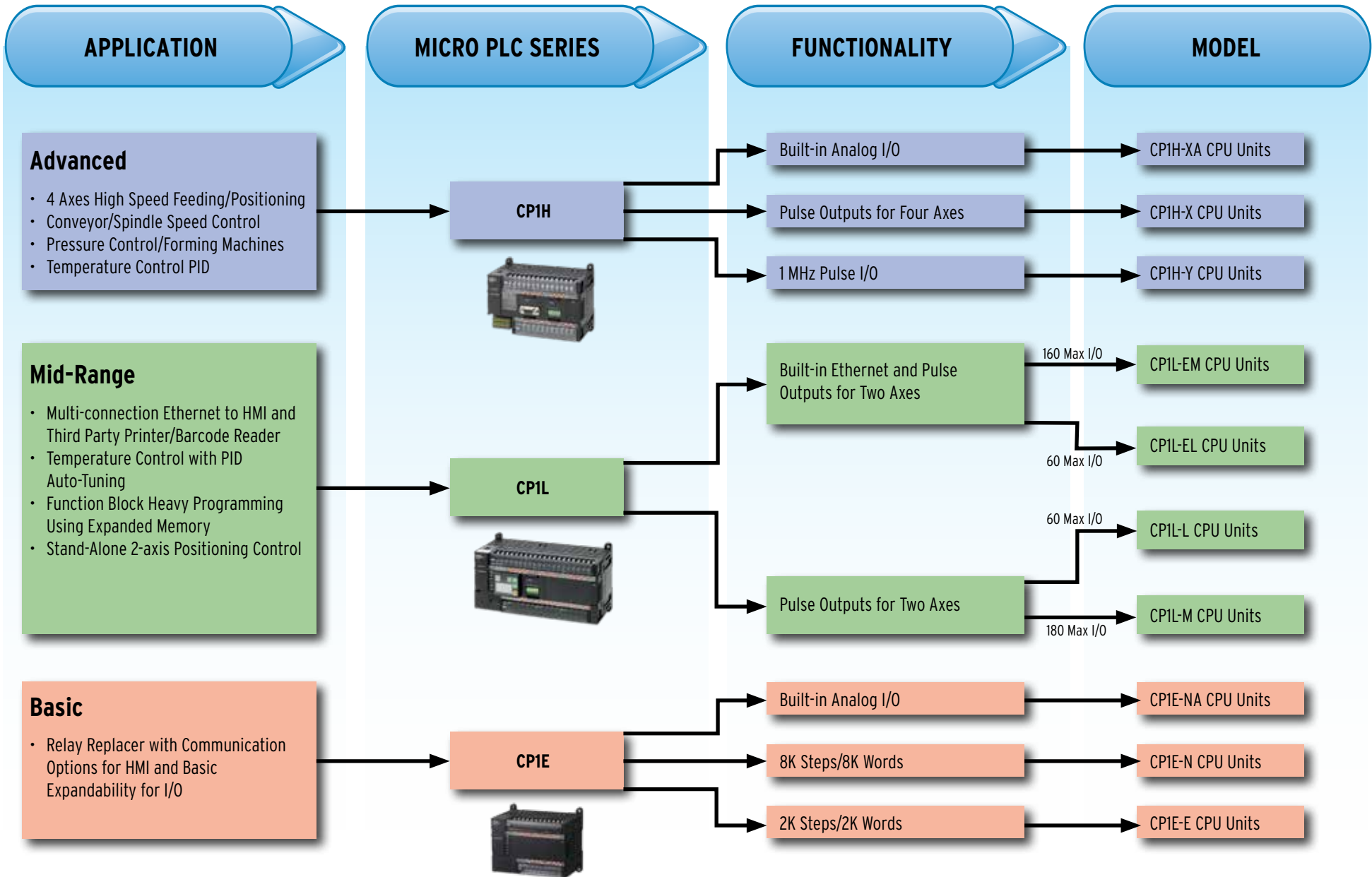








# CP1 Series Micro PLC



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## Navigation Guide



CP1 Specifications & Key Functionality						Competitive Information		
Product Line	CPU Type	Output Method	Program/Data Capacity	Communications	Expansion	Rockwell Automation	Siemens	Mitsubishi
<b>CP1H</b> 	XA Type	AC Relay, DC NPN, DC PNP	20K/32K	Two Serial Option Boards, One Ethernet Option Board, One EtherNet/IP Option Board, One Modbus/TCP Option Board	Up to 7 CPIW Expansion Units, Up to Two C.J-series Special I/O and CPU Bus Units	MicroLogix 1400, Micro850	S7-1200	FX3G
	X Type	AC Relay, DC NPN, DC PNP						
	Y Type	DC NPN						
	<b>Key Selling Features</b> Three types of CPU units available to meet applications requiring advanced functionality • CP1H-X standard units with four 100kHz pulse output and four counters • CP1H-Y high-speed positioning units with four 1MHz pulse outputs and four counters • CP1H-XA four built-in analog inputs and two built-in analog outputs including four standard pulse output and four counters • Up to 320 I/O points • One Software for PLC, HMI, Network...(no yearly maintenance fee) • Prebuilt OMRON Function Blocks provide for easy communication with inverters and temperature controllers • Processing speed 0.1µs/LD Inst, 0.3µs/MOV inst • Connect HMIs, Inverters, Temperature Controllers, Smart Sensors, Barcode Readers, Serial PLC Link for linking to other PLCs, and a personal computer • Perform monitoring and programming with CX-Programmer, or communicate between a host computer and the CP1H using Ethernet by connecting with the FINS/TCP or FINS/UDP protocols, which are supported by all OMRON PLCs • Addition of EtherNet/IP option board turns PLC into an intelligent Slave that easily connects to an EtherNet/IP Master for control & monitoring data • Communicate with I/O blocks, Inverters, PLCs, PCs, etc using Modbus TCP Protocol • Backup Data, Programs and initial memory values, can be stored on a Memory Cassette and copied to other systems • LCD Display can be added to easily monitor or change data values in PLC to visually check error status • 7-Segment Display can display PLC Error Codes or Custom Codes • Clock function is great for time stamping faults or other time based information						<b>Key Weaknesses</b> MicroLogix 1400: 10K Program/10K Data Capacity • No USB port • Micro850: Max 132 I/O • 0.3µs/LD • 10K Program/20K Data Capacity No LCD Display Available • No USB Programming Port • Digital I/O Limited to 24 • No Analog Outputs • PROFINET and PROFIBUS Only Supported Protocols • No EtherNet/IP	
<b>CP1L</b>   	EM Type	DC Relay, DC NPN, DC PNP	5K(+10K FB)/10K	Two Serial Option Boards, Built-in Ethernet, One EtherNet/IP Option Board, One Modbus/TCP Option Board	Up to 3 CPIW Expansion Units	MicroLogix 1100, Micro850	S7-200	FX1N
	EL Type		10K(+10K FB)/32K	One Serial Option Boards, Built-in Ethernet, One EtherNet/IP Option Board, One Modbus/TCP Option Board	Up to 1 CPIW Expansion Unit			
	L Type	AC Relay, DC Relay, AC NPN, DC NPN, DC PNP	10K/32K	One Serial Option Board, One Ethernet Option Board, One EtherNet/IP Option Board, One Modbus/TCP Option Board	Up to 1 CPIW Expansion Unit except for "-L10D"	MicroLogix 1100, Micro830		
	M Type		5K/10K	Two Serial Option Boards, One Ethernet Option Board, One EtherNet/IP Option Board, One Modbus/TCP Option Board	Up to 3 CPIW Expansion Units			
	<b>Key Selling Features</b> Maximum cost effectiveness within a minimal product footprint • CPUs are selectable from 10 I/O to 60 I/O, with select models featuring built-in Ethernet and Analog Inputs • Additional I/O, Analog and Communication expansion available • CP1L-E models have socket services for communication to bar code readers, printers, vision systems, etc • Up to 180 I/O points • One Software for PLC, HMI, Network...(no yearly maintenance fee) • Online programming • Most Network ports support up to three devices at the same time to allow monitoring and programming simultaneously • CP1L-E models support an additional 3 devices • Prebuilt OMRON Function Blocks provide for easy communication with inverters and temperature controllers • Processing speed 0.55µs/LD Inst, 1.84µs/MOV inst • Connect HMIs, Inverters, Temperature Controllers, Smart Sensors, Barcode Readers, Serial PLC Link for linking to other PLCs, and a personal computer • Perform monitoring and programming with CX-Programmer, or communicate between a host computer and the CP1L using Ethernet by connecting with the FINS/TCP or FINS/UDP protocols, which are supported by all OMRON PLCs • Addition of EtherNet/IP option board turns PLC into an intelligent Slave that easily connects to an EtherNet/IP Master for control & monitoring data • Communicate with I/O blocks, Inverters, PLCs, PCs, etc using Modbus TCP Protocol • Backup Data, Programs and initial memory values, can be stored on a Memory Cassette and copied to other systems • LCD Display can be added to easily monitor or change data values in PLC to visually check error status • 7-Segment Display can display PLC Error Codes or Custom Codes • Clock function is great for time stamping faults or other time based information						<b>Key Weaknesses</b> MicroLogix 1100: 4K Program/4K Data Capacity • EtherNet/IP Messaging only • Micro830: Max 88 I/O • 4K Program/8K Data Capacity and 10K Program/20K Data Capacity • No Expansion I/O Supported • Only Serial and Modbus RTU communication available • Micro850: Max 132 I/O • 10K Program/20K Data Capacity No LCD Display Available • No USB Programming Port • Instruction Set Limited to 182 Instructions, Compared to 500 with CP1L • No EtherNet/IP • RS 485 only serial option Max 128 I/O • 0.7µs/LD inst, 3.7µs/MOV inst • 8K Program Capacity • Does not have capability to store user comments & address symbols in PLC • No USB programming port	
<b>CP1E</b>   	NA Type	AC Relay, DC NPN, DC PNP	8K/8K	Built-in RS-232C, One Ethernet Option Board	Up to 3 CPIW Expansion Units	MicroLogix 1100, Micro810	S7-200	FX1S
	N Type	AC Relay, DC Relay, AC NPN, DC NPN, AC PNP, DC PNP			Up to 3 CPIW Expansion Units Except for "-N14, -N20"			
	E Type	AC Relay, For only "-E10D": DC Relay, AC NPN, DC NPN, AC PNP, DC PNP	2K/2K	-	Up to 3 CPIW Expansion Units Only for "-E30, -E40"			
	<b>Key Selling Features</b> Satisfying entry-level requirements for basic applications • Select CPUs from 10 I/O to 60 I/O with basic expandability • Processing speed 1.19 µs/LD inst, 7.9 µs/MOV inst • Built-in RS-232C Serial Port, no need to purchase additional modules • Perform monitoring and programming with CX-Programmer, or communicate between a host computer and the CP1E using Ethernet by connecting with the FINS/TCP or FINS/UDP protocols, which are supported by all OMRON PLCs • Clock function is great for time stamping faults or other time based information						<b>Key Weaknesses</b> Micro810: Max 12 I/O • 2.5µs/LD instruction • 2K Program/2K Data Capacity • No expansion I/O modules supported • No available communication ports No USB Programming Port Max 30 I/O • 2K Program Capacity • No built in communications	