

## **D2-262 CPU Specifications**

D2-262 CPU S	pecifications		
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.	8192 (1024 X + 1024 Y +		
depend on I/O configuration method selected)	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		
•	8192		
Discrete I/O pts.	(Including local and exp.I/O)		
Analog I/O channels	Map into V-memory		
Remote I/O channels	Limited by power budget		
	16,384 (16 fully expanded		
I/O per remote channel	H4-EBC Servers using V-memory and bit-of-word instructions)		
Performance			
Contact execution (Boolean)	0.61 µs 0.1 µs		
Typical scan (1K Boolean)	1.9 ms 1.0 ms		
Programming and Diagnostics			
RLL Ladder Style	Yes		
RLL <sup>PLUS</sup> /Flowchart Style (Stages)	Yes/1024		
Run time editing	Yes		
Supports Overrides	Yes		
Variable/fixed 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			
Real-time clock/calender	Yes		
Internal diagnostics	Yes Yes		
Password security	Multi-level		
System and user error log	Yes		
Built-in ports	Port 1 RS-232		
	Port 2 RS-232/422/485		
K-sequence (proprietary protocol)	Yes		
	Yes		
Modbus RTU Client/Server	Yes		
ASCII communications	IN/OUT		
Maximum baud rate	38.4K port 2		



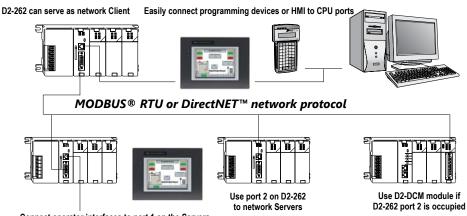
## **D2-262 Key Features**



#### 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



Connect operator interfaces to port 1 on the Servers

#### 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 <u>D2-262</u> 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

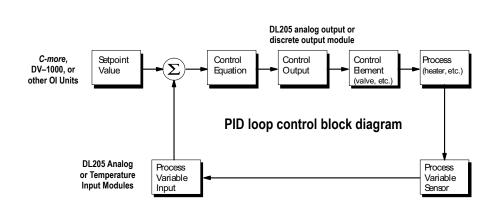
The <u>D2-262</u> CPU can process up to 16 PID loops directly in the CPU. You can select from various control modes including automatic, manual, and cascade. There are also a wide variety of alarms including Process Variable, Rate of Change, and Deviation. The loop operation parameters (Process Variable,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



- Up to 1,024 inputs and 1,024 outputs
- Up to 30m (98ft) total expansion system cable





### **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 <u>D2-262</u> 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

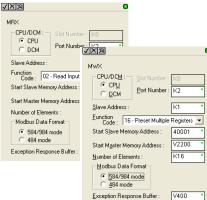
For a complete list of instructions supported by all DL205 CPUs, see the end of this section.

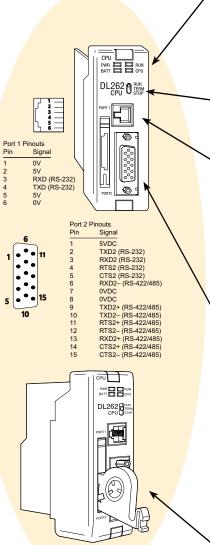
# Modbus RTU instructions

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





# **ZIP**Link communications adapter modules

ZIPLink cables and communications adapter modules offer fast and convenient screw terminal connection for the bottom port of the <u>D2-262</u> 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.



ZL-CMA15L shown

1		0.5			
		<u> </u>	PU 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, <i>Direct</i> SOFT) to		
			select the mode of operation		
	STOP		Forces CPU out of RUN mode		
-			Port 1		
	Protocols		K-sequence Server, <i>Direct</i> NET™ Server,		
			Modbus RTU Server		
	Devices		Can connect w/HPP, <b>Direct</b> SOFT,		
			C-more, O/I panels, or any DirectNET		
	Client				
			6P6C phone jack connector RS-232 9.600 baud		
			Fixed address		
	Specs.		Odd parity only		
			8 data bits one start, one stop		
			asynchronous, half-duplex, DTE		
Port 2					
			K-sequence Server, <i>Direct</i> NET Client/		
			Server, Modbus RTU Client/Server, ASCI		
Protocols		ols	IN/OUT,		
			Remote I/O Client		
			Can connect w/many devices, such as		
Devices			PCs running <i>Direct</i> SOFT, DSData, HMI		
		s	packages, <i>C-more</i> , other O/I panels,		
			any DirectNET or Modbus RTU Client or		
			Server, or ASCII devices		
			HD15 connector		
			RS-232, RS-422/485*		
			2400/4800/9600/19.2K/38.4K baud		
Specs.			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 <u>D2-262</u> 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  $\underline{D2-262}$  can be used as a Client for serial remote I/O networks.