

# FX5

## Next generation Compact PLC

The worlds best selling Compact PLC  
just got even better



Improved connectivity



Various built-in functionalities

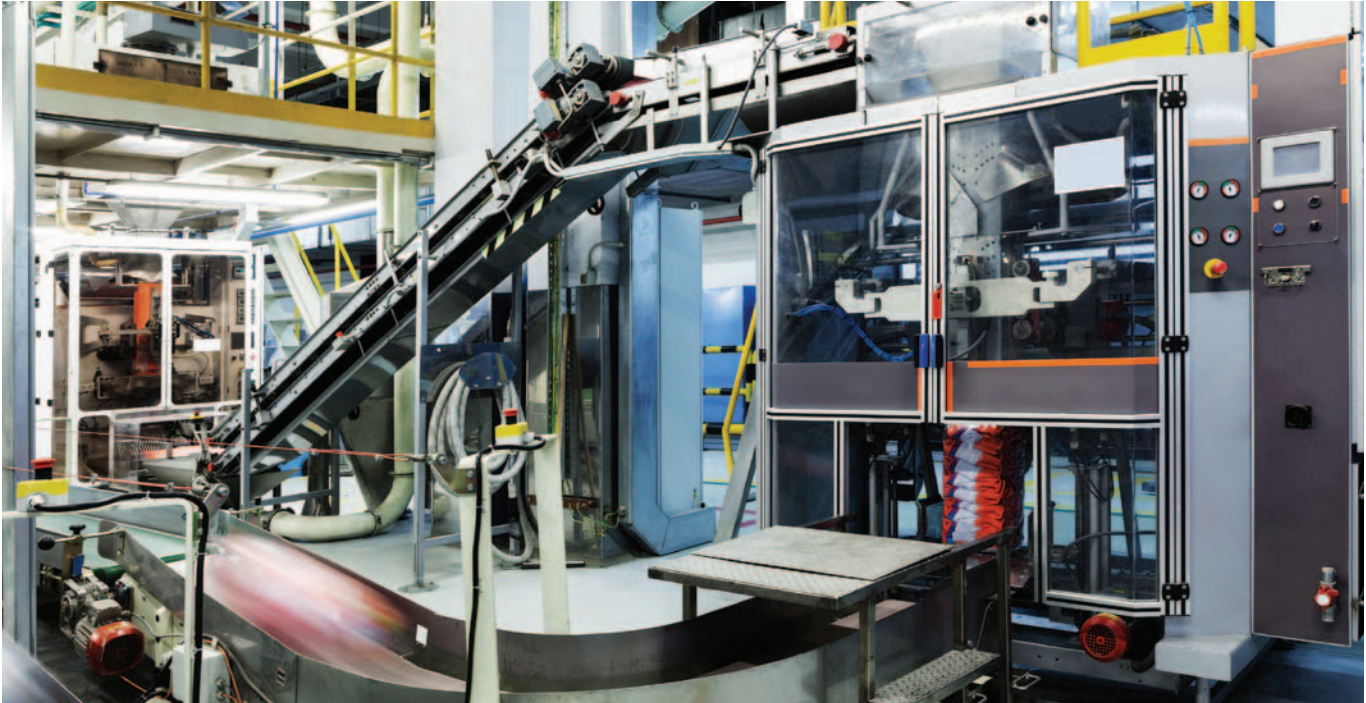


Increasing productivity & reducing TCO

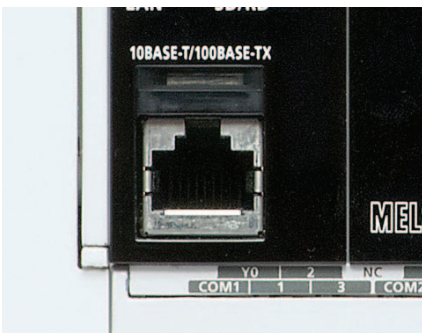


Improved debugging & troubleshooting functions

# Designed to improve output and reduce costs



Optimized products for higher production output with less engineering efforts



Built-in Ethernet port

## Outstanding performance

With the launch of the FX5 compact PLC, Mitsubishi Electric has made the world's best selling PLC even better. Since the launch of the original FX over 30 years ago, Mitsubishi Electric has sold over 13 million units across the globe.

As the first compact PLC to be seen in the European market, the FX transformed automation by bringing PLC control and functionality into smaller, lower cost applications that would previously have had to rely solely on discrete relay-based logic. For over three decades, Mitsubishi Electric has been the market leader in this sector.

Each generation of the FX has set new standards, and not only in the compact controllers class. Successive innovations and improvements have taken these compact controllers into another dimension, delivering performance that was previously the exclusive domain of larger control systems in a compact package.

Now, with the introduction of the new FX5, Mitsubishi Electric has given these compact controllers a huge performance boost, focusing on processing power, expansion, built-in functionality and positioning & motion functions. At the same time, users benefit from simpler programming and reduced maintenance effort to greatly reduce the total cost of ownership.

## Premium micro PLC

The new FX5 gives the FX a performance boost and adds new features that set benchmark standards for micro PLCs. It enables users to develop more complex and sophisticated automation systems, as well as higher performance applications, without having to migrate to a larger and more costly PLC family. At the same time, programming through the same GX Works software used for other controllers in the Mitsubishi Electric range supports scalability.

## Making high performance control affordable

With their compact dimensions and unrivalled cost/performance ratio, the new FX5 PLCs offer the means to drive up innovation in numerous machine control applications and automation tasks, giving users the functionality and flexibility to realise new ideas and increase system performance.

### Features and benefits:

#### ■ High speed performance

With three times the processing speed of the FX3, a response time of 1/5 and expansion bus performance 100 times faster, the FX5 offers all the performance required for high speed and critical automation tasks.

#### ■ High speed input & outputs

With embedded multi-speed, interrupt positioning and simultaneous start, users can achieve high speed, precise positioning at low cost with the FX5. Further, the counter interrupt and sensor interrupt deliver high speed and accurate positioning independent of PLC scan time.

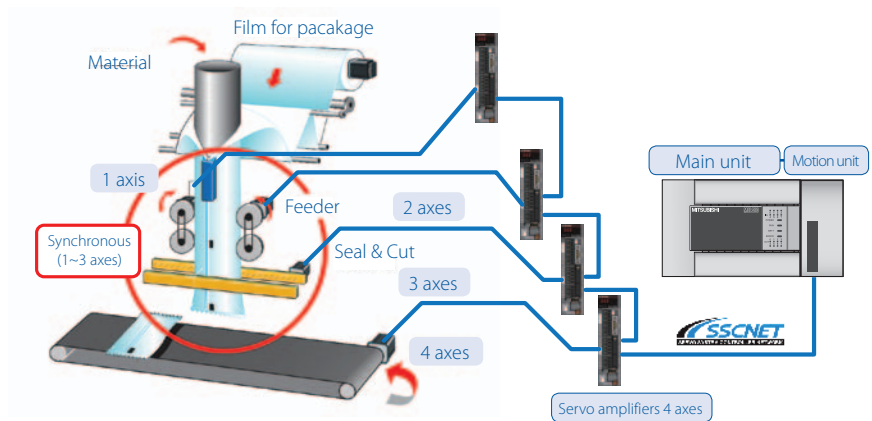
#### ■ Analogue and PID

With 2 analogue inputs and 1 analogue output as standard, and with improved PID performance, users have a low cost means of implementing sophisticated functions at low cost and without the need for additional hardware.

#### ■ Built in Ethernet\*

With Ethernet communications included as standard, users can easily set up communications with other Ethernet-enabled systems and the higher level enterprise, and perform remote data monitoring over the internet plus use the SNTP function (time synchronization from a time server via a network).

\*Trademark of Xerox Corporation



Example of simple motion application

#### ■ Positioning control

The FX5 includes Mitsubishi Electric's Simple Motion Unit as an intelligent function module, providing the ability to perform sophisticated motion control for up to 4 axes. Functions include linear interpolation, circular interpolation, positioning control, synchronised control, encoder following and electronic cam.

#### ■ CC-Link IE Field

With this 1Gbps industrial Ethernet SFB, the FX5 can connect to a far wider range of automation equipment, benefiting from vastly increased data throughput, seamless communications with simpler set-up, and inherent network diagnostics.

#### ■ Improved connectivity

The FX5 offers simple connection options to a wide range of automation equipment, including Mitsubishi Electric servos and inverters, Cognex vision systems, networks and energy meters, with reduced wiring effort and no additional programming.

#### ■ Backward compatibility

Reuse existing FX3 expansion modules with the new FX5 via a bus conversion module and easily port existing FX3 programs to FX5.



Add-on modules to meet your needs

#### ■ Simple troubleshooting

The FX5 offers a range of troubleshooting functions to speed system set-up, increase system availability and reduce maintenance requirements. Comprehensive debugging functions are included, along with improved diagnostics functions. Simple maintenance is facilitated through improved diagnostics including error history, hardware monitor, SD card for logging & tracing functions, automatic system recognition and several program debugging functions.

#### ■ Security functions

To protect your intellectual property FX5 comes with several security functions like privilege based program access and program on SD card with copy protection password.

# Specifications

Type	FX5U-32M	FX5U-64M	FX5U-80M	
I/O Range (input: output)	32 (1:1)	64 (1:1)	80 (1:1)	
Maximum I/O Range (including network)	256 (512)			
Dimensions (WxHxD)	150x90x83	220x90x83	285x90x83	
CPU Performance	LD	max. 40 ns		
	MOV	100 ns		
Memory size	Program	64 K steps		
	Comment and source	Comment: 2 MB Source: 1 MB		
	Word device	56 K words		
Power	AC85-264V			
Output type	Relay, Transistor			
Integrated functions	High speed counter	1-phase counter	200 KHz 6ch 10 KHz 2ch	
		2-phase counter	100 KHz 3ch 5 KHz 1ch	
	Pulse output	200 KHz 4 axis (Open collector) Simple linear interpolation (Transistor type only)		
	Memory card interface	SD card		
	Communication port	Ethernet* port, RS485 1ch		
	Analog	Input (resolution)	2ch (12 bit)	
		Output (resolution)	1ch (12 bit)	
	Real time clock	Retained up to 10 days with capacitor (Ambient temperature 25°C)		
	Service power supply (24 V DC)	400 mA		
	Expansion board slots	1 slot		
Adaptor	Communication expandability	2		
	Analog expandability	4		

\*Ethernet is trademark of Xerox Corporation

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