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General-Purpose AC Servo MELSERVO-J4

Conversion Unit for SSCNET of MR-J2S-B Compatible Servo Amplifier: MR-J4-B-RJ020

Conversion Unit for SSCNET of MR-J2S-B: MR-J4-T20

June 2013

New Product Release

SV1306-1E

MELSERVO-J4 series servo amplifier for connecting to SSCNET of MR-J2S-B is newly released.

By using the conversion unit for SSCNET of MR-J2S-B, MR-J4 series servo amplifier can be connected to the SSCNET of MR-J2S-B compatible servo system controller *.

MR-J4-B-RJ020 is now available in the following capacities:
200 V 0.1 kW to 7 kW,
400 V 0.6 kW to 7 kW, and
200V/400V 11 kW to 22 kW (available in the near future)

* For compatible controllers, refer to p. 1 in this brochure.

Conversion Unit for SSCNET of MR-J2S-B Compatible Servo Amplifier: MR-J4-_B_-RJ020
Conversion Unit for SSCNET of MR-J2S-B: MR-J4-T20

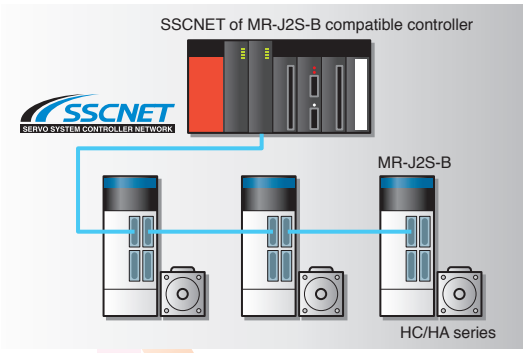
- A combination of MR-J4-B-RJ020 and MR-J4-T20 is capable of connecting to the SSCNET of MR-J2S-B compatible servo system controller and drives MR-J4 compatible HG series servo motors.
- Use the existing program.

* For the outline of precautions, refer to p. 2 in this brochure. Refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for details.

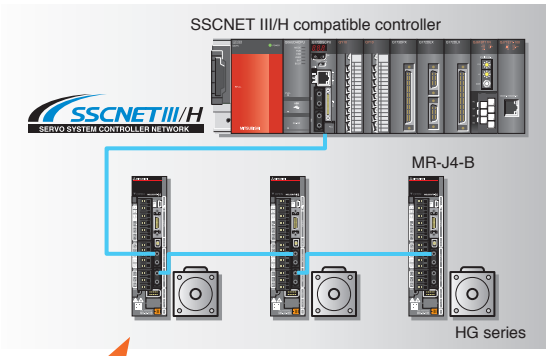
Features

A combination of MR-J4-B-RJ020 and MR-J4-T20 is capable of connecting to the SSCNET of MR-J2S-B compatible servo system controller.
Thus, renewing a machine with MR-J4 series servo amplifiers and servo motors is possible without changing the existing controller.

MR-J2S-B system



MR-J4-B system



- High-accuracy and high-response MR-J4-B system
- Compatible with high-speed optical communication SSCNET III/H

Refer to "MELSERVO-J4 catalog L(NA)03058" for details.

Equipment renewal

Renew the units other than the controller to MR-J4 series using the existing program.

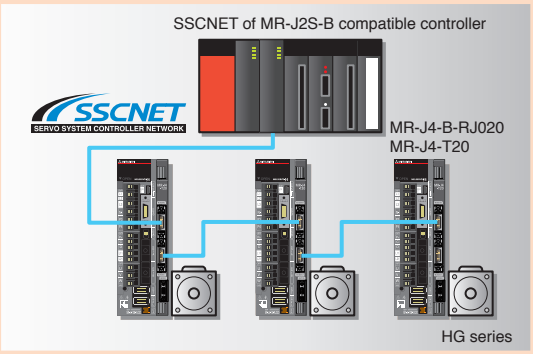
Renew the controller in the future to configure the MR-J4-B system.

Maintenance

Replace the servo amplifier without changing the existing connections.

MR-J4-B-RJ020 + MR-J4-T20 HG series servo motor

When renewing a machine with MR-J4 servo amplifiers and HG series servo motors



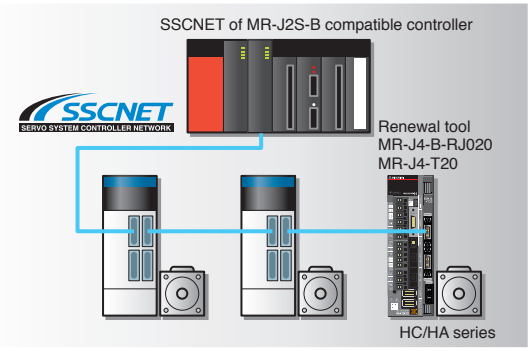
This renewal is introduced in this brochure.

- A combination of MR-J4-B-RJ020 and MR-J4-T20 is capable of connecting to the SSCNET of MR-J2S-B compatible servo system controller.

* The function and performance are equivalent to those of MR-J2S-B. (J2S compatibility mode)
* Read the precautions on p. 2 in this brochure.

MR-J2S-B renewal tool manufactured by Mitsubishi Electric System & Service Co., Ltd.

When using the existing HC/HA series servo motors or when replacing MR-J2S-B using the existing connections



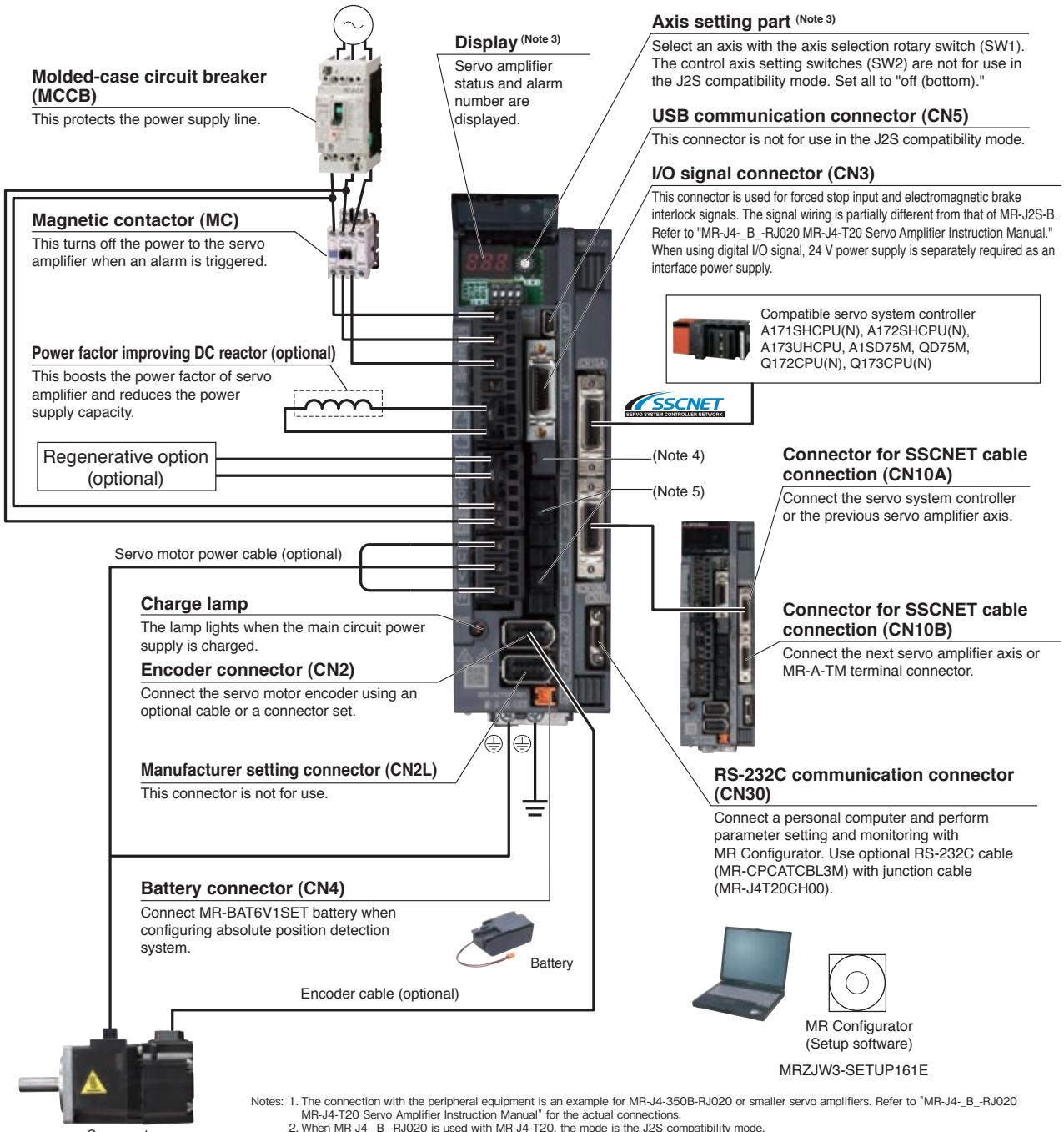
For MR-J2S-B renewal tool, contact your local sales office.

- Use the existing mounting holes and wiring, and complete the replacement and the wiring in a short period of time.

Compatible Controllers

The set of MR-J4-B-RJ020 and MR-J4-T20 is compatible with the following servo system controllers:
A171SHCPU(N), A172SHCPU(N), A173UHCPU, A1SD75M, QD75M, Q172CPU(N), and Q173CPU(N)

MR-J4-B-RJ020 Connections with Peripheral Equipment (Note 1, 2)



Notes: 1. The connection with the peripheral equipment is an example for MR-J4-350B-RJ020 or smaller servo amplifiers. Refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for the actual connections.
2. When MR-J4-_B_-RJ020 is used with MR-J4-T20, the mode is the J2S compatibility mode.
3. This picture shows when the display cover is open.
4. This connector is not for use in the J2S compatibility mode. Be sure to attach a short-circuit connector supplied with the servo amplifier.
5. This connector is not for use in the J2S compatibility mode. Be sure to attach a cap supplied with the servo amplifier.

Precautions

Installation

- Mounting holes are not compatible with those of MR-J2S-_B_.
- Dimensions of MR-J4-_B_ combined with MR-J4-T20 are different from those of MR-J2S-_B_.

Wiring

- The wire size is different from that of MR-J2S-_B_ depending on the capacity.
- Options/peripheral equipment for MR-J2S series cannot be used except the SSCNET cable and the terminal connector. Select options/ peripheral equipment for MR-J4 series.
- For RS-232C communication, use RS-232C cable (MR-CPCATCBL3M) with junction cable (MR-J4T20CH00).
- MR-J4-_B_-RJ020 servo is not equipped with 24 V power supply for interface. When using digital I/O signal, 24 V (current capacity 0.1 A) power supply is separately required as an interface power supply.
- The signal wiring of connector for I/O signal (CN3) of MR-J4-_B_-RJ020 is partially different from that of MR-J2S-_B_.
- Use MR-BAT6V1SET when configuring absolute position detection system.

Function/performance

- Adaptive vibration suppression control (parameter No. 25) is not available.
- Alarms are displayed in two digits, which is the same as MR-J2S-_B_. Some alarms are displayed in three digits.
- Use MR Configurator (MRZJW3-SETUP161E). Note that the following functions are not available.
  - Gain search
  - Machine simulation
  - Motor-less operation (Motor-less operation by the parameter setting is available.)
- Servo motors that are compatible with MR-J4 (HG series) may have different coasting distance for dynamic brake from that of conventional HC/HA series servo motors.
- The encoder resolution of HG series servo motors will be 131072 pulses/rev (17 bit).

Refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for details.

Servo Amplifier Model Designation

M R - J 4 - 1 0 B _ - R J 0 2 0

Mitsubishi general-purpose AC servo amplifier MELSERVO-J4 Series

Symbol	Interface
B	SSCNET III/H (Note 3)

Symbol	Power supply
None	3-phase 200 V AC or 1-phase 200 V AC (Note 1)
4	3-phase 400 V AC (Note 2)

Symbol	Rated output [kW]
10	0.1
20	0.2
40	0.4
60	0.6
70	0.75
100	1
200	2
350	3.5
500	5
700	7

Symbol	Special specification
RJ020	Conversion unit for SSCNET of MR-J2S-B compatible (Note 5)
RU020	MR-J4-_B_-RJ020 without a dynamic brake (Note 4, 5)

Notes: 1. MR-J4-70B-RJ020 or smaller servo amplifiers are available for 1-phase 200 V AC.
2. MR-J4-60B4-RJ020 or larger servo amplifiers are available.
3. SSCNET III/H interface is not available in the J2S compatibility mode.
4. Available in 7 kW or less servo amplifier without a built-in dynamic brake.When using the servo amplifier without a dynamic brake, the servo motor does not stop immediately at an alarm occurrence or power failure. Take measures to ensure safety on the entire system.
When the following servo motors are used, the electronic dynamic brake may operate at an alarm occurrence.
HG-KR053, HG-KR13, HG-KR23, HG-KR43, HG-MR053, HG-MR13, HG-MR23, HG-MR43, HG-SR51, and HG-SR52
Disable the electronic dynamic brake by setting [Pr. 56] to "2_ _ _."
5. MR-J4-T20 conversion unit for SSCNET of MR-J2S-B is required to make the servo amplifier be compatible with SSCNET interface.
When MR-J4-B-RJ020 and MR-J4-T20 are combined, MR-J4-B-RJ020 is compatible with the following servo system controllers:
A171SHCPU(N), A172SHCPU(N), A173UHCPU, A1SD75M, QD75M, Q172CPU(N), and Q173CPU(N)

Combinations of Servo Amplifier and Servo Motor

For 200 V AC

Servo amplifier	Servo motor
MR-J4-10B-RJ020	HG-KR053, 13 HG-MR053, 13
MR-J4-20B-RJ020	HG-KR23 HG-MR23
MR-J4-40B-RJ020	HG-KR43 HG-MR43
MR-J4-60B-RJ020	HG-SR51, 52 HG-JR53
MR-J4-70B-RJ020	HG-KR73 HG-MR73 HG-JR73 HG-UR72
MR-J4-100B-RJ020	HG-SR81, 102 HG-JR53 (Note1), 103
MR-J4-200B-RJ020	HG-SR121, 201, 152, 202 HG-JR73 (Note1), 103 (Note1), 153, 203 HG-RR103, 153 HG-UR152
MR-J4-350B-RJ020	HG-SR301, 352 HG-JR153 (Note1), 203 (Note1), 353 HG-RR203 HG-UR202
MR-J4-500B-RJ020	HG-SR421, 502 HG-JR353 (Note1), 503 HG-RR353, 503 HG-UR352, 502
MR-J4-700B-RJ020	HG-SR702 HG-JR503 (Note1), 703

For 400 V AC

Servo amplifier	Servo motor
MR-J4-60B4-RJ020	HG-SR524 HG-JR534
MR-J4-100B4-RJ020	HG-SR1024 HG-JR534 (Note1), 734, 1034
MR-J4-200B4-RJ020	HG-SR1524, 2024 HG-JR734 (Note1), 1034 (Note1), 1534, 2034
MR-J4-350B4-RJ020	HG-SR3524 HG-JR1534 (Note1), 2034 (Note1), 3534
MR-J4-500B4-RJ020	HG-SR5024 HG-JR3534 (Note1), 5034
MR-J4-700B4-RJ020	HG-SR7024 HG-JR5034 (Note1), 7034

Notes: 1. The maximum torque can be increased from 300% to 400% of the rated torque with this combination.

MR-J4-B-RJ020 (Interface for SSCNET of MR-J2S-B) Specifications (200 V)

Servo amplifier model MR-J4-_-RJ020			10B	20B	40B	60B	70B	100B	200B	350B	500B	700B
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
Main circuit power supply input	Voltage/frequency (Note 1)		3-phase or 1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz					3-phase 200 V AC to 240 V AC, 50 Hz/60 Hz				
	Rated current	[A]	0.9	1.5	2.6	3.2 (Note 7)	3.8	5.0	10.5	16.0	21.7	28.9
	Permissible voltage fluctuation		3-phase or 1-phase 170 V AC to 264 V AC					3-phase 170 V AC to 264 V AC				
	Permissible frequency fluctuation		±5% maximum									
Control circuit power supply input	Voltage/frequency		1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz									
	Rated current	[A]	0.2								0.3	
	Permissible voltage fluctuation		1-phase 170 V AC to 264 V AC									
	Permissible frequency fluctuation		±5% maximum									
	Power consumption	[W]	30								45	
Interface power supply			24 V DC ± 10% (required current capacity: 0.1 A)									
Control method			Sine-wave PWM control/current control method									
Tolerable regenerative power	Built-in regenerative resistor (Note 2, 3)	[W]	-	10	10	10	20	20	100	100	130	170
Dynamic brake			Built-in (Note 4)									
Communication function			USB: not for use in the J2S compatibility mode									
Encoder output pulse			Compatible (A/B/Z-phase pulse)									
Analog monitor			2 channels									
Fully closed loop control			Not compatible									
Load-side encoder interface			Not compatible									
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									
Functional safety			Not compatible									
Compliance to standards	CE marking		LVD: EN 61800-5-1 EMC: EN 61800-3 MD: EN ISO 13849-1, EN 61800-5-2, EN 62061									
	UL standard		UL 508C									
	CSA standard		CSA C22.2 No.14									
Structure (IP rating)			Natural cooling, open (IP20)				Force cooling, open (IP20)				Force cooling, open (IP20) (Note 5)	
Close mounting			Possible (Note 6)								Not possible	
Environment	Ambient temperature		0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)									
	Ambient humidity		90 %RH maximum (non-condensing), storage: 90 %RH maximum (non-condensing)									
	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 (Note 8)		[kg]	0.8	0.8	1.0	1.0	1.4	1.4	2.1	2.3	4.0	6.2

Notes: 1. Rated output and speed of a rotary servo motor are applicable when the servo amplifier, combined with the rotary servo motor, is operated within the specified power supply voltage and frequency.
2. Select the most suitable regenerative option for your system with our capacity selection software.
3. Refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for the tolerable regenerative power [W] when regenerative option is used.
4. When using the built-in dynamic brake, refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for the permissible load to motor inertia 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 them with 75% or less of the effective load ratio.
7. The rated current is 2.9 A when the servo amplifier is used with UL or CSA compliant servo motor.
8. The value is applicable for MR-J4-_B-RJ020 servo amplifier only.

MR-J4-B4-RJ020 (Interface for SSCNET of MR-J2S-B) Specifications (400 V)

Servo amplifier model MR-J4-_-RJ020			60B4	100B4	200B4	350B4	500B4	700B4
Output	Rated voltage		3-phase 323 V AC					
	Rated current	[A]	1.5	2.8	5.4	8.6	14.0	17.0
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
	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: 0.1 A)					
Control method			Sine-wave PWM control/current control method					
Tolerable regenerative power	Built-in regenerative resistor (Note 2, 3)	[W]	15	15	100	100	130 (Note 6)	170 (Note 6)
Dynamic brake			Built-in (Note 4)					
Communication function			USB: not for use in the J2S compatibility mode					
Encoder output pulse			Compatible (A/B/Z-phase pulse)					
Analog monitor			2 channels					
Fully closed loop control			Not compatible					
Load-side encoder interface			Not compatible					
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					
Functional safety			Not compatible					
Compliance to standards	CE marking		LVD: EN 61800-5-1 EMC: EN 61800-3 MD: EN ISO 13849-1, EN 61800-5-2, EN 62061					
	UL standard		UL 508C					
	CSA standard		CSA C22.2 No.14					
Structure (IP rating)			Natural cooling, open (IP20)		Force cooling, open (IP20)		Force cooling, open (IP20) (Note 5)	
Close mounting			Not possible					
Environment	Ambient temperature		0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)					
	Ambient humidity		90 %RH maximum (non-condensing), storage: 90 %RH maximum (non-condensing)					
	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 (Note 7)		[kg]	1.7	1.7	2.1	3.6	4.3	6.5

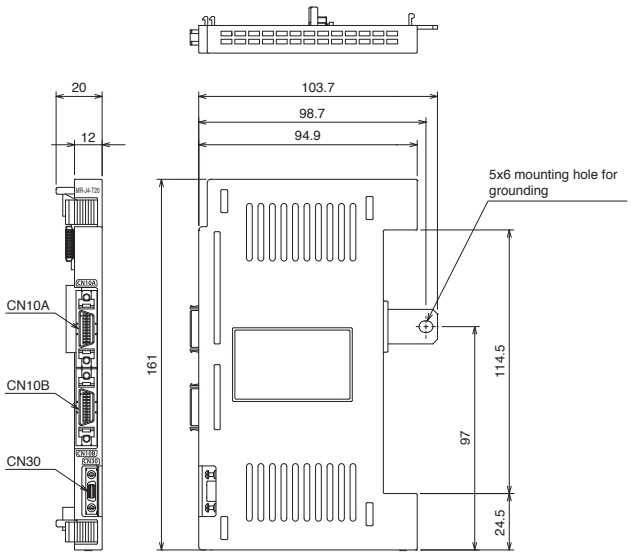
Notes: 1. Rated output and speed of a rotary servo motor are applicable when the servo amplifier, combined with the rotary servo motor, is operated within the specified power supply voltage and frequency.
2. Select the most suitable regenerative option for your system with our capacity selection software.
3. Refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for the tolerable regenerative power [W] when regenerative option is used.
4. When using the built-in dynamic brake, refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for the permissible load to motor inertia ratio.
5. Terminal blocks are excluded.
6. 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.
7. The value is applicable for the MR-J4-_B4-RJ020 servo amplifier only.

Conversion Unit for SSCNET of MR-J2S-B (MR-J4-T20)

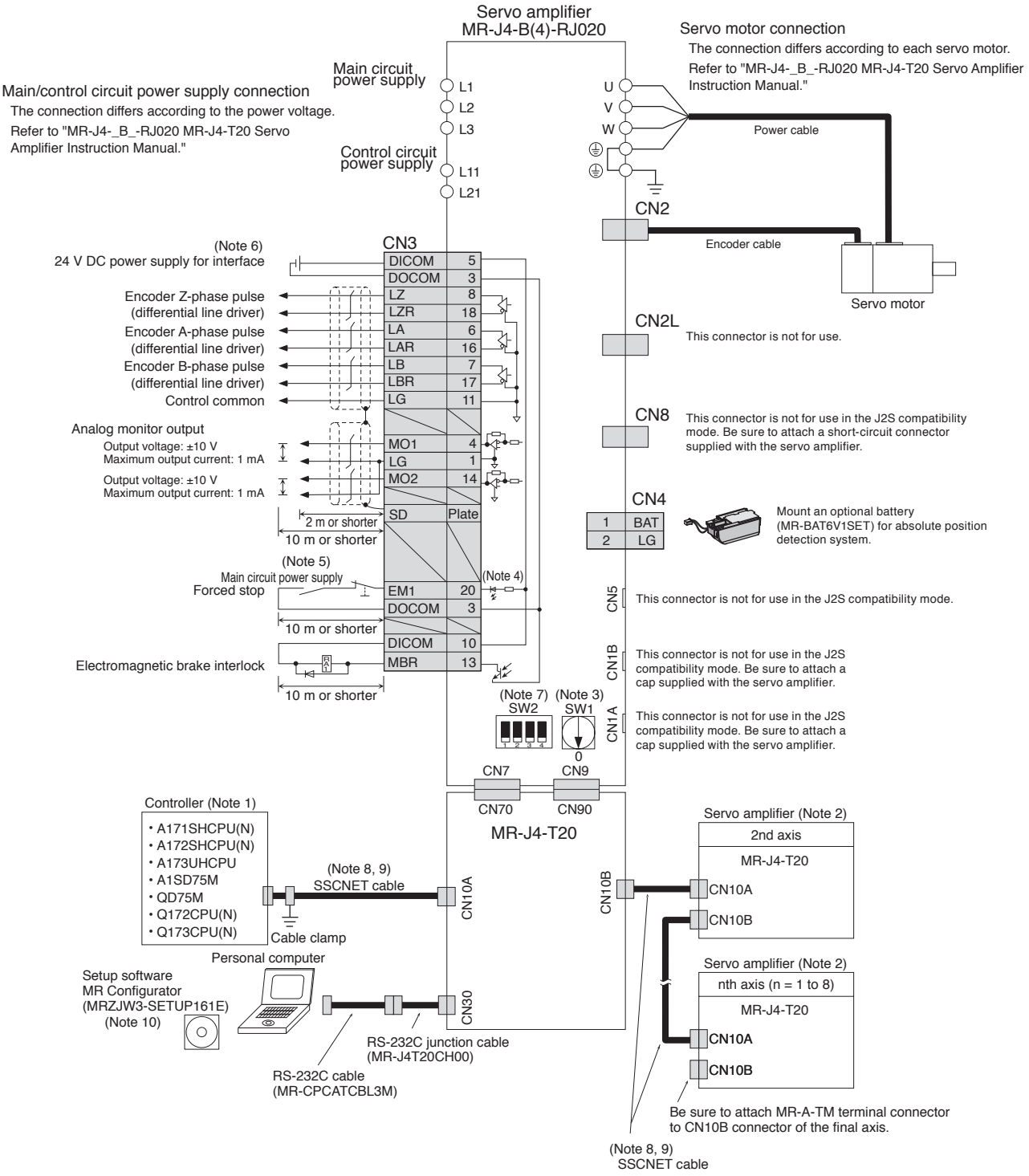
Specifications

Item		Description
Model		MR-J4-T20
Control circuit power supply input	Voltage	5 V DC (Control circuit power for the conversion unit for SSCNET of MR-J2S-B is supplied from the servo amplifier.)
	Rated current [A]	0.1
Network interface		SSCNET interface (CN10A and CN10B connectors)
Communication function		RS-232C: Connect a personal computer (MR Configurator (MRZJW3-SETUP161E) compatible) (CN30 connector)
Structure (IP rating)		Natural cooling, open (IP00)
Environment	Ambient temperature	0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)
	Ambient humidity	90 %RH maximum (non-condensing), storage: 90 %RH maximum (non-condensing)
	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 [g]		140

Dimensions



MR-J4-B(4)-RJ020 Standard Wiring Diagram Example



⚠ 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.

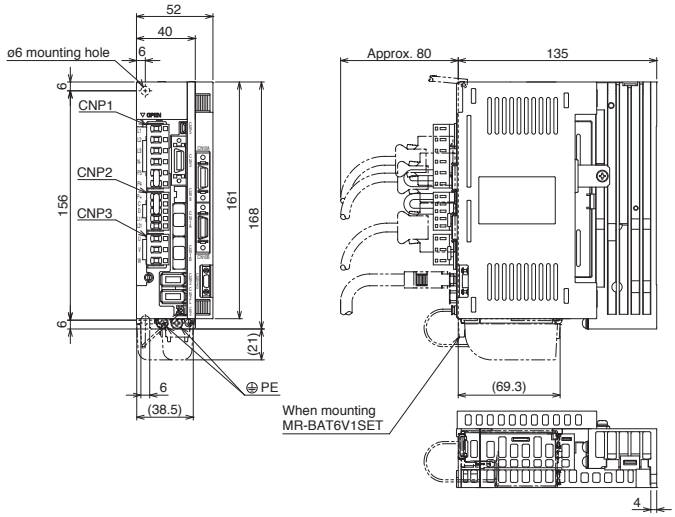
MR-J4-B(4)-RJ020 Standard Wiring Diagram Example

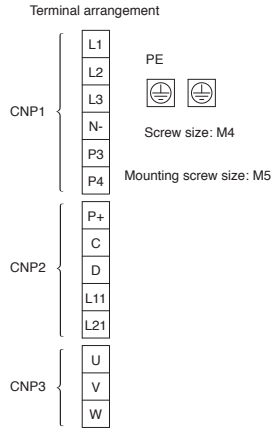
Notes: 1. For details such as setting the controllers, refer to programming manual or user's manual for the controllers.
2. Connections for the second and following axes are omitted.
3. Up to 8 axes are connectable by setting the axis selection rotary switch (SW1).
4. This is for sink wiring. Source wiring is also possible.
5. Create a circuit to turn off EM1 when the main circuit power is turned off to prevent an unexpected restart of the servo amplifier.
6. Provide an external power supply of 24 V DC ± 10% (required current capacity: 0.1 A) to the interface.
7. SW2 is not for use in the J2S compatibility mode.
8. The total length of the SSCNET cables must be 30 m or shorter. It is recommended that three or four data line filters in serial connection or a cable cramp be used near the connector on the controller to improve noise immunity.
9. The SSCNET cables vary depending on the controller. Select the appropriate SSCNET cable as follows:
   - A171SHCPU(N)/A172SHCPU(N)/A173UHCPU/A1SD75M: MR-J2HBUS_M-A
   - Q172CPU(N): Q172J2BCBL_M(-B)
   - MR-J4-_B_-RJ020+MR-J4-T20: MR-J2HBUS_M
   - QD75M: MR-J2HBUS_M
   - Q173CPU(N): Q173J2B_CBL_M
10. Use MR Configurator (MRZJW3-SETUP161E) when using MR-J4-_B_-RJ020 servo amplifier in the J2S compatibility mode.

MR-J4-B-RJ020 Dimensions (Note 2)

●MR-J4-10B-RJ020 (Note 1)

●MR-J4-20B-RJ020 (Note 1)

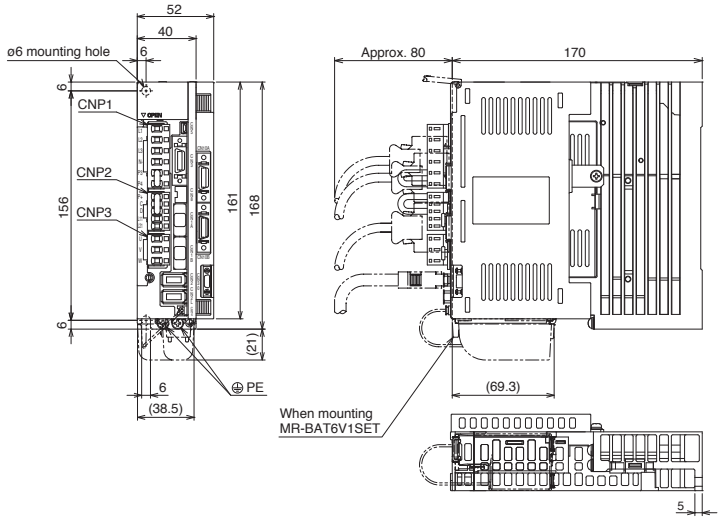


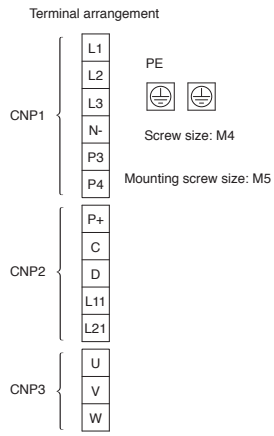


[Unit: mm]

●MR-J4-40B-RJ020 (Note 1)

●MR-J4-60B-RJ020 (Note 1)

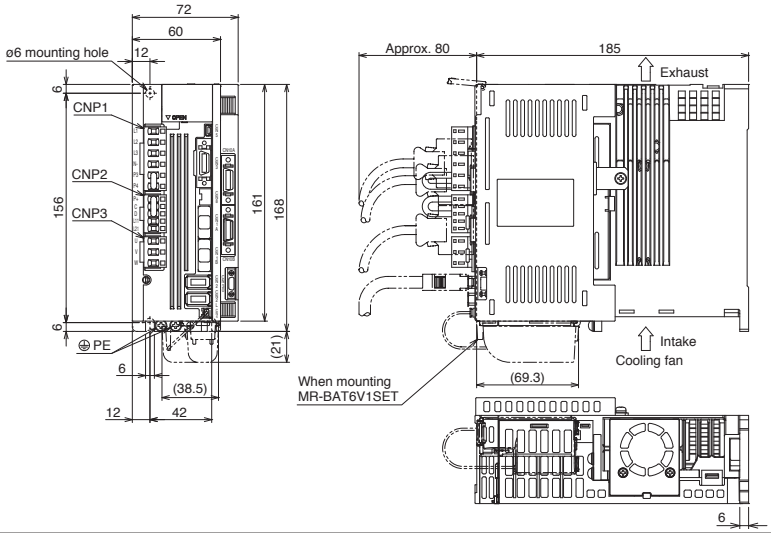


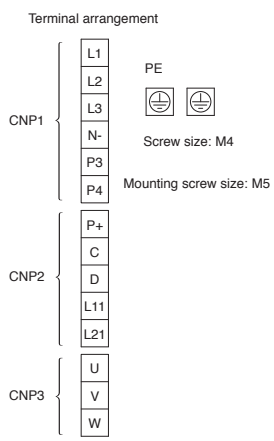


[Unit: mm]

●MR-J4-70B-RJ020 (Note 1)

●MR-J4-100B-RJ020 (Note 1)





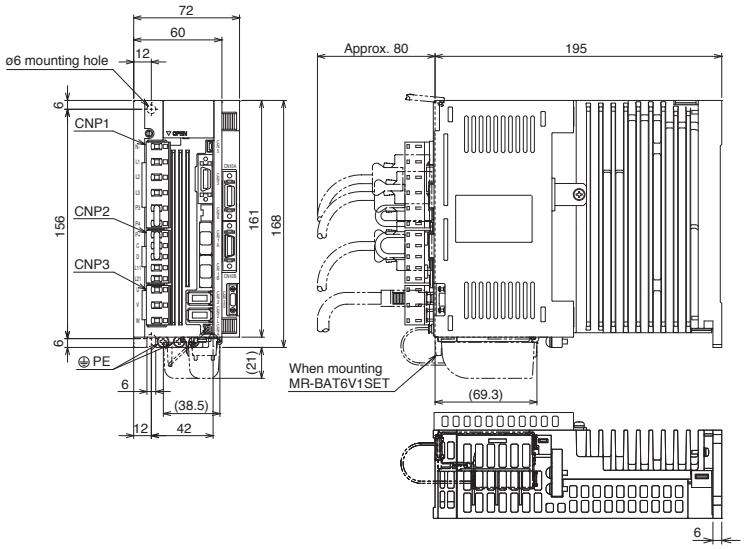
[Unit: mm]

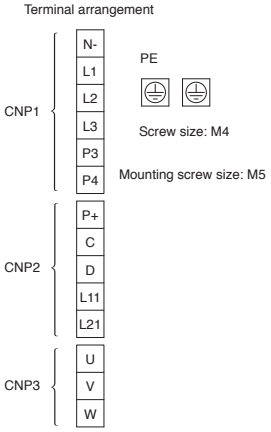
Notes: 1. CNP1, CNP2 and CNP3 connectors (insertion type) are supplied with the servo amplifier.
2. The dimensions are applicable when MR-J4-B-RJ020 and MR-J4-T20 are combined. Refer to "MR-J4-B(-RJ) Dimensions" in "MELSERVO-J4 catalog (L(NA)03058)" for the dimensions of MR-J4-B-RJ020 servo amplifiers alone.

MR-J4-B-RJ020 Dimensions (Note2)

●MR-J4-60B4-RJ020 (Note1)

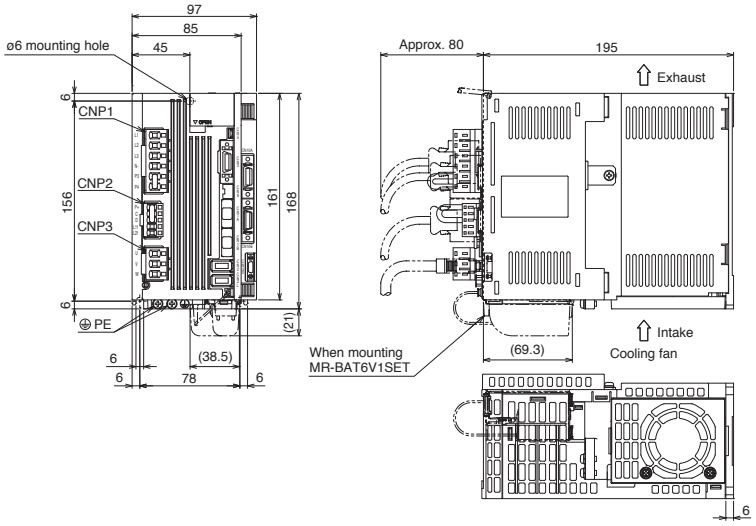
●MR-J4-100B4-RJ020 (Note1)

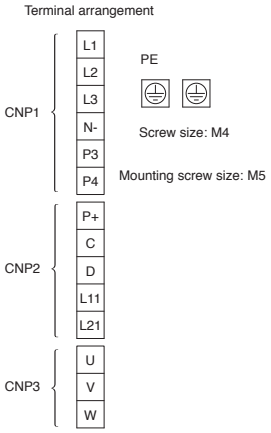




[Unit: mm]

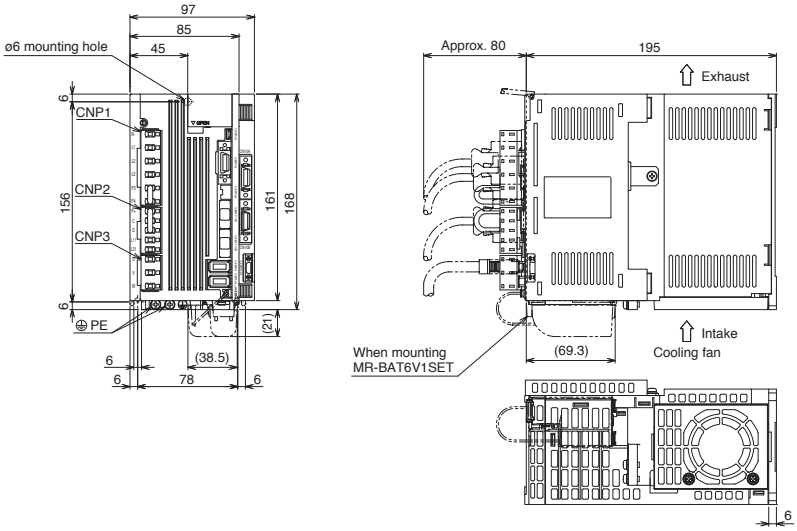
●MR-J4-200B-RJ020 (Note 1)

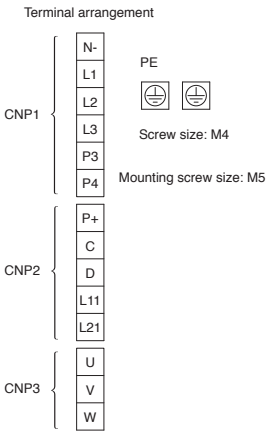




[Unit: mm]

●MR-J4-200B4-RJ020 (Note 1)



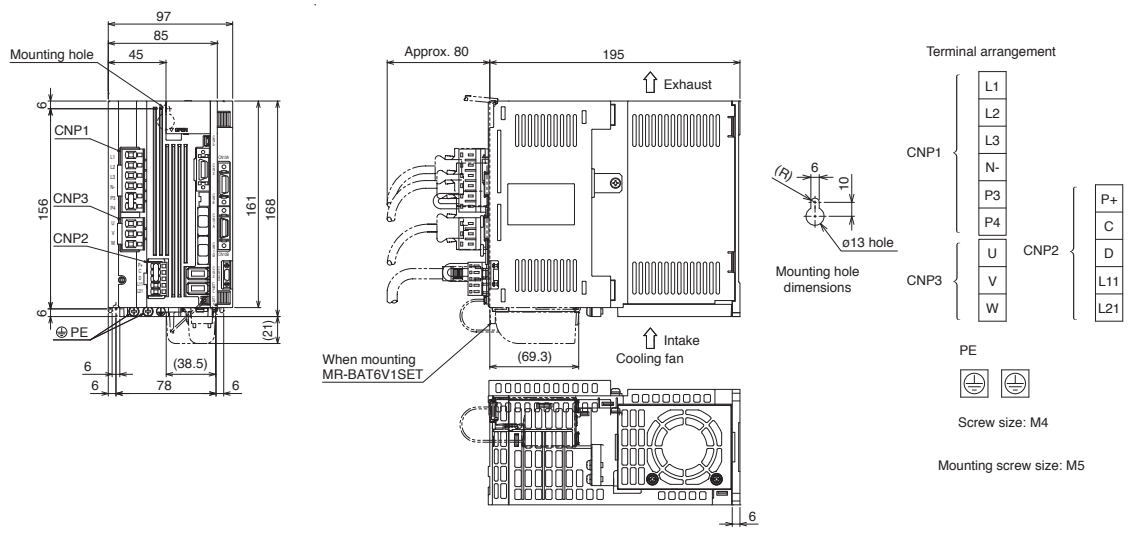


[Unit: mm]

Notes: 1. CNP1, CNP2 and CNP3 connectors (insertion type) are supplied with the servo amplifier.
2. The dimensions are applicable when MR-J4-B-RJ020 and MR-J4-T20 are combined. Refer to "MR-J4-B(-RJ) Dimensions" in "MELSERVO-J4 catalog (L(NA)03058)" for the dimensions of MR-J4-B-RJ020 servo amplifiers alone.

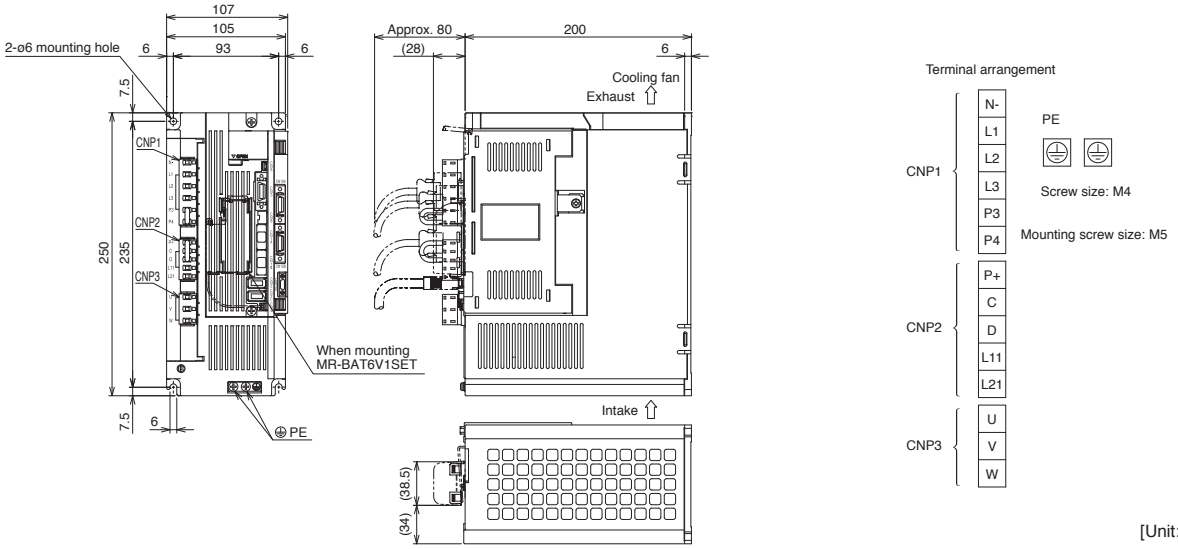
MR-J4-B-RJ020 Dimensions (Note 2)

●MR-J4-350B-RJ020 (Note 1)



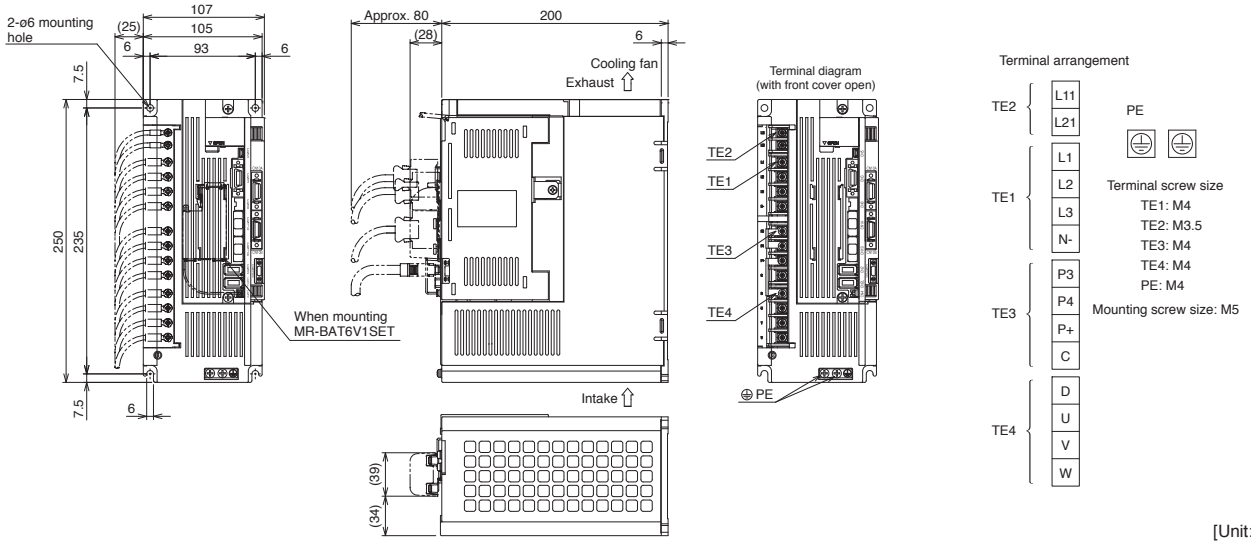
[Unit: mm]

●MR-J4-350B4-RJ020 (Note 1)



[Unit: mm]

●MR-J4-500B-RJ020

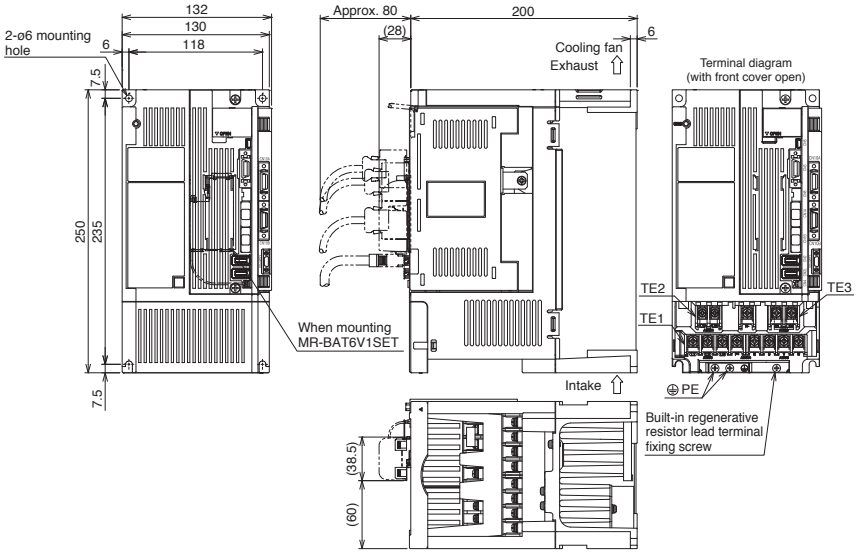


[Unit: mm]

Notes: 1. CNP1, CNP2 and CNP3 connectors (insertion type) are supplied with the servo amplifier.
2. The dimensions are applicable when MR-J4-B-RJ020 and MR-J4-T20 are combined. Refer to "MR-J4-B(-RJ) Dimensions" in "MELSERVO-J4 catalog (L(NA)03058)" for the dimensions of MR-J4-B-RJ020 servo amplifiers alone.

MR-J4-B-RJ020 Dimensions (Note 1)

●MR-J4-500B4-RJ020



Terminal screw size
TE1: M4
TE2: M3.5
TE3: M4
PE: M4
Mounting screw size: M5

Terminal arrangement

TE2		TE3		
L11	L21	N-	P3	P4

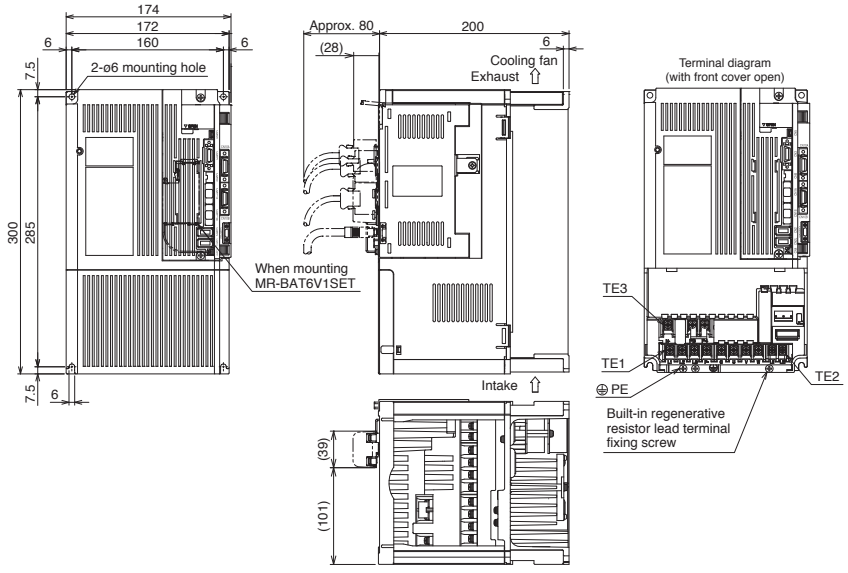
TE1							
L1	L2	L3	P+	C	U	V	W

PE

[Unit: mm]

●MR-J4-700B-RJ020

●MR-J4-700B4-RJ020



Terminal screw size
TE1: M4
TE2: M3.5
TE3: M4
PE: M4
Mounting screw size: M5

Terminal arrangement

TE3			
N-	P3	P4	

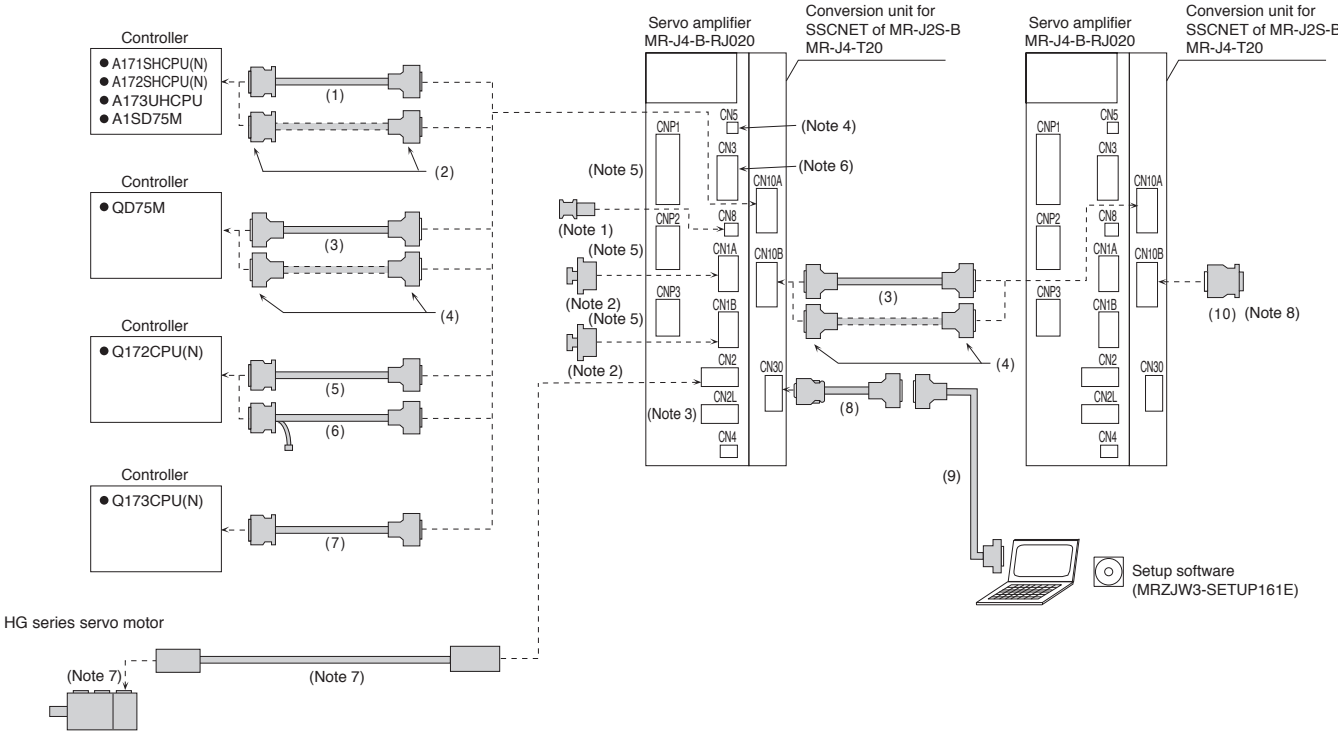
TE1								TE2	
L1	L2	L3	P+	C	U	V	W	L11	L21

PE

[Unit: mm]

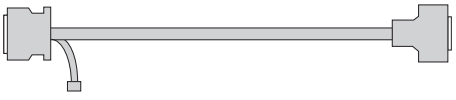
Notes: 1. The dimensions are applicable when MR-J4-B-RJ020 and MR-J4-T20 are combined. Refer to "MR-J4-B(-RJ) Dimensions" in "MELSERVO-J4 catalog (L(NA)03058)" for the dimensions of MR-J4-B-RJ020 servo amplifiers alone.

Configuration Example



Notes: 1. This connector is not for use in the J2S compatibility mode. Be sure to attach a short-circuit connector supplied with the servo amplifier.
2. This connector is not for use in the J2S compatibility mode. Be sure to attach a cap supplied with the servo amplifier.
3. This connector is not for use.
4. This connector is not for use in the J2S compatibility mode.
5. CNP1, CNP2 and CNP3 connectors (insertion type) are supplied with MR-J4-350B_-RJ020 or smaller servo amplifiers. As MR-J4-500B_-RJ020 or larger servo amplifiers have terminal blocks mounted, these connectors are not supplied with the servo amplifier. Refer to "MR-J4-B-RJ020 Dimensions" in this brochure for details.
6. Refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for CN3 connector.
7. Refer to "MELSERVO-J4 catalog (L(NA)03058)" for the encoder cable, the power cable, and the electromagnetic cable for HG series servo motors.
8. Be sure to attach MR-A-TM terminal connector to CN10B connector of the final axis.

Cables and Connectors

	Item	Model	Cable length	IP rating	Application	Description
(1)	SSCNET cable	MR-J2HBUS05M-A	0.5 m	-	For A171SHCPU(N)/ A172SHCPU(N)/ A173UHCPU/ A1SD75M/ MR-J4-T20	Controller-side connector Connector: PCR-S20FS+ Case: PCR-LS20LA1 (Honda Tsushin Kogyo Co., Ltd.) MR-J4-T20-side connector (Note 1) Connector: 10120-6000EL Shell kit: 10320-3210-000 (3M) or an equivalent product 
		MR-J2HBUS1M-A	1 m			
		MR-J2HBUS5M-A	5 m			
(2)	SSCNET connector set	MR-J2CN1-A	-	-	For A171SHCPU(N)/ A172SHCPU(N)/ A173UHCPU/ A1SD75M/ MR-J4-T20	Controller-side connector Connector: PCR-S20FS+ Case: PCR-LS20LA1 (Honda Tsushin Kogyo Co., Ltd.) MR-J4-T20-side connector (Note 2) Connector: 10120-3000PE Shell kit: 10320-52F0-008 (3M) or an equivalent product 
(3)	SSCNET cable	MR-J2HBUS05M	0.5 m	-	For QD75M/ MR-J4-T20	Controller/MR-J4-T20-side connector (Note 1) Connector: 10120-6000EL Shell kit: 10320-3210-000 (3M) or an equivalent product MR-J4-T20-side connector (Note 1) Connector: 10120-6000EL Shell kit: 10320-3210-000 (3M) or an equivalent product 
		MR-J2HBUS1M	1 m			
		MR-J2HBUS5M	5 m			
(4)	SSCNET connector set	MR-J2CN1	-	-	For QD75M/ MR-J4-T20	Controller/MR-J4-T20-side connector (Note 2) Connector: 10120-3000PE Shell kit: 10320-52F0-008 (3M) or an equivalent product MR-J4-T20-side connector (Note 2) Connector: 10120-3000PE Shell kit: 10320-52F0-008 (3M) or an equivalent product 
(5)	SSCNET cable	Q172J2BCBL05M	0.5 m	-	For Q172CPU(N)/ MR-J4-T20	Controller-side connector Connector: HDR-E14MG1+ Case: HDR-E14LPA5 (Honda Tsushin Kogyo Co., Ltd.) MR-J4-T20-side connector (Note 1) Connector: 10120-6000EL Shell kit: 10320-3210-000 (3M) or an equivalent product 
		Q172J2BCBL1M	1 m			
		Q172J2BCBL5M	5 m			
(6)	SSCNET cable	Q172J2BCBL05M-B	0.5 m	-	For Q172CPU(N)/ MR-J4-T20	Controller-side connector Connector: HDR-E14MG1+ Case: HDR-E14LPA5 (Honda Tsushin Kogyo Co., Ltd.) MR-J4-T20-side connector (Note 1) Connector: 10120-6000EL Shell kit: 10320-3210-000 (3M) or an equivalent product  Battery unit-side connector Socket: HNC2-2.5S-2 Terminal: HNC2-2.5S-D-B (Hirose Electric Co., Ltd.) * Use this cable when using Q170BAT battery unit.
		Q172J2BCBL1M-B	1 m			
		Q172J2BCBL5M-B	5 m			

Notes: 1. Solder type (connector: 10120-3000PE and shell kit: 10320-52F0-008) (3M) is also usable. Contact the manufacturer directly.
2. Press bonding type (connector: 10120-6000EL and shell kit: 10320-3210-000) (3M) is also usable. Contact the manufacturer directly.

Cables and Connectors

	Item	Model	Cable length	IP rating	Application	Description
(7)	SSCNET cable	Q173J2B_CBL05M (Note 2)	0.5 m	-	For Q173CPU(N)/ MR-J4-T20	Controller-side connector Connector: HDR-E26MG1+ Case: HDR-E26LPA5 (Honda Tsushin Kogyo Co., Ltd.) MR-J4-T20-side connector (Note 1) Connector: 10120-6000EL Shell kit: 10320-3210-000 (3M) or an equivalent product 
		Q173J2B_CBL1M (Note 2)	1 m			
		Q173J2B_CBL5M (Note 2)	5 m			
(8)	Junction cable for RS-232C	MR-J4T20CH00	0.2 m	-	For MR-J4-T20	MR-J4-T20-side connector Connector: HDR-E14MG1+ Case: HDR-E14LPA5 (Honda Tsushin Kogyo Co., Ltd.) Junction connector Receptacle: 10220-0200EL Shell kit: 10320-E2W0-008 (3M) or an equivalent product 
(9)	Personal computer communication cable (RS-232C cable)	MR-CPCATCBL3M	3 m	-	For MR-J4-T20	Junction connector (Note 1) Connector: 10120-6000EL Shell kit: 10320-3210-000 (3M) or an equivalent product Personal computer connector Connector: DE-9SF-N Connector case: DE-C1-J6-S6 (Japan Aviation Electronics Industry, Limited) 
(10)	Terminal connector	MR-A-TM	-	-	For MR-J4-T20	

Notes: 1. Solder type (connector: 10120-3000PE and shell kit: 10320-52F0-008) (3M) is also usable. Contact the manufacturer directly.
2. The underbar of Q173J2B_CBL05M/Q173J2B_CBL1M/Q173J2B_CBL5M indicates the number of SSCNET branched systems. None: one system, 2: two systems, 4: four systems

Refer to "MR-J4-_B_-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual" for the wire size and other options.

Mitsubishi Electric Corporation Nagoya Works is a factory certified for ISO14001 (standards for environmental management systems) and ISO9001(standards for quality assurance management systems)

SSCNET SERVO SYSTEM CONTROLLER NETWORK

MELSOFT

ISO 14001 EC97J1113 051

ISO 9001 BUREAU VERITAS Certification

Safety Warning

To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.

MITSUBISHI ELECTRIC CORPORATION

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NAGOYA WORKS: 1-14, YADA-MINAMI 5, HIGASHI-KU, NAGOYA, JAPAN

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