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## **QD75 MH and J3 Safety Amplifier**

### **Introduction**

The Servo amplifier MR-J3-BSafety has additional parameter settings available to allow the user to set the forced stop deceleration time constant and the operation of the mechanical brake interlock when forced stop 2 is operated.

This will normally be set to configure the Servo amplifier to complete a controlled stop of the load prior to the safe torque off function operating.

When using QD75MH positioning controllers and utilising GX-Configurator QP software the software does not allow the selection in the Servo parameters for MR-J3 Safety. Therefore these parameters are not available in this configuration software.

The above parameters are visible when using MR-Configurator software and can be set using this software. However they will over write when the position controller is initialised.

These parameters will therefore need to be set by writing the appropriate value directly to their buffer memory addresses.

### **Applicable products**

MR-J3B Safety  
QD75MH controllers  
GX-Configurator QP Software

### **Setting details for Parameter PC24 Forced stop deceleration time constant.**

This can be set using the following buffer memory addresses.  
The settings can be written from your PLC sequence program.

|     | Axis 1 | Axis 2 | Axis 3 | Axis 4 |
|-----|--------|--------|--------|--------|
| BFM | 30187  | 30387  | 30587  | 30787  |

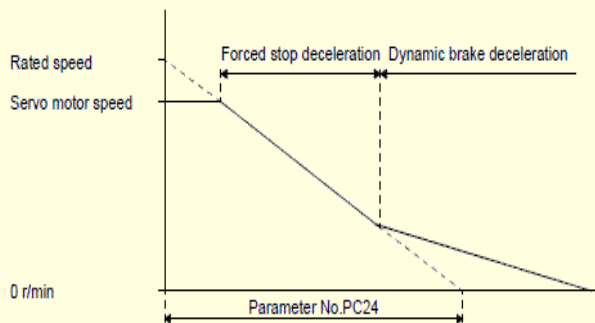
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### Settings

#### Forced stop deceleration command time constant : (Only for J3B Safety)

Set deceleration command time constant for forced stop deceleration.

Convert the time (unit: ms) for servo motor to decelerate from the rated speed to 0 [r/min] into hexadecimal number, and set the converted value to this parameter. For example, if the time constant is 5000ms, the set value will be "1388".



#### [Precautions]

- If the servo motor torque is saturated at the maximum torque because the set time is too short, the time to stop takes longer than the set time constant.
- Overload alarm (50, 51) may occur during forced stop deceleration, depending on the set value.
- Regardless of the deceleration time constant setting, dynamic braking will start if control power is cut or if a second alarm occurs after a forced stop initiating alarm has already occurred.

Initial Value: 0000h

Setting Range: Refer to above

For the above function to be applicable then parameter PA04 will require setting as below.

### Input details

| Device        | Symbol | Connector pin No. | Function/Application   | I/O division |
|---------------|--------|-------------------|--|--------------|
| Forced stop 2 | EM2    | CN3-20            | When the forced stop 2 (EM2) turns off or when alarm for forced stop occurs, the servo motor decelerates to a stop.<br>EM2 and EM1 are mutually exclusive.   | DI-1         |
| Forced stop   | EM1    | (CN3-20)          | Set parameter No.PA04 to "30□□", and make the forced stop 1 (EM1) usable.<br>Turn EM1 off (open between commons) to bring the motor to an forced stop state, in which the base circuit is shut off and the dynamic brake is operated.<br>Turn EM1 on (short between commons) in the forced stop state to reset that state. | DI-1         |

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### Setting details for Parameter PA04    Function selection A1

Use the following buffer memory addresses to set this function.

|     | Axis 1 | Axis 2 | Axis 3 | Axis 4 |
|-----|--------|--------|--------|--------|
| BFM | 30104  | 30304  | 30504  | 30704  |
|     |        |        |        |        |

**\* Function selection A-1: (Only for J3B Safety)**

The servo forced stop function is avoidable.

0 0

\*1

**\*1 Servo forced stop selection**

| Setting value | EM1/EM2 selection    | Deceleration method when EM1 or EM2 becomes valid  | Deceleration method when an alarm occurs   |
|---------------|----------------------|--|--|
| 00            | Forced stop 2 (EM2)  | The electromagnetic brake interlock (MBR) turns off after the forced stop deceleration.                            | The electromagnetic brake interlock (MBR) turns off after the forced stop deceleration.                            |
| 10            | Forced stop 2 (EM2)  | The electromagnetic brake interlock (MBR) turns off simultaneously with the start of the forced stop deceleration. | The electromagnetic brake interlock (MBR) turns off simultaneously with the start of the forced stop deceleration. |
| 30            | Forced stop 1 (EM1)  | The electromagnetic brake interlock (MBR) turns off without the forced stop deceleration.                          | The electromagnetic brake interlock (MBR) turns off without the forced stop deceleration.                          |
| 01            | Not using EM1 or EM2 | <input type="checkbox"/>   | The electromagnetic brake interlock (MBR) turns off after the forced stop deceleration.                            |
| 11            |                      | <input type="checkbox"/>   | The electromagnetic brake interlock (MBR) turns off simultaneously with the start of the forced stop deceleration. |
| 31            |                      | <input type="checkbox"/>   | The electromagnetic brake interlock (MBR) turns off without the forced stop deceleration.                          |

**Initial Value:** 0000h

**Setting Range:** Refer to above