MITSUBISHI ELECTRIC Inverter
Sales and Service

No. 789E

Firmware Upgrade for the FR-CC2 Series Converter Units

Thank you for your continued patronage of Mitsubishi Electric drive control products.
The firmware of the FR-CC2 series converter units will be upgraded to improve the functionality.

1. Products Affected

FR-CC2 series

2. Details of Change

◆ Emergency drive (Fire mode)

The converter unit can continue driving the motor in case of emergency such as a fire, since protective functions are not activated even if the converter unit detects a fault. To support this function, parameters and parameter setting values will be added as follows.

Pr.	Name	Initial value	Setting value	Description
178	RDI terminal function selection	9999	84	Select the input terminal function. An input signal will be added to support the emergency drive function.
187	OH terminal function selection	7	84	
189	RES terminal function selection	62	84	
190	RDB terminal function selection	111	65, 66, 165, 166	Select the open collector output terminal function. Output signals will be added to support the emergency drive function.
191	RDA terminal function selection	11	65, 66, 165, 166	
192	IPF terminal function selection	2	65, 66, 165, 166	
193	RSO terminal function selection	209	65, 66, 165, 166	
194	FAN terminal function selection	25	65, 66, 165, 166	
195	ABC1 terminal function selection	99	65,66,165,166	Select the relay output terminal function. Output signals will be added to support the emergency drive function.
514	Emergency drive dedicated retry waiting time	9999	0.1 to 600 s	Set the retry waiting time during emergency drive operation.
			9999	Waiting time: According to Pr.68 setting
515	Emergency drive dedicated retry count	1	1 to 200	Set the retry count during emergency drive operation.
			9999	Without retry count excess (no restriction on the number of retries)
523	Emergency drive mode selection	9999	100, 200	Select the operation mode of the emergency drive.
			9999	Emergency drive disabled.
774	Operation panel monitor selection 1	9999	68	Select the item to be monitored on the screen of the operation panel. A monitor item will be added to support the emergency drive function.
775	Operation panel monitor selection 2	9999	68	
776	Operation panel monitor selection 3	9999	68	
992	Operation panel setting dial push monitor selection	8	68	

Date of issue	May 2024	Title	Firmware Upgrade for the FR-CC2 Series Converter Units	Mitsubishi Electric Corp., Nagoya Works 5-1-14 Yada-minami, Higashi-ku, Nagoya 461-8670 Tel.: +81 (52) 721-2111 Main line

1) Emergency drive operation selection (Pr.523)

Use Pr.523 Emergency drive mode selection to select the emergency drive operation.

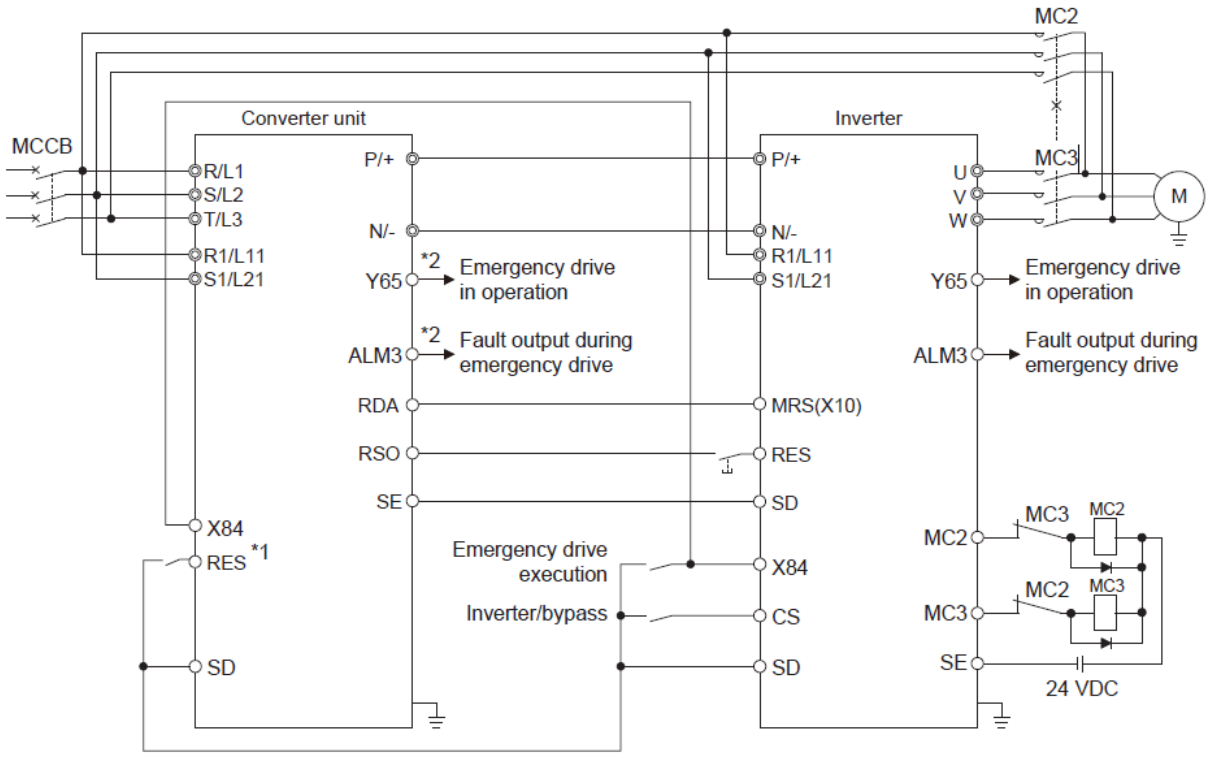
Pr.523 setting	Description
100	When a fault occurs, the RDA signal is turned OFF and the RDB signal is turned ON to disable inverter operation.
200	Retry operation when a fault occurs. When a fault for which retry is not permitted occurs or when the retry count is exceeded, the RDA signal is turned OFF and the RDB signal is turned ON to disable inverter operation.
9999	Emergency drive disabled.

2) Retry operation during emergency drive operation (Pr.515, Pr.514)

- Set the retry operation during emergency drive operation.
  Use Pr.515 Emergency drive dedicated retry count to set the retry count, and use Pr.514 Emergency drive dedicated retry waiting time to set the retry waiting time.
- The ALM signal output conditions depend on the Pr.67 Number of retries at fault occurrence setting.

3) Connection example

The following diagram shows a connection example for emergency drive operation.



*1 The applied terminals differ by the settings of Pr.178, Pr.187, and Pr.189 (Input terminal function selection).

*2 The applied terminals differ by the settings of Pr.190 to Pr.195 (Output terminal function selection).

4) Addition of input and output signals

The following input and output signals will be added.

Setting value	Signal name	Function
84	X84	Emergency drive execution command

Setting value		Signal name	Function	Operation
Positive logic	Negative logic			
65	165	Y65	Emergency drive in operation	Output during emergency drive operation.
66	166	ALM3	Fault output during emergency drive	Output when a fault occurs during emergency drive operation.

5) Addition of a monitor item

The following monitor item to be displayed on the operation panel will be added.

Monitor item	Increment and unit	Pr. setting	RS-485	MODBUS RTU	Negative indication (-)	Description
Emergency drive status	1	68	H44	40268	Not indicated	Emergency drive status is displayed.

6) Addition of a protective function

The fault display during emergency drive operation will be added as the protective function.

Operation panel indication	Ed
Name	Emergency drive in operation
Description	Appears during emergency drive operation.

7) Cautions

When the emergency drive function is enabled, the operation is continued or the retry operation is repeated even if a fault occurs, which may damage or burn the inverter, the converter unit, or the motor. Before restarting the normal operation after the operation using this function, make sure that the inverter, the converter unit, and the motor have no fault. Any damage of the inverter, the converter unit, or the motor caused by using the emergency drive function is not covered by the warranty even within the guarantee period.

3. Date of Change

Country of origin	Date of change
MADE IN JAPAN	The change will be sequentially applied to the July 2024 production or later.
MADE IN CHINA	The change will be sequentially applied to the May 2024 production or later.

4. Product Identification

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

SERIAL example on rating plate

□ 4 5 ○○○○○○

Symbol Year Month Control number

SERIAL

SERIAL example on packaging plate

□ 4 5 ○○○

Symbol Year Month Control number

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).