

FX Main Units Lineup

FX Main Units Lineup

FX Control Solutions

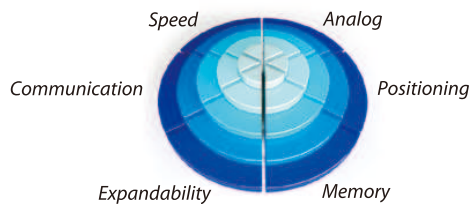
Visualization

Software



FX3U

Controllable I/O: 16 - 256 points
 Max. 384 with CC-Link remote I/O
 (Main Unit I/O: 16/32/48/64/80/128 points)



Top of the line

The FX3U is the original dual system-bus, high-speed, fully expandable compact PLC designed to seamlessly control communication, networking, analog, and positioning systems. With a maximum of 384 controllable local and networked I/O via CC-Link, the FX3U uses its power and flexibility to provide a solution for a variety of applications.

- 3rd generation compact PLC
- High efficiency with more speed, performance, memory, and new functions
- Built-in high speed processing and positioning
- The FX3U can control a maximum of 256 connected I/O, and up to 384 points with CC-Link remote I/O.

Product Details

All-in-one CPU, power supply and I/O. Includes many upgraded features from the FX2N, including high expandability using Expansion Boards and Special Adapters to add functionality.

Fast Instruction Times

Basic Instructions: 0.065 μ s / instruction (Contact Instruction)
 Applied Instructions: 0.642 μ s / instruction (MOV Instruction)

Large Memory

64,000 steps of built-in program memory.

Flash Memory Cassettes with loader function are available.

Applicable Standards

All products support EN and UL/cUL standards. Various shipping approvals are supported as well.

Large Device Memory

Auxiliary Relays	7,680 points
Timers	512 points
Counters	235 points
Data Registers	8,000 points
Extension Registers	32,768 points
Extension File Registers	32,768 points
(with optional Memory Cassette)	

FX SERIES SELECTION GUIDE

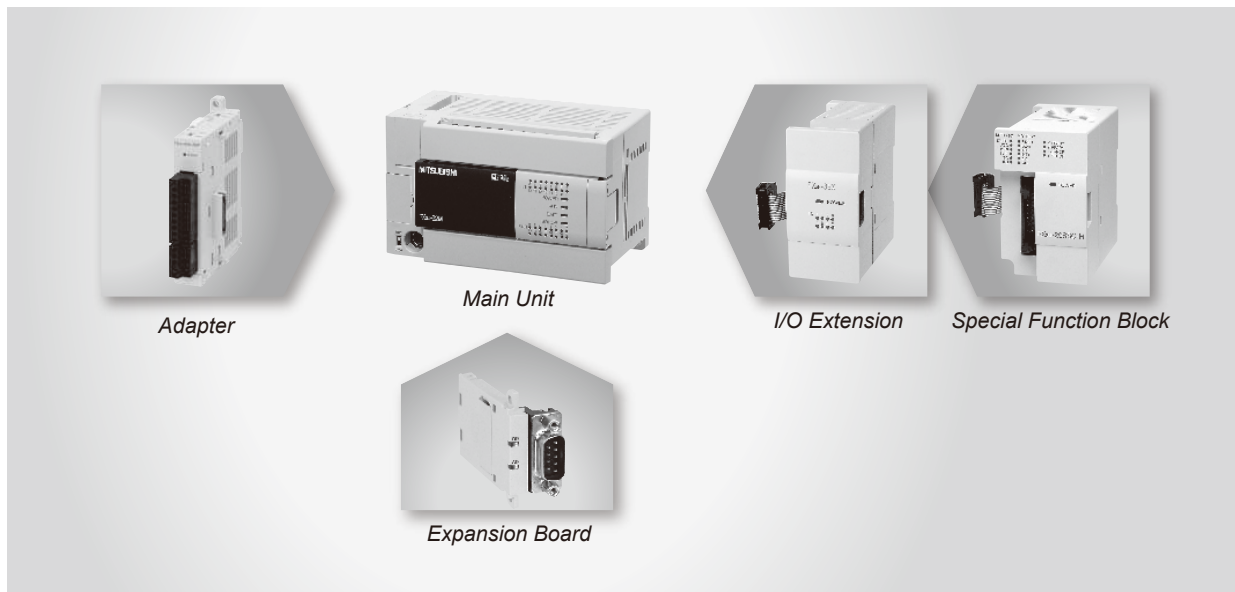






	System Item	Item Specification *	Terminal-type I/O					Connector-type I/O	
			Non-Extendable *		Extendable			Extendable	
			<i>FX1S</i>	<i>FX3S</i>	<i>FX3G</i>	<i>FX3GE</i>	<i>FX3U</i>	<i>FX3GC</i>	<i>FX3UC</i>
Hardware	I/O points	Up to 30 local I/O's	✓	✓	★	★	★	★	★
		Up to 128 local I/O's			✓	✓	★	✓	★
		Up to 256 local I/O's					✓		✓
		Up to 256 local and network I/O's			✓	✓	★	✓	★
		Up to 384 local and network I/O's					✓		✓
	Power Supply	AC Power	✓	✓	✓	✓	✓		
		DC Power	✓		✓		✓	✓	✓
	Input type	100 V AC					✓		
		24 V DC	✓	✓	✓	✓	✓	✓	✓
	Output type	Relay	✓	✓	✓	✓	✓		✓
		Transistor	✓	✓	✓	✓	✓	✓	✓
		Triac					✓		
	CPU Speed	Standard	✓	✓	✓	✓	★	✓	★
		Advanced					✓		✓
	Communication ports	USB		✓	✓	✓		✓	
RS-422		✓	✓	✓	✓	✓	✓	✓	
Ethernet					✓				
Analog I/O	Input : 2 Output : 1				✓				
Options	Analog I/O (Current / Voltage)	Up to 4 ADP channels		✓	✓	✓	✓	✓	✓
		Up to 8 ADP channels			✓*1		★	✓	★
		Up to 16 ADP channels					✓		✓
		Up to 64 special function block channels			✓	✓	✓	✓	✓
	Temperature Sensor Input	Up to 4 ADP input channels		✓	✓	✓	✓	✓	✓
		Up to 8 ADP input channels			✓*1		★	✓	★
		Up to 16 ADP input channels					✓		✓
		Up to 64 special function block input channels			✓	✓	✓	✓	✓
	Network	Temperature control			✓	✓	✓	✓	✓
		CC-Link (Master/Slave)			✓	✓	✓	✓	✓
		CANopen®			✓	✓	✓	✓	✓
		J1939			✓	✓	✓	✓	✓
		Ethernet	✓	✓	✓	✓	✓	✓	✓
		PROFIBUS-DP	Master				✓		✓
	Communication	N : N Network/Parallel Link	Computer Link (RS-232C/RS-485)	✓	✓	✓	✓	✓	✓
Non-Protocol Communication			1 Channel (RS-232C/RS-485)	✓	✓	★	✓	★	
Add-on Communication Ports		Multi-Channel (RS-232C)			✓		✓	✓	
		Multi-Channel (RS-485)			✓		✓	✓	
		RS-485	✓	✓	✓	✓	✓	✓	
Inverter control		RS-232C	✓	✓	✓	✓	✓	✓	
		USB					✓		
		Embedded USB		✓	✓	✓		✓	
	Modbus®		✓	✓	✓	✓	✓		
Positioning	Analog	✓	✓	✓	✓	✓	✓		
	Pulse width modulation	✓	✓	✓	✓	✓	✓		
	RS-485 Communication		✓	✓	✓	✓	✓		
	1 - 2 100 kHz Axis Built-in Positioning	✓	✓	✓	✓	★	✓		
	Up to 3 x 100 kHz Axis Built-in Positioning			✓*2	✓*2	✓			
	Up to 4 x 200 kHz Axis with High-Speed Output Adapters					✓			
High-Speed Counters	Up to 8 x 1 MHz Axis with Special Function Blocks					✓			
	Up to 16 SSCNET III Axis with Special Function Blocks					✓			
	Cam switching					✓			
Storage	Up to 6 high speed counters, Max. 60 kHz	✓	✓	✓	✓	★	✓		
	Up to 8 high speed counters, Max. 100 kHz					✓			
	Up to 8 high speed counters with 200 kHz Adapter					✓			
	Additional Extension using High-Speed Counter Block					✓			
Data Logging	Source data storage					✓	✓		
	CF card Adapter					✓	✓		

* : Some items require additional extension modules in order to function where other connection rules and requirements may apply. For more details, refer to the respective product manuals.

✓ : Contains required functionality
 ★ : Higher functionality or more expandability
 * 1 : 14 and 24 I/O points main units : Max. 4 channels
 * 2 : 14 and 24 I/O points main units : Max. 2 axes

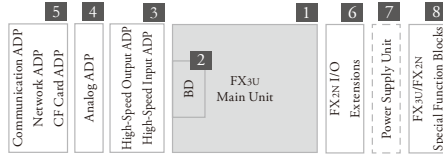
FX PLC EXTENSION EXPLANATION



<p>Expansion Boards</p> 	<p>The expansion boards, also called BDs, are a basic CPU function extension. Thanks to the compact dimensions no additional installation space is required. Programming is done directly via special commands and dedicated data register in the PLC. Available are serial communication, analog and digital I/O BDs.</p>
<p>Adapters</p> 	<p>The Special Adapters, also called ADPs, add standard high-speed functions to the PLC. Mounted on the left side, these units are extremely compact and easy to use. The programming is similar to the BDs via special instructions and dedicated data registers in the PLC. Available are various serial communication, analog, temperature input, positioning, high-speed counting and data logging ADPs. Compared to the BDs the ADPs offer more flexibility and performance.</p>
<p>Special Function Blocks</p> 	<p>The Special Function Blocks, also called SFBs, are the most advanced function extension available for the FX PLC. Thanks to the standardized communication via memory integrated into the SFBs, programming is straightforward. The integrated CPU performs PLC scan time independent operation perfectly fitted for networking or positioning tasks, thus reducing the load on the PLC main unit. Up to 8 different units can be connected to the main unit. Available are analog, serial communication, networking, positioning, high-speed counting and temperature control. Compared to the ADPs, the SFBs offer higher functionality and more flexibility. Dedicated SFBs for the FX3GC and FX3UC are available as well.</p>
<p>I/O Extensions</p> 	<p>Digital I/O extensions are available with or without power supply. A wide range from 8 to 48 I/O points with different inputs and outputs are available. There is no limitation on the number of extension units or blocks, you can design the system to match application requirements, just make sure to check the system power supply and number of available I/O points. Dedicated I/O blocks for the FX3GC and FX3UC are available as well.</p>

FX SERIES CONFIGURATION

FX3U



Expansion Boards



FX3U-422-BD

Communication
FX3U-232-BD
FX3U-422-BD
FX3U-485-BD
FX3U-USB-BD

Interface Board
FX3U-CNV-BD
Analog Setpoint
FX3U-8AV-BD

Special Adapters



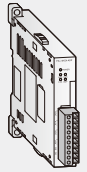
FX3U-ENET-ADP

Communication
FX3U-232ADP-MB
FX3U-485ADP-MB
Network
FX3U-ENET-ADP*1
Data Logging
FX3U-CF-ADP*2



FX3U-4AD-PTW-ADP

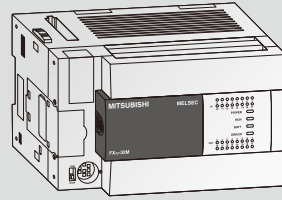
Analog
FX3U-4AD-ADP
FX3U-4DA-ADP
FX3U-3A-ADP*2
Temperature
FX3U-4AD-PT-ADP
FX3U-4AD-TC-ADP
FX3U-4AD-PTW-ADP
FX3U-4AD-PNK-ADP



FX3U-4HSX-ADP

High Speed Counter
FX3U-4HSX-ADP
Positioning
FX3U-2HSY-ADP

FX3U Main Units



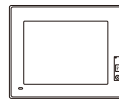
FX3U-32M

FX3U Main Units 16-128 I/O

FX3U-16MR/ES	AC	D	R	FX3U-48MR/ES	AC	D	R	FX3U-80MR/ES	AC	D	R
FX3U-16MT/ES	AC	D	T1	FX3U-48MT/ES	AC	D	T1	FX3U-80MT/ES	AC	D	T1
FX3U-16MT/ESS	AC	D	T2	FX3U-48MT/ESS	AC	D	T2	FX3U-80MT/ESS	AC	D	T2
FX3U-16MR/DS	DC	D	R	FX3U-48MR/DS	DC	D	R	FX3U-80MR/DS	DC	D	R
FX3U-16MT/DS	DC	D	T1	FX3U-48MT/DS	DC	D	T1	FX3U-80MT/DS	DC	D	T1
FX3U-16MT/DSS	DC	D	T2	FX3U-48MT/DSS	DC	D	T2	FX3U-80MT/DSS	DC	D	T2
FX3U-32MR/ES	AC	D	R	FX3U-64MR/ES	AC	D	R	FX3U-128MR/ES	AC	D	R
FX3U-32MT/ES	AC	D	T1	FX3U-64MT/ES	AC	D	T1	FX3U-128MT/ES	AC	D	T1
FX3U-32MT/ESS	AC	D	T2	FX3U-64MT/ESS	AC	D	T2	FX3U-128MT/ESS	AC	D	T2
FX3U-32MS/ES	AC	D	TR	FX3U-64MS/ES	AC	D	TR				
FX3U-32MR/DS	DC	D	R	FX3U-64MR/DS	DC	D	R				
FX3U-32MT/DS	DC	D	T1	FX3U-64MT/DS	DC	D	T1				
FX3U-32MT/DSS	DC	D	T2	FX3U-64MT/DSS	DC	D	T2				
FX3U-32MR/UA1	AC	E	R	FX3U-64MR/UA1	AC	E	R				

AC AC Power supply
DC DC Power supply
D DC Input(sink/source)
E AC Input
R Relay Output
T1 Transistor(sink)
T2 Transistor(source)
TR Triac Output

Optional Equipment and Software



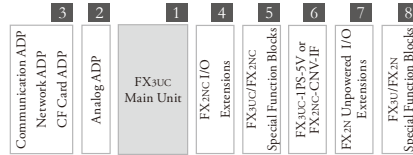
GOT
GOT1000
(GT10/GT12/GT14/GT16)

Interface Converters
FX-USB-AW
FX-232AWC-H

Software
GX Developer
GX Works2

*1: Firmware version 3.10 or later. *2: Firmware version 2.61.

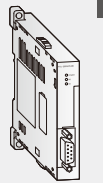
FX3UC



Special Adapters



FX3U-ENET-ADP
Network
FX3U-ENET-ADP*1

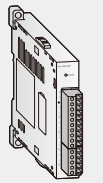


FX3U-232ADP-MB
Communication
FX3U-232ADP-MB
FX3U-485ADP-MB



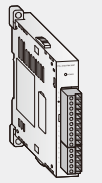
FX3U-CF-ADP

Data Logging
FX3U-CF-ADP*2



FX3U-4AD-ADP

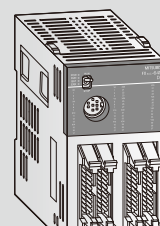
Analog
FX3U-4AD-ADP
FX3U-4DA-ADP
FX3U-3A-ADP*2



FX3U-4AD-PNK-ADP

Temperature
FX3U-4AD-PT-ADP
FX3U-4AD-TC-ADP
FX3U-4AD-PTW-ADP
FX3U-4AD-PNK-ADP

FX3UC Main Units



FX3UC-64M

FX3UC Main Units 16-96 I/O

FX3UC-16MT/D*	DC	D	T1	DC	DC Power supply
FX3UC-16MT/DSS	DC	D	T2	D1	DC Input(sink)
FX3UC-16MR/D-T*	DC	D	R	D2	DC Input(sink/source)
FX3UC-16MR/DS-T	DC	D	R	R	Relay Output
FX3UC-32MT/D*	DC	D	T1	T1	Transistor Output(sink)
FX3UC-32MT/DSS	DC	D	T2	T2	Transistor Output(source)
FX3UC-64MT/D*	DC	D	T1		
FX3UC-64MT/DSS	DC	D	T2		
FX3UC-96MT/D*	DC	D	T1		
FX3UC-96MT/DSS	DC	D	T2		

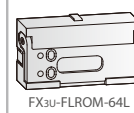
* Refer to the HARDWARE MANUAL for system configuration.

Optional Equipment and Software



GOT
GOT1000
(GT10/GT12/GT14/GT16)
Interface Converters
FX-USB-AW
FX-232AWC-H

Software
GX Developer
GX Works2



Memory Cassettes
FX3U-FLROM-16
FX3U-FLROM-64
FX3U-FLROM-64L
FX3U-FLROM-1M*3

I/O Cables
General I/O cable
FX-16E-500CAB-S(5m)

Connecting to Terminal Blocks
FX-16E-150CAB(1.5m)
FX-16E-300CAB(3m)
FX-16E-500CAB(5m)

*1: Firmware version 3.10 or later. *2: The FX3UC supports the FX3U-CF-ADP and FX3U-3A-ADP from firmware version 2.61. *3: Firmware version 3.00 or later.

Programming Specifications

Programming				
System specifications	FX1s	FX3s	FX3G/FX3GC/FX3GE	FX3U/FX3UC
I/O points	30(+4 optional)	30 total	256 total (combined local and CC-Link remote I/O)	384 total (combined local and CC-Link remote I/O)
Address range	Max. 30 direct addressing	Max. 30 direct addressing	Max. 128 direct addressing and Max. 128 remote I/O	Max. 256 direct addressing and Max. 256 remote I/O
Program memory	2,000 steps EEPROM	16,000 steps EEPROM (Program capacity is 4,000 steps.)	32,000 steps EEPROM (internal), exchangeable EEPROM memory cassette**	64,000 steps RAM (internal), exchangeable FLROM memory cassette
Instruction Time	0.7 μs / contact instruction	0.21 μs or 0.5 μs / contact instruction	0.21 μs or 0.42 μs / contact instruction	0.065 μs / contact instruction
Number of instructions	27 sequence instructions, 2 steps ladder instructions, 85 applied instructions	29 sequence instructions, 2 steps ladder instructions, 116 applied instructions	29 sequence instructions, 2 steps ladder instructions, 124 applied instructions	29 sequence instructions, 2 steps ladder instructions, 218 applied instructions
Programming language	Step ladder, instruction list, SFC Step ladder			
Program execution	Cyclical execution, refresh mode processing			
Program protection	8 character keyword with 3 protection levels each*	2 different keywords, Max password length 16 characters		

* 8-character keyword protection level depends on the keyword registered; 16-character keyword protection level is set within GX-Developer.

** Not for FX3GC

Devices

System specifications	FX1s	FX3s	FX3G/FX3GC/FX3GE	FX3U/FX3UC
Auxiliary relays	512 total, with 384 general (M0 - M383) and 128 latched (M384 - M511)	1,536 total, with 1,408 general (M0 - M383 and M512 - M1535) and 128 EEPROM latched (M384 - M511)	7,680 total, with 384 general (M0 - M383), 1,152 EEPROM latched (M384 - M1535), and 6,144 general/optional latched (M1536 - M7679)	7,680 total, with 500 general (M0 - M499), 524 optional latched (M500 - M1023), and 6,656 latched (M1024 - M7679)
Special auxiliary relays	256 (M8000 - M8255)	512 (M8000 - M8511)		
State relays	128 all latched (S0 - S127)	256 total, with 128 EEPROM latched (S0 - S127) and 128 general (S128 - S255)	4,096 total, with 1,000 EEPROM latched (S0 - S999) and 3,096 general/optional latched (S1000 - S4095)	4,096 total, with 1,000 optional latched (S0 - S999) and 3,096 latched (S1000 - S4095)
Timers	64 total, with 31 points partially switchable between 100 ms and 10 ms (T32 - T62)	169 total, with 69 100 ms (T0 - T62 and T132 - T137), 31 100/10 ms (T32 - T62), and 69 1 ms (T63 - T131)	320 total, with 206 100 ms (T0 - T199 and T250 - T255), 46 10 ms (T200 - T245), and 68 1 ms (T246 - T249 and T256 - T319)	512 total, with 206 100 ms (T0 - T191, T192 - T199 and T250 - T255), 46 10 ms (T200 - T245), and 260 1 ms (T246 - T249 and T256 - T511)
External setpoint entry via potentiometer	2*			—
Counters	32 total (16 bit only), with 16 general (C0 - C15) and 16 latched (C16 - C31)	67 total (16 bit and 32 bit), with 51 general (C0 - C15 and C200 - C234) and 16 EEPROM latched (C16 - C31)	235 total (16 bit and 32 bit), with 36 general (C0 - C15 and C200 - C219) and 199 EEPROM latched (C16 - C199 and C220 - C234)	235 total (16 bit and 32 bit), with 120 general (C0 - C99 and C200 - C219) and 115 latched (C100 - C199 and C220 - C234)
High-speed counters	21 total, with 16 1-phase (C235 - C250) and 5 2-phase (C251 - C255)			
High-speed counter speed	1-phase, 6 points max: 60 kHz / 2 points, 10 kHz / 4 points ; 2-phase, 2 points max: 30 kHz / 1 point, 5 kHz / 1 point		1-phase, 6 points max: 60 kHz / 4 points, 10 kHz / 2 points 2-phase, 3 points max: 30 kHz / 2 points, 5 kHz/1 point	1-phase, 8 points max: 100 kHz / 6 points 10 kHz / 2 points 2-phase, 2 points max: 50 kHz / 2 points
Real-time clock	Year, month, day, hour, minute, second, day of the week			
Data registers	256 total, with 128 general (D0 - D127) and 128 latched (D128 - D255)	3,000 total, with 2,872 general (D0 - D127 and D256 - D2999) and 128 EEPROM latched (D128 - D255)	8,000 total, with 128 general (D0 - D127), 972 EEPROM latched (D128 - D1099), and 6,900 general/optional latched (D1100 - D7999)	8,000 total, with 200 general (D0 - D199), 312 optional latched (D200 - D511), and 7,488 latched (D512 - D7999)
Extension registers	—		24,000 (R0 - R23999)	32,768 (R0 - R32767)
Extension file registers	—		24,000 (ERO - R23999) internal/optional memory	32,768 (ERO - R32767) optional memory
Index registers	16			
Special data registers	256 (D8000 - D8255)	512 (D8000 - D8511)		
Pointers	64	256	2,048	4,096
Nestings	8			
Interrupt inputs	6			
Constants	16 bit: K: -32,768 to +32,767; H: 0 to FFFF; 32 bit: K: -2,147,483,648 to +2,147,483,647; H: 0 to FFFF FFFF			

* Not for FX3GC

ENVIRONMENTAL & ELECTRICAL SPECIFICATIONS

Environmental Specifications

General specifications	FX1s	FX3s	FX3G/FX3GE	FX3GC	FX3U	FX3UC
Ambient temperature	0 – 55 °C (storage temperature: -20 – +70 °C)		0 – 55 °C (storage temperature: -25 – +75 °C)			
Noise durability	1000 Vpp with noise generator; 1 μs at 30 – 100 Hz					
Dielectric withstand voltage	AC PSU : 1500 V AC, 1 min. / DC PSU : 500 V AC, 1 min.			500 V AC, 1 min.	AC PSU : 1500 V AC, 1 min. / DC PSU : 500 V AC, 1 min.	500 V AC, 1 min.
Ambient relative humidity	35 – 85% (non-condensing)		5 – 95% (non-condensing)			
Vibration resistance*			Frequency (Hz)	Acceleration (m/s ²)	Half amplitude (mm)	Sweep Count for X, Y, Z : 10 times (80 min in each direction)
	When installed on DIN rail		10 to 57	—	0.035	
			57 to 150	4.9	—	
	When installed directly		10 to 57	—	0.075	
			57 to 150	9.8	—	
Shock resistance*	147 m/s ² Acceleration, Action time: 11ms, 3 times by half-sine pulse in each direction X, Y, and Z					
Insulation resistance	500 V DC, 5 MΩ					
Ground	Class D: Grounding resistance 100 Ω or less					
Fuse	AC models: 250 V 1.0 A; DC models: 250 V 0.8 A	250 V 1.0 A	AC models : 250 V 1 A(FX3G-14/24M) (FX3GE-24M) 250 V 3.15 A(FX3G-40/60M) (FX3GE-40M) DC models : 125 V 2.5 A(FX3G-14/24M) 125 V 3.15 A(FX3G-40/60M)	125 V 3.15 A	From FX3U-16M[] to FX3U-32M[]: 250 V 3.15 A; From FX3U-48M[] to FX3U-128M[] and FX3U-32MR/UA1 : 250 V 5 A	125 V 3.15 A
Environment	Avoid environments containing corrosive gases, install in a dust-free location.					
Certifications	Please refer to the Certifications page in this catalog.					

* The criterion is shown IEC 61131-2.

Electrical Specifications

Power Supply Specifications	FX1s	FX3s	FX3G/FX3GE		
	AC Powered Models (FX1s-[]M[]-ES(S)/UL)	DC Powered Models (FX1s-[]M[]-DS/-DSS)	AC Powered Models (FX3s-[]M[]/ES/ESS)	AC Powered Models (FX3G(E)-[]M[]/ES/ESS)	DC Powered Models (FX3G-[]M[]/DS/DSS)
Power supply	100–240 V AC (+10 % / -15 %), 50/60 Hz (±10 %)	24 V DC (+10 % / -15 %)	100–240 V AC (+10 % / -15 %), 50/60 Hz (±10 %)	100–240 V AC (+10 % / -15 %), 50/60 Hz	24 V DC (+20% / -15 %)
Inrush current at ON	15 A / 5 ms (at 100 V AC); 25 A / 5 ms (at 200 V AC)	10 A / 0.1 ms (at 24 V DC)	15 A / 5 ms (at 100 V AC); 28 A / 5 ms (at 200 V AC)	30 A / <5 ms (at 100 V AC); 50 A / <5 ms (at 200 V AC)	30 A / <1 ms (at 24 V DC)
Allowable momentary power failure time	10 ms	5 ms	10 ms	10 ms	5 ms
24 V DC service power supply	400 mA	—	400 mA	400 mA	—

Power Supply Specifications	FX3GC	FX3U	FX3UC	
	DC Powered Models (FX3GC-[]M[]/D/DSS)	AC Powered Models (FX3U-[]M[]/ES/ESS)	DC Powered Models (FX3U-[]M[]/DS/DSS)	DC Powered Models (FX3UC-[]M[]/D/DSS)
Power supply	24 V DC (+20% / -15 %)	100–240 V AC (+10% / -15%), 50/60 Hz	24 V DC (+20% / -30%)	24 V DC (+20% / -15%) Ripple Voltage (p-p)5% or less
Inrush current at ON	30 A / <0.5 ms (at 24 V DC)	30 A / <5 ms (at 100 V AC); 65 A / <5 ms (at 200 V AC)	35 A / <0.5 ms (at 24 V DC)	30 A / < 0.5 ms (at 24 V DC)
Allowable momentary power failure time	5 ms	10 ms	5 ms	5 ms
24 V DC service power supply	—	FX3U-16/32MR/ES: 400 mA / FX3U-48/64/80/128MR/ES: 600 mA	—	—

1

FX MAIN UNITS

ENVIRONMENTAL & ELECTRICAL SPECIFICATIONS

1

FX MAIN UNITS

Output Specifications	FX1s		FX3s		FX3G/FX3GE		FX3GC	
	Relay Models	Transistor Models	Relay Models	Transistor Models	Relay Models	Transistor Models	Transistor Models	
Switching voltage (Max.)	V	<250 V AC, <30 V DC	5–30 V DC	<240 V AC, <30 V DC	5–30 V DC	<240 V AC, <30 V DC	5–30 V DC	5–30 V DC
Max. output current	- per output	A 2	0.5	2	0.5	2	0.5	0.3 A (Y0–Y1), and 0.1 A (Y2 or higher)
	- per group*	A 8	0.8	8	0.8	8	0.8	0.8
Max. switching current	- inductive load	80 VA	12 W	80 VA	12 W	80 VA	12 W	38.4 W (7.2 W per point for Y0–Y1 and 2.4 W per point for Y2 or higher)
Response time	ms	10	0.2	10	< 0.2 (< 5 μs for Y0,Y1)	10	< 0.2 (< 5 μs for Y0,Y1)****	< 0.2 (< 5 μs for Y0–Y1)
Life of contacts (switching times)		3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA	—	3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA**	—	3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA**	—	—***

Output Specifications	FX3U			FX3UC		
	Relay Models	Transistor Models	Triac Modules	Relay Models	Transistor Models	
Switching voltage (Max.)	V	<240 V AC, <30 V DC	5–30 V DC	85–242 V AC	<240 V AC, <30 V DC	5–30 V DC
Max. output current	- per output	A 2	0.5	0.3	2	0.3 A (Y0–Y3), and 0.1 A (Y4 or higher)
	- per group*	A 8	0.8	0.8	8	0.8
Max. switching current	- inductive load	80 VA	12 W	15 VA/100 VAC 30 VA/200 VAC	80 VA	38.4 W (7.2 W per point for Y0–Y3 and 2.4 W per point for Y4 or higher)
Response time	ms	10	< 0.2 (< 5 μs for Y0–Y2)	< 10	10	< 0.2 (< 5 μs for Y0–Y2)
Life of contacts (switching times)		3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA**	—	—	3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA**	—***

* This limitation applies to the maximum output current for each reference terminal (Common), each serving 1 to 4 relay or transistor outputs. Please observe the reference terminal assignments for group identification.

** Not guaranteed by Mitsubishi Electric.

*** Refer to the specifications of the Terminal Block being used.

**** The 40 and 60 I/O point main units supports 5 μs for Y2.

FX3U

Main Units with 16 I/O

Specifications	FX3U-16MR/DS	FX3U-16MR/ES	FX3U-16MT/DSS	FX3U-16MT/DS	FX3U-16MT/ESS	FX3U-16MT/ES
Integrated inputs/outputs	16	16	16	16	16	16
Power supply	24 V DC	100–240 V AC	24 V DC	24 V DC	100–240 V AC	100–240 V AC
Integrated inputs	8	8	8	8	8	8
Integrated outputs	8	8	8	8	8	8
Output type	Relay	Relay	Transistor (source)	Transistor (sink)	Transistor (source)	Transistor (sink)
Power consumption	W 25	30	25	25	30	30
Weight	kg 0.60	0.60	0.60	0.60	0.60	0.60
Dimensions (W x H x D)	mm 130 x 90 x 86	130 x 90 x 86	130 x 90 x 86	130 x 90 x 86	130 x 90 x 86	130 x 90 x 86

Main Units with 32 I/O

Specifications	FX3U-32MR/DS	FX3U-32MR/ES	FX3U-32MT/DSS	FX3U-32MT/DS	FX3U-32MT/ESS	FX3U-32MT/ES	FX3U-32MS/ES	FX3U-32MR/UA1
Integrated inputs/outputs	32	32	32	32	32	32	32	32
Power supply	24 V DC	100–240 V AC	24 V DC	24 V DC	100–240 V AC	100–240 V AC	100–240 V AC	100–240 V AC
Integrated inputs	16	16	16	16	16	16	16	16
Integrated outputs	16	16	16	16	16	16	16	16
Output type	Relay	Relay	Transistor (source)	Transistor (sink)	Transistor (source)	Transistor (sink)	Triac	Relay
Power consumption	W 30	35	30	30	35	35	35	35
Weight	kg 0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.85
Dimensions (W x H x D)	mm 150 x 90 x 86	150 x 90 x 86	150 x 90 x 86	150 x 90 x 86	150 x 90 x 86	150 x 90 x 86	150 x 90 x 86	182 x 90 x 86

Main Units with 48 I/O

Specifications	FX3U-48MR/DS	FX3U-48MR/ES	FX3U-48MT/DSS	FX3U-48MT/DS	FX3U-48MT/ESS	FX3U-48MT/ES
Integrated inputs/outputs	48	48	48	48	48	48
Power supply	24 V DC	100–240 V AC	24 V DC	24 V DC	100–240 V AC	100–240 V AC
Integrated inputs	24	24	24	24	24	24
Integrated outputs	24	24	24	24	24	24
Output type	Relay	Relay	Transistor (source)	Transistor (sink)	Transistor (source)	Transistor (sink)
Power consumption	W 35	40	35	35	40	40
Weight	kg 0.85	0.85	0.85	0.85	0.85	0.85
Dimensions (W x H x D)	mm 182 x 90 x 86	182 x 90 x 86	182 x 90 x 86	182 x 90 x 86	182 x 90 x 86	182 x 90 x 86

Main Units with 64 I/O

Specifications	FX3U-64MR/DS	FX3U-64MR/ES	FX3U-64MT/DSS	FX3U-64MT/DS	FX3U-64MT/ESS	FX3U-64MT/ES	FX3U-64MS/ES	FX3U-64MR/UA1
Integrated inputs/outputs	64	64	64	64	64	64	64	64
Power supply	24 V DC	100–240 V AC	24 V DC	24 V DC	100–240 V AC	100–240 V AC	100–240 V AC	100–240 V AC
Integrated inputs	32	32	32	32	32	32	32	32
Integrated outputs	32	32	32	32	32	32	32	32
Output type	Relay	Relay	Transistor (source)	Transistor (sink)	Transistor (source)	Transistor (sink)	Triac	Relay
Power consumption	W 40	45	40	40	45	45	45	45
Weight	kg 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.20
Dimensions (W x H x D)	mm 220 x 90 x 86	220 x 90 x 86	220 x 90 x 86	220 x 90 x 86	220 x 90 x 86	220 x 90 x 86	220 x 90 x 86	285 x 90 x 86

FX MAIN UNITS SPECIFICATION

1

FX MAIN UNITS

Main Units with 80 I/O

Specifications	FX3U-80MR/DS	FX3U-80MR/ES	FX3U-80MT/DSS	FX3U-80MT/DS	FX3U-80MT/ESS	FX3U-80MT/ES
Integrated inputs/outputs	80	80	80	80	80	80
Power supply	24 V DC	100–240 V AC	24 V DC	24 V DC	100–240 V AC	100–240 V AC
Integrated inputs	40	40	40	40	40	40
Integrated outputs	40	40	40	40	40	40
Output type	Relay	Relay	Transistor (source)	Transistor (sink)	Transistor (source)	Transistor (sink)
Power consumption	W 45	50	45	45	50	50
Weight	kg 1.20	1.20	1.20	1.20	1.20	1.20
Dimensions (W x H x D)	mm 285 x 90 x 86	285 x 90 x 86	285 x 90 x 86	285 x 90 x 86	285 x 90 x 86	285 x 90 x 86

Main Units with 128 I/O

Specifications	FX3U-128MR/ES	FX3U-128MT/ESS	FX3U-128MT/ES
Integrated inputs/outputs	128	128	128
Power supply	100–240 V AC	100–240 V AC	100–240 V AC
Integrated inputs	64	64	64
Integrated outputs	64	64	64
Output type	Relay	Transistor (source)	Transistor (sink)
Power consumption	W 65	65	65
Weight	kg 1.80	1.80	1.80
Dimensions (W x H x D)	mm 350 x 90 x 86	350 x 90 x 86	350 x 90 x 86

FX3UC

Main Units with 16 – 96 I/O

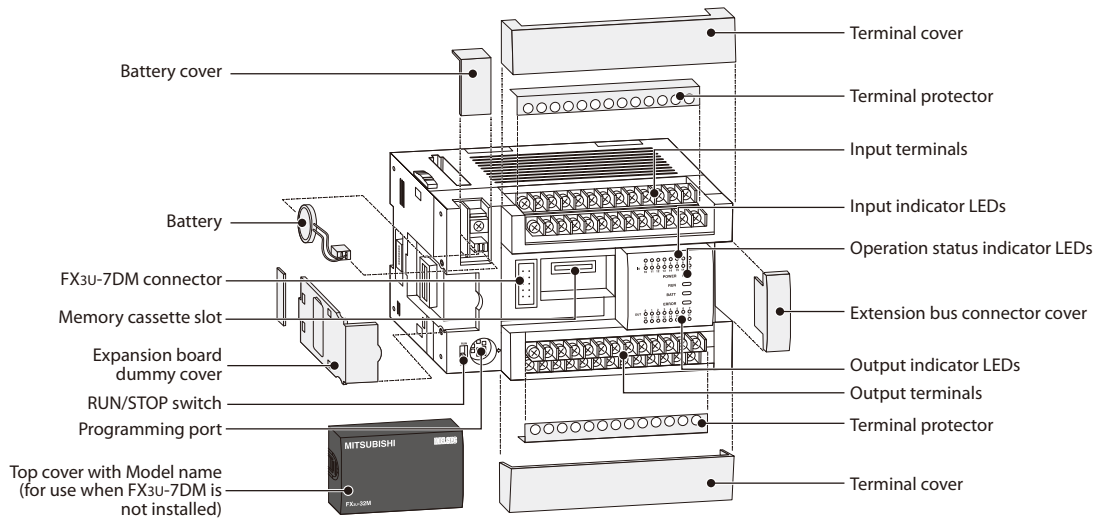
Specifications	FX3UC-16 MR/D-T	FX3UC-16 MR/DS-T	FX3UC-16 MT/D	FX3UC-16 MT/DSS	FX3UC-32 MT/D	FX3UC-32 MT/DSS	FX3UC-64 MT/D	FX3UC-64 MT/DSS	FX3UC-96 MT/D	FX3UC-96 MT/DSS
Integrated inputs/outputs	16	16	16	16	32	32	64	64	96	96
Integrated inputs	8	8	8	8	16	16	32	32	48	48
Input type	Sink	Sink/Source	Sink	Sink/Source	Sink	Sink/Source	Sink	Sink/Source	Sink	Sink/Source
Integrated outputs	8	8	8	8	16	16	32	32	48	48
Output type	Relay	Relay	Transistor (sink)	Transistor (source)	Transistor (sink)	Transistor (source)	Transistor (sink)	Transistor (source)	Transistor (sink)	Transistor (source)
Power consumption	W 6	6	6	6	8	8	11	11	14	14
Weight	kg 0.25	0.25	0.2	0.2	0.2	0.2	0.3	0.3	0.35	0.35
Dimensions (W x H x D)	mm 34 x 90 x 89	34 x 90 x 89	34 x 90 x 74	34 x 90 x 74	34 x 90 x 74	34 x 90 x 74	59.7 x 90 x 74	59.7 x 90 x 74	85.4 x 90 x 74	85.4 x 90 x 74

DESCRIPTION OF UNIT COMPONENTS

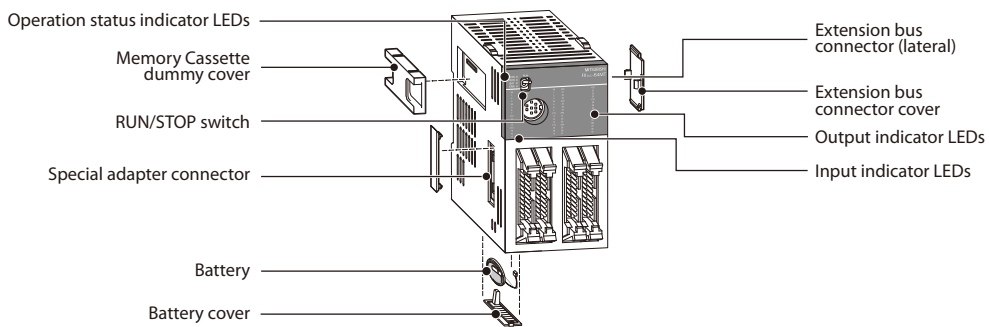
1

FX MAIN UNITS

FX3U



FX3UC



FX3G

