

# DL405 Family of Products

This page provides an overview of the variety of products found in the DL405 family.

## CPU's

- [D4-454](#) – 110/220 VAC P/S
- [D4-454DC-1](#) – 24VDC P/S  
30.8K total memory  
16 PID loops with auto-tune

## Memory cartridges

- UV PROM - 15.5K ([D4-UV-2](#))
- EEPROM - 15.5K ([D4-EE-2](#))

## Programming

- DirectSOFT Programming for Windows ([PC-DSOFT6](#))  
Handheld programmer ([D4-HPP-1](#))

## Bases

- 4-slot base ([D4-04B-1](#))
- 6-slot base ([D4-06B-1](#))
- 8-slot base ([D4-08B-1](#))

## Local expansion base power supplies

- 110/220 VAC P/S ([D4-EX](#))
- 24VDC P/S ([D4-EXDC](#))

## Discrete input modules

- DC input
- 16-point 12–24 VDC ([D4-16ND2](#))
- 16-point 12–24 VDC (1ms response) ([D4-16ND2F](#))
- 32-point 24VDC ([D4-32ND3-1](#))
- 64-point 20–28 VDC ([D4-64ND2](#))  
AC input modules
- 8-point 110/220 VAC ([D4-08NA](#))
- 16-point 110VAC ([D4-16NA](#))
- AC/DC input modules
- 16-pt 12–24 VAC/DC ([D4-16NE3](#))

## Discrete output modules

- DC output modules
- 16-point 5–24 VDC ([D4-16TD1](#))
- 16-point 12–24 VDC ([D4-16TD2](#))
- 32-point 5–26 VDC ([D4-32TD1](#))
- 32-point 12–24 VDC ([D4-32TD2](#))
- 64-point 5–26 VDC ([D4-64TD1](#))
- AC output modules
- 8-point 18–220 VAC ([D4-08TA](#))
- 16-point 18–220 VAC ([D4-16TA](#))
- Relay output modules
- 8-point 2A ([D4-08TR](#))
- 8-point 5A/pt (isolated) ([F4-08TRS-2](#))
- 8-point 10A/pt (isolated) ([F4-08TRS-1](#))
- 16-point 1A/pt ([D4-16TR](#))

## Analog modules(12-bit)

- Analog input
- 4-channel in, current/voltage ([F4-04AD](#))
- 4-channel in, current/voltage (isolated) ([F4-04ADS](#))
- 8-channel in, current/voltage ([F4-08AD](#))
- 16-channel in, current ([F4-16AD-1](#))
- 16-channel in, voltage ([F4-16AD-2](#))
- Analog output
- 4-channel out, current ([F4-04DA-1](#))
- 4-channel out, voltage ([F4-04DA-2](#))
- 8-channel out, current ([F4-08DA-1](#))
- 8-channel out, voltage ([F4-08DA-2](#))
- 16-channel out, current ([F4-16DA-1](#))
- 16-channel out, voltage ([F4-16DA-2](#))
- Temperature Input
- 8-channel in, type J thermocouple ([F4-08THM-J](#))

## Analog modules(16-bit)

- Temperature Input
- 8-channel in, RTD ([F4-08RTD](#))
- 8-channel in, thermocouple ([F4-08THM](#))
- Analog output
- 4-channel out, current (isolated) ([F4-04DAS-1](#))
- Communications/networking modules
- Ethernet communications ([H4-ECOM100](#))
- Data communications ([D4-DCM](#))
- Modbus Client ([F4-MAS-MB](#))

## Specialty modules

- High-speed counter I/O ([H4-CTRIO](#))
- 8/16 channel input simulator ([D4-16SIM](#))
- 4-loop temperature controller ([F4-4LTC](#))
- BASIC CoProcessor Module
- 128K triple port ([F4-CP128-1](#))

## CPU-Slot Server controllers

- Ethernet base controller ([H4-EBC](#))

## Remote I/O modules

- Ethernet
- Ethernet remote Client Module ([H4-ERM100](#))
- Ethernet base Controller (Server) ([H4-EBC](#))
- Remote I/O protocol (serial)
- Remote I/O Client Module ([D4-RM](#))
- Remote I/O Server 110/220 VAC ([D4-RS](#))

# DL405 CPUs

## System capacity

System capacity is the ability of the CPU to accommodate a variety of applications. Here are a few key considerations when determining system capacity:

How much memory do you need?

Consider both ladder memory and data registers (V-memory). For ladder memory, most boolean instructions require one word. Some other instructions, such as timers, counters, etc., require two or more words. Our V-memory locations are

16-bit words and are useful for data storage, etc.

What type of memory do you need?

The [D4-454](#) has 15.5K of built in M-RAM ladder memory and no memory cartridge is needed.

How many I/O points are required?

You will need to know how many field devices are required. Compare the [D4-454](#) specifications tables on the next page with

your application requirements.

Are there any remote I/O points? In many applications, the cost of bringing the individual control wiring back to the PLC control panel can be reduced by the use of remote I/O. The [D4-454](#) CPU has built-in serial remote I/O connections on the lower 25-pin port; or use Ethernet Remote I/O for fast and easy set-up and communications.

## Performance

If you have a time-critical application where every millisecond is important, then the [D4-454](#) CPU, with the fastest overall scan time, is the right choice. The [D4-454](#) is very fast at performing even the most basic of math or data instructions and will provide a faster overall scan time.

D4-454 Parameters	
Features	D4-454
<b>Total Memory</b>	46.8K
<b>Ladder Memory</b>	31.5K
<b>DirectSOFT</b>	Yes, version 6.1 or later
<b>Memory Cartridge</b>	No, (same amount of memory as the largest memory cartridge)
<b>Battery</b>	<a href="#">D2-BAT-1</a> (CR2354)
<b>Mode Switch</b>	Toggle Switch (Same position/function)
<b>Port 1 and 3 Baud Rate</b>	2400, 4800, 9600, 19200, 38400
<b>Port 1 and 3 Settings</b>	8 data bits, 1 start bit, 1 stop bit, Odd, Even or No parity
<b>Port 2 Protocol</b>	DirectNet (Client/Server), K-sequence, Non-procedure, Modbus RTU (Client/Server)
<b>Firmware Update</b>	Supported from all ports

**NOTE:** Any hardware with a date code less than 09X0 or with a first digit that is not 0, 1, or 2 may not work with the [D4-454](#). We suggest that any hardware older than ten years and not currently sold on the AutomationDirect.com website be upgraded to a newer version.

D4-454 Unsupported Modules Table	
Bases	Retired
D4-04B, D4-04BNX	Yes
D4-06B, D4-06BNX	Yes
D4-08B, D4-08BNX	Yes
<b>Input Modules</b>	
D4-32ND3-2	Yes
D4-16NA-1	Yes
<b>Output Modules</b>	
D4-08TD1	Yes
<b>Comm Modules</b>	
H4-ECOM	Yes
<b>Remote I/O Modules</b>	
D4-ERM	Yes
D4-ERM-F	Yes
<b>Specialty Modules</b>	
D4-PULS	Yes
D4-HSC	Yes
F4-CP128-R	Yes
F4-CP512-1	Yes