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Programmable Logic Controllers

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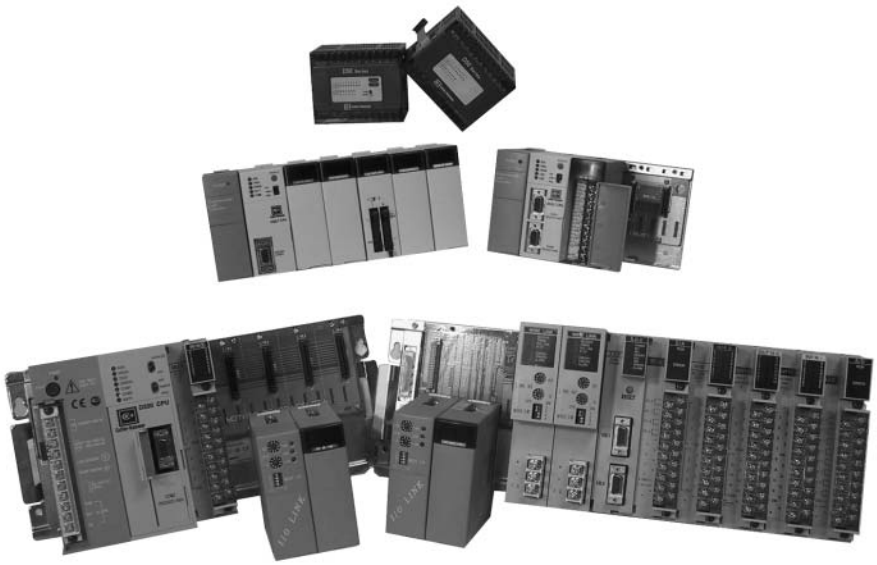


Programmable Logic Controllers

Product Description

D32LT

D32LT

Cutler-Hammer® D32LT from Eaton's electrical business handles applications that are too large for a D50 but don't quite need the power and performance of the D320. The D32LT is expandable up to 256 I/O points, capable of handling analog, digital, high speed inputs and outputs making the D32LT one of the more versatile PLCs on the market. With access to the real-time clock, 8 PID loops and 2 communication ports allow you to interface with multiple networks including Modbus® RTU, ASCII, binary, or interface to a RS-232 to Ethernet adapter.

D320

D320

The D320 PLC delivers superior processing power, modular flexibility, enhanced scan speed, and advanced functions and communications capabilities with a combination of 24 K program memory, up to 2048 I/O expansion points, real-time clock functionality and PID loop control capability. I/O modules cover all standard control voltages and current ranges for both digital and analog signals. Special function modules provide an array of specific-purpose solutions, such as networking and remote I/O applications.

Product History

The company has offered programmable controller products since the early 1970s.

These products have been marketed under several trade names such as Numa-Logic and model names such as D100.

Westinghouse entered the solid-state logic and control business with the Numa-Logic 300 series products. The 300 series was a set of hardwired logic components that could be custom wired to perform the desired logic functions.

Westinghouse NL-500

The Numa-Logic 500 was a remote I/O system that consisted of a "master" chassis and a "slave" chassis connected by a single twisted pair cable. Signals entered into one chassis would be repeated over the twisted pair and made available as a signal at the opposite chassis.

Chronology
1975 through 1980 (largely superseded by remote I/O capabilities of PC700 and PC900).

Replacement
D320 Remote I/O PLC.

Note: NL-500 is different than PC-500.

Westinghouse PC-700

The PC-700 was a programmable controller that supported up to 256 digital and 32 analog I/O, either local or remote with up 8 K of memory.

Chronology
1980 through 1998.

Replacement
D32LT PLC.

Westinghouse PC-900

The PC-900 programmable controller supported up to 128 digital and 16 analog I/O, either local or remote with up to 3.5 K of memory.

Chronology
1981 through 1998.

Replacement
D32LT PLC.

Westinghouse PC-1100/1200/1250

This family of programmable controllers featured built in LAN, PID functions and supported up to 16 K memory.

Chronology
1982 through 1998.

Replacement
Direct replacement unavailable, best replacement D32LT or D320 PLC.

Westinghouse I/O Plus

Operator interface that was originally manufactured by Cincinnati Electrosystems and brand-labeled with the Westinghouse logo for Westinghouse.

Chronology
1989 through 1992.

Replacement
No direct replacement available, but the PanelMate product family provides far more functionality.

Westinghouse PC50/55

Programmable controller manufactured by Siemens® (S5-90, S5-95 for PC50 and PC55, respectively) and brand-labeled with Westinghouse logo for Westinghouse.

Chronology
1992 through 1994.

Replacement
Siemens still offers replacement parts for this system.

Westinghouse PC-500

Programmable controller manufactured by Siemens (S5-100U, S5-102U, S5-103 for PC500, PC502 and PC503 respectively) and brand-labeled with Westinghouse logo for Westinghouse.

Chronology
1988 through 1997.

Replacement
Siemens still offers replacement parts for this system.

Product History (Continued)

Westinghouse PC-2000

Programmable controller manufactured by Siemens (S5-115U) and brand-labeled with Westinghouse logo for Westinghouse.

Chronology

1988 through 1997.

Replacement

Siemens still offers replacement parts for this system.

Eaton entered the market with its first programmable control in 1977. The unit was called the D120 and was a true programmable control with no hardwiring required.

Many models have been introduced since then.

Today, three PLC product families are available: D50, D32LT and D320. One software package can program each of these platforms. Contact your local Eaton salesperson or distributor for more details.

Product History Time Line

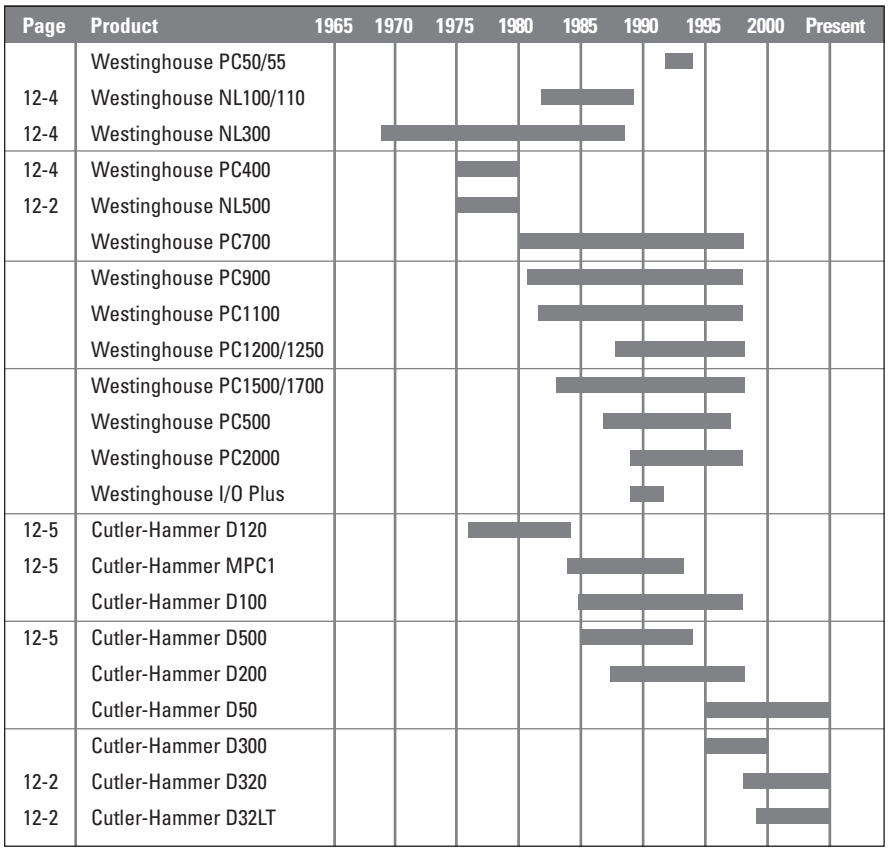


Figure 12-1. Product History Time Line

Replacement Capabilities

Discontinued Products

100/110 Series

100/110 Series

The Numa-Logic 100/110 Series, known as "the Pico," consisted of the PC-100 and PC-110 models. Both products were "brick" style PLCs and provided a small number of digital inputs and outputs mounted in the same enclosure as the processor.

Various styles offered the ability to select the type and amount of I/O required. I/O expanders were available to expand the I/O capacity.

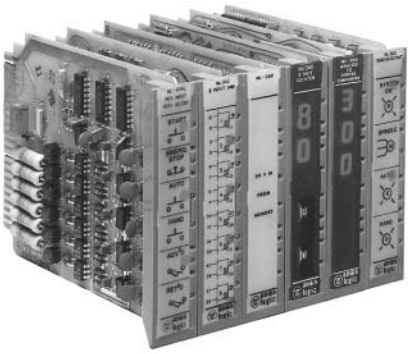
Chronology

The 100/110 Series PLCs were offered as current product from 1981 until 1989. In 1989 the product was discontinued.

Replacement

No direct replacement available, contact a local Eaton salesperson or distributor about upgrading to a D50, D32LT or D320 PLC.

300 Series



300 Series

The Numa-Logic 300 Series was Westinghouse's original solid-state controls offering. The 300 Series consisted of printed circuit boards (modules) that performed specific logic functions (AND, OR, NOT, etc.). These modules could then be custom wired by the user to perform the required control functions.

All 300 Series components can be identified by catalog numbers of NL-3XX.

Chronology

The Numa-Logic 300 Series products were manufactured by Westinghouse beginning in the early 1970s and continuing until 1988. Replacement products are currently available from Instrument Specialties, Inc.

Replacement

For replacement of the 300 Series, contact:

Instrument Specialties, Inc.
248-542-5640

400 Series

The Numa-Logic 400 Series was Westinghouse's first PLC offering. After being manufactured for two years, the 400 Series was replaced by the 700 Series of products. Few, if any, 400 Series systems remain in service today.

Chronology

The 400 Series was manufactured by Westinghouse in Madison Heights, MI from 1975 until 1978. The product was no longer manufactured after 1979.

Replacement

No direct replacement available, contact a local Eaton salesperson or distributor about upgrading to a D50, D32LT or D320 PLC.

Replacement Capabilities (Continued)

Discontinued Products

D120 Series

D120 Series

The D120 family of PLCs consisted of several I/O cards and the racks used to mount them.

The self-contained troubleshooting was identical in concept to the buzzer and jumpers common to relay controls. The D120 requires no new language. It utilizes decimal numbering and memory size is determined simply by adding all elements on the ladder diagram.

Chronology

The Cutler-Hammer D120 products were offered from 1976 through 1983.

Replacement

For replacements of the D120 products, contact:

ATS Inc.
Peoria, IL
1-800-328-7287

MPC1 Series

MPC1 Series

The MPC1 was a complete PLC system for applications up to 128 I/O. Programmed in easily understood relay ladder logic with digital and analog capabilities. Analog processor has the same functions as the discrete version and supports "intelligent" analog input and output modules.

Chronology

The Cutler-Hammer MPC1 products were offered from 1983 through 1993.

Replacement

For replacements of the MPC1 products, contact:

ICS Inc.
Decatur, IL
217-422-6700

D500 Series

D500 Series

The D500 family of PLCs consisted of several I/O cards and the racks used to mount them. The D500 was a full function programmable logic controller offering all of the capabilities of larger frame PLCs in a compact, economical, space-saving design.

Chronology

The Cutler-Hammer D500 products were offered from 1985 through 1994.

Replacement or parts are no longer available for D500 products.

Product Support Services

Technical Application Assistance

Eaton can provide technical application assistance via the Technical Resource Center. Available by telephone, Eaton personnel quickly respond to customer needs, including troubleshooting, analyzing system operation, and coordinating component repair or replacement. The Technical Resource Center can be reached at:

1-800-356-1243

Further Information

Publication Number	Description
CA08101001E	*Electrical Control Products and Services Catalog*

Pricing Information

Vista/VISTALINE™ Discount Symbol 2CD-3.

Cutler-Hammer is a federally registered trademark of Eaton Corporation. Modbus is a registered trademark of Modicon a division of Schneider Electric Industries SA. Siemens is a federally registered trademark of Siemens AG.