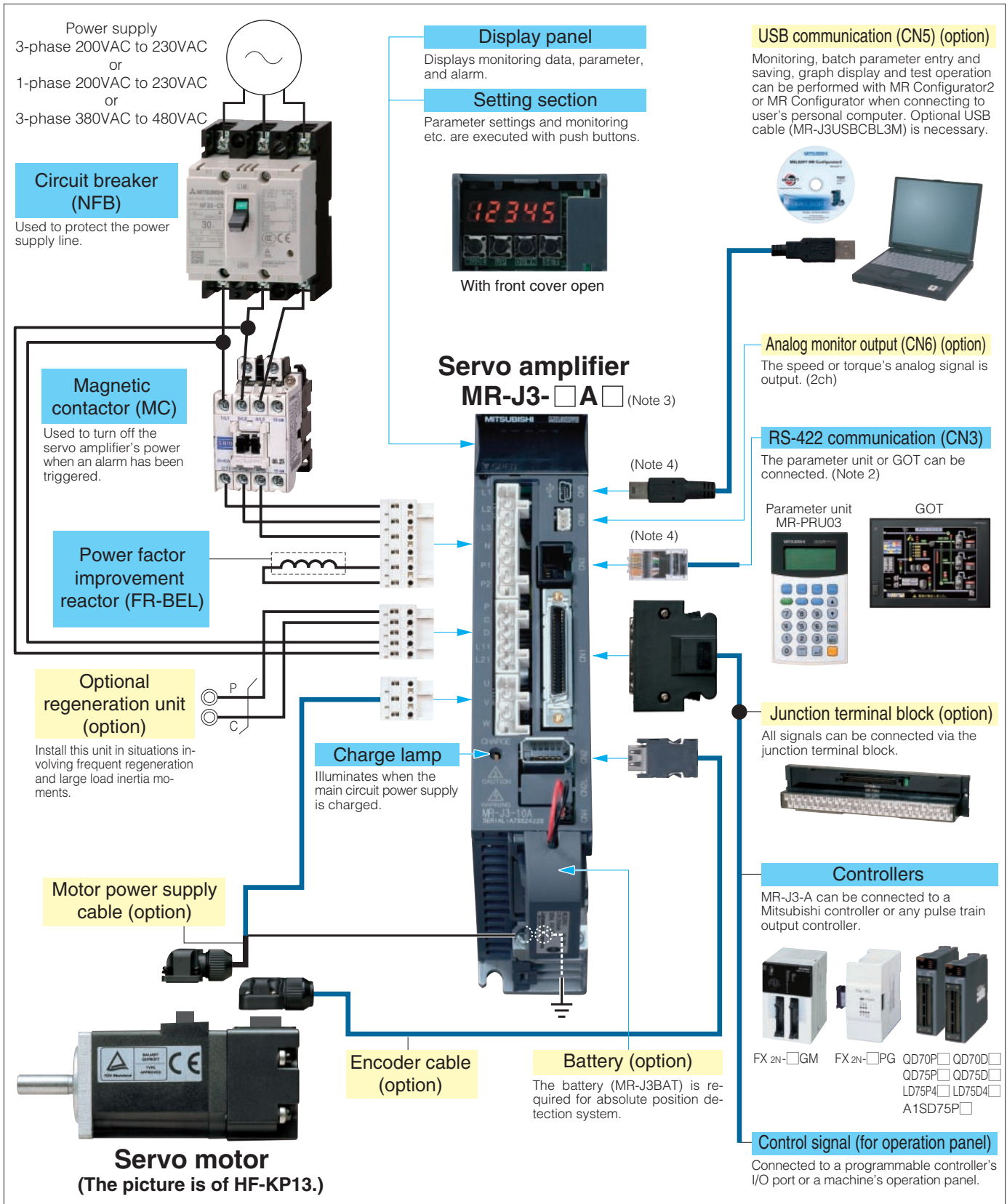


MELSERVO-J3

MR-J3-A: Connections with Peripheral Equipment (Note 1)

Peripheral equipment is connected to MR-J3-A as described below.

Connectors, options, and other necessary equipment are available so that users can set up MR-J3-A easily and start using it right away.



Notes: 1. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for the actual connections.

2. A personal computer can be connected using a RS-422/RS-232C conversion cable (refer to the section "Ordering Information for Customers" in this catalog). In this case, some functions of MR Configurator2 and MR Configurator may be limited.

3. The connections with peripheral equipment shown above is for the MR-J3-350A or smaller servo amplifier.

4. USB interface (CN5 connector) and RS-422 interface (CN3 connector) are mutually exclusive. They cannot be used at the same time.



MR-J3-A Servo Amplifier Specifications: 100VAC/200VAC, 22kW or Smaller

Servo amplifier model MR-J3-		10A	20A	40A	60A	70A	100A	200AN	350A	500A	700A	11KA	15KA	22KA	10A1	20A1	40A1	
Output	Rated voltage	3-phase 170VAC																
	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	Voltage/frequency (Note 1, 2)	3-phase 200 to 230VAC 50/60Hz or 1-phase 200 to 230VAC 50/60Hz (Note 10)					3-phase 200 to 230VAC 50/60Hz									1-phase 100 to 120VAC 50/60Hz		
	Rated current (A)	0.9	1.5	2.6	3.2	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	For 3-phase 200 to 230VAC: 3-phase 170 to 253VAC For 1-phase 200 to 230VAC: 1-phase 170 to 253VAC (Note 10)					3-phase 170 to 253VAC									1-phase 85 to 132VAC		
	Permissible frequency fluctuation	±5% maximum																
Control circuit power supply	Voltage/frequency	1-phase 200 to 230VAC 50/60Hz (Note 10)					1-phase 200 to 230VAC 50/60Hz									1-phase 100 to 120VAC 50/60Hz		
	Rated current (A)	0.2					0.3					0.4						
	Permissible voltage fluctuation	1-phase 170 to 253VAC (Note 10)					1-phase 170 to 253VAC									1-phase 85 to 132VAC		
	Permissible frequency fluctuation	±5% maximum																
Interface power supply		24VDC ±10% (required current capacity: 0.3A (Note 7))																
Tolerable regenerative power of regenerative resistor (W) (Note 3, 4)	Built-in regenerative resistor	—	10	10	10	20	20	100	100	130	170	—	—	—	—	10	10	
	External regenerative resistor (Standard accessory) (Note 5, 6)	—	—	—	—	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)	—	—	—	
Control system		Sine-wave PWM control/current control system																
Dynamic brake		Built-in (Note 8, 13)										External option (Note 14)			Built-in (Note 8, 13)			
Safety features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection																
Position control mode	Maximum input pulse frequency	1Mpps (when using differential receiver), 200kpps (when using open collector), (4Mpps (Note 11))																
	Positioning feedback pulse	Encoder resolution: 262144 p/rev																
	Command pulse multiple	Electronic gear A/B multiple, A: 1 to 1048576, B: 1 to 1048576, 1/10 < A/B < 2000																
	Positioning complete width setting	0 to ±65535 pulses (command pulse unit)																
	Excess error	±3 rotations																
Speed control mode	Torque limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)																
	Speed control range	Analog speed command 1:2000, internal speed command 1:5000																
	Analog speed command input	0 to ±10VDC/rated speed (possible to change the speed in 10V using parameter No. PC12.) (Note 12)																
	Speed fluctuation rate	±0.01% maximum (load fluctuation 0 to 100%), 0% (power fluctuation ±10%) ±0.2% maximum (ambient temperature 25°C±10°C (59°F to 95°F)), when using analog speed command																
Torque control mode	Torque limit	Set by parameters or external analog input (0 to +10VDC/maximum torque) (Note 12)																
	Analog torque command input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ) (Note 12)																
Structure (IP rating)	Speed limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)																
	Speed limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)																
Environment		Natural-cooling open (IP00)					Fan cooling open (IP00)									Natural-cooling open (IP00)		
Environment	Ambient temperature (Note 9)	0 to 55°C (32 to 131°F) (non freezing), storage: -20 to 65°C (-4 to 149°F) (non freezing)																
	Ambient humidity	90% RH maximum (non condensing), storage: 90% RH maximum (non condensing)																
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust																
	Elevation	1000m or less above sea level																
Mass (kg [lb])	Vibration	5.9m/s ² or less at 10 to 55Hz (directions of X, Y and Z axes)																
	Mass (kg [lb])	0.8 (1.8)	0.8 (1.8)	1.0 (2.2)	1.0 (2.2)	1.4 (3.1)	1.4 (3.1)	2.1 (4.6)	2.3 (5.1)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)	0.8 (1.8)	0.8 (1.8)	1.0 (2.2)	

- Notes: 1. Rated output and speed of a servo motor are applicable when the servo amplifier, combined with the servo motor, is operated within the specified power supply voltage and frequency. Torque drops when the power supply voltage is below the specified value.
2. For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in this catalog.
3. Optimal regenerative resistor varies for each system. Select the most suitable regenerative resistor by using the capacity selection software.
4. Refer to the section "Options ● Optional regeneration unit" in this catalog for the tolerable regenerative power (W).
5. Servo amplifiers without an enclosed regenerative resistor are also available. Refer to "Servo Amplifier Model Designation" in this catalog for details.
6. The value in () is applicable when the external regenerative resistors, GRZG400-□Ω (standard accessory) are used with cooling fans (2 units of 92 X 92mm, minimum air flow: 1.0m³/min). Note that change in parameter No. PA02 is required.
7. 0.3A is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
8. Special specification servo amplifiers without a dynamic brake are also available: MR-J3-□A(1)-ED. 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.
9. MR-J3-350A or smaller servo amplifiers can be mounted closely. In this case, operate them at the ambient temperature of 0 to 45°C (32 to 113°F) or at 75% or less of the effective load ratio.
10. Special specification servo amplifiers for 1-phase 200 to 240VAC are also available: MR-J3-□A-U004. The permissible voltage fluctuation for MR-J3-□A-U004 is 1-phase 170 to 264VAC.
11. 4Mpps compatible servo amplifier is also available: MR-J3-□A(1)-KE. Contact your local sales office for 4Mpps compatible servo amplifier for HF-JP11K1M and HF-JP15K1M.
12. High resolution analog speed command and analog torque command is available with a set of MR-J3-□A(1)-RJ040 and MR-J3-D01 extension IO unit.
13. When using the built-in dynamic brake, refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for the permissible load to motor inertia moment ratio.
14. 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.

Model designation
Servo motors
Servo amplifiers
Options
Peripheral equipment
MR-J3-B Safety
MR-J3W series
Servo support software
Cautions
Warranty
Global FA centers



MR-J3-A Servo Amplifier Specifications: 200VAC, 30kW or Larger

		Drive unit model	MR-J3-DU30KA	MR-J3-DU37KA	
Drive unit	Output	Rated voltage	3-phase 170VAC		
		Rated current (A)	174	204	
	Main circuit power supply		The drive unit's main circuit power is supplied from the converter unit.		
	Control circuit power supply	Voltage/frequency	1-phase 200 to 230VAC 50/60Hz		
		Rated current (A)	0.3		
		Permissible voltage fluctuation	1-phase 170 to 253VAC		
		Permissible frequency fluctuation	±5% maximum		
		Power consumption (W)	45		
	Interface power supply		24VDC ±10% (required current capacity: 0.3A (Note 3))		
	Control system		Sine-wave PWM control/current control system		
	Dynamic brake		External option (Note 4)		
	Safety features		Overcurrent shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection		
	Position control mode	Maximum input pulse frequency	1Mpps (when using differential receiver), 200kpps (when using open collector)		
		Positioning feedback pulse	Encoder resolution: 262144 p/rev		
		Command pulse multiple	Electronic gear A/B multiple, A: 1 to 1048576, B: 1 to 1048576, 1/10 < A/B < 2000		
		Positioning complete width setting	0 to ±65535 pulses (command pulse unit)		
		Excess error	±3 rotations		
		Torque limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)		
	Speed control mode	Speed control range	Analog speed command 1:2000, internal speed command 1:5000		
		Analog speed command input	0 to ±10VDC/rated speed (possible to change the speed in 10V using parameter No. 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 (59°F to 95°F)), when using analog speed command			
Torque limit		Set by parameters or external analog input (0 to +10VDC/maximum torque)			
Torque control mode	Analog torque command input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ)			
	Speed limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)			
Structure (IP rating)		Fan cooling open (IP00)			
Mass (kg [lb])		26 (57)			
Converter unit	Converter unit model		MR-J3-CR55K		
	Output	Rated voltage	283 to 326VDC		
		Rated current (A)	215.9		
	Main circuit power supply	Voltage/frequency (Note 1, 2)	3-phase 200 to 230VAC 50/60Hz		
		Rated current (A)	251.1		
		Permissible voltage fluctuation	3-phase 170 to 253VAC		
		Permissible frequency fluctuation	±5% maximum		
	Control circuit power supply	Voltage/frequency	1-phase 200 to 230VAC 50/60Hz		
		Rated current (A)	0.3		
		Permissible voltage fluctuation	1-phase 170 to 253VAC		
		Permissible frequency fluctuation	±5% maximum		
		Power consumption (W)	45		
	Interface power supply		24VDC ±10% (required current capacity: 0.13A (Note 3))		
	Safety features		Regeneration overvoltage shutdown, regeneration fault protection, overload shutdown (electronic thermal), undervoltage/sudden power outage protection		
	Structure (IP rating)		Fan cooling open (IP00)		
	Mass (kg [lb])		25 (55)		
	Drive unit/ Converter unit	Environment	Ambient temperature	0 to 55°C (32 to 131°F) (non freezing), storage: -20 to 65°C (-4 to 149°F) (non freezing)	
Ambient humidity			90% RH maximum (non condensing), storage: 90% RH maximum (non condensing)		
Atmosphere			Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust		
Elevation			1000m or less above sea level		
Vibration			5.9m/s ² or less at 10 to 55Hz (directions of X, Y and Z axes)		

Notes: 1. Rated output and speed of a servo motor are applicable when the drive unit and the converter unit, combined with the servo motor, are operated within the specified power supply voltage and frequency. Torque drops when the power supply voltage is below the specified value.

2. For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in this catalog.

3. The interface power supply can be shared with the drive unit and the converter unit. When all of the input/output points are used, 0.3A is required for the drive unit, and 0.13A is required for the converter unit. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.

4. Use an optional external dynamic brake 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.



MR-J3-A Servo Amplifier Specifications: 400VAC, 22kW or Smaller

Servo amplifier model MR-J3-		60A4	100A4	200A4	350A4	500A4	700A4	11KA4	15KA4	22KA4
Output	Rated voltage	3-phase 323VAC								
	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	Voltage/frequency (Note 1, 2)	3-phase 380 to 480VAC 50/60Hz								
	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 to 528VAC								
	Permissible frequency fluctuation	±5% maximum								
Control circuit power supply	Voltage/frequency	1-phase 380 to 480VAC 50/60Hz								
	Rated current (A)	0.1			0.2					
	Permissible voltage fluctuation	1-phase 323 to 528VAC								
	Permissible frequency fluctuation	±5% maximum								
Power consumption (W)		30			45					
Interface power supply		24VDC ±10% (required current capacity: 0.3A (Note 7))								
Tolerable regenerative power of regenerative resistor (W) (Note 3, 4)	Built-in regenerative resistor	15	15	100	100	130 (Note 9)	170 (Note 9)	—	—	—
	External regenerative resistor (Standard accessory) (Note 5, 6)	—	—	—	—	—	—	500 (800)	850 (1300)	850 (1300)
Control system		Sine-wave PWM control/current control system								
Dynamic brake		Built-in (Note 8, 10)					External option (Note 12)			
Safety features		Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection								
Position control mode	Maximum input pulse frequency	1Mpps (when using differential receiver), 200kpps (when using open collector)								
	Positioning feedback pulse	Encoder resolution: 262144 p/rev								
	Command pulse multiple	Electronic gear A/B multiple, A: 1 to 1048576, B: 1 to 1048576, 1/10 < A/B < 2000								
	Positioning complete width setting	0 to ±65535 pulses (command pulse unit)								
	Excess error	±3 rotations								
	Torque limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)								
Speed control mode	Speed control range	Analog speed command 1:2000, internal speed command 1:5000								
	Analog speed command input	0 to ±10VDC/rated speed (possible to change the speed in 10V using parameter No. PC12.) (Note 11)								
	Speed fluctuation rate	±0.01% maximum (load fluctuation 0 to 100%), 0% (power fluctuation ±10%) ±0.2% maximum (ambient temperature 25°C±10°C (59°F to 95°F)), when using analog speed command								
	Torque limit	Set by parameters or external analog input (0 to +10VDC/maximum torque) (Note 11)								
Torque control mode	Analog torque command input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ) (Note 11)								
	Speed limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)								
Structure (IP rating)		Natural-cooling open (IP00)			Fan cooling open (IP00)					
Environment	Ambient temperature (Note 6)	0 to 55°C (32 to 131°F) (non freezing), storage: -20 to 65°C (-4 to 149°F) (non freezing)								
	Ambient humidity	90% RH maximum (non condensing), storage: 90% RH maximum (non condensing)								
	Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust								
	Elevation	1000m or less above sea level								
Vibration		5.9m/s ² or less at 10 to 55Hz (directions of X, Y and Z axes)								
Mass (kg [lb])		1.7 (3.7)	1.7 (3.7)	2.1 (4.6)	4.6 (10)	4.6 (10)	6.2 (14)	18 (40)	18 (40)	19 (42)

- Notes: 1. Rated output and speed of a servo motor are applicable when the servo amplifier, combined with the servo motor, is operated within the specified power supply voltage and frequency. Torque drops when the power supply voltage is below the specified value.
2. For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in this catalog.
3. Optimal regenerative resistor varies for each system. Select the most suitable regenerative resistor by using the capacity selection software.
4. Refer to the section "Options ● Optional regeneration unit" in this catalog for the tolerable regenerative power (W).
5. Servo amplifiers without an enclosed regenerative resistor are also available. Refer to "Servo Amplifier Model Designation" in this catalog for details.
6. The value in () is applicable when the external regenerative resistors, GRZG400-□Ω (standard accessory) are used with cooling fans (2 units of 92 X 92mm, minimum air flow: 1.0m³/min). Note that change in parameter No. PA02 is required.
7. 0.3A is the value when all of the input/output points are used. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
8. Special specification servo amplifiers without a dynamic brake are also available: MR-J3-□A4-ED. 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.
9. The servo amplifier built-in regenerative resistor is compatible with the maximum torque deceleration when the motor is used within the rated speed and the recommended load to motor inertia moment ratio. Contact your local sales office if the operating motor speed and the load to motor inertia moment ratio exceed the rated speed and the recommended ratio.
10. When using the built-in dynamic brake, refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for the permissible load to motor inertia moment ratio.
11. For the servo amplifier 11kW to 22kW, high resolution analog speed command and analog torque command is available with a set of MR-J3-□A4-RJ040 and MR-J3-D01 extension IO unit. Servo amplifier 7kW or smaller, compatible with high resolution analog speed torque command, will be available.
12. 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.

Model designation

Servo motors

Servo amplifiers

Options

Peripheral equipment

MR-J3-B Safety

MR-J3W series

Servo support software

Cautions

Warranty

Global FA centers



MR-J3-A Servo Amplifier Specifications: 400VAC, 30kW or Larger

Drive unit model		MR-J3-DU30KA4	MR-J3-DU37KA4	MR-J3-DU45KA4	MR-J3-DU55KA4
Output	Rated voltage	3-phase 323VAC			
	Rated current (A)	87	102	131	143
Main circuit power supply		The drive unit's main circuit power is supplied from the converter unit.			
Control circuit power supply	Voltage/frequency	1-phase 380 to 480VAC 50/60Hz			
	Rated current (A)	0.2			
	Permissible voltage fluctuation	1-phase 323 to 528VAC			
	Permissible frequency fluctuation	±5% maximum			
	Power consumption (W)	45			
Interface power supply		24VDC ±10% (required current capacity: 0.3A (Note 3))			
Control system		Sine-wave PWM control/current control system			
Dynamic brake		External option (Note 4)			
Safety features		Overcurrent shutdown, overload shutdown (electronic thermal), servo motor overheat protection, encoder fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection			
Position control mode	Maximum input pulse frequency	1Mpps (when using differential receiver), 200kpps (when using open collector)			
	Positioning feedback pulse	Encoder resolution: 262144 p/rev			
	Command pulse multiple	Electronic gear A/B multiple, A: 1 to 1048576, B: 1 to 1048576, 1/10 < A/B < 2000			
	Positioning complete width setting	0 to ±65535 pulses (command pulse unit)			
	Excess error	±3 rotations			
	Torque limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)			
Speed control mode	Speed control range	Analog speed command 1:2000, internal speed command 1:5000			
	Analog speed command input	0 to ±10VDC/rated speed (possible to change the speed in 10V using parameter No. 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 (59°F to 95°F)), when using analog speed command			
	Torque limit	Set by parameters or external analog input (0 to +10VDC/maximum torque)			
Torque control mode	Analog torque command input	0 to ±8VDC/maximum torque (input impedance 10 to 12kΩ)			
	Speed limit	Set by parameters or external analog input (0 to ±10VDC/rated speed)			
Structure (IP rating)		Fan cooling open (IP00)			
Mass (kg [lb])		18 (40)		26 (57)	
Converter unit model		MR-J3-CR55K4			
Output	Rated voltage	538 to 678VDC			
	Rated current (A)	113.8			
Main circuit power supply	Voltage/frequency (Note 1, 2)	3-phase 380 to 480VAC 50/60Hz			
	Rated current (A)	132.2			
	Permissible voltage fluctuation	3-phase 323 to 528VAC			
	Permissible frequency fluctuation	±5% maximum			
Control circuit power supply	Voltage/frequency	1-phase 380 to 480VAC 50/60Hz			
	Rated current (A)	0.2			
	Permissible voltage fluctuation	1-phase 323 to 528VAC			
	Permissible frequency fluctuation	±5% maximum			
	Power consumption (W)	45			
Interface power supply		24VDC ±10% (required current capacity: 0.13A (Note 3))			
Safety features		Regeneration overvoltage shutdown, regeneration fault protection, overload shutdown (electronic thermal), undervoltage/sudden power outage protection			
Structure (IP rating)		Fan cooling open (IP00)			
Mass (kg [lb])		25 (55)			
Drive unit/ Converter unit	Environment	Ambient temperature	0 to 55°C (32 to 131°F) (non freezing), storage: -20 to 65°C (-4 to 149°F) (non freezing)		
		Ambient humidity	90% RH maximum (non condensing), storage: 90% RH maximum (non condensing)		
		Atmosphere	Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust		
		Elevation	1000m or less above sea level		
		Vibration	5.9m/s ² or less at 10 to 55Hz (directions of X, Y and Z axes)		

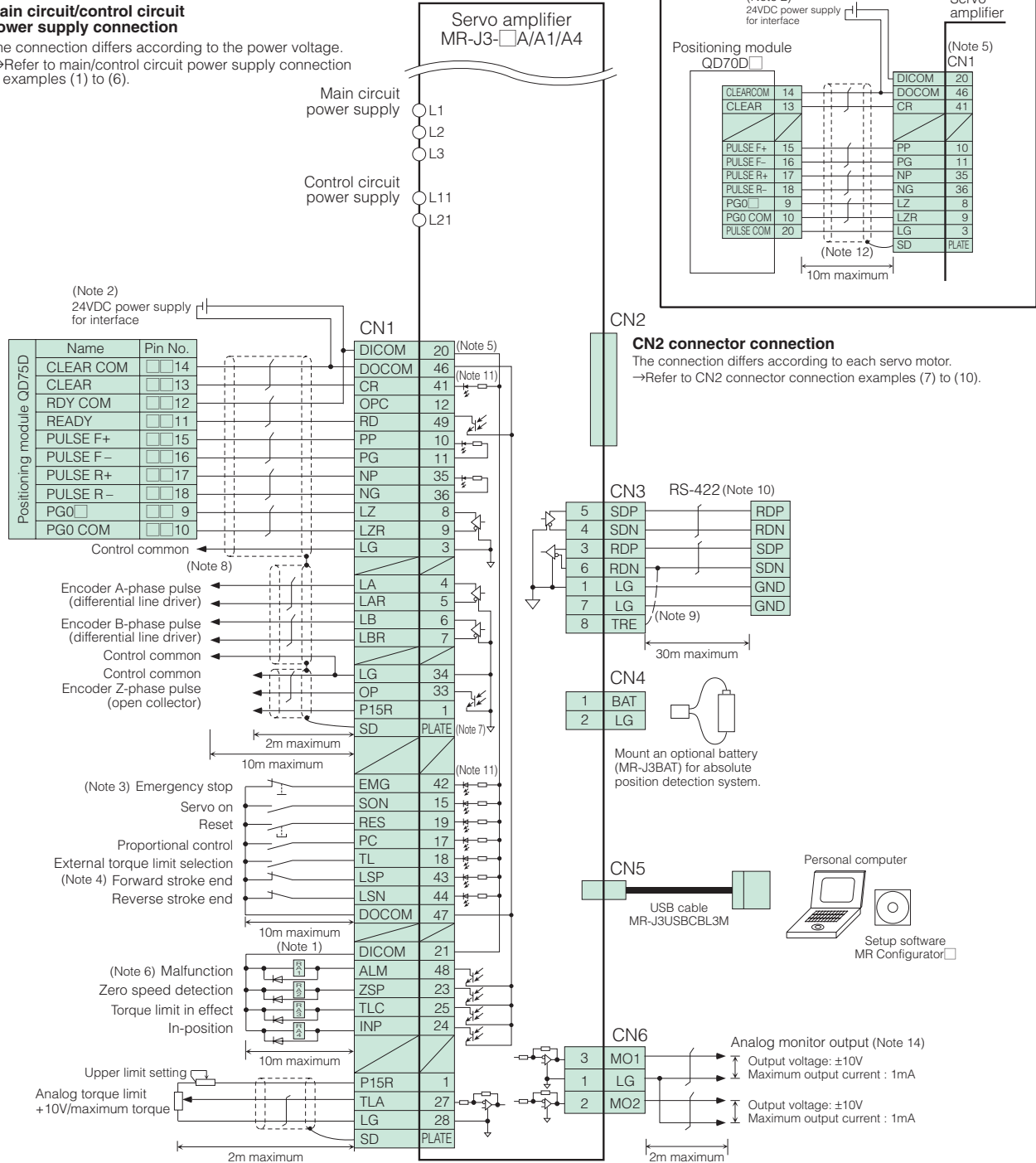
- Notes: 1. Rated output and speed of a servo motor are applicable when the drive unit and the converter unit, combined with the servo motor, are operated within the specified power supply voltage and frequency. Torque drops when the power supply voltage is below the specified value.
 2. For torque characteristics when combined with a servo motor, refer to the section "Servo motor torque characteristics" in this catalog.
 3. The interface power supply can be shared with the drive unit and the converter unit. When all of the input/output points are used, 0.3A is required for the drive unit, and 0.13A is required for the converter unit. The current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
 4. Use an optional external dynamic brake 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.

MR-J3-□A□ Standard Wiring Diagram: Position Control Operation

● Connection example to QD75D (position servo, incremental)

Main circuit/control circuit power supply connection

The connection differs according to the power voltage.
 →Refer to main/control circuit power supply connection examples (1) to (6).



Notes:

- Do not reverse the diode's direction. Connecting it backwards may cause the servo amplifier to malfunction such that the signals are not output, and the emergency stop and other safety circuits are inoperable.
- Use the power supply 24VDC±10% (required current capacity: 0.3A). 0.3A is the value when all of the input/output points are used. Note that the current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Always turn on the emergency stop (EMG) signal (normally closed contact) before starting the operation. If not, the operation will not start.
- Always turn on the forward and reverse stroke end (LSP, LSN) signals (normally closed contact) before starting the operation. If not, the commands will not be accepted.
- Signals with the same name are connected internally.
- The malfunction (ALM) signal (normally closed contact) is conducted to DOCOM in normal alarm-free condition.
- Connect the shield wire securely to the plate inside the connector (ground plate).
- This connection is not necessary for QD75D positioning module. Note that the connection between LG and control common terminal is recommended for some positioning modules to improve noise immunity.
- For the final axis, connect TRE and RDN.
- A personal computer can be connected using a RS-422/RS-232C conversion cable. Note that USB interface (CN5 connector) and RS-422 interface (CN3 connector) are mutually exclusive. They cannot be used at the same time. Refer to the section "Ordering Information for Customers" in this catalog for the RS-422/RS-232C conversion cable.
- This is for sink wiring. Source wiring is also possible. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- FA goods (Model: FA-CBLQ75M2J3(-P)/-1(P)) cannot be used.
- Do not use CN2L connector.
- Output voltage range varies depending on the monitored signal.

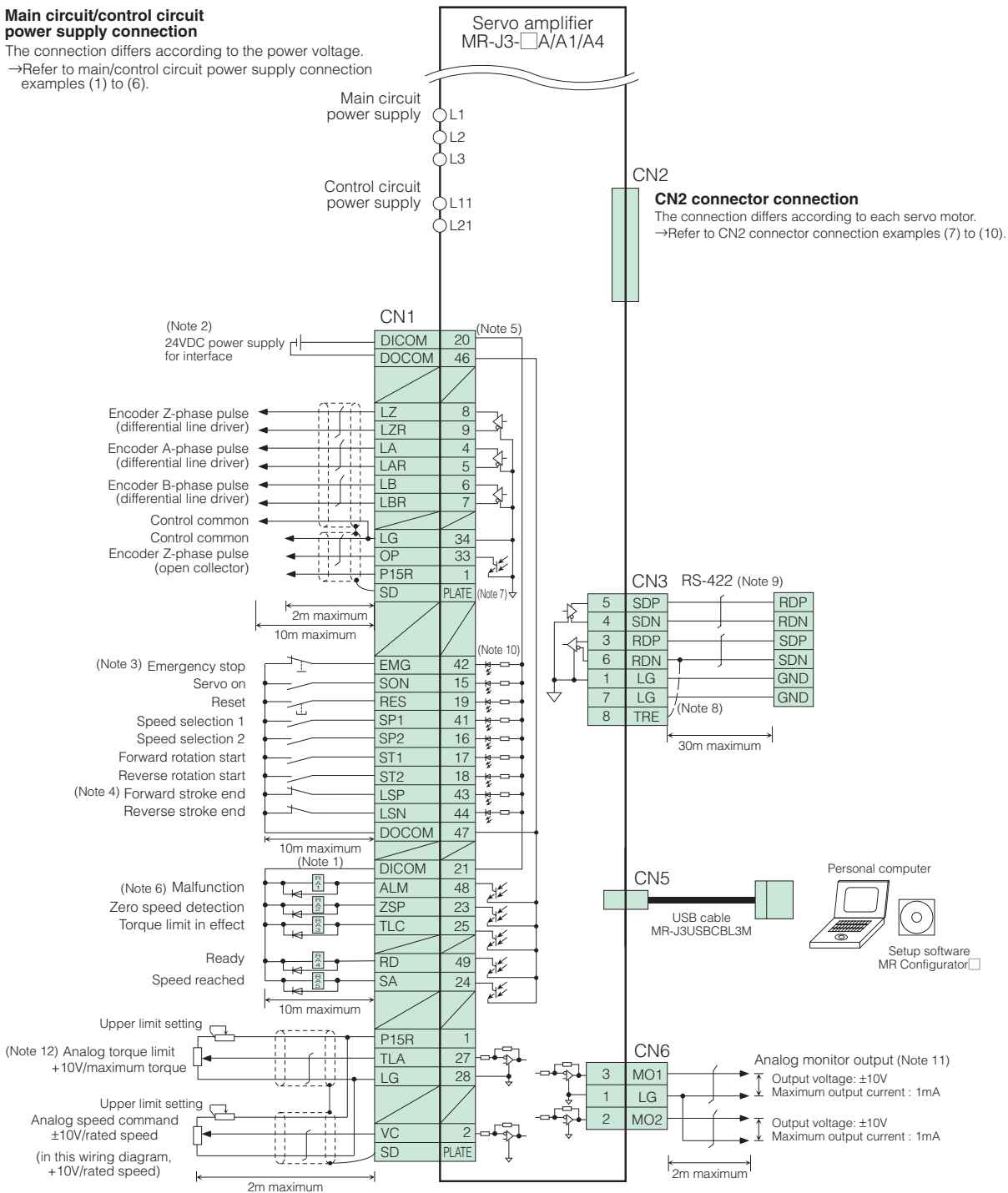
Model designation
 Servo motors
 Servo amplifiers
 Options
 Peripheral equipment
 MR-J3-BSafety series
 MR-J3W series
 Servo support software
 Cautions
 Warranty
 Global FA centers

MR-J3-□A□ Standard Wiring Diagram: Speed Control Operation

● Connection example

Main circuit/control circuit power supply connection

The connection differs according to the power voltage.
 →Refer to main/control circuit power supply connection examples (1) to (6).

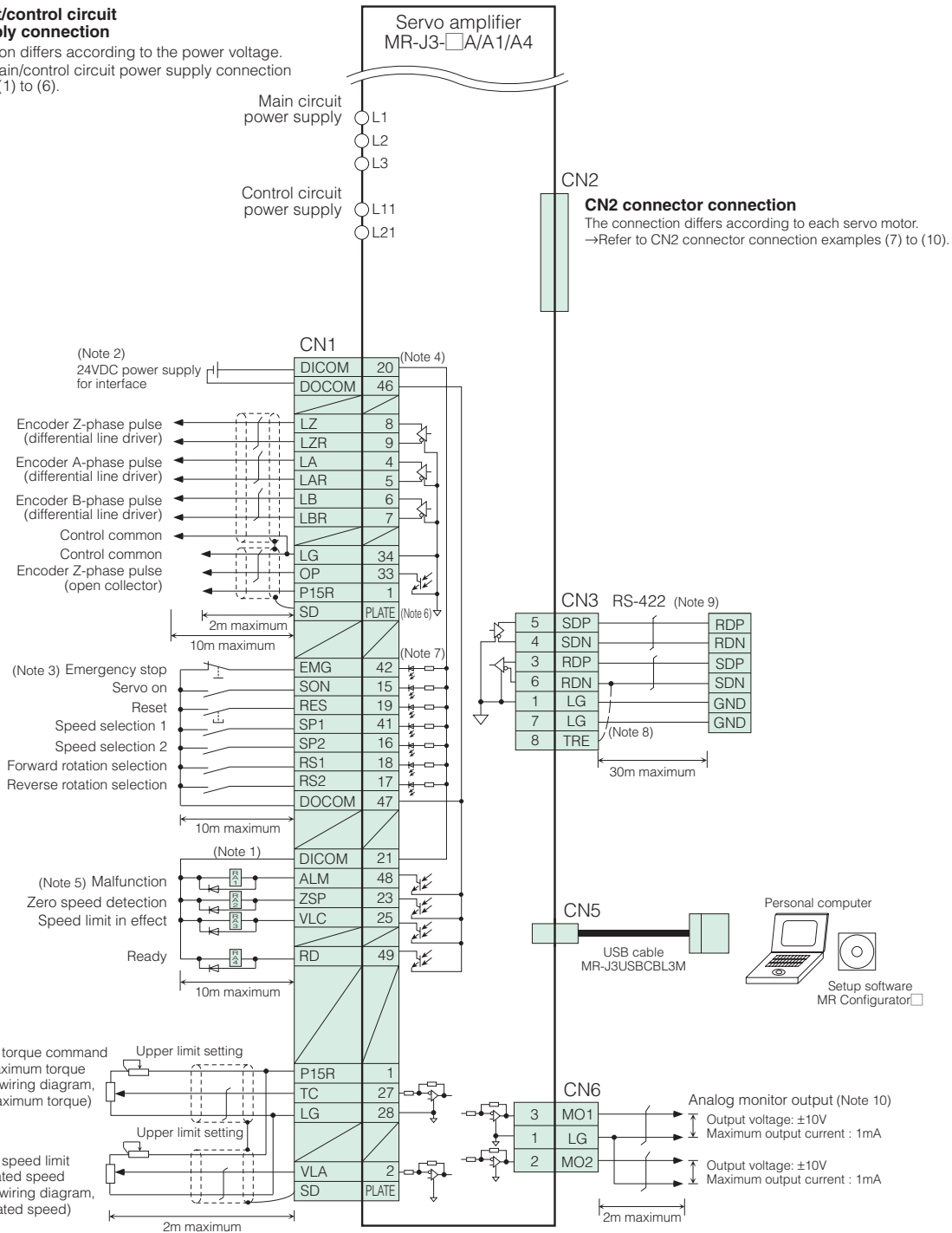


MR-J3-□A□ Standard Wiring Diagram: Torque Control Operation

● Connection example

Main circuit/control circuit power supply connection

The connection differs according to the power voltage.
 →Refer to main/control circuit power supply connection examples (1) to (6).



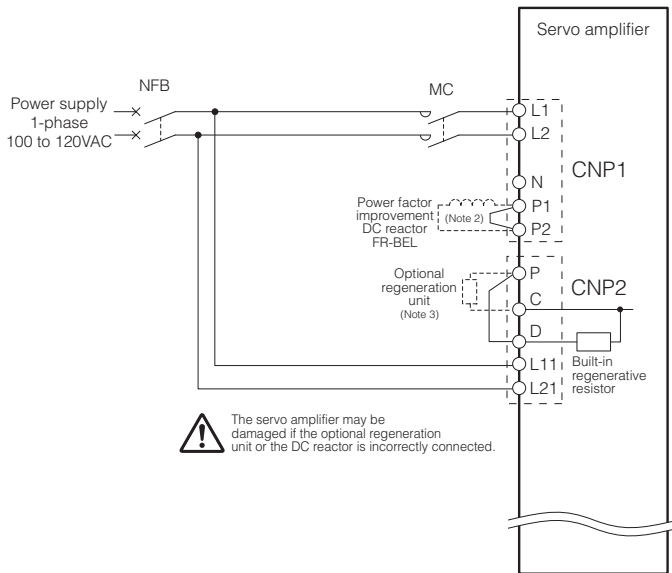
Notes:

- Do not reverse the diode's direction. Connecting it backwards may cause the servo amplifier to malfunction such that the signals are not output, and the emergency stop and other safety circuits are inoperable.
- Use the power supply 24VDC±10% (required current capacity: 0.3A). 0.3A is the value when all of the input/output points are used. Note that the current capacity can be stepped down according to the number of input/output points in use. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- Always turn on the emergency stop (EMG) signal (normally closed contact) before starting the operation. If not, the operation will not start.
- Signals with the same name are connected internally.
- The malfunction (ALM) signal (normally closed contact) is conducted to DOCOM in normal alarm-free condition.
- Connect the shield wire securely to the plate inside the connector (ground plate).
- This is for sink wiring. Source wiring is also possible. Refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- For the final axis, connect TRE and RDN.
- A personal computer can be connected using an RS-422/RS-232C conversion cable. Note that USB interface (CN5 connector) and RS-422 interface (CN3 connector) are mutually exclusive. They cannot be used at the same time. Refer to the section "Ordering Information for Customers" in this catalog for the RS-422/RS-232C conversion cable.
- Output voltage range varies depending on the monitored signal.

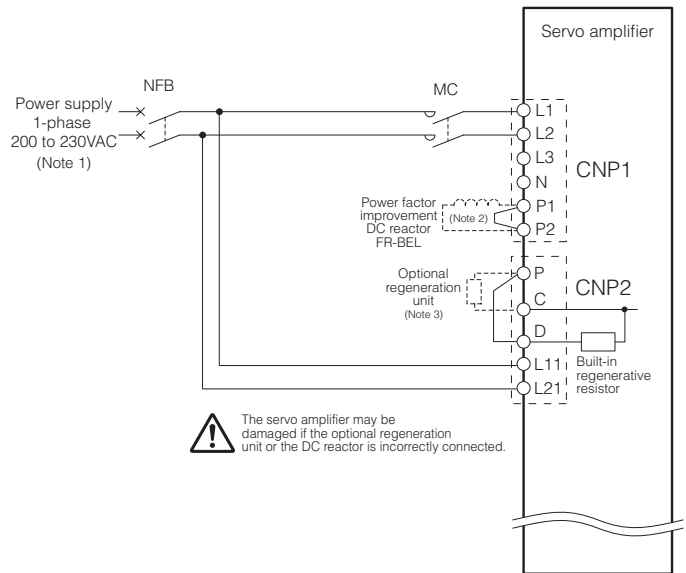
Model designation
 Servo motors
 Servo amplifiers
 Options
 Peripheral equipment
 MR-J3-Esafety
 MR-J3W series
 Servo support software
 Cautions
 Warranty
 Global FA centers

Main/Control Circuit Power Supply Connection Examples

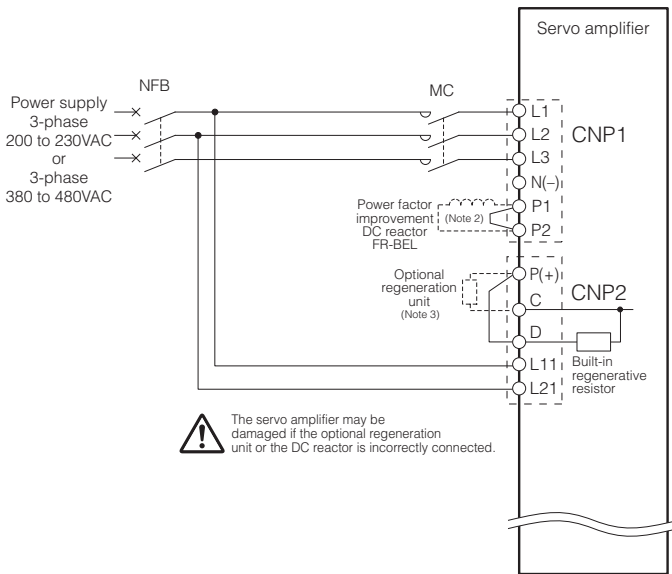
(1) 1-phase 100V



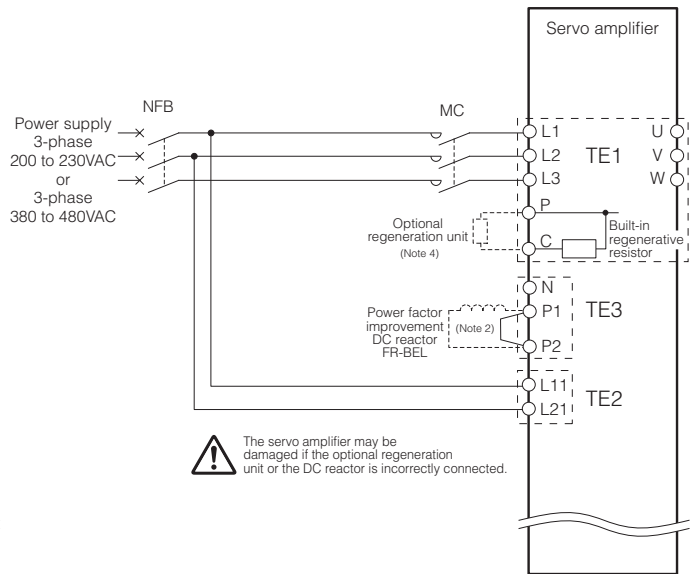
(2) 1-phase 200V



(3) 3-phase 200V 0.1kW to 3.5kW
or 3-phase 400V 0.6kW to 2kW



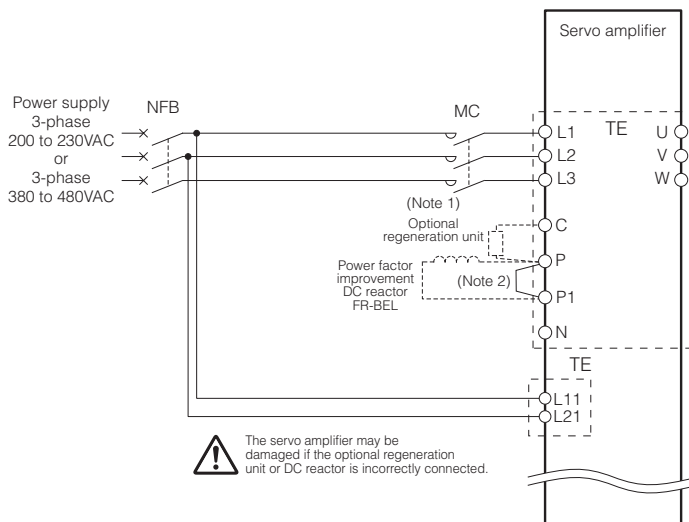
(4) 3-phase 200V 5kW or 7kW,
or 3-phase 400V 3.5kW to 7kW



Notes:

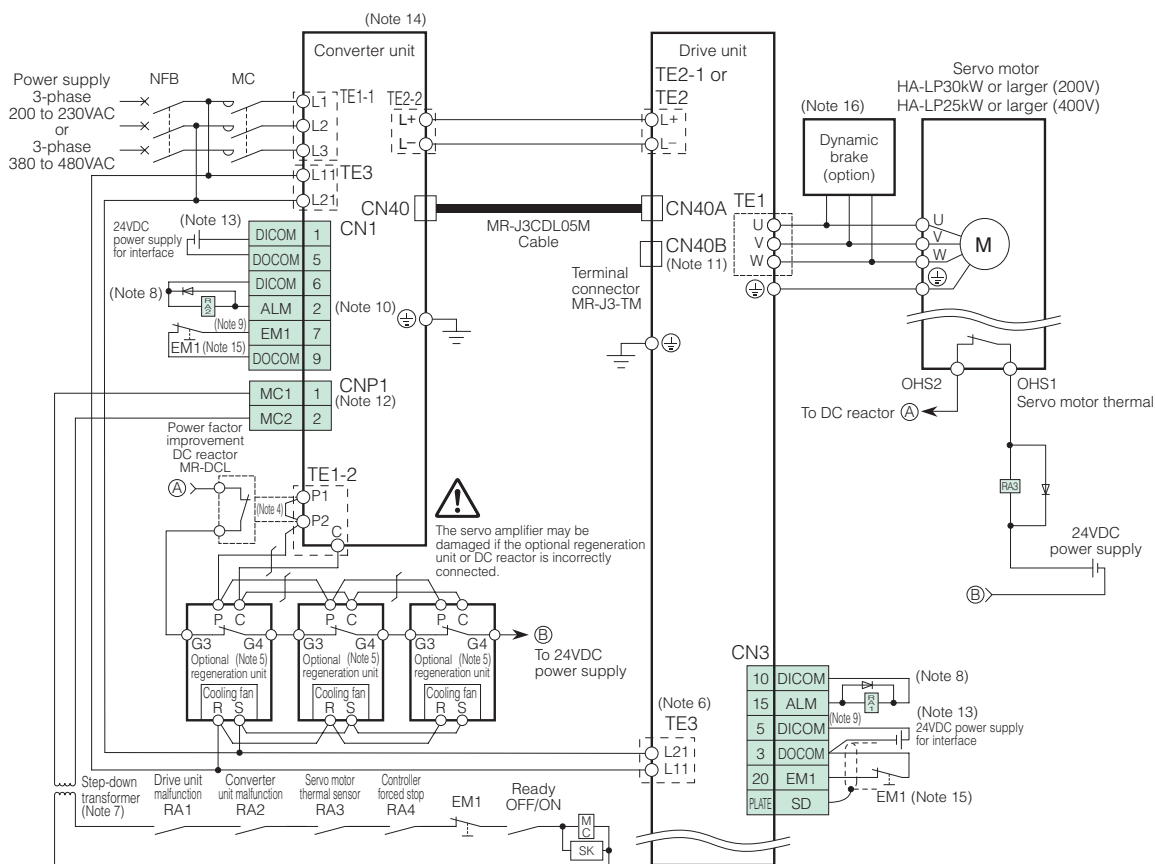
1. When using a 1-phase 200VAC to 230VAC, connect the power supply to the L1 and L2 terminals. Do not connect anything to L3.
2. Disconnect P1 and P2 when using the DC reactor.
3. Disconnect P(+) and D when connecting the optional regeneration unit externally.
4. Disconnect the wires for the built-in regenerative resistor (P and C) when connecting the optional regeneration unit externally.

(5) 3-phase 200V/400V 11kW to 22kW



! The servo amplifier may be damaged if the optional regeneration unit or DC reactor is incorrectly connected.

(6) 3-phase 200V/400V 30kW or larger (Note 3)

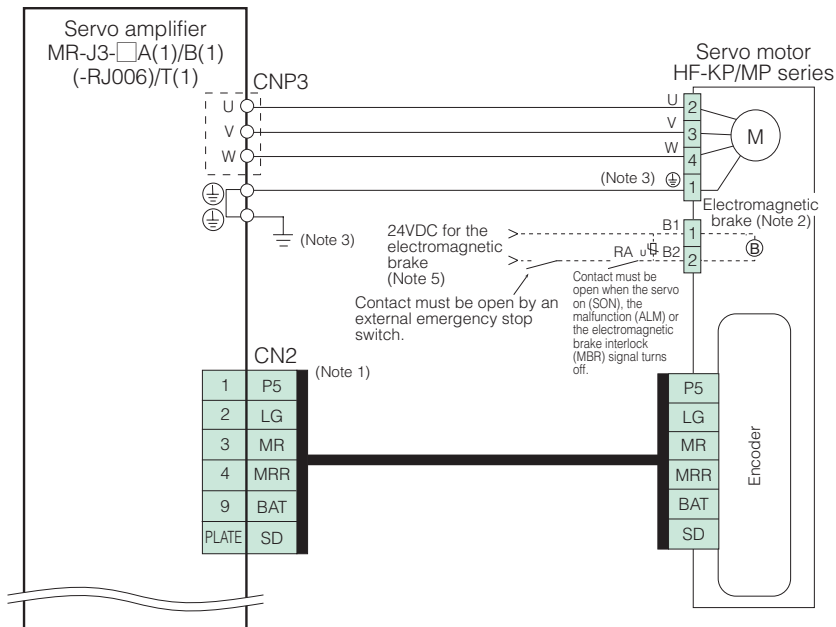


Notes:

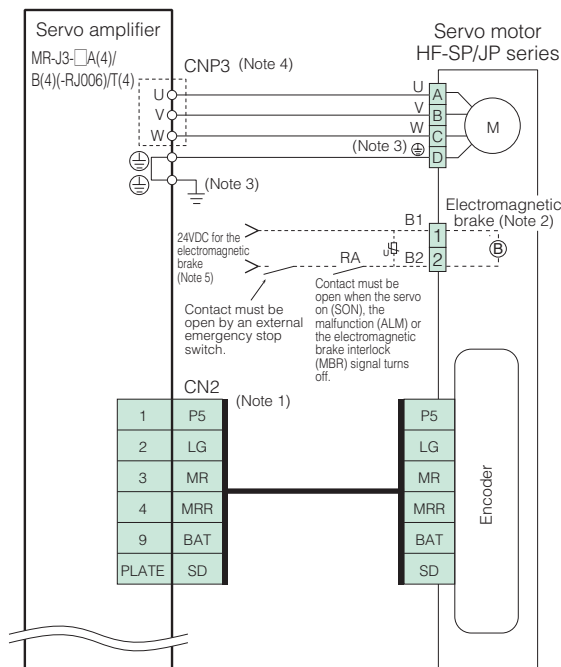
- 11kW or larger servo amplifiers do not have a built-in regenerative resistor.
- Remove the short bar between P and P1 when using the DC reactor.
- This wiring diagram is for MR-J3-DU□B(4). For MR-J3-DU□A(4), refer to "MR-J3-□A SERVO AMPLIFIER INSTRUCTION MANUAL".
- Remove the short bar between P1 and P2 when using the DC reactor.
- This is for MR-RB137 (for 200V) or MR-RB138-4 (for 400V). Three units of MR-RB137 or MR-RB138-4 are required for each converter unit (tolerable regenerative power 3900W).
- The phases of the power supply connected to L1 and L2 on the converter unit and the drive unit must always match the phases connected to L1 and L2. An incorrect connection may damage the drive unit and/or the converter unit.
- A step-down transformer is required when coil voltage of the magnetic contactor (MC) is 200V class, and the converter unit and the drive unit are 400V class.
- Do not reverse the diode's direction. Connecting it backwards may cause the drive unit and/or the converter unit to malfunction such that the signals are not output, and the emergency stop and other safety circuits are inoperable.
- Select a device that does not make the circuit current exceed 40mA.
- The malfunction (ALM) signal (normally closed contact) is conducted to DCOM in normal alarm-free condition.
- Always connect the terminal connector (MR-J3-TM) to CN40B.
- MC1 and MC2 outputs are controlled by the converter unit. For creating a system same as that of the prior servo amplifier by invalidating CNP1, refer to "MR-J3 SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
- The interface power supply can be shared with the drive unit and the converter unit. When all of the input/output points are used, 0.15A is required for the drive unit and 0.13A for the converter unit. The current capacity can be stepped down according to the number of input/output points in use.
- A converter unit is required per drive unit.
- Create a circuit that shuts off the forced stop (EM1) of the converter unit and the drive unit at the same time.
- Use an optional external dynamic brake 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.

CN2 Connector Connection Examples

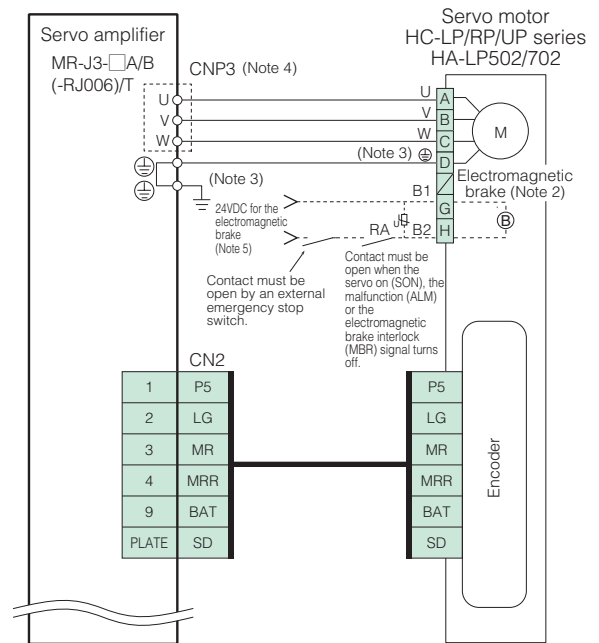
(7) HF-KP/HF-MP series



(8) HF-SP/HF-JP series



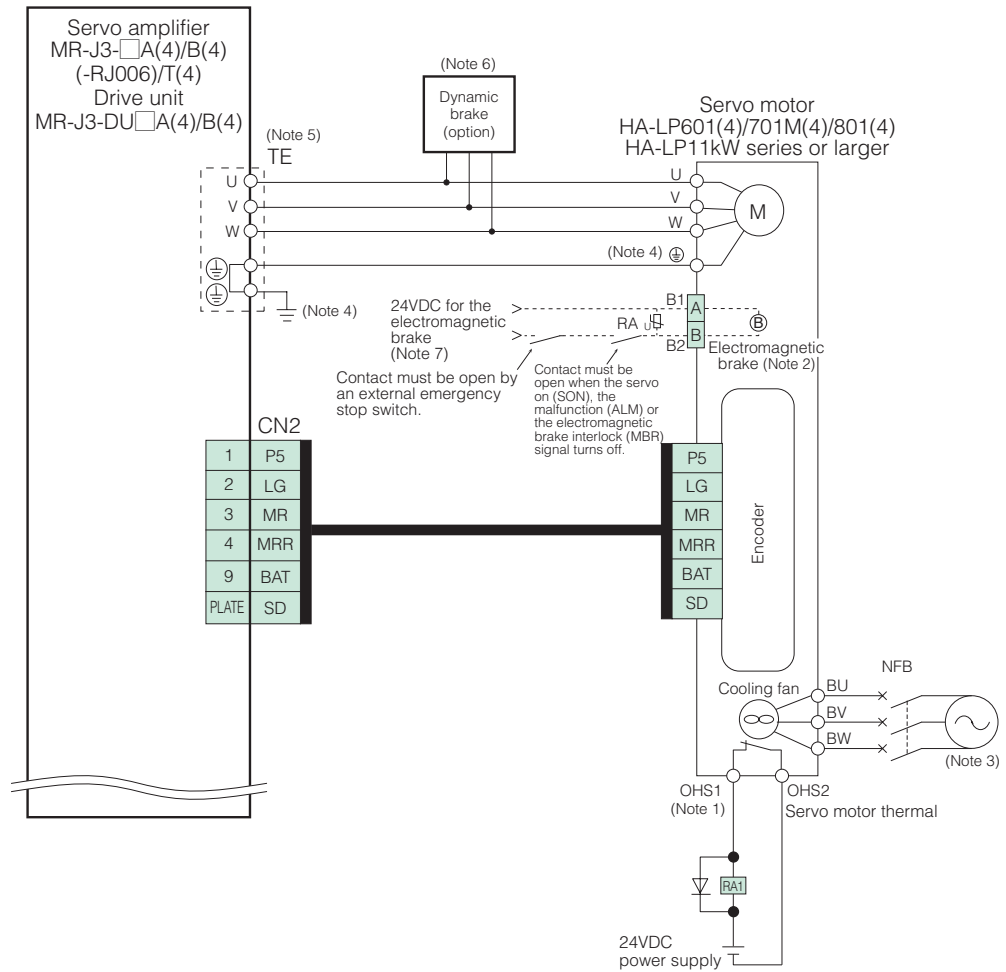
(9) HC-LP/HC-RP/HC-UP series or HA-LP502/702



Notes:

1. The signals shown is applicable when using a two-wire type encoder cable. When using a four-wire type encoder cable for HF-KP/HF-MP series or 11kW and 15kW of HF-JP series, refer to "MR-J3 SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
2. This is for the motor with an electromagnetic brake. The electromagnetic brake terminals (B1, B2) do not have polarity. A separate connector from the motor power supply connector is prepared as an electromagnetic brake connector for HC-LP202B, 302B, and HC-UP202B to 502B.
3. Connect the ground wire to the cabinet protective earth (PE) terminal via the servo amplifier protective earth (PE) terminal for grounding.
4. U, V and W terminals are available in TE1 for 200V 5kW or larger and 400V 3.5kW or larger servo amplifiers.
5. Do not use the 24VDC interface power supply for the electromagnetic brake. Provide a power supply designed exclusively for the electromagnetic brake.

(10) HA-LP601(4)/701M(4)/801(4) or HA-LP series 11kW or larger

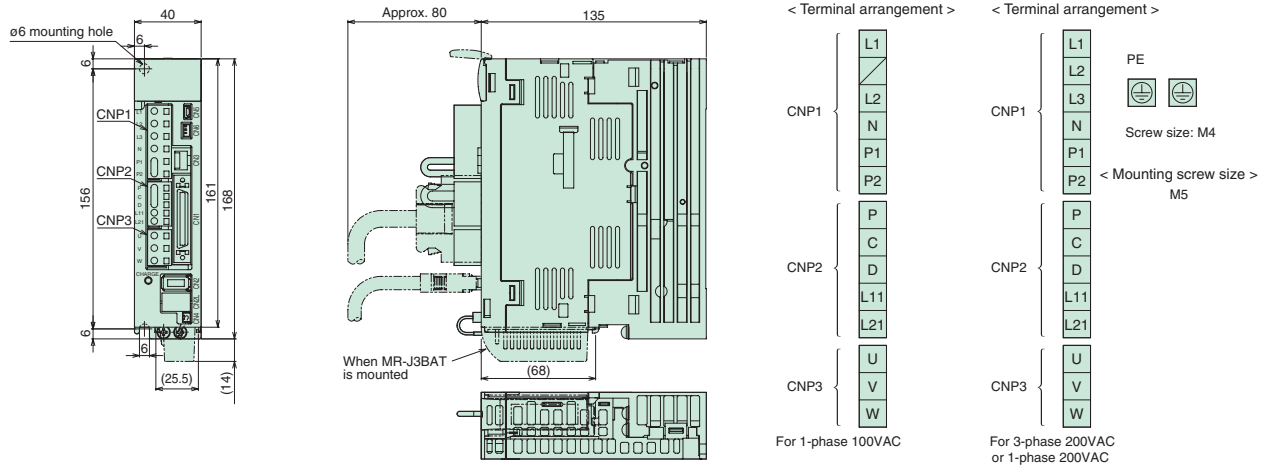


MELSERVO-J3

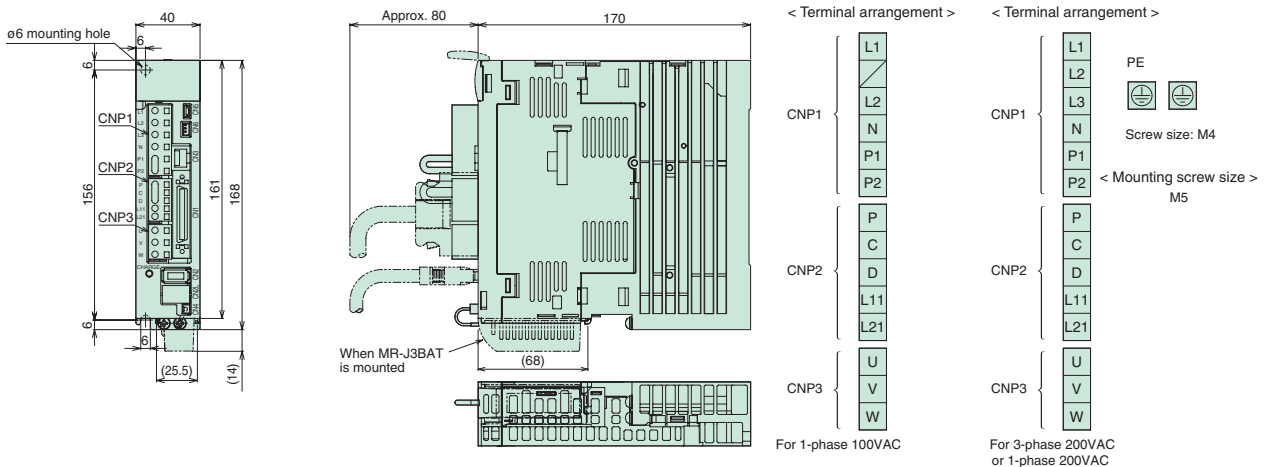
MR-J3-□A□ Servo Amplifier Dimensions

(Unit: mm)

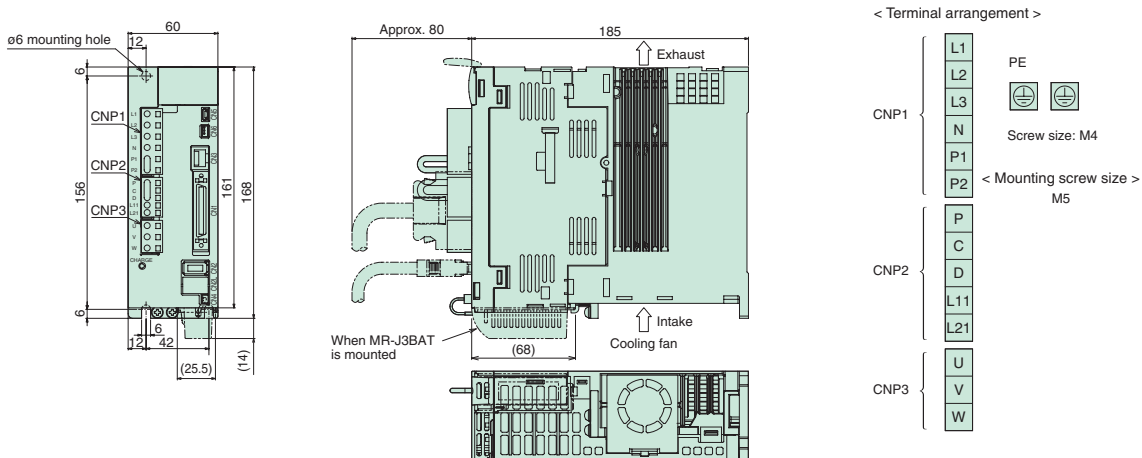
● MR-J3-10A, 20A, 10A1, 20A1 (Note 1)



● MR-J3-40A, 60A, 40A1 (Note 1)

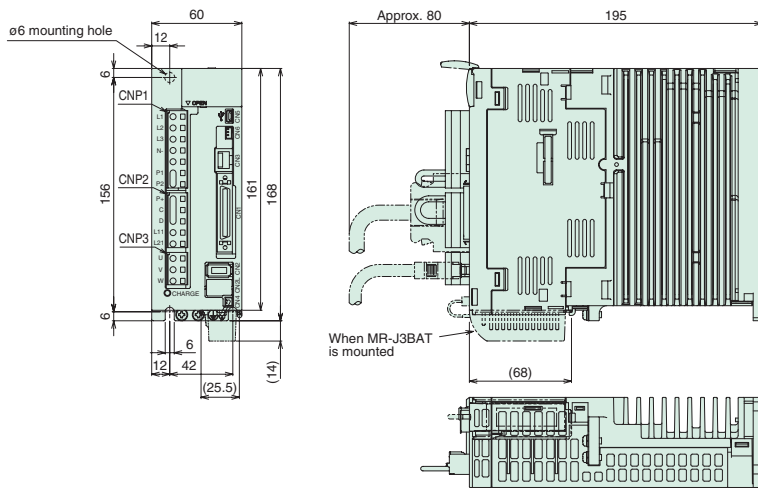


● MR-J3-70A, 100A (Note 1)

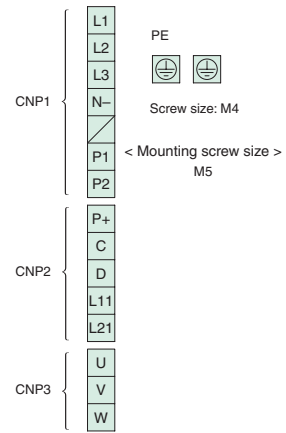


Notes: 1. CNP1, CNP2 and CNP3 connectors (insertion type) are supplied with the servo amplifier.

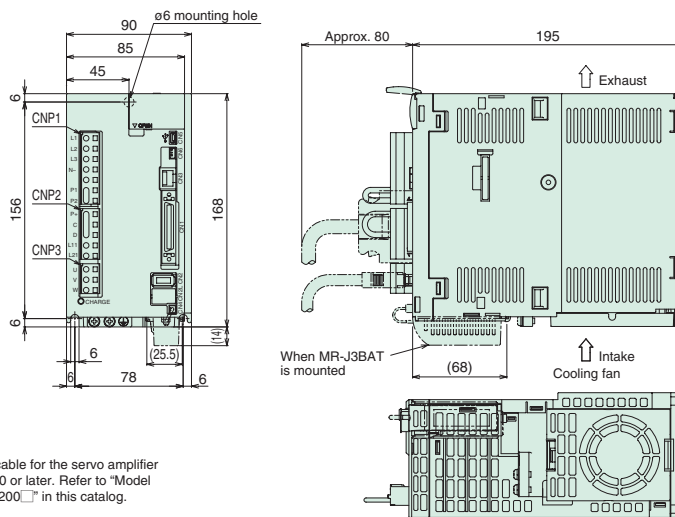
● MR-J3-60A4, 100A4 (Note 1)



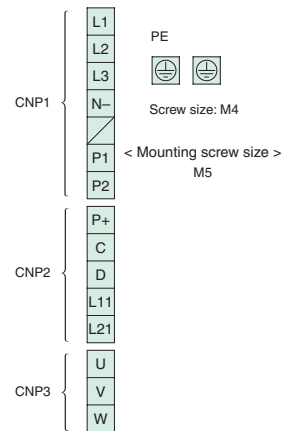
< Terminal arrangement >



● MR-J3-200AN*, 200A4 (Note 1)

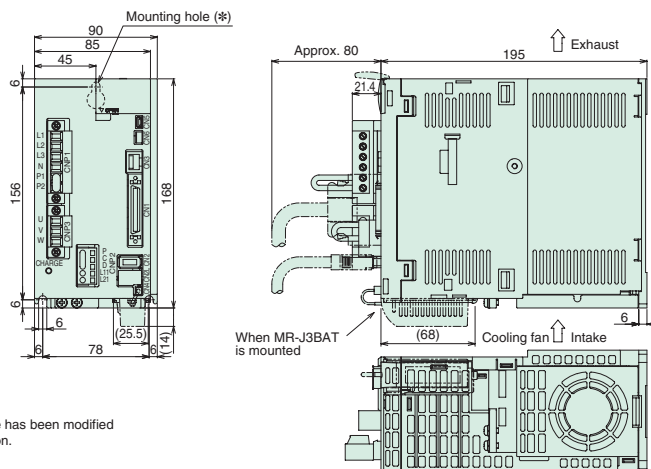


< Terminal arrangement >

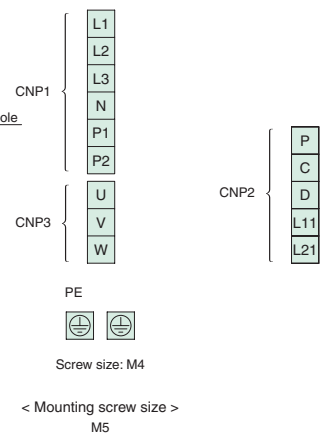


* The dimensions are applicable for the servo amplifier manufactured on July 2010 or later. Refer to "Model Name Change for MR-J3-200□" in this catalog.

● MR-J3-350A (Note 1)



< Terminal arrangement >



* The shape of the mounting hole has been modified from September 2010 production.

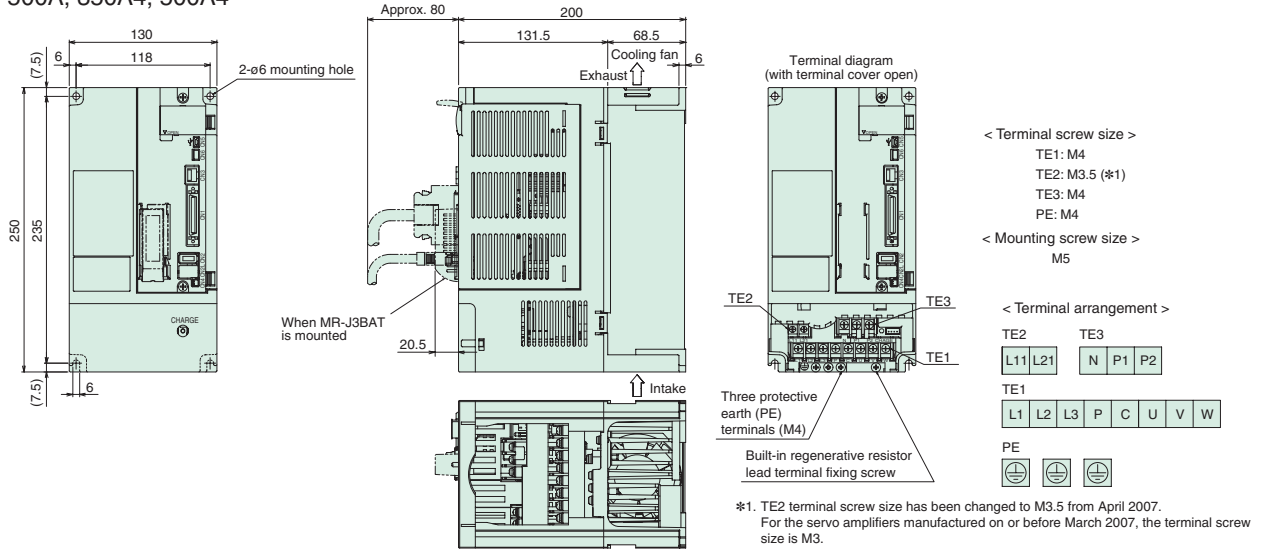
Notes: 1. CNP1, CNP2 and CNP3 connectors (insertion type) are supplied with the servo amplifier.

MELSERVO-J3

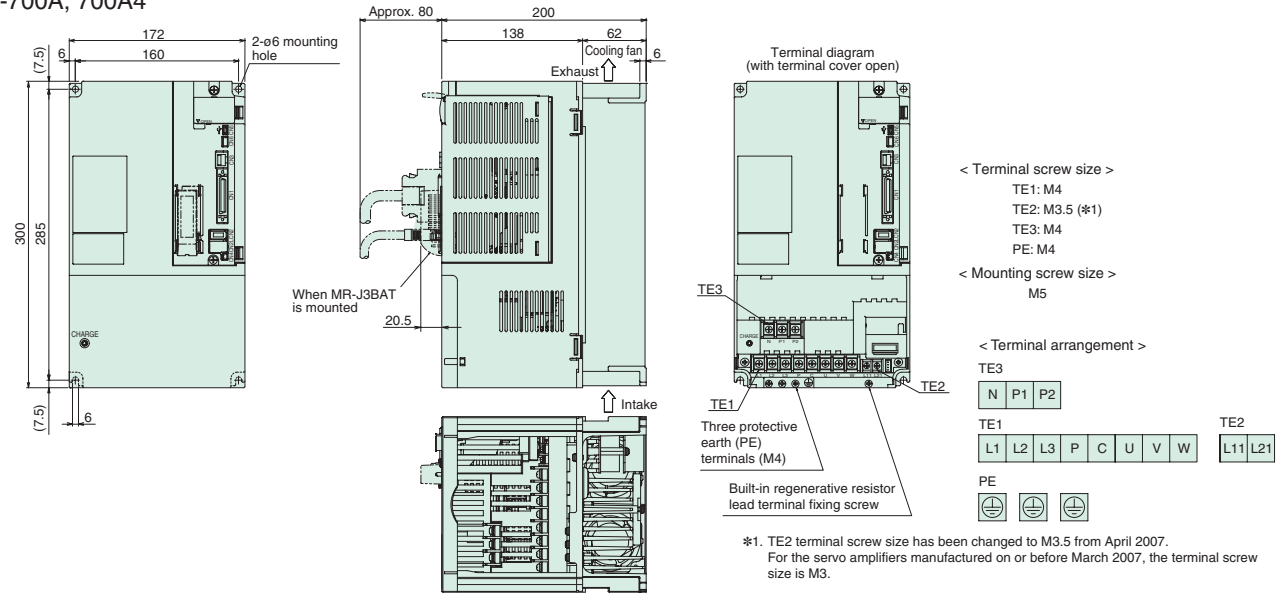
MR-J3-□A□ Servo Amplifier Dimensions

(Unit: mm)

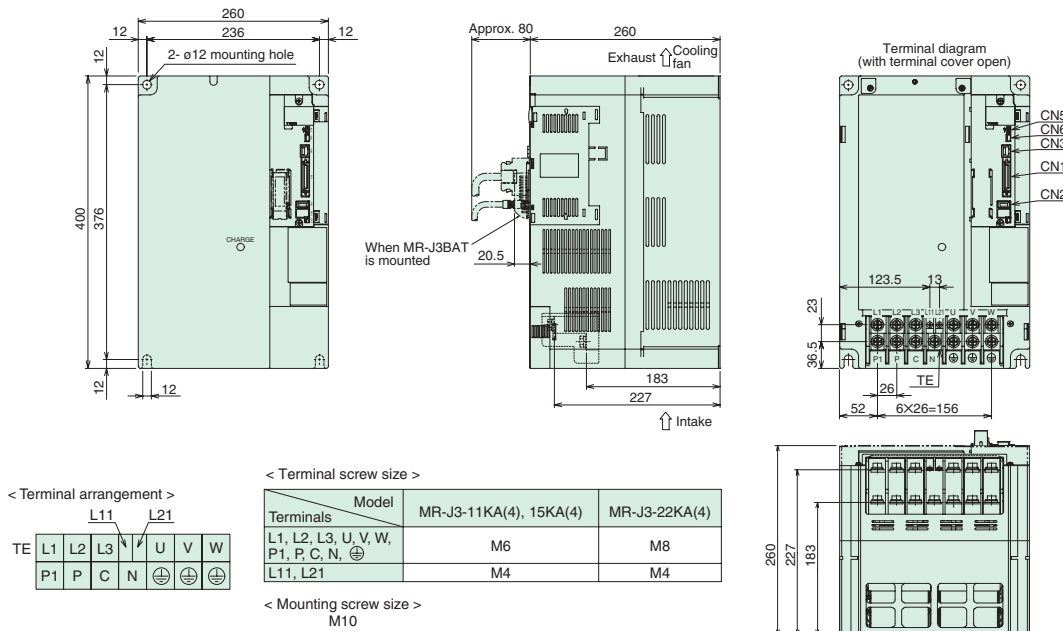
● MR-J3-500A, 350A4, 500A4



● MR-J3-700A, 700A4



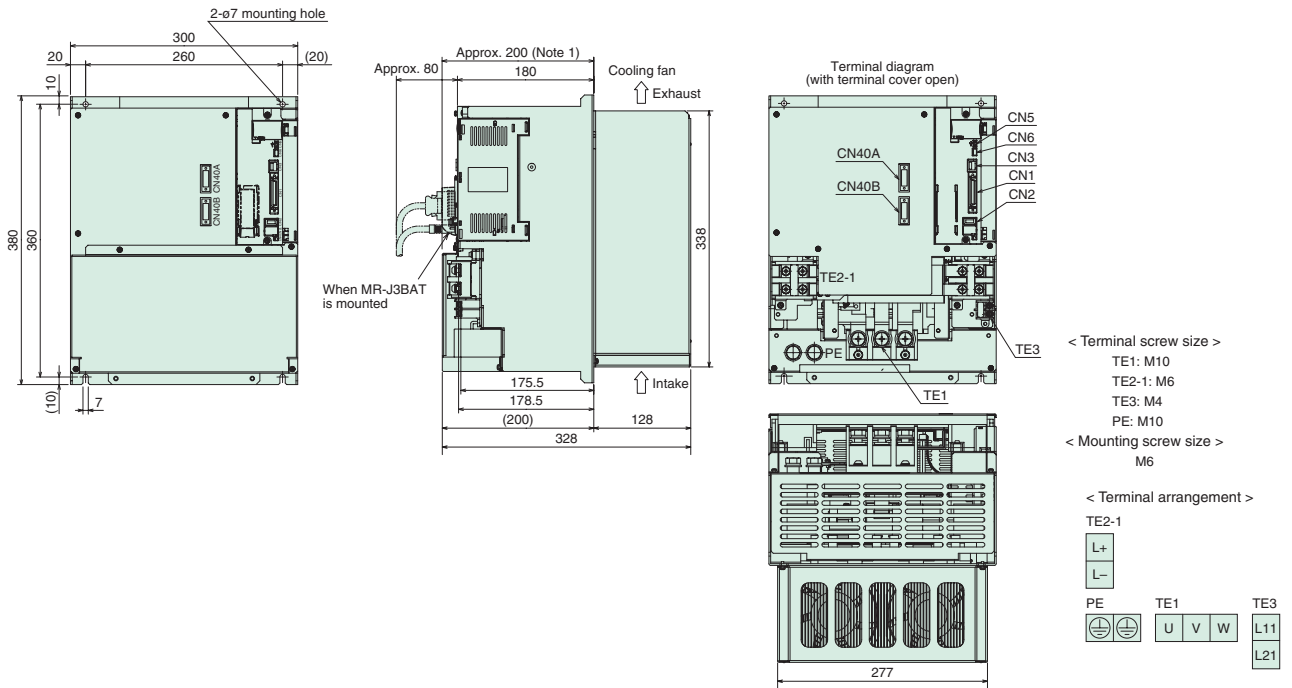
● MR-J3-11KA to 22KA, 11KA4 to 22KA4



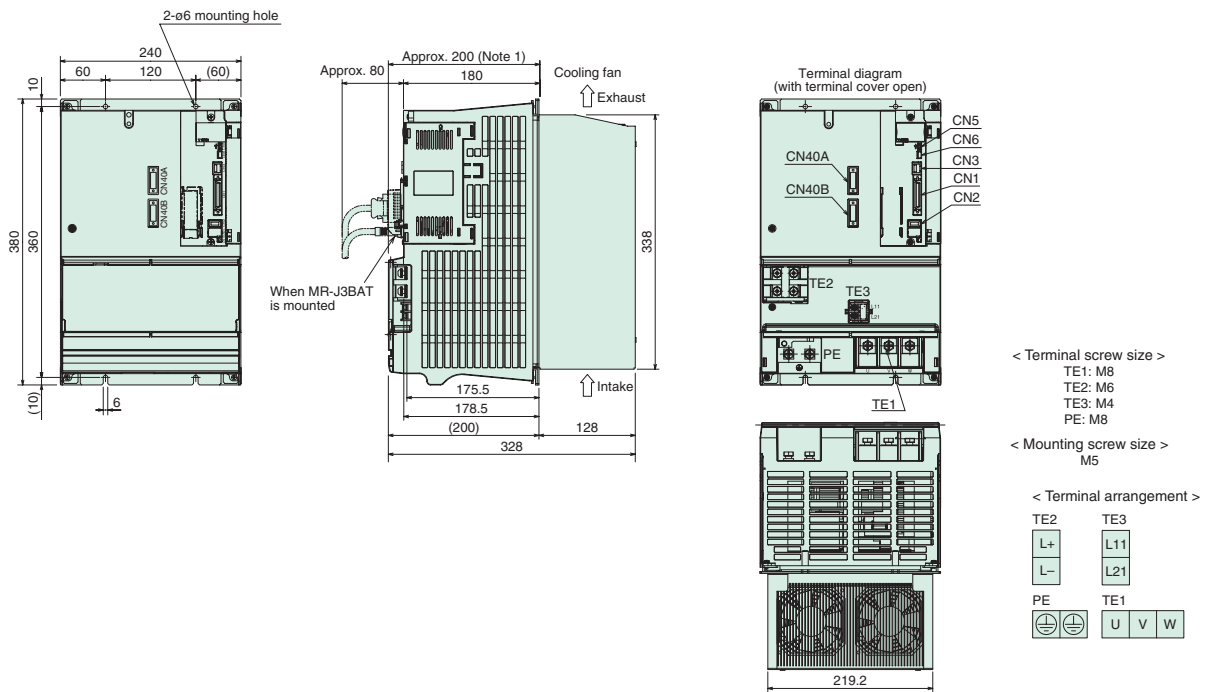
MR-J3-DU□A(4) Drive Unit Dimensions

(Unit: mm)

● MR-J3-DU30KA, DU37KA, DU45KA4, DU55KA4



● MR-J3-DU30KA4, DU37KA4



Notes: 1. The dimension is applicable when MR-J3BAT is mounted.