MITSUBISHI ELECTRIC

TECHNICAL BULLETIN

FAM-A-0054-C

Production Discontinuation of the Extension Blocks for the MELSEC-F Series

■Date of Issue

August 2022 (Ver.C: April 2023)

■Relevant Models

FX2N-2AD, FX2N-2DA, FX2N-5A, FX2N-8AD, FX2N-10PG, FX2N-32CCL

Thank you for your continued support of Mitsubishi Electric programmable controllers, MELSEC-F series.
This technical bulletin informs you that production of the following extension blocks for the MELSEC-F series will be discontinued.

1 MODELS TO BE DISCONTINUED

Product	Model
Analog input block	FX2N-2AD
	FX2N-8AD
Analog output block	FX2N-2DA
Analog input/output block	FX2N-5A
Pulse output block	FX2N-10PG
CC-Link interface block	FX2N-32CCL

2 SCHEDULE

- Start of make-to-order production: April 1, 2023
- Order acceptance: Until September 30, 2023
- Production discontinuation: December 31, 2023

3 REASON FOR DISCONTINUATION

It is difficult to obtain dedicated ICs which are main parts for the relevant models, and so our company will have difficulty to maintain the production system.

4 REPAIR ACCEPTANCE

Repair acceptance: Until December 31, 2030 (for seven years after the discontinuation of production)
(Note that, even during the repair acceptance period, the repair will not be supported if the parts run out of stock.)

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5 ALTERNATIVE MODELS

The following table lists the alternative models.

Model to be discontinued		Alternative model	
Product	**Model**	**MELSEC iQ-F series*2**	**MELSEC-F series**
Analog input block	FX2N-2AD	FX5-4A-ADP FX5-4AD-ADP FX5-4AD FX5U CPU module*1	FX3U-3A-ADP*3 FX3U-4AD-ADP*3 FX3U-4AD*4*5
	FX2N-8AD	FX5-8AD	—
Analog output block	FX2N-2DA	FX5-4A-ADP FX5-4DA-ADP FX5-4DA FX5U CPU module*1	FX3U-3A-ADP*3 FX3U-4DA-ADP*3 FX3U-4DA*4*5
Analog input/output block	FX2N-5A	FX5-4A-ADP FX5-4AD-ADP + FX5-4DA-ADP FX5-4AD + FX5-4DA	FX3U-3A-ADP*3 FX3U-4AD-ADP + FX3U-4DA-ADP*3 FX3U-4AD + FX3U-4DA*4*5
Pulse output block	FX2N-10PG	FX5-20PG-D	—
CC-Link interface block	FX2N-32CCL	FX5-CCL-MS	FX3U-64CCL

*1 The analog function is built in.
*2 When the MELSEC iQ-F series are used, GX Works3 is required.
*3 When it is connected with the FX3U/FX3G/FX3S main unit, an FX3U-CNV-BD/FX3G-CNV-ADP/FX3S-CNV-ADP is required.
*4 When it is connected with the FX5U/FX5UC CPU module, an FX5-CNV-BUS/FX5-CNV-BUSC is required.
*5 When it is connected with the FX3UC main unit, an FX2NC-CNV-IF or FX3UC-1PS-5V is required.

6 COMPARISON OF SPECIFICATIONS

The following tables show the specifications comparison between the models to be discontinued and alternative models of MELSEC iQ-F series.

FX2N-2AD

Item		Model to be discontinued	Alternative model			
		FX2N-2AD	FX5-4A-ADP	FX5-4AD-ADP	FX5-4AD	FX5U CPU module
Number of occupied I/O points		8	0	0	8	0
Number of input channels		2	2	4	4	2
Analog input range	Voltage input	0 to 10VDC	-10 to +10VDC	-10 to +10VDC	-10 to +10VDC	0 to 10VDC
	Current input	4 to 20mADC	-20 to +20mADC	-20 to +20mADC	-20 to +20mADC	—
Integrated accuracy*1	Voltage input	±1.0% (±40 digits)	• Ambient temperature: 25±5℃ ±0.1% (±16 digits) • Ambient temperature: 0 to 55℃ ±0.2% (±32 digits) • Ambient temperature: -20 to 0℃ ±0.3% (±48 digits)	• Ambient temperature: 25±5℃ ±0.1% (±16 digits) • Ambient temperature: 0 to 55℃ ±0.2% (±32 digits) • Ambient temperature: -20 to 0℃ ±0.3% (±48 digits)	• Ambient temperature: 25±5℃ ±0.1% (±64 digits) • Ambient temperature: 0 to 55℃ ±0.2% (±128 digits) • Ambient temperature: -20 to 0℃ ±0.3% (±192 digits)	• Ambient temperature: 25±5℃ ±0.5% (±20 digits) • Ambient temperature: 0 to 55℃ ±1.0% (±40 digits) • Ambient temperature: -20 to 0℃ ±1.5% (±60 digits)
	Current input					—
Conversion speed		Synchronized to the sequence program (Processing time: 2.5ms/1ch)	Every operation cycle (Processing time: Maximum 2.0ms)	Every operation cycle (Processing time: Maximum 450μs)	80μs/1ch	Every operation cycle (Processing time: Maximum 30μs)
Power supply	External 24VDC	—	100mA	—	—	—
	Internal 5VDC	20mA	10mA	10mA	100mA	—
	Internal 24VDC	50mA	—	20mA	40mA	—
Maximum number of connectable modules		8	• 4 (FX5U/FX5UC CPU module) • 2 (FX5UJ CPU module)	• 4 (FX5U/FX5UC CPU module) • 2 (FX5UJ CPU module)	• 16 (FX5U CPU module) • 15 (FX5UC CPU module) • 8 (FX5UJ CPU module)	—

*1 It indicates the accuracy for the full scale of the digital output value.

FX2N-8AD

Item		Model to be discontinued	Alternative model
		FX2N-8AD	FX5-8AD
Number of occupied I/O points		8	8
Number of input channels		8	8
Analog input range	Voltage input	-10 to +10VDC	-10 to +10VDC
	Current input	-20 to +20mADC	-20 to +20mADC
	Thermocouple input	K: -100 to +1200℃ (-148.0 to +2192.0℉) J: -100 to +600℃ (-148.0 to +1112.0℉) T: -100 to +350℃ (-148.0 to +662.0℉)	K: -200 to +1200℃ (-328.0 to +2192.0℉) J: -40 to +750℃ (-40.0 to +1382.0℉) T: -200 to +350℃ (-328.0 to +662.0℉) B: 600 to 1700℃ (1112.0 to 3092.0℉) R: 0 to 1600℃ (32.0 to 2912.0℉) S: 0 to 1600℃ (32.0 to 2912.0℉)
	RTD input	—	Pt100: -200 to +850℃ (-328 to +1562℉) Ni100: -60 to +250℃ (-76 to +482℉)
Integrated accuracy*1	Voltage input	• Ambient temperature of 25±5℃: ±0.3% (±60mV) • Ambient temperature of 0 to 55℃: ±0.5% (±1mV)	• Ambient temperature of 25±5℃: ±0.3% (±192 digits) • Ambient temperature of -20 to +55℃: ±0.5% (±320 digits)
	Current input	• Ambient temperature of 25±5℃: ±0.3% (±120μA) • Ambient temperature of 0 to 55℃: ±0.5% (±200μA)	
	Thermocouple input	• Ambient temperature: 0 to 55℃ K: ±0.5% (±6.5℃/±11.7℉) J: ±0.5% (±3.5℃/±6.3℉) T: ±0.7% (±3.15℃/±5.67℉)	• Ambient temperature: 25±5℃ K: ±3.5℃ (-200 to -150℃) K: ±2.5℃ (-150 to -100℃) K: ±1.5℃ (-100 to +1200℃) J: ±1.2℃ T: ±3.5℃ (-200 to -150℃) T: ±2.5℃ (-150 to -100℃) T: ±1.5℃ (-100 to +350℃) B: ±2.3℃ R: ±2.5℃ S: ±2.5℃ • Ambient temperature: -20 to +55℃ K: ±8.5℃ (-200 to -150℃) K: ±7.5℃ (-150 to -100℃) K: ±6.5℃ (-100 to +1200℃) J: ±3.5℃ T: ±5.2℃ (-200 to -150℃) T: ±4.2℃ (-150 to -100℃) T: ±3.1℃ (-100 to +350℃) B: ±6.5℃ R: ±6.5℃ S: ±6.5℃
	RTD input	—	• Ambient temperature: 25±5℃ Pt100: ±0.8℃ Ni100: ±0.4℃ • Ambient temperature: -20 to +55℃ Pt100: ±2.4℃ Ni100: ±1.2℃
Conversion speed	Voltage/ current	500μs × Number of channels used	1ms/1ch (In the case of 2CH conversion mode, 1ms/2ch)
	Thermocouple /RTD	Voltage/current input: 1ms × Number of channels used Thermocouple input: 40ms × Number of channels used	40ms/ch
Power supply	External 24VDC	80mA	100mA
	Internal 5VDC	50mA	—
	Internal 24VDC	—	40mA
Applicable thermocouple		K, J, T	K, J, T, B, R, S
Maximum number of connectable modules		8	• 16 (FX5U CPU module) • 15 (FX5UC CPU module) • 8 (FX5UJ CPU module)

*1 It indicates the accuracy for the full scale of the digital output value.

FX2N-2DA

Item		Model to be discontinued	Alternative model			
		FX2N-2DA	FX5-4A-ADP	FX5-4DA-ADP	FX5-4DA	FX5U CPU module
Number of occupied I/O points		8	0	0	8	0
Number of output channels		2	2	4	4	1
Analog output range	Voltage output	0 to 10VDC	-10 to +10VDC	-10 to +10VDC	-10 to +10VDC	0 to 10VDC
	Current output	4 to 20mADC	0 to 20mADC	0 to 20mADC	0 to 20mADC	—
Integrated accuracy*1	Voltage output	±1.0% (±0.1V)	• Ambient temperature: 25±5℃ ±0.1% (±20mV) • Ambient temperature: 0 to 55℃ ±0.2% (±40mV) • Ambient temperature: -20 to 0℃ ±0.3% (±60mV)	• Ambient temperature: 25±5℃ ±0.1% (±20mV) • Ambient temperature: -20 to +55℃ ±0.2% (±40mV)	• Ambient temperature: 25±5℃ ±0.1% (±20mV) • Ambient temperature: 0 to 55℃ ±0.2% (±40mV) • Ambient temperature: -20 to 0℃ ±0.3% (±60mV)	• Ambient temperature: 25±5℃ ±0.5% (±50mV) • Ambient temperature: 0 to 55℃ ±1.0% (±100mV) • Ambient temperature: -20 to 0℃ ±1.5% (±150mV)
	Current output	±1.0% (±0.16mA)	• Ambient temperature: 25±5℃ ±0.1% (±20μA) • Ambient temperature: 0 to 55℃ ±0.2% (±40μA) • Ambient temperature: -20 to 0℃ ±0.3% (±60μA)	• Ambient temperature: 25±5℃ ±0.1% (±20μA) • Ambient temperature: -20 to +55℃ ±0.2% (±40μA)	• Ambient temperature: 25±5℃ ±0.1% (±20μA) • Ambient temperature: 0 to 55℃ ±0.2% (±40μA) • Ambient temperature: -20 to 0℃ ±0.3% (±60μA)	—
Conversion speed		Synchronized to the sequence program (Processing time: 4ms/1ch)	Every operation cycle (Processing time: Maximum 2.0ms)	Every operation cycle (Processing time: Maximum 950μs)	80μs/1ch	Every operation cycle (Processing time: Maximum 30μs)
Power supply	External 24VDC	—	100mA	160mA	150mA	—
	Internal 5VDC	30mA	10mA	10mA	100mA	—
	Internal 24VDC	85mA	—	—	—	—
Maximum number of connectable modules		8	• 4 (FX5U/FX5UC CPU module) • 2 (FX5UJ CPU module)	• 4 (FX5U/FX5UC CPU module) • 2 (FX5UJ CPU module)	• 16 (FX5U CPU module) • 15 (FX5UC CPU module) • 8 (FX5UJ CPU module)	—

*1 It indicates the accuracy for the full scale of the analog output value.

FX2N-5A

■When the FX5-4A-ADP is used as the alternative

Item		Model to be discontinued	Alternative model
		FX2N-5A	FX5-4A-ADP
Number of occupied I/O points		8	0
Number of input channels		4	2
Analog input range	Voltage input	-10 to +10VDC	-10 to +10VDC
	Current input	-20 to +20mADC	-20 to +20mADC
Integrated accuracy*1	Voltage input	• Ambient temperature: 25±5℃ ±0.3% (±192 digits) • Ambient temperature: 0 to 55℃ ±0.5% (±320 digits)	• Ambient temperature: 25±5℃ ±0.1% (±16 digits) • Ambient temperature: 0 to 55℃ ±0.2% (±32 digits) • Ambient temperature: -20 to 0℃ ±0.3% (±48 digits)
	Current input		
Analog input conversion speed		1ms/ch	Every operation cycle (Processing time: Maximum 2.0ms)
Number of output channels		1	2
Analog output range	Voltage output	-10 to +10VDC	-10 to +10VDC
	Current output	0 to 20mADC	0 to 20mADC
Integrated accuracy*2	Voltage output	• Ambient temperature: 25±5℃ ±0.5% (±100mV) • Ambient temperature: 0 to 55℃ ±1.0% (±200mV)	• Ambient temperature: 25±5℃ ±0.1% (±20mV) • Ambient temperature: 0 to 55℃ ±0.2% (±40mV) • Ambient temperature: -20 to 0℃ ±0.3% (±60mV)
	Current output	• Ambient temperature: 25±5℃ ±0.5% (±200μA) • Ambient temperature: 0 to 55℃ ±1.0% (±400μA)	• Ambient temperature: 25±5℃ ±0.1% (±20μA) • Ambient temperature: 0 to 55℃ ±0.2% (±40μA) • Ambient temperature: -20 to 0℃ ±0.3% (±60μA)
Analog output conversion speed		2ms	Every operation cycle (Processing time: Maximum 2.0ms)
Power supply	External 24VDC	90mA	100mA
	Internal 5VDC	70mA	10mA
	Internal 24VDC	—	—
Maximum number of connectable modules		8	• 4 (FX5U/FX5UC CPU module) • 2 (FX5UJ CPU module)

*1 It indicates the accuracy for the full scale of the digital output value.
*2 It indicates the accuracy for the full scale of the analog output value.

■When the FX5-4AD-ADP and FX5-4DA-ADP are used as the alternative

Item		Model to be discontinued	Alternative model	
		FX2N-5A	FX5-4AD-ADP	FX5-4DA-ADP
Number of occupied I/O points		8	0	0
Number of input channels		4	4	—
Analog input range	Voltage input	-10 to +10VDC	-10 to +10VDC	—
	Current input	-20 to +20mADC	-20 to +20mADC	—
Integrated accuracy*1	Voltage input	• Ambient temperature: 25±5℃ ±0.3% (±192 digits) • Ambient temperature: 0 to 55℃ ±0.5% (±320 digits)	• Ambient temperature: 25±5℃ ±0.1% (±16 digits) • Ambient temperature: 0 to 55℃ ±0.2% (±32 digits) • Ambient temperature: -20 to 0℃ ±0.3% (±48 digits)	—
	Current input			—
Analog input conversion speed		1ms/ch	Every operation cycle (Processing time: Maximum 450μs)	—
Number of output channels		1	—	4
Analog output range	Voltage output	-10 to +10VDC	—	-10 to +10VDC
	Current output	0 to 20mADC	—	0 to 20mADC
Integrated accuracy*2	Voltage output	• Ambient temperature: 25±5℃ ±0.5% (±100mV) • Ambient temperature: 0 to 55℃ ±1.0% (±200mV)	—	• Ambient temperature: 25±5℃ ±0.1% (±20mV) • Ambient temperature: -20 to +55℃ ±0.2% (±40mV)
	Current output	• Ambient temperature: 25±5℃ ±0.5% (±200μA) • Ambient temperature: 0 to 55℃ ±1.0% (±400μA)	—	• Ambient temperature: 25±5℃ ±0.1% (±20μA) • Ambient temperature: -20 to +55℃ ±0.2% (±40μA)
Analog output conversion speed		2ms	—	Every operation cycle (Processing time: Maximum 950μs)
Power supply	External 24VDC	90mA	—	160mA
	Internal 5VDC	70mA	10mA	10mA
	Internal 24VDC	—	20mA	—
Maximum number of connectable modules		8	• 4 (FX5U/FX5UC CPU module) • 2 (FX5UJ CPU module)	• 4 (FX5U/FX5UC CPU module) • 2 (FX5UJ CPU module)

*1 It indicates the accuracy for the full scale of the digital output value.
*2 It indicates the accuracy for the full scale of the analog output value.

■When the FX5-4AD and FX5-4DA are used as the alternative

Item		Model to be discontinued	Alternative model	
		FX2N-5A	FX5-4AD	FX5-4DA
Number of occupied I/O points		8	8	8
Number of input channels		4	4	—
Analog input range	Voltage input	-10 to +10VDC	-10 to +10VDC	—
	Current input	-20 to +20mADC	-20 to +20mADC	—
Integrated accuracy*1	Voltage input	• Ambient temperature: 25±5℃ ±0.3% (±192 digits) • Ambient temperature: 0 to 55℃ ±0.5% (±320 digits)	• Ambient temperature: 25±5℃ ±0.1% (±64 digits) • Ambient temperature: 0 to 55℃ ±0.2% (±128 digits) • Ambient temperature: -20 to 0℃ ±0.3% (±192 digits)	—
	Current input			—
Analog input conversion speed		1ms/ch	80μs/1ch	—
Number of output channels		1	—	4
Analog output range	Voltage output	-10 to +10VDC	—	-10 to +10VDC
	Current output	0 to 20mADC	—	0 to 20mADC
Integrated accuracy*2	Voltage output	• Ambient temperature: 25±5℃ ±0.5% (±100mV) • Ambient temperature: 0 to 55℃ ±1.0% (±200mV)	—	• Ambient temperature: 25±5℃ ±0.1% (±20mV) • Ambient temperature: 0 to 55℃ ±0.2% (±40mV) • Ambient temperature: -20 to 0℃ ±0.3% (±60mV)
	Current output	• Ambient temperature: 25±5℃ ±0.5% (±200μA) • Ambient temperature: 0 to 55℃ ±1.0% (±400μA)	—	• Ambient temperature: 25±5℃ ±0.1% (±20μA) • Ambient temperature: 0 to 55℃ ±0.2% (±40μA) • Ambient temperature: -20 to 0℃ ±0.3% (±60μA)
Analog output conversion speed		2ms	—	80μs/1ch
Power supply	External 24VDC	90mA	—	150mA
	Internal 5VDC	70mA	100mA	100mA
	Internal 24VDC	—	40mA	—
Maximum number of connectable modules		8	• 16 (FX5U CPU module) • 15 (FX5UC CPU module) • 8 (FX5UJ CPU module)	• 16 (FX5U CPU module) • 15 (FX5UC CPU module) • 8 (FX5UJ CPU module)

*1 It indicates the accuracy for the full scale of the digital output value.
*2 It indicates the accuracy for the full scale of the analog output value.

FX2N-10PG

Item	Model to be discontinued	Alternative model
	FX2N-10PG	FX5-20PG-D
Number of occupied I/O points	8	8
Number of control axes	1 axis/module	2 axes/module
Pulse output type	Differential line driver output	Differential line driver output
Pulse output form	Forward run pulse (FP)/reverse run pulse (RP), or pulse chain (PLS) and direction (DIR)	PULSE/SIGN mode, CW/CCW mode, phase A and B (multiple of 4), phase A and B (multiple of 1)
Interpolation function	—	2-axis linear interpolation, 2-axis circular interpolation
Command speed	1Hz to 1MHz	1Hz to 5MHz
Startup time	1 to 3ms	0.5ms to 0.83ms
Power supply	5VDC, 120mA (Internal power supply)	24VDC, 165mA (External power supply)
Maximum number of connectable modules	8	• 16 (FX5U CPU module) • 15 (FX5UC CPU module) • 8 (FX5UJ CPU module)

FX2N-32CCL

Item		Model to be discontinued	Alternative model
		FX2N-32CCL	FX5-CCL-MS
Number of occupied I/O points		8	8
Version compatible with CC-Link		1.00	2.00 (also 1.10)
Station type		Remote device station	Master station/intelligent device station (switched by parameters)
Station number		1 to 64	Master station: 0 Intelligent device station: 1 to 64
Number of occupied stations		1 to 4	1 to 4
Transmission speed		Max. 10Mbps	Max. 10Mbps
Maximum overall cable length		1200m	1200m
Number of remote I/O points		Input/output: Maximum 128 points (4 stations occupied)	Input/output: Maximum 128 points (CC-Link Ver.1, 4 stations occupied)*1
Number of remote resister points		Remote register area for read/write: Maximum 16 points (4 stations occupied)	Remote register area for read/write: Maximum 16 points (CC-Link Ver.1, 4 stations occupied)*1
Power supply	External 24VDC	50mA	100mA
	Internal 5VDC	130mA	—

*1 For the number of link points of the CC-Link Ver.2, refer to the following.
MELSEC iQ-F FX5 User's Manual (CC-Link)

REVISIONS

Version	Date of Issue	Revision
A	August 2022	First edition
B	September 2022	Addition of specifications comparison tables in Chapter 6.
C	April 2023	Addition of notes in Chapter 5.

TRADEMARKS