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 and FR-E800-HVC series

2. Details of Change

(1) Enhanced signal loss detection function of the FR-E800-EPC (Pr.1457 added)

Pr.1457 Extended setting for Ethernet signal loss detection function selection will be added to the FR-E800-EPC.

Pr.	Name	Initial value	Setting range	Description	
1457	Extended setting for Ethernet signal loss detection function selection	9999	0	Signal loss detection disabled	The setting of Pr.1431 will be applied to the operation when signal loss is detected at PORT1, and the setting of Pr.1457 will be applied when signal loss is detected at PORT2.
			1	A warning (EHR) is output for a signal loss.	
			2	A warning (EHR) and the Alarm (LF) signal are output for a signal loss.	
			3	A warning (EHR) and the Alarm (LF) signal are output for a signal loss.	
				A protective function is activated for a signal loss.	
			8888	When a signal loss is detected for both PORT1 and PORT2, the Pr.1431 setting is applied.	
			9999	When a signal loss is detected for either PORT1 or PORT2, the Pr.1431 setting is applied.	
1431	Ethernet signal loss detection function selection	3	0	Signal loss detection disabled	Set the availability of the signal loss detection and select the action when Ethernet communication is interrupted by physical factors.
			1	A warning (EHR) is output for a signal loss.	
			2	A warning (EHR) and the Alarm (LF) signal are output for a signal loss.	
			3	A warning (EHR) and the Alarm (LF) signal are output for a signal loss.	
				A protective function is activated for a signal loss.	

(2) Enhanced safety communication function
The following functions will be added.

1) Programmable safety input/output signal

During safety communication, the input terminal status is applied to the send data status, and the receive data status can be applied to the output terminal status.

To apply the receive data status to the output terminal status, set "20" in Pr.S055 to assign the Programmable safety output (PSO1/PSO2) signal.

• Inverter to master

The status of terminals SX1 and SX2 are applied to the status of the PSI1 and PSI2 signals.

Signal name	Description
PSI1 (Programmable Safety Input1)	OFF (0): Terminal SX1 is not conducted. ON (1): Terminal SX1 is conducted.
PSI2 (Programmable Safety Input2)	OFF (0): Terminal SX2 is not conducted. ON (1): Terminal SX2 is conducted.

• Master to inverter

The status of the PSO1 and PSO2 signals are applied to the status of terminals SY1 and SY2.

Signal name	Description
PSO1 (Programmable Safety Output1)	OFF (0): Terminal SY1 not conducted. ON (1): Terminal SY1 conducted.
PSO2 (Programmable Safety Output2)	OFF (0): Terminal SY2 not conducted. ON (1): Terminal SY2 conducted.

2) Enhanced functions for terminal SX1/SX2 and terminal SY1/SY2

Input and output signals for safety sub-functions and programmable safety output (PSO1/PSO2) signals can be assigned.

Parameter setting values will be added as follows.

Pr.	Name	Initial value	Setting value	Description
S051	SX1/SX2 terminal function selection	0	0	No function
			1	SS1 command (SS1C) signal
			2	SLS1 command (SLS1C) signal
			3	SLS2 command (SLS2C) signal
			4	SLS3 command (SLS3C) signal
			5	SLS4 command (SLS4C) signal
			6	SBC feedback (SBCFB) signal
			7	SSM command (SSMC) signal
			8	STO command (STOC) signal
S055	SY1/SY2 terminal function selection	0	0	No function
			1	SBC output (SBCS) signal
			2	SSM output (SSMS) signal
			3	STO output (STOS) signal
			4	SS1 output (SS1S) signal
			5	SLS1 output (SLS1S) signal
			6	SLS2 output (SLS2S) signal
			7	SLS3 output (SLS3S) signal
			8	SLS4 output (SLS4S) signal
			20	Programmable safety output (PSO1/PSO2) signal

(3) Enhanced regenerative function selection

Setting values "100 to 102" will be added to Pr.30 Regenerative function selection.

When the FR-E8DS is installed, the reset operation when the power is supplied to the main circuit while 24 V external power is supplied to the inverter can be selected.
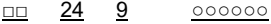
Pr.	Name	Initial value	Setting range	Description	
30	Regenerative function selection	0	0	No regenerative function Brake resistor (MRS, MYS type) Brake unit (FR-BU2) Multifunction regeneration converter (FR-XC) Power regeneration common converter (FR-CV) High power factor converter (FR-HC2)	Reset when power is supplied to the main circuit
			100		No reset when power is supplied to the main circuit
			1	Brake resistor (MYS type) used at 100% torque, 6%ED High-duty brake resistor (FR-ABR)	Reset when power is supplied to the main circuit
			101		No reset when power is supplied to the main circuit
			2	When the automatic restart operation after instantaneous power failure function is enabled while a brake resistor and a regeneration unit is used	Reset when power is supplied to the main circuit
			102		No reset when power is supplied to the main circuit

3. Date of Change

Country of origin	Date of change
MADE IN JAPAN	The change will be sequentially applied to the September 2024 production or later.
MADE IN CHINA	The change will be sequentially applied to the October 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
□□ <u>24</u> <u>9</u> ○○○○○○
<u>Symbol Year Month Control number</u>

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 14 or later.

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