

PROGRAMMABLE CONTROLLERS

D300 PLC OVERVIEW



Cutler-Hammer

EATON

PSU115

POWER
●

D300PLC

Cutler-Hammer

CPU300

RUN
ERR
SER
PAR

RUN
▲
PAUSE
●
STOP
▼

OUT RELAY

0-00000000

00000000

IN 24VDC

0-00000000

00000000

0-00000000

00000000

IN 115VAC

0-00000000

00000000

0-00000000

00000000

AM410

CUSTOM-TAILOR YOUR SYSTEM BY CHANGING A COMMUNICATIONS OR CONTROL CARD
SIMPLY UNPLUG IT FROM THE D300 HOUSING AND SLIDE IN A NEW ONE.

Cutler-Hammer's D300 Programmable Logic Controller delivers advanced processing power, modular flexibility, fast scan speed, advanced functions and communications capabilities. All the power of a larger PLC in a compact design.

The D300 is designed to function with the industry's most sophisticated operator interfaces ensuring the productivity gains that a clear human/machine interface provides. And with a full line of discrete I/O modules, the D300 allows direct connection to virtually any sensor, motor starter or switch.

You Demand Advanced Processing Power.

THE D300 PLC DELIVERS

EASILY EXPANDABLE.

As a stand-alone programmable controller, the D300 provides the capability of expanding to meet system requirements.

The D300 base system consists of three components: a rack upon which the I/O modules are mounted, a power supply, and a Central Processing Unit (CPU) which provides all logic and communications. In its most basic configuration, the D300 can accommodate 64 I/O points.

With multiple chassis available, design choices abound. You can configure your base I/O through 256 points by simply plugging in various modules. When more I/O points are needed, an expansion chassis linked through a cable increases I/O to 512 points. Using Remote I/O units, a single D300 CPU can communicate with up to 1536 points of I/O (512 local and 1024 remote).



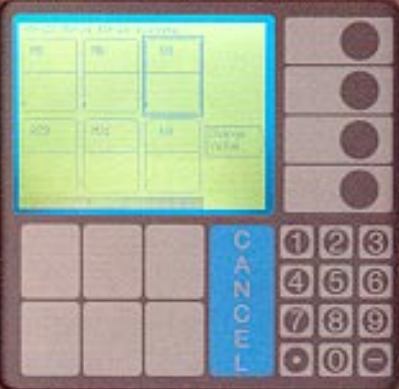
NO COMPETITIVE PLC PROVIDES DUAL
COMMUNICATION PORTS.



THE D800 IS A SPACE-
SAVING,
BACKLIT VIDEO CONTROL PANEL
WITH INDICATORS FOR MACHINE
STATUS, NUMERIC READOUTS,
HORIZONTAL BAR DISPLAYS,
MESSAGE DISPLAYS AND DATA
TABLE ACCESS. TO NAVIGATE THE
D800, MOVE YOUR FINGER
ACROSS THE SEALED TOUCHPANEL.
RATED NEMA 4X AND 12.

D800

Series 1000



Celle-Hammer



THE D300 IS COMPLETELY COMPATIBLE WITH OUR D50 PLC LINE. PROGRAMS CAN EASILY BE EXCHANGED BETWEEN UNITS. THE SAME RS-485 CONNECTION CAN BE SIMULTANEOUSLY USED WITH BOTH MODELS.

CUTLER-HAMMER PLCs

Programming Made Easy.

Programming the D300 is accomplished with straightforward ladder logic downloaded from a personal computer using Cutler-Hammer's Graphic Programming & Control (GPC) software. For less demanding applications or simple editing, a hand-held programmer is also available.

Cutler-Hammer's GPC software is so simple to use that training time for new personnel is minimized. More experienced operators familiar with other PLC programming architectures will need little or no training to program the D300.

SINGLE OR MULTIPLE PLC APPLICATIONS

In applications requiring only a single D300 PLC, the PLC program can be downloaded from a personal computer through an RS-232C link. When needed, the computer can be linked with up to 32 D300 PLCs using a standard built-in RS-485 port.

THE CUTLER-HAMMER PLC FAMILY.

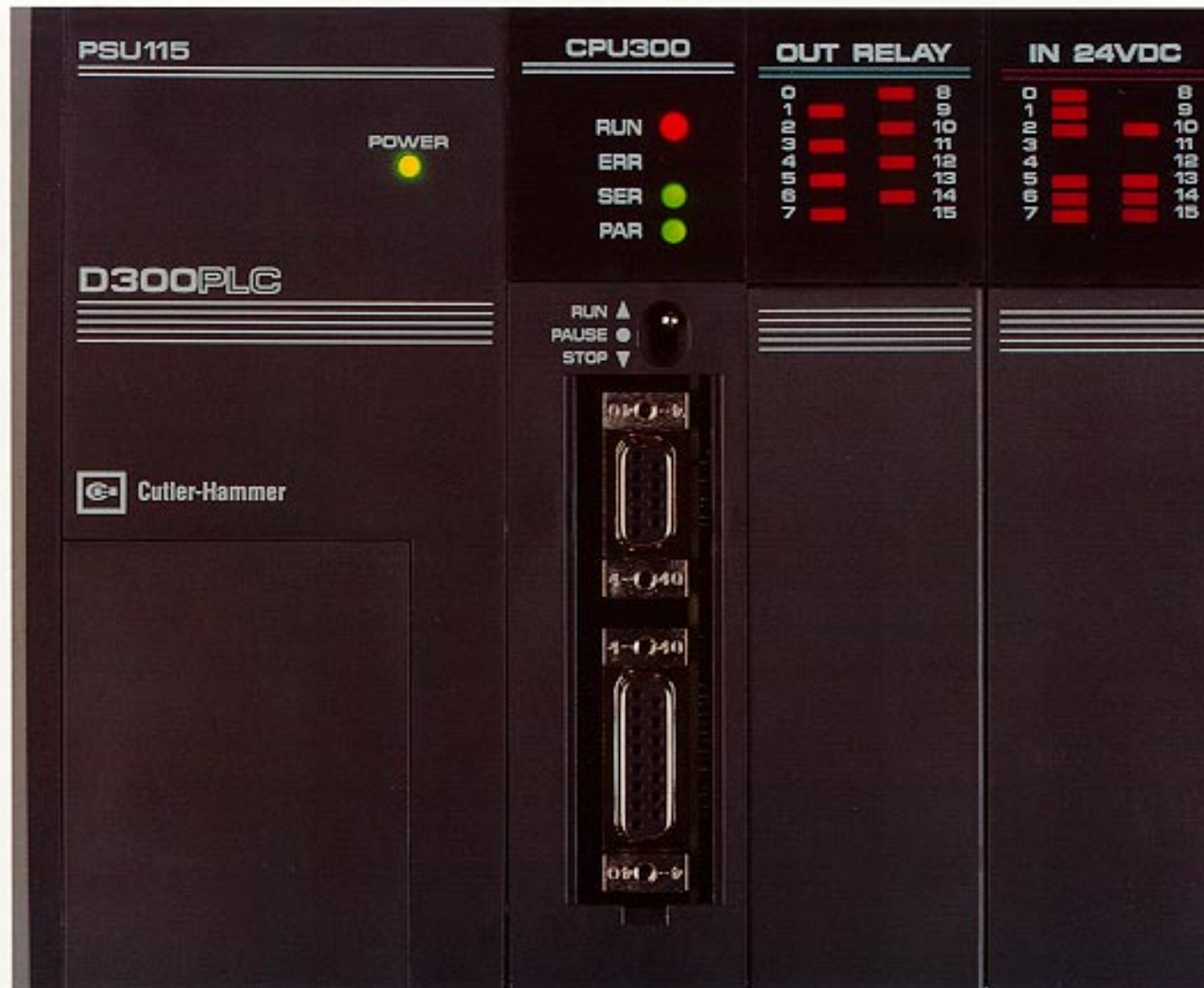
Regardless of the application, Cutler-Hammer PLCs—from the D50 to the D300—may be linked to each other, to remote operator interface devices and to a PC for the ultimate, expandable control system.



THE CUTLER-HAMMER D300

Fits Your Unique Applications.

Select between 8K or 12K EEPROM. This provides safely stored and easily reprogrammed nonvolatile memory. With a lightning quick processing speed of 0.75ms per 1000 steps of instruction, the D300 CPU is one of the most powerful processing units in its class.



SHOWN AT ACTUAL SIZE



PROGRAMMING.

SIMPLE LADDER LOGIC PROGRAMMING WITH OVER 100 APPLICATION COMMANDS ALLOWS EASY YET POWERFUL PROGRAMMING. WITH USE OF CUTLER-HAMMER'S GPC SOFTWARE, PROGRAMMING CAN BE DOWNLOADED AND MONITORED FROM A PC. OVER 2000 INTERNAL RELAYS AND 3000 DATA REGISTERS MAKES THE D300 A POWERFUL PROCESSING TOOL.

TWO COMMUNICATIONS PORTS.

TO INCREASE COMMUNICATION ABILITY, THE CPU 310 HAS TWO RS-232C/RS-485 SELECTABLE PORTS TO PROVIDE FLEXIBLE LINKAGES TO COMPUTERS OR PERIPHERALS.

I/O FLEXIBILITY.

THE D300 CAN GROW TO MEET YOUR NEEDS. CHASSIS ARE AVAILABLE IN 5, 7 AND 9-SLOT CONFIGURATIONS WITH MULTIPLE I/O MODULE DENSITIES. THAT MEANS THE D300 IS EXPANDABLE TO MEET FUTURE NEEDS WITHOUT OVER-BUYING FOR THE PRESENT. THE BASIC CONFIGURATION RANGES FROM 64 TO OVER 1500 I/O.

DISCREET I/O.

AN EXTENSIVE LINE OF I/O MODULES SATISFIES SPECIFIC SYSTEM NEEDS. A COMPREHENSIVE RANGE OF HIGH AND LOW VOLTAGE INPUTS ARE AVAILABLE IN BOTH AC AND DC MODULES. OUTPUT RELAYS ARE OFFERED IN STANDARD AND SPECIAL HIGH CURRENT MODELS FOR HIGH DEMAND OUTPUT LOADS.

ANALOG I/O.

HIGH RESOLUTION INTELLIGENT MODULES ENABLE THE USE OF ANALOG INPUTS AND OUTPUTS. THESE MODULES GREATLY INCREASE DEVICE CONTROL PRECISION.

NETWORK ABILITY. PEER-TO-PEER LINKS.

NETWORKING ABILITY ALSO ALLOWS FOR GREATER DISTANCES BETWEEN THE CPU AND THE I/O. MULTI-LAYERED, MULTI-DROP COMMUNICATIONS EXPAND THE SYSTEM TO GATHER DATA AND BUILD A SOPHISTICATED CONTROL NETWORK. CONFIGURE UP TO 32 STATIONS ON A PEER-TO-PEER LINK. ADD REMOTE I/O WITH 16 DROPS PER CPU AND CREATE SYSTEMS OF 512 STATIONS.

BUILT TO TAKE IT.

TO REDUCE SYSTEM FAILURES AND MAINTENANCE, THE RUGGED DESIGN OF THE INDUSTRIALLY HARDENED D300 ALLOWS IT TO FUNCTION IN THE HARSHTEST INDUSTRIAL ENVIRONMENT. A WIDE VOLTAGE RANGE POWER SUPPLY AND THE ABILITY TO OPERATE FOR 20ms UNDER MOMENTARY POWER LOSS ALLOWS IT TO EXECUTE EFFECTIVELY DURING UNANTICIPATED POWER SUPPLY FLUCTUATIONS. IT WITHSTANDS VIBRATION OF 16.7Hz AND IMPACTS UP TO 10G IN ALL DIRECTIONS.

SPECIFICATIONS

PROGRAMMING LANGUAGE
Ladder diagram and mnemonic
instruction

MEMORY
8K or 12K words Program Capacity
EEPROM Memory Type

INSTRUCTION
61 Basic instructions
103 Application instructions

EXECUTION SPEED
0.75µs per instruction

NO. OF I/O POINTS
512 Local I/O
1024 Remote I/O

INTERNAL RELAYS & REGISTERS
2048 relays (Bit)
3072 data registers (Word)

TIMERS OR COUNTERS
256 channels:
(64) .01 - 655.35 sec
(192) .1 - 6553.5 sec
(0 - 256) 1 - 65,535 counts

DATA LINK
32 units with RS-485 interface
16 Stations with remote I/O
32 units link peer-to-peer

Cutler-Hammer, a part of Eaton Corporation, is a leader in the development and manufacturing of power distribution equipment, electrical control products, and advanced industrial automation solutions.

For more information on Cutler-Hammer products and services, call 1-800-525-2000, or visit our website at www.cutlerhammer.eaton.com



Cutler-Hammer

Milwaukee, Wisconsin U.S.A.

Publication No. B-9E-02 S.E
January 1998
Printed in U.S.A. (GSP)

EATON