

Firmware Upgrade for the FR-A800-GN General-Purpose Inverters and the FR-A8NCG Plug-in Option

Thank you for your continued patronage of Mitsubishi Electric drive control products. The firmware of the FR-A800-GN general-purpose inverters and the FR-A8NCG plug-in option will be upgraded to improve functionality.

1. Products Affected

FR-A800-GN inverters, FR-A8NCG

2. Details of Change

(1) CC-Link IE TSN protocol version 2.0

CC-Link IE TSN authentication class B (protocol version 2.0) and CC-Link IE TSN authentication class A (protocol version 2.0) will be available.

Using protocol version 2.0 enables flexible connection with no restrictions of the number of connected units when both CC-Link IE TSN authentication class A and class B products are used.

Item	CC-Link IE TSN authentication class B	CC-Link IE TSN authentication class A
Communication speed	1 Gbps/100 Mbps	
CC-Link IE TSN authentication class	Compatible with protocol version 2.0 ^{*1,2} or 1.0	Compatible with protocol version 2.0 ^{*1}
Cycle time ^{*3}	125 to 10000 μs (1 Gbps) / 500 to 10000 μs (100 Mbps ^{*4})	1000 to 6400000 μs
Communication method	Time sharing method	Time-managed polling method
Synchronization function	Compliant with IEEE 802.1AS and IEEE 1588v2	-
Time synchronization	Supported	Not supported
Maximum number of connected units	121 units (sum of master and remote stations)	
Maximum distance between nodes	100 m	
Maximum number of branches	No upper limit within the same Ethernet network	
Topology	Line, star, ring, or a combination of line and star	Line, star, or a combination of line and star
Connection cable	Ethernet cable (IEEE 802.3 1000BASE-T compliant cable and ANSI/TIA/EIA-568-B (Category 5e) compliant shielded 4-pair branched cable)	
Connector	Shielded RJ-45	
Node type	Remote station	
Maximum cyclic size (of one node)	RX	64 bits
	RY	64 bits
	RWr	128 words
	RWw	128 words

*1 Supported by the FR-A800-GN and FR-A8NCG manufactured in October 2022 or later.

*2 Protocol version 2.0 is compatible with version 1.0 for the authentication class B product. Both protocol versions can coexist in the same network.

*3 Consider the scaling factor in the multiple period setting to change the basic period setting on the engineering software (GX Works3).

*4 Refer to 5. Combination of the Inverter and Option.

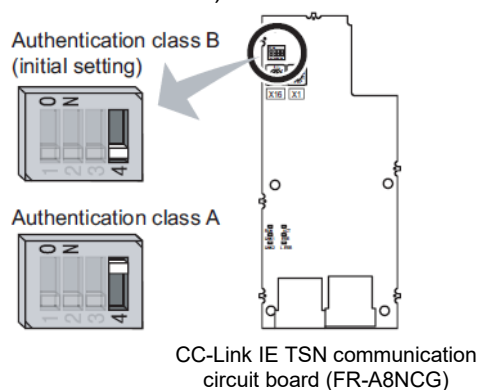
Date of issue	September 2022	Title	Firmware Upgrade for the FR-A800-GN General-Purpose Inverters and the FR-A8NCG Plug-in Option	Mitsubishi Electric Corp., Nagoya Works 5-1-14 Yada-minami, Higashi-ku, Nagoya 461-8670 Tel.: +81 (52) 721-2111 Main line
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(2) Switch assembly for CC-Link IE TSN authentication class setting

The authentication class can be switched between class A and class B.

Select the authentication class using the switch assembly (SW1) on the CC-Link IE TSN communication circuit board (FR-A8NCG).

Turn ON/OFF the switch 4 to switch the authentication class between A and B. In the initial setting, the switch is set to OFF (authentication class B).



3. Date of Change

The change will be applied to the products manufactured in October 2022 or later.

4. Product Identification

Check the SERIAL on the rating plate or packaging plate of the FR-A800-GN inverter and on the circuit board or packaging plate of the FR-A8NCG.

• FR-A800-GN inverter

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

SERIAL

SERIAL example on packaging plate
 □ 2 X ○○○
 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).

• FR-A8NCG

SERIAL example on FR-A8NCG circuit board
 □ 2 X ○○○
 Symbol Year Month Control number

SERIAL

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

SERIAL

The SERIAL consists of one symbol, two characters indicating the production year and month, and the control number (three characters).

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).

5. Combination of the Inverter and Option

The option can be used with the following inverters: FR-A800 series (not including the FR-A800-P), FR-A800 Plus series (FR-A800-CRN/LC), FR-F800 series, FR-B, B3 series. (The manufacture date of the applicable inverters differs depending on the country of origin as shown in the following table.)

Country of origin	Manufacture date
MADE IN JAPAN	Inverters manufactured in June 2019 or later.
MADE IN CHINA	Inverters manufactured in July 2019 or later

The communication speed of 100 Mbps are supported by the above inverters. (The manufacture date of the applicable inverters differs depending on the country of origin as shown in the following table.)

Country of origin	Manufacture date
MADE IN JAPAN	Inverters manufactured in September 2020 or later.
MADE IN CHINA	Inverters manufactured in October 2020 or later