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.

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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

- 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.
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.

**Features**

- **HC/HA series**
  - MR-J2S-B
  - SSCNET of MR-J2S-B compatible controller

- **MR-J4-B system**
  - HG series
  - MR-J4-B
  - SSCNET III/H compatible controller

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

  - 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.

- **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)
- Q173CPU(N)
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 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 HCH/A 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

**MR-J4-10 B - RJ020**

### Symbol Rated output [kW]

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Interface</th>
<th>Power supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>SSCNET III/H (Note 3)</td>
<td>None 3-phase 200 V AC or 1-phase 200 V AC (Note 1)</td>
</tr>
</tbody>
</table>

- **Symbol**: B
- **Interface**: SSCNET III/H (Note 3)
- **Special specification**: RJ020, RU020

#### Symbol Special specification

1. **RJ020**: Conversion unit for SSCNET of MR-J2S-B compatible (Note 5)
2. **RU020**: MR-J4-_B_-RJ020 without a dynamic brake (Note 4, 5)

### Mitsubishi general-purpose AC servo amplifier MELSERVO-J4 Series

#### 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.
   - 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)

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### Combinations of Servo Amplifier and Servo Motor

#### For 200 V AC

<table>
<thead>
<tr>
<th>Servo amplifier</th>
<th>Servo motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-J4-10B-RJ020</td>
<td>HG-KR053, 13, HG-MR053, 13</td>
</tr>
<tr>
<td>MR-J4-60B-RJ020</td>
<td>HG-SR51, 52, HG-JR53</td>
</tr>
<tr>
<td>MR-J4-70B-RJ020</td>
<td>HG-KR73, HG-MR73, HG-JR73, HG-JR72</td>
</tr>
<tr>
<td>MR-J4-100B-RJ020</td>
<td>HG-SR81, 102, HG-JR81 (Note 1), 103</td>
</tr>
<tr>
<td>MR-J4-200B-RJ020</td>
<td>HG-SR71, 201, 152, 202, HG-JR71 (Note 1)</td>
</tr>
<tr>
<td>MR-J4-350B-RJ020</td>
<td>HG-SR301, 352, HG-JR301 (Note 1), 303</td>
</tr>
<tr>
<td>MR-J4-500B-RJ020</td>
<td>HG-SR421, 502, HG-JR421 (Note 1), 503</td>
</tr>
<tr>
<td>MR-J4-700B-RJ020</td>
<td>HG-SR702, HG-JR702 (Note 1), 703</td>
</tr>
</tbody>
</table>

#### For 400 V AC

<table>
<thead>
<tr>
<th>Servo amplifier</th>
<th>Servo motor</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-J4-60B4-RJ020</td>
<td>HG-SR524, HG-JR534</td>
</tr>
<tr>
<td>MR-J4-100B4-RJ020</td>
<td>HG-SR1024, HG-JR534 (Note 1), 734, 1034</td>
</tr>
<tr>
<td>MR-J4-200B4-RJ020</td>
<td>HG-SR1524, 2024, HG-JR734 (Note 1), 1034 (Note 1), 1534, 2034</td>
</tr>
<tr>
<td>MR-J4-350B4-RJ020</td>
<td>HG-SR3524, HG-JR1534 (Note 1), 2034 (Note 1), 3534</td>
</tr>
<tr>
<td>MR-J4-500B4-RJ020</td>
<td>HG-SR5024, HG-JR3534 (Note 1), 5034</td>
</tr>
<tr>
<td>MR-J4-700B4-RJ020</td>
<td>HG-SR7024, HG-JR5034 (Note 1), 7034</td>
</tr>
</tbody>
</table>

#### 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)

<table>
<thead>
<tr>
<th>Servo amplifier model MR-J4-_-RJ020</th>
<th>10B</th>
<th>20B</th>
<th>40B</th>
<th>60B</th>
<th>70B</th>
<th>100B</th>
<th>200B</th>
<th>350B</th>
<th>500B</th>
<th>700B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated output voltage</td>
<td>3-phase 170 V AC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated current</td>
<td>[A]</td>
<td>1.1</td>
<td>1.5</td>
<td>2.8</td>
<td>3.2</td>
<td>5.8</td>
<td>6.0</td>
<td>11.0</td>
<td>17.0</td>
<td>28.0</td>
</tr>
<tr>
<td>Voltage/frequency (Note 1)</td>
<td>3-phase or 1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated current</td>
<td>[A]</td>
<td>0.9</td>
<td>1.5</td>
<td>2.6</td>
<td>3.2 (Note 7)</td>
<td>3.8</td>
<td>5.0</td>
<td>10.5</td>
<td>16.0</td>
<td>21.7</td>
</tr>
<tr>
<td>Permissible voltage fluctuation</td>
<td>3-phase or 1-phase 170 V AC to 264 V AC</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Permissible frequency fluctuation</td>
<td>±5% maximum</td>
<td></td>
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</tr>
<tr>
<td>Control circuit power supply input</td>
<td>Voltage/frequency</td>
<td>1-phase 200 V AC to 240 V AC, 50 Hz/60 Hz</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Locked rated current</td>
<td>[A]</td>
<td>0.2</td>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Permissible voltage fluctuation</td>
<td>1-phase 170 V AC to 264 V AC</td>
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</tr>
<tr>
<td>Permissible frequency fluctuation</td>
<td>±5% maximum</td>
<td></td>
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</tr>
<tr>
<td>Power consumption</td>
<td>[W]</td>
<td>30</td>
<td>45</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Interface power supply</td>
<td>24 V DC ± 10% (required current capacity: 0.1 A)</td>
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</tr>
<tr>
<td>Control method</td>
<td>Sine-wave PWM control/current control method</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Tolerable regenerative power</td>
<td>Built-in regenerative resistor (Note 2, 3)</td>
<td>-</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td>20</td>
<td>100</td>
<td>100</td>
<td>130</td>
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<td>Dynamic brake</td>
<td>Built-in (Note 4)</td>
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<tr>
<td>Communication function</td>
<td>USB: not for use in the J2S compatibility mode</td>
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<tr>
<td>Encoder output pulse</td>
<td>Compatible (A/B/Z-phase pulse)</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Analog monitor</td>
<td>2 channels</td>
<td></td>
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<tr>
<td>Fully closed loop control</td>
<td>Not compatible</td>
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</tr>
<tr>
<td>Protective functions</td>
<td>Overcurrent shut-off, regenerative overvoltage shut-off, overload shut-off (electronic thermal), servo motor overheating protection, encoder error protection, regenerative error protection, undervoltage protection, instantaneous power failure protection, overspeed protection, error excessive protection</td>
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<tr>
<td>Functional safety</td>
<td>Not compatible</td>
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</tr>
<tr>
<td>Compliance to standards</td>
<td>CE marking</td>
<td>LVD: EN 61800-5-1</td>
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<tr>
<td></td>
<td>EMC: EN 61800-3</td>
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<tr>
<td></td>
<td>MD: EN ISO 13849-1, EN 61800-5-2, EN 62061</td>
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<tr>
<td></td>
<td>UL standard</td>
<td>UL 580C</td>
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<tr>
<td></td>
<td>CSA standard</td>
<td>CSA C22.2 No.14</td>
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</tr>
<tr>
<td>Structure (IP rating)</td>
<td>Natural cooling, open (IP20)</td>
<td>Force cooling, open (IP20)</td>
<td>Force cooling, open (IP20)</td>
<td></td>
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</tr>
<tr>
<td>Close mounting</td>
<td>Possible (Note 5)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Environment</td>
<td>Ambient temperature</td>
<td>0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Ambient humidity</td>
<td>90 %RH maximum (non-condensing), storage: 90 %RH maximum (non-condensing)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Ambience</td>
<td>Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Altitude</td>
<td>1000 m or less above sea level</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vibration resistance</td>
<td>5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y and Z axes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mass (Note 8)</td>
<td>[kg]</td>
<td>0.8</td>
<td>0.8</td>
<td>1.0</td>
<td>1.0</td>
<td>1.4</td>
<td>1.4</td>
<td>2.1</td>
<td>2.3</td>
<td>4.0</td>
</tr>
</tbody>
</table>

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.
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)**

<table>
<thead>
<tr>
<th>Servo amplifier model MR-J4-  _-RJ020</th>
<th>60B4</th>
<th>100B4</th>
<th>200B4</th>
<th>350B4</th>
<th>500B4</th>
<th>700B4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated voltage</td>
<td>3-phase 323 V AC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated current [A]</td>
<td>1.5</td>
<td>2.8</td>
<td>5.4</td>
<td>8.6</td>
<td>14.0</td>
<td>17.0</td>
</tr>
<tr>
<td><strong>Main circuit power supply input</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage/frequency [Note 1]</td>
<td>3-phase 380 V AC to 480 V AC, 50 Hz/60 Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated current [A]</td>
<td>1.4</td>
<td>2.5</td>
<td>5.1</td>
<td>7.9</td>
<td>10.8</td>
<td>14.4</td>
</tr>
<tr>
<td>Permissible voltage fluctuation</td>
<td>3-phase 323 V AC to 528 V AC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permissible frequency fluctuation</td>
<td>±5% maximum</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Control circuit power supply input</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Voltage/frequency</td>
<td>1-phase 380 V AC to 480 V AC, 50 Hz/60 Hz</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated current [A]</td>
<td>0.1</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permissible voltage fluctuation</td>
<td>1-phase 323 V AC to 528 V AC</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Permissible frequency fluctuation</td>
<td>±5% maximum</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Power consumption [W]</td>
<td>30</td>
<td>45</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Interface power supply</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voltage/frequency</td>
<td>24 V DC ± 10% (required current capacity: 0.1 A)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Control method</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sine-wave PWM control/current control method</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tolerable regenerative power</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Built-in regenerative resistor [W]</td>
<td>15</td>
<td>15</td>
<td>100</td>
<td>100</td>
<td>130 (Note 6)</td>
<td>170 (Note 6)</td>
</tr>
<tr>
<td>Dynamic brake</td>
<td>Built-in (Note 4)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Communication function</td>
<td>USB: not for use in the J2S compatibility mode</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Encoder output pulse</td>
<td>Compatible (A/B/Z-phase pulse)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Analog monitor</td>
<td>2 channels</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully closed loop control</td>
<td>Not compatible</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Load-side encoder interface</td>
<td>Not compatible</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protective functions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Functional safety</strong></td>
<td></td>
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<tr>
<td>Not compatible</td>
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<tr>
<td><strong>Compliance to standards</strong></td>
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<tr>
<td>CE marking</td>
<td>LVD: EN 61800-5-1</td>
<td>EMC: EN 61800-3</td>
<td>MD: EN ISO 13849-1, EN 61800-5-2, EN 62061</td>
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<tr>
<td>UL standard</td>
<td>UL 508C</td>
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<td>CSA standard</td>
<td>CSA C22.2 No.14</td>
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</tr>
<tr>
<td><strong>Structure (IP rating)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Natural cooling, open (IP20)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Force cooling, open (IP20)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Force cooling, open (IP20) (Note 5)</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Close mounting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Not possible</td>
<td></td>
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</tr>
<tr>
<td><strong>Environment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient humidity</td>
<td>90 %RH maximum (non-condensing), storage: 90 %RH maximum (non-condensing)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambience</td>
<td>Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Altitude</td>
<td>1000 m or less above sea level</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y and Z axes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **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- _-RJ020 MR-J4-T20 Servo Amplifier Instruction Manual” for the tolerable regenerative power [W] when regenerative option is used.
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

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>MR-J4-T20</td>
</tr>
<tr>
<td>Control circuit power supply input</td>
<td>Voltage 5 V DC (Control circuit power for the conversion unit for SSCNET of MR-J2S-B is supplied from the servo amplifier.)</td>
</tr>
<tr>
<td>Rated current [A]</td>
<td>0.1</td>
</tr>
<tr>
<td>Network interface</td>
<td>SSCNET interface (CN10A and CN10B connectors)</td>
</tr>
<tr>
<td>Communication function</td>
<td>RS-232C: Connect a personal computer (MR Configurator (MRZJW3-SETUP161E) compatible) (CN30 connector)</td>
</tr>
<tr>
<td>Structure (IP rating)</td>
<td>Natural cooling, open (IP00)</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>0 °C to 55 °C (non-freezing), storage: -20 °C to 65 °C (non-freezing)</td>
</tr>
<tr>
<td>Ambient humidity</td>
<td>90 %RH maximum (non-condensing), storage: 90 %RH maximum (non-condensing)</td>
</tr>
<tr>
<td>Ambience</td>
<td>Indoors (no direct sunlight); no corrosive gas, inflammable gas, oil mist or dust</td>
</tr>
<tr>
<td>Altitude</td>
<td>1000 m or less above sea level</td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>5.9 m/s² at 10 Hz to 55 Hz (directions of X, Y and Z axes)</td>
</tr>
<tr>
<td>Mass [g]</td>
<td>140</td>
</tr>
</tbody>
</table>

Dimensions

![Dimensions Diagram]
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/A15D75M: MR-J2HBUS_M-A
   - QD75M: MR-J2HBUS_M
   - Q172CPU(N): Q172J2BCBL_M(-B)
   - Q173CPU(N): Q173J2B_CBL_M
   - MR-J4-_B_-RJ020+MR-J4-T20: MR-J2HBUS_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)

**MR-J4-40B-RJ020 (Note 1)**

**MR-J4-60B-RJ020 (Note 1)**

**MR-J4-70B-RJ020 (Note 1)**

**MR-J4-100B-RJ020 (Note 1)**

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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(N)A03058)" for the dimensions of MR-J4-B-RJ020 servo amplifiers alone.
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.
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 (LNA03058)" for the dimensions of MR-J4-B-RJ020 servo amplifiers alone.
MR-J4-B-RJ020 Dimensions (Note 1)

●MR-J4-500B4-RJ020

●MR-J4-700B-RJ020

●MR-J4-700B4-RJ020

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 (LJNA03058)" for the dimensions of MR-J4-B-RJ020 servo amplifiers alone.
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.
7. Refer to "MELSERVO-J4 catalog (LNA)(3058)" for the encoder cable, the power cable, and the electromagnetic cable for HG series servo motors.
Cables and Connectors

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
<th>Cable length</th>
<th>IP rating</th>
<th>Application</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>SSCNET cable</td>
<td>MR-J2HBUS05M-A</td>
<td>0.5 m</td>
<td>-</td>
<td>For A171SHCPU(N)/A172SHCPU(N)/A173UHCPU/A1SD75M/MR-J4-T20</td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS1M-A</td>
<td>1 m</td>
<td>-</td>
<td></td>
<td>Controller-side connector: PCR-S20FS+&lt;br&gt;Case: PCR-LS20LA1&lt;br&gt;(Honda Tsushin Kogyo Co., Ltd.)&lt;br&gt;Connector: 10120-3000PE&lt;br&gt;Shell kit: 10320-3210-000 (3M) or an equivalent product</td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS5M-A</td>
<td>5 m</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td>SSCNET connector set</td>
<td>MR-J2CN1-A</td>
<td>-</td>
<td>-</td>
<td>For A173UHCPU/A1SD75M/MR-J4-T20</td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS05M</td>
<td>0.5 m</td>
<td>-</td>
<td></td>
<td>Controller/MR-J4-T20-side connector: 10120-6000EL&lt;br&gt;Case: HDR-E14MG1+&lt;br&gt;Case: HDR-E14M1+&lt;br&gt;(Honda Tsushin Kogyo Co., Ltd.)&lt;br&gt;Connector: 10120-3000PE&lt;br&gt;Shell kit: 10320-3210-000 (3M) or an equivalent product</td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS1M</td>
<td>1 m</td>
<td>-</td>
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<td>MR-J2HBUS5M</td>
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<tr>
<td>(3)</td>
<td>SSCNET cable</td>
<td>MR-J2CN1</td>
<td>-</td>
<td>-</td>
<td>For QD75M/MR-J4-T20</td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS05M</td>
<td>0.5 m</td>
<td>-</td>
<td></td>
<td>Controller/MR-J4-T20-side connector: 10120-3000PE&lt;br&gt;Case: HDR-E14MG1+&lt;br&gt;Case: HDR-E14M1+&lt;br&gt;(Honda Tsushin Kogyo Co., Ltd.)&lt;br&gt;Connector: 10120-3000PE&lt;br&gt;Shell kit: 10320-3210-000 (3M) or an equivalent product</td>
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<tr>
<td></td>
<td>MR-J2HBUS1M</td>
<td>1 m</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS5M</td>
<td>5 m</td>
<td>-</td>
<td></td>
<td></td>
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<tr>
<td>(4)</td>
<td>SSCNET connector set</td>
<td>MR-J2CN1</td>
<td>-</td>
<td>-</td>
<td>For QD75M/MR-J4-T20</td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS05M</td>
<td>0.5 m</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS1M</td>
<td>1 m</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MR-J2HBUS5M</td>
<td>5 m</td>
<td>-</td>
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<tr>
<td>(5)</td>
<td>SSCNET cable</td>
<td>Q172J2BCBL05M</td>
<td>0.5 m</td>
<td>-</td>
<td>For Q172CPU(N)/MR-J4-T20</td>
</tr>
<tr>
<td></td>
<td>Q172J2BCBL1M</td>
<td>1 m</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q172J2BCBL5M</td>
<td>5 m</td>
<td>-</td>
<td></td>
<td></td>
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<tr>
<td>(6)</td>
<td>SSCNET cable</td>
<td>Q172J2BCBL05M-B</td>
<td>0.5 m</td>
<td>-</td>
<td>For Q172CPU(N)/MR-J4-T20</td>
</tr>
<tr>
<td></td>
<td>Q172J2BCBL1M-B</td>
<td>1 m</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q172J2BCBL5M-B</td>
<td>5 m</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Solder type (connector: 10120-3000PE and shell kit: 10320-3210-000 (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**

<table>
<thead>
<tr>
<th>Item</th>
<th>Model</th>
<th>Cable length</th>
<th>IP rating</th>
<th>Application</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(7)</td>
<td>SSCNET cable</td>
<td>Q173J2B_CBL05M</td>
<td>0.5 m</td>
<td>For Q173CPU(N)/MR-J4-T20</td>
<td>Controller-side connector&lt;br&gt;Connector: HDR-E26MG1+&lt;br&gt;Case: HDR-E26LPA5&lt;br&gt;(Honda Tsushin Kogyo Co., Ltd.)&lt;br&gt;MR-J4-T20-side connector&lt;br&gt;Connector: 10120-6000EL&lt;br&gt;Shell kit: 10320-3210-000&lt;br&gt;(3M) or an equivalent product</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q173J2B_CBL1M</td>
<td>1 m</td>
<td>-</td>
<td>MR-J4-T20-side connector&lt;br&gt;Connector: HDR-E14MG1+&lt;br&gt;Case: HDR-E14LPA5&lt;br&gt;(Honda Tsushin Kogyo Co., Ltd.)&lt;br&gt;Junction connector&lt;br&gt;Receptacle: 10220-0200EL&lt;br&gt;Shell kit: 10320-62W0-008&lt;br&gt;(3M) or an equivalent product</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q173J2B_CBL5M</td>
<td>5 m</td>
<td>-</td>
<td>Personal computer connector&lt;br&gt;Connector: DE-9SF-N&lt;br&gt;Connector case: DE-C1-J6-S6&lt;br&gt;(Japan Aviation Electronics Industry, Limited)</td>
</tr>
<tr>
<td>(8)</td>
<td>Junction cable for RS-232C</td>
<td>MR-J4T20CH00</td>
<td>0.2 m</td>
<td>For MR-J4-T20</td>
<td>Junction connector&lt;br&gt;Receptacle: 10220-0200EL&lt;br&gt;Shell kit: 10320-62W0-008&lt;br&gt;(3M) or an equivalent product</td>
</tr>
<tr>
<td>(9)</td>
<td>Personal computer communication cable (RS-232C cable)</td>
<td>MR-CPCATCBL3M</td>
<td>3 m</td>
<td>For MR-J4-T20</td>
<td>Junction connector&lt;br&gt;Receptacle: 10220-0200EL&lt;br&gt;Shell kit: 10320-62W0-008&lt;br&gt;(3M) or an equivalent product</td>
</tr>
<tr>
<td>(10)</td>
<td>Terminal connector</td>
<td>MR-A-TM</td>
<td>-</td>
<td>-</td>
<td>For MR-J4-T20</td>
</tr>
</tbody>
</table>

**Notes:**
1. Solder type (connector: 10120-3000PE and shell kit: 10320-52FD-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.

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**Safety Warning**

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

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

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

New publication, effective June 2013
Specifications are subject to change without notice.