YASKAWA

GPD 515/G5 DeviceNet™ Technical Manual

Technical References

Refer to the following publications for further information about the GPD 515/G5 and DeviceNet.

- GPD 515/G5 Technical Manual
  Publication TM 4515

- GPD 515/G5 DeviceNet Interface Board Installation Sheet
  Publication 02Y00025-0388

- 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 DeviceNet Manager Software User Manual
  Publication 1787-6.5.3

Technical Support

Technical Support Center-

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

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Release Date 6/24/97

Chapter 1
Introducing the DeviceNet Network

- Overview
- The DeviceNet Network
- The GPD 515/G5 on DeviceNet
- Message Types on DeviceNet

Note: The AC Drive referenced in this manual may be named GPD 515, G5, or GPD 515/G5. These are physically the same drive. This manual will use the name GPD 515 hereafter.

Overview

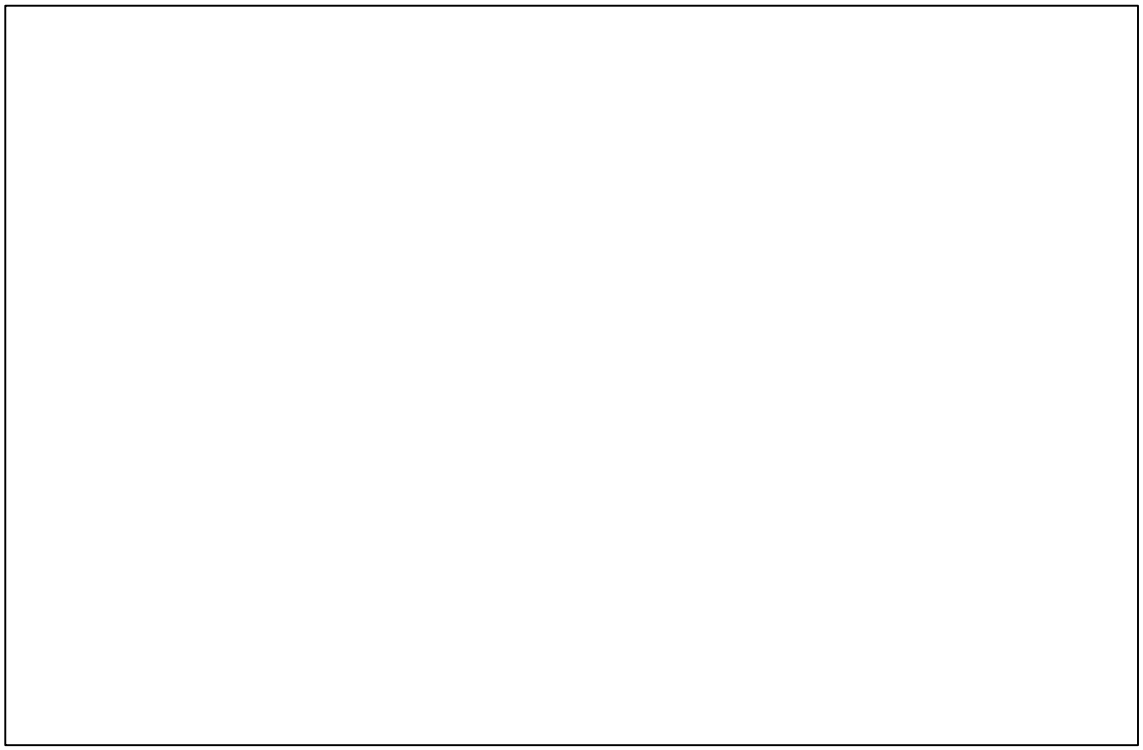
This manual describes the set-up and programming of the GPD 515 DeviceNet Interface hardware. The GPD 515 DeviceNet Interface hardware will allow communication between a DeviceNet Communication Network and one GPD 515 drive.

To connect a GPD 515 drive to the DeviceNet network, the following materials will be necessary:

- GPD 515 DeviceNet Interafce Board
  Part Number CM053
- GPD 515 DeviceNet Users Manual
  Publication TM 4556
  (Included with Part Number CM053)
- Floppy Disk containing GPD 515 DeviceNet EDS Files
  (Included with Part Number CM053)
- GPD 515 Technical Manual
  Publication TM 4515

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.



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 GPD 515 on DeviceNet

The DeviceNet network can accommodate up to 64 nodes per network. A GPD 515 appears as one node on the network. A DeviceNet Interface board (part number CM053) must be installed into each GPD 515 drive that will be communicating on the DeviceNet network. The Interface 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 GPD 515s 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 GPD 515 acts as a DeviceNet Slave device. With respect to the network, the GPD 515 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 GPD 515 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 GPD 515 DeviceNet Interface. A definition of each message type follows the table.

Message Type	GPD 515 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 GPD 515 DeviceNet Interface 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 GPD 515 DeviceNet Interface 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 GPD 515 DeviceNet Interface 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 GPD 515 DeviceNet Interface uses Explicit messaging to read drive data (drive parameters, drive runtime status), to write data (drive parameters, drive control commands), to save data (the ENTER command), and to reset the drive (power-up reset, out-of-box reset).

Chapter 2
GPD 515 DeviceNet Interface Startup Procedure

The following procedure outlines the steps that should be taken to startup a GPD 515 with the DeviceNet Interface option.

1. Set the network Baud Rate and GPD 515 Node Number. See **Chapter 3** for details.

2. Install the DeviceNet Interface board into the GPD 515. See **Chapter 3** for details.

3. Connect the GPD 515 DeviceNet Interface to the DeviceNet Network. See **Chapter 4** for details.

4. If using a DeviceNet Configuration Tool which supports EDS files, install the GPD 515 EDS files that are provided with the DeviceNet Interface. 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 GPD 515 parameters. These parameters include: polled network configuration, motor nameplate data, and GPD 515 application constants. See **Chapter 7** for details.

6. Configure the DeviceNet Master device to communicate with the GPD 515 DeviceNet Interface. 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 Interface

- Interface Hardware Components
- Interface Setup
- Interface Installation into the GPD 515

Interface Hardware Components

CAUTION

The DeviceNet Interface 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 Interface board. J1 (on back of board) is used for connection to the 2CN connector on the GPD 515. S1 is used to setup the DeviceNet network baud rate and the DeviceNet MAC ID. J2 is used for connection of the DeviceNet network wiring. J3 is the ground connection to terminal 12 on the GPD 515. NS is the Network Status LED and MS is the Module Status LED.

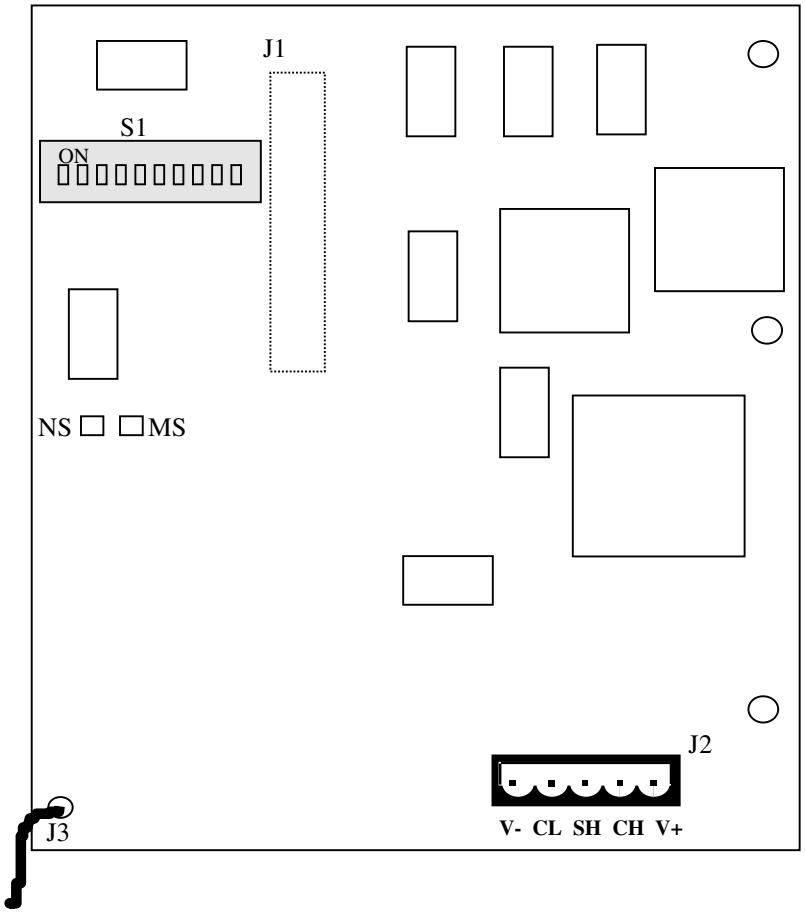


Figure 3.1
DeviceNet Interface

Interface Setup

The DeviceNet Interface board requires setup prior to operation. Interface board S1 switches must be set prior to the application of input AC power to the GPD 515. The states of these switches are read only on power-up.

Interface Board S1 Settings

The Interface S1 switch is used to setup DeviceNet network characteristics. The S1 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	Not Used
10	Master Idle Operation

S1 switches 1 and 2 are used to select the baud rate of the DeviceNet network. The baud rate setting of the Interface 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)	Interface S1 Position	
	Switch 1	Switch 2
125	Off	Off
250	Off	On
500	On	Off
	On	On

S1 switches 3 through 8 are used to setup the DeviceNet node number of the Interface 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

Some master devices can be placed in idle mode. During idle mode, some masters do not send or receive polled messages. S1 switch 10, allows the drive to continue to operate as normal or generate an “EF0” fault to indicate that no polled messages are being received from the master.

Master Idle Operation	Interface S1 Position Switch 10
“EF0” disabled	Off
“EF0” enabled	On

With S1 switch 10 in the off position, the “EF0” fault is disabled. When the master is placed in idle mode, the drive will continue to operate as normal based on the last polled message that was received from the master.

With S1 switch 10 in the on position, the “EF0” fault is enabled. When the master is placed in idle mode, the drive will generate an “EF0” fault. The drive returns to normal operation after the master is no longer in idle mode and the “RESET” key on the drive digital operator is pressed.

Interface Installation into the GPD 515

The DeviceNet Interface installs directly in the GPD 515 drive, on the control board's 2CN port (see Figure 3.2).

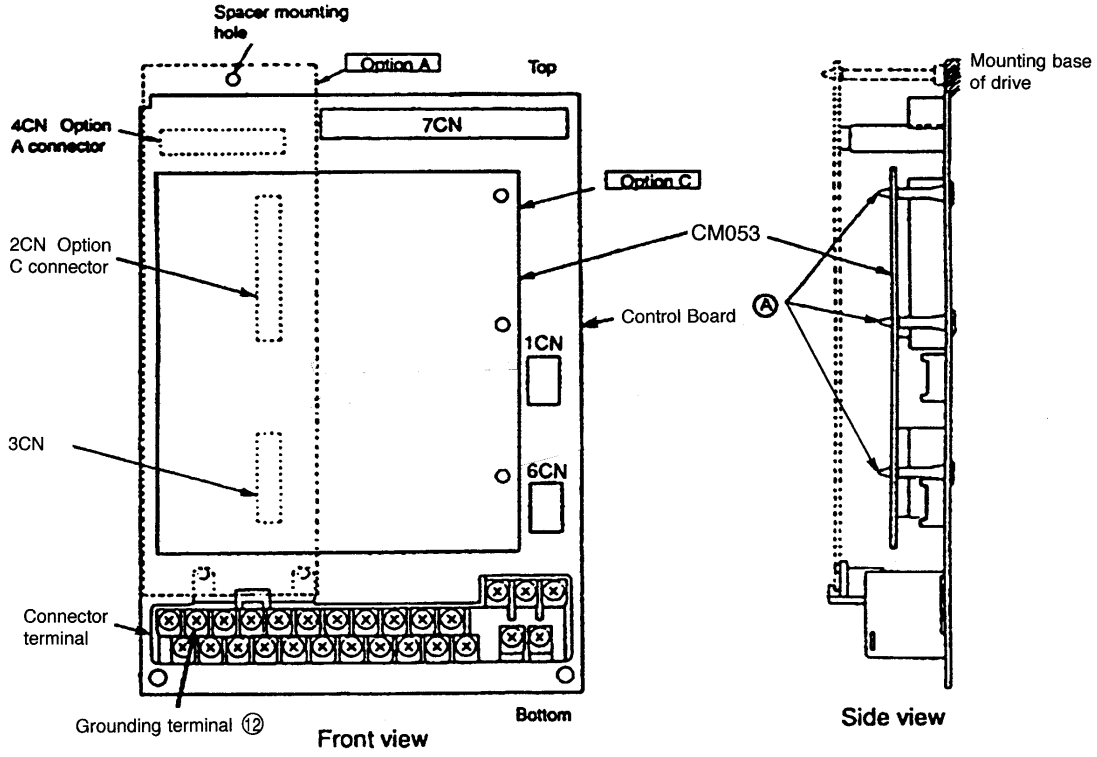


Figure 3.2
DeviceNet Interface Installation

1. Disconnect all electrical power to the GPD 515 drive.
2. Remove the GPD 515 drive's Digital Operator and front cover.
3. Check to ensure that the CHARGE indicator lamp (located inside the GPD 515 on the bottom right corner) is not lit.
4. Verify that voltage has been disconnected by using a voltmeter to check for power at the GPD 515 incoming power terminals.

5. Plug the J1 connector on the back of the DeviceNet card into the 2CN connector on the control board of the drive. Gently press the card into place until its three mounting holes click into place on the three spacers on the right side of the control board (See Figure 3.2). If this option is being installed on a GPD 515 with speed feedback, the speed feedback card needs to be temporarily un-installed to allow access to the 2CN connector on the drive's control board.

6. The dip switch (S1) located on the front of the DeviceNet Interface board should be properly configured. See "Interface Setup" earlier in this chapter.

7. Connect the green pigtail ground wire of the GPD 515 DeviceNet Interface to drive ground terminal 12 on the GPD 515 control board.

8. Insert the DeviceNet network connector into the receptacle on the front of the DeviceNet Interface.

9. Replace the GPD 515 drive front cover and Digital Operator.

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.

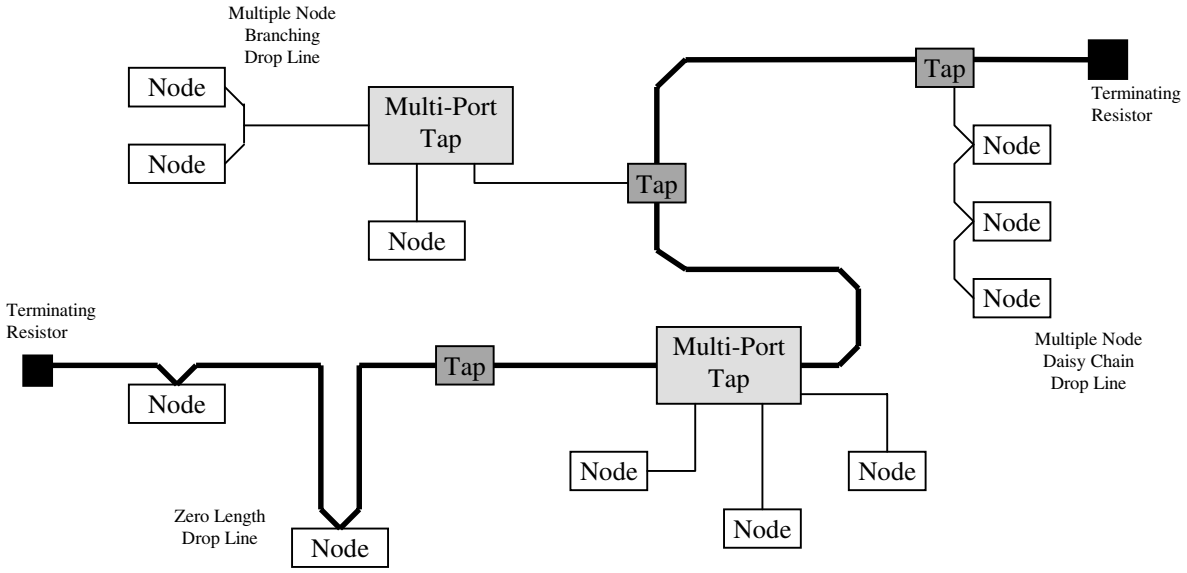


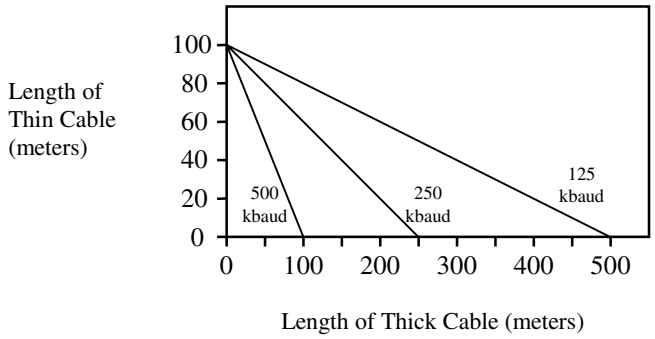
Figure 4.1
DeviceNet Topology

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.



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

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

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

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

Figure 4.2
Maximum Cable Distance

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 Power	18 15	Datalene PVC/Nylon	Lt. Gray PVC
3084A thin	Data Power	24 22	Datalene PVC/Nylon	Lt. Gray PVC
3083A thick	Data Power	18 15	Datalene PVC/Nylon	Yellow CPE
3085A thin	Data Power	24 22	Datalene PVC/Nylon	Yellow CPE

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 GPD 515 DeviceNet Interface uses an open style, pluggable, screw connector that conforms with the DeviceNet specification. The male connector is resident on the Interface board. One mating female connector is supplied with each DeviceNet Interface board. Figure 4.3 shows the pinout, orientation, and placement of the male connector on the DeviceNet Interface.

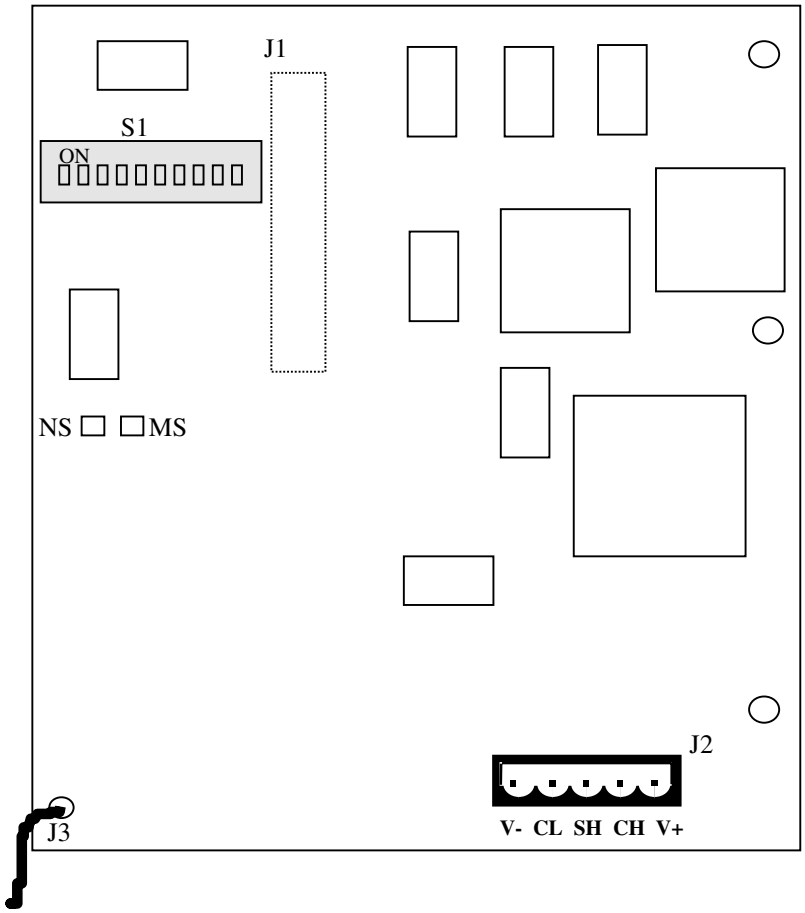


Figure 4.3
DeviceNet Interface

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

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 GPD 515

- EDS Files in General
- EDS Files for the GPD 515

EDS Files in General

A floppy disk containing Electronic Data Sheet (EDS) files for the GPD 515 is included with each GPD 515 DeviceNet Interface 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 GPD 515

All products will have a Vendor ID equal to 37. All AC drive products will have a Device Type equal to 2. The GPD 515 Product Codes depend on the drive model. The Product Codes for the GPD 515 are given in the table below. The Revision can be found on the Interface board, processor label of component U7.

Vendor ID	Device Type	Product Code	GPD 515 Model Number	GPD 515 Description
37	2	22003	GPD515C-A003	230 Volt, 3.2 Amp
		22006	GPD515C-A006	230 Volt, 6.0 Amp
		22008	GPD515C-A008	230 Volt, 8.0 Amp
		22011	GPD515C-A011	230 Volt, 11.0 Amp
		22017	GPD515C-A017	230 Volt, 17.5 Amp
		22025	GPD515C-A025	230 Volt, 25.0 Amp
		22033	GPD515C-A033	230 Volt, 33.0 Amp
		22049	GPD515C-A049	230 Volt, 49.0 Amp
		22064	GPD515C-A064	230 Volt, 64.0 Amp
		22080	GPD515C-A080	230 Volt, 80.0 Amp
		22130	GPD515C-A130	230 Volt, 130.0 Amp
		22160	GPD515C-A160	230 Volt, 160.0 Amp
		22224	GPD515C-A224	230 Volt, 224.0 Amp
		22300	GPD515C-A300	230 Volt, 300.0 Amp
		24001	GPD515C-B001	460 Volt, 1.8 Amp
		24003	GPD515C-B003	460 Volt, 3.4 Amp
		24004	GPD515C-B004	460 Volt, 4.8 Amp
		24008	GPD515C-B008	460 Volt, 8.0 Amp
		24011	GPD515C-B011	460 Volt, 11.0 Amp
		24014	GPD515C-B014	460 Volt, 14.0 Amp
		24021	GPD515C-B021	460 Volt, 21.0 Amp
		24027	GPD515C-B027	460 Volt, 27.0 Amp
		24034	GPD515C-B034	460 Volt, 34.0 Amp
		24041	GPD515C-B041	460 Volt, 41.0 Amp
		24052	GPD515C-B052	460 Volt, 52.0 Amp
		24065	GPD515C-B065	460 Volt, 65.0 Amp
		24080	GPD515C-B080	460 Volt, 80.0 Amp
		24096	GPD515C-B096	460 Volt, 96.0 Amp
		24128	GPD515C-B128	460 Volt, 128.0 Amp
		24165	GPD515C-B165	460 Volt, 165.0 Amp
		24224	GPD515C-B224	460 Volt, 224.0 Amp
		24302	GPD515C-B302	460 Volt, 302.0 Amp
		24450	GPD515C-B450	460 Volt, 450.0 Amp
		24605	GPD515C-B605	460 Volt, 605.0 Amp

The EDS files provided with the GPD 515 DeviceNet Interface allow the DeviceNet configuration tool to access various groups of parameters within the GPD 515. The following parameter groups are defined in the GPD 515 DeviceNet EDS files:

- DN: Motor Data
- DN: Control Data
- DN: AC Drive Data
- DN: Polled Config
- A Prameters
- b Parameters
- C Parameters
- d Parameters
- E Parameters
- F Parameters
- H Parameters
- L Parameters
- o Parameters
- U1 Parameters
- U2 Parameters
- U3 Parameters
- Status
- ACCEPT/ENTER
- Serial Number

The DN: Motor Data parameter group is used to configure the GPD 515 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 for more information on 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 GPD 515. A list of DN: Control Data can be found in Appendix A.

The DN: AC Drive Data parameter group provides GPD 515 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 GPD 515 during polled operation. The information that is passed to the GPD 515 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 A, b, C, d, E, F, H, L, and o, Parameter groups are used to access the GPD 515 Application parameters. The GPD 515 Application parameters are used to setup the programmable features of the GPD 515. These programmable features include Acceleration and Deceleration times, Preset Speeds, V/Hz patterns, DC Injection Braking, Stall Prevention, Overtorque Detection, etc.. The GPD 515 Application Parameters are listed in Appendix A of this manual. For a complete description of each of the GPD 515 Application Parameters, see the GPD 515 Technical Manual (Publication TM 4515).

The U1, U2, and U3 Monitor groups and the Status parameter group can be used to evaluate the runtime status of the GPD 515. The diagnostic data available includes Run/Stop status, Frequency Output, Current Output, Fault status, etc.. All parameters in these groups are read-only. A list of GPD 515 drive status parameters can be found in Appendix A.

The ACCEPT/ENTER parameter group contains only two parameters, the ACCEPT and ENTER parameters.

If the value of '0' is written to the ACCEPT parameter, the GPD 515 will save the current values of the all GPD 515 parameters (A1-00 through o2-09) into RAM memory on the GPD 515. Values saved in RAM memory will **not** be retained in case of power loss to the GPD 515.

If the value of '0' is written to the ENTER parameter, the GPD 515 will save the current values of the all GPD 515 parameters (A1-00 through o2-09) into EEPROM memory on the GPD 515. Values saved in EEPROM memory will be retained in case of power loss to the GPD 515. See Chapter 10 for more information on GPD 515 memory and the ACCEPT and ENTER commands.

CAUTION

Use the ENTER Command only when necessary!
The life of the EEPROM on the GPD 515 will support a finite number of operations. This means that the ENTER command can only be used a maximum of 100,000 times to store data in the EEPROM. After the specified number of operations, the EEPROM may fault (CPF04) requiring the GPD 515 control board to be replaced.

CAUTION

The DeviceNet Network parameters do not require the use of the ENTER Command. They are automatically stored in EEPROM memory. The life of the EEPROM on the DeviceNet Interface will support a finite number of operations. This means that the DeviceNet Network parameters can only be changed a maximum of 100,000 times.
After the specified number of operations, the EEPROM may fault, requiring the DeviceNet Interface to be replaced.

The Serial Number parameter group is provided for information purposes only. Serial Number is read-only.

Chapter 6
Configuration of the GPD 515 with the DeviceNet Manager

- Installation of the EDS Files
- Addition of a GPD 515 to the DeviceNet Network
- Configuration of the GPD 515 in Enhanced Mode

Installation of the EDS Files

The EDS files provided for the GPD 515 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 GPD 515 EDS files with the DeviceNet Manager software:

1. Create a directory for your EDS files on your hard drive.
2. Insert the disk into the floppy drive.
3. Copy the eds-515.zip file to the directory that was created.
4. Obtain and use the pkunzip file utility to decompress the Drive EDS files.
5. Start the DeviceNet Manager software.
6. From the Main Menu select Utilities .
   See Figure 6.1.
7. From the Utilities menu select Install EDS Files ... .
8. The Install EDS File screen is displayed.
   See Figure 6.2.
9. Select the hard disk drive in the Drives: box that contains the EDS file directory.
10. Select the EDS file directory.
11. To install EDS files for all GPD 515 models (4.5 MB of disk space is required),
    Click the Select All button.
    Otherwise,
    Select the EDS file(s) for the desired GPD 515 models from the File Name box.
12. Click the OK button.
13. The DeviceNet Manager will install the EDS files that were selected.

Figure 6.1

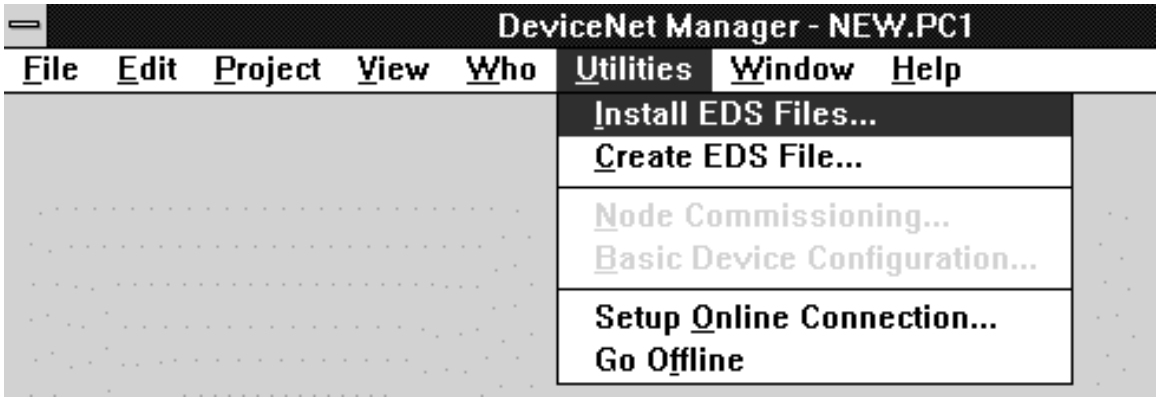
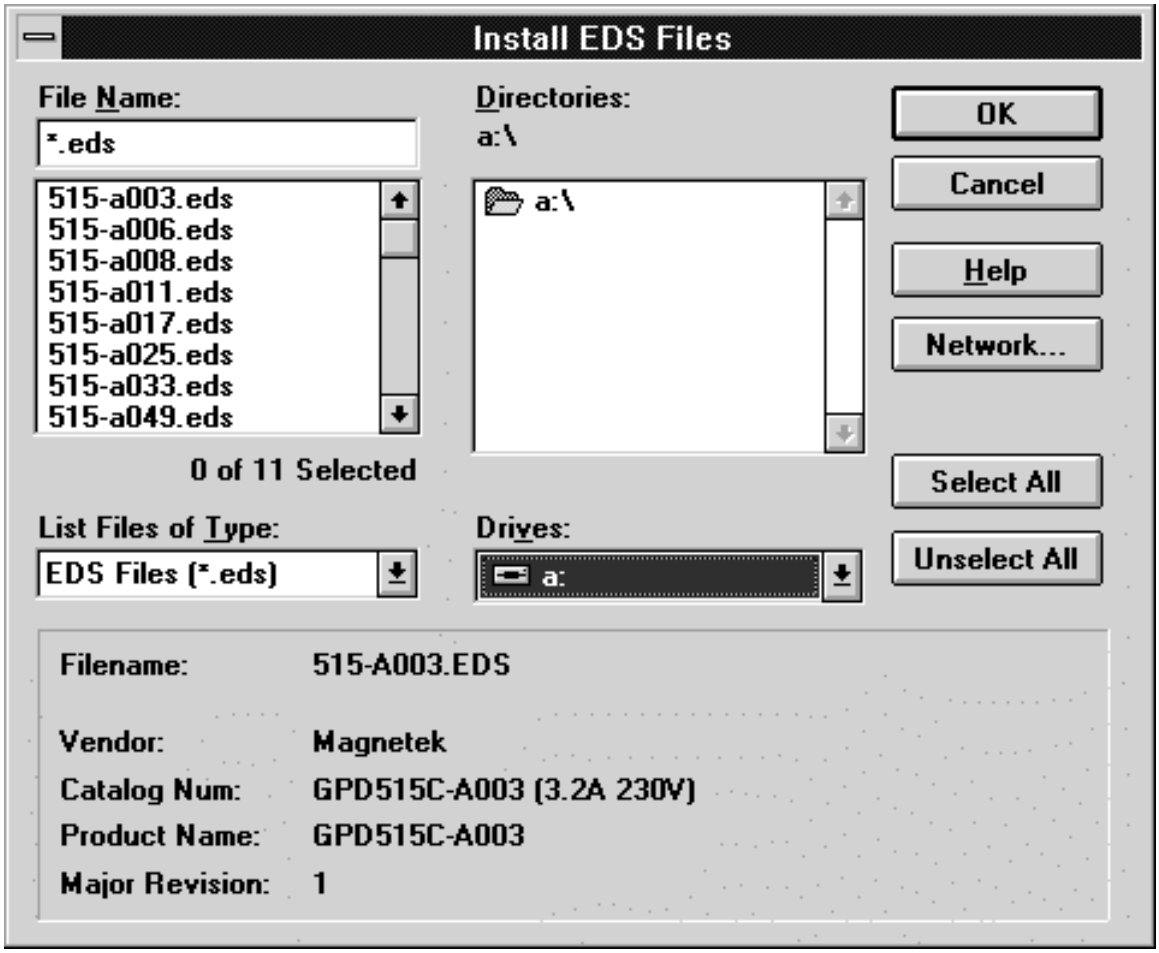


Figure 6.2

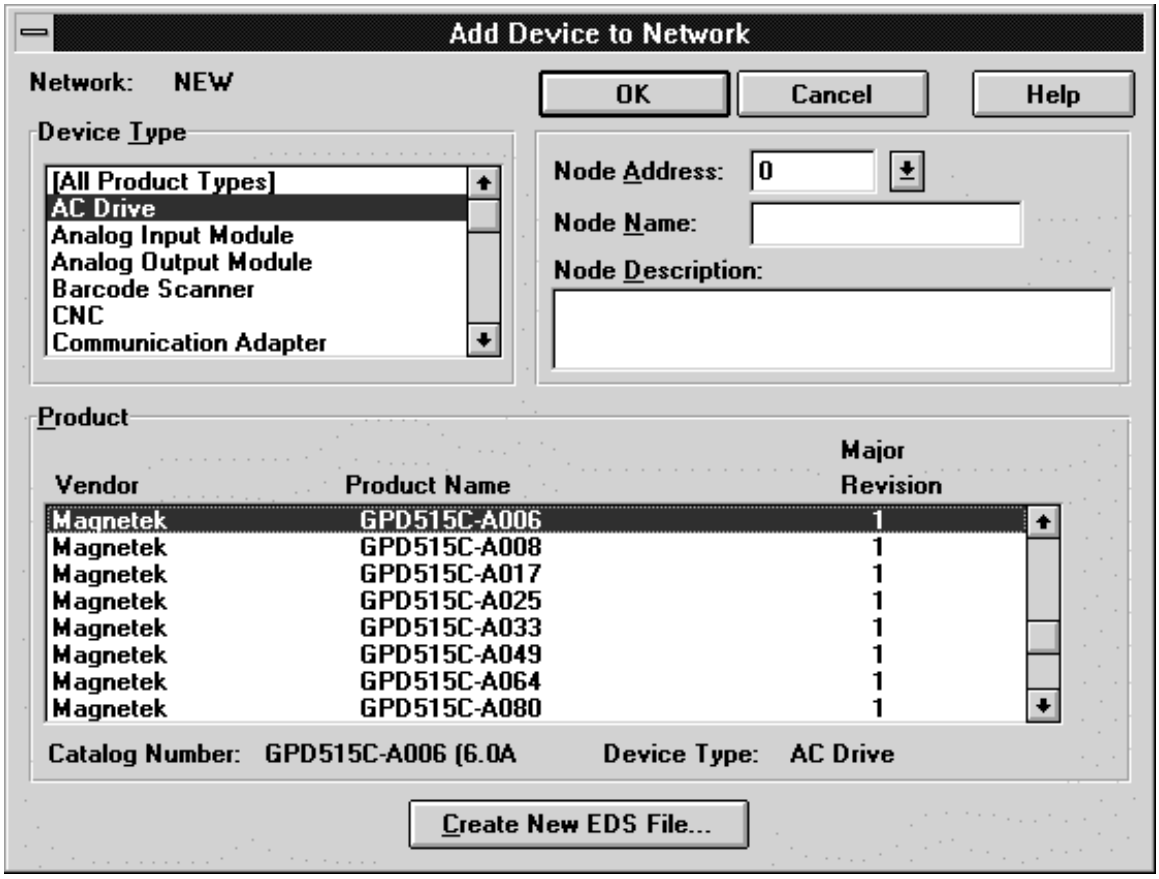


Addition of the GPD 515 to the DeviceNet Network

After you have installed the GPD 515 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 GPD 515 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 GPD 515 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 GPD 515 in Enhanced Mode

After you have added a GPD 515 to your project/network, the DeviceNet Manager can be used to configure and troubleshoot the GPD 515. The DeviceNet Manager will allow both online and offline configuration of devices. With the EDS files installed, the GPD 515 can be configured in the DeviceNet Manager's Enhanced Mode. In Enhanced Mode, the DeviceNet Manager can:

- Read/Write GPD 515 DeviceNet Configuration Data
- Read/Write GPD 515 Application Parameters
- Read GPD 515 Diagnostic Data
- Read GPD 515 Model Number and Serial Number

To configure the GPD 515 in Enhanced Mode:

1. Display the Project screen.
   See Figure 6.4.
2. Click once on the GPD 515 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 GPD 515.
   If offline, the DeviceNet Manager will display the default values from the EDS file.

Figure 6.4

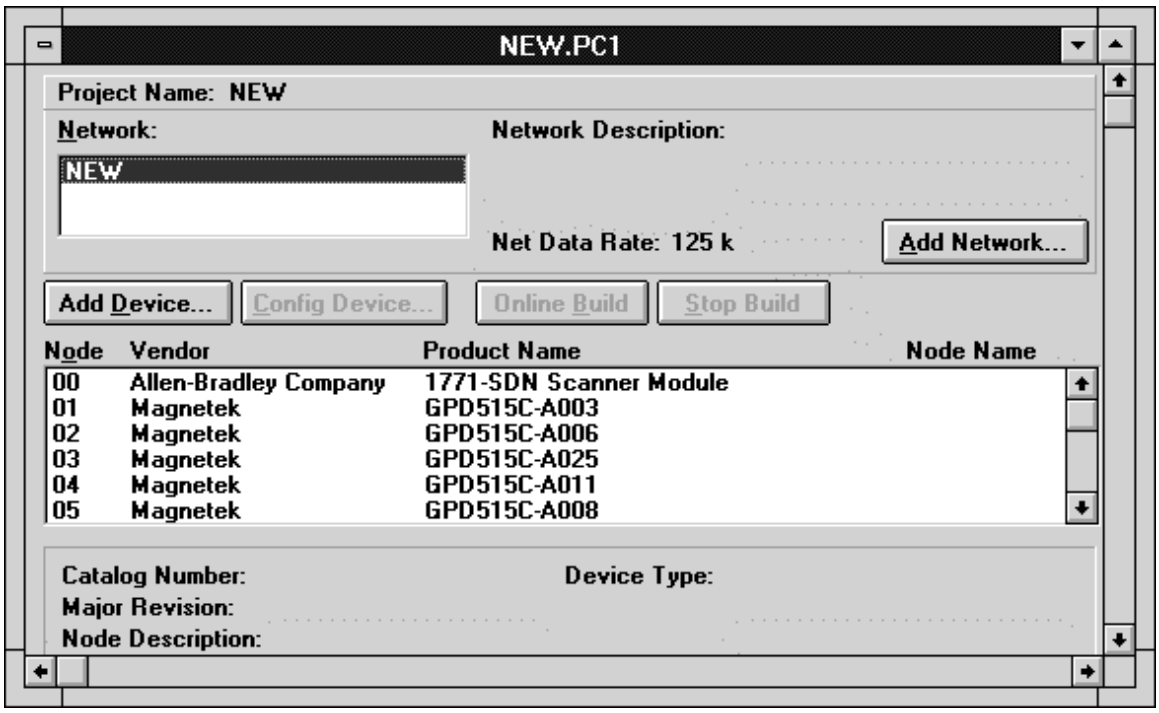
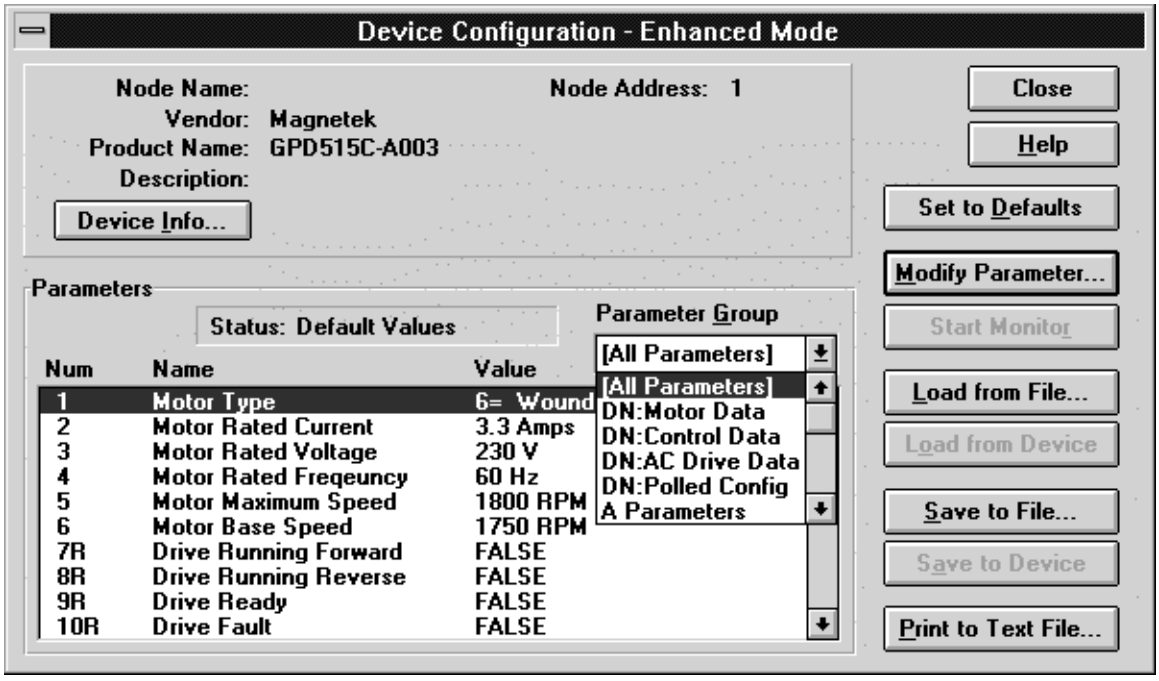


Figure 6.5



The DeviceNet Manager Enhanced Mode provides the following functions:

- Upload all GPD 515 parameters (Load from Device)
- Download all GPD 515 parameters (Save to Device)
- Store all GPD 515 parameters to a file on the PC (Save to File)
- Retrieve all GPD 515 parameters from a file on the PC (Load from File)
- Upload one GPD 515 parameter (Modify Parameter, Load from Device)
- Download one GPD 515 parameter (Modify Parameter, Save to Device)
- Select default value for one GPD 515 parameter (Modify Parameter, Select Default)

Chapter 7
Configuration of the GPD 515 DeviceNet Parameters

- Polled Configuration
- Motor Nameplate Configuration
- Application Parameters Configuration

Polled Configuration

The GPD 515 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 GPD 515. The PCA data is transmitted from the Master device to a GPD 515 with a Poll Command message. The PCA data is used to control the operation of the GPD 515. 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	x msec
21	Extended Speed Command This assembly provides: run forward, run reverse, fault reset, network control enable, network reference enable, and speed reference in RPM.	4	x msec
22	Basic Speed/Torque Command This assembly provides: run forward, fault reset, speed reference in RPM, and torque reference in N-m.	6	x msec
23	Extended Speed/Torque Command This assembly provides: run forward, run reverse, fault reset, network control enable, network reference enable, speed reference in RPM, and torque reference in N-m.	6	x msec
120	MagneTek Speed Command 1 This assembly provides: run forward, run reverse, multi-function inputs, external fault, fault reset, and speed reference in Hz.	4	x msec
121	MagneTek Torque Command 1 This assembly provides: run forward, run reverse, multi-function inputs, external fault, fault reset, and torque reference in % of rated torque.	4	x msec
122	MagneTek Speed Command 2 This assembly provides: run forward, run reverse, multi-function inputs, external fault, fault reset, speed reference in Hz, network reference selection and network control selection.	6	x msec
123	MagneTek Torque Command 2 This assembly provides: run forward, run reverse, multi-function inputs, external fault, fault reset, torque reference in % of rated torque, network reference selection and network control selection.	6	x msec
126	MagneTek Speed and Torque Command This assembly provides: run forward, run reverse, multi-function inputs, speed reference in Hx, torque reference in in % of rated torque, and torque compensation in % of rated torque.	8	x 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 GPD 515 to the Master device. The PPA data is transmitted from the GPD 515 to the Master device with a Polled Response message. The PPA data is used to return the status of the GPD 515 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
70✸	Basic Speed Status This assembly provides: drive fault, running forward, and actual speed in RPM.	4	x msec
71	Extended Speed Status This assembly provides: drive fault, drive warning, running forward, running reverse, drive ready, network control enabled, network reference enabled, at reference, drive state, and actual speed in RPM.	4	x msec
72	Basic Speed/Torque Status This assembly provides: drive fault, running forward, actual speed in RPM, and actual torque in N-m.	6	x msec
73	Extended Speed/Torque Status This assembly provides: drive fault, drive warning, running forward, running reverse, drive ready, network control enabled, network reference enabled, at reference, drive state, actual speed in RPM, and actual torque in N-m.	6	x msec
130	MagneTek Speed Status 1 This assembly provides: running, at zero speed, drive reversing, fault reset, at speed, drive ready, drive alarm, drive fault, during ride-thru, local/remote, motor selection, zero servo complete, and actual speed in Hz.	4	x msec
131	MagneTek Current Status 1 This assembly provides: running, at zero speed, drive reversing, fault reset, at speed, drive ready, drive alarm, drive fault, during ride-thru, local/remote, motor selection, zero servo complete, and actual current in Amps.	4	x msec
132	MagneTek Current & Speed Status This assembly provides: running, at zero speed, drive reversing, fault reset, at speed, drive ready, drive alarm, drive fault, during ride-thru, local/remote, motor selection, zero servo complete, actual current in Amps, and actual speed in Hz.	6	x msec
136	MagneTek Speed and Torque Status This assembly provides: running, at zero speed, drive reversing, fault reset, at speed, drive ready, drive alarm, drive fault, actual torque in % of rated torque, motor speed in Hz, and frequency reference in Hz.	8	x 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 "DN: Polled Config" 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 Param #	DeviceNet Path
Polled Consuming Assembly	28	Class5 / Instance2 / Attribute101
Polled Producing Assembly	29	Class5 / Instance2 / Attribute100

The PCA and PPA values may be changed at any time, whether the drive is running or stopped. However, it is not recommended that these values be changed while the drive is running.

CAUTION

The GPD 515 should be stopped before changing PCA and PPA values.
Cycle the power to the drive after changing the PCA and PPA values.

Motor Nameplate Configuration

The GPD 515 Motor Data must be configured before receiving commands from a Master device. The GPD 515 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 "DN: Motor Data". 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 Param #	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 Parameters Configuration

The specific application of the GPD 515 will determine whether any of the remaining GPD 515 Application parameters (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 GPD 515 DeviceNet Interface.

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 (GPD 515 = 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

In the case of the GPD 515 DeviceNet Interface, 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 (GPD 515 = 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 GPD 515 DeviceNet Interface. 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 GPD 515. However, for polled operation of a GPD 515 the following must be considered:

- The GPD 515 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 GPD 515 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 GPD 515 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 GPD 515 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 GPD 515 should not be less than the calculated minimum poll time.

- The rate at which the 1771-SDN polls the GPD 515 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 GPD 515 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 GPD 515 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 GPD 515 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.

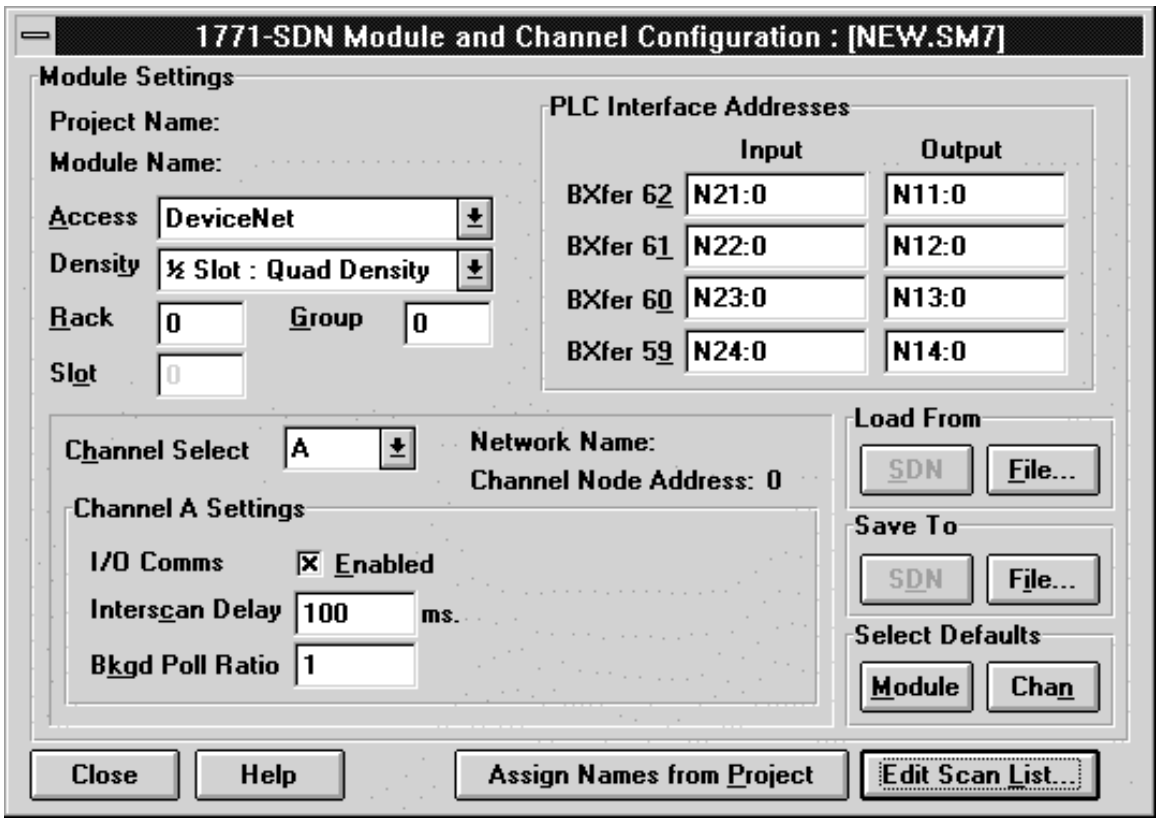
  The scan time / poll rate calculations ...

  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

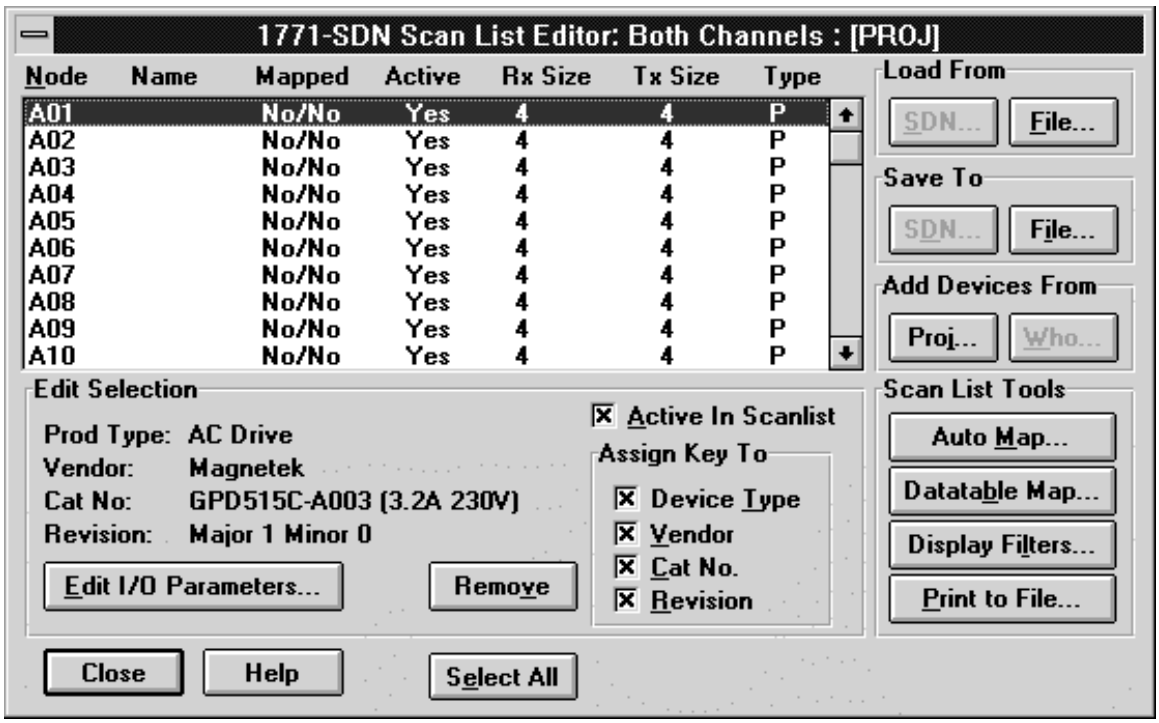


Scan List Configuration

The Scan List Editor screens are used to add devices to the 1771-SDN module's scan list. After a GPD 515 node has been added to the scan list, the minimum must be configured:

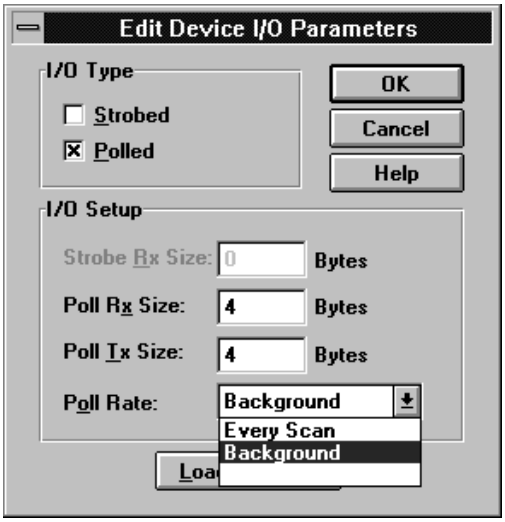
- The Active in Scanlist box must contain an 'X'. Placing an 'X' in this box will cause the scanner to communicate with the selected GPD 515 device via I/O messages (polled and/or strobed). See Figure 8.2.

Figure 8.2



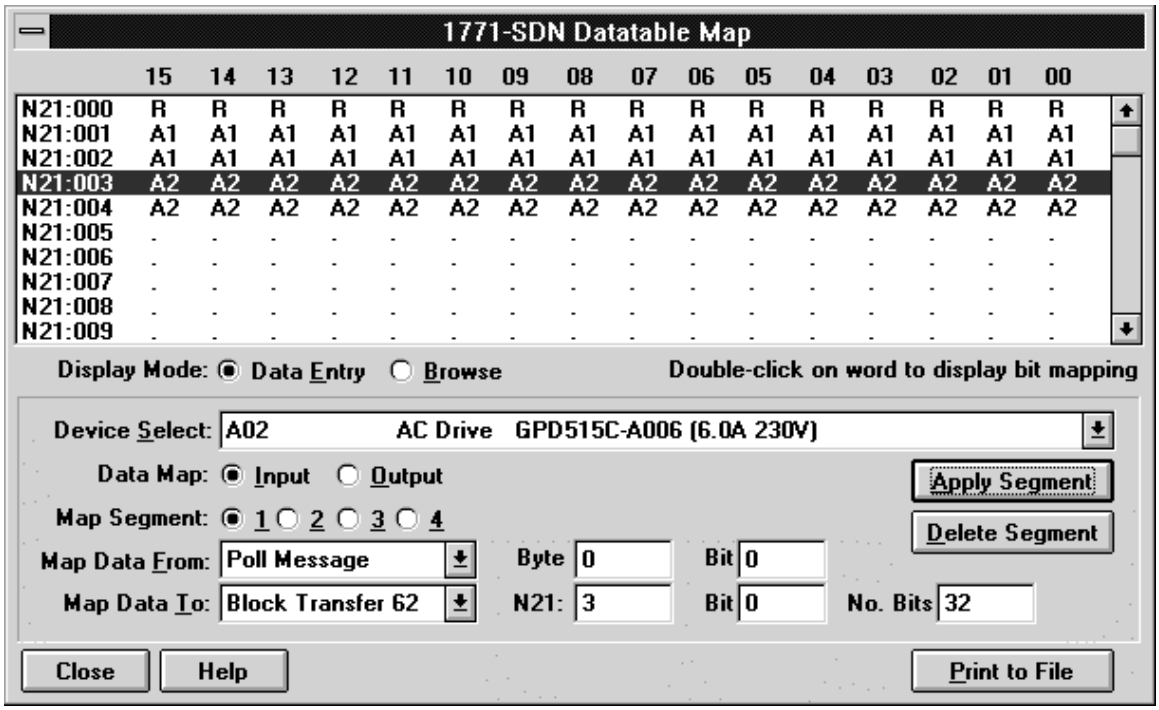
- The I/O Type / Polled box must contain an 'X'. Placing an 'X' in this box indicates to the scanner that the GPD 515 is a polled device. See Figure 8.3.
- Enter the I/O Setup / Poll Rx Size. The number placed in this box should match the number of bytes that are received from the GPD 515 when polled. 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 GPD 515 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 GPD 515 every scan or as a background device. The previous section of this chapter provides information on calculating the GPD 515's minimum allowable poll rate. See Figure 8.3.

Figure 8.3



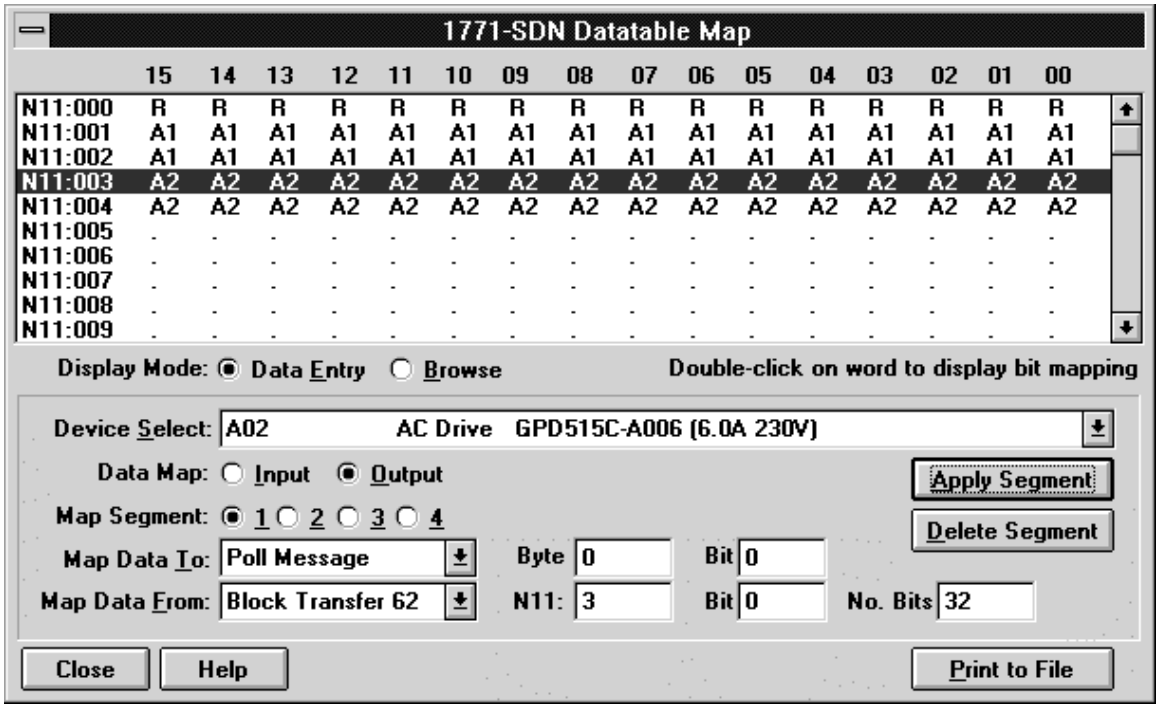
- Map the polled input data into the PLC data table. The polled input data is the data that is returned from the GPD 515 to the 1771-SDN during polling. The configuration/byte order of this data is determined by the Polled Producing Assembly (See Appendix B for details). See Figure 8.4 for PLC input 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 GPD 515 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



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 GPD 515 DeviceNet Interface.

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 (GPD 515 = 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

In the case of the GPD 515 DeviceNet Interface, 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 (GPD 515 = 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 GPD 515 DeviceNet Interface. 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 GPD 515. However, for polled operation of a GPD 515 the following must be considered:

- The GPD 515 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 GPD 515 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 GPD 515 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 GPD 515 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 GPD 515 should not be less than the calculated minimum poll time.

- The rate at which the 1747-SDN polls the GPD 515 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 GPD 515 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 GPD 515 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 1747-SDN polls the GPD 515 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.

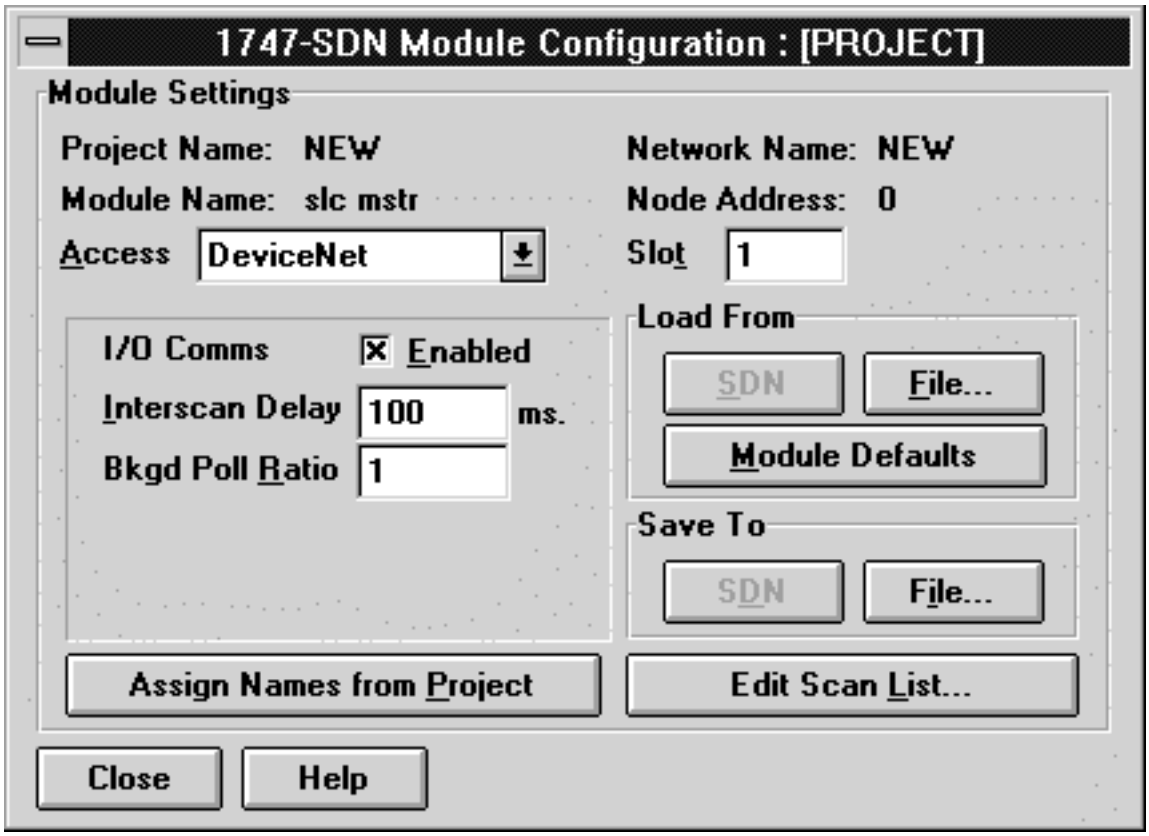
  The scan time / poll rate calculations ...

  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 9.1

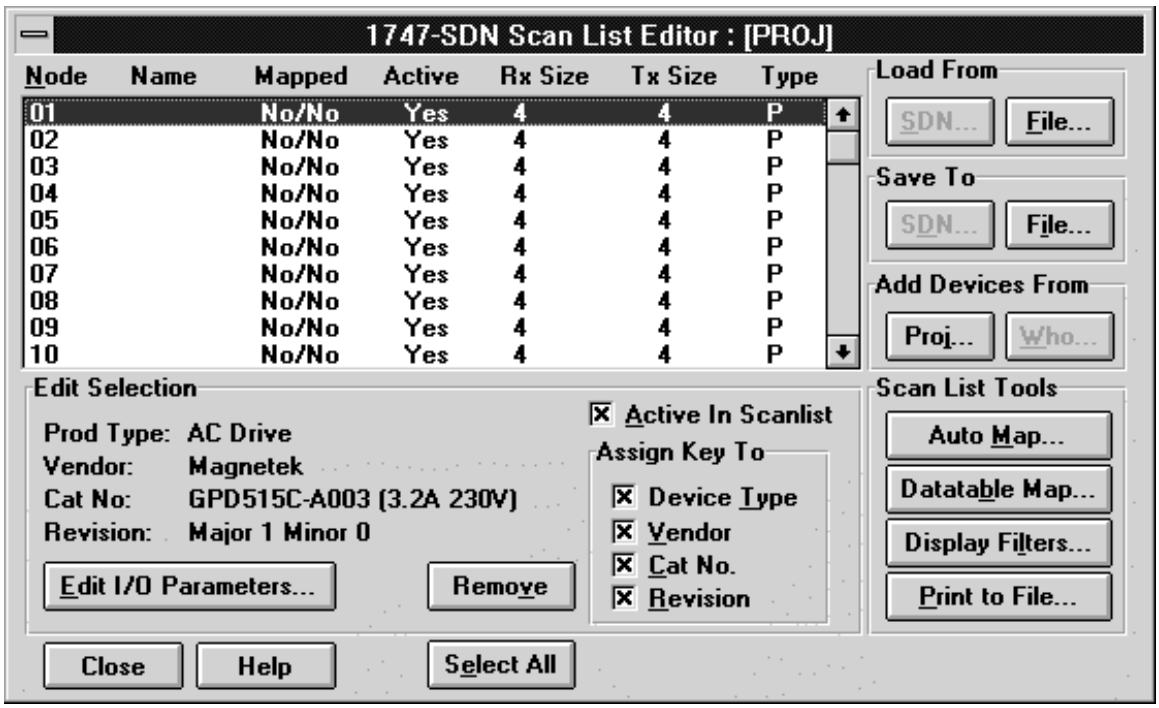


Scan List Configuration

The Scan List Editor screens are used to add devices to the 1747-SDN module's scan list. After a GPD 515 node has been added to the scan list, the minimum must be configured:

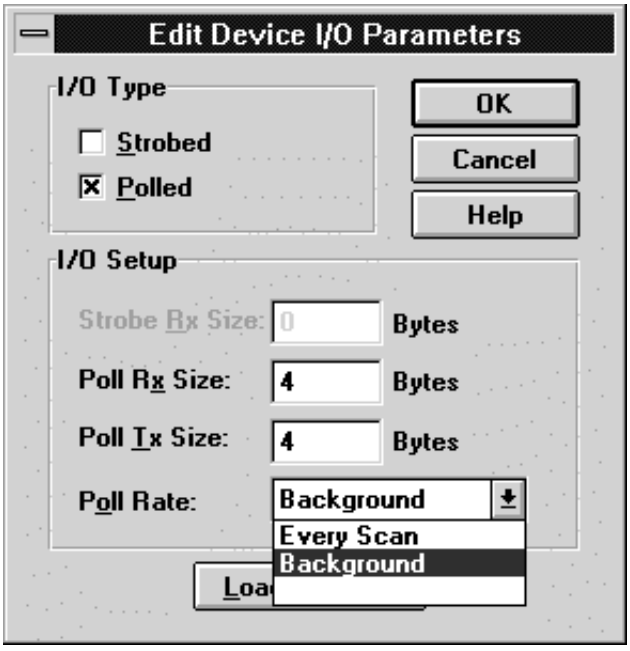
- The Active in Scanlist box must contain an 'X'. Placing an 'X' in this box will cause the scanner to communicate with the selected GPD 515 device via I/O messages (polled and/or strobed). See Figure 9.2.

Figure 9.2



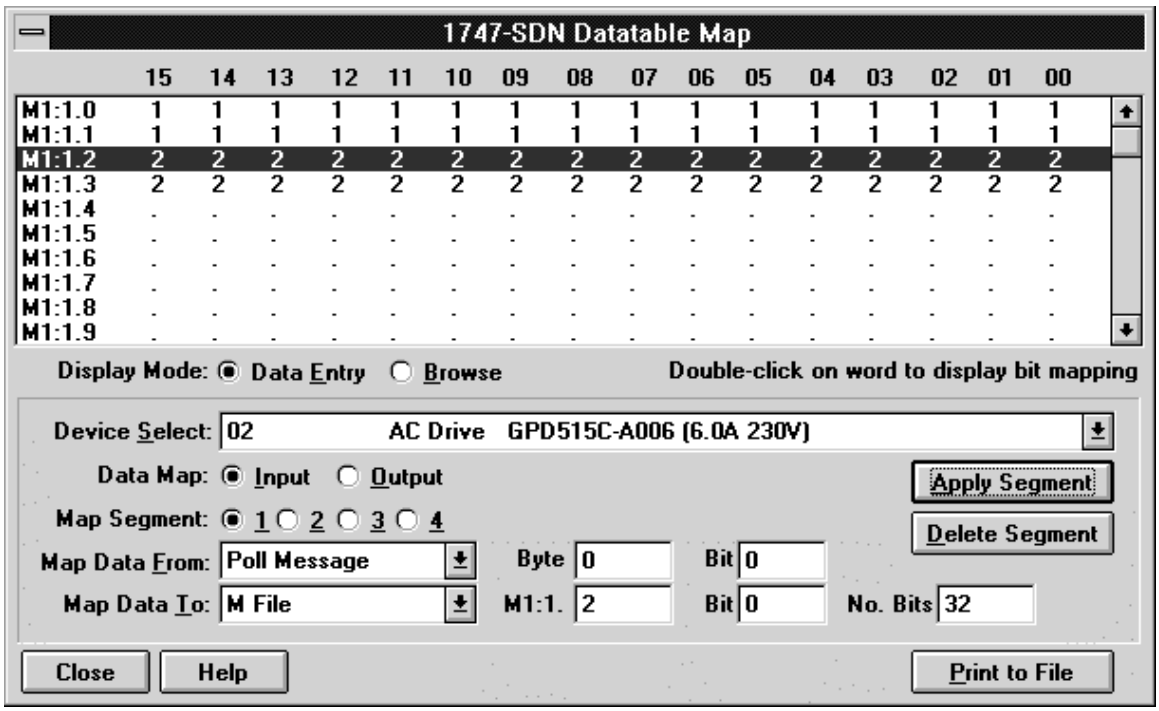
- The I/O Type / Polled box must contain an 'X'. Placing an 'X' in this box indicates to the scanner that the GPD 515 is a polled device. See Figure 9.3.
- Enter the I/O Setup / Poll Rx Size. The number placed in this box should match the number of bytes that are received from the GPD 515 when polled. 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 GPD 515 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 GPD 515 every scan or as a background device. The previous section of this chapter provides information on calculating the GPD 515's minimum allowable poll rate. See Figure 9.3.

Figure 9.3



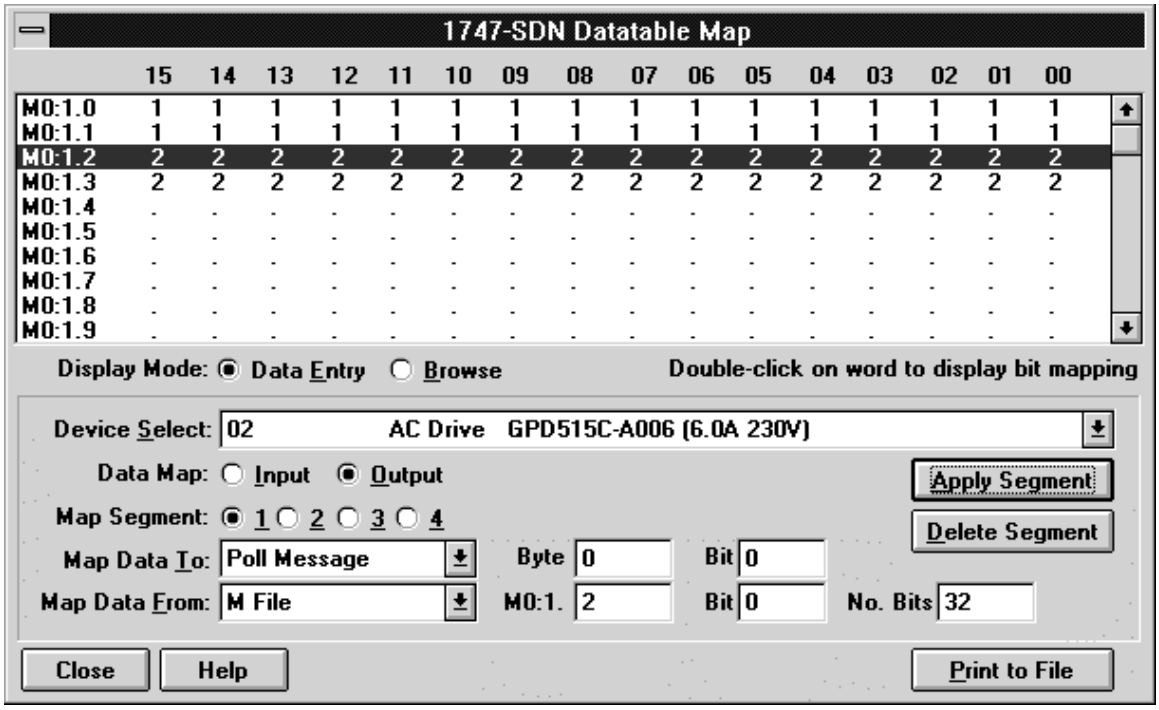
- Map the polled input data into the SLC data table. The polled input data is the data that is returned from the GPD 515 to the 1747-SDN during polling. The configuration/byte order of this data is determined by the Polled Producing Assembly (See Appendix B for details). See Figure 9.4 for SLC input 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 GPD 515 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



Chapter 10
Special Considerations

This chapter will explain some additional requirements of the GPD 515 on DeviceNet. This chapter will also provide information on the various methods that can be used to control the operation and speed of the GPD 515 on DeviceNet.

- How the GPD 515 DeviceNet Interface Stores Data
- Activate Data with the ACCEPT Command
- Save Data to EEPROM with the ENTER Command
- Selection of Run/Stop Control Method
- Selection of Frequency Reference Control Method
- Run/Stop Control
- Frequency Reference Control
- Torque Reference Control
- Acceleration and Deceleration Times
- Communication Fault “EFO” Parameters
- Reset the GPD 515 to Power-Up Conditions
- Reset the GPD 515 to Factory Conditions

How the GPD 515 DeviceNet Interface Stores Data

The GPD 515 with DeviceNet Inerface stores data in four locations:

- Active RAM memory on the GPD 515 Drive
- Inactive RAM memory on the GPD 515 Drive
- EEPROM memory on the GPD 515 Drive
- EEPROM memory on the DeviceNet Interface

Data held in RAM memory, both Active and Inactive, is “Volatile”. Data held in Volatile memory will be lost when power is removed from the drive.

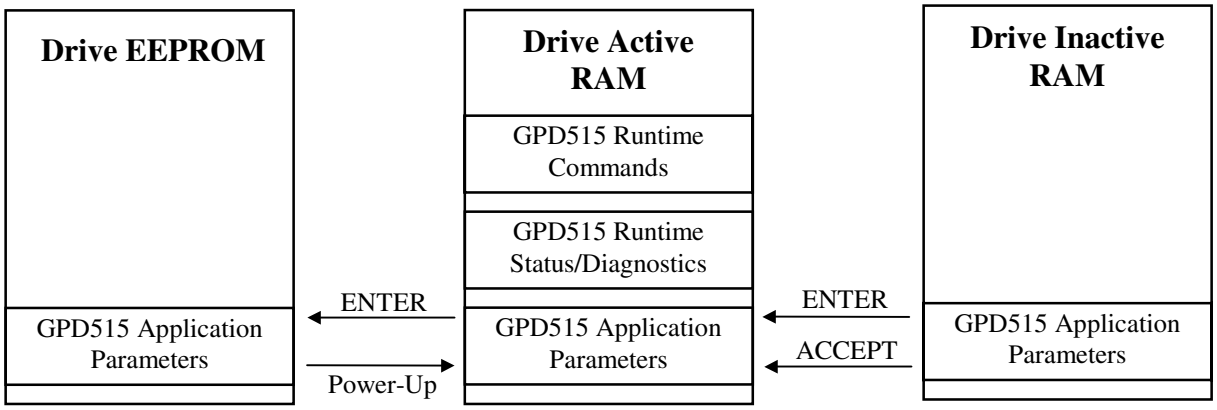
Data held in Drive EEPROM and Interface EEPROM memory is “Non-Volatile”. Data held in Non-Volatile memory will be retained when power is removed from the drive.

The following table shows which memory location is used for the data available over the DeviceNet network.

Data Type	Memory Type
GPD 515 Runtime Commands Run/Stop Frequency Reference	Drive RAM
GPD 515 Runtime Status and Diagnostics Run/Stop Status Frequency Output Current Output Fault Diagnostics	Drive RAM
GPD 515 Application Parameters A1-00 through o2-09	Drive EEPROM & Drive RAM
DeviceNet Network Parameters Polled Consuming Assembly Polled Producing Assembly Motor Nameplate Data	Interface EEPROM

The GPD 515 Application Parameters are held both in Drive EEPROM and Drive RAM. On power-up, the GPD 515 Application Parameters that are stored in Drive EEPROM memory are transferred to Drive RAM memory.

If GPD 515 Application Parameters are changed via DeviceNet, the new data will be placed into Drive Inactive RAM memory. At this point, the new data will not be activated or retained if a drive power loss occurs. In order for the new data to be retained, the 'ACCEPT' command must be executed. When the 'ACCEPT' command is executed, the new data is transfered into Active RAM memory. In order for the new data to be retained, the 'ENTER' command must be executed. When the 'ENTER' command is executed, all of the GPD 515 Application Parameters in Drive RAM memory are transferred into Drive EEPROM memory.



Some Parameter Data registers may be written to while the drive is running. These parameters are called run operative parameters. For a list of these parameters refer to Appendix A, Table A1-11 of the GPD 515 Technical Manual (TM 4515).

All other Parameter Data registers may only be written to when the drive is stopped. These are called non-run operative parameters.

If new data is written to any parameter serially, and is not followed by an 'ENTER' command, a "Busy Write Protected" message will flash on the Digital Operator display if an attempt is then made to change a parameter using the Digital Operator.

Activate Data with the ACCEPT Command

The ACCEPT Command can be accomplished in either of the following ways:

1. Perform a SET service on EDS Parameter #333
   The value ‘0’ should be SET to the ACCEPT Command attribute. With the DeviceNet Manager software, the SET service is accomplished by clicking the Save to Device button.
2. Perform a SET service on MagneTek Class 100, Instance 1, Attribute 254
   The value ‘0’ should be SET to the ACCEPT Command atttribute. With the DeviceNet Manager software, the Basic Device Configuration mode can be used to SET the ACCEPT Command attribute.

With the DeviceNet Manager software, the Basic Device Configuration mode can be used to perform an ACCEPT service with the following MagneTek GPD 515 Classes.

1. Perform an ACCEPT service (32h) with the MagneTek Class 100, Instance 1
2. Perform an ACCEPT service (32h) with the MagneTek Class 103, Instance 1
3. Perform an ACCEPT service (32h) with the MagneTek Class 104, Instance 1
4. Perform an ACCEPT service (32h) with the MagneTek Class 105, Instance 1
5. Perform an ACCEPT service (32h) with the MagneTek Class 106, Instance 1
6. Perform an ACCEPT service (32h) with the MagneTek Class 107, Instance 1
7. Perform an ACCEPT service (32h) with the MagneTek Class 108, Instance 1
8. Perform an ACCEPT service (32h) with the MagneTek Class 109, Instance 1
9. Perform an ACCEPT service (32h) with the MagneTek Class 110, Instance 1
10. Perform an ACCEPT service (32h) with the MagneTek Class 111, Instance 1

Save Data to EEPROM with the ENTER Command

The ENTER Command can be accomplished in either of the following ways:

1. Perform a SET service on EDS Parameter #334
   The value '0' should be SET to the ENTER attribute. With the DeviceNet Manager software, the SET service is accomplished by clicking the Save to Device button.
2. Perform a SET service on MagneTek Class 100, Instance 1, Attribute 255
   The value '0' should be SET to the ENTER Command attribute. With the DeviceNet Manager software, the Basic Device Configuration mode can be used to SET the ENTER Command attribute.

With the DeviceNet Manager software, the Basic Device Configuration mode can be used to perform an ENTER service with the following MagneTek GPD 515 Classes.

1. Perform an ENTER service (32h) with the MagneTek Class 100, Instance 1
2. Perform an ENTER service (32h) with the MagneTek Class 103, Instance 1
3. Perform an ENTER service (32h) with the MagneTek Class 104, Instance 1
4. Perform an ENTER service (32h) with the MagneTek Class 105, Instance 1
5. Perform an ENTER service (32h) with the MagneTek Class 106, Instance 1
6. Perform an ENTER service (32h) with the MagneTek Class 107, Instance 1
7. Perform an ENTER service (32h) with the MagneTek Class 108, Instance 1
8. Perform an ENTER service (32h) with the MagneTek Class 109, Instance 1
9. Perform an ENTER service (32h) with the MagneTek Class 110, Instance 1
10. Perform an ENTER service (32h) with the MagneTek Class 111, Instance 1

CAUTION

Use the ENTER Command only when necessary!
The life of the EEPROM on the GPD 515 will support a finite number of operations. This means that the ENTER command can only be used a maximum of 100,000 times to store data in the EEPROM. After the specified number of operations, the EEPROM may fault (CPF04) requiring the GPD 515 control board to be replaced.

CAUTION

The DeviceNet Network parameters do not require the use of the ENTER Command. They are automatically stored in EEPROM memory. The life of the EEPROM on the DeviceNet Interface will support a finite number of operations. This means that the DeviceNet Network parameters can only be changed a maximum of 100,000 times.
After the specified number of operations, the EEPROM may fault, requiring the DeviceNet Interface to be replaced.

Selection of Run/Stop Control Method

The drive can be configured to receive operation signals (Run, Stop, Forward, Reverse, and Multi-Function Inputs) from the DeviceNet network, the external drive terminals, or the Digital Operator.

There are two settings that determine the method of Run/Stop Control:

- GPD 515 Parameter b1-02 setting
- Network Run/Stop Control setting
- Default Network Control

GPD 515 Parameter b1-02 setting

The GPD 515 Parameter b1-02 setting can be accessed in various ways:

1. EDS Parameter #35
   If this attribute equals '0', run/stop control is from the Digital Operator
   If this attribute equals '1', run/stop control is from the external terminals
   If this attribute equals '2', run/stop control is from serial communications
   If this attribute equals '3', run/stop control is from an option PC board
2. MagneTek Class 104, Instance 1, Attribute 2
   If this attribute equals '0', run/stop control is from the Digital Operator
   If this attribute equals '1', run/stop control is from the external terminals
   If this attribute equals '2', run/stop control is from serial communications
   If this attribute equals '3', run/stop control is from an option PC board

Network Run/Stop Control setting

The Network Control setting can be 'Enabled' or 'Disabled'. The power-up setting is determined by the setting of parameter b1-02. The setting can be changed any time after power-up via the DeviceNet network.

When Network Control is set to '1' drive parameter b1-02 is set to '3' (option PC board) followed by an ACCEPT command, and run/stop control is from the DeviceNet network. If Network Control is set to '0' drive parameter b1-02 is set to the contents of the Default Control setting, EDS Parameter 13, followed by an ACCEPT command.

While the drive is running, if an attempt is made to change from network control, DeviceNet will give a "Dnet Error: Privilege Violation" error and will not allow write access to memory. The same happens if an attempt is made to change from non-network control to network control. The drive must be stopped before control may be changed to or from network control.

The Network Control setting can be accessed in various ways:

1. Assembly Class 4, Instance 21, Attribute 3, Bit 5.
   If Bit 5 is a '1', Network Run/Stop Control is enabled.
   If Bit 5 is a '0', Network Run/Stop Control is disabled.
2. Assembly Class 4, Instance 23, Attribute 3, Bit 5.
   If Bit 5 is a '1', Network Run/Stop Control is enabled.
   If Bit 5 is a '0', Network Run/Stop Control is disabled.
3. Assembly Class 4, Instance 122, Byte 5
   If byte 5 is a '0', run/stop control is form the Digital Operator.
   If byte 5 is a '1', run/stop control is from the external terminals.
   If byte 5 is a '2', run/stop control is from serial communications.
   If byte 5 is a '3', run/stop control is from an option PC board.
4. Assembly Class 4, Instance 123, Byte 5
   If byte 5 is a "0', run/stop control is from the Digital Operator.
   If byte 5 is a '1', run/stop control is from the external terminals.
   If byte 5 is a '2', run/stop control is from serial communications.
   If byte 5 is a '3', run/stop control is from an option PC board.
5. Control Supervisor Class 41, Instance 1, Attribute 5
   If this attribute equals '1', Network Run/Stop Control is enabled.
   If this attribute equals '0', Network Run/Stop Control is disabled.

Selection of Frequency Reference Control Method

The drive can be configured to receive frequency reference commands from the DeviceNet network, the external drive terminals, or the Digital Operator.

There are two settings that determine the method of Frequency Reference Control:

- GPD 515 Parameter b1-01 setting
- Network Frequency Reference setting
- Default Network Reference

GPD 515 Parameter b1-01 setting

The GPD 515 Parameter b1-01 setting can be accessed in various ways:

1. EDS Parameter #34
   If this attribute equals '0', frequency reference control is from the Digital Operator
   If this attribute equals '1', frequency reference control is from the external terminals
   If this attribute equals '2', frequency reference control is from serial communications
   If this attribute equals '3', frequency reference control is from an option PC board
2. MagneTek Class 104, Instance 1, Attribute 1
   If this attribute equals '0', frequency reference control is from the Digital Operator
   If this attribute equals '1', frequency reference control is from the external terminals
   If this attribute equals '2', frequency reference control is from serial communications
   If this attribute equals '3', frequency reference control is from an option PC board

Network Frequency Reference setting

The Network Reference setting can be 'Enabled' or 'Disabled'. The power-up setting is determined by the setting of parameter b1-01. The setting can be changed any time after power-up via the DeviceNet network.

When Network Reference is set to '1' drive parameter b1-01 is set to '3' (option PC board) followed by an ACCEPT command, and run/stop control is from the DeviceNet network. If Network Reference is set to '0' drive parameter b1-01 is set to the contents of the Default Reference setting, EDS Parameter 26, followed by an ACCEPT command.

While the drive is running, if an attempt is made to change from network reference, DeviceNet will give a "Dnet Error: Privilege Violation" error and will not allow write access to memory. The same happens if an attempt is made to change from non-network reference to network reference. The drive must be stopped before control may be changed to or from network reference.

The Network Reference setting can be accessed in various ways:

1. Assembly Class 4, Instance 21, Attribute 3, Bit 6.
   If Bit 6 is a '1', Network Run/Stop Control is enabled.
   If Bit 6 is a '0', Network Run/Stop Control is disabled.
2. Assembly Class 4, Instance 23, Attribute 3, Bit 6.
   If Bit 6 is a '1', Network Run/Stop Control is enabled.
   If Bit 6 is a '0', Network Run/Stop Control is disabled.
3. Assembly Class 4, Instance 122, Byte 4
   If byte 4 equals '0', frequency reference control is from the Digital Operator.
   If byte 4 equals '1', frequency reference control is from the external terminals.
   If byte 4 equals '2', frequency reference control is from serial communications.
   If byte 4 equals '3', frequency reference control is from an option PC board.
4. Assembly Class 4, Instance 123, Byte 4
   If byte 4 equals '0', frequency reference control is from the Digital Operator.
   If byte 4 equals '1', frequency reference control is from the external terminals.
   If byte 4 equals '2', frequency reference control is from serial communications.
   If byte 4 equals '3', frequency reference control is from an option PC board.
5. AC Drive Class 42, Instance 1, Attribute 4
   If this attribute equals '1', Network Frequency Control is enabled.
   If this attribute equals '0', Network Frequency Control is disabled.

Run/Stop Control

When controlling the operation of the GPD 515 from the DeviceNet network, operational commands (Run, Stop, Forward, Reverse, and Multi-Function Inputs) can be accessed in various ways:

1. Assembly 20 (Class 4, Instance 20, Attribute 3)
   Byte 0 of this assembly provides Run Forward and Fault Reset control. See Appendix B.
2. Assembly 21 (Class 4, Instance 21, Attribute 3)
   Byte 0 of this assembly provides Run Forward, Run Reverse, and Fault Reset control. See Appendix B.
3. Assembly 22 (Class 4, Instance 22, Attribute 3)
   Byte 0 of this assembly provides Run Forward and Fault Reset control. See Appendix B.
4. Assembly 23 (Class 4, Instance 23, Attribute 3)
   Byte 0 of this assembly provides Run Forward, Run Reverse, and Fault Reset control. See Appendix B.
5. Assembly 120 (Class 4, Instance 120, Attribute 3)
   Byte 0 of this assembly provides Run Forward, Run Reverse, and Multi-function Input control. See Appendix B.
6. Assembly 121 (Class 4, Instance 121, Attribute 3)
   Byte 0 of this assembly provides Run Forward, Run Reverse, and Multi-function Input control. See Appendix B.
7. Assembly 122 (Class 4, Instance 122, Attribute 3)
   Byte 0 of this assembly provides Run Forward, Run Reverse, and Multi-function Input control. Byte 1 of this assembly provides External Fault and Fault Reset control. See Appendix B.
8. Assembly 123 (Class 4, Instance 123, Attribute 3)
   Byte 0 of this assembly provides Run Forward, Run Reverse, and Multi-function Input control. Byte 1 of this assembly provides External Fault and Rault Reset control. See Appendix B.
9. Assembly 126 (Class 4, Instance 126, Attribute 3)
   Byte 0 of this assembly provides Run Forward, Run Reverse, and Multi-function Input control. See Appendix B.
10. Control Supervisor Class 41, Instance 1, Attribute 3
    This attribute provides Run Forward control. See Appendix C.
11. Control Supervisor Class 41, Instance 1, Attribute 4
    This attribute provides Run Reverse control. See Appendix C.
12. Control Supervisor Class 41, Instance 1, Attribute 12
    This attribute provides Fault Reset control. See Appendix C.
13. MagneTek Command Class 100, Instance 1, Attribute 1
    This attribute provides Run Forward, Run Reverse, Multi-Function Input control, External Fault and Fault Reset control. See Appendix C.

If the GPD 515 operation is being controlled with Polled I/O messages, then Assembly 20, 21, 22, 23, 121, 122, 123 or 126 are the only methods available from the list above.

Methods 1, 2, 3, 4, 11, 12 and 13 conform to the DeviceNet AC Drive Device Profile. See Chapter 11 for more information.

Frequency Reference Control

When controlling the speed of the GPD 515 from the DeviceNet network, frequency reference can be accessed in various ways:

1. Assembly 20 (Class 4, Instance 20, Attribute 3)
   Bytes 2 and 3 of this assembly provide speed control in RPM. See Appendix B.
2. Assembly 21 (Class 4, Instance 21, Attribute 3)
   Bytes 2 and 3 of this assembly provide speed control in RPM. See Appendix B.
3. Assembly 22 (Class 4, Instance 22, Attribute 3)
   Bytes 2 and 3 of this assembly provide speed control in RPM. See Appendix B.
4. Assembly 23 (Class 4, Instance 23, Attribute 3)
   Bytes 2 and 3 of this assembly provide speed control in RPM. See Appendix B.
5. Assembly 120 (Class 4, Instance 120, Attribute 3)
   Bytes 2 and 3 of this assembly provide speed control in Hz. See Appendix B.
6. Assembly 122 (Class 4, Instance 122, Attribute 3)
   Bytes 2 and 3 of this assembly provide speed control in Hz. See Appendix B.
7. Assembly 126 (Class 4, Instance 126, Attribute 3)
   Bytes 2 and 3 of this assembly provide speed control in Hz. See Appendix B.
8. AC Drive Class 42, Instance 1, Attribute 8
   This attribute provides speed control in RPM. See Appendix C.
9. MagneTek Command Class 100, Instance 1, Attribute 2
   This attribute provides speed control in Hz. See Appendix C.

If the GPD 515 speed is being controlled with Polled I/O messages, then Assembly 20, 21, 22, 23, 120, 122 or 126 are the only methods available from the list above.

Methods 1, 2, 3, 4 and 8 conform to the DeviceNet AC Drive Device Profile. See Chapter 11 for more information.

Torque Reference Control

In flux vector mode, and when drive parameter b1-02 equals '3', the drive may be torque controlled. When controlling the torque of the GPD515 from the DeviceNet network, torque reference can be accessed in various ways:

1. Assembly 22 (Class 4, Instance 22, Attribute 3)
   Bytes 4 and 5 of this assembly provide torque control in N-m*(2^{torque_scale}). See Appendix B.
2. Assembly 23 (Class 4, Instance 23, Attribute 3)
   Bytes 4 and 5 of this assembly provide torque control in N-m*(2^{torque_scale}). See Appendix B.
3. Assembly 121 (Class 4, Instance 121, Attribute 3)
   Bytes 2 and 3 of this assembly provide torque control in % of rated. See Appendix B.
4. Assembly 122 (Class 4, Instance 122, Attribute 3)
   Bytes 2 and 3 of this assembly provide torque control in % of rated. See Appendix B.
5. Assembly 126 (Class 4, Instance 126, Attribute 3)
   Bytes 4 and 5 of this assembly provide torque control in % of rated. See Appendix B.
6. AC Drive Class 42, Instance 1, Attribute 12
   This attribute provides torque control in N-m*(2^{torque_scale}). See Appendix C.
7. MagneTek Command Class 100, Instance 1, Attribute 3
   This attribute provides torque control in % of rated. See Appendix C.

The default torque_scale value is 0, which means the units are in N-m*(2^0) or N-m. If Torque Reference or Actual Torque values are scaled too small to obtain an accurate reading, adjust the torque_scale to obtain a readable value.

The torque_scale can be accessed in various ways:

1. EDS Parameter 25
   The range is -9 to 0. The value is a unit less integer.
2. AC Drive Class 42, Instance 1, Attribute 24
   The range is -9 to 0. The value is a unit less integer, but must be entered as a one byte hex number.
   Example: -9 must be entered as F7h

If the GPD515 speed is being controlled with Polled I/O messages, then Assembly 22, 23, 121, 122, or 126 are the only methods available from the list above.

Methods 1, 2, and 6 conform to the DeviceNet AC Drive Device Profile. See Chapter 11 for more information.

Speed Control Versus Torque Control

In flux vector mode, the setting of drive parameter d5-01 determines whether the drive is controlled by speed or by torque. In this case, some attributes take on a dual purpose.

The GPD515 Parameter d5-01 setting can be accessed in various ways:

1. EDS Parameter 122
   If this attribute equals '0', the drive is speed controlled
   MagneTek Command Class 100, Instance 1, Attribute 2 provides Speed Reference
   MagneTek Command Class 100, Instance 1, Attribute 3 provides Torque Limit
   If this attribute equals '1', the drive is torque controlled
   MagneTek Command Class 100, Instance 1, Attribute 2 provides Speed Limit
   MagneTek Command Class 100, Instance 1, Attribute 3 provides Torque Reference
2. MagneTek Class 106, Instance 1, Attribute 18
   If this attribute equals '0', the drive is speed controlled
   MagneTek Command Class 100, Instance 1, Attribute 2 provides Speed Reference
   MagneTek Command Class 100, Instance 1, Attribute 3 provides Torque Limit
   If this attribute equals '1', the drive is torque controlled
   MagneTek Command Class 100, Instance 1, Attribute 2 provides Speed Limit
   MagneTek Command Class 100, Instance 1, Attribute 3 provides Torque Reference

If reoccurring OS-Overspeed, PGO-PG Open and DEV-Speed Deviation faults are experienced, re-adjust speed and torque command settings to ensure these values are appropriate for the application and within drive parameter limits. Refer to TM4515 Section 5.43 for detailed instruction on operating the drive in torque control mode.

Acceleration and Deceleration Times

The GPD 515 Accel Time 1 and Decel Time 1 parameters (C1-01 and C1-02) can be accessed in various ways:

1. EDS Parameters 68 and 69
   The units for entry are seconds.
2. EDS Parameters 23 and 24
   The units for entry are msec/16 (625 msec/16 = 10.0 seconds)
3. AC Drive Class 42, Instance 1, Attributes 18 and 19
   The units for entry are msec/16 (625 msec/16 = 10.0 seconds)
4. MagneTek Class 105, Instance 1, Attributes 1 and 2
   The units for entry are seconds.

Methods 2 and 3 conform to the DeviceNet AC Drive Device Profile. See Chapter 11 for more information.

Communication Fault “EF0” Parameters

An “EF0” fault enunciates network communication failures (see Chapter 12 for an explanation of these failures). The following parameters are used to determine conditions necessary to generate an “EF0” and the drive action upon occurrence of an “EF0” fault. For “EF0” to be enabled, drive parameter b1-02 must be set to option PC board control, setting ‘3’.

The “EF0” Terminal Input Setting, parameter F9-01, determines the input contact condition and can be accessed in various ways:

1. EDS Parameters 174
   If this attribute equals ‘0’, an “EF0” occurs during a normally open condition
   If this attribute equals ‘1’, an “EF0” occurs during a normally closed condition
2. MagneTek Class 108, Instance 1, Attribute 25
   If this attribute equals ‘0’, an “EF0” occurs during a normally open condition
   If this attribute equals ‘1’, an “EF0” occurs during a normally closed condition

The “EF0” Detection Selection, parameter F9-02, determines the drive state in which detection will occur and can be accessed in various ways:

1. EDS Parameters 175
   If this attribute equals ‘0’, an “EF0” is always detected
   If this attribute equals ‘1’, an “EF0” is detected while the drive is running
2. MagneTek Class 108, Instance 1, Attribute 26
   If this attribute equals ‘0’, an “EF0” is always detected
   If this attribute equals ‘1’, an “EF0” is detected while the drive is running

The “EF0” Fault Action, parameter F9-03, determines the drive action upon occurrence of the fault and can be accessed in various ways:

1. EDS Parameters 176
   If this attribute equals ‘0’, the drive ramps to a stop when an “EF0” is detected
   If this attribute equals ‘1’, the drive coasts to a stop when an “EF0” is detected
   If this attribute equals ‘2’, the drive performs a fast-stop when an “EF0” is detected
   If this attribute equals ‘3’, the drive alarms when an “EF0” is detected
2. MagneTek Class 108, Instance 1, Attribute 27
   If this attribute equals ‘0’, the drive ramps to a stop when an “EF0” is detected
   If this attribute equals ‘1’, the drive coasts to a stop when an “EF0” is detected
   If this attribute equals ‘2’, the drive performs a fast-stop when an “EF0” is detected
   If this attribute equals ‘3’, the drive alarms when an “EF0” is detected

Reset the GPD 515 to Power-Up Conditions

The GPD 515 can be reset to power-up conditions over the DeviceNet network. A power-up reset will reset the GPD 515 drive and the DeviceNet Interface to power-up conditions. A GPD 515 Power-Up Reset can be performed in any of the following ways:

1. Perform a RESET service (05h) with the Control Supervisor Class 41, Instance 1.
   This RESET service does not require any additional argument data.

2. Perform a RESET service (05h) with the Identity Class 1, Instance 1.
   This RESET service requires an additional 1-byte argument. This argument should be set to a value of '0' for a power-up reset.

With the DeviceNet Manager software, the Basic Device Configuration mode can be used to perform a RESET service.

CAUTION

The GPD 515 should be stopped before performing the Power-Up RESET service.

Reset the GPD 515 to Factory Conditions

The GPD 515 can be reset to factory conditions over the DeviceNet network. A factory reset will perform a 2-wire reset on GPD 515 drive and return the DeviceNet Network parameters to their default values. A GPD 515 Factory Reset can be performed in the following way:

- Perform a RESET service (05h) with the Identity Class 1, Instance 1
  This RESET service requires an additional 1-byte argument. This argument should be set to a value of '1' for a factory reset.

With the DeviceNet Manager software, the Basic Device Configuration mode can be used to perform a RESET service.

CAUTION

The GPD 515 should be stopped before performing the Factory RESET service.

Chapter 11
The AC Drive Profile

- What Device Profiles Provide
- The AC Drive Profile
- The GPD 515 and the AC Drive Profile

What Device Profiles Provide

A DeviceNet Device Profile provides the specification for the way in which a particular type of device communicates on the DeviceNet network. The goal of device profiles is to provide interoperability and interchangeability of like devices from different vendors.

To provide interoperability and promote interchangeability by like devices, there must be a core standard for each device type. Like devices must:

- Exhibit the same behavior
- Produce and/or consume the same basic set of I/O data
- Contain the same set of configurable parameters
- Access the configurable parameters in the same manner from the network

A device profile contains:

- The format of the I/O data for the device
- Definitions of the configurable parameters for the device
- Definitions of how configurable parameters affect the device's behavior
- A specification of how the network accesses configurable parameters

Device profiles are published in Volume II of the DeviceNet Specification.

The AC Drive Profile

The AC Drive Profile uses assemblies to transfer I/O data. The AC Drive Profile defines the following list of Assemblies:

Assembly	Required ?	I/O Type✹	Name
20	Required	Output	Basic Speed Command
21	Optional		Extended Speed Command
22	Optional		Basic Speed and Torque Command
23	Optional		Extended Speed and Torque Command
24	Optional		Basic Process Control Command
25	Optional		Extended Process Control Command
70	Required	Input	Basic Speed Status
71	Optional		Extended Speed Status
72	Optional		Basic Speed and Torque Status
73	Optional		Extended Speed and Torque Status
74	Optional		Basic Process Control Status
75	Optional		Extended Process Control Status

✹ Output = output from the controller
✹ Input = input to the controller

The data format of each of the assemblies listed above are defined in the AC Drive Profile. The drive behavior relavent to each of the assemblies is defined in the AC Drive Profile. Notice that some of the assemblies are required and some are optional.

The AC Drive Profile dictates that an AC Drive device must support the following DeviceNet Object Classes:

- Motor Class
  This class defines motor data for the motor that is connected to the drive.
  Instance 1, Attributes 3, 6 and 7 are required. All other attributes are optional.
- Control Supervisor Class
  This class manages drive functions, operational states and control.
  Instance 1, Attributes 3, 7, 10 and 12 are required. All other attributes are optional.
- AC Drive Class
  This class provides access to drive configuration parameters.
  Instance 1, Attributes 4, 6, 7 and 8 are required. All other attributes are optional.

If an application uses only the required assemblies and attributes from the AC Drive Profile, interchangeability between devices which comply with the AC Drive Profile is guaranteed.

A listing of the attributes of the Motor Class, Control Supervisor Class, and AC Drive Class can be found in Appendix C. A listing of the Common Services provided by each of these classes can be found in Appendix D. For a description of the behavior elicited by each of these classes, please consult the DeviceNet Specification, Volume II.

The GPD 515 and the AC Drive Profile

The GPD 515 DeviceNet Interface conforms to the AC Drive Profile. The GPD 515 supports all of the required attributes and some of the optional attributes of the Assembly, Motor, Control Supervisor, and AC Drive classes. Appendix C contains a complete list of the attributes in these classes that are supported by the GPD 515 DeviceNet Interface.

Chapter 12
Diagnostics and Troubleshooting

- Network Status LED
- Module Status LED
- Network and Module Status LEDs at Power-Up
- DeviceNet Error Codes
- GPD 515 Failure Codes

Network Status LED

The Network Status LED is located along the left edge of the GPD 515 DeviceNet Interface board. The Network Status LED is labeled “NS”. This bi-color (green/red) LED indicates the status of the communication link. The following table defines the Network Status LED states.

LED state	Device State	Description
OFF	Not powered / Not On-line	Device is not on-line: • The device has not completed the duplicate MAC ID (node address) check • The device may not be powered, look at the Module Status LED.
Flashing GREEN	On-line and not Connected	Device is on-line, but has no connections in the established state: • The device has passed the duplicate MAC ID (node address) check, but has no established connections to other nodes. • For a Group 2 Only device (such as the GPD 515) it means that this device is not allocated to a Master device. • For a UCMM capable device it means that the device has no established connections.
Solid GREEN	On-line and Connected	Device in on-line and has connections in the established state: • For a Group 2 Only (such as the GPD 515) device it means that the device is allocated to a Master • For a UCMM capable device it means that the device has one or more established connections.
Flashing RED	Connection Time-Out	One or more of the I/O Connections are in the Timed-Out state. In the case of the GPD 515 DeviceNet Interface, the Master device has probably stopped polling the GPD 515 Interface.
Solid RED	Critical Link Failure	Failed communication device. The device has detected an error that has rendered it incapable of communicating on the network: • A duplicate MAC ID (node address) error was detected • A bus-off condition exists.
The flash rate for the LED is approximately 1 flash per second. The LED is ON for approximately 0.5 second and OFF for approximately 0.5 second.		

Module Status LED

The Module Status LED is located along the left edge of the GPD 515 DeviceNet Interface board. The Module Status LED is labeled “MS”. This bi-color (green/red) LED indicates whether or not the device has power and is operating properly. The following table defines the Module Status LED states.

LED state	Device State	Description
OFF	No Power	There is no power applied to the device.
Flashing GREEN	Device is in Standby	The device needs commissioning due to missing, incomplete, or incorrect configuration parameters.
Solid GREEN	Device Operational	The device is operating in a normal condition.
Flashing RED	Minor Fault	The device has a recoverable fault active.
Solid RED	Unrecoverable Fault	The device has an unrecoverable fault active.
The flash rate for the LED is approximately 1 flash per second. The LED is ON for approximately 0.5 second and OFF for approximately 0.5 second.		

Network and Module Status LEDs at Power-Up

A LED test is performed at power-up. The following sequence should be observed:

- Module Status LED on GREEN for 0.25 second.
- Module Status LED on RED for 0.25 second.
- Module Status LED on GREEN for 0.25 second.
- Network Status LED on GREEN for 0.25 second.
- Network Status LED on RED for 0.25 second.

DeviceNet Error Codes

The following table lists the DeviceNet Error Codes that can be transmitted across the network by any device.

Error Code (in hex)	Error Name	Description
00h - 01h	Reserved	Reserved by DeviceNet
02h	Resources Unavailable	Resources needed for the object to perform the requested service were unavailable.
03h - 07h	Reserved	Reserved by DeviceNet
08h	Service Not Supported	The requested service was not implemented or was not defined for the Object/Class/Attribute
09h	Invalid Attribute Value	The attribute data value was invalid or out of range.
0Ah	Reserved	Reserved by DeviceNet
0Bh	Already in Mode/State	The object is already in the mode / state being requested by the service.
0Ch	Object State Conflict	The object cannot perform the requested service in its current mode / state.
0Dh	Reserved	Reserved by DeviceNet
0Eh	Attribute Not Settable	A request to modify a non-modifiable attribute was received.
0Fh	Privilege Violation	A permission / Privilege check has failed.
10h	Device State Conflict	The device's current mode / state prohibits the execution of the requested service.
11h	Reply Data Too Large	The data transmitted in the response message is larger than was expected.
12h	Reserved	Reserved by DeviceNet
13h	Not Enough Data	The service did not supply enough data to perform the specified operation.
14h	Attribute Not Supported	The attribute specified in the request is not supported.
15h	Too Much Data	The service supplied more data than was expected.
16h	Object Does Not Exist	The object specified does not exist in the device.
17h	Reserved	Reserved by DeviceNet
18h	No Stored Attribute Data	The attribute data of this object was not saved prior to the requested service.
19h	Store Operation Failure	The attribute data of this object was not saved due to a failure during the attempt.
1Ah - 1Eh	Reserved	Reserved by DeviceNet
1Fh	Vendor Specific Error	A vendor specific error has been encountered. -illegal data value has been written to a parameter -write to non-run operative parameter while running -board timed out while waiting for drive response
20h	Invalid Parameter	A parameter associated with the request was invalid.
21h - CFh	Future	Reserved by DeviceNet
D0h - FFh	Reserved	Reserved by DeviceNet

GPD 515 Failure Codes

The GPD 515 drive can have a drive failure, such as undervoltage, overload, external fault, etc. When a drive failure occurs, it can be classified as an alarm, a minor fault, or a major fault. The drive reacts differently with each type of failure. An alarm displays a warning indication, however operation continues. Minor faults allow continued operation, and a contact will close only if one of the multi-function outputs is set up as a minor fault contact. The major faults cause the motor to coast to stop, and the fault signal output is present at terminals 18 - 20.

The GPD 515's parameter U2-01 (current fault), U2-02 (last fault), and U3-01 through U3-04 (four most recent faults) display a fault code representing the drive failure. The following table indicates the abbreviation displayed on the digital operator and the hexadecimal code viewed in drive parameters: U2-01, U2-02, and U3-01 when a specific drive failure occurs. The table also indicates whether the drive failure is an A-alarm, m-minor fault, or M-major fault.

Drive Failure	Digital Operator Display	Code (in hex)	Alarm, minor fault, or Major Fault
DC Bus Fuse Open	FU	1	M
DC Bus Undervoltage	UV1	2	A
CTL PS Undervoltage	UV2	3	A
MC Answerback	UV3	4	A
Short Circuit	SC	5	M
Ground Fault	GF	6	M
Overcurrent	oC	7	M
Overvoltage	oV	8	M
Heatsink Overtemperature	oH	9	M
Drive Overheat	oH1	A	M
Motor Overload	oL1	B	M
Drive Overload	oL2	C	M
Overtorque 1	oL3	D	M
Overtorque 2	oL4	E	M
Dynamic Braking Transistor	RR	F	M
Dynamic Braking Resistor	RH	10	M
External Fault 3	EF3	11	M
External Fault 4	EF4	12	m
External Fault 5	EF5	13	m
External Fault 6	EF6	14	m
External Fault 7	EF7	15	m
External Fault 8	EF8	16	m
reserved		17	-
Overspeed	oS	18	M
Speed Deviation	DEV	19	m
PG Open	PGo	1A	M
Input Phase Loss	PF	1B	M
Output Phase Loss	LF	1C	M
reserved		1D	-
Operator Disconnected	-	1E	m
EEPROM R/W Error	ERR	1F	m
reserved		20	-
Modbus Com Error	CE	21	M
Option Com Error	BUS	22	m
reserved		23 - 24	-
DCCT Fault	CF	25	M
Zero Servo Fault	SVE	26	M
Option External Fault	EF0	27	M
reserved		28 - 82	-
Baseblock Circuit Fault	CPF02	83	M

Drive Failure	Digital Operator Display	Code (in hex)	Alarm, minor fault, or Major Fault
EEPROM Fault	CPF03	84	M
Internal A/D Fault	CPF04	85	M
External A/D Fault	CPF05	86	M
Option Error	CPF06	87	M
A/D Converter Fault	CPF20	91	M
Option CPU Error	CPF21	92	M
Option Type Error	CPF22	93	M
DP-RAM Error	CPF23	94	M

Note: Further detail on drive failures can be found in Chapter 6 of technical manual TM4515.

"EF0" Fault

An "EF0" fault annunciates network communication failures. There are four conditions in which an "EF0" fault occurs.

The DeviceNet Interface board requires 24 VDC network power. If the DeviceNet option board loses the 24 VDC power connection an "EF0" fault will be generated.

After a polled connection has been established between the master and the drive, poll command messages are transmitted by the master at a set time interval. The DeviceNet Interface board also has a set time interval, in which to receive polled messages from the master. If the interface does not receive a polled message from the master within that specified time interval, a timeout will occur and an "EF0" fault will be generated.

Some master devices can be placed in idle mode. In idle mode some masters do not send or receive polled messages. Setting S1 switch 10 to the 'on' position (see Chapter 3) enables Master Idle Operation. If the master is then placed in idle mode an "EF0" will be generated.

An "EF0" will be generated if manually activated by the user in either of the following ways:

1. Assembly 120 (Class 4, Instance 120, Attribute 3)
   Byte 1 of this assembly provides External Fault and Fault Reset control. See Appendix B.
2. Assembly 121 (Class 4, Instance 121, Attribute 3)
   Byte 1 of this assembly provides External Fault and Fault Reset control. See Appendix B.
3. Assembly 122 (Class 4, Instance 122, Attribute 3)
   Byte 1 of this assembly provides External Fault and Fault Reset control. See Appendix B.
4. Assembly 123 (Class 4, Instance 123, Attribute 3)
   Byte 1 of this assembly provides External Fault and Fault Reset control. See Appendix B.
5. Assembly 126 (Class 4, Instance 123, Attribute 3)
   Byte 1 of this assembly provides External Fault and Fault Reset control. See Appendix B.

Appendix A
EDS Parameter List

- DN: Motor Data
- DN: Control Data
- DN: AC Drive Data
- DN: Polled Config
- A Parameters
- b Parameters
- C Parameters
- d Parameters
- E Parameters
- F Parameters
- H Parameters
- L Parameters
- o Patameters
- U1 Parameters
- U2 Parameters
- U3 Parameters
- Status
- ACCEPT/ENTER
- Serial Number

Parameter Group “DN: Motor Data”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits	Default Value	Increment	See TM 4556
1	N/A	Motor Type	3 = PM Synchronous 6 = Wound Rotor Induction	6	1	Chapter 7
2	N/A	Motor Rated Current	0.0 - 6553.5 Amps NOTE: This setting not is the same as GPD 515 parameter E2-01 (EDS Param# 141). The setting of EDS Param# 2 does not effect drive operation.	See TM4515	0.1	Chapter 7
3	N/A	Motor Rated Voltage	0.0 - 6553.5 Volts	230 or 460	0.1	Chapter 7
4	N/A	Motor Rated Frequency	0 - 65535 Hz	60	1	Chapter 7
5	N/A	Motor Maximum Speed	0 - 65535 RPM	1800	1	Chapter 7
6	N/A	Motor Base Speed	0 - 65535 RPM	1750	1	Chapter 7

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “DN: Control Data”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits	Increment	See TM 4556
7R	N/A	Drive State	0 = Vendor Specific 1 = Startup 2 = Not Ready 3 = Ready 4 = Enabled 5 = Stopping 6 = Fault Stop 7 = Faulted	N/A	
8R	N/A	Running Forward	FALSE = Drive is not running in the forward direction TRUE = Drive is running in the forward direction	N/A	
9R	N/A	Running Reverse	FALSE = Drive is not running in the reverse direction TRUE = Drive is running in the reverse direction	N/A	
10R	N/A	Drive Ready	FALSE = Drive is not ready for operation TRUE = Drive is ready for operation	N/A	
11R	N/A	Drive Fault is Active	FALSE = Drive fault is not active TRUE = Drive fault is active	N/A	
12R	N/A	Drive Warning	FALSE = Drive warning is not active TRUE = Drive warning is active	N/A	
13R	N/A	Control from Network	Disabled = Run/Stop control from Network is disabled Enabled = Run/Stop control form Network is enabled	N/A	
14	N/A	Default Control Source (b1-02)	Default non-network location for Run/Stop 0 = Digital Operator 1 = External Terminals 2 = Serial Communication 3 = Option PC Board	1	

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “DN: AC Drive Data”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Definition	Default Value	Increment	See TM 4556
15R	N/A	At Reference	FALSE = Drive actual speed is not equal to reference speed TRUE = Drive actual speed is equal to reference speed	N/A		
16R	N/A	Drive Mode	1 = Open Loop Speed Control 2 = Closed Loop Speed	1	1	
17R	N/A	Drive Actual Speed	Drive Output Speed in RPM	N/A	1	
18R	N/A	Drive Actual Current	Drive Output Current in Amps	N/A	0.1	
19R	N/A	Drive Current Limit	Drive Current Limit in Amps. This value is equal to the GPD 515 continuous rated output current for the GPD 515 model number	See TM4515	0.1	
20R	N/A	Drive Actual Power	The units for power are Watts/16. To convert from Watts to Watts/16 you must divide by 16. For example: 80 Watts = 5 Watts/16	N/A	0.1	
21R	N/A	Drive Input Voltage	Drive Input Voltage in Volts. This value is equal to the GPD 515 rated input voltage	230 or 460	1	
22R	N/A	Drive Output Voltage	Drive Output Voltage in Volts	N/A	1	
23R	N/A	Drive Acceleration Time	0 - 37500 msec/16 The units for acceleration are msec/16. To convert from msec to msec/16 you must divide by 16. For example: 10.0 sec = 10000 msec = 625 msec/16	625	1	
24R	N/A	Drive Deceleration Time	0 - 37500 msec/16 (10.0 sec = 625 msec/16) The units for deceleration are msec/16. To convert from msec to msec/16 you must divide by 16. For example: 10.0 sec = 10000 msec = 625 msec/16	625	1	

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “DN: AC Drive Data” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Definition	Default Value	Increment	See TM 4556
25	N/A	Torque Scale Factor	Drive Torque Scale Factor	0	1	
26R	N/A	Frequency Reference from Network	0 = Freq Reference from Network is disabled 1 = Freq Reference from Network is enabled	0	1	
27	N/A	Default Reference Source (b1-01)	Default non-network location for frequency 1 = Digital Operator 2 = External Terminals 3 = Serial Communication 4 = Option PC Board	1		

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “DN: Polled Config”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits	Default Value	See TM 4556
28	N/A	Polled Consuming Assembly Number	20, 21, 22, 23, 120, 121, 122, 123, 126	20	Chapter 7
29	N/A	Polled Producing Assembly Number	70, 71, 72, 73, 130, 131, 132, 136	70	Chapter 7

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “A Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
30	A1-00	Language Selection	0	English	0	1
			1	Japanese		
31	A1-01	Parameter Access Level	0	Monitor Only	2	1
			1	User Program		
			2	Quick-start		
			3	Basic		
			4	Advanced		
32	A1-02	Control Method Selection	0	V/f Control	2	1
			1	V/f with PG Feedback		
			2	Open Loop Vector		
			3	Flux Vector		
33	A1-03	Initialize Parameters	0000	No Initialize	0000	1
			1110	User Initialize		
			2220	2-wire Initialize		
			3330	3-wire Initialize		

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “b Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
34	b1-01	Reference Selection	0	Digital Operator	1	1
			1	Terminal		
			2	Serial Communication		
			3	Option PCB		
35	b1-02	Operation Method Selection	0	Digital Operator	1	1
			1	Terminal		
			2	Serial Communication		
			3	Option PCB		
36	b1-03	Stopping Method Selection	0	Ramp to Stop	0	1
			1	Coast to Stop		
			2	DC Injection to Stop		
			3	Coast with Timer		
37	b1-04	Reverse Operation Prohibit	0	Enable Reverse Operation	0	1
			1	Disable Reverse Operation		
38	b1-05	Zero Speed Operation (level determined by E1-09)	0	Run at Frequency Reference	0	1
			1	Stop		
			2	Run at Min. Frequency (E1-09)		
			3	Run at Zero Speed		
39	b1-06	Logic Input Scan Rate	0	2ms - 2 scans	1	1
			1	5ms - 2 scans		
40	b1-07	Local/Remote RUN Select	0	Cycle External Run	0	1
			1	Accept External Run		
41	b2-01	DC Injection Braking Start Frequency		0.0 to 10.0 Hz	0.5	0.1
42	b2-02	DC Injection Braking Current		0 - 100%	50	1
43	b2-03	DC Injection Braking Time at Start		0.00 - 10.00 seconds	0.00	0.01
44	b2-04	DC Injection Braking Time at Stop		0.00 - 10.00 seconds	0.00	0.01
45	b3-01	Speed Search Selection	0	Disabled	0	1
			1	Enabled		

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “b Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
46	b3-02	Speed Search Current		0 to 200%	150	1
47	b3-03	Speed Search Decel Time		0.0 to 10.0 seconds	2.0	0.1
48	b4-01	Timer Function ON-Delay Time		0.0 to 300.0 seconds	0.0	0.1
49	b4-02	Timer Function OFF-Delay Time		0.0 to 300.0 seconds	0.0	0.1
50	b5-01	PID Control Mode Selection	0	Disabled	0	1
			1	Enabled (D=Feedback)		
			2	Enabled (D=Feed Forward)		
51	b5-02	PID Proportional Gain		0.00 to 10.00	1.00	0.01
52	b5-03	PID Integral Time		0.0 to 360.0 seconds	1.0	0.1
53	b5-04	PID Integral Limit		0.0 to 100.0%	100.0	0.1
54	b5-05	PID Differential Time		0.00 to 10.00 seconds	0.00	0.01
55	b5-06	PID Output Limit		0.0 to 100.0%	100.0	0.1
56	b5-07	PID Offset Adjustment		-100.0 to +100.0%	0.0	0.1
57	b5-08	PID Primary Delay		0.00 to 10.00 seconds	0.00	0.01
58	b6-01	Dwell Frequency at Start		0.0 to 400.0 Hz	0.0	0.1
59	b6-02	Dwell Time at Start		0.0 to 10.0 seconds	0.0	0.1
60	b6-03	Dwell Frequency at Stop		0.0 to 400.0 Hz	0.0	0.1
61	b6-04	Dwell Time at Stop		0.0 to 10.0 seconds	0.0	0.1
62	b7-01	Droop Control Gain		0.0 to 100.0	0.0	0.1
63	b7-02	Droop Control Delay Time		0.03 to 2.00 seconds	0.05	0.01
64	b8-01	Energy Saving Gain		0 to 100%	80	1
65	b8-02	Energy Saving Frequency		0.0 to 400.0 Hz	0.0	0.1
66	b9-01	Zero-Servo Gain		0 to 100	5	1
67	b9-02	Zero-Servo Completion Width		0 to 16383	10	1

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “C Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits/ Setting Definition		Default Value	Increment
68	C1-01	Acceleration Time 1		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
69	C1-02	Deceleration Time 1		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
70	C1-03	Acceleration Time 2		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
71	C1-04	Deceleration Time 2		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
72	C1-05	Acceleration Time 3		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
73	C1-06	Deceleration Time 3		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
74	C1-07	Acceleration Time 4		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
75	C1-08	Deceleration Time 4		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
76	C1-09	Fast Stop Deceleration Time		0.00 to 600.00 or 0.0 to 6000.0 seconds **(1)**	10.0 **(1)**	0.01 or 0.1
77	C1-10	Accel / Decel Time Setting Unit	0	0.01 seconds	1	1
			1	0.1 seconds		
78	C1-11	Accel / Decel Time Switching Freq.		0.0 to 400.0 Hz	0.00	0.01
79	C2-01	S-curve Characteristic at Accel Start		0.0 to 2.50 seconds	0.20	0.01
80	C2-02	S-curve Characteristic at Accel End		0.0 to 2.50 seconds	0.20	0.01
81	C2-03	S-curve Characteristic at Decel Start		0.0 to 2.50 seconds	0.20	0.01
82	C2-04	S-curve Characteristic at Decel End		0.0 to 2.50 seconds	0.20	0.01
83	C3-01	Slip Compensation Gain		0.0 to 2.5	**(2)**	0.1
84	C3-02	Slip Compensation Primary Delay Time		0 to 10000 msec.	**(2)**	1
85	C3-03	Slip Compensation Limit		0 to 250%	200	1
86	C3-04	Slip Compensation Selection during Regeneration	0	Disabled	0	1
			1	Enabled		
87	C3-05	Slip Compensation V/f	0	Included	0	1
			1	Excluded		
88	C4-01	Torque Compensation Gain		0.00 to 2.50	1.00	0.01
89	C4-02	Torque Compensation Time Constant		0 to 10000	**(1)**	1
90	C5-01	ASR Proportional Gain 1		0.00 to 300.00	**(1)**	0.01
91	C5-02	ASR Integral Time 1		0.000 to 10.000 seconds	**(1)**	0.001

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “C Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits/ Setting Definition		Default Value	Increment
92	C5-03	ASR Proportional Gain 2		0.00 to 300.00	**(1)**	0.01
93	C5-04	ASR Integral Time 2		0.000 to 10.000 seconds	**(1)**	0.001
94	C5-05	Automatic Speed Regulator (ASR) Output Limit		0.0 to 20.0%	5.0	0.1
95	C5-06	ASR Primary Delay Time		0.000 to 0.500 seconds	0.004	0.001
96	C5-07	ASR Switching Frequency		0.0 to 400.0 Hz	0.0	0.1
97	C5-08	ASR Integral Limit		0 to 400%	400%	1
98	C6-01	Carrier Frequency Upper Limit		0.4 to 15.0 kHz **(2)**	15.0 **(2)**	0.1
99	C6-02	Carrier Frequency Lower Limit		0.4 to 15.0 kHz **(2)**	15.0 **(2)**	0.1
100	C6-03	Carrier Frequency Proportional Gain		00 to 99 **(2)**	00 **(2)**	1
101	C7-01	Hunting Prevention Selection		0,1	1	1
102	C7-02	Hunting Prevention Gain		0.00 TO 2.50	1.00	0.01
103	C8-08	AFR Gain		0.00 to 10.00	1.00	0.01
104	C8-30	Auto Tune Carrier Frequency	0	Fc = 2 kHz	0	1
			1	Fc = C6-01		

Notes:
1. Values are dependent upon C1-10 setting.
2. Initial Setting differs depending on the control method (A1-02).

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “d Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits/ Setting Definition		Default Value	Increment
105	d1-01	Frequency Reference 1		0.00 to 400.00 Hz **(1)**	0.00	0.01
106	d1-02	Frequency Reference 2		0.00 to 400.00 Hz **(1)**	0.00	0.01
107	d1-03	Frequency Reference 3		0.00 to 400.00 Hz **(1)**	0.00	0.01
108	d1-04	Frequency Reference 4		0.00 to 400.00 Hz **(1)**	0.00	0.01
109	d1-05	Frequency Reference 5		0.00 to 400.00 Hz **(1)**	0.00	0.01
110	d1-06	Frequency Reference 6		0.00 to 400.00 Hz **(1)**	0.00	0.01
111	d1-07	Frequency Reference 7		0.00 to 400.00 Hz **(1)**	0.00	0.01
112	d1-08	Frequency Reference 8		0.00 to 400.00 Hz **(1)**	0.00	0.01
113	d1-09	Jog Frequency Reference		0.00 to 400.00 Hz **(1)**	6.00	0.01
114	d2-01	Frequency Reference Upper Limit		0.0 to 110.0%	100.0	0. 1
115	d2-02	Frequency Reference Lower Limit		0.0 to 100.0%	0.0	0. 1
116	d3-01	Critical Frequency Rejection 1		0.0 to 400.0 Hz **(1)**	0.0	0. 1
117	d3-02	Critical Frequency Rejection 2		0.0 to 400.0 Hz **(1)**	0.0	0. 1
118	d3-03	Critical Frequency Rejection 3		0.0 to 400.0 Hz **(1)**	0.0	0. 1
119	d3-04	Critical Frequency Rejection Width		0.0 to 20.0 Hz **(1)**	1.0	0. 1
120	d4-01	Frequency Reference Hold Function Selection	0	Disabled	0	1
			1	Enabled		
121	d4-02	Speed Limits		0 to 100%	25	1
122	d5-01	Torque Control Selection	0	Speed Control	0	1
			1	Torque Control		
123	d5-02	Torque Reference Delay Time		0 to 1000 msec.	0	1
124	d5-03	Speed Limit Selection	1	Analog Input (term. 13 & 14)	1	1
			2	d5-04 setting		

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “d Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits/ Setting Definition	Default Value	Increment
125	d5-04	Speed Limit	-120 to +120%	0	1
126	d5-05	Speed Limit Bias	0 to 120%	10	1
127	d5-06	Speed/Torque Control Switching Timer	0 to 1000 msec.	0	1

Notes:
1. Scaling depends on the setting of o1-03.

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “E Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits/ Setting Definition		Default Value	Increment
128	E1-01	Input Voltage Setting		155 to 255V (230V unit) 310 to 510V (460V unit)	230 460	1
129	E1-02	Motor Selection	0	General Purpose Motor (TEFC)	0	1
			1	Blower Cooled Motor (TENV or TEBC)		
130	E1-03	V/f Pattern Selection	0 - Eh	15 preset V/f patterns	Fh	1
			Fh	Custom Pattern (using E1-04 to E1-10)		
131	E1-04	Maximum Output Frequency		50.0 to 400.0 Hz	60.0	0.1
132	E1-05	Maximum Voltage		0.0 to 255.0V (230V unit) 0.0 to 510.0V (460V unit)	230.0 460.0	0.1
133	E1-06	Maximum Voltage Frequency		0.0 to 400.0 Hz	60.0	0.1
134	E1-07	Mid. Output Frequency		0.0 to 400.0 Hz	**(1)**	0.1
135	E1-08	Mid Output Frequency Voltage		155 to 255V (230V unit) 310 to 510V (460V unit)	**(1)**	1
136	E1-09	Min. Output Frequency		0.0 to 400.0 Hz	**(1)**	0.1
137	E1-10	Min. Output Frequency Voltage		155.0 to 255.0V (230V unit) 310.0 to 510.0V (460V unit)	**(1)**	0.1
138	E1-11	Mid Frequency B		0.0 to 400.0 Hz	0.0	0.1
139	E1-12	Mid Voltage B		0.0 to 255.0 VAC	0.0	0.1
140	E1-13	Base Voltage		0.0 to 255.0 VAC	0.0	0.1
141	E2-01	Motor Rated Current		0.00 to 99.99 or 100.0 to 1500.0 Amps **(3)**	**(2)**	0.1
142	E2-02	Motor Rated Slip		0.00 to 20.00 Hz	**(2)**	0.01
143	E2-03	Motor No-Load Current		0.00 to 99.99 or 100.0 to 1500.0 Amps **(3)**	**(2)**	0.1
144	E2-04	Number of Motor Poles		2 to 48 poles	4	1
145	E2-05	Motor Line-to-Line Resistance		0.000 to 65.000 Ohms	**(2)**	0.001
146	E2-06	Motor Leakage Inductance		0.0 to 30.0%	**(2)**	0.1

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “E Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits/ Setting Definition	Default Value	Increment
147	E2-07	Motor Iron-core Saturation Coefficient 1	0.00 to 0.50	0.50	0.01
148	E2-08	Motor Iron-core Saturation Coefficient 2	0.00 to 0.75	0.75	0.01
149	E2-09	Motor Mechanical Loss	0.0 to 10.0%	0.0	0.1

Notes:
1. Initial Value differs depending on the control method (A1-02).
2. Initial Value differs depending on the drive capacity (o2-04).
3. Display unit=0.01A for models GPD515C-A003 thru -A033 and -B001 thru -B021; display unit=0.1A for models -A049 thru -A300 and -B027 thru -B605.

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “F Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
150	F1-01	Encoder (PG) Constant		0 to 60000 ppr	600	1
151	F1-02	Operation Selection at PG Open Circuit	0	Ramp to Stop	1	1
			1	Coast to Stop		
			2	Fast-Stop		
			3	Alarm Only		
152	F1-03	Operation Selection at Overspeed	0	Ramp to Stop	1	1
			1	Coast to Stop		
			2	Fast-Stop		
			3	Alarm Only		
153	F1-04	Operation Selection at Speed Deviation	0	Ramp to Stop	3	1
			1	Coast to Stop		
			2	Fast-Stop		
			3	Alarm Only		
154	F1-05	PG Rotation	0	Counter-clockwise	0	1
			1	Clockwise		
155	F1-06	PG Division Rate (PG Pulse Monitor)		1 to 132 (effective only with PG-B2 control board)	1	1
156	F1-07	Integral Value during Accel/Decel Selection	0	Disabled	0	1
			1	Enabled		
157	F1-08	Overspeed Detection Level		0 to 120%	115	1
158	F1-09	Overspeed Detection Delay Time		0.0 to 2.0 seconds	**(1)**	0.1
159	F1-10	Excessive Speed Deviation Detection Level		0 to 50%	10	1
160	F1-11	Excessive Speed Deviation Detection Delay Time		0.0 to 10.0 seconds	0.5	0.1
161	F1-12	Number of PG Gear Teeth 1		0 to 1000	0	1
162	F1-13	Number of PG Gear Teeth 2		0 to 1000	0	1
163	F1-14	PG Open Detection Time		0 to 10.0 seconds	2.0	0.1

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “F Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
164	F2-01	AI-14 Bi-polar or Uni-polar Input Selection	0	3-channel Individual	0	1
			1	3-channel Addition		
165	F3-01	DI-16 Digital Input Option	0	BCD 1%	0	1
			1	BCD 0.1%		
			2	BCD 0.01%		
			3	BCD 1 Hz		
			4	BCD 0.1 Hz		
			5	BCD 0.01 Hz		
			6	BCD (5DG) 0.01 Hz		
			7	Binary		
166	F4-01	AO-08/AO-12 Channel 1 Monitor Select.		1 to 33h **(2)**	2	1
167	F4-02	AO-08/AO-12 Channel 1 Gain		0.00 to 2.50	1.00	0.01
168	F4-03	AO-08/AO-12 Channel 2 Monitor Select.		1 to 33h **(2)**	3	1
169	F4-04	AO-08/AO-12 Channel 2 Gain		0.00 to 2.50	0.50	0.01
170	F5-01	DO-02 Channel 1 Output Selection		0 to Fh	0	1
171	F5-02	DO-02 Channel 2 Output Selection		0 to Fh	1	1
172	F6-01	DO-08 Output Mode Selection	0	8-channel Individual	0	1
			1	Binary Output		
173	F7-01	PO-36F Frequency Multiple Selection	0	1 x Output Frequency	1	1
			1	6 x Output Frequency		
			2	10 x Output Frequency		
			3	12 x Output Frequency		
			4	36 x Output Frequency		
174	F9-01	EF0 Terminal Input Setting	0	Normally open	0	1
			1	Normally closed		

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “F Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
175	F9-02	EF0 Detection Selection	0	Always Detected	0	1
			1	During Run		
176	F9-03	EF0 Fault Action	0	Ramp to stop	1	1
			1	Coast to stop		
			2	Fast-stop		
			3	Alarm only		
177	F9-04	EF0 Trace Sample Time		0 to 60000	0	1

Notes:
1. Initial Value differs depending on the control method (A1-02).
2. Range shown is for flash software version ‘1030’ and CPU version ‘30’. Range differs for previous versions.

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “H Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
178	H1-01	Multi-function Input (terminal 3)		0 to 77h	24h	1
179	H1-02	Multi-function Input (terminal 4)		0 to 77h	14h	1
180	H1-03	Multi-function Input (terminal 5)		0 to 77h	3 (or 0) **(1)**	1
181	H1-04	Multi-function Input (terminal 6)		0 to 77h	4 (or 3) **(1)**	1
182	H1-05	Multi-function Input (terminal 7)		0 to 77h	6 (or 4) **(1)**	1
183	H1-06	Multi-function Input (terminal 8)		0 to 77h	8 (or 6) **(1)**	1
184	H2-01	Multi-function Output (term. 9 & 10)		0 to 37h	0	1
185	H2-02	Multi-function Output (term. 25-27)		0 to 37h	1	1
186	H2-03	Multi-function Output (term. 26-27)		0 to 37h	2	1
187	H3-01	Auto Speed Reference Signal Level Selection (term. 13)	0	0 to 10 V DC	0	1
			1	–10 to +10 V DC		
188	H3-02	Auto Speed Reference Signal Gain		0.0 to 1000.0%	100.0	0.1
189	H3-03	Auto Speed Reference Signal Bias		–100.0 to +100.0%	0.0	0.1
190	H3-04	Multi-function Analog Input 1 Signal Level Selection (term. 16)	0	0 to 10 V DC	0	1
			1	–10 to +10 V DC		
191	H3-05	Multi-function Analog Input 1 Select.		0 to 1Fh	0	1
192	H3-06	Multi-function Analog Input 1 Gain		0.0 to 1000.0%	100.0	0.1
193	H3-07	Multi-function Analog Input 1 Bias		–100.0 to +100.0%	0.0	0.1
194	H3-08	Multi-function Analog Input 2 Signal Level Selection (term. 14)	0	0 to 10 V DC	2	1
			1	–10 to +10 V DC		
			2	4 to 20 mA		
195	H3-09	Multi-function Analog Input 2 Select.		1 to 1Fh	1Fh	1

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “H Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
196	H3-10	Multi-function Analog Input 2 Gain		0.0 to 1000.0%	100.0	0.1
197	H3-11	Multi-function Analog Input 2 Bias		–100.0 to +100.0%	0.0	0.1
198	H3-12	Analog Input Filter Time Constant		0.00 to 2.00 seconds	0.00	0.01
199	H4-01	Multi-function Analog Monitor 1 Selection (terminal 21)		1 to 31h	2	1
200	H4-02	Multi-function Analog Monitor 1 Gain		0.00 to 2.50	1.00	0.01
201	H4-03	Multi-function Analog Monitor 1 Bias		–10.0 to +10.0%	0.0	0.1
202	H4-04	Multi-function Analog Monitor 2 Selection (terminal 23)		1 to 31h	3	1
203	H4-05	Multi-function Analog Monitor 2 Gain		0.00 to 2.50	0.50	0.01
204	H4-06	Multi-function Analog Monitor 2 Bias		–10.0 to +10.0%	0.0	0.1
205	H4-07	Multi-function Analog Monitor Signal Level Selection (terminal 21 & 23)	0	0 to 10 V DC	0	1
			1	–10 to +10 V DC		
206	H5-01	Serial Communication Address		0 to 1Fh	1Fh	1
207	H5-02	Serial Communication Baud Rate	0	1200 bps	3	1
			1	2400 bps		
			2	4800 bps		
			3	9600 bps		
208	H5-03	Serial Communication Parity Selection	0	No Parity	0	1
			1	Even Parity		
			2	Odd Parity		
209	H5-04	Stopping Method after Serial Communication Error	0	Ramp to Stop	3	1
			1	Coast to Stop		
			2	Fast-Stop		
			3	Alarm Only		

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “H Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
210	H5-05	Communication Error (CE) Detection Selection	0	Disabled	1	1
			1	Enabled		

Notes:
1. Initial Value in the parentheses are values obtained at a 3-wire initialization.

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “L Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
211	L1-01	Motor Overload Protection Selection	0	Disabled	1	1
			1	Enabled		
212	L1-02	Motor Overload Protection Time Constant		0.1 to 5.0 minutes	1.0	0.1
213	L2-01	Momentary Power Loss Detection Selection	0	Disabled	0	1
			1	Power Loss Ride-thru		
			2	CPU Power Active		
214	L2-02	Momentary Power Loss Ride-thru Time		0.0 to 2.0 seconds	**(1)**	0.1
215	L2-03	Momentary Power Loss Minimum Base Block Time		0.0 to 5.0 seconds	**(1)**	0.1
216	L2-04	Momentary Power Loss Recovery Ramp Time		0.0 to 2.0 seconds	0.3	0.1
217	L2-05	Undervoltage Detection Level		150 to 210V (230V unit) 300 to 420V (460V unit)	190 380	1
218	L2-06	KEB Frequency		0.0 to 100.0%	0.0	0.1
219	L3-01	Stall Prevention Selection during Acceleration	0	Disabled	1	1
			1	General-purpose		
			2	Intelligent **(2)**		
220	L3-02	Stall Prevention Level during Accel		0 to 200%	170	1
221	L3-03	Stall Prevention Level during Accel (CHP)		0 to 100%	**(3)**	1
222	L3-04	Stall Prevention Selection during Deceleration	0	Disabled	1	1
			1	General-purpose		
			2	Intelligent **(2)**		
223	L3-05	Stall Prevention Selection during Running	0	Disabled	1	1
			1	Decel time 1		
			2	Decel time 2		
224	L3-06	Stall Prevention Level during Running		30 to 200%	160	1

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “L Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
225	L4-01	Speed Coincidence Frequency		0.0 to 400.0 Hz	0.0	0.1
226	L4-02	Speed Coincidence Width		0.0 to 20.0 Hz	2.0	0.1
227	L4-03	Speed Coincidence Frequency (+/-)		–400.0 to +400.0 Hz	0.0	0.1
228	L4-04	Speed Coincidence Width (+/-)		0.0 to 20.0 Hz	2.0	0.1
229	L4-05	Frequency Reference Loss Detection	0	Stop	0	1
			1	Run at 80% of Frequency Reference		
230	L5-01	Number of Auto Restart Attempts		0 to 10	0	1
231	L5-02	Auto Restart Operation Selection	0	No Fault Relay	0	1
			1	Fault Relay Active		
232	L6-01	Torque Detection Selection 1	0	Disabled	0	1
			1	Detected during Speed Agree (operation continues)		
			2	Detected during Running (operation continues)		
			3	Detected during Speed Agree (drive faults)		
			4	Detected during Running (drive faults)		
233	L6-02	Torque Detection Level 1		0 to 300%	150	1
234	L6-03	Torque Detection Time 1		0.0 to 10.0 seconds	0.1	0.1
235	L6-04	Torque Detection Selection 2	0	Disabled	0	1
			1	Detected during Speed Agree (operation continues)		
			2	Detected during Running (operation continues)		
			3	Detected during Speed Agree (drive faults)		
			4	Detected during Running (drive faults)		

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “L Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
236	L6-05	Torque Detection Level 2		0 to 300%	150	1
237	L6-06	Torque Detection Time 2		0.0 to 10.0 seconds	0.1	0.1
238	L7-01	Forward Torque Limit		0 to 300%	200	1
239	L7-02	Reverse Torque Limit		0 to 300%	200	1
240	L7-03	Forward Regenerative Torque Limit		0 to 300%	200	1
241	L7-04	Reverse Regenerative Torque Limit		0 to 300%	200	1
242	L8-01	Internal Dynamic Braking Resistor Protection	0	Not Provided	0	1
			1	Provided		
243	L8-02	oH (Overheat) Protection Alarm Level		50 to 110 °C	100	1
244	L8-03	Operation Selection after oH (Overheat) Pre-alarm	0	Ramp to Stop	3	1
			1	Coast to Stop		
			2	Fast-stop		
			3	Alarm Only		
245	L8-05	Input Open-phase Protection Selection	0	Disabled	0	1
			1	Enabled		
246	L8-07	Output Open-phase Protection Selection	0	Disabled	0	1
			1	Enabled		

Notes:
1. Initial value differs depending on drive capacity.
2. When Vector Control (A1-02 = 2 or 3) is selected, set value 2 (intelligent) cannot be used.
3. Initial value differs depending on control method (A1-02).

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “o Parameters”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
247	o1-01	Monitor Selection		4 to 28,32,33 **(2)**	6	1
248	o1-02	Monitor Selection after Power-up	1	Frequency Reference	1	1
			2	Output Frequency		
			3	Output Current		
			4	Selected Monitor		
249	o1-03	Digital Operator Display Selection		0 to 39999	0	1
250	o1-04	Digital Operator Display Units	0	Hz	0	1
			1	RPM		
251	o1-05	Parameter / Address Display Selection	0	Parameter Number	0	1
			1	Modbus Address		
252	o2-01	LOCAL / REMOTE Key Selection	0	Disabled	1	1
			1	Enabled		
253	o2-02	STOP Key Function during Remote Run	0	Disabled	1	1
			1	Enabled		
254	o2-03	User Parameter Default Value	0	Disabled	0	1
			1	Set Default		
			2	Clear all		
255	o2-04	kVA Selection (Drive Model No.)		0 to FFh	**(1)**	1
256	o2-05	Digital Operator “Motor Operated Pot”	0	Drive accepts freq. after ENTER key	0	1
			1	Drive accepts freq. immediately		
257	o2-06	Operation Selection when Digital Operator is disconnected	0	Disabled (operation continues)	0	1
			1	Enabled (motor coast to stop; fault)		
258	o2-07	Elapsed Operating Hour Timer Set		0 to 65535 hours	0	1

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “o Parameters” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Default Value	Increment
259	o2-08	Elapsed Operating Hour Timer Selection	0	Timer active when power applied to drive	0	1
			1	Timer active when drive is in run mode		
260	o2-09	Initialization Mode Selection	0	Japanese Spec.	1	1
			1	American Spec.		
			2	European Spec.		
			3	Omron Spec.		

Notes:
1. Not initialized. Initial value differs depending on the drive capacity.
2. Range shown is for flash software version ‘1030’ and CPU version ‘30’. Range differs for software version ‘1024’ and CPU version ‘20’ and previous versions.

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “U1 Monitor”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
261R	U1-01	Frequency Reference		Frequency Reference **(1)**	0.1 Hz
262R	U1-02	Output Frequency		Output Frequency of drive **(1)**	0.1 Hz
263R	U1-03	Output Current		Drive Output Curren	
264R	U1-04	Control Method	0	V/f Control	
			1	V/f with PG Feedback	
			2	Open Loop Vector	
			3	Flux Vector	
265R	U1-05	Motor Speed		Motor Speed	0.1 Hz
266R	U1-06	Output Voltage		Output Voltage	0.1 V
267R	U1-07	DC Bus Voltage		DC Bus Voltage	1 V
268R	U1-08	Output Power		Output Power	0.1 kW
269R	U1-09	Torque Reference		Torque Reference	0.1%
270R	U1-10	Input Terminal Status	0	Input Terminal 1 closed	
			1	Input Terminal 2 closed	
			2	Input Terminal 3 closed	
			3	Input Terminal 4 closed	
			4	Input Terminal 5 closed	
			5	Input Terminal 6 closed	
			6	Input Terminal 7 closed	
			7	Input Terminal 8 closed	
271R	U1-11	Output Terminal Status	0	Control Circuit terminals 9 & 10: “Closed”	
			1	Control Circuit terminals 25 & 27: “Closed”	
			2	Control Circuit terminals 26 & 27: “Closed”	
			3	Not Used	
			4	Not Used	
			5	Not Used	
			6	Not Used	
			7	Control Circuit terminals 18 & 20: “Closed”	

(1) Scaling depends on the setting of o1-03.

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “U1 Monitor” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
272R	U1-12	Operation Status	0	Run	
			1	Zero-Speed	
			2	Reverse Run	
			3	Reset Signal Input	
			4	Speed Agree	
			5	Drive Operation Ready	
			6	Minor Fault	
			7	Major Fault	
273R	U1-13	Elapsed Time		Hours	1
274R	U1-14	Software No. (CPU ID No.)		Software version number	1
275R	U1-15	Control Circuit Terminal 13 Input Voltage		Input voltage signal at terminal 13 (+10V / +100.0% ~ -10V / -100.0%)	0.1%
276R	U1-16	Control Circuit Terminal 14 Input Voltage		Input voltage or mAmp signal at terminal 14 (+10V / +100.0% ~ -10V / -100.0%) or (4mA / 0.0% ~ 20mA / 100.0%)	0.1%
277R	U1-17	Control Circuit Terminal 16 Input Voltage		Input voltage signal at terminal 16 (+10V / +100.0% ~ -10V / -100.0%)	0.1%
278R	U1-18	Motor Secondary Current (Iq)		Motor Secondary Current-Iq	0.1%
279R	U1-19	Motor Exciting Current (Id)		Motor Rated Primary Current-Id	0.1%
280R	U1-20	Output Frequency after Soft-start		Max. Output Frequency	0.1 Hz
281R	U1-21	Automatic Speed Regulator (ASR) Input		ASR Input	0.01%
282R	U1-22	Automatic Speed Regulator (ASR) Output		ASR Output	0.01%
283R	U1-23	Speed Deviation Regulator Input		Speed Deviation Regulator Input	0.01%
284R	U1-24	PID Feedback Amount		PID Feedback Amount	0.01%
285R	U1-25	DI - 16 H Input Status		displays an input value according to the setting of F3-01	
286R	U1-26	Output Voltage Reference Vq		Output Voltage-Vq	0.1V
287R	U1-27	Output Voltage Reference Vd		Output Voltage-Vd	0.1V
288R	U1-28	Software No. CPU		processor version number	1

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “U2 and U3 Monitor”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
289R	U2-01	Current Fault		Code of current fault **(1)**	
290R	U2-02	Last Fault		Code of second to current fault **(1)**	
291R	U2-03	Frequency Ref. at Fault		Frequency Reference at the time of the current fault (0.0 to 400.0 Hz)	0.1 Hz
292R	U2-04	Output Frequency at Fault		Output Frequency at the time of current fault (0.0 to 400.0 Hz)	0.1 Hz
293R	U2-05	Output Current at Fault		Output Current at the time of current fault	
294R	U2-06	Motor Speed at Fault		Motor Speed at the time of current fault	0.1 Hz
295R	U2-07	Output Voltage at Fault		Output Voltage at the time of current fault	0.1 V
296R	U2-08	DC Bus Voltage at Fault		Output Voltage at the time of current fault	1 V
297R	U2-09	Output kWatts at Fault		Output Power at the time of current fault	0.1 kW
298R	U2-10	Torque Reference at Fault		Torque Reference at the time of current fault	0.1%
299R	U2-11	Input Terminal Status at Fault	0	Input Terminal 1 closed at time of fault	
			1	Input Terminal 2 closed at time of fault	
			2	Input Terminal 3 closed at time of fault	
			3	Input Terminal 4 closed at time of fault	
			4	Input Terminal 5 closed at time of fault	
			5	Input Terminal 6 closed at time of fault	
			6	Input Terminal 7 closed at time of fault	
			7	Input Terminal 8 closed at time of fault	
300R	U2-12	Output Terminal Status at Fault	0	Control Circuit terminals 9 & 10: “Closed”	
			1	Control Circuit terminals 25 & 27: “Closed”	
			2	Control Circuit terminals 26 & 27: “Closed”	
			3	Not Used	
			4	Not Used	
			5	Not Used	
			6	Not Used	
			7	Control Circuit terminals 18 & 20: “Closed”	

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “U2 and U3 Monitor” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
301R	U2-13	Drive Status at Fault	0	Running at the time of fault	
			1	Zero-Speed at the time of fault	
			2	Reverse Running at the time of fault	
			3	Reset Signal Input at the time of fault	
			4	Speed Agree at the time of fault	
			5	Drive Operation Ready at the time of fault	
			6	Minor Fault	
			7	Major Fault	
302R	U2-14	Elapsed Time at Fault		Elapsed Time at the time of fault (in hrs.)	1 hour
303R	U3-01	Last Fault		Code of the most recent fault	
304R	U3-02	Fault Message 2		Code of the second to most recent fault	
305R	U3-03	Fault Message 3		Code of the third to most recent fault	
306R	U3-04	Fault Message 4		Code of the fourth to most recent fault	
307R	U3-05	Elapsed Time 1		Elapsed Time at the most recent fault occurrence	1 hour
308R	U3-06	Elapsed Time 2		Elapsed Time at the second to most recent fault occurrence	1 hour
309R	U3-07	Elapsed Time 3		Elapsed Time at the third to most recent fault occurrence	1 hour
310R	U3-08	Elapsed Time 4		Elapsed Time at the fourth to most recent fault occurrence	1 hour

Notes:
1. List of Drive Error Codes can be found in Chapter 12, Diagnostics and Troubleshooting.

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “Status”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
311R	N/A	GPD 515 Status	0	Drive is Running	
			1	Drive is at Zero Speed	
			2	Drive is Running Reverse	
			3	Drive Reset is Active	
			4	Drive Speed Agrees with Reference	
			5	Drive is Ready	
			6	Drive is in Alarm Condition	
			7	Drive is in Fault Condition	
			8	Not Used	
			9	During Momentary Power Loss Ride-Thru	
			10	Local / Remote	
			11	Terminal 9/10 Output	
			12	Terminal 25 Output	
			13	Terminal 26 Output	
			14	Motor Selection	
			15	Zero Servo Complete	
312R	N/A	Motor Speed		Motor Speed - same as U1-05 **(1)**	0.1 Hz
313R	N/A	Torque Reference		Torque Reference - same as U1-09	0.1%
314R	N/A	PG Count			
315R	N/A	Speed Reference		Frequency Reference - same as U1-01 **(1)**	0.1 Hz
316R	N/A	Output Frequency		Output Frequency of drive - same as U1-02 **(1)**	0.1 Hz
317R	N/A	Output Current		Drive Ouptut Current **(2)**	0.01 Amps
318R	N/A	AI - Control Circuit Term 14 Input Voltage		Input voltage signal at Terminal 14 (+10V / +100.0% to –10V / –100.0%) - same as U1-16	0.1%
319R	N/A	DC Bus Voltage		DC Bus Voltage - same as U1-07	1 V

Notes:
1. Scaling depends on the setting of o1-03.
2. Scaling of Output Current display is dependent on drive rating.

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “Status” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
320R	N/A	Fault Content 1	0	PUF - Fuse Blown	
			1	UV1 - Undervoltage Detection	
			2	UV2 - Control Power Supply Undervoltage	
			3	UV3 - Main Circuit Answerback	
			4	SC - Short Circuit	
			5	GF - Ground fault	
			6	OC - Overcurrent	
			7	OV - Overvoltage	
			8	OH - Heatsink Overtemperature	
			9	OH 1- Drive Overheat	
			10	OL1 - Electronic Thermal Motor Overload detected	
			11	OL2 - Drive Overload, Operated at 150% for 1 min.	
			12	OL3 - Overtorque 1 Detection	
			13	OL4 - Overtorque 2 Detection	
			14	RR - Dynamic Braking Transistor	
			15	RH - Dynamic Braking Resistor	
321R	N/A	Fault Content 2	0	EF3 - External Fault at terminal 3	
			1	EF4 - External Fault at terminal 4	
			2	EF5 - External Fault at terminal 5	
			3	EF6 - External Fault at terminal 6	
			4	EF7 - External Fault at terminal 7	
			5	EF8 - External Fault at terminal 8	
			6	FAN - Cooling Fan Fault	
			7	OS - Overspeed	
			8	DEV - Speed Deviation	
			9	PGO - PG Open	
			10	PF - Input Phase Loss	
			11	LF - Output Phase Loss	
			12	Not Used	

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “Status” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
321R		(continued)	13	OPR - Digital Operator Disconnected	
			14	ERR - EEPROM Write-in Fault	
			15	Not Used	
322R	N/A	Fault Content 3	0	CE - Modbus Communications Error	
			1	BUS - Option Communications Error	
			2	EF0 - Option External Fault	
			3	Not Used	
			4	CF - Control Fault	
			5	SVE - Zero Servo Fault	
			6	Not Used	
			7	Not Used	
			8	Not Used	
			9	Not Used	
			10	Not Used	
			11	Not Used	
			12	Not Used	
			13	Not Used	
			14	Not Used	
			15	CPF - Control Circuit Fault	
323R		AI - Control Circuit Term 16 Input Voltage		Input voltage signal at Terminal 16 (+10V / +100.0% to –10V / –100.0%) - same as U1-17	0.1%
324R	N/A	DI - Input Terminal Status (same as U1-10)	0	Input Terminal 1 closed	
			1	Input Terminal 2 closed	
			2	Input Terminal 3 closed	
			3	Input Terminal 4 closed	
			4	Input Terminal 5 closed	
			5	Input Terminal 6 closed	
			6	Input Terminal 7 closed	
			7	Input Terminal 8 closed	

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “Status” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
325	N/A	AI - Control Circuit Term 13 Input Voltage		Input voltage singla at Terminal 12 (+10V / +100.0% to –10V / –100.0%) - same as U1-15	0.1%
326R	N/A	PG Count Channel 2			
327R	N/A	Operator Status	0	OPE Error	
			1	Not Used	
			2	Program Mode	
			3	1CN Status, LSB	
			4	1CN Status, MSB	
			5	Not Used	
			6	Not Used	
			7	Not Used	
328R	N/A	OPE No.		OPE Error Code (OPE01=1, OPE02=2, OPE03=3)	
329R	N/A	CPF Content 1	0	Not Used	
			1	Not Used	
			2	CPF02 - Baseblock Circuit Failure	
			3	CPF03 - EEPROM Fault	
			4	CPF04 - Internal A/D Fault	
			5	CPF05 - External A/D Fault	
			6	CPF06 - Option Error	
			7	Not Used	
330R	N/A	CPF Content 2	0	CPF20 - A/D converter fault in Analog Speed Ref Card	
			1	CPF21 - Option CPU Error	
			2	CPF22 - Option Type Error	
			3	CPF23 - DP-Ram Fault	
			4	Not Used	
			5	Not Used	
			6	Not Used	
			7	Not Used	

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “Status” (continued)

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits / Setting Definition		Increment
331R	N/A	Minor Fault Content 1	0	UV - Undervoltage Detection	
			1	OV - Overvoltage Detection	
			2	OH - Heatsink Overtemperature	
			3	OH1- Drive Overheat	
			4	OL3 - Overtorque 1 Detection	
			5	OL4 - Overtorque 2 Detection	
			6	EF - 2-wire Sequence Input Fault	
			7	BB - External Baseblock	
			8	EF3 - External Fault at terminal 3	
			9	EF4 - External Fault at terminal 4	
			10	EF5 - External Fault at terminal 5	
			11	EF6 - External Fault at terminal 6	
			12	EF7 - External Fault at terminal 7	
			13	EF8 - External Fault at terminal 8	
			14	FAN - Cooling Fan Fault	
			15	OS - Overspeed	
332R	N/A	Minor Fault Content 2	0	DEV - Speed Deviation	
			1	PGO - PG Open	
			2	OPR - Digital Operator Disconnected	
			3	CE - Modbus Communications Error	
			4	Not Used	
			5	Not Used	
			6	OL1 - Electronic Thermal Motor Overload detected	
			7	OL2 - Drive Overload, Operated at 150% for 1 min.	

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Parameter Group “ACCEPT/ENTER”

EDS Param#	GPD 515 Parameter	Parameter Name	Definition	Default Value	Increment	See TM4556 SECTION
333	N/A	ACCEPT Command	Writing this parameter to a GPD 515 will save the current values of all GPD515 parameters (A1-00 through o1-09) to RAM memory on the GPD 515. Values saved in RAM memory will not be retained in case of power loss to the GPD 515.	N/A	N/A	Chapter 7
334	N/A	ENTER Command	Writing this parameter to a GPD 515 will save the current values of all GPD 515 parameters (A1-00 through o1-09) to the EEPROM memory on the GPD 515. Values saved in EEPROM memory will be retained in case of power loss to the GPD 515.	N/A	N/A	Chapter 7

Parameter Group “Serial Number”

EDS Param#	GPD 515 Parameter	Parameter Name	Data Limits	Default Value	Increment
335R	N/A	GPD 515 Serial Number	Each GPD 515 drive will be have a unique serial number which is factory set.	N/A	N/A

NOTE: An ‘R’ next to the EDS parameter number indicates READ-ONLY

Appendix B
GPD 515 Assemblies

- Output Assemblies
- Input Assemblies

Output Assemblies										
Assembly	# of Bytes	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
20	4 bytes	0						Fault Reset		Run Forward
Basic Speed Command		1								
		2	Speed Reference in RPM (Low Byte)							
		3	Speed Reference in RPM (High Byte)							
21	4 bytes	0		Network Reference	Network Control			Fault Reset	Run Reverse	Run Forward
Extended Speed Command		1								
		2	Speed Reference in RPM (Low Byte)							
		3	Speed Reference in RPM (High Byte)							
22	6 bytes	0						Fault Reset		Run Forward
Basic Speed/ Torque Command		1								
		2	Speed Reference in RPM (Low Byte)							
		3	Speed Reference in RPM (High Byte)							
		4	Torque Reference in N-m*(2^torque_scale) (Low Byte)							
		5	Torque Reference in N-m*(2^torque_scale) (High Byte)							
23	6 bytes	0		Network Reference	Network Control			Fault Reset	Run Reverse	Run Forward
Extended Speed/ Torque Command		1								
		2	Speed Reference in RPM (Low Byte)							
		3	Speed Reference in RPM (High Byte)							
		4	Torque Reference in N-m*(2^torque_scale) (Low Byte)							
		5	Torque Reference in N-m*(2^torque_scale) (High Byte)							

Output Assemblies - continued										
Assembly	# of Bytes	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
120 MagneTek Speed Command 1	4 bytes	0	Terminal 8 Function	Terminal 7 Function	Terminal 6 Function	Terminal 5 Function	Terminal 4 Function	Terminal 3 Function	Run Reverse	Run Forward
		1							Fault Reset	External Fault
		2	Speed Reference in Hz X 100 (Low Byte) *2							
		3	Speed Reference in Hz X 100 (High Byte) *2							
121 MagneTek Torque Command 1	4 bytes	0	Terminal 8 Function	Terminal 7 Function	Terminal 6 Function	Terminal 5 Function	Terminal 4 Function	Terminal 3 Function	Run Reverse	Run Forward
		1							Fault Reset	External Fault
		2	Torque Reference % of rated X 10 (Low Byte)							
		3	Torque Reference % of rated X 10 (High Byte)							
122 MagneTek Speed Command 2	6 bytes	0	Terminal 8 Function	Terminal 7 Function	Terminal 6 Function	Terminal 5 Function	Terminal 4 Function	Terminal 3 Function	Run Reverse	Run Forward
		1							Fault Reset	External Fault
		2	Speed Reference in Hz X 100 (Low Byte) *2							
		3	Speed Reference in Hz X 100 (High Byte) *2							
		4	Network Reference (b1-01)							
		5	Network Control (b1-02)							
123 MagneTek Torque Command 2	6 bytes	0	Terminal 8 Function	Terminal 7 Function	Terminal 6 Function	Terminal 5 Function	Terminal 4 Function	Terminal 3 Function	Run Reverse	Run Forward
		1							Fault Reset	External Fault
		2	Torque Reference % of rated X 10 (Low Byte)							
		3	Torque Reference % of rated X 10 (High Byte)							
		4	Network Reference (b1-01)							
		5	Network Control (b1-02)							

Output Assemblies - continued										
Assembly	# of Bytes	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
126 MagneTek Speed and Torque Command 1	8 bytes	0	Terminal 8 Function	Terminal 7 Function	Terminal 6 Function	Terminal 5 Function	Terminal 4 Function	Terminal 3 Function	Run Reverse	Run Forward
		1							Fault Reset	External Fault
		2	Speed Reference in Hz X 100 (Low Byte) *2							
		3	Speed Reference in Hz X 100 (High Byte) *2							
		4	Torque Reference % of rated X 10 (Low Byte)							
		5	Torque Reference % of rated X 10 (High Byte)							
		6	Torque Compensation % of rated X 10 (Low Byte)							
		7	Torque Compensation % of rated X 10 (High Byte)							

Input Assemblies										
Assembly	# of Bytes	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
70	4 bytes	0						Running Forward		Drive Fault
Basic Speed Status		1								
		2	Actual Speed in RPM (Low Byte)							
		3	Actual Speed in RPM (High Byte)							
71	4 bytes	0	At Reference	Reference from Net	Control from Net	Drive Ready	Running Reverse	Running Forward	Drive Warning	Drive Fault
Extended Speed Status		1	Drive State							
		2	Actual Speed in RPM (Low Byte)							
		3	Actual Speed in RPM (High Byte)							
72	6 bytes	0						Running Forward		Drive Fault
Basic Speed/ Torque Status		1								
		2	Actual Speed in RPM (Low Byte)							
		3	Actual Speed in RPM (High Byte)							
		4	Actual Torque N-m*(2^torque_scale) (Low Byte)							
		5	Actual Torque N-m*(2^torque_scale) (High Byte)							
73	6 bytes	0	At Reference	Reference from Net	Control from Net	Drive Ready	Running Reverse	Running Forward	Drive Warning	Drive Fault
Extended Speed/ Torque Status		1	Drive State							
		2	Actual Speed in RPM (Low Byte)							
		3	Actual Speed in RPM (High Byte)							
		4	Actual Torque N-m*(2^torque_scale) (Low Byte)							
		5	Actual Torque N-m*(2^torque_scale) (High Byte)							

Input Assemblies - continued										
Assembly	# of Bytes	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
130 MagneTek Speed Status 1	4 bytes	0	Drive Fault	Drive Alarm	Drive Ready	At Speed	Fault Reset Active	Drive Reversing	At Zero Speed	Running
		1	Zero Servo Complete	Motor Selection	Term 26 Output	Term 25 Output	Term 9,10 Output	Local/ Remote	During Ride-Thru	
		2	Actual Speed in Hz X 100 (Low Byte) *2							
		3	Actual Speed in Hz X 100 (High Byte) *2							
131 MagneTek Current Status 1	4 bytes	0	Drive Fault	Drive Alarm	Drive Ready	At Speed	Fault Reset Active	Drive Reversing	At Zero Speed	Running
		1	Zero Servo Complete	Motor Selection	Term 26 Output	Term 25 Output	Term 9,10 Output	Local/ Remote	During Ride-Thru	
		2	Actual Current in Amps X 100 (Low Byte) *1							
		3	Actual Current in Amps X 100 (High Byte) *1							
132 MagneTek Current and Speed Status 1	6 bytes	0	Drive Fault	Drive Alarm	Drive Ready	At Speed	Fault Reset Active	Drive Reversing	At Zero Speed	Running
		1	Zero Servo Complete	Motor Selection	Term 26 Output	Term 25 Output	Term 9,10 Output	Local/ Remote	During Ride-Thru	
		2	Actual Current in Amps X 100 (Low Byte) *1							
		3	Actual Current in Amps X 100 (High Byte) *1							
		4	Actual Speed in Hz X 100 (Low Byte) *2							
		5	Actual Speed in Hz X 100 (High Byte) *2							

Input Assemblies - continued										
Assembly	# of Bytes	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
136 MagneTek Torque and Speed Status	8 bytes	0	Drive Fault	Drive Alarm	Drive Ready	At Speed	Fault Reset Active	Drive Reversing	At Zero Speed	Running
		1	Zero Servo Complete	Motor Selection	Term 26 Output	Term 25 Output	Term 9,10 Output	Local/ Remote	During Ride-Thru	
		2	Actual Torque % X 10 (Low Byte)							
		3	Actual Torque % X 10 (High Byte)							
		4	Motor Speed in Hz X 100 (Low Byte)							
		5	Motor Speed in Hz X 100 (High Byte)							
		6	Speed Reference in Hz X 100 (Low Byte)							
		7	Speed Reference in Hz X 100 (High Byte)							

Notes:

*1 Actual Current is given in Amps X 100 (For example 1000 = 10.00 Amps) for models GPD515C-A003 thru -A033 and -B001 thru -B021. Actual Current is given in Amps X 10 (For example 100 = 10.0 Amps) for models GPD515C-A049 thru -A300 and B027 thru -B605. This value is based on the continuous rated current of the particular drive model.

*2 Speed Reference and Actual Speed are given in Hz X 100 (For example 2000 = 20.00 Hz)

Appendix C
DeviceNet Object Paths

- Identity Class
- DeviceNet Class
- Assembly Class
- Connection Class
- Motor Class
- Control Supervisor Class
- AC Drive Class
- GPD 515 Command Class
- GPD 515 Status Class
- GPD 515 U Parameters Class
- GPD 515 A Parameters Class
- GPD 515 b Parameters Class
- GPD 515 C Parameters Class
- GPD 515 d Parameters Class
- GPD 515 E Parameters Class
- GPD 515 F Parameters Class
- GPD 515 H Parameters Class
- GPD 515 L Parameters Class
- GPD 515 o Parameters Class

Identity Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
1 / 0 / 1	GET	uint	2	Identity Object Revision	The DeviceNet specification revision of the Identity Object
1 / 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
1 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
1 / 1 / 1	GET	uint	2	Vendor ID Number	The MagneTek vendor ID is 37
1 / 1 / 2	GET	uint	2	Device Type	The AC Drive device type is 2
1 / 1 / 3	GET	uint	2	Product Code	The GPD 515 product code depends on the drive model 22003 = A003 22006 = A006 22008 = A008 22011 = A011 22017 = A017 22025 = A025 22033 = A033 22049 = A049 22064 = A064 22080 = A080 22130 = A130 22160 = A160 22224 = A224 22300 = A300 24001 = B001 24003 = B003 24004 = B004 24008 = B008 24011 = B011 24014 = B014 24021 = B021 24027 = B027 24034 = B034 24041 = B041 24052 = B052 24065 = B065 24080 = B080 24096 = B096 24128 = B128 24165 = B165 24224 = B224 24302 = B302 24450 = B450 24605 = B605
1 / 1 / 4	GET	structure	1	Vendor Product Revision	The Interface software major and minor revision.
1 / 1 / 5	GET	word	2	Device Status	Bit 0: Owned by a master Bit 1: Reserved Bit 2: Configured Bit 8: Minor/recoverable fault Bit 9: Minor/unrecoverable fault Bit 10: Major/recoverable fault Bit 11: Major/unrecoverable fault
1 / 1 / 6	GET	udint	4	Serial Number	Serial number of the GPD 515.
1 / 1 / 7	GET	string	-	Product Name	This string will consist of ìGPD515C- î followed by the drive model number ìAxxx".
1 / 1 / 8	GET	usint	1	State	0: Non-existent 1: Device Self Teseting 2: Standby 3: Operational 4: Major Recoverable Fault 5: Major Unrecoverable Fault
1 / 1 / 100	GET/SET	dword	4	Serial Number Password	Access limited to MagneTek factory use.

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes	
3 / 0 / 1	GET	uint	2	DeviceNet Object Revision	The DeviceNet specification revision of the DeviceNet Object	
3 / 1 / 5	GET	word	2	Allocation Choice Byte	This byte indicates which master/slave connections are active.	
					BIT 0	Explicit
					BIT 1	Polled
					BIT 2	Bit-Strobe
					BIT 3	Reserved
					BIT 4	Change-of-State
					BIT 5	Cyclic
					BIT 6	Acknowledge Suppression
					BIT 7	Reserved

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

Assembly Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
4 / 0 / 1	GET	uint	2	Assembly Object Revision	The DeviceNet specification revision of the Assembly Object
4 / 0 / 2	GET	uint	2	Max Instance in this Class	135
4 / 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
4 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
4 / 20 / 3	SET	structure	4	Basic Speed Command	See Appendix B
4 / 21 / 3	SET	structure	4	Extended Speed Command	See Appendix B
4 / 22 / 3	SET	structure	6	Basic Speed and Torque Command	See Appendix B
4 / 23 / 3	SET	structure	6	Extended Speed and Torque Command	See Appendix B
4 / 24 / 3		structure	6	Basic Process Control Command	
4 / 25 / 3		structure	6	Extended Process Control Command	
4 / 70 / 3	GET	structure	4	Basic Speed Status	See Appendix B
4 / 71 / 3	GET	structure	4	Extended Speed Status	See Appendix B
4 / 72 / 3	GET	structure	6	Basic Speed and Torque Status	See Appendix B
4 / 73 / 3	GET	structure	6	Extended Speed and Torque Status	See Appendix B
4 / 74 / 3		structure	6	Basic Process Control Status	
4 / 75 / 3		structure	6	Extended Process Control Status	
4 / 120 / 3	SET	structure	4	MagneTek Speed Command 1	See Appendix B
4 / 121 / 3	SET	structure	4	MagneTek Torque Command 1	See Appendix B
4 / 122 / 3	SET	structure	6	MagneTek Speed Command 2	See Appendix B
4 / 123 / 3	SET	structure	6	MagneTek Torque Command 2	See Appendix B
4 / 126 / 3	SET	structure	8	MagneTek Speed and Torque Command 1	See Appendix B
4 / 130 / 3	GET	structure	4	MagneTek Speed Status 1	See Appendix B
4 / 131 / 3	GET	structure	4	MagneTek Current Status 1	See Appendix B
4 / 132 / 3	GET	structure	6	MagneTek Current & Speed Status 1	See Appendix B
4 / 136 / 3	GET	structure	8	MagneTek Speed and Torque Status 1	See Appendix B

✸ Assemblies 20, 21, 22, 23, 24, 25, 70, 71, 72, 73, 74 and 75 are compliant with the AC Drive Profile. Assemblies 20 and 70 are required.

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

Connection Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes	
5 / 0 / 1	GET	uint	2	Connection Object Revision	The DeviceNet specification revision of the Connection Object	
5 / 1 / 1	GET	usint	1	State	0	Non-existent
					1	Configuring
					2	Waiting for Connection ID
					3	Established
					4	Timed Out
5 / 1 / 2	GET	usint	1	Instance Type	0 = Explicit Message Connection	
5 / 1 / 3	GET	usint	1	Transport Class Trigger	See DeviceNet Specification	
5 / 1 / 4	GET	uint	2	Produced Connection ID	See DeviceNet Specification	
5 / 1 / 5	GET	uint	2	Consumed Connection ID	See DeviceNet Specification	
5 / 1 / 6	GET	usint	1	Initial Communication Characteristics	See DeviceNet Specification	
5 / 1 / 7	GET	uint	2	Produced Connection Size	See DeviceNet Specification	
5 / 1 / 8	GET	uint	2	Consumed Connection Size	See DeviceNet Specification	
5 / 1 / 9	GET/SET	uint	2	Expected Packet Rate	See DeviceNet Specification	
5 / 1 / 10					Not Defined	
5 / 1 / 11					Not Defined	
5 / 1 / 12	GET	usint	1	Timeout Action	See DeviceNet Specification	
5 / 1 / 13	GET	uint	2	Produced Connection Path Length	See DeviceNet Specification	
5 / 1 / 14	GET	array	6	Produced Connection Path	See DeviceNet Specification	
5 / 1 / 15	GET	uint	2	Consumed Connection Path Length	See DeviceNet Specification	
5 / 1 / 16	GET	array	6	Consumed Connection Path	See DeviceNet Specification	
5 / 1 / 17	GET	uint	2	Production Inhibit Time	See DeviceNet Specification	

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

Connection Class (continued)

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes	
5 / 2 / 1	GET	usint	1	State	0	Non-existent
					1	Configuring
					2	Waiting for Connection ID
					3	Established
					4	Timed Out
5 / 2 / 2	GET	usint	1	Instance Type	1 = Polled I/O Message Connection	
5 / 2 / 3	GET	usint	1	Transport Class Trigger	See DeviceNet Specification	
5 / 2 / 4	GET	uint	2	Produced Connection ID	See DeviceNet Specification	
5 / 2 / 5	GET	uint	2	Consumed Connection ID	See DeviceNet Specification	
5 / 2 / 6	GET	usint	1	Initial Communication Characteristics	See DeviceNet Specification	
5 / 2 / 7	GET	uint	2	Produced Connection Size	See DeviceNet Specification	
5 / 2 / 8	GET	uint	2	Consumed Connection Size	See DeviceNet Specification	
5 / 2 / 9	GET/SET	uint	2	Expected Packet Rate	See DeviceNet Specification	
5 / 2 / 10					Not Defined	
5 / 2 / 11					Not Defined	
5 / 2 / 12	GET	usint	1	Timeout Action	See DeviceNet Specification	
5 / 2 / 13	GET	uint	2	Produced Connection Path Length	See DeviceNet Specification	
5 / 2 / 14	GET	structure	6	Produced Connection Path	See DeviceNet Specification	
5 / 2 / 15	GET	uint	2	Consumed Connection Path Length	See DeviceNet Specification	
5 / 2 / 16	GET	structure	6	Consumed Connection Path	See DeviceNet Specification	
5 / 2 / 17	GET	uint	2	Production Inhibit Time	See DeviceNet Specification	
5 / 2 / 100	GET/SET	usint	1	Produced Connection Path	See Chapter 7	
5 / 2 / 101	GET/SET	usint	1	Consumed Connection Path	See Chapter 7	

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

Motor Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes	
40 / 0 / 1	GET	uint	2	Motor Object Revision	The DeviceNet specification revision of the Motor Object	
40 / 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented	
40 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented	
40 / 1 / 1	GET	usint	1	Number of Motor Attributes Supported	7	
40 / 1 / 2		array	-	Motor Attribute List		
40 / 1 / 3	GET/SET	usint	1	Motor Type	0	Non-standard motor
					1	PM DC Motor
					2	FC DC Motor
					3	PM Synchronous Motor
					4	FC synchronous Motor
					5	Switched Reluctance Motor
					6	Wound Rotor Induction Motor
					7	Squirrel Cage Induction Motor
					8	Stepper Motor
					9	Sinusoidal PM BL Motor
					10	Trapezoidal PM BL Motor
40 / 1 / 4		string	-	Motor Catalog Number	Motor Manufacturerís Catalog Number	
40 / 1 / 5		string	-	Motor Manufacturer	Motor Manufacturerís Name	
40 / 1 / 6	GET/SET	uint	2	Motor Rated Current	Units: 0.1 Amps NOTE: This setting is not the same as GPD 515 parameter E2-01 (Path 107 / 1 / 15). The setting of 40 / 1 / 6 does not effect drive operation.	
40 / 1 / 7	GET/SET	uint	2	Motor Rated Voltage	Units: Volts	
40 / 1 / 8		udint	4	Motor Rated Power	Units: Watts	
40 / 1 / 9	GET/SET	uint	2	Motor Rated Frequency	Units: Hz	
40 / 1 / 10		uint	2	Motor Rated Temperature	Units: degrees C	
40 / 1 / 11	GET/SET	uint	2	Motor Maximum Speed	Units: RPM	
40 / 1 / 12		uint	2	Motor Pole Count	Number of poles of the motor	
40 / 1 / 13		udint	4	Motor Torque Constant	Units: 0.001 X Nm/A	
40 / 1 / 14		udint	4	Motor Rotor Inertia	Units: 10^{-6} X kg•m^2	
40 / 1 / 15	GET/SET	uint	2	Motor Base Speed	Units: RPM	
40 / 1 / 19		usint	1	Service Factor	Units: %	

✸ The Motor Class is required for compliance with the AC Drive Profile. Instance 1, Attributes 3, 6 and 7 are required. All other attributes are optional

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

Control Supervisor Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes	
41 / 0 / 1	GET	uint	2	Control Supervisor Object Revision	The DNet specification revision of this Object	
41 / 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented	
41 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented	
41 / 1 / 1	GET	usint	1	Number of Control Attributes Supported	13	
41 / 1 / 2		array	-	Control Supervisor Attribute List		
41 / 1 / 3	GET/SET	bool	1	Run 1	1	Run forward command
41 / 1 / 4	GET/SET	bool	1	Run 2	1	Run reverse command
41 / 1 / 5	GET/SET	bool	1	Network Control Enable	0 1	Control from Local Interface Control from DeviceNet
41 / 1 / 6	GET	usint	1	State	0	Vendor Specific
					1	Startup
					2	Not Ready
					3	Ready
					4	Enabled
					5	Stopping
					6	Fault Stop
					7	Faulted
41 / 1 / 7	GET	bool	1	Running 1	1	Drive is running in the forward direction
41 / 1 / 8	GET	bool	1	Running 2	1	Drive is running in the reverse direction
41 / 1 / 9	GET	bool	1	Ready	1	Drive is ready for operation
41/ 1 / 10	GET	bool	1	Faulted	1	Drive fault is active
41 / 1 / 11	GET	bool	1	Warning	1	Drive warning is active
41 / 1 / 12	GET/SET	bool	1	Fault Reset	1	Fault reset command
41 / 1 / 13		uint	2	Fault Code	See DeviceNet Specification	
41 / 1 / 14		uint	2	Warning Code	See DeviceNet Specification	
41 / 1 / 15	GET	bool	1	Network Control Enable Status	0	Control from Local Interface
					1	Control from DeviceNet
41 / 1 / 16		usint	1	DeviceNet Fault Mode	See DeviceNet Specification	
41 / 1 / 17		bool	1	Forced Fault	See DeviceNet Specification	
41 / 1 / 18		bool	1	Forced Fault Status	See DeviceNet Specification	
41 / 1 / 100	GET/SET	uint	2	Default Network Control	0	GPD 515 Digital Operator
					1	GPD 515 Terminals
					2	GPD 515 Serial Communications
					3	GPD 515 Option Board

✸ The Control Supervisor Class is required for compliance with the AC Drive Profile. Instance 1, Attributes 3, 7, 10 and 12 are required.

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

AC Drive Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes	
42 / 0 / 1	GET	uint	2	AC Drive Object Revision	The DeviceNet specification revision of the AC Drive Object	
42 / 0 / 2	GET	uint	2	Max Instance in this Class	1	
42 / 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented	
42 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented	
42 / 1 / 1	GET	usint	1	# of AC Drive Attributes Supported	23	
42 / 1 / 2		structure	-	AC Drive Attribute List		
42 / 1 / 3	GET	bool	1	At Reference	Drive is at set frequency	
42 / 1 / 4	GET/SET	bool	1	Network Speed Reference Enable	0	Speed Reference from Local Interface
					1	Speed Reference from DeviceNet
42 / 1 / 5		bool	1	Network Process Reference Enable	0	Process Reference not from DeviceNet
					1	Process Reference from DeviceNet
42 / 1 / 6	GET	usint	1	Drive Mode	0	Vendor Specific
					1	Open Loop Speed
					2	Closed Loop Speed
42 / 1 / 7	GET	int	2	Drive Actual Speed	Units: RPM / 2^{Speed_Scale}	
42 / 1 / 8	GET/SET	int	2	Drive Speed Reference	Units: RPM / 2^{Speed_Scale}	
42 / 1 / 9	GET	int	2	Drive Actual Current	Units: 0.1 Amps / $2^{Current\_Scale}$	
42 / 1 / 10	GET	int	2	Drive Current Limit	Units: 0.1 Amps / $2^{Current\_Scale}$	
42 / 1 / 11	GET	int	2	Drive Actual Torque	Units: Nm / 2^{Torque_Scale}	
42 / 1 / 12	GET/SET	int	2	Drive Torque Reference	Units: Nm / 2^{Torque_Scale}	
42 / 1 / 13		int	2	Drive Actual Process Control Value	Units: % / $2^{Process\_Scale}$	
42 / 1 / 14		int	2	Drive Process Control Setpoint	Units: % / $2^{Process\_Scale}$	
42 / 1 / 15	GET	int	2	Drive Actual Power	Units: Watts / 2^{Power_Scale} For the GPD 515, Power_Scale is fixed at 4. Therefore, the units for power are Watts/16. To convert from Watts to Watts/16 you must divide by 16. For example: 80.0 Watts = 5 Watts/16.	
42 / 1 / 16	GET	int	2	Drive Input Voltage	Units: Volts / $2^{Voltage\_Scale}$	

✸ The AC Drive Class is required for compliance with the AC Drive Profile. Instance 1, Attributes 4, 6, 7 and 8 are required. All other attributes are optional.

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes	
42 / 1 / 17	GET	int	2	Drive Output Voltage	Units: Volts / $2^{Voltage\_Scale}$	
42 / 1 / 18	GET	uint	2	Drive Acceleration Time	Units: msec / 2^{Time_Scale} For the GPD 515, Time_Scale is fixed at 4. Therefore, the units for acceleration are msec/16. To convert from msec to msec/16 you must divide by 16. For example: 10.0 sec = 10000 msec = 625 msec/16	
42 / 1 / 19	GET	uint	2	Drive Deceleration Time	Units: msec / 2^{Time_Scale} For the GPD 515, Time_Scale is fixed at 4. Therefore, the units for acceleration are msec/16. To convert from msec to msec/16 you must divide by 16. For example: 10.0 sec = 10000 msec = 625 msec/16	
42 / 1 / 20		uint	2	Drive Minimum Speed Limit	Units: RPM / 2^{Speed_Scale}	
42 / 1 / 21		uint	2	Drive Maximum Speed Limit	Units: RPM / 2^{Speed_Scale}	
42 / 1 / 22	GET	sint	1	Speed Scale Factor	0	
42 / 1 / 23	GET	sint	1	Current Scale Factor	0	
42 / 1 / 24	GET/SET	sint	1	Torque Scale Factor	0	
42 / 1 / 25		sint	1	Process Scale Factor	0	
42 / 1 / 26	GET	sint	1	Power Scale Factor	4	
42 / 1 / 27	GET	sint	1	Voltage Scale Factor	0	
42 / 1 / 28	GET	sint	1	Time Scale Factor	4	
42 / 1 / 29	GET	bool	1	Network Reference Enable Status	0	Speed Reference from Local Interface
					1	Speed Reference from DeviceNet
42 / 1 / 30		bool	1	Network Process Reference Enable Status	0	Process Reference not from DeviceNet
					1	Process Reference from DeviceNet
42 / 1 / 100	GET/SET	bool	1	Default Network Status	0	GPD 515 Digital Operator
					1	GPD 515 Terminals
					2	GPD 515 Serial Communication
					3	GPD 515 Option Board

✸ The AC Drive Class is required for compliance with the AC Drive Profile. Instance 1, Attributes 4, 6, 7 and 8 are required. All other attributes are optional.

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

MagneTek Command Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes	
100 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object	
100 / 0 / 2	GET	uint	2	Max Instance in this Class	1	
100 / 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented	
100 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented	
100 / 1 / 1	GET/SET	uint	2	Operation Command	Bit 0	Forward Run/Stop
					Bit 1	Reverse Run/Stop
					Bit 2	Terminal 3 Function
					Bit 3	Terminal 4 Function
					Bit 4	Terminal 5 Function
					Bit 5	Terminal 6 Function
					Bit 6	Terminal 7 Function
					Bit 7	Terminal 8 Function
					Bit 8	External Fault
					Bit 9	Fault Reset
100 / 1 / 2	GET/SET	uint	2	Frequency Reference	0.01 Hz	
100 / 1 / 3	GET/SET	uint	2	Torque Reference	0.1 % Flux Vector mode only	
100 / 1 / 4	GET/SET	uint	2	Torque Compensation	0.1 % Flux Vector mode only	
100 / 1 / 5				Reserved for Future Use		
100 / 1 / 6	GET/SET	uint	2	Analog Output 1 Setting	Terminal 21/ 22 -10V/-660 ~ +10V/+660	
100 / 1 / 7	GET/SET	uint	2	Analog Output 2 Setting	Terminal 22/ 23 -10V/-660 ~ +10V/+660	
100 / 1 / 8	GET/SET	uint	2	Digital Output Setting	Bit 0	Close Multi-function Output Terminal 9/10
					Bit 1	Close Multi-function Output Terminal 25/ 27
					Bit 2	Close Multi-function Output Terminal 26/ 27
					Bit 3	Not Used
					Bit 4	Not Used
					Bit 5	Not Used
					Bit 6	Enable Fault Contact
					Bit 7	Close Fault Contact (effective only when bit 6=ë1í)

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
100 / 1 / 9				Reserved for Future Use	
100 / 1 / 10				Reserved for Future Use	
100 / 1 / 11				Reserved for Future Use	
100 / 1 / 12				Reserved for Future Use	
100 / 1 / 13				Reserved for Future Use	
100 / 1 / 14				Reserved for Future Use	
100 / 1 / 15				Reserved for Future Use	
100 / 1 / 16				Reserved for Future Use	
100 / 1 / 17	GET/SET	uint	2	Run/Stop Command	Access through Modbus Block Transfer
100 / 1 / 251	GET/SET	uint	2	Explicit Retry Time	
100 / 1 / 252	GET/SET	uint	2	Explicit Modbus Timeout	
100 / 1 / 253	GET/SET	uint	2	Polled Modbus Timeout	
100 / 1 / 254	GET/SET	uint	2	ACCEPT Command	See EDS Param #333, Appendix A
100 / 1 / 255	GET/SET	uint	2	ENTER Command	See EDS Param #334, Appendix A

MagneTek GPD 515 Status Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
101 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
101 / 0 / 2	GET	uint	2	Max Instance in this Class	1
101 / 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
101 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
101 / 1 / 1	GET	uint	2	Inverter Status	See EDS Param #311, Appendix A
101 / 1 / 2	GET	uint	2	Motor Speed	U1-05 / See EDS Param #312, Appendix A
101 / 1 / 3	GET	uint	2	Torque Reference	U1-09 / See EDS Param #313, Appendix A
101 / 1 / 4	GET	uint	2	PG Count	See EDS Parm #314, Appendix A
101 / 1 / 5	GET	uint	2	Speed Reference	U1-01 / See EDS Param #315, Appendix A
101 / 1 / 6	GET	uint	2	Output Frequency	U1-02 / See EDS Param #316, Appendix A
101 / 1 / 7	GET	uint	2	Output Current	See EDS Param #317, Appendix A
101 / 1 / 8	GET	uint	2	AI - Control Circuit Term 14 Input Voltage	U1-16 / See EDS Param #318, Appendix A
101 / 1 / 9	GET	uint	2	DC Bus Voltage	U1-07 / See EDS Param #319, Appendix A
101 / 1 / 10	GET	uint	2	Fault Content 1	See EDS Param #320, Appendix A
101 / 1 / 11	GET	uint	2	Fault Content 2	See EDS Param #321, Appendix A
101 / 1 / 12	GET	uint	2	Fault Content 3	See EDS Param #322, Appendix A
101 / 1 / 13	GET	uint	2	AI - Control Circuit Term 16 Input Voltage	U1-17 / See EDS Param #323, Appendix A
101 / 1 / 14	GET	uint	2	DI - Input Terminal Status	U1-10 / See EDS Param #324, Appendix A
101 / 1 / 15	GET	uint	2	AI - Control Circuit Term 13 Input Voltage	U1-15 / See EDS Param #325, Appendix A
101 / 1 / 16	GET	uint	2	PG Count Channel 2	See EDS Parm #326, Appendix A
101 / 1 / 17	GET	uint	2	Operator Status	See EDS Param #327, Appendix A
101 / 1 / 18	GET	uint	2	OPE#	See EDS Param #328, Appendix A
101 / 1 / 19	GET	uint	2	CPF Content 1	See EDS Param #329, Appendix A
101 / 1 / 20	GET	uint	2	CPF Content 2	See EDS Param #330, Appendix A
101 / 1 / 21	GET	uint	2	Minor Fault Content 1	See EDS Param #331, Appendix A
101 / 1 / 22	GET	uint	2	Minor Fault Content 2	See EDS Param #332, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
102 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
102 / 0 / 2	GET	uint	2	Max Instance in this Class	1
102 / 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
102 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
102 / 1 / 1	GET	uint	2	Frequency Reference	U1-01 Speed Reference in Hz X 100 (6000 = 60.0 Hz)
102 / 1 / 2	GET	uint	2	Output Frequency	U1-02 See EDS Param #262, Appendix A
102 / 1 / 3	GET	uint	2	Output Current	U1-03 See EDS Param #263, Appendix A
102 / 1 / 4	GET	uint	2	Control Method	U1-04 See EDS Param #264, Appendix A
102 / 1 / 5	GET	uint	2	Motor Speed	U1-05 See EDS Param #265, Appendix A
102 / 1 / 6	GET	uint	2	Output Voltage	U1-06 See EDS Param #266, Appendix A
102 / 1 / 7	GET	uint	2	DC Bus Voltage	U1-07 See EDS Param #267, Appendix A
102 / 1 / 8	GET	uint	2	Output Power	U1-08 See EDS Param #268, Appendix A
102 / 1 / 9	GET	uint	2	Torque Reference	U1-09 See EDS Param #269, Appendix A
102 / 1 / 10	GET	uint	2	Input Terminal Status	U1-10 See EDS Param #270, Appendix A
102 / 1 / 11	GET	uint	2	Output Terminal Status	U1-11 See EDS Param #271, Appendix A
102 / 1 / 12	GET	uint	2	Operation Status	U1-12 See EDS Param #272, Appendix A
102 / 1 / 13	GET	uint	2	Elapsed Time	U1-13 See EDS Param #273, Appendix A
102 / 1 / 14	GET	uint	2	Software No. (CPU ID No.)	U1-14 See EDS Param #274, Appendix A
102 / 1 / 15	GET	uint	2	Control Circuit Terminal 13 Input Voltage	U1-15 See EDS Param #275, Appendix A
102 / 1 / 16	GET	uint	2	Control Circuit Terminal 14 Input Voltage	U1-16 See EDS Param #276, Appendix A
102 / 1 / 17	GET	uint	2	Control Circuit Terminal 16 Input Voltage	U1-17 See EDS Param #277, Appendix A
102 / 1 / 18	GET	uint	2	Motor Secondary Current (Iq)	U1-18 See EDS Param #278, Appendix A
102 / 1 / 19	GET	uint	2	Motor Exciting Current (Id)	U1-19 See EDS Param #279, Appendix A
102 / 1 / 20	GET	uint	2	Output Frequency after Soft-start	U1-20 See EDS Param #280, Appendix A
102 / 1 / 21	GET	uint	2	Automatic Speed Regulator (ASR) Input	U1-21 See EDS Param #281, Appendix A
102 / 1 / 22	GET	uint	2	Automatic Speed Regulator (ASR) Output	U1-22 See EDS Param #282, Appendix A
102 / 1 / 23	GET	uint	2	Speed Deviation Regulator Input	U1-23 See EDS Param #283, Appendix A
102 / 1 / 24	GET	uint	2	PID Feedback Amount	U1-24 See EDS Param #284, Appendix A
102 / 1 / 25	GET	uint	2	DI - 16 H Input Status	U1-25 See EDS Param #285, Appendix A
102 / 1 / 26	GET	uint	2	Output Voltage Reference Vq	U1-26 See EDS Param #286, Appendix A
102 / 1 / 27	GET	uint	2	Output Voltage Reference Vd	U1-27 See EDS Param #287, Appendix A
102 / 1 / 28	GET	uint	2	Software No. CPU	U1-28 See EDS Param #288, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

MagneTek GPD 515 U Parameter Class (continued)

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
102 / 1 / 32	GET	uint	2	Current Fault	U2-01 See EDS Parm #289, Appendix A
102 / 1 / 33	GET	uint	2	Last Fault	U2-02 See EDS Parm #290, Appendix A
102 / 1 / 34	GET	uint	2	Frequency Ref. at Fault	U2-03 See EDS Parm #291, Appendix A
102 / 1 / 35	GET	uint	2	Output Frequency at Fault	U2-04 See EDS Parm #292, Appendix A
102 / 1 / 36	GET	uint	2	Output Current at Fault	U2-05 See EDS Parm #293, Appendix A
102 / 1 / 37	GET	uint	2	Motor Speed at Fault	U2-06 See EDS Parm #294, Appendix A
102 / 1 / 38	GET	uint	2	Output Voltage at Fault	U2-07 See EDS Parm #295, Appendix A
102 / 1 / 39	GET	uint	2	DC Bus Voltage at Fault	U2-08 See EDS Parm #296, Appendix A
102 / 1 / 40	GET	uint	2	Output kWatts at Fault	U2-09 See EDS Parm #297, Appendix A
102 / 1 / 41	GET	uint	2	Torque Reference at Fault	U2-10 See EDS Parm #298, Appendix A
102 / 1 / 42	GET	uint	2	Input Terminal Status at Fault	U2-11 See EDS Parm #299, Appendix A
102 / 1 / 43	GET	uint	2	Output Terminal Status at Fault	U2-12 See EDS Parm #300, Appendix A
102 / 1 / 44	GET	uint	2	Drive Status at Fault	U2-13 See EDS Parm #301, Appendix A
102 / 1 / 45	GET	uint	2	Elapsed Time at Fault	U2-14 See EDS Parm #302, Appendix A
102 / 1 / 46	GET	uint	2	Last Fault	U3-01 See EDS Parm #303, Appendix A
102 / 1 / 47	GET	uint	2	Fault Message 2	U3-02 See EDS Parm #304, Appendix A
102 / 1 / 48	GET	uint	2	Fault Message 3	U3-03 See EDS Parm #305, Appendix A
102 / 1 / 49	GET	uint	2	Fault Message 4	U3-04 See EDS Parm #306, Appendix A
102 / 1 / 50	GET	uint	2	Elapsed Time 1	U3-05 See EDS Parm #307, Appendix A
102 / 1 / 51	GET	uint	2	Elapsed Time 2	U3-06 See EDS Parm #308, Appendix A
102 / 1 / 52	GET	uint	2	Elapsed Time 3	U3-07 See EDS Parm #309, Appendix A
102 / 1 / 53	GET	uint	2	Elapsed Time 4	U3-08 See EDS Parm #310, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
103 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
103 / 0 / 2	GET	uint	2	Max Instance in this Class	1
103/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
103 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
103 / 1 / 0	GET/SET	uint	2	Language Selection	A1-00 / See EDS Param #30, Appendix A
103 / 1 / 1	GET/SET	uint	2	Access Level	A1-01 / See EDS Param #31, Appendix A
103 / 1 / 2	GET/SET	uint	2	Control Method	A1-02 / See EDS Param #32, Appendix A
103 / 1 / 3	GET/SET	uint	2	Initialize Parameters	A1-03 / See EDS Param #33, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*
✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

MagneTek GPD 515 b Parameter Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
104 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
104 / 0 / 2	GET	uint	2	Max Instance in this Class	1
104/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
104 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
104 / 1 / 1	GET/SET	uint	2	Reference Selection	b1-01 / See EDS Param #34, Appendix A
104 / 1 / 2	GET/SET	uint	2	Operation Method Selection	b1-02 / See EDS Param #35, Appendix A
104 / 1 / 3	GET/SET	uint	2	Stopping Method Selection	b1-03 / See EDS Param #36, Appendix A
104 / 1 / 4	GET/SET	uint	2	Reverse Operation Prohibit	b1-04 / See EDS Param #37, Appendix A
104 / 1 / 5	GET/SET	uint	2	Zero Speed Operation	b1-05 / See EDS Param #38, Appendix A
104 / 1 / 6	GET/SET	uint	2	Logic Input Scan Rate	b1-06 / See EDS Param #39, Appendix A
104 / 1 / 7	GET/SET	uint	2	Local/Remote RUN Selection	b1-07 / See EDS Param #40, Appendix A
104 / 1 / 8	GET/SET	uint	2	DC Injection Braking Start Frequency	b2-01 / See EDS Param #41, Appendix A
104 / 1 / 9	GET/SET	uint	2	DC Injection Braking Current	b2-02 / See EDS Param #42, Appendix A
104 / 1 / 10	GET/SET	uint	2	DC Injection Braking Time at Start	b2-03 / See EDS Param #43, Appendix A
104 / 1 / 11	GET/SET	uint	2	DC Injection Braking Time at Stop	b2-04 / See EDS Param #44, Appendix A
104 / 1 / 12	GET/SET	uint	2	Speed Search Selection	b3-01 / See EDS Param #45, Appendix A
104 / 1 / 13	GET/SET	uint	2	Speed Search Current	b3-02 / See EDS Param #46, Appendix A
104 / 1 / 14	GET/SET	uint	2	Speed Search Decel Time	b3-03 / See EDS Param #47, Appendix A
104 / 1 / 15	GET/SET	uint	2	Timer Function ON-Delay Time	b4-01 / See EDS Param #48, Appendix A
104 / 1 / 16	GET/SET	uint	2	Timer Function OFF-Delay Time	b4-02 / See EDS Param #49, Appendix A
104 / 1 / 17	GET/SET	uint	2	PID Control Mode Selection	b5-01 / See EDS Param #50, Appendix A
104 / 1 / 18	GET/SET	uint	2	PID Proportional Gain	b5-02 / See EDS Param #51, Appendix A
104 / 1 / 19	GET/SET	uint	2	PID Integral Time	b5-03 / See EDS Param #52, Appendix A
104 / 1 / 20	GET/SET	uint	2	PID Integral Limit	b5-04 / See EDS Param #53, Appendix A
104 / 1 / 21	GET/SET	uint	2	PID Differential Time	b5-05 / See EDS Param #54, Appendix A
104 / 1 / 22	GET/SET	uint	2	PID Output Limit	b5-06 / See EDS Param #55, Appendix A
104 / 1 / 23	GET/SET	uint	2	PID Offset Adjustment	b5-07 / See EDS Param #56, Appendix A
104 / 1 / 24	GET/SET	uint	2	PID Primary Delay	b5-08 / See EDS Param #57, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
104 / 1 / 25	GET/SET	uint	2	Dwell Frequency at Start	b6-01 / See EDS Param #58, Appendix A
104 / 1 / 26	GET/SET	uint	2	Dwell Time at Start	b6-02 / See EDS Param #59, Appendix A
104 / 1 / 27	GET/SET	uint	2	Dwell Frequency at Stop	b6-03 / See EDS Param #60, Appendix A
104 / 1 / 28	GET/SET	uint	2	Dwell Time at Stop	b6-04 / See EDS Param #61, Appendix A
104 / 1 / 29	GET/SET	uint	2	Droop Control Gain	b7-01 / See EDS Param #62, Appendix A
104 / 1 / 30	GET/SET	uint	2	Droop Control Delay Time	b7-02 / See EDS Param #63, Appendix A
104 / 1 / 31	GET/SET	uint	2	Energy Saving Gain	b8-01 / See EDS Param #64, Appendix A
104 / 1 / 32	GET/SET	uint	2	Energy Saving Frequency	b8-02 / See EDS Param #65, Appendix A
104 / 1 / 33	GET/SET	uint	2	Zero-Servo Gain	b9-01 / See EDS Param #66, Appendix A
104 / 1 / 34	GET/SET	uint	2	Zero-Servo Completion Width	b9-02 / See EDS Param #67, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

MagneTek GPD 515 C Parameter Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
105 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
105 / 0 / 2	GET	uint	2	Max Instance in this Class	1
105/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
105 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
105 / 1 / 1	GET/SET	uint	2	Acceleration Time 1	C1-01 / See EDS Param #68, Appendix A
105 / 1 / 2	GET/SET	uint	2	Deceleration Time 1	C1-02 / See EDS Param #69, Appendix A
105 / 1 / 3	GET/SET	uint	2	Acceleration Time 2	C1-03 / See EDS Param #70, Appendix A
105 / 1 / 4	GET/SET	uint	2	Deceleration Time 2	C1-04 / See EDS Param #71, Appendix A
105 / 1 / 5	GET/SET	uint	2	Acceleration Time 3	C1-05 / See EDS Param #72, Appendix A
105 / 1 / 6	GET/SET	uint	2	Deceleration Time 3	C1-06 / See EDS Param #73, Appendix A
105 / 1 / 7	GET/SET	uint	2	Acceleration Time 4	C1-07 / See EDS Param #74, Appendix A
105 / 1 / 8	GET/SET	uint	2	Deceleration Time 4	C1-08 / See EDS Param #75, Appendix A
105 / 1 / 9	GET/SET	uint	2	Fast Stop Deceleration Time	C1-09 / See EDS Param #76, Appendix A
105 / 1 / 10	GET/SET	uint	2	Accel / Decel Time Setting Units	C1-10 / See EDS Param #77, Appendix A
105 / 1 / 11	GET/SET	uint	2	Accel / Decel Time Switching Freq.	C1-11 / See EDS Param #78, Appendix A
105 / 1 / 12	GET/SET	uint	2	S-curve Characteristic Accel at Start	C2-01 / See EDS Param #79, Appendix A
105 / 1 / 13	GET/SET	uint	2	S-curve Characteristic Accel at End	C2-02 / See EDS Param #80, Appendix A
105 / 1 / 14	GET/SET	uint	2	S-curve Characteristic Decel at Start	C2-03 / See EDS Param #81, Appendix A
105 / 1 / 15	GET/SET	uint	2	S-curve Characteristic Decel at End	C2-04 / See EDS Param #82, Appendix A
105 / 1 / 16	GET/SET	uint	2	Slip Compensation Gain	C3-01 / See EDS Param #83, Appendix A
105 / 1 / 17	GET/SET	uint	2	Slip Comp Primary Delay Time	C3-02 / See EDS Param #84, Appendix A
105 / 1 / 18	GET/SET	uint	2	Slip Compensation Limit	C3-03 / See EDS Param #85, Appendix A
105 / 1 / 19	GET/SET	uint	2	Slip Comp. Selection during Regen	C3-04 / See EDS Param #86, Appendix A
105 / 1 / 20	GET/SET	uint	2	Slip Compensation V/f	C3-05 / See EDS Param #87, Appendix A
105 / 1 / 21	GET/SET	uint	2	Torque Compensation Gain	C4-01 / See EDS Param #88, Appendix A
105 / 1 / 22	GET/SET	uint	2	Torque Compensation Time Constant	C4-02 / See EDS Param #89, Appendix A
105 / 1 / 23	GET/SET	uint	2	ASR Proportional Gain 1	C5-01 / See EDS Param #90, Appendix A
105 / 1 / 24	GET/SET	uint	2	ASR Integral Time 1	C5-02 / See EDS Param #91, Appendix A
105 / 1 / 25	GET/SET	uint	2	ASR Proportional Gain 2	C5-03 / See EDS Param #92, Appendix A
105 / 1 / 26	GET/SET	uint	2	ASR Integral Time 2	C5-04 / See EDS Param #93, Appendix A
105 / 1 / 27	GET/SET	uint	2	ASR Output Limit	C5-05 / See EDS Param #94, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
105 / 1 / 28	GET/SET	uint	2	ASR Primary Delay Time	C5-06 / See EDS Param #95, Appendix A
105 / 1 / 29	GET/SET	uint	2	ASR Switching Frequency	C5-07 / See EDS Param #96, Appendix A
105 / 1 / 30	GET/SET	uint	2	ASR Integral Limit	C5-08 / See EDS Param #97, Appendix A
105 / 1 / 31	GET/SET	uint	2	Carrier Frequency Upper Limit	C6-01 / See EDS Param #98, Appendix A
105 / 1 / 32	GET/SET	uint	2	Carrier Frequency Lower Limit	C6-02 / See EDS Param #99, Appendix A
105 / 1 / 33	GET/SET	uint	2	Carrier Frequency Proportional Gain	C6-03 / See EDS Param #100, Appendix A
105 / 1 / 34	GET/SET	uint	2	Hunting Prevention Selection	C7-01 / See EDS Param #101, Appendix A
105 / 1 / 35	GET/SET	uint	2	Hunting Prevention Gain	C7-02 / See EDS Param #102, Appendix A
105 / 1 / 36	GET/SET	uint	2	AFR Gain	C8-08 / See EDS Param #103, Appendix A
105 / 1 / 37	GET/SET	uint	2	Auto Tune Carrier Frequency	C8-30 / See EDS Param #104, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

MagneTek GPD 515 d Parameter Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
106 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
106 / 0 / 2	GET	uint	2	Max Instance in this Class	1
106/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
106 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
106 / 1 / 1	GET/SET	uint	2	Frequency Reference 1	d1-01 / See EDS Param #105, Appendix A
106 / 1 / 2	GET/SET	uint	2	Frequency Reference 2	d1-02 / See EDS Param #106, Appendix A
106 / 1 / 3	GET/SET	uint	2	Frequency Reference 3	d1-03 / See EDS Param #107, Appendix A
106 / 1 / 4	GET/SET	uint	2	Frequency Reference 4	d1-04 / See EDS Param #108, Appendix A
106 / 1 / 5	GET/SET	uint	2	Frequency Reference 5	d1-05 / See EDS Param #109, Appendix A
106 / 1 / 6	GET/SET	uint	2	Frequency Reference 6	d1-06 / See EDS Param #110, Appendix A
106 / 1 / 7	GET/SET	uint	2	Frequency Reference 7	d1-07 / See EDS Param #111, Appendix A
106 / 1 / 8	GET/SET	uint	2	Frequency Reference 8	d1-08 / See EDS Param #112, Appendix A
106 / 1 / 9	GET/SET	uint	2	Jog Frequency Reference	d1-09 / See EDS Param #113, Appendix A
106 / 1 / 10	GET/SET	uint	2	Frequency Reference Upper Limit	d2-01 / See EDS Param #114, Appendix A
106 / 1 / 11	GET/SET	uint	2	Frequency Reference Lower Limit	d2-02 / See EDS Param #115, Appendix A
106 / 1 / 12	GET/SET	uint	2	Critical Frequency Rejection 1	d3-01 / See EDS Param #116, Appendix A
106 / 1 / 13	GET/SET	uint	2	Critical Frequency Rejection 2	d3-02 / See EDS Param #117, Appendix A
106 / 1 / 14	GET/SET	uint	2	Critical Frequency Rejection 3	d3-03 / See EDS Param #118, Appendix A
106 / 1 / 15	GET/SET	uint	2	Critical Frequency Rejection Width	d3-04 / See EDS Param #119, Appendix A
106 / 1 / 16	GET/SET	uint	2	MOP Reference Memory	d4-01 / See EDS Param #120, Appendix A
106 / 1 / 17	GET/SET	uint	2	Trim Control Level	d4-02 / See EDS Param #121, Appendix A
106 / 1 / 18	GET/SET	uint	2	Torque Control Selection	d5-01 / See EDS Param #122, Appendix A
106 / 1 / 19	GET/SET	uint	2	Torque Reference Delay Time	d5-02 / See EDS Param #123, Appendix A
106 / 1 / 20	GET/SET	uint	2	Speed Limit Selection	d5-03 / See EDS Param #124, Appendix A
106 / 1 / 21	GET/SET	uint	2	Speed Limit	d5-04 / See EDS Param #125, Appendix A
106 / 1 / 22	GET/SET	uint	2	Speed Limit Bias	d5-05 / See EDS Param #126, Appendix A
106 / 1 / 23	GET/SET	uint	2	Speed/Torque Control SwitchTimer	d5-06 / See EDS Param #127, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
107 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
107 / 0 / 2	GET	uint	2	Max Instance in this Class	1
107/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
107 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
107 / 1 / 1	GET/SET	uint	2	Input Voltage Setting	E1-01 / See EDS Param #128, Appendix A
107 / 1 / 2	GET/SET	uint	2	Motor Selection	E1-02 / See EDS Param #129, Appendix A
107 / 1 / 3	GET/SET	uint	2	V/f Pattern Selection	E1-03 / See EDS Param #130, Appendix A
107 / 1 / 4	GET/SET	uint	2	Maximum Output Frequency	E1-04 / See EDS Param #131, Appendix A
107 / 1 / 5	GET/SET	uint	2	Maximum Voltage	E1-05 / See EDS Param #132, Appendix A
107 / 1 / 6	GET/SET	uint	2	Base Frequency	E1-06 / See EDS Param #133, Appendix A
107 / 1 / 7	GET/SET	uint	2	Mid. Output Frequency A	E1-07 / See EDS Param #134, Appendix A
107 / 1 / 8	GET/SET	uint	2	Mid Output Voltage A	E1-08 / See EDS Param #135, Appendix A
107 / 1 / 9	GET/SET	uint	2	Min. Output Frequency	E1-09 / See EDS Param #136, Appendix A
107 / 1 / 10	GET/SET	uint	2	Min. Output Voltage	E1-10 / See EDS Param #137, Appendix A
107 / 1 / 11	GET/SET	uint	2	Mid Frequency B	E1-11 / See EDS Param #138, Appendix A
107 / 1 / 12	GET/SET	uint	2	Mid Voltage B	E1-12 / See EDS Param #139, Appendix A
107 / 1 / 13	GET/SET	uint	2	Base Voltage	E1-13 / See EDS Param #140, Appendix A
107 / 1 / 15	GET/SET	uint	2	Motor Rated Current	E2-01 / See EDS Param #141, Appendix A
107 / 1 / 16	GET/SET	uint	2	Motor Rated Slip	E2-02 / See EDS Param #142, Appendix A
107 / 1 / 17	GET/SET	uint	2	Motor No-Load Current	E2-03 / See EDS Param #143, Appendix A
107 / 1 / 18	GET/SET	uint	2	Number of Motor Poles	E2-04 / See EDS Param #144, Appendix A
107 / 1 / 19	GET/SET	uint	2	Motor Line-to-Line Resistance	E2-05 / See EDS Param #145, Appendix A
107 / 1 / 20	GET/SET	uint	2	Motor Leakage Inductance	E2-06 / See EDS Param #146, Appendix A
107 / 1 / 21	GET/SET	uint	2	Motor Iron-core Saturation Coefficient 1	E2-07 / See EDS Param #147, Appendix A
107 / 1 / 22	GET/SET	uint	2	Motor Iron-core Saturation Coefficient 2	E2-08 / See EDS Param #148, Appendix A
107 / 1 / 23	GET/SET	uint	2	Motor Mechanical Loss	E2-09 / See EDS Param #149, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

MagneTek GPD 515 F Parameter Class

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
108 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
108 / 0 / 2	GET	uint	2	Max Instance in this Class	1
108/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
108 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
108 / 1 / 1	GET/SET	uint	2	Encoder (PG) Constant	F1-01 / See EDS Param #150, Appendix A
108 / 1 / 2	GET/SET	uint	2	Operation Selection at PG Open	F1-02 / See EDS Param #151, Appendix A
108 / 1 / 3	GET/SET	uint	2	Operation Selection at Overspeed	F1-03 / See EDS Param #152, Appendix A
108 / 1 / 4	GET/SET	uint	2	Operation Selection at Speed Deviation	F1-04 / See EDS Param #153, Appendix A
108 / 1 / 5	GET/SET	uint	2	PG Rotation	F1-05 / See EDS Param #154, Appendix A
108 / 1 / 6	GET/SET	uint	2	PG Division Rate (PG Pulse Monitor)	F1-06 / See EDS Param #155, Appendix A
108 / 1 / 7	GET/SET	uint	2	Integral Value during Accel/Decel Select	F1-07 / See EDS Param #156, Appendix A
108 / 1 / 8	GET/SET	uint	2	Overspeed Detection Level	F1-08 / See EDS Param #157, Appendix A
108 / 1 / 9	GET/SET	uint	2	Overspeed Detection Delay Time	F1-09 / See EDS Param #158, Appendix A
108 / 1 / 10	GET/SET	uint	2	Excessive Speed Deviation Detect Level	F1-10 / See EDS Param #159, Appendix A
108 / 1 / 11	GET/SET	uint	2	Excessive Speed Dev Detect Delay Time	F1-11 / See EDS Param #160, Appendix A
108 / 1 / 12	GET/SET	uint	2	Number of PG Gear Teeth 1	F1-12 / See EDS Param #161, Appendix A
108 / 1 / 13	GET/SET	uint	2	Number of PG Gear Teeth 2	F1-13 / See EDS Param #162, Appendix A
108 / 1 / 14	GET/SET	uint	2	PGO Detection Time	F1-14 / See EDS Param #163, Appendix A
108 / 1 / 15	GET/SET	uint	2	AI-14 Bi- or Uni-polar Input Select	F2-01 / See EDS Param #164, Appendix A
108 / 1 / 16	GET/SET	uint	2	DI-16 Digital Input Option	F3-01 / See EDS Param #165, Appendix A
108 / 1 / 17	GET/SET	uint	2	AO-08/AO-12 Channel 1 Monitor Select.	F4-01 / See EDS Param #166, Appendix A
108 / 1 / 18	GET/SET	uint	2	AO-08/AO-12 Channel 1 Gain	F4-02 / See EDS Param #167, Appendix A
108 / 1 / 19	GET/SET	uint	2	AO-08/AO-12 Channel 2 Monitor Select.	F4-03 / See EDS Param #168, Appendix A
108 / 1 / 20	GET/SET	uint	2	AO-08/AO-12 Channel 2 Gain	F4-04 / See EDS Param #169, Appendix A
108 / 1 / 21	GET/SET	uint	2	DO-02 Channel 1 Output Selection	F5-01 / See EDS Param #170, Appendix A
108 / 1 / 22	GET/SET	uint	2	DO-02 Channel 2 Output Selection	F5-02 / See EDS Param #171, Appendix A
108 / 1 / 23	GET/SET	uint	2	DO-08 Output Mode Selection	F6-01 / See EDS Param #172, Appendix A
108 / 1 / 24	GET/SET	uint	2	PO-36F Frequency Multiple Selection	F7-01 / See EDS Param #173, Appendix A
108 / 1 / 25	GET/SET	uint	2	EF0 Terminal Input Setting	F9-01 / See EDS Param #174, Appendix A
108 / 1 / 26	GET/SET	uint	2	EF0 Detection Selection	F9-02 / See EDS Param #175, Appendix A
108 / 1 / 27	GET/SET	uint	2	EF0 Fault Action	F9-03 / See EDS Param #176, Appendix A
108 / 1 / 28	GET/SET	uint	2	EF0 Trace Sample Time	F9-04 / See EDS Param #177, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
109 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
109 / 0 / 2	GET	uint	2	Max Instance in this Class	1
109/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
109 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
109 / 1 / 1	GET/SET	uint	2	Multi-function Input (terminal 3)	H1-01 / See EDS Param #178, Appendix A
109 / 1 / 2	GET/SET	uint	2	Multi-function Input (terminal 4)	H1-02 / See EDS Param #179, Appendix A
109 / 1 / 3	GET/SET	uint	2	Multi-function Input (terminal 5)	H1-03 / See EDS Param #180, Appendix A
109 / 1 / 4	GET/SET	uint	2	Multi-function Input (terminal 6)	H1-04 / See EDS Param #181, Appendix A
109 / 1 / 5	GET/SET	uint	2	Multi-function Input (terminal 7)	H1-05 / See EDS Param #182, Appendix A
109 / 1 / 6	GET/SET	uint	2	Multi-function Input (terminal 8)	H1-06 / See EDS Param #183, Appendix A
109 / 1 / 7	GET/SET	uint	2	Multi-function Output (term. 9 & 10)	H2-01 / See EDS Param #184, Appendix A
109 / 1 / 8	GET/SET	uint	2	Multi-function Output (term. 25-27)	H2-02 / See EDS Param #185, Appendix A
109 / 1 / 9	GET/SET	uint	2	Multi-function Output (term. 26-27)	H2-03 / See EDS Param #186, Appendix A
109 / 1 / 10	GET/SET	uint	2	Auto Speed Reference Signal Level Select (term. 13)	H3-01 / See EDS Param #187, Appendix A
109 / 1 / 11	GET/SET	uint	2	Auto Speed Reference Signal Gain	H3-02 / See EDS Param #188, Appendix A
109 / 1 / 12	GET/SET	uint	2	Auto Speed Reference Signal Bias	H3-03 / See EDS Param #189, Appendix A
109 / 1 / 13	GET/SET	uint	2	Multi-function Analog Input 1 Signal Level Selection (term. 16)	H3-04 / See EDS Param #190, Appendix A
109 / 1 / 14	GET/SET	uint	2	Multi-function Analog Input 1 Select.	H3-05 / See EDS Param #191, Appendix A
109 / 1 / 15	GET/SET	uint	2	Multi-function Analog Input 1 Gain	H3-06 / See EDS Param #192, Appendix A
109 / 1 / 16	GET/SET	uint	2	Multi-function Analog Input 1 Bias	H3-07 / See EDS Param #193, Appendix A
109 / 1 / 17	GET/SET	uint	2	Multi-function Analog Input 2 Signal Level Selection (term. 14)	H3-08 / See EDS Param #194, Appendix A
109 / 1 / 18	GET/SET	uint	2	Multi-function Analog Input 2 Select.	H3-09 / See EDS Param #195, Appendix A
109 / 1 / 19	GET/SET	uint	2	Multi-function Analog Input 2 Gain	H3-10 / See EDS Param #196, Appendix A
109 / 1 / 20	GET/SET	uint	2	Multi-function Analog Input 2 Bias	H3-11 / See EDS Param #197, Appendix A
109 / 1 / 21	GET/SET	uint	2	Analog Input Filter Time Constant	H3-12 / See EDS Param #198, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

MagneTek GPD 515 H Parameter Class (continued)

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
109 / 1 / 22	GET/SET	uint	2	Multi-function Analog Monitor 1 Selection (terminal 21)	H4-01 / See EDS Param #199, Appendix A
109 / 1 / 23	GET/SET	uint	2	Multi-function Analog Monitor 1 Gain	H4-02 / See EDS Param #200, Appendix A
109 / 1 / 24	GET/SET	uint	2	Multi-function Analog Monitor 1 Bias	H4-03 / See EDS Param #201, Appendix A
109 / 1 / 25	GET/SET	uint	2	Multi-function Analog Monitor 2 Selection (terminal 23)	H4-04 / See EDS Param #202, Appendix A
109 / 1 / 26	GET/SET	uint	2	Multi-function Analog Monitor 2 Gain	H4-05 / See EDS Param #203, Appendix A
109 / 1 / 27	GET/SET	uint	2	Multi-function Analog Monitor 2 Bias	H4-06 / See EDS Param #204, Appendix A
109 / 1 / 28	GET/SET	uint	2	Multi-function Analog Monitor Signal Level Selection (terminal 21 & 23)	H4-07 / See EDS Param #205, Appendix A
109 / 1 / 29	GET/SET	uint	2	Serial Communication Address	H5-01 / See EDS Param #206, Appendix A
109 / 1 / 30	GET/SET	uint	2	Serial Communication Baud Rate	H5-02 / See EDS Param #207, Appendix A
109 / 1 / 31	GET/SET	uint	2	Serial Communication Parity Selection	H5-03 / See EDS Param #208, Appendix A
109 / 1 / 32	GET/SET	uint	2	Stopping Method after Serial Communication Error	H5-04 / See EDS Param #209, Appendix A
109 / 1 / 33	GET/SET	uint	2	Communication Error (CE) Detection Selection	H5-05 / See EDS Param #210, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
110 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
110 / 0 / 2	GET	uint	2	Max Instance in this Class	1
110/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
110 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
110 / 1 / 1	GET/SET	uint	2	Motor Overload Protection Selection	L1-01 / See EDS Param #211, Appendix A
110 / 1 / 2	GET/SET	uint	2	Motor Overload Protection Time Constant	L1-02 / See EDS Param #212, Appendix A
110 / 1 / 3	GET/SET	uint	2	Momentary Power Loss Detect Selection	L2-01 / See EDS Param #213, Appendix A
110 / 1 / 4	GET/SET	uint	2	Momentary Power Loss Ride-thru Time	L2-02 / See EDS Param #214, Appendix A
110 / 1 / 5	GET/SET	uint	2	Momentary Power Loss Minimum Base Block Time	L2-03 / See EDS Param #215, Appendix A
110 / 1 / 6	GET/SET	uint	2	Momentary Power Loss Recovery Ramp Time	L2-04 / See EDS Param #216, Appendix A
110 / 1 / 7	GET/SET	uint	2	Undervoltage Detection Level	L2-05 / See EDS Param #217, Appendix A
110 / 1 / 8	GET/SET	uint	2	KEB Frequency	L2-06 / See EDS Param #218, Appendix A
110 / 1 / 9	GET/SET	uint	2	Stall Prevention Selection during Accel	L3-01 / See EDS Param #219, Appendix A
110 / 1 / 10	GET/SET	uint	2	Stall Prevention Level during Accel	L3-02 / See EDS Param #220, Appendix A
110 / 1 / 11	GET/SET	uint	2	Stall Prevention Level during Accel (CHP)	L3-03 / See EDS Param #221, Appendix A
110 / 1 / 12	GET/SET	uint	2	Stall Prevention Selection during Decel	L3-04 / See EDS Param #222, Appendix A
110 / 1 / 13	GET/SET	uint	2	Stall Prevention Selection during Running	L3-05 / See EDS Param #223, Appendix A
110 / 1 / 14	GET/SET	uint	2	Stall Prevention Level during Running	L3-06 / See EDS Param #224, Appendix A
110 / 1 / 15	GET/SET	uint	2	Speed Coincidence Frequency	L4-01 / See EDS Param #225, Appendix A
110 / 1 / 16	GET/SET	uint	2	Speed Coincidence Width	L4-02 / See EDS Param #226, Appendix A
110 / 1 / 17	GET/SET	uint	2	Speed Coincidence Frequency (+/-)	L4-03 / See EDS Param #227, Appendix A
110 / 1 / 18	GET/SET	uint	2	Speed Coincidence Width	L4-04 / See EDS Param #228, Appendix A
110 / 1 / 19	GET/SET	uint	2	Frequency Reference Loss Detection	L4-05 / See EDS Param #229, Appendix A
110 / 1 / 20	GET/SET	uint	2	Number of Auto Restart Attempts	L5-01 / See EDS Param #230, Appendix A
110 / 1 / 21	GET/SET	uint	2	Auto Restart Operation Selection	L5-02 / See EDS Param #231, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

MagneTek GPD 515 L Parameter Class (continued)

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
110 / 1 / 22	GET/SET	uint	2	Torque Detection Selection 1	L6-01 / See EDS Param #232, Appendix A
110 / 1 / 23	GET/SET	uint	2	Torque Detection Level 1	L6-02 / See EDS Param #233, Appendix A
110 / 1 / 24	GET/SET	uint	2	Torque Detection Time 1	L6-03 / See EDS Param #234, Appendix A
110 / 1 / 25	GET/SET	uint	2	Torque Detection Selection 2	L6-04 / See EDS Param #235, Appendix A
110 / 1 / 26	GET/SET	uint	2	Torque Detection Level 2	L6-05 / See EDS Param #236, Appendix A
110 / 1 / 27	GET/SET	uint	2	Torque Detection Time 2	L6-06 / See EDS Param #237, Appendix A
110 / 1 / 28	GET/SET	uint	2	Forward Torque Limit	L7-01 / See EDS Param #238, Appendix A
110 / 1 / 29	GET/SET	uint	2	Reverse Torque Limit	L7-02 / See EDS Param #239, Appendix A
110 / 1 / 30	GET/SET	uint	2	Forward Regenerative Torque Limit	L7-03 / See EDS Param #240, Appendix A
110 / 1 / 31	GET/SET	uint	2	Reverse Regenerative Torque Limit	L7-04 / See EDS Param #241, Appendix A
110 / 1 / 32	GET/SET	uint	2	Internal Dynamic Braking Resistor Protection	L8-01 / See EDS Param #242, Appendix A
110 / 1 / 33	GET/SET	uint	2	oH (Overheat) Protection Alarm Level	L8-02 / See EDS Param #243, Appendix A
110 / 1 / 34	GET/SET	uint	2	Operation Selection after oH (Overheat) Pre-alarm	L8-03 / See EDS Param #244, Appendix A
110 / 1 / 35	GET/SET	uint	2	Input Open-phase Protection Selection	L8-05 / See EDS Param #245, Appendix A
110 / 1 / 36	GET/SET	uint	2	Output Open-phase Protection Selection	L8-07 / See EDS Param #246, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

DeviceNet Path✸	DeviceNet Services	DeviceNet Data Type	# of Bytes	Description	Notes
111 / 0 / 1	GET	uint	2	MagneTek Object Revision	The DeviceNet specification revision of the MagneTek Object
111 / 0 / 2	GET	uint	2	Max Instance in this Class	1
111/ 0 / 6		uint	2	Max Class Attribute Number	The number of the last Class Attribute Implemented
111 / 0 / 7		uint	2	Max Instance Attribute Number	The number of the last Instance Attribute Implemented
111 / 1 / 1	GET/SET	uint	2	Monitor Selection	o1-01 / See EDS Param #247, Appendix A
111 / 1 / 2	GET/SET	uint	2	Monitor Selection after Power-up	o1-02 / See EDS Param #248, Appendix A
111 / 1 / 3	GET/SET	uint	2	Digital Operator Display Selection	o1-03 / See EDS Param #249, Appendix A
111 / 1 / 4	GET/SET	uint	2	Digital Operator Display Units	o1-04 / See EDS Param #250, Appendix A
111 / 1 / 5	GET/SET	uint	2	Parameter / Address Display Selection	o1-05 / See EDS Param #251, Appendix A
111 / 1 / 6	GET/SET	uint	2	LOCAL / REMOTE Key Selection	o2-01 / See EDS Param #252, Appendix A
111 / 1 / 7	GET/SET	uint	2	STOP Key Function during Remote Run	o2-02 / See EDS Param #253, Appendix A
111 / 1 / 8	GET/SET	uint	2	User Parameter Default Value	o2-03 / See EDS Param #254, Appendix A
111 / 1 / 9	GET/SET	uint	2	kVA Selection (Drive Model No.)	o2-04 / See EDS Param #255, Appendix A
111 / 1 / 10	GET/SET	uint	2	Digital Operator ìMotor Operated Potî	o2-05 / See EDS Param #256, Appendix A
111 / 1 / 11	GET/SET	uint	2	Operation Selection when Digital Operator is disconnected	o2-06 / See EDS Param #257, Appendix A
111 / 1 / 12	GET/SET	uint	2	Elapsed Operating Hour Timer Set	o2-07 / See EDS Param #258, Appendix A
111 / 1 / 13	GET/SET	uint	2	Elapsed Operating Hour Timer Selection	o2-08 / See EDS Param #259, Appendix A
111 / 1 / 14	GET/SET	uint	2	Initialization Mode Selection	o2-09 / See EDS Param #260, Appendix A

✸ The DeviceNet Path is given in the format: *Class ID* / *Instance ID* / *Attribute ID*

✸ Attributes shown in GREY are not supported by the GPD 515 DeviceNet Interface

Appendix D
DeviceNet Object Services

- Identity Class
- DeviceNet Class
- Assembly Class
- Connection Class
- Motor Class
- Control Supervisor Class
- AC Drive Class
- MagneTek GPD 515 Class

Identity Class

Service Code (in hex)	Implemented		Service Name	Description	
	Class	Instance			
05h	no	yes	Reset	The Reset Service has one parameter of type USINT. The type of Reset that is performed depends on the value of this parameter. The possible values are:	
				0	This type of reset will emulate cycling power to the GPD 515 drive.
				1	This type of reset will reset the GPD 515 drive to out-of-the-box factory conditions. The GPD 515 will be initialized for 2-wire control.
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute.	
10h	no	yes	Set Attribute Single	Modifies an attribute value.	

DeviceNet Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute.

Assembly Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute.
10h	no	yes	Set Attribute Single	Modifies an attribute value.

Connection Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute.
10h	no	yes	Set Attribute Single	Modifies an attribute value.

Motor Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute.
10h	no	yes	Set Attribute Single	Modifies an attribute value.

Control Supervisor Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
05h	no	yes	Reset	This type of reset will emulate cycling power to the GPD 515 drive.
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute.
10h	no	yes	Set Attribute Single	Modifies an attribute value.

AC Drive Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute
10h	no	yes	Set Attribute Single	Modifies an attribute value.

MagneTek GPD 515 Command Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute.
10h	no	yes	Set Attribute Single	Modifies an attribute value.
32h	no	yes	ENTER Command	The ENTER Command service will save the current values of all GPD 515 parameters (A1-00 through o2-09) to the EEPROM memory on the GPD 515. Values saved in EEPROM memory will be retained in case of power loss to the GPD 515. This is a Vendor Specific service.
33h	yes	yes	ACCEPT Command	The ACCEPT Command service will save the current values of all GPD 515 parameters (A1-00 through o2-09) to the Active RAM memory on the GPD 515. Values saved in Active RAM memory will not be retained in case of power loss to the GPD 515. This is a Vendor Specific service.

MagneTek GPD 515 Status Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute

MagneTek GPD 515 Monitor Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute

MagneTek GPD 515 Parameter Class

Service Code (in hex)	Implemented		Service Name	Description
	Class	Instance		
0Eh	yes	yes	Get Attribute Single	Returns the contents of an attribute
10h	no	yes	Set Attribute Single	Modifies an attribute value.
32h	no	yes	ENTER Command	The ENTER Command service will save the current values of all GPD 515 parameters (A1-00 through o2-09) to the EEPROM memory on the GPD 515. Values saved in EEPROM memory will be retained in case of power loss to the GPD 515. This is a Vendor Specific service.
33h	yes	yes	ACCEPT Command	The ACCEPT Command service will save the current values of all GPD 515 parameters (A1-00 through o2-09) to the Active RAM memory on the GPD 515. Values saved in Active RAM memory will not be retained in case of power loss to the GPD 515. This is a Vendor Specific service.

Appendix E
Product Specifications

GPD 515 DeviceNet Interface Board	
Ambient Temperature	–10 to +45 degrees C (+14 to +113 degrees F)
Storage Temperature	–20 to +60 degrees C (–4 to +140 degrees F)
Relative Humidity	90% noncondensing
Altitude	3300 feet
Vibration	1G at less than 20 Hz, 0.2 G at 20-50 Hz
Input Power	Voltage: 11 - 25 VDC Current: 40 mAmps

Appendix F
Spare Parts List

Description	Source	Part Number
GPD 515 DeviceNet Interface Board	Yaskawa	CM053
GPD 515 DeviceNet Mating Connector	Yaskawa	05P00060-0474
	Beau	860505
GPD 515 DeviceNet Installation Sheets	Yaskawa	02Y00025-0388
GPD 515 DeviceNet Technical Manual	Yaskawa	TM 4556

GPD 515/G5 DeviceNet

***Yaskawa technical support** is available to provide telephone assistance for **installation, programming, & troubleshooting** of Yaskawa drives. All support is available during normal business hours. Emergency breakdown support is available on a 24 hour / 7 day basis.*

Help us help you. When you call, please have the following information available.

- *Have this manual at hand. The support associate will refer to it.*
- *Drive model and all nameplate data.*
- *Motor type, brand, and all nameplate data.*

For Troubleshooting, additional information may be required.

- *Power distribution information (type – delta, wye; power factor correction; other major switching devices used; voltage fluctuations)*
- *Installation wiring (separation of power & control wire; wire type/class used; distance between drive and motor, grounding.*
- *Use of any devices between the drive & motor (output chokes, etc.).*

Please phone us at 1-800-541-0939 for technical support.

Additional technical information is available at www.drives.com.

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