

Replacement of Micro Programmable Controller FX0N With FX3G

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■Relevant Models

MELSEC-F FX0N series

Thank you for your continued support of Mitsubishi Electric micro programmable controllers, MELSEC-F series.

In this technical bulletin, we introduce the recommended alternative models and references. Please use them as a reference when replacing discontinued models.

The alternative models in this bulletin are recommended based on the number of I/O points, program capacity, characteristics, and type of I/O terminal (including terminal block type and connector type). Note that, depending on the application and usage conditions, there are cases where the recommended model is not suitable.

Also, due to the release of new models or the improvement of existing models, the recommended model may not be appropriate.

Before replacing discontinued models, please consult your local Mitsubishi representative.

1 RELEVANT MODELS (SERIES)

Discontinued model	Alternative model	Remarks (Be sure to check differences using references shown in Chapter 5.)
FX0N	FX3G	<ul style="list-style-type: none">FX3G has a larger program capacity.There are differences in assignment of devices, the supported versions of programming tool, memory backup method at power failure, and other specifications.

2 PRODUCTION DISCONTINUATION DATE

January 31, 2006

3 REPAIR SUPPORT

Until January 31, 2013

4 ALTERNATIVE MODELS

Replace the Mitsubishi micro programmable controller FX0N series with the FX3G series.

The alternative models in this bulletin are recommended based on the number of I/O points, program capacity, characteristics, and type of I/O terminal (including terminal block type and connector type). Note that, depending on the application and usage conditions, there are cases where the recommended model is not suitable.

Check the following notes and select the suitable model for your application.

Notes

- The recommended models in the following tables can be used by a single unit. Depending on the usage status and system configuration (use of extension modules or extension blocks), other models or series may be suitable. When the number of I/O points actually used is small, you can select a model with the smaller number of I/O points than the recommended model.
- The following tables lists the extension blocks, extension modules, expansion boards, and batteries that can be connected to the FX3G series main units.
- The Special notes in the following tables describe the points to which you should pay particular attention when replacing. Many alternative models, however, have differences in specifications other than description in Special notes, such as smaller external dimensions. Thus, when selecting alternative models, check the relevant manuals as well as Special notes for the details of specifications such as external dimensions and power capacity.
- Even if your model has no recommended alternative model, it may be possible to replace it with other models in the FX3 series depending on the application and system configuration. Check the required functions and features and select a suitable model.

4.1 Replacement of Main Unit

List of recommended models (main unit)

Discontinued models		Recommended models	Special notes	
Product	Model	Model		
Main unit	FX0N-24MR	FX3G-24MR/ES	—	
	FX0N-40MR	FX3G-40MR/ES		
	FX0N-60MR	FX3G-60MR/ES		
	FX0N-24MT	FX3G-24MT/ES		
	FX0N-40MT	FX3G-40MT/ES		
	FX0N-60MT	FX3G-60MT/ES		
Main unit (24VDC power supply)	FX0N-24MR-D	FX3G-24MR/DS		
	FX0N-40MR-D	FX3G-40MR/DS		
	FX0N-60MR-D	FX3G-60MR/DS		
	FX0N-24MT-D	FX3G-24MT/DS		
	FX0N-40MT-D	FX3G-40MT/DS		
	FX0N-60MT-D	FX3G-60MT/DS		
Main unit (Sink/source input, relay output)	FX0N-24MR-ES/UL	FX3G-24MR/ES		
	FX0N-40MR-ES/UL	FX3G-40MR/ES		
	FX0N-60MR-ES/UL	FX3G-60MR/ES		
Main unit (24VDC power supply) (Sink/source input, relay output)	FX0N-24MR-DS	FX3G-24MR/DS		The power supply voltage range of the FX3G series is from 20.4 to 28.8VDC.
	FX0N-40MR-DS	FX3G-40MR/DS		
	FX0N-60MR-DS	FX3G-60MR/DS		
Main unit (24VDC power supply) (Sink/source input, source output)	FX0N-24MT-DSS	FX3G-24MT/DSS		
	FX0N-40MT-DSS	FX3G-40MT/DSS		
	FX0N-60MT-DSS	FX3G-60MT/DSS		
Main unit (100VAC input, relay output)	FX0N-40MR-UA1/UL	No alternative model	Replace the discontinued model with the FX3U-64MR-UA1.	

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Extension devices and optional devices to be replaced

Discontinued models		Recommended models available for the FX3G series	Special notes	
Product	Model	Model		
Extension module	FX0N-40ER (current model)	FX2N-48ER	—	
	FX0N-40ET (current model)	FX2N-48ET		
	FX0N-40ER-D (current model)	FX2N-48ER-D		
Extension block	FX0N-8ER	FX2N-8ER		
	FX0N-8EX	FX2N-8EX		
	FX0N-16EX	FX2N-16EX		
	FX0N-8EYR	FX2N-8EYR		
	FX0N-8EYT	FX2N-8EYT		
	FX0N-16EYR	FX2N-16EYR		
Extension block (Large-capacity transistor output)	FX0N-8EYT-H	FX2N-8EYT-H	Large-capacity type 1A/1 point (2A/4 points) at 5 to 30VDC	
Extension block (100VAC input)	FX0N-8EX-UA1/UL	FX2N-8EX-UA1/UL	—	
Extension module (Sink/source input, relay output)	FX0N-40ER-ES/UL (current model)	FX2N-48ER-ES/UL		
Extension module (24VDC power supply) (Sink/source input, relay output)	FX0N-40ER-DS (current model)	FX2N-48ER-DS		
Extension module (24VDC power supply) (Sink/source input, source output)	FX0N-40ET-DSS (current model)	FX2N-48ET-DSS		
Extension block (Sink/source input, relay output)	FX0N-8ER-ES/UL	FX2N-8ER-ES/UL		
Extension block (Sink/source input)	FX0N-8EX-ES/UL	FX2N-8EX-ES/UL		
Extension block (Relay output)	FX0N-8EYR-ES/UL	FX2N-8EYR-ES/UL		
Extension block (Source output)	FX0N-8EYT-ESS/UL	FX2N-8EYT-ESS/UL		
Extension block (Sink/source input)	FX0N-16EX-ES/UL	FX2N-16EX-ES/UL		
Extension block (Relay output)	FX0N-16EYR-ES/UL	FX2N-16EYR-ES/UL		
Extension block (Source output)	FX0N-16EYT-ESS/UL	FX2N-16EYT-ESS/UL		
Special block (Analog input/output)	FX0N-3A (current model)	FX3U-3A-ADP		To connect an FX3G series main unit, FX3G-CNV-ADP is required.
Special adapter (for wire communication) (interface for M-NET/MINI)	FX0N-16NT	No alternative model		Use the CC-Link system.
Special adapter (RS-232C communication adapter)	FX0N-232ADP	FX3U-232ADP		To connect an FX3G series main unit, FX3G-CNV-ADP is required.
Special adapter (RS-485 communication adapter)	FX0N-485ADP	FX3U-485ADP		
Simulated input switch	FX0N-□□SW	No alternative model	—	

Required programming tools

Models available for the FX0N series		Models available for the FX3G series	Special notes
Product	Model	Model	
Handy programming panel	FX-20P-SET0 or FX-30P	FX-30P	Connect this item using the included cable FX-20P-CAB0.
Programming software	FX-PCS/WIN	GX Developer (Ver.8)	Available for the FX0N series.
		GX Works2	
	GX Developer	GX Developer (Ver.8)	
		GX Works2	

To connect the FX series to a personal computer, the following interfaces and cables sold separately are required.

- FX0N USB port on the personal computer: USB/RS422 converter FX-USB-AW (Dedicated cable included)
- FX3G USB port on the personal computer: Cable GT09-C30USB-5P

5 REFERENCES

References for FX0N series

References		Description
Item	Manual name (manual number)	
Module	FX0/FX0N HARDWARE MANUAL (JY992D47501)	Describes the details of FX0S series, including input/output specifications, wiring, installation, basic instructions, application instructions, and available devices.
Analog input/output	FX0N-3A USER'S GUIDE (JY992D49001)	Describes the details of FX0N-3A analog input/output blocks, including part names, external dimensions, specifications, and handling.
Communications	FX SERIES USER'S MANUAL [Data Communication Edition] (JY997D16901)	Describes configuration, functions, and program examples for N:N network, parallel link, computer link, inverter communication, non-protocol communication, and remote maintenance.
	FX0N-232ADP INSTALLATION MANUAL (JY992D51201(E))	Describes the details of FX0N-232ADP, RS-232C communication adapter, including part names, external dimensions, installation, and specifications.
	FX0N-485ADP INSTALLATION MANUAL (JY992D53101(E))	Describes the details of FX0N-485ADP, RS-485 communication adapter, including part names, external dimensions, installation, and specifications.
Network	FX0N-16NT USER'S GUIDE (JY992D48901)	Describes the details of FX0N-16NT interface blocks, including part names, external dimensions, specifications, and handling.
Program	THE FX SERIES OF PROGRAMMABLE CONTROLLER PROGRAMMING MANUAL (FX0/FX0S/FX0N/FX/FX2C/FX2N/FX2NC) (JY992D48301)	Describes the details of sequence program for the FX0/FX0S/FX0N/FX/FX2C/ FX2N/FX2NC series, including basic instructions, stepladder diagrams, application instructions, and available devices.

For the specifications of the FX2N series input/output extension blocks, refer to FX2N HARDWARE MANUAL (JY992D66301).

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References for FX3G series

References		Description
Item	Manual name (manual number)	
Module	FX3G SERIES USER'S MANUAL - Hardware Edition (JY997D31301)	Describes the details of hardware of the FX3G series, including input/output specifications, wiring, and installation.
	FX2N-CNV-BC USER'S GUIDE (JY992D66601(E))	Describes the system configuration and connection procedure of the FX2N-CNV-BC cable adapter.
Analog input/output	FX3S/FX3G/FX3GC/FX3U/FX3UC SERIES USER'S MANUAL [Analog Control Edition] (JY997D16701)	Describes the details of analog control for the FX3G/FX3U/FX3UC series.
	FX3G-2AD-BD INSTALLATION MANUAL (JY997D33501(E))	Describes the details of FX3G-2AD-BD analog input board, including part names, external dimensions, installation, and specifications.
	FX3G-1DA-BD INSTALLATION MANUAL (JY997D33601(E))	Describes the details of FX3G-1DA-BD analog output board, including part names, external dimensions, installation, and specifications.
	FX3G-8AV-BD INSTALLATION MANUAL (JY997D33701(E))	Describes the details of FX3G-8AV-BD analog volume expansion board, including part names, external dimensions, installation, and specifications.
	FX3U-3A-ADP USER'S MANUAL (JY997D35601(E))	Describes the details of FX3U-3A-ADP analog input/output adapter, including part names, external dimensions, specifications, and handling.
	FX3U-4AD-ADP USER'S MANUAL (JY997D13901(E))	Describes the details of FX3U-4AD-ADP analog input adapter, including part names, external dimensions, specifications, and handling.
	FX3U-4DA-ADP USER'S MANUAL (JY997D14001(E))	Describes the details of FX3U-4DA-ADP analog output adapter, including part names, external dimensions, specifications, and handling.
Analog input (Temperature control)	FX3U-4AD-PT-ADP USER'S MANUAL (JY997D14701(E))	Describes the details of FX3U-4AD-PT-ADP temperature sensor input adapter, including part names, external dimensions, specifications, and handling.
	FX3U-4AD-PTW-ADP USER'S MANUAL (JY997D29101(E))	Describes the details of FX3U-4AD-PTW-ADP temperature sensor input adapter, including part names, external dimensions, specifications, and handling.
	FX3U-4AD-TC-ADP USER'S MANUAL (JY997D14801(E))	Describes the details of FX3U-4AD-TC-ADP temperature sensor input adapter, including part names, external dimensions, specifications, and handling.
Communications	FX SERIES USER'S MANUAL [Data Communication Edition] (JY997D16901)	Describes configuration, functions, and program examples for N:N network, parallel link, computer link, inverter communication, non-protocol communication, and programming communication.
	FX3G-232-BD INSTALLATION MANUAL (JY997D32001(E))	Describes the details of FX3G-232-BD, RS-232C communication expansion board, including part names, external dimensions, installation, and specifications.
	FX3G-422-BD INSTALLATION MANUAL (JY997D32101(E))	Describes the details of FX3G-422-BD, RS-422 communication adapter, including part names, external dimensions, installation, and specifications.
	FX3G-485-BD INSTALLATION MANUAL (JY97D32201(E))	Describes the details of FX3G-485-BD, RS-485 communication expansion board, including part names, external dimensions, installation, and specifications.
	FX3U-232ADP INSTALLATION MANUAL (JY997D13701(E))	Describes the details of FX3U-232ADP, RS-232C communication adapter, including part names, external dimensions, installation, and specifications.
	FX3U-485ADP INSTALLATION MANUAL (JY997D13801(E))	Describes the details of FX3U-485ADP, RS-485 communication adapter, including part names, external dimensions, installation, and specifications.
Network	FX2N-64CL-M USER'S MANUAL [Hardware Volume] (JY997D05401(E))	Describes the details of FX2N-64CL-M CC-Link/LT master blocks, including part names, external dimensions, and specifications.
	FX2N-16CCL-M USER'S MANUAL (JY992D93101)	Describes the details of FX2N-16CCL-M CC-Link master blocks, including part names, external dimensions, and specifications.
	FX2N-32CCL USER'S MANUAL (JY992D71801)	Describes the details of FX2N-32CCL CC-Link slave station blocks, including part names, external dimensions, and specifications.
	FX3U-64CCL USER'S MANUAL (JY997D30401)	Describes the details of FX3U-64CCL CC-Link V2 intelligent device blocks, including part names, external dimensions, specifications, and handling.
Program	FX3S/FX3G/FX3GC/FX3U/FX3UC SERIES PROGRAMMING [Basic & Applied Instructions Edition] (JY997D16601)	Describes the details of sequence program for the FX3G/FX3U/FX3UC series, including basic instructions, stepladder diagrams, application instructions, and available devices.
	FX-30P OPERATION MANUAL (JY997D34401)	Describes the details of sequence program for the FX series, including basic instructions, stepladder diagrams, and application instructions.

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REVISIONS

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A	March 2022	First edition

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