

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 ² (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 ² (resistance to vibrations from 57 – 150 Hz for 80 minutes along all 3 axes); 4.9m/s ² 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) | 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 | 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.