

Sales and Service

Addition of Branch Circuit Protection Devices to Comply with UL 61800-5-1 Standard for MR-J5 Series AC Servo Amplifiers

Thank you for your continued patronage of the Mitsubishi Electric AC servo system.

For the MR-J5 series AC servo amplifiers, branch circuit protection devices to comply with the UL 61800-5-1 standard have been added.

1. Target Model

MR-J5 series

* Excluding MR-J5-12K_, MR-J5-17K_, MR-J5-25K_, MR-J5-12K_4_, MR-J5-17K_4_, and MR-J5-25K_4_.

2. Reason for the Change

The molded-case circuit breakers (UL 489 Listed MCCB) listed in Tables 1 and 2 have been added for the MR-J5 series to comply with UL 61800-5-1, in response to requests made for the following reasons.

- 1) For the use under the conditions of UL Listed, the molded circuit breakers cannot be used with the 200 V class servo amplifiers (capacity of 5.0 kW or more) and the 400 V class servo amplifiers.
- 2) Especially for the 200 V class servo amplifiers, the NF50-SVFU, which is small and low-priced, cannot be used.

3. Details of the Change

The molded-case circuit breakers (UL 489 Listed MCCB) listed in Tables 1 and 2 have been added as branch circuit protection devices for systems to comply with UL 61800-5-1. For selecting a molded-case circuit breaker according to the power supply and capacity of the AC servo amplifiers to be used, refer to Tables 1 and 2 below. For information on the conventionally supported molded-case circuit breakers and semiconductor fuses, refer to the instruction manual "Safety Instructions and Precautions for AC Servos".

Table 1. Selection for servo amplifiers (200 V class)

Servo amplifier (200 V class) (*1)	Molded-case circuit breaker (240 V AC)	SCCR	Minimum cabinet size
MR-J5-10_	NF50-SVFU-15A (50 A frame 15 A)	14 kA	6188 cm ³
MR-J5-20_			
MR-J5-40_			
MR-J5-60_			
MR-J5-70_/MR-J5-100_/MR-J5-200_ (T)	NF50-SVFU-15A (50 A frame 15 A)		150 % of the servo amplifier volume
MR-J5-200_ (S)/MR-J5-350_	NF50-SVFU-20A (50 A frame 20 A)		
MR-J5-500_	NF50-SVFU-30A (50 A frame 30 A)		
MR-J5-700_	NF50-SVFU-40A (50 A frame 40 A)		
MR-J5W2-22_/MR-J5W2-44_/MR-J5W2-77_ (T)/MR-J5W2-1010_/MR-J5W3-222_/MR-J5W3-444_ (T)	NF50-SVFU-15A (50 A frame 15 A)		
MR-J5W2-77_ (S)/MR-J5W3-444_ (S)	NF50-SVFU-15A (50 A frame 20 A)		

*1. "(S)" means 1-phase 200 V AC power input and "(T)" means 3-phase 200 V AC power.

Date of issue	May 2025	Title	Addition of Branch Circuit Protection Devices to Comply with UL 61800-5-1 Standard for MR-J5 Series AC Servo Amplifiers	Mitsubishi Electric Corp., Nagoya Works 1-14, Yada-minami 5-chome, Higashi-ku, Nagoya 461-8670 Tel.: +81 (52) 721-2111 Main line
----------------------	----------	--------------	---	--

Table 2. Selection for servo amplifiers (400 V class)

Servo amplifier (400 V class)	Molded-case circuit breaker (480 V AC)	SCCR	Minimum cabinet size
MR-J5-60_4_	NF100-HRU-15A (100 A frame 15 A)	10 kA	150 % of the servo amplifier volume
MR-J5-100_4_			
MR-J5-200_4_			
MR-J5-350_4_			
MR-J5-500_4_			
MR-J5-700_4_	NF125-SVU-20A (125 A frame 30 A)	30 kA	

4. Date of Application

The molded-case circuit breakers listed can be used for the MR-J5 series (capacity of 7 kW or less) regardless of the manufacture date of the servo amplifiers.

There is no change in the servo amplifier.