MITSUBISHI ELECTRIC Inverter
Sales and Service

Firmware Upgrade for the FR-A800-SYN and FR-F800-SYN Series Inverters

Thank you for your continued patronage of Mitsubishi Electric drive control products.
The firmware of the FR-A800-SYN and FR-F800-SYN series inverters will be upgraded to improve the functionality.

1. Products Affected
FR-A800-SYN series
FR-F800-SYN series

2. Details of Change
(1) Enhanced offline auto tuning for a SynRM

The target current during offline auto tuning can be adjusted.
The overcurrent protective function may be activated during Lq tuning for an easily magnetically saturated motor (motor with a large Lq decay ratio). In such a case, the target flowing current used for tuning can be adjusted with Pr.1002.

The following parameter will be added.

Pr.	Name	Initial value	Setting range	Description
1002	Lq tuning target current adjustment coefficient	9999	50% to 150%	Adjust the target current during tuning.
			9999	Operates as 100%.

(2) Addition of the heat sink temperature monitoring function

In addition to the monitor items of the standard FR-A800 series, the heat sink temperature monitor can be displayed.
By setting "37" in the parameters for monitoring, the temperature of the inverter heat sink can be monitored within the range of 0°C to 130°C. When the inverter output is shut off due to heat sink overheating, the monitor value provides a rough approximation of the change in the temperature of the inverter.

The setting value will be added to the following parameters.

Pr.	Name	Initial value	Setting value	Description
52	Operation panel main monitor selection	0	37	Select the item monitored on the operation panel or parameter unit.
54	FM/CA terminal function selection	1	37	Select the item monitored via terminal FM or CA.
158	AM terminal function selection	1	37	Select the item monitored via terminal AM.
774	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	Operation panel monitor selection 2			
776	Operation panel monitor selection 3			
992	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.

Pr.	Name	Initial value	Setting value	Description
1027	Analog source selection (1ch)	201	37	Select the analog data (monitor item) for sampling on each channel.
1028	Analog source selection (2ch)	202		
1029	Analog source selection (3ch)	203		
1030	Analog source selection (4ch)	204		
1031	Analog source selection (5ch)	205		
1032	Analog source selection (6ch)	206		
1033	Analog source selection (7ch)	207		
1034	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. Date of Change

The change will be applied to the products manufactured in April 2025 or later.

4. Product Identification

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

SERIAL example on rating plate
□　<u>5</u>　<u>4</u>　<u>○○○○○○</u>
<u>Symbol Year Month Control number</u>

SERIAL

SERIAL example on packaging plate
□　<u>5</u>　<u>4</u>　<u>○○○</u>
<u>Symbol Year Month Control number</u>

SERIAL

The SERIAL consists of one symbol, two 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 digit of the production year is indicated as the Year, and the Month is indicated by 1 to 9, X (October), Y (November), or Z (December).