MICRO1

Programmable Logic Controller

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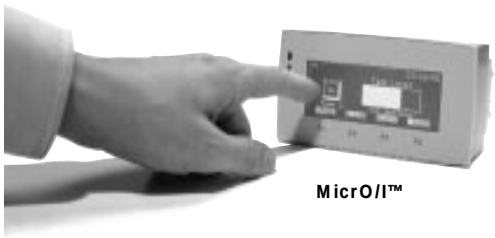
Micro^{3}C

Micro^3

WindLDR™



MicrO/I™

FA3S

Micro-1 with Program Loader

FA2J

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

UL Listed
File No. E102542

CSA Certied
File No. LR66809

CE Certied

EMC Approved
File No. E951113332321

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

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 FC1A-E1A2E	Power: 24V DC, NPN transistor inputs, relay outputs Power: 12V DC, NPN transistor inputs, relay outputs
	Sink Input	FC1A-E2A4E FC1A-E2A2E	Power: 24V DC, PNP transistor inputs, relay outputs Power: 12V DC, PNP transistor inputs, relay outputs
Transistor Output	Source Input/Sink Output	FC1A-E1B4E FC1A-E1B2E	Power: 24V DC, NPN transistor inputs, NPN transistor outputs Power: 12V DC, NPN transistor inputs, NPN transistor outputs
	Sink Input/Source Output	FC1A-E2C4E FC1A-E2C2E	Power: 24V DC, PNP transistor inputs, PNP transistor outputs 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		FC1A-PD10	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 Software		FC1A-CLA FC1A-KC1A PFA-1A54A CLIP	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 Ladder diagram software for programming and monitoring	
Micro-1 Starter Kit		MM-MICRO-1	Micro-1 PLC, WindLDR™ software, computer link cable	

CPU and Expansion I/O with Relay Output

Key features of the Micro-1 CPU and expansion I/O include:

- Choice of 12 CPU base units
- Choice of 12 expansion I/O units
- 8 inputs, 6 outputs (relay or transistor)
- Built-in EEPROM memory
- CPU base unit provides power for expansion I/O

Specifications: 8 Input Points				
	Rated Input Voltage (allowable range)	12V DC (8.4 to 14.4V DC)	24V DC (19.2 to 28.8V DC)	24V DC (19.2 to 28.8V DC)
	Rated Input Current	8mA	5mA	5mA
	Input Impedance	1.2kΩ	4.3kΩ	4.3kΩ
	On/Off Current	On: 3mA (minimum) Off: 1.5mA (maximum)	On: 4mA (minimum) Off: 1mA (maximum)	On: 4mA (minimum) Off: 1mA (maximum)
	On/Off Time	On: 7ms Off: 11ms (maximum)	On: 7ms Off: 11ms (maximum)	On: 7ms Off: 11ms (maximum)
	Input Signal	For NPN input, use source input Micro-1 For PNP input, use sink input Micro-1 For no-voltage dry contact input, use source or sink input Micro-1		

Specifications: 6 Output Points		
	Configuration	Independent 1NO contact: 3 points Common 1NO contact: 3 points
	Switching Capacity	220V AC, 2A or 30V DC, 2A per point Total across 3-point common not to exceed 220V AC, 2A or 30V DC, 2A resistive or inductive (AC: cos φ = 0.4, DC: L/R = 7ms)
	Minimum Applicable Load	5V DC, 1mA (reference value)
	Contact Resistance	30mΩ (maximum, initial value)
	Life Ratings	Mechanical: 20,000,000 operations (no load) at 1,800 operations/hour Electrical: 100,000 operations (rated load) at 1,800 operations/hour

When using expansion I/O, it is not possible to use micro-expansion I/O, analog timer, or serial I/O.

Part Numbers: 12V DC

Power Voltage	Input and Output	
Input Output	Source Relay	Sink Relay
CPU Base Unit Expansion I/O	FC1A-C1A2E FC1A-E1A2E	FC1A-C2A2E FC1A-E2A2E

Part Numbers: 24V DC

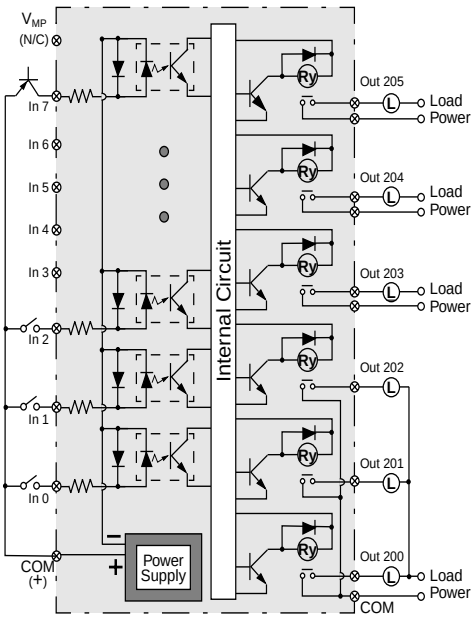
Power Voltage	Input and Output	
Input Output	Source Relay	Sink Relay
CPU Base Unit Expansion I/O	FC1A-C1A4E FC1A-E1A4E	FC1A-C2A4E FC1A-E2A4E

Part Numbers: 100 to 240V DC

Power Voltage	Input and Output	
Input Output	Source Relay	Sink Relay
CPU Base Unit Expansion I/O	FC1A-C1A1E FC1A-E1A1E	FC1A-C2A1E FC1A-E2A1E

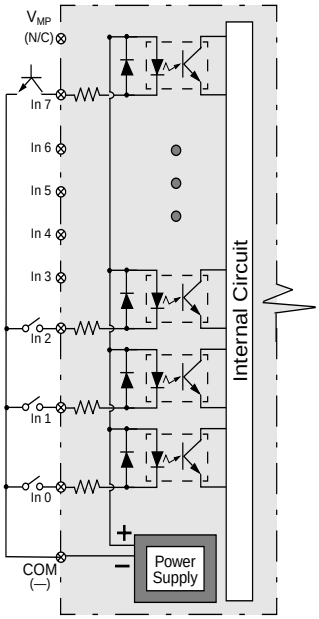
Circuit Diagrams

Sink Input Relay Output



1. *The I/O allocation shown above is for the base unit only. Expansion unit allocation is from input 10 to input 17 and from output 210 to output 215.*

Source Input



2. *Input impedance is 1.2kΩ for 12V DC base and expansion units. Input impedance is 4.3kΩ for AC and 24V DC base and expansion units.*

CPU and Expansion I/O with Transistor Output

Specifications: 8 Input Points				
	Rated Input Voltage (allowable range)	12V DC (8.4 to 14.4V DC)	24V DC (19.2 to 28.8V DC)	24V DC (19.2 to 28.8V DC)
	Rated Input Current	8mA	5mA	5mA
	Input Impedance	1.2kΩ	4.3kΩ	4.3kΩ
	On/Off Current	On: 3mA (minimum) Off: 1.5mA (maximum)	On: 4mA (minimum) Off: 1mA (maximum)	On: 4mA (minimum) Off: 1mA (maximum)
	On/Off Time	On: 7ms Off: 11ms (maximum)	On: 7ms Off: 11ms (maximum)	On: 7ms Off: 11ms (maximum)
	Input Signal	For NPN input, use source input Micro-1; For PNP input, use sink input Micro-1; For no-voltage dry contact input, use either source or sink input Micro-1		

Specifications: 6 Output Points		
	Configuration	Sink: NPN transistor, 6/common Source: PNP transistor, 6/common
	Rated Load	0.4A per circuit (maximum), 12 to 24V DC ±10%
	Inrush Current	12V DC power: 40A (maximum) 24V DC or AC power: 5A (maximum)
	Leakage Current	100µA (maximum)
	On Voltage	Sink: +1.5V (maximum) Source: load voltage – 1.5V (minimum)
	On/Off Time	On: 1ms (maximum) Off: 1ms (maximum)
	External Current Draw	40mA, 12 to 24V DC

When using expansion I/O, it is not possible to use micro-expansion I/O, analog timer, or serial I/O.

Part Numbers: 12V DC

Power Voltage	Input and Output	
Input Output	Source Sink	Sink Source
CPU Base Unit Expansion I/O	FC1A-C1B2E FC1A-E1B2E	FC1A-C2C2E FC1A-E2C2E

Part Numbers: 24V DC

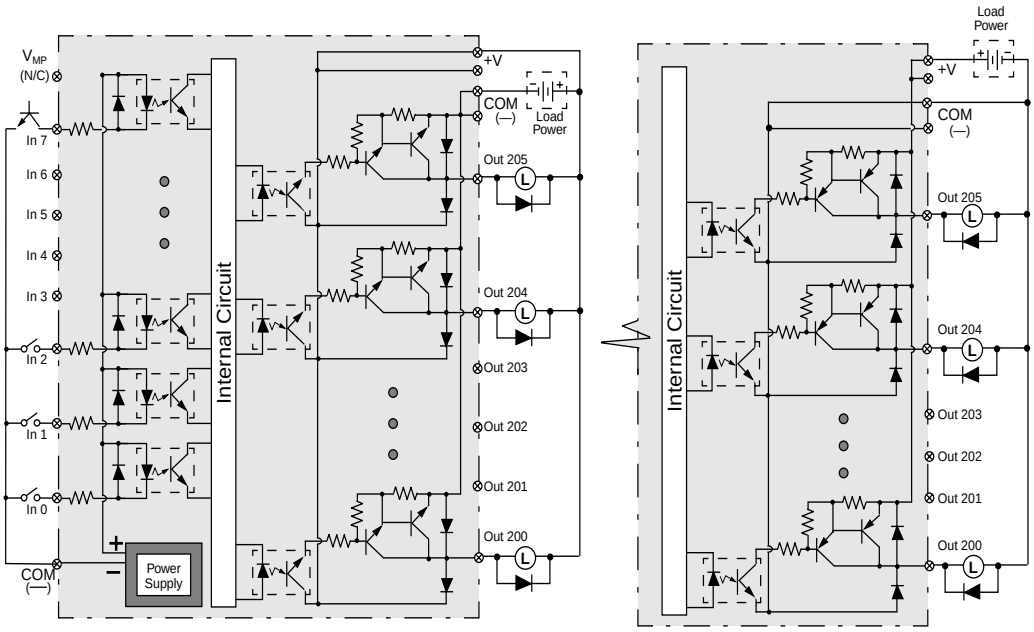
Power Voltage	Input and Output	
Input Output	Source Sink	Sink Source
CPU Base Unit Expansion I/O	FC1A-C1B4E FC1A-E1B4E	FC1A-C2C4E FC1A-E2C4E

Part Numbers: 100 to 240V DC

Power Voltage	Input and Output	
Input Output	Source Sink	Sink Source
CPU Base Unit Expansion I/O	FC1A-C1B1E FC1A-E1B1E	FC1A-C2C1E FC1A-E2C1E

Circuit Diagrams

Source Input **Sink Output** **Source Output**



Complementary Products: Micro-Expansion I/O

Key features of the Micro-expansion I/O include:

- Incremental I/O expansion
- 2 inputs with 2 outputs
- 4 inputs (source or sink)
- 3 relay outputs
- CPU base unit provides power for micro-expansion unit
- Use with AC or 24V DC CPU

Specifications: 2 Inputs	
Rated Input Voltage (allowable range)	24V DC (19.2 to 28.8V DC)
Rated Input Current	5mA
Input Impedance	4.3kΩ
On Current	On: 4mA (minimum), Off: 1mA (maximum)
On/Off Time	On: 7ms, Off: 11ms (maximum)
Input Signal	Source: NPN open collector transistor Sink: PNP open collector transistor Either: No-voltage mechanical contact

Specifications: 2 Outputs	
Configuration	Sink: NPN transistor (2/common) Source: PNP transistor (2/common)
Rated Load	0.4A per circuit (maximum), 12 to 24V DC ±10%
Inrush Current	5A
Leakage Current	100μA (maximum)
On Voltage	Sink: +1.5V (maximum) Source: load voltage – 1.5V (minimum)
On/Off Time	On: 1ms (maximum), Off: 1ms (maximum)
External Current Draw	40mA, 12 to 24V DC

Specifications: 4 Inputs	
Rated Input Voltage (allowable range)	24V DC (19.2 to 28.8V DC)
Rated Input Current	5mA
Input Impedance	4.3kΩ
On Current	On: 4mA (minimum), Off: 1mA (maximum)
On/Off Time	On: 7ms, Off: 11ms (maximum)
Input Signal	Source: NPN open collector transistor Sink: PNP open collector transistor Either: No-voltage mechanical contact

Specifications: 3 Outputs	
Configuration	Independent 1NO contact: 1 point Common 1NO contact: 2 points
Switching Capacity	220V AC, 2A or 30V DC, 2A/point (total across common ≤ rating) resistive or inductive (AC: cos ϕ = 0.4, DC: L/R = 7ms)
Minimum Applicable Load	5V DC, 1mA (reference value)
Contact Resistance	30mΩ (maximum initial value)
Life Ratings	Mechanical: 20,000,000 operations (no load) at 1,800 operations per hour Electrical: 100,000 operations (rated load) at 1,800 operations per hour

Micro-expansion units cannot be used with a 12V DC CPU base unit.
Only one expansion I/O or one micro-expansion I/O unit can be used per CPU base unit.

Complementary Products: Micro-Expansion I/O

Key features of the Micro-expansion I/O include:

- Incremental I/O expansion
- 2 inputs with 2 outputs
- 4 inputs (source or sink)
- 3 relay outputs
- CPU base unit provides power for micro-expansion unit
- Use with AC or 24V DC CPU

Specifications: 2 Inputs	
Rated Input Voltage (allowable range)	24V DC (19.2 to 28.8V DC)
Rated Input Current	5mA
Input Impedance	4.3kΩ
On Current	On: 4mA (minimum), Off: 1mA (maximum)
On/Off Time	On: 7ms, Off: 11ms (maximum)
Input Signal	Source: NPN open collector transistor Sink: PNP open collector transistor Either: No-voltage mechanical contact

Specifications: 2 Outputs	
Configuration	Sink: NPN transistor (2/common) Source: PNP transistor (2/common)
Rated Load	0.4A per circuit (maximum), 12 to 24V DC ±10%
Inrush Current	5A
Leakage Current	100μA (maximum)
On Voltage	Sink: +1.5V (maximum) Source: load voltage – 1.5V (minimum)
On/Off Time	On: 1ms (maximum), Off: 1ms (maximum)
External Current Draw	40mA, 12 to 24V DC

Specifications: 4 Inputs	
Rated Input Voltage (allowable range)	24V DC (19.2 to 28.8V DC)
Rated Input Current	5mA
Input Impedance	4.3kΩ
On Current	On: 4mA (minimum), Off: 1mA (maximum)
On/Off Time	On: 7ms, Off: 11ms (maximum)
Input Signal	Source: NPN open collector transistor Sink: PNP open collector transistor Either: No-voltage mechanical contact

Specifications: 3 Outputs	
Configuration	Independent 1NO contact: 1 point Common 1NO contact: 2 points
Switching Capacity	220V AC, 2A or 30V DC, 2A/point (total across common ≤ rating) resistive or inductive (AC: cos ϕ = 0.4, DC: L/R = 7ms)
Minimum Applicable Load	5V DC, 1mA (reference value)
Contact Resistance	30mΩ (maximum initial value)
Life Ratings	Mechanical: 20,000,000 operations (no load) at 1,800 operations per hour Electrical: 100,000 operations (rated load) at 1,800 operations per hour

Micro-expansion units cannot be used with a 12V DC CPU base unit.
Only one expansion I/O or one micro-expansion I/O unit can be used per CPU base unit.

Complementary Products

Analog Timer

Key features of the analog timer include:

- On-delay timers allow easy, intuitive dial settings
- Set 4 independent time ranges
- Select from 8 time ranges: 1 second to 10 minutes
- CPU base unit provides power
- Use with AC or 24V DC CPU

Specifications		
	Power Voltage	24V DC (supplied by base unit)
	Timers	4 independent time ranges
	8 Time Ranges	1, 3, 6, 10, 30 seconds, 1, 5, 10 minutes
	Setting Error	± 10%
	Repeat Error	± 0.2%
	Temperature Error	± 2%
	Operation Mode	On-delay
	Dimensions (WxHxD)	1.77" x 3.15" x 2.76" (45 x 80 x 74mm)

1. *When using an analog timer unit, it is not possible to use expansion I/O, micro-expansion I/O, or serial I/O. Not compatible with 12V DC CPU.*

Serial I/O

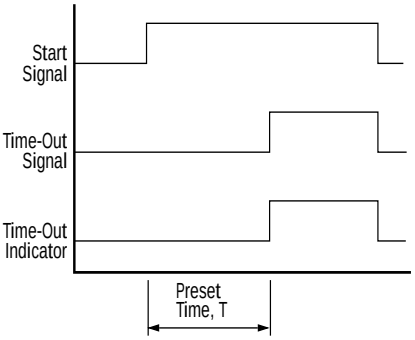
Specifications		
	Switch Input	8 points (maximum)
	Rated Input	4.5mA, 10V DC
	Indicator Output	8 points (maximum)
	Rated Output	15mA, 24V DC (LEDs only)
	Output Load P/S	5 to 24V DC (supplied to base unit — capacity depends on load)
	Switch/LED Connection	Connector attached to PCB
	Base Unit Connection	Serial I/O cable (10-core shielded)
	PCB Mounting	Two M3 self-tapping screws
	Applicable IDEC Digital Display Motherboards	DD33: FC1A-PD1 DD48: FC1A-PD2
	Applicable Terminal Block	FC1A-PD10 transition module

2. *When using a serial I/O module, it is not possible to use expansion I/O, micro-expansion I/O, or analog timer. Not compatible with 12V DC CPU.*

Part Numbers

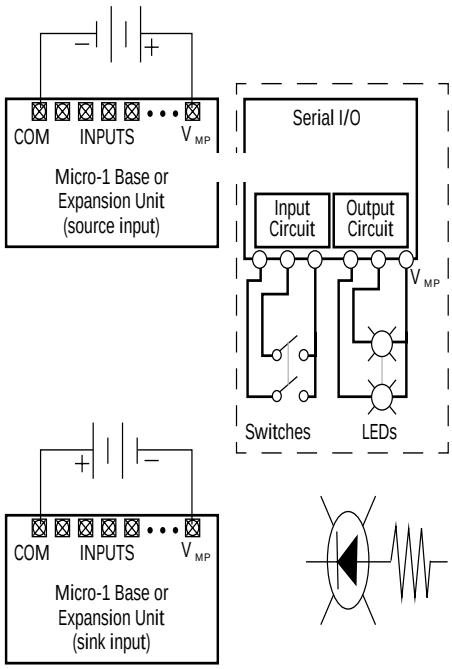
Item	Part No.
Analog Timer	FC1A-TA1
Serial I/O	FC1A-SM1E

Timing Diagram: Analog Timer



Circuit Diagram: Serial I/O

Power supply: 5 to 24V DC, as required for serial I/O output load (in addition to normal line power)



When using LEDs without a built-in resistor, connect current-limiting resistors externally.

Complementary Products

Key features of Micro-1 complementary products include:

- FA series compatible
- Micro-1 compatible
- Program directly, using boolean, without a computer
- Panel mount data preset loaders for changing timer and counter values
- Change data register values (FA series) with multi-function data preset loader

Program Loader

Specifications	**Power Voltage**	12V DC (supplied by base unit)
	Display	LCD, 16 characters in one line
	Keys	18- and 24-key membrane switch
	Control Key	Run/stop switch
	Connection	Extension cable, 2.76" (70mm)
	Mounting	Mounted on base unit
	Power Failure Protection	CMOS-RAM with capacitor backup approximately 3 minutes at 20°C
	FA Series Compatibility	Use FC1A-KL4 extension cable and basic instruction set
	Dimensions (WxHxD)	4.8" x 3.25" x 0.89" (122 x 82.5 x 22.5mm)

1. *FA series program loaders can also be used with the Micro-1.*

Data Preset Loaders

		Standard	**Multi-Function**
Specifications	**Change Values**	Timer/counter preset values	Timer/counter preset values, data register values (FA series only)
	Acknowledge	Write new preset values	
	Monitor	I/O, internal relays, timers, counters	I/O, internal relays, timers, counters, shift register bits, data register values (FA series only)
	Direct Set/Reset	—	I/O, internal relays, shift register bits
	Read Program	—	Read user program
	Error	—	Read and clear error code
	Run/Stop	Start and stop Micro-1 operation	

2. *FA2 loader (PF2-2H4RE) and FA3 loader (PF3S-HL161E) are compatible with all FA series PLCs and the Micro-1.*

Part Numbers: Loaders

Item	Part No.
Program Loader	FC1A-HL1E
Data Preset Loaders	FC1A-PL1E (standard)
	FC1A-PL2E (multi-function)

Standard Data Preset Loader

Multi-Function Data Preset Loader

Complementary Products: Power Supply

Key features of the power supply include:

- Ideal for using 3-wire sensors with the Micro-1
- Compact, lightweight, and energy efcient
- Output: 12V DC, 0.63A or 24V DC, 0.32A
- Input: 85 to 264V AC, 110 to 340V DC
- Overcurrent protection
- LED indicator
- Built-in DIN rail mount

CSA Certied
File No. LR66809

UL Listed
File No. E102542

General Specifications	**Overcurrent Protection**	105% (minimum)
	Dielectric Strength	Between I/O term and FG terminals: 2,000V AC, 1 minute Between output and FG terminals: 500V AC, 1 minute
	Insulation Resistance	Between input terminal and output terminal or housing: 100MΩ minimum (500V DC megger)
	Temperature	Operating: 0 to 55°C; Storage: –30 to +85°C
	Operating Humidity	20 to 90% 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

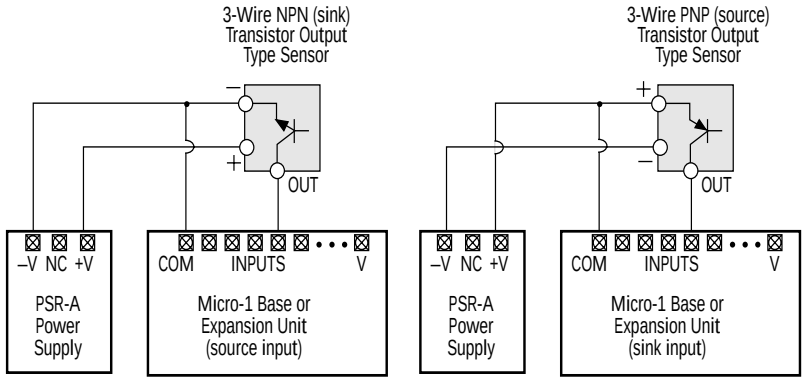
Input Specifications	**Input Voltage (single phase, 2-wire)**	100V to 240V AC nominal: 85 to 264V AC, 110 to 340V DC compatible
	Frequency	47 to 440Hz
	Input Current	0.18A at 100V, at rated input and output; 0.14A at 200V, at rated input and output
	Inrush Current	20A at 100V, at rated input and output; 40A at 200V, at rated input and output
	Leakage Current	0.5mA (maximum)
	Efficiency	12V DC: 68% at 100V and rated output; 24V DC: 70% at 100V and rated output

Output Specifications	**Rated Output**	12V unit: 12V DC, 0.63A; 24V unit: 24V DC, 0.32A
	Adjustments	Voltage range: ±10% (V.ADJ on front)
	Output Hold Time	10ms (minimum) at rated input and output
	Rise Time	200ms (maximum) at rated input and output
	Fluctuation	Input: 0.4% (maximum); Load: 0.6% (maximum)
	Temperature Change	0.02% per °C (maximum) 0 to 50°C
	Ripple Voltage	1% + 50mV p-p (maximum) including noise, measured with a 47μF capacitor

Part Numbers: Power Supply

Part No.	Output		Input
PSR-AD0712E	12V	0.63A	100 to 240V AC
PSR-AD0724E	24V	0.32A	

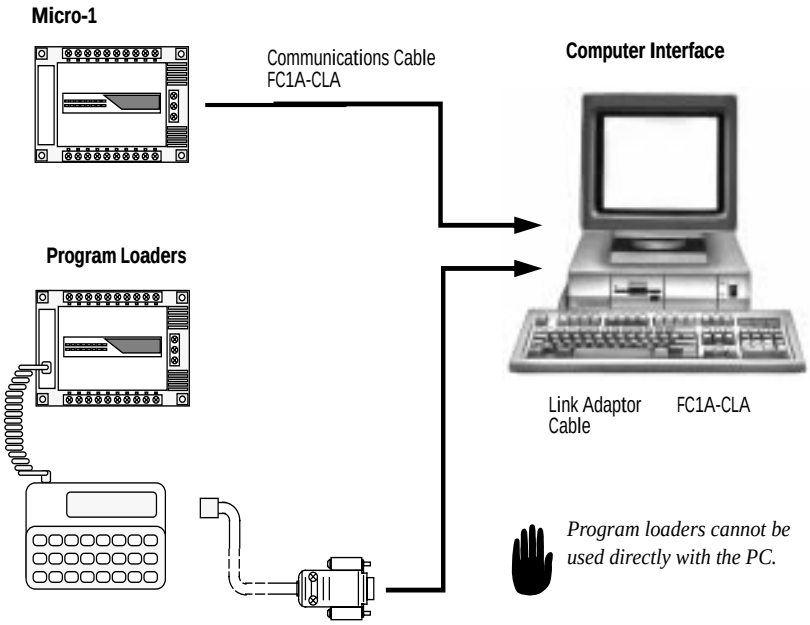
Circuit Diagrams: Power Supply



Conguration

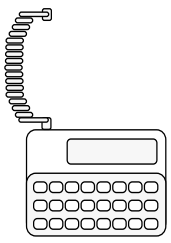
Standard Data Preset Loader

Communication



Micro-1 Extension Cable (included with loader)	FC1A-HL1E FC1A-KL2
FA2J Series FA3S Series Extension Cable (ordered separately)	PF2-2H4RE PF3S-HL161E FC1A-KL4A

Data Preset Loaders



With Bezel for Panel Mount

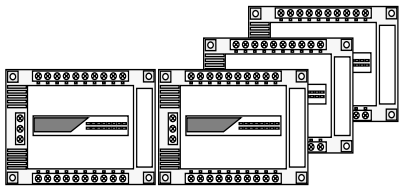
Standard	FC1A-PL1E
Multi-function	FC1A-PL2E

Programming Software

1. WindLDR programming software—
see page J-86 for details.

2. CLIP: Control Logic Input Program—
see page J-87 for details.

Expansion I/O

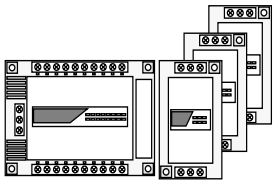


Expansion I/O

100–240V AC
Source or Sink Inputs, Relay Outputs
Source or Sink Inputs, Transistor Outputs

24V DC
Source or Sink Inputs, Relay Outputs
Source or Sink Inputs, Transistor Outputs

12V DC
Source or Sink Inputs, Relay Outputs
Source or Sink Inputs, Transistor Outputs

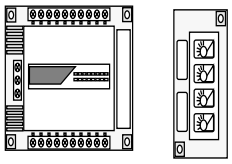


Micro-Expansion I/O

4-Point Input, Source or Sink
3-Point Relay Output
2-Point Input with 2-Point Output
Source or Sink Inputs, Transistor Outputs

Options

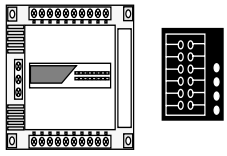
Analog Timer



With 4 Timers
8 Time Ranges

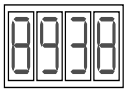
FC1A-TA1
1s to 10m

Serial I/O Module



With 8 input and
8 output expansion

FC1A-SM1E



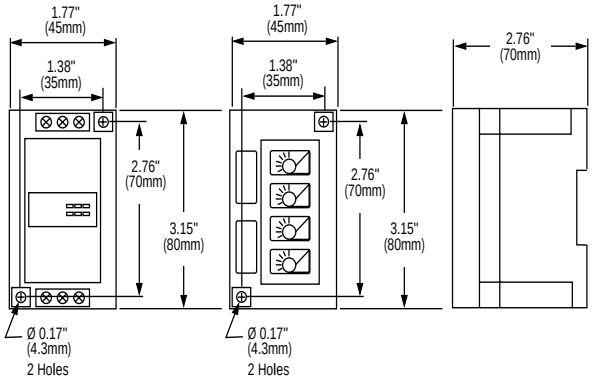
Perfect for Use with IDEC
Digital Display Motherboards,
DD33: FC1A-PD1

Dimensions

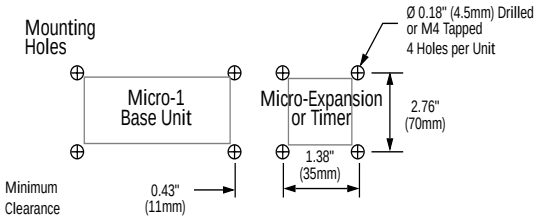
Approximate Weights	
CPU Base Unit, Relay Output	450g
CPU Base Unit, Transistor Output	410g
Expansion I/O, Relay Output	410g
Expansion I/O, Transistor Output	370g
Micro-Expansion I/O	100g
Program Loader	100g
Data Preset Loaders	100g
Analog Timer	100g
DC Power Supply	140g

Power Requirements	
CPU Base Unit, AC	21VA
CPU Base Unit, 24V DC	8W
CPU Base Unit, 12V DC	10W
Expansion I/O, AC	21VA
Expansion I/O, 24V DC	6W
Expansion I/O, 12V DC	10W
Micro-Expansion I/O	2W
Program Loader	1W
Data Preset Loaders	1W
Analog Timer	1.5W

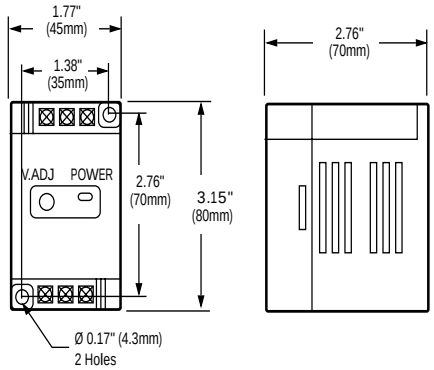
Micro-Expansion I/O and Analog Timer



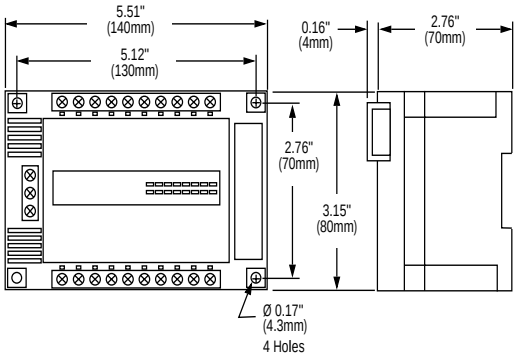
Mounting Holes



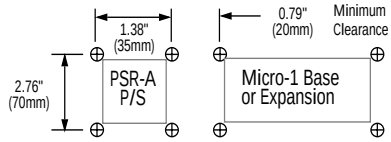
DC Power Supply



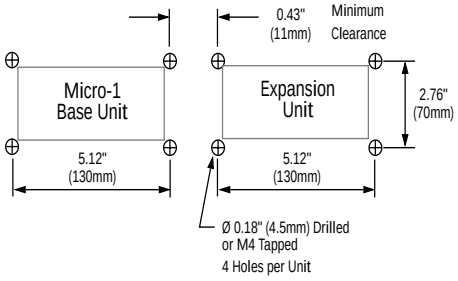
CPU Base and Expansion I/O



Mounting Holes

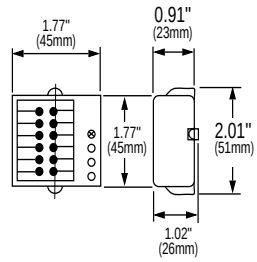


Mounting Holes

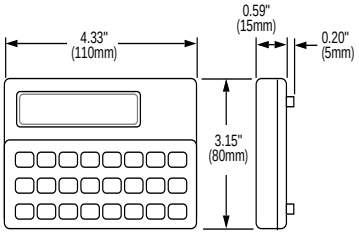


Dimensions, continued

Serial I/O



Program Loader



Data Preset Loaders