

## Environmental Specifications

Model Number	FX1S	FX1N	FX3G	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 VAC, 1 min. / DC PSU: 500 VAC, 1 min.		1500 VAC, 1 min.	AC PSU: 1500 VAC, 1 min. / DC PSU: 500 VAC, 1 min.	500 VAC, 1 min.
Ambient Relative Humidity	35 – 85% (non-condensing)		5 – 95% (non-condensing)		
Shock Resistance	Complies to IEC/EN 68-2-27: 15 G (3 times each in 3 directions for 11 ms)	Complies to IEC 68-2-27: 15 G (3 times each in 3 directions for 11 ms)	Complies to IEC 68-2-27: 147 m/s <sup>2</sup> (3 times each in 3 directions for 11 ms)	Complies to IEC 68-2-27: 15 G (3 times each in 3 directions for 11 ms)	
Vibration Resistance	Complies to IEC/EN 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		Complies to IEC 68-2-6: 9.8m/s <sup>2</sup> (resistance to vibrations from 57 – 150 Hz for 80 minutes along all 3 axes); 4.9m/s <sup>2</sup> for DIN rail mounting		
Insulation Resistance	500 VDC, 5 MΩ				
Ground	Class D: Grounding resistance 100Ω or less				
Fuse	AC models: 250 V 1.0 A; DC models: 250V 0.8 A	AC units: From FX1N-14M□ to FX1N-24M□: 250 V 1.0 A; From FX1N-40M□ to FX1N-60M□: 250 V 3.15 A / DC units: 125 V 3.15 A	For FX3G-14M□ and FX3G-24M□: 250V 1 A; For FX3G-40M□ and FX3G-60M□: 250V 3.15 A	From FX3U-16M□ to FX3U-32M□: 250V 3.15 A; From FX3U-48M□ to FX3U-128M□: 250V 5 A	125V 3.15A
Environment	Avoid environments containing corrosive gases, install in a dust-free location.				

## Electrical Specifications

Power Supply Specifications	FX1S AC Powered Models (FX1S-□M□-ES/UL)	FX1S DC Powered Models (FX1S-□M□-DS/-DSS)	FX1N AC Powered Models (FX3U-□M□/ES/ESS)	FX1N DC Powered Models (FX3U-□M□/DS/DSS)	FX3G	FX3U AC Powered Models (FX3U-□M□ES/ESS)	FX3U DC Powered Models (FX3U-□M□/DS/DSS)	FX3UC
Power Supply	100–240 V AC (+10 % / -15 %), 50/60 Hz (±10 %)	24 VDC (+10 % / -15 %)	100–240 VAC (+10 % / -15 %), 50/60 Hz (±10 %)	12–24 VDC (+20 % / -15 %)	100–240 VAC (+10 % / -15 %), 50/60 Hz	100–240 VAC (+10 % / -15 %), 50/60 Hz	24 VDC (+20% / -30 %)	24 VDC (+20% / -15 %) Ripple Voltage (p-p) 5% or less
Inrush Current at ON	15 A / 5 ms (at 100 VAC); 25 A / 5 ms (at 200 VAC)	10 A / 0.1 ms (at 24 VDC)	30 A / 5 ms (at 100 VAC); 50 A / 5 ms (at 200 VAC)	25 A / 1 ms (at 24 VDC); 22 A / 0.3 ms (at 12 VDC)	30 A / <5 ms (at 100 VAC); 50 A / <5 ms (at 200 VAC)	30 A / <5 ms (at 100 VAC); 65 A / <5 ms (at 200 VAC)	35 A / <0.5 ms (at 24 VDC);	30A / < 0.5ms (at 24 VDC)
Allowable Momentary Power Failure Time	10 ms	5 ms	10 ms	5 ms	10 ms	10 ms	5 ms	5 ms
External Service Power Supply (24 VDC)	400 mA	—	400 mA	—	400 mA	FX3U-16/32MR/ES: 400 mA / FX3U-48/64/80/128MR/ES: 600 mA	—	—

Output Specifications		FX1S Relay Models	FX1S Transistor Models	FX1N Relay Models	FX1N Transistor Models	FX3G Relay Models	FX3G Transistor Models	FX3U Relay Models	FX3U Transistor Models	FX3UC Transistor Models
Switching Voltage (Max.) (V)		<250 VAC, <30 VDC	5 – 30 VDC	<240 VAC, <30 VDC	5 – 30 VDC	<240 VAC, <30 VDC	5 – 30 VDC	<240 VAC, <30 VDC	5 – 30 VDC	5 – 30 VDC
Max. Output Current	Per Output (A)	2	0.5	2	0.5	2	0.5	2	0.5	0.3A (Y0 - Y3), and 0.1A (Y4 or higher)
	Per Group (A) (*1)	8	0.8	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	80 VA	12 W	12W (7.2W per point for Y0 - Y3 and 2.4W per point for Y4 or higher)
Response Time (ms)		10	0.2	10	<0.2 (<5 μs for Y0-Y1)	10	< 0.2 (< 5μs for Y0, Y1) (*4)	10	< 0.2 (< 5μs for Y0, Y2)	< 0.2 (< 5μs 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	—	3,000,000 at 20VA; 1,000,000 at 35VA; 200,000 at 80VA (*2)	—	3,000,000 at 20VA; 1,000,000 at 35VA; 200,000 at 80VA (*2)	—	— (*3)

### Notes:

- 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 pints main units supports 0.5 micro seconds for Y2.