Move Forward with MELSERVO-J4

Complete Support for Upgrading Your MELSERVO-J2S to MELSERVO-J4
A Variety of Supports for Upgrading

**Catalogs and Handbooks**

- **MELSERVO-J4 Catalog**
  L(NA)03058
  This catalog includes MR-J4 series servo amplifiers, HG series servo motors and compatible options.

- **Transition from MELSERVO-J2-Super/J2M Series to J4 Series Handbook**
  L(NA)03093
  This handbook explains how to replace your MR-J2S/J2M to MR-J4 series. Be sure to read through this handbook when considering and implementing the replacement.

- **New Product Release of Conversion Unit for SSCNET of MR-J2S-B**
  SV1306-1
  This brochure announces a new release of MR-J4 series servo amplifier and a conversion unit for connecting to SSCNET of MR-J2S-B. Specifications of the servo amplifier and the conversion unit are also listed.

- **MR-J2S Renewal Tool Catalog**
  X901307-312
  This guide introduces a renewal tool for replacing MR-J2S to MR-J4. The renewal tool allows to use the existing wiring and mounting holes, making the replacement simple and fast. With this renewal tool, you can also follow through the steps of first replacing only the servo amplifier and then later the servo motor.

- **Manual for Replacement from MELSERVO-J2S Series Using MR-J2S Renewal Tool**
  X903130707
  This handbook explains how to replace your MR-J2S to MR-J4, using the renewal tool. Be sure to read through this handbook when considering and implementing the replacement.
Our original servo control architecture is evolved from the conventional two-degrees-of-freedom model adaptive control and applied to the dedicated execution engine. Speed frequency response is increased to 2.5 kHz, achieving the industry-leading level of speed*. [MR-J2S: 0.55 kHz]

* Based on Mitsubishi Electric research as of July 2013

High-response system achieved with SSCNET III/H

- The fiber-optic cables thoroughly shut out noise that enters from the power cable or external devices. Noise tolerance is dramatically improved as compared to metal cables.
- Communication speed is increased to 150 Mbps full duplex (equivalent to 300 Mbps half duplex). System response is dramatically improved. [MR-J2S: 5.6 Mbps]
- Smooth control of machine is possible using high-speed serial communication with cycle times of 0.22 ms. [MR-J2S: 0.88 ms]
- Long distance wiring is possible up to 1600 m per system (maximum of 100 m between stations × 16 axes). Thus, it is suitable for large-scale systems. [MR-J2S: maximum of 30 m]
Support Tools and Unit for Easy Replacement

Parameter conversion tools

MR-J2S parameters can be simply converted. Refer to the help in the tools for the operation and the precautions. Refer to the parameter correspondence table in "Transition from MELSERVO-J2-Super/J2M Series to J4 Series Handbook (L(NA)03093)"

For MR-J2S-A

1) MRZJW3-SETUP161E (setup software for MR-J2S) reads the parameters from MR-J2S-A and saves as a parameter file.

2) The parameters are converted to those for MR-J4-A, using the parameter converter function of MR Configurator2 (setup software for MR-J4).

3) MR Configurator2 writes the converted parameters to MR-J4-A.

For MR-J2S-B

With GX Works2 (Simple Motion Module Setting Tool) or MT Works2, the project conversion function used for changing the controller also converts the servo parameters.

Conversion unit for SSCNET of MR-J2S-B

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.
Proposal for Replacement of MR-J2S Series to MR-J4 Series

For MR-J2S-A (general-purpose interface)

The following is an example of replacing the servo amplifiers and/or the servo motors without changing a general-purpose pulse train command controller.

MR-J2S-A System

Pulse train command controller

MR-J2S-A

HC/HA Series

Maintenance (amplifiers)

MR-J4-A System

Pulse train command controller

MR-J4-A

HG Series

Maintenance (motors)

Replacement of servo amplifiers

MR-J4-A

HC/HA Series

MR-J2S-A renewal tool allows to use the existing wiring.

MR-J4-A servo amplifier drives HC/HA series servo motor at the time of renewal.*

MR-J2S-A renewal tool allows to use the existing wiring.

* Refer to "Transition from MELSERVO-J2-Super/J2M Series to J4 Series Handbook (L(NA)03093)" for the combinations of the servo amplifier and the servo motor.

Replacement of servo amplifiers and servo motors

MR-J4-A

HG Series

HG series servo motor is not compatible with MR-J2S-A. Be sure to replace the servo amplifier from MR-J2S-A to MR-J4-A together with the servo motor from HC/HA series to HG series.

MR-J2S-A renewal tool allows to use the existing wiring.
The following is an example of replacing the servo amplifiers, the servo motors and/or the controller.

**MR-J2S-B System**

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

**MR-J4-B System**

- **SSCNET of MR-J2S-B compatible controller**
- **HG Series**

**Conversion unit for SSCNET of MR-J2S-B compatible servo amplifier**

MR-J4-B-RJ020 + MR-J4-T20, and HG series servo motors

- **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.

**Maintenance**

- Replace the servo amplifier without changing the existing connections.

**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. Some functions are limited.

Refer to "Transition from MELSERVO-J2-Super/J2M Series to J4 Series Handbook (L(NA)03093)" 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.

- **Replace your MR-J2S-B series to MR-J4 series, using the existing wiring.**

**Before replacement**

- MR-J2S-B servo amplifier

**After replacement**

- Primary Replacement: Replacing only the servo amplifier

- Secondary Replacement: Replacing the servo amplifier and then the servo motor

- Batch Replacement: Replacing the servo amplifiers and servo motors together

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)

* Refer to "New Product Release of Conversion Unit for SSCNET of MR-J2S-B (SV1306-1)" for details.

For MR-J2S-B (SSCNET interface)

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