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● **Safety Instructions** ●

Please read the instructions carefully before using the equipment.

To use the equipment correctly, do not attempt to install, operate, maintain, or inspect the equipment until you have read through this Installation Guide and appended documents carefully. Do not use the equipment until you have a full knowledge of the equipment, safety information and instructions. In this guide, the safety instruction levels are classified into "WARNING" and "CAUTION".



Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.



Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight injury to personnel or may cause physical damage.

Note that the CAUTION level may lead to a serious consequence according to conditions. Please follow the instructions of both levels because they are important to personnel safety. After reading this guide, keep it accessible to the operator.

1. To prevent electric shock, note the following



- Before wiring or inspection, turn off the power and check if the charge lamp of the servo amplifier is turned off. Otherwise, an electric shock may occur. In addition, always confirm in front of the servo amplifier, whether the charge lamp is off or not.
- Do not attempt to wire the regenerative options until they have been installed. Otherwise, it may cause an electric shock.
- Any person who is involved in wiring and inspection should be fully competent to do the work.
- The wires used for regenerative options should not be damaged, stressed loaded, or pinched. Otherwise, it may cause an electric shock.

2. To prevent fire, note the following



- Install the regenerative options on incombustible material. Installing them directly or close to combustibles will lead to a fire.
- When a regenerative option is used, use an alarm signal to switch main power off. Otherwise, a regenerative transistor fault or the like may overheat the regenerative option, causing a fire.
- Provide adequate protection to prevent screws and other conductive matter, oil and other combustible matter from entering the regenerative option.

3. To prevent injury, note the following



- Connect the terminals correctly to prevent a burst, damage, etc.
- Take safety measures, e.g. provide covers, to prevent accidental contact of hands and parts (cables, etc.) with the regenerative options since they may be hot while power is on or for some time after power-off. Their temperatures may be high and you may get burnt or a parts may damaged.

4. Additional instructions

The following instructions should also be fully noted. Incorrect handling may cause a fault, injury, electric shock, etc.

(1) Transportation and installation



- Transport the products correctly according to their mass.
- Stacking in excess of the specified number of products is not allowed.
- Install the regenerative option in a load-bearing place in accordance with the using servo amplifier instruction manual.
- Do not get on or put heavy load on the equipment.
- The regenerative option must be installed in the specified direction.
- Do not drop or strike regenerative option. Isolate from all impact loads.
- When storing or using the regenerative option, comply with the environmental conditions given in the using servo amplifier instruction manual.
- When the regenerative option has been stored for an extended period of time, contact your local sales office.
- When treating the regenerative option be careful about the edged parts such as the corners of the regenerative option.

(2) Wiring



- When the cable is not tightened enough to the terminal block (connector), the cable or terminal block (connector) may generate heat because of the poor contact. Be sure to tighten the cable with specified torque.

(3) Usage



- Any person who is involved in disassembly and repair should be fully competent to do the work.
- Do not modify the regenerative option.
- Use the regenerative option by the specified combination.

● **DISPOSAL OF WASTE** ●

Disposal of waste regenerative options is based on the servo amplifiers that are used with.



- Use regenerative options that are given in each instruction manual of the servo amplifier that are used with. Regenerative options that are not specified with cannot be used.

Refer to each servo amplifier instruction manual for the usage and the connection method of regenerative options. In addition, set parameters according to the regenerative options that are used with.

The following table list displays the specifications of the regenerative options. The power values in the table are resistor-generated powers and not rated powers.

Model	Resistance [Ω]	Regenerative power [W]	Mass [kg]
MR-RB013	52	10	0.1
MR-RB032	40	30	0.5
MR-RB033	52	30	0.2
MR-RB12	40	100	1.1
MR-RB14	26	100	1.1
MR-RB1H-4	82	100	1.1
MR-RB1L-4	270	100	1.1
MR-RB30	13	300	2.9
MR-RB3N	9	300	2.9
MR-RB31	6.7	300	2.9
MR-RB32	40	300	2.9
MR-RB34	26	300	2.9
MR-RB34-4 (Note 1)	26	300	2.9
MR-RB3B	20	300	2.9
MR-RB3G-4 (Note 1)	47	300	2.9
MR-RB3H-4 (Note 1)	80	300	2.9
MR-RB3M-4 (Note 1)	120	300	2.9
MR-RB3U-4 (Note 1)	22	300	2.9
MR-RB50 (Note 1)	13	500	5.6
MR-RB5N (Note 1)	9	500	5.6
MR-RB51 (Note 1)	6.7	500	5.6
MR-RB54	26	500	5.6
MR-RB54-4 (Note 1)	26	500	5.6
MR-RB5G-4 (Note 1)	47	500	5.6
MR-RB5H-4 (Note 1)	80	500	5.6
MR-RB5U-4 (Note 1)	22	500	5.6
MR-RB5E	6	500 (800) (Note 2)	10
MR-RB5K-4	10	500 (800) (Note 2)	10
MR-RB5R	3.2	500 (800) (Note 2)	11
MR-RB65	8	500 (800) (Note 2)	10
MR-RB6B-4	20	500 (800) (Note 2)	10
MR-RB60-4	12.5	850 (1300) (Note 2)	11
MR-RB66	5	850 (1300) (Note 2)	11
MR-RB67	4	850 (1300) (Note 2)	11
MR-RB6K-4	10	850 (1300) (Note 2)	11
MR-RB9F	3	850 (1300) (Note 2)	11
MR-RB9P	4.5	850 (1300) (Note 2)	11
MR-RB9T	2.5	850 (1300) (Note 2)	11
MR-RB136-4	5	1300	10
MR-RB139	1.3	1300	10
MR-RB137-4	4	1300	10
MR-RB137	1.3 (Note 3)	3900	11
MR-RB138-4	5 (Note 4)	3900	11
MR-RB13V-4	4	3900	11

- Note
1. Always install a cooling fan.
 2. Values in parentheses assume the installation of a cooling fan.
 3. Use three regenerative options with connecting them in parallel. This value is the resultant resistance when three regenerative options are connected in parallel.
 4. Use three regenerative options with connecting them in parallel. This value is the resultant resistance when three regenerative options are connected in parallel.

[Warranty]

Warranty of regenerative options is based on the servo amplifiers that are used with.