EATON | Cutler-Hammer

Eaton Logic Controller (ELC)

Product Focus

Size
Flexibility
Communications
Large PLC features

Product Definition

The Eaton Logic Controller (ELC) is Eaton Cutler-Hammer's latest offering into the PLC (Programmable Logic Controller) market. Using the latest technology this reduced sized ELC with its abundant module selection provides a "Just Right" concept of providing only what you want for the price you desire.

ELC's value added differences.
4 controller styles:

- **Basic** – 14 I/O (8i/6o) Over 130 instructions provide the all power you need. Two serial ports for master/slave communcations.
- **Clock/Calendar** – Same features as the basic model plus clock/calendar, remote I/O and retentive data storage.
- **Analog** – Same features as Clock/ Calendar plus analog In and Out.
- **High Speed** – All the features of clock/calendar with the ability to capture or output 100Khz pulses.

More Controller Features

- High speed pulse capture and high speed pulse output on all controllers
- Large module selection of AC/DC In, relay/transistor Out.
- Large selection of analog In/Out in various I/O counts per module
- 2 Modbus (ASCII / RTU) serial ports: 1 slave only, 1 master/slave
- Over 200 instructions to choose from: Floating point math, communications, 1-, 4-, 8-, 16- and 32-bit manipulations, logical, block move, block compare, retentive data storage, conversion, time base from clock/calendar.
- Network communications on Modbus TCP, DeviceNet, and Profibus.

ELC benefits solve applications:
Size – large PLC features in a 1" package. One-third the size of competitive offerings. ELC can retrofit more I/O in the same space or allow more cost savings by reducing cabinet size.
Flexibility – ELC controllers expand from 10 to 256 I/O using the same controller. No more counting I/O to determine which controller to use.

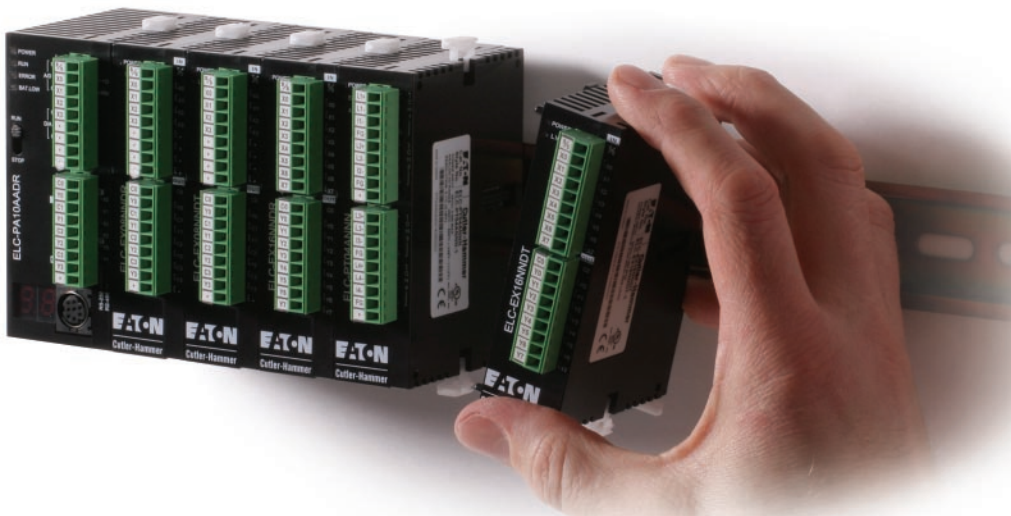
- Add only the amount of I/O you need. Choose I/O counts as small as 4 In / 4 Out to 8 In / 8 Out.
- No racks lets you add as many modules as needed by snapping them into their mating connectors.

Large PLC Features – Multiple communications ports, Remote I/O ability, data storage, high speed counters, high speed pulse outputs, interrupts, timer resolution to 1ms, PIDs, plus much more.

Software – ELCSoft programs in standard ladder or sequential function chart programming.

- Display registers "in use" and modules attached to the ELC.
- Monitor runtime applications. Force (except basic), and enter/modify register values.
- Wizards aid programming of remote I/O, standard communications, high speed counters, pulse outputs, ELC Link, positioning, interrupts, PIDs, and extension module setup.

Seamless integration to Eaton products – The ELC communicates with MVX drives eliminating the need to operate drives by analog voltage/current or digital I/O. Drive parameters are accessed through serial communications saving time and money.
Communications – Connecting to other networks is easy. Add slave connectivity to DeviceNet, Profibus, or ModbusTCP and share data with other networks.



Controller	ELC-PB14xxxx	ELC-PC12xxxx	ELC-PA10xxxx	ELC-PH12xxxx
Dimensions WxHxD (mm)	25.2 x 90 x 60	37.4 x 90 x 60		
Maximum I/O	256 (128 In / 128 Out) Any number of modules			
I/O Type	14 (8 DI / 6DO)	12 (8 DI / 4 DO)	10 (4DI/2DO/2AI/2AO)	12 (8 DI / 4 DO)
DC In Sink/Source	Yes			
Execution Speed	Basic commands – 2m seconds minimum			
Program language	Commands + Ladder Logic + SFC			
Program Capacity (Steps)	3792	7920		
Data Memory Capacity (bits)	1280	4096		
Data Memory Capacity (words)	744	5000		
Index Registers	2	8		
File Memory Capacity (words)	-	1600 Words		
Retentive Storage	Yes			
Commands Basic/Advanced	32 / 107	32 / 168		
Floating Point	Yes			
SFC Commands (Steps)	128	1024		
Timers Qty / (resolution ms)	128 / 1 – 100	256 / 1 – 100		
Counters Qty / bits / direction	128 /16-32 / Up-Down	250 / 16-32 / Up-Down		
High Speed counters	13 (20Khz)	15 (20Khz) 1 ph – 2 ph		100Khz
Pulse Output	2 channels 10KHz Max	2 channels, 50KHz Max		100Khz
PID	Yes	Yes		
Master Control Loop	8 Loops	8 Loops		
Subroutines	64 Subroutines	256 Subroutines		
For/Next Loops	Yes			
Interrupts	6	15		
Real-time Clock / Calendar	-	Built-in		
Password Security	Yes			
Diagnostic Relays	Yes			
Diagnostic Word registers	Yes			
Specialty Expansion modules	8 (Analog In / Analog Out / TC / RTD / PT) Modules do not count in total I/O			
Serial Ports	2 Modbus (ASCII/RTU) 1= Slave (RS-232) / 1=Master-Slave (RS-485)			
Remote I/O	-	With 16 other devices		
Run Time Editing	YES			
Run / Stop Switch	YES			
Removable Terminal Strips	YES			
Special Features	-	2 Potentiometers	2 7-SEGMENT DISPLAYS	2 Potentiometers

Digital I/O Model	Power	Input Unit Point	Input Unit Type	Output Unit Point	Output Unit Type
Dimensions WxHxD (mm)	25.2 x 90 x 60				
ELC-EX08NNAN	24VDC	8	AC	0	-
ELC-EX08NNDN		8	DC Sink or Source	0	-
ELC-EX08NNNR		0		8	Relay
ELC-EX08NNNT		0		8	Transistor
ELC-EX06NNNI		0		6	Relay
ELC-EX08NNDR		4		4	Relay
ELC-EX16NNDR		8		8	
ELC-EX08NNDT		4		4	Transistor
ELC-EX16NNDT		8		8	

Analog I/O Model	Power	Input Unit Point	Input Unit Type	Output Unit Point	Output Unit Type
Dimensions WxHxD (mm)	25.2 x 90 x 60				
ELC-AN02NANN	24VDC	0	-20mA~20mA -10V ~ +10 V	2	0~20mA 0V ~ +10 V
ELC-AN04NANN		0		4	
ELC-AN06AANN		4		2	
ELC-AN04ANNN		4		0	-
ELC-PT04ANNN		4	Platinum Temp.	0	
ELC-TC04ANNN		4	Thermocouple	0	
ELC-RT08ANNN		8	Resistive	0	

Power Supply Model	ELC-PS01	ELC-PS02
Dimensions WxHxD (mm)	1.44" x 3.54" x 2.36" (36.5 x 90 x 60)	2.17" x 3.54" x 2.36" (55 x 90 x 60)
Input Power	100~240VAC 50/60Hz	
Output Volts	24VDC	
Output Current (A)	1 A	2 A

Electrical Specifications	
Power supply voltage	ELC: 24VDC (-15%~20%) (With DC input reverse polarity protection), Expansion Unit: supplied by the ELC
Power Consumption	Typically 3.- 6W
Insulation Resistance	> 5 MΩ at 500 VDC (Between all inputs / outputs and earth)
Noise Immunity	ESD: 8KV Air Discharge EFT: Power Line: 2KV, Digital I/O: 1KV, Analog & Communication I/O: 250V Damped-Oscillatory Wave: Power Line: 1KV, Digital I/O: 1KV RS: 26MHz~1GHz, 10V/m
Temperature	Operation: 0°C~55°C (Temperature), 50~95% (Humidity), Pollution degree 2; Storage: -25°C~70°C (Temperature), 5~95% (Humidity)
Vibration / Shock Resistance	Standard: IEC1131-2, IEC 68-2-6 (TEST Fc) / IEC1131-2 & IEC 68-2-27 (TEST Ea)
Certified to:	CE/UL/CSA
Weight (approx.) (g)	158

Eaton Electrical Inc.
1000 Cherrington Parkway
Moon Township, PA 15108
United States
tel: 1-800-525-2000
www.EatonElectrical.com

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