Firmware Update 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 updated to improve functionality.

1. Products Affected

FR-E800 series

2. Details of Change

(1) Supporting the S-PM geared motor GV-S
   The setting value "1040" will be added for Pr.71.

Pr. (Pr. group)	Name	Initial value	Setting range	Description
71 (C100)	Applied motor	0	1040	S-PM geared motor GV-S

The setting values "6004 and 6104" will be added for Pr.998.

Pr. (Pr. group)	Name	Initial value	Setting range	Description
998 (E430)	PM parameter initialization	0	6004	Parameter setting (in rotations per minute) for a GV-S motor
			6104	Parameter setting (in frequencies) for a GV-S motor

(2) Supporting the E700EX compatible mode for the global PM motor EM-A
   The setting values "3064 and 3164" will be added for Pr.998.
   This mode will provide more quietness than using the conventional setting of the FR-E800.

Pr. (Pr. group)	Name	Initial value	Setting range	Description
998 (E430)	PM parameter initialization	0	3064	Parameter setting (in rotations per minute) for an EM-A motor (E700EX compatible mode)
			3164	Parameter setting (in frequencies) for an EM-A motor (E700EX compatible mode)

When a parameter setting for the EM-A motor (E700EX compatible mode) is selected for Pr.998, Pr.800 is automatically set to the E700EX compatible mode setting.
The setting values "210, 213, and 214" have been added for the firmware version 18 or later.

Pr. (Pr. group)	Name	Initial value	Setting range	Description	
800 (G200)	Control method selection	40	210	PM sensorless vector control (E700EX compatible mode)	Speed control
			213		Position control
			214		Speed control / position control switchover

(3) Enhanced functions for output terminal function selection
   The following function will be added to Pr.190 to Pr.197 and Pr.313 to Pr.319.

Function	Signal name	Setting value	
		Positive logic	Negative logic
Output short-circuit detection	ALM4	23	123

The following function will be added to Pr.320 to Pr.322.

Function	Signal name	Setting value
Output short-circuit detection	ALM4	23

(4) Addition of Pr.521 (Output short-circuit detection)

Pr. (Pr. group)	Name	Initial value	Setting range
521 (H194)	Output short-circuit detection	0	0
			1

Setting range	Description	
	Fault indication when overcurrent is detected	Reset method
0	E.OC1 to E.OC3	The fault can be cleared by normal reset methods for the protective functions. (Example) ・Perform a reset by pressing the STOP/RESET key on the operation panel. ・Turn OFF and then ON the power. ・Turn ON the Reset (RES) signal for 0.1 second or more.
1	E.SCF * When E.SCF occurs, the ALM4 signal is output.	The fault can be cleared by a reset by turning OFF the power. (Example) Turn OFF and then ON the power.

(5) Enhanced functions for Pr.249 (Earth (ground) fault detection at start)
The setting value "2" will be added for Pr.249.

Pr. (Pr. group)	Name	Initial value	Setting range	Description	
				Earth (ground) fault detection at start	Reset method
249 (H101)	Earth (ground) fault detection at start	0 (Gr.1) 1 (Gr.2) *1	0	Not detected	The fault can be cleared by normal reset methods for the protective functions.
			1	Detected	
			2	Detected * When E.GF occurs, the ALM4 signal is output.	The fault can be cleared by turning OFF the power. (Example) Turn OFF and then ON the power.

*1: Gr.1 and Gr.2 are the parameter initial value groups. The value of Gr.1 is set for the FR-E800-1, FR-E800-5, FR-E800-EPA, FR-E800-SCEPA, and FR-E800-NC. For the other models, the value of Gr.2 is set.

(6) Addition of a protective function
The fault display for an output short circuit will be added as the protective function.

Operation panel indication	E.SCF
Name	Output short-circuit
Description	Appears when an output short circuit is detected.

(7) Addition of the heat sink temperature monitoring function

By setting "37" in the parameters for monitoring, the temperature of the inverter heat sink can be monitored within the range of 0 to 115°C.

The monitor value can be used to check the change in the temperature of the inverter and prevent the inverter output shutoff due to heat sink overheating.

Pr. (Pr. group)	Name	Initial value	Setting range	Description
52 (M100)	Operation panel main monitor selection	0	37	Select the item monitored on the operation panel or parameter unit.
54 (M300)	FM terminal function selection	1	37	Select the item monitored via terminal FM.
158 (M301)	AM terminal function selection	1	37	Select the item monitored via terminal AM.
306 (M303)	Analog output signal selection	2	37	The setting is available when the FR-A8AY or FR-E8AXY is installed.
310 (M343)	Analog meter voltage output selection	2	37	Analog signals can be output from the voltage output terminal (AM0) and current output terminal (AM1).
774 (M101)	Operation panel monitor selection 1	9999	37	Each of the initial items monitored on the operation panel or parameter unit in the monitor mode (output frequency, output current, and output voltage) can be switched to a user-designated item.
775 (M102)	Operation panel monitor selection 2			
776 (M103)	Operation panel monitor selection 3			
992 (M104)	Operation panel setting dial push monitor selection	0	37	Select the monitor item displayed on the operation panel at the time when the setting dial is pressed.
1027 (A910)	Analog source selection (1ch)	201	37	Select the analog data (monitor item) for sampling on each channel when the trace function is used.
1028 (A911)	Analog source selection (2ch)	202		
1029 (A912)	Analog source selection (3ch)	203		
1030 (A913)	Analog source selection (4ch)	204		
1031 (A914)	Analog source selection (5ch)	205		
1032 (A915)	Analog source selection (6ch)	206		
1033 (A916)	Analog source selection (7ch)	207		
1034 (A917)	Analog source selection (8ch)	208		

When selecting the heat sink temperature monitor for a special register for control, set device No. SD1232.

Device No.	Name	Description
SD1232	Heat sink temperature	Stores the heat sink temperature. The value is in increments of 1°C.

3. Firmware Version

The inverter firmware version to which the change described will be applied is as follows:

Series	Firmware version
FR-E800	20 or later

Firmware version 19 was only available via web download, but it will be included in the updated firmware version 20 to be applied to the products.
To check "Functional revision history / Improvement revision history" for firmware version 19, refer to the following.
Functional revision history / Improvement revision history FR-E800 series firmware

Firmware can be downloaded from the following website.
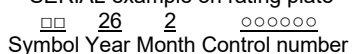Search for Software for Drive Products Inverters - Firmware - INVERTER - FR-E800 Series

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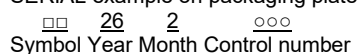
4. Date of Change

Country of origin	Date of change
MADE IN JAPAN	The change will be sequentially applied to the February 2026 production or later.
MADE IN CHINA	The change will be sequentially applied to the March 2026 production or later.

5. Product Identification

The SERIAL (determined by date of production) can be checked on the rating plate or packaging plate.

SERIAL example on rating plate
□□   26   2   ○○○○○○
Symbol Year Month Control number

SERIAL

SERIAL example on packaging plate
□□   26   2   ○○○
Symbol Year Month Control number

SERIAL

The SERIAL consists of two symbols, three characters indicating the production year and month, and the control number (six characters for the rating plate, three characters for the packaging plate).

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).