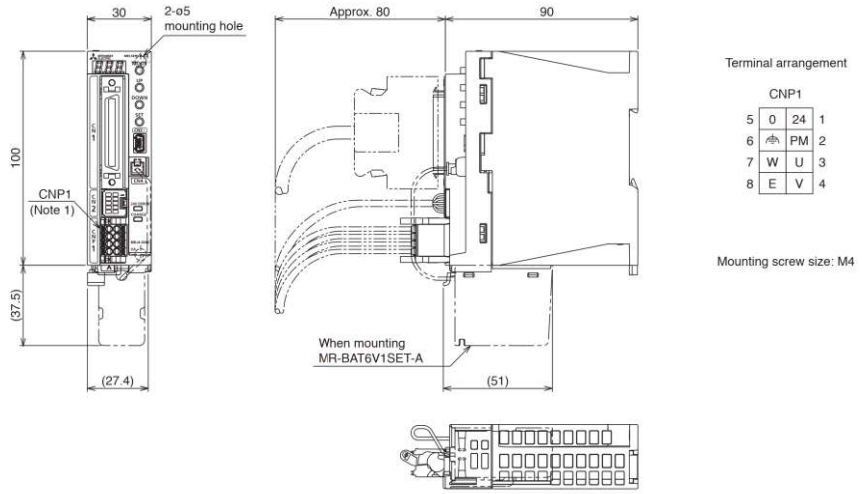
PE		TE1		
⏚	⏚	U	V	W

[Unit: mm]

Notes: 1. For the panel cut dimensions, refer to "Panel Cut Dimensions for Resistance Regeneration Converter Unit and Drive Unit" in this catalog.
2. CN2L, CN7, and CN9 connectors are not available for MR-J4-DU_A_ drive unit. CN9 connector is available for use with MR-J4-DU_A_-RJ drive unit manufactured in January 2015 or later.

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

A A-RJ



Terminal arrangement

CNP1

5	0	24	1
6	⏚	PM	2
7	W	U	3
8	E	V	4

Mounting screw size: M4

[Unit: mm]

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