

SEVEN DAY PROGRAMMABLE CONTROLLERS

Our family of Programmable Seven Day Controllers turns on and off two separate power relays on a seven day, 24 hour basis for up to fifty-six times during a seven day period with a maximum of eight events per day. New events can be programmed for each day of the week, or the same events can be repeated daily. A major feature of this family of controllers is the smart timepiece circuitry that continues keeping correct time even when power fails for extended periods of time without the use of batteries. EEPROM type of program memory maintains the programmed schedules for up to ten years without battery backup. The 4950, 4950H and 4950B are available in these operating voltages: 12, 24VDC, 24, 115 & 230VAC. A comprehensive handbook is supplied with each model.

MODEL 4950 - has opened printed circuit board construction with screw terminals for wiring. There are two 5 ampere Form C SPDT sets of contacts which can be individually programmed.

Specify to order: 4950 - 12VDC
 - 115VAC
 - 230VAC



MODEL 4950H - is housed in a metal enclosure with 2 knockout holes to facilitate wiring. Wiring terminations are located behind a removable front cover. A front panel programming guide provides easy programming steps. There are two SPDT sets of contacts rated for 30 Amperes. Programming is accomplished by a nine digit keypad located on the front. Time of day, and set programs are shown on a four digit red LED.

Specify to order: 4950H - 12VDC
 - 115VAC
 - 230VAC



MODEL 4950B - is an ideal bell controller for use in factories and schools.

The 4950B programs only the "on" time from 1 - 99 seconds. It has the same housing and wiring as the 4950H.

Specify to order: 4950B - 12VDC
 - 115VAC
 - 230VAC



MODEL 4950PM - can be mounted through a front panel opening of 2.625 by 4.5 inch cutout. It features a tactile type of keypad 1-9 and # with an overlay. Two SPST-NO contacts rated for 20 amperes can be individually programmed. Time of day is maintained in a smart timepiece circuit that will keep the time running for up to 5 days during a power failure without the use of external batteries.

Specify to order: 4950PM - 12VDC
 - 115/230VAC



Micro³ and Micro³C

PLC

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CONTROLS & SENSORS

Micro³C

The True Micro PLC Ambassador

Key features of the Micro³C include:

- All the features of the Micro³
- Talks both ASCII and binary
- Equipped with two serial ports, RS232 and RS485
- Capable of connecting to dial-up modem, serial printer, and bar code reader
- Up to 500 data registers
- Handles a wide range of analog input signals
- Comes with an easy reset button
- Available in 2 sizes: 16- and 24-VI with relay output



UL Listed
File No. E102542



CSA Certified
File No. LR66809



CE Certified
EMC Approved
File No. B950913332312



Micro³

The Benchmark for Micro-PLCs

Key features of the Micro³ include:

- Built-in communications and networking
- Input/output analog capability
- User program password protection
- Catch input, pulse output
- Real-time clock and calendar available
- Built-in power supply for sensors
- Arithmetic, comparison, and Boolean computation
- High-speed: 400µ/100 steps, 10kHz



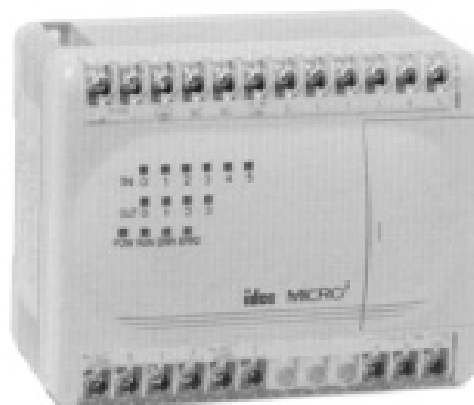
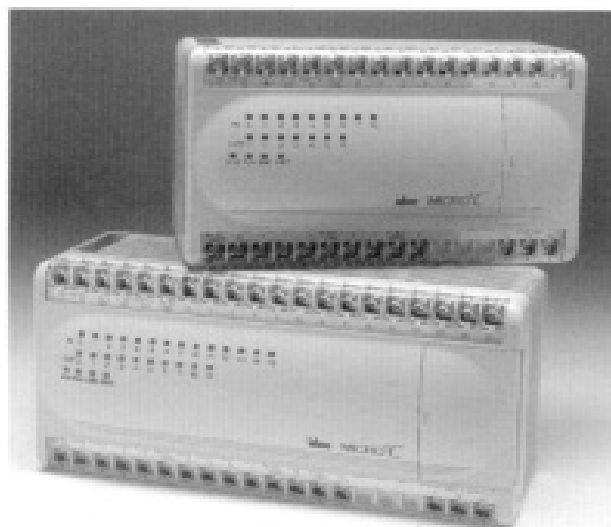
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PLC
Micro³ and Micro³C

		Standard Mode	High-Speed Mode
General Specifications	Program Capacity	1012 steps	100 steps (approximately)
	Processing	2.9ms/1k steps (average)	400μs/100 steps (average)
	Internal Relay	232 points	40 points
	Data Register	Micro ³ : 100 points Micro ³ C: 500 points	32 points
	Control Data Register	10 points	—
	Counter/Timer	32 points total	16 points total
	Shift Register	64 points	32 points
	Communication Channel	Data link channel: RS485 Baud rate: 19,200 bps (fixed) Cable length: 656' (200m) (maximum) Data link: 6 slave stations (maximum) Expansion: 1 unit (maximum)	—
		Programming channel: complies with EIA RS485 (Micro ³)/RS232 (Micro ³ C) standards Baud rate: 1,200/2,400/4,800/9,600/19,200 bps (selectable); Extension: 16.4' (5m) (maximum)	
	Instructions	Micro ³ : 22 basic, 33 advanced Micro ³ C: 22 basic, 35 advanced	
	Memory	EEPROM	
	I/O	See configurations shown on page J-6	
	Catch Input Relays	8 points	
	Special Internal Relay	16 points	
	Power Failure Protection	Internal relay, shift register, counter, data register; backup time, lithium battery fully charged— With clock: 30 days at 25°C (approximately); Without clock: 50 days at 25°C (approximately)	
	Self-Diagnostic Function	CPU error (WDT), user program CRC error, user program sum check error, communication error, sensor power overload, transistor output overload	
	Catch Input	8 points; Minimum detectable pulse width (when hard filter is set to 10); Input I0 ON pulse = 28μs, OFF pulse = 30μs; Inputs I1 to I7 ON pulse = 37μs, OFF pulse = 120μs (depending on input filter settings)	
	Input Filter Function (DC input type only)	Normal input: 0ms, 3ms, 7ms, 10ms; Catch input: Input I0 ON pulse = 4 to 616μs, OFF pulse = 6 to 618μs; Input I1 to I7 ON pulse = 20 to 625μs, OFF pulse = 120 to 618μs	
	High-Speed Counter	1 point, single-phase, 10kHz (maximum), 32 bits	
	Analog Potentiometer	Micro ³ : 1 point (10-point), 2 points (16-, 24-point) Micro ³ C: 1 point only	
	Pulse Output	1 channel, frequency/PWM output (not available in Micro ³ C)	
	Real Time Clock	Clock accuracy ±30s/month (maximum) at 25°C (typical); year, month, day, hour, minute, second	
	Sensor Power Supply	24V ±3.6V DC, 150mA (maximum) including input current, overload detected	



Micro³C only available in 16 I/O or 24 I/O.

		AC Power	DC Power
Electrical Specifications	Rated Power Range	100 to 240V AC, 50/60Hz (85 to 264V)	24V DC (19 to 30V DC)
	Power Consumption	Approximately 30VA (240V AC)	Approximately 14W (24V DC)
	Inrush Current	40A (maximum)	
	Power Disruption	25ms (momentary disruption) allowed	
	Dielectric Strength	Between power terminal and ground: 2,000V AC, 1 minute	Between power terminal and ground: 1,500V AC, 1 minute
		Between I/O terminal and ground: 1,500V AC, 1 minute	
	Temperature	Operating: 0 to 60°C, Storage: -20 to +70°C	
	Operating Humidity	45 to 85% RH (avoid condensation)	
	Vibration Resistance	5 to 55Hz, 6G, 2 hours in each of 3 axes	
	Shock Resistance	30G, 3 shocks in each of 3 axes	
	Noise Resistance	Between power terminal and ground: 1.3kV, 1μs; Between I/O terminal and ground: 1kV, 1μs (with noise simulator) — complies with IEC1131-2	
	Insulation Resistance	Between power or I/O terminal and ground: 10MΩ (minimum), 500V DC	
	Ground Resistance	100Ω (maximum)	

Micro³ and Micro³C
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CONTROLS & SENSORS
Part Numbers: Micro³

Item	Part No.	Description	Remarks
100 to 240V AC 50/60Hz Power Micro³ CPU	Output: Relay 240V AC, 2A 30V DC, 2A	FC2A-CA16A1	16 I/O: 9 inputs and 7 outputs
		FC2A-C10A1 FC2A-C16A1 FC2A-C24A1	10 I/O: 6 inputs and 4 outputs 16 I/O: 9 inputs and 7 outputs 24 I/O: 14 inputs and 10 outputs
	Output: Transistor Sink 24V DC, 0.5A	FC2A-C10B1 FC2A-C16B1 FC2A-C24B1	10 I/O: 6 inputs and 4 outputs 16 I/O: 9 inputs and 7 outputs 24 I/O: 14 inputs and 10 outputs
24V DC Power Micro³ CPU	Output: Relay 240V AC, 2A 30V DC, 2A	FC2A-C10A4 FC2A-C16A4 FC2A-C24A4	10 I/O: 6 inputs and 4 outputs 16 I/O: 9 inputs and 7 outputs 24 I/O: 14 inputs and 10 outputs
	Output: Transistor Sink 24V DC, 0.5A	FC2A-C10B4 FC2A-C16B4 FC2A-C24B4	10 I/O: 6 inputs and 4 outputs 16 I/O: 9 inputs and 7 outputs 24 I/O: 14 inputs and 10 outputs
	Output: Transistor Source 24V DC, 0.5A	FC2A-C10D4 FC2A-C16D4 FC2A-C24D4	10 I/O: 6 inputs and 4 outputs 16 I/O: 9 inputs and 7 outputs 24 I/O: 14 inputs and 10 outputs
Programming Starter Kits "Micro Mania"	MM-MICRO1 MM-MICRO3-10 MM-MICRO3-16 MM-MICRO3-24 MM-MICRO3C-16 MM-MICRO3C-24 MM-Cables	Micro-1 PLC, WindLDR, computer link cable, input switch simulator Micro ³ 10 I/O, WindLDR, computer link cable, input switch simulator Micro ³ 16 I/O, WindLDR, computer link cable, input switch simulator Micro ³ 24 I/O, WindLDR, computer link cable, input switch simulator Micro ³ C 16 I/O, WindLDR, computer link cable, input switch simulator Micro ³ C 24 I/O, WindLDR, computer link cable, input switch simulator WindLDR, 3 computer link cables for Micro-1, Micro ³ and Micro ³ C	
Program Loader	FC2A-HL1EC	Program loader with cable	
Loader Cable	FC2A-KL1 FC2A-KL2	6.56' (2m) long 16.4' (5m) long	Connects program loader to Micro ³
Loader Adaptor	PSR-GA05005	5V power supply adaptor for using program loader when not connected to CPU	
Computer Link Cable	FC2A-KC2	Connects Micro ³ or loader to PC (1:1 link), 6.56' (2m)	
Memory Card	FC2A-MC1	Used with program loader to store user programs in SRAM memory	
Expansion Cable	FC2A-KE1	Close proximity Micro ³ link expansion, 9.84" (250mm) long	
1:N Computer Link Interface Unit	FC2A-LC1	One required to connect each Micro ³ in a 1:N computer link system (all connected to one central RS232C/RS485 converter)	
1:N Computer Link Interface Cable	FC2A-KC3	One required to connect each Micro ³ in a 1:N computer link system (connected to each interface unit), 32.8' (10m) long	
1:N RS232C/RS485 Converter	HD9Z-T11	One required to connect all Micro ³ units in a 1:N computer link system	
1:N RS232C/RS485 Converter	HD9Z-T11-DS783	One required to connect all Micro ³ units in a 1:N computer link system; Additionally, the DS783 should be used in applications requiring PC to Micro ³ communications via modem	
1:N PC Cable	HD9Z-C52	Connects RS232C/RS485 converter to PC in a 1:N computer link system, 4.92' (1.5m) long (D-sub 9-pin female computer connector)	
Analog Input Unit	FC2A-AD1 FC2A-AD2 FC2A-AD3 FC2A-AD4 FC2A-AD5	0 to 5V 0 to 10V ±5V 4 to 20mA ±10V	Converts analog signals to digital and sends to input I0 of Micro ³ (not for use with AC input type units)
Analog Output Unit	FC2A-DA1 FC2A-DA2 FC2A-DA3 FC2A-DA4 FC2A-DA5	0 to 5V 0 to 10V ±5V 4 to 20mA ±10V	Converts digital (PWM) signal from output Q0 of Micro ³ to analog (not for use with relay output type units)
Analog Timer Unit	PFA-IU11	For fine adjustment of analog timer preset value	
Input Switches	FC2A-SW6 FC2A-SW9 FC2A-SW14	Input simulator switches (6) for 10 I/O Micro ³ s Input simulator switches (9) for 16 I/O Micro ³ s Input simulator switches (14) for 24 I/O Micro ³ s	
WindLDR™, Version 1.0	WINDLDR	Windows-based application software, performs ladder programming and monitors IDEC's Micro-1, Micro ³ , and Micro ³ C PLCs (soon: available for FA series)	
CUBIQ, Version 2.0	FC9Y-LP1E314	DOS-based application software, performs ladder programming and monitoring; supports Micro ³ and Micro ³ C PLCs only	

PLC
Micro³ and Micro³C
Part Numbers: Micro³C

Item	Part No.	Description	
AC Power (100 to 240V AC, 50/60Hz power supply)	FC2A-C24A1C	Base units: Input (24V DC sink/source) Relay output (240V AC/30V DC, 2A)	24 I/O (14 in, 10 out)
	FC2A-C16A1C		16 I/O (9 in, 7 out)
DC Power (24V DC, 19 to 30V DC)	FC2A-C24A4C		24 I/O (14 in, 10 out)
	FC2A-C16A4C		16 I/O (9 in, 7 out)
Program Loader	FC2A-HL1EC	Version 2.0+; also compatible with Micro ³ C	

Optional Item	Part No.	Description
Loader Cable (2m)	FC2A-KL3C	Connects basic unit (loader port) and program loader
Loader Cable (2m)	FC2A-KL4C	Connects basic unit (data link terminal) and program loader
Modem Cable (3m)	FC2A-KM1C	Connects basic unit (loader port) and modem (1:1 communications)
PC Interface Cable (3m)	FC2A-KC4C	Connects basic unit (loader port) and PC (1:1 communications)
PC Interface Cable (2m)	FC2A-KC6C	Connects basic unit (data link terminal) and PC (1:1 communications)
User Communication Cable (2.4m)	FC2A-KP1C	Connects basic unit (loader port) and user's equipment
PC Connect Cable (5m)	HG9Z-XC183	Connects basic unit (loader port) and Micro Q/I™
Memory Card (RAM)	FC2A-MC1	Memory to store user's programs (64K)
AC Adaptor	PSR-GA05005	Connects basic unit (data link terminal) and program loader/PC
Expansion Cable (25cm)	FC2A-KE1	Connects basic unit and expansion function unit
1:N Link Adaptor	FC2A- MD1	Connects basic unit (data link terminal) and PC
RS232C Cable (4 lines, 1.5m)	HD9Z-C52	Connects link adaptor and PC (1:N communications), D-sub 9-pin
WindLDR™, Version 1.0	WINDLDR	Windows-based application software, performs ladder programming and monitors IDEC's Micro-1, Micro ³ , and Micro ³ C PLCs
CUBIQ, Version 2.0	FC9Y-LP1E314	DOS-based application software, performs ladder programming and monitoring; also compatible with the Micro ³