

GPD 333 / DeviceNet™ Technical Manual



Technical References

Refer to the following publications for further information about the GPD333 and DeviceNet.

- MagneTek GPD333 Technical Manual
Publication TM4333
- MagneTek GPD333 DeviceNet Satellite Board Installation Sheet
Publication 02Y00025-0387
- ODVA DeviceNet Specification
Volume I and Volume II
- Allen-Bradley 1771-SDN Scanner Module Installation Instructions
Publication 1771-5.14
- Allen-Bradley 1771-SDN DeviceNet Scanner Configuration Manual
Publication 1771-6.5.118
- Allen-Bradley 1747-SDN Scanner Module Installation Instructions
Publication 1747-5.8
- Allen-Bradley 1747-SDN DeviceNet Scanner Configuration Manual
Publication 1771-6.5.2
- Allen-Bradley 1787-MGR Scanner Module Installation Instructions
Publication 1787-6.5.3

MagneTek Support

MagneTek's Drives and Systems Division offers support services with over 26 sales/support offices, and 145 distributors throughout the United States.

If you should need further technical assistance after reviewing this manual please contact your local MagneTek representative.

Additional Services available:

Technical Support Center-

Provide telephone assistance related to installation, start-up, programming, and troubleshooting MagneTek drives and communication products. For technical phone support call 800/541-0939

Field Service Support-

Provide on-site technical assistance. Contact your local MagneTek representative for field service, or call 800/541-0939.

Contents

	Technical References / MagneTek Support	i
	Contents	1
Chapter 1	Introducing the DeviceNet Network	1-1
	Overview	1-2
	The DeviceNet Network	1-2
	The GPD333 on the DeviceNet Network	1-4
	Message Types on DeveicNet	1-4
Chapter 2	GPD333 DeviceNet Satallite Setup Procedure	2-1
Chapter 3	Setup and Installation of the DeviceNet Satellite	3-1
	Satellite Hardware Components	3-2
	Satellite Setup	3-3
	Satellite Board SW1 Settings	3-3
	Satellite Installation into the GPD333	3-6
Chapter 4	DeviceNet Network Wiring	4-1
	DeviceNet Network Topology	4-2
	Maximum Cable Distance	4-2
	Cable Specifications	4-4
	Terminating Resistor Specifications	4-5
	Connector Pinout	4-5
Chapter 5	DeviceNet EDS Files for the GPD333	5-1
	EDS Files in General	5-2
	EDS Files for the GPD333	5-3
Chapter 6	Configuration of the GPD333 with the DeviceNet Manager	6-1
	Installation of the EDS Files	6-2
	Addition of the GPD333 to the DeviceNet Network	6-3
	Configuration of the GPD333 in Enhanced Mode	6-4
Chapter 7	Configuration of the GPD333 DeviceNet Parameters	7-1
	Polled Configuration	7-2
	Motor Nameplate Configuration	7-4
	Application Constants Configuration	7-4
Chapter 8	Configuration of the A-B 1771-SDN Module	8-1
	The 1771-SDN Module	8-2
	Module and Channel Configuration	8-2
	Scan List Configuration	8-4
Chapter 9	Configuration of the A-B 1747-SDN Module	9-1
	The 1747-SDN Module	9-2
	Module and Channel Configuration	9-2
	Scan List Configuration	9-4

Chapter 10	Special Considerations	10-1
	How the GPD333 DeviceNet Satellite Stores Data	10-2
	Save Data to EEPROM with the ENTER Command	10-2
	Selection of Run/Stop Control Method	10-4
	Selection of Frequency Reference Control Method	10-6
	Run/Stop Control	10-8
	Frequency Reference Control	10-9
	Acceleration and Deceleration Times	10-9
	Reset the GPD333 to Power-Up Conditions	10-10
	Reset the GPD333 to Factory Conditions	10-10
Chapter 11	The AC Drive Profile	11-1
	What DeviceNet Profiles Provide	11-2
	The AC Drive Profile	11-2
	The GPD333 and the AC Drive Profile	11-3
Chapter 12	Diagnostics and Troubleshooting	12-1
	Network Status LED	12-2
	Module Status LED	12-3
	Network Status and Module Status LEDs at Power-Up	12-3
	DeviceNet Error Codes	12-4
Appendix A	EDS Parameter List	A-1
	DN: Motor Data	A-2
	DN: Control Data	A-2
	DN: AC Drive Data	A-3
	DN: Polled Config	A-4
	no00 – no09	A-5
	no10 – no19	A-6
	no20 – no29	A-7
	no30 – no39	A-8
	no40 – no49	A-9
	no50 – no51	A-9
	Drive Status	A-10
	ENTER	A-12
	MODEL/SERIAL#	A-12
Appendix B	GPD333 Assemblies	B-1
	Output Assemblies	B-2
	Input Assemblies	B-3
Appendix C	DeviceNet Object Paths	C-1
	Identity Class	C-2
	DeviceNet Class	C-3
	Assembly Class	C-4
	Connection Class	C-5
	Motor Class	C-7
	Control Supervisor Class	C-8
	AC Drive Class	C-9
	MagneTek GPD333 Class	C-11

Appendix D	DeviceNet Object Services	D-1
	Identity Class	D-2
	DeviceNet Class	D-2
	Assembly Class	D-2
	Connection Class	D-2
	Motor Class	D-3
	Control Supervisor Class	D-3
	AC Drive Class	D-3
	MagneTek GPD333 Class	D-3
Appendix E	Product Specifications	E-1
Appendix F	Spare Parts List	F-1

Chapter 1

Introducing the DeviceNet Network

- Overview
- The DeviceNet Network
- The GPD333 on DeviceNet
- Message Types on DeviceNet

Overview

This manual describes the set-up and programming of the MagneTek GPD 333 DeviceNet Satellite hardware. The GPD 333 DeviceNet Satellite hardware will allow communication between a DeviceNet Communication Network and one MagneTek GPD333 drive.

To connect a MagneTek GPD333 drive to the DeviceNet network, the following materials will be necessary:

- MagneTek GPD333 DeviceNet Satellite Board
Part Number CM051
- MagneTek GPD333 DeviceNet Users Manual
Publication TM4336
(Included with Part Number CM051)
- Floppy Disk containing GPD333 DeviceNet EDS Files
(Included with Part Number CM051)
- MagneTek GPD333 Technical Manual
Publication TM4333

The DeviceNet Network

DeviceNet is a low-cost communications link to connect industrial devices (such as limit switches, photoelectric switches, valve manifolds, motor starters, smart motor controllers, operator interfaces, and variable frequency drives) as well as control devices (such as programmable controllers and computers) to a network. Figure 1.1 shows an example DeviceNet network.

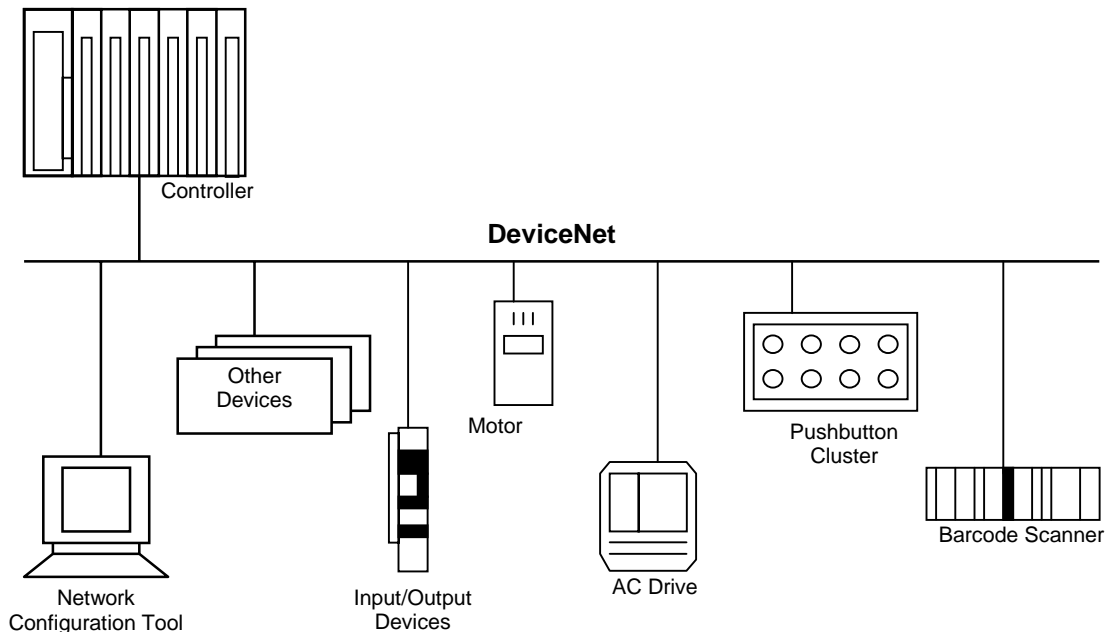


Figure 1.1
Example DeviceNet Network

DeviceNet is a simple, networking solution that reduces the cost and time to wire and install factory automation devices, while providing interchangeability of like components from multiple vendors.

DeviceNet is an open device network standard. The specifications and protocol are open - vendors are not required to purchase hardware, software, or licensing rights to connect devices to a system. Vendors who choose to participate may obtain the set of specifications from the Open DeviceNet Vendor Association (ODVA).

DeviceNet provides:

- A cost effective solution to low-level device networking
- Access to intelligence present in the devices
- Master/Slave and Peer-to-Peer capabilities

DeviceNet has two primary purposes:

- Transport of control-oriented information associated with the control/monitoring of devices
- Transport of configuration parameters which are indirectly related to system control

The list below presents a summary of the Physical/Media specific characteristics of DeviceNet:

- Trunkline-dropline configuration
- Support for up to 64 nodes
- Node removal without severing the network
- Simultaneous support for both network-powered and self-powered devices
- Use of sealed or open-type connectors
- Protection from wiring errors
- Selectable data rates of 125 Kbaud, 250 Kbaud, and 500 Kbaud
- Adjustable power configuration to meet individual application needs
- High current capability (up to 16 amps per supply)
- Operation with off-the-shelf power supplies
- Power taps that allow the connection of several power supplies from multiple vendors that comply with DeviceNet standards

The list below summarizes additional communication features provided by DeviceNet:

- Use of Controller Area Network (CAN) technology
- Connection-based model to facilitate application to application communications
- Provisions for the typical request/response oriented network communications
- Provisions for the efficient movement of I/O data
- Fragmentation for moving larger quantities of data
- Duplicate MAC ID detection

The communication platform for the DeviceNet Network is based on the CAN (Controller Area Network) technology, which was first developed by Bosch for the automotive industry. Some of the benefits of this protocol are high noise immunity and high temperature operation. Because it uses a serial bus, it reduces signal wiring complexity and cost while providing high speed digital control for optimum performance. These benefits make DeviceNet especially suitable for the industrial automation environment.

The GPD333 on DeviceNet

The DeviceNet network can accommodate up to 64 nodes per network. A GPD333 appears as one node on the network. A DeviceNet Satellite board (MagneTek part number CM051) must be installed into each GPD333 drive that will be communicating on the DeviceNet network. The GPD333 DeviceNet Satellite resides on the front of the drive in the location normally used by the status plate or the Digital Operator. The Satellite board is powered from both the 24VDC DeviceNet network power and the drive that it is connected to.

When connected to the DeviceNet network, the GPD333s communicate on the network using a Master/Slave relationship. The Master is a device that gathers and distributes I/O data for the process controller. Slaves are devices from which the Master gathers I/O data and to which the Master distributes I/O data.

On a DeviceNet network, a Master device is said to own a Slave device. A Slave device can be owned by only one Master. A Slave device cannot initiate communication transactions unless it has been told to do so by its Master. A Master scans its Slave devices based on a scan list that it contains.

The GPD333 acts as a DeviceNet Slave device. With respect to the network, the GPD333 is considered to be a Group 2 Only Server.

By definition, a Group 2 Only Server device is UCMM incapable. A Group 2 Only Server uses DeviceNet's Predefined Master/Slave Connection Set to establish communications. A Group 2 Only Server can transmit and receive only those messages defined by the Predefined Master/Slave Connection Set. (Volume I of the DeviceNet Specification fully defines Group 2 Server Devices). Since the GPD333 acts a DeviceNet Slave device, it will respond to message commands issued by a DeviceNet Master device. With respect to the network, the Master is a Group 2 Client or a Group 2 Only Client. If you are not a DeviceNet wizard, the definitions in this paragraph may seem rather vague.

Message Types on DeviceNet

The table below shows the message types that are defined by DeviceNet's Predefined Master/Slave Connection Set, as well as which message types are supported by the GPD333 DeviceNet Satellite. A definition of each message type follows the table.

Message Type	GPD333 Supports
Bit-Strobe	NO
Change-of-State/Cyclic	NO
Poll	YES
Explicit	YES

The Bit-Strobe Command message is an I/O message that is transmitted by the Master. One Bit-Strobe Command message can be received by and acted upon by all Slave devices on the network. A Bit-Strobe Command message provides 1-bit of data to each Slave on the network. Bit-Strobe Command messages are transmitted by the Master at a set time interval.

The Bit-Strobe Response message is an I/O message that a Slave transmits back to the Master after receiving a Bit-Strobe Command message. A Bit-Strobe Response message can provide up to 8 bytes of data from a Slave device to a Master device.

The GPD333 DeviceNet Satellite does not support Bit-Strobe messaging.

The Change-of-State/Cyclic message is transmitted by either the Master or the Slave. A Change-of-State/Cyclic message is directed towards a single, specific node. An Acknowledge message may be returned in response to this message.

The GPD333 DeviceNet Satellite does not support Change-of-State/Cyclic messaging.

The Poll Command message is an I/O message that is transmitted by the Master. A Poll Command message is directed towards a single, specific Slave device. A Master must transmit a separate Poll Command Message for each Slave device that is to be polled. The Poll Command message can provide up to 256-bytes of data to a single Slave device. Poll Command messages are transmitted by the Master at a set time interval.

The Poll Response message is an I/O message that a Slave transmits back to the Master after receiving a Poll Command message. A Poll Response message can provide up to 256-bytes of data from a Slave device to a Master device.

The GPD333 DeviceNet Satellite uses Polled messaging to receive Run/Stop and Speed commands from the Master and to send Status and Output information to the Master.

The Explicit Request message is a message that is transmitted by the Master. An Explicit Request message is directed towards a single, specific Slave device. Explicit Command messages are used to perform services such as reading data from the Slave device, writing data to the Slave device, and resetting the Slave device. Explicit Request messages are transmitted by the Master whenever the desired service is required.

The Explicit Response message is a message that a Slave transmits back to the Master after receiving an Explicit Request message. Explicit Response messages are used to return the results of the Explicit Request message service.

The GPD333 DeviceNet Satellite uses Explicit messaging to read drive data (drive constants, drive runtime status), to write data (drive constants, drive control commands), to save data (the ENTER command), and to reset the drive (power-up reset, out-of-box reset).

Chapter 2

GPD333 DeviceNet Satellite Startup Procedure

The following procedure outlines the steps that should be taken to startup a GPD333 with the DeviceNet Satellite option.

1. Set the network Baud Rate, GPD333 Node Number, default Frequency Control, and default Run/Stop Control via SW1. SW1 is located on the back of the DeviceNet Satellite board. See **Chapter 3** for details.
2. Install the DeviceNet Satellite board into the GPD333. See **Chapter 3** for details.
3. Connect the GPD333 DeviceNet Satellite to the DeviceNet Network. See **Chapter 4** for details.
4. If using a DeviceNet Configuration Tool which supports EDS files, install the GPD333 EDS files that are provided with the DeviceNet Satellite. See **Chapter 5** for general information on EDS files.
The EDS file installation procedure will depend on the Configuration Tool that you are using. **Chapter 6** outlines the EDS file installation procedure for the Allen-Bradley DeviceNet Manager configuration tool (Allen-Bradley Part Number 1787-MGR).
5. Configure the GPD333 parameters. These parameters include: polled network configuration, motor nameplate data, and GPD333 application constants. See **Chapter 7** for details.
6. Configure the DeviceNet Master device to communicate with the GPD333 DeviceNet Satellite. The Master device configuration procedure will depend on the Master device that is used. **Chapter 8** outlines the procedure for configuring the Allen-Bradley PLC-5 DeviceNet Scanner Module (Allen-Bradley Part Number 1771-SDN). **Chapter 9** outlines the procedure for configuring the SLC500 DeviceNet Scanner Module (Allen-Bradley Part Number 1747-SDN).

Chapter 3

Setup and Installation of the DeviceNet Satellite

- Satellite Hardware Components
- Satellite Setup
- Satellite Installation into the GPD333

Satellite Hardware Components

CAUTION

The DeviceNet Satellite board is an electrostatic sensitive device. Personnel must follow approved methods for handling this type of equipment.

WARNING

Hazardous voltage may cause severe injury or death. Ensure all power sources feeding the drive are locked in the *OFF* position before installing this option.

Figure 3.1 shows the DeviceNet Satellite board. CONN1 is used for connection of the DeviceNet network wiring. SW1 is used to setup the DeviceNet network baud rate, the DeviceNet MAC ID, and the power-up defaults for run/stop and frequency reference control. CONN2 is used for connection to the GPD333.

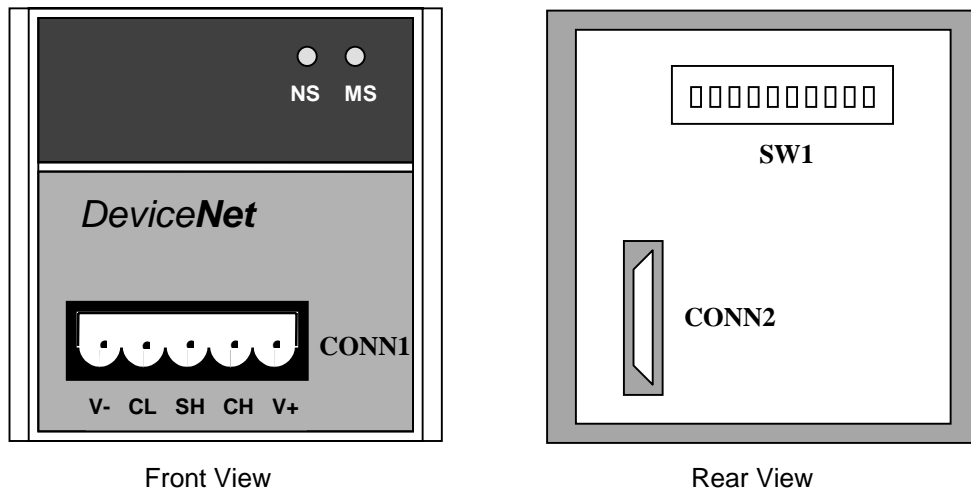


Figure 3.1
DeviceNet Satellite

Satellite Setup

The DeviceNet Satellite board requires setup prior to operation. Satellite SW1 switches must be set prior to the application of input AC power to the GPD333. The states of these switches are read only on power-up.

Satellite Board SW1 Settings

The Satellite SW1 switch is used to setup DeviceNet network characteristics. The SW1 functions are defined in the following table:

Switch #	Switch Function
1	Baud Rate, Bit 1
2	Baud Rate, Bit 0
3	Node Number, MSB
4	Node Number
5	Node Number
6	Node Number
7	Node Number
8	Node Number, LSB
9	Network Control of Frequency
10	Network Control of Run/Stop

SW1 switches 1 and 2 are used to select the baud rate of the DeviceNet network. The baud rate setting of the Satellite board must match the baud rate setting of the rest of the devices on the DeviceNet network. The available baud rates are defined in the following table. The cable distance between any two points in the cable system must not exceed the Maximum Cable Distance allowed for the baud rate selected. See chapter 4 for information on calculating the Maximum Cable Distance.

DeviceNet Baud Rate (KBaud)	Satellite SW1 Position	
	Switch 1	Switch 2
125	Off	Off
250	Off	On
500	On	Off
	On	On

SW1 switches 3 through 8 are used to setup the DeviceNet node number of the Satellite board. A DeviceNet network can have up to 64 nodes. The DeviceNet node number settings are defined in the following table.

Node Number	Switch 3	Switch 4	Switch 5	Switch 6	Switch 7	Switch 8
0	Off	Off	Off	Off	Off	Off
1	Off	Off	Off	Off	Off	On
2	Off	Off	Off	Off	On	Off
3	Off	Off	Off	Off	On	On
4	Off	Off	Off	On	Off	Off
5	Off	Off	Off	On	Off	On
6	Off	Off	Off	On	On	Off
7	Off	Off	Off	On	On	On
8	Off	Off	On	Off	Off	Off
9	Off	Off	On	Off	Off	On
10	Off	Off	On	Off	On	Off
11	Off	Off	On	Off	On	On
12	Off	Off	On	On	Off	Off
13	Off	Off	On	On	Off	On
14	Off	Off	On	On	On	Off
15	Off	Off	On	On	On	On
16	Off	On	Off	Off	Off	Off
17	Off	On	Off	Off	Off	On
18	Off	On	Off	Off	On	Off
19	Off	On	Off	Off	On	On
20	Off	On	Off	On	Off	Off
21	Off	On	Off	On	Off	On
22	Off	On	Off	On	On	Off
23	Off	On	Off	On	On	On
24	Off	On	On	Off	Off	Off
25	Off	On	On	Off	Off	On
26	Off	On	On	Off	On	Off
27	Off	On	On	Off	On	On
28	Off	On	On	On	Off	Off
29	Off	On	On	On	Off	On
30	Off	On	On	On	On	Off
31	Off	On	On	On	On	On
32	On	Off	Off	Off	Off	Off
33	On	Off	Off	Off	Off	On
34	On	Off	Off	Off	On	Off
35	On	Off	Off	Off	On	On
36	On	Off	Off	On	Off	Off
37	On	Off	Off	On	Off	On
38	On	Off	Off	On	On	Off
39	On	Off	Off	On	On	On
40	On	Off	On	Off	Off	Off
41	On	Off	On	Off	Off	On
42	On	Off	On	Off	On	Off
43	On	Off	On	Off	On	On
44	On	Off	On	On	Off	Off
45	On	Off	On	On	Off	On
46	On	Off	On	On	On	Off
47	On	Off	On	On	On	On
48	On	On	Off	Off	Off	Off
49	On	On	Off	Off	Off	On
50	On	On	Off	Off	On	Off
51	On	On	Off	Off	On	On
52	On	On	Off	On	Off	Off
53	On	On	Off	On	Off	On
54	On	On	Off	On	On	Off
55	On	On	Off	On	On	On
56	On	On	On	Off	Off	Off
57	On	On	On	Off	Off	On
58	On	On	On	Off	On	Off
59	On	On	On	Off	On	On
60	On	On	On	On	Off	Off
61	On	On	On	On	Off	On
62	On	On	On	On	On	Off
63	On	On	On	On	On	On

SW1 switch 9 is used to determine from where the GPD333 drive will accept a frequency reference command. When the Frequency Control switch is set to ifrom networkî (Switch 9 = On), the drive will accept frequency reference commands from the DeviceNet network. When the Frequency Control switch is set to ilocalî (Switch 10 = Off), the drive will accept frequency reference commands from either the digital operator or the external terminals. In this case, the value of drive constant no-01 determines whether the frequency reference commands will come from the digital operator or the external terminals.

Function	Switch 9
Frequency Control local	Off
Frequency Control from network	On

The state of switch 9 is read only on power-up. The state of switch 9 is written to the GPD333 drive by the DeviceNet Satellite board only on power-up. The state of Frequency Control (ilocalî/ifrom networkî) can be changed after power-up via the DeviceNet network.

SW1 switch 10 is used to determine from where the GPD333 drive will accept operational commands. Operational commands include Run, Stop, Forward, Reverse, and Multi-Function Inputs. When the Run/Stop Control switch is set to ifrom networkî (Switch 10 = On), the drive will accept operational commands from the DeviceNet network. When the Run/Stop Control switch is set to ilocalî (Switch 10 = Off), the drive will accept operational commands from either the digital operator or the external terminals. In this case, the value of drive constant no-01 determines whether the operational commands will come from the digital operator or the external terminals.

Function	Switch 10
Run/Stop Control local	Off
Run/Stop Control from network	On

The state of switch 10 is read only on power-up. The state of switch 10 is written to the GPD333 drive by the DeviceNet Satellite board only on power-up. The state of Run/Stop Control (ilocalî/ifrom networkî) can be changed after power-up via the DeviceNet network.

Satellite Installation into the GPD333

The DeviceNet Satellite installs directly on the GPD333 drive in place of the standard status plate or optional Digital Operator display (see Figure 3.2).

1. Disconnect all electrical power to the GPD333.
2. Remove the GPD333 access cover located on the bottom front of the drive (View A).
3. Check to ensure that the CHARGE indicator lamp (located inside the GPD333 on the bottom left corner) is not lit.
4. Verify that voltage has been disconnected by using a voltmeter to check for power at incoming power terminals (L1, L2, L3).
5. Gently press down on the plastic terminal board label strip located just below the status plate or Digital Operator (View B). Carefully lift upward on the bottom edge of the status plate/Digital Operator until the connector located on its back is released from the drive.
6. Verify that the ten-position dipswitch located on the back of the DeviceNet Satellite board has been properly set up for your application.
7. Route the green pigtail ground wire of the DeviceNet Satellite board through the rectangular opening in the drive chassis located in the area from which the status plate/Digital Operator was removed (View C). This ground wire should be connected to one of the drive ground terminals marked 'G'. The two drive ground terminals are located at the lower right and left corners of the GPD333.
8. Install the DeviceNet Satellite board in the mounting recess (View C).
9. Replace the GPD333 access cover.
10. Insert the DeviceNet network connector into the receptacle on the front of the DeviceNet Satellite.

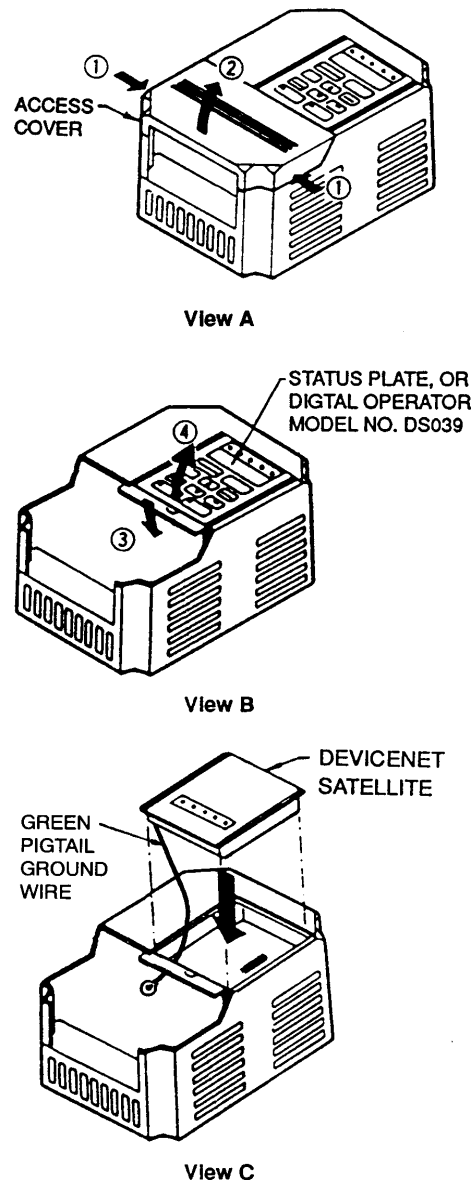


Figure 3.2
DeviceNet Satellite Installation

Chapter 4

DeviceNet Network Wiring

- DeviceNet Network Topology
- Maximum Cable Distance
- Cable Specifications
- Terminating Resistor Specifications
- Connector Pinout

DeviceNet Network Topology

The DeviceNet media has a linear bus topology. Terminating resistors are required on each end of the trunk line. Drop lines as long as 6 meters (20 feet) each are permitted, allowing one or more nodes to be attached. DeviceNet allows branching structures only on the drop line. Figure 4.1 shows an example DeviceNet network. The thick lines in Figure 4.1 indicate Trunk line. The thin lines in Figure 4.1 indicate Drop line.

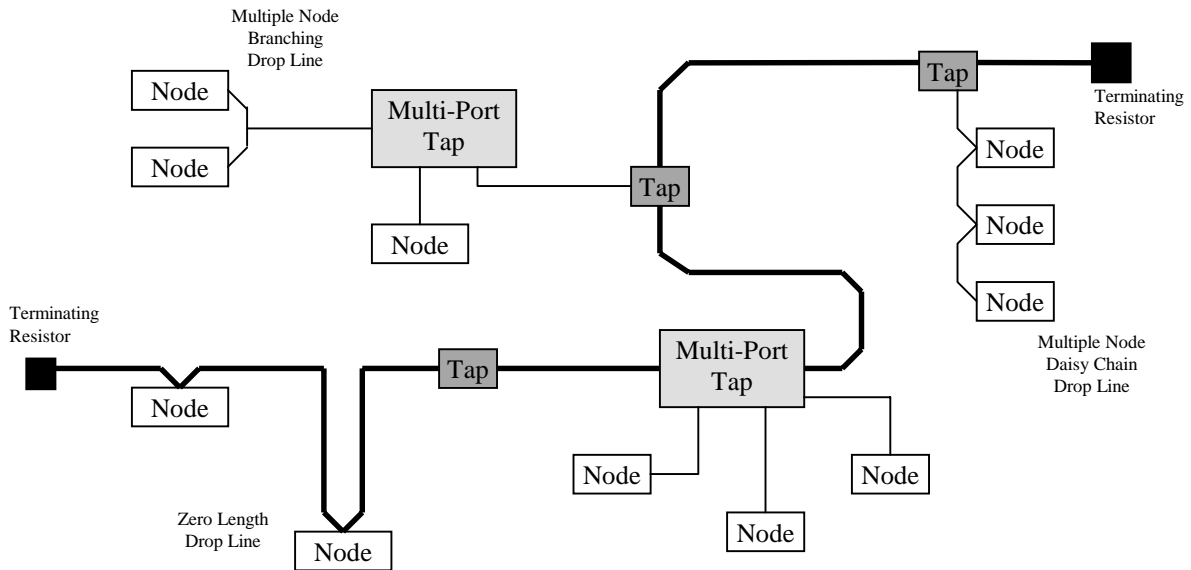


Figure 4.1
DeviceNet Topology

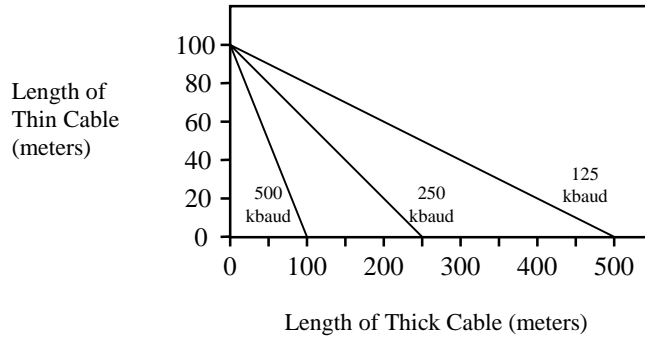
Maximum Cable Distance

The total amount of trunk line allowable on the network depends upon the data rate and the type of cable (thick or thin) used. The cable distance between any two points in the cable system must not exceed the Maximum Cable Distance allowed for the baud rate. For trunk lines constructed of only one type of cable, refer to the following table to determine the Maximum Cable Distance based on the data rate and the type of cable used. Cable distance between two points includes both trunk line cable and drop line cable length that exists between the two points.

Baud Rate	Maximum Cable Distance for 100% Thick Cable	Maximum Cable Distance for 100% Thin Cable
125 Kbaud	500 meters (1640 feet)	100 meters (328 feet)
250 Kbaud	250 meters (820 feet)	
500 Kbaud	100 meters (328 feet)	

DeviceNet allows the use of either thick or thin cable to be used to construct trunk lines. DeviceNet also allows a combination of both types of cable to be used on the same network. To determine the maximum cable distance with a mix of both thick and thin cable, use Figure 4-2.

**Figure 4.2
Maximum Cable Distance**



$$\text{At 125 Kbaud: } L_{\text{thick}} + 5.0 \times L_{\text{thin}} = 500$$

$$\text{At 250 Kbaud: } L_{\text{thick}} + 2.5 \times L_{\text{thin}} = 250$$

$$\text{At 500 Kbaud: } L_{\text{thick}} + L_{\text{thin}} = 100$$

(where L_{thick} is the length of thick cable and L_{thin} is the length of thin cable.)

Drop line length is the longest cable distance measured from the tap on the trunk line to each of the transceivers of the nodes on the drop line. The total amount of drop line allowable on the network depends upon the data rate. Refer to the following drop line budget when determining the number and length of drop lines.

Baud Rate	Drop Length	
	Maximum	Cumulative
125 Kbaud	6 meters (20 ft)	156 meters (512 feet)
250 Kbaud		78 meters (256 feet)
500 Kbaud		39 meters (128 feet)

Cable Specifications

Thick Cable

This cable consists of two shielded pairs twisted on a common axis with a drain wire in the center covered with an overall braid shield and is commonly used as trunk line when length is important.

The thick cable specified for DeviceNet network connections consists of:

- One twisted signal pair (#18): blue/white
- One twisted power pair (#15): black/red
- Separate aluminized mylar shields around power pair and signal pair
- Overall foil/braid shield with drain wire (#18): bare

Thin Cable

Thin Cable is smaller and more flexible than Thick Cable. It is commonly used for drop lines, but can also be used, for shorter distances, as trunk line.

The thin cable specified for DeviceNet network connections consists of:

- One twisted signal pair (#24): blue/white
- One twisted power pair (#22): black/red
- Separate aluminized mylar shields around power pair and signal pair
- Overall foil/braid shield with drain wire (#22): bare

Cable Vendors

DeviceNet cables are available from various vendors. Two sources are listed below:

Belden Wire & Cable Company				
Part #	Pair	AWG	Insulation	Outer Jacket
3082A thick	Data	18	Datalene	Lt. Gray PVC
	Power	15	PVC/Nylon	
3084A thin	Data	24	Datalene	Lt. Gray PVC
	Power	22	PVC/Nylon	
3083A thick	Data	18	Datalene	Yellow CPE
	Power	15	PVC/Nylon	
3085A thin	Data	24	Datalene	Yellow CPE
	Power	22	PVC/Nylon	

Berk-Tek				
Part #	Pair	AWG	Insulation	Outer Jacket
210051 thick	Data	18	FPE/HDPE	Lt. Gray PVC
	Power	15	PVC/Nylon	
210144 thin	Data	24	FPE/HDPE	Lt. Gray PVC
	Power	22	PVC/Nylon	

Terminating Resistor Specifications

DeviceNet requires a terminating resistor to be installed at each end of the trunk. The resistor requirements are:

- 121 ohm
- 1% Metal Film
- 1/4 Watt

Important: Terminating resistors should not be installed at the end of a drop line, only at the two ends of the trunk line.

Connector Pinout

The GPD333 DeviceNet Satellite uses an open style, pluggable, screw connector that conforms with the DeviceNet specification. The male connector is resident on the Satellite board. One mating female connector is supplied with each DeviceNet Satellite board. Figure 4.3 shows the pinout, orientation, and placement of the male connector on the DeviceNet Satellite.

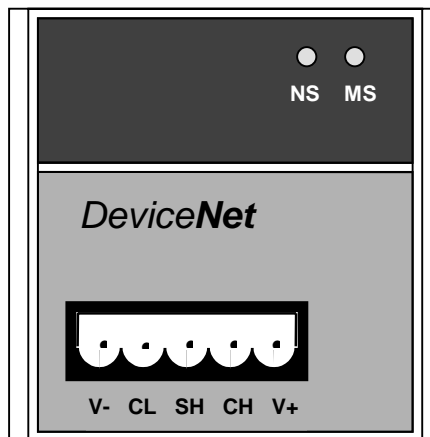


Figure 4.3
DeviceNet Satellite

The following table illustrates the pin outs and wire insulation colors for the DeviceNet Satellite.

Pin	Label	Definition	Wire Color
1	V-	Common	Black
2	CL	CAN Data Signal Low	Blue
3	SH	Shield/Drain Connection	Bare
4	CH	CAN Data Signal High	White
5	V+	+24 VDC	Red

Chapter 5

DeviceNet EDS Files for the GPD333

- EDS Files in General
- EDS Files for the GPD333

EDS Files in General

A floppy disk containing Electronic Data Sheet (EDS) files for the GPD333 is included with each GPD333 DeviceNet Satellite purchase. The EDS files are used together with a DeviceNet Network Configuration tool.

DeviceNet Network Configuration tools are used to configure all nodes on a DeviceNet network. Network Configuration tools provide the ability to upload data from a device and download data to a device. The EDS files provide the Network Configuration tool with the following information:

- Description of each device parameter
- Maximum and Minimum values for each device parameter
- Default values for each device parameter
- Read / Write access for each device parameter
- Help Information for each device parameter
- Vendor ID of the device
- Device Type of the device
- Product Code of the device
- Revision of the device

Each device on the network has the following values assigned to it:

1. Vendor ID
2. Device Type
3. Product Code
4. Revision
5. Serial Number

The Network Configuration tool will read these values from the device. When using EDS files, the tool will compare the values of Vendor ID, Device Type, Product Code, and Revision that were read from the device to the values in the EDS file. They must match.

EDS Files for the GPD333

All MagneTek products will have a Vendor ID equal to 37. All AC drive products will have a Device Type equal to 2. The GPD333 Product Codes depend on the drive model. The Product Codes for the GPD333 are given in the table below. The Revision can be found on the label on the edge of the Satellite Module.

Vendor ID	Device Type	Product Code	GPD333 Model Number	GPD333 Description
37	2	19	DS019	230 Volt, 0.8 Amp
		20	DS020	230 Volt, 1.5 Amp
		21	DS021	230 Volt, 3.0 Amp
		22	DS022	230 Volt, 5.0 Amp
		29	DS029	230 Volt, 6.5 Amp
		23	DS023	230 Volt, 7.3 Amp
		24	DS024	230 Volt, 11.0 Amp
		25	DS025	230 Volt, 17.5 Amp
		40	DS040	460 Volt, 1.0 Amp
		41	DS041	460 Volt, 1.6 Amp
		42	DS042	460 Volt, 2.6 Amp
		43	DS043	460 Volt, 4.0 Amp
		44	DS044	460 Volt, 4.8 Amp
		45	DS045	460 Volt, 8.0 Amp

The EDS files provided with the GPD333 DeviceNet Satellite allow the DeviceNet configuration tool to access various groups of parameters within the GPD333. The following parameter groups are defined in the GPD333 DeviceNet EDS files:

- DN: Motor Data
- DN: Control Data
- DN: AC Drive Data
- DN: Polled Config
- no00 - no09
- no10 - no19
- no20 - no29
- no30 - no39
- no40 - no49
- no50 - no51
- Drive Status
- ENTER
- MODEL/SERIAL#

The DN: Motor Data parameter group is used to configure the GPD333 for the motor that will be used with it. The parameters in this group include motor type, motor rated current, motor rated voltage, motor rated frequency, motor maximum speed, and motor base speed. These parameters must be set to the values shown on the motor nameplate. A list of DN: Motor Data can be found in Appendix A. See Chapter 7 or more information how to configure this data.

The DN: Control Data parameter group provides control information (running forward, running reverse, drive fault, network run/stop enable) from the GPD333. A list of DN: Control Data can be found in Appendix A.

The DN: AC Drive Data parameter group provides GPD333 drive configuration and status parameters related to drive mode, actual speed, actual current, current limit, input voltage, acceleration time, deceleration time, and network frequency enable. A list of DN: AC Drive Data can be found in Appendix A.

The DN: Polled Config parameter group is used to configure the DeviceNet Polled Connection. The parameters in this group determine the content of the information that is passed to and from the GPD333 during polled operation. The information that is passed to the GPD333 from the Master device is setup with the Polled Consuming Assembly parameter. The information that is passed from the drive to the Master device is setup with the Polled Producing Assembly parameter. A list of DeviceNet Polled Config data can be found in Appendix A. More information on setting up the DeviceNet Polled Connection can be found in Chapter 7.

The no00 - no09, no10 - no19, no20 - no29, no30 - no39, no40 - no49, and no50 - no51 parameter groups are used to access the GPD333 Application constants. The GPD333 Application constants are used to setup the programmable features of the GPD333. These programmable features include Acceleration and Deceleration times, Preset Speeds, V/Hz patterns, DC Injection Braking, Stall Prevention, Overtorque Detection, etc. The GPD333 Application Constants are listed in Appendix A of this manual. For a complete description of each of the GPD333 Application Constants, see the GPD333 Technical Manual (Publication TM4333).

The Drive Status parameter group can be used to evaluate the runtime status of the GPD333. The diagnostic data available includes Run/Stop status, Frequency Output, Current Output, Fault status, etc. All parameters in this group are read-only. A list of GPD333 drive status parameters can be found in Appendix A.

The ENTER parameter group contains only one parameter, the ENTER parameter. If any value is written to the ENTER parameter, the GPD333 will save the current values of the all GPD333 constants (no-00 through no-51) into EEPROM memory on the GPD333. Values saved in EEPROM memory will be retained in case of power loss to the GPD333. See Chapter 10 for more information on GPD333 memory and the ENTER command.

The MODEL/SERIAL# parameter group is provided for information purposes only. Model Number and Serial Number are read-only.

Chapter 6

Configuration of the GPD333 with the DeviceNet Manager

- Installation of the EDS Files
- Addition of a GPD333 to the DeviceNet Network
- Configuration of the GPD333 in Enhanced Mode

Installation of the EDS Files

The EDS files provided for the GPD333 must be installed before using them with a DeviceNet Configuration tool. This section will cover installation of EDS files for use with the Allen-Bradley DeviceNet Manager software (Allen-Bradley Part Number 1787-MGR). If you are using a Configuration tool other than the Allen-Bradley DeviceNet Manager software, contact the supplier of the Configuration tool for possible application notes.

To install the GPD333 EDS files with the DeviceNet Manager software:

1. Insert the disk into the floppy drive.
2. Start the DeviceNet Manager software.
3. From the Main Menu select Utilities .
See Figure 6.1.
4. From the Utilities menu select Install EDS Files
5. The Install EDS File screen is displayed.
See Figure 6.2.
6. Select the floppy disk drive in the Drives: box.
7. To install EDS files for all GPD333 models,
Click the Select All button.
Otherwise,
Select the EDS file(s) for the desired GPD333 models from the File
Name box.
8. Click the OK button.
9. The DeviceNet Manager will install the EDS files that were selected.

Figure 6.1

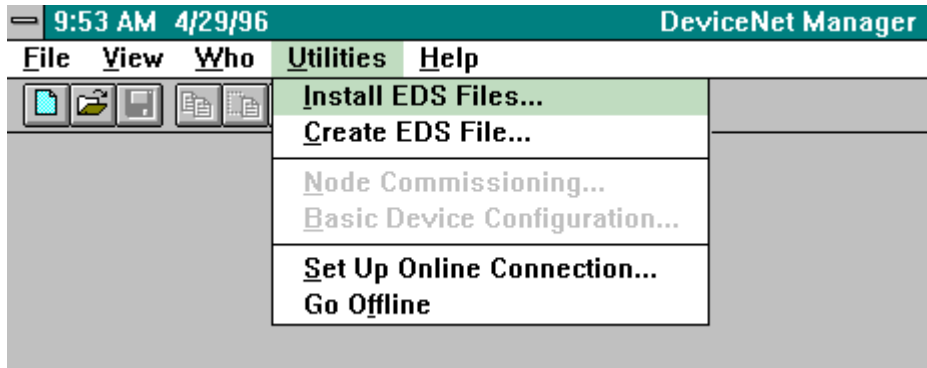
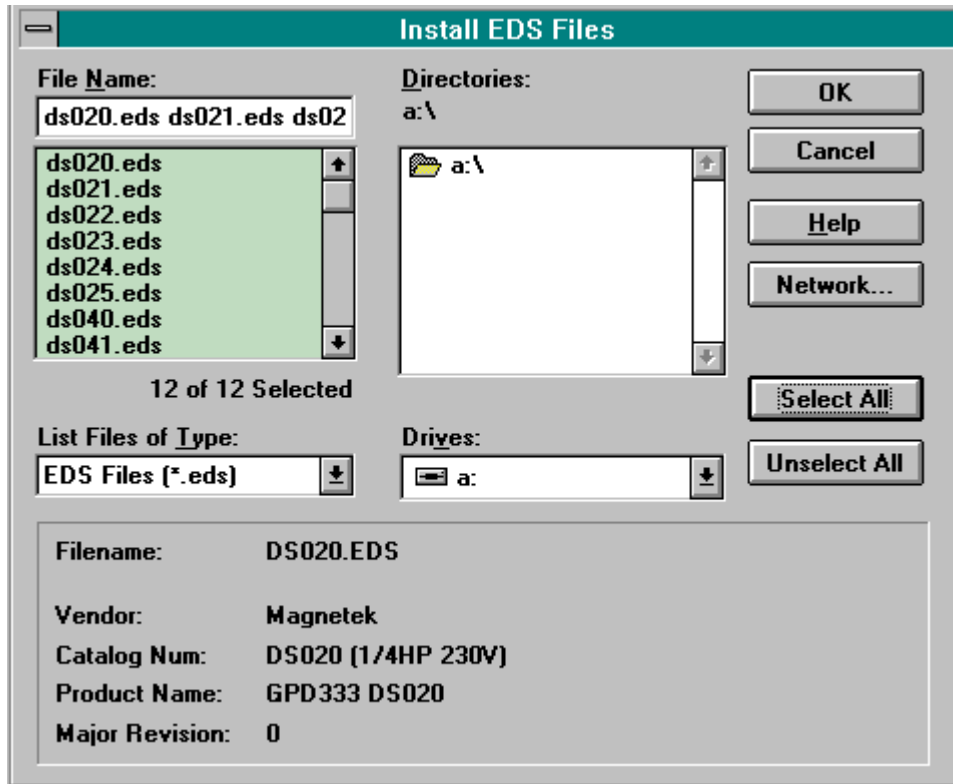


Figure 6.2

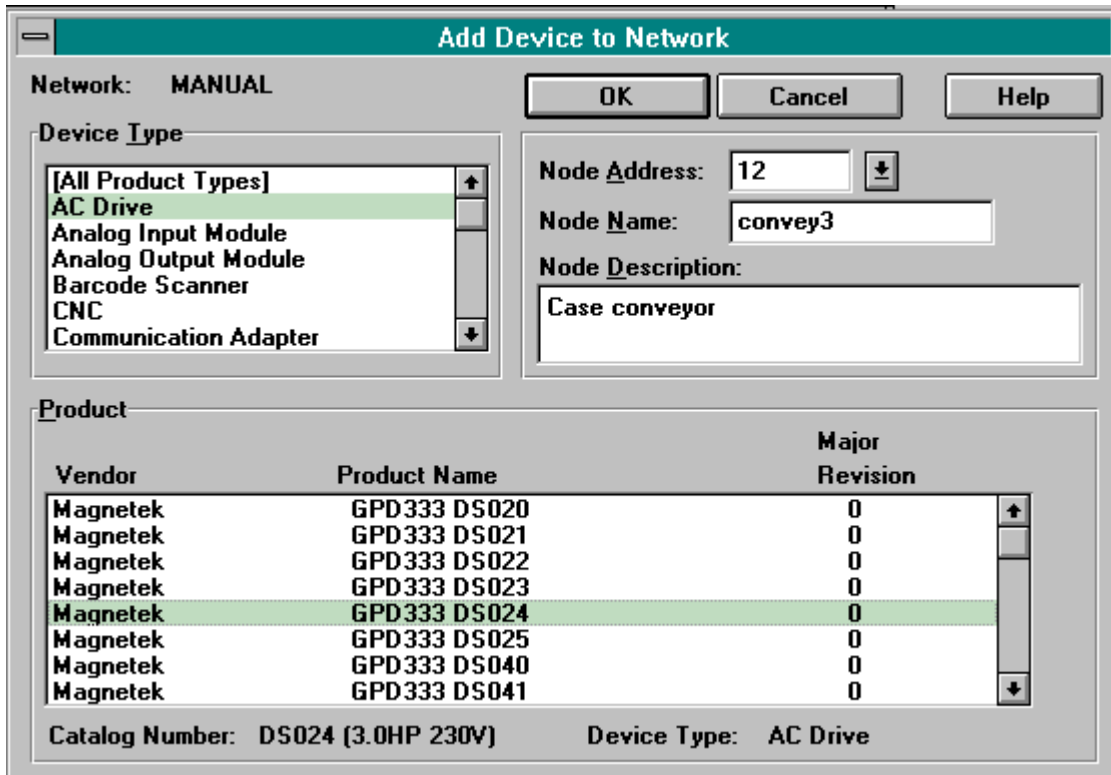


Addition of the GPD333 to the DeviceNet Network

After you have installed the GPD333 EDS files and created a DeviceNet project using the DeviceNet Manager software (see the Allen-Bradley DeviceNet Manager User Manual - Publication 1878-6.5.3), you can add a GPD333 to your network/project.

1. From the Project screen, choose Add Device .
2. The Add Device to Network screen is displayed.
See Figure 6.3.
3. Click once on AC Drive in the Device Type box.
4. Click once on the desired GPD333 Product model number in the Product box.
5. Enter the Node Address .
6. Enter the Node Name .
7. Enter the Node Description .
8. Click once on the OK button.

Figure 6.3



Configuration of the GPD333 in Enhanced Mode

After you have added a GPD333 to your project/network, the DeviceNet Manager can be used to configure and troubleshoot the GPD333. The DeviceNet Manager will allow both online and offline configuration of devices. With the EDS files installed, the GPD333 can be configured in the DeviceNet Manager's Enhanced Mode. In Enhanced Mode, the DeviceNet Manager can:

- Read/Write GPD333 DeviceNet Configuration Data
- Read/Write GPD333 Application Constants
- Read GPD333 Diagnostic Data
- Read GPD333 Model Number and Serial Number

To configure the GPD333 in Enhanced Mode:

1. Display the Project screen.
See Figure 6.4.
2. Click once on the GPD333 node you wish to configure.
3. Click once on the Config Device button.
4. The Device Configuration - Enhanced Mode screen will be displayed.
See Figure 6.5.
If online, the DeviceNet Manager will upload and display all of the parameters values resident in the GPD333.
If offline, the DeviceNet Manager will display the default values from the EDS file.

Figure 6.4

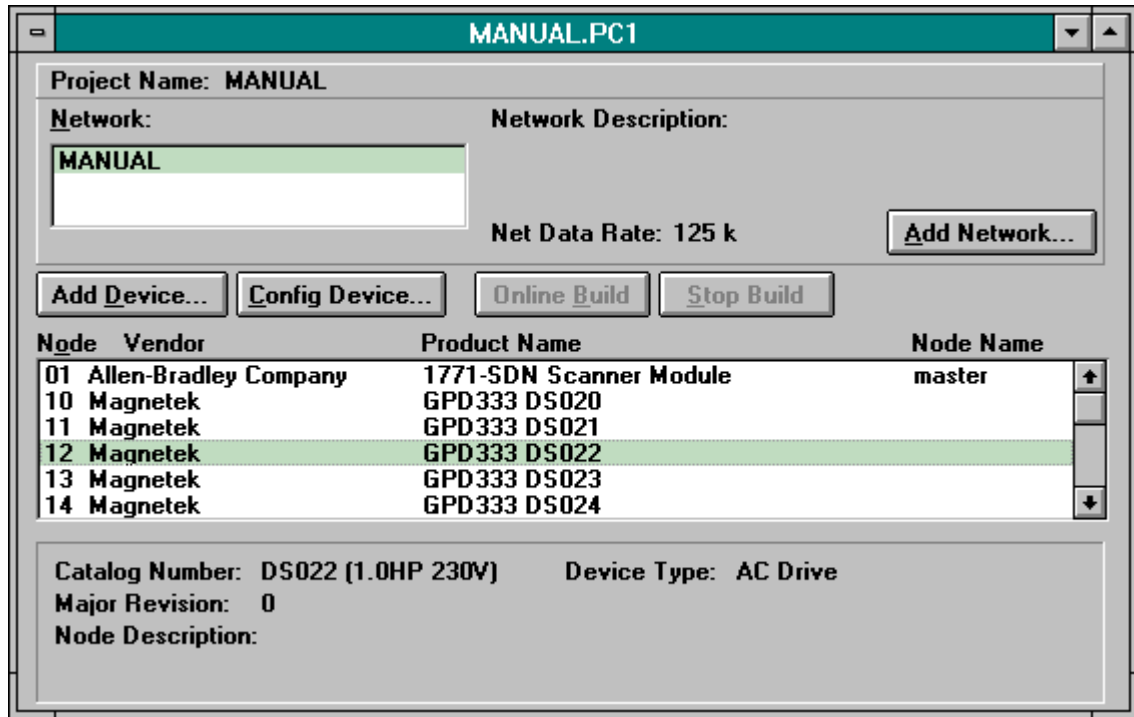
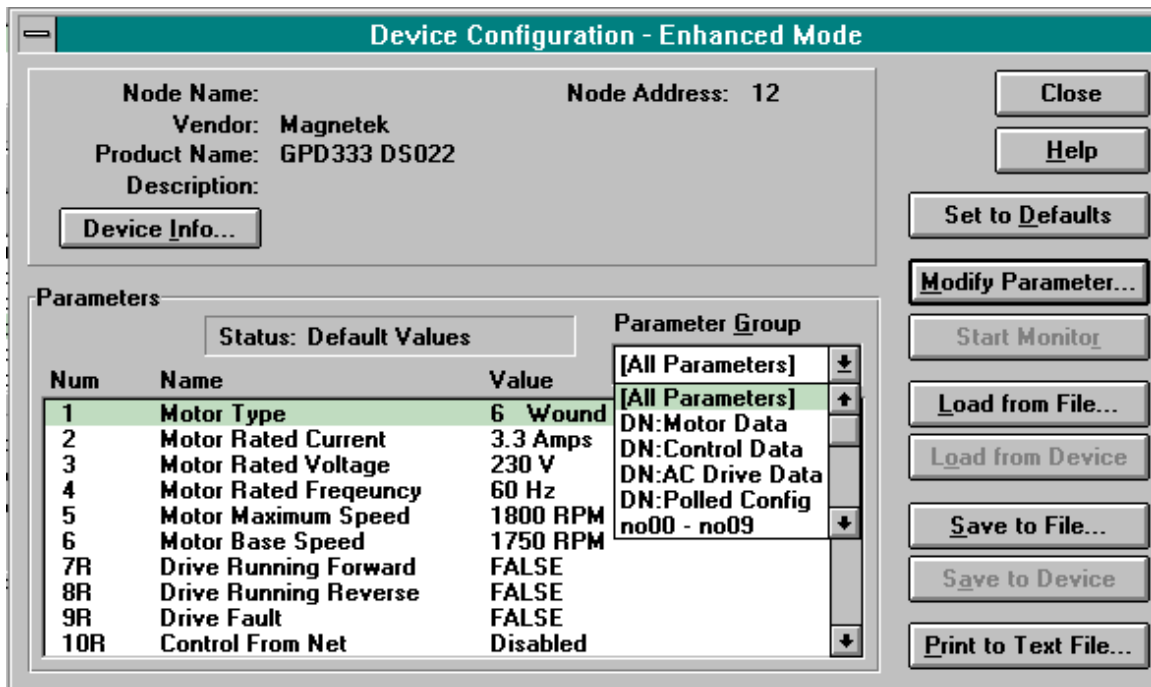


Figure 6.5



The DeviceNet Manager Enhanced Mode provides the following functions:

- Upload all GPD333 parameters (Load from Device)
- Download all GPD333 parameters (Save to Device)
- Store all GPD333 parameters to a file on the PC (Save to File)
- Retrieve all GPD333 parameters from a file on the PC (Load from File)
- Upload one GPD333 parameter (Modify Parameter, Load from Device)
- Download one GPD333 parameter (Modify Parameter, Save to Device)
- Select default value for one GPD333 parameter (Modify Parameter, Select Default)

Chapter 7

Configuration of the GPD333 DeviceNet Parameters

- Polled Configuration
- Motor Nameplate Configuration
- Application Constants Configuration

Polled Configuration

The GPD333 DeviceNet Polled connection must be configured before receiving commands from a Master device. The two parameters that must be configured are:

- Polled Consuming Assembly
- Polled Producing Assembly

The Polled Consuming Assembly (PCA) parameter determines the format of the data that is transmitted from the Master device to the GPD333. The PCA data is transmitted from the Master device to a GPD333 with a Poll Command message. The PCA data is used to control the operation of the GPD333. One of the assemblies from the following table must be selected. See Appendix B for a bit-by-bit breakdown of the assemblies.

Assembly Number	Assembly Definition	# of Data Bytes	Execution Time
20*	Basic Speed Command This assembly provides: run forward, fault reset, and speed reference in RPM.	4	214 msec
21	Extended Speed Command This assembly provides: run forward, run reverse, fault reset, network control enable, network reference enable, and speed command in RPM.	4	310 msec
100	MagneTek Speed Command 1 This assembly provides: run, fwd/rev, multi-function inputs, fault reset, and speed reference in Hz.	4	214 msec
102	MagneTek Speed Command 2 This assembly provides: run forward, fault reset, and speed reference in Hz.	4	214 msec

* Assembly 20 is the default Polled Consuming Assembly

The Polled Producing Assembly (PPA) parameter determines the format of the data that is transmitted from the GPD333 to the Master device. The PPA data is transmitted from the GPD333 to the Master device with a Polled Response message. The PPA data is used to return the status of the GPD333 to the Master device. One of the assemblies from the following table must be selected. See Appendix B for a bit-by-bit breakdown of the assemblies.

Assembly Number	Assembly Definition	# of Data Bytes	Execution Time
20	Basic Speed Command This assembly provides: run forward, fault reset, and speed reference in RPM.	4	314 msec
21	Extended Speed Command This assembly provides: run forward, run reverse, fault reset, network control enable, network reference enable, and speed command in RPM.	4	464 msec
70*	Basic Speed Status This assembly provides: drive fault, running forward, and actual speed in RPM.	4	314 msec
100	MagneTek Speed Command 1 This assembly provides: run, fwd/rev, multi-function input control, fault reset, and speed reference in Hz.	4	314 msec
101	MagneTek Speed Status This assembly provides: running, fwd/rev, drive ready, drive fault, multi-function output status, and actual speed in Hz.	4	314 msec
102	MagneTek Speed Command 2 This assembly provides: run forward, fault reset, and speed reference in Hz.	4	314 msec
103	MagneTek Current Status This assembly provides: running, fwd/rev, drive ready, drive fault, multi-function output status, and actual current in % of rated current.	4	314 msec
104	MagneTek Current & Speed Status This assembly provides: running, fwd/rev, drive ready, drive fault, multi-function output status, actual current in % of rated current, and actual speed in Hz.	6	473 msec

* Assembly 70 is the default Polled Producing Assembly

The PCA and PPA parameters can be accessed in various ways. If your configuration tool uses the EDS files for configuration, the PCA and PPA parameters can be accessed from the iDN: Polled Configi parameter group. If your configuration tool uses an alternate form of configuration, the DeviceNet path may be required. The following table shows both the EDS locations and the DeviceNet path for the PCA and PPA.

Polled Parameter	EDS Parm #	DeviceNet Path
Polled Consuming Assembly	19	Class100 / Instance1 / Attribute250
Polled Producing Assembly	20	Class100 / Instance1 / Attribute251

The PCA and PPA values can only be changed when the DeviceNet Satellite is not actively processing polled input commands. If the DeviceNet Satellite is processing polled input commands, an iAccess Deniedi error will occur.

Motor Nameplate Configuration

The GPD333 Motor Data must be configured before receiving commands from a Master device. The GPD333 uses the Motor parameters to scale the speed commands from the Master device for the motor that is being used. The Motor parameters are in the EDS parameter group iDN: Motor Data¹. The Motor parameters that must be configured are shown in the following table along with their respective EDS location and DeviceNet path.

Motor Parameter	EDS Parm #	DeviceNet Path
Motor Type	1	Class40 / Instance1 / Attribute3
Motor Rated Current	2	Class40 / Instance1 / Attribute6
Motor Rated Voltage	3	Class40 / Instance1 / Attribute7
Motor Rated Frequency	4	Class40 / Instance1 / Attribute9
Motor Maximum Speed	5	Class40 / Instance1 / Attribute11
Motor Base Speed	6	Class40 / Instance1 / Attribute15

Usually, the required motor data can be found on the motor nameplate.

Application Constants Configuration

The specific application of the GPD333 will determine whether any of the remaining GPD333 Application constants (other than those mentioned in this chapter) need to be configured. The EDS file locations of all parameters can be found in Appendix A. The DeviceNet paths of all parameters can be found in Appendix C.

Chapter 8

Configuration of the A-B 1771-SDN Scanner Module

- The 1771-SDN Module
- Module and Channel Configuration
- Scan List Configuration

The 1771-SDN Module

The Allen-Bradley 1771-SDN module is a DeviceNet scanner module used to interface the PLC-5, PLC-3, or PLC-2 processors to the DeviceNet network. This chapter will summarize the steps necessary to configure the 1771-SDN module for use with the GPD333 DeviceNet Satellite.

When connected to the DeviceNet network, the 1771-SDN acts as a Master device. As a Master device, the 1771-SDN gathers input data from the Slave devices (GPD333 = slave) and distributes output data to Slave devices.

To gather input data and distribute output data the 1771-SDN uses the following types of I/O messages:

- Polled
- Strobed
- Change-of State / Cyclic

In the case of the GPD333 DeviceNet Satellite, Polled I/O messaging is used.

With respect to the network, the 1771-SDN is considered to be a Group 2 Only Client. By definition, a Group 2 Only Client device is UCMM capable. A Group 2 Only Client uses DeviceNet's Predefined Master/Slave Connection Set to allocate and communicate with the Group 2 Only Server devices (GPD333 = Group 2 Only Server). After allocation is complete, a Group 2 Only Client will provide UCMM functions for its Group 2 Only Server devices. If you are not a DeviceNet wizard, the definitions in this paragraph may seem rather vague.

This chapter will summarize the configuration of the 1771-SDN for operation with the GPD333 DeviceNet Satellite. For detailed information on the configuration of the 1771-SDN, see Allen-Bradley Publication 1771-6.5.118.

Module and Channel Configuration

The DeviceNet Manager's 1771-SDN Module and Channel configuration screen is shown in Figure 8.1. Most of the information on this screen does not specifically relate to the GPD333. However, for polled operation of a GPD333 the following must be considered:

- The GPD333 will communicate with the 1771-SDN scanner using polled I/O messages. To enable polled I/O messages, the I/O Comms Enabled box must have an 'X' placed in it.
- The minimum poll time of the GPD333 must be considered when setting the Interscan Delay, the Bkgd Poll Ratio, and the Poll Ratio (See the 'Scan List Configuration' section of this chapter). The GPD333 minimum poll time will depend on which Assemblies have been selected as the PCA and PPA. Chapter 7 listed each Assembly along with the execution time for each assembly. To calculate the GPD333 minimum poll time, add the execution time of the PCA to the execution time of the PPA. The rate at which the 1771-SDN polls the GPD333 should not be less than the calculated minimum poll time.

- The rate at which the 1771-SDN polls the GPD333 is determined by the InterScan Delay, the Bkgd Poll Ratio, and the Poll Rate settings in the scanner. See Figure 8.3 for the location of the Poll Rate setting. The Poll Rate setting determines if the GPD333 is polled every scan or in the background scan. If the Poll Rate is set to "every scan", then the rate at which the 1771-SDN polls the GPD333 is equal to the sum of InterScan Delay and the scanner processing time. If the Poll Rate is set to "background", then the rate at which the 1771-SDN polls the GPD333 is equal to the sum of the InterScan Delay time and the scanner processing time multiplied by the Bkgd Poll Ratio. The scanner processing time is the amount of time it takes the scanner module to process the I/O messages for the devices that are in its scan list.

The scan time / poll rate calculations ...

Minimum Poll Time = PCA Execution Time + PPA Execution Time

If Poll Rate = Every Scan, then ...

Minimum Poll Time < InterScan Delay + Scanner Process Time

If Poll Rate = Background, then ...

Minimum Poll Time < (InterScan Delay + Scanner Process Time) X Bkgd Poll Ratio

Figure 8.1

1771-SDN Module and Channel Configuration : [MANUAL.SM7]

Module Settings

Project Name: 4_02
Module Name:
Access: DeviceNet
Density: ½ Slot : Quad Density
Rack: 0 Group: 0
Slot: 0

PLC Interface Addresses

	Input	Output
BXfer 62	N21:0	N11:0
BXfer 61	N22:0	N12:0
BXfer 60	N23:0	N13:0
BXfer 59	N24:0	N14:0

Channel Select: A
Network Name: 4_02
Channel Node Address: 1

Channel A Settings

I/O Comms: Enabled
InterScan Delay: 175 ms.
Bkgd Poll Ratio: 4

Load From: SDN File...
Save To: SDN File...
Select Defaults: Module Chan

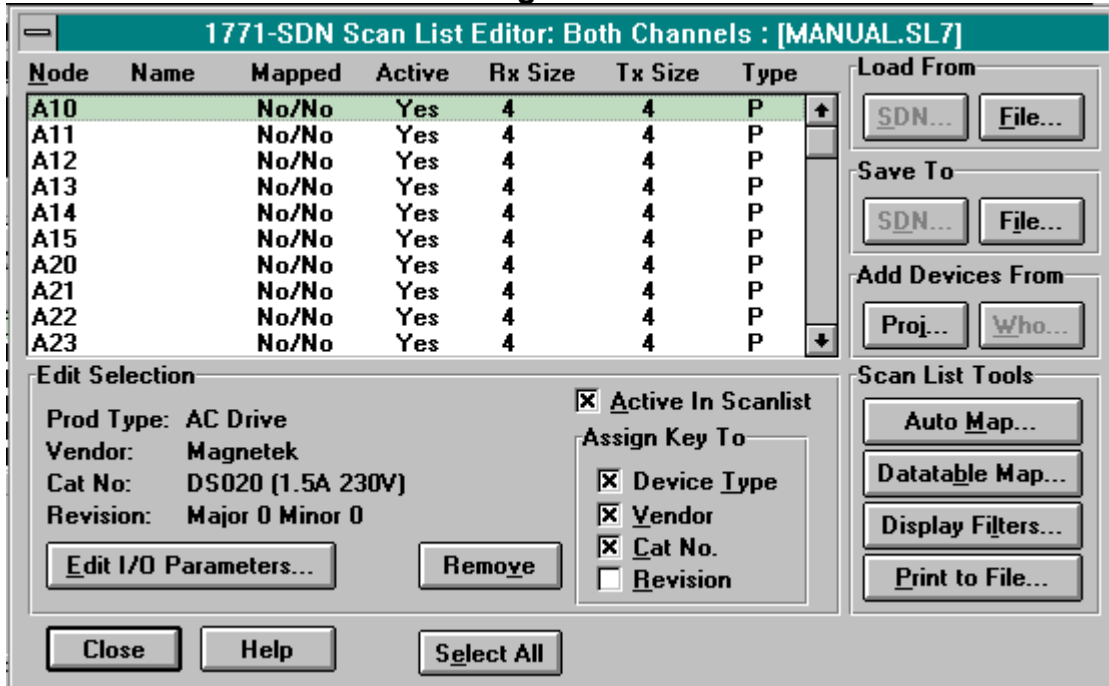
Close Help Assign Names from Project Edit Scan List...

Scan List Configuration

The Scan List Editor screens are used to add devices to the 1771-SDN module's scan list. After a GPD333 node has been added to the scan list, the minimum must be configured:

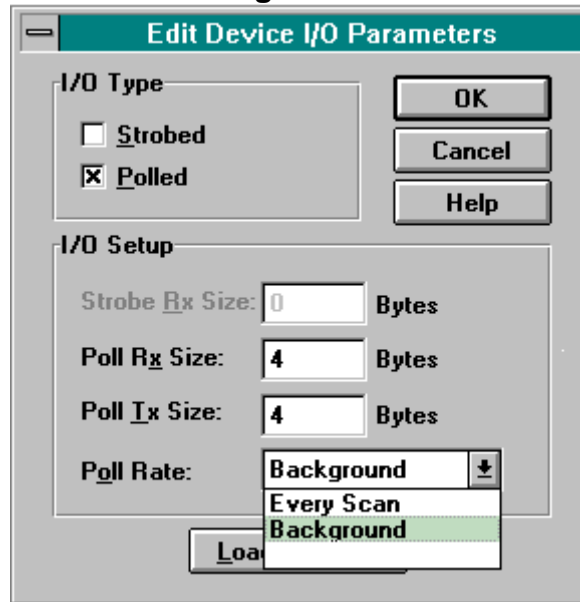
- The Active in Scanlist box must contain an 'X'. Placing an 'X' in this box will cause the scanner to communicate with the selected GPD333 device via I/O messages (polled and/or strobed). See Figure 8.2.

Figure 8.2



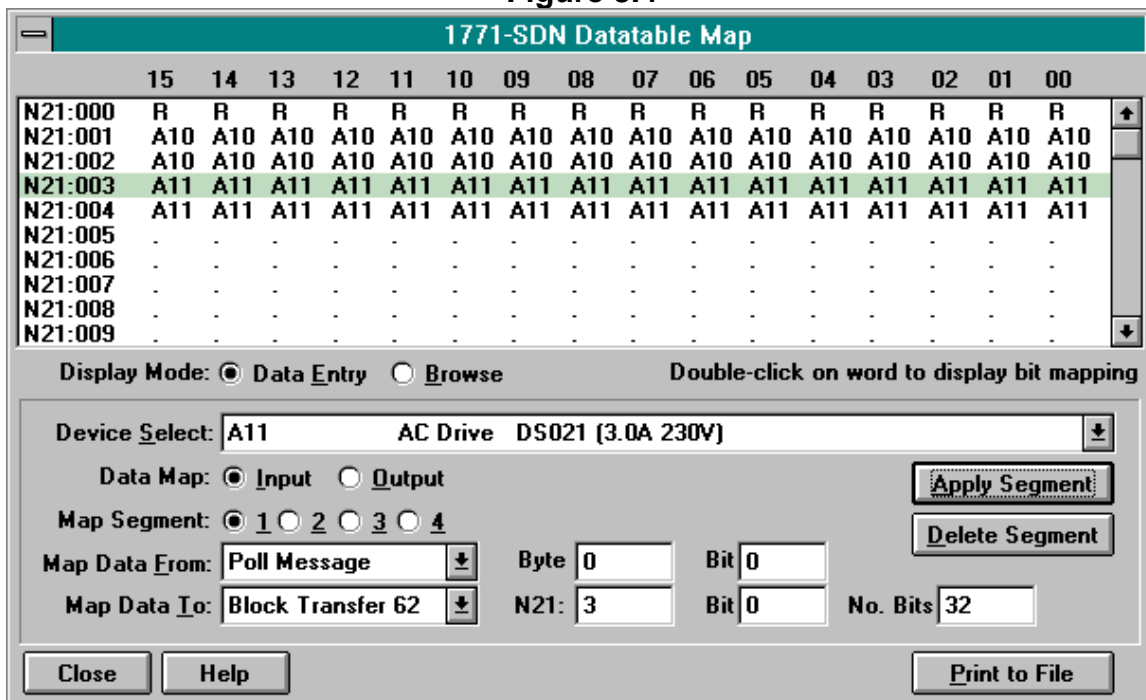
- The I/O Type / Polled box must contain an 'X'. Placing an 'X' in this box indicates to the scanner that the GPD333 is a polled device. See Figure 8.3.
- Enter the I/O Setup / Poll Rx Size. The number placed in this box should match the number of bytes that are received from the GPD333 when polled. This number should be set equal to the number of bytes contained in the Assembly which was selected as the Polled Producing Assembly. The number of bytes per Assembly can be found in Appendix B or Chapter 7. See Figure 8.3.
- Enter the I/O Setup / Poll Tx Size. The number placed in this box should match the number of bytes that are transmitted to the GPD333 when polled. This number should be set equal to the number of bytes contained in the Assembly which was selected as the Polled Consuming Assembly. The number of bytes per Assembly can be found in Appendix B or Chapter 7. See Figure 8.3.
- Select the desired Poll Rate setting. Your application will determine whether it is best to poll the GPD333 every scan or as a background device. The previous section of this chapter provides information on calculating the GPD333's minimum allowable poll rate. See Figure 8.3.

Figure 8.3



- Map the polled input data into the PLC data table. The polled input data is the data that is returned from the GPD333 to the 1771-SDN during polling. The configuration/byte order of this data is determined by the Polled Producing Assembly (See Appendix B for details). See Figure 8.4 for PLC input mapping.

Figure 8.4



- Map the polled output data into the PLC data table. The polled output data is the data that is transmitted from the 1771-SDN to the GPD333 during polling. The configuration/byte order of this data is determined by the Polled Consuming Assembly (See Appendix B for details). See Figure 8.5 for PLC output mapping.

Figure 8.5

	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
N11:000	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
N11:001	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11
N11:002	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11	A11
N11:003	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12
N11:004	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12	A12
N11:005	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13
N11:006	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13	A13
N11:007	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
N11:008	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
N11:009	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Display Mode: Data Entry Browse Double-click on word to display bit mapping

Device Select: A13 AC Drive DS023 (6.5A 230V)

Data Map: Input Output

Map Segment: 1 2 3 4

Map Data To: Poll Message Byte 0 Bit 0

Map Data From: Block Transfer 62 N11: 5 Bit 0 No. Bits 32

Buttons: Close, Help, Apply Segment, Delete Segment, Print to File

Chapter 9

Configuration of the A-B 1747-SDN Scanner Module

- The 1747-SDN Module
- Module and Channel Configuration
- Scan List Configuration

The 1747-SDN Module

The Allen-Bradley 1747-SDN module is a DeviceNet scanner module used to interface SLC 5/02, 5/03, or 5/04 processors to the DeviceNet network. This chapter will summarize the steps necessary to configure the 1747-SDN module for use with the GPD333 DeviceNet Satellite.

When connected to the DeviceNet network, the 1747-SDN acts as a Master device. As a Master device, the 1747-SDN gathers input data from the Slave devices (GPD333 = slave) and distributes output data to Slave devices.

To gather input data and distribute output data the 1747-SDN uses the following types of I/O messages:

- Polled
- Strobed
- Change-of-State / Cyclic

In the case of the GPD333 DeviceNet Satellite, Polled I/O messaging is used.

With respect to the network, the 1747-SDN is considered to be a Group 2 Only Client. By definition, a Group 2 Only Client device is UCMM capable. A Group 2 Only Client uses DeviceNet's Predefined Master/Slave Connection Set to allocate and communicate with the Group 2 Only Server devices (GPD333 = Group 2 Only Server). After allocation is complete, a Group 2 Only Client will provide UCMM functions for its Group 2 Only Server devices. If you are not a DeviceNet wizard, the definitions in this paragraph may seem rather vague.

This chapter will summarize the configuration of the 1747-SDN for operation with the GPD333 DeviceNet Satellite. For detailed information on the configuration of the 1747-SDN, see Allen-Bradley Publication 1747-6.5.2.

Module and Channel Configuration

The DeviceNet Manager's 1747-SDN Module and Channel configuration screen is shown in Figure 9.1. Most of the information on this screen does not specifically relate to the GPD333. However, for polled operation of a GPD333 the following must be considered:

- The GPD333 will communicate with the 1747-SDN scanner using polled I/O messages. To enable polled I/O messages, the I/O Comms Enabled box must have an 'X' placed in it.
- The minimum poll time of the GPD333 must be considered when setting the Interscan Delay, the Bkgd Poll Ratio, and the Poll Ratio (See the 'Scan List Configuration' section of this chapter). The GPD333 minimum poll time will depend on which Assemblies have been selected as the PCA and PPA. Chapter 7 listed each Assembly along with the execution time for each assembly. To calculate the GPD333 minimum poll time, add the execution time of the PCA to the execution time of the PPA. The rate at which the 1747-SDN polls the GPD333 should not be less than the calculated minimum poll time.

- The rate at which the 1747-SDN polls the GPD333 is determined by the Interscan Delay, the Bkgd Poll Ratio, and the Poll Rate settings in the scanner. See Figure 9.3 for the location of the Poll Rate setting. The Poll Rate setting determines if the GPD333 is polled every scan or in the background scan. If the Poll Rate is set to "every scan", then the rate at which the 1747-SDN polls the GPD333 is equal to the sum of Inter

The scan time / poll rate calculations ...

Minimum Poll Time = PCA Execution Time + PPA Execution Time

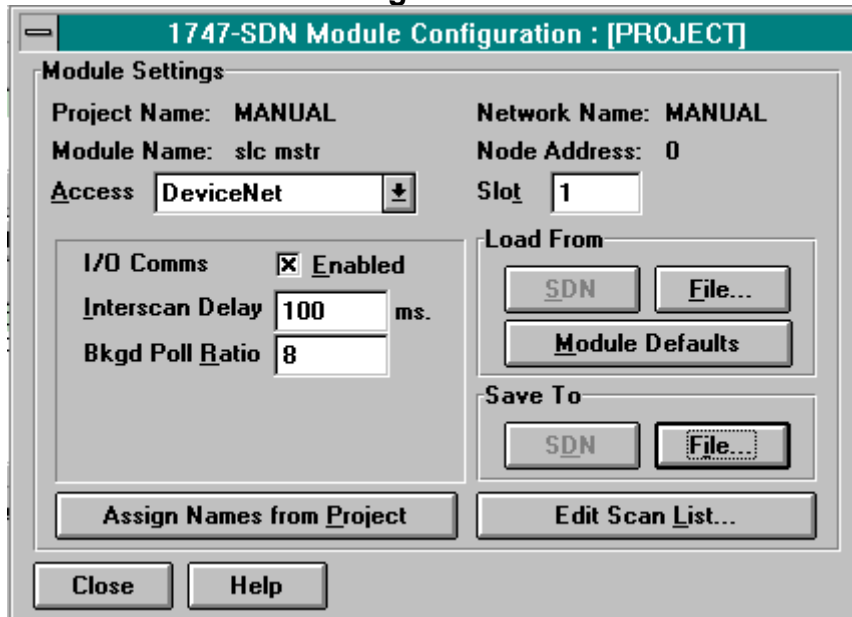
If Poll Rate = Every Scan, then ...

Minimum Poll Time < Inter

If Poll Rate = Background, then ...

Minimum Poll Time < (Inter

Figure 9.1

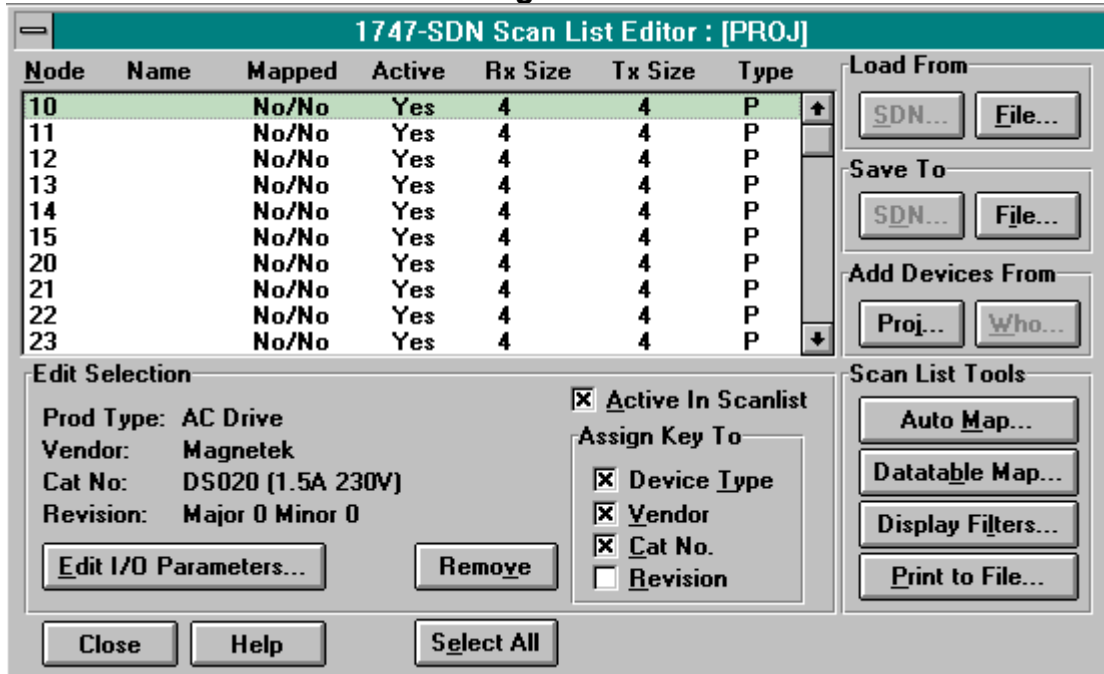


Scan List Configuration

The Scan List Editor screens are used to add devices to the 1747-SDN module's scan list. After a GPD333 node has been added to the scan list, the minimum must be configured:

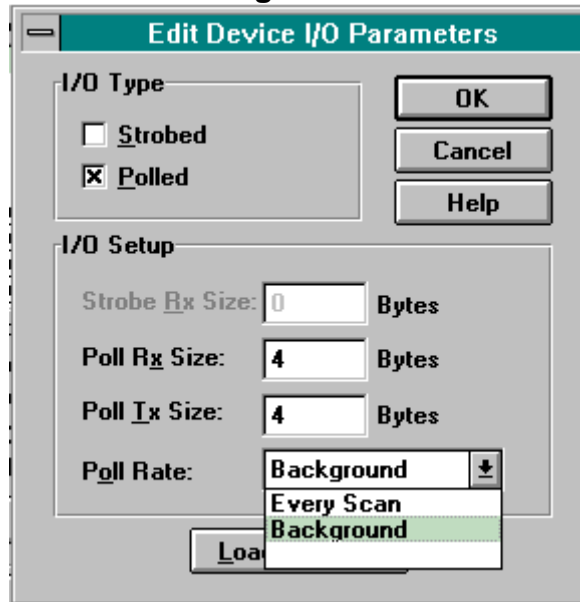
- The Active in Scanlist box must contain an 'X'. Placing an 'X' in this box will cause the scanner to communicate with the selected GPD333 device via I/O messages (polled and/or strobed). See Figure 9.2.

Figure 9.2



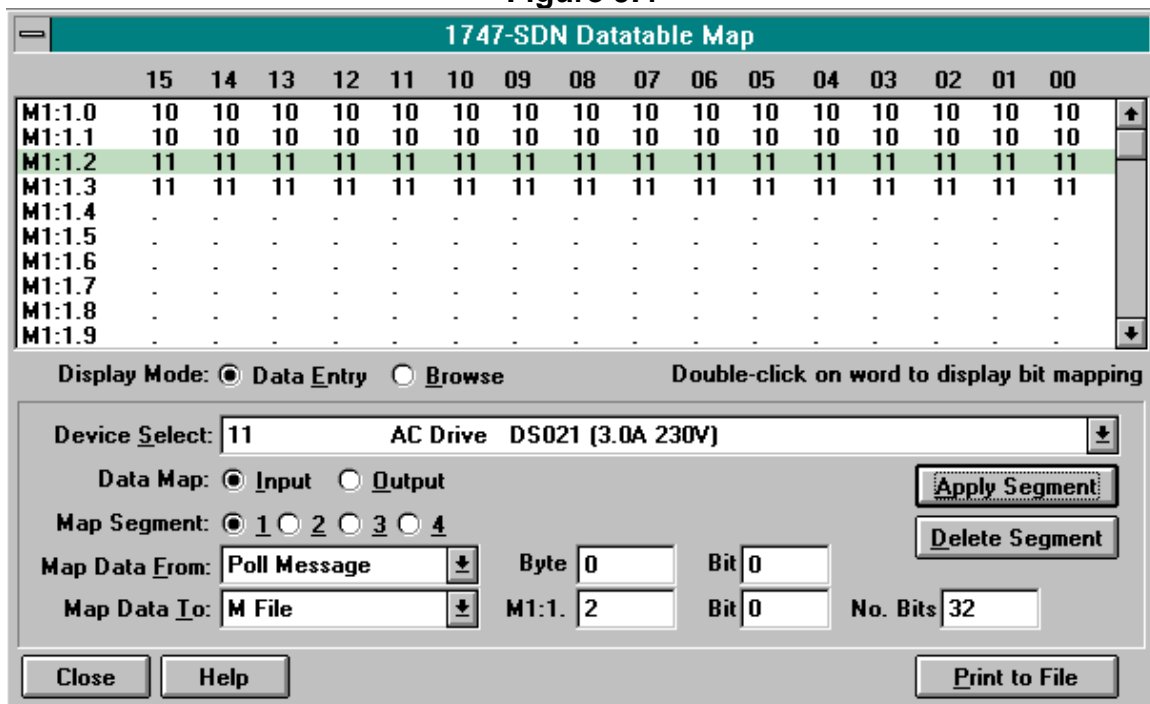
- The I/O Type / Polled box must contain an 'X'. Placing an 'X' in this box indicates to the scanner that the GPD333 is a polled device. See Figure 9.3.
- Enter the I/O Setup / Poll Rx Size. The number placed in this box should match the number of bytes that are received from the GPD333 when polled. This number should be set equal to the number of bytes contained in the Assembly which was selected as the Polled Producing Assembly. The number of bytes per Assembly can be found in Appendix B or Chapter 7. See Figure 9.3.
- Enter the I/O Setup / Poll Tx Size. The number placed in this box should match the number of bytes that are transmitted to the GPD333 when polled. This number should be set equal to the number of bytes contained in the Assembly which was selected as the Polled Consuming Assembly. The number of bytes per Assembly can be found in Appendix B or Chapter 7. See Figure 9.3.
- Select the desired Poll Rate setting. Your application will determine whether it is best to poll the GPD333 every scan or as a background device. The previous section of this chapter provides information on calculating the GPD333's minimum allowable poll rate. See Figure 9.3.

Figure 9.3



- Map the polled input data into the SLC data table. The polled input data is the data that is returned from the GPD333 to the 1747-SDN during polling. The configuration/byte order of this data is determined by the Polled Producing Assembly (See Appendix B for details). See Figure 9.4 for SLC input mapping.

Figure 9.4



- Map the polled output data into the SLC data table. The polled output data is the data that is transmitted from the 1747-SDN to the GPD333 during polling. The configuration/byte order of this data is determined by the Polled Consuming Assembly (See Appendix B for details). See Figure 9.5 for SLC output mapping.

Figure 9.5

	15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
M0:1.0	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
M0:1.1	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
M0:1.2	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
M0:1.3	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
M0:1.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M0:1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Display Mode: Data Entry Browse Double-click on word to display bit mapping

Device Select: 10 AC Drive DS020 (1.5A 230V)

Data Map: Input Output

Map Segment: 1 2 3 4

Map Data To: Poll Message Byte 0 Bit 0

Map Data From: M File M0:1. 0 Bit 0 No. Bits 32

Buttons: Close, Help, Apply Segment, Delete Segment, Print to File

GPD 333 / DeviceNet



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