

## Sales and Service

### Addition of Some Overload Protection Characteristics for AC Servo Amplifiers

Thank you for your continued patronage of the Mitsubishi Electric AC servo system.  
In preparation for the certification of UL 61800-5-1 Edition 2, overload protection characteristics for this standard will be added to the current overload protection characteristics for AC servo amplifiers.

#### 1. Target Model

MR-J4-A/MR-J4-B/MR-JE-A/MR-JE-B/MR-JE-BF

#### 2. Reason for the Change

To comply with UL 61800-5-1 Edition 2

#### 3. Details of the Change

In software version D9, an overload protection curve (thermal overload 6) for the standard mentioned above will be added to the current overload protection characteristics.  
Along with the addition of the overload protection curve, an alarm of [AL. 50.7 Thermal overload error 6 during operation], a warning of [AL. E1.9 Thermal overload warning 6 during operation], and a parameter of [Pr. PE09 Thermal overload warning level 6 during operation] will be added.  
Refer to the following pages for details of the change.  
When [AL. 50.7] occurs, please contact your local sales office.

#### 4. Certification of UL 61800-5-1 Edition 2

Certification of UL 61800-5-1 Edition 2 is scheduled in or after 2025.

#### 5. Compliance with UL 61800-5-1

UL 61800-5-1 Edition 2 will be enforced from January 2026.  
Products shipped in or before December 2025 can be used continuously as UL 61800-5-1 compliant products.

#### 6. Schedule

This change will be made sequentially from the March 2025 production.  
There may be cases where both the former and new products exist in the distribution stage.

#### 7. Overload Protection Characteristics

Refer to the following pages for the overload protection characteristics.

|                      |              |              |  |  |
|----------------------|--------------|--------------|--|--|
| <b>Date of issue</b> | January 2025 | <b>Title</b> | Addition of Some Overload Protection Characteristics for AC Servo Amplifiers | Mitsubishi Electric Corp., Nagoya Works<br>1-14, Yada-minami 5-chome, Higashi-ku, Nagoya 461-8670<br>Tel.: +81 (52) 721-2111 Main line |
|----------------------|--------------|--------------|--|--|

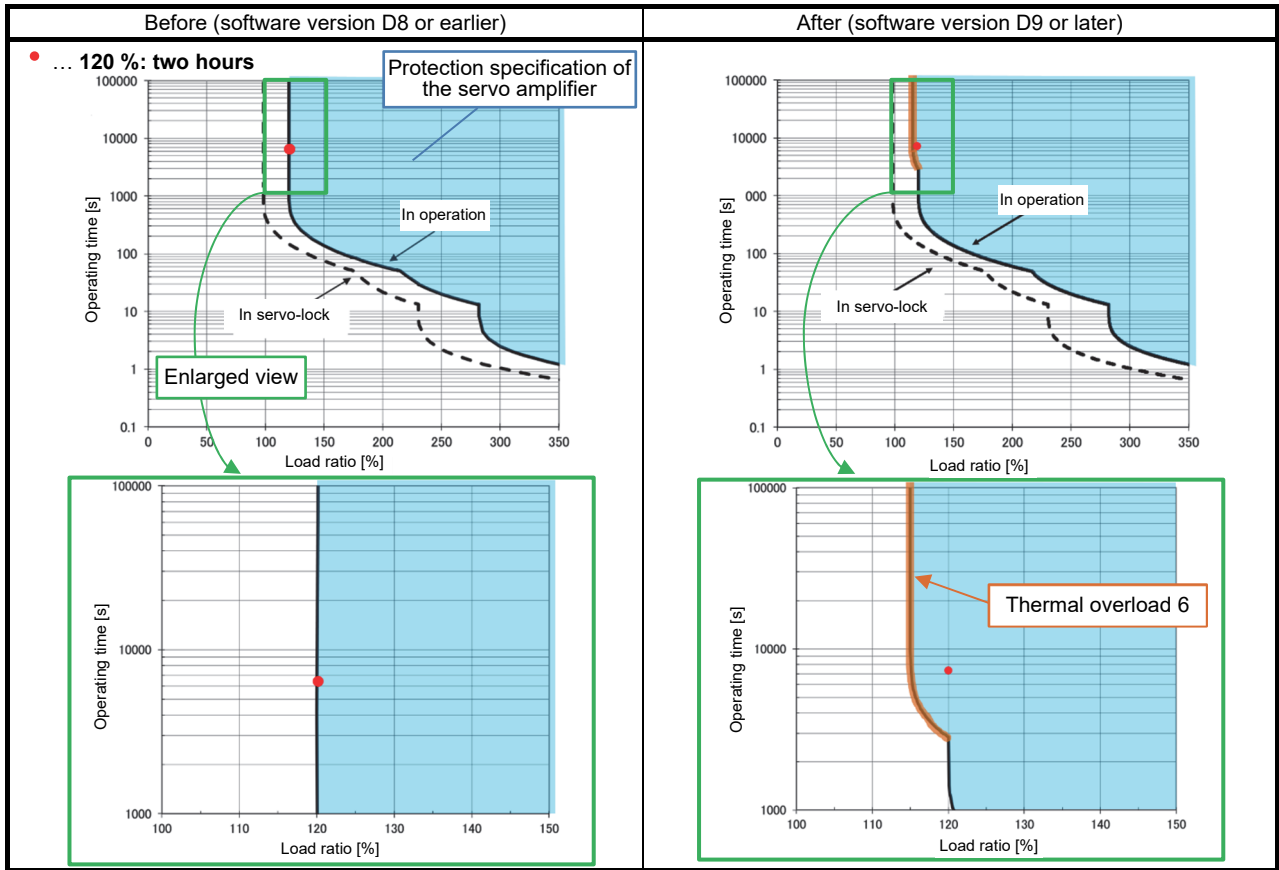


Figure 1. Characteristic a

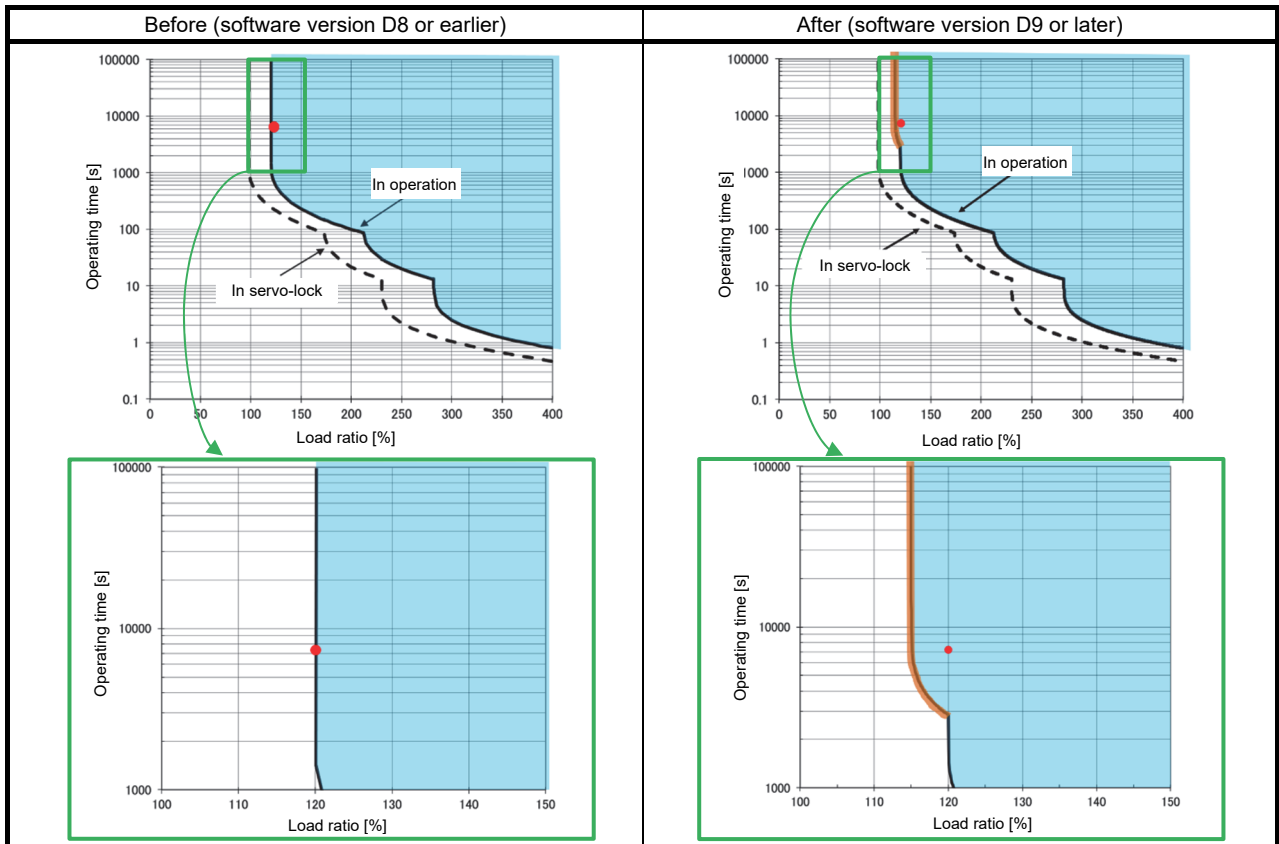


Figure 2. Characteristic b

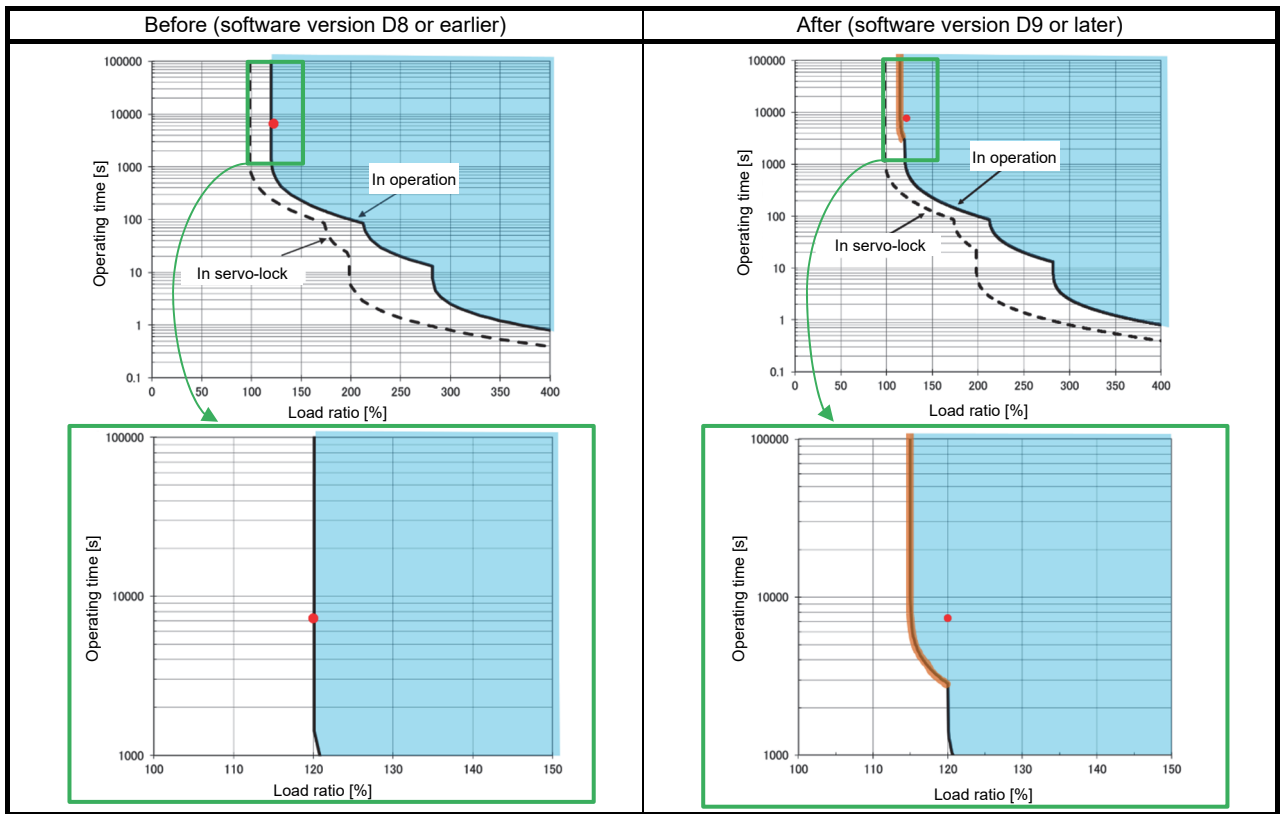


Figure 3. Characteristic c

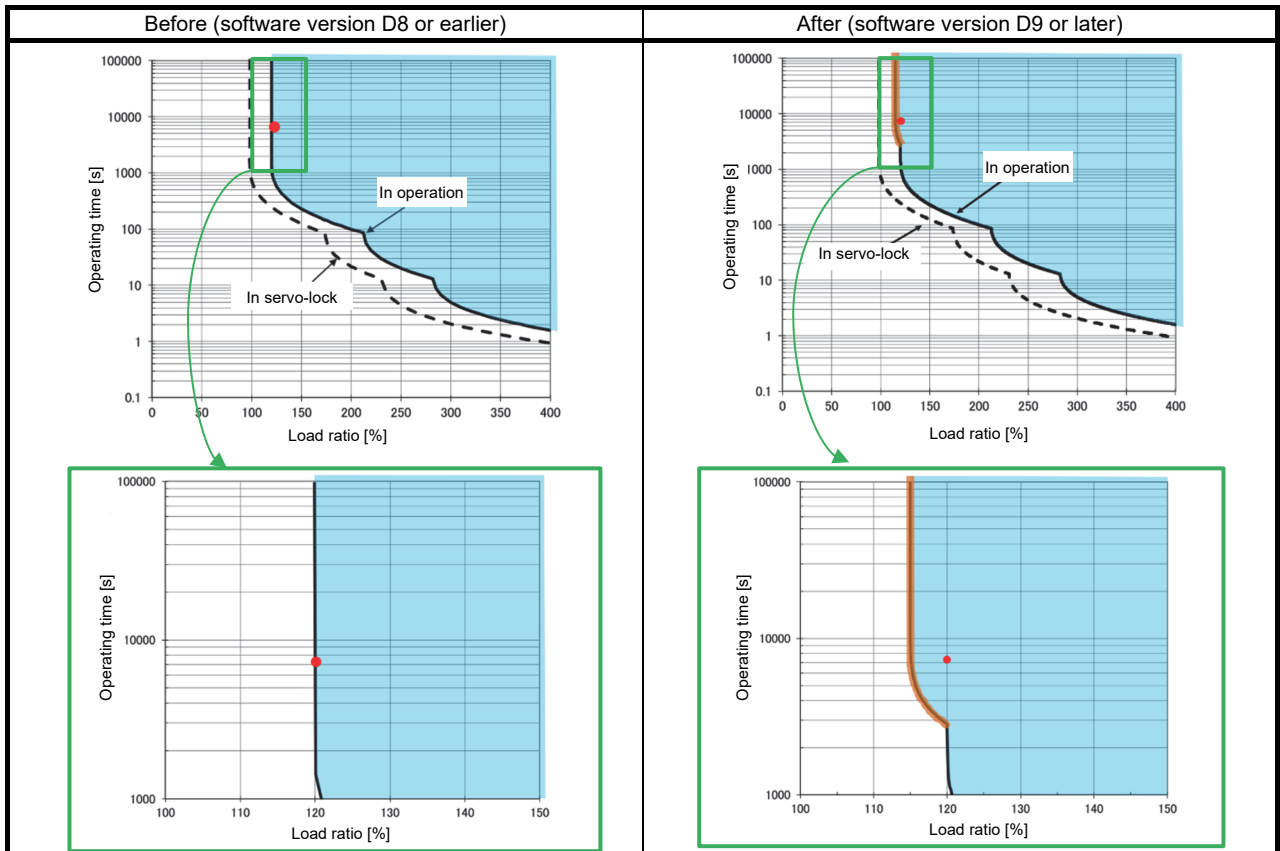


Figure 4. Characteristic d

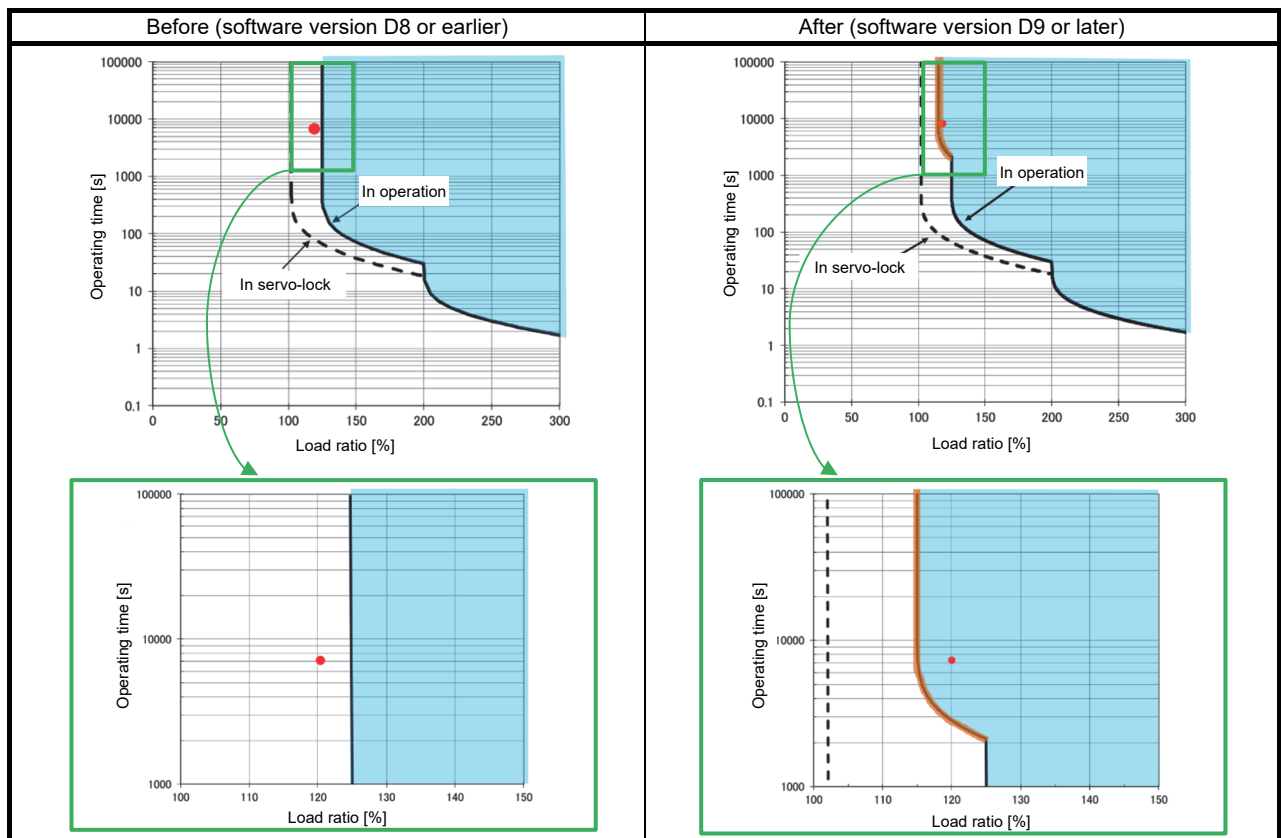


Figure 5. Characteristic e

### 8. Alarm

[AL. 50.7 Thermal overload error 6 during operation] will be added.

| Name       | Detail display | Detail name                               | Description  | Processing system | Stop system |
|------------|----------------|---|--|-------------------|-------------|
| Overload 1 | 50.7           | Thermal overload error 6 during operation | This alarm is detected when the load ratio exceeds thermal overload 6. | Each axis         | Each axis   |

### 9. Warning

[AL. E1.9 Thermal overload warning 6 during operation] will be added.

| Name               | Detail display | Detail name                                 | Description  | Processing system | Stop system |
|--------------------|----------------|---|--|-------------------|-------------|
| Overload warning 1 | E1.9           | Thermal overload warning 6 during operation | This warning is detected when the load ratio exceeds the warning level.<br>Initial value of the warning level: 95 % of thermal overload 6<br>The warning level can be changed with [Pr. PE09]. | Each axis         | -           |

## 10. Parameter

[Pr. PE09 Thermal overload warning level 6 during operation] will be added.

| No.  | Symbol | Compatibility mode                                       | Description  | Initial value (unit) | Setting range | Setting method |
|------|--------|--|--|----------------------|---------------|----------------|
| PE09 | OLLV6  | J4 mode  | <u>Thermal overload warning level 6 during operation</u><br>Set the level at which Thermal overload warning 6 during operation is generated.<br>When "0" is set, the warning will be generated when the load ratio exceeds 95 % of thermal overload 6.<br>When "100" is set, the warning will be disabled. | 0 [%]                | 0 to 100      | Each axis      |
|      |        | J3 compatibility mode<br>Standard control mode           | <u>Thermal overload warning level 6 during operation</u><br>Specifications are the same as those of the J4 mode.   | 0 [%]                | 0 to 100      | Each axis      |
|      |        | J3 compatibility mode<br>Fully closed loop control mode  | <u>Thermal overload warning level 6 during operation</u><br>Specifications are the same as those of the J4 mode.   | 0 [%]                | 0 to 100      | Each axis      |
|      |        | J3 compatibility mode<br>Linear servo motor control mode | <u>Thermal overload warning level 6 during operation</u><br>Specifications are the same as those of the J4 mode.   | 0 [%]                | 0 to 100      | Each axis      |
|      |        | J3 compatibility mode<br>DD motor control mode           | <u>Thermal overload warning level 6 during operation</u><br>Specifications are the same as those of the J4 mode.   | 0 [%]                | 0 to 100      | Each axis      |