

■ 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 |
| 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) ^③ | 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 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 |
|------------------------|---|
| Program data | |
| 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 |
|-------------------------------------|--|
| Operands | |
| 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 ⁻³⁸ to ±3.403 x 10 ⁻³⁸ |

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