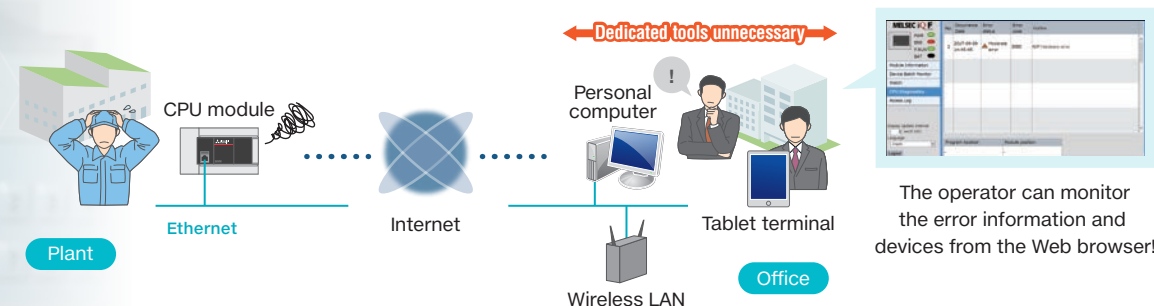


## Upgrade in MELSEC iQ-F Series to Achieve Higher Usability!



Ver. 1.060

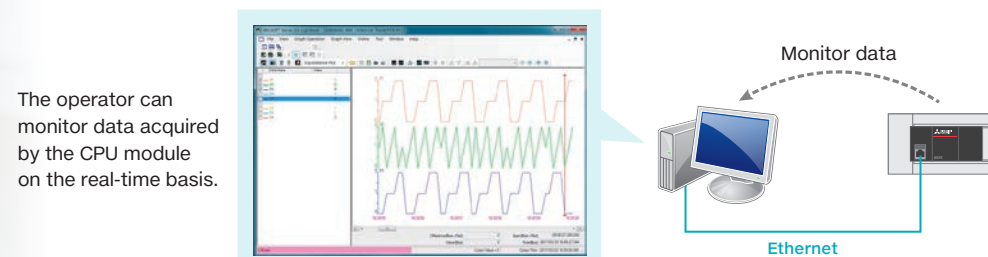
### Monitoring of PLCs without dedicated tools



### Web server function

The operator can check the operation status of units located on remote sites using the Web browser in the personal computer. The operator can monitor devices, and change their current values without visiting local production sites. In addition, the operator can check the error information using the CPU diagnosis function, and early execute troubleshooting. Maintenance works are very easy even for units on remote sites.

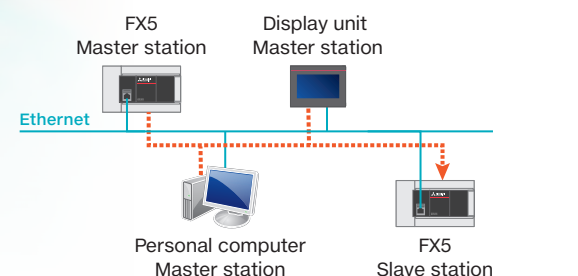
### Efficient debugging at troubleshooting



### Real-time monitoring function

The operator can monitor the contents of any devices on the real-time basis using GX LogViewer. Because changes in device values are displayed in a trend graph, the operator can grasp changes at a glance! The debugging efficiency is considerably improved at startup and troubleshooting. This function facilitates the resetting procedure, and enables graph check at a later timing.

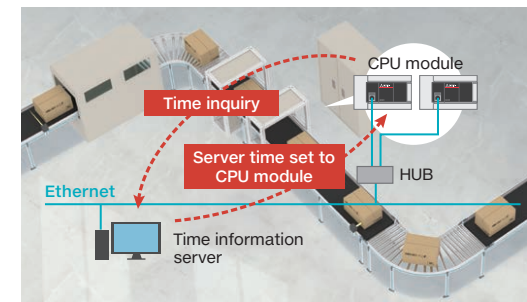
### Further expansion of applicable systems



### MODBUS®/TCP communication function

The FX5 can be used as a slave station of MODBUS/TCP that is an Ethernet-based open network, and can communicate with MODBUS/TCP master stations manufactured by other companies.

### Every operation at correct time



### Time setting function (SNTP client)

The CPU module can acquire the time information from the time information server (SNTP server) connected on the network, and automatically set the acquired time to the CPU module. By automatically setting the time when the CPU module is turned on, operations can be started at correct time.

## MELSEC iQ-F Series iQ Platform-compatible PLC

### Analog input module FX5-4AD

#### ■ Power supply specifications

Items	Specifications	
Internal power supply	Power supply voltage	24 V DC, 5 V DC
	Current consumption	24 V DC: 40 mA    5 V DC: 100 mA

#### ■ Performance specifications

Items	Specifications
Number of analog input points	4 points (4 channels)
Conversion speed	80 μs/ch
Isolation method	Between input terminal and PLC: Photocoupler Between input terminal and channels: Non-isolation
Number of occupied I/O points	8 points
Applicable CPU module*	FX5U/FX5UC: Ver. 1.050 or later
Applicable engineering tool	GX Works3: Ver. 1.040S or later

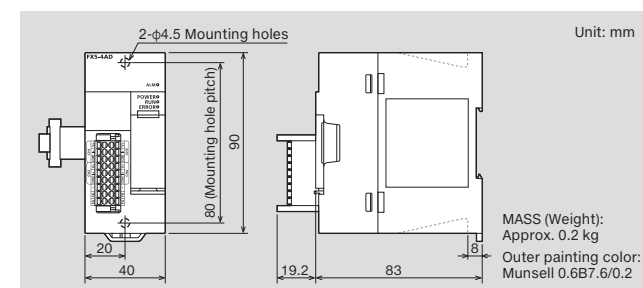
\*: FX5-CNV-IFC or FX5-C1PS-5V is necessary to connect FX5-4AD to the FX5UC CPU module.

#### ■ Voltage/current input specifications

Items	Specifications			
Analog input voltage	-10 to 10 V DC (Input resistance 400 kΩ or more)			
Analog input current*	-20 to +20 mA DC (Input resistance 250 Ω)			
Digital output value	16-bit signed binary (-32768 to +32767)			
Input characteristics, resolution*	Analog input range	Digital output value	Resolution	
	Voltage	0 to 10 V	0 to 32000	312.5 μV
		0 to 5 V	0 to 32000	156.25 μV
		1 to 5 V	0 to 32000	125 μV
	Current	-10 to +10 V	-32000 to +32000	312.5 μV
		User range setting	-32000 to +32000	125 μV
		0 to 20 mA	0 to 32000	625 nA
		User range setting	-32000 to +32000	500 nA
	4 to 20 mA	0 to 32000	625 nA	
	User range setting	-32000 to +32000	500 nA	
Accuracy (accuracy for the full scale digital output value)	Ambient temperature 25±5°C: within ±0.1% (±32 digits) Ambient temperature 0 to 55°C: within ±0.2% (±128 digits) Ambient temperature -20 to 0°C: within ±0.3% (±192 digits)			
Absolute maximum input	Voltage: ±15 V, Current: ±30 mA			

\*: About notes for setup and details of input characteristics, refer to the following.  
→ MELSEC iQ-F FX5 User's Manual (Analog Control - Intelligent function module)

#### ■ External Dimensions



#### ■ Product list

Items	Specifications	
FX5-4AD	Analog input module	
FX5-4DA	Analog output module	
FX5U-U-HW-E	MELSEC iQ-F FX5U User's Manual (Hardware)	Model code: 09R536
FX5UC-U-HW-E	MELSEC iQ-F FX5UC User's Manual (Hardware)	Model code: 09R558
FX5U-ANALOG-I-E	MELSEC iQ-F FX5 User's Manual (Analog Control - Intelligent function module)	Model code: 09R571

#### ▲ Safety Warning

To ensure proper use of the products in this document, please be sure to read the instruction manual prior to use.

#### Registration

- Ethernet is a trademark of Xerox Corporation.
- MODBUS is a registered trademark of Schneider Electric SA.
- All other company names and product names used in this document are trademarks or registered trademarks of their respective companies.

## MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN  
<http://Global.MitsubishiElectric.com>

## MELSEC iQ-F Series iQ Platform-compatible PLC FX5-4AD, FX5-4DA



Adopts spring clamp terminal blocks in analog input module and analog output module.  
That are indispensable at FA work sites.

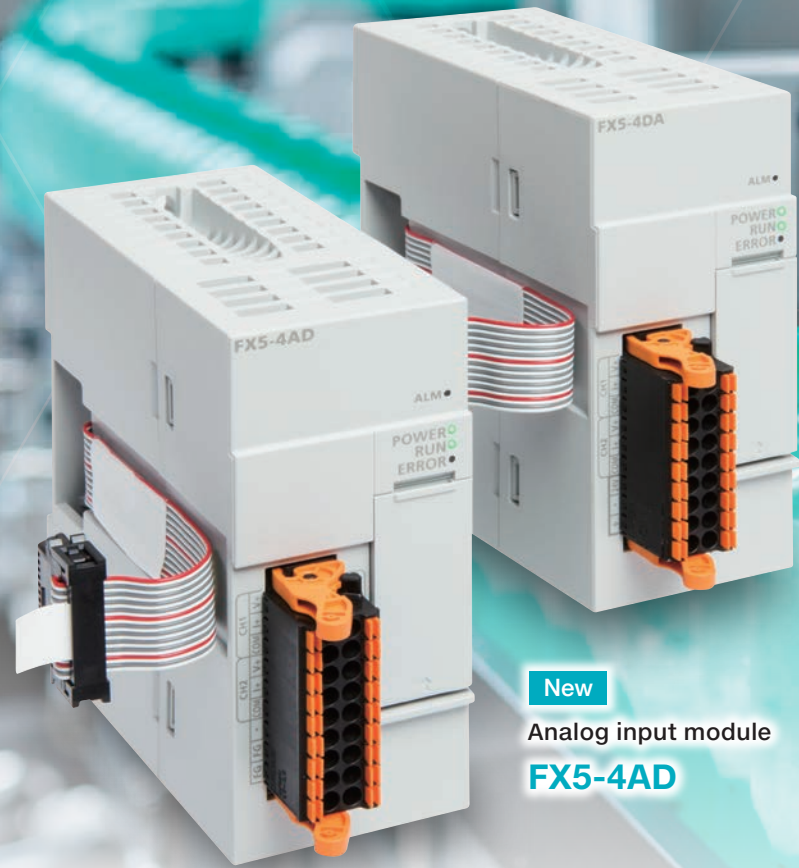


**New**  
Analog input module  
**FX5-4AD**

**New**  
Analog output module  
**FX5-4DA**

Standard FA control modules that adopt spring clamp terminal blocks

# Analog Input Module and Analog Output Module Newly Released



- 4AD 4DA** Downsized from conventional modules\*1!
- 4AD 4DA** Conversion speed "80 μs/ch" realized
- 4AD 4DA** Spring clamp terminal blocks adopted to reduce the man-hours for wiring!

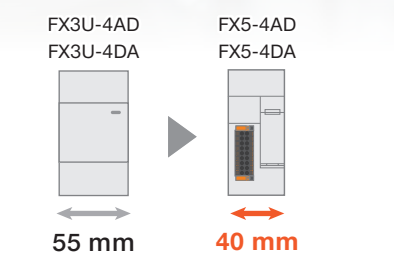
**New**  
Analog output module  
**FX5-4DA**

**New**  
Analog input module  
**FX5-4AD**

Analog input module and analog output module with 4 channels available on various FA work sites for assembly, carrying, inspection, etc. are added to the product lineup.

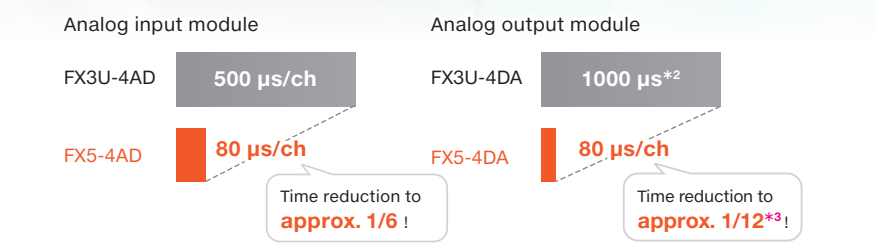
**4AD 4DA** Downsized

The surface space has been downsized.



**4AD 4DA** Conversion speed "80 μs/ch" realized

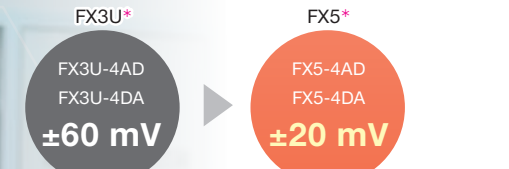
Both the analog input module and the analog output module have realized the conversion speed as fast as 80 μs/ch, which has considerably improved compared with conventional modules.



\*1: When compared with Mitsubishi FX3U-4AD and FX3U-4DA \*2: 1000 μs without regard to the number of channels \*3: In the case of 1 ch use

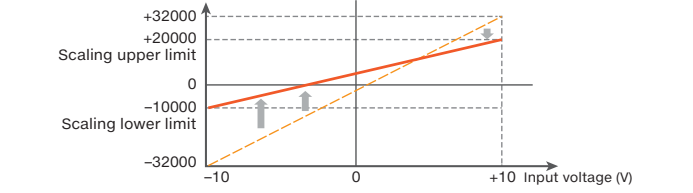
**4AD 4DA** Analog processing of higher accuracy

The accuracy has improved in analog inputs and analog outputs!  
The analog processing of higher accuracy has been enabled.



\*: When the ambient temperature is 25±5°C, and the "-10 to +10 V" range is selected

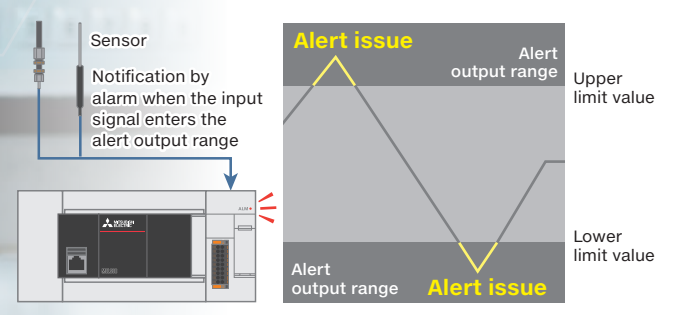
**4AD 4DA** Convertible to any value without any program



The scaling upper/lower limit value can be set in the range from -32000 to +32000.

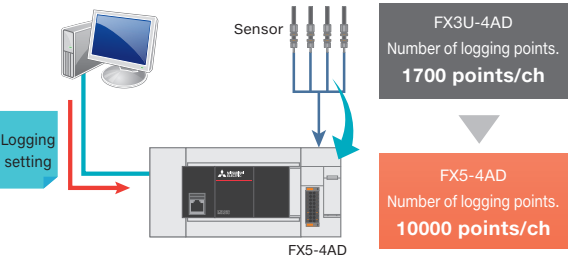
Scale conversion is available for any value set by parameters in GX Works3. The scale conversion program is unnecessary, and the man-hours for programming is reduced.

**4AD** Secure monitoring of equipment status



By using the input signal error detection function and alert output function (process alarm/rate alarm), the operator can easily monitor the status of connected equipment.

**4AD** Logging function to cope with troubles



By using the logging function, the operator can acquire data at a specified interval or any timing. The operator can analyze data acquired before and after occurrence of a trouble, and efficiently investigate causes of the trouble.

**4DA** Wave output function offering smooth wave without any program **NEW**

- The operator can easily create graphical wave output data expressed in arcs and straight lines using GX Works3.
- The operator can update analog output values in the D/A conversion cycle (80 μs at highest speed) without depending on the scan time.
- The operator can register the wave output data in the analog output module, and repeatedly use them to reduce the man-hours for programming.

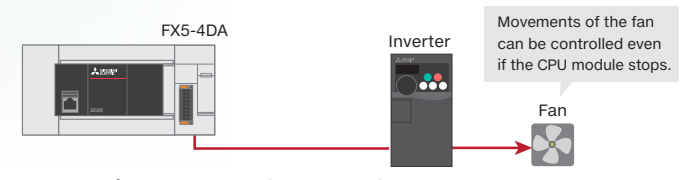
**In the case of analog output using a sequence program**  
An analog value is output at each scan time.

There is deviation between the wave to be output and the actual wave...

**In the case of analog output using the wave output function**  
An analog value is output at a constant interval.

Wave closer to the wave to be output can be obtained!

**4DA** Analog output HOLD/CLEAR function to control output values

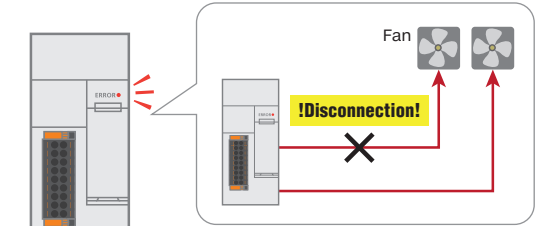


[CPU operation status] RUN state, STOP state, or stop error state

[Analog output value] HOLD the previous value or HOLD the setting value or CLEAR the previous value

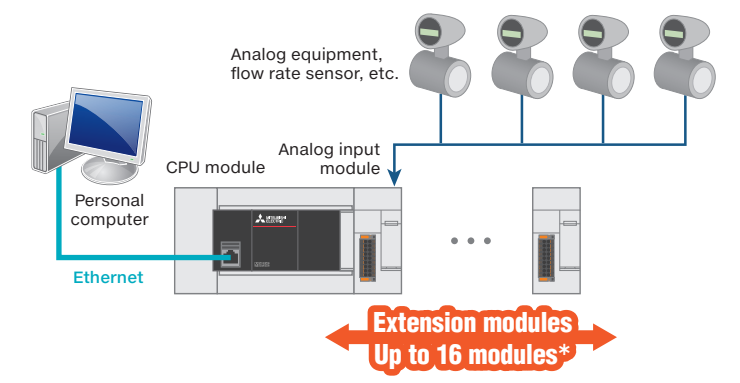
Sets whether to clear the current analog output value, or hold the previous value or the setting value when the CPU module operating status is Run, Stop, or Stop Error.

**4DA** Simple cause investigation at troubleshooting

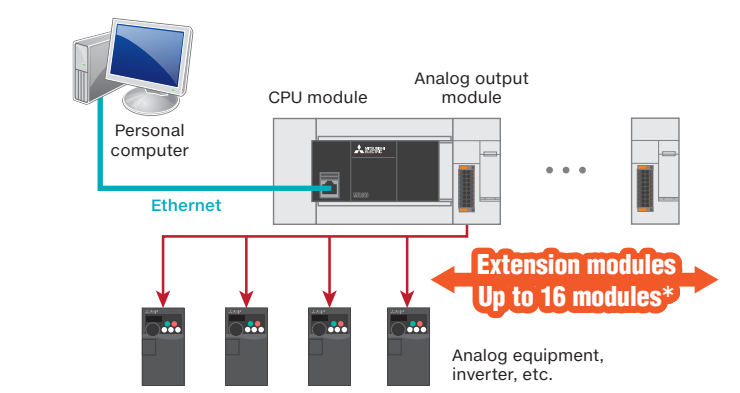


Disconnection detection function is enabled only when the analog output range is 4 to 20 mA, 0 to 20 mA or the user range (current).

**4AD** System configuration



**4DA** System configuration



\*: Refer to each CPU module manual for details on the system configuration.  
→MELSEC iQ-F FX5U User's Manual (Hardware)  
→MELSEC iQ-F FX5UC User's Manual (Hardware)

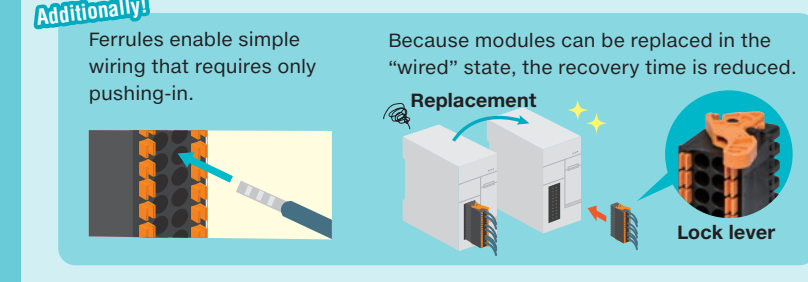
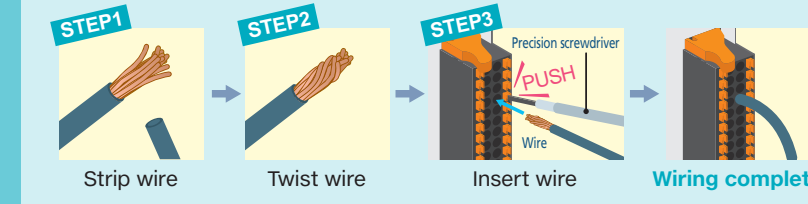
Useful in various fields /



## Changing the wiring of PLCs! Adoption of spring clamp terminal blocks

Many models of MELSEC iQ-F Series adopt spring clamp terminal blocks. You can experience the usability of spring clamp terminals.

**Easy wiring to reduce the man-hours for wiring!**  
No crimp connectors and crimp tools are needed. Wiring can be performed by preparing cables, and wiring man-hours can be reduced.



**Improved vibration resistance and maintainability!**

Terminals do not become loose by vibration. Human errors such as forgetting of tightening are eliminated. Retightening is not required during long-time use.

