DirectLOGIC® DL205 Programmable Logic Controller (PLC)

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DL205 - Cost-effective Micro Modular PLC

What is it?

The DL205 series PLC is a micro modular PLC that allows you to drastically lower your control system cost. This PLC has the necessary specifications to replace PLCs costing two to three times as much.

What's it got?

The DL205 advanced CPU, the D2-262, offers 30.4K of total memory (15.8K of program memory) and can support up to 16,384 I/O points. The D2-262 has two built-in communication ports that, depending on the specifications of each, can support devices such as HMIs, serial networks, remote I/O and ASCII devices. Its 280+ RLL (Relay Ladder Logic) and *I*Box instructions give it the ability to be part of a large and powerful control system with a price that meets a tiny budget! Four base sizes with built-in power supply support 12/24 VDC, 110/220 VAC and 125 VDC (six and nine-slot only) power sources.

Over 35 I/O and communication modules are available from discrete and analog to high-speed counter and Ethernet modules.

Related products include:

- Industrial DIN-rail mountable Ethernet hub/switch
- ZIPLink connector modules - relay, fuse and LED options (See Wiring Solutions section.)
- Connectivity to *Sure*Servo and *Sure*Step motion products

Relay ladder logic CPU

DL205 CPU

RLL (Relay Ladder Logic based) CPU

D2-262 (**$424.00**) - 30.4K memory, maximum 16,384 I/O

(also see Do-more section for new-generation CPU!)

Discrete input/ output modules

DC Input Modules

D2-08ND3	**$81.00**	8-pt. 12-24V sink/source
D2-16ND3-2	**$137.00**	16-pt. 24V sink/source
D2-32ND3-2	**$190.00**	32-pt. 5-15V sink/source
D2-32ND3	**$190.00**	32-pt. 24V sink/source

32 pt module with optional ZIPLink wiring system

AC input modules

D2-08NA-1	**$116.00**	8-pt. 110VAC
D2-08NA-2	**$148.00**	8-pt. 220VAC
D2-16NA	**$204.00**	16-pt. 110VAC

DC output modules

D2-04TD1	**$103.00**	4-pt. 12-24V sink, 4A/pt
D2-08TD1	**$87.00**	8-pt. 12-24V sink
D2-08TD2	**$86.00**	8-pt. 12-24V source
D2-16TD1-2	**$152.00**	16-pt. 12-24V sink
D2-16TD2-2	**$152.00**	16-pt. 12-24V source
F2-16TD1P	**$162.00**	16-pt. 12-24 VDC sink
F2-16TD2P	**$163.00**	16-pt. 12-24 VDC source
D2-32TD1	**$193.00**	32-pt. 12-24V sink
D2-32TD2	**$193.00**	32-pt. 12-24V source

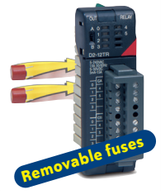
16 pt module with removable terminal block

AC output modules

D2-08TA	**$165.00**	8-pt. 18-220VAC
F2-08TA	**$208.00**	8-pt. 20-125VAC, high current
D2-12TA	**$204.00**	12-pt. 18-110VAC

Relay output modules

D2-04TRS	**$104.00**	4-pt. 4A/pt. 8A/module
D2-08TR	**$104.00**	8-pt. 1A/pt. 4A/module
F2-08TR	**$135.00**	8-pt. 8 form A, 10A/common
F2-08TRS	**$182.00**	8-pt. 5 form A, 3 form C, 7A/pt
D2-12TR	**$166.00**	12-pt. 12 form A, 1.5A/pt



Combination

D2-08CDR	**$100.00**	4-pt. DC in, 4-pt. relay out

Analog and Temperature modules

Wide range of low cost analog and thermocouple modules

Analog input modules

F2-04AD-1	**$360.00**	4-ch. 4-20mA
F2-04AD-2	**$393.00**	4-ch. 0-5V, 0-10V, -5 to +5V, -10 to +10V
F2-08AD-1	**$442.00**	8-ch. 4-20mA
F2-08AD-2	**$469.00**	8-ch. 0-5V, 0-10V, -5 to +5V, -10 to +10V

Analog output modules

F2-02DA-1	**$282.00**	2-ch. 4-20mA
F2-02DA-2	**$295.00**	2-ch. 0-5V, 0-10V, -5 to +5V, -10 to +10V
F2-02DAS-1	**$393.00**	2-ch. 4-20mA, 16-bit isolated
F2-02DAS-2	**$428.00**	2-ch. 0-5V, 0-10V 16-bit isolated
F2-08DA-1	**$535.00**	8-ch. 4-20mA, sink/source selectable
F2-08DA-2	**$482.00**	8-ch. 0-5V, 0-10V

Combination analog

F2-4AD2DA	**$505.00**	4-ch. in/2-ch. out 4-20mA
F2-8AD4DA-1	**$634.00**	8-ch. in/4-ch. out 4-20mA
F2-8AD4DA-2	**$626.00**	8-ch. in/4-ch. out 0-5V, 0-10V

Temperature

F2-04RTD	**$539.00**	4-ch. RTD input 0.15 degrees C resolution
F2-04THM	**$529.00**	4-ch. 16-bit thermocouple and millivolt

Communication modules

Ethernet	H2-ECOM100 **$423.00** Master/Slave Ethernet 100Base-T
Serial/Modbus	D2-DCM **$501.00** RS-232/422 ***Direct***NET master/slave, Modbus RTU slave
CoProcessor	F2-CP128 **$604.00** BASIC Comm. CoProcessor, 3 ports, 128K memory, RS-232/422/485 master/slave

Expansion I/O - Add up to four DL205 bases of expansion I/O to the D2-262 CPU. It's deterministic and low cost.

Ethernet Remote I/O - Use a 100 Mbit Ethernet Remote Master module (H2-ERM100 $277.00) in a local DL205 base and add up to 16 bases of DL205 I/O, 16 Terminator I/O systems or four DL405 local I/O systems (with Ethernet Base Controllers).

Specialty modules

Input Simulator

F2-08SIM	**$107.00**	8 pt Input Simiulator
Serial		
H2-SERIO	**$252.00**	Three RS-232 ports
H2-SERIO-4	**$252.00**	Two RS-232 ports and one RS-422/485 port**High Speed Counting & Motion Control**
H2-CTRIO2	**$445.00**	Four 250 kHz inputs, and two 20-250 kHz pulse train outputs

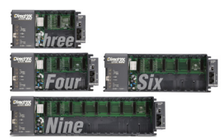
Four base sizes

3-slot base
- D2-03B-1 110/220 VAC **$200.00**
- D2-03BDC1-1 12/24 VDC **$249.00**

4-slot base
- D2-04B-1 110/220 VAC **$217.00**
- D2-04BDC1-1 12/24 VDC **$274.00**

6-slot base
- D2-06B-1 110/220 VAC **$268.00**
- D2-06BDC1-1 12/24 VDC **$304.00**
- D2-06BDC2-1 125 VDC **$279.00**

9-slot base
- D2-09B-1 110/220 VAC **$333.00**
- D2-09BDC1-1 12/24 VDC **$360.00**
- D2-09BDC2-1 125 VDC **$359.00**



For the latest prices, please check AutomationDirect.com.

DL205: 11 Reasons why the DL205 is an extremely practical PLC

1 2-for-1 prices

Check out our prices on everything from I/O modules to bases and you'll see that our everyday list prices are among the lowest in the industry. For instance, you can buy multiple D2-262 systems for the price of one of Allen-Bradley's CompactLogix CPUs. Will that help your budget?

2 Practical built-in communication includes easy-to-use ASCII instructions

Our D2-262 CPU, priced at $424.00, offers two built-in communication ports. The top port supports programming and operator interfaces. The bottom port supports the same, as well as ASCII input and output (bar code readers, label printers, scales, servo drives), Modbus RTU master/slave, and Remote I/O master. And our new CPU platform for DL205 hardware, Do-more, has even more practical ports onboard, such as Ethernet and a USB prgramming port. See the DMH catalog sections for details.

3 Practical communication

Many communication modules are available for DL205 PLCs, including Ethernet, DeviceNet, and a general purpose serial communication module that supports HMIs, programming, operator panels, Modbus RTU slave and *Direct*NET slave.

See DL Overview section for detailed features and specifications

DirectSOFT6

D2-262 CPU Communicate to ASCII devices from the bottom CPU port

4 Practical counting/pulse

At $445.00, our high-speed countermodule (H2-CTRIO2) has four independently configurable timer/counter channels (up to 250 kHz) and two pulse output generators (up to 250 kHz). The easy-to-use configuration tool is included in our PLC programming software, so it's a snap to integrate with your other application logic.

For counting on a shoestring budget, the $150.00 D2-CTRINT module offers two 5 kHz counters, one up/down counter, or a variable pulse train output.

5 $462.00 programming software includes auto-tune PID

Program the DL205 family of PLCs with *Direct*SOFT6. Customers tell us that it's one of the easiest PLC programming packages to use.

- Point and click or function key editing
- Can use nicknames or data points for writing programs
- I/O cross reference and element usage windows for keeping track of addresses used

Or consider the Do-more CPU platform - its ladder-based programming language is even more intuitive and powerful, and the software is free! See the DMH catalog section for details.

DirectSOFT6

Auto-tune PID

Some of the traditional PLC companies require a separate ladder program for each PID loop and for loop scheduling. We make it automatic.

- Fill out a chart for alarms and ramp/soak
- Automatic loop scheduling
- Programming software includes the loop tune screen with trending (shown to the left)
- Loop auto-tuning, which allows the CPU to automatically determine the near-optimum loop settings

6 Expansion I/O

In addition to remote I/O and Ethernet remote I/O, the DL205 family supports local expansion I/O! Up to four DL205 bases can be connected (30 meters total) to a local base that contains a D2-262 CPU). With expansion I/O, all bases are updated synchronously with each I/O scan for a deterministic system.

7 Super flexible coprocessor module

Create custom BASIC programs to interface to barcode readers, VF drives or other intelligent ASCII devices. The module comes with 128K memory, 26 MHz CPU and three independent communication ports.

8 Practical low-cost analog

Do you need up to 16-bit resolution, up to eight channels of input or output, combination, RTD or thermocouple modules? The DL205 PLC has it all. And many of our modules have selectable unipolar or bipolar voltage range options (0-5V, 0-10V, ±5V or ±10V) too.

9 High current modules

We offer high current relay modules that can support up to 10A per point.

10 Practical temperature sensing

The DL205 series features a four-channel thermocouple module (F2-04THM for $529.00) that is jumper-configurable for the nine most popular thermocouple types, as well as four common voltage ranges.

Numerous DL205 modules can be used with our *ZIP*Link connection systems. Connect even 32-point modules in seconds!

ZIPLink Selector

11 Practical high-density modules and ZipLink connections

DL205 I/O modules offer a wide range of points per module including 4-pt., 8-pt., 12-pt., 16-pt. and 32-pt. modules. To help you wire them fast and inexpensively, *ZIP*Link quick connection cables and terminal blocks allow you to connect PLC I/O modules to terminal blocks in seconds. These easily pay for themselves by reducing wiring costs. We also offer relay, fused and LED *ZIP*Link modules. For information on our 5-second wiring solution, see *ZIP*Links in the Wiring Solutions section or check out our convenient *ZIP*Link selector tool.

For the latest prices, please check AutomationDirect.com.

DL205 - Great Fit For On/Off Sequential Control

1 2-for-1 prices on I/O

Our I/O prices are incredibly low. This gives the DL205 a cost advantage on small I/O systems as well as large systems. Over 19 discrete modules are available on the DL205 system, ranging from 4-point modules to 32-point densities. The price comparison table below shows a few examples of how our prices compare to the list prices of similar modules from another vendor.

2 Practical built-in communications includes ASCII in and out

The D2-262 CPU offers two built-in communication ports. Connect a text panel or touch panel to one port and a bar code reader or scale to the second port, or use any supported protocol for PLC networking.

3 Expands from 8 I/O to 16,384 I/O

The DL205 PLC family is highly expandable. Four base sizes can be connected via local expansion I/O, serial remote I/O and Ethernet remote I/O to create a system as large as 16,384 I/O addressed by a single D2-262 CPU.

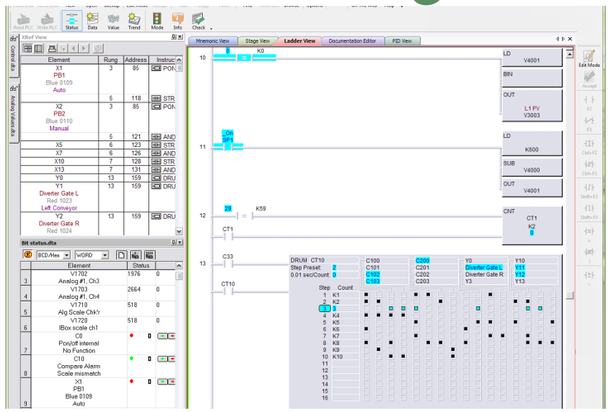
4 Put I/O anywhere

Reduce your wiring cost by locating I/O near your field devices. Up to four expansion bases of I/O (all synchronously updated each scan) can be placed 30 meters (total run) from the local base. 100baseT Ethernet bases (H2-EBC100) can each be located up to 100 meters from a local base with an Ethernet Remote Master module (H2-ERM100). Fiber optic versions of these Ethernet modules allow this distance to be increased to 2,000 meters.

5 Great sequential instructions

Think of our drum instruction as a software emulation of a mechanical cam switch or a programmable limit switch. The rotation (steps) of the drum is controlled by time or events (inputs or control relays). As the drum sequences through the steps in your application, up to 16 preconfigured outputs/control relays change state. Drums are an efficient way to program sequential operations and our drums are made super easy to program with point and click editing.

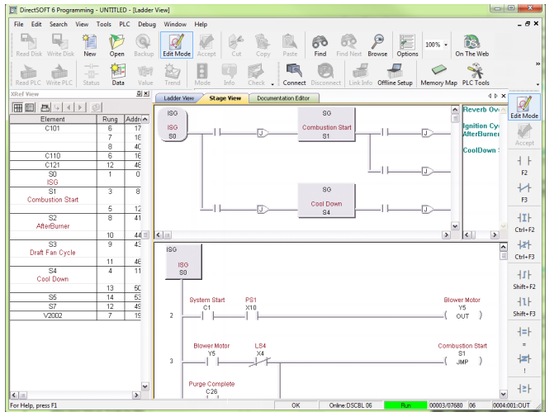
DirectSOFT6 see DL Overview section for full details



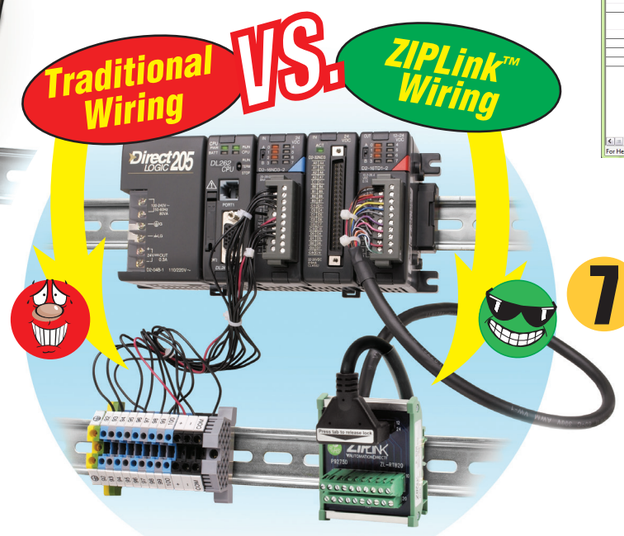
DL205 drum timer instruction

6 RLL, *IBox* and RLL+ Programming

Our Relay Ladder Logic (RLL) incorporates *IBoxes*, intelligent modularized instructions, that perform simple to complex ladder logic. RLL +, or "stage" programming, incorporates instructions that allow you to break your program into "stages" or states of a flow chart. Stage may also help reduce your memory requirements and scan time.



Stage programming combines RLL instructions with flow chart thinking.



For more information on our "5-second wiring solution", check out the Wiring Solutions section or use the convenient ZIPLink selector tool to help you find the right ZIPLink modules and cables for your I/O connections.

ZIPLink Selector

7 High-density modules save space and money, and can be wired in seconds using *ZIP*Links

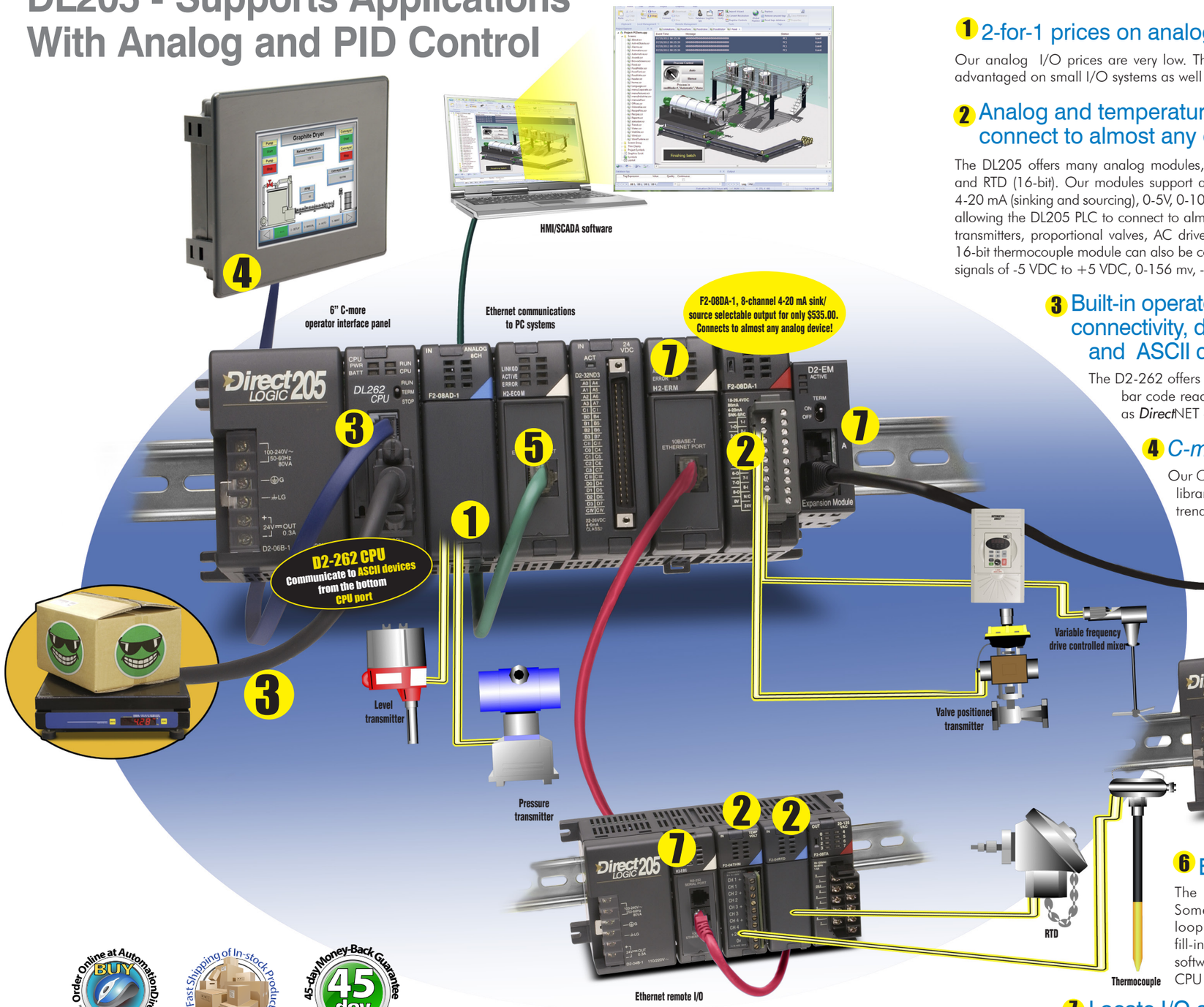
The DL205 modules offer a variety of I/O density from four to 32 I/O points per module. These modules are small and can get cramped when wiring. Use *ZIP*Link products for fast and easy wiring, including feedthrough terminals, relay terminals, fuse terminals and LED terminals (good for high density inputs).

This module can be used with ZIPLINK CONNECTION SYSTEMS

Want to save wiring time?
Look for this symbol. Most DL205 modules can be used with our *ZIP*Link connection systems for easy 5-second wiring solutions!

For the latest prices, please check AutomationDirect.com.

DL205 - Supports Applications With Analog and PID Control



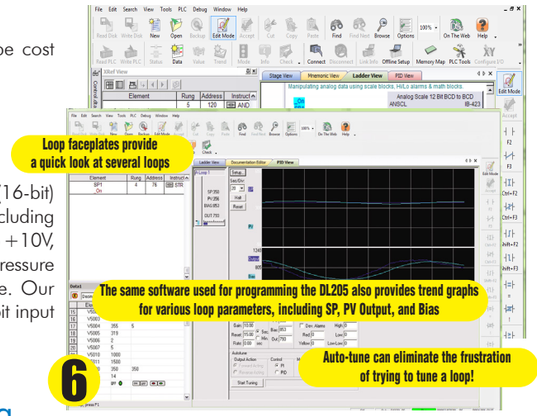
DirectSOFT6 **Auto-tune PID and RLL in one simple-to-use programming package**

1 2-for-1 prices on analog I/O

Our analog I/O prices are very low. This allows the DL205 to be cost advantaged on small I/O systems as well as large systems.

2 Analog and temperature modules connect to almost any device.

The DL205 offers many analog modules, including thermocouple (16-bit) and RTD (16-bit). Our modules support a wide range of signals including 4-20 mA (sinking and sourcing), 0-5V, 0-10V, -5V to +5V, and -10V to +10V, allowing the DL205 PLC to connect to almost any device including pressure transmitters, proportional valves, AC drives, panel meters and more. Our 16-bit thermocouple module can also be configured to measure 16-bit input signals of -5 VDC to +5 VDC, 0-156 mv, -156 mv to +156 mv.



For more information on *Direct*SOFT PLC programming software, see the DL Overview section.

3 Built-in operator interface connectivity, device networking, and ASCII communications

The D2-262 offers two built-in communication ports. Connect a text panel or touch panel to one port and a bar code reader or scale to the second port. The bottom port also supports networking protocols such as *Direct*NET and Modbus RTU master/slave.

4 *C-more* panels for a low-cost window into your application

Our C-*more* panels have some great features for process applications, including Factory symbol library (2,000 bit mapped graphical symbols), PID faceplates, recipe download objects, meters, trend graphs, bar graphs, thumbwheel switch objects, data logging and more.

5 Ethernet supports high-end computer systems

Need to connect to a high speed HMI or computer system? Add one or more 100base-T Ethernet communications modules (H2-ECOM100).

6 Built-in PID with auto-tune

The D2-262 with 16 built-in PID loops allows you to do PID control with ease. Some traditional PLC suppliers require a separate ladder program for each loop and for loop scheduling. We made it automatic! Key features include: fill-in chart for alarms and ramp/soak and automatic loop scheduling. The loop tune and trend software is included in our *Direct*SOFT programming package. The loop auto-tuning allows the CPU to automatically determine the near optimum loop settings.

7 Locate I/O anywhere

Reduce your wiring cost by putting the I/O next to thermocouples, sensors and other field devices by using expansion bases, remote bases, Ethernet remote bases and even fiber optic remote bases. Our analog and temperature modules work in all of these configurations.

For the latest prices, please check AutomationDirect.com.

DL205 - Not Afraid of Communication-Intensive Applications

❶ Built-in communications to operator interfaces, PLC networking, and more

The D2-262 CPU offers two built-in communication ports that support a wide array of devices. The top port supports programming and operator interfaces. The bottom port on the D2-262 supports RS-232/422/485 networking, along with ASCII in/out, Remote I/O master and Modbus RTU master/slave. (With the D2-262 CPU you can connect this port directly to our GS series drives.)

❷ Telephone modem support

AUTOMATIONDIRECT offers an industrial telephone modem (MDM-TEL) that allows access to PLC data and programs via a telephone line. The rugged industrial telephone modem mounts on a DIN-rail and easily connects to our PLCs. Connecting telephone modems to PLCs can be tricky, but this industrial telephone modem can be hooked up in seconds. The modem allows for remote PLC programming (use our *Direct*SOFT programming package over the phone), long distance PLC-to-PLC communications, and PLC data reporting to a PC HMI.

The modem and PLC can replace a high-cost packaged Remote Telemetry Unit (RTU) that may already be using a high-priced PLC as its brain. It can also be used for PLC to PLC dialing triggered by a PLC output. Saves money on service calls, data acquisition and up-and-down time reporting.

❸ Custom communication built by you

The F2-CP128 ($604.00) is a universal communication CoProcessor module. Create custom BASIC programs to interface to barcode readers, VF drives, or other intelligent devices with various protocols. (Write your own driver to a unique serial device.) Comes with 128K memory, 26 MHz CPU and three independent communication ports. Two ports support master/slave RS-232/422/485 and the third supports RS-232.

❹ Built-in ASCII

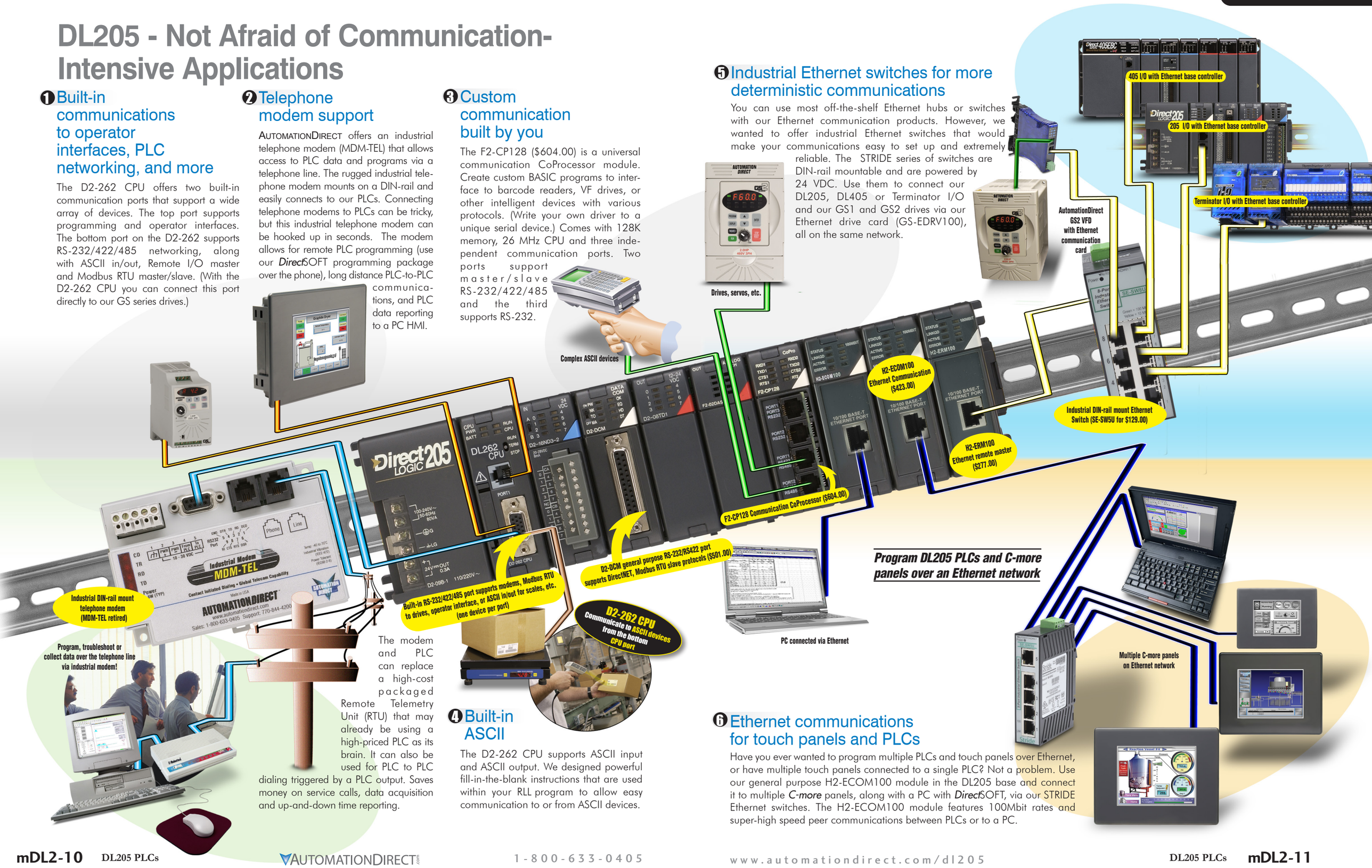
The D2-262 CPU supports ASCII input and ASCII output. We designed powerful fill-in-the-blank instructions that are used within your RLL program to allow easy communication to or from ASCII devices.

❺ Industrial Ethernet switches for more deterministic communications

You can use most off-the-shelf Ethernet hubs or switches with our Ethernet communication products. However, we wanted to offer industrial Ethernet switches that would make your communications easy to set up and extremely reliable. The STRIDE series of switches are DIN-rail mountable and are powered by 24 VDC. Use them to connect our DL205, DL405 or Terminator I/O and our GS1 and GS2 drives via our Ethernet drive card (GS-EDRV100), all on the same network.

❻ Ethernet communications for touch panels and PLCs

Have you ever wanted to program multiple PLCs and touch panels over Ethernet, or have multiple touch panels connected to a single PLC? Not a problem. Use our general purpose H2-ECOM100 module in the DL205 base and connect it to multiple *C-more* panels, along with a PC with *Direct*SOFT, via our STRIDE Ethernet switches. The H2-ECOM100 module features 100Mbit rates and super-high speed peer communications between PLCs or to a PC.



DL205 - Handles Simple Data Acquisition and Supervisory Control

3-for-1 prices makes the DL205 a low price leader 1

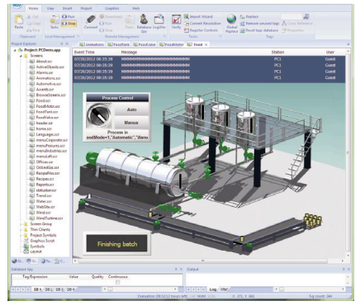
Data acquisition systems often require many data points to be collected. This may include dozens, hundreds or perhaps thousands of discrete, analog or temperature inputs. This type of system can be extremely expensive with traditional PLCs or SCADA (Supervisory Control and Data Acquisition) systems. Previous pages describe how you can often buy two or three DL205 I/O modules (discrete and analog) for the price of one module from some traditional suppliers. Add data acquisition software and you can afford to do more when using AUTOMATIONDIRECT.

High-speed, low-cost Ethernet connects I/O and VFDs 2

The DL205 supports a wide range of Ethernet-based products for connecting additional field I/O (our Terminator I/O, DL205 I/O, DL405 I/O) or even variable speed drives to your monitoring or control system. All of our Ethernet products are priced so you can take advantage of Ethernet for almost any application.

Program our PLCs and touch panels over Ethernet 3

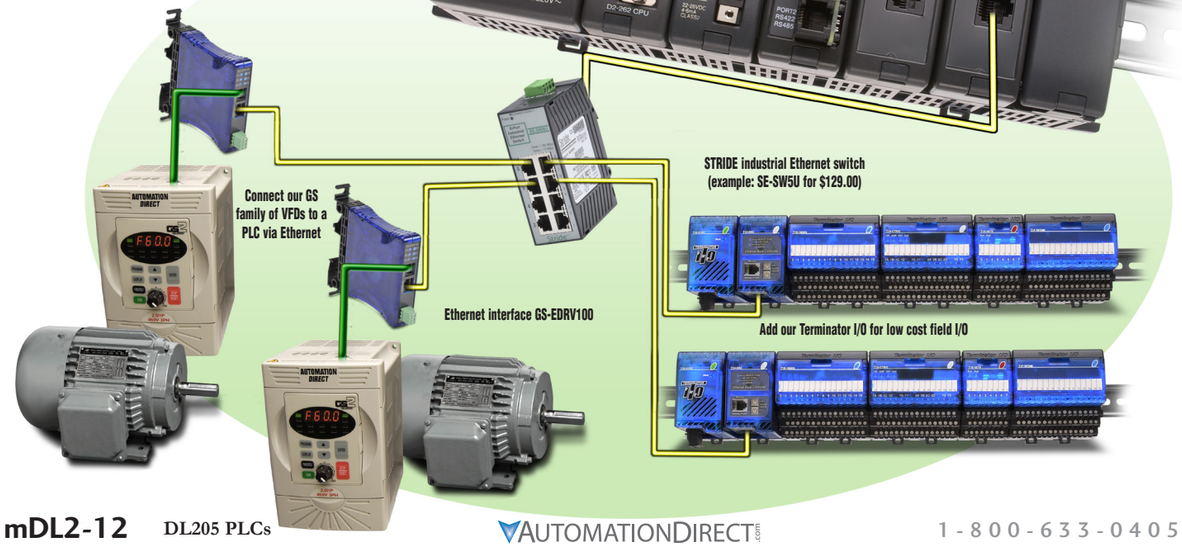
Our DL205, DL405 systems and *C-more* panels can be programmed over an Ethernet network. This feature is built into our standard low-cost programming software packages for those products.



High-speed Ethernet links PLC systems to a supervisory system 4

Use off-the-shelf Ethernet switches to communicate between multiple PLCs (peer-to-peer between PLCs) and a supervisory system. We offer the STRIDE series of industrial Ethernet switches for deterministic requirements.

For simple data logging, **DataWorx** *(see www.bizwaredirect.com)* easily connects the DL205 via Ethernet to standalone PCs or network servers. Collect data without the need for special PC programming or any 3rd party HMI, SCADA, or DAQ software application.



Leave your base in place and supercharge your PLC with an H2 Do-more CPU!

- DirectLogic Migration Tool (DirectLogic program over to the Do-more platform)
- Faster Processor
- Free Software (with built in simulator)
- Auto-Discovery of all I/O (local & Exp.)
- USB & Serial Ports
- Optional Ethernet Port on CPU
- Axis Mode for Motion Control Supports Ethernet I/O from CPU port (-DM1E models only)
- Supports EtherNet/IP (-DM1E models only)
- Built-in Data Logging
- Intuitive Motion Control
- Easy PID
- Integrated Security
- Free Technical Support

Do-more!

H2-DM1 $411.00 (1) USB port, (1) full-duplex serial port
H2-DM1E $549.00 (1) USB port, (1) full-duplex serial port, (1) Ethernet port

Check it out for yourself at: www.AutomationDirect.com/Do-more

Locate operator panels anywhere 5

Multiple serial communication ports available on our PLCs and optional Ethernet capabilities allow you to locate operator panels near the operator.

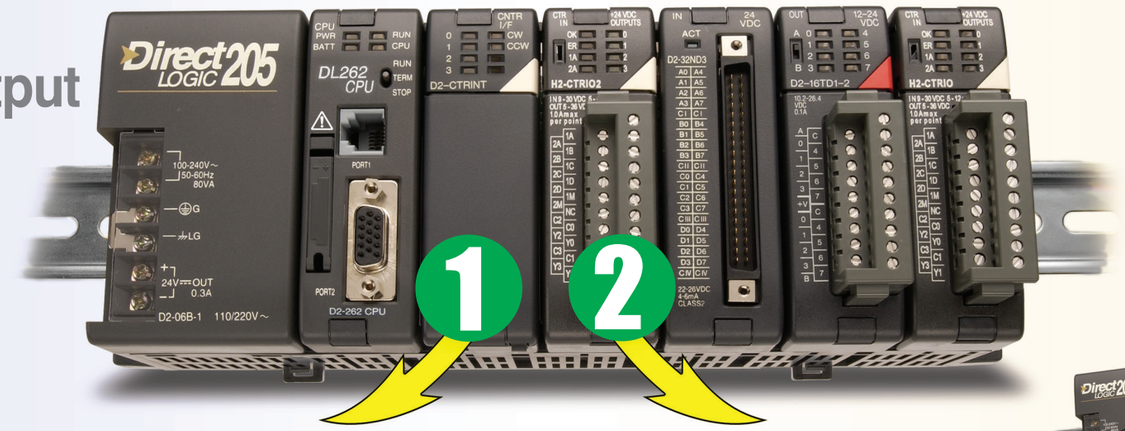
Locate I/O anywhere 6

Reduce your wiring cost by placing I/O near your field devices. Up to four expansion bases of I/O (all synchronously updated each scan) can be placed up to 30 meters from the PLC CPU base. High-speed 100baseT Ethernet bases (H2-EBC100) can be located up to 100 meters from a local base with an Ethernet remote master module (H2-ERM100). Fiber optic versions of these Ethernet modules increase the distance to 2,000 meters. Serial remote I/O bases can be located up to 1,200 meters (at 19.2 Kbaud) from the local base. All of these remote bases support the DL205's discrete, analog and temperature modules.

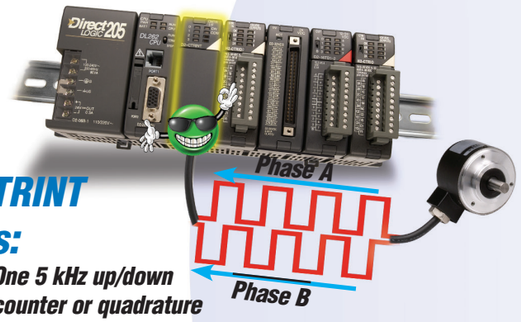
For the latest prices, please check AutomationDirect.com.

DL205 - Cost-effective Counting and/or Pulse Output

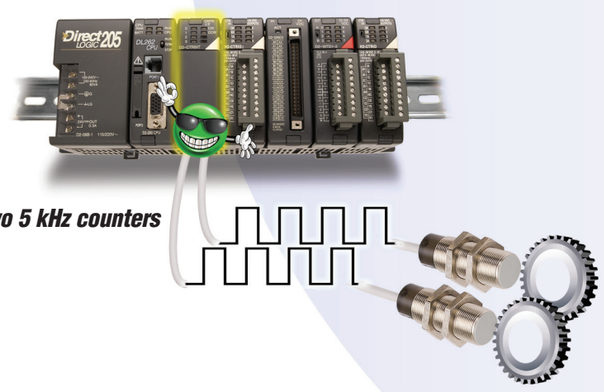
The DL205 PLC family offers two different modules for applications that require counting and pulse output features. Read on to see which module best fits your application needs.



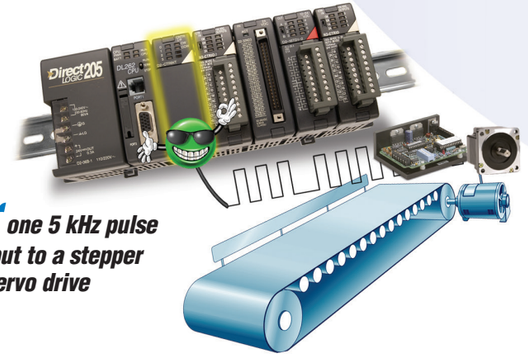
The D2-CTRINT offers:



One 5 kHz up/down counter or quadrature input



Or two 5 kHz counters



Or one 5 kHz pulse output to a stepper or servo drive

Counting or pulse output for $150.00

Simple but sweet!

The DL205 counter interface module (D2-CTRINT) is priced at $150.00, making it the best way to perform basic counting or pulse output with a DL205 system. Basically, this is a discrete I/O module that counts or generates pulse and has been designed into the DL205 CPU, hence the name Counter Interface. The D2-CTRINT can be configured to perform any one of the following operations:

- Quadrature encoder input for clockwise and counter-clockwise position
- Two, 5 kHz high-speed counters
- Programmable pulse output with external interrupts and separate acceleration and deceleration profiles for positioning and velocity control (5K pulses max per second)
- Four external interrupt inputs for immediate responses to tasks
- Pulse catch feature allowing the CPU to read four inputs, each having a pulse width as small as 5 µsec
- Programmable filters for reading up to 4 input signals to ensure input signal integrity

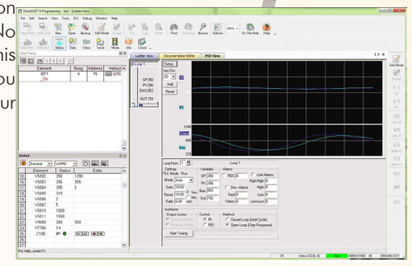
Limitations: For $150.00 there are some limitations. Most often, this module can be used for only one of the functions listed. It cannot use the pulse output and counter features together for closed loop control. Some features are not available when used with certain DL205 CPUs. Only one D2-CTRINT module can be used per system and it must be placed in the I/O slot next to the CPU. All programming is done through RLL logic.

High-performance counting and pulse output with fill-in-the-blank software

The DL205 high-speed counter module (H2-CTRIO2) is priced at $445.00 and is our high-performance, high-feature offering for counting and pulse output. This module comes with a software utility that makes configuring the module as simple as clicking on features and filling in the blanks. No ladder logic is needed to operate this as a counter module, although you may use some RLL to coordinate your PLC program.

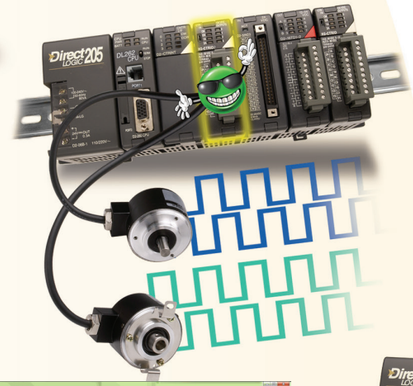
Key features include:

- Two 250 kHz quadrature encoder inputs or four 250 kHz high-speed counters (32-bit count range for +/-2.1 billion counts)
- Two programmable pulse outputs that support numerous profiles including Trapezoid, Velocity, S-curve, or program-controlled Dynamic Positioning or use these outputs as four discrete isolated outputs for responding to counter presets (128 presets)
- Pulse catch feature (allows the module to read four inputs, each having a pulse width as small as 5 µsec)
- Programmable filters for reading up to four input signals to ensure input signal integrity
- Can use multiple modules in local DL205 base (any slot except slot 0)



Fill-in-the-blank configuration of counters and pulse outputs saves time.

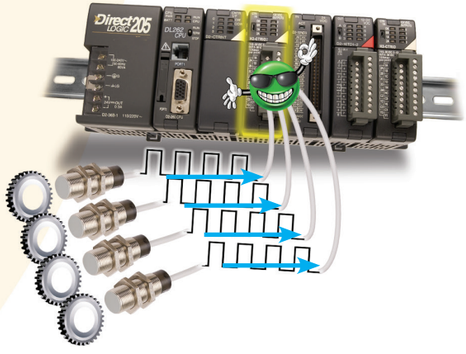
Limitations: All input functions or all output functions can not be done simultaneously. Counting and pulse out can be done simultaneously, however the module does not internally support closed loop control.



The H2-CTRIO2 offers:

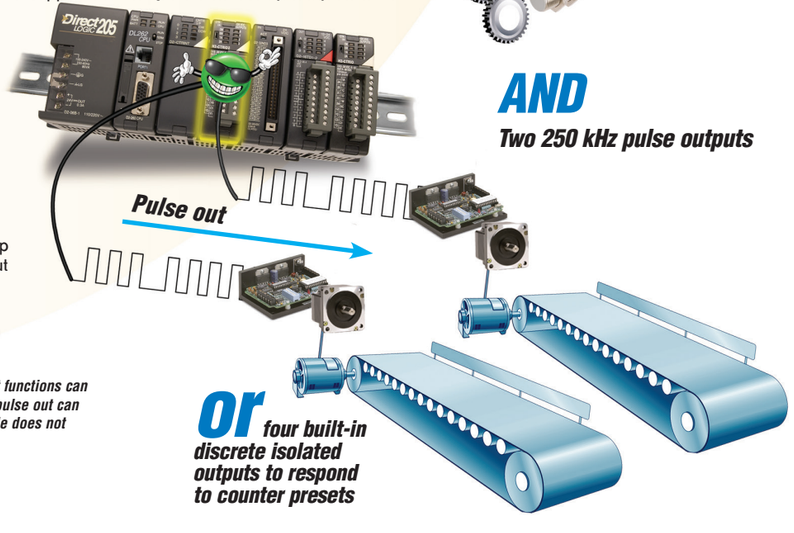
Two 250 kHz quadrature counters

Or four single-channel 250 kHz counters



AND

Two 250 kHz pulse outputs



Or four built-in discrete isolated outputs to respond to counter presets

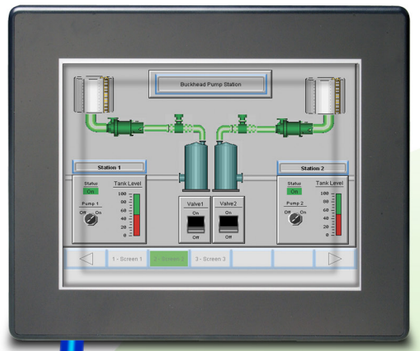
For the latest prices, please check AutomationDirect.com.

DL205 - Useful for Applications That Need Simple Stepper or Servo Control

www.sureservo.com

Here's why

There are many process applications that require accurate motion control at a fast pace, without expecting exact precision and blazing speed. The DL205 PLC, with the counter/pulse output modules' high speed counting capability and high frequency pulse output (H2-CTRIO(2)), offers a viable stepper and servo control solution for open-loop motion control.



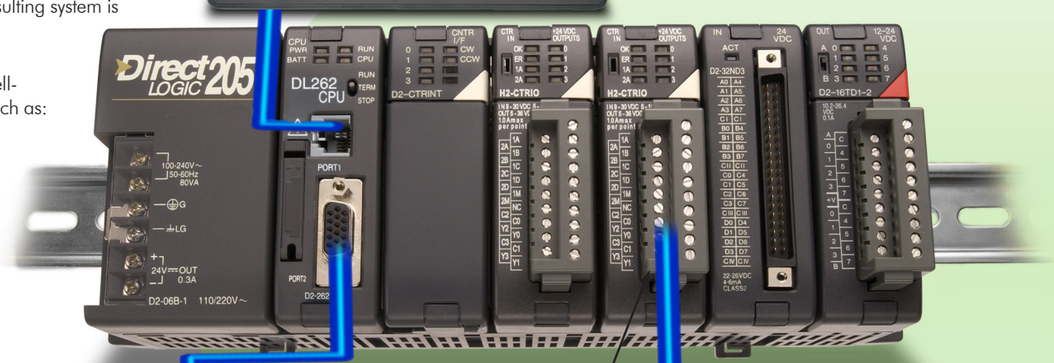
***C-more* Touch panel**

Here's how

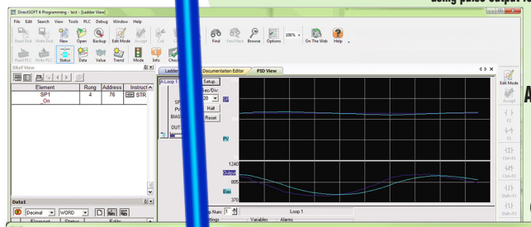
When coupled with our *Sure*Servo or *Sure*Step motion products, the resulting system is extremely cost-effective.

A DL205-based motion control system is very well-suited to applications such as:

- cut-to-length
- indexing tables or conveyors

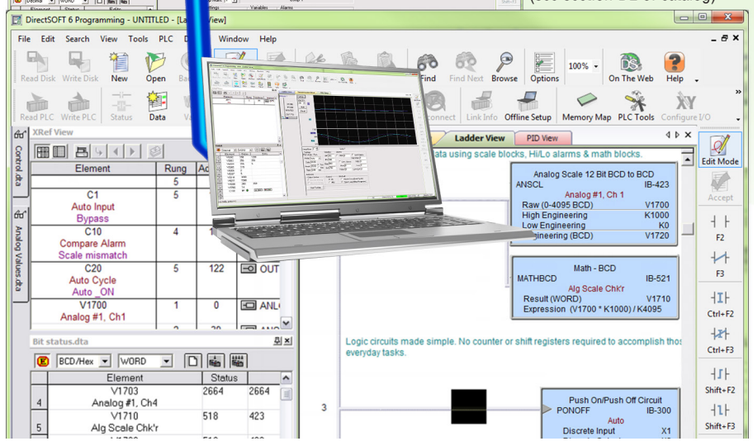


AutomationDirect DL205 PLC with H2-CTRIO2 module ($445.00) using pulse output feature

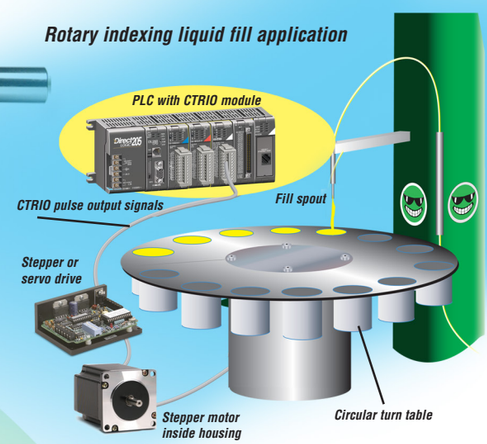


AutomationDirect *Direct*SOFT PLC programming software screens

DirectSOFT6 (see section DL of catalog)



Pulse output from AutomationDirect H2-CTRIO module

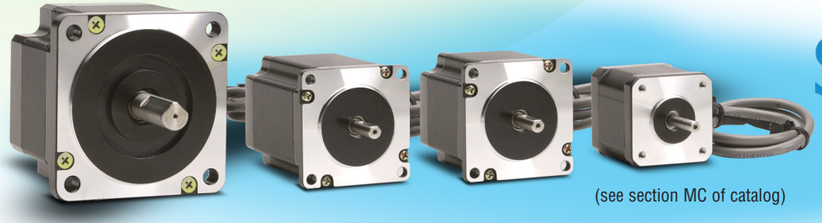


The *Sure*Servo family of brushless servo systems from AUTOMATIONDIRECT is fully digital and offers a rich set of features at dynamite prices. Choose from **eight standard servo motors that can be used in combination with one of three standard servo drives**.

These servos are designed for flexibility and quick implementation. *Sure*Servo drives accept a wide range of command sources:

- Built-in motion controller with preset position, velocity or torque
- Select presets with switch inputs and/or the multi-drop Modbus serial interface
- Position commands with "pulse and direction"or CW/CCW format
- Encoder follower
- Analog voltage Velocity or Torque command
- Eight standard systems from 100 W to 3 kW
- Use with ***Direct***LOGIC PLCs or any other host control
- Drives feature on-board indexer and adaptive tuning modes
- Free set-up software
- 30-day money-back guarantee
- 2 year warranty

For configuration, tuning and diagnostics, use the drive's integrated keypad/display or take advantage of the free *Sure*Servo Pro™ PC-based software. Tune the system easily with adaptive auto-tuning selections or manual mode. Adapt to diverse applications with configurable I/O, including 8 digital inputs, 5 digital outputs, 2 analog monitors and a scalable encoder output.



(see section MC of catalog)

Sure step® Ease of use out of the box!

The *Sure*Step stepping family has twenty high-torque standard motors to handle a wide range of automation applications such as woodworking, assembly, and test machines. Our square frame or high torque style stepping motors are the latest technology, resulting in the best torque to volume. We have NEMA 17, 23, and 34 mounting flanges and holding torque ranges from 61 to 1288 oz-in. A 20-foot extension cable with locking connector is a standard accessory to interface any of the stepping motors to the micro-stepping drive, and can be easily cut to length if desired.