

■ Base Units

FX1S  FX1N  FX2N  FX2NC  FX3U

Environmental Specifications

General specifications	Data
Ambient temperature	0 – 55 °C (storage temperature: -20 – +70 °C)
Protection	IP 10
Noise durability	1000 Vpp with noise generator; 1 μs at 30 – 100 Hz
Dielectric withstand voltage	DC PSU: 500 V AC, 1 min AC PSU: 1,500 V AC, 1 min
Ambient relative humidity	35 – 85 % (non-condensing)
Shock resistance	Acc. to IEC 68-2-27: 15 G (3 times each in 3 directions for 11 ms)
Vibration resistance	Acc. to IEC 68-2-6: 1 G (resistance to vibrations from 57 – 150 Hz for 80 minutes along all 3 axes); 0.5 G for DIN rail mounting
Insulation resistance	500 V DC, 5 MΩ
Ground	Class D: Grounding resistance 100 Ω or less
Fuse	From FX2N-16M□ to FX2N-32M□: 3.15 A; From FX2N-48M□ to FX2N-128M□: 5 A
Environment	Avoid environments containing corrosive gases, install in a dust-free location.
Certifications	Please refer to page 78 in this catalogue

Electrical Specifications

Power Supply Specifications	DC Powered Modules (FX2N-□M□-DS/-DSS)	AC Powered Modules (FX2N-□M□-ES/UL)
Power supply	24 V DC (+20 % / -30 %)	100–240 V AC (+10 % / -15 %), 50/60 Hz
Inrush current at ON	—	40 A / <5 ms (at 100 V AC); 60 A / <5 ms (at 200 V AC)
Allowable momentary power failure time	5 ms	10 ms
Primary power supply	24 V DC	—
External power supply (24 V DC)	—	FX2N-16/32M: 250 mA / FX2N-48/64/80/128M: 460 mA

Output Specifications	Relay Modules	Transistor Modules
Switching voltage (max.)	V <240 V AC, <30 V DC	5 – 30 V DC
Max. output current	- per output A 2 - per group* A 8	0.5 / 0.3 <sup>①</sup> 0.8 / 1.6 <sup>②</sup>
Max. switching current	- inductive load	80 VA 12 W / 7.2 W
Response time	ms 10	<0.2 (Y0, Y1 <30 μs)
Life of contacts (switching times) <sup>③</sup>		3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA

① for Y0 and Y1=0.3 A; all others 0.5 A      ② 0.8 for 4 per group and 1.6 for 8 per group

③ Not guaranteed by Mitsubishi Electric.

\* This limitation applies only per reference terminal for each group, 4 and 8 outputs for relays and 2 and 4 outputs for transistors. Please observe the terminal assignments for the group identification.

Programming Specifications

System specifications	FX2N
<b>Program data</b>	
I/O points (addresses)	256
Address range	Max. 184 inputs X0-X267, Max. 184 outputs Y0-Y267
Program memory	8,000 steps RAM (internal), 4,000 and 8,000 steps EEPROM cassettes (optional), 16,000 steps RAM cassettes (optional), 16,000 steps EPROM cassette (optional) 16,000 steps EEPROM cassettes (optional)
Cycle period	0.08 μs / logical instruction
Number of instructions	27 sequence instructions, 2 step ladder instructions, 132 applied instructions
Programming language	Step ladder, instruction list, SFC
Program execution	Cyclical execution, refresh mode processing
Program protection	Password protection with 3 protection levels*

\* Protection levels may only be changed with FX-20P-E and FX-10P-E.

System specifications	FX2N
<b>Operands</b>	
Internal relays	3,072
Special relays	256
Step ladder	1,000
Timer	256
Ext. preset value via potentiometer	—
Counter	235
High-speed counter	6 single phase inputs (max. 60 kHz), 2 double phase inputs (max. 30 kHz)
Real-time clock	Year, month, day, hour, minute, second, weekday
Data register	8,000
File register	Max. 7,000 (parameter editable), Total registers=8,000
Index register	16
Special register	256
Pointer	128
Nestings	8
Interrupt inputs	6
Constants	16 bits: K: -32768 to +32767, hex: 0–FFFF 32 bits: K: 2147483648 to +2147483647, hex: 0–FFFF FFFF 32 bits floating point: 0, ±1.175 x 10 <sup>-38</sup> to ±3.403 x 10 <sup>-38</sup>

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FX BASE UNITS