

# FX3G/C

## MELSEC Compact PLC

**Extending your options**  
A new choice for comprehensive machine control



Applies the proven FX3U design to smaller but performance critical applications



Add a variety of capabilities to suit specific application needs



Builds on existing FX series hardware and programming for quick adoption and investment protection



Direct control of inverter and motion control systems with no extra hardware

# FX3 power, compressed



FX3G has the versatility to handle applications from a wide range of industries.

These include; a large program memory to implement sophisticated algorithms, ample space for data storage, logging or recipes, plus high speed execution to enhance system productivity. A dual bus architecture provides flexible expansion possibilities for additional I/O capacity and communication functions.

## Easy system integration

The FX3G can operate as a standalone controller, but for when integration with other system components is required, a range of standard features makes it stand out from the crowd. Mitsubishi Electric builds in standard instructions that permit easy control of our inverters over a precise, reliable digital link. This makes it simple to connect an inverter such as a FR-D700 SC to provide more precise motor operation while optimizing energy use.

Motion control is also simple to implement. The FX3G provides direct control of up to three independent axes without any additional hardware. Hence cost effective multi-axis systems can be built without requiring a costly controller overhead.



Precise motor control with digital links

## Feel our strength

Mitsubishi Electric is the undisputed world leading supplier of compact PLCs. We originated the concept of this type of controller over thirty years ago. Our global installed base exceeds 12 million systems and our philosophy of listening to customer needs insures this base continues to grow. The introduction of the FX3U PLC set a new benchmark for performance and flexibility in the compact PLC market and we have continued to innovate. The result is the FX3G, our new answer to applications needing FX3U like capabilities in smaller scale systems.



Direct motion control of up to three axes without further hardware

## More for less

While being intended for smaller systems, the FX3G still delivers a powerful combination of essential features, plus more not expected from a controller at this level.



Mitsubishi Electric Corporation Himeji Works is a factory certified for ISO14001 (standards for environmental management systems) and ISO9001 (standards for quality assurance management systems)



## Easy expansion

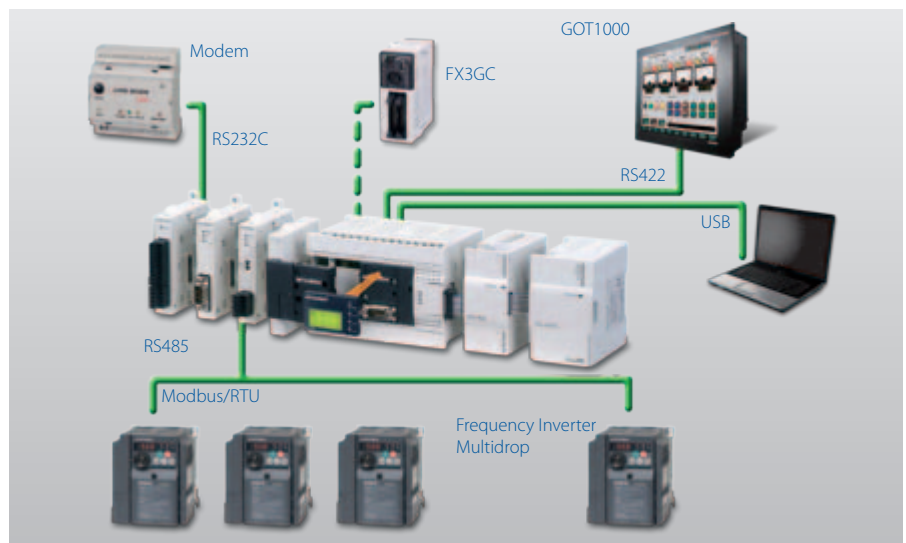
When it comes to increasing the capabilities of an FX3G, we extend your options while protecting your skills and investments. The dual bus architecture provides twice as many expansion possibilities compared to previous designs. On one bus, the FX3G uses additional, familiar FX family I/O and special function blocks to add a comprehensive variety of I/O and special function capabilities such as analogue and networking. On the other system bus, the FX3G uses the existing FX3U special adapters to provide high performance communication and analog capabilities that are directly linked to the CPU. This reduces programming while increasing performance, leading to faster development and higher productivity.



Comprehensive open network connectivity support

## The great communicator

Finally, the FX3G offers you a wide selection of options when it comes to networking and communications. This begins with standard serial communication support and builds up to comprehensive coverage of common open automation networks. These include CC-Link, CANopen, Profibus DP and Ethernet. Further, a built-in USB port makes convenient connection to any PC or laptop for high speed program uploads and downloads along with monitoring.



The FX3G makes building complete systems easy.

## All the power in a compact size

In response to customer demands for a high performance, ultra compact PLC for very small control panels, Mitsubishi offers a small footprint version of the FX3G series: the FX3GC. This ultra compact PLC offers the same functionality and all the power, sophistication and processing capability as the 32 I/O FX3G CPU, but in one quarter of the size. It is also fully compatible with existing FX2N/FX3U modules and uses the same cables and terminal blocks as the larger FX3UC.

The FX3GC is ideal for applications where space is minimal and power requirements are low, but without compromising the usability of the PLC system. Comprising an all in one CPU, power supply and I/O also means that this super compact product reduces installation space, wiring time and potential wiring faults, making it ideal for busy machine builders.



Application in smallest space: the FX3GC

# Specifications

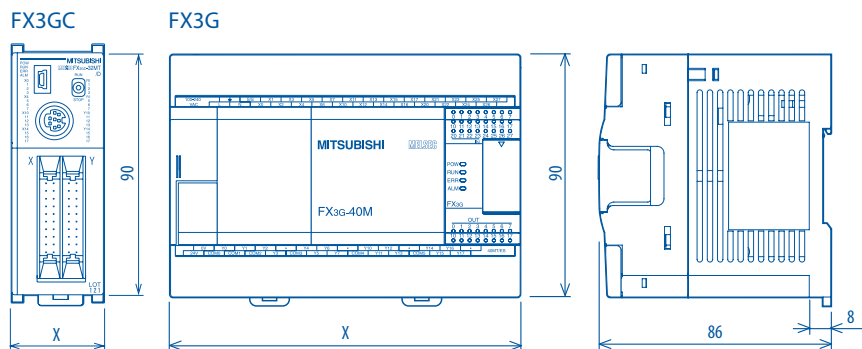
Specifications	FX3G-14M□	FX3G-24M□	FX3G-40M□	FX3G-60M□	FX3GC-32M□
I/O points	256 total (combined local and CC-Link remote I/O)				
Address range	Max. 128 direct addressing and max. 128 remote I/O				
Power supply	24 V DC (+20 %/-15%) or 100-240 V AC (+10 %/-15 %), 50/60 Hz				24 V DC
Program memory	32,000 steps EEPROM (internal), exchangeable EEPROM memory cassette with loader function				
Instruction Time	0.21 µs or 0.42 µs/contact instruction				
Integrated inputs	Number of inputs	8	14	24	36
	Input signal voltage	24 V DC (±10 %)			
	Input form	sink/source			
	Response time	Approx. 10 ms			
	Isolation	Photocoupler isolation			
Integrated outputs	Number of outputs	6	10	16	24
	Switching voltage	<240 V AC, <30 V DC (relay output), 5-30 V DC (transistor output)			
	Output type/form	Relay or transistor			Transistor
	Max. load	resistive	2 A/point, max. 8 A total (relay), 0.5 A/point; max. 0.8 A for 4 output points/common terminal (transistor)		
		inductive	80 VA (relay), 12 W/point (at 24 V DC); max. 19.2 W for 4 output points/common terminal (transistor)		
	Response time	10 ms (relay), <5 µs (for Y000 and Y001)/0.2 ms (for all other outputs) (transistor)*			
	Isolation	Photocoupler isolation			
High-speed counters	21 total, with 16 1-phase (C235-C250) and 5 2-phase (C251-C255)				
High-speed outputs	-2,147,483,648-2,147,483,647				
24V DC service power supply	400 mA				
Environment	0-55 °C ambient temperature; 5-95 % relative humidity				

\*The 40 and 60 I/O point transistor output base units have a 5µs response time for Y002

## Dimensions

PLC	X
FX3G-14M□	90
FX3G-24M□	90
FX3G-40M□	130
FX3G-60M□	175
FX3GC-32M□	34

All dimensions in mm



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