2. DAILY MAINTENANCE

2.1 MAINTENANCE TOOLS

See the Maintenance Manual of MR-S11.

2.2 REPLACING BATTERY

With the absolute position detection system, data are retained using the battery.
Battery is installed on the RF332 card.
Method of replacement is explained in the Maintenance Manual of MR-S11.

3. INSTALLATION AND ADJUSTMENT PROCEDURE

3.1 ENVIRONMENTAL CONDITIONS

See the Maintenance Manual of MR-S11.

3.2 INPUT POWER

(1) Input voltage
AC200/220V +10%
-15%
(2) Frequency: 50/60 Hz, 3 phase
(3) Power consumption

Servo amplifier	Motor		Input kVA (1) at 100% output	Input A(2) at 170V, 100% output
	L axis	M axis(Note 1)		
MR-S12-13A	HA053/13	HA053/13	0.8	2.8
MR-S12-33A	HA23/33	HA23/33	1.2	4.2
MR-S12-40A	HA40/43	HA40/43	2.0	7.0
MR-S12-80B	HA80/43	HA40/43	2.6	9.1
MR-S12-80A	HA80/83	HA80/83	3.2	11
MR-S12-100B	HA100	HA80/83	4.3	15
MR-S12-100A	HA100	HA100	5.4	19

Note 1) The above table (1) will satisfy the thermal kVA capacity at the power supply. However, since the 2 to 3 times momentary power is required during acceleration of the motor, it should be of a small power fluctuation, which can ensure 170V to 242V at the terminals of the servo amplifier.
2) Current capacity of power supply must be in compliance with the above table (2).
3) When multiple axes are employed, add the power supply capacity per each additional axis.
[Example] Simultaneous 3 axes of HA80 + HA100 + HA300 → 10.2kVA 34.6A
For the selection of no-fuse breaker, refer to the explanation of specifications.
4) Input transformer
When the power supply voltage does not meet the above specifications, use the power supply transformer at the input side.

3.3.3 CONNECTING MOTOR

MR-S12 is classified into the following 5 types depending on the capacity and motors have some limitations respectively for L and M axes.

Type of amplifier	L axis drive motor	M axis drive motor
MR-S12-13A- □	HA053/13	HA053/13
MR-S12-33A- □	HA23/33	HA23/33
MR-S12-40A- □	HA40/43	HA40/43
MR-S12-80B- □	HA80/83	HA40/43
MR-S12-80A- □	HA80/83	HA80/83
MR-S12-100B- □	HA100	HA80/83
MR-S12-100A- □	HA100	HA100

(1) The L axis motor always has a larger capacity than the M axis motor. For example, MR-S12-80B- □ means the amplifier for L axis corresponding to HA80 and "B" suffixed to 80 indicates the amplifier having M axis is 1 rank below L axis, i.e. corresponding to HA40. In the same manner, MR-S12-80A- □ having suffix "A" means that the amplifier corresponds to HA80, the same as the L axis.

MR-S12- □ □

- Alphabet A, B ... Indicates the capacity of the M axis.
  - A: The same capacity as the L axis
  - B: 1 rank below the L axis
- Arabic numeral .. Indicates the capacity of the L axis. Corresponds to HA**.

(2) When MR-S12-80B- □ is used, if HA40 motor is used on L axis and HA80 on M axis by mistake, there is the danger that HA40 on L axis is demagnetized.

(3) Feedback connector of the L axis motor is LCN2 (semi-closed) and MCN2 (semi-closed) for the M axis motor.

(4) Typical examples of wrong wiring are shown on the next page.