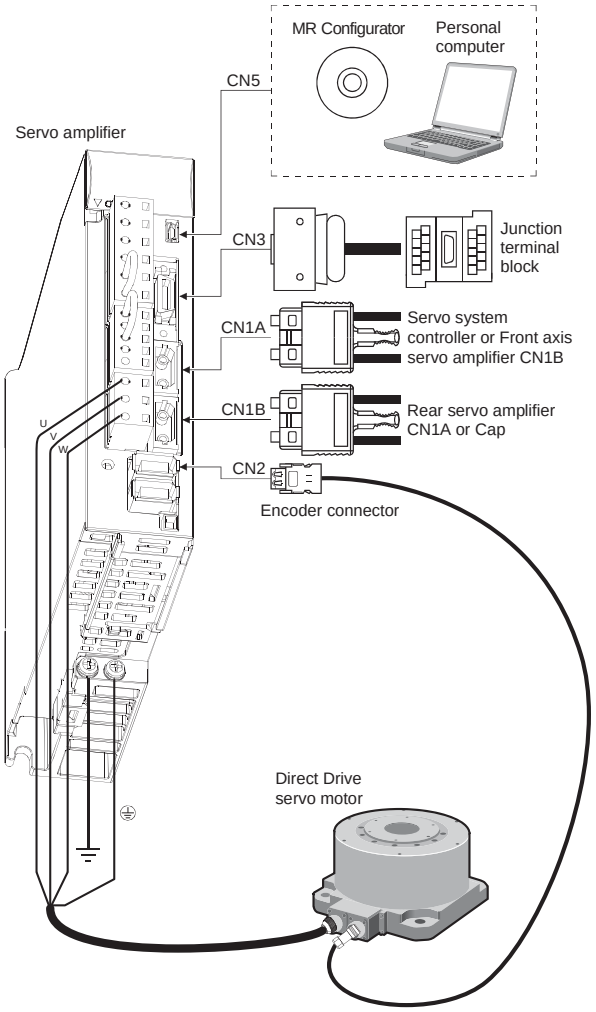
# MR-J3 Direct Drive Servomotors and Amplifiers

Direct drive arrangement with the motor provides higher rigidity and in addition, the high-resolution encoder with the motor enables high accuracy control. The motor's low profile design contributes to compact construction and a low center of gravity for enhanced machine stability. This motor is suitable for rotation and index tables used in semiconductor manufacturing, liquid crystal manufacturing and machine tool devices. The direct drive motor and servo amplifier will be compatible with global standards (EN, UL and cUL standards).




**Note:**
**Please consult product marketing for all direct drive motor opportunities.**

# A. MR-J3-Direct Drive Amplifiers

## Amplifier Selection

**MR-J3 - □ - B - □**

**MELSERVO-J3 Series**

**SSCNET II Compatible**

| Symbol | Description |
|---|---|
| RJ080W | Direct drive motor compatible with a built-in dynamic brake |
| RU080W | Direct drive motor compatible without a dynamic brake ( 1) |

**Note 1:** Dynamic brake does not work at alarm occurance or power failure. Take measures to ensure safety.

**Conforms to the following standards: EN, UL, cUL**

| Symbol | Compatible Motors |
|---|---|
| | TM-RFM |
| 20 | 002C20 |
| 40 | 004C20 |
| 60 | 006C20 006 20 |
| 70 | 012 20 012 20 040 10 |
| 100 | 018 20 |
| 350 | 048 20 072 20 120 10 |
| 500 | 240 10 |

## Amplifier Specifications

| MR-J3-_-RJ080W | | 20B | 40B | 60B | 70B | 100B | 350B | 500B |
|---|---|---|---|---|---|---|---|---|
| Main Circuit Power Supply | Voltage / Frequency (*1, * 2) | 3-phase 200 to 230VAC 50/60Hz or 1-phase 200 to 230VAC 50/60Hz | | | | 3-phase 200 to 230VAC 50/60Hz | | |
| | 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 | | | | 3-phase 170 to 253VAC | | |
| | Permissible Frequency Fluctuation | ±5% maximum | | | | | | |
| Control Circuit Power Supply | Voltage / Frequency | 1-phase 200 to 230VAC 50/60Hz | | | | | | |
| | Permissible Voltage Fluctuation | 1-phase 170 to 253VAC | | | | | | |
| | Permissible Frequency Fluctuation | ±5% maximum | | | | | | |
| | Power Consumption (W) | 30 | | | | | | 45 |
| Interface Power Supply | | 24VDC±10% (required current capacity: 0.15A) (*3) | | | | | | |
| Control System | | Sine-wave PWM control/current control system | | | | | | |
| Dynamic Brake | | Built-in (*4, *5) | | | | | | |
| Safety Features | | Overcurrent shutdown, regeneration overvoltage shutdown, overload shutdown (electronic thermal), direct drive motor overheat protection, encoder fault protection, regeneration fault protection, undervoltage/sudden power outage protection, overspeed protection, excess error protection, magnetic pole detection protection, servo control error protection | | | | | | |
| Structure | | Natural-cooling, open (IP00) | | | Fan-cooling, open (IP00) | | | |
| Environment | Ambient Temperature (*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/s² or less at 10 to 55Hz (directions of X, Y and Z axes) | | | | | | |
| Weight kg (lb) | | 0.8 (1.8) | 1.0 (2.2) | 1.0 (2.2) | 1.4 (3.1) | 1.4 (3.1) | 2.3 (5.1) | 4.6 (10) |

**Notes:**

1. Rated output and speed of a direct drive motor are applicable when the servo amplifier, combined with the direct drive 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 direct drive motor, refer to the section "Direct drive motor torque characteristics" in this catalog.
3. 0.15A 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-_B SAFETY SERVO AMPLIFIER INSTRUCTION MANUAL" for details.
4. When using the built-in dynamic brake, refer to "MR-J3-_B-RJ080W INSTRUCTION MANUAL" for the permissible load inertia moment ratio.
5. Special specification servo amplifiers without a dynamic brake are also available: MR-J3-_B-RU080W. When using the servo amplifier without a dynamic brake, the direct drive motor does not stop immediately at alarm occurrence or power failure. Take measures to ensure safety in the entire system.
6. The following servo amplifiers can be mounted closely: MR-J3-20B-RJ080W, -40B-RJ080W, -60B-RJ080W, -70B-RJ080W, -100B-RJ080W and -350B-RJ080W. 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.