

MicroSmart FC6A PLC PID Module Specifications



KEY FEATURES

- Configure up to 15 modules
- Maximum 30 PID loops
- 2 analog inputs and 2 relay or 4-20mA Non-contact voltage output for SSR drive

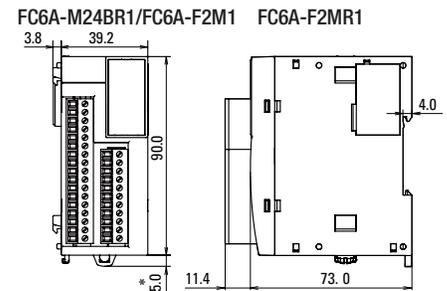
SPECIFICATIONS

Input Range

| Part Number | FC6A-F2MR1 FC6A-F2M1 | | |
|--------------|---|---------------------|--------------------|
| Input | Input Range (Digital Resolution) | | Input Value of LSB |
| K | -200 to 1,370°C | -328 to 2,498°F | 1°C (°F) |
| | -200.0 to 400.0°C | -328.0 to 752.0°F | 0.1°C (°F) |
| J | -200 to 1,000°C | -328 to 1,832°F | 1°C (°F) |
| R | 0 to 1,760°C | 32 to 3,200°F | 1°C (°F) |
| S | 0 to 1,760°C | 32 to 3,200°F | 1°C (°F) |
| B | 0 to 1,820°C | 32 to 3,308°F | 1°C (°F) |
| E | -200 to 800°C | -328 to 1,472°F | 1°C (°F) |
| T | -200.0 to 400.0°C | -328.0 to 752.0°F | 0.1°C (°F) |
| N | -200 to 1,300°C | -328 to 2,372°F | 1°C (°F) |
| PL-II | 0 to 1,390°C | 32 to 2,534°F | 1°C (°F) |
| C (W/Re5-26) | 0 to 2,315°C | 32 to 4,199°F | 1°C (°F) |
| Pt100 | -200 to 850°C | -328 to 1,562°F | 1°C (°F) |
| | -200.0 to 850.0°C | -328.0 to 1,562.0°F | 0.1°C (°F) |
| JPt100 | -200 to 500°C | -328 to 932°F | 1°C (°F) |
| | -200.0 to 500.0°C | -328.0 to 932.0°F | 0.1°C (°F) |
| DC 4 to 20mA | -2,000 to 10,000 (12,000 increments) ¹ | | 1.333μA |
| DC 0 to 20mA | -2,000 to 10,000 (12,000 increments) ¹ | | 1.666μA |
| DC 0 to 1V | -2,000 to 10,000 (12,000 increments) ¹ | | 0.083mA |
| DC 0 to 5V | -2,000 to 10,000 (12,000 increments) ¹ | | 0.416mA |
| DC 1 to 5V | -2,000 to 10,000 (12,000 increments) ¹ | | 0.333mA |
| DC 0 to 10V | -2,000 to 10,000 (12,000 increments) ¹ | | 0.833mA |

Note 1: Linear-conversion is possible.

DIMENSIONS



* 9.3 mm when the clamp is pulled out.

RATINGS

| Part Number | | FC6A-F2MR1 | FC6A-F2M1 |
|---|--------------------------------------|---|---|
| Control Mode | Independent PID Control | Possible | |
| | Heating/Cooling Control | Possible (overwrapping deadband settings available) ¹ | |
| | Difference Input Temperature Control | Possible ¹ | |
| | Cascade Control | Possible ¹ | |
| Input Points | | 2ch | |
| Input Type Input Range | Thermocouple | K, J, R, S, B, E, T, N, PL-II, C (W/Re5-26) External resistance: 100Ω maximum | |
| | Resistance Thermometer | Pt100, JPt100, 3-wire type | |
| | Current Input | 0 to 20 mA DC, 4 to 20 mA DC Input impedance: 50Ω | |
| | Voltage Input | 0 to 1V DC Input impedance: 1MΩ minimum 0 to 5V DC, 1 to 5V DC, 0 to 10V DC Input impedance: 100kΩ minimum | |
| AD Conversion | Sampling Duration Time | 100 ms | |
| | Sampling Repetition Time | 100 ms | |
| | Total Input System Transfer Time | Sampling time + sampling interval + 1 scan time | |
| | Type of Input | Differential input | |
| | Conversion Method | Σ Δ type ADC | |
| Maximum Error at 25°C | Thermocouple Input | ±0.2% of full scale or ±2°C (4°F), whichever is greater However, R, S inputs: 0 to 200°C (0 to 400°F): ±6°C (12°F) B input: 0 to 300°C (0 to 600°F) Accuracy is not guaranteed. K, J, E, T, N inputs: Less than 0°C (32°F): ±0.4% of full scale | |
| | Resistance Thermometer Input | ±0.1% of full scale or ±1°C (2°F), whichever is greater | |
| | Voltage/Current Inputs | ±0.2% of full scale | |
| Cold Junction Temperature Compensation Accuracy | | ±1°C at 0 to 55°C | |
| Temperature Coefficient | | ±0.005%/°C of full scale | |
| Noise Resistance | Input Filter | Yes | |
| | Recommended Cable for Noise Immunity | Twisted pair shielded cable (current/voltage) / Twisted pair cable (temperature input) | |
| | Cross Talk | None | |
| Isolation | Between input and power circuit | Transformer-isolated | |
| | Between input and internal circuit | Photocoupler-isolated | |
| Output Points | | 2ch | |
| Output | | Relay output 1NO Rated load 5A 250V AC/30V DC (resistive load) 3A 250V AC (inductive load cos φ=0.4) 3A 30V DC (resistive load VR=7ms) Minimum open/closed load: 10 mA 5V DC (reference value) Electrical life: 100,000 cycles (at the maximum rating of resistive load) | Non-contact voltage output (for SSR drive) 12V DC±15% Maximum 40 mA (short circuit protected) |
| | | | Analog current output 4 to 20 mA DC Load resistance: 550Ω maximum Analog output digital resolution: 1,000 LSB input value: 0.016 mA |
| Noise Resistance | Recommended Cable for Noise Immunity | — | Twisted pair shielded cable |
| | Cross Talk | — | None |
| Isolation | | Between input and power circuit: Transformer-isolated Between input/output and internal circuits: Photocoupler-isolated Between input circuits: Photocoupler-isolated | |
| Power Voltage | | 24V DC (External power), 5V DC (Internal power) | |
| Allowable Voltage Range | | 20.4 to 28.8V DC | |
| Maximum Power Consumption | | 3.6W | |
| Internal Power Consumption | | 65mA (5V DC) | |
| Weight (approx.) | | 140g | |

Note 1: Dual channel input is required for one loop control.

