



D2-262 CPU Specifications

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System Capacity		
Total memory available (words)	30.4	
Ladder memory (words)	15872 Flash	
V-memory (words)	14592	
Battery backup	Yes	
Total CPU memory I/O pts. available (actual I/O pts. depend on I/O configuration method selected)	8192 (1024 X + 1024 Y + 2048 CR + 2048 GX + 2048 GY)	
Local I/O (pts.)	256	
Local Expansion I/O (pts.)	1280 (4 exp. bases max.) (Including local I/O)	
Serial Remote I/O (pts.)	8192 max. (Including local & exp. I/O)	
Remote I/O channels	8 (7+1 CPU port)	
I/O per remote channel	2048	
Ethernet Remote I/O	Yes	
Discrete I/O pts.	8192 (Including local and exp. I/O)	
Analog I/O channels	Map into V-memory	
Remote I/O channels	Limited by power budget	
I/O per remote channel	16,384 (16 fully expanded H4-EBC Servers using V-memory and bit-of-word instructions)	
Performance		
Contact execution (Boolean)	0.61 μ s	0.1 μ s
Typical scan (1K Boolean)	1.9 ms	1.0 ms
Programming and Diagnostics		
RLL Ladder Style	Yes	
RLL ^{PLUS} /Flowchart Style (Stages)	Yes/1024	
Run time editing	Yes	
Supports Overrides	Yes	
Variable/fix scan	Variable	
Instructions	231	
Control relays	2048	
Timers	256	
Counters	256	
Immediate I/O	Yes	
Subroutines	Yes	
For/Next loops	Yes	
Timed Interrupt	Yes	
Integer Math	Yes	
Floating-point Math	Yes	
Trigonometric functions	Yes	
Table Instructions	Yes	
PID	Yes, 16 loops	
Drum Sequencers	Yes	
Bit of Word	Yes	
ASCII Print	Yes	
Real-time clock/calender	Yes	
Internal diagnostics	Yes	
Password security	Multi-level	
System and user error log	Yes	
Communications		
Built-in ports	Port 1 RS-232 Port 2 RS-232/422/485	
K-sequence (proprietary protocol)	Yes	
DirectNET [™]	Yes	
Modbus RTU Client/Server	Yes	
ASCII communications	IN/OUT	
Maximum baud rate	38.4K port 2	



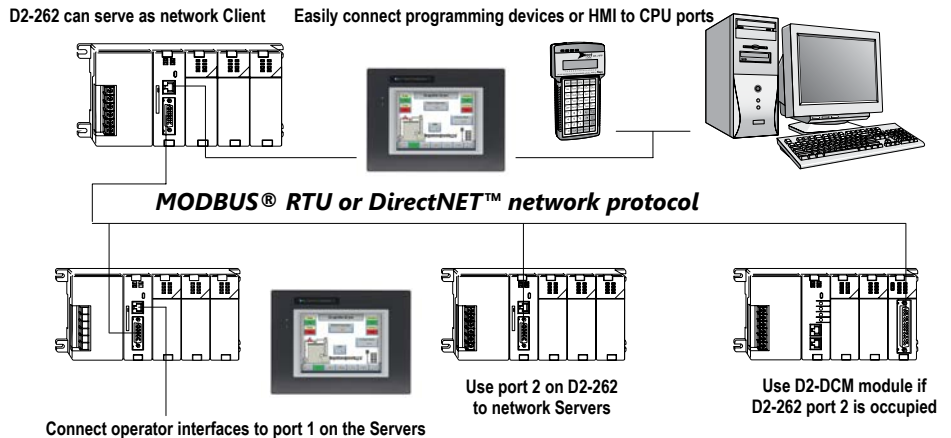
D2-262 Key Features



D2-262: Our most powerful DL205 CPU

Our D2-262 CPU provides all the capabilities of the D4-450 and D4-454 CPUs, plus several additional features rarely found in a PLC of this size. With such an incredible array of features, you may be able to replace PLCs costing hundreds (or thousands) more.

DirectSOFT is required to program the D2-262. If using a handheld programmer (H2-HPP), version 2.10 of the handheld programmer firmware is required. Here are a few key features about the D2-262 CPU



Powerful built-in CPU communications

Each D2-262 CPU offers two communications ports that provide a vast array of communication possibilities. The top RJ-12 RS-232 port can be used for connection to a **C-more** operator interface panel or as a single K-sequence or DirectNET Server. The 15-pin bottom port (port 2) supports RS-232 or RS-422/RS485. This port offers several different protocol options such as:

- K-sequence
- **DirectNET** Client/Server
- Modbus RTU Client/Server
- ASCII In/Out Communications

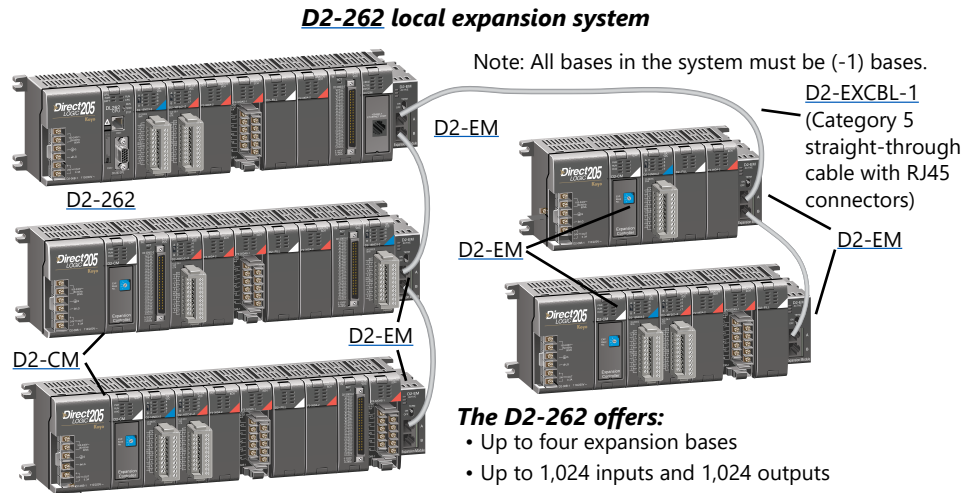
Port 2 can also serve as a remote I/O Client. The D2-262 supports the Ethernet Communication module and Data Communication Module for additional communications ports.



D2-262 Key Features

Local expansion I/O

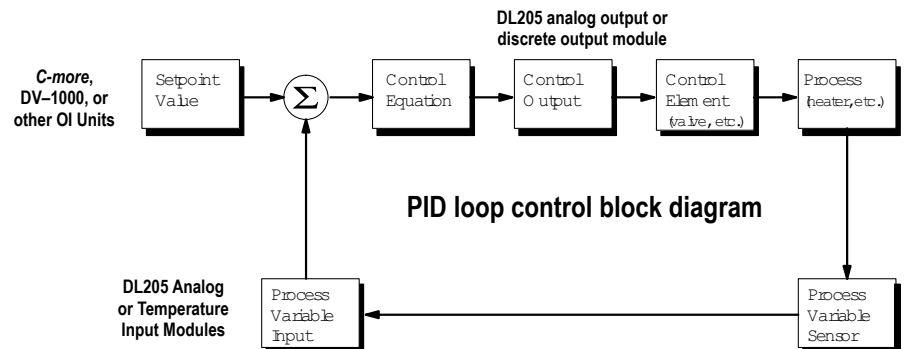
The D2-262 supports local expansion up to five total bases (one CPU base and four expansion bases). Expansion bases are commonly used when there are not enough slots available in the CPU base, when the base power budget will be exceeded, or when placing an I/O base at a location away from the CPU base (but within the expansion cable limits). All local and expansion I/O points are updated on every CPU scan. Each local expansion base requires the D2-CM module in the CPU slot. The local CPU base requires the D2-EM Expansion Module, as well as each expansion base. For more information on local expansion, refer to the Expansion Modules pages later in this section.



16 PID loops with auto-tuning

The D2-262 CPU can process up to 16 PID loops directly in the CPU. You can select from various control modes including automatic, manual, and cascade. There are also a wide variety of alarms including Process Variable, Rate of Change, and Deviation. The loop operation parameters (Process Variable, Setpoint, Setpoint Limits, etc.) are stored in V-memory, which allows easy access from operator interfaces or HMIs. Setup is accomplished with easy-to-use setup menus and monitoring views in DirectSOFT programming.

The auto-tuning feature is easy to use and can reduce setup and maintenance time. Basically, the CPU uses the auto-tuning feature to automatically determine near optimum loop settings.





D2-262 Key Features

Full array of instructions

The right instruction can greatly simplify your programming task and can save hours of programming time.

The D2-262 supports over 280 powerful instructions, such as:

- Four types of drum sequencers
- Leading / trailing edge triggered one-shots
- Bit-of-word manipulation
- Floating point conversions
- Trigonometric functions
- Table instructions
- ASCII IN/OUT instructions

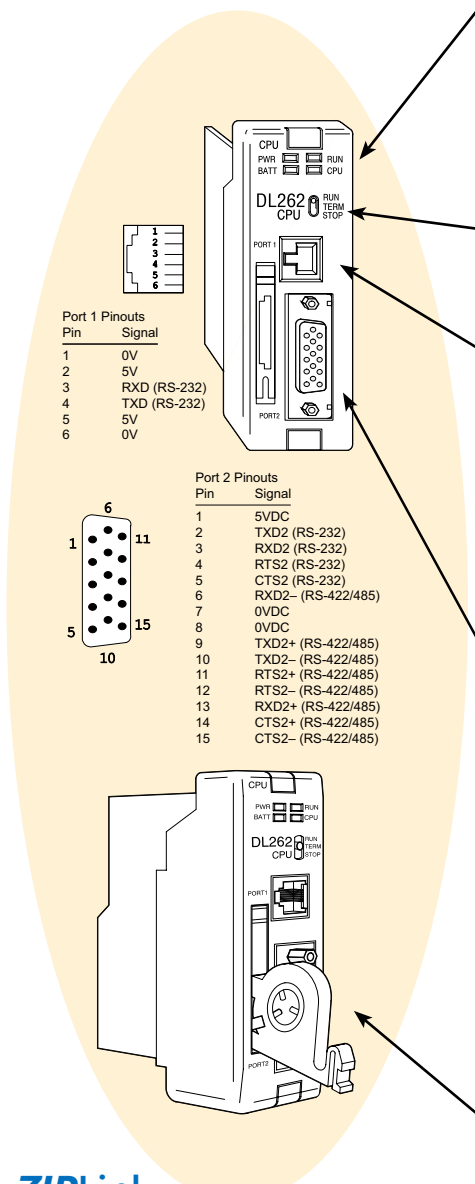
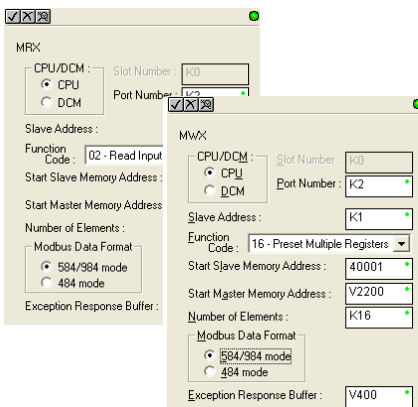
For a complete list of instructions supported by all DL205 CPUs, see the end of this section.

Modbus RTU instructions

The D2-262 CPU supports easy-to-use Modbus Read/Write instructions that expand our existing Modbus network instruction capabilities. The MRX or MWX instructions allow you to enter native Modbus addressing in your ladder program with no need to perform octal-to-decimal conversion. We added Function codes 05, 06 and the ability to read Server Exception Codes. These flexible instructions allow the user to select the following parameters within one instruction window:

- 584/984 or 484 Modbus data type
- Server node (0-247)
- Function code
- Modbus starting Client / Server memory address
- Number of bits
- Exception code starting address

Examples of MRX and MWX instructions in DirectSOFT



ZIPLink communications adapter modules

ZIPLink cables and communications adapter modules offer fast and convenient screw terminal connection for the bottom port of the D2-262 CPUs. The adapter modules are RS232/422/485 compatible and are offered with or without indicating LEDs and surge protection. See the Terminal Blocks and Wiring Solutions section in this catalog for more information.



ZI-CMA15L shown

CPU Status Indicators		
RUN	ON	CPU is in RUN mode
	OFF	CPU is in PROGRAM mode
BATT	ON	Battery backup voltage is low
	OFF	Battery backup voltage is OK or disabled
CPU	ON	CPU internal diagnostics detects error
	OFF	CPU is OK
PWR	ON	CPU power good
	OFF	CPU power failure
Mode Switch		
RUN	Puts CPU into RUN mode	
TERM	Allows peripherals (HPP, DirectSOFT) to select the mode of operation	
STOP	Forces CPU out of RUN mode	
Port 1		
Protocols	K-sequence Server, DirectNET ™ Server, Modbus RTU Server	
Devices	Can connect w/HPP, DirectSOFT , C-more, O/I panels, or any DirectNET Client	
Specs.	6P6C phone jack connector RS-232 9,600 baud Fixed address Odd parity only 8 data bits one start, one stop asynchronous, half-duplex, DTE	
Port 2		
Protocols	K-sequence Server, DirectNET Client/Server, Modbus RTU Client/Server, ASCII IN/OUT, Remote I/O Client	
Devices	Can connect w/many devices, such as PCs running DirectSOFT , DSDData, HMI packages, C-more, other O/I panels, any DirectNET or Modbus RTU Client or Server, or ASCII devices	
Specs.	HD15 connector RS-232, RS-422/485* 2400/4800/9600/19.2K/38.4K baud Odd, even, or no parity Selectable address (1-90, HEX 1 - 5A) 8 data bits, one start, one stop Asynchronous, Half-duplex, DTE	
Battery (Optional)		
D2-BAT-1	Coin type, 3.0V Lithium battery, 560mA, battery number CR2354	
Note: Batteries are not needed for program backup. However, you should order a battery if you have parameters in V-memory that must be maintained in case of a power outage.		
*RS485 for Modbus protocol only		

On-board memory

The D2-262 has 15.5K words of flash memory on board for your program plus 14.2K words of data registers. With flash memory, you don't have to worry about losing the program due to a bad battery.

Built-in remote I/O connection

The bottom port on the D2-262 can be used as a Client for serial remote I/O networks.