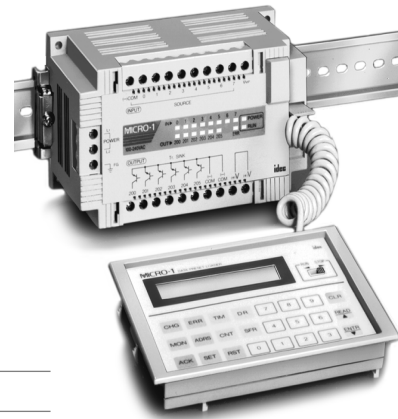


Micro-1: The Original Micro-PLC

Key features of the Micro-1 PLC include:

- Intelligent control economically replaces hard-wired systems
- 8 inputs, 6 outputs
- DC inputs, relay or transistor outputs
- Expansion unit doubles I/O (16 inputs, 12 outputs)
- Micro-expansion I/O for incremental I/O increases
- 80 timers, 47 counters, 160 internal relays
- CPU base unit supplies power for input signals
- Program capacity 600 steps
- Computer link, networking



General Specifications	Programming	Boolean or ladder logic
	Available Instructions	15 basic instructions, 2 FUN instructions
	Program Capacity	600 steps
	Memory	EEPROM memory built-in to base unit
	Scan Time	Average: 8µs per basic instruction
	Input	Base unit: 8 points, Expansion: 8, 4, or 2 points
	Output	Base unit: 6 points, Expansion: 6, 3, or 2 points
	Total I/O Points	28 points (maximum)
	Internal Relay	160 points (all points can be maintained)
	Special Internal Relay	96 points
	Shift Register	128 points
	Catch Input	1 point, 0.5ms pulse
	Single Shot Output	96 points
	Timer	80 points, subtracting (0 to 999.9s)
	Counter	45 points, adding (0 to 9999) (all points can be maintained)
	Reversible Counter	2 points (all points can be maintained)
	Computer Link	Via RS232 interface unit
	External Control Input	Start/stop using switch on program loader
	Power Failure Protection	Capacitor back-up: 3 days; internal relay, shift register, counter, reversible counter
Self-Diagnostics	CPU error (WDT), CRC error, check sum error, communication error	
Auto Start Function	Operation starts after power-up	
FA Series Compatibility	Program loaders are interchangeable using special cables	



UL Listed
File No. E102542



CSA Certified
File No. LR66809



CE Certified



EMC Approved
File No. E95113332321



The CPU base unit supplies power to the micro-expansion units and program loader. Micro-expansion units are not compatible with 12V DC CPU.

Electrical Specifications	Rated Supply Voltage	AC CPU base unit and (8 in/6 out) expansion: 100 to 240V AC, 50/60Hz (47.5–63Hz) 24V DC base unit and all expansion units: 12V DC CPU base unit and (8 in/6 out) expansion
	Voltage Range	AC: 85 to 110% of rated voltage 24V DC: 80 to 120%; 12V DC: 70 to 120%
	Dielectric Strength	Between power or I/O terminal and ground: 1,500V AC, 1 minute
	Insulation Resistance	Between power or I/O terminal and ground: 10MΩ (500V DC megger)
	Temperature	Operating: 0 to +55°C; Storage: –20 to +70°C
	Operating Humidity	45 to 85% RH (avoid condensation)
	Vibration Resistance	5 to 55Hz, 6G for 2 hours in each of 3 axes
	Shock Resistance	30G, 3 shocks in each of 3 axes
	Noise Resistance	Between power or I/O terminal and ground: AC: ±1.3kV, 1µs; 24V DC: ±1.0kV, 1µs; 12V DC: ±500V, 1µs
	Ground Resistance	100Ω (maximum)
Mounting Style	35mm DIN rail and panel mount	

Part Numbers: Micro-1

CPU Base Unit			
AC	Relay Output	Source Input	FC1A-C1A1E Power: 100–240V AC; NPN transistor inputs, relay outputs
		Sink Input	FC1A-C2A1E Power: 100–240V AC; PNP transistor inputs, relay outputs
	Transistor Output	Source Input/Sink Output	FC1A-C1B1E Power: 100–240V AC; NPN transistor inputs, NPN transistor outputs
		Sink Input/Source Output	FC1A-C2C1E Power: 100–240V AC; PNP transistor inputs, PNP transistor outputs
DC	Relay Output	Source Input	FC1A-C1A4E Power: 24V DC; NPN transistor inputs, relay outputs
			FC1A-C1A2E Power: 12V DC; NPN transistor inputs, relay outputs
		Sink Input	FC1A-C2A4E Power: 24V DC; PNP transistor inputs, relay outputs
			FC1A-C2A2E Power: 12V DC; PNP transistor inputs, relay outputs
	Transistor Output	Source Input/Sink Output	FC1A-C1B4E Power: 24V DC; NPN transistor inputs, NPN transistor outputs
			FC1A-C1B2E Power: 12V DC; NPN transistor inputs, NPN transistor outputs
		Sink Input/Source Output	FC1A-C2C4E Power: 24V DC; PNP transistor inputs, PNP transistor outputs
			FC1A-C2C2E Power: 12V DC; PNP transistor inputs, PNP transistor outputs
Expansion I/O			
Relay Output	Source Input	FC1A-E1A1E	Power: 100–240V AC, NPN transistor inputs, relay outputs
	Sink Input	FC1A-E2A1E	Power: 100–240V AC, PNP transistor inputs, relay outputs
Transistor Output	Source Input/Sink Output	FC1A-E1B1E	Power: 100–240V AC; NPN transistor inputs, NPN transistor outputs
	Sink Input/Source Output	FC1A-E2C1E	Power: 100–240V AC; PNP transistor inputs, PNP transistor outputs
Relay Output	Source Input	FC1A-E1A4E	Power: 24V DC, NPN transistor inputs, relay outputs
		FC1A-E1A2E	Power: 12V DC, NPN transistor inputs, relay outputs
	Sink Input	FC1A-E2A4E	Power: 24V DC, PNP transistor inputs, relay outputs
		FC1A-E2A2E	Power: 12V DC, PNP transistor inputs, relay outputs
Transistor Output	Source Input/Sink Output	FC1A-E1B4E	Power: 24V DC, NPN transistor inputs, NPN transistor outputs
		FC1A-E1B2E	Power: 12V DC, NPN transistor inputs, NPN transistor outputs
	Sink Input/Source Output	FC1A-E2C4E	Power: 24V DC, PNP transistor inputs, PNP transistor outputs
		FC1A-E2C2E	Power: 12V DC, PNP transistor inputs, PNP transistor outputs
Accessories			
Program Loader		FC1A-HL1E	24 keys, 16-character LCD
Data Preset Loader	Standard	FC1A-PL1E	Change timer/counter presets, monitor I/O, internal relay, timer, counter
	Multi-Function	FC1A-PL2E	Change preset values, monitor, direct set/reset, read program, and more
Loader Extension Cable		FC1A-KL1A FC1A-KL2A FC1A-KL3A FC1A-KL4A	5' (1.5m), connects program loader to base unit 2.75' (70mm) curl cord (attached to loader) 5' (1.5m), connects FA series program loader to Micro-1 base unit 5' (1.5m), connects Micro-1 program loader to FA series CPU
I/O Expansion Cable		FC1A-KE1 PFA-1A*	1.57" (40mm) (attached to expansion unit) *21: 19.7" (0.5m), 22: 29.53" (0.75m), 23: 39.37" (1m) Connect expansion unit to base unit
Micro Expansion Unit		FC1A-M1XE FC1A-M2XE FC1A-MXAE FC1A-M1BE FC1A-M2CE	4-point source input 4-point sink input 3-point relay output 2-point source input, 2-point sink output 2-point sink input, 2-point source output
Micro Expansion Cable		FC1A-KM*	*1: 19.7" (0.5m), 2: 39.37" (1m)
Serial I/O Module		FC1A-SM1E	8 inputs and 8 outputs with serial cable (order FC1A-KS*A separately)
Serial Cable		FC1A-KS*A	*1: 39.37" (1m), 2: 78.74" (2m), 3: 118.11" (3m) Connect serial I/O module to CPU base unit (with shield terminal—one end)
Serial I/O Transition			20-pin interface to discrete terminal blocks (simplify installation of serial I/O)
Analog Timer Unit External Power Supply Digital Display Mother Board		FC1A-TA1 PSR-AD07*E FC1A-PD1	Contains 4 analog timers (8 time ranges from 1 second to 10 minutes) *12: 12V DC, 0.63A output, 24: 24V DC, 0.32A output To mount a serial I/O module and digital displays such as IDEC's DD33 series
Link Adaptor Cable FC Link Cable Computer Link Cable		PF2-CLA FC1A-KC1A PFA-1A54A	Interface PC to Micro-1 CPU base unit for 1:1 communication 5.91" (150mm) curl cord: CPU base unit to PFJ-U11, PFJ-U21, or PF2-CLA 78.74" (2m), connects PC to PFJ-U12, PFJ-U22, or PF2-CLA
Software		WINDLDR	Windows-based programming software
Micro-1 Starter Kit		MM-MICRO-1	Micro-1 PLC, WindLDR™ software, computer link cable