

MITSUBISHI ELECTRIC Inverter

Sales and Service

No. 751E

Firmware Upgrade for the FR-E800 Series General-Purpose Inverters

Thank you for your continued patronage of Mitsubishi Electric drive control products.
The firmware of the FR-E800 series general-purpose inverters will be upgraded to improve functionality.

1. Products Affected

FR-E800 series

2. Details of Change

(1) Addition of supported EM-A motor capacities

For the EM-A series global PM motor, the following capacities will be added.
PM sensorless vector control (speed control and position control) will be available.

Voltage class	Current supported motor capacity (ND rating)	Additional supported motor capacity (ND rating)
200 V	0.1 kW to 7.5 kW	None
400 V	2.2 kW to 5.5 kW	0.4 kW to 1.5 kW, 7.5 kW

(2) Addition of supported SF-PR motor capacities

For the SF-PR series motor, the following capacities will be added.
V/F control (speed control), Advanced magnetic flux vector control (speed control), and Real sensorless vector control (speed control and torque control) will be available.

Voltage class	Current supported motor capacity (ND rating)	Additional supported motor capacity (ND rating)
200 V	0.75 kW to 22 kW	0.2 kW, 0.4 kW
400 V	0.75 kW to 22 kW	0.2 kW, 0.4 kW

(3) Enhanced current position retention function

Setting values "21 and 22" will be added for the function to hold the current position data at the output shutoff if the operation stops with the motor shaft fixed by the electromagnetic brake or the like under position control.

Pr. (Pr. group)	Name	Initial value	Setting range	Description					
538 (B015)	Current position retention selection	9999	1, 2, 11, 12, 21, 22, 9999	Select the combination of the position data to be held.					
				Pr.538 setting	Position data			ZP signal	Storing data in EEPROM
					Position command	Current position	Droop pulse		
				21	Aligned with current position	Always updated	Cleared	Held	Disabled
22	Held	Always updated	Always updated	Held	Disabled				

Date of issue	June 2023	Title	Firmware Upgrade for the FR-E800 Series General-Purpose Inverters	Mitsubishi Electric Corp., Nagoya Works 5-1-14 Yada-minami, Higashi-ku, Nagoya 461-8670 Tel.: +81 (52) 721-2111 Main line
----------------------	-----------	--------------	---	---

(4) Enhanced position control function

For the simple positioning function by point tables and the simple positioning function by direct commands, settings about the position data for home position return will be added.

Pr. (Pr. group)	Name	Initial value	Setting range	Description						
1095 (B110)	Home position return function selection	9999	1000, 9999	Select whether to use a positive or negative value for the position data for home position return (Pr.1096 and Pr.1097). <table border="1" data-bbox="863 607 1417 719"> <thead> <tr> <th>Pr.1095 setting</th> <th>Position data for home position return (Pr.1096 and Pr.1097)</th> </tr> </thead> <tbody> <tr> <td>9999</td> <td>Positive value</td> </tr> <tr> <td>1000</td> <td>Negative value</td> </tr> </tbody> </table>	Pr.1095 setting	Position data for home position return (Pr.1096 and Pr.1097)	9999	Positive value	1000	Negative value
Pr.1095 setting	Position data for home position return (Pr.1096 and Pr.1097)									
9999	Positive value									
1000	Negative value									
1096 (B111)	Home position return position data lower 4 digits	0	0 to 9999	Set the position data for home position return. Position data for home position return = Pr.1097 × 10000 + Pr.1096						
1097 (B112)	Home position return position data upper 4 digits	0	0 to 9999							

(5) Addition of registers for SLMP communication

The following link registers will be added.

Link register	Description
W5807, W5808	Inverter status
W5900 to W5969	Fault history

(6) Compatibility with plug-in options

FR-E8AXY E kit (additional control circuit input/output) will be available.
(For the details, refer to the New Product RELEASE No.23-6E.)

(7) Compatibility with control terminal options

FR-E8TR (RS-485 2-port terminal block) and FR-E8TE7 (screw type terminal block) will be
available.
(For the details, refer to the New Product RELEASE No.23-6E.)

3. Date of Change

Country of origin	Date of Change
MADE IN JAPAN	The change will be applied to the July 2023 production or later.
MADE IN CHINA	The change will be applied to the August 2023 production or later.

4. Product Identification

The SERIAL (determined by date of production) can be checked on the product's rating plate.

□□ 23 7 ○○○○○○
Symbol Year Month Control number

SERIAL

The SERIAL consists of two symbols, three characters indicating the production year
and month, and six characters indicating the control number.

The last two digits of the production year are indicated as the Year, and the Month is
indicated by 1 to 9, X (October), Y (November), or Z (December).

5. Firmware Version

The inverter firmware version to which the change described will be applied is 12 or later.

For how to install the downloaded firmware, refer to the FR Configurator2 (SW1DND-FRC2-E) Instruction Manual (IB-0600516ENG).