

DeviceNet™ Slave Module



wiring costs. The F2-DEVNETS-1 module supports all DL205 discrete and analog I/O modules.

The DeviceNet slave module also offers:

- **Cost effectiveness:** Hardwiring cost is reduced with a single network for devices.
- **Easy connectivity:** Low-cost four wire installation is easy to implement and maintain.
- **Innovative technology:** Power is integrated into the device.
- **Diagnostics:** Advanced error diagnostics not commonly available in traditional systems are available.
- **Highly dependable:** Fast response and high reliability are featured for demanding applications.
- **LED indicators:** Provide quick indication of DL205 power and operating mode.

Overview

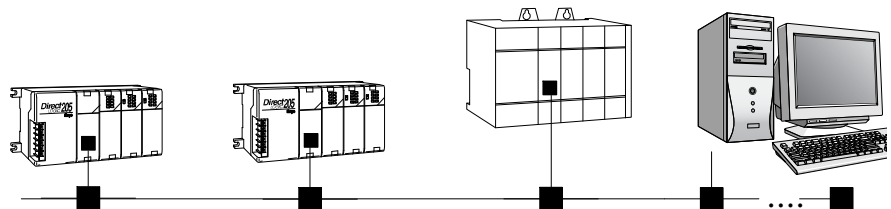
If you are using a DeviceNet™ controller network, the DL205 I/O sub-system will help reduce the cost of your overall application. The F2-DEVNETS-1 (slave) module allows the popular micro-modular DL205 I/O sub-system to be linked with a DeviceNet master controller. DeviceNet is a low-cost control bus that provides a common method to connect automation equipment with devices on a single network. DeviceNet and it significantly reduces hard wiring costs. The DeviceNet standard provides specifications for information exchanged between nodes, such as controller data associated with low level device and configuration parameters individually related to system operations.

How it works

The F2-DEVNETS-1 module is a DeviceNet slave, which can be plugged into the CPU slot of the DL205 micro-modular family of I/O bases. This module maintains a database with all the identification data, diagnostic information, and parameters that control the module operation. The F2-DEVNETS-1 module scans and reports all discrete and analog I/O data to a DeviceNet Master. The AC externally powered DL205 I/O base units contain a 24 VDC, 0.3A power supply for simple wiring of sensors and actuators into the DL205 I/O modules, and for controlling them with a DeviceNet Master. Using our DeviceNet I/O sub-system will increase installation flexibility and save on

F2-DEVNETS-1 Interface Specifications	
Module Type	CPU device
DeviceNet Compatibility	Predefined Group 2 Master/Slave communications.
Number of I/O	(256 inputs, 256 outputs max.) Defined by number of slots per base. (1024 inputs, 1024 outputs max.) Defined by DeviceNet slave specifications
Module Location	CPU slot of any DL205 base
Maximum Field Devices per bus	64 (see table on next page)
Node Address / CAN Baud Rate	Jumper selectable
Communication to Field Devices	Standard 4-wire shielded cable to cabinet connector, molded 4-wire cable @ up to 500 Kbps to field devices
Module Connector	ODVA approved pluggable screw connector
Operating Environment	0°C to 60°C (32°F to 140°F), 5% to 95% humidity (non-condensing)
Internal Power Consumption	160 mA @ 5VDC
Manufacturer	FACTS Engineering

Connect our micro-modular DL205 I/O...



F2-DEVNETS-1 Slave

F2-DEVNETS-1 Slave

...with your **PLC**
or **PC-based**
DeviceNet master.

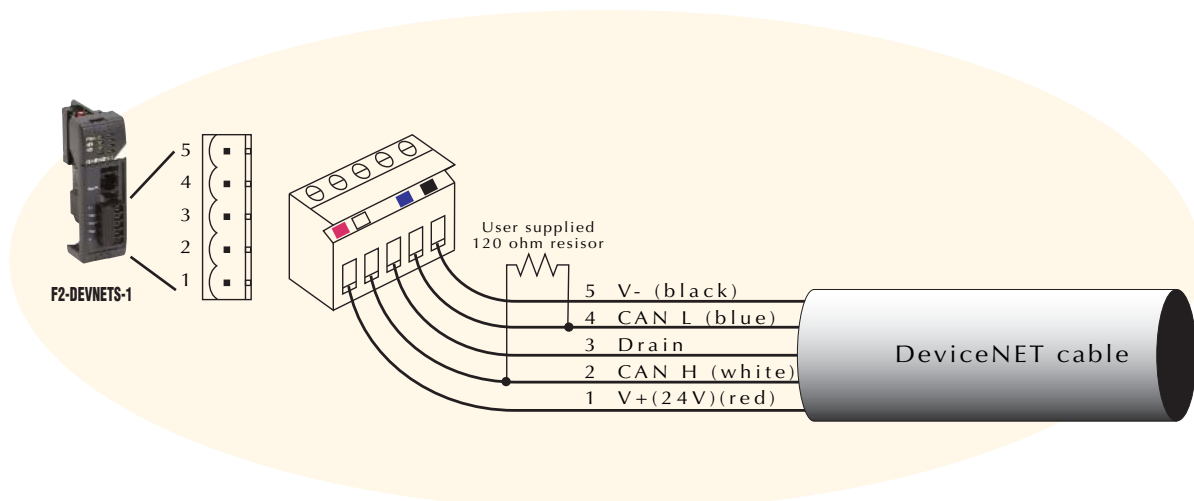
The D2-INST-M Installation and PLC I/O User Manual covers information about DL205 I/O modules, power budgeting, and installation and wiring. This catalog does not cover CPU-slot controllers.

DeviceNet Slave Module

I/O base and network considerations

All discrete and analog I/O modules are supported by the F2-DEVNETS-1 slave module. Choose your DL205 base(s) and I/O modules using the information in this section.

DL205 Style of I/O Modules Supported	
Discrete Types	Analog Types
4-point Input	4-channel Input
8-point Input	8-channel Input
16-point Input	2-channel Output
32-point Input	8-channel Output
4-point Output	4-channel In/ 2 channel Output
8-point Output	4-channel thermocouple
16-point Output (includes 12 pt)	4-channel RTD
32-point Output	
4-point Input/4 point Output	



F2-DEVNETS-1 features

The F2-DEVNETS-1 module replaces the F2-DEVNETS module and adds the following enhancements:

- DIP Switch selectable node address and CAN baud rate
- ODVA approved pluggable screw connectors
- 1,024 inputs and 1,024 outputs as defined by DeviceNet Slave specifications (256 physical inputs and 256 physical outputs defined by the number of slots per I/O base)

The F2-DEVNETS-1 can be used as a direct replacement for the previous F2-DEVNETS through a simple jumper selection procedure.

Trunk Length		Baud Rate	Branch Length		Devices
Feet	Meters	Bits/sec	Feet	Meters	
328	100	500K	20	6	64
820	250	250K	20	6	64
1,640	500	125K	20	6	64

For other DeviceNet specifications, compatible products and latest DeviceNet information, contact:

Open DeviceNet Vendor Association

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Please Note:

1. The DeviceNet Slave module F2-DEVNETS-1 is an ODVA certified DeviceNet-compliant slave I/O interface product.
See www.odva.com for more information.
2. For use with Think & Do Software, we recommend the SST DeviceNet PCI Master Card, part number 5136-DNP-PCI. (AutomationDirect does not provide this interface).
See www.mysst.com for more information.



Power Requirements

These charts help determine your power requirements

This section shows the amount of power supplied by each of the base power supplies and the amount of power consumed by each DL205 device. The Power Consumed charts list how much INTERNAL power from each power source is required for the DL205 devices. Use this information when calculating the power budget for your system.

In addition to the internal power sources, the DL205 bases offer a 24 VDC auxiliary power supply with external power connections. This auxiliary power supply can power external devices.

Use ZIPLinks to reduce power requirements

If your application requires a lot of relay outputs, consider using the ZIPLink AC or DC relay output modules. These modules can switch high current (10A) loads without putting a load on your base power budget. Refer to the Terminal Blocks and Wiring Solutions section in this catalog for more information.

This logo is placed next to the I/O modules that are supported by the ZIPLink connection systems. See the I/O module specifications at the end of this section.



Power Consumed		
Device	5V(mA)	24V Auxiliary
Operator Interface		
DV-1000	150	0
C-more Micro-Graphic	210	0

Power Supplied							
Device	Price	5V(mA)	24V Auxiliary	Device	Price	5V(mA)	24V Auxiliary
Bases				Bases			
D2-03B-1	<--->	2600	300	D2-06BDC1-1	<--->	2600	None
D2-03BDC1-1	<--->	2600	None	D2-06BDC2-1	<--->	2600	300
D2-04B-1	<--->	2600	300	D2-09B-1	<--->	2600	300
D2-04BDC1-1	<--->	2600	None	D2-09BDC1-1	<--->	2600	None
D2-06B-1	<--->	2600	300	D2-09BDC2-1	<--->	2600	300

Power Consumed		
Device	5V(mA)	24V Auxiliary
CPUs		
D2-230	120	0
D2-240	120	0
D2-250-1	330	0
D2-260	330	0
H2-WPLC**	680	0
DC Input Modules		
D2-08ND3	50	0
D2-16ND3-2	100	0
D2-32ND3	25	0
D2-32ND3-2	25	0
AC Input Modules		
D2-08NA-1	50	0
D2-08NA-2	100	0
D2-16NA	100	0
Input Simulator Module		
F2-08SIM	50	0
DC Output Modules		
D2-04TD1	60	20
D2-08TD1	100	0
D2-08TD2	100	0
D2-16TD1-2	200	80
D2-16TD2-2	200	0
F2-16TD1P	70	50
F2-16TD2P	70	50
D2-32TD1	350	0
D2-32TD2	350	0
AC Output Modules		
D2-08TA	250	0
F2-08TA	250	0
D2-12TA	350	0
Relay Output Modules		
D2-04TRS	250	0
D2-08TR	250	0
F2-08TR(S)	670	0
D2-12TR	450	0
Combination In/Out Module		
D2-08CDR	200	0

Power Consumed		
Device	5V(mA)	24V Auxiliary
Analog Modules		
F2-04AD-1	100	5
F2-04AD-2	110	5
F2-08AD-1	100	5
F2-08AD-2	100	5
F2-02DA-1	40	60 (note 1)
F2-02DA-1L	40	70 @ 12V (note 1)
F2-02DA-2	40	60
F2-02DA-2L	40	70 @ 12V
F2-02DAS-1	100	50 / channel
F2-02DAS-2	100	60 / channel
F2-08DA-1	30	50 (note 1)
F2-08DA-2	60	140
F2-4AD2DA	60	80 (note 1)
F2-8AD4DA-1	35	100 (note 1)
F2-8AD4DA-2	35	80 (note 1)
F2-04RTD	90	0
F2-04THM	110	60
Specialty Modules		
D2-CTRINT	50*	0
D2-CM / D2-EM	100/130	0
H2-CTRIO	400	0
D2-DCM	300	0
F2-DEVNETS	160	0
F2-SDS-1	160	0
H2-PBC	530	0
H2-EBC(-F)	450, (640)	0
H2-ECOM(-F)	450, (640)	0
H2-ECOM100	300	0
F2-CP128	235	0
Remote I/O		
H2-ERM(-F)	320, (450)	0
D2-RMSM	200	0
D2-RSSS	150	0
Programming Devices		
D2-HPP	200	0

*requires external 5VDC for outputs
Note 1: Add an additional 20 mA per output loop.