DL405 Family of Products

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

CPUs

- 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

- UVPROM - 15.5K (D4-UV-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**
Total Memory	46.8K
Ladder Memory	31.5K
DirectSOFT	Yes, version 6.1 or later
Memory Cartridge	No, (same amount of memory as the largest memory cartridge)
Battery	D2-BAT-1 (CR2354)
Mode Switch	Toggle Switch (Same position/ function)
Port 1 and 3 Baud Rate	2400, 4800, 9600, 19200, 38400
Port 1 and 3 Settings	8 data bits, 1 start bit, 1 stop bit, Odd, Even or No parity
Port 2 Protocol	DirectNet (Client/Server), K-sequence, Non-procedure, Modbus RTU (Client/ Server)
Firmware Update	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
Input Modules	
D4-32ND3-2	Yes
D4-16NA-1	Yes
Output Modules	
D4-08TD1	Yes
Comm Modules	
H4-ECOM	Yes
Remote I/O Modules	
D4-ERM	Yes
D4-ERM-F	Yes
Specialty Modules	
D4-PULS	Yes
D4-HSC	Yes
F4-CP128-R	Yes
F4-CP512-1	Yes